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March 7, 1961 Volume 764 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of January 1961

Examiner affirmed	154
Examiner affirmed in part	39
Examiner reversed	53
Total	246

Erratum

All references to Patent No. 2,972,040 to Hans Thierfelder, for Method of and Apparatus for the Manufacture of Longitudinal Seam Welded Pipes, appearing in the OFFICIAL GAZETTE of Feb. 14, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

Adjudicated Patents

(D.C. Mo.) Consolazio Patent No. 2,478,182 (167—82); for sodium chloride, *Held* not infringed. *Parmelee Pharmaceutical Co.* v. *Zink*, 188 F. Supp. 821; 126 USPQ 467.

Disclaimer

2,880,015.—*William C. Harben*, Santa Monica, Calif. FENDER COVER. Patent dated Mar. 31, 1959. Disclaimer filed Jan. 30, 1961, by the inventor.

Hereby enters this disclaimer to claims 1, 3, and 5 of said patent.

Patents Available for Licensing or Sale

2,649,639. Garment Shoulder Strap Holder. E. Maude Carlin, Box 752, Bovill, Idaho.

2,900,465. Speed Change Indicator. August C. Weiss, 11658 E. 165th St., Norwalk, Calif.

Des. Pat. 182,480. Planter. Doris V. Ryder, 409 High St., Fort Wayne 7, Ind.

Des. Pat. 189,547. Table Lamp Base or the Like. Charles M. Wallace, 2407 Staple Ave., Key West, Fla.

The following 3 patents are offered by Rudolf Hintze, Neuenhain, Taunus, Germany.

Correspondence concerning these patents should be held with: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,823,850. Carrier for a Motor Compressor of a Refrigerating Machine.

2,883,099. Motor-Compressor.

2,894,678. Vibration Reducing Support Arrangement.

The following 2 patents are offered by: Stephen C. Stephanson, 100 W. 76th St., New York, N.Y.

2,683,459. Expandable Binder Filing Device.

2,821,983. Expandable Binder Filing Devices.

General Electric Company is prepared to grant non-exclusive licenses under the following 10 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: General Electric Company, Flight Propulsion Division, Cincinnati 15, Ohio, Attention: Patent Counsel.

2,689,707. Speed Limiting Arrangement for Turbine Rotors.

2,742,127. Clutches.

2,858,101. Cooling of Turbine Wheels.

2,860,648. Anti "G" Liquid Reservoir.

2,867,267. Combustion Chamber.

2,882,831. Constant Flow Positive Displacement Mechanical Hydraulic Unit.

2,896,413. Piston Actuator.

2,927,590. Valve Operating Mechanism.

2,930,192. Reverse Vortex Combustion Chamber.

2,932,440. Compressor.

New Applications Received During January 1961

Patents	6,370
Designs	369
Plant Patents	5
Reissues	29
Total	6,773

Issue

Patents	800	No. 2,973,519 to No. 2,974,318, incl.
Designs	33	No. 189,837 to No. 189,869, incl.
Plant Patents	1	No. 2,032
Reissues	2	No. 24,945 to No. 24,946, incl.
Total	836	

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 31, 1960

Total number of pending applications (excluding Designs)	189,295
Total number of pending Design applications	5,684
Total number of applications awaiting action (excluding Designs)	86,501
Total number of Design applications awaiting action	1,457
Date of oldest new application	August 4, 1959
Date of oldest amended application	August 4, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 50, 56, 59, 60, 63, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 28, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	6-2-60	5-16-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	6-22-60	6-20-60
3. (VII) WINDHAM, R. (acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloys; Electrical Resistors	5-2-60	4-25-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	4-11-60	4-4-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	11-5-59	12-7-59
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	3-29-60	3-8-60
7. (IV) ANDERSON, E. G., Optics	3-28-60	4-4-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	7-5-60	7-5-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	5-2-60	4-5-60
10. (VI) HORTON, A. M. (acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	5-2-60	4-20-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	4-5-60	4-6-60
12. (III) DURHAM, B. G. (acting), Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	4-15-60	4-28-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-8-60	3-14-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-7-60	1-21-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	7-5-60	7-5-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	12-11-59	12-8-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	4-14-60	5-4-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Speed or Acceleration	7-15-60	6-20-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-19-60	3-21-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	7-1-60	7-1-60
21. (III) MADER, R. C., Textiles	5-10-60	5-16-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	4-5-60	3-25-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	8-4-59	8-4-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	5-2-60	5-2-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	2-18-60	2-3-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	3-7-60	2-1-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	6-13-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-1-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	4-11-60	4-25-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	6-27-60	6-27-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
31. (I) SULLIVAN, A. D. (acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	5-20-60	5-18-60
32. (VII) MARTIN, H. L. (acting), Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	5-2-60	5-2-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	2-24-60	2-4-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	3-7-60	2-25-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	5-9-60	5-2-60
36. (V) EVANS, R. L., Measuring and Testing (part)	3-23-60	3-11-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	2-29-60	2-29-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	2-8-60	2-18-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-4-60	5-4-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	6-9-60	6-13-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	1-26-60	12-30-59
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	4-1-60	4-8-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	12-1-59	11-23-59
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	11-24-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-16-60	5-20-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-25-60	3-8-60
47. (VI) ARNOLD, P. (acting), Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	6-8-60	6-14-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-4-60	3-7-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	4-4-60	3-11-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber; Synthetic Resins (part) (e.g., Butadiene Polymers and Copolymers, Polyacrylonitriles, Acrylate Polymers and Copolymers)	2-4-60	2-5-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	3-11-60	3-2-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	5-23-60	5-23-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	6-27-60	6-24-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-7-60	5-6-60
55. (VII) WHITMORE, H. B. (acting), Surgery; Dentistry; Artificial Body Members	5-2-60	5-2-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	4-5-60	4-1-60
57. (III) TOMLIN, C. W. (acting) Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	3-8-60	1-11-60
58. (III) BRONAUGH, F. H. (acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	5-2-60	4-20-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	12-30-59	12-7-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5-5-60	5-13-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	6-20-60	6-20-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	6-1-60	6-2-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-8-60	2-17-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	4-1-60	3-25-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	5-2-60	5-2-60
66. (V) LISANN, I., Geometric Instruments; Measuring and Testing (part)	12-29-59	12-18-59
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	4-27-60	4-18-60
81. (III) MONCURE, J. A., Industrial Arts	10-7-60	10-14-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	10-14-60	10-24-60
91. KENT, A. P. (acting), Ornamentation; Glass	6-1-60	6-1-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	7-30-60	7-22-60
93. WAHL, R. A., Wire Working	8-4-60	9-19-60
94. BERLOWITZ, W., Gas Separation	6-14-60	6-6-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-29-60	6-29-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes	6-15-60	3-28-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during February 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents	Numbers 2,840,264 to 2,843,236, inclusive
Plant Patents	Numbers 613 to 618, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

LEVER BROTHERS COMPANY *v.* PRODUCERS CHEMICAL SERVICE (PETROLEUM SPECIALTY COMPANY, ASSIGNEE, SUBSTITUTED)

No. 6565. Decided November 17, 1960

[48 CCPA —; — F.2d —; — USPQ —]

TRADEMARKS—CONFUSING SIMILARITY—"LUX" AND "SHUX" FOR CLEANERS.

In an opposition by the registrant of the word mark "LUX" for soap flakes, toilet soap and liquid detergent against a trademark application seeking to register the mark "SHUX" for toilet, laundry and industrial cleaners, *Held* that "Appellee's mark 'SHUX' being but a phonetic spelling of the common word 'shucks,' has its own definite and distinctive meanings which, in the mind of the potential purchaser, would clearly distinguish it from the word 'LUX'."

APPEAL from the Patent Office. Opposition No. 36,134.

AFFIRMED.

Spencer A. Studwell for appellant.

Diggins & Le Blanc, Robert E. Le Blanc, Donald R. Dunner (*Bartholomew A. Diggins* of counsel) for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*, designated to participate in place of *Judge* O'CONNELL

SMITH, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Assistant Commissioner of Patents (120 USPQ 402) affirming a decision of the Examiner of Interferences, which dismissed an opposition brought by Lever Brothers Company against an application by Producers Chemical Service (Petroleum Specialty Company, Assignee, Substituted), for the registration of "SHUX" as a trademark for Toilet, Laundry, and Industrial Cleaners in the form of Liquids, Solids, Pastes and Powders. Applicant claimed use of the mark "SHUX" since July 18, 1955, and was adjudged entitled to the registration.

The opposition is based on appellant's well known trademark "LUX" used for soap flakes, toilet soap and liquid detergent. "LUX" was first used and registered by appellant for soap flakes in the year 1900 and has been used in its business continuously since that date.

The original opinions in this case were rendered on July 18, 1960. Appellant filed a Petition for Rehearing on August 25, 1960 and a "Supplemental Statement" on October 3, 1960. Appellee's brief in opposition to appellant's Petition for Rehearing was filed October 12, 1960.

In accordance with our usual practice, our former opinions were withheld from formal publication. They are hereby withdrawn and replaced by the present opinion.

The sole issue here is whether there is any likelihood of purchaser confusion by the concurrent use of the marks "SHUX" and "LUX" on the goods of the respective parties.

From our study of the record we find that it supports the Assistant Commissioner's statement that:

> The products of the parties are alike in that they remove dirt, but they are specifically quite different. Opposer's products are (a) a toilet soap, (b) a mild soap flakes for washing innumerable commodities in water and (c) a mild detergent for washing innumerable commodities in water. Applicant's product is a hand cleaner for use with or without water for removing grease, paint, tar, grime, ink and carbon black.

We also agree with the Assistant Commissioner in her comparison of the two marks in their entireties:

> The marks are alike only in that they rhyme. Applicant's mark is an obvious misspelling of "shucks," an ordinary English word which might, as reasoned by applicant, suggest that the cleaner bearing the mark "shucks," or "removes" or "strips" the dirt, grime, ink or grease from the hands of the user; or it might suggest the exclamation "Shucks!" often used to express disappointment.

Further support for the view taken by the Assistant Commissioner is found in Webster's New International Dictionary, 2nd Edition, Unabridged, 1954, which contains the following significant definitions:

> Shucks, interj.: An exclamation expressing contempt or disappointment; pshaw! slang, U.S.
>
> shuck, v.
>
> 1. to strip off the shucks, or husks, as to shuck nuts, corn, etc.
>
> 2. to remove (oysters) from the shell.
>
> 3. to remove; to turn (out); to lay aside or discard. Colloq.

Appellee's mark "SHUX" being but a phonetic spelling of the common word "shucks," has its own definite and distinctive meanings which, in the mind of the potential purchaser, would clearly distinguish it from the word "LUX."

Since we can see no likelihood of the marks "LUX" and "SHUX" being confused by a potential purchaser, the decision of the Assistant Commissioner is affirmed.

AFFIRMED.

Commissioner's Decision

IN THE MATTER OF THE CHARGES PREFERRED AGAINST H. LAWRENCE BLASIUS OF NEW YORK, NEW YORK

Decided January 10, 1961

ATTORNEYS AND AGENTS REGISTERED TO PRACTICE BEFORE PATENT OFFICE—EXCLUSION FROM PRACTICE.

Registered patent agent excluded from practice before Patent Office for period of one year, reinstatement to be contingent on his having complied fully with the requirements of Rule 341, except that the taking of an examination may not be required, and "further contingent on his demonstrating that, during the period of his suspension, he has neither caused any advertisements soliciting patent business to be published nor allowed his professional services to be exploited by any intermediate lay agency and on his making representations that he plans neither to engage in any further advertising soliciting patent business nor to allow his professional services as a registered patent agent to be exploited by any intermediate lay agency."

CROCKER, *First Assistant Commissioner*:

A hearing was held, pursuant to Rule 348 (d) of the Rules of Practice of the United States Patent Office in Patent Cases, in the United States Patent Office on Tuesday, October 4, 1960, to consider charges preferred by the Solicitor against H. Lawrence Blasius, an agent registered to practice before the Patent Office. The respondent did not appear and was not represented by counsel.

The first charge, made in a letter of the Solicitor dated November 16, 1959 and served on respondent, in person, on December 8, 1959, reads as follows:

> That, in violation of Rule 345 of the Rules of Practice of the United States Patent Office in Patent Cases, you caused to be published an advertisement to solicit patent business for you appearing on page 62 in the November 1959, issue of Popular Mechanics, a photocopy of that page with advertisement encircled being marked Exhibit A and attached hereto and made a part hereof, your doing business as Inventions on Demand at 79 Wall Street, New York, New York, being shown by your application filed May 4, 1959, for service mark registration, Serial No. 72,787, a certified copy of which is marked Exhibit B and attached hereto and made a part hereof.

Other charges preferred in a letter of the Solicitor dated March 10, 1960, which was served on respondent, read as follows:

> (1) That, as shown (a) by letters addressed by Universal Invention Sales, 478 South Main Street, Marion, Ohio, to L. C. Argabright, 103 East Church Street, Roanoke, Virginia, an executed form of agreement between that organization and Mr. Argabright and receipts for the payment of money by Mr. Argabright to that organization, photocopies of such letters, form and receipts being marked Exhibits C1 to C9 and attached hereto and made a part hereof; (b) by letters addressed by that organization, to Daniel Gerrone, 38 South Church Street, Hazleton, Pennsylvania, and letters addressed by you to Mr. Gerrone, photocopies of such letters being marked Exhibits D1 to D7 and attached hereto and made a part hereof; (c) by letters addressed by that organization to Edgar Johnson, 211 South Eastern Avenue, Joliet, Illinois, a letter addressed by you to Mr. Johnson, and a receipt for the payment of money by Mr. Johnson to that organization, photocopies of said letters and receipt being marked Exhibits E1 to E12 and attached hereto and made a part hereof; (d) by letters addressed by that organization to Carrol A. Riley, 7½ Garfield Avenue, Athens, Ohio, photocopies of which are marked Exhibits F1, F2, and F3 and attached hereto and made a part hereof; (e) by letters addressed by that organization to Franklin W. Vlack, 29778 Detroit Road, Westlake, Ohio, an executed form of agreement between that organization and Mr. Vlack, and a letter addressed by you to Mr. Vlack, photocopies of said letters and form being marked Exhibits G1 to G10 and attached hereto and made a part hereof; (f) by letters addressed by that organization to John Wack, 2219 W. 50th Place, Chicago 9, Illinois, photocopies of which are marked Exhibits H1 to H6 and attached hereto and made a part hereof; and (g) by letters addressed by that organization to Edna Wenger, 320 South Center Street, Forrest, Illinois, and a letter addressed by you to Miss Wenger, photocopies of said letters being marked Exhibits J1 to J6 and attached hereto and made a part hereof: you have countenanced the intervention of a lay organization, between you and the aforesaid persons, and have allowed your professional services as an agent registered to practice before the United States Patent Office to be exploited by an intermediate lay agency in connection with the preparation and filing of applications for patent by L. C. Argabright, Serial No. 860,155, filed December 17, 1959, entitled "Airplane Guide"; Daniel Gerrone, Serial No. 827,552, filed July 16, 1959, entitled "Radiator Pressure Cap"; Edgar Johnson, Serial No. 844,811, filed October 6, 1959, entitled "Round-A-Ring"; Carrol A. Riley, Serial No. 856,864, filed December 2, 1959, entitled "Saf-T-Park"; Franklin W. Vlack, Serial No. 852,323, filed November 12, 1959, entitled "Christmas Tree Foto Ornament"; John Wack, Serial No. 845,157, filed October 8, 1959, entitled "Weed Puller"; and Edna Wenger, Serial No. 840,745, filed September 17, 1959, entitled "Skirt or Trouser Hanger," in which applications you appear as agent for the named applicants.
>
> (2) That, as shown (a) by letters addressed by Industrial Invention Sales, 3136 Sylvania Avenue, Toledo, Ohio, to John C. Loser, 3217 West Boulevard, Cleveland, Ohio, and a letter addressed by you to Mr. Loser, photocopies of said letters being marked Exhibits K1 to K10 and attached hereto and made a part hereof; and (b) by letters addressed by that organization to Alejandro Robles, 246 Walnut Street, Newark, New Jersey, photocopies of said letters being marked Exhibits L1 to L5 and attached hereto and made a part hereof: you have countenanced the intervention of a lay organization between you and the aforesaid persons, and have allowed your professional services as an agent registered to practice before the United States Patent Office to be exploited by an intermediate lay agency in connection with the preparation and filing of applications for patent by John C. Loser, Serial No. 845,156, filed October 8, 1959, entitled "Inflatable Boomerang"; and Alejandro Robles, Serial No. 847,154, filed October 16, 1959, entitled "R-D Extension System," in which applications you appear as agent for the named applicants.
>
> (3) That, in violation of Rule 345 of the Rules of Practice of the United States Patent Office in Patent Cases, you have, as shown by the letters, forms of agreement, and receipts for the payment of money, photocopies of which have been marked Exhibits C1 to C9, D1 to D7, E1 to E12, F1 to F3, G1 to G10, H1 to H6, and J1 to J6 and attached hereto and made a part hereof, associated yourself with, or are employed by Universal Invention Sales, 478 South Main Street, Marion, Ohio, an organization which by advertising solicits patent business, as shown by page 78 of the February, 1960 issue of Popular Mechanics, a photocopy of that page with the advertisements encircled being marked Exhibit M and attached hereto and made a part hereof.
>
> (4) That, in violation of Rule 345 of the Rules of Practice of the United States Patent Office in Patent Cases, you have, as shown by the letters, photocopies of which have been marked Exhibits K1 to K10 and L1 to L5 and attached hereto and made a part hereof, associated yourself with or are employed by Industrial Invention Sales, 3136 Sylvania Avenue, Toledo 13, Ohio, an organization which by advertising solicits patent business, as shown by page 78 of the February, 1960 issue of Popular Mechanics, a photocopy of that page with the advertisements encircled being marked Exhibit M and attached hereto and made a part hereof.
>
> (5) That, as shown by (a) letters addressed by Inventions on Demand, 79 Wall Street, New York 5, New York, to Phil Choff, 329 Singer Avenue, McKees Rocks, Pennsylvania, and a form of agreement attached to one of those letters, photocopies of which are marked Exhibits N1 to N7 and attached hereto and made a part hereof; (b) by letters addressed by that organization to Donald F. Lawrence and Lawrence J. Di Maggio, 3242 N. Drake Avenue, Chicago 18, Illinois, photocopies of which are marked Exhibits O1 to O3 and attached hereto and made a part hereof; and (c) by letters addressed by that organization to L. W. Reed, 111 Coquina Drive, Ormond Beach, Florida, photocopies of which are marked Exhibits P1 to P8 and attached hereto and made a part hereof; you falsely informed the Commissioner of Patents in your answer submitted December 31, 1959, to the charge preferred against you on November 16, 1959, that the advertisement shown in Exhibit A attached to that charge was not for the purpose of soliciting patent business inclusive of the preparation and prosecution of applications for patent.

A charge made in a letter of the Solicitor dated April 1, 1960, which was served on respondent, reads as follows:

> That, in violation of Rule 345 of the Rules of Practice of the United States Patent Office in Patent Cases, you caused to be published an advertisement to solicit patent business for you appearing on page 274 in the March, 1960, issue of Popular Science Monthly, a photocopy of that page, with the advertisement encircled, being marked Exhibit Q and attached hereto and made a part hereof, your doing business as United States Invention Brokerage being shown by your application filed May 27, 1959, for service mark registration, Serial No. 74,565, a certified copy of which is marked Exhibit R and attached hereto and made a part hereof.

The last charge under consideration here, made in a letter of the Solicitor dated May 20, 1960, and served on respondent, reads as follows:

> That, in violation of Rule 345 of the Rules of Practice of the United States Patent Office in Patent Cases, you caused to be published the advertisement in your name, appearing on page 1242 of the Manhattan Yellow Pages 1960, a photocopy of which page is marked Exhibit S and attached hereto and made a part hereof, and that, upon being called upon to explain the publication of that advertisement by you by the Solicitor of the Patent Office in his letter of March 25, 1960, a photocopy of a copy of which is marked Exhibit T and attached hereto and made a part hereof, you failed to reply within the time set for such reply.

Respondent filed an answer under oath to the first charge, set forth in the letter of the Solicitor dated November 16, 1959, only. He did not answer any of the other charges.

In the answer to the first charge, respondent specifically admitted causing publication of the advertisement shown in Exhibit A and filing the application for service mark registration of "Inventions on Demand," of which application Exhibit B is a certified copy. Respondent denied that the advertisement was for the purpose of soliciting patent business. He further stated that in doing business as Inventions on Demand, he never referred to himself as a registered patent agent and that his name does not appear, "either for the purpose of soliciting patent business or for any other purpose" in connection with his so doing business. Charge 5 of the charges made in the Solicitor's letter of March 10, 1960, charges that the statement in the aforementioned answer that the advertisement shown in Exhibit A was not for the purpose of soliciting patent business inclusive of the preparation and prosecution of applications for patent was false. Photocopies of letters addressed by Inventions on Demand to Phil Choff (Exhibits N1 to N7), Donald F. Lawrence and Lawrence J. Di Maggio (Exhibits O1 to O3), and L. W. Reed (Exhibits P1 to P8) were relied upon in support of this charge.

The advertisement of Exhibit A refers to unpatented as well as patented inventions and obviously was calculated to bring inventors who had not yet filed patent applications into contact with respondent doing business as Inventions on Demand. Exhibits N1 to N7, O1 to O3 and P1 to P8 show that Inventions on Demand sought, obtained, and charged for patent business, including preliminary searches and the preparation of patent applications, for inventors who came in contact with it. It thus is apparent that the advertisement referred to in the

charge dated November 16, 1959 constituted an advertisement to solicit patent business and that the answer to that charge gave false information as charged in Charge No. 5 of the charges preferred on March 10, 1960.

Charges 1 and 2 of the charges preferred against respondent on March 10, 1960 relate to respondent's having allowed his professional services as a registered agent to be exploited by lay agencies in connection with the preparation and filing of patent applications in certain specified cases. Charges 3 and 4, preferred at the same time, charge that respondent associated himself with organizations which solicit patent business by advertising as shown by a copy of an advertisement submitted as Exhibit M. The copies of letters submitted by the Solicitor in support of these charges show initial correspondence between the client and the lay organization with respondent undertaking preparation of the application and also show the payments for such preparation arranged by the lay organization. With respect to Charges 3 and 4, Exhibit M shows that each of the two lay organizations involved in Charges 1 and 2 advertised for business in the February, 1960 issue of Popular Mechanics.

The charge preferred April 1, 1960 relates to an advertisement in the March, 1960 issue of Popular Science Monthly, a photocopy of which was submitted as Exhibit Q. Respondent's failure to answer the charge constitutes, under Rule 348(c), an admission that respondent caused the advertisement, in the name of United States Invention Brokerage, to be published. The fact that he does business as United States Invention Brokerage is further evidence by the certified copy of his application for service mark registration submitted as Exhibit R.

The charge preferred on May 20, 1960 relates to an advertisement in respondent's name appearing on page 1242 of the Manhattan Yellow Pages 1960, a photocopy of which is submitted as Exhibit S. This advertisement obviously is in violation of the prohibition against advertising in Rule 345. The fact that respondent failed to reply within the time set in the Solicitor's letter of March 25, 1960 calling for an explanation of the advertisement is regarded as admitted, under the provision of Rule 348(c), in view of the absence of a denial by respondent.

For the foregoing reasons, all of the charges against respondent are sustained. The activities set forth in the charges are deemed to require that respondent be suspended from practice for a period of one year and his exclusion from practice for such period will be ordered. Respondent's reinstatement at the end of such period of suspension will be contingent on his having complied fully with all of the requirements of Rule 341, as in the case of one seeking registration who had not been previously registered, except that the taking of an examination may not be required. Respondent's reinstatement will be further contingent on his demonstrating that, during the period of his suspension, he has neither caused any advertisements soliciting patent business to be published nor allowed his professional services to be exploited by any intermediate lay agency and on his making representations that he plans neither to engage in any further advertising soliciting patent business nor to allow his professional services as a registered patent agent to be exploited by any intermediate lay agency.

Thus, it is my decision that H. Lawrence Blasius, the respondent, be excluded from practice before the Patent Office for a period of one year. An order to this effect is being issued concurrently herewith with the exclusion from practice to take effect thirty days from this date in order that respondent may make arrangements for the prosecution of all applications for which he is presently responsible.

Order No. 5310

H. Lawrence Blasius of New York, New York, whose registration number is 16,720, is hereby excluded, beginning on the 9th day of February, 1961, from practice as a patent agent in any application before the United States Patent Office, without prejudice to his registration after one year and after full compliance with the requirements of Rule 341, as in the case of one seeking registration who had not previously been registered.

This action is taken under the provisions of Section 32 of Title 35 of the United States Code and Rule 348 of the Rules of Practice of the United States Patent Office in Patent Cases.

ARTHUR W. CROCKER,
Jan. 10, 1961 *First Assistant Commissioner of Patents.*

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

1,744,016. A. P. Steckel, Metal rolling; **1,779,195,** same, Method and apparatus for rolling thin sheet-like material, filed Sept. 3, 1959, C.C.A., 6th Cir., Docs. 13994 and 13995, *The Cold Metal Process Company et al. v. E. W. Bliss Company.* Ruling of District Court in Equity No. 5402 holding Patent No. 1,779,195 valid and infringed affirmed; ruling placing limitations on validity of Patent No. 1,744,016 reversed and case remanded Dec. 21, 1960. Same, filed same, Doc. 13/996, *The Union National Bank of Youngstown, Ohio v. Greer Steel Company.* Judgment of District Court in Civil Action No. 24/189 reversed and case remanded Dec. 21, 1960. Same, filed same, Doc. 13997, *The Union National Bank of Youngstown, Ohio, Trustee v. E. W. Bliss Company.* Judgment of District Court in Civil Action No. 26/542 affirmed Dec. 21, 1960.

1,779,195. (See 1,744,016.)

2,166,127, Ion Basgan, Rotary well drilling apparatus, filed Dec. 16, 1960, D.C., S.D.N.Y., Doc. 60/4942, *Ion Basgan v. Standard Oil Company of New Jersey et al.* Same, filed Dec. 16, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1402/60-Y, *Ion Basgan v. Standard Oil Company of New Jersey et al.*

2,228,040, H. Dickens, Power control systems; **2,228,041,** same, filed March 22, 1949, D.C., S.D.N.Y., Doc. 49/479, *Sensytrol Corporation v. Radio Corporation of America et al.* Patent held invalid; complaint dismissed Jan. 6, 1961.

2,228,041. (See 2,228,040.)

2,204,688, C. A. Kaufman, Stocking and method of knitting, filed Aug. 21, 1956, D.C., E.D. Pa. (Philadelphia), Doc. 21/204, *Alamance Industries, Inc. v. Bethayres Hosiery Mills, Inc.* Dismissed without prejudice under Rule 18, Jan. 9, 1961. Same, filed same, Doc. 21/205, *Alamance Industries, Inc. v. Birdsboro Knitting Mills, Inc.* Decree as above.

2,220,922, K. W. Wilckens, Circuit breaker; **2,427,906,** same, filed Dec. 23, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 29009, *Heinemann Electric Company v. Westinghouse Electric Corporation.*

2,414,823, F. H. Osborne, Thermoplastic paper and process of preparing the same, filed Nov. 24, 1958, D.C. Mass. (Boston), Doc. 58/1134-S, *C. H. Dexter & Sons, Inc. v. Kimberly-Clark Corporation.* Patent held invalid; if valid, not infringed Dec. 30, 1960.

2,416,596, S. Rosenthal, Fountain pen, filed Nov. 29, 1956, D.C., S.D.N.Y., Doc. 115/129, *Speedry Products, Inc. v. Cushman & Denison Mfg. Co., Inc.* Order of dismissal with prejudice Jan. 4, 1961.

2,427,906. (See 2,220,922.)

2,476,050, H. Lev, Clinching machine; **2,536,124,** same, Uniform cap; **2,536,125,** same; **2,614,047,** same, Mounting device with cap, filed Jan. 16, 1961, Ct. Cls., Doc. 16/61, *Stay-Well Manufacturing Company, Inc. and H. Lev v. The United States.*

2,586,062, G. Keech, Coupling means, filed Jan. 12, 1961, D.C., N.D. Ala. (Birmingham), Doc. 9846, *United States Pipe and Foundry Company v. James B. Clow & Sons, Inc.*

2,589,734, E. Pierson, Sashless window; **2,575,479,** same, Sashless window structure, filed Oct. 30, 1959, D.C., E.D. Wash. (Spokane), Doc. 1876, *Celwood Industries Limited v. Crystal Windows of Spokane Incorporated.* Order of dismissal without prejudice Jan. 12, 1961.

2,536,124. (See 2,476,050.)

2,536,125. (See 2,476,050.)

2,699,233, P. Salsman, Sole straightener for shoes, filed Jan. 11, 1961, D.C., S.D.N.Y., Doc. 61/97, *Paul Salsman v. Abercrombie & Fitch Co.*

2,694,696, M. Camras, Magnetic impulse record member, magnetic material and method of making magnetic material, filed June 8, 1955, D.C., S.D.N.Y., Doc. 101/140, *Audio Devices, Inc. v. Minnesota Mining & Mfg. Co. et al.* Judgment holding patent invalid; dismissing defendant's counterclaim Jan. 13, 1961.

2,695,023, M. Dulberg, Cosmetic receptacle, filed Jan. 12, 1955, D.C., S.D.N.Y., Doc. 98/103, *Scovill Manufacturing Company v. Murray Dulberg.* Same, filed Jan. 21, 1955, same, Doc. 98/199, *The Eyelet Specialty Company v. Murray Dulberg.* Same, filed March 1, 1955, same, Doc. 99/93, *The Bridgeport Metal Goods Mfg. Co. v. Murray Dulberg.* Same, filed April 5, 1955, same, Doc. 99/368, *The Risdon Manufacturing Company v. Murray Dulberg.* Same; **2,710,614,** same, Duplex rotary holder, filed Nov. 9, 1955, D.C., S.D.N.Y., Doc. 104/370, *Murray Dulberg v. Elizabeth Arden Sales Corporation.* Dockets 99/93; 98/103; 98/199; 99/368 and 104/370 consolidated. Patents held not infringed; judgment for plaintiffs Scovill Manufacturing, Eyelet Specialty, Bridgeport Metal and Risdon Manufacturing Company; complaint against Elizabeth Arden Sales Corporation dismissed with costs Jan. 9, 1961.

2,706,422, W. B. Lockwood, Metal rolling, Suit for Declaratory judgment, filed May 27, 1955, D.C., N.D. Ohio (Cleveland), Doc. 31/849, *E. W. Bliss Company v. Cold Metal Products Company.* Motion over-ruled Nov. 16, 1955. Patent held invalid May 8, 1959. Appeal, filed Sept. 3, 1959, C.C.A., 6th Cir., Doc. 13/998, *The Cold Metal Products Company et al. v. The Youngstown Research and Development Company.* Judgment of District Court affirmed Dec. 21, 1960.

2,710,614. (See 2,695,023.)

2,710,699, S. Coleman, Battery hold-down frame of synthetic rubber resin material, filed Sept. 9, 1957, D.C., E.D. Pa. (Philadelphia), Doc. 23/242, *Van Brode Milling Co., Inc. v. Philip Milahofsky et al., doing business as Apco Auto Supply Company.* Stipulation dismissing complaint with prejudice Jan. 4, 1961.

2,722,216, M. Hallcser, Accordion-folded face mask, filed Jan. 13, 1961, Ct. Cls., Doc. 13/61, *Marcus Hallcser v. Novelties Products Company.*

2,731,278, B. Harmon, Method of printing carbon transfer ink in a spaced design on paper, filed Aug. 8, 1958, D.C., S.D.N.Y., Doc. 136/297, *Rote-Carb Corporation v. Arthur J. Geerin Press, Incorporated.* Order of dismissal for lack of prosecution Jan. 5, 1961.

2,732,481, J. Winson, Mitten, filed Jan. 9, 1961, D.C., E.D. Wis. (Milwaukee), Doc. 61-C-4, *Air Baby, Inc. v. Plasticots Glove Co., Inc.*

2,736,906, H. Steiner, Brassiere and girdle construction, filed April 16, 1959, D.C., S.D.N.Y., Doc. 145/178, *Corde-De Paris Corset Co., Inc. v. Lilysilk Brassiere Co., Inc.* Order of dismissal for lack of prosecution Jan. 5, 1961.

2,736,963, M. Schneider, Automatic proportional metering, mixing and dispensing system, filed Sept. 25, 1958, D.C.N.J. (Newark), Doc. 1101/58, *Industrial Enterprises, Inc. v. Automatic Process Control et al.* Stipulation of discontinuance Jan. 4, 1961.

2,736,933, Pate and Wallace, Jar type reamer, filed Jan. 4, 1961, D.C., W.D. Okla. (Oklahoma City), Doc. 9133, *Fred B. Wallace et al. v. Atlas Fishing Tools, Inc. et al.* Same, filed Jan. 10, 1961, same, Doc. 9138, *Fred B. Wallace et al. v. Acme Tool, Inc.*

2,802,222, M. M. Doyle, Foundation garment, filed Jan. 3, 1961, D.C., N.D. Ill. (Chicago), Doc. 61-C-1, *The H. W. Gossard Company v. J. C. Penny Company.*

2,814,047. (See 2,476,050.)

2,816,437, Hornberger and Lewis, Moisture meter, filed April 21, 1958, D.C., N.D. Ill. (Chicago), Doc. 58c705, *Central Scientific Company v. Moore-Milford Corporation.* Order holding claims 15, 16 and 17 of Patent 2,816,437 invalid; complaint dismissed; counterclaim granted insofar as it relates to claims 15, 16 and 17 and dismissed with respect to remaining claims Jan. 5, 1961.

2,875,479. (See 2,530,724.)

Re. 23,871, E. N. Castle, Foldable cardboard bottle carrier, filed Dec. 30, 1960, D.C., S.D.N.Y., Doc. 60/5097, *Diamond National Corporation v. St. Regis Paper Company.*

Re. 24,562 (of 2,763,258), C. C. Hughes, Construction of circular saws, filed Dec. 10, 1958, D.C., S.D. Calif. (Los Angeles), Doc. 1156/58-TC, *Hughes Blades, Inc. et al. v. Diamond Tool Associates.* Claims 5, 12, 13, 14 and 15 of Re. 24,562 held invalid (notice Jan. 11, 1961).

Re. 24,669, L. Hunan, Foundation garment, filed April 29, 1959, D.C., S.D.N.Y., Doc. 145/319, *Exquisite Form Brassiere, Inc. v. Figure Flattery Brassiere Co., Inc.* Stipulation and order of discontinuance Dec. 29, 1961.

Des. 174,339, G. L. N. Trigg, Shoe bag, filed Feb. 21, 1957, D.C., S.D.N.Y., Doc. 117/322, *Geraldine L. N. Trigg v. Bogene, Inc.* Judgment denying vacation of oral default judgment Dec. 15, 1960.

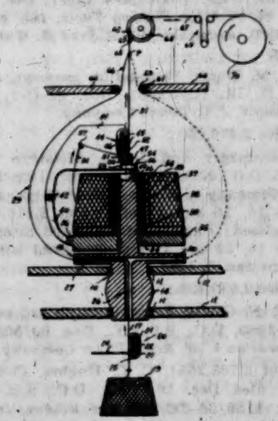
Des. 180,648, Goldstein and Kaighin, Curtain rod, filed Jan. 9, 1961, D.C. Conn. (New Haven), Doc. 8639, *Kirsch Company v. The Stanley Works, Inc.*

REISSUES

MARCH 7, 1961

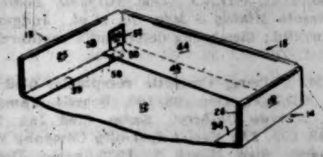
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,945
METHOD OF AND APPARATUS FOR PLYING STRANDS
Alfred W. Vibber, 116 Pinehurst Ave., New York, N.Y.
Original No. 2,869,313, dated Jan. 20, 1959, Ser. No. 469,481, Nov. 17, 1954. Application for reissue Feb. 18, 1960, Ser. No. 9,662
19 Claims. (Cl. 57—58.3)



1. The method of twisting together two strands to form a two-ply cord comprising: feeding a first strand in the direction of its length, rotating a portion of the first strand in the form of a free-flying balloon by a rotating shaft contacting the balloon at a first end thereof, forming the apex of the balloon at the opposite, second end thereof by a first guide member, inwardly compressing the balloon intermediate the apex and the shaft and near the apex by a second, annular, balloon guiding member, feeding a second strand under tension from a package located within the balloon of the first strand generally axially through the second balloon guiding member and into contact with the first strand at a plying zone located intermediate the apex of the balloon and the second balloon guiding member, and taking up the plied cord beyond the plying zone.

24,946
SELF-LOCKING FOLDING BOX
Edward R. Burden, 1213 Hord St., Dallas, Tex.
Original No. 2,846,133, dated Aug. 5, 1958, Ser. No. 631,922, Dec. 31, 1956. Application for reissue July 8, 1959, Ser. No. 825,857
7 Claims. (Cl. 229—34)



1. A folding box having a bottom and folded double wall sides and ends, each wall of the double wall sides having returns at both ends engaging the ends between their returns at both ends engaging the ends between their double walls, flanges provided along the longitudinal edges of the inside walls of the double wall sides arranged to rest on the bottom, flanges provided along the longitudinal edges of the inside walls of the double wall ends arranged to lie on the bottom, the end wall flanges overlapping the ends of the side wall flanges and bearing against the inside walls of the double wall sides, the side wall flanges being shorter than the walls of the double wall sides, rectangular notches in each end of the inside walls of the double wall sides forming recesses therein at each corner meeting of the sides and ends, beyond the ends of the side wall flanges, tabs provided on each end of the end wall flanges arranged to engage the recesses to lock the double wall ends to the double wall sides, the tabs each having an extension arranged to engage the bottom between the inside and outside walls of the adjacent double wall end, the tabs and the extensions thereof being made in one piece each folded transversely near the center substantially at right angles to form two parts, a first part joined to one end of the adjacent end flange and bent upwardly for engagement with the adjacent recess, and a second part arranged to lie between the double walls of the adjacent double wall end and there rest upon the bottom.

PLANT PATENTS

GRANTED MARCH 7, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,032
ROSE PLANT
Herbert C. Swim, Ontario, and O. L. Weeks, Chino, Calif., assignors to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania
Filed June 16, 1960, Ser. No. 36,697
1 Claim. (Cl. 47—61)

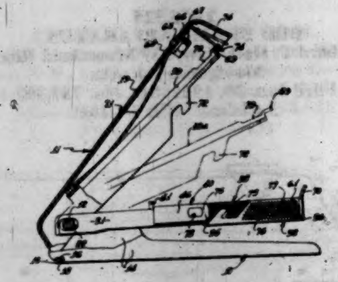
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of very large, glossy, leathery, flat foliage of distinctive coloration, long, strong and stiff stems of a sturdiness sufficient to always carry the flowers upright, attractively formed, long-pointed buds of large size, large double flowers having imbricated petals and a pronounced tea fragrance, and a distinctive delicate pink general color tonality of the flowers.

PATENTS

GRANTED MARCH 7, 1961

GENERAL AND MECHANICAL

2,973,519
STAPLER
Walter Jopp, Hinter dem Spierlinsrain 1, Lahr, Baden, Germany
Filed July 2, 1958, Ser. No. 746,117
Claims priority, application Germany Oct. 2, 1957
4 Claims. (Cl. 1—3)



1. A stapler comprising: a base having a pair of vertically extending ears; a cover having a staple driver fixed to its forward end; a staple magazine including a U-shaped channel inside the cover; a pin to extend through both said cover and said magazine; means to maintain said pin in a substantially fixed axial position through said ears; an apron fixed to said magazine in a position to extend upwardly along the sides of said channel from the forward end of said channel to a position between its ends, said apron being disposed contiguous to the sides of said channel and spaced a distance therefrom only large enough to permit staples to move lengthwise on said channel; and a cover plate pivoted from said pin in a position to fit contiguous to the top of said channel along the complete length thereof, said cover plate being spaced a distance from the top of said channel only large enough to permit staples to move lengthwise on said channel, said cover plate also extending contiguous to the sides of said channel but only along the lengths thereof rearward of the rearward end of said apron, said cover plate being spaced from the sides of said channel a distance only large enough to permit longitudinal sliding movement of staples therebetween.

2,973,520
SMALL DIAMETER STUD ADAPTER
Lewis Walter Bell, Monroe, N.Y., assignor to Star Precision Devices, Inc., Mountainville, N.Y., a corporation of Delaware
Filed June 16, 1959, Ser. No. 820,793
2 Claims. (Cl. 1—47)



2. A driving tool comprising a guide member with a through bore having an adapter holding portion and a striker head with driving member receiving means, and an adapter having a through bore of smaller diameter than the first mentioned bore and an end adapted to fit into the tool holding portion of the through bore of the said guide member, and a driving member removably received in the driving member receiving means of the striker head and adapted to fit slideably within the through bore of the guide member, said removable driving member having a reduced end portion adapted to fit slideably within the bore of the adapter.

2,973,521
FULL PRESSURE SUIT HELMET AND TORSO TIEDOWN SYSTEM
Richard J. McGowan, Jr., Arlington, Tex., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 3, 1959, Ser. No. 796,993
3 Claims. (Cl. 2—2.1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An inflatable pressure suit having a front, back, sides, waist, and a rigid neckband for attaching a helmet thereto, a cable secured at its ends to the exterior surface of said back of said suit, cable guides secured to opposite sides of said neckband, means including a pulley disposed on the exterior surface of said front of said suit, said cable being reeved through said guides and the pulley, a separable belly strap secured intermediate its ends on the exterior surface of said front of said suit and extending longitudinally thereof, coupling means adjustably securing one end of said belly strap with said pulley means so that the position thereof and the cable tension on the neckband thereby may be varied, a crotch strap secured below the waist of said suit and having a longitudinally, upwardly extending end, and coupling means for adjustably joining the upward end of said crotch strap with the other end of said belly strap so that bending of said suit at the waist is facilitated.

2,973,522
HEADGEAR ATTACHMENT MECHANISM FOR FACE-PROTECTIVE SHIELDS
George Zahnor Edwards, 3400 South 2540 East, and George A. Langford, 1644 Harvard Ave., both of Salt Lake City, Utah
Filed July 19, 1957, Ser. No. 673,074
14 Claims. (Cl. 2—8)

1. In a face-protective shield and headgear combination which includes a headgear, an opaque face-protective shield having a front wall provided with a window at eye

level and side walls extending rearwardly to define a rear edge margin for the shield, and latching means having coaxial and relatively rotatable, interengaging, latch parts, one of which latch parts has shield attachment means rigidly associated with the shield and another of which parts has headgear attachment means rigidly associated with the headgear, so that the shield and the headgear can be rotated relative to each other from one latched position to another, the combination with said headgear attachment means and said latching means of adjust-



ment-screw mechanism, said mechanism comprising a thumbscrew anchored to said headgear attachment means and having its head exposed and facing rearwardly substantially at the rear edge margin of said shield, where it may be easily grasped and turned in either direction by a wearer of the shield while the headgear is in place on his head, the shank of said thumbscrew extending forwardly within said shield; and means anchored to that said latch part which has said headgear attachment means and receiving said thumbscrew in threaded relationship.

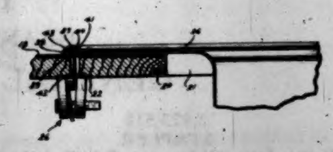
2,973,523
DISPOSABLE GARMENT
Carl W. Brainard and Helen V. Brainard, both of 2120 F St., Sacramento, Calif.
Filed Oct. 20, 1958, Ser. No. 768,422
1 Claim. (Cl. 2—46)



A disposable open front garment constructed of soft absorbent material having a water repellant outer surface, strips of tissue simulating bow knots, having adhesive material on one side thereof, positioned across said open front of the garment with the adhesive material contacting the garment, for securing the open front of the garment normally closed around the body of the wearer, and a cutting cord secured longitudinally of the center of the back of the garment, said cord adapted to be pulled upwardly through the material at the back of the garment cutting the garment, opening said garment for removal from the wearer.

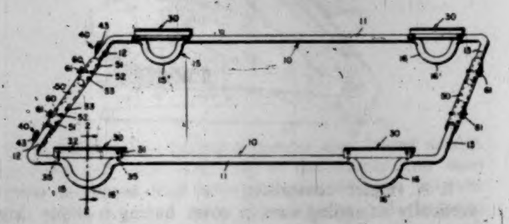
2,973,524
RIM STRUCTURE AND MEANS FOR ATTACHMENT THEREOF
Albert A. Daniels, 1145 Sheridan Road, Highland Park, Ill.
Filed Nov. 21, 1957, Ser. No. 697,890
9 Claims. (Cl. 4—187)

1. In combination with a rim for attaching a fixture directly supported by a counter to such counter, the improvement comprising: a flange member secured to the side of the rim adjacent to the counter and having a hooked end remote from said rim for extending through the counter; means having a hooked end for interlocking with said hooked end of said flange member; and cam



means rotatably journaled in said hooked-end means and adjustably engaging the lower side of the counter for drawing and holding the fixture against the counter.

2,973,525
BED FRAME APPARATUS
Richard T. Holtzclaw, 339 Mooreland Road, Montgomery 4, Ala.
Filed Jan. 20, 1959, Ser. No. 787,897
3 Claims. (Cl. 5—181)



1. Bed frame apparatus comprising a pair of elongated light-weight integral tubular body members, each of said body members having a major portion lying substantially in the same plane and including a side portion and opposite end portions extending substantially normally to said side portion, adjacent end portions of said body members being in alignment with one another and extending toward one another, a pair of tubular light-weight connector sleeves, each of said connector sleeves having opposite open end portions receiving an adjacent pair of end portions of said body members, said sleeves and end portions of the body members having a plurality of spaced openings formed therethrough for adjusting the size of the bed frame, fastening members extending through said openings for securing the body members and sleeves as a rigid framework of desired size, said side portions each including a pair of integral substantially U-shaped leg portions extending out of the plane of the major portions of the body members, and a support member disposed in spanning relationship with each of said leg portions, each of said support members having the opposite ends thereof secured to the associated side portion adjacent opposite sides of the associated leg portion, each of said support members comprising a substantially L-shaped plate-like member including a substantially horizontally extending leg portion for supporting a portion of a bed and a substantially vertically extending leg portion for preventing outward displacement of a supported portion.

2,973,526
MATTRESS STRUCTURE
Justin J. Wetzler, Evanston, Ill., assignor to The Englander Company, Inc., Chicago, Ill., a corporation of Delaware
Filed May 23, 1957, Ser. No. 661,122
7 Claims. (Cl. 5—345)

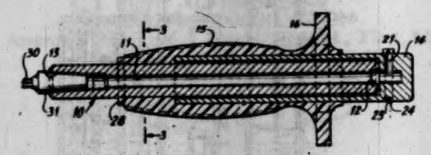
1. A mattress cover comprising upper and lower parts, each part including a body sheet and a marginal strip, the strips of said two parts jointly defining a sidewall for

said cover, a first tape underlapping the edges of said strips, a second tape overlapping the edges of said strips,



and means passing through the edges of said strips and holding said tapes together.

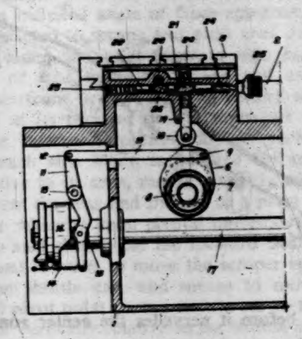
2,973,527
COMBINATION HAND TOOL
Richard H. Maynard, Mountainville, and Walter Bell, Monroe, N.Y., assignors to Star Precision Devices, Inc., Mountainville, N.Y., a corporation of Delaware
Filed Sept. 2, 1958, Ser. No. 758,363
3 Claims. (Cl. 7—15)



1. In a combination hand tool, a tubular guide member body portion having a through bore and a hollow striker head adapted to fit in sliding engagement over either end of said guide member, said striker head having a removable piston adapted to slide within the bore in the guide member when the striker head is fitted over either end of the guide member, said guide member having means at one end of the bore to retain temporarily an article to be driven by the hand tool with one end of the said piston extending within the said one end of the bore having the said article retaining means and means at the other end thereof to hold an implement when the said piston is removed.

2,973,528
CONTROL SYSTEM FOR THE TRANSVERSE RECIPROCATING MOVEMENT OF A TOOL-HOLDER CARRIAGE FOR THREAD-CUTTING MACHINES
Pierre Edouard Renoux, Argenteuil, France, assignor to Cri-Dan, Paris, France, a French company
Filed Dec. 18, 1958, Ser. No. 781,294
Claims priority, application France Dec. 20, 1957
4 Claims. (Cl. 10—101)

1. In a thread-cutting machine including a saddle, a longitudinal carriage adapted to slide longitudinally on said saddle and a tool-holder carriage adapted to assume a reciprocating transverse movement over said longitudinal carriage, the provision of means controlling the transverse reciprocating movement of said tool-holder carriage and comprising an eccentric cam carried by the saddle and adapted to revolve round a horizontal axis, an annular cam fitted round the periphery of said eccentric cam, means for imparting to said annular cam a rocking movement round the eccentric cam, a vertical rod adapted to slide vertically inside the saddle, a bearing member carried at the lower end of said rod and engaging said annular cam, teeth rigid with the upper end of said rod and forming a vertical rack, a shaft adapted to revolve freely inside the saddle and extending perpendicularly to the direction of transverse movement of the tool-holder carriage, two series of peripheral teeth rigid with said shaft and of which one meshes with the vertical rack, a member adapted to slide longitudinally inside the saddle in a direction parallel with said direction of transverse movement and including rack-form-



ing teeth meshing with the second series of teeth on said shaft and a pusher member operatively connected with the end of said sliding member facing the tool-holder carriage and adapted to transmit to the latter the thrust exerted by said sliding member upon actuation by the annular cam, the rod and teeth and rack systems.

2,973,529
TECHNIQUE FOR MAKING SHOES
Jack J. Silverman, 15 Cypress Road, Tuckahoe, N.Y.
Filed Feb. 16, 1955, Ser. No. 488,658
3 Claims. (Cl. 12—142)

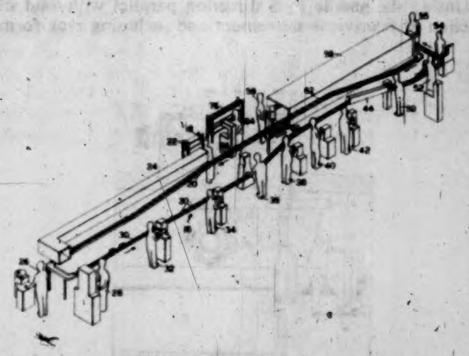


1. In the process of fabricating a shoe conforming to a last having the shape of a human foot, the steps of covering the entire last with a flexible and pliable lining of a nature appropriate to serve as a shoe lining, placing the last so covered on a wet bat to form a plantar impression therein, said bat being of a settable material which in its set form is adhereable to said lining and is of a flexibility suitable as a shoe insole, said bat lying in a tray whose dimensions are greater than the size of said last, permitting said bat to set and adhere to said covered last, and trimming the excess margin from the hardened bat to provide an insole-shaped member.

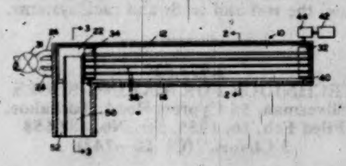
2,973,530
METHOD OF MANUFACTURING SHOES
Morton S. Bromfield, 8 Hubbard St., Canton, Mass.
Filed May 4, 1959, Ser. No. 810,807
4 Claims. (Cl. 12—142)

1. In a method of shoemaking, including the steps in sequence of subjecting an outer surface of a leather upper to a water treatment to introduce into an outer surface zone only sufficient water to increase the flexibility of said surface zone, lasting said upper before said water

can pervade the center zone of the upper, and subjecting the lasted shoe to heat to remove said water from said surface zone before it pervades the center zone of said upper.

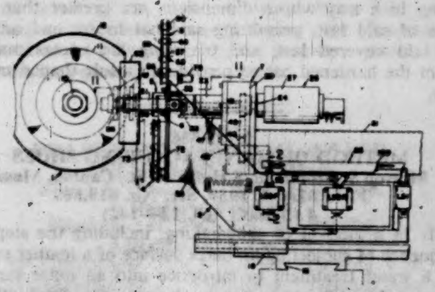


2,973,531
METHOD FOR MULLING SHOE UPPERS
Morton S. Bromfield, 8 Hubbard St., Canton, Mass.
Filed Sept. 3, 1959, Ser. No. 837,887
5 Claims. (Cl. 12—142)



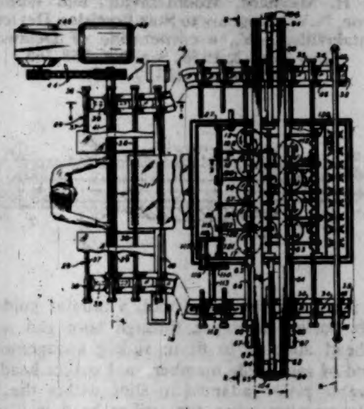
1. A method of mulling a leather upper, which comprises moving the upper along a predetermined path, generating an atmosphere of 100% relative humidity about and along said path, additionally directing a mist of hot water upon the grain side of the moving upper, and removing the upper from the path when the surface zones of the upper have attained a moisture content of at least 18% by weight and the total moisture content of the upper is substantially less than 18% by weight.

2,973,532
AUTOMATIC LOADING AND UNLOADING MECHANISM
George F. Boal and Gilbert J. Janke, Parma, and Joseph Evans, Jr., Maple Heights, Ohio, assignors to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 27, 1958, Ser. No. 717,987
9 Claims. (Cl. 15—21)



6. In combination, a brushing lathe equipped with a rotary power-driven brush, a work holder disposed to one side of said brush, means for advancing said holder toward said brush to present a workpiece on said holder to said brush and for retracting said holder and the brushed workpiece away from said brush, a work support disposed to support a workpiece for removal by said workholder when advanced, means for supplying a workpiece to said support each time that said holder has retracted away from said brush, and a workpiece stripper in front of said support operative to strip the brushed workpiece from said holder during its retraction movement.

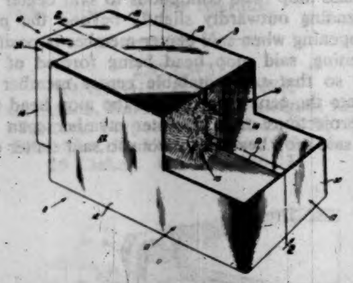
2,973,533
CLEANING APPARATUS
Edward L. Franke, Jr., Cub Hill, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 8, 1959, Ser. No. 818,865
6 Claims. (Cl. 15—21)



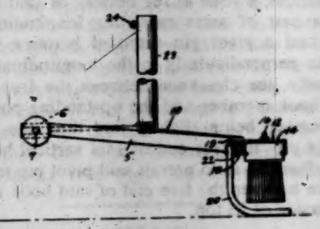
2. Apparatus for scrubbing a flexible helical article, which apparatus comprises a plurality of pairs of brushes having generally flat circular brushing surfaces, with matingly stepped, concentric rings of bristles being formed the brushing surfaces of the brushes in each pair; means for mounting the brushes of each pair in alignment with each other so that their brushing surfaces contact each other; means for causing oscillating rotation between the brushes of each pair in opposition to each other; and means for advancing the flexible helical article, transversely of its length, between the brushes of each pair so that a portion of the article is scrubbed by each brush pair, the brush pairs being so disposed with respect to the line of advancement of the article that the article passes in a substantially straight line between the brushes of each pair and so that all of the helical portions of the article advance between at least one pair of the brushes.

2,973,534
DISHWASHING MACHINE
Clarence W. Gilderbloom, 305 N. 10th St., Oskaloosa, Iowa
Filed Dec. 24, 1958, Ser. No. 782,707
1 Claim. (Cl. 15—74)

An apparatus for washing dishes or like articles comprising, a one piece housing for holding a washing fluid and having a base, a pair of end walls, a pair of side walls, and a top wall, said housing having an opening formed at an upper section of one end thereof by the removal of adjacent portions of said top wall and side walls and the end wall at said one end, said opening being of a size to permit an article to be washed to be inserted within said housing and beneath the remaining portion of said top wall, a power unit mounted on the other of said end walls, drive shaft means operatively connected to said power unit and extended completely beneath said top wall remaining portion, and coacting brush means connected to said drive shaft means for rotation completely beneath said top wall remaining portion.

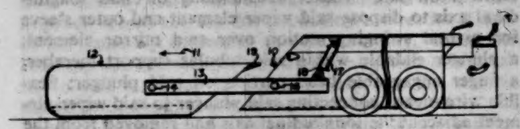


2,973,535
BRUSH CONSTRUCTION
Andrew J. Olay, 5444 Lippincott Blvd., Flint, Mich.
Filed Jan. 15, 1959, Ser. No. 787,066
2 Claims. (Cl. 15—78)



1. A pivotally mounted brush support comprised by a frame including a shaft, a forward tubular bearing surrounding said shaft, a rear bar comprised by an inverted channel adapted to grip the brush between its side flanges, side bars uniting the tubular bearing and the rear bar, a bracket having a parallel top and bottom and aligned holes in said top and bottom, a hinge pivotally securing the bracket to the forward flange of the inverted channel, runners having cylindrical upper ends and diametrically positioned holes therethrough for the reception of locking bolts, said cylindrical upper ends of the runners being received in the holes in the top and bottom of the bracket, and integral right angle sections at their other ends adapted to underlie the bristles of the brush gripped by the inverted channel and travel over the surface being swept.

2,973,536
SCRAPER FOR REMOVING COAL DUST AND OTHER MATERIALS FROM COAL MINE FLOORS
Frank J. Doyle, % Equipment Service Company, 617 N. 9th St., Birmingham, Ala.
Filed Feb. 5, 1959, Ser. No. 791,293
3 Claims. (Cl. 15—93)



1. The combination with a coal mine mobile shuttle car of a scraper comprising a transverse rear blade disposed adjacent the forward end of the shuttle car and extending transversely of the direction of travel thereof, said transverse rear blade being inclined rearwardly and upwardly from its lower working edge to define with the mine floor on which the scraper rests in working relation an included angle of from approximately 25° to 45° and adapted to scrape and push coal dust and other materials along the mine floor, a side blade adjacent each end of said transverse blade and extending forwardly therefrom, a forwardly extending arm pivotally connected at its forward end to the outer side of each side blade intermediate the ends of each side blade whereby each side blade is adapted for pivotal movement relative to its arm, means pivotally mounting each arm adjacent the rear end thereof to a pivot point on the shuttle car whereby upon pivotal movement of each arm relative to said shuttle car the forward end of each arm is raised and lowered to move the scraper vertically relative to the shuttle car, and means to move each arm about said pivot point on the shuttle car to thereby move the scraper vertically relative to the shuttle car, the lower working edges of the side blades being disposed in a common plane with the lower working edge of said transverse rear blade and said side blades diverging from the transverse blade and tilted outwardly relative to the lower working edges thereof to define with a plane perpendicular to the mine floor an included angle of from approximately 10° to 20° whereby coal dust and other materials are scraped by and guided between the side blades toward the transverse rear blade.

2,973,537
PLUMBING APPARATUS
Arthur W. Simpson, 207 W. Islay St., Santa Barbara, Calif., assignor of one-half to Waldo B. Telfer, Ventura, Calif.
Filed Nov. 3, 1958, Ser. No. 771,290
4 Claims. (Cl. 15—104.3)



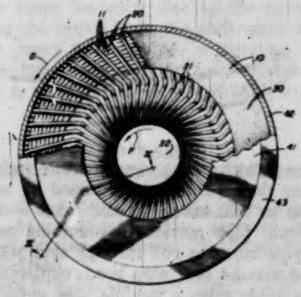
1. For use in a plumbing pipe structure including a pipe bend greater than 90 degrees preceded by an additional pipe portion so that access to said bend is only through said additional pipe portion, a plumbing apparatus for guiding a pipe cleaning rod through said additional pipe portion and around said pipe bend, comprising, in combination: a guide tube; a flexible tube connected to one end of said guide tube, said flexible tube being formed of resilient material having spring characteristics normally biasing said flexible tube to a straight position; a temporary securing means secured adjacent to the other end of said guide tube; and a flexible pull line having one end secured to the free end portion of said flexible tube, the other end of said flexible pull line passing through said temporary securing means and being adapted to have intermediate portions temporarily secured to said securing means, whereby said flexible tube is normally aligned with said guide tube for insertion in said additional pipe section and when said free end of said flexible tube is adjacent to said pipe bend, said line may be pulled to curve said flexible tube against its bias into a direction to align its free end in the new direction defined by said pipe bend, said pull line then being securable in said securing means, said pipe cleaning rod thereby being guided in said new direction upon urging of said rod through said guide tube and flexible tube.

2,973,538
COMBINATION DISPENSER AND CLEANER APPARATUS
Mary G. Thomson, 212 San Vicente Blvd., Santa Monica, Calif.
Filed Feb. 24, 1959, Ser. No. 795,035
5 Claims. (Cl. 15—607)



4. In combination, a horseshoe shaped brush terminating in a protruding wire member at each of its end portions; clamp means of given length; a dispensing bottle defining a dispensing end structure also of said given length, said end structure and said clamp means being shaped for cooperating aligned engagement, said clamp means further including holding means positioned laterally outwardly of said end structure and adapted to receive each said wire member; a threaded neck extending coaxially upwardly from said dispensing end structure; a cap adapted to be threadingly received on said neck, said cap defining at least one orifice communicating through the closed end thereof, and said cap including a ridged portion of increased radius adapted to abut against said clamp means and exert a downward force thereon.

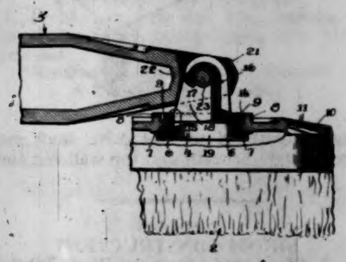
2,973,539
BUFFING BRUSH
William F. Baehrle, 3479 Osceola Drive, Muskegon, Mich.
Filed Jan. 17, 1958, Ser. No. 709,527
4 Claims. (Cl. 15—179)



1. A buffing brush adapted to abrade a work piece comprising a plurality of abrading elements each having a supported end supported on a peripheral collar and a free end extending inwardly from said collar and terminating on a cylindrical surface providing a space for receiving a work piece; said abrading elements being equally distributed around the periphery of said collar and having their free ends bent all in a same predetermined direction.

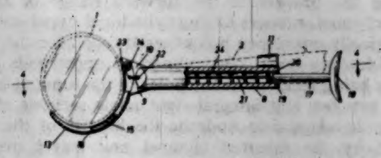
2,973,540
DUST MOP
Henry H. Seesz, Chicago, Ill., assignor to American-Marietta Company
Filed Jan. 12, 1960, Ser. No. 2,048
6 Claims. (Cl. 15—229)

5. A yarn mop which comprises: a mop body including a plurality of strands of yarn; a mop head attached to said mop body, said mop head having an opening in the center thereof; a rotatable center member; projections on the outer wall of said center member spaced apart vertically at a slightly greater distance than the thickness of said mop head contiguous to said center opening and extending outwardly slightly beyond the perimeter of said opening when said center member is positioned in said opening, said mop head being formed of resilient material so that said rotatable center member can be forced into the center opening of the mop head until the spaced projections of said center member span the side walls of said mop head contiguous to said center opening;



said center member having a top plane surface and a vertical hook member extending above said top plane surface; a mop handle; a yoke at the bottom of said handle comprising a pair of arms extending longitudinally of said handle; and a pivot pin disposed between the arms of said yoke perpendicularly to the longitudinal axis of the mop handle, the clearance between the free end of said vertical hook member and the upstanding portion of said hook member being slightly less than the diameter of said pivot pin, the free end of said vertical hook member being resilient so as to permit said pivot pin to be snapped into place between the free end of said hook member and the underside of its top.

2,973,541
DENTAL MIRROR WIPER ATTACHMENT
Peter Matthew Beck, 49 Leacroft Crescent, Don Mills, Ontario, Canada
Filed Feb. 5, 1958, Ser. No. 713,491
2 Claims. (Cl. 15—250.15)



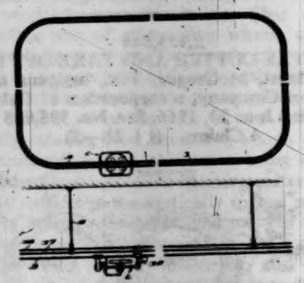
1. A cleaning attachment for a dental hand mirror having a mirror element rigidly extending from a rigid supporting shank and comprising: a tubular support member having a longitudinal axis; means for mounting said tubular support member upon said shank at a slight angle thereto; a bracket on said tubular support member and disposed thereby adjacent said mirror element; a wiper element; an elastomer outer sleeve disposed upon said wiper element; means pivotally mounting said wiper element on said bracket substantially off said longitudinal axis to dispose said wiper element and outer sleeve for pivotal swinging motion over said mirror element; a plunger slidable within said tubular support member; a finger engageable head portion on said plunger; flexible wire means connecting said plunger to said wiper element adjacent the longitudinal axis and removed from the pivotal mounting of the wiper for effecting a wiping action of said wiper element and outer sleeve over said mirror upon motion of said finger engageable head portion by an operator; and spring return means within said tubular support member engaging said plunger for effecting return motion upon release of said finger engageable head portion by the operator.

2,973,542
WINDSHIELD CLEANER
Erwin C. Horton, Hamburg, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Nov. 22, 1955, Ser. No. 548,346
16 Claims. (Cl. 15—250.23)



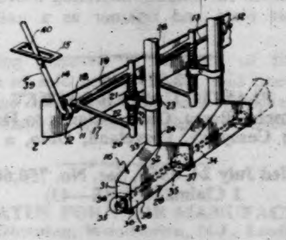
9. A curved windshield cleaner comprising an elongated wiper, an oscillatory actuating arm therefor, a wiper mount extending laterally from the outer end of the arm and embodying a hinge the axis of which lies substantially parallel to the extent of the arm, said actuating arm being supported rigidly on an oscillatory shaft with its axis of oscillation determined so that the outer end of said arm will be relatively closer to the surface of a curved windshield when it operates over the relatively flat portion thereof and farther from the surface as it moves out over the relatively more curved portion thereof, said wiper mount carrying said wiper and being effective to modify the attitude of said wiper and to function according to the distance of the end of said arm from the surface over which the wiper is functioning, and spring means for holding said wiper against the surface.

2,973,543
TRAVELING CLEANER FOR TEXTILE ROOMS
George W. Allred, Mayodan, N.C., assignor to The Bahnson Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Mar. 27, 1957, Ser. No. 648,968
9 Claims. (Cl. 15—312)



1. Apparatus for blowing off lint and other foreign particles which tend to collect upon exposed surfaces in a room containing textile machinery, comprising a generally horizontal trackway disposed in the room above the level of the machinery, a blower unit movable along said trackway, said blower unit including a motor and impeller driven thereby for producing a directional flow of air generally transverse to said trackway, means for indexing said blower unit for rotation about an axis parallel to said trackway in a step-by-step manner wherein the angle of the direction of the air flow produced by said impeller is correspondingly indexed from a first position to a second position disposed less than 360° from said first position, and means actuated when said blower unit has in said step-by-step manner reached said second position for returning the same quickly to said first position in a stepless manner to start a new cycle of step-by-step movement from said first to said second position.

2,973,544
VACUUM TYPE ROAD SWEEPER
John Romaniuk, 1207 11th St. SW., Calgary, Alberta, Canada
Filed Mar. 30, 1959, Ser. No. 802,753
2 Claims. (Cl. 15—340)



1. A vacuum type road sweeper adapted to be mounted on the bumper of a source of power and including a vacuum tank and drive therefor; comprising in combination a plurality of suction, ground engaging units, means to suspend resiliently said units from said bumper, and means to raise and lower selectively said units out of and into ground engaging relationship, said means to suspend said unit comprising a cross shaft journalled for rotation in bearings adapted to be secured across said bumper, a mounting bracket secured to and extending from said cross shaft for each of said units, said brackets including a vertical post, a sleeve reciprocable on said post and secured to said units, and shock absorbing means surrounding said post above and below said sleeve.

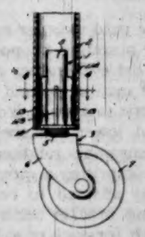
2,973,545
CASTER GLIDES
Michael Kramcsak, Jr., Bridgeport, Conn., assignor to The Bassick Company, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 25, 1958, Ser. No. 756,981
1 Claim. (Cl. 16—42)



A tiltable caster glide comprising a disk-like cushion of a resilient material having a central bore, a shallow counterbore on its lower face and a shallow annular recess on its upper face spaced from the bore, a rigid cup-shaped floor-engaging base retaining the cushion therein, a hollow axially elongated dome-shaped metallic swivel having a lower circumferential flange, an inverted generally cup-shaped shield formed with a central aperture and interposed between the cushion and swivel and having an annular depression substantially mating with and retained in the cushion recess and receiving and retaining the swivel flange, an axially elongated inverted cup-shaped support plate with its lower end engaging the swivel substantially in a line contact at a position substantially above the cushion for smooth swiveling movement through a substantial angle, a circumferential load supporting flange at the lower end of the support plate and a central aperture at its upper end, a retainer

of metallic spring material received on the support plate having furniture leg engaging projections at its outer periphery and having a central aperture, an elongated stem received through and engaging the cushion bore and the support plate, shield and retainer apertures and received through the swivel aperture in spaced relation with the periphery thereof, the stem having a lower enlarged bead portion received in the counterbore and having a truncated spherical lower surface permitting smooth swiveling movement on the base, the stem having a deformed upper end compressing the cushion, swivel, support plate, shield and retainer into yieldingly tight engagement for smooth swiveling movement of the stem, support plate and retainer as a unit about the swivel.

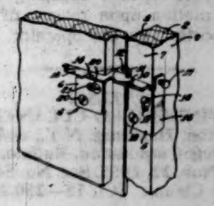
2,973,546
PLASTIC CASTER SOCKET
Melvin E. Roché, Berea, Ohio, assignor to Harvard Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed July 24, 1958, Ser. No. 750,666
1 Claim. (Cl. 16—43)



A caster socket for use with a caster support leg having a center bore and an exposed lower end and a caster having a caster stem with an enlarged head thereon, the plastic caster socket being of a size for a press fit engagement with the support leg center bore, said caster socket including a center sleeve having radially inwardly projecting rib means thereon adjacent but spaced from the upper end thereof, said center sleeve having a closed upper end with an axially inwardly extending support protuberance thereon, a bottom flange extending radially from said center sleeve and adapted to engage the lower end of said support leg, and a plurality of radially directed, axially extending ribs formed integrally with said bottom flange and center sleeve and adapted to have tight engagement with said support leg bore for positioning therein, said axially extending ribs being formed in two sets and with the ribs of one set being longer than the ribs in the other set of ribs to extend nearer to said closed upper end, the caster stem head being adapted to be forced past the said rib means to be positioned axially within said rib means on said center sleeve, the ribs of said set of longer ribs being diametrically opposed to the ribs of said set of shorter ribs.

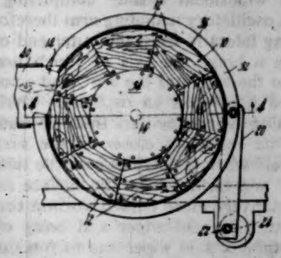
2,973,547
HINGE
Don Heyer, El Monte, Calif., assignor to M and H Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Nov. 10, 1958, Ser. No. 772,759
7 Claims. (Cl. 16—129)

1. A hinge construction comprising: a supporting plate adapted to be connected to a supporting member; a swingable plate adapted to be connected to a swingable member; a flange on said supporting plate having a clamping portion projecting therefrom for engagement with said supporting member; adjustable clamping means carried by said supporting plate in opposed relation to said clamping portion for clamping said supporting member therebetween; said swingable plate having a portion abutting said clamping portion; and a hinge pin connect-



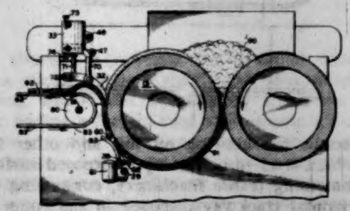
ing said clamping portion with said portion of said swingable plate.

2,973,548
MECHANISM FOR ORIENTING FISH
Harry E. Walker, 112 Court St., Bath, Maine
Filed July 24, 1958, Ser. No. 750,664
4 Claims. (Cl. 17—3)



1. Mechanism for orienting fish comprising an annular disc composed of slabs of wood, an upstanding rail at the circumference of said disc, said rail having a discharge port therein, means for rapidly oscillating said disc through a small angle about its axis, said slabs of wood having the fibers thereof on one half of the disc extending in generally the same direction, while the fibers on the other half of the disc extend generally in the opposite direction, the fibers on both halves of the disc facing said discharge port, and a frame on which said disc and means are mounted.

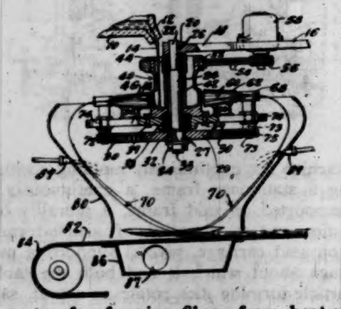
2,973,549
HORIZONTAL CUTTER AND TAKE-OFF DEVICE
James W. Hurst, McGregor, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 29, 1956, Ser. No. 595,045
4 Claims. (Cl. 18—2)



1. In combination with a roll mill having frame members supporting the rolls thereof, a stationary screw extending between said frame members parallel to said rolls; a plurality of first knife assemblies mounted on said screw, each of said first knife assemblies comprising a gear box, the gears of which operatively engage said screw, a driving motor, and a vertical knife blade adapted to contact one of said rolls; a guide bar connecting said knife assemblies and extending through said frame members; a support rod parallel to said rolls mounted in said

frame above said first knife assemblies; a driven screw mounted adjacent and parallel to said support rod; means to drive said driven screw; a second knife assembly mounted on said support rod and driven by said driven screw, said second knife assembly comprising a hydraulic cylinder, fluid material supply and exhaust conduits connected to said hydraulic cylinder, solenoid valves in said supply and removal conduits, support arms, a horizontal knife blade pivotally connected to said support arms, and a piston rod extending from said hydraulic cylinder to said knife blade adapted to move said knife blade into and out of contact with the roll contacted by the vertical knife blades; and a take-off belt positioned adjacent said horizontal knife blade adapted to convey material cut from the mill by said horizontal knife blade, said take-off belt being provided with a plurality of small projections thereon.

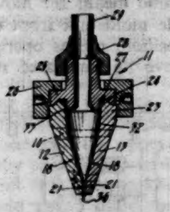
2,973,550
METHOD AND APPARATUS FOR FORMING FIBERS
Robert G. Russell, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Feb. 14, 1956, Ser. No. 565,381
7 Claims. (Cl. 18—8)



4. Apparatus for forming fibers from heat-softenable fiber-forming material including a rotor, means for delivering flowable fiber-forming material into the rotor, a plate adapted to rotate with the rotor, said rotor having zones provided with groups of orifices with the zones arranged in vertically spaced relation, fiber attenuating means including sets of attenuating wheels with a plurality of wheels in each set, the wheels of one set being respectively in engagement with adjacent wheels of another set, means for rotating the rotor, plate and sets of attenuating wheels about the axis of the rotor and for concomitantly rotating the attenuating wheels of each set about their respective axes, said rotor being revolved at a speed sufficient to project fiber-forming material through the groups of orifices in the vertically spaced zones of the rotor to form primary filaments, said pairs of attenuating wheels being respectively disposed in the paths of the groups of projected primary filaments, said attenuating wheels attenuating the groups of primary filaments to form fine filaments in linear bundles.

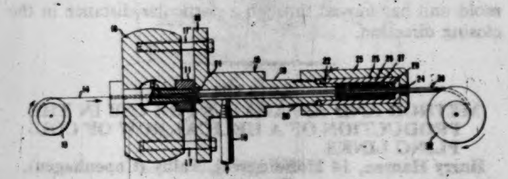
2,973,551
NOZZLE
Charles Samuel Arslanian, Concord, Mass., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 17, 1958, Ser. No. 781,051
6 Claims. (Cl. 18—12)

1. A two piece nozzle for extruding ribbon-like streams of semi-fluid materials, comprising a pair of oppositely disposed nozzle blocks secured together to produce a unitary structure, each of said blocks having an open internal cavity which cooperate with each other to set off in said secured together blocks a main enclosed cavity, and a seamless tube liner disposed in said main cavity and having at its inner end an inlet opening disposed in advance of its rear edge and having at its outer end a dis-



charge opening disposed in advance of the forward secured edges of said nozzle blocks, said liner providing for the passage of a semi-fluid material therethrough to confine said material against leakage between said nozzle blocks.

2,973,552
APPARATUS FOR WIRE MANUFACTURE
Richard M. Downing, Woodstown, N.J., Louis T. Staats, Jr., Lewisville, Pa., and Nathaniel C. Wyeth, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 29, 1956, Ser. No. 568,599
3 Claims. (Cl. 18—13)

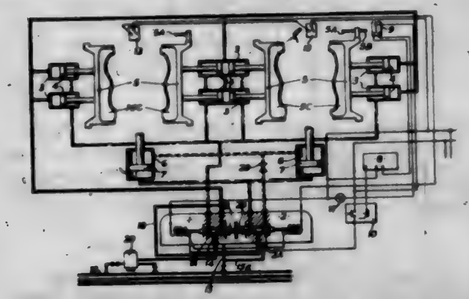


3. A device for the manufacture of electrical conductors having a coating of expanded cellular plastic material comprising an extruder for a thermoplastic material into which has been incorporated a chemical blowing agent, a die at the discharge end of said extruder, means for continuously conducting an elongated electrical conductor into the discharge end of said extruder and out of said discharge end through said die, in order to provide the conductor with a coating of expanded cellular thermoplastic material, a pressure chamber adjacent to said die into which the coated electrical conductor passes upon emergence from the die, intake means in the pressure chamber for delivering a cool fluid under pressure to the interior thereof, and a seal at the remote end of the pressure chamber having a central aperture which is radially adjustable through which the coated conductor is discharged without dissipating the fluid pressure in the pressure chamber, said radial adjustment permitting regulation at all times of the distance between the coated electrical conductor and the components of the seal encircling same.

2,973,553
APPARATUS FOR USE IN THE MANUFACTURE OF VULCANIZED FOOTWEAR
Frederick Thomas Turner, Somerset, England, assignor to C.I.C. Engineering Limited, Somerset, England, a British company
Filed Apr. 24, 1957, Ser. No. 654,918
Claims priority, application Great Britain May 9, 1956
19 Claims. (Cl. 18—17)

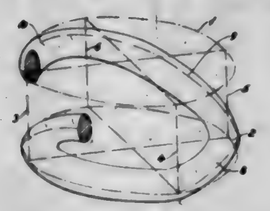
1. Apparatus for molding and vulcanizing a shoe sole to a prelasted shoe upper comprising a frame, a last mounted on said frame, a plurality of mold units mounted on said frame and cooperating with said last to form a mold cavity for the shoe sole, said units including a side

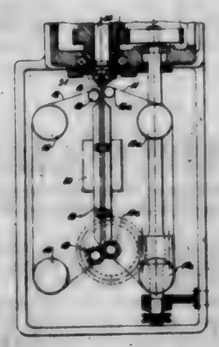
mold unit having a laterally movable mold component and a sole mold unit having a vertically movable mold component, means for moving the mold component of said side mold unit from open mold position to closed mold position, second means for moving the mold component of said sole mold unit from open mold position to closed mold position, means operable to actuate said first means to move its associated mold component to



closed mold position, electrical control means operable independently of said first means to actuate said second means to move its associated mold component to closed mold position, a movable member of said side mold unit controlling said control means and engaging the latter to actuate the same after the mold component of said side mold unit has moved through a particular distance in the closing direction.

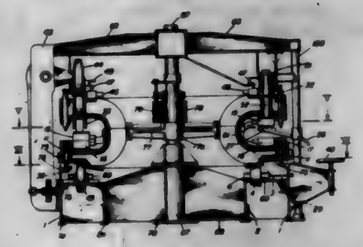
2,973,554
METHOD AND APPARATUS FOR USE IN THE PRODUCTION OF A HELICAL ROW OF COUPLING LINKS
Harry Hansen, 14 Hoffdingvej, Valby (Copenhagen), Denmark
Filed Sept. 27, 1957, Ser. No. 686,685
Claims priority, application Denmark Oct. 2, 1956
6 Claims. (Cl. 18—19)





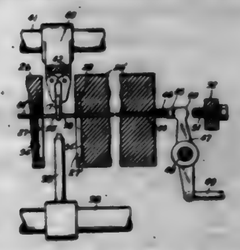
1. A method of producing a coiled row of coupling members for a slide fastener which comprises the steps of winding a continuous filament onto one end of a mandrel, continuously moving the resulting coil along said mandrel, moving a plurality of endless bands longitudinally of said mandrel and synchronously with the formation of the coil thereon, engaging each turn of said coil individually with engaging means of said endless bands and maintaining said turns in a predetermined shape in a predetermined positively controlled pitch relationship by said engagement as said coil is moved along said mandrel, then removing said coil continuously from said endless bands at the other end of said mandrel, and mutually displacing said endless bands to create a variation of angle of pitch within each turn of said coil.

2,973,555
ROTARY PRESS FOR FABRICATION OF BUTTONS AND PLASTIC ARTICLES
Franz Schwepke, Hamburg, Germany, assignor to Agustin Mesa, Bogota, Columbia
Filed Sept. 9, 1955, Ser. No. 533,436
25 Claims. (Cl. 18—20)



1. A machine for continuously molding plastic articles comprising a stationary frame, a continuously rotating carriage supported on said frame, a plurality of tablet-forming dies and a plurality of article-forming dies mounted on said carriage, pivotal supporting means for said carriage about which it and both the tablet-forming and article-forming dies rotate as a unit, said tablet dies having upper and lower parts, means to cause said tablet die parts to engage and disengage and to press them together at a predetermined point in the rotation of the carriage, said article dies having upper and lower parts, means to cause said article die parts to engage and disengage and to press them together at a predetermined point in the rotation of the carriage, means feeding molding powder to said tablet dies, means to transfer tablets formed by said tablet dies to said article-forming dies, and means to remove formed articles from said article dies.

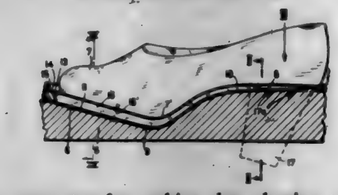
2,973,556
TRAVELER AND METHOD OF PRODUCING THE SAME WITH PRE-SHAPED CAST INSERT
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 8, 1957, Ser. No. 688,860
8 Claims. (Cl. 18—30)



1. The herein described method of producing travelers of the character described, which comprises actuating

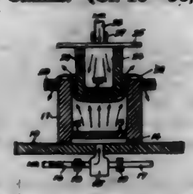
means for intermittently picking up an insert having offset end portions from a supply station and positioning the same in registering alinement with mold cavities of a pair of open dies, then actuating a pair of gripper rods to engage and support the insert as positioned between the open dies, then releasing the first named means from the insert and moving the same from position between the dies, positioning a transfer pin between the open dies, then closing the dies upon the insert supported by said rods, then retracting the rods to bring adjacent surfaces thereof in alinement with walls of the die cavities, then pressure injecting plastic material into the closed dies to form molded plastic bodies on the end portions of said insert and a gate portion on said transfer pin, then separating the dies and actuating the transfer pin to deliver the product thus formed to a trimming station, then trimming the product to remove the gate portion, and ejecting the gate portion from said pin.

2,973,557
SHOES
Nikolaus Hansjosten, Plauig, Germany
Filed July 2, 1956, Ser. No. 595,516
Claims priority, application Germany July 5, 1955
2 Claims. (Cl. 18—34)



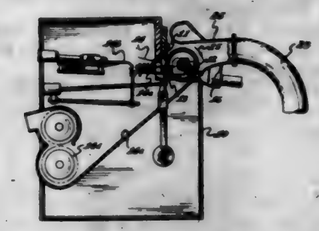
1. An apparatus for making shoes having a high arch and adapted to have a high heel secured thereto provided with an outer sole, an intermediate sole and an upper and inner sole joined to the intermediate sole, comprising a base plate having its upper surface shaped to form the bottom of the outer sole, a frame positioned on the base plate and cooperable with said upper surface of said base plate to provide the outer edge of the intermediate sole, said frame having a molding edge extending about the perimeter of the shoe and the height of the molding edge decreasing towards the rear to correspond to the thickness of the finished sole, a rib at the rear part of said base plate extending to the periphery of the heel part of the shoe, and the height of said rib corresponding to the thickness of the rear part of the outer sole.

2,973,558
METHOD FOR DEEP-DRAW VACUUM FORMING
Edward Bowman Stratton, Jr., Fairfield, Conn., assignor to National Cleveland Corporation, a corporation of Ohio
Filed Feb. 24, 1958, Ser. No. 716,946
4 Claims. (Cl. 18—56)



1. The method of forming a sheet of thermoplastic material, comprising the steps of heating said sheet to a temperature rendering it moldable, disposing said heated moldable sheet between a heated plug at one side having a temperature at least substantially approximating the temperature of said heated moldable sheet and a cavity mold at the other side having a temperature substantially less than the temperature of said heated moldable sheet, pre-forming said heated moldable sheet through relative movement between said plug and cavity mold to bring said plug into said cavity mold with said heated moldable sheet interposed, introducing simultaneously with said relative movement air under pressure to create a spacing cushion of moving air between said heated moldable sheet and the opposed surface of said plug, and also simultaneously with said relative movement introducing air under pressure to said cavity mold to create a spacing cushion of moving air between said heated moldable sheet and the opposed surface of said cavity mold, whereby said heated moldable sheet is supported out of contact with said opposed surfaces of said heated plug and said cavity mold throughout said preforming step, and evacuating the air between said preformed sheet and said cavity mold to cause said preformed sheet to be drawn away from said heated plug and molded against the opposed surfaces of said cavity mold.

2,973,559
LINT NOZZLE
Andrew O'Neal, Glendale, Ariz., assignor to Community Gin Company, Glendale, Ariz., a corporation of Arizona
Filed Dec. 19, 1958, Ser. No. 781,529
2 Claims. (Cl. 19—50)



1. In a cotton gin having a frame, a gin roll rotatably journaled on said frame, means for feeding seed cotton on to the surface of said gin roll, and a knife associated with the gin roll to separate the seed from said cotton leaving the ginned cotton adhering to said gin roll, a lint nozzle structure for removing the ginned cotton from the gin roll surface comprising a main air pressure chamber mounted on said frame having a streamlined airfoil cross-section including a convex leading edge projecting in the direction of and adjacent to said gin roll, a main suction chamber located above said main air pressure chamber having its lower surface defined by the convex top surface of said air foil to provide a streamlined bottom surface on the inside of said suction chamber, a nozzle outlet in the leading edge of said pressure chamber characterized by a vertically discharging slit arranged parallel to the axis of rotation of said gin roll discharging in a direction opposite to the peripheral direction of travel of said gin roll, the flat jet stream thus provided being radially spaced from contact with said roll periphery to cause an aspirated air flow tangentially over said gin roll from a position below the leading edge of said pressure chamber so as to strip ginned cotton from said roll and to cause said stripped cotton to be propelled along said streamlined bottom surface of said suction chamber for removal from the cotton gin.

2,973,560
CARD ROLL CONSTRUCTION
John D. Hollingsworth, P.O. Box 516, Greenville, S.C.
Filed Mar. 28, 1960, Ser. No. 18,179
11 Claims. (Cl. 19—112)

1. Card roll construction for carding or garnetting machines in which the outer periphery of the end of

the rotary card roll is positioned adjacent a stationary part of the machine, comprising a roll body of generally cylindrical form, card clothing mounted on the cylindrical surface of said roll body, and an end structure mounted on the end of said roll body having at least a portion projecting beyond the periphery of said roll



body and confining the card clothing thereon, said projecting portion of the end structure having generally radial walls therein defining recesses for engaging and entraining fibrous material which may accumulate between said roll and the stationary part of the machine adjacent the periphery of the end structure of the end roll.

2,973,561

PANEL MOUNTED FOR MOVEMENT BETWEEN A VERTICAL POSITION, A HORIZONTAL POSITION, AND A POSITION EXTENDED HORIZONTALLY THEREFROM

Paul R. Jackson, Pico, Calif., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California

Filed Mar. 2, 1959, Ser. No. 796,615
8 Claims. (Cl. 20—16)



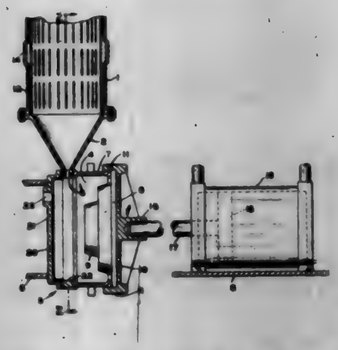
1. A panel in combination with apparatus for mounting it with respect to a structure for pivotal movement between a vertical position, an upper horizontal position, and an extended horizontal cantilever position, comprising: a panel member having horizontally spaced parallel side edges; a frame member consisting of two horizontally spaced parallel side receiving channel portions open at first ends thereof and defining an opening into said frame member, and a member interconnecting second ends thereof to define a closed end of said frame member, said side receiving channel portions receiving and engaging corresponding ones of said side edges of said panel member through said open end of said frame member and effectively mounting said panel member extending between said side receiving channel portions for controllable slidable extension partially out of said open end of said frame member, said frame member being provided with pivotal mounting means adapted to effectively pivotally mount same about a horizontal axis with respect to a structure for movement of the engaged frame member and panel member between a vertical position and an upper horizontal position; and frame locking means carried by said side receiving channel portions of said frame member adjacent said open end thereof and controllably projecting horizontally therefrom into corresponding fixed receiving recess means adapted to be carried by an adjacent portion of a structure pivotally mounting the frame member when said frame member and said engaged panel member are in said upper horizontal position and said panel member is extended horizontally through said open end of said frame member to a predetermined degree, whereby to effectively support in cantilever fashion said extended panel member with respect to said structure, said frame locking means including horizontally outwardly directed projection means slidably positioned in corresponding outwardly directed aperture means defined by at least one of said side receiving channel portions, and resilient spring-cam follower means mounting said projection means spaced inwardly of at least one of said side receiving channel portions, for abutment by at least one of said side edges of said panel member when it is slidably extended through said open end of said frame member, said side edge of said panel member having recess means therein adjacent to said spring-cam follower means when said panel member is fully inserted through said open end of said frame member thereinto, whereby to allow said spring-cam follower means to retract inwardly said projection means.

2,973,562

MOLD BLOWING AND SQUEEZE MACHINE

Leon F. Miller, Rocky River, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 4, 1958, Ser. No. 752,850
6 Claims. (Cl. 22—36)



1. A foundry molding machine comprising a mold chamber having a mold forming portion at an end thereof and including a ring-like portion with an opening and with screen vents in the side wall, a blowing machine operative to blow molding sand through such opening into said chamber, the air entrained in the molding sand escaping through such screen vents, and squeeze means at the other end of said chamber operative to squeeze such sand in said chamber against such mold forming portion, said squeeze means comprising a flexible diaphragm adapted to be deformed by fluid pressure therebehind toward such mold forming portion.

2,973,563

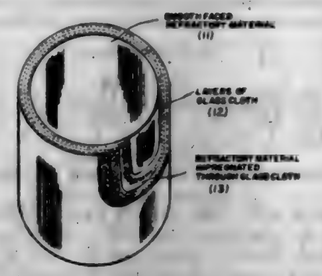
LINING FOR INGOT MOLDS AND METHOD OF PRODUCING INGOTS

Ernest Frederick Lenberry and Harold Frederick Hendershot, Huntington, W. Va., and Paul Hamilton Edwards, Proctorville, Ohio, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 27, 1958, Ser. No. 769,579
10 Claims. (Cl. 22—113)

4. A metal ingot casting mold consisting essentially of a chamber adapted to receive molten metal and a sleeve-like mold lining in said chamber and conforming substantially to the surface configuration of said mold chamber, said composite mold lining comprising a smooth, dense refractory inner facing and a fibrous backing of glassy material, said refractory inner facing being

of refractory powder having a particle size less than about 0.01 inch bonded together and to said fibrous backing and containing about 15% to about 40% voids, by volume, to provide a controlled permeability to gas.



2,973,564

METHOD OF GRAPHITIZING CAST IRON

Ronald H. T. Dixon, Erdington, Birmingham, and John H. Gittus, Studley, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 29, 1958, Ser. No. 731,740
Claims priority, application Great Britain May 2, 1957
5 Claims. (Cl. 22—200)



1. The method for producing a gray iron casting having improved metallurgical quality which comprises establishing a bath of cast iron having such a composition that it tends to freeze as a white cast iron containing carbides when poured into a mold, casting metal from said bath into a mold, and graphitizing said metal by applying vibration at a frequency of at least about 50 cycles per minute to said metal during the solidification thereof to form a casting having substantially no retained carbides and having improved metallurgical quality.

2,973,565

FASTENER

Howard J. Murphy, North Wilmington, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware

Filed Jan. 13, 1958, Ser. No. 708,677
2 Claims. (Cl. 24—73)

1. A unitary, self-sufficient fastener member for cooperating with a through hole in a structure, the member comprising a primary part having a surface to rest on the margin of the hole on one side thereof over an area of substantial length and breadth, a tongue extending outwardly and rearwardly from an end of said part to project through the hole and extend past the rearward margin thereof on the opposite side, at least a portion of said primary part adjacent the tongue having the cross-section of a channel the length of which extends in the same general direction as the tongue with outwardly bowed flanges defining overhanging shoulders and a secondary part having a similar but slightly larger cross-section, the flanges of the latter part being resiliently yieldable to permit them to snap over the primary part and



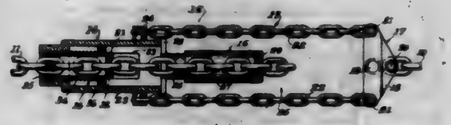
engage beneath the shoulders thereof to extend past said portion and overlie the forward margin of the hole at the side opposite the primary part, the primary and secondary parts being integrally joined by a bendable strip.

2,973,566

CHAIN LOCK

Edwin C. Elmer, Glendale, Calif., assignor, by mesne assignments, to Aeroquip Corporation, Jackson, Mich., a corporation of Michigan

Filed Oct. 15, 1956, Ser. No. 615,820
3 Claims. (Cl. 24—116)



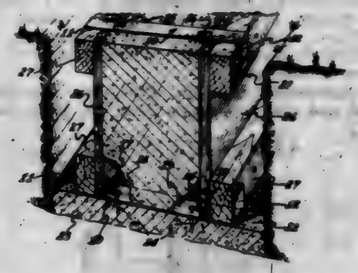
1. In a buckle for connecting two chain ends, a tubular member connected to one chain end and having side openings, the other chain end being adapted to pass longitudinally through said member and to be firmly locked against tension at any desired place on the chain, a transverse key applied to the chain through said openings, and an adjustable member carried by the tubular member to engage against the key, said adjustable member being on the end of the tubular member away from the chain end connected thereto.

2,973,567

FOUNDATION FORM CLIP

Arthur J. Brow, Jr., 542 W. 3rd St., and Oscar L. Franks, both of Mesa, Ariz.; said Franks assignor to said Brow

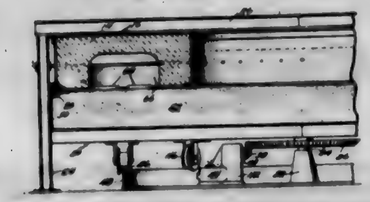
Filed June 22, 1959, Ser. No. 822,121
1 Claim. (Cl. 25—131)



A concrete form assembly comprising, a concrete footing; a foundation clip mounted on a top surface of said footing; said clip having an elongated flat rectangular shaped base portion and upturned vertically disposed end

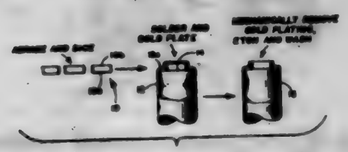
members integral with the base portion at each end on a line transverse to the length of said base portion; a pair of spaced upwardly sloping triangular shaped wing members struck out of said base portion and forming triangular shaped perforations therein; the perforations being located between the wing members and having an apex on the longitudinal axis of said base portion; the wing members having an edge one third the width of the base portion and integral therewith which is bent on a line transverse to the length of said base portion; each wing member positioned adjacent each end member and spaced therefrom to provide a stem form receiving section therebetween; said wing members sloping upwardly and away from their corresponding end members and inclined at an angle slightly more than 10 degrees with the vertical; said wing members being approximately one half the length of said end members; a nail member positioned in each perforation at the apex thereof and driven into the footing to hold the foundation clips in position on said footing; a stem form the width of the stem form receiving section vertically mounted in each of the two stem form receiving sections in contact with the end member and the sloping wing member thereof.

2,973,568
APPARATUS FOR FAST-FIRING CERAMIC WARE
Herbert Hans Greger, Glen Road, Rockville, Md.
Filed Sept. 5, 1958, Ser. No. 759,367
6 Claims. (Cl. 25—132)



1. A kiln for fast firing ceramic ware at high temperature comprising an upright framework, an annular muffle mounted in said framework and having downwardly extending skirts, a heat shock free kiln floor composed of a shell filled substantially with a homogeneous 14 to 60 mesh granular, free-flowing refractory material being essentially free from sintering at temperatures in excess of 950° centigrade, said kiln floor being rotatably mounted with respect to said muffle so that said skirts of said muffle protrude into said floor, and means for moving the floor relatively to said muffle to advance ceramic material supported on said floor through said muffle.

2,973,569
SEMICONDUCTOR ASSEMBLY METHODS
Irving Feinberg, Brighton, and Avak Avakian, Watertown, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Original application June 26, 1953, Ser. No. 364,325. Divided and this application June 25, 1957, Ser. No. 667,853
4 Claims. (Cl. 29—25.3)



1. In the method of manufacturing a semiconductive device, including the steps of soldering a semiconductive element to a support, gold plating the assembly of said semiconductive element and support, mechanically removing the gold plating from one surface of said semiconductive element, and etching said one surface.

2,973,570
HIGH TEMPERATURE STRUCTURAL MATERIAL AND METHOD OF PRODUCING SAME
John S. Nachtman, 2001 Quebec St. NW., Washington, D. C.
No Drawing. Filed May 13, 1958, Ser. No. 735,873
7 Claims. (Cl. 29—182.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

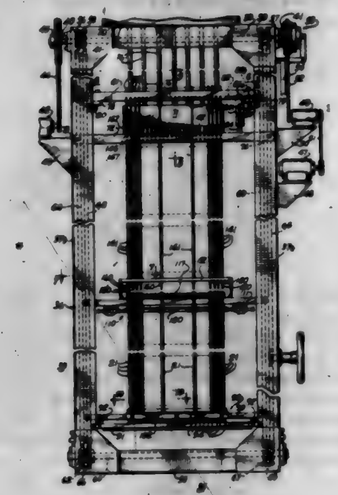
1. A metallurgical composition consisting essentially of a finely divided mixture of at least 50 percent by weight of a metallic base selected from the group consisting of aluminum, alloys of aluminum with strengthening metals and mixtures of said alloys with each other and with aluminum, up to about 25 percent by weight of a strengthening metal selected from the group consisting of iron, molybdenum, vanadium, titanium, beryllium, iridium, thorium, tantalum, niobium, chromium, manganese, nickel, cobalt, tungsten, boron, the rare earth elements and mixtures of said metals, and from about 5 to about 15 percent by weight of an oxygen bearing compound reducible by aluminum and selected from the group consisting of the oxides of boron, tungsten, thorium, iridium, tantalum, molybdenum and niobium which contain no non-metals other than oxygen and mixtures of said oxides.

2,973,571
CURRENT CONDUCTOR
Jan Laurens Meyering, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 26, 1954, Ser. No. 452,443
Claims priority, application Netherlands Sept. 15, 1953
2 Claims. (Cl. 29—194)

1. A current conductor comprising a center portion consisting of a metal selected from the group consisting of iron, chromium, nickel, cobalt, titanium, zirconium and mixtures thereof and a layer of gold adjacent to and surrounding said center portion, a layer of silver adjacent to and surrounding said gold layer and a second layer of gold adjacent to and surrounding said silver layer.

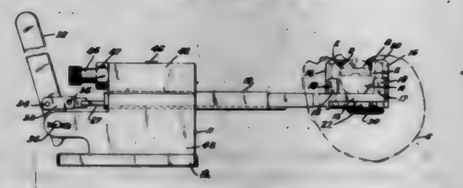
2,973,572
APPARATUS FOR MANUFACTURING SHEATHED ELECTRICAL HEATING ELEMENTS
Sterling A. Oakley, 6831 N. Kilpatrick Ave., Lincolnwood, Ill.
Filed Apr. 25, 1956, Ser. No. 580,573
15 Claims. (Cl. 29—203)

1. Apparatus for manufacturing sheathed electrical heaters of the type including an electrical conductive heating element disposed within a protective sheath, said apparatus comprising, a first rack for supporting a plurality of said sheaths, a second rack for supporting a plurality of tensioning rods, said rods being adapted to extend respectively through said sheaths when they are supported on the rack provided therefor, means on the ends of said rods for attachment to respective terminal members of said heating elements, means for moving said racks with respect to one another so as to withdraw said rods from said sheaths thereby threading said heating elements through respective ones of said sheaths, means adapted to cooperate with annular stop means provided on other terminal members of each of said heaters to prevent the withdrawal of said heaters from said sheaths by said movement of said rods, a third rack proximately disposed with respect to said first and second racks, a plurality of concentric filling tubes mounted on said third rack, valve means disposed between said tubes, said valve means including a plurality of spaced apart protrusions on one of said tubes, means for inserting said concentric tubes into said sheaths and for withdrawing said tubes from said sheaths, means for feeding an insulating comminuted material through the space between said concentric tubes as said tubes are being withdrawn from said



sheaths whereby the space between said heaters and the surrounding sheaths is filled with said comminuted material, the inner one of said concentric tubes having an internal diameter only slightly greater than the external diameter of said heaters whereby as said sheaths are filled with said comminuted material during the withdrawal of said tubes the feeders are accurately centered within said sheath, and means for vibrating said tubes during the withdrawal of said concentric tubes.

2,973,573
APPARATUS FOR FASTENING EYES IN DOLLS' HEADS
David Cohn, Poundridge, N.Y., assignor to Model Plastic Corporation, White Plains, N.Y., a corporation of New York
Filed Nov. 7, 1958, Ser. No. 772,538
4 Claims. (Cl. 29—209)



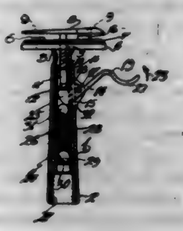
1. In an apparatus for fastening eye constructions having outwardly extending tongues to dolls' heads of the type provided with peripheral rims extending inwardly from the edges of the eye openings respectively, said apparatus including a support, an arm carried by said support, oppositely disposed jaws pivoted to said arm and having inwardly directed outer ends between which an eye construction is positioned on said arm with the tongues thereof disposed between the outer ends of said jaws, cam means pivotally mounted on said arm, a slide slidably mounted on said arm with the outer end thereof disposed in engagement with said cam means, and a handle member movably carried by said support and engaging said slide for movement of said cam means to rock said jaws inwardly, and said arm being adapted to receive a doll's head thereon with the arm extending through the neck opening and with an eye opening disposed in registry with the eye construction on said arm for bending the tongues into clamping relation on the rim of said eye opening with the inward movement of said jaws to thereby secure said eye construction to the doll's head.

2,973,574
SHAVERHEADS ON ELECTRICAL OR MECHANICAL SHAVERS
Paul Kobler, 81 Fenimore St., Lynbrook, N.Y.
Filed Jan. 15, 1960, Ser. No. 2,618
1 Claim. (Cl. 30—43)



In a shearhead for shavers a stationary member and an inner movable cutter member, the inner movable cutter with a reciprocating motion, and both, the outer stationary cutter member and the inner movable cutter provided with cutting elements, said cutting elements comprising transverse teeth, transverse to the direction of the motion of the inner cutter, and arranged at equal intervals with at least one larger unequal distance between two teeth, said unequal distance being wider between two teeth of the inner, movable member, than the unequal distance, corresponding to it in the outer stationary member.

2,973,575
RAZOR HAVING A TRIANGULAR SHAPE CAP WITH SPRING AND LEVER MEANS IN THE HANDLE TO LOCK SAID CAP
George B. Redden, deceased, late of Saltcoats, Saskatchewan, Canada, by Annie M. Redden, executrix, Box 264, Saltcoats, Saskatchewan, Canada
Filed Jan. 23, 1958, Ser. No. 710,642
1 Claim. (Cl. 30—68)



A razor comprising in combination a substantially hollow handle, a centrally apertured base head secured transversely across the upper end of said handle, a blade clamping head complementary to said base head and being detachably mated therewith, a stem secured to the underside of said clamping head and extending downwardly therefrom, said stem adapted to enter said hollow handle, an elongated slot formed through said stem adjacent the lower end thereof, means on said handle cooperating with said stem adapted to clamp said clamping head onto said base head and to release said clamping head from said base head selectively whereby said clamping head can be removed from said base head, said means comprising a lever pivotally connected intermo-

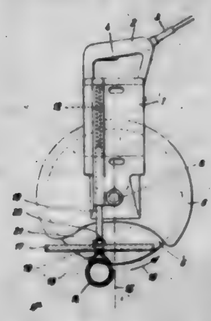
diate the ends thereof to one side of said handle, the outer end of said lever being curved to nest underneath said base head when in the head clamping position, a finger formed adjacent the inner end of said lever selectively engageable within said slot in said stem, a cam formed on the inner end of said lever below said finger, the inner side of said cam engaging the lower end of said stem, a hollow carrier detachably secured within said handle below said lever, a resilient spring in said carrier, ball means also in said carrier above said spring, said ball means engaging the outer side of said cam, said spring reacting between the base of said handle and said ball, said spring, said ball, and said cam cooperating together to provide an over center snap action to said lever whereby said stem is urged upwardly free of said finger in one position of said lever, and urged downwardly into head clamping position in the other position of said lever.

2,973,576

ELECTRIC CUTTING MACHINE

Kurt Henke, Bremgarten, Switzerland, assignor to A. Kuster & Co. Werkzeugmaschinen, Zurich, Switzerland, a firm of Switzerland

Filed Oct. 6, 1958, Ser. No. 765,533
Claims priority, application Germany Oct. 7, 1957
8 Claims. (Cl. 30—92)



1. A portable cutting machine, comprising, in combination, motor means including a housing; a shaft turnably mounted in said housing and being adapted to be driven by said motor means, said shaft having a free end portion projecting laterally beyond said housing; a cutting disc located in a plane substantially normal to said shaft and mounted on said free end portion of said shaft for rotation therewith; support means supporting said housing, being arranged in its entirety at only one side of said plane of said cutting disc and including an engaging member adapted to engage a workpiece to be cut; and means for adjusting the position of said engaging member relative to said cutting disc, whereby said cutting disc may be used to cut off a portion of the workpiece while said portable cutting machine remains supported on the remainder of said workpiece.

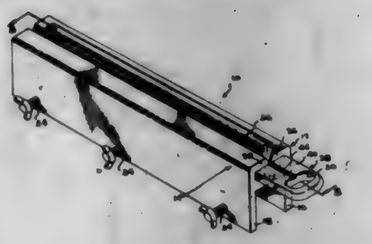
2,973,577

WINDSHIELD WIPER BLADE TRIMMING DEVICE

Herbert O. Schekowski, 4628 S. Rockwell, Chicago 32, Ill.

Filed Sept. 11, 1959, Ser. No. 839,483
4 Claims. (Cl. 30—272)

1. A device for trimming the working edge portion of a windshield wiper blade comprising a pair of elongated jaw members arranged in confronting face to face relation, means connecting said jaw members together for movement toward and away from each other, each of said jaw members having an edge and an inwardly extending channel-shaped groove below and parallel to said edge extending from one end to the other end thereof, said jaw members being arranged so that said edges are in lateral spaced alignment to form therebetween a slot and the grooves in face to face registering relation to form an open ended slideway, and a flat faced trimming element conformably shaped to fit within said slideway and having a recess extending longitudinally along and inwardly from one face thereof and a knife extending transversely across and bridging said recess adjacent one end thereof and fixedly supported on said element,



said trimming element being positioned in said slideway so that the recess is below and in registry with said slot with the knife contiguous to and inwardly of the other open end of said slideway and being insertable and withdrawable through one of the open ends of said slideway, said slot and the recess of said trimming element when the latter is fully inserted in said slideway being adapted to receive a windshield wiper blade from which the working edge portion is to be trimmed.

2,973,578

KNIFE

John L. Carroll and Charles D. Whitcomb, Fremont, Ohio, assignors to Quikut, Inc., Fremont, Ohio, a corporation of Ohio

Filed Aug. 31, 1955, Ser. No. 531,886
1 Claim. (Cl. 30—355)



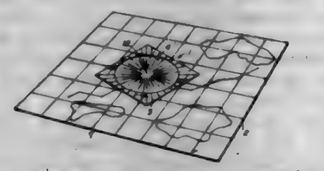
A blade having a plurality of teeth along a cutting edge, said teeth being shaped similar to equally-sized isosceles trapezoids with a cutting corner located at each of the two corners of the longer base of each trapezoid, said substantially trapezoidal shaped teeth being of two different types, one type being located along the cutting edge of said blade between at least two of the other type, said one type of substantially trapezoidal tooth having its two longer base cutting corners spaced by a shallow U-shaped notch and being entirely in the plane of said blade, and said other type of substantially trapezoidal tooth having its two longer base cutting corners spaced by a shallow V-shaped notch and said cutting corners being offset on opposite sides of said blade less than the width of said blade, all of said substantially trapezoidal teeth including their base cutting corners being of the same thickness as said blade throughout their entire extents, and all of said substantially trapezoidal shaped teeth and the substantially trapezoidal shaped notches between them being substantially equal in size.

2,973,579

FALLOUT PLOTTING DEVICE

Edward A. Schuert, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 20, 1957, Ser. No. 704,216
2 Claims. (Cl. 33—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



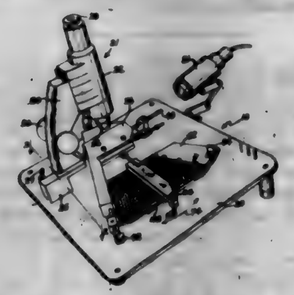
1. A plotting device for determining the fallout pattern of nuclear detonations comprising a transparent base carrying radial lines indicating wind direction by degrees and provided with a radial slot along the 180 degree line, an aperture located as the center of said radial lines and a pivot point in radial alignment with said slot, a transparent wheel rotatively mounted on said base at said pivot point and provided with a plurality of radial slots representing increments of altitude and carrying indices of the speed of nuclear particles at said altitude increments, said wheel being adapted to be rotated whereby the respective radial slots may be selectively brought into coincidence with the 180 degree slot in said base for tracing the fallout vector on a plot plan.

2,973,580

APPARATUS FOR USE IN ANALYZING BLOOD

Morden G. Brown, Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Sept. 24, 1958, Ser. No. 763,083
9 Claims. (Cl. 33—125)



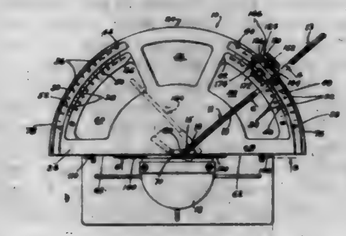
2. Apparatus for rapidly and accurately determining the hematocrit value of a sample of whole blood, said apparatus comprising a base, means on said base providing a fixed reference line, a carrier for supporting a hematocrit tube for movement relative to said reference line, means for guiding said carrier and tube in a direction parallel to the axis of said tube, a plate having a linear scale including a zero mark and a 100% mark theron, a pair of convergent lines on said plate extending from said marks so as to constitute portions of opposite sides of a triangle whose base is formed by said scale, a control arm for moving said carrier and tube relative to said reference line, said control arm being pivotally connected to a part rigid with said plate substantially at a point corresponding to the apex of said triangle, said control arm also being arranged to pivot about pivot means fixed relative to said base, and having an index mark thereon disposed adjacent said scale, and means for axially altering the positional relation between said carrier and said tube for changing the distance between said carrier and said plate so as to cause the opposite ends of a centrifuged sample in said tube to coincide with said fixed reference line when said control arm is moved respectively to positions indicating zero and 100% values on said scale, whereby said apparatus may be adjusted to correspond to the length of the centrifuged sample in said tube and thereafter may be used to indicate directly on said scale the percentage value of the fractional part of the sample occupied by the red corpuscles thereof.

2,973,581

GOLF CLUB CALIBRATION DEVICE

Charles M. Rhodehamel, Alhambra, Calif. (51 E. Main St., White Sulphur Springs, W. Va.)

Filed Apr. 25, 1955, Ser. No. 503,516
26 Claims. (Cl. 33—174)



6. A calibration device for a golf club head provided with a hosel defining a shaft axis line extending along the axis thereof, said head defining a standard reference line, comprising: a frame member having a face against which a surface of said golf club head is adapted to be releasably secured; calibration reference means on said frame member defining a calibration reference line; means for releasably securing said club head to said frame member with said standard and calibration reference lines fixed in a predetermined relationship to each other, a predetermined point on one of said reference lines being thereby fixed for the calibration of said club head; a calibration member having a securable connection with said frame member and being fixed generally radially but positionable generally arcuately with respect to a said predetermined point on one of said reference lines; means on one of said members defining a calibration mark corresponding to the particular club head being calibrated; means on one of said members defining an index mark referrable to said calibration mark; and means on one of said members defining a referral line to which said shaft axis line may be referred for the calibration of said club head, said referral line intersecting said predetermined point on one of said reference lines.

2,973,582

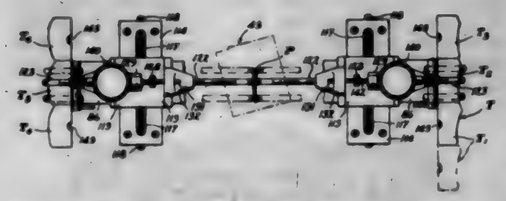
GAGES FOR CONTOUR AND ALIGNMENT CONTROL

Leo Price, Cleveland, Ohio, assignor to Winslow Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed July 10, 1958, Ser. No. 747,666
14 Claims. (Cl. 33—174)

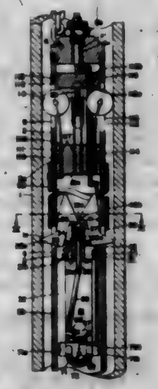
5. A gage for checking the contour of a test piece against a master template having a similar contour, comprising a base, means for holding a master template in a

predetermined position on a first carriage supported by the base, a holder mounted on the base for holding a test piece in a position thereon spaced from said first carriage, and a contour analyzer mounted on the first carriage; said contour analyzer comprising a second carriage mounted between the master template position on said first carriage and the test piece position on said holder for rectilinear travel relative to the first carriage along a predetermined path, a pair of surface followers movably mounted on the second carriage in spaced relationship for engagement, respectively, with the side of the master template facing away from the test piece and the



side of the test piece facing toward the master template, means constraining movement of said followers along aligned rectilinear paths relative to said second carriage, said aligned rectilinear paths being normal to the path of travel of the second carriage, means for moving said first carriage toward the test piece to engage one of said followers therewith, yieldable means for biasing the followers in the same direction against said sides of the master template and of the test piece, respectively, and means indicating change in the space between the followers as they move in engagement with the master template and the test piece, respectively, in response to movement of the second carriage along its path of travel.

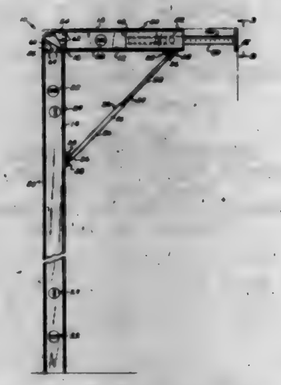
2,973,583
TUBE CALIPERING DEVICE
Donald E. Stolle, White Plains, N.Y., and Newbold O. Cross, Berkeley Heights, N.J.; said Stolle assignor to Standard-Vacuum Oil Company, a corporation of Delaware, and said Cross assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,797
2 Claims. (Cl. 33—178)



1. A calipering device for measuring irregularities in the internal diameter of a tubular conduit, comprising a tubular housing adapted to fit said conduit freely, said housing including head, central, and tail sections, said head and tail sections having outer ends forming opposite ends of said housing, the head and tail section each containing a series of slots opening through said ends to extend longitudinally of said sections and disposed in spaced relation circumferentially thereof, a partition insert disposed intermediate the ends and within each of the head and tail sections, a removable cap for each outer end, the head section cap and the partition insert for this section defining a first chamber adapted to be charged with an inert gas forming material including solid carbon dioxide, an insert in said central section including a cylindrical solid body portion having obverse and reverse surface portions, said body portion coaxially defining a passageway opening through said surface portions and enlarged inwardly from said obverse surface portion to form an internal annular shoulder, a plunger element including substantially integral shaft and head portions disposed for reciprocal movement longitudinally of said passageway with said head disposed and slidably fitted in the passageway enlarged portion, said body portion containing a series of slots extending longitudinally thereof and in circumferentially spaced relation, the number and spacing of said slots corresponding to slots in the casing of said central section, said body portion slots opening through said obverse and reverse surface portions and through the wall of the enlarged passageway portion, a series of feeler elements pivotally mounted in said body portion slots, spring means biasing said feeler elements to extend them outwardly at one end through said slots in the housing of the central section and inwardly at the other end to engage the plunger head portion, a voltage divider means mounted on the reverse surface of said body portion, including a resistor and a slider movable thereover from end to end, means to move said slider including a link connection to the plunger shaft portion, the body portion reverse surface being disposed in spaced relation to the head section partition insert and defining therewith a chamber in said central section, said chamber adapted to contain said voltage divider means and mount therefor, with said central and tail sections in threaded engagement, a conduit communcating between the head section chamber and the central section chamber, meter means adapted to indicate the position of said slider and thereby the position of maximum extension of at least one of said feeler elements, conductor means for connecting said voltage divider and said meter means, including a conductor cable adapted to support and to draw said calipering device through a conduit to be calipered, and means to support and maintain said device in substantially coaxial reciprocally movable relation to said conduit.

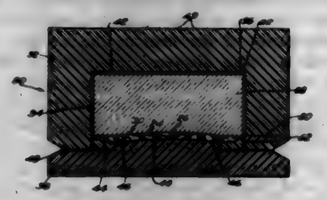
2,973,584
DOOR FRAME PROFILE GAUGE
Rex J. Snapp, 1914 University Blvd., Lima, Ohio
Filed Oct. 10, 1958, Ser. No. 766,498
1 Claim. (Cl. 33—194)

In a door frame profile gauge including a vertical standard portion and a horizontal arm portion, each of I-beam form and being disposed in substantially right angular relation, adjacent ends of said portions diverging outwardly from the inner corner of the gauge, and a hinge connection between the said vertical standard portion and said horizontal arm portion at said inner corner; the improvement wherein said hinge connection comprises a hinge plate of substantially triangular form removably supported on the web of each of said vertical standard and horizontal arm portions, with the oblique edges of the hinge plates aligned with said outwardly diverging ends of said standard and arm portions, said plates being provided with cooperating hinge members disposable at said inner corner of the gauge, said hinge plates each being provided with a smooth walled aperture intermediate the relatively wide and narrow ends thereof and being further provided with a similar aperture on each side of said first aperture in spaced relation thereto, said standard and said arm each being provided with a tapped aperture alignable with one of said smoth walled apertures, a threaded stud extendable through the central aperture in each of said plates and being removably threaded in the threaded aperture in the respective profile gauge portions, and an aligning pin threaded into



each of said profile gauge portions and extending freely through the smooth walled apertures in said hinge plates at each side of said first named aperture therein, whereby said hinge is readily removably from said door frame profile gauge portions for expediting transportation and storage thereof.

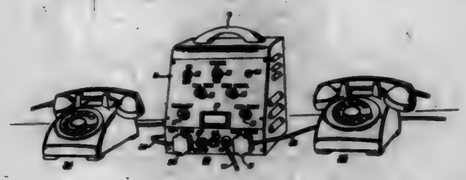
2,973,585
SPIRIT LEVEL
William T. Foreman, Lexington, and Jeremiah J. Fanning, Maynard, Mass., assignors to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 2, 1958, Ser. No. 732,689
7 Claims. (Cl. 33—212)



6. A spirit level comprising, as interrelated components, solid external means defining a chamber, and within said chamber, liquid means providing a bubble and solid internal means immersed in said liquid means, the region of said liquid means containing said bubble communicating with remaining regions of said liquid means through constricted vents that are prevented from passing said bubble, said internal solid means being resiliently biased against said external solid means.

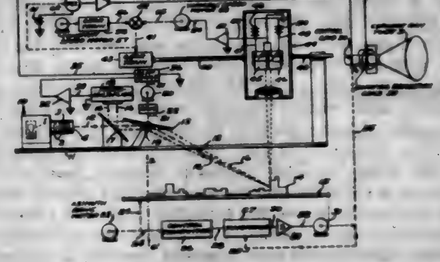
2,973,586
DEVICE FOR INSTRUCTING THE PUBLIC IN THE PROPER USE OF DIAL-EQUIPPED TELEPHONE STATION APPARATUS
Gordon L. Robertson, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 21, 1954, Ser. No. 476,744
3 Claims. (Cl. 35—8)

1. A device for instructing the public in the use of a subscriber's telephone set comprising a cabinet, means for connecting a pair of telephone sets to said cabinet, means for supplying alternating current to said cabinet, and electrical circuitry within said cabinet, said electrical circuitry including means including first manual key means mounted on said cabinet for deriving simulated ringing signals from said alternating current and applying said simulated ringing signals to said telephone sets, means incuding second manual key means mounted on said cabinet for deriving simulated dial tone from said alternating current and applying said simulated dial tone



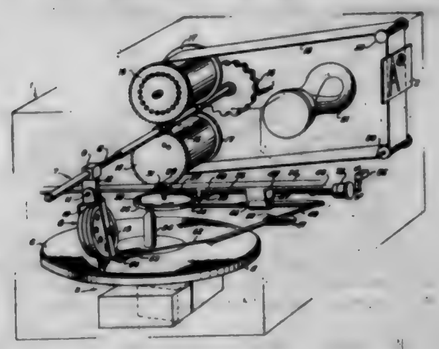
to said telephone sets, means including third manual key means mounted on said cabinet for deriving simulated busy tone from said simulated dial tone and applying said simulated busy tone to said telephone sets, means for deriving talking battery voltage from said alternating current and applying said battery voltage to said telephone sets, and means for interconnecting said telephone sets in a talking path.

2,973,587
OPTICAL RADAR TRAINER
Sidney J. Kaplan, Kew Gardens Hills, and Herbert W. Bonzer, New Hyde Park, N.Y., Fleur B. Smith, Los Angeles, Calif., and Edward Gold, Plainview, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Long Island, N.Y., a corporation of Delaware
Filed Apr. 26, 1957, Ser. No. 655,438
4 Claims. (Cl. 35—10.4)



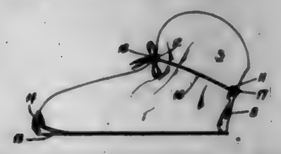
1. For use in association with a scale model, an optical radar trainer comprising a cathode ray tube having a rotating deflection coil and control grid, a photomultiplier, a photomultiplier output circuit connecting said photomultiplier to the control grid of said cathode ray tube, a light projection system adapted to project a light beam including means for causing said beam to sweep radially over said scale model and for receiving and projecting the light reflected from the model on said photomultiplier which is thereby adapted to modulate said cathode ray tube according to the intensity of the reflected light beam, azimuth means for causing relative angular movement between the projected light beam and the scale model, said azimuth means having a mechanical, synchronizing connection with the deflection coils of said cathode ray tube, and light responsive means electrically connected to said cathode ray tube for producing shadow effects thereon, said light responsive means being adapted to observe continuously the reflected light beam and produce a signal which is responsive to the movement of said beam.

2,973,588
EDUCATIONAL DEVICE
Reginald V. Mennings, Austin, Tex.
(Box 23, Chireno, Tex.)
Filed Mar. 14, 1960, Ser. No. 14,737
1 Claim. (Cl. 35—35)



In combination with a record player having a turntable adapted to receive a disc record, and having a unitary tone arm and speaker assembly including a needle engageable with a record operatively positioned on the turntable, a cabinet enclosing the record player, a rotatable shaft disposed horizontally within the cabinet, and having one of its ends extending across the turntable, and spaced above it, said end of the shaft having a threaded portion positioned opposite one side of the turntable, a nut on the shaft, a clevis depending from the nut and embracing the tone arm and speaker assembly, which depends therefrom, the clevis being movable pivotally about a horizontal axis parallel to and below the shaft and the tone arm and speaker assembly being capable of a limited rotative movement relative to the clevis, a knob on the shaft whereby the shaft is rotatable manually, a pinion gear on the shaft, a pair of discs positioned on opposite sides of the shaft and having peripheral gear teeth engageable with the pinion gear whereby the discs are rotatable in opposite directions, means on the discs engageable with a pair of spools having a translucent printed tape wound thereon, whereby the spools are rotatable with the discs, to thereby wind the tape on and off the respective spools, simultaneously with rotation of the shaft, whereby the nut is movable longitudinally relative to the shaft and the tone arm and speaker assembly is movable across the turntable, a spindle removably secured to the turntable at its center and normally extending downwardly thru a central opening in the record and extending upwardly above it, a rotatable cam wheel having means supporting it for frictional engagement of its peripheral surface with the spindle whereby the cam wheel is adapted to be driven by the spindle, the cam wheel having an indentation in its peripheral edge adjacent one side thereof whereby it is adapted to be disengaged from the spindle upon positioning said indentation opposite the spindle, spring means normally biasing the cam wheel in frictional engagement with the spindle, a manually operable plunger normally disposed horizontally, tangentially relative to the cam wheel, for reciprocal movement relative thereto, the cam wheel and the plunger having mutually engaging means whereby the cam wheel is rotated, whereby its peripheral edge frictionally engages the spindle, in response to longitudinal movement of the plunger in one direction, spring means normally biasing the plunger laterally, in the direction of the cam wheel, whereby said mutually engaging means is engaged, to thereby secure the cam wheel against rotation independently of the plunger, cam operable means responsive to further longitudinal movement of the plunger in said one direction acting on the plunger to disengage the plunger from the cam wheel, spring means normally biasing the plunger in a direction opposite said one direction, and linkage responsive to rotation of the cam wheel acting on the clevis to move it pivotally, to thereby lower the tone arm and speaker assembly from a raised position, in which the needle is disengaged from the record, to a lowered position in which the needle operatively engages the record, and thereafter raise said assembly, whereby the needle is again disengaged from the record, after a predetermined time has elapsed.

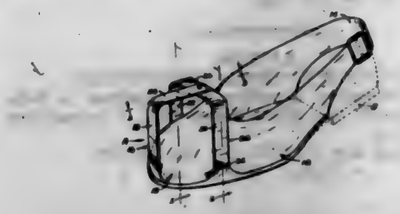
2,973,589
ADJUSTABLE BABY SHOE
Rowena N. Rigsby, 720 University Drive, Menlo Park, Calif.
Filed Feb. 9, 1959, Ser. No. 792,982
3 Claims. (Cl. 36—2.5)



1. A foot covering comprising a flexible upper, said upper being formed with a forward portion adapted to extend over the instep and around the ankle of a wearer's foot and being formed with a rear portion adapted to extend around the rear part and the heel of a wearer's foot, a flexible wear sole joined to said upper and adapted to underlie the wearer's foot, a first set of laterally spaced eyelets disposed in the rear portion of said upper and arranged to be positioned rearwardly of the heel of the wearer's foot, said first eyelets being disposed intermediate the sides of said sole when in substantially coplanar relation with said sole, a second set of laterally spaced eyelets disposed in the rear portion of said upper below said first set of eyelets and arranged to be positioned rearwardly of the heel of the wearer's foot, said second eyelets being disposed intermediate the sides of said sole when in substantially coplanar relation with said sole, a third set of eyelets disposed in the rear portion of said upper and spaced laterally from said first and second eyelets, a fourth set of eyelets disposed in the rear portion of said upper and spaced laterally from said first and second eyelets at a side opposite from which said third eyelets are disposed, and means received by said third and fourth eyelets and arranged to be received at times by said first eyelets and at other times by said second eyelets, said means being arranged to draw said third and fourth eyelets adjacent one another whereby said third and fourth eyelets are adapted for positioning rearwardly of the wearer's heel and to draw at times said first eyelets adjacent said third and fourth eyelets and at other times to draw said second eyelets adjacent said third and fourth eyelets to control the height of the rear end of said wear sole for adjusting the effective length of said wear sole.

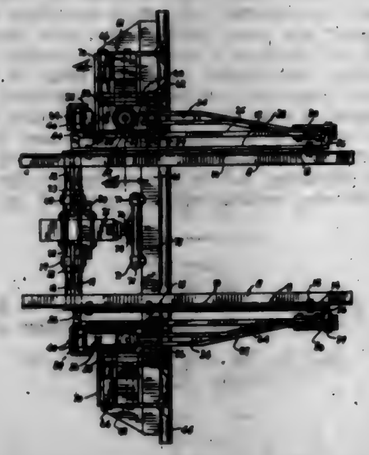
2,973,590
FOOT GUARD
Robert E. Gaskill, Rte. 5, Box 330, Duluth, Minn.
Filed Nov. 2, 1959, Ser. No. 850,242
1 Claim. (Cl. 36—72)

In combination with a slip-on shoe, a foot guard comprising a vertical front portion having a horizontal portion extending rearwardly from the upper end of said front portion, an inverted U-shaped portion connected to the rear end of said horizontal portion of said front portion, the lower free end of said front portion connected to the extreme forward portion of the toe of the slip-on shoe, the lower free ends of said U-shaped portion connected to said slip-on shoe adjacent the front end thereof and spaced from the lower end of said vertical front portion, the height of said vertical front portion and said



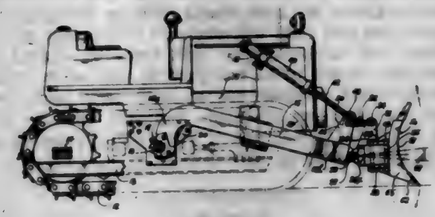
U-shaped portion being sufficient to contact the lower edge of the casing of a rotary lawn mower to prevent placement of the foot of the operator under the casing and in contact with the horizontal rotating blade of the mower.

2,973,591
ICE CRUSHING AND BLADING MECHANISM
Le Grand H. Lall, 7716 S. Cedar Ave., Minneapolis, Minn.
Filed July 30, 1956, Ser. No. 600,881
10 Claims. (Cl. 37—41)



1. In an ice and snow loosening mechanism of the character described for mounting beneath the body of a vehicle, a mounting frame secured to said body and including a rearwardly located tie frame having a forwardly and rearwardly extending guideway, forwardly and rearwardly extending drawbars pivoted at their forward ends to said mounting frame for upward and downward movements at their rear ends, means connected between the mounting frame and the drawbars for moving the latter upwardly and downwardly at their rear ends, apparatus mounted on the drawbars for loosening ice and snow over which the vehicle travels, a member extending in a generally crosswise direction beneath the vehicle body and secured to said drawbars between their front and rear ends, and a sway bar pivotally attached to said last mentioned member for movement about a generally crosswise pivot axis and extending rearwardly therefrom and into said guideway for longitudinal sliding movement therein.

2,973,592
BULLDOZER
Finn R. Abel, Kirkland, Wash., assignor to Allied Tractor Equipment Company, Seattle, Wash., a corporation of Washington
Filed July 25, 1957, Ser. No. 674,226
2 Claims. (Cl. 37—144)



1. A bulldozer comprising a tractor having a rigid frame structure, a pair of push arms pivotally fixed, respectively, at their rear ends to said frame structure at opposite sides of the tractor and extended forwardly therealong, a front end frame disposed forwardly and transversely of the tractor and pivotably mounted at its opposite ends on the forward ends of said push arms, an upstanding bracket on the forward end of each of said push arms, an upstanding bracket on said front end frame adjacent to and in paired relationship with each of said brackets on said push arms, a turnbuckle adjusting means interconnecting the paired upstanding brackets at the upper ends thereof and above the pivotal mounting between said arms and said front end frame, paired, hydraulic cylinders respectively secured at one end to opposite sides of the tractor substantially above said push arms and secured at their opposite ends to the upper ends of the brackets on said push arms, an earth moving blade structure adjustably mounted on said front end frame and disposed forwardly thereof, and a bracing strut removably secured between said blade and front end frame at only one side thereof whereby the transverse angle of said earth moving blade may be altered in relationship to said front end frame.

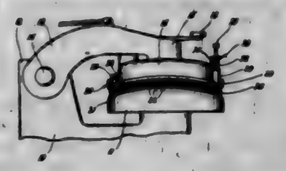
2,973,593
AUTOMATIC CONTROLS FOR DIRT MOVING MACHINES
Floyd L. Zellner, 16042 Interlake Ave., Seattle, Wash., and Harold F. Green, Rte. 1, Box 264, Austin, Tex.
Filed Oct. 9, 1957, Ser. No. 689,192
1 Claim. (Cl. 37—144)



A remote control for a vertically adjustable dirt moving blade having power means for adjusting the blade vertically comprising a stationary sending device for transmitting a high frequency electro-magnetic wave, a shield on said sending device restricting said wave into a relatively thin horizontal form having a generally fan-shaped plan area, means for rotating said sending device to rotate said waves around said sending device, an upright shaft mounted on said dirt moving blade for rotation about a vertical axis, a motor connected to said shaft for rotating said shaft, a pair of horizontally spaced receivers mounted

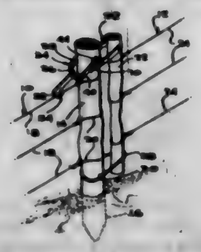
on said shaft and controlled by said wave controlling said motor for rotating said shaft and directing said receivers toward said stationary sending device, a pair of vertically spaced receivers mounted on said shaft and movable therewith, said vertically spaced receivers and said horizontally spaced receivers facing the same direction, a V-shaped deflector positioned forwardly of said horizontally spaced receivers, the arms of said deflector diverging outwardly from said shaft whereby said horizontally spaced receivers are shielded when said vertically spaced receivers are aligned to be energized by said wave, means connecting said vertically spaced receivers to said power means for adjusting the blade vertically whereby said blade is adjusted when one of said vertically spaced receivers is energized by said wave.

2,973,594
PRESSING MACHINE
Hyman E. Cole, Valley Stream, N.Y., assignor to New York Pressing Machinery Corporation, Paterson, N.J., a corporation of New York
Filed June 3, 1959, Ser. No. 817,969
8 Claims. (Cl. 38—17)



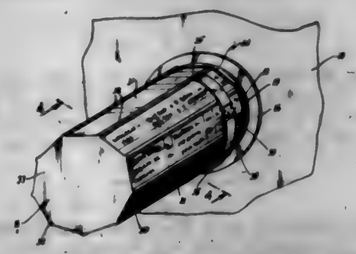
1. In a pressing machine including a buck and a head mounted for swinging movement into and out of pressing relation with said buck, the improvement comprising a plate adapted to be interposed between said buck and head and being sandwiched therebetween when said head is moved into pressing relation with said buck, hinge means on one side of said head connecting said plate directly to said head for swinging movement toward and away from the latter, and connecting means on the other side of said head and connected to said plate for affording limited plate movement away from said head, whereby said plate adjacent to said other head side is adapted to remain in pressing relation with said buck after said plate adjacent to said one head side is out of said pressing relation.

2,973,595
GATE FASTENER
Charles R. Lamphier, Rte. 1, Sidney, Mont.
Filed Oct. 16, 1958, Ser. No. 766,566
2 Claims. (Cl. 39—74)



1. In combination, a fence having a fixed post and a horizontal element extending from one side thereof, a swingable gate located at the opposite side of the fence post, said gate having a post on its free end located close to the fence post, a U-shaped yoke having a bight portion and legs having free ends, said bight portion being positioned at and spaced from said one side of the fence post, said legs being pivoted to opposite sides of the fence post, a U-shaped band having a bight portion engaged around the gate post and legs extend at opposite sides of the fence post, the band legs having free ends pivoted to the yoke legs at points intermediate the yoke bight portion and the pivotal axes of the yoke legs.

2,973,596
VEHICLE IDENTIFICATION SYSTEM
Herbert B. Sternberg, Brooklyn, N.Y., assignor to Auto Facto Systems, Inc., White Plains, N.Y., a corporation of New York
Filed July 17, 1958, Ser. No. 749,157
6 Claims. (Cl. 40—2.2)



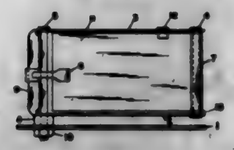
1. In a vehicle recording system, the combination comprising, a bracket adapted to be fixed to and project from a part of a vehicle, and a cover removably engaged over said bracket and fabricated of embossable material to be imprinted with vehicle identifying indicia, said bracket and cover being formed with registrable openings for receiving a seal to deter tampering with said system, said bracket and cover being of similar equilateral polygonal cross sectional configuration of an odd number of sides and the cover conformably receiving the bracket to prevent relative movement therebetween, the several faces of the cover providing areas for said imprinting, and the odd number of sides effectively deterring unauthorized imprinting of the cover faces.

2,973,597
BAND-TIE
Walter G. Powell, Covina, Calif., assignor to Band-Tl Mfg. Co., Los Angeles, Calif., a corporation of California
Filed Dec. 19, 1956, Ser. No. 627,476
2 Claims. (Cl. 40—21)



1. A band-tie comprising a pair of substantially narrow strips of formable sheet material having sides that may engage each other, said sides having applied thereto an adhesive coating, a marking tab comprising sections of substantially wider sheet material but of a substantially shorter longitudinal dimension than said strips having an intermediate portion interposed between said pair of strips, thereby providing free lateral areas of the marking tab on each side of the pair of strips, and at least one strand of bendable wire extending longitudinally of and embedded between said pair of strips, said marking tab having a line of weakened attachment extending substantially from one lateral edge thereof to the opposite lateral edge thereof and extending through said strips and transversely of each said strand to permit said marking tab to be readily torn along said line.

2,973,598
RECIPROCATING DISPLAY DEVICES
Donald G. Kolarik, 1715 N. 10th St., Clinton, Iowa
Filed Feb. 1, 1960, Ser. No. 5,911
3 Claims. (Cl. 40—37)



1. In a reciprocating display device, the combination with a vertical support bar rigidly mounted upon a horizontal base, of a rectangular frame parallel to the longitudinal axis of the base comprising upper and lower bars united at the front by a vetrical brace bar and at the rear by a pivot bar and pivotally hinged to the vertical support, and a rectangular plate a little smaller than the frame hinged upon the pivot bar and freely swingable thereon laterally through and to either side of the frame.

2,973,599
SIGNAL-EQUIPPED FISHING POLE
Nels F. Olson, 3255 35th Ave. S., Minneapolis, Minn.
Filed Sept. 19, 1958, Ser. No. 762,006
3 Claims. (Cl. 43—17)



1. An illuminable bite controlled fishing device for night fishing comprising an elongated hollow pole having means whereby the lower end thereof may be anchored removably on ice adjacent a hole in the ice, a flashlight built into the upper end of said pole and having a reflector cooperable therewith to reflect light rays when the flashlight is in use down and upon the surface of the ice, said flashlight having switch means incorporated in said pole, and a trigger having an end portion pivotally mounted in the pole and engaging said switch means, said trigger projecting outwardly beyond the pole and including at an outer end thereof a hook to which a portion of a fishing line may be releasably connected.

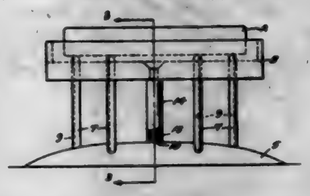
2,973,600
HOLDER FOR DETERGENT
George Buckham Reilly, Chapeltown, near Sheffield, Edward Jellicoe Miles, Sheffield, Tom Bennett Lewis, Moreton, and Francis George Meisher, Liverpool, England, assignors to Newton, Chambers & Company Limited
Filed July 13, 1959, Ser. No. 826,630
Claims priority, application Great Britain July 16, 1958
7 Claims. (Cl. 45—28)

1. A holder for a block of detergent, having a hole through the middle, said holder comprising a cage for the block and a rod extending through the cage from one end to the other to pass through the hole in the block, making contact with each end of the cage and extending



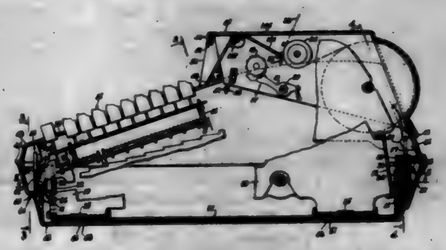
outwards as a handle, the cage being made in two parts separable to allow the block to be put round the rod.

2,973,601
SOAP DISH
John T. McKnight, Citrus Heights, Calif., assignor to Joseph N. Allen III
Filed Sept. 22, 1959, Ser. No. 841,590
2 Claims. (Cl. 45—28)



1. A soap dish comprising a base, a plurality of vertical pins secured to said base, a dish section having openings through which said pins extend securing said dish section in position on the base, said pins providing a support for a bar of soap positioned in said dish section, a centrally disposed supporting pin extending into said dish section, an enlargement on the upper end of said supporting pin engageable with the bottom of said dish section limiting upward movement of said dish section with respect to said base, and a coiled spring surrounding said supporting pin contacting with the bottom of the dish section normally biasing said dish section upwardly.

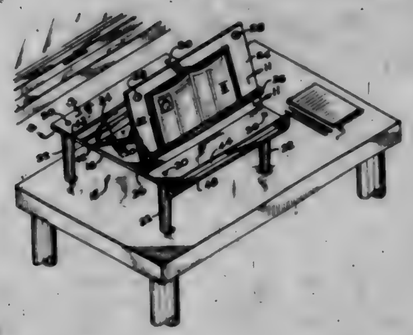
2,973,602
HANDLE AND COVER CONSTRUCTION FOR CALCULATING MACHINES
Jiri M. Nessel, Los Angeles, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Mar. 7, 1958, Ser. No. 719,898
2 Claims. (Cl. 45—68.1)



1. A housing for a calculating machine or the like, said housing comprising a first substantially horizontal top wall portion, a second substantially horizontal top wall portion located rearwardly of said first wall portion and above the level thereof, a third upwardly extending wall portion extending between said first and

said second wall portions to seal off the interior of said housing from the exterior, said second wall portion extending forwardly beyond said third wall portion, a handle extending upwardly from first wall portion and contiguous with the forward end of said second wall portion to form a hand hold for carrying said housing in a substantially normal attitude, and a means mounting said second wall portion on said first wall portion for movement away from said handle and said third wall portion to permit entrance to the interior of said housing.

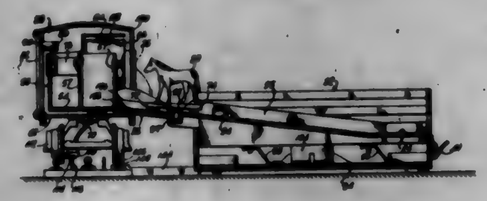
2,973,683
PORTABLE MULTI-PURPOSE DESK
Frank De Vincenzo, Farmingdale, N.Y.
(6751 NW. 20th St., West Hollywood, Fla.)
Filed June 29, 1959, Ser. No. 823,481
4 Claims. (Cl. 45—80)



1. A portable multi-purpose desk comprising, in combination, a substantially rigid base plate, a substantially rigid auxiliary plate, hinge means pivotally supporting one end of said auxiliary plate upon one side of said base plate, a stop plate, hinge means pivotally supporting one end of said stop plate upon one side of said auxiliary plate, stop means carried by said one side of said base plate engageable with the opposite end of said stop plate to releasably secure said auxiliary plate in an angularly adjusted position relative to said base plate, a plurality of legs detachably carried by said base plate, said hinge means pivotally supporting one end of said auxiliary plate upon one side of said base plate comprising a piano hinge carried inwardly from the opposite side edges of said base plate, said hinge means pivotally supporting one end of said stop plate upon one side of said auxiliary plate comprising a piano hinge carried by said one end of said stop plate and secured to said auxiliary plate intermediate the opposite lateral sides thereof.

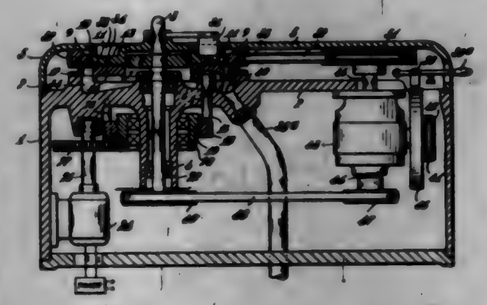
2,973,684
OPERATING HORSE CAR AND CORRAL
John V. M. Digiovanno, Orange, N.J., and Moses Zion, Brooklyn, N.Y., assignors to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed Oct. 22, 1957, Ser. No. 691,619
4 Claims. (Cl. 46—49)

1. A self-loading toy railway car which comprises a frame, a platform inclined to the horizontal and resiliently mounted on said frame of the car for vibratory motion relative to the frame, electromagnetic means mounted on said frame and connected to said platform for vibrating the platform, two pivoting ramp doors adjacent the ends of the platform and located at the same elevation thereon when in a lowered position, and means actuated by said electromagnetic means for pivotally lowering the ramp doors to bring their inner ends into aligned abutment with the car platform, whereby the inner ends of



the lowered ramp doors are located at elevations corresponding to ends of the platform thus permitting the passage thereover of vibration-propelled articles.

2,973,685
LAPPING MACHINE
Justice N. Carman, Gloucester, and Leonard C. De Mild, Jr., Saugus, Mass., assignors to Carman Laboratories, Inc., Bedford, Mass., a corporation of Massachusetts
Filed Nov. 9, 1959, Ser. No. 851,574
11 Claims. (Cl. 51—118)

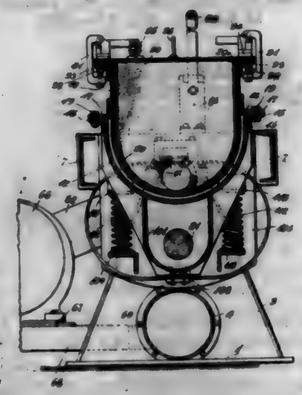


1. A machine for lapping a thin plate comprising a lower lapping wheel, a planetary gear system including a planetary carrier for holding and rotating one of said plates over said lower plate thereby to lap one side of said plate, means to drive said gear system, means for reciprocating said lower wheel and carrier relative to said gear system, an upper lapping wheel opposed to the lower wheel for lapping the other side of said plate, and means guiding said upper wheel so that it rests on a plate in said carrier and is free to reciprocate with said lower wheel.

2,973,686
MACHINE FOR PRECISION FINISHING OF PARTS BY CONTROLLED VIBRATION
William E. Brandt, Red Lion, Pa., assignor to Lord Chemical Corporation, York, Pa., a corporation of Pennsylvania
Filed Oct. 9, 1959, Ser. No. 845,526
20 Claims. (Cl. 51—163)

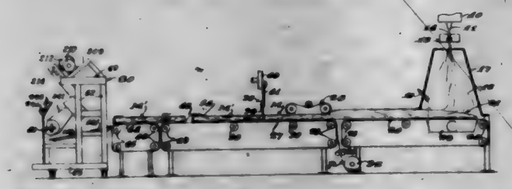
1. A vibrating machine comprising a frame, a cradle journaled on a horizontal axis within said frame for orientation from a substantially horizontal position to a substantially vertical position, a bowl holder, means for resiliently supporting said bowl holder with respect to

said cradle, means for imparting vibratory movement to said bowl holder and a removable attachable and detach-



able bowl insertable into and withdrawable from said bowl holder.

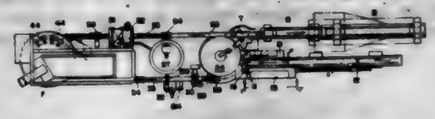
2,973,697
METHOD AND APPARATUS FOR PACKAGING FIBROUS MATERIALS
William H. Mosier, Pleasantville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application June 8, 1950, Ser. No. 166,965, now Patent No. 2,789,406, dated Apr. 23, 1957. Divided and this application July 18, 1956, Ser. No. 598,663
4 Claims. (Cl. 53—24)



1. A method of packaging materials including the steps of conveying a continuous mat of mineral fibers in a rectilinear direction; of concomitantly moving a packaging sheet into contiguous relation with the mat; of severing the mat into sections; of establishing sections of the packaging sheet for said mat sections of greater lengths than the respective mat sections; of directing the sheet section around and embracing the leading edge of the mat section; and of successively feeding the mat sections and adjacent lengths of sheet material to a packaging zone; of rolling each mat and adjacent sheet section around a support to form a closely convoluted package, applying an adhesive strip to the outermost convolution of sheet material to maintain the mat in a rolled package, and sliding the package from the support.

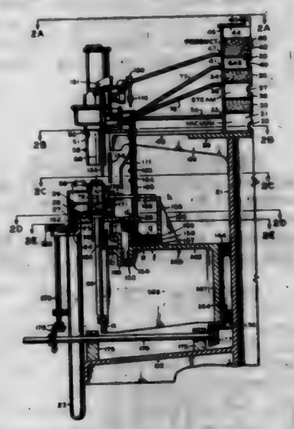
2,973,698
HIGH-SPEED SYSTEM FOR FEEDING AND SEALING CARTONS
John F. Killion, Philadelphia, Pa., assignor, by mesne assignments, to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 4, 1957, Ser. No. 682,042
28 Claims. (Cl. 53—38)

3. A method of sealing cartons of the type having end flaps and ears comprising the steps of moving cartons along a predetermined path with the flaps and ears thereof in extended horizontal position, heating the flaps and ears while in said horizontal position without interrupting the movement of the cartons so as to raise the temperature of the flaps and ears above ambient and render the surface of the flaps and ears more receptive



to adhesive, immediately thereafter applying adhesive to the preheated surfaces of the flaps and ears, folding the flaps against the ends of the cartons to close the cartons, reheating the adhesive coated ears to reactivate the adhesive thereon, and thereafter folding the ears and sealing them against the sides of the cartons.

2,973,699
RADIAL MACHINE FOR ASEPTIC CANNING AND THE LIKE
Harry A. Morgan, Jr., Palos Verdes Estates, Calif., assignor to Reddi-Wip, Inc., Los Angeles, Calif., a corporation of Missouri
Filed Sept. 28, 1959, Ser. No. 842,623
16 Claims. (Cl. 53—112)

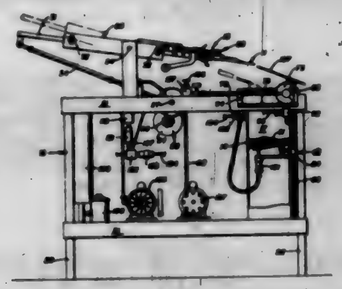


1. A multiple unit machine for processing articles in a timed sequence, comprising a base, a central support column having an upper portion and a lower portion, fixed means extending radially from the upper portion and supporting a plurality of article-processing units in a stationary circle, a rotating bed supported by the lower portion of the support column beneath and radially inward of said circle of article-processing units, timing cam means carried by said bed, means cooperating with said timing cam means whereby the processing units are operated in a sequence responsive to the rotation of said bed, a rotating article feed rack supported radially outward of said rotating bed, means to rotate said bed and rack, and means to withdraw articles from said feed rack to said processing units and to discharge such articles from the processing units.

2,973,610
BAG FILLING MACHINE
Ralph S. Randall, 3380 20th St., San Francisco, Calif.
Filed June 27, 1958, Ser. No. 744,975
18 Claims. (Cl. 53—183)

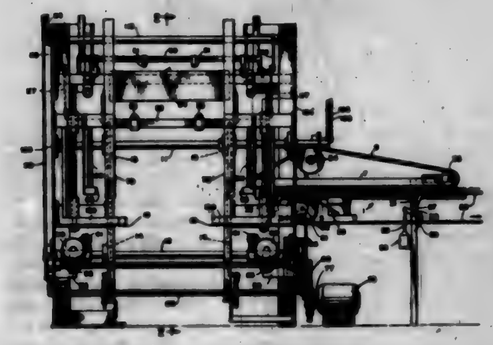
2. A product bagging machine comprising a platform for supporting the product to be bagged, finger means

mounted for reciprocation along the opposite sides of said platform between a forward bag receiving station at one end of said platform and a rearward bag releasing station at the other end of said platform, said finger means being formed for releasably gripping the unsealed end of the bag at said bag receiving station and spreading it open upon movement toward said bag releasing station so as to draw said bag into enveloping relation around



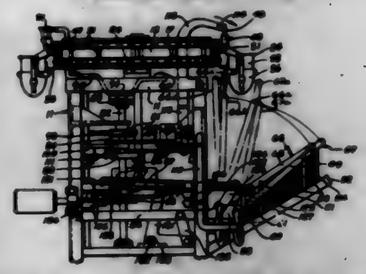
said platform and the product thereon, a magazine adapted to contain a stack of bags, vacuum transfer means formed to remove the topmost bag from said stack and present its unsealed end to said finger means when the latter is at said bag receiving station, and means for displacing the bagged product from said platform after said finger means have reached said bag releasing station and released said bag.

2,973,611
PACKAGING MACHINE
Harry E. Engleson, Chicago, and Elmer D. Sramek, Cicero, Ill., assignors to F. B. Rodington Co., Bellwood, Ill., a corporation of Delaware
Original application Mar. 13, 1957, Ser. No. 645,736. Divided and this application Apr. 7, 1958, Ser. No. 726,969
10 Claims. (Cl. 53—366)



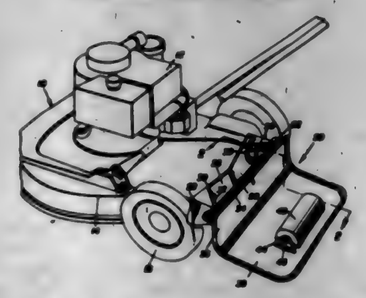
1. In a packaging machine, apparatus for transferring an elongated article from a first continuously driven conveyer means into a carton held on a second intermittently driven conveyer means, said apparatus comprising an article elevating means operatively associated with the first conveyer means and positioned in spaced relation with the second conveyer means, said elevating means being operable to lift the article from the first conveyer means and to hold the article in alignment with the carton on the second conveyer means, and a transfer means positioned to engage the article on the elevating means and to move the article into the carton.

2,973,612
BAG OPENER
William S. McGovern, 23 Ville St., Salinas, Calif.
Filed Feb. 20, 1956, Ser. No. 566,664
18 Claims. (Cl. 53—384)



5. A bag picker and opener, comprising: a picker for contacting and securing thereto the front side of a folded flat bag; an opener for contacting and securing thereto the rear side of such folded flat bag; and means for moving only coplanarly said picker and opener so that said picker contacts and secures thereto the front side of such bag and thereafter has a path of movement in which such bag trails said picker in the direction of such movement, and for moving said opener after said picker so that said opener overtakes said picker and such bag to contact and secure to the back side thereof.

2,973,613
SAFETY GUIDE FOR ROTARY LAWN MOWER
William Henry Hagadorn, 856 Dixie Highway, Erlanger, Ky.
Filed Mar. 27, 1958, Ser. No. 724,326
7 Claims. (Cl. 56—25.4)



1. In combination with a lawn mower including a mower frame and power means for driving rotary blades, an attachment comprising a guard plate pivotally mounted on a horizontal axis at the rear of said mower frame, gauge means on said mower frame supporting said guard plate at a fixed distance above the ground, stop means operatively connected to said power means for extinguishing operation thereof, actuating means connected to said guard plate and to said stop means and operable to halt operation of said power means upon predetermined downward pivoting of said guard plate relative to said mower frame.

2,973,614
ROTARY POWER MOWER AND CATCHER
Herbert F. Horner, Minneapolis, Harley E. Kroll, Hopkins, and Donald G. Benson, Minneapolis, Minn., assignors to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 21, 1958, Ser. No. 775,492
12 Claims. (Cl. 56—25.4)

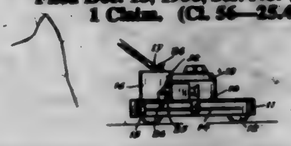
1. A lawn mower of the rotary cutter type having a cowling including a top and depending sides, said sides

having a lateral discharge opening, a hollow conduit operatively associated with said cowling and having a forward end registering with said discharge opening and



a rearward end, an elongate bag having a mouth at one end disposed around the rearward end of said conduit, and a support between said mower and the rear portion of said bag.

2,973,615
LAWN MOWER WITH WEED SPRAYER
John Yaremchuk and Bernie V. Yaremchuk, both of Group 5, Box 28, R.R. 1, St. Paul, Manitoba, Canada
Filed Dec. 15, 1958, Ser. No. 780,391
1 Claim. (Cl. 56—25.4)



A weed sprayer for use with power lawn mowers which include a casing, a source of power on said casing, and a horizontal rotating cutter blade within said casing and rotatable by said source of power; said weed sprayer comprising in combination a container mounted upon the upper side of said casing and in spaced relationship therefrom, a filler opening in said container, a releasable closure cap for said opening normally secured thereto in air-tight connection, a lower sump secured to said casing below the base of said container, an inclined drain pipe extending from the base of said container into said sump, the lower end of said drain pipe terminating above the base of said sump, valve means operably extending between the upper end of said drain pipe and exteriorally of said container, adapted for opening and closing said drain pipe, a delivery tube extending from the base of said sump, through said casing, and terminating adjacent the path of rotation of said cutter blade, and adjustable metering valve means operatively associated with the upper end of said delivery tube and extending externally of said sump for controlling the opening and closing of said delivery tube.

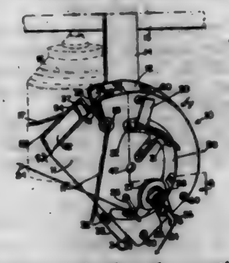
2,973,616
LAWN EDGER
Alphonse J. Richard, 8240 14th Ave. NE., Seattle, Wash.
Filed May 27, 1957, Ser. No. 661,674
3 Claims. (Cl. 56—256)

1. In a lawn edger, a traction wheel having a center rotary axis, inner and outer opposed cutting wheels carried by said traction wheel and spaced outwardly from one end thereof for rotary movements about a common axis of rotation which is in spaced parallel relation to said center rotary axis and for limited relative endwise movements along said common axis, spring means operatively associated with said cutting wheels for yieldingly urging said cutting wheels toward one another, drive means operatively associated with said traction and cutting wheels for turning the cutting wheels in opposite directions in response to a turning of the traction wheel in a forward direction, and overrunning clutch means operatively associated with said drive means for inactivating



said cutting wheels in response to a reverse turning of the traction wheel.

2,973,617
DEVICE FOR MONITORING THE CONTINUITY OF YARNS, ROVINGS AND THE LIKE
Jan Vitezlav Weinberger, 255 Metcalfe St., Apt. 11, Ottawa, Ontario, Canada
Filed Feb. 18, 1958, Ser. No. 715,955
7 Claims. (Cl. 57—86)

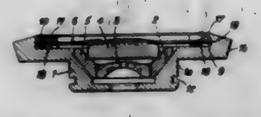


5. A device for monitoring the continuity of a yarn or roving comprising a sheet metal frame having spaced parallel side walls joined by end walls, an arcuate slot formed in one side wall, opposed openings in said side walls, a U-shaped open guide channel formed in an end wall having a curved bottom portion extending between said side walls, a pair of split ring roving guides supported in said openings coaxially with said bottom portion of said channel for supporting a span of yarn or roving guided therealong, a weighted body having a bore, an axle fixed in the frame and engaging said bore for journalling said body to rotate about an axis parallel with the length of said channel, prong means carried by said body, said body having its center of mass displaced from said axis in the direction of said prong means, spaced slots opening in said bottom portion in the path of movement of said prongs to freely pass said prong means therethrough, an indicator arm fixed to said body extending through said arcuate slot, and means to support said frame whereby when said body is inverted with said prong means above said axis said prong means apply pressure transversely of portions of said span bridging said slots so that upon removal of said span from said channel said body is released to fall to pendulous position.

2,973,618
SHOCK-ABSORBING PIVOT BEARING
Pierre Meuf, 15 Beauregard, La Chaux-de-Fonds NE., Switzerland
Filed Jan. 5, 1959, Ser. No. 784,959
Claims priority, application Switzerland Jan. 11, 1958
5 Claims. (Cl. 58—148)

1. In a shock-absorbing pivot bearing for apparatus, timepieces, watches and the like, the combination of a

body member, a cylindrical lodging formed in said body member, a first ring provided with cutouts and located in said lodging, a second ring also located in said lodging, on said first ring, and rigidly fixed to said body member, and a return spring formed by a resilient split ring having thus two free ends and carrying outer radial projections near its free ends, an outer radially extending tail portion diametrically opposite said radial projections and a pair of lateral projections extending from said tail portion,



said radial projections, said tail portion and said lateral projections thereof being normally located in the cutouts of said first ring, said second ring covering at least partly the cutouts of said first ring so as to retain said radial projections removably in one of said cutouts, and said lateral projections rockably in another one of said cutouts, thus permitting of said return spring rocking from a locking position toward an opened position and vice versa.

2,973,619
FREQUENCY CONTROLLING AND REGULATING MEANS FOR MECHANICAL OSCILLATORS
Cecil Frank Clifford, Bath, England, assignor to Horstmann Clifford Magnetics Limited, Bath, Somerset, England, a British company
Filed May 7, 1958, Ser. No. 733,689
Claims priority, application Great Britain May 9, 1957
5 Claims. (Cl. 58—116)



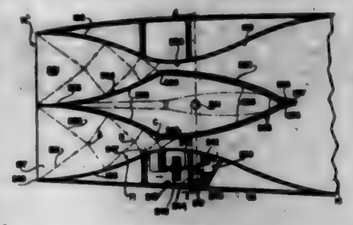
1. A frequency controlling and regulating means for a mechanical oscillator comprising a helix of magnetic material, magnetically coupled to a moving part of the oscillatory system, said helix being rotatably mounted about, and with its axis substantially normal to, the path of oscillation of such part, whereby rotation of the said helix about its axis, without axial movement, traverses an effective portion thereof relative to the said part of the oscillatory system to vary the magnetic coupling therewith.

2,973,620
THERMALLY ACTUATED CONTROL APPARATUS
Hans Jaeger, Zug, Switzerland, assignor to Landis & Gyr A.-G., Zug, Switzerland, a corporation of Switzerland
Filed July 21, 1958, Ser. No. 749,869
Claims priority, application Switzerland July 26, 1957
11 Claims. (Cl. 60—23)



1. Thermal control apparatus comprising an insulator pivotally mounted on a shaft, a bimetallic control carried on said insulator and which actuates the control operation with its free end, a heating element by which said bimetallic control is heated, said heating element being arranged on said bimetallic control, a frame for the apparatus and a room-temperature compensator, one end of which is carried by said insulator and the other end of which is in movable engagement with said frame, said compensator comprising a plurality of bimetallic compensating members and said insulator interconnecting said control and said compensator and to provide thermal insulation therebetween.

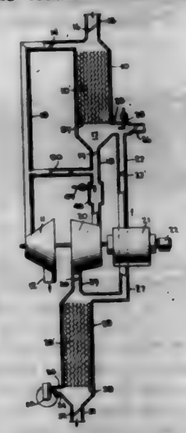
2,973,621
VARIABLE AREA RAM INLET DEVICE
Nathan C. Price, Mexico City, Mexico, assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Original application Jan. 23, 1953, Ser. No. 332,957. Divided and this application July 3, 1957, Ser. No. 669,879
10 Claims. (Cl. 60—35.6)



1. In an all-internal compression subsonic-supersonic ram air inlet having an inlet lip, the combination of at least two spaced apart confronting walls which together define a passage of fixed inlet area for incoming air, said inlet lip aligned substantially parallel to the incoming airflow, the shape of at least one wall forming a downstream throat to provide a passage of converging-diverging longitudinal cross-section, the confronting surfaces of said walls defining parallel lines in a plane perpendicular to the airflow direction at any longitudinal location through the passage, at least one of said walls being movable toward and away from the other in a direction substantially transverse of the airflow whereby substantially the entire axial extent of the passage longitudinal converging-diverging cross-section is varied during movement of the movable wall, and means for moving the movable wall.

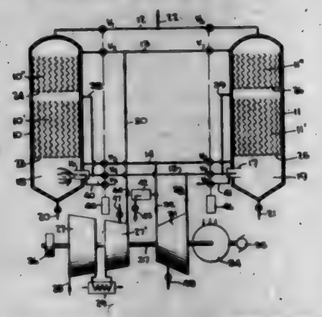
2,973,622
ELASTIC FLUID POWER PLANT FOR INTERMITTENT OPERATION
Frederick Nettel, 173 Chapel Road, Manhasset, N.Y.
Filed Apr. 7, 1959, Ser. No. 804,614
7 Claims. (Cl. 60—39.51)

1. Elastic fluid power plant for intermittent power production using stationary matrices of solid material for transferring heat by contact to or from the working fluid, said plant comprising a compressor having an inlet opening open to the ambient atmosphere, and an outlet opening for the compressed fluid, a first matrix disposed in a first closed shell, said shell having an inlet opening and a valved outlet opening to the atmosphere at its first end, a second outlet opening and a fuel burning combustion chamber at its second end, expansion turbine means for the elastic fluid having an inlet opening and an outlet opening, a second matrix disposed in a second shell having an inlet opening and an outlet opening for the elastic fluid at its first end, an inlet opening and an outlet opening at its second end, valved conduit means connecting in sequence the outlet opening from the compressor to the inlet opening at the first end of the first shell, the outlet opening at the second end of the first shell to the inlet opening of said turbine, the outlet opening of said turbine to the inlet opening at the first end of said second shell, the outlet opening at the second end of said second shell to the atmosphere, a fan for taking air from the atmosphere for delivery via the said inlet opening at the second end of said second shell



into the latter, and conduit means connecting the outlet opening at the first end of said second shell to the said combustion chamber, means for mechanically coupling said compressor and said expansion turbine means to drive said compressor and to produce useful energy.

2,973,623
ELASTIC FLUID POWER PLANT WITH MATRICES OF SOLID MATERIAL FOR HEAT TRANSFER AND REGENERATION
Frederick Nettel, 173 Chapel Road, Manhasset, N.Y.
Filed Apr. 15, 1959, Ser. No. 806,630
8 Claims. (Cl. 60—39.51)



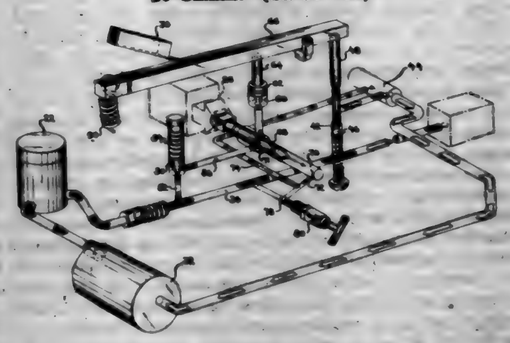
1. Elastic fluid power plant of the intermittent heating type using stationary matrices of solid material for storing heat and transferring heat to or from the working fluid, said plant comprising air turbo-compressor means, turbine type air expansion means, at least two closed shells each containing one or more matrices of solid material for alternatingly heating the compressed air issuing from the said compressor means by the matrix in one shell and for simultaneously heating the matrix in the other shell by combustion of fuel in expanded air issuing from said turbine expansion means, at least two furnace means one of which connected with each shell, at least two fuel burning combustion chambers, one each connected with one of said furnaces, first valved conduit means for connecting the stack with the upper ends of both shells, stack conduit means for connecting said first conduit to the atmosphere, second valved conduit means for connecting the stack end of both shells, third valved conduit means for connecting the lower (furnace) ends of both shells, fourth valved conduit means for connecting the said two fuel burning combustion chambers, fifth valved means for supplying fuel to the said two combustion chamber means from a source external to the plant, sixth conduit means for connecting the outlet of said compressor means to said second valved conduit, seventh conduit means for connecting the third valved conduit with the inlet to said expansion turbine means, eighth conduit means for connecting the outlet of said expansion turbine means with the said fourth valved conduit means, mechanical coupling means for connecting said compressor means to said turbine expansion means for driving said compressor, and mechanical coupling means connecting said turbine expansion means to power consuming means for driving same.

2,973,624
COWLED DOME LINERS
Lowell Jackson Pierce, Melrose, and John Albert Benson, Nahant, Mass., and Edward Vernon Jaramillo, Des Moines, Iowa, assignors to General Electric Company, a corporation of New York
Filed Oct. 26, 1955, Ser. No. 542,889
3 Claims. (Cl. 60—39.65)



1. For use in a combustion system including a combustion chamber and a diffuser, a cowled dome liner adapted to be positioned in said chamber, said liner comprising: a dome section defining the primary combustion zone, said dome having a plurality of openings therein; a cowl spaced from and surrounding the dome, said cowl having a protruding snout portion extending upstream into the diffuser to receive primary air having a good velocity profile; an annular wall extending between the dome and the cowl, the space bounded by the dome, the annular wall and the cowl forming a plenum chamber for the equalization of primary air pressure over the entire outer surface of the dome; a mixing section having a larger diameter than said dome, said mixing section being connected to said cowl; and means carried by the dome for directing cooling air across the wall to prevent burning thereof.

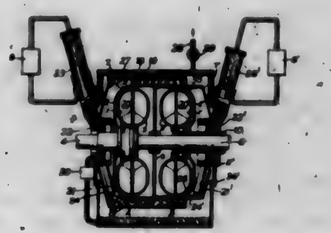
2,973,625
HYDRAULIC SYSTEM FOR OPERATING A CRIMPING TOOL
Martin L. Klinger, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Sept. 13, 1957, Ser. No. 683,874
10 Claims. (Cl. 60—52)



1. An assembly for actuating a fluid operated crimping tool including: a fluid reservoir, a fluid line between

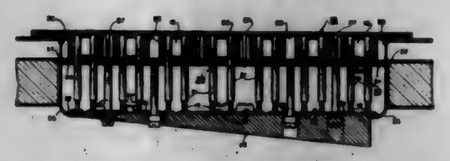
the reservoir and a fluid motor for operating the tool, a pump in said fluid line for conveying fluid under pressure from the reservoir to the fluid motor, a pump motor connected to said pump, a switch means for controlling a pump motor operatively connected to the pump, a fluid passageway communicating with the fluid line and the reservoir, valve means normally closing said fluid passageway and operable at a predetermined pressure to open the fluid passageway to permit fluid to flow from the fluid line into the reservoir, and means responsive to a predetermined fluid pressure in the line for opening the valve means and holding it open until reset as well as simultaneously operating the switch to shut off the pump motor, whereby the tool will be disabled and the fluid permitted to bleed out of the fluid motor back to the reservoir after the crimping pressure has been attained.

2,973,626
HYDRAULIC TURBO-COUPLINGS
Harold Sinclair, Windsor, England
(5 Phillimore Gardens Close, London W. 8, England)
Original application Mar. 31, 1954, Ser. No. 420,173. Divided and this application Sept. 30, 1958, Ser. No. 764,348
Claims priority, application Great Britain Apr. 2, 1953
2 Claims. (Cl. 60—54)



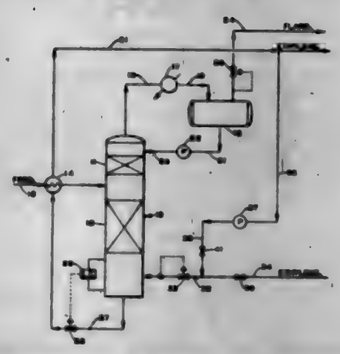
1. A power transmission system comprising two axially aligned turbo couplings supported in bearings within a casing; a sump in said casing; a duct having a pump therein for feeding working liquid from said sump to said turbo couplings; valve means for controlling the return of working liquid from said turbo couplings to said sump; each of said turbo couplings comprising a vaned impeller and a vaned runner which encloses a toroidal working circuit; casing means drivably connected to the impeller of each coupling for rotation therewith and forming a working chamber for the coupling, means forming an annular scoop chamber drivably connected to the impeller of each coupling for rotation therewith and in free fluid communication with the working chamber of its coupling, and an adjustable scoop tube for each scoop chamber having a scooping orifice and an outlet orifice; the impellers of said couplings being drivably connected to one another for rotation together; duct means interconnecting the outlet orifices of said scoop tubes; scoop tube adjusting means for the scoop tube in one of said couplings operable to adjust the scooping orifice of its scoop tube selectively into or out of its scoop chamber; a reservoir chamber, radially outwardly of the working chamber of said other coupling, drivably connected to the impeller of said other coupling for rotation therewith, in free fluid communication with the scoop chamber of said other coupling and having a volumetric capacity substantially equal to the volumetric capacity of the working chamber and scoop chamber of said one coupling; and scoop tube adjusting means for the scoop tube of said other coupling operable to adjust the scooping orifice of its scoop tube selectively into or out of its scoop chamber or into said reservoir.

2,973,627
THERMOELECTRIC HEAT PUMP
Robert S. Lackey and Jack D. Mesa, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 29, 1959, Ser. No. 823,620
9 Claims. (Cl. 62—3)



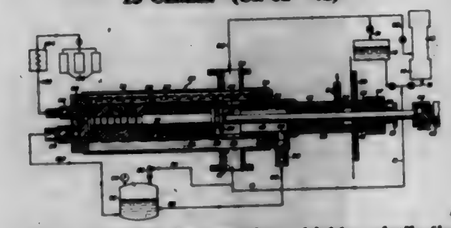
4. In thermoelectric heat pump apparatus, a pair of spaced parallel plates providing a heat dissipating air duct therebetween, one of said plates being formed of heat insulating material, a heat conducting structure having a portion thereof clamped between said plates and a pair of rod-like extensions projecting through said insulating plate and terminating on the opposite side thereof, and a pair of bodies of dissimilar thermoelectric material having hot and cold junction ends, said bodies having their hot ends mounted respectively on the ends of said extensions and supported thereby.

2,973,628
REMOVAL OF CARBON MONOXIDE FROM ETHYLENE
William B. Green and Virgil E. Goode, Pasadena, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed May 29, 1958, Ser. No. 738,851
1 Claim. (Cl. 62—24)



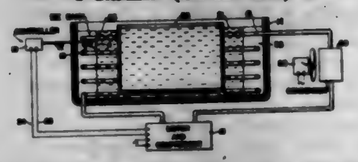
The method of removing carbon monoxide from an ethylene stream contaminated therewith comprising, introducing said contaminated stream into a fractionation zone operated at a pressure of about 315 p.s.i.a., a bottom temperature of about −15° F. and an overhead temperature of about −16° F., producing a gaseous overhead containing substantially all of said carbon monoxide, cooling said gaseous overhead to about −25° F. and condensing at least a portion of said overhead, returning condensed overhead to the upper portion of said fractionation zone as a reflux stream, discarding a noncondensed portion of said overhead, producing a liquid bottoms containing ethylene substantially free of carbon monoxide, passing said liquid bottoms in indirect heat exchange with said contaminated stream thereby cooling said contaminated stream and vaporizing said bottoms, and supplying heat to the kettle portion of said fractionation zone by introducing thereinto gaseous ethylene.

2,973,629
METHOD AND APPARATUS FOR PUMPING LIQUEFIED GASES
Edward R. Lady, Epsom, England, assignor to Air Products Incorporated, a corporation of Michigan
Filed Dec. 27, 1956, Ser. No. 630,976
13 Claims. (Cl. 62—41)



1. In an apparatus for pumping a highly volatile liquid having a low boiling point, a low pressure supply of such liquid, and a pump arranged to transmit the liquid, said pump comprising a low pressure stage and a high pressure stage each having aligned cylinders, reciprocating pistons in said cylinders, a rod interconnecting the pistons, and roller bearings for slidably supporting said connecting rod and arranged to support said pistons in closing fitting but spaced relation from their cylinder walls thereby to eliminate sliding friction between the pistons and cylinder walls.

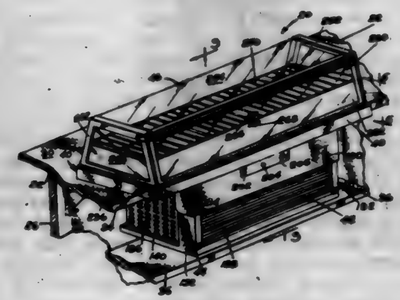
2,973,630
CONTROL APPARATUS
John P. Krochbaum, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 3, 1957, Ser. No. 656,898
6 Claims. (Cl. 62—139)



1. In a control system for controlling the size of an ice bank maintained on the evaporator coil of a refrigeration apparatus which are submerged in water, a switch for controlling the operation of the refrigeration apparatus, a pressure sensitive switch operator for operating said switch, a sensing element having a first and a second chamber separated by a flexible wall, said sensing element being attached to the evaporator coil, conduit means connecting said first chamber and said pressure operator in a closed liquid filled system so that upon the compression of said liquid a predetermined amount in said first chamber said operator causes said switch to stop the operation of the refrigeration apparatus, a fluid expanding upon freezing and having a freezing point and a melting point above 32° F., said fluid being used to fill said second chamber so that upon said sensing element being covered with ice and being exposed to a temperature below 32° F. said fluid will freeze to expand and apply a compressing force through said wall to said fill and thus operate said switch shutting down the refrigeration apparatus, said refrigeration apparatus being reenergized when said element is substantially uncovered.

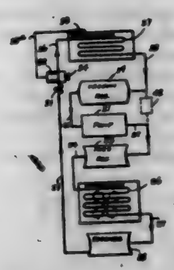
2,973,631
REFRIGERATED DISPLAY UNIT
Theodore E. Adkins, 1315 Huber Lane, Glenview, Ill.
Filed July 22, 1959, Ser. No. 828,835
16 Claims. (Cl. 62—246)

1. A refrigerated display unit for mounting on a counter having accessible upper and lower surfaces joined by a free edge, comprising a refrigerated display member for supporting articles to be displayed and refrigerated, said refrigerated display member being adapted to be positioned upon the upper surface of an associated counter adjacent to the free edge thereof, a frame mounted on said refrigerated display member to extend downwardly therefrom past the free edge of the associated counter and



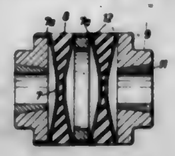
below the lower surface thereof, said frame including a portion adapted to extend below the associated counter and being adjustable toward and away from said refrigerated display member and against the underside of the associated counter to accommodate different thicknesses of counters therebetween and refrigerating equipment for said refrigerated display member mounted on said frame below the associated counter and supported thereby.

2,973,632
PORTABLE REFRIGERATED COOLER
Cecil L. Moore, St. Louis Park, Minn., assignor to Engineering and Research Lab Service Co., Indianapolis, Ind., a company
Filed Nov. 8, 1957, Ser. No. 695,435
4 Claims. (Cl. 62—498)



1. A mechanical refrigeration system having an evaporator and a condenser, an intermittently operated hand pump connected between the evaporator and the condenser for pressurizing the refrigerant circulating through the system subsequent to its excursion through the evaporator, means cooperating with the condenser for removing heat from the refrigerant, a control for metering refrigerant into the evaporator, and kinetic energy storage means including a vacuum reservoir tank connected between the evaporator outlet and the low pressure side of said pump and a pressure reservoir tank connected between the high-pressure side of said pump and said condenser inlet, said energy storage means permitting continued functioning of the refrigeration system for a time interval subsequent to the shut-down of said pump.

2,973,633
FLEXIBLE COUPLINGS
Thomas Hall, Kiama, Keyingham, England, assignor to J. H. Fenner & Co. Limited, Hull, England
Filed Dec. 22, 1959, Ser. No. 861,374
Claims priority, application Great Britain Sept. 19, 1959
7 Claims. (Cl. 64—11)



1. A flexible coupling comprising a driving shaft, a driven shaft arranged in driving relationship with said driving shaft, a driving flange mounted on the driving shaft, a driven flange mounted on the driven shaft, each flange having recesses in its periphery, and a flexible component disposed between said flanges, said flexible component comprising two relatively rigid elements and a flexible element disposed between and fixed to said rigid elements, and said rigid elements carrying peripheral lugs fitting the recesses in the flanges and arranged to transmit drive from the driving flange to the driven flange.

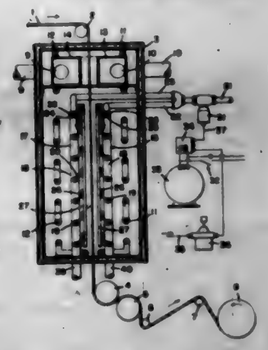
2,973,634
LIGHTER
Harold P. Bellavance, Attleboro, Mass., assignor to United Findings Co., Inc., a corporation of Massachusetts
Filed Apr. 15, 1959, Ser. No. 806,687
2 Claims. (Cl. 67—7.1)



2. A lighter comprising a fuel reservoir, a top over said reservoir of substantial thickness having a recess wholly in said top and extending from its outer top surface toward said reservoir there being a bottom wall of said recess having an opening therethrough to said reservoir, said top being solid and of a thickness greater than the depth of said recess and provided with a hole of an axial dimension greater than the depth of said recess extending completely through said solid top at a location spaced from said recess, a wick in said hole, a block of a size to fit into said recess provided with a plug to seal said opening when the block is inserted in said recess and provided with ignition mechanism including a snuffer cap to cover said wick, said block and ignition mechanism being a unit separately removable from the top and wick for filling said reservoir through said opening.

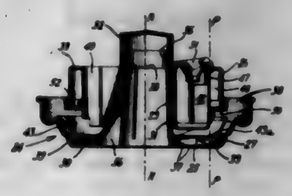
2,973,635
APPARATUS FOR FINISHING TEXTILES
Stewart W. Speers, Upper Darby, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 23, 1956, Ser. No. 573,361
1 Claim. (Cl. 68—5)

In apparatus for finishing textiles, the combination of a chamber having apertures in its walls to allow ingress and egress of a textile, at least three spaced steam coils in the chamber, jets on the steam coils to direct steam into the spaces between adjacent steam coils, means to supply moist steam to the steam coils, means to pass a textile through the chamber between a pair of adjacent steam coils, a chill roll positioned externally of the chamber, means to pass the textile upon its egress from the chamber to the chill roll, means to return the textile to



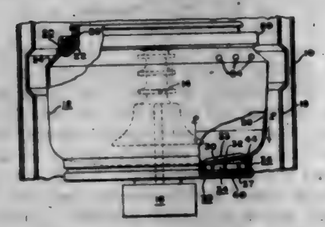
the chamber and pass the textile through the chamber between another pair of adjacent steam coils, a second chill roll positioned externally of the chamber and means to pass the steam-treated textile upon its egress from the chamber to the second chill roll to prevent moisture loss therefrom.

2,973,636
LAUNDRY-AID DISPENSING DEVICE FOR WASHING MACHINE
James J. Devery, Ambler, and Joseph Pelesuky, Philadelphia, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 5, 1958, Ser. No. 719,263
6 Claims. (Cl. 68—17)



3. For use with a clothes washing machine which provides for successive operations including a washing operation, an extraction operation and a rinsing operation, and which is provided with a washing basket adapted to contain water and a member movable with respect to said basket to agitate clothes therein during said washing and rinsing operations and to rotate with said basket during said extraction operation; a device adapted for mounting on said member in a position to be partly submerged in water within the washing basket, said device comprising a container section for washing-aid, a receptacle for retaining liquid rinsing-agent during said washing operation and having a wall constructed for ejecting said rinsing-agent during said extraction operation, a compartment enclosing said receptacle and having an interior surface confronting said wall, said surface and wall being spaced laterally from and cooperating with each other to define a chamber for receiving and holding the ejected liquid rinsing-agent and for discharging it upon cessation of said extraction operation, a pan member having two portions separated from each other, one of said portions being disposed below said container section to receive the washing-aid therefrom and to impede passage of said washing-aid into the washing basket, means for forcing water from said basket into said one of said portions during movement of said device with respect to said basket whereby to provide for mixture of water with washing-aid in said one of said portions and for passage of the mixture into said basket during the washing operation, said means including scooping elements leading into said one of said portions and extending downwardly from said pan member to project into the water which surrounds the submerged part of said device, and the other of said portions being disposed below said receptacle and compartment to receive the liquid rinsing-agent discharged from said chamber and water contained in said washing basket whereby to provide for mixture of water with said rinsing-agent in said other of said portions and for discharge of the mixture therefrom into said basket during the rinsing operation.

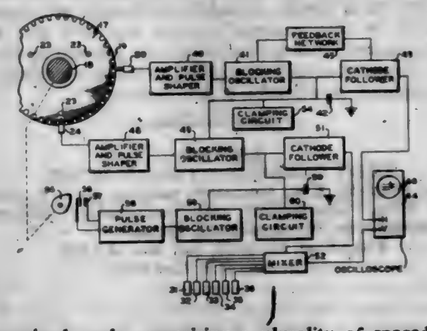
2,973,637
SEDIMENT COLLECTING ARRANGEMENT
Kenneth O. Sisson, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1958, Ser. No. 745,602
2 Claims. (Cl. 68—23)



1. In a washing machine, a liquid and sediment holding receptacle having a substantially imperforate single side wall and a bottom, an agitator in said receptacle, means for reciprocating said agitator and spinning said receptacle including a support disc for said receptacle, said side wall having a plurality of apertures about the top thereof for centrifugally passing liquid during said spinning, said bottom having a plurality of extruded holes for gravitationally passing sediment during said reciprocating and strengthening ribs for directing said sediment to said holes, an annular sediment collecting pan underlying said holes and having a continuous radially directed support flange on the radially inner side of said pan and an upstanding valve flange on the radially outer side of said pan, said valve flange having a plurality of ports in side by side relationship, means for attaching said collecting pan by said support flange only between said bottom and said support disc, an annular valve means carried by said valve flange and having a receptacle bottom seal portion and a port seal portion, a spring embedded in said port seal portion for contracting said port seal portion, said bottom seal portion having a slot for receiving said valve flange whereby said flange and said receptacle bottom are spaced in resilient water tight relationship, and said port seal portion having a spring contracted position for closing said ports during said reciprocating and an expanded position for passing said sediment during said spinning.

2,973,638
ENGINE ANALYSIS APPARATUS
Dale A. Fluegel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 14, 1955, Ser. No. 522,035
8 Claims. (Cl. 73—35)

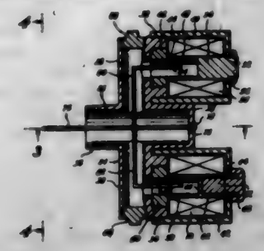
1. Internal combustion engine analyzing apparatus comprising first means responsive to rotation of the drive shaft of an engine to establish a first voltage pulse each time said drive shaft rotates through a first predetermined angle comprising a plurality of spaced first members of magnetic material carried by said drive shaft, a first coil positioned adjacent said shaft so that said first members move past said first coil in sequence as said shaft rotates, means to provide a first sharp pulse representative of the voltage pulse induced in said first coil as one of said members moves past said first coil, a first blocking oscillator, and means to energize said first blocking oscillator by said first sharp pulses; a cathode ray oscilloscope having first and second pairs of deflection plates at right angles to one another; first and second capacitors; means connected to said first capacitor and to said first pair of deflection plates for applying across the latter a voltage representative of the voltage across said first capacitor; means responsive to the output of said first blocking oscillator to charge said first capacitor to successively higher voltages; second means responsive to rotation of said drive shaft to establish a second voltage pulse each time said drive shaft rotates through a second predetermined angle greater than said first predetermined angle comprising a plurality of spaced second members of magnetic material carried by said drive shaft, a second coil positioned adjacent said shaft so that said second members move past said second coil in sequence as said first shaft rotates, means to provide a second sharp pulse representative of the voltage pulse induced in said second coil as one of said second members moves past said second coil, a second blocking oscillator, and means to energize said second blocking oscillator by said second sharp pulses; means responsive to the output of said second blocking oscillator to charge said second capacitor to successively higher voltages and to discharge said first capacitor to a predetermined reference voltage; means connected to said second capacitor and to said second pair of deflection plates for applying across the latter a voltage representative of the voltage across said second capacitor; third means responsive to rotation of said drive shaft to establish a third voltage pulse each time said drive shaft rotates through a third predetermined angle greater than said second predetermined angle; and means responsive to said third voltage pulses to discharge said second capacitor to a predetermined reference voltage.



2,973,639
MASS PRESENCE SENSING DEVICE
William B. Banks, Odessa, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas
Filed Aug. 4, 1955, Ser. No. 526,424
3 Claims. (Cl. 73—64)

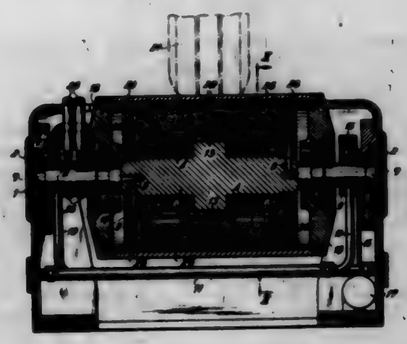
1. A device for indicating a change in condition of a fluent material comprising a hollow casing having an inner chamber, means for supporting the casing on an enclosure into and out of which a fluent material may flow with said chamber in communication with the interior of the enclosure, an elongated flexible vibratory

element mounted in the casing in said chamber extending into the enclosure into the path of flow of said material and having a rigid connection at one end with the casing, an electromagnetic coil in the casing positioned outside of said chamber, an electrical circuit into which said coil is connected to alternately energize and deenergize said coil, a first arm formed of magnetic material



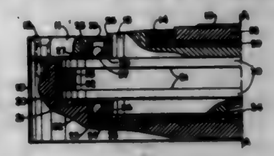
on and extending laterally from said element in position to be effected by the magnetic field of said coil to cause the element to vibrate, a second arm formed of magnetic material on said element opposite said first arm and electromagnetic means positioned to be effected by vibratory movement of said second arm to indicate a change in the amplitude of vibration of said element.

2,973,640
EDDY CURRENT DYNAMOMETER
Franz Dinfeld, Kiel, Germany, assignor to J. P. Sauer & Sohn, Gesellschaft mit beschränkter Haftung, Eckernförde, Norderschanze, Germany
Filed Sept. 10, 1957, Ser. No. 683,101
3 Claims. (Cl. 73—134)



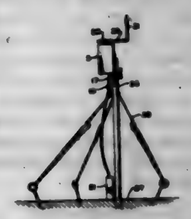
1. An eddy current dynamometer comprising an outside disposed rotor and an inside disposed stator, said rotor having ring coils and teeth at its side opposite said stator and formed at its outer periphery as a smooth cylinder, a shaft rotatably mounted on roller bearings, said shaft supporting said stator, and said stator having a water-cooled smooth outer cylinder of a metal which is a good electrical conductor, said outer cylinder being contracted on said stator, said stator defining at least one recess disposed at its periphery, at least one water-tight annular exciting coil being disposed in said recess of said stator within said outer cylinder, and a cover member retaining said exciting coil in said recess of said stator, and a brush holder secured to said shaft, cooling conduits secured to said stator for feeding cooling water to said stator, a counter weight mounted on said shaft for balancing said cooling conduits, and a measuring arm carried by said counter weight and a measuring box, said measuring arm being adapted to transfer the torque to said measuring box.

2,973,641
FORCE MEASURING APPARATUS
Robert A. Webster, Santa Monica, Calif., assignor to Webster Instrument, Inc., a corporation of California
Filed June 24, 1957, Ser. No. 668,237
3 Claims. (Cl. 73—141)



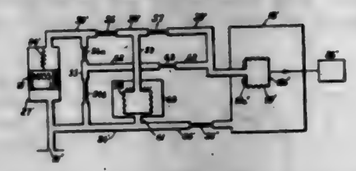
1. A force measuring apparatus comprising: a body having a first recessed portion of a first given diameter and a second recessed portion co-axial and concentric with said first portion of a second given diameter less than said first given diameter; a piston member having an intermediate piston head of larger diameter than the remaining upper and lower portions of said piston member; said intermediate piston head being fitted in fluid tight relationship within said first recessed portion in co-axial relationship, said lower portion of said piston member extending into said second recessed portion and of a diameter less than said second given diameter to define a lower annular space; a cover member for said body, said cover member having a recessed portion concentric with said body adapted to receive the upper portion of said piston member and define with the annular walls of said upper portion an upper annular space, said cover having a central opening exposing the top of said piston member; ball bearings substantially filling said upper and lower annular spaces so that vertical movement of said piston within said first recessed portion is confined to the direction of the vertical axis of said body; and an annular resilient washer shaped pad positioned on the floor adjacent the annular wall of said second recessed portion upon which said ball bearings in said lower annular space may rest, said second recessed portion having an outlet means for connection to a fluid pressure gauge, so that when said second recessed portion is filled with hydraulic fluid, said fluid transmits force applied to said upper portion of said piston member to said pressure gauge.

2,973,642
SAMPLING APPARATUS AND METHOD
Stuart Wood Grimmell, Menlo Park, William A. Perkins, Jr., Los Altos, and Leland M. Vaughan, San Jose, Calif., assignors, by mesne assignments, to Metronics Associates, Inc., Palo Alto, Calif., a corporation of California
Filed Apr. 24, 1957, Ser. No. 654,940
6 Claims. (Cl. 73—170)



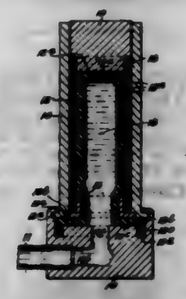
1. A portable impaction sampling device comprising a motor, a shaft extending from said motor, a rod attached to said shaft and driven by said motor in continuous rotation, said rod having a collecting surface adapted to retain collateral material thereon, said collecting surface extending parallel to the axis of said shaft and describing a circular path around said axis.

2,973,643
AIRCRAFT RATE OF CLIMB INDICATING INSTRUMENTS
Robert L. Roderick, Gardena, Calif., and Edward S. Gwathmey, Earlysville, Va., assignors to Specialties, Inc., Syosset, N.Y., a corporation of New York
Filed Apr. 1, 1957, Ser. No. 649,992
18 Claims. (Cl. 73—179)



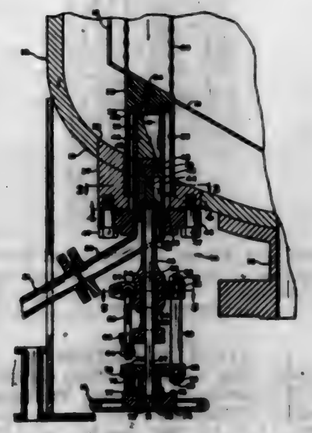
1. An instrument for indicating vertical speed of a carrier vehicle comprising means responsive to the atmospheric pressure gradient to afford a first pneumatic signal representing vertical speed at a preceding instant, a mass movable relatively to the carrier vehicle in response to acceleration forces attendant vertical movement thereof, means responsive to movement of the mass to afford second pneumatic signals, pneumatic combining means to receive concurrently both the first and second pneumatic signals to develop a common pneumatic output signal indicative of substantially instantaneous vertical speed of the carrier vehicle, an output means responsive to the pneumatic output signal of the combining means to indicate instantaneous vertical speed of the carrier vehicle.

2,973,644
EXPANSIBLE POWER ELEMENT
Frederick A. Greenawalt, Fort Lauderdale, Fla., assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed July 15, 1959, Ser. No. 827,299
1 Claim. (Cl. 73—368.3)



An expansible power element comprising, an elongated elastic tubular member closed at one end, a base member, means sealingly attaching the other end of said tubular member to said base member, a collar surrounding said tubular member adjacent to said base member, a coiled wire spring surrounding the sides of said tubular member and at least a portion of said collar and in concentric relation with said tubular member and collar, means bonding the material of said tubular member with the inner surfaces of the convolutions of said spring, a rigid sleeve surrounding said spring and tubular member, said sleeve having a smooth cylindrical interior surface and a substantial section extending beyond said closed end of said tubular member, a plunger guided in said section of said sleeve and engaging the closed end of said tubular member, said spring extending beyond said closed end of said tubular member and surrounding a portion of said plunger, and a body of liquid contained by said tubular member.

2,973,645
CATALYST SAMPLING
William W. Grimes, Lester D. Mills, Jr., and James S. Wishart, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed June 30, 1958, Ser. No. 745,339
6 Claims. (Cl. 73—424)

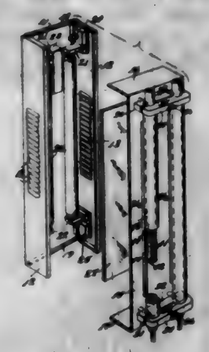


1. In combination with a vessel adapted to contain a charge of catalyst and the like, a sampling device comprising a foraminous conduit open at the top and projecting upwardly from the vessel portion which forms the bottom of the charge-receiving space, means defining a passage extending through that portion of such bottom bounded by said foraminous conduit, a hollow rotor having a top orifice which is placed in registry with the lower external end of such passage in one position of rotative adjustment of the rotor, whereby a sample of the charge can flow from within the foraminous conduit to the interior of the rotor, an outlet conduit below the rotor, the latter further having a bottom orifice and said outlet conduit being provided with a port for registry with such bottom orifice in another adjusted position of the rotor in which the top orifice is out of registry with the upper passage, so that the sample collected in the rotor in said one position is passed to the outlet by turning of the rotor to the other such position, and external actuator means for thus adjusting the rotor between the two such positions.

2,973,646
HEATED MEASURING TUBE
William H. Campbell, Pitman, Joseph N. Misio, Runnemede, and James B. Kirkpatrick, Mullica Hill, N.J. (all % Pressure Products Industries, Inc., Hatboro, Pa.)
Filed Dec. 30, 1957, Ser. No. 706,173
3 Claims. (Cl. 73—427)

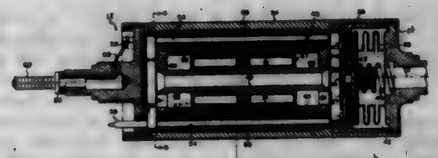
1. A burette comprising a housing having a vertical front wall, vertically spaced supports extending outwardly from said front wall, a vertical transparent tube mounted in said supports for containing fluid, said tube extending upwardly and downwardly beyond said supports, a valve member at the lower end of said tube and controlling the discharge of fluid therefrom, said tube having calibrating indicia thereabout between said supports, a transparent electroconductive coating on the exterior of said tube and covering said tube over the exposed portion thereof between said supports for heating the contents of the tube, electrical contacts carried by each of said supports in spaced relation along said tube and engaging said coating at spaced locations along said tube

for energizing said coating, and a second transparent glass tube surrounding said first tube in the space between



said supports and having its upper and lower ends in abutting relation to facing portions of said supports.

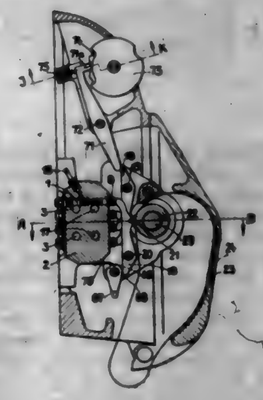
2,973,647
ACCELEROMETERS
Harry J. Smith, Glen Head, and Willis G. Wing, Roslyn Heights, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Feb. 15, 1957, Ser. No. 641,433
12 Claims. (Cl. 73—497)



1. An accelerometer comprising a housing, a closed member mounted for rotation about an axis within said housing having axially spaced, end chambers, an annular chamber in said member concentric to the axis connecting the spaced end chambers, a passageway in the member to the inside of the annular chamber connecting the spaced end chambers, a passageway in the member to the outside of the annular chamber connecting the end chambers, a fluid filling the chambers and passageways of said closed member, means for rotating said member about its axis, an annular sensitive element located in the annular chamber of said member with predetermined clearances therewith supported by the fluid in a floating condition for movement along the axis, and pick-off means for providing a signal output with displacement of the sensitive element from a null axial position with relation to said member, the passageways and connecting end chambers providing a scale factor and thermal gradient correcting fluid bypass around the annular chamber, the first of which is determined by the transverse cross sectional area of the passageways and the second of which is determined by the ratio between the relative transverse cross sectional areas of the inside and outside passageways.

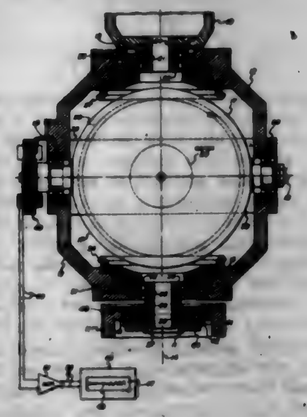
2,973,648
PNEUMATIC CONTROL SYSTEM FOR PRODUCTION MACHINES, ESPECIALLY FOR MACHINE TOOLS
Alois Mooswmann, 11 Jahnstrasse, Stuttgart-Birkach, Germany
Filed Sept. 9, 1955, Ser. No. 533,375
Claims priority, application Germany Sept. 13, 1954
7 Claims. (Cl. 74—1)

1. Actuating means for selectively operating actuating elements of machine tools in which a number of operations are to be carried out in a prescribed cycle, including a plurality of compressed air valves adapted to be selectively operated by control means adapted to be advanced successively, comprising a steel tape provided with a plurality of holes, rivets in a number of the holes corresponding to the prescribed cycle of operation of the machine tool, said holes being adapted to receive said rivets permanently, said rivets having protuberances on said steel tape adapted to act on rotatably



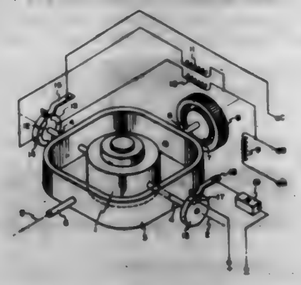
mounted levers having rollers on its back, said rollers being adapted to co-operate with said protuberances of said rivets, said steel tape being provided with a row of spaced holes on each side of the tape to cooperate with a rotatable sprocket wheel to pull the steel tape along said levers, the advance of said sprocket wheel being effected by pressure impulses initiated with the completion of the individual operations of said machine tool, said pressure impulses being caused by the controlled elements of said machine tool.

2,973,649
STRUCTURE AND METHOD FOR MOUNTING A VERTICAL GIMBAL
Edgar L. Zeigler, Glen Cove, and Paul P. Tsang, Wheatton Park, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed June 17, 1959, Ser. No. 821,050
9 Claims. (Cl. 74—5.8)



1. In a gyroscopic instrument having rotor and double ended gimbal load providing elements and a frame; means for mounting the load providing elements on the frame with the gimbal having freedom about a vertical axis including a first ball bearing having a race fixed to the frame and a race fixedly connected to one end of the gimbal, a second ball bearing having a race fixedly connected to the other end of the gimbal and a race movable with relation to the frame along the vertical axis, an elastic member between the axially movable bearing race and the frame exerting a reactive supporting force on the gimbal equal and opposite to the load provided by the load elements, and means settable with relation to the frame for positioning the movable bearing race axially through the elastic member to distribute the load provided by the load elements between the bearings.

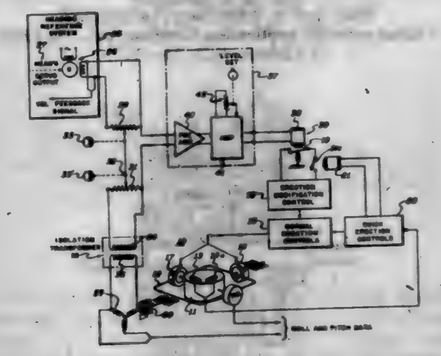
2,973,650
SAFETY DEVICE FOR CONTROL SYSTEMS FOR AIRCRAFT
Arthur Philip Glenny, Hanworth, England, assignor to The Sperry Gyroscope Company Limited, Brentford, England, a British company
Filed Nov. 14, 1955, Ser. No. 546,753
Claims priority, application Great Britain Nov. 16, 1954
17 Claims. (Cl. 74—5.6)



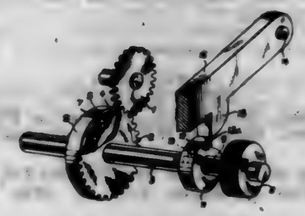
1. A safety device adapted to provide a signal when an aircraft turns about an axis at a rate in excess of a predetermined rate comprising gyroscopic turn responsive means adapted to be mounted in said aircraft for precession in response to the rate of turn of said aircraft about an axis thereof, means responsive to the precession of said gyroscopic means for providing an output measure of aircraft rate of turn in excess of a predetermined rate of turn which increases from zero value to a predetermined magnitude within a time interval which is inversely related to the extent of the excess rate, means responsive to said output measure for providing a signal when said output measure reaches said predetermined magnitude, and returning means for causing any output measure developed during a turn of the aircraft to return towards zero when the rate of turn is less than the predetermined rate or is zero.

2,973,651
ERECTION CUTOFF APPARATUS
Richard E. Swarts, Northport, and Bert V. Tibbs, Huntington, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Jan. 6, 1960, Ser. No. 772
8 Claims. (Cl. 74—5.41)

1. In a gyroscopic instrument for aircraft of the type that is normally slaved to a pendulous reference and having apparatus for modifying said slaving when said reference is subjected to acceleration forces acting thereon to adversely affect the vertical reference normally supplied thereby, the combination comprising means for providing a measure of the turn rate of the craft, means for providing a measure of the bank angle of the craft, means for combining said measures for supplying an output in accordance with the sum thereof, and means responsive to a predetermined value of said output for actuating said apparatus for modifying said slaving.

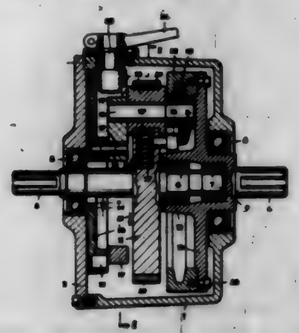


2,973,652
ARRANGEMENT FOR TRANSFORMING ROTARY MOVEMENT INTO RECIPROCATING MOVEMENT
Heinz Kelch, Villingen, Black Forest, Germany, assignor to Firma Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Dec. 8, 1958, Ser. No. 778,765
Claims priority, application Germany Dec. 23, 1957
2 Claims. (Cl. 74—54)



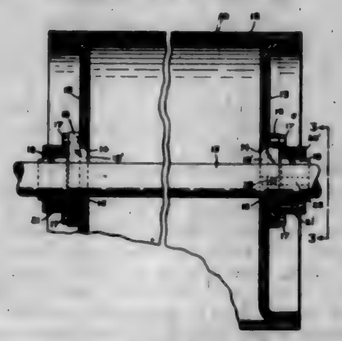
1. An arrangement for transforming a rotary movement into a reciprocating movement, comprising, in combination, a rotary driving member rotating in one direction; a shaft means; unidirectional overrunning clutch means connecting said driving member to said shaft means for driving said shaft means; a cam means mounted on said shaft means freely turnable thereon, said cam means having a spiral cam track the inner end and outer end of which are joined by a shoulder, said outer end and said shoulder forming a slightly rounded portion rearwardly facing with respect to said direction of rotation; lost-motion coupling means operatively connecting said shaft means with said cam means and limiting relative angular displacement between said shaft means and said cam means so that said cam means normally rotates with said shaft means; and a reciprocable member having a cam follower urged against said cam track and causing said reciprocable member to perform a return stroke while said cam follower engages said cam track and a forward stroke when said cam follower moves from said outer end to said inner end of said cam track so that when said cam follower passes over said slightly rounded rearwardly facing portion and urges said cam means to turn through a small arc in the direction of rotation, said lost-motion coupling means prevents corresponding angular displacement of said shaft means relative to said driving member.

2,973,683
INFINITELY VARIABLE GEAR
Franz Riedl, Richard Strauss Strasse 23, Munich 8, Germany
Filed Jan. 9, 1957, Ser. No. 633,987
Claims priority, application Germany Jan. 19, 1956
17 Claims. (Cl. 74—117)



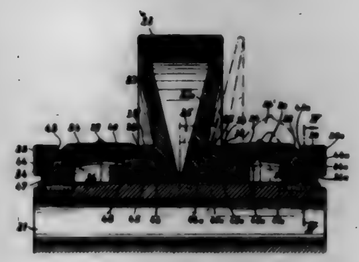
1. An infinitely variable gear comprising a drive shaft, a driven shaft means coaxial with said drive shaft, a disklike member secured to said drive shaft and rotatable therewith, a plurality of members resiliently mounted within said disklike member for movement independently of each other in a radial direction of said drive shaft and adapted to carry out swinging movements, non-rotating adjustable control means for actuating selected swinging members during rotation of said drive shaft, and clamping members on said swinging members adapted to engage with said driven shaft means to transmit the torque of said drive shaft thereto when the associated swinging member is actuated.

2,973,654
DRUM PULLEY
R. Ines Ewing, Snyder, N.Y., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Continuation of application Ser. No. 309,270, Sept. 12, 1952. This application Feb. 10, 1956, Ser. No. 564,752
2 Claims. (Cl. 74—230.01)



1. In a pulley assembly, a cylindrical sleeve provided at each end with a radially inwardly extending disc, means firmly securing one of said discs to a shaft and means demountably coupling the other disc to the shaft without creating excessive stresses in either of the discs, the last named means comprising a circular opening in said other disc to receive a hub, a split hub having an axial bore for receiving the shaft, said hub having an annular flange adjacent one end abutting said other disc and a tapered peripheral surface converging inwardly from one face of the flange toward the other end of the hub, a peripheral shoulder on said hub adjacent the other face of said flange fitting within said circular opening, a collar mounted on said hub having an inner tapered bore conforming with the outer taper on said hub, the flange on said hub having an inner and an outer circle of circumferentially spaced openings, said collar having openings aligned with said inner circle of circumferentially spaced openings, said disc having openings aligned with said outer circle of circumferentially spaced openings in said flange, tensioning means extending through the inner circle of circumferentially spaced openings to draw the collar axially toward the disc to contract the hub radially into clamping relation with the shaft, and other tensioning means extending through the outer circle of circumferentially spaced openings to connect the hub and disc.

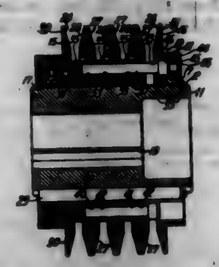
2,973,655
ADJUSTABLE V-BELT PULLEY FOR VARIABLE TRANSMISSIONS
Johannes Ritz, Hannover, Germany, assignor to Wilhelm Herm. Müller & Co., Kommanditgesellschaft, Hannover, Germany
Filed Nov. 23, 1956, Ser. No. 624,000
Claims priority, application Germany Nov. 28, 1955
3 Claims. (Cl. 74—230.17)



1. In combination in a V-belt pulley: a shaft, two disc members supported by said shaft and arranged to receive a V-belt therebetween, said disc members being axially displaceable on said shaft to vary the spacing therebetween, the outside of each of said disc members being provided near the inner portion thereof with abutment means, a pair of connecting members arranged on the outside of said disc members in spaced relationship thereto and fixedly connected to said shaft, said connecting members being provided with an abutment surface facing said abutment means, and two torsion elastic substantially annular spring members respectively interposed between and connected to said disc members and said connecting members for torsionally elastically interconnecting said disc members and said shaft, said spring members being provided with an outer tapering surface near each end surface thereof for engagement with said abutment means and said abutment surfaces in response to a certain decrease in distance between said abutment means and the respective abutment surface facing the latter.

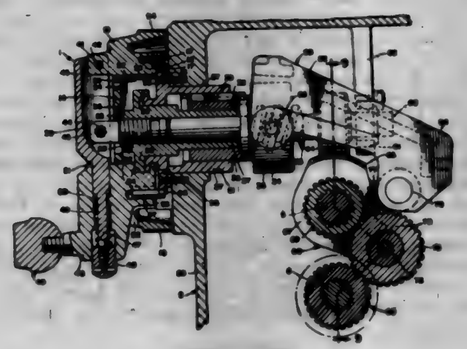
2,973,656
VARIABLE PITCH DIAMETER SHEAVE
Paul G. Kurre, Cincinnati, Ohio, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 1, 1959, Ser. No. 803,478
12 Claims. (Cl. 74—230.17)

1. A variable pitch diameter sheave comprising a support member having a generally cylindrical external surface, first and second annularly shaped disks mounted on said support member, one of said disks being slidable relative to said support member, said disks having longitudinally extending concentric apertures, a portion of the aperture in one of said disks being enlarged to provide a shoulder therein, the surface of the enlarged portion of the aperture in said one disk being threaded, an adjusting bolt extending through the aperture of said one



disk and threadedly engaging the other of said disks, said bolt having an enlarged portion positioned to abut said shoulder in said one disk, and an annular screw operatively engaging the threaded portion of said one disk.

2,973,657
GEAR SHIFTING MECHANISMS
Bernard R. Baranski, Chicago, Ill., assignor to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 8, 1959, Ser. No. 845,282
10 Claims. (Cl. 74—348)



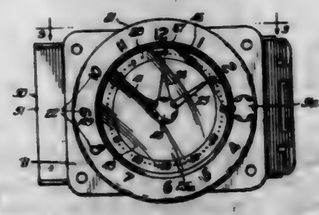
1. A gear shift mechanism comprising a conical cluster of gears disposed in axial alignment with each other, a drive shaft disposed in parallel relation to said cluster, another gear mounted on said shaft and rotatable therewith, said gear being slidable axially of said shaft, a mounting bracket rotatably mounted on said shaft and slidable with said other gear axially of said shaft with said gear, an idler gear rotatably mounted on said bracket and carried thereby for oscillation around said shaft in constant driven engagement with said other gear, and means for selectively moving said idler gear into engagement with respective ones of said first mentioned gears, said means including a slidably and rotatably mounted elongated shaft, a nut non-rotatably mounted on said elongated shaft and operatively engaged therewith for movement longitudinally thereof upon rotation of said elongated shaft, said nut being movable with said elongated shaft upon sliding movement of the latter, and another bracket operatively connected between said first mentioned bracket and said nut in position to rotate said first mentioned bracket and said idler gear around said drive shaft upon said sliding movement of said elongated shaft, said other bracket being operatively connected to said elongated shaft for movement thereby longitudinally of said cluster upon said rotation of said elongated shaft.

2,973,658
VARIABLE RATIO POWER STEERING GEAR
Arthur E. Bishop, Bloomfield Township, Oakland County, Mich. (5516 Westwood Lane, Birmingham, Mich.)
Filed June 27, 1958, Ser. No. 745,987
17 Claims. (Cl. 74—388)



1. In combination, a variable ratio steering gear for connecting a steering shaft member to a steering output member for steering association with dirigible vehicle wheels comprising, a first cam gear on said shaft member and a second cam gear on said output member, said first cam gear comprising a non-round symmetrical gear mounted on said shaft member for rotation therewith and having a point of reduced radius thereof in contact with said second cam gear in the straight-ahead position of said wheels, said first gear having an increasing radius as the periphery thereof extends away from said point, said second cam gear positively engaging said first cam gear and having a contour providing co-operative engagement therewith as said first cam gear rotates.

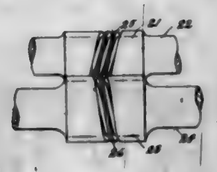
2,973,659
YIELDABLE GEAR ARRANGEMENT FOR AN INTERVAL TIMER
William P. Gallagher, Anthony Dan Stolle, and Donald E. Schroeder, Chicago, Ill., assignors to International Register Company, Chicago, Ill., a corporation of Illinois
Original application June 1, 1954, Ser. No. 433,426, now Patent No. 2,886,166, dated May 12, 1959. Divided and this application May 24, 1958, Ser. No. 739,647
5 Claims. (Cl. 74—405)



1. In apparatus of the class described, the combination of a driving shaft which rotates continuously at a substantially constant rate, a driving spur pinion mounted concentrically on said shaft and driven thereby, a driven shaft, a driven spur gear mounted concentrically on said driven shaft and operative to drive the latter, said driven spur gear being adapted to be driven by said driving spur pinion when in mesh therewith, said driven spur gear having a toothless idling gap in part of its periphery which normally lies in registration with said driving spur pinion so that normally there is no meshing relation between said pinion and gear and said driven shaft normally stands in an inert condition while said driving shaft rotates continuously, a manually rotatable knob mounted on said driven shaft and operative to rotate said shaft in either direction of rotation for rotating said driven spur gear

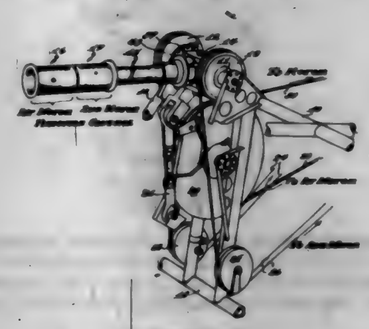
out of said normal non-meshing position so as to manually mesh the spur teeth at either end of said idling gap in said driven gear with the spur teeth of said driving pinion, said knob being then further rotated to revolve said driven gear to an angular position corresponding to a preset desired degree of driving rotation to be transmitted from said driving spur pinion to said driven spur gear, such manual rotation of said driven gear causing corresponding rotation of said driving pinion after mesh is established between said driven gear and driving pinion, a friction slippage clutch interposed between said driving spur pinion and said driving shaft to permit such rotation of said driving pinion in the manually operated presetting rotation of said driven gear, said driving spur pinion thereafter rotating said driven spur gear and said driven shaft at a substantially constant rate back to said normal non-meshing position, following which said manually rotatable knob is adapted to be manually rotated to restore said driven spur gear to its normal non-meshing position, and spring pressed mounting means resiliently mounting said driving pinion on said driving shaft for permitting said driving pinion to assume an inclined position with its axis tilted at an angle to the axis on the driving shaft on which it is mounted in the event that there should be momentary end-to-end jamming abutment between the spur gear teeth on said driving pinion and the spur gear teeth on said driven gear in the aforesaid manually operated performance of rotating the toothless idling gap of the driven gear out of registration with the driving spur pinion for causing meshing relation between said driving pinion and driven gear, said spring pressed mounting means and said driving pinion cooperating to permit said driving pinion to assume such inclined position in the event of tooth jamming irrespective of the direction in which said manually rotatable knob is revolved.

2,973,660
COOPERATING WEDGES INCLUDING MATING WORMS
Jakhin Boaz Popper, Spilberg House, Kfar Ata, near Haifa, Israel
Filed Sept. 3, 1958, Ser. No. 758,813
34 Claims. (Cl. 74—424.5)



1. In a self-locking motion transmission device, an input element adapted to move and transmit motion, having an input wedge surface angularly disposed to the direction of input motion, and an output element adapted to move and be driven by the input element, having an output wedge surface angularly disposed with respect to the direction of motion of the output element, the input wedge surface being constantly in engagement with the output wedge surface during motion transmission with an angle of friction between the input wedge surface and the output wedge surface, the angle of the input wedge surface with respect to its direction of motion being equal to or less than the angle of friction, and the angle of the output wedge surface with respect to its direction of motion being greater than said angle of the input wedge surface by an amount which is not in excess of 15 degrees, the excess of said angle of the output wedge surface over said angle of the input wedge surface being equal to the angle of difference in the directions of motion of the input and output elements.

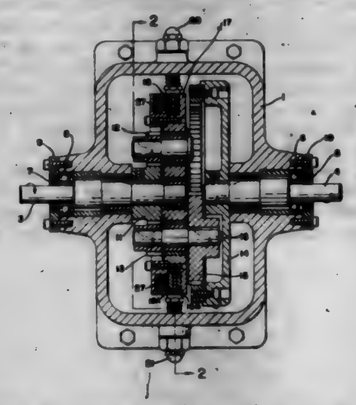
2,973,661
SELECTIVE ADJUSTMENT CONTROL MECHANISM
Bernard W. Sawyer, New York, N.Y., assignor to Omega Aircraft Corporation, New York, N.Y., a corporation of New York
Filed June 17, 1957, Ser. No. 665,973
5 Claims. (Cl. 74—471)



1. A control mechanism including, in combination, support means carrying a rotatable shaft, a control element connected to said shaft, a control stick connected to said shaft for rotation thereof to vary the adjustment of said control element, said control stick also carrying a pair of control handles mounted thereon for rotation around the axis of said stick, each handle of said pair being connected by spaced separate gear means to other second and third control elements requiring separate adjustment relative to each other and simultaneous adjustment with said first-mentioned control element, said spaced separate gear means each including a gear connected to each of said handles meshing with another gear journalled on said rotatable shaft for independent movement relative thereto, the latter gears each being independently connected to said other control elements, rotation of either handle serving to adjust only the one of said second or third other control elements to which the handle is connected, movement of said control stick causing simultaneous adjustment of all three control elements, said control handles being concentrically mounted on said control stick adjacent to each other, spaced apart by intervening means preventing accidental movement.

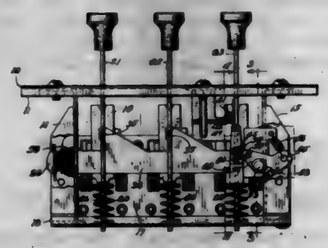
2,973,662
DIFFERENTIAL SIGNAL DEVELOPER
Charles J. Begnor, Parma, Ohio, assignor to The Yoder Company, Cleveland, Ohio, a corporation of Ohio
Filed July 19, 1957, Ser. No. 672,966
2 Claims. (Cl. 74—472)

1. A precision synchronizer comprising a housing, a first shaft journalled in said housing, a second shaft journalled co-axially in said housing with its inner end opposed to and slightly spaced from the inner end of said first shaft, said shafts being adapted to be driven at equal speeds in opposite directions; a spur gear keyed to said first shaft within said housing, a spider body pivotally mounted on the inner end portion of said first shaft, two identical pinion gears pivotally mounted on said body on stub shafts parallel to said first shaft and on diametrically opposite sides thereof, said pinion gears meshing with said spur gear and having diameters one-half the diameter of said spur gear, whereby said pinion gears will be driven at speeds twice that at which said first shaft and spur gear turn when said body is stationary; an internal gear keyed to said second shaft within said housing, a spur gear keyed to the same stub shaft as one of the aforesaid pinion gears for rotation therewith, said latter spur gear meshing with said internal gear; a plate frictionally engaging said spider body for co-axial rotation therewith but projecting outwardly therebeyond, fixed stop means carried by said housing adapted to engage said plate positively to limit rotation thereof, a pair of spring backed plungers carried by said housing and mounted for engagement and reciprocation by said plate as the latter turns in one direction or the other respectively prior to encountering said fixed stop means, whereby such movement of said plungers may



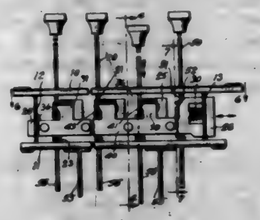
be utilized to actuate speed control means or the like as may be desired; a traverse rod mounted for reciprocation in said housing in a plane normal to the axis of said shafts, link means pivotally interconnecting said plate and rod for reciprocation of the latter by any slight pivotal movement of said plate, a boss on said rod within said housing, and a leaf spring secured to said housing in its mid-portion with its two end portions projecting and respectively engaging opposite ends of said boss resiliently to resist initial reciprocation of said rod from a central position.

2,973,663
PUSH ROD MECHANISM
John H. Williams, Barrington, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,569
3 Claims. (Cl. 74—483)



1. In a multi-push rod mechanism of the type having a plurality of spaced laterally offset push rods and latch bar mechanism including a latch bar whereby a push rod when moved from a normally biased "out" position to "in" position will move said latch bar to unlock any previously locked push rods and lock said last operated push rod to an "in" position, the improvement which consists of an additional push rod movable longitudinally between an "out" and "in" position, means interconnecting said additional push rod and said latch bar for moving said latch bar to a push rod unlocking position upon movement of said additional push rod from an "out" to an "in" position, said interconnecting means permitting said additional push rod to move from an "in" position to an "out" position without affecting said latch bar and means cooperating with said additional push rod for locking said additional push rod to an "in" position after it is moved from an "out" to an "innermost" position, and for unlocking said additional push rod when said additional push rod is again moved from its locked "in" position to its "innermost" position, said interconnecting means comprising a pivoted dog having a tooth portion for cooperation with said additional push rod, said dog being movable to clear said push rod upon outward movement thereof and to engage upon inward movement of said additional push rod.

2,973,664
PUSH ROD MECHANISM
John H. Williams, Barrington, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Mar. 11, 1959, Ser. No. 798,625
6 Claims. (Cl. 74—483)

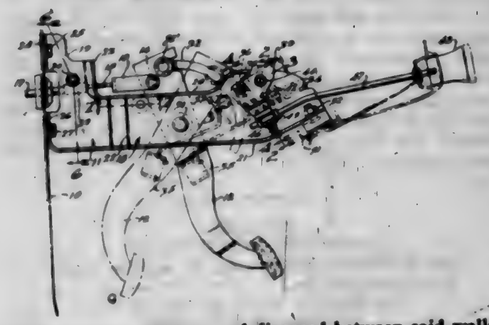


1. A push rod mechanism comprising at least one elongated plate having a plurality of laterally disposed transverse slots arranged in parallel relation, a push rod for each slot, spring means for biasing each push rod to an "out" position from which position it may be moved along its length to an "in" position, a latch bar, means for supporting said latch bar to extend across the side edges of the push rods, said latch bar being movable along its own length, means for biasing said latch bar to a normal locking position from which position said latch bar is movable to an unlocking position, said latch bar having a projecting portion which is at all times disposed between two adjacent push rods, a generally flat spring locking finger carried by said latch bar at the side thereof for cooperation with each push rod, said spring locking finger being biased to lie against said latch bar projecting portion and being deflectable laterally away from said latch bar projecting portion, means on a push rod cooperating with a spring locking finger for latching a push rod to an "in" position, said means cooperating with the spring locking finger for springing said finger outwardly away from the latch bar projecting portion upon inward movement of said push rod and thereafter releasing said spring locking finger to return to its normal position to a locking condition and means for moving said latch bar to an unlocking position so that a push rod is clear of its cooperating locking finger permitting the rod to return to a normal "out" position.

2,973,665
BRAKE CONTROL MECHANISM
George F. Mellen, Pontiac, and Wilhelm M. Rickert, Detroit, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Mar. 5, 1956, Ser. No. 569,600
8 Claims. (Cl. 74—531)

1. In combination, a stationary support having laterally spaced walls, an operating lever extending between said walls, a pin carried by said walls in the space therebetween mounting said lever for swinging movement, a sector extending into the space between said walls and

rigidly connected with said lever for swinging movement with said lever as a unitary assembly, a combined stationary support reinforcing member and guide for said sector secured between said walls, detent means mounted



on the support structure and disposed between said walls cooperating with said sector to hold said lever against swing movement in one direction, detent releasing means including a member pivotally carried by said support, and means connected to said last mentioned member for accommodating actuation thereof.

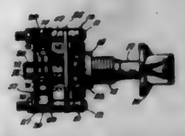
2,973,666
JALOUSIE OPERATOR OR THE LIKE
George L. Fuller, % Schwab Jalousie & Awning Co., Inc., 3855 N. Miami Ave., Miami, Fla.
Filed Aug. 28, 1958, Ser. No. 757,854
11 Claims. (Cl. 74—531)



7. An operator of the shiftable frame-carried louvers of jalousie windows or the like, and comprising a support member for mounting on a jalousie frame, said support member having a substantially right angular and rearwardly extending flange and providing a slot adjacent said flange, an operating lever, pivot means mounting said operating lever on one side of said flange, said lever having one end extending through said slot for engagement with a louver control member, a pair of spaced lugs mounted on the other end of said operating lever extending at substantially a right angle to said operating lever to a position beyond the plane of the other side of said flange, a pressure plate mounted on said pivot means on said last mentioned side of said flange for rotational movement with said operating lever, an elongated operating handle having one end portion positioned between said lugs, a pivot pin substantially paralleling said flange and carried by said lugs, said pin pivotally supporting said elongated operating handle inwardly of its said end, said pivot-adjacent end of said operating handle having a cam surface whereby upon the pivotal movement of the operating handle in one direction, said cam surface frictionally engages said pressure plate to actuate it against said flange and lock said operating lever against pivotal movement.

2,973,667
INDEX MECHANISM
John H. Williams, Barrington, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Sept. 4, 1958, Ser. No. 759,863
3 Claims. (Cl. 74—565)

1. A delay mechanism for rotary means operating in one direction only and comprising a shaft journalled for rotation, a cam plate rotatably locked to such shaft, said plate having a radial extension provided with a stopping edge and a notched edge, a member loose on said shaft and having a stop finger and a support portion, said support portion being further from said shaft than said stop finger, said stop finger engaging the cam plate stopping edge to provide a detent action for reverse direction at one end of the operating range, a pawl carried by said support portion for pivotal movement around an axis offset from but parallel to said shaft axis and having an arm extending laterally of the pivot axis, said pawl arm engaging the cam plate notched edge when the two are in proper position, means for biasing the pawl so that the pawl arm is clear of said cam plate and rests against a stationary stop, said notched edge of the cam plate constituting the leading edge when the mechanism is being turned in said one direction from said one end of the operating range for delay action; in the shaft starting position, the member stop finger resting on the stopping edge at said one end of the operating range; said cam plate, when turned from the starting position, moving

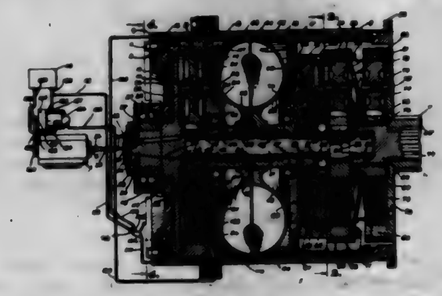


away from the stop finger and the cam plate notched edge, which is the leading edge, engaging the pawl arm in its biased position to force the pawl arm and member carrying the pawl arm to follow the cam plate to an intermediate shaft position, this latter movement of the pawl arm with the shaft causing the pawl arm to move against its bias, said mechanism in this condition being in an intermediate shaft position and requiring relief of torque on said cam plate to permit said cam plate to reverse slightly and permit said cam plate to reverse slightly and permit said pawl arm and notched edge to disengage in response to the pawl arm bias whereupon said pawl and member are free of the cam plate and the cam plate can go further with the notched edge as a leading edge; said support portion of the member cooperating with said stationary stop means to limit the turning of said member in said one direction from its starting position to the shaft intermediate position, said cam plate, when turned in the reverse direction so that the stop edge leads, proceeding smoothly to the shaft intermediate position and picking up the member by engaging the stop finger and going to the one end position in preparation for starting anew.

2,973,668
AUTOMATIC TRANSMISSION
Robert W. Rumker, 611 E. 46th, Kansas City North 16, Mo.
Filed Aug. 13, 1958, Ser. No. 754,767
11 Claims. (Cl. 74—688)

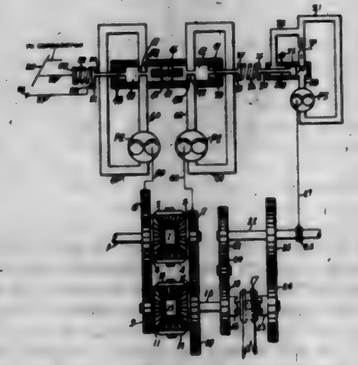
1. In a transmission mechanism, the combination of a drive member, a driven member, a hydraulic fluid coupling including an impeller member and a turbine member, a gear train connecting the drive member and impeller for rotating said impeller, a housing surrounding the fluid coupling and defining a fluid chamber in which said fluid coupling operates, a second gear train for completing a power train between the turbine member and the driven member, a pump operatively associated with the drive member to be driven in accordance with speed changes thereof and having an inlet and an outlet, a flow duct communicating with the fluid coupling chamber, a bypass duct between the pump outlet and inlet, a pressure responsive means in said bypass duct for opening same in response to a predetermined pressure therein, a governor

driven in accordance with speed changes of the drive member, means operative to selectively effect communication of the flow duct with the pump outlet and pump inlet, and means under control of said governor for regulating the delivery of fluid from the pump outlet to the



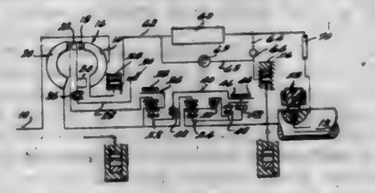
flow duct whereby when fluid is delivered to the fluid coupling chamber the rotation of the impeller is effective to drive the turbine member and when fluid is withdrawn from the fluid coupling chamber the effectiveness of rotation of the impeller to drive the turbine member is reduced.

2,973,669
TRANSMISSION
Bernard Thomas Quigley, 1878 Parker Blvd., Tonawanda, N.Y.
Filed July 11, 1957, Ser. No. 671,217
3 Claims. (Cl. 74—752)



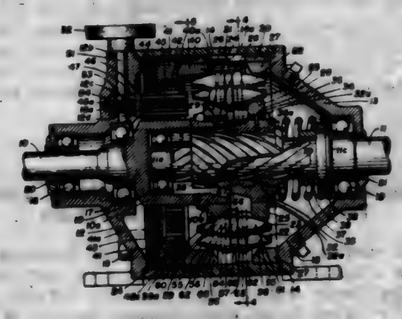
1. In a variable ratio transmission, a driving differential gear set, a driving shaft arranged to drivingly connect a power source to said differential gear set, a driven differential gear set, a driven shaft arranged to connect said driven differential gear set to a selectively directional gearing system, said directional gearing system to be suitably located to transmit power flow from said driven shaft to a propeller shaft, each differential gear set to include a first and a second side gear, an end gear train drivingly connecting said first side gears of said differential gear sets, a second end gear train drivingly connecting said second side gears of said differential gear sets, a plurality of fluid pumps, an impeller set of a first of said fluid pumps operatively connected to said first end gear train, an impeller set of a second of said fluid pumps operatively connected to said second end gear train, each impeller set to be actuated when its associated end gear train is in operation, each fluid pump to include an associated fluid circuit, means to regulate fluid flow in said fluid circuits.

2,973,670
CENTRIFUGALLY OPERATED FLUID PRESSURE GOVERNOR
Robert O. Dameron, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 13, 1957, Ser. No. 683,830
7 Claims. (Cl. 74—752)



1. In a multiple speed power transmission mechanism for delivering power from a driving member to a driven shaft and including an automatic control circuit for regulating changes in the effective transmission torque multiplication ratio; a speed governor forming a portion of said control circuit and comprising a fluid pressure pump drivably coupled to said driven shaft, a governor valve member secured to said shaft and having radially spaced portions with differential diameters, a governor valve sleeve slidably carried on said valve member in telescopic relationship with respect to the same, said sleeve having portions of differential internal diameters which cooperate with the spaced portions of said valve member, an exhaust passage formed in said valve member, and a fluid pressure passage extending from the discharge side of said pump to said exhaust passage including communicating portions formed in said driven shaft and in said valve member, said valve member and said valve sleeve defining a pressure cavity communicating with said exhaust passage whereby a fluid pressure force is caused to act on said valve sleeve to oppose and balance said centrifugal force during operation, said valve sleeve being urged in a radially outward direction by centrifugal force toward an exhaust passage closing position, the cooperating portions of said valve member and said valve sleeve defining an annular valve opening to provide a regulated degree of communication between a surrounding exhaust region and said pressure cavity.

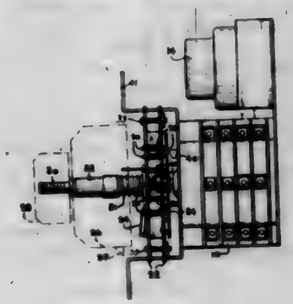
2,973,671
FRICTION DRIVE, POWER TRANSMISSION MECHANISM
Douglas A. Elkins, 1875 E. 21st S., Salt Lake City, Utah
Filed Oct. 2, 1958, Ser. No. 765,713
47 Claims. (Cl. 74—796)



1. A power transmission mechanism of friction drive type, comprising two mutually independent shafts;

structure rotatably mounting said shafts; means defining a raceway encircling the axes of said shafts, said means including friction drive means operatively associated with one of said shafts, friction driven means operatively associated with the other of said shafts, and friction reaction means; a multiplicity of rolling elements arranged in endless loop formation within said raceway and in radially progressive, multilayer formation relative to the axes of said shafts, so that none of the said rolling elements in any single layer contacts another in that layer but each contacts a pair of said rolling elements in the next layer or layers, contact between any two rolling elements taking place at at least two points aligned substantially in parallel with the axes of said shafts and lying on the rolling surfaces of such rolling elements substantially equidistant radially from respective axes of symmetry of such rolling elements; said friction drive means, said friction driven means, and said friction reaction means each being disposed in contact with rolling elements of a layer of rolling elements, at least two layers of rolling elements being involved in these contacts, considering the latter collectively; and means imposing a compaction load on the rolling elements, to insure collective action thereof as a continuously traveling, power transmitting column.

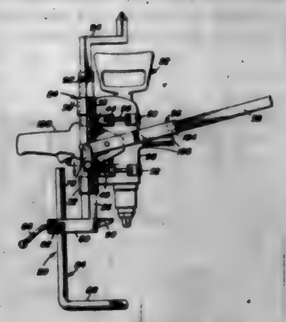
2,973,672
TIMER
James M. Thornbery, Youngstown, Ohio, assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed June 30, 1959, Ser. No. 823,972
20 Claims. (Cl. 74—813)



1. A means for locating a starting point on a timer comprising, a disc adapted to be rotated with the timer, a plurality of pins, means for movably supporting the pins adjacent the disc for movement towards and away from one face of said disc, means for selectively depressing one of the pins into engagement with the face of said disc to ride thereon, means for rotating the disc with relation to said pin and means on the disc to engage the depressed pin to prevent further rotation of the disc thereby stopping the disc at the selected starting point.

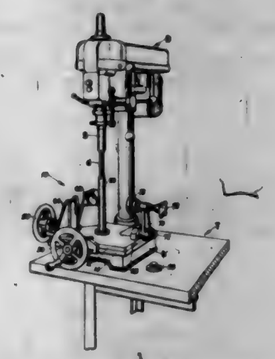
2,973,673
PORTABLE DRILL ATTACHMENT
Henry W. Gran, 7925 York Road, Baltimore 4, Md.
Filed Nov. 12, 1959, Ser. No. 852,420
7 Claims. (Cl. 77—7)

2. In combination with a portable drill having a casing, an attachable bracket having a wing portion and attaching bands with a strut extending between said bands, a forked lever, pivot elements secured to said bracket, said pivot elements supporting said forked lever, a draw rod connected to said forked lever, one of said pivot elements being attached to said wing portion of said bracket, the other pivot element being attached to said strut supported by said bracket attaching bands,



said pivot element being positioned on opposite sides of said drill casing.

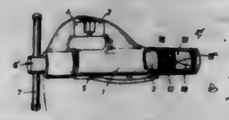
2,973,674
DRILLING FIXTURE FOR SPHERICAL OBJECTS
Joseph Anton Hladik, Cicero, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed May 28, 1958, Ser. No. 738,532
6 Claims. (Cl. 77—63)



1. A fixture for use with a drill to drill bowling balls comprising an upper plate, a removable ball support on said upper plate aligning said fixture relative to said drill, two fixed standards on said upper plate for engaging a bowling ball on said ball support, an arm pivotally mounted on said upper plate, a shaft threaded for movement in the free end of said arm, a knob on said shaft for rotating said shaft for movement in said arm, a snubber in pre-determined fixed ball-engaging position on each of said standards, a third snubber on the other end of said shaft for engaging said ball on said ball support upon rotation of said shaft in said arm, fixedly clamping said ball in pre-determined orientation in said fixture between said snubbers when said arm is in substantially vertical ball-clamping position, stop means on said upper plate for limiting the movement of said arm when in vertical ball-clamping position, said thread on said shaft being constructed and arranged to urge said arm against said stop as said shaft is rotated therein to move said third snubber into ball-engaging position, maintaining said arm in vertical ball-clamping position, a lower plate, keyways in said upper plate, keys secured to said lower plate and slidably accommodated in said keyways in said upper plate, an extension on said lower plate, a second shaft rotatably supported in said extension, a threaded lug secured to said upper plate, said lug adapted for movement

along said second shaft, a handwheel on said second shaft for rotating said second shaft whereby said upper plate is moved relative to said lower plate along said keyways, a bracket, said lower plate provided with an aperture slidably accommodating said bracket for movement substantially perpendicular to said keyways, a third threaded shaft, means on said bracket rotatably supporting said third shaft, a threaded second bracket secured to said lower plate, said threaded bracket adapted for movement along said third shaft, and a handwheel on said third shaft for rotating said third shaft whereby said upper and lower plates are moved together relative to and along said bracket in a direction substantially perpendicular to the direction of movement of said upper plate relative to said lower plate, the movement of said plates being operative to locate a bowling ball clamped between said standards at selected horizontal positions relative to said drill.

2,973,675
SCREW VICE
Nils Gösta Leonard Johansson, Norrköping, Sweden, assignor to Karl Elmer Person, Norrköping, Sweden
Filed Aug. 10, 1959, Ser. No. 832,567
2 Claims. (Cl. 81—17)



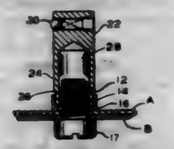
1. A device of the class specified comprising two jaws and two tubes in telescopic engagement with each other for supporting said jaws, and means for locking said tubes in desired axial positions with relation to each other, and in which said locking means comprises an expansible sleeve slidably positioned between said tubes and having walls formed with a wedge-shaped slit, an internally threaded cylinder, slidably mounted in said sleeve, a wedge-shaped member supported by said cylinder in engagement with the walls of said sleeve forming said slit for widening the sleeve to press it against the outer tube, and means for moving said cylinder axially, including an externally threaded spindle rotatably mounted in an inner tube of said two tubes and engaging by its threads into the internal threads of said cylinder; the further feature that the end portion of the inner tube is provided with walls forming a longitudinally extending slot of uniform breadth opening at the end of the tube, and that said cylinder is formed with a longitudinally extending lug of uniform breadth engaging said slot to lock the cylinder against rotation during the axial displacement thereof by rotating the spindle.

2,973,676
SLIDING PISTON-TYPE FLUID MOTOR-OPERATED NUT RUNNING TOOL
Gorman R. Nelson, Sioux Falls, S. Dak. (Canyon Lake Heights, Rapid City, S. Dak.)
Filed July 31, 1958, Ser. No. 752,358
8 Claims. (Cl. 81—52.4)



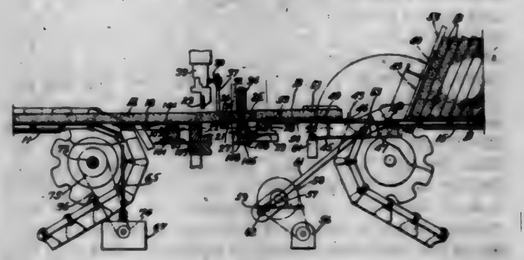
2. A nut running tool comprising a body member, a sliding, double-acting air motor on the body member and including a piston and a slidable rack secured to the piston, a pinion journalled in the body member and meshed with the rack, means controlling application and release of air pressure in the motor for controlling movement of the motor in both directions and also controlling forth and back movement of the rack, a rotary driving member for turning nuts and the like, means mounting the driving means on the body member, and rotary power transmitting means connecting the pinion to the driving member, whereby to turn the driving member through a predetermined arc and to seat the nut with a predetermined seating torque which may be controlled by the air pressure.

2,973,677
INTERNAL WRENCHING TOOLS
Kenneth Reiner, Box 2001, Terminal Annex, Los Angeles 54, Calif.
Filed July 21, 1958, Ser. No. 749,922
3 Claims. (Cl. 81—71)



1. A detachable coupling comprising the combination of a hollow-bodied driven member and a drive means detachably connected thereto; said driven member comprising a central tapered threaded sleeve, a spaced internally polygonal apron and a base integrally connecting said sleeve and said apron to provide a recess therebetween; said drive means comprising a body having an end of polygonal external configuration similar to that of said apron and of a size to fit closely internally of said apron, said body having a cavity in the end face thereof, said cavity being of such a length as to accommodate the length of said sleeve and the protruding end of a bolt to be associated with said sleeve, said cavity being of such cross-section and size as to progressively closely receive said tapered sleeve therein; whereby a maximum thickness of material is provided for applying a driving force to said driven member and whereby the wall of said cavity progressively contacts and grips the tapered sleeve and the exterior of said body engages the interior of said apron whereby a progressively tightening detachable coupling is formed upon insertion of said drive means into said recess.

2,973,678
CUTTING AND TRANSFER MECHANISM FOR GELATINOUS TREATING APPARATUS
John F. Scott, Oreland, and Charles E. Hoffman, Hatboro, Pa., and Robert E. Fink, Pennsauken, N.J., assignors to The Proctor-Silex Corporation, a corporation of Connecticut
Filed Apr. 25, 1957, Ser. No. 655,052
13 Claims. (Cl. 83—96)



1. Apparatus for treating gelatinous material and the like comprising; first conveying means operable to con-

vey a continuous sheet of material to be treated, second conveying means having its feed end spaced longitudinally from the discharge end of said first conveying means, a shear blade mounted adjacent the discharge end of said first conveying means operable to cut said continuous sheet of material into a plurality of uniform segments, a doffer plate positioned intermediate said shear blade and said first conveying means operable to engage the material at the discharge end of said first conveying means and guide the same to said shear blade, a shear pan positioned adjacent said shear blade at the opposite side of said shear blade from said first conveying means operable to receive the material cut by said shear blade, means mounting said shear pan for movement from a first limit position substantially in alignment with said doffer plate to a second limit position spaced downwardly from sad first limit position, a transfer table positioned intermediate said shear pan and said second conveying means, means pivotally mounting said transfer table adjacent the feed end of said second conveyor for pivotal movement from a plane substantially parallel to the plane of said first conveying means to a position upwardly adjacent said second conveying means, said transfer table operable to receive the cut pieces of material from said shear pan while in said first limit position and deposit the cut pieces of material on said second conveying means upon movement to said second limit position, and means operable to actuate said transfer table from said first position to said second position after operation of of said shear blade.

2,973,679
LEVER ACTUATED TRIMMING DEVICE HAVING TWISTED BLADES
Albert C. Flodstrom and Victor E. Leonardson, Putnam, Conn., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed June 13, 1957, Ser. No. 665,456
2 Claims. (Cl. 83—605)



1. A power cutting device comprising a block having a central hollowed-out portion, an opening in the base of the block communicating with the hollowed-out portion, a first slot extending inwardly of the upper front portion of the block and communicating with the hollowed-out portion, a second slot extending inwardly of the upper rear portion of the block communicating with the hollowed-out portion and in substantially aligned relation with the first slot, a first blade having an angularly disposed end portion fitted and secured within the first slot with said blade extending forwardly of said block, a second blade pivotally connected intermediate its ends to said first blade and having an end portion on the side of the pivot opposite its blade portion extending into said second slot with a part thereof extending into the hollowed-out portion, said blades both being curved in a sidewise direction and having a slight reverse bend in the direction of the longitudinal planes of the side surfaces thereof and having oppositely beveled engaging cutting edges so shaped as to have only a sliding point contact with each other throughout the length of their cutting strokes, a drive rod extending through said opening in the base of the block, an eccentric member on said rod lying within the hollowed-out portion of the block, link means connecting said eccentric member with the end part of said second blade which lies within said hollowed-out portion and means for imparting a rotary movement to said rod to bring about said cutting strokes.

2,973,680
PIANO CAPACITOR REACTOR
Charles Clifford Nolder, Corona Del Mar, and Leslie Phillips, Santa Ana, Calif., assignors to Electronic Pianos, Inc., Santa Ana, Calif.
Filed Aug. 8, 1955, Ser. No. 527,862
3 Claims. (Cl. 84—1.14)

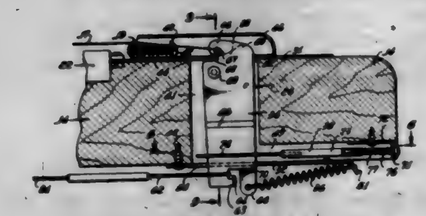


1. A tone reproduction system comprising a metallic frame, a set of strings strung on said frame and tuned to vibrate at different intervals when struck, said strings have a common electrical connection, an electric amplifying circuit comprising an electric capacitor element cooperable with the strings and forming with the strings a string capacitor, said capacitor element comprising an electric conductor having a thickness of the same relative magnitude as the diameter of the strings and a breadth many times the thickness, damping means comprising sheets of relatively stiff vibration damping and electric insulating material laminated to each other and to the electric conducting material on opposite sides thereof, and a plurality of mounts for said capacitor element comprising each vibration damping base of dielectric material on the frame, and an adjustable post on the base and connected to said damping means, and resilient cushion means between said capacitor element and the frame whereby to enable positioning of the capacitor element at different distances from the strings in response to adjustment of said posts.

2,973,681
APPARATUS FOR PRODUCING TREMOLO EFFECTS
Clarence L. Fender, 2212 E. Revere, Fullerton, Calif.
Filed June 8, 1959, Ser. No. 818,752
12 Claims. (Cl. 84—1.25)

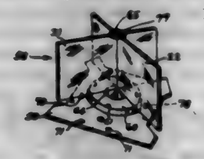
1. Apparatus for producing an effect in the nature of a tremolo relative to a musical source adapted to generate audio-frequency musical waves which are complex and rich in harmonics, which apparatus comprises first electric circuit means for selecting from a complex wave generated by said source a first band containing predominantly the higher-order harmonics present in said complex wave, second electric circuit means for selecting from the same complex wave generated by said source a second band overlapping said first band and containing predominantly the lower-order harmonics present in said complex wave, tremolo means associated with said first electric circuit means to amplitude-modulate the signals present in said first band at a predetermined tremolo frequency, tremolo means associated with said second electric circuit means to amplitude-modulate the signals present in said second band at the same predetermined tremolo frequency but in substantially out-of-phase relationship relative to the amplitude modulation of the signals present in said first band, and means associated with said tremolo means to transmit the amplitude-modulated signals in said first and second bands to loudspeaker means, whereby the listener to said loudspeaker means is alternately conscious of the signals in said first band and then in said second hand at said predetermined tremolo frequency.

2,973,682
STRING TENSION CONTROLLING MEANS FOR LUTE-TYPE INSTRUMENT
Clarence L. Fender, 2212 E. Revere, Fullerton, Calif.
Filed July 22, 1957, Ser. No. 673,309
25 Claims. (Cl. 84—312)



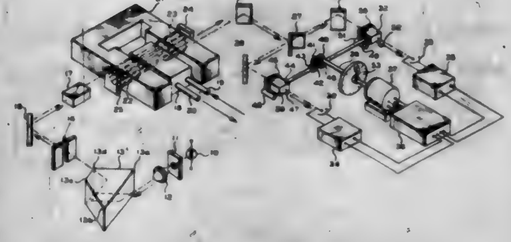
6. In a string-tension controlling means for a string of a musical instrument of the lute type, first and second plates fixedly mounted on said musical instrument adjacent one end of said string, a slot provided in said first plate, slot means provided in said second plate generally parallel to said slot, first and second lever plates extended through said first plate slot and through said slot means in said second plate, means to connect said second lever to said end of said string on one side of said first plate remote from said second plate, means to pivotally connect said first lever to said second lever on the other side of said first plate relatively adjacent said second plate, notch means provided in said first lever to effect rocking thereof on said first plate at one end of said slot therein, and actuating means to effect rotation of said levers and consequent change in the tension on said string.

2,973,683
DICHROIC MIRROR ASSEMBLY
Louis F. Rowe, North Woodstock, and Merton L. Smith, Woodstock, Conn., and Oscar W. Dillon, Sturbridge, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Aug. 12, 1957, Ser. No. 677,648
3 Claims. (Cl. 88—1)



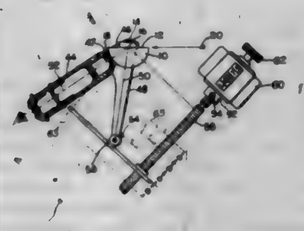
1. A device of the character described comprising a housing having a pair of spaced side walls and means connecting said walls together, one of said side walls having a pair of crossed slots extending therethrough in predetermined angular relation with each other and an enlarged opening at the intersection of the axes of said slots, a pair of interfitted crossed dichroic mirrors each of a thickness less than the width of said slots and having substantially the same crossed angular relationship with each other as that of said slots, supporting means for suspending said mirrors in a given established location within said housing between said side walls thereof, said supporting means embodying a cover plate detachably mounted exteriorly on said housing over said slots in the side wall thereof and having a platform carried thereby of a shape to intimately fit within said opening in said side wall and extending inwardly of said housing through said side wall and means securing said interfitted mirrors edgewise adjacent their axis of intersection onto said platform with said axis of intersection thereof located in a predetermined fixed position relative to the axis of said platform whereby said mirrors may be removed from said housing through said crossed slots as a unit along with said plate and platform and reinserted therein and held in their initially established location within said housing between said side walls.

2,973,684
MAGNETO-OPTICAL ROTATION ANALYZER
Robert G. Nisle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 11, 1956, Ser. No. 597,196
2 Claims. (Cl. 88—14)



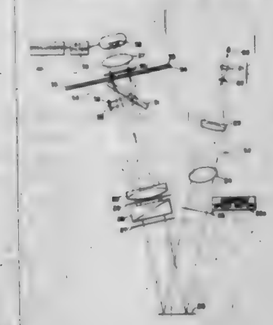
1. An optical analyzer comprising a sample cell having radiation transparent windows, a source of monochromatic radiation, a polarizer, means to direct a first beam of radiation from said source through said polarizer and then through said cell a plurality of times along substantially parallel paths, means to establish a magnetic field across said cell in a direction parallel to the direction of radiation passage through said cell, a mirror assembly positioned to divide said first beam after passage through said cell into second and third beams, a first analyzer for polarized light disposed in said second beam, a second analyzer for polarized light disposed in said third beam, said first and second analyzers being disposed with respect to one another so that transmission of one is a maximum when the transmission of the other is about one-half of maximum, a first radiation detector positioned to receive the second beam transmitted through said first analyzer, a second radiation detector positioned to receive the third beam transmitted through said second analyzer, means responsive to said first and second detectors to establish an output signal representative of the difference between the amounts of radiation received by said first and second detectors, and means responsive to said output signal to rotate said analyzers in unison so that said analyzers retain the same positions relative to one another to vary the relative amounts of radiation impinging upon said detectors until said output signal is zero.

2,973,685
REFRACTOMETER
Harold W. Strait, Irondequoit, N.Y., assignor to Bausch & Lomb Optical Company, Rochester, N.Y., a corporation of New York
Filed June 26, 1957, Ser. No. 668,094
7 Claims. (Cl. 88—14)



1. In a refractometer of the type including a refracting prism having a curved exit surface and a telescope movable relative to the prism and arranged for observing light emitted from the curved exit surface, the improvement comprising a sinusoidal drive mechanism connected between the telescope and the prism, said mechanism including a drive member, and a device including a scale having successive increments of equal size for measuring movement of said drive member, each scale increment corresponding to an equal movement of said drive member, and movement of the telescope being a sine function of movement of said drive member.

2,973,686
APPARATUS FOR SPECTROPHOTOMETRIC MONITORING OF THIN FILM COATINGS
Marc G. Dreyfus, Van Nuys, and Cedric M. Poland, Sherman Oaks, Calif., assignors to General Precision, Inc., a corporation of Delaware
Filed Oct. 11, 1957, Ser. No. 689,705
3 Claims. (Cl. 88—14)



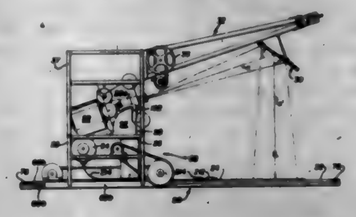
1. Apparatus for spectrophotometric monitoring of thin film coatings on a sample comprising a rotating polarizer for directing a light beam having a synchronously varying polarization on said sample, a Wollaston prism interposed in the path of said beam for separating said beam into two separate beams polarized orthogonally to each other, an interference wedge interposed in the path of said two separated beams adapted to transmit a different selected narrow band of wavelengths from each of said two beams, photo-electric means positioned to receive said two separated beams and to convert the light energy contained in said two separated beams into two separate electrical signals, and means for observing the comparative intensities of said electrical signals.

2,973,687
METHOD FOR DETERMINING CRYSTALLOGRAPHIC ORIENTATION OF SINGLE CRYSTALS
Philip R. Pennington, Inglewood, and John D. Turner, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 2, 1958, Ser. No. 725,960
4 Claims. (Cl. 88—14)



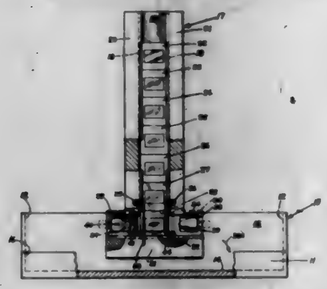
1. The method of orienting a single crystalline body of silicon with respect to the (111) crystallographic plane therein comprising the steps of: etching a surface of said body with a boiling solution of sodium hydroxide having a concentration of from about 35% to about 45% for up to about three minutes to thereby develop said (111) crystallographic plane in preference to other crystallographic planes; illuminating said etch-developed (111) crystallographic plane whereby the reflected illumination from said plane forms an optical image having substantially the configuration of a circle with a small dot in the center thereof; and referencing the plane of said body parallel to the plane of reflection of said image.

2,973,688
ADJUSTABLE PATTERN PROJECTING MACHINE
Dezso Bilibok, 2042 Broadway, Redwood City, Calif.
Filed May 12, 1958, Ser. No. 734,628
6 Claims. (Cl. 88—24)



5. Arrangement for projecting the image of a pattern at a selected width and length out of a range of selectable widths and lengths upon a piece of cloth comprising a table having a flat top surface upon which a piece of cloth may be spread, a carriage arranged for movement across said table, a projector mounted upon said carriage for movement therewith and including a mechanism for passing a film band having patterns marked thereon through said projector, a mirror, means for supporting said mirror from said carriage in front of said projector and above said table to deflect the light beam emitted by said projector onto the surface of said table and thus create a light field thereon, manually operable means for adjusting the height of said mirror above said table to vary the size of the light field projected upon said table so as to adjust the width of any pattern image exhibited therein, means operable to effect movement of said carriage across said table, and manually adjustable transmission means supported from said carriage and actuated by movement of said carriage across said table for actuating said mechanism to pass a film band through said projector at a selected speed relative to the speed of movement of said carriage across said table so as to move the image of any pattern on said film band at a selected speed through the light field onto said table as said moving carriage causes said field of light to travel across said table.

2,973,689
APPARATUS FOR PROJECTING SLIDES
Ralph E. Bailey, Lincoln County, S. Dak. (Rte. 1, Box 376, Sioux Falls, S. Dak.)
Filed Oct. 23, 1957, Ser. No. 691,884
2 Claims. (Cl. 88—28)



1. In combination, an elongated rectangular vertical rack having slide edge embracing grooves for supporting a column of vertically positioned slides, a horizontally grooved plate positioned below and in spaced relation to said rack, a pair of wire guides depending from said rack near said plate, a pusher means having a portion thereof extending into the area above said plate and below said rack mounted for horizontal reciprocating motion adjacent to said plate, means connected to said pusher means for reciprocating it leftwardly and rightwardly, dual projectors secured at left and right of said vertical rack, and a switch mechanically linked to the mechanism for actuating said pusher assembly for actuating said projectors alternately in cooperation with said pusher bar.

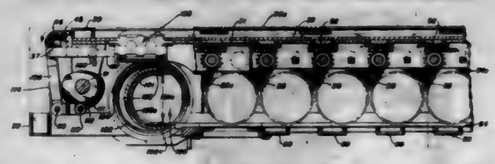
2,973,690
SPECTACLE BRIDGE CONSTRUCTION
Frank W. Lindblom, Warwick, R.I., assignor to Welsh Manufacturing Company, a corporation of Rhode Island
Filed Sept. 26, 1957, Ser. No. 686,370
1 Claim. (Cl. 88—43)



An ophthalmic mounting comprising lens rims having non-metallic upper portions with slots in generally the plane of the lenses at their nasal edges and a metallic bridge between said rims with its opposite edge portions in said slots, said bridge having a central portion extending downwardly beyond said slots and provided with substantially parallel edges engaging the edges of the inner nasal edges of the lens rims and spurs on said bridge extending downwardly and into the rims and spaced outwardly from said central portion and each substantially parallel to an adjacent edge of said central portion to co-act therewith and bind a portion of said rim between the rim and spur to prevent movement of the rims relative to bridge in substantially the plane of the lens rims.

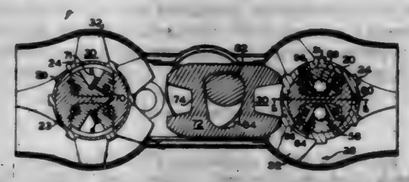
2,973,691
MISSILE LAUNCHER
Herbert Goldsmith, 1368 Van Buren St. NW., Washington, D.C.
Filed Feb. 28, 1950, Ser. No. 146,891
4 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A missile launcher comprising a missile magazine for continuously feeding missiles positioned therein to loading position at a desired constant, uniform, and uninterrupted rate during operation of the launcher, a missile launching barrel comprising an inner missile guide tube and an outer gate tube substantially circumscribing while engaging only a portion of said inner tube with each tube being rotatable relative to the other, a barrel loading means operating to impel each missile as fed thereto by said magazine to said barrel, means for synchronizing the sequence of operation of said loading means with the rate of operation of said magazine, each of said barrel tubes having an opening formed therein, means for correlating gate tube rotation with the rate of contemporaneous operation of said magazine to position said gate tube and guide tube openings respectively in registry and directed toward said loading means with the impelling of each missile toward said barrel



to enable the entry thereof into said barrel and further operative to place said openings out of registry upon the loading of a missile into said barrel to facilitate the launching of each missile on being loaded, means controlled by the relative position of said barrel tubes for thereupon firing missiles loaded in said barrel, and guide tube rotating means selectively operable for bringing said gate tube and guide tube openings into registry at a position directed away from said loading means to enable the desired jettisoning of a missile positioned in said barrel and for returning said guide tube to normal operating position to enable the continued loading and launching of missiles, thereby providing for the feeding, loading, and launching of missiles positioned within said magazine and the selective jettisoning of dud missiles loaded in said barrel.

2,973,692
SINGLE-SHUTTLE TWIN-BARREL GUN
Samuel Altschuler, Skokie, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 8, 1957, Ser. No. 639,142
4 Claims. (Cl. 89—33)



1. In a gun having a receiver, a pair of barrels spaced laterally in the receiver, a piston slidingly mounted in a cylinder, duct means providing communication between said barrels and said cylinder to reciprocably actuate said piston when said barrels are alternately discharged, a pair of anvils mounted to the rear end of the receiver in axial alignment with respective ones of said barrels and in spaced relationships with the breech ends thereof to receive a cartridge therebetween at a firing station respective to each of said barrels, a firing pin mounted to each one of said anvils for discharging the cartridge when in the respective one of the firing stations, a pair of sprockets rotatably mounted to the receiver for feeding said cartridges linked to form a pair of belts to respective ones of said firing stations, a shuttle mounted for lateral move-

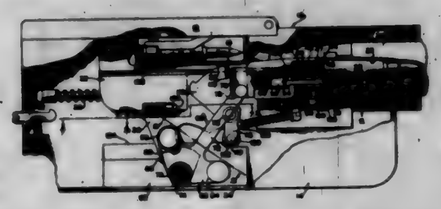
ment in the receiver to cooperate with alternate cases of said anvils and said sprockets for chambering said cartridges for discharge when in said firing stations, and piston-actuated cam means for simultaneously actuating said sprockets and said shuttle to feed said cartridges to alternate cases of said firing stations and chamber said cartridges therein.

2,973,693

LOADING, FIRING AND UNLOADING MECHANISM FOR A FIREARM WITH A LATERALLY ACTUATED BREECH CLOSURE

Richard H. Culley, South Hadley, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 7, 1959, Ser. No. 845,843
7 Claims. (Cl. 89—169)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a firearm having a receiver, a barrel mounted in the receiver and provided with a chamber for the discharge of a cartridge having an annular rim adjacent the base thereof and a breech member slidingly disposed in the receiver adjacent the barrel chamber for lateral reciprocation between a breech open and a breech closed position responsive to forces produced by the discharge of the cartridge in the barrel chamber, a loading and unloading mechanism including a carrier slidingly disposed in the receiver for longitudinal reciprocation between a rearward position and a forward position adjacent the breech of the barrel, a rammer extending integrally forward from said carrier, an extractor pivotally disposed on said carrier for forward extension therefrom to co-engage with said rammer the rim of the cartridge when in the barrel chamber for removing the fired case of the cartridge therefrom during movement of said carrier to the rearward position thereof and for maintaining the fired case longitudinally disposed during the recoil travel of said carrier, and a clearance formed between said extractor and rammer for passage of the breech member to the breech closed position when said carrier is in the forward position thereof and said rammer and extractor are in co-engagement with the rim of the chambered cartridge.

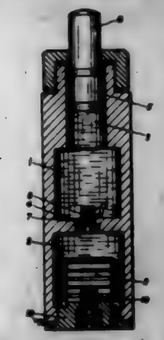
2,973,694

BUFFER FOR AUTOMATIC FIREARMS

Friedrich Herlach, Friedrich Linder, and Wilhelm Spalding, Zurich, Switzerland, assignors to Machine Tool Works Oerlikon, Administration Company, Zurich-Oerlikon, Switzerland, a company of Switzerland

Filed Feb. 3, 1958, Ser. No. 713,814
Claims priority, application Switzerland Feb. 8, 1957
2 Claims. (Cl. 89—198)

1. A liquid resilient buffer for an automatic fire-arm comprising in combination, a main reservoir containing a resilient liquid under pressure, a plunger movable axially in said main reservoir and fixedly connected to a piston rod extending from said main reservoir, a compensating reservoir also containing a resilient liquid, valve means connecting said two reservoirs, said valve means comprising a valve seat and a valve body, said valve body being situated between said valve seat and said main reservoir to prevent the flow of resilient liquid from said main reservoir to said compensating reservoir and to permit flow in the opposite direction and an expansible pressure container containing a compressed



gas, to compensate any pressure loss of said resilient liquid in said main reservoir from said compensating reservoir.

2,973,695

ELECTRIC CONTROL FOR COPYING MACHINES

Wolfgang Schmidt, Gagny, France, assignor to Societe Automatic, Paris, France, a company of France

Filed July 28, 1958, Ser. No. 751,493
Claims priority, application Germany July 23, 1952
9 Claims. (Cl. 90—13.5)

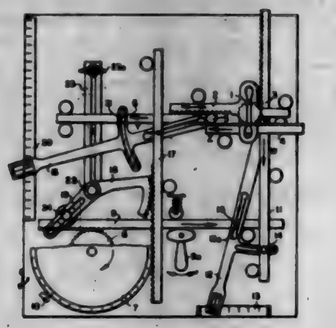
1. In a machine tool, in combination, carriage means movable at any given instant in one of seven different directions; moving means cooperating with said carriage means moving the same at any given instant in one of said seven different directions; at least four electrical actuating means cooperating with said moving means for actuating the same to move said carriage means at any given instant in one of said seven different directions depending upon which of said actuating means is energized at said instant; switch means comprising a plurality of contacts and movable contact means movable away from and back toward a rest position and cooperating to a plurality of predetermined positions in which said movable contact means cooperates with said actuating means for sequentially energizing all of electrical actuating means but not more than two at one time during movement of said switch means away from said rest position thereof; and feeler means capable of being deflected from a rest position by cooperation with a template and cooperating with said movable contact means, means for moving the latter away from said rest position thereof to said predetermined positions, respectively, depending on the degree of deflection of said feeler means so that the direction of movement of said carriage means is determined only by the degree of deflection of said feeler means.

2,973,696

DEVICE FOR PRODUCING CAM SURFACES WITH MERGING SINE-SHAPED PORTIONS

Ferdinand Hecht, Lambalde 14, Stuttgart, Germany

Filed Jan. 14, 1957, Ser. No. 634,833
Claims priority, application Germany Jan. 14, 1956
13 Claims. (Cl. 90—15)



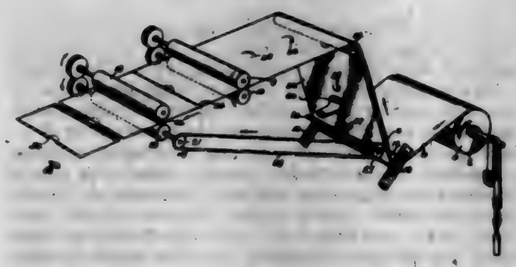
3. A device for producing cams with transition surfaces following the law of the inclined sine graph, which comprises in combination: a pivot arranged for uniform clockwise rotation along a circle having a radius of $H/2\pi$, where H is the stroke, a cross loop having a slot engaged by said pivot for imposing an inclined sine oscillation of the amplitude $H/2\pi$ upon said cross loop, a gear arranged for synchronous rotation with said pivot and having a pitch diameter equaling the diameter of the circle along which said pivot rotates, said gear being arranged for rotation in the same direction as said pivot, a rack, means for guiding said rack parallel to the direction of reciprocation of said cross loop, said gear meshing with said rack for moving the latter uniformly in longitudinal direction parallel to the direction of reciprocation of said cross loop, an accumulator wheel drivingly engaged by said cross loop and said rack for receiving a combined movement composed of said inclined sine-shaped straight line reciprocating movement of said cross loop and said uniform straight line movement of said rack, an output rod linked to said accumulator wheel, a marking element, and means operatively connected to said rod for actuating said marking element.

2,973,697

METHOD OF AND APPARATUS FOR PRODUCING THUMB-NOTCHED BAG LENGTHS, EACH NOTCH BEING CONFINED TO ONE WALL OF EACH BAG LENGTH

Bernard Lerner, Bayside, N.Y., assignor to Custom-Made Paper Bag Co., Inc., Long Island City, N.Y., a corporation of New York

Filed May 22, 1956, Ser. No. 586,594
3 Claims. (Cl. 93—8)



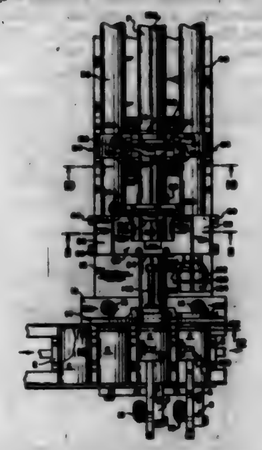
1. The method of successively producing thumb-notched bag lengths from thin, thermoplastic tubing, each notch being confined to one wall of each bag length, the other wall being left intact, which method comprises continuously advancing the tubing lengthwise; progressively temporarily sealing the advancing tubing transversely at areas spaced from each other longitudinally of the tubing; introducing pressure fluid successively through one wall of the tubing between successive sealed areas to inflate the tubing; forming a curved incision in one wall of successive inflated areas; and subsequently severing the tubing transversely into successive bag lengths along a line intersecting the two ends of each curved incision.

2,973,698

BATTERY LINING MECHANISM

Matthew Orlando, 573 Pearl St., Oceanside, N.Y., assignor to Matthew Orlando, Oceanside, and Leonard Schuh, Portchester, N.Y.

Filed Nov. 29, 1957, Ser. No. 699,564
18 Claims. (Cl. 93—36.01)



1. Means for forming a liner for a dry cell comprising a stationary tube, means to position a can in axial alignment with the tube, means for delivering paper in sheet form to the tube and forming it into a cylinder on the tube, a die member mounted at the end of the tube, a reciprocating frame mounted on the tube, a second die member carried by the frame and surrounding the tube, and means carried by the frame to feed the cylinder of paper along the tube and into the can, the second die member surrounding the first die member when the frame is reciprocated to sever the portion of the paper cylinder forwardly of the tube from the portion on the tube.

2,973,699

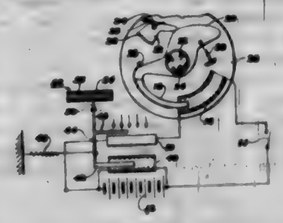
APPARATUS FOR COMPENSATING BATTERY DECAY

Hubert Norwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 2, 1958, Ser. No. 746,176
9 Claims. (Cl. 95—10)

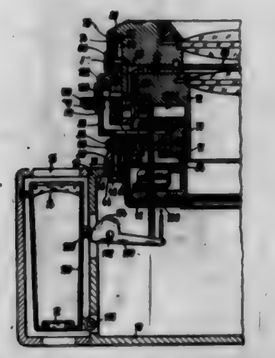
1. In a camera having: (1) a power source whose voltage output decreases with time; (2) a photoelectric cell for receiving light from a viewed scene; and (3) an exposure control system connected to and controlled jointly by said photoelectric cell and said power source for varying at least one exposure factor in response to changes in the intensity of said light; the combination comprising: a mask interposed between said scene and said cell and adapted for movement relative to said cell for exposing a varying portion of said cell to said scene;

and a device connected to and controlled solely by said power source for moving said mask relative to said cell



in response to a decrease in the voltage output of said power source.

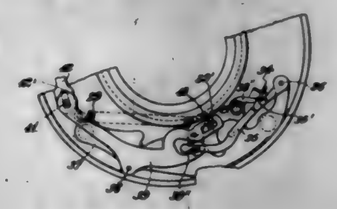
2,973,700
PHOTOGRAPHIC CAMERA
Kurt Gebele, Munich, Germany, assignor, by mesne assignments, to Compur-Werk Friedrich Deckel OHG, Munich, Germany, a corporation of Germany
Filed Dec. 27, 1955, Ser. No. 555,720
Claims priority, application Germany Dec. 28, 1954
8 Claims. (Cl. 95—44)



1. A photographic camera comprising, a frame adapted to selectively mount any one of a number of differing adjustable interchangeable objectives, each objective being rotatable in said frame and having a stop surface, a view finder associated with said frame, a shutter and shutter housing aligned with said objective, said shutter housing being mounted in said frame, and a transmission pin supported in the shutter housing and extending therethrough parallel to the optical axis thereof, with one end of said pin in contact with the objective stop surface, said pin being axially displaceable with respect to said particular adjustable interchangeable objective mounted in said frame by rotation of said objective during attachment thereof to said frame for moving the stop surface thereon in contact with the end of said pin, for correspondingly controlling the position of said view finder for the particular interchangeable objective.

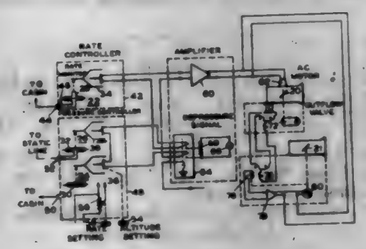
2,973,701
PHOTOGRAPHIC INTRA-LENS SHUTTER WITH DELAYED ACTION DEVICE
Karl F. Reutschler, Calmbach, Enz, Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach, Enz, Germany, a corporation of Germany
Filed Aug. 19, 1954, Ser. No. 451,017
Claims priority, application Germany Sept. 8, 1953
10 Claims. (Cl. 95—53.6)

1. In a photographic shutter, a spring-charged shutter blade drive mechanism adapted to be cocked and having a transmission including a transmission member which moves simultaneously with opening of the shutter blades; means including an abutment engageable with said transmission member of the transmission, for releasably locking the drive mechanism against movement to open the shutter; an actuator-type spring-powered delayed-action device adapted to be cocked with the spring thereof charged and to run down thereafter, said device having sufficient power for actuating said locking means to release the same; and a mechanical coupling having two movable members and a spacing-type lost-motion driving connection between said members, for effecting a drive between the delayed-action device and releasable locking means, said coupling providing for releasing ac-



tuation of the locking means by the delayed-action device only after a minor interval of free running of the latter and free movement of one of said two movable members, during which interval the locking means remains stationary, thereby to delay release of the said transmission member of the shutter drive mechanism, said lost-motion driving connection and releasable locking means including a driven movable part for actuating said abutment and for providing a reduction in movement and an increase in power of the abutment at the point of engagement of the abutment with the transmission member, said movement and power being considered with respect to driven portions of said driven movable part.

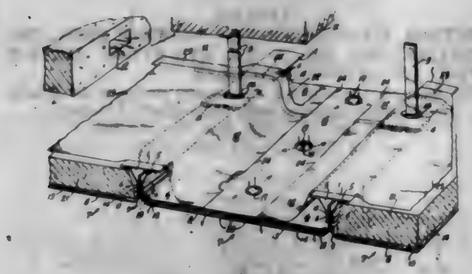
2,973,702
CABIN PRESSURIZATION SYSTEM USING A.-C. POWER
John H. Andresen, Jr., Greenwood Lake, N.Y., assignor to Kollsman Instrument Corporation, New York, N.Y., a corporation of New York
Filed Mar. 19, 1957, Ser. No. 647,102
20 Claims. (Cl. 98—1.5)



1. In a cabin pressurization system comprising a pressurized cabin, means for forcing air into said cabin and exhaust valve means communicating between the interior and exterior of said cabin and controlling the exhaust of air therefrom; a first transducer device including means responsive to cabin pressure and having an output A.-C. voltage continuously related to cabin pressure, a second transducer device including means responsive to rate of change of cabin pressure and having an output A.-C. voltage continuously related to rate of change of cabin pressure, and a reversible A.-C. motor constructed to rotate in a first direction responsive to a first phase energization and in a second direction responsive to a second phase energization; said A.-C. motor being operatively connected to said exhaust valve means to move said

exhaust valve toward a more open position or more closed position responsive to rotation of said A.-C. reversible motor in said first or second direction respectively; said first and second transducer output voltages being connected in series opposition and in series with said reversible A.-C. motor, the combined outputs of said voltages energizing said A.-C. reversible motor in said first phase relationship when cabin pressure is too high and in said second phase relationship when cabin pressure is too low.

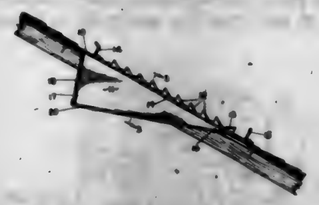
2,973,703
AIR REGULATION MEANS IN A SOUND ABSORBING AND VENTILATING CEILING
William A. Jack, Hampton, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed June 6, 1957, Ser. No. 664,847
2 Claims. (Cl. 98—40)



1. A ceiling construction for a room compartment comprising a construction providing a true ceiling of said room compartment, a plurality of juxtapositioned pans, means to suspend the pans from the true ceiling so as to form a viewable false ceiling with a plenum chamber formed between the two ceilings, each of said pans having perforations in a major face thereof, an air-impervious paper-thin septum situated within one of the pans, means to space the septum from the subjacent major face of its pan and related to its pan so as to provide a compartment beneath said septum, pads seated within the other juxtapositioned pans, a second air-impervious paper-thin septum superimposed over the acoustical pads and their subjacent pans and joined to said first septum in a relatively airtight arrangement thereby having the pans with the acoustical pads therein pneumatically sealed off from the remainder of the plenum chamber and also effectively pneumatically isolated from said compartment, means to introduce pressurized, ventilating air into the plenum area above the contiguous septums, and said first-mentioned septum having an orifice therein permitting the ventilating air thereabove to pass therethrough into said compartment and subsequently through the perforations of the subjacent pan.

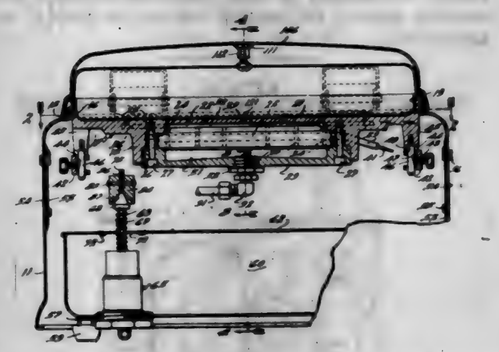
2,973,704
ROOF VENTILATOR
John C. Flanagan, 97 Ellsworth Ave., Toronto, Ontario, Canada
Filed July 29, 1957, Ser. No. 674,732
8 Claims. (Cl. 98—42)

1. A ventilator for use on a sloping roof comprising a substantially rectangular panel including an upper edge and a lower edge, adapted to lie flush upon the upper surface of the roof, with the upper edge parallel with the ridge of the roof and closer thereto than the lower edge when said panel is in an operative position, said panel having at least one elongate struckup portion forming a louver consisting of an upper wall, the plane of which is directed upwardly toward the upper edge of said panel to form a deflector over the opening formed by the struckup portion, tending to prevent entry of snow and the like into the opening when blown upwardly along the roof, and a duct depending from said panel and underlying said louver; said duct comprising, triangular shaped



sidewalls depending from said panel, a downwardly and forwardly inclined bottom wall merging with said panel adjacent its lower edge, an open wall at the opposite end thereof, and a front discharge opening adjacent said merged panel and bottom wall to enable draining onto the roof of any liquid flowing on said bottom wall.

2,973,705
MOISTENING AND HEATING DEVICE
William F. Klemm, 17570 Prairie Ave., Detroit, Mich.
Filed Jan. 7, 1955, Ser. No. 480,539
10 Claims. (Cl. 99—234)

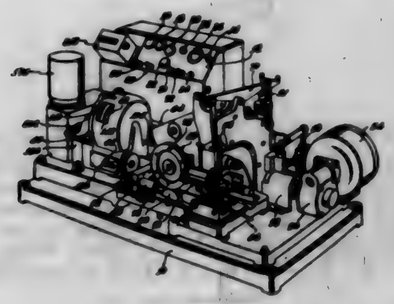


2. A tray and steam forming unit embodying an element having an article receiving recess in the top and stepped recess portions in the bottom forming a downwardly presenting shoulder, a heating unit engaging said shoulder to form a superheating chamber thereabove, a plate engaging said heating unit and retaining it against the shoulder while leaving an open space therebelow forming a steam generating chamber, and a nozzle on said plate for admitting water into the last chamber.

2,973,706
WIRE-STAMPING AND CUTTING MACHINE
Lewis A. Kingsley, Beverly Hills, Calif. (% Kingsley Stamping Machine Co., 850 Calzaega Blvd., Hollywood 38, Calif.)
Filed Feb. 17, 1958, Ser. No. 715,599
10 Claims. (Cl. 101—11)

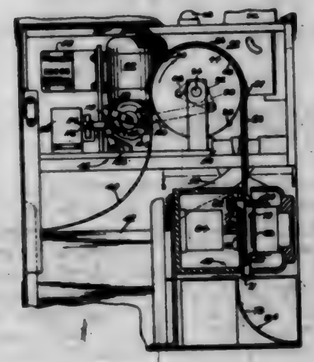
2. Apparatus for cutting wire in predetermined lengths comprising means for establishing a path having a length representative of a predetermined length of wire, a traveling gear positioned at a starting end of said path, means for moving said traveling gear reciprocally from one end to the other of said path, a wire-cutting device, means for pulling wire through said wire-cutting device, means for stamping identifying characters at spaced distances along said wire as it is being pulled through said wire-cutting device, means for simultaneously actuating said

means for pulling wire and said means for stamping, means for driving said means for moving said traveling gear from said means for pulling wire, first switch means positioned at said one end of said traveling gear path to be actuated by said traveling gear when at said one end of said path, second switch means positioned at said other end of said traveling gear path to be actuated by



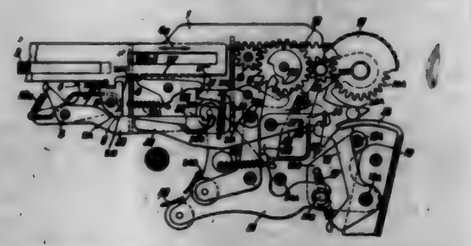
said traveling gear when at said other end of said path, means responsive to actuation of either said first switch means or said second switch means to operate said wire-cutting device, and means responsive to termination of further wire cutting by said apparatus to return said traveling gear to the starting end of said path if not already there.

2,973,707
TICKET PRINTING AND ISSUING MACHINE
Henry A. Crivelli, 62 Monroe St., Belmont, Mass.
Filed Dec. 10, 1958, Ser. No. 779,448
2 Claims. (Cl. 101—66)



1. A ticket issuing machine comprising a housing metering drum means mounted for rotation within said housing, stamping means including a printing head, an inked tape in association therewith, a pressure platen movable with respect thereto, a stationary blade and a moving blade coacting therewith and movable with said pressure platen, said stamping means defining a path through which a strip of tickets is fed from said drum, said path lying in a plane that is tangential to the circumference of said metering drum means, said housing providing an opening adjacent to said stamping means through which a ticket may be removed from within said housing, ratchet means constrained for rotation with said metering drum means, mounting plate means journaled about the axis of said drum means, pawl means pivoted with respect to said mounting plate means for coaction with said ratchet means, metering cam means rotatable about a first axis, said metering cam means providing a notch latch means rotatable about a second axis, pin means on said metering cam means, resilient means connected between said latch means and said metering cam means, said resilient means tending to draw said latch means into abutment against said pin means, said latch means covering a notch in said metering cam means when said latch means is in abutment against said pin means, pawl means pivoted in said housing to follow said metering cam means, said pawl means being in mesh with said notch when said machine is deactuated, drive means for said metering cam means, switch means for removing said pawl means from said notch in order to permit said latch means to cover said notch and for energizing said drive means to permit said metering cam means to rotate through one cycle, and link means connecting said metering cam to said drum.

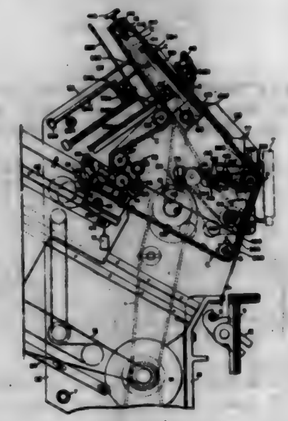
2,973,708
CONTROL MEANS FOR THE NUMBER PRINTING MECHANISM OF A CALCULATING DEVICE FOR AN OFFICE MACHINE
Willy Becker, Duesseldorf, Germany, assignor to Rheinmetall Aktiengesellschaft, Duesseldorf, Germany
Filed Jan. 29, 1958, Ser. No. 711,840
3 Claims. (Cl. 101—95)



1. Control means for the number printing mechanism of a calculating device of an office machine, comprising a series of reciprocably mounted bars, a corresponding series of printing devices having means for printing figures, each printing device being operable by one of the bars to dispose a selected figure in printing position, a reciprocably mounted slider for imparting a predetermined sliding movement to each bar equivalent to the value of one figure of a number calculated by the said calculating device, a rocking arm connecting each rack with its associated slider and means operable by rocking movement of said arms on the completion of said predetermined sliding movement of the racks to effect the operation of the printing devices to print the selected figure.

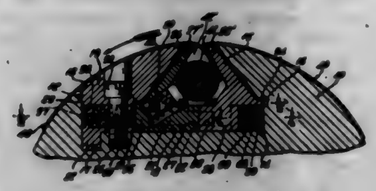
2,973,709
SHEET FEEDING DEVICES
Derk J. Oldenboom, Johnson City, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application July 22, 1953, Ser. No. 369,708, now Patent No. 2,813,715, dated Nov. 19, 1957. Divided and this application May 14, 1957, Ser. No. 659,037
4 Claims. (Cl. 101—287)

1. In a sheet feeding device, a platen, a printing means, endless conveyors for bringing the sheets successively to the platen, said platen being positioned within the confines of said conveyors which are trained thereabout, means for shiftably mounting said platen within said conveyors, means for adjusting the tension in the conveyors, means for shifting the platen relative to the printing means to accommodate different sheet thicknesses, means for interconnecting said conveyor tension means with



said platen shifting means, and a common operating device for the adjusting and shifting means.

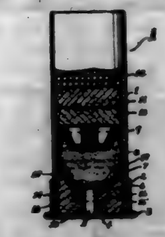
2,973,710
PRINTING PRESS ROLLERS
George Hantsche, 19 Prospect Ave., Tuckahoe, N.Y.
Filed Mar. 14, 1958, Ser. No. 721,527
9 Claims. (Cl. 101—415.1)



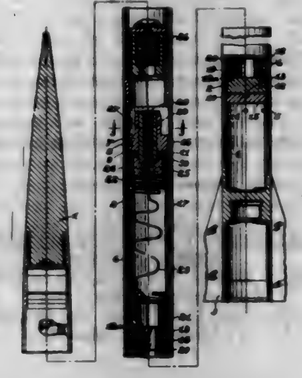
1. A printing roller for attachment of a peripheral printing plate, comprising a cylindrical roller member having a longitudinal channel in the surface thereof, printing plate holding means within said channel for engaging and holding said plate on the surface of the roller and single elongated camming means slidably disposed within said channel and extending substantially throughout the length of the roller, said camming means slidably engaging the walls of said channel and said holding means and said camming means having at least two sets of reversely acting portions and being longitudinally movable within said channel to adjust the angular skew position of the holding means relative to the axis of the roller.

2,973,711
BASE WAD OVERLAY
Homer E. Clark, Jr., Alton, Ill., assignor to Alcan Company, Incorporated, Foster Township, Ill., a corporation of Illinois
Filed Feb. 4, 1959, Ser. No. 791,879
4 Claims. (Cl. 102—43)

1. In a shotgun cartridge having a primer and a base wad surrounding said primer, a base wad overlay of molded thermoplastic construction for wedging, gas-sealing disposition between the primer and the base wad comprising a generally funnel-shaped body for disposition upon said base wad, there being a cylindrical base portion in the narrow end of said body having an opening therethrough for engaging said primer throughout a portion of its length and for disposition between the same and the base wad, said base portion having an upwardly opening recess at its upper end in radially spaced relationship to the opening, being concentric with said opening and forming a lip portion for engagement with said primer so that a relatively thin, limitedly expansible wall portion intervenes between the said recess and the opening.

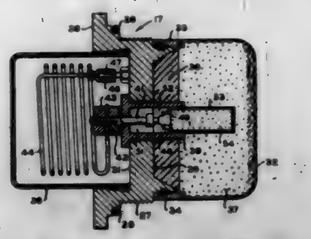


2,973,712
HIGH ALTITUDE SOUNDING PROJECTILE
Yonatan Schalit and James J. Digby, Elmira, and Robert J. Covert, Montour Falls, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed Feb. 11, 1959, Ser. No. 792,566
6 Claims. (Cl. 102—63)



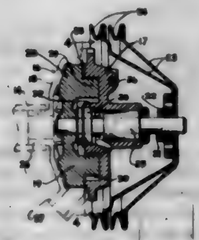
1. A meteorological projectile comprising a nose section, a hollow body section and a tail section closing the rear of the body section, frangible means for attaching the tail section to the body section, a plurality of packages of chaff in said body section, retained therein by the tail section, means including a compression spring for ejecting the chaff from the body section, when the tail section is removed, explosive means for blowing off the tail section of the projectile to permit ejection of the chaff by said spring means, a tubular casing enclosing the packages of chaff protecting the chaff from said explosive charge, but permitting passage of the products of explosion to force the tail section from the body section, a plug closing the rear end of said tubular casing, and a split cylindrical sheath surrounding said packages of chaff, slidable in said tubular casing and bearing against said plug; said ejecting means including a thrust member bearing against the forward end of said sheath, and actuated by said spring to slide the sheath and chaff out of the tubular casing when the tail section is severed from the body section of the projectile.

2,973,713
IGNITION OF SOLID ROCKET PROPELLANTS
Joe M. Burton, Springfield, Va., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 31, 1957, Ser. No. 706,528
3 Claims. (Cl. 102—70)



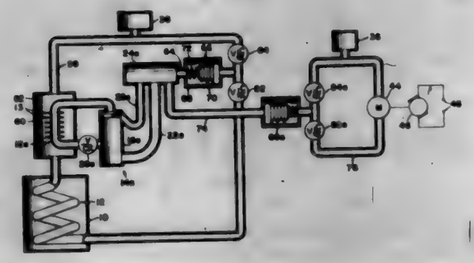
1. In an igniter assembly for a rocket motor comprising, in combination, an igniter plug having an inner and outer face; ignition sustainer material positioned against the inner face of said plug; a perforated container attached to the inner end of said plug; and igniter material disposed within said container and in contact with said ignition sustainer material; an igniter initiator comprising a tubular casing axially passing through said plug and connected thereto, a contact pin axially positioned within said casing and extending therefrom away from said outer face; insulation material filling one end of said casing and surrounding a portion of said contact pin, a primer composition filling a portion of said casing in proximity to the inner end of said contact pin, a perforated sleeve connected to said casing and extending therefrom into said igniter material, the outer end of said sleeve being closed, and an initiator composition filling said sleeve and in contact with said primer whereby ignition of the latter results in ignition of the former.

2,973,714
HYDRAULICALLY POWERED WINDSHIELD WIPER SYSTEM
John R. Oishei, Buffalo, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Mar. 1, 1957, Ser. No. 643,443
3 Claims. (Cl. 103—5)



1. A compound pump means including a front housing, a rear housing, a pump element enclosed by said housings, and a shaft rotatably supported in said front housing, said shaft having said pump element affixed thereto at one end and shaft rotating means affixed thereto at the opposite end, said pump element having an impeller blade portion arranged to receive coolant and to discharge coolant through a first outlet and also having a sliding blade portion arranged in said front housing, and means for diverting a given amount of such coolant to said sliding blade portion for delivery under pressure through a second outlet.

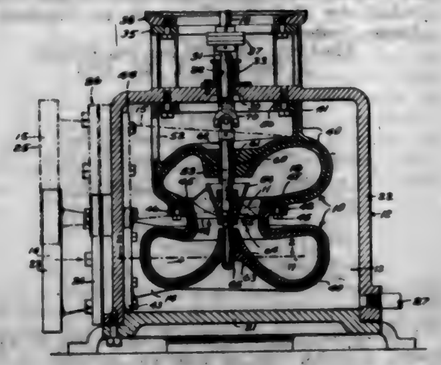
2,973,715
ELECTRICAL GENERATING SYSTEMS
Calvin D. MacCracken, Tenafly, N.J., assignor to Jet-Heet, Inc., Englewood, N.J., a corporation of New York
Filed Aug. 1, 1955, Ser. No. 525,596
11 Claims. (Cl. 103—44)



1. A system for circulating a liquid through a heat exchanger comprising, a liquid-conducting circuit defining a closed path for conducting liquid around said closed path in one direction, said circuit communicating with said heat exchanger, means defining a chamber in said circuit located above said heat exchanger into which heated liquid can flow in said one direction from said heat exchanger by thermogravitational circulation, whereby the conduction of liquid in said circuit commences upon the introduction of heat into said heat exchanger, a heat-actuated pump unit comprising a vaporizer within which to vaporize liquid by heating, a condenser within which to condense vaporized liquid and coupling means connecting said vaporizer and said condenser through which to transfer liquid and vapor therebetween, said pump unit being filled with a liquid adapted to boil at a lower temperature than the boiling point of the liquid in said circuit, a pair of check valves in serial relationship in said circuit, said check valves both conducting in said one direction, means connecting said pump unit to said circuit at a point between said check valves and into which to withdraw liquid from said circuit through one of said valves during condensation of vapor in said pump unit and from which to discharge liquid into said circuit through the other of said valves during vaporization of liquid in said pump unit, said vaporizer being in heat exchange relationship with the liquid in said chamber to receive heat from the liquid in said chamber, thereby to pump the liquid around said closed path in said one direction.

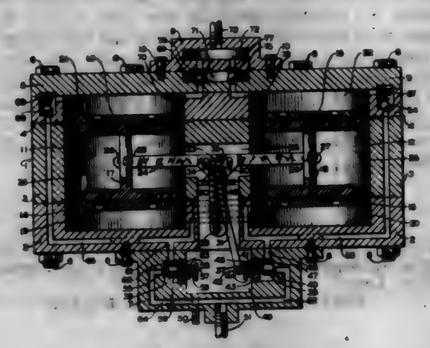
2,973,716
SOUND-DAMPENING PUMP
Louis G. L. Thomas, Merion Station, Pa., assignor to C. H. Wheeler Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 3, 1959, Ser. No. 824,890
10 Claims. (Cl. 103—114)

1. In a sound-dampening pump, a casing of flexible sound-absorbing sheet material, said casing having an intake chamber, a discharge chamber, a throat connecting said chambers, an impeller in said throat, means for driving said impeller to pump fluid from said intake chamber to said discharge chamber, an outer rigid jacket enclosing a chamber surrounding said casing, and a sound-absorbing balancing medium disposed in said chamber



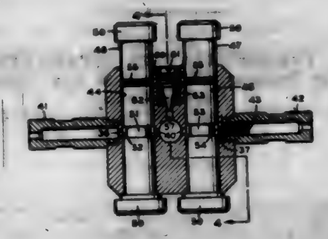
between said casing and said jacket to support said casing against pressure generated within said casing.

2,973,717
BOOSTER PUMP
Robert M. Kendig, Trafford, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 29, 1957, Ser. No. 693,100
8 Claims. (Cl. 103—152)



1. A fluid pressure booster pump for delivering fluid at a pressure higher than and in predetermined ratio to that of the fluid supplied thereto, said pump comprising a casing having a fluid pressure supply inlet passage and a fluid pressure outlet passage, two piston units contained in said casing, each piston unit having a first chamber at one side and a second chamber on the opposing side thereof, a rocker arm pivotally mounted at its mid-point on said casing and connected at opposite extremities thereof to the said piston units respectively so as to transmit a force from one piston unit to the other as said piston units oscillate in opposite directions simultaneously, a pair of valve means each having a first position and a second position, lever means connected to said rocker arm and operable responsively to movement of said rocker arm approaching one extremity in one direction to operate one of said pair of valve means selectively to its first position and the other of said pair of valve means to its second position, and operable responsively to movement of said rocker arm approaching the other extremity in the opposite direction to operate said one of said pair of valve means selectively to its second position and the other of said pair of valve means to its first position, said pair of valve means cooperating to so control the supply of fluid under pressure from said inlet passage to said first and said second chambers of said piston units so as to effect oscillatory movement of said piston units in opposite directions simultaneously, said first chamber of each piston unit being adapted to act as a fluid pressure compression chamber in which fluid contained therein is compressed to a degree according to the sum of supply fluid pressure forces from said inlet passage acting on both the said connected piston units to effect delivery to said fluid pressure outlet passage of fluid at a pressure having corresponding ratio to the pressure of fluid supplied to the pump via said inlet passage.

2,973,718
FLUID MIXING DEVICE
Carl J. Deutsch, Rock Hill, Mo. (% Standard Machine & Mfg. Co., 8213 Gravois Ave., St. Louis 23, Mo.), assignor to Carl J. Deutsch, Bela Deutsch, and Herman Deutsch, doing business as Standard Machine & Manufacturing Co., St. Louis, Mo.
Filed Apr. 3, 1957, Ser. No. 650,494
5 Claims. (Cl. 103—262)



1. A fluid mixing device comprising a main casing including means for attachment to a source of fluid under pressure, said casing being provided with a primary passage therethrough having a restricted portion, a pair of valve bores extending transversely of said casing in parallel relation on opposite sides of said primary passage, a first liquid induction passage communicating with one of said bores and said restricted portion, a second liquid induction passage communicating with the other said bore and said restricted portion, said liquid induction passages having outlet openings into said primary passage arranged at the same level and at 180 degree relation, a valve pin slidably mounted in each said bore, the valve pins being arranged in parallel relation on opposite sides of said primary passage, said valve pins having a length exceeding the width of said casing, and having head portions at each end to determine the range of slidable movement of said pins, each pin being provided with a reduced portion alignable in one position with its respective liquid induction passage to permit liquid flow therethrough, said pins closing said liquid induction passages in another adjusted position, an air induction passage provided in said casing, and having an outlet opening to said primary passage at the same level as the outlet openings of said liquid induction passages yet arranged in 90 degree relation thereto, and valve means in said air induction passage to control the magnitude of suction pressure created in the restricted portion by the flow of fluid therethrough.

2,973,719
TRACK TAMPER
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna, Austria
Filed Jan. 28, 1960, Ser. No. 5,313
1 Claim. (Cl. 104—12)

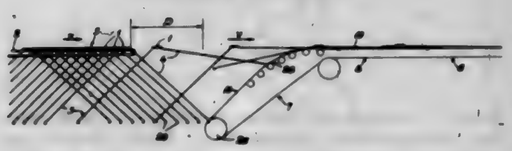
A track tamper comprising a tamping tool carrier, a rotatable shaft mounted on said carrier and supporting a

tamping tool, the tamping tool consisting of two flat tamping jaws forming a plane with the shaft and being positioned on either side thereof, a reciprocable piston



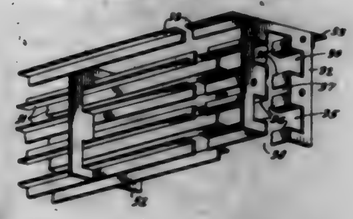
operatively engaging said shaft and pressure fluid means for reciprocating said piston and thereby to oscillate the tamping tool about the axis of the reciprocatingly rotating shaft.

2,973,720
TRANSPORTATION APPARATUS
Pierre Bourassa, 4929 Patricia Ave., Montreal, Quebec, Canada
Filed May 4, 1959, Ser. No. 813,734
11 Claims. (Cl. 104—26)



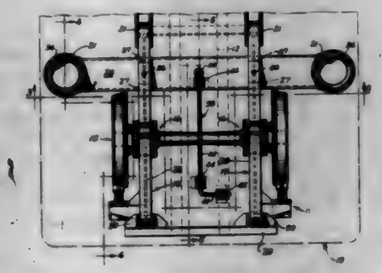
1. In a transportation system, in combination, a plurality of discrete transportation elements arranged for movement in a substantially horizontal path in a forward direction, hook members pivoted at the front part of said elements for swinging movement in a substantially vertical plane between a forwardly inclined rest position and a substantially horizontal forward position with respect to said elements, a first low speed conveyor removably engageable with said elements for moving the latter in said horizontal path at a constant low speed and means for accelerating said elements from said low speed to a constant high speed, said accelerating means including a second high speed conveyor having a plurality of anchoring means thereon for removably hooking said hook members thereto, said second conveyor travelling at said high speed and including a vertically inclined portion disposed in the path of said hook members while in their rest position, a substantially horizontal portion disposed along and substantially adjacent said horizontal path, and a curved portion disposed intermediate and merging with said inclined and horizontal portions, the hook members of said elements successively engaging the anchoring means of said inclined high speed conveyor portion upon said elements disengaging said low speed conveyor and swinging from their rest position to their horizontal position upon movement of the associated anchoring means from the inclined to the horizontal portion of said high speed conveyor, whereby said elements are pulled and accelerated by said high speed conveyor to attain said high speed due to the progressively increasing value of the difference between the horizontal vector speed components of the translational movement of said high speed conveyor and of the swinging movement of said hook members.

2,973,721
CONVEYOR SYSTEM
Sjirk Wagter, The Hague, Netherlands, assignor to Staatsbedrijf der Posterijen Telegrafie en Telefonie, The Hague, Netherlands
Filed Nov. 12, 1957, Ser. No. 695,923
34 Claims. (Cl. 104—172)



1. A conveyor system comprising: a pair of adjacent tracks, a pusher type of conveyor movable along one of said tracks, a plurality of separate trolleys movable along the other of said tracks, a plurality of driving means projecting from and located at spaced intervals along said conveyor for engagement with said trolleys to move them along said tracks, said driving means being of more than one type, each type having a different relative position with respect to said conveyor, said different types of driving means having corresponding different relative engageable positions with respect to said trolleys, and means associated with one of said tracks at different spaced locations along said tracks for causing relative movement between the engageable driving means and the trolleys for disengagement of one type of said driving means with one trolley while another and subsequent type of said driving means engages said trolley, whereby said trolley rests on its said other track at said location for the time it takes said other type of said driving means to be moved by said conveyor to engage said resting trolley after it was disengaged by said one type of said driving means.

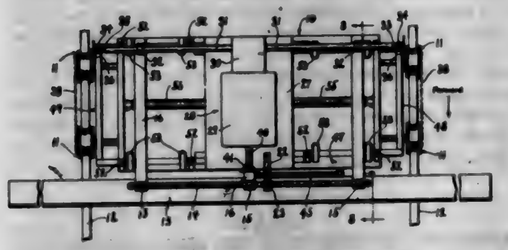
2,973,722
VEHICLE WITH CENTERING DEVICE
Sigvald F. Udstad, Summit, N.J., assignor to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey
Filed Jan. 24, 1957, Ser. No. 634,123



1. In a rail vehicle comprising a truck and a car body resiliently supported on said truck and having limited freedom of vertical and lateral movement relative to said truck, the improvement constituted by a device for centering said car body relative to said truck, said device comprising a torsion rod having a central section rotatably supported and secured against lateral movement on an undersurface of said body and extending longitudinally thereof, said torsion rod at one of its ends being rigidly secured to said body and at its other end having a substantially vertically downwardly extending crank arm, said truck having a framing member

substantially rigidly positioned with respect to said truck and formed with a vertically oriented aperture and said vertically downwardly extending crank arm being slidably received in said vertically oriented aperture, said crank arm loading said torsion rod upon lateral movement of said body relative to said truck, and the effective length of said crank arm being decreased by downward vertical movement of said body relative to said truck and increased by upward vertical movement of said body relative to said truck whereby increasing and decreasing the load of said car body decreases and increases, respectively, the effective length of said crank arm.

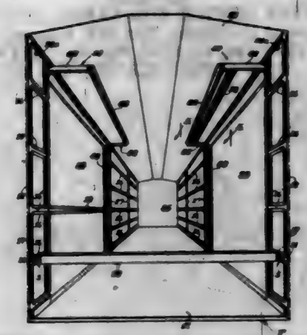
2,973,723
ROADWAY WORKING APPARATUS
Michael I. Hudis and Jacob J. Marcello, Warren, Ohio; said Marcello assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin, and said Hudis assignor to Heltzel Steel Form and Iron Co.
Filed Mar. 25, 1955, Ser. No. 496,851
2 Claims. (Cl. 105—178)



1. A road finishing machine adapted to travel along a pair of co-extensive tracks which lie along a roadway and are spaced gradually varying distances in their extent, comprising a frame including adjustable portions extendible and retractable in a direction cross-wise of said tracks, said portions carrying track-engaging wheels, motor means for extending and retracting said frame portions, feeler means in engagement with said tracks and movable in accordance with variation in track spacing, movement of said feeler means effecting operation of said motor means to adjust said frame portions to correspond to track spacing while said frame is in transit.

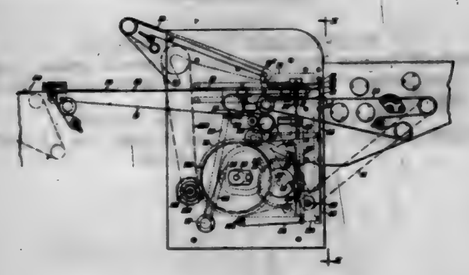
2,973,724
FREIGHT SUPPORTING AND RESTRAINING SYSTEM FOR VEHICLES
Donald E. Miller, Mount Prospect, and Edmund Frank, Chicago, Ill., assignors, by mesne assignments, of one-fourth to The Atchison, Topeka & Santa Fe Railway Company, a corporation of Kansas, one-fourth to The New York Central Railroad Company, a corporation of New York, one-fourth to The Pennsylvania Railroad Company, a corporation of Pennsylvania, and one-fourth to Union Pacific Railroad Company, a corporation of Utah
Filed Aug. 21, 1958, Ser. No. 756,359
24 Claims. (Cl. 105—369)

1. In a freight supporting and restraining system for a freight chamber having a doorway and means on and extending along an opposed pair of side walls of said chamber defining an intersecting network of horizontally and vertically extending paths for adjustably engaging the ends of a plurality of freight holding crossbars at selected points along said paths, said horizontally extending paths terminating in open end portions at the opposite sides of the doorway, the improvement comprising at least one horizontally disposed slidable member adapted to be moved bodily between an inoperative position in said chamber and a selected operative position spanning said doorway as a continuation of a horizontally extending path across said doorway to thereby permit passage and connection of a crossbar therealong, guide means for guiding the opposite ends of said member during movement thereof between said positions, and combined retaining and blocking means cooperable with said guide means for retaining and locking said slidable



member in said operative position spanning said doorway and also for blocking said open end portions and thereby preventing movement of a crossbar out of engagement with said path network at the doorway of said chamber when said slidable member is in an inoperative position.

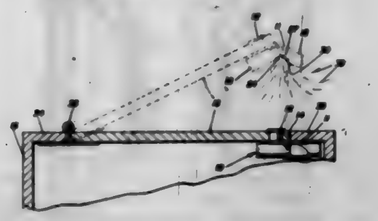
2,973,725
SANDWICHING MACHINE
Kenneth Farrer, Stamford, England, assignor to Baker Perkins Limited, Peterborough, Northants, England, a company of Great Britain
Filed May 26, 1959, Ser. No. 815,910
Claims priority, application Great Britain May 27, 1958
9 Claims. (Cl. 107—1)



1. A machine for producing sandwiches consisting of layers of wafer sheets, biscuits or the like with intervening layers of cream or other filling material, comprising continuously travelling conveyor mechanism including upper and lower conveying sections, each of which serves to support and convey wafer sheets, said upper section having a delivery end overlapping said lower section, stop mechanism having vertically aligned upper and lower portions, the upper portion of the stop mechanism serving to arrest in succession creamed wafer sheets fed thereto, with their creamed surface uppermost, by the upper section of the conveyor mechanism, mechanism for periodically retracting the delivery end of the upper section of the conveyor mechanism to cause the arrested sheets to fall in succession on to the lower section thereof, the lower portion of the stop mechanism serving to arrest the sheets so deposited, means operative whenever a predetermined number of creamed sheets has been arrested by the upper portion of the stop mechanism to deposit a dry wafer sheet on top of the creamed

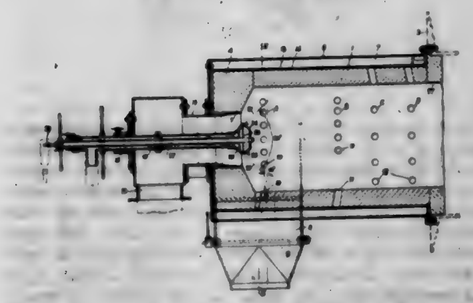
sheets to form a sandwich, and means for thereafter withdrawing the lower portion of the stop mechanism to allow the lower section of the conveyor mechanism to feed the sandwich forward.

2,973,726
PROTECTIVE DEVICE FOR SAFES AND THE LIKE
Howard C. Martin, Box 685, Kilgore, Tex.
Filed Apr. 29, 1958, Ser. No. 731,796
3 Claims. (Cl. 109—34)



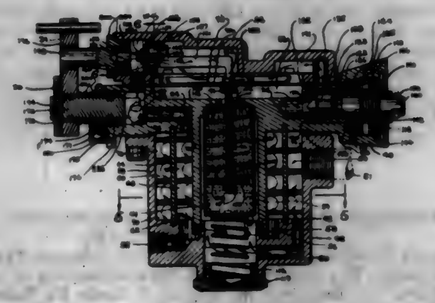
1. A protective means including a container to be mounted on a locking member of a lock mechanism and to be moved through the actuation of the lock mechanism from an open to a closed position, said container comprising approximately aligned sections separable from each other at inner ends thereof for reception and discard of a frangible protective cartridge, a tongue on one of said sections projecting beyond its inner end, means to releasably secure said tongue to the adjacent section, said inner ends being substantially in a plane crossing said locking member, said locking member being disposable in closed position in overlapping relation to a door jamb in order that unauthorized movement of the door with the container so disposed will displace a part of said locking member which in turn will disrupt said cartridge to release the protective contents of the latter.

2,973,727
PULVERIZED FUEL BURNER
Reginald Dennis Northcote, Penn, Wolverhampton, England, assignor to Orr & Sembower Incorporated, Reading, Pa.
Filed Feb. 10, 1958, Ser. No. 714,398
Claims priority, application Great Britain Feb. 22, 1957
1 Claim. (Cl. 110—28)



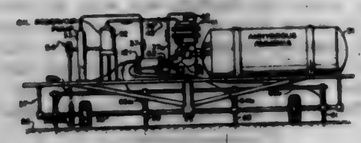
A pulverized fuel burner comprising a refractory lined annular combustion chamber, an inlet throat for pulverized fuel, means for delivering fuel through said throat in an airstream only sufficient in amount to permit ignition and distillation of the fuel and in a manner to cause said fuel to travel in a helical path around said chamber, a gas torch having an outwardly diverging end portion, said end portion of said torch defining an annular space with said throat, means to move said end portion of said torch axially of said throat to adjust the angle of the cone in which said fuel enters said combustion chamber, means defining a plurality of openings extending through the wall of said combustion chamber at spaced points around the circumference thereof adjacent the inlet end of said combustion chamber, said openings being tangential to a circle substantially smaller than the wall of said combustion chamber and being inclined toward the outlet end of said combustion chamber, means for delivering air through said openings in quantities sufficient to burn the volatile matter in said fuel, a series of additional circumferentially spaced openings extending through the wall of said combustion chamber, said additional openings also being inclined in a direction toward the outlet end of said combustion chamber and being tangential to a circle smaller than the interior diameter of said combustion chamber and being inclined in a circumferential direction opposite to said first openings, means for supplying air through said additional openings in a helical direction opposite to the direction of the movement of fuel and in quantities sufficient to burn the resulting coke particles, a casing surrounding said combustion chamber, and a band rotatably mounted within said casing, said band having a series of apertures which selectively align with the openings in the combustion chamber wall, said apertures being substantially smaller than the combustion chamber openings whereby when said band is rotated, the openings in said combustion chamber wall are partially obturated to reduce the supply of air therethrough without changing the velocity of the air supplied through said openings.

2,973,728
ANHYDROUS AMMONIA METERING DISPENSER
Owen L. Garretson, Roswell, N. Mex., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 9, 1956, Ser. No. 557,888
8 Claims. (Cl. 111—6)



1. The method of dispensing anhydrous ammonia fluid as a fertilizer in a partially vaporized phase comprising storing anhydrous ammonia under its vapor pressure in both its liquid and vapor phases, educting the anhydrous ammonia in its liquid phase under said vapor pressure, removing sensible heat from the educted liquid to chill it and lower its effective vapor pressure and maintain the educted liquid in liquid solid state, confining said chilled liquid under said eduction vapor pressure to flow through a set orifice and reducing the pressure upon the liquid immediately beyond said orifice and maintaining it at a predetermined pressure differential with respect to the pressure ahead of the orifice in which the pressure beyond the orifice is above said effective vapor pressure but below said eduction vapor pressure, thereafter further reducing the pressure on said liquid beyond said orifice to a pressure below said effective vapor pressure and absorbing said removed sensible heat as latent heat of vaporization for vaporizing said liquid at its said further reduced pressure, and conducting the vaporized fluid to a place of consumption in intimate contact with the earth at atmospheric pressure.

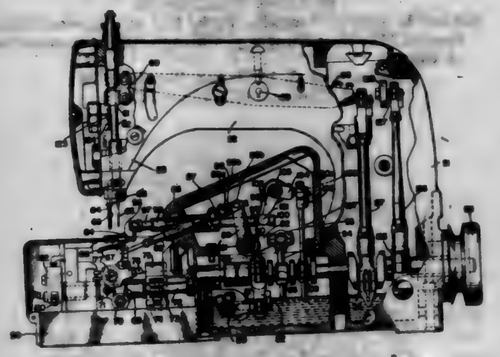
2,973,729
LIQUID-AMMONIA FLOW CONTROL SYSTEM
Alvin W. Peck, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 11, 1958, Ser. No. 779,753
7 Claims. (Cl. 111—7)



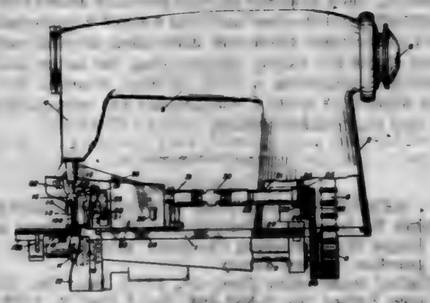
1. An implement-mounted dispensing system for the direct application of ammonia to soil comprising, in combination, a wheeled vehicle, a cultivator shoe attached to said vehicle, said shoe being adapted to produce a furrow in the ground as the vehicle is moved forward, a liquid ammonia supply tank supported by said vehicle, a normally closed diaphragm operated valve assembly having a fluid inlet and a fluid outlet and a flexible diaphragm, said inlet and outlet being on the same side of said diaphragm, a valve seat within said fluid inlet, a first conduit communicating said fluid inlet with said tank, a valve having a stem, and a head disposed in operable relation with respect to said seat, said diaphragm being attached to said stem for imparting movement to said valve, an indirect heat exchanger, said heat exchanger having a coolant inlet and outlet and an inlet for oil to be cooled and an outlet for cooled oil, a second conduit leading from the outlet of said valve assembly to the coolant inlet of said heat exchanger, a third conduit leading from the coolant outlet of said heat exchanger to said shoe for passage of ammonia to the soil, an oil storage reservoir and an oil pump mounted on said vehicle, a fourth conduit leading from said oil storage reservoir to the inlet of said pump, a fifth conduit leading from the outlet side of said pump to the oil inlet of said heat exchanger, a sixth conduit leading from the oil outlet of said heat exchanger to the diaphragm valve assembly on the side of the diaphragm opposite the valve, the diaphragm being adapted to open said valve upon sensing a predetermined oil pressure from said pump, a power take-off on said vehicle for operating said pump when said vehicle is moving in a forward direction, and an oil return conduit extending from the diaphragm valve assembly on the side of the diaphragm opposite said valve to the oil storage reservoir.

2,973,730
MACHINES FOR AND METHODS OF PRODUCING SEAMS AND PRODUCTS THEREOF
Albert M. Schwede, Chicago, and George V. Neill, Wheaton, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed June 2, 1954, Ser. No. 433,937
17 Claims. (Cl. 112—162)

1. A sewing machine for producing a seam having a plurality of lines of stitching which comprises work feeding means for advancing a plurality of sections of work in a predetermined direction, a reciprocable needle bar carrying a plurality of needles, an oscillatable looper cooperating with each of said needles to form a line of two-thread chain stitches parallel with the direction of feed, said needles and loopers being arranged to produce a plurality of closely spaced lines of stitching in staggered relation to each other, a further needle carried by said needle bar, a bodily reciprocable thread-carrying looper cooperating with said further needle, and a reciprocatory and oscillatory stitch forming element cooperating with said last mentioned looper to form overedge stitches, said element having a horizontally disposed axis which is at an acute angle to the vertical plane containing the axis of said bodily reciprocable looper and having a thread engaging portion carried during its reciprocation and oscillation from a point adjacent said axis of said looper to a point adjacent the path of said further needle in the course of forming said overedge stitches.



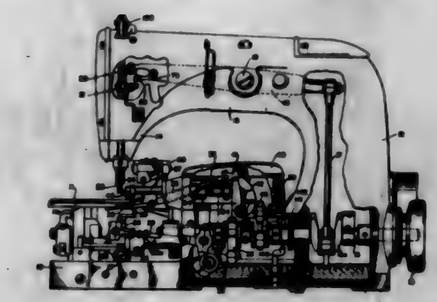
2,973,731
COMPOUND STITCHING DEVICE
Victor J. Sigoda, Great Neck, N.Y., assignor to Man-Sew Corporation, New York, N.Y., a corporation of New York
Filed May 31, 1955, Ser. No. 511,933
21 Claims. (Cl. 112—162)



1. An attachment for a modified single needle sewing machine having a cloth-plate, a throat-plate provided with two needle holes and an opening adjacent thereto through which a looper operated by said attachment may move above and below the throat-plate, stitchforming mechanism including a reciprocating needle bar provided with means for carrying a second needle, a pair of needles carried by said needle bar, a loop-taker mounted and operating below the throat-plate and arranged to coact with one of said needles, and feed mechanism including a feed dog provided with means to permit transverse passage therethrough of said looper, said attachment comprising a casing adapted to be secured to said cloth-plate, a first rockshaft journalled in said casing for oscillating and provided with a primary thread carrying looper, a second rockshaft journalled in said casing for oscillating and provided with a secondary thread carrying looper; operating means for rocking said shafts, and a connection from said operating means adapted to

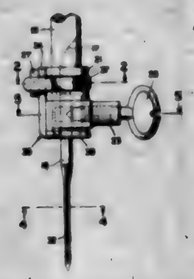
be attached to a power source in said machine, said loopers being adapted to coact with each other and with the second of said needles in timed relationship to form an overedge seam when the attachment is mounted on the machine.

2,973,732
SEWING MACHINES
Robert A. Hayes, Franklin Park, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 2, 1957, Ser. No. 687,776
8 Claims. (Cl. 112—163)



1. In a sewing machine having means for producing a line of through and through stitches in a plurality of work sections adjacent a free edge thereof and means for simultaneously producing a separate line of stitching over the edge of said work sections, the combination which comprises a main frame having a base provided with a horizontally disposed work supporting surface, an auxiliary housing mounted on said base and communicating therewith, a rotary drive shaft in said base, a plurality of axially reciprocatory shafts mounted in said housing, each disposed at least partially above said work supporting surface and carrying a stitch forming element, and connections from said drive shaft to said reciprocatory shafts for axially reciprocating the latter, said connections comprising a rock member arranged for rocking movement about a vertical axis for reciprocating one of said reciprocatory shafts.

2,973,733
NEEDLE CLAMP FOR SEWING MACHINES
Ralph E. Johnson, Mountainside, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Original application Nov. 29, 1954, Ser. No. 471,766, now Patent No. 2,862,468, dated Dec. 2, 1958. Divided and this application Dec. 7, 1956, Ser. No. 626,908
2 Claims. (Cl. 112—226)



1. In combination, a sewing needle having a shank formed as a slab-sided right circular cylinder having a major and a minor diametral cross-sectional dimension; and a sewing needle clamp comprising, an elongated needle-bar formed in one end portion thereof with a needle-shank receiving slot elongated lengthwise of the longitudinal axis of the needle-bar and formed with a pair of opposing parallel side walls and a substantially flat bottom wall angularly intersecting the two side walls, the two side walls being spaced apart a distance substantially equal to the minor diametral dimension of the needle, a clamping band encircling the slotted end of the needle-bar, a needle clamping screw threaded within the band and extending crosswise of the needle-bar and into the slot toward the bottom wall with the longitudinal axis of the screw being offset with respect to a plane equidistantly disposed between the parallel side walls of the slot, and a conical shaped needle-engaging head formed upon that end of the needle-clamping screw disposed within the slot so as directly to engage the needle.

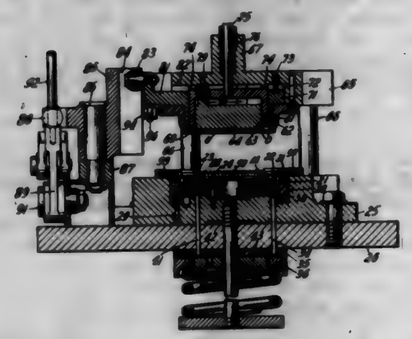
2,973,734
PRESSER FOOT FOR DECORATIVE STITCHING FOR SEWING MACHINES
Emerich Schonhengst, Kaiserslautern, Pfalz, Germany, assignor to G. M. Pfaff A.-G., Kaiserslautern, Pfalz, Germany
Filed July 10, 1958, Ser. No. 747,755
Claims priority, application Germany July 16, 1957
3 Claims. (Cl. 112—235)



1. Presser foot for sewing machines, primarily for decorative stitching comprising a shank portion and a foot portion extending in the direction of sewing, said foot portion having a sole and an upper surface and a wide stitching aperture defined generally centrally of said foot portion, said foot portion having a rear portion adjacent said shank portion and a material entrance portion opposite said rear portion and said sole presenting at least one longitudinally extending groove, said foot presenting a plurality of feeding slots at said entrance portion including more than one slot preceding said at least one groove in material feed relation, a toe extending forwardly of said entrance portion, a plurality of spaced prongs supported by said toe extending transversely of the direction of said at least one groove and perpendicularly to the direction of sewing and projecting with their upper edge above the upper surface of said foot, one of said prongs being arranged for simultaneously guiding to said slots and into said at least one groove a different cording material or the like and the other said prong being adapted to cooperate with said one prong to feed ribbon below the cording material.

2,973,735
APPARATUS FOR PRODUCING RECLOSURE CONTAINER COVERS
Victor T. Grover, Maplewood, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 16, 1957, Ser. No. 703,201
13 Claims. (Cl. 113—48)

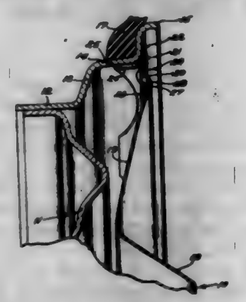
9. An apparatus for forming a locking projection in the side wall of a reclosure container cover and for simultaneously curling a flange on the cover, comprising a pair of axially aligned relatively vertically movable punch and die members for receiving and supporting an interposed cover therebetween, a projection forming element carried by one of said members and locked thereon against vertical movement, said element having means mounting the same for axial sliding movement radially outwardly on and relative to said one member by vertical movement of said one member imparted thereto by the other of said members for forming a locking projection in said cover side wall, a support element



carried by said other member and movable vertically thereby into operating position adjacent said cover side wall to back up said wall during the formation of said projection thereon, means for axially rotating said support element into and out of cover projection backing up position, and a vertically movable curling member carried by said other member for engaging and wiping the peripheral edge of said cover flange against a shoulder on said one member to produce a peripheral curl on the outer edge of said cover flange.

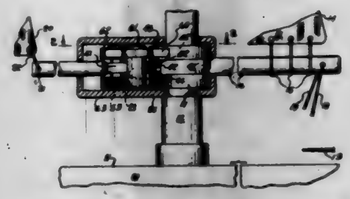
2,973,736
METHOD OF MAKING A WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Nov. 23, 1955, Ser. No. 548,709
7 Claims. (Cl. 113—116)

1. In a method of making a wheel cover, the steps of



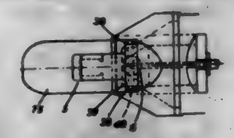
drawing a sheet metal blank to provide a body portion and a marginal narrow hollow annular rib projecting axially from the outer face of the cover with a radially outwardly extending flange structure thereabout, converting the radially outwardly extending flange structure from the angular relation to the radially outer side leg of said rib into an axially inwardly directed extension of the outer leg of the rib by working and elongating the flange structure progressively in the axially inward direction behind the margin of the cover, substantially collapsing and radially outwardly turning the rib, and then cold work drawing an annular rib in the cover margin radially inwardly adjacent to the inner side of what was the leg of said hollow annular rib before it was turned outwardly as aforesaid.

2,973,737
SAIL BOAT CONTROL DEVICE
Harold G. Olson, 418 George Road, Cliffside Park, N.J.
Filed July 6, 1955, Ser. No. 824,950
2 Claims. (Cl. 114—98)



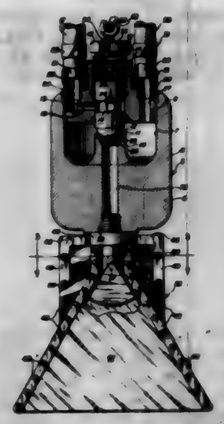
1. In a sailboat having a mast, a boom and a mainsail secured to the mast and boom and a jib sail and forearm adjusting arm for the jib sail, a device for controlled movement of the jib sail relative to movement of the boom and thus of the mainsail, said device comprising means for journalling the boom on the mast, means for pivotally mounting the forearm adjusting arm of the jib sail in spaced relation to the mast, complementary interengaging means secured to the boom and forearm adjusting arm of the jib interconnecting said boom and forearm adjusting arm so that, on movement of the boom pivotally and toward one side of the sailboat, the forearm adjusting arm will move synchronously therewith, said interconnecting means being such that on said movement of the boom, the forearm adjusting arm will so move synchronously therewith toward the boom for an arc of rotation of the boom and on continued movement of the boom in extension of said arc the forearm adjusting arm will move synchronously therewith but in a reverse direction away from the boom.

2,973,738
HINGED MARINE DRIVE UNIT
Roland E. Ladewig, Fort Worth, Tex., assignor to Whitehouse Reinforced Plastics Company, Fort Worth, Tex., a corporation of Texas
Filed July 15, 1957, Ser. No. 671,829
2 Claims. (Cl. 115—41)



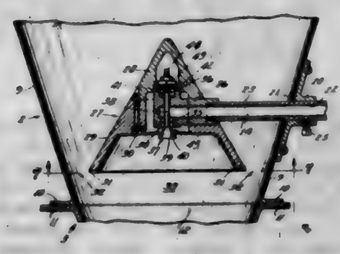
1. A marine drive unit comprising: an upper gear box section having a housing for attachment to a boat, a lower propeller-fin section having a housing extending below the water line of said boat, and a quick disconnect unit interposed between said named sections and external to each housing, said quick disconnect unit being comprised of a rotating element journaled in said upper gear box section, a rotating element journaled in said propeller-fin section, and disengageable projections therebetween, a transmission arrangement extending from within said gear box section to within said propeller-fin section and including said disconnect unit, and a combination means to pivot said lower housing from said upper housing above the water line and simultaneously steer said lower housing relative to said upper housing.

2,973,739
UNDERWATER TRANSDUCER
Nelson N. Estes, 319 Pinewood Ave., Silver Spring, Md.
Filed Oct. 6, 1949, Ser. No. 119,981
4 Claims. (Cl. 116—137)
(Granted under Title 35, U.S. Code (1952), sec. 266)



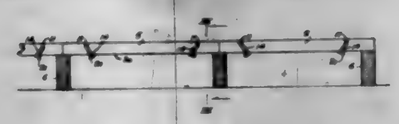
1. A transducer of the character disclosed for underwater sound transmission comprising, a housing, means including a discharge port in said housing for communicating steam from a source under pressure through said housing, means for introducing air under pressure into said steam communicating means for mixing the air homogeneously therein with said steam before the discharge thereof through said port, and a flat vibratory acoustic nozzle of generally triangular configuration and having the interior thereof connected to said housing in fluid circuit with said port, said nozzle including a pair of resilient vibratory elements edge clamped along two sides thereof for exhausting said mixture therebetween through a normally closed outlet provided at the third side thereof, thereby to vibrate the elements responsively thereto whereby a low frequency acoustic signal is transmitted through the surrounding water.

2,973,740
APPARATUS FOR SPRAYING LOOSE BULK MATERIAL
Frank L. Hopkins and Jack D. Heins, Minneapolis, Minn., assignors to Bemis Bro. Bag Co., St. Louis, Mo., a corporation of Missouri
Filed Dec. 26, 1957, Ser. No. 705,300
3 Claims. (Cl. 118—303)



1. In an apparatus for spray impregnating dry pulverulent material with a liquid, housing means defining a chamber having an inlet in its top portion and an outlet at its lower end, an open base hollow conical baffle in said chamber near the outlet thereof, with the open base of said baffle facing said outlet, a normally closed valved nozzle positioned within said conical baffle above the lower edge thereof, fluid passage means for delivery of liquid under pressure to said valved nozzle and including a rigid conduit also disposed within and wholly above the level of the open base of said baffle for supporting the baffle in overlying spaced relationship to said outlet, said conical baffle causing said pulverulent material to flow downwardly thereover toward said outlet in a hollow stream and defining and maintaining an open space below said valved nozzle and intermediate said baffle and the underlying chamber outlet, the valve of said nozzle being yieldingly urged toward a closed position and adapted to be opened by liquid under pressure in said passage means, said valve in its open position defining an annular opening in said nozzle directing liquid angularly outwardly and downwardly from its axis toward the inner surface portion only of said stream of pulverulent material below the level of the lower end of said baffle.

2,973,741
HEN HOUSE FLOORING
Carl F. Koegebein, Long Road, Grand Island, N.Y.
Filed Feb. 12, 1959, Ser. No. 793,843
4 Claims. (Cl. 119—22)



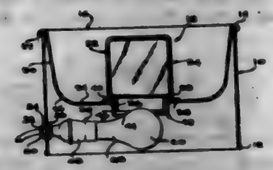
4. A flooring for a hen house or the like comprising, a plurality of spaced slats arranged in substantially parallel relationship, said slats having alined notches in one of their edges, a first transverse member engaged in said slats, a second transverse member engaging the opposite edges of said slats and offset with respect to said first transverse member, cross members interconnecting said transverse members, there being one of said cross members adjacent each side of said slats, and means on said slats engaging said second transverse member to hold the same in fixed position.

2,973,742
EGG HANDLING DEVICE
Carl F. Koegebein, Long Road, Grand Island, N.Y.
Filed Sept. 11, 1959, Ser. No. 839,412
2 Claims. (Cl. 119—48)



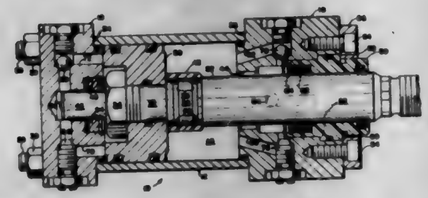
1. In combination with a poultry nest, means defining an egg receiving compartment adjacent to said nest, a narrow single egg belt conveyor along the rear side of said compartment, the top surface of said conveyor belt sloping to the rear, said compartment being provided with an opening along the rear edge of said conveyor belt, and a bumper rearwardly of said conveyor to hold the eggs on said conveyor.

2,973,743
COMBINATION LAMP AND WATERER
Edwin S. Parks, 612 Center Ave., and Harry A. Hollingsworth, 1815 N. Finley Ave., both of Ottumwa, Iowa
Filed June 5, 1959, Ser. No. 818,423
6 Claims. (Cl. 119—73)



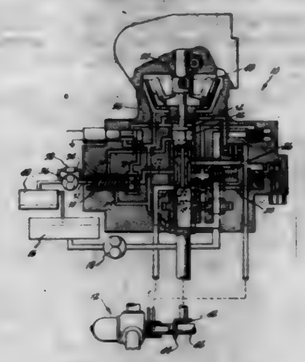
1. A combination lamp and waterer comprising a vertical tubular stand having an upper end and a lower end, a light reflector and water pan assembly supported on the upper end of and extending downwardly within the stand, said assembly comprising a pan having a bottom wall provided with an opening, said bottom wall being spaced above the lower end of the stand, a translucent light dome located within the pan and having an open lower end registered with said opening, means securing and water-sealing the lower end of the dome in said opening, and a source of light and heat mounted on the stand below the pan and registered with the open lower end of the light dome.

2,973,744
CUSHIONING STRUCTURE FOR FLUID ACTUATED CYLINDER
Ransom J. Hennells, Plymouth, Mich., assignor to W. E. Hennells Company, Ann Arbor, Mich., a corporation of Michigan
Filed Mar. 9, 1960, Ser. No. 13,887
8 Claims. (Cl. 121—38)



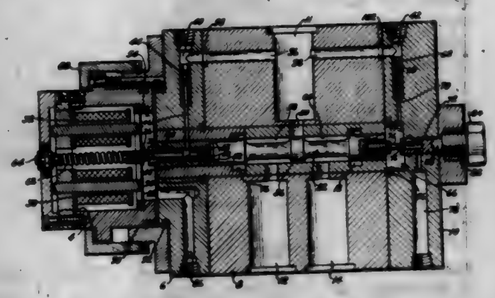
1. In a cylinder construction having a reciprocable piston and rod, means forming a cylindrical chamber within which said piston is adapted to reciprocate, cylinder heads at the ends of the chamber, means in the heads for admitting and exhausting fluid from said chamber to drive said piston and rod, and structure for cushioning said piston and rod at the end of their stroke toward one head, said structure comprising a cylindrical bore formed in one head coaxial with said piston and rod and having a generally radially inwardly extending annular end wall, said end wall having a radially inner portion generally normal to the axis of said cylindrical bore and a radially outer portion flared away from the normal portion to provide a recess in the end wall, a loosely fitting removable bushing in said bore with one end thereof adjacent said end wall, said bushing having a radially inner portion generally normal to the axis of said cylindrical bore and adapted to engage the radially inner portion of said end wall and a radially outer portion flared away from said end wall so that an annular chamber is defined between the radially outer portions of said end wall and said bushing when said radially inner portions are in engagement, the piston and rod having an extension telescopingly entering into said bushing at the end of said stroke to prevent fluid from exhausting through said bushing, and packing means between the radially outer portions of said end wall and said bushing adapted to be urged radially inwardly to prevent escape of fluid between said bushing and said bore.

2,973,745
CONTROL VALVE AND ACTUATING MEANS
Norman B. Newton, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 5, 1959, Ser. No. 844,558
9 Claims. (Cl. 121—42)



1. A hydraulic motor, having opposite sides, means for applying a first hydraulic pressure to one side urging the motor in one direction, means for applying a second greater hydraulic pressure to the other side opposing said first pressure and urging the motor in the other direction, a bleed connecting said opposite sides for circulating fluid from one side to the other, and means operable by movement of said motor blocking the application of said first pressure to said one side of said motor and venting said one side.

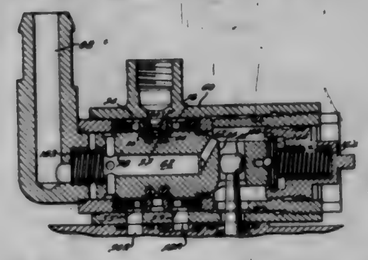
2,973,746
HYDRAULIC SERVO VALVE
Edward C. Jupa, Berwyn, Ill., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 3, 1957, Ser. No. 663,318
6 Claims. (Cl. 121—46.5)



1. In an electrohydraulic control system a valve housing having a bore therein with inlet and outlet ports communicating with said bore, a valve member slidable in said bore and having grooved portions cooperating with said inlet and outlet ports to control flow of hydraulic fluid through said valve body, said housing having fluid inlet passages therein between said inlet port and chambers at each end of said valve member, exit passages from said chambers, and throttling means in each chamber for controlling the pressure drop of the hydraulic

fluid between each of said inlet passages and said exit passages, one of said throttling means being electromagnetically operated to move independently of said valve member to control the flow of fluid from its associated chamber to move said valve member, the other of said throttling means being connected for operation by said valve member whereby operation of said other throttling means by said valve member continues until the forces due to fluid pressure to said chambers are equalized.

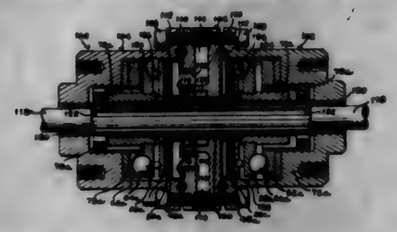
2,973,747
EXPANSIBLE RING SEAL VALVE
Walter E. Folkerts, Hazel Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Dec. 31, 1958, Ser. No. 784,366
13 Claims. (Cl. 121—46.5)



12. A fluid flow control valve comprising a body having a bore therein, said body having a fluid inlet communicating with a source of fluid, a core slidably mounted in said bore defining a chamber between said bore and said core on each side of said inlet, a working port communicating with each said chamber, means forming an annular seat on each side of said inlet, said core having a cavity therein, radially expansible porting means positioned in said cavity and having faces spaced axially of said bore, said faces being adapted to simultaneously, selectively engage said seats to effect a seal between said inlet and each of said chambers, said porting means also having circumferentially spaced guide lands flush with said faces in bearing contact with said seats, said lands and said faces defining circumferentially spaced fluid passages in communication with said inlet, resilient flowable sealing means compressed between said porting means and said body and urging said faces toward said seats, means connecting said sealing means with said fluid inlet, the outer circumferential area of said porting means in communication with said fluid inlet being approximately equal to the inner circumferential area of said porting means in communication with said sealing means and with said fluid source when the associated face and seat are in sealing engagement to thereby approximately hydraulically balance said porting means.

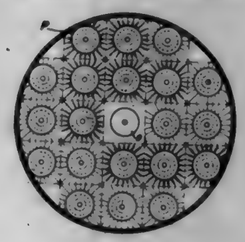
2,973,748
ROTARY ACTUATORS
Gerald H. Leland, Dayton, Ohio, and Oliver F. Davis, deceased, late of Dayton, Ohio, by Mary A. Davis, executrix, Dayton, Ohio, assignors to Ledex, Inc., a corporation of Ohio
Filed June 19, 1959, Ser. No. 821,447
4 Claims. (Cl. 121—48)

2. In a fluid actuator device for imparting movement to a shaft selectively in opposite directions, said device including a pair of housing members each provided with a cylindrical chamber and supported with their chambers in opposing coaxial relation, said shaft passing axially through said chambers and a pair of expansible means, one disposed in each said chamber and responsive to fluid under pressure for delivering an axial thrust, the improvement including an annular base member encircling said shaft between said housing members and forming a common base therefor, said expansible means comprising toroidal elastomeric bladders, there being one bladder disposed on each side of said base member, said base member having a pair of borings therein, there being one boring leading from each side thereof to the exterior of



said device, a hollow pin press-fitted in each boring in said base member, there being one said pin projecting from each side of said base member and penetrating into the adjacent bladder, each said pin having an annular flange projecting therefrom within the adjacent bladder compressing the wall of the bladder against the side of the base member to effect a seal therewith.

2,973,749
THERMAL INSTALLATIONS
André Huet, 48 Ave. du Président Wilson, Paris, France
Filed Nov. 12, 1957, Ser. No. 695,982
Claims priority, application France Nov. 28, 1956
4 Claims. (Cl. 122—32)

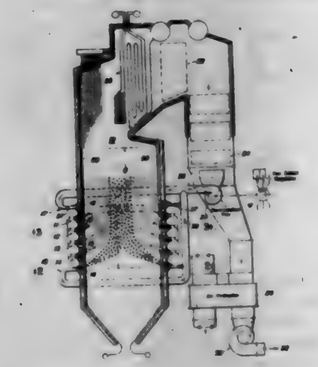


1. A thermal installation comprising, in combination, a casing and a plurality of vaporizer units disposed side by side in parallel relationship in said casing and adapted to be bathed by a current of heated fluid circulating through said casing in streams parallel to said vaporizer units, each of said units disposed within said casing comprising a cylinder having a top and a bottom and adapted to form a water and steam vessel, water tubes disposed around said steam vessel with their longitudinal axes parallel to the axis of the steam vessel, secondary headers adjacent the bottom and the top of the vessel, said secondary headers radiating all around the cylinder and the water tubes being connected to said headers, heat supply means adapted for the flow of hot fluid supplying the installation, a pipe to supply water at the bottom of the cylinder and a pipe for the discharge of the steam at the top of the cylinder.

2,973,750
STEAM GENERATOR
Wilbur H. Armacost, Scarsdale, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed July 27, 1953, Ser. No. 370,487
12 Claims. (Cl. 122—479)

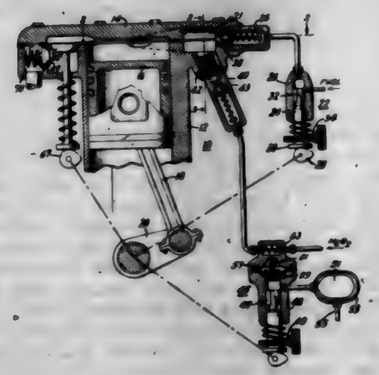
11. In a steam generator having an elongated vertical furnace with fluid circulation tubes on its walls and

from the outlet of which the products of combustion flow to an offtake duct through a passage containing a steam heater; a set of burners so mounted in said walls as to introduce fuel and air into the furnace in directions tangential to an imaginary horizontal circle in said furnace at a level above the bottom thereof; a conduit for diverting products of combustion away from said offtake connecting with said passage at a point beyond said steam heater in the direction of gas flow; sets of tangentially mounted nozzles located in the fur-



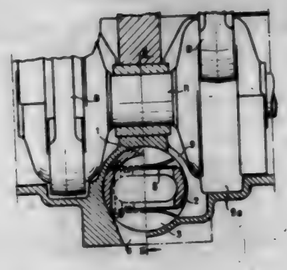
nace walls above and below said set of burners and connected to receive products of combustion from said conduit and introduce them into said furnace so as to vary the amount of heat absorbed in said furnace through radiation to said furnace wall tubes; means associated with the lower set of gas nozzles operable to direct the streams of gas therefrom upwardly into the mass of burning fuel thereabove for displacing the said mass outwardly toward the furnace walls for increasing the radiant absorption of heat thereby.

2,973,751
INTERNAL COMBUSTION ENGINE
Richard H. Blackmer, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 14, 1956, Ser. No. 628,953
3 Claims. (Cl. 123—39)



1. In combination with an internal combustion engine including engine cylinder and piston means together defining an expansible chamber to which may be supplied an oxygen combustible fuel and a catalytically decomposable peroxide composition, means for periodically supplying fuel charges to said combustion chamber, peroxide supply means for injecting peroxide charges into said combustion chamber in timed relation to said fuel charges including injector body means mounted to said cylinder and opening directly into said combustion chamber, and a catalytic reactor unit disposed in said injector body in the path of peroxide flow therethrough including catalyst material operative to catalytically decompose the peroxide and discharge its decomposition products directly into said combustion chamber for initiating and supporting combustion of fuel therein, said injector body means including a coolant chamber disposed adjacent said peroxide flow path upstream of said reactor unit for reducing thermal decomposition of the peroxide.

2,973,752
TWO-STROKE INTERNAL COMBUSTION ENGINE
Pier Luigi Torre, Milan, Italy, assignor of one-half to Innocenti Soc. Gen. per l'Industrie Metallurgica e Meccanica, Milan, Italy
Filed Oct. 28, 1959, Ser. No. 847,612
Claims priority, application Italy Nov. 29, 1958
3 Claims. (Cl. 123—59)

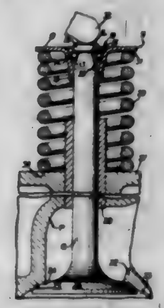


1. In a bi-cylindrical two-stroke internal combustion engine comprising a crankcase, a crankshaft including a pair of cranks with a supporting journal intermediate the cranks, and an intake valve unit in the crankcase at a location intermediate the cranks sub-dividing the crankcase into two fuel mixture chambers associated with their respective cylinders; the improvement comprising an open-ended cylindrical seat for the valve unit extending in the crankcase transversely of the crankshaft intermediate the cranks; the said valve unit comprising a hollow body section fluid-tight engaged by a section of the seat intermediate the length of the latter, a pair of hollow extensions on the body section extending from the latter towards the opposite ends of the seat, and a plurality of valve-controlled passages in each of the extensions for admitting fuel mixture to their respective chambers; a pair of cover plates fitted to their respective opposite seat ends including means locating the valve unit in the seat; and a fuel mixture inlet to the said hollow body section.

2,973,753
VALVE ROTATOR AND LOCK
Achilles C. Sampietro, Detroit, Mich., assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed May 15, 1958, Ser. No. 735,602
12 Claims. (Cl. 123—90)

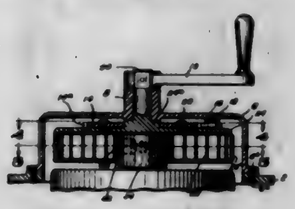
1. In combination with a poppet valve having a grooved stem and a return spring therefor, resilient means normally located entirely in the stem groove, and a retainer member in pressing contact with the return spring and provided with a conically shaped collar por-

tion having an essentially smoother inner diameter converging axially inwardly from the stem groove bearing



against the resilient means by action of the return spring and maintaining said resilient means in the stem groove.

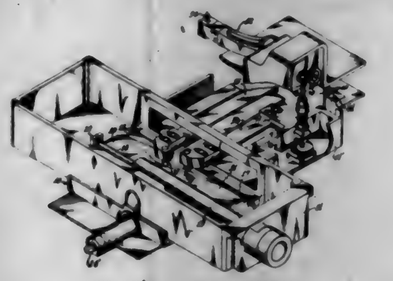
2,973,754
STARTER FOR INTERNAL COMBUSTION ENGINE
Floyd O. De Miller, Framingham, Mass., assignor to Radian Corporation, Framingham Center, Mass., a corporation of Massachusetts
Filed Oct. 27, 1958, Ser. No. 769,843
4 Claims. (Cl. 123—179)



1. In combination a crank shaft, a motor connected in driving relationship with one end of the crank shaft, said motor having a relatively high compression capable of imparting to the crank shaft an appreciable resistance to turning forces exerted on the opposite end of said crank shaft, a starter mechanism mounted on the motor, said mechanism including a housing, a starter shaft and handle unit rotatively mounted in the housing, a spring casing secured to the starter shaft and rotatable with it, spring engaging means fixed to the crank shaft, a coiled spring having its outer end anchored to the spring casing, means at the inner end of the spring for interlocking said spring with the spring engaging means on said crank shaft, said spring constructed and arranged to wind upon itself when said starter shaft and handle unit are turned, and means for so winding said spring upon itself only in response to resistance in said crank shaft from inertia, initial resistance, and cylinder compression; whereby continued turning of said starter shaft and handle unit turns said crank shaft past the point of cylinder compression of said motor and overcomes said initial resistance and inertia; and whereby said spring thereafter releases its said stored energy for urging said crank shaft into higher velocity rotation for starting said motor.

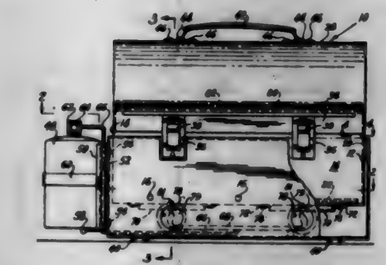
2,973,755
GRINDING WHEEL DRESSING APPARATUS
Nils Hoglund, 296 Hartshorn Drive, Short Hills, N.J.
Filed Oct. 6, 1958, Ser. No. 765,490
11 Claims. (Cl. 125—11)

1. Apparatus for moving a cutting tool across a workpiece including a slidable housing, a main slide on said housing movable in one direction, a pair of superimposed cams on said main slide, a tool slide on said housing movable transversely of said one direction, a rotatable tool support on said tool slide having an axis of rotation normal to the movement of said tool slide, connections between said tool slide and one of said cams for causing movement of said tool slide, and connections between the other of said cams and said rotatable support and having telescoping sections for rotating said rotatable



tool support when said main slide is moved, the connections between said tool slide and said one cam and between said rotatable support and said other cam including a pair of slides movable independently of and parallel to each other and transversely of said one direction, one of said pair of slides being connected between one of said cams and said tool slide and the other of said pair of slides being connected between the other of said cams and said telescoping sections.

2,973,756
FOOD CONTAINER
John A. Tylle, E. 8th St., Columbus, Nebr.
Filed July 10, 1958, Ser. No. 747,671
4 Claims. (Cl. 126—266)



1. A combination convertible lunch box and lunch heater comprising an outer casing and an inner container, said outer casing having opposed side walls, opposed end walls, and a bottom wall connected to said side and end walls, said inner container comprising a floor and opposed side walls and opposed end walls connected to said floor, spacer means securing said inner container within said outer casing with said container floor spaced above said casing bottom wall providing a heating compartment and with the container walls spaced within the casing walls providing a flue for the heating compartment, said securing means comprising a plurality of spaced apart rivets secured between corresponding walls of said casing and container and spacer sleeves on said rivets between said walls, said rivets being secured adjacent said floor of said container, and a peripheral perforated plate securing the top ends of said casing walls to adjacent portions of said container side and end walls, said container side and end walls extending above said perforated plate in an inwardly reduced neck, a concave lid having depending front and rear flanges and end walls, said lid flanges and end walls being of the same length as the length of the lower portions of the container side and end walls below said neck, and said lid being hinged at its rear flange to the reduced neck of said container whereby in closed position, said lid flanges and end walls are in the same respective planes with said lower portions of said container side and end walls, and said flue between said container and said casing is open to atmosphere through said perforated plate, a gas burner means mounted in said heating compartment and means for detachably securing a burner gas supply means to one end wall of said casing and to said gas burner means.

2,973,757
THERAPEUTIC AID
Eric Katthoefer, 4227 W. 165th St., Inglewood, Calif.
Filed Nov. 21, 1957, Ser. No. 697,893
5 Claims. (Cl. 128—80)



1. A therapeutic aid for foot and ankle stabilization comprising, in combination: a heel plate; a first member secured to said heel plate and extending upwardly; a second member; a universal joint connecting one end of said second member to the free end of said first member, the other end of said second member terminating in a leg piece adapted to be held to a wearer's leg at a point above the ankle; and a biasing means coupled between said second member and said heel plate, said biasing means exerting a contracting force tending to swing said heel plate about said universal joint in a desired direction.

2,973,758
APPARATUS FOR MANUFACTURING PARENTERAL SOLUTIONS
Clarence L. Murrish, San Francisco, Calif., assignor to Invenex Pharmaceuticals, a corporation of California
Filed Dec. 27, 1956, Ser. No. 630,867
4 Claims. (Cl. 128—272)



1. A device for transferring a solution from one stoppered bottle to another comprising a central member adapted to hold a pair of hollow needles in spaced parallel relationship, one of said needles extending on both sides of the central member and having both ends thereof sharpened for the penetration of stoppers and the second needle extending only from one side of said central member, said extending end being sharpened and a guide member attached to the central member, extending in the same direction as the two sharpened needles.

2,973,759
COLOSTOMY UNIT
William S. Plymale, Jr., 613 N. Overlook Drive, Alexandria, Va.; Mrs. William S. Plymale, Jr., heir and guardian of minor heir of said William S. Plymale, Jr., deceased
Filed Nov. 16, 1956, Ser. No. 622,551
3 Claims. (Cl. 128—283)



1. Colostomy irrigation apparatus comprising a foundation disk having a plate portion to be disposed adjacent the body of a wearer and an annular supporting ring projecting from the plate portion away from the wearer and having an aperture extending therethrough to accommodate a stoma, the ring having an annular surface bounding said aperture and facing inwardly toward the axis thereof which is curved in cross-section and progresses outwardly from the wearer and from the axis of the aperture, an irrigation attachment removably coupled to said foundation disk comprising a rigid tubular member having right angularly related end portions terminating in open opposite ends and a curved intermediate portion interconnecting said end portions, one of said end portions having an annular lip portion at one end thereof projecting into the aperture of said supporting ring and shaped to mate precisely with the curved annular surface of said supporting ring to effect fluid-sealing between said tubular member and said ring, said tubular member having an aperture in the wall of said intermediate portion positioned closely adjacent to the projected axis of the aperture of said supporting ring to admit a catheter nozzle therethrough into a stoma located in said supporting ring aperture, a normally closed flap valve of flexible material supported on said tubular wall in underlying relation to said aperture therein deformable toward said supporting ring by the catheter nozzle to admit said nozzle through said tubular aperture and positioned in the path of discharge of fluid from said stoma to be urged in a valve closing direction by said fluid discharge, and means for releasably securing said tubular member in supported relation on said supporting ring.

2,973,760
SANITARY NAPKIN
Elizabeth Dudley, Wallingford, Pa., assignor to Scott Paper Company, Chester, Pa., a corporation of Pennsylvania
Filed June 30, 1958, Ser. No. 745,544
2 Claims. (Cl. 128—287)



2. A relatively thick and narrow double faced sanitary napkin having a configuration which conforms to the female anatomy by being generally trapezoidal in the direction of its long axis and being thicker at the central portion than at the ends to provide a double longitudinal taper, said napkin including a soft, strong, pervious cover and a pad assembly of absorbent material comprising a plurality of layers of fluff and a plurality of layers of

creped wadding, said absorbent material being distributed in approximately equal amounts at the opposite faces of an impervious generally central barrier, said barrier having its edges coextensive with the widest and longest components of the pad and being secured to the material adjacent the barrier to prevent lateral movement of the barrier within the pad, whereby the fluff and the wadding on only one face of said barrier absorb menstrual fluid during use and the fluff and wadding on the opposite face of said barrier remain dry and firm.

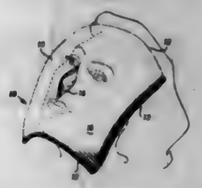
2,973,761
UMBILICAL CORD PROTECTOR SHEATH AND APPLICATOR INSTRUMENT THEREFOR
Gerald C. Kohl, S. 4th and Kay, Tacoma, Wash.
Filed May 21, 1957, Ser. No. 660,583
15 Claims. (Cl. 128—346)



1. An umbilical cord protector comprising an elongated resiliently flexible round tube of an internal cross-section slightly exceeding the external cross-section of an umbilical cord to be protected, said tube having a slit extending longitudinally thereof from one end and a wall flexibility adapting the sides of the tube to be spread apart forcibly at the slit to receive the umbilical cord first at said one end of the tube and then progressively along the length of the tube, resilience of the tube wall causing the slit to reclose around the umbilical cord progressively along the tube's length as the cord is lodged therein and the spread-apart sides released, said wall being substantially relaxed in the reclosed condition of said slit, whereby the slit edges are not forced past each other to squeeze the cord in the tube, longitudinal flexibility of the tube adapting the same to conform to the shapes of spaces between maternal and fetal surfaces occupied by the cord, and said tube having inherent wall stiffness ample to resist flattening thereof under pressures attending child delivery which are sufficient to cut off blood flow through the umbilical vein in an unprotected cord, one end of said tube being beveled at an acute angle in relation to the longitudinal axis of the tube, with the tip of such beveled end being in a longitudinal line substantially diametrically opposite the line of the slit, and with the beveled end edge being smoothly rounded, such beveling and rounding minimizing the possibility of laceration of tissues and facilitating sliding the tube lengthwise on and along the umbilical cord and past potential obstructions.

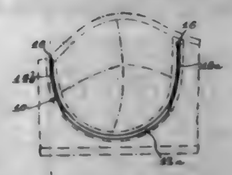
7. An instrument for applying an elongated longitudinally slitted flexible tubular protector sheath to an umbilical cord to prevent crushing of the cord during childbirth, said instrument comprising clamp means adapted for gripping and holding a stretch of umbilical cord extending therethrough in a predetermined direction relative to the instrument, and guide means adjoining said clamp means in predetermined relation thereto and adapted for threading the protector sheath progressively over the umbilical cord so held by said clamp means, said guide means having relatively oppositely disposed guide elements slidably engageable by the longitudinal slit edges of the sheath and diverging relatively in the direction of the clamp means and merging with relatively opposite sides of said clamp means for spreading apart the sides of such sheath whereby the latter may be advanced over the clamp means and along the umbilical cord held therein by progressive advance of the sheath along said guide means in the direction toward said clamp means, said guide elements terminating substantially at said clamp means to permit progressive reclosure of successive portions of the sheath advancing beyond the clamp means for surrounding the umbilical cord thereby.

2,973,762
STEAM CLOTH
Mathias Koenig, 65 Chestnut Park Road, Toronto, Ontario, Canada
Filed May 21, 1957, Ser. No. 660,599
2 Claims. (Cl. 128—399)



1. A wringable steam cloth for facial application of steam heat or the like comprising: a wear resistant non-abrasive cloth body formed of two-ply water repellant yarns knitted to form a Raschel looped pile stitch characterized by a heat retaining pile; a vent in said body in the form of a slit therein defined by an unknit length in two adjacent yarns within said body, said vent being adapted to accommodate the nose of the user; and means binding the peripheral edges of said body.

2,973,763
BRASSIERE WIRE FRAME
Rose Fredrick Rowell, 738 Marie, Montreal, Quebec, Canada
Filed Feb. 27, 1958, Ser. No. 718,676
4 Claims. (Cl. 128—476)



1. A supporting frame adapted for use in strapless brassieres, comprising a single length of resilient wire shaped into substantially U-shaped formation, having a lower arcuate centre portion and leg portions extending upwardly from said lower centre portion, said lower arcuate centre portion including a surface disposed in angular relation to and extending outwardly from the general plane of said leg portions and forming an overall, unstressed, double curvate formation for substantially conforming to the contour of a wearer's anatomy.

2,973,764
BRASSIERE CONSTRUCTION
Harry Steiner, Brooklyn, N.Y., assignor to Corde De Paris Corset Company, Inc., New York, N.Y., a corporation
Filed Oct. 15, 1958, Ser. No. 767,313
1 Claim. (Cl. 128—476)

In a brassiere or the like, a body band having breast pockets of substantially non-stretchable material; a panel of substantially non-stretchable material below each of said pockets and each connected to the associated pocket only along the substantially vertical edges thereof and free from the substantially horizontal edge of the associated pocket; and an insert of vertically stretchable material underlying each panel and each connected to the periphery of the associated pocket throughout substantially the entire length of the periphery thereof, the lower edge of each insert being connected to the associated panel beneath the upper edge of the latter; whereby the upper portion of each panel is movable vertically relative to the associated pocket over the associated underlying insert; the upper edge of each panel being curved to substantially conform to the shape of the associated pocket and having a reinforcing element secured therealong, the underlying insert protecting the body from rubbing on the upper portion of each panel thereover during stretching of the insert responsive to diaphragm action.



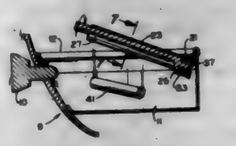
2,973,765
FOUNDATION GARMENT WITH ABDOMINAL CONTROL PANEL
George L. Diebold, Skokie, Ill., assignor to Venus Foundation Garments, Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 1, 1958, Ser. No. 752,555
10 Claims. (Cl. 128—541)



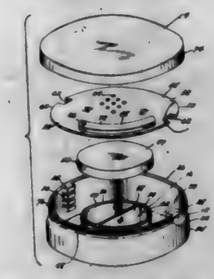
1. In a foundation garment of the character described having a front portion and a connected rear portion, an abdominal control panel secured centrally to the front portion of said garment and cooperable therewith to support and flatten the wearer's abdomen, said abdominal control panel being arranged to generally overlie the wearer's abdomen and comprising a main panel section and a horizontally stretchable V-shaped insert connected to the lower marginal edge of said main panel section, said main panel section being connected along its upper marginal edge to the front portion of said garment and said V-shaped insert being connected along its lower marginal edge to the front portion of said garment with the side edges of said abdominal control panel free and unattached, whereby said abdominal control panel is tensioned when the wearer is in an erect position and is untensioned when the wearer is in a bending or sitting position.

2,973,766
ASHTRAY
Benjamin K. Milbourne, 319 Winchester Road, San Jose, Calif.
Filed June 5, 1959, Ser. No. 818,372
2 Claims. (Cl. 131—235)

1. A cigarette snuffer consisting of a unitary structure including a tubular member open at one end and having a slot therein, said slot being of sufficient size to allow a cigarette to pass freely therethrough but constituting less than half the circumference of the tubular member; a smaller rod-like member mounted for rotation in the said tubular member, said rod-like member being somewhat longer than said tubular member and extending beyond the open end of said tubular member, said unitary structure being mounted for pivotal action on a transverse rod, said rod being mounted on the sides of an ash tray, there being an annular groove in said rod-like member, said groove providing a receptacle for said transverse rod when said unitary structure is rotated; a second groove in said rod-like member, said second groove terminating short of said annular groove and being of sufficient size to receive a cigarette at its open end when in assembled relationship with the said tubular member, said unitary, rotatable structure being so mounted whereby in a first position a cigarette may be confined in the second groove of the rod-like member, may be rotated to a second position whereby said second groove is lined up with said slot in said tubular member and the cigarette discharged through said slot.



2,973,767
COMBINATION DENTURE COMPACT DEVICE
Rebecca Cohen, 3015 Brighton 3rd St., Brooklyn 35, N.Y.
Filed Feb. 21, 1958, Ser. No. 716,727
5 Claims. (Cl. 132—84)

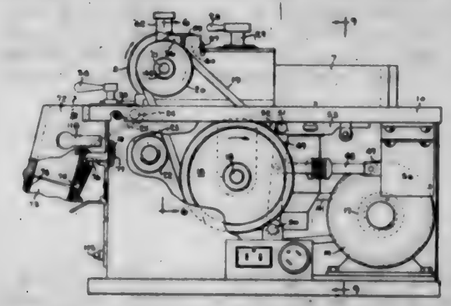


1. A denture compact device for carrying a lower and an upper denture, comprising: a main container having a wall; an auxiliary container fixedly mounted on said main container and spaced from said wall a distance sufficient to receive lower denture between the auxiliary container and said wall; main cover means adapted to form a water-tight closure with the main container; auxiliary cover means adapted to form a water-tight closure with said auxiliary container; denture holding means including a plate adjustably positionable between said auxiliary cover means and said main cover means.

2,973,768
COIN COUNTING MACHINE
Arnold R. Buchholz and Frank Haban, Watertown, Wis., assignors to Brandt Automatic Cashier Company, Watertown, Wis., a corporation of Wisconsin
Filed Aug. 17, 1955, Ser. No. 528,940
17 Claims. (Cl. 133—8)

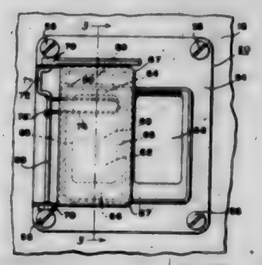
1. In a coin counting machine having a coin discharge passage, a coin operated member in said passage, means for supplying coins to said passage, and a rotatable feed

wheel for carrying coins from said supply means past said coin operated member to actuate the same, the combination of predetermined count control mechanism for said feed wheel including a settable toothed wheel and drive means for said settable wheel including a rotary drive pin engageable with said wheel and operatively con-



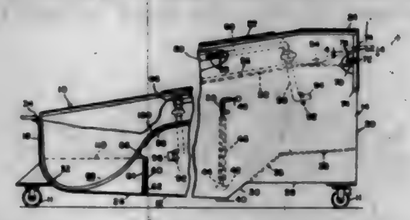
nected to said coin operated member, means under the control of the operator for disconnecting said drive pin from said wheel to permit said wheel to return to its zero position, and means engageable with said pin to set it to a registry position in its disconnected position and maintain it in this position until again operatively connected to said toothed wheel.

2,973,769
DETERGENT DISPENSER FOR A WASHING MACHINE
James W. Jacobs and Robert L. Mercer, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 23, 1958, Ser. No. 710,648
6 Claims. (Cl. 134—58)



6. In combination with a washing machine having a tub, a detergent dispenser including a body portion formed with an open-ended cup fixed to one pivotally mounted wall of said tub with the open end of said cup facing the interior of said tub, a cover member formed at least in part of metal material pivoted relative to said body portion adjacent said cup, said cover member having a closed position wherein it overlies said cup and having an open position wherein said cup is uncovered, means for biasing said cover member toward an open position, an insert fixed in said body portion that contacts said cover member in the vicinity of said metal material when said cover member is in a closed position, a magnet extending exteriorly of said tub and located adjacent said metal insert and movable relative to said insert, a bimetal actuator having one end fixed relative to said body portion and another end connected to the portion of said magnet extending exteriorly of said tub for shifting said magnet, an electrical energizing circuit, a timer, and a switch operated by said timer for connecting said bimetal actuator with said energizing circuit.

2,973,770
CONVEYING AND COOLING APPARATUS
Harry M. Fryals, Bloomfield Township, Oakland County, Mich., assignor to Baldwin Rubber Company, Pontiac, Mich., a corporation of Michigan
Filed Dec. 17, 1956, Ser. No. 628,688
6 Claims. (Cl. 134—122)



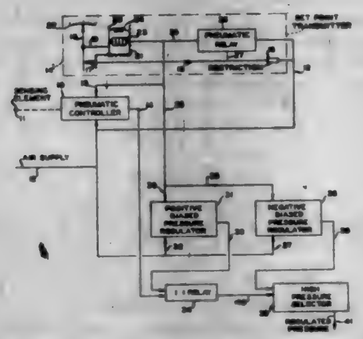
6. Apparatus of the character described, comprising an elongated assembly having upright laterally spaced side walls and an end wall connecting said side walls at one end of said assembly, means providing a supporting surface extending longitudinally of said assembly between said side walls and beneath the upper edges thereof, said supporting surface having a discharge end adjacent but short of said end wall of said assembly and a receiving end spaced from said discharge end in a direction toward the other end of said assembly, said supporting surface being adapted to support a continuous length of material moving therealong in a direction toward the discharge end thereof, said supporting surface having a downwardly inclined section extending to its discharge end, means for establishing a flow of liquid on said supporting surface downwardly along the inclined section thereof to assist the movement of the length of material along said supporting surface, a transverse wall beneath the discharge end of said supporting surface and a bottom wall connecting said side and end walls and said transverse wall and cooperating therewith to define a tank open at the top and adapted to contain liquid drained from the discharge end of said supporting surface and adapted to receive the length of material, the discharge end of said supporting surface being open and vented to atmosphere to facilitate the free flow of liquid along said supporting surface, said bottom and end walls at their juncture defining a curved section shaped to guide the moving length of material out of said tank and over the upper edge of said end wall.

2,973,771
SHAFT SPEED LIMITING APPARATUS
Eugene W. Barth, Verona, and James R. Shields, Pittsburgh, Pa., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 4, 1959, Ser. No. 791,226
2 Claims. (Cl. 137—57)



2. A governing apparatus including a power driven shaft rotating at a speed in excess of 4000 revolutions per minute, an exhaust valve urged toward open position, a movable stop normally holding the valve closed, the valve being movable axially between closed and open positions, a Belleville spring mounted on the shaft in a location where it is free to snap over from a low speed position to a high speed position and back again, and at least three uniformly spaced weights mounted on the concave side of the spring in a circle about midway between its inner and outer edges, the spring and weights being so proportioned and related that the spring will snap over when the shaft starts to exceed a predetermined maximum speed and will snap back when the speed is reduced again, and the outer edge of the spring being disposed beside said stop in a position to move it away from said valve when the spring snaps over at high speed, whereby the valve will open, said valve having a tapered portion that will move said stop away from said spring when the valve opens.

2,973,772
CONTROLLER LIMIT SYSTEM
Minor W. Oglesby, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,758
7 Claims. (Cl. 137—82)



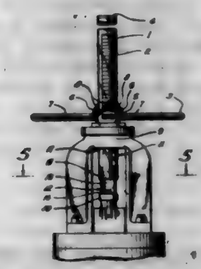
1. A limit system for a process controller which establishes an output signal representative of a measured variable and which is provided with an adjustable set point comprising means responsive to said set point to establish a first signal representative thereof, means responsive to said first signal to establish a second signal which is greater than said first signal by a preselected value, means responsive to said first signal to establish a third signal which is less than said first signal by a preselected value, means responsive to said output signal and said second signal to establish a fourth signal which is representative of said output signal when said output signal is less than said second signal and which is representative of said second signal when said output signal is greater than said second signal, and means responsive to said third and fourth signals to establish a fifth signal which is representative of the larger of said third and fourth signals.

2,973,773
AIR VOLUME CONTROL FOR WATER SYSTEMS
Louis J. Siri, South Bend, Ind., assignor to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana
Filed May 12, 1958, Ser. No. 734,495
2 Claims. (Cl. 137—269)



1. A control for relieving a water system pressure tank of excess air comprising a housing having a movable wall therein dividing said housing into adjacent pressure chambers, a vent to atmosphere communicating with one of said chambers, means carried by said movable wall for sealing said vent, means for resiliently urging said wall into a position wherein said sealing means seals said vent said housing being adapted to be mounted on a pressure tank above the normal water level therein, a passage within said housing providing communication between the space above the water level in said tank and said one of said pressure chambers, and a standpipe communicating with the other of said pressure chambers and extending downwardly within said pressure tank below the water level reached in normal operation of said tank, said standpipe opening into said other pressure chamber and being open at its lower end but otherwise providing a closed conduit, whereby said vent is opened to atmosphere upon the existence of a predetermined differential between the pressure in said space above the water level in said tank and the pressure in said standpipe, indicating the presence of excess air in said tank.

2,973,774
TRANSPARENT SHIELD FOR GATE VALVE STEMS
Claremont F. Clure, P.O. Box 1403, Shreveport, La.
Filed Jan. 15, 1958, Ser. No. 709,141
5 Claims. (Cl. 137—382)



2. In combination with a rising stem valve having a valve body and a valve operating mechanism and a valve stem exposed between the body and said mechanism, the improvement which comprises a shield enclosing the exposed valve stem including a transparent tubular member in surrounding relationship to said stem, said member having concentric resilient sections in telescopic relationship to each other, said sections being split lengthwise and of too near the same diameter to be telescoped when both are unstressed and at least one of the sections having the edges at the split residing in overlapping relationship, said latter section being an inside section, the friction of the telescoping sections on each other providing a means for releasably securing said section in relative position to enclose the length of the exposed valve stem.

2,973,775
WATERING VALVE WITH SPRING OPERATED LATCH
Robert E. Witham, Upper Darby, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 18, 1954, Ser. No. 411,051
8 Claims. (Cl. 137—408)

1. In combination, a receptacle such as a watering trough, a valve housing adapted to be connected to a source of water under pressure, valve means in said housing for governing the flow of water from said source to said receptacle, said valve means being movable to either one of two extreme closed positions in which flow of water is cut off, and to an intermediate open position in which flow of water is permitted, a valve control lever operatively associated with said valve

means and with said receptacle, said valve control lever normally occupying a position enabling said valve means to move to one extreme closed position under the influence of pressure from said source of water, said lever being movable by hand to shift said valve means to its intermediate open position, a support rigid with said housing, a latch member pivoted near one end on said support and manually shiftable to operative position for temporarily locking said lever in such valve opening position, and a tension spring connected between said latch member and said lever in such manner that it



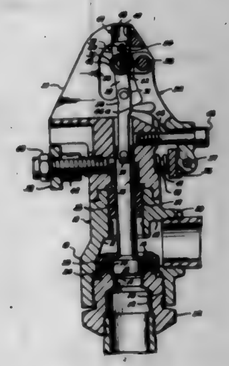
serves to bias said lever to normal position and to sustain the weight of said receptacle, and also to swing said latch member to inoperative position when released, the weight of water in said receptacle, as it accumulates, serving through said lever to gradually move said valve means toward the other extreme closed position, and, after a predetermined amount has accumulated therein, to release said latch member, whereby the tension on said spring is suddenly reduced when said latch member is released, and said valve means is caused to move abruptly to completely closed position.

2,973,776
SNAP-ACTING PRESSURE RELIEF VALVE
Herbert Allen, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Feb. 20, 1959, Ser. No. 794,696
14 Claims. (Cl. 137—467)



1. A pressure relief valve, comprising a valve body having a flowway therethrough, a valve member movable between positions opening and closing the flowway and having a pressure responsive surface exposed to the fluid within the flowway in the closed position thereof for urging the valve member toward its open position, an arm pivotally mounted on the body for swinging in opposite direction, means yieldably urging the arm in one of said directions, a pair of pivotally connected links pivotally connecting the arm to the valve member, and means for locating the links in a position with the axis of the pivotal connection therebetween to one side of an imaginary straight line between the axes of their pivotal connections with said arm and valve member for transmitting a force from the urging means to the valve member which is effective to prevent opening movement of the valve member, until the pressure of the fluid within the flowway reaches a predetermined value, and moving said links to another position in which the pivotal connection therebetween is disposed on the other side of said line, in response to the initial movement of the valve member in an opening direction, for rendering said links ineffective to transmit force from said urging means to said valve member upon continued opening movement thereof.

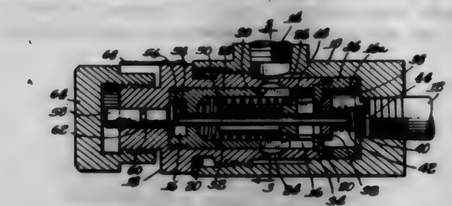
2,973,777
PRESSURE RELIEF VALVE
John N. Troxell, Jr., Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Mar. 20, 1959, Ser. No. 800,723
11 Claims. (Cl. 137—467)



1. A pressure relief valve, comprising a valve body having a flowway therethrough, a valve member movable between positions opening and closing the flowway and having a pressure responsive surface exposed to the fluid within the flowway in the closed position thereof for urging the valve member toward its open position, an arm pivotally mounted on the body for swinging in opposite directions, means yieldably urging the arm in one of said directions, a pair of pivotally connected links pivotally connecting the arm to the valve member, means for locating the links in a position with the axis of the pivotal connection therebetween to one side of an imaginary straight line between the axes of their pivotal connections with said arm and valve member for transmitting a force from the urging means to the valve member which is effective to prevent opening movement of the valve member, until the pressure of the fluid within the flowway reaches a predetermined value, and moving said links to another position in which the pivotal connection therebetween is disposed on the other side of said line, in response to the initial movement of the valve member in an opening direction, for rendering said links ineffective to transmit force from said urging means to said valve member upon continued opening movement thereof, and means yieldably opposing movement of said links in a direction from said first-mentioned toward said other position past a position in which the axis of the pivotal connection therebetween is aligned with said imaginary straight line.

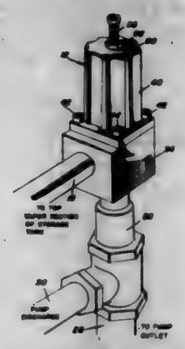
2,973,778
HYDRAULIC VALVE
Stephen C. Baker, 1611 S. Newberry Ave., Hinsdale, Ill.
Filed Nov. 3, 1958, Ser. No. 771,320
9 Claims. (Cl. 137—501)

1. A hydraulic flow control valve comprising: a housing having an inlet, a valve chamber communicating coaxially with said inlet, and an outlet communicating with said chamber; a valve head secured to said housing and forming within said housing sleeve means having a plurality of circumferentially spaced ports communicating said chamber with said outlet; pressure compensating means including a hollow piston slidably arranged with said sleeve means and a hollow tube having a slotted end extending slidably through the closed end of said piston, said piston selectively obstructing said ports; and flow regulating means including a valve seat affixed within



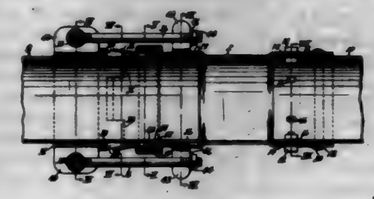
said chamber facing said inlet, a spring-biased poppet valve mounted on said tube opposite to its slotted end and tending to close said valve seat, a plunger extending slidably through said valve head and abutting the slotted end of said tube, and a cap threadedly engageable with said valve head and adapted to cooperate with said plunger and said tube in operating said poppet valve.

2,973,779
VAPOR BY-PASS VALVE
Garth P. Kennedy, Oklahoma City, Okla., assignor to Corken's, Inc., Oklahoma City, Okla., a corporation of Oklahoma
Filed Dec. 14, 1956, Ser. No. 628,266
5 Claims. (Cl. 137—512.1)



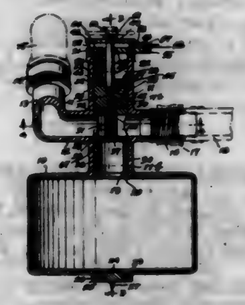
1. A combination function valve comprising a valve body having inlet and outlet openings for connection with the top vapor section of a petroleum bulk storage tank and the outlet opening of a sump, respectively, a valve chamber in said valve body in communication with said inlet and outlet openings, a valve bonnet secured to said valve body having a bore in registry with said chamber and said inlet, a valve seat on said inlet, an elongated main valve having a large piston on one end slidable in said bore and a smaller piston on the other end with a seating surface thereon engageable with said seat on said inlet, means yieldingly urging said main valve into engagement with said seat, said main valve having a longitudinal passage, a spring-loaded valve element operatively connected with said main valve and controlling the end of said longitudinal passage, said spring-loaded valve element being normally open and adapted to be closed by the liquid passing into said inlet, and a transverse passage extending through said main valve with said transverse passage in communication with said longitudinal passage and said outlet whereby said outlet will be in communication with said inlet when either said main valve or said valve element is in the open position and said outlet will be in constant communication with the portion of said bore receiving the end of said piston remote from said inlet and said main valve will be urged toward the open position in response to a given pressure differential between said inlet and said outlet independent of the pressure of the ambient atmosphere.

2,973,780
IRRIGATION PIPE COUPLING
Delos G. A. Coover, P.O. Box 493, Kinsley, Kans.
Filed July 5, 1957, Ser. No. 670,164
2 Claims. (Cl. 137—517)



1. An irrigation pipe coupling comprising a tubular body receiving the contiguous ends of a pair of pipe sections telescopingly in the opposite end portions thereof, means for securng said pipe sections against withdrawal from said body, one end portion of said body member being of greater internal diameter than the external diameter of the pipe received therein whereby to form an annular water passage therebetween, the portion of said body at the end thereof adjacent said annular passage being conically enlarged normally open valve means carried by said body and controlling said annular passage and operable by water entering said passage with substantial pressure and velocity to close and seal said passage, a spacer ring encircling the pipe associated with said valve, said spacer ring having a conically tapered section engaged in the conical enlargement of said body whereby said pipe is centered concentrically in said body, and wherein said means securing the pipe associated with the valve to the body includes means retaining said spacer ring in engagement with said body, the conically tapered section of said spacer ring having water passages formed therethrough communicating with said annular passage.

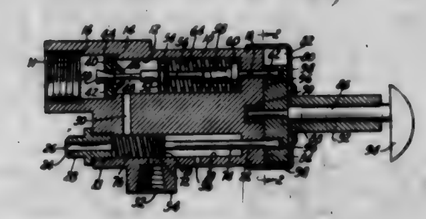
2,973,781
AUTOMATIC HYDRAULIC TIMER VALVE
Anthony Cadella, 50 Fremont St., Bridgeport, Conn.
Filed July 16, 1959, Ser. No. 827,586
13 Claims. (Cl. 137—553)



1. An automatic hydraulic timer valve, comprising a water conduit having a water passage therethrough having an inlet end and an outlet end, a piston guide housing

interposed in said conduit passage between said inlet and outlet ends including a first part extending at one side of said conduit passage and a second part extending at the opposite side of said conduit passage, a reservoir connected to said second housing part, a piston slidably engaged in said housing for movement between an open position and a closed position and including a first part disposed in said first housing part, a second part normally disposed in said second housing part and an intermediate part connecting said first and second piston parts and normally disposed across said conduit passage to allow the passage of water therethrough past said intermediate part, stop means for locating said piston in its respective open and closed positions, water vent means establishing communication between said conduit passage and said reservoir to by-pass a fractional part of the water flowing through said conduit passage to said reservoir, normally open air-vent means in said reservoir, and means arranged to close said air-vent means when the accumulation of water in said reservoir reaches a predetermined level whereby a continued accumulation of water in said reservoir creates pressure upon said piston to cause said second piston part to move across said conduit passage to stop the flow of water to its said outlet end.

2,973,782
SEQUENCE CONTROLLER FOR VALVES
Frank Sprague, % Sprague Devices, Michigan City, Ind.
Filed Apr. 22, 1955, Ser. No. 503,271
4 Claims. (Cl. 137—627.5)

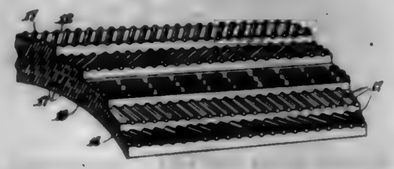


1. A sequence controller for valves comprising a housing having an inlet and a pair of spaced outlets, a valve seat interposed between said inlet and said outlets, a valve element shiftable relative to said valve seat between open and closed positions, a second valve element shiftable in said housing between a closed position interposed between said outlets and an open position permitting flow between said outlets, said valve elements being shiftable in substantially parallel laterally spaced paths and each having a plunger, and a member rotatably carried by said housing and having a pair of cam surfaces each engaged by one of said plungers, said cam member actuating said valves in selected sequence and simultaneously actuating said valves during a part of its rotative movement, said first valve having a longitudinally shiftable telescoping connection with its plunger, and spring means normally urging said first valve to longitudinally extended position relative to its plunger.

2,973,783
STRUCTURAL FORM PRODUCTION METHOD AND APPARATUS
Carsten F. Boe, Malvern, Pa.
(Kelsey Hill Road, Deep River, Conn.)
Filed June 6, 1957, Ser. No. 664,888
26 Claims. (Cl. 138—55)

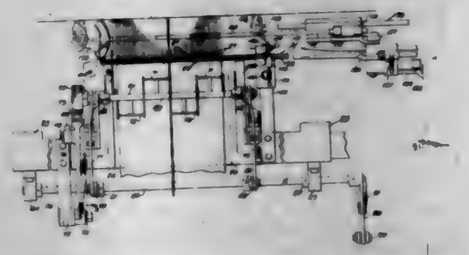
1. An extruded form comprising fibers interspersed within a matrix of binding material, said fibers being angularly oriented in opposite and substantially equal directions to the principal direction of extrusion in outer regions of said form to a substantial depth into the interior of said form with a gradual transition from one of said angular orientations to the other through the interior of said form.

16. An apparatus for extruding a composition susceptible of fiber orientation into a form having predetermined fiber orientation comprising a feeding means for supplying a tubular mass of said material, a counter-rotating force-applying means including vaned concentric elements which rotate in opposite directions relative to said form and forming therebetween an annular channel



through which said composition is fed longitudinally, a heat exchange means disposed in heat transfer relationship with a surface of the extruded form a predetermined distance beyond said counter-rotating elements to substantially immediately set said mass into a rigid form, and said predetermined distance being sufficient to permit said counter-rotating elements to angularly orient portions of said mass in outer and inner portions of the wall of said mass in substantially opposite and equal direction to the principal direction of extrusion.

2,973,784
MODIFIED AXMINSTER LOOM AND METHOD
Samuel R. Mays, Buena Vista, and Maurice W. Worth, Glasgow, Va., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed July 14, 1959, Ser. No. 826,981
11 Claims. (Cl. 139—39)

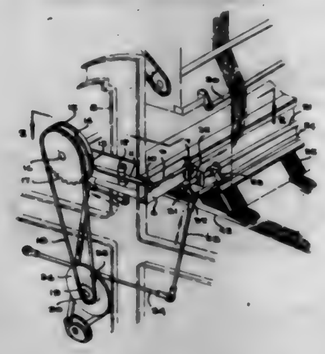


1. In a loop pile Axminster type loom having a needle motion for inserting double wefts, an oscillating tube frame for wiping in pile yarns to a main warp shed, pattern means movable from a retracted to an advanced position for displacing selected warp yarns to form an auxiliary shed, a wire motion for inserting a pile wire into said auxiliary shed thereby weaving displaced pile yarns under the said pile wire and non-displaced pile yarns over the said pile wire, and means for beating up the double wefts and the pile wires into the fell of the fabric.

2,973,785
LOOM FOR WEAVING PILE FABRICS
Orrin J. Park and Hiel W. Pennell, Bloomsburg, Pa., assignors to The Magee Carpet Company, Bloomsburg, Pa., a corporation of Pennsylvania
Filed June 4, 1959, Ser. No. 818,857
14 Claims. (Cl. 139—46)

1. In a loom for weaving pile fabrics comprising a series of gauge wires slidably mounted above the fabric being woven for movement in a warpwise direction, a series of needle arms mounted above said gauge wires for

oscillating movement in an arcuate path parallel to the gauge wires for carrying the pile yarns into the fabric being woven, means for shifting said needle arms back and forth across said gauge wires, said gauge wires having inclined shoulders to intercept the pile yarns when the needle arms swing downwardly, a reciprocating member



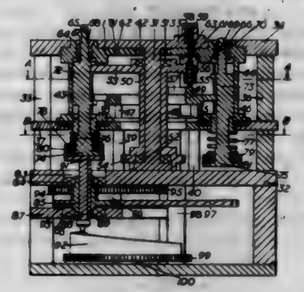
disposed above the rear ends of said gauge wires and movable longitudinally of the wires and means carried by said reciprocating member for selectively connecting said gauge wires to said member whereby the selected gauge wires are moved to adjust the inclined shoulders to a different position along the path of movement of said needle arms.

2,973,786
LOOM HARNESS
John J. Kaufmann, Jenkintown, Pa., assignor to Steel Heddle Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 6, 1957, Ser. No. 701,055
5 Claims. (Cl. 139—92)



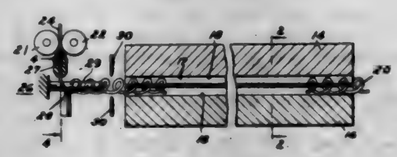
1. Loom harness for use in installations in which the warp is entered by a drawing-in machine having a release rod, said harness including harness frames, heddle supporting rods in said frames, and heddles made of thin flat metal, each of said heddles having a central warp eye aperture and an aperture through which the release rod is adapted to pass, the vertical center lines of the warp eye apertures of alternate heddle being disposed in one plane and the vertical center lines of the warp eye apertures of the other alternate heddles being disposed in another slightly separated plane, the separation of said planes being of an amount whereby portions of the apertures are in longitudinal alignment for the passing therethrough of an aligning rod adapted when inserted to bring the warp eye portions of the heddles into register.

2,973,787
METHOD OF WINDING GRID ELECTRODES
George Percy Thwaites and Harold Downing, London, England, assignors to International Standard Electric Corporation, New York, N.Y.
Filed Oct. 3, 1956, Ser. No. 613,781
Claims priority, application Great Britain Oct. 7, 1955
4 Claims. (Cl. 140—71.5)



1. A grid winding machine comprising a rotatable support, a mandrel mounted on said support, said mandrel being adapted to carry grid supporting rods thereon, means for rotating said rotatable support through a plurality of angular positions, means for initially cutting a slot in one of said support rods at a first one of said angular positions of said rotatable support, means for supporting the grid wire being fed into said machine tangentially of said rotatable support in the path of the slot cut in said support rod as said rotatable support rotates, means for inserting said wire to said last named support rod in a second angular position of said rotatable support, means at a third angular position for rotating said mandrel about its longitudinal axis support, means simultaneously operating with said rotating means for providing a relative longitudinal movement between said fed wire and said mandrel for winding said wire along the length of said support rods of said mandrel.

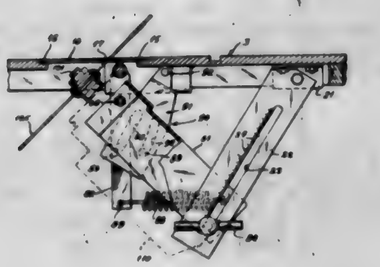
2,973,788
APPARATUS FOR FORMING SPRING LINERS
Clair S. Reed, Wayne, Mich., assignor to Van Dresser Specialty Corporation, Van Dyke, Mich., a corporation of Michigan
Filed May 13, 1957, Ser. No. 658,857
3 Claims. (Cl. 140—92.94)



1. Apparatus for making a wire helix reinforced sheet adapted to serve as a cover for upholstery springs; comprising a pair of vertically opposed substantially horizontal plates, one being movable vertically toward and away from the other, said plates being provided with vertically opposed substantially flat surfaces operable when said movable plate is moved vertically away from the other plate to permit advancement edgewise therebetween in a horizontal plane of a sheet of flexible sheet material, and operable when said movable plate is moved

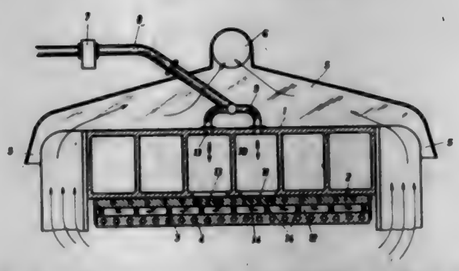
vertically toward the other plate to grip and hold said sheet in a predetermined horizontal position, said opposed substantially flat surfaces having therein transversely extending vertically opposed complementary grooves of substantially V shape in cross section provided with opposed substantially flat walls and adapted when said movable plate is moved toward the other plate to form an open ended substantially straight passageway of substantially square cross section throughout the length of which a rotating substantially cylindrical wire helix having a leading free end and successive convolutions following said leading free end may be advanced, and means spaced from said plates substantially in alignment with said passageway and operable when said sheet is gripped by said plates to form, rotate, and advance said wire helix lengthwise of said passageway to be threaded through said gripped sheet, the opposed substantially flat walls of said grooves being tangentially engaged by diametrically opposite sides only of said cylindrical wire helix during rotation of said helix as it is advanced through said passageway, said sheet extending across and substantially coinciding with the longitudinal center of said passageway when said sheet is gripped by said plates, and the axis of said helix being coincident with the horizontal plane of said gripped sheet throughout the travel of said helix lengthwise of said passageway, whereby the leading free end and successive convolutions of said helix are threaded successively through said sheet from opposite surfaces thereof to be connected therewith at linearly spaced points thereof to provide a helix reinforced sheet wherein said sheet extends substantially diametrically of the convolutions connected thereto.

2,973,789
PANEL MOUNTED ANGULARLY ADJUSTABLE TOOLS
John A. Palmer, University City, Mo., assignor to The Emerson Electric Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed June 25, 1959, Ser. No. 822,911
9 Claims. (Cl. 143—36)



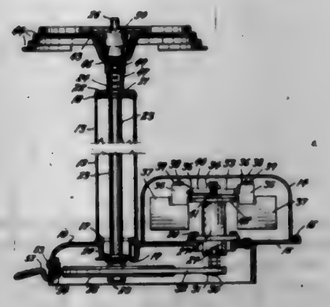
4. In a bench saw in which a direct-geared circular saw is mounted beneath a table top, the improvement comprising a base on which said table top is mounted, horizontal pivot means rotatably connecting the table top to said base, latch means carried by said base for selectively holding the table top in level or tilted position, motor support means mediately hinged to the underside of said table top, said saw being hingedly mounted on said motor support means, manipulable motor clamping means for selectively maintaining said motor in desired heightwise relation to said table top, and manipulable motor support clamping means for selectively maintaining said motor support in desired angular relation to said table top, said motor clamping means and said motor support clamping means being exposed for ready manipulation when said table top is in tilted position.

2,973,790
MULTI-STAGE PRESSES
Will Huetter, Krefeld, Germany, assignor to Herbert van Haellen and Alfred van Haellen, trading as the firm Niederrheinische Maschinenfabrik Becker und van Haellen, Krefeld, Germany
Filed Apr. 23, 1959, Ser. No. 832,875
1 Claim. (Cl. 144—281)



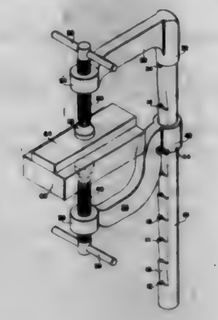
In a multi-stage press, in combination, at least one cross beam having an upper horizontal member and a lower horizontal member spaced from said upper member, both said members having apertures, a plurality of spaced vertical walls connecting both said members and forming passages therewith communicating with said apertures, a cooling plate secured to said lower member and provided with a plurality of perforations communicating with said apertures in the lower member, a heating plate spaced from said cooling plate, a grate securing said heating plate to said cooling plate and forming a grate space therebetween, said grate having notches communicating said grate space with the passages in said crossbeam through said perforations in the cooling plate and with atmosphere, conduit means connected with the apertures in said upper member for introducing compressed air into said passages and into said grate space, a gas discharge hood disposed above said crossbeam for withdrawing noxious gases and having an exit duct, whereby the pressure of compressed air prevents noxious gases from penetrating into the grate space.

2,973,791
ROTATABLE TIRE SUPPORTING STAND
Elby E. French, Littleton, Colo., assignor to O.K. Rubber Welders, Incorporated, Littleton, Colo., a corporation of Colorado
Filed Aug. 31, 1959, Ser. No. 837,258
1 Claim. (Cl. 144—288)



A stand for rotatably supporting an automotive tire for side wall cleaning and buffing comprising: the combination of a base member; a vertical shaft rotatably mounted on and arising from said base member; a vertical counter shaft rotatably mounted on and arising from said base member in parallel, spaced relation to said first shaft; means transmitting rotation between said shaft; a weighted inertia member rotatable by said countershaft and acting to prevent said countershaft from exceeding a predetermined speed; a tubular post arising from said base member about said first shaft; upper and lower bearings in said post rotatably supporting said first shaft; a tire casing support mounted on the upper extremity of said first shaft; a plurality of annular steps about said support, said steps increasing in diameter as the periphery of the support is approached; and two opposed flat sides on said casing support the distance between said flat sides equalling the step of smallest diameter so that said support can be passed into a casing of said smallest diameter.

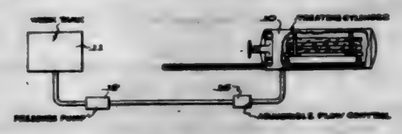
2,973,792
GENERAL UTILITY CLAMP MEANS
William A. Fonken, 1531 Sunset Ave., Seattle, Wash.
Filed July 21, 1958, Ser. No. 749,875
4 Claims. (Cl. 144—303)



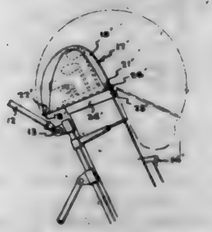
2. A general utility clamp means, comprising: a shank having a shaft portion and a fixed clamp arm disposed at substantially right angles thereto, said arm having a threaded opening disposed parallel to said shaft portion; a pressure screw engageable with said threaded opening; said shaft portion having spaced notched steps on the same side as said clamp arm and each step having abutment faces sloping upwardly, toward said clamp arm, which terminate in a radial ridge disposed at right angles to the longitudinal axis of said shaft portion; a second clamp arm having a threaded opening at one end adapted to receive a pressure screw and a sleeve at the opposite end disposed with its axis parallel to the axis of said threaded opening adapted to be slidably positioned on the shaft portion of said shank; said sleeve having a slightly larger internal diameter than the external diameter so as to be loosely mounted on the shaft, V notches on the end face of said sleeve corresponding to the handle end of a pressure screw engaged in said threaded opening of said second clamp arm and said V notches adapted to operatively engage the ridges on said shank steps to angularly and longitudinally position said second arm with respect to said shank.

2,973,793
PROCESS OF STRAIGHTENING CROOKED WOODEN POLES AND PILES
John M. Irvine, Wexford, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Oct. 31, 1958, Ser. No. 771,115
12 Claims. (Cl. 144—327)

9. A process for straightening of wooden poles suitable for utility or building poles, piles, or fence posts cut from boles of trees and having crooks therein, comprising: forcing heat and moisture into the wood of a said pole until a tleast ¼" of its outer periphery is above the saturation point of the fibers; applying an abutting force transversely of the axis of the pole to the crook portion of the pole intermediate its length while the ¼" outer periphery is above the saturation point and the mass of the pole is still hot from the aforesaid heat treatment and thus forcing the crooked section toward the general axis of the pole; and maintaining the thus-straightened crooked portion of the pole in this restrained position until the heat treated pole is cooled after said heating to a state at which the saturated fibers of the ¼" periphery of the straightened crooked portion are dried below their saturation point by the outflow of heat from the mass of the pole and thereupon removing the restraint from the poles.



2,973,794
HOOD FOR GOLF CART
Alton L. Erickson, 1425 Oak St., Eugene, Oreg.
Filed Mar. 27, 1959, Ser. No. 802,418
1 Claim. (Cl. 150—52)



A cover member for a golf bag comprising a rigid rim member having diametrically opposed, substantially transversely extending end portions a flexible cap provided with a hem receiving said rim member, said hem being notched away at diametrically opposed end portions thereof so that said rim member is exposed intermediate said diametrically opposed end portions thereof, said cap being asymmetrical between said diametrically opposed end portions thereof, said cover member being of sufficient size to overlie the top end of a golf bag, and a resilient channeled clip member pivotally and clampingly engageable on either one of the exposed rim portions and being provided with an apertured connection leaf element adapted to be secured to the top rim of a golf bag.

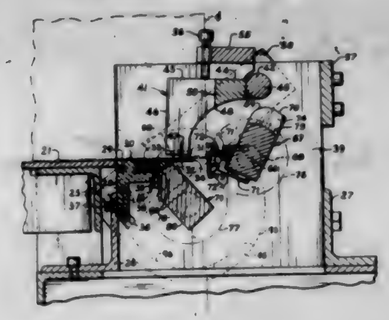
2,973,795
TIRE VALVE
Edwin T. Wyman, Brookline, Mass., (319 Longwood Ave., Boston, Mass.)
Filed Jan. 31, 1958, Ser. No. 141,503
4 Claims. (Cl. 152—427)



1. A valve structure insertable through a hole provided in the side wall of a wheel rim for use in inflating tubeless tires comprising a tubular metal valve stem having a central air passage therethrough and a check valve

therein, and a rubber covering on said valve stem having a flanged base and an annular groove spaced from said flanged base, and an annular retaining ring having inwardly extending curved spring tabs for engaging in said groove, said flanged base and retaining ring adapted to tightly engage opposite sides of the side wall of a wheel rim.

2,973,796
CLEAT FLANGER FOR SHEET METAL DUCTS AND THE LIKE
Charles F. Engel, Columbia, and Bonard V. Mace, Alton, Ill., assignors to Engel Sheet Metal Equipment, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 26, 1959, Ser. No. 823,183
14 Claims. (Cl. 153—4)



1. Apparatus to form 180° flanges on margins of sheet metal, comprising work support means, means providing an edge and parallel upper and lower surfaces adjacent thereto about which a 180° flange may be turned, means whereby to clamp a sheet of metal onto the work support means in a position wherein its margin projects over said edge, and to release same, means presentable at a flange-spacing distance from said edge whereby to gage the projection of such margin prior to flanging, means to wipe such margin downwardly adjacent to the edge, means to wipe such margin from such downwardly-extending position, backward around and under the edge-providing means, and means to operate the clamping means, gaging means, downward-wiping means, and backward-wiping means in such sequence that the clamping means is raised when the gage means is so presented at flange-spacing distance and is lowered into clamping position thereafter and until the downward-wiping and backward-wiping operations are completed.

2,973,797
APPARATUS FOR MAINTAINING THE ORIENTATION OF STACKED BAGS
John D. Sylvester, Garden City, N.Y., assignor to Amsco Packaging Machinery, Inc., Long Island City, N.Y., a corporation of New York
Filed Jan. 28, 1960, Ser. No. 5,276
3 Claims. (Cl. 154—1)



1. Apparatus for temporarily joining a multiplicity of heat-sealable bags arranged in a stack, said bags each having a pair of opposed side walls one of which is longer than the other to form an extension which projects past the bag mouth, said apparatus comprising a base, a backing against which the stack of bags may be held in taut condition in order to bring all of said bag side walls into contiguous relation, said backing being pivotally mounted at one end on said base and said backing having an opening therein adapted to be covered by the projections of said stacked bags, spring means normally maintaining said backing at an acute angle to said base but permitting pivotal movement of said backing toward said base, and a heated piercing tool fixed with respect to said base and disposed at an acute angle to said base opposed to the angle of said backing with said base, said tool aligned with and pointing toward said aperture so that upon pivotal movement of said backing toward said base said tool will project through said aperture and will penetrate said stack of bag projections and fuse the latter together along a confined area.

2,973,798
MACHINE FOR AND METHOD OF MAKING BAND-TIES
Walter G. Powell, Covina, Calif., assignor to Band-Tie Mfg. Co., Los Angeles, Calif., a corporation of California
Filed Dec. 10, 1956, Ser. No. 627,477
24 Claims. (Cl. 154—1.6)



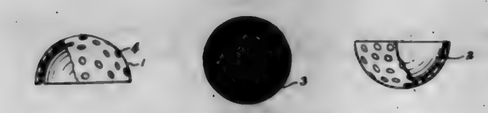
3. A machine for making band-ties comprising a roller, means for directing a pair of band-forming strips over the roller in matching relationship for forming a unitary band, means for feeding a pair of wire strands in spaced parallel relationship between the strips for consolidation therewith in the band, and means for intermittently feeding sections cut from a wider strip to the roller with the band-forming strips and wire strands for attachment thereto, said sections extending laterally from the band to form tabs spaced at intervals therealong.

2,973,799
VENTED RUBBERIZED FABRIC ARTICLE AND METHOD OF MAKING SAME
Arthur Kelly, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 18, 1957, Ser. No. 703,688
9 Claims. (Cl. 154—14)



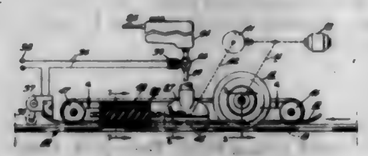
8. The method of preventing entrapment of air in the carcass of an inflatable vehicle tire during construction thereof comprising providing ply stock formed of parallel cords united by rubber with a plurality of spaced fibrous air-conducting yarns extending through the ply stock between the cords thereof and with portions of the yarns exposed on either face of the ply stock, and forming the tire carcass by successively superposing lengths of the ply stock upon a tire building drum and smoothing each length of ply stock as it is superposed so that air pocketed between the drum and the ply stock and between successive layers of ply stock vents through said yarns.

2,973,800
METHODS OF COVERING GOLF BALLS
Louis F. Muccino, Bladbrook Lodge, Rye, N.Y.
Filed Sept. 2, 1958, Ser. No. 758,592
8 Claims. (Cl. 154—17)



1. The method of covering a golf ball by applying covering material to a spherical center having an outside layer of rubber strand wound under tension, which comprises forming two hollow hemispherical cover shells having spaced concentric inner and outer hemispherical surfaces, the outside diameters of said shells being equal to the desired outside diameter of the covered ball and the inside diameters of said shells being equal to the outside diameter of said center, applying a layer of adhesive material between the outside surface of the center and the inside sufaces of said shells, then assembling said shells on said center and adhering said shells to said center and to each other by applying pressure to the outside surfaces of said shells.

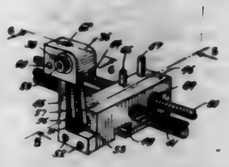
2,973,801
METHOD AND APPARATUS FOR PROVIDING A SEPARABLE PROTECTIVE EDGE FOR CARPETING
Hyde W. Ballard, West Chester, Pa., assignor to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed June 13, 1958, Ser. No. 742,468
8 Claims. (Cl. 154—42)



1. The method of protecting the edge of a roll of pile carpet which comprises the steps of completely severing a pile and backing border strip from the carpet, simultaneously applying an adhesive to the raw severed edges, and pressing the edges together to provide a readily separable joint between the severed edges.

2,973,802
SPLICERS FOR MOTION PICTURE FILMS
Stanley A. Mosquist, 5070 Steele St., Denver, Colo.
Filed Aug. 19, 1957, Ser. No. 679,031
4 Claims. (Cl. 154—42.1)

2. A film splicing device comprising: a housing; a cover closing the top of said housing; a film anchor plate mounted on said cover; a press plate hingedly mounted on said cover and positioned to clamp a section of motion picture film on said anchor plate; means for shearing the extremity of said film section; a track device in said housing extending transversely of the axis of said film sections; an elongated spiral gear rotatably mounted in said housing; a threaded rod fixedly mounted in said housing, said elongated spiral gear and said threaded rod extending in parallel relation to said track device; an electric motor in said housing; means for transmitting rotation from said motor to said elongated spiral gear; a carriage member movably mounted on said track device through which



said elongated spiral gear and said rod extend; a rotary milling tool supported from said carriage member; means in said carriage member transmitting rotation from said elongated spiral gear to said milling tool; and means in said carriage member causing the latter to travel along said rod, in consequence of the rotation of said elongated spiral gear, to cause said milling tool to rotate across the extremity of said film section to remove the emulsion therefrom.

2,973,803
FOLDING COMBINATION DESK AND CHAIR
Samuel R. Mickelson, 78–84 Prospect St., New Bedford, Mass.
Filed Apr. 14, 1959, Ser. No. 806,294
12 Claims. (Cl. 155—124)

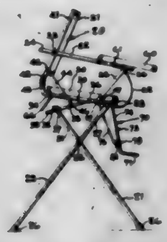


6. The combination with a front leg and the upwardly folding seat of a folding chair; of a table providing a top member and swingable front and rear leg members carried by said top member, a rear table leg member being shorter than the front leg members and being substantially aligned with a front chair leg and with a front table leg member, a bar pivoted adjacent one end to said particularly mentioned front table leg member for movement toward and away from said chair, a cleat having opposite ends pivoted to said particularly mentioned front chair leg and to the free end of said bar, means pivoting the lower end of said shortened rear table leg to an intermediate portion of said cleat, and means pivoting an intermediate portion of said shortened rear table leg to one side of said chair seat adjacent the forward end of the latter.

2,973,804
FOLDABLE HIGH CHAIR
Donald W. Gill, Cincinnati, Ohio, assignor to The Frank F. Taylor Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 28, 1959, Ser. No. 814,447
5 Claims. (Cl. 155—147)

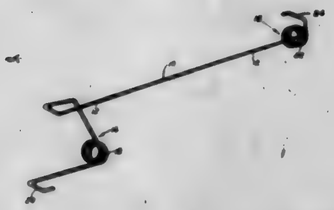
1. A foldable high chair having removable arm rests comprising, a pair of legs at each side of said high chair, each pair of said legs being crossed and pivoted to each other intermediate the ends thereof, a seat pivoted to the upper forward extremities of said legs, a back rest pivoted

at its lower end to the rear end of said seat, at least one seat link pivotally connected at its forward end to said seat intermediate the front and rear ends thereof and at its rearward end to the upper rearward end of said legs,



and at least one back link connected at its upper end to said back above the pivot axis of said back, and at its lower end to said seat link intermediate the ends thereof.

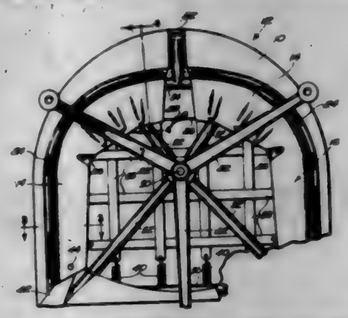
2,973,805
SPRING STRUCTURE FOR VEHICLES
Clyde F. Rowan, Jackson, Mich., assignor to Stabilitz Greene Corporation, Adrian, Mich., a corporation of Michigan
Filed Nov. 4, 1957, Ser. No. 694,317
15 Claims. (Cl. 155—179)



1. An integral spring element for spring cushion structure disposed in use in bridging relation with spaced frame portions thereof comprising a main bridging spring portion having terminal support portions, at least one of said support portions being in the form of a coiled portion having its longitudinal axis generally disposed in the plane of deflection of the said bridging spring portion when in use, said coiled portion being disposed in relation to said bridging spring portion as to be deflected along its longitudinal axis to "fan" its convolutions to increase the effective length of the spring element under load deflection.

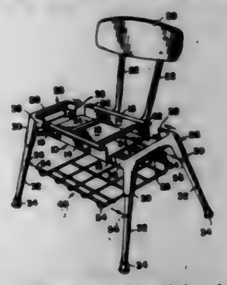
2,973,806
CHAIR WITH A REMOVABLE UPHOLSTERY COVER
Severin B. Hendrickson, Templeton, Mass., assignor to Heywood-Wakefield Company, Gardner, Mass., a corporation of Massachusetts
Filed Aug. 15, 1958, Ser. No. 755,193
6 Claims. (Cl. 155—182)

1. An upholstered chair comprising a frame, said frame consisting of an upper U-shaped element and a lower U-shaped element joined at spaced intervals by vertical elements and forming a continuous back and arms portion, and an inner U-shaped element lying inside and in the same plane as said lower U-shaped element and forming a seat portion of said frame, a first removable upholstery cover on said continuous back and arms portion of said frame, edges of said first removable cover forming an opening around the bottom edge of said back and arms portion under said lower U-shaped element of said frame, slide fasteners releasably engaging said edges forming an opening, a second removable upholstery cover



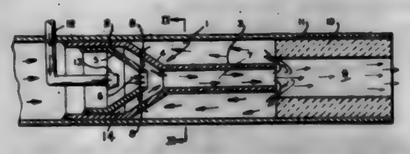
on said seat portion of said frame, and means for releasably fastening said second cover on said seat portion.

2,973,807
ARTICLE OF FURNITURE
Charles F. Close, Arlington Heights, Ill., assignor to Arlington Seating Company, Arlington Heights, Ill., a corporation of Illinois
Filed Apr. 15, 1958, Ser. No. 728,675
5 Claims. (Cl. 155—194)



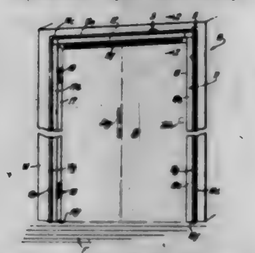
1. A framework for an article of furniture comprising a rigid central frame lying in a horizontal plane, a unitary end assembly at each end of said frame, each unitary end assembly having a rigid central segment with hollow, leg-receiving sockets depending from the ends thereof, supporting legs mounted in said hollow sockets, and an article rack beneath said frame having an extension of said rack extending into an aperture in each of the supporting legs.

2,973,808
FLAME STABILIZER-MIXER
William B. Fox, Jr., Carnegie, Pa. (3692 Elmira Drive, Dayton 39, Ohio)
Filed July 18, 1958, Ser. No. 749,426
4 Claims. (Cl. 158—1)



4. In a flame stabilizer burner, in combination, a housing, a fuel receiving member mounted in gas-tight relation to the inner face of the housing and having a downstream converging portion terminating in a mixing chamber extending axially of the housing in inwardly spaced relation thereto forming a recirculation chamber, a combustion chamber in said housing extending downstream from said mixing chamber in radially spaced relation thereto, a second converging member disposed within said fuel receiving member and having a converging portion in spaced relation with and extending into the converging portion of said fuel receiving member forming a suction chamber, and apertures in said fuel receiving member converging portion connecting said burner suction chamber with the combustion chamber through said recirculation chamber.

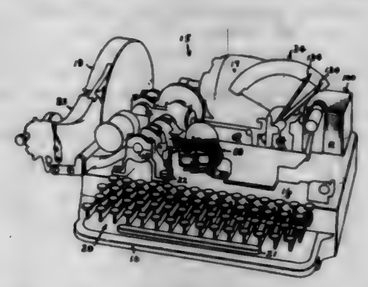
2,973,809
KNOCK-DOWN DOOR BUCK WITH FOLDING DOOR GUIDE MEANS
Samuel Sklar, 63—153 Alberton St., Rego Park, N.Y.
Filed Aug. 18, 1958, Ser. No. 755,608
6 Claims. (Cl. 160—206)



1. A folding door installation of the character described comprising a three-piece preformed door buck having an integrally formed guide roller trackway, a folding door hinged on said door buck and a guide roller device mounted on a free edge of the door and engaging said trackway, said three-piece door buck being formed as a knock-down unit including a headpiece and a pair of channel-shaped jambs of identical cross-sectional configuration having opposite open ends squared off for selectively standing flat on a supporting flooring surface and formed with front and rear walls extending from opposite sides of a side wall, said headpiece having an intermediate channel-shaped portion and a pair of opposite corner pieces, said intermediate portion being formed with front and rear walls upstanding from opposite sides of a bottom wall, said headpiece intermediate portion and jamb front walls having inwardly bent flanges extending from the free edge thereof to contact a building wall, said corner pieces each being formed with a front wall sized to fit as extensions of said intermediate portion and jamb front walls and having inwardly bent flanges on two adjacent edges forming corner extensions of said intermediate portion and jamb flanges, a pair of aligning tabs extending laterally from the rear side of said corner piece front walls along the adjacent edges thereof opposite said flanged edges, one of said tabs being welded to the rear side of said intermediate portion front wall, the other of said tabs forming an element of an interfitting connection between said headpiece and the open squared off ends of the said jambs, a third tab forming the other element of said interfitting connection downwardly extending from each opposite end of said headpiece intermediate portion bottom wall at right angles to said second mentioned tabs, said intermediate portion bottom wall being formed with a longitudinally extending guide track, said guide roller device having a guide roller positioned to slide along said guide track and swingably mounted on a pivoted arm for guiding said folding door from a closed to an open position.

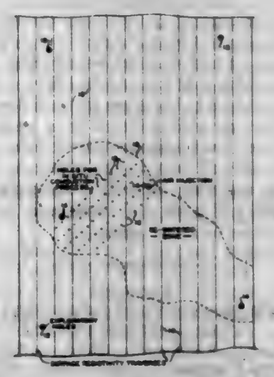
2,973,810
ELECTRIC KEYBOARD FOR TAPE PERFORATOR
Harold L. Johnston, 2212 Hazleigh Drive, Oklahoma City, Okla.
Filed Oct. 3, 1957, Ser. No. 688,088
5 Claims. (Cl. 234—125)

1. In a control form perforating apparatus having, a frame, a motor mounted on the frame, a motor driven shaft carried by the frame, a motor driven control form holder apparatus carried by the frame, a motor driven control form punching means, a set of keys, key levers and selector bars for setting up a control form punching code in the punching means, a stop lever and a stop lever latch, universal bar means movable downwardly by the key levers for releasing the stop lever and permitting actuation of the punching means by the motor driven shaft when said stop lever is released, an improvement which comprises: a rectifier carried by said frame and connected with a source of electrical energy; an electro-magnet carried by said frame in contact with said stop lever latch for tripping the latter when said electro-magnet is energized; electric switch means carried by said



frame adjacent one end of said universal bar means; electric wiring connecting said rectifier to said electro-magnet and said switch means; a condenser connected with said rectifier and said switch means in series with said electro-magnet; said switch means including a pair of normally closed contacts and a pair of normally open contacts, said closed contacts completing a circuit through said condenser; and an arm carried by said universal bar means for opening said closed contacts and closing said open contacts of said switch means when one key of said set of keys is depressed, thereby interrupting the circuit from said rectifier through said condenser and closing a circuit from said condenser through said electro-magnet for energizing said electro-magnet and tripping said stop lever latch.

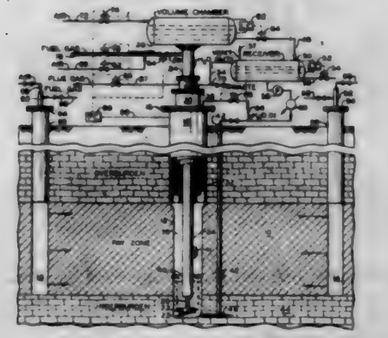
2,973,811
PROCESS FOR DETECTING UNDERGROUND WATER.
Allen S. Rogers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 25, 1957, Ser. No. 698,606
9 Claims. (Cl. 166—4)



1. A process for detecting dewatered areas in a permeable stratum containing carbonaceous deposit prior to producing same by in situ combustion comprising making a

first surface electrical resistivity survey of a selected large area of said stratum; injecting gas into said selected area of said stratum through at least one borehole therein under non-combustion conditions so as to force water out of a substantial section thereof; thereafter making a second surface electrical resistivity survey of said selected area so as to provide data for locating the dewatered section of stratum.

2,973,812
PROCESS AND APPARATUS FOR IN SITU COMBUSTION
Charles MacSporran, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 21, 1958, Ser. No. 729,855
12 Claims. (Cl. 166—11)

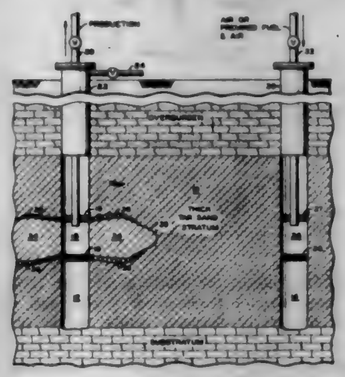


1. Apparatus for heating a subterranean stratum containing combustible carbonaceous material around a well bore therein comprising in combination a casing in said well bore having a well head at its upper end and extending to a level above said stratum; an effluent water line extending thru said well head to a lower level of said stratum; gas conduit means within said water line extending from said well head to a lower level of said stratum; means on the lower end of said gas conduit means for delivering gas outside of said water line to the annulus between said stratum and said water line; an exhaust conduit surrounding said water line and extending from said well head to adjacent the level of the top of said stratum; a water jacket around said exhaust conduit extending downwardly from the well head; means for supplying water to the bottom of said well bore; and means for igniting a combustible mixture of O_2 and fuel gas in said annulus delivered thru said gas conduit and said means on the lower end thereof.

6. A process for initiating combustion in a carbonaceous stratum around a well bore therein which comprises maintaining a selected water level in said well bore at a lower level of said stratum; introducing a combustible mixture comprising fuel gas and O_2 below said water level so that said mixture bubbles up thru said water into said well bore; burning said mixture in a combustion zone above said water level adjacent said stratum so as to heat the walls of said well bore to ignition temperature of the carbonaceous material therein; exhausting combustion gas out of said well bore; and feeding O_2 to the resulting hot stratum so as to ignite same.

2,973,813
PROCESS FOR CONTROLLING PATH IN SITU COMBUSTION FRONT
Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 15, 1958, Ser. No. 761,670
10 Claims. (Cl. 166—11)

1. A process for driving an inverse combustion front thru a relatively thin section of a relatively thick carbonaceous stratum from a selected level in a production well to a selected level in an injection well, comprising moving a combustion front from said level in said production well into said stratum toward said injection well by injecting a combustion-supporting free-oxygen-containing gas into said stratum at said level in said injection well to feed said front; after said front has progressed into said stratum a substantial distance, injecting a transport gas into the partially burned out area of stratum behind said combustion front so as to transport fluid hydrocarbons into cold unburned stratum above and below said area, thereby causing a liquid bank



of hydrocarbon material to block flow of gas into the stratum above and below said area; terminating the flow of said transport gas before plugging of said stratum adjacent the leading edge of said combustion front occurs; thereafter, while the leading edge of said combustion front is at combustion supporting temperature, again feeding said combustion-supporting gas to said area from said injection well to advance said combustion front; periodically repeating the preceding cycle of plugging said stratum and advancing said front; and recovering produced hydrocarbons and combustion gases thru said production well.

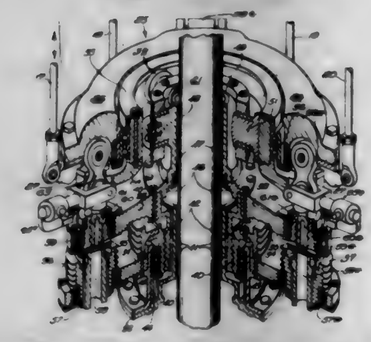
2,973,814
WELL SCREEN ASSEMBLY
George F. Adams and Warren C. Adams, both of Adams Bros. Company, 12492 Highway 64E, Ends, Texas.
Filed June 25, 1958, Ser. No. 744,449
2 Claims. (Cl. 166—228)



1. A well screen assembly comprising an upstanding cylindrical open-ended outer shell having its upper end adapted for attachment to a well pipe, a first upstanding

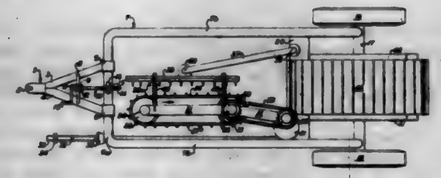
funnel member having the large end thereof conformably shaped to fit within the portion of said shell adjacent the upper end positioned wholly within said outer shell with the large end within and fixedly secured to the outer shell upper end portion and with the small end below and spaced from the upper end of said shell, an inner cylindrical open-ended shell arranged concentrically within and spaced from said outer shell with the portion adjacent the upper end extending into and embraced by the small end of said funnel member and fixedly secured to said funnel member, a sleeve fixedly circumposed about and embracing the portion adjacent the lower end of said inner shell, a second upstanding funnel member of a configuration the same as that of the first funnel member positioned with respect to said outer shell so that the large end extends into and is embraced by the portion of the outer shell adjacent the lower end and fixedly secured to said outer shell and with the small end surrounding and embracing said sleeve and fixedly attached to said sleeve, valve means in the portion adjacent the lower end of said inner shell for controlling the flow of fluid, said outer and inner shells, said sleeve, and said first and second funnel members being each fabricated wholly of plastic material, said inner and outer shells being provided with a plurality of slits arranged in spaced relation therearound defining ingress openings for water, said first and second funnel members and the adjacent parts of said outer and inner shells defining a chamber, and filter material wholly filling said chamber.

2,973,815
PITCH CONTROL MECHANISM FOR HELICOPTER ROTORS
Bernard W. Szaycer, New York, N.Y., assignor to Omega Aircraft Corporation, New York, N.Y., a corporation of New York
Filed Nov. 8, 1957, Ser. No. 695,354
1 Claim. (Cl. 170—160.25)



Means for selectively and severally imparting collective and cyclic pitch adjustments to a swashplate mechanism forming part of a helicopter, the latter including a helicopter frame, a rotor, means for rotating said rotor, said rotor having plural rotor blades and means for adjusting the pitch thereof, said swashplate mechanism having a rotary, vertically movable and tiltable portion connected to said pitch adjusting means for said rotor blades, said swashplate mechanism also having a non-rotary vertically movable and tiltable portion connected by bearing and gimbal means with said rotary portion, said pitch imparting means including: a first housing member disposed around said rotor which is fixed with respect to said helicopter frame, a second housing member disposed around said rotor between said first housing member and said swashplate mechanism, said second housing member being mounted for movement axially of said rotor but secured by means preventing rotary movement relative to said rotor, said second housing member being fixedly connected to said non-rotary portion of said swashplate mechanism with respect to vertical movements; rotatable, vertically movable screw means connected between said first and second housing members disposed to vary the relative vertical position of said member and consequently the collective pitch of said rotor blades controlled by the swashplate mechanism, other vertically movable screw means carried by said second housing member, said other screw means each including threaded nuts held by said second housing member for rotary movement, vertically movable screws meshing with said threaded nuts and connected to said non-rotary portion of said swashplate mechanism in spaced relation to each other, rotary means carried by said first housing member, rotary extensible connections between said rotary means and said threaded nuts, the said rotary extensible connections consisting of vertically movable rotatable splined shafts attached to said threaded nuts, and making a splined connection with said rotary means carried by said first housing member, said shafts extending through and beyond said rotary means to maintain an extensible driving connection during movement of said second housing member relative to said first housing member, and independent actuating means for each of said screw means.

2,973,816
BEET HARVESTING MACHINES
Cornelis van der Lely and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V.
Filed Nov. 5, 1956, Ser. No. 620,452
Claims priority, application Netherlands Nov. 7, 1955
7 Claims. (Cl. 171—58)

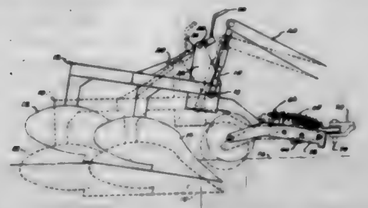


1. A device for harvesting beets and like objects comprising a mobile support, a pair of opposed upwardly inclined, substantially coextensive conveyors on said support, said conveyors having forward and rearward ends, the forward ends being lower than the rearward ends and adapted to be located close to the ground, and differential driving means operatively connected to at least one of said conveyors whereby objects gripped by and between said conveyors will be conveyed upwardly and, at the same time, rotated to separate roots and dirt therefrom.

2,973,817
DRAWBAR ATTACHMENT FOR PLOWS
Edward G. Monthei and Earl D. Blair, both of Jefferson, Iowa
Filed July 27, 1959, Ser. No. 829,831
6 Claims. (Cl. 172—239)

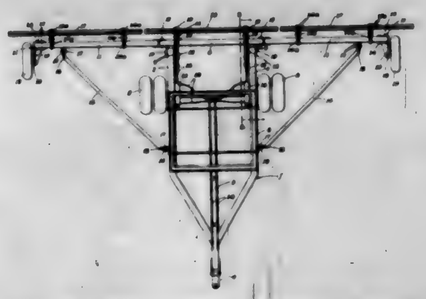
1. In combination, a plow unit having a frame and at least one plow member, said plow member adapted to plow at a predetermined depth in the ground, a tongue member extending forwardly from said frame, a bar movably secured to said tongue, the forward end of said bar adapted to engage and to be secured to the drawbar of a tractor, and a means connecting said bar and said tongue member to normally yieldably hold the forward end of said tongue

member at a lower level than the forward end of said bar when said plow member is being moved by a tractor at



less than its predetermined depth; said bar being free from operative engagement with said plow member.

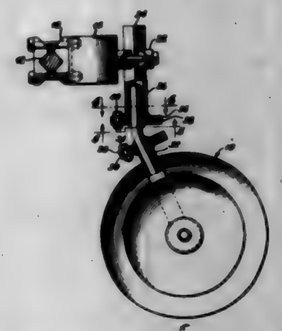
2,973,818
WHEELED TRAILER FOR LIQUID FERTILIZER APPLYING APPARATUS
George I. N. Marvin, P.O. Box 209, Woodland, Calif.
Filed July 26, 1956, Ser. No. 600,224
2 Claims. (Cl. 172—456)



1. In a trailer for mounting earth working tools which comprises a wheeled supporting frame, a central transverse beam disposed at the rear end of the frame, pivot means mounting the beam on the frame for swinging movement about a transverse axis through a ninety degree arc between a relatively lowered operating position and a raised inoperative position, side beams projecting laterally out from the central beam when the latter is in said operating position, tool bar sections rigid with the beams, means pivotally connecting the side beams to the central beam at their adjacent ends for vertical swinging of the side beams about horizontal axes extending lengthwise of the trailer when the central beam is in said operative position, said pivot means being arranged so that when the central beam is swung upwardly the side beams will be correspondingly swung whereby the side beam pivots are then disposed vertically so that said side beams may be swung to a trailing position relative to the central beam and are then at a higher level than when in said operative position; wheels to support the outer ends of the side beams, and means adjustably mounting the wheels on said beams so that they will engage the ground with either the lowered or raised position of the beams.

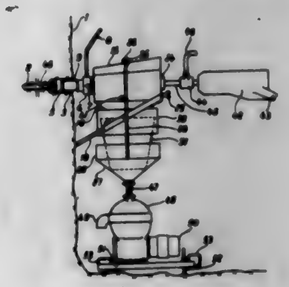
2,973,819
MOUNTING AND ADJUSTMENT MEANS FOR GROUND WORKING IMPLEMENTS
William E. Simmons, P.O. Box 149, Palatka, Fla.
Filed June 13, 1958, Ser. No. 741,821
2 Claims. (Cl. 172—600)

1. In combination with a horizontally disposed tool bar and a disk-type ground working implement supported by said tool bar, the improvement that comprises; a horizontally disposed U-shaped steel spring member having one leg of said U longer than the other leg, the shorter leg of said U-shaped spring being attached to said tool bar, a disk-type soil working implement having a beat spindle the upper end of which extends vertically and the rotation of this upper end determining the axis of disposition of the tool, a hollow tubular member secured to the longer leg of said U-shaped spring, said member having an index flange on one end thereof, a mating



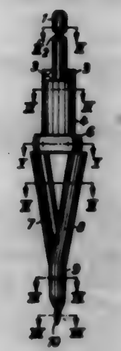
index flange secured to said spindle for cooperating with the flange on the end of said tubular member, and means for securing the flanges together to provide an indexing adjustment device for adjusting the position of the disk-type ground working implement relative to the movement of the agricultural vehicle.

2,973,820
MINERAL AND ROCK SAMPLING UNIT
Tor Henrik Hagermann, Stockholm, Carl-Olof Oskar Morfeldt, Lidingo, and Nils Edvin Svensjö, Bromma, Sweden, assignors to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed Dec. 14, 1955, Ser. No. 553,153
Claims priority, application Sweden Dec. 20, 1954
7 Claims. (Cl. 175—206)



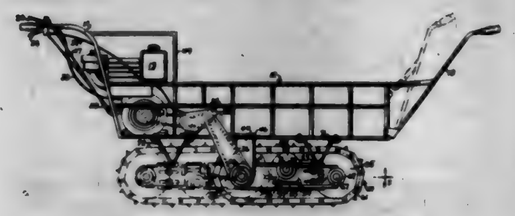
3. In a sampling unit of the character described for receiving bore-dust from the flushing liquid introduced into a bore-hole during formation of the hole by a drilling tool, said unit having an outlet for the flushing liquid sealed against the opening of the bore-hole, whereby the flushing liquid and entrained bore-dust are forced out of the hole through said outlet, the combination of a collecting vessel for receiving the flushing liquid and bore-dust from said outlet, a substantial part of the bore-dust being adapted to settle toward the bottom of said vessel, the collecting vessel having an overflow outlet located at its upper portion for discharge of flushing liquid and residual bore-dust, means for removably mounting the collecting vessel in position to receive said liquid and dust from said first outlet, a centrifugal separator of the sludge-accumulating type, and means for directing flushing liquid and residual bore-dust to the separator from said overflow outlet while the vessel is supported by said mounting means.

2,973,821
ROTATABLE EARTH BORER
Andreas Stihl, Bedstr. 169, Neustadt, near Waiblingen, Germany
Filed Feb. 6, 1958, Ser. No. 713,599
3 Claims. (Cl. 175—388)



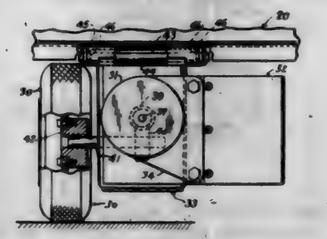
1. An earth borer for use in connection with rotary drilling operations in deformable soil, especially clay, loam, loamy marl, loamy sand and gravel, which comprises: coupling means arranged at one end of said borer for connection with a drive, a pre-cutter arranged at the other end of said borer, a collar connected to said borer and arranged between said pre-cutter and said coupling means, a plurality of semi-tubular members connected to said collar and converging toward said pre-cutter while merging therewith, said semi-tubular members being so arranged that one edge of their convex outside tangentially contacts the interior of the wall of the bore hole being drilled.

2,973,822
MOBILE PACKER
Clayton B. Merry, Star Rte., Leavenworth, Wash.
Filed June 6, 1958, Ser. No. 740,482
5 Claims. (Cl. 180—9.5)



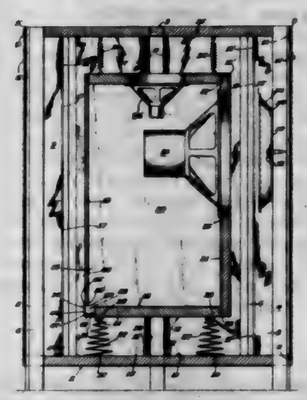
1. In a mobile packer, an elongated load carrying frame assembly, a rigid swing-frame journal-mounted at one of its ends beneath said frame assembly for swinging the other end of the swing-frame about a swing axis between alined forwardly and rearwardly directed positions, an elongated endless rotary track assembly giving continuous ground support for said frame assembly, said track assembly being operatively carried by said swing-frame with the upper run and lower ground engaging run thereof when said other end of the swing-frame is directed forwardly being arranged to become the lower ground engaging run and upper run, respectively, when said other end is directed rearwardly, and drive means carried by said frame assembly and operatively associated with said track assembly for driving the latter at said swing axis to propel the packer forwardly regardless of the position of the swing-frame.

2,973,823
POWER WHEEL UNIT
Blair E. Stentz, Murfreesboro, Tenn., assignor to The Swartzbaugh Manufacturing Company, Murfreesboro, Tenn., a corporation of Ohio
Filed Sept. 2, 1959, Ser. No. 837,730
4 Claims. (Cl. 180—11)



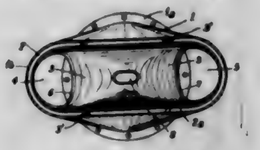
1. A power wheel unit for driving a cart including spaced frame members secured to a pan having downwardly extending apertured side walls, said unit comprising a gearbox for mounting a power driven transmission having an output shaft extending outwardly therefrom, a drive wheel mounted on said output shaft adjacent said gearbox, a sleeve carried by said gearbox in parallel relationship with said output shaft and receivable within said pan in aligned relationship with apertures in the opposed side walls, a pin extending through said apertures and said sleeve for pivotally connecting said gearbox to said cart, and means for selectively retaining said pin in said sleeve and apertures whereby said gearbox may be selectively removed from said cart.

2,973,824
HIGH FIDELITY SPEAKER APPARATUS
Stanley M. Pinski, 8056 South Shore Drive, Chicago, Ill.
Filed Aug. 30, 1957, Ser. No. 681,254
7 Claims. (Cl. 181—31)



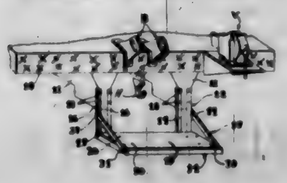
2. A speaker cabinet comprising solid top and bottom members, a plurality of panels of material interconnecting the peripheral portions of said top and bottom members and collectively developing a sound chamber, said panels spaced laterally from each other and forming narrow sound passages therebetween open to said chamber, and a loud speaker opposing baffle mounted within the cabinet.

2,973,825
DISCHARGE NOZZLES WITH A VIEW TO REDUCING THE NOISE OF THE JET
Jean H. Bertin, Neuilly-sur-Seine, France, assignor to Societe Bertin et Cie (Societe a Responsabilite Limitee), Paris, France, a French company
Filed Dec. 30, 1957, Ser. No. 705,871
Claims priority, application France Jan. 9, 1957
3 Claims. (Cl. 181—43)



1. A silencing nozzle for a gas discharge device comprising a first tubular casing, a second tubular casing within said first casing, said casings having inlet and outlet ends, the outlet ends being in substantially a common plane, and the space between said casings forming a conduit for gas, said first casing having lateral conduit means extending to the interior of said second casing, for the introduction of air.

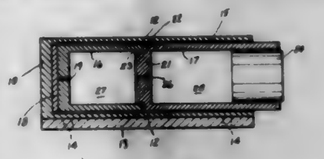
2,973,826
RETRACTABLE STEP STRUCTURE FOR VEHICLES
John S. Barnhart, R.D. 2, Bethel Road, West Middlesex, Pa.
Filed Dec. 10, 1957, Ser. No. 701,893
2 Claims. (Cl. 182—91)



1. A retractable step structure for a vehicle and the like, comprising a support attached to a part of said vehicle, a step pivotally secured to said support and freely swingable about its pivot axis through an arc of substantially 180° from one horizontal position extending outwardly of said vehicle and laterally from one side of said support to another horizontal position extending inwardly of said vehicle and laterally from an opposite side of said support, holding means pivotally secured to said support and freely swingable about its pivot axis through an arc intersecting the plane of said step arc at said two positions, and interlocking means for detachably interlocking said step and said holding means at either of said two positions, said interlocking means comprising a bayonet slot and a keeper rod carried respectively by said step and by said holding means.

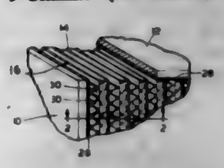
2,973,827
GAS ENTRAPMENT ELIMINATOR
Max E. Eggman, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation
Filed Jan. 13, 1958, Ser. No. 708,656
4 Claims. (Cl. 183—2.5)

1. A device for eliminating gas entrapments in a fluid comprising a tubular housing, a container nested within said housing, means providing a central partition in said container forming end-opposed primary and secondary chambers, said primary chamber being adapted to accommodate the fluid containing gas entrapments, a weighted closure slidably disposed within said container and forming one wall of said primary chamber, an orifice in said partition providing communication between said primary and secondary chamber, said housing being adapted to have imparted thereto an accelerated motion in a direction such that said secondary chamber trails said primary chamber and said weighted closure leads said primary chamber, the force of acceleration thereby



acting on said closure and said fluid forcing said fluid through said orifice into said secondary chamber in a fine stream facilitating the release of gas entrapments therefrom, the force of acceleration acting on said fluid accumulated in said secondary chamber maintaining said accumulated fluid free of additional gas entrapments as the transfer between said chambers proceeds, and a vent in said secondary chamber to prevent gas pressure build-up therein.

2,973,828
FILTER
Paul M. Engle, Syracuse, N.Y., assignor to Cambridge Filter Manufacturing Corporation, a corporation of New York
Filed May 26, 1958, Ser. No. 737,563
9 Claims. (Cl. 183—4)



1. A gas filter comprising a frame, plaited filter media in porous sheet form and through which gases pass at a relatively slow rate disposed in said frame, void producing spacers for said plaits disposed in the upstream side and downstream side thereof defining spaces for gas to collect prior to and after passage through the media, said spacers having active absorbent surfaces for the treatment of gas awaiting passage through said filter medium.

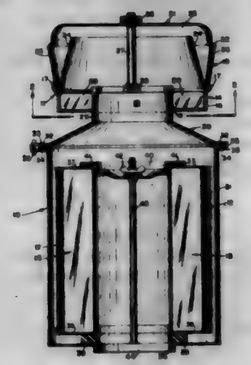
2,973,829
FRICTION PUMP FOR EVAPORATING LIQUIDS
Peter Schlumbohm, 41 Murray St., New York, N.Y.
Filed Mar. 16, 1959, Ser. No. 799,608
5 Claims. (Cl. 183—17)



1. In the method of pumping gases centrifugally from a space of starting pressure to a space of higher pressure by letting the gas flow through an entry zone into a centrifuging space—having a center zone and a peripheral ejection zone—characterized by maintaining throughout the centrifuging space a pressure smaller than the starting pressure by the cooperating measures of (*a*) restricting the flow of the entering fluid to a one-way, axial, porous flow, and (*b*) restricting the flow of the ejected

gas in the ejection zone to a one-way, valved flow; the step of introducing into said centrifuging space a liquid to be evaporated, whereby the liquid can evaporate under the reduced pressure maintained in the centrifuging space and its vapors can join the centrifuged gas to be ejected with it.

2,973,830
AIR CLEANING MEANS
Frederick R. Gruner, Westfield, N.J., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Oct. 16, 1958, Ser. No. 767,678
8 Claims. (Cl. 183—45)



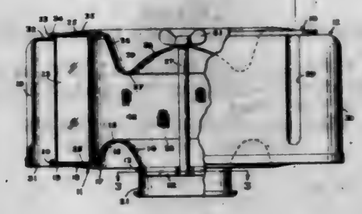
1. Air cleaning means comprising a cyclone pre-cleaner having a dust compartment, a fibrous electrostatic filter media in communication with said pre-cleaner, and a resin impregnated paper filter element in communication with the downstream side of said filter media.

2,973,831
FILTER FRAME
Verner E. Sprouse and Lowell E. Sprouse, both of 1804 E. 22nd St., Columbus, Ind.
Filed Oct. 15, 1958, Ser. No. 767,374
1 Claim. (Cl. 183—51)



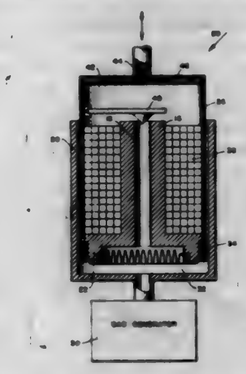
A device for retaining a marginal edge portion of a loosely arranged filtering medium comprising a channel member open along one side and having a base leg; an enclosing leg disposed approximately at right angles to the base leg; and a presser leg integral with and bendable from along, and substantially longitudinally coextensive with said enclosing leg, and extending in spaced relation from and over said base leg; said presser leg having a continuous straight line outer free edge; and a plurality of integral, longitudinally spaced apart barbs extending approximately at ninety degrees from said presser leg and directed toward said base leg; each of said barbs being spaced from but adjacent said free edge and the points of the barbs terminating in aligned points; said filtering medium edge portion resting on and along said base leg; and upon bending said presser leg toward the base leg, the points of said barbs initially engage the filter portion and draw the edge portion of the filter medium over the base leg toward said enclosing leg, followed by said presser leg edge compressibly urging and clamping the filter medium against the base leg, said free edge bearing on a continuous line along the medium spaced from the line of barb points, the barbs tensioning the medium prior to the clamping of the medium against the base leg.

2,973,832
FLAME ARRESTOR FOR AIR FILTER
Donald J. Cook, Livonia, and Patrick J. Schoemer, Wayne, Mich., assignors to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed July 21, 1958, Ser. No. 749,976
2 Claims. (Cl. 183—71)



1. A filter comprising a housing for a filter element defined by a top cylindrical casing and an annular bottom casing, said bottom casing comprising a center tube forming an air outlet opening, joined to an upwardly and outwardly inclined portion joined to a downwardly curved portion providing an annular recess, said bottom casing thereafter extending laterally upwardly, and then horizontally, a peripheral lip on said horizontal portion, an annular pleated paper filter element having the lower end thereof seated on said lip, horizontal and lateral portions, said cylindrical casing comprising a complementary lip, horizontal and lateral portion on which the upper end of said filter element seats, said cylindrical casing thereafter extending downwardly and inwardly and joining a concave portion terminating in a convex central portion to form a flame deflector, the outer wall of said cylindrical casing being spaced outwardly from said filter element and extending downwardly adjacent the lower edge thereof to provide an annular inlet opening therearound and means for securing said casings and filter element to each other.

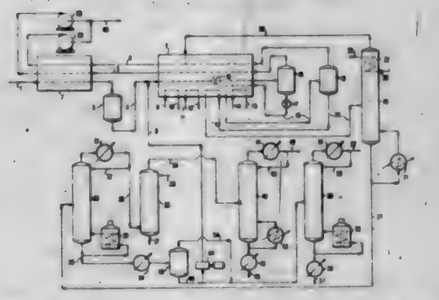
2,973,833
PISTON WITH FILTER
Harold G. Cook, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 25, 1958, Ser. No. 757,159
4 Claims. (Cl. 183—71)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a gas operated servo system including an actuator assembly having a part with a hollow bore therein, a

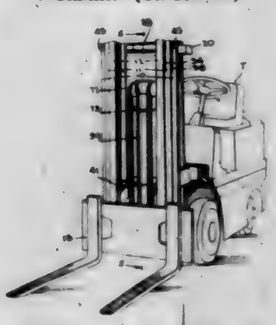
filter for filtering out carbon, lead and other solid combustion products from hot gases, said filter being located in said bore, said filter comprising a circular disk of uniformly corrugated poromesh material, said poromesh material being comprised of finely woven stainless steel wires for operating at extremely high temperatures and having approximately 265,000 holes per square inch, the peripheral edge of said filter disk being swaged flat to form a ridge around its circumference, and retaining means for keeping said filter in place in said bore.

2,973,834
HYDROCARBON RECOVERY FROM NATURAL GAS
Michael J. Cicalese, West Hempstead, N.Y., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey
Filed Aug. 12, 1958, Ser. No. 754,626
12 Claims. (Cl. 183—120)



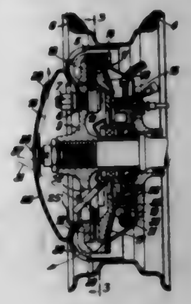
6. In the process of removing hydrocarbons heavier than methane from natural gas at an elevated pressure approximating the critical pressure of methane solely by condensation of said hydrocarbons heavier than methane at a low temperature of about −95° F. and separation of the condensate from the uncondensed portion of said natural gas, the improvement which comprises adding a minor amount of a hydrocarbon fraction having an average molecular weight greater than that of butane to said natural gas prior to said condensation.

2,973,835
LIFT TRUCK
George F. Quayle, % The Yale & Towne Mfg. Co., 11000 Roosevelt Blvd., Philadelphia 15, Pa.
Original application Oct. 16, 1957, Ser. No. 690,476, now Patent No. 2,936,047, dated May 10, 1960. Divided and this application Nov. 16, 1959, Ser. No. 854,995
7 Claims. (Cl. 187—9)



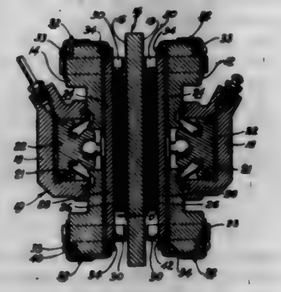
1. In a truck of the class described, primary uprights on the main frame of the truck, secondary uprights mounted for vertical movement on the primary uprights, tertiary uprights mounted for vertical movement on the secondary uprights, a load carriage mounted for vertical movement on the tertiary uprights, a hydraulic ram having a part mounted on said secondary uprights, a ram part adapted to extend downwardly relatively to the part that is mounted on the secondary uprights, said downwardly extending part being in bearing relation to a member that is in fixed relation to the primary uprights on the truck whereby that ram part when extended will lift the secondary and tertiary uprights and load carriage relatively to the primary uprights, a further part on said ram adapted to extend upwardly relatively to the ram part that is mounted on the secondary uprights, a chain through which said upwardly extending part acts when extended to lift said load carriage relatively to the tertiary uprights, a bearing portion on said upwardly extending part of the ram moving into contact with the tertiary uprights upon predetermined lifting of the carriage whereby to lift said tertiary uprights, and a ledge on said upwardly extending ram part in opposed relation to a portion on said tertiary uprights whereby to insure downward movement of those uprights upon movement of said upwardly extending part to a lowered position.

2,973,836
AIR-COOLED DISC BRAKE
Hermann Klaue, Uberlingen, Bodensee, Germany (Rue du Lac 16, Montreux-Clarens, Switzerland)
Filed May 29, 1958, Ser. No. 736,575
Claims priority, application Germany May 21, 1957
3 Claims. (Cl. 188—72)



1. In an air-cooled disc brake, having a non-rotatable housing and a rotatable hub journalled in said housing for rotation about an axis and including a hub cap and a wheel, in combination, a disc adapted to be secured to the hub and extending at right angle to said axis and rotating with said hub and being movable axially relative to said hub and having near its outer periphery brake lining segments adjacent said housing, said brake lining segments being spaced apart from each other peripherally and defining radial spaces and thereby operable to act as a fan propelling air radially outwardly through said radial spaces between said segments, and brake means adapted to be secured to the housing and operable to engage said segments frictionally between said brake means and said housing to brake said hub, said hub cap having a central recess for the passing of air, said hub having a series of axial air passages in radial alignment with said radial spaces, said wheel having apertures, and said housing having openings adjacent the outer periphery of said segments bounded by curved surfaces terminating in registry with said apertures, whereby air may by said fan action be sucked from the exterior through said central recess and through said passages and be propelled outwardly through said radial spaces between said segments and be expelled to the exterior through said openings in the housing and the apertures of the wheel.

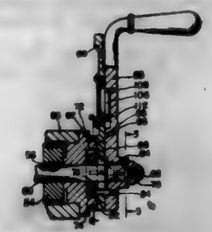
2,973,837
COMBINED AUTOMATIC ADJUSTOR AND RETRACTION MEANS
Harold S. Wilson, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 13, 1957, Ser. No. 645,715
2 Claims. (Cl. 188—73)



1. In a brake, having a rotor with oppositely facing annular braking surfaces and a housing including limbs extending on each of the opposite sides of said rotor and spaced closely adjacent therewith; a friction member between each limb and an annular surface of said rotor, anchoring means projecting from each of the limbs and extending toward the rotor surface to provide anchoring and bearing surfaces slidably supporting the weight of each of said friction members which are rectilinearly movable on their bearings surfaces in engagement with said anchoring means, and adjusting means at each of the anchored ends of said friction members and each comprising a soft annealed wire held at one end by said friction limb and at the other end by said friction member, each wire including a plurality of oppositely curving arcuate loops constructed in succession along the length of said wire, bendable arcuate segments of said wire interconnecting successive arcuate loops whereby flexing of said wire responsive to movement of said friction members develops substantially minimal work hardening of said wire to maintain the original elasticity thereof, transversely bent portions at the remote ends of the wire, and sockets in said limb and friction member for receiving the ends of each wire, each said wire being straightenable by applying movement of the friction member and plastically deformable beyond its elastic limit by movement of the friction member in excess of its running clearance from the opposed rotor surface, segments of each wire being stressed within the elastic limit thereof to exert retractile force on the friction member for retracting it a fixed amount irrespective of the extent of plastic deformation of said wire whereby the running clearance of the friction member is substantially maintained.

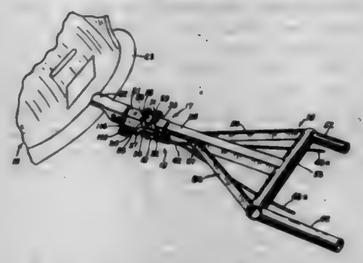
2,973,838
LOCK AND RELEASE MECHANISM
Olaf G. Oswold, Canadice, N.Y., assignor to Bausch & Lomb Optical Company, Rochester, N.Y., a corporation of New York
Filed Dec. 17, 1957, Ser. No. 703,416
4 Claims. (Cl. 188—82.2)

1. A locking mechanism for selectively locking a shaft against rotation in either direction, said mechanism comprising a handle member secured to the shaft for imparting rotation thereto, a casing having an internal surface and having said shaft extending therethrough, a locking member positioned within the casing, means carried by the locking member and acting between the locking member and the casing to selectively hold the shaft against rotation with respect to the casing in either of two directions, said locking member being movably mounted on the handle member to turn about an axis which is parallel to the axis of the shaft, and a locking lever mounted on the handle member to turn about the first-named axis and connected to rotate with the locking member for selectively moving the locking member into locking engagement with said surface, the movement of the locking lever



in one direction preventing movement of the handle member and shaft in the opposite direction but permitting movement of said handle member and shaft in said one direction, and means acting between the locking lever and said handle to retain the locking lever in the engaged position with said locking member engaged with said surface.

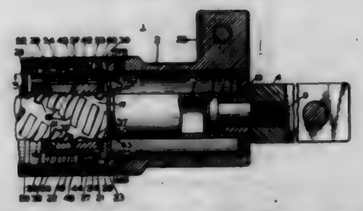
2,973,839
AUTOMATIC BRAKE FOR TRAILER VEHICLE
Frank A. De Puydt and Roger C. Silver, Des Moines, Iowa, assignors to Dico Corporation, Des Moines, Iowa, a corporation of Iowa
Filed Apr. 14, 1958, Ser. No. 728,439
9 Claims. (Cl. 188—112)



1. In a tractor and trailer vehicle combination having a retractable and extensible connecting element between the two vehicles and wherein a trailer wheel is rotatably carried on a supporting unit, a braking mechanism for the trailer wheel including a brake drum, a pair of brake shoes operatively associated with said brake drum, a pair of pivoted levers within said brake drum corresponding to said shoes, means on said supporting unit pivotally supporting said levers at one of their ends for movement of the other ends thereof toward and away from said brake drum, link means movably connecting each brake shoe with a corresponding lever, said link means being movable to positions providing for the movement of said shoes into and out of braking engagement with said brake drum, a fluid cylinder assembly connected between said other ends of the levers and extendable to move said other ends away from each other, and a second fluid cylinder assembly on said connecting element for supplying fluid under pressure to said first cylinder assembly in response to the action of inertia of the trailer transmitted to the tractor through said connecting element, said links, on extension of said first cylinder assembly, during forward travel of said trailer, providing for the movement of said brake shoes into braking engagement with said brake drum, and said link means, on extension

of said first cylinder assembly during a rearward travel of said trailer, providing for the movement of said brake shoes out of effective braking engagement with said brake drum.

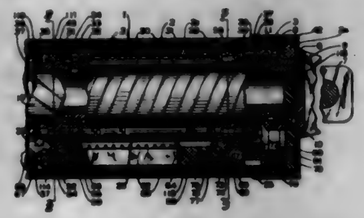
2,973,840
DOUBLE-ACTING SLACK ADJUSTER
George K. Newell, Trafford, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed July 23, 1958, Ser. No. 750,467
13 Claims. (Cl. 188—196)



1. An automatic brake slack adjuster comprising a rotatable member and a rod which are operatively screw-thread connected to each other and movable longitudinally as a rigid two-part unit during a brake application; let-out nut means and take-up nut means each mating with a respective set of oppositely wound external helical threads provided on said rotatable member; let-out clutch means operative when engaged during release of a brake application to lock said let-out nut means against rotation so as to cause said rotatable member to be rotated one way to let out slack; take-up clutch means operative when engaged during release of a brake application to lock said take-up nut means against rotation so as to cause said rotatable member to be rotated the opposite way to take up slack; longitudinally movable runner means operatively connected to both of said nut means for controlling their rotation relative to said rotatable member; cam means carried by, and longitudinally shiftable relative to, said runner means for controlling engagement and disengagement of said let-out clutch means and take-up clutch means; changeover means operatively carried by said rotatable member and engageable by said cam means; stop means connected to said rotatable member; and power spring means for biasing said runner means and cam means into operative contact with said stop means when brakes are released; both of said nut means always being freely spinnable on said rotatable member upon movement of said runner means against the force of said power spring means during a brake application, and said cam means being positioned during release of the brake application to cause effective engagement of said let-out clutch means or said take-up clutch means according to whether said runner means did not or did, respectively, travel far enough against the force of said power spring means during the preceding brake application to carry said cam means into engagement with said changeover means and cause shifting of said cam means relative to said runner means.

2,973,841
DOUBLE ACTING MECHANICAL SLACK ADJUSTER
Glenn T. McClure, McKeesport, and Thomas F. Hursen, Monroeville, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Nov. 17, 1958, Ser. No. 774,357
10 Claims. (Cl. 188—196)

1. For adjusting slack in a rigging, an automatic slack adjuster device comprising non-rotatable housing means, tube means rotatable relative to and movable axially by and with said housing means, a non-rotatable pull rod having operative self-locking screw-threaded connection with said tube means so as to be moved linearly into and out of said tube means according to the direction of rotation of the latter so as to correspondingly vary slack, a pair of rotatable ratchet nuts each screw-threaded onto a respective set of oppositely wound external non-self-locking threads provided on said tube means and each having ratchet teeth, a pair of pawls each selected effectively engageable with the teeth of a corresponding one of said ratchet nuts during untensioning of the rigging, the teeth of the respective nuts being of such configuration that if the corresponding pawl contacts same during tensioning of the rigging such pawl will ratchet over such teeth and permit free spinning of such unit on its corresponding set of such threads, non-rotatable runner means disposed within said housing means, means providing a thrust connection between said runner means and nuts to cause the latter to be moved longitudinally with said runner means while permitting rotation of said nuts on said tube means, a pair of lever means each hingedly carried by said runner means and carrying a corresponding one of said pawls and biased to a pawl-engaging position, cam means operatively engaged by said lever means and longitudinally shiftable relative to said runner means by operative contact with said housing means for operatively through their respective lever



means controlling engagement and disengagement of said pawls, and power spring means for biasing said housing means and runner means relatively toward each other when the rigging is untensioned, said housing means and runner means being operatively connected to different parts of the rigging to cause said housing means and tube means and pull rod to move in unison longitudinally in one direction and said runner means to move in the opposite direction during tensioning of the rigging and against the force of said power spring means a total distance corresponding to the existing slack condition to correspondingly control the position of said cam means relative to said runner means, such that when said total distance is less than or exceeds a desired amount corresponding to a desired slack, said cam means during tensioning of the rigging will be positioned relative to said runner means to respectively permit effective engagement of one or the other of said pawls with the corresponding ratchet teeth upon untensioning of the rigging, and with said one or said other pawl thus effectively engaged its corresponding ratchet nut will be rotatably locked to said runner means and compel said tube means to rotate in a slack-increasing direction or in a slack-decreasing direction, respectively, during movement of said runner means and housing means toward each other by said power spring means during such untensioning of the rigging.

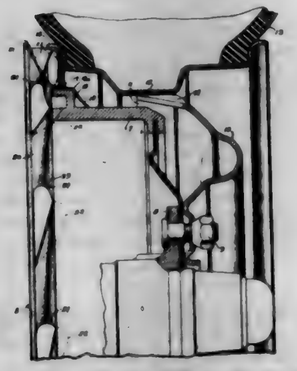
2,973,842
FRICTION ELEMENT
James O. Smiley, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 6, 1956, Ser. No. 596,266
4 Claims. (Cl. 188—251)

1. A composite friction element for subsequent use in a clutch or brake, the combination comprising; a laminated structure comprising two layers each consisting of sintered metal powder mixtures compressed simultaneously and thereby metallurgically and coextensively bonded together at their juxtaposed surfaces, one of said layers comprising graphite in quantities of from 20% to 25%,



molybdenum disulfide 2% to 6%, with at least 60% iron, the other of said layers being relatively more ductile and strong and comprising graphite 1% to 4% with the remainder being substantially all iron, said percentages being by weight of the mixture.

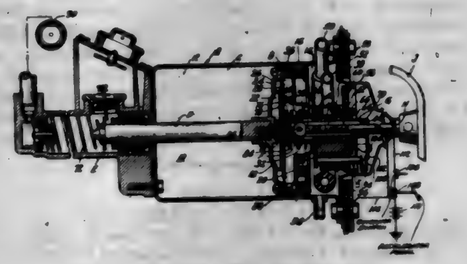
2,973,843
BRAKE DRUM COOLING RING STRUCTURE
George Albert Lyon, 13881 W. Chicago Blvd., Detroit, Mich.
Filed Mar. 10, 1958, Ser. No. 720,393
9 Claims. (Cl. 188—264)



1. In a wheel structure including a brake drum and an encompassing tire rim providing therebetween an air gap that opens axially inwardly of the wheel, an air circulation promoting ring member engaged about the brake drum and having a generally axially inwardly and radially outwardly flaring annular scoop flange portion disposed in spaced relation to the tire rim to provide therewith an extension of the air gap opening generally radially outwardly, said air scoop flange having struck therefrom and bent angularly thereto a plurality of air circulation vanes directed toward the tire rim and with air scoops having their mouth ends channelled from the trailing ends, relative to the direction of rotation of the wheel, of the apertures from which the vanes are struck and trailing toward the respective next adjacent vane in the trailing direction.

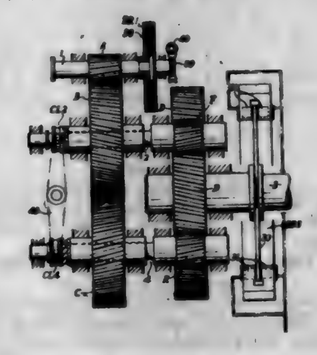
2,973,844
AUTOMATIC BRAKE HOLDING SYSTEM
Edwin E. Prather, Cassopolis, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 23, 1957, Ser. No. 691,877
4 Claims. (Cl. 192—3)

1. In a speed control system for a movable device having a brake, a propelling motor having a speed regulating lever for controlling the speed of said movable device, and a speed responsive governor switch driven in timed relation with said movable device and having contacts which are in one condition below a generally predetermined speed of the device and are moved to a second condition at speeds above said generally predetermined speed: a servo-motor having a power actuatable member which when actuated in a given direction actuates said brake, first control means having a control member which when actuated in a given direction causes said power actuatable member to be biased in a direction to actuate said brake, reaction means constructed and arranged to deliver a reaction against said control member which opposes its actuation with a force generally proportional to the force applied to said brake by said servo-motor, an armature operatively connected to said control member for applying a generally predetermined force to said control member when said armature is biased in one direction, second control means including an electrical coil for controlling the biasing of said armature, a control switch operated by said speed



regulating lever, said control switch being in one condition when said speed regulating lever is adjusted to provide motor speeds below a generally predetermined value and to be in another condition when said speed regulating lever is adjusted to provide speeds above said generally predetermined value, and an electrical supply circuit connecting said electrical coil, said governor switch, and said control switch, said switches and said second control means being constructed and arranged to bias said armature in said one direction when the speed of said movable device is below said generally predetermined speed and said speed regulating lever is adjusted to provide motor speeds below said generally predetermined value, and to release the bias of said armature when one of said switches is moved to its other condition.

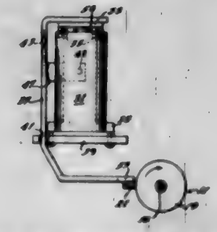
2,973,845
MARINE PROPULSION SYSTEMS
Harold Sinclair, Windsor, England
(5 Phillimore Gardens Close, London W. 8, England)
Filed June 12, 1958, Ser. No. 741,495
Claims priority, application Great Britain June 14, 1957
3 Claims. (Cl. 192—4)



1. A reversing power transmission system comprising an input shaft, an output shaft, an ahead power path and an astern power path between said input and output shafts, and two positive clutches, one in each of said

power paths, selectively engageable to drivably connect said input shaft to said output shaft selectively via said ahead path and said astern path, the said clutches each being constructed and arranged with respect to said input shaft so that back-turning of said input shaft with said output shaft stationary effects helical movement of one clutch element relative to another clutch element of the clutch, locking control means for each of said clutches for selectively locking said clutches in the engaged condition, a brake for arresting said output shaft, and back-turning mechanism for said input shaft, the construction of said clutches with their locking control means being such that with the output shaft stopped and held against rotation by said brake and upon backward turning to a sufficient extent of said input shaft by said back-turning mechanism with said locking control means in clutch unlocking condition both said clutches execute a helical movement of said one clutch member relative to said other clutch member through a sufficient distance to permit selective locking of said clutches in preparation for the transmission of driving torque from said input shaft to said output shaft following release of said brake.

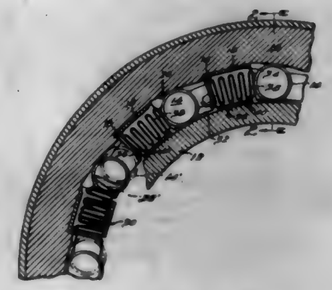
2,973,846
CLUTCH CONTROL
Albert Bernstein, Drexel Hill, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 16, 1957, Ser. No. 653,114
3 Claims. (Cl. 192—22)



1. An actuator for an overrunning clutch having a rotatable control member, said control member having a projecting lug positioned for movement in a circular path, said actuator comprising an arm movable between a first and second position, said arm having spaced fingers each adapted to lie in the path of and obstruct said lug for a respective position of said arm, said fingers lying in a plane substantially perpendicular to the path of said lug and being rigidly spaced to permit said lug to pass therebetween, and means including electromagnetically operable control means for selectively moving said arm between said first and second positions, said arm effecting release of said rotatable control member twice during each operating cycle of said electromagnetically operable control means to allow two revolutions of said rotatable control member in two independent single revolution steps.

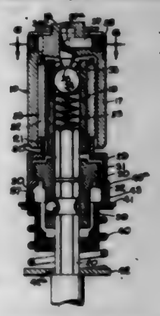
2,973,847
OVERRUNNING COUPLING
Thomas R. Stockton, Northville, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 2, 1958, Ser. No. 706,736
3 Claims. (Cl. 192—45)

1. An overrunning coupling mechanism comprising an inner race and an outer race situated in concentric relationship, cam surfaces formed in said outer race at circumferentially spaced locations, clutch rollers engageable with said cam surfaces for establishing a one-way connection between said races, a separate spring element engaging each roller and adapted to urge the same into camming engagement with its associated cam surface, recesses formed in said outer race intermediate said cam surfaces, and a one-piece spring retainer element having portions thereof anchored in said recess and disposed between said rollers, said retainer element including an annular body portion disposed in a radial plane adjacent said rollers and a plurality of spring enclosure portions integrally joined to said body portion, a separate one of said enclosure portions being adapted to partly enclose each spring element, and a reaction shoulder forming a



part of each enclosure portion comprising a tab disposed in a plane transverse to the plane of said body portion, one tab being disposed between each pair of rollers, said spring being situated between each tab and an adjacent roller, the radially inward ends of said reaction shoulders being deformed tangentially away from their associated springs whereby the next adjacent roller may engage the same when said coupling mechanism is disassembled from said inner race, the deformed portions of said tabs thereby maintaining said rollers in position during assembly and disassembly operations.

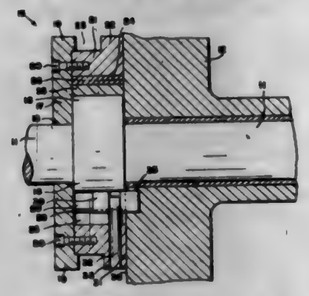
2,973,848
TORQUE RESPONSIVE CLUTCH
Paul H. Dixon, % Dixon Automatic Tool, Inc., 2300 23rd Ave., Rockford, Ill.
Filed Mar. 2, 1959, Ser. No. 796,415
7 Claims. (Cl. 192—56)



1. A torque responsive clutch having, in combination, a tubular member, a cylindrical member disposed coaxially with and inside of said tubular member, said members having opposed radially spaced surfaces, a cage disposed between said surfaces, rollers journaled on said cage to roll on both of said surfaces, means for connecting one of said members to a power actuator whereby said one member is turned about its own axis and constitutes the driving member of the clutch while the other member constitutes the driven member, a plurality of longitudinal ridges formed on and angularly spaced around the surface of said driven member whereby said rollers press between said ridges and the surface of said driving member to couple the two members and pass over the ridges

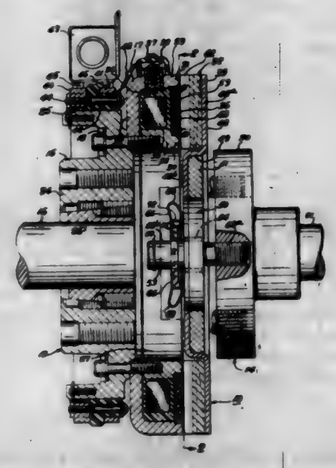
upon the application of a predetermined torque to release the members, a part mounted to turn with said driven member and to move axially relative to said cage, segments formed on said cage to project longitudinally toward said part, a plurality of lugs formed on said part and projecting longitudinally toward said cage, coacting cam and follower surfaces formed on said segments and said lugs and operable when engaged to turn the cage and move said rollers in between said ridges and said surface on said driving member thereby positively to couple said two members, and a spring acting between said driven member and said part to urge said cam and follower surfaces into engagement.

2,973,849
CLUTCH FOR PRESSES AND THE LIKE
Charles Sabatt, 137 Ohio Ave., Niles, Ohio
Filed Mar. 31, 1959, Ser. No. 803,158
1 Claim. (Cl. 192—67)



In a clutch assembly of the kind in which a shaft is to be controllably rotated by a normally continuously driven flywheel journaled on said shaft the improvement comprising a flat end face on said flywheel, an enlargement on said shaft having a flat end face abutting said flat end face of said flywheel, said enlargement having a plurality of circumferentially spaced but longitudinally extending grooves in its outer periphery, said grooves having sharply defined square corners along their bottom walls, a clutch dog slidably received in each of said grooves and being rectangular in cross section to snuggly fit within said grooves, a shift ring assembly mounted concentrically on said shaft and slidable longitudinally therealong, said assembly having an annular groove on its outer periphery adapted to receive a clutch actuating yoke and a heavy ring-like portion concentrically disposed about said enlargement, said ring-like portion carrying a plurality of circumferentially spaced but radially inward directed pins each having an interconnection with one of said dogs whereby upon longitudinal sliding movement of said assembly said dogs will be caused to slide longitudinally in said grooves, said dogs being of such longitudinal dimension and being so interconnected with said pins that said dogs will project longitudinally outward of said end face of said enlargement when the contiguous end face of said ring-like portion is aligned in the same plane as said end face of said enlargement, said flywheel having a plurality of circumferentially spaced recesses projecting into the said end face thereof adapted to receive the outwardly projecting portions of said dogs, said ring-like portion having its inner periphery spaced radially outward from the outer periphery of said enlargement, a plurality of arcuate-shaped inserts positioned between said inner and outer peripheries and circumferentially intermediate said pins, said inserts being keyed and secured to said ring-like portion and having adjacent their ends longitudinally extending square-cornered recesses to snugly receive the radially outward square corners of said dogs, and said inserts having end faces coplanar with said flat end faces of said enlargement and said ring-like portion when said clutch is engaged with the projecting ends of said dogs being received in their recesses in said flywheel.

2,973,850
ELECTROMAGNETIC COUPLINGS
Ralph L. Jaeschke, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 31, 1958, Ser. No. 712,451
22 Claims. (Cl. 192—84)

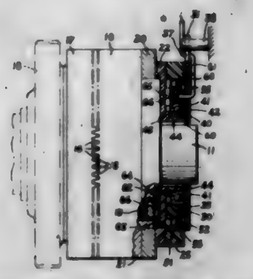


1. In an electromagnetic coupling or the like, a rotatable pole structure having energizing magnet coil means associated therewith for energization thereof, a rotatable armature for co-operation with said pole structure and being axially shiftable into a torque transmitting coupled relation thereto in response to energization of said coil means, said pole structure and armature being conjointly rotatable during said coupled relation and relatively rotatable when said coupled relation is released, shaft means connected with said pole structure and armature and comprising driving and driven shaft members having a common rotation axis, means providing a rotative drive connection between said armature and its assocaited shaft member including guide means comprising relatively slidably co-operating guide sleeve and guide shaft elements for guiding the axial movement of said armature, and a combined armature return and air gap adjusting spring having outer and inner springable and gripping portions disposed in an offset relation in a direction transversely of said rotation axis, said outer springable portion being subject to loading flexture in response to axial movement of said armature into said coupled relation with said pole structure, said spring being mounted on said guide shaft element by a gripping engagement of said inner gripping portion therewith, said gripping engagement being resistant to relative sliding between said inner gripping portion and said guide shaft element and the resistance to said relative sliding being greater than the resistance of said springable portion to said loading flexture.

2,973,851
CLUTCHES
Walter Ernst Rudisch, Dayton, Ohio, assignor, by mesne assignments, to The Bendix Corporation, a corporation of Delaware
Filed Apr. 30, 1959, Ser. No. 809,935
8 Claims. (Cl. 192—84)

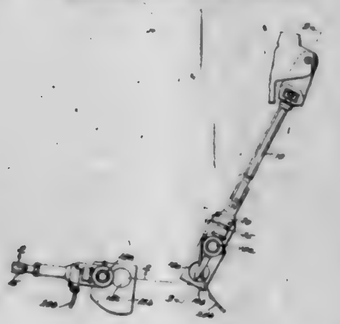
1. Apparatus for transmitting energizing current through the operating coil of the rotating magnet body

of an electromagnetic clutch, comprising a holder adapted for mounting on the magnet body for rotation therewith, a pair of anti-friction bearings carrying substantially no radial load on said holder each including complementary races of electrically conducting material having anti-friction elements of electrically conducting material therebetween, means securing one of said races of each of said bearings to said holder for rotation therewith, sta-



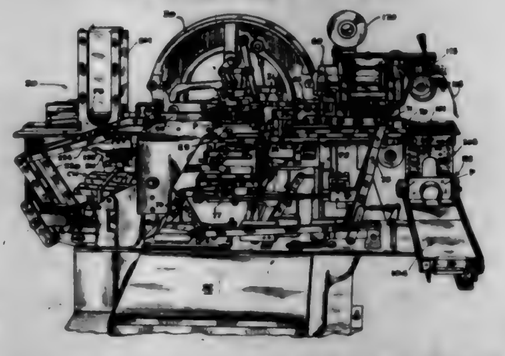
tionary mounting means adjacent said holder, means securing other races of each of said bearings to said stationary mounting means, and means mainting said bearings electrically insulated from each other, means electrically connecting said rotating races to opposite ends of the magnet coil respectively, a pair of electrical leads, and means for connecting said leads to the respective other races of each of said bearings.

2,973,852
SAFETY PULL BAR FOR PAPER CUTTING MACHINES
Carl Thumim, Westbury, N.Y., assignor, by mesne assignments, to Miehle-Goss-Dexter, Inc., Chicago, Ill., a corporation of Delaware
Filed July 2, 1957, Ser. No. 669,608
1 Claim. (Cl. 192—150)



In a device of the class described, a pull bar for one end of a paper cutting knife comprising an elongated tensile bar member, a connector member at the end of said bar member for connecting said bar member to an electro-mechanical source of power to exert a pull through said bar, resilient means intermediate said pull bar member and said connector member to provide relative motion between said bar and said connector member upon predetermined tension being exerted through said bar member, and switch means carried by said members comprising a switch actuable upon a predetermined degree of relative motion between said members, including a control circuit operated by said switch to render said source of power ineffective to pull said bar upon actuation of said switch, said connector member comprising a yoke disposed at the end of said pull bar member and having an aperture through which an integral portion of said pull bar slidably extends, said portion having a threaded end, said resilient means being carried on said threaded end, an adjusting collar carried on said threaded end for initially compressing said resilient means, said resilient means being disposed to transmit tension between said yoke and said adjusting collar, said yoke having means for connection to a crank, said switch means comprising a push button micro-switch carried by one of said members, and a switch actuator carried by the other of said members, and comprising an actuator element having means to independently adjust relative to said one member to selected positions in the direction of motion toward said push button micro-switch.

2,973,853
EMBOSSING MACHINES
Joseph Freedson, Cleveland Heights, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Aug. 28, 1956, Ser. No. 606,756.
15 Claims. (Cl. 197—6.6)

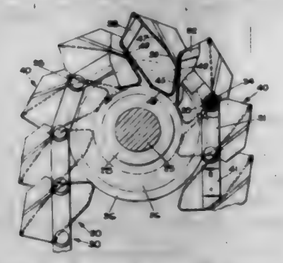


5. In an embossing machine of the kind described, means at an embossing station affording punch and die mechanism adapted to emboss characters on plates or the like of dielectric material, means affording a support at a facing station on which said plates are adapted to be disposed individually to have the embossed characters thereof distinctively faced with coloring material, pressure applying means normally spaced from said support, means to feed and guide a strip bearing transferable coloring material opposite the characters of a plate disposed on said support as aforesaid, means to actuate said pressure applying means so as to press said strip against the characters of a plate disposed as aforesaid and cause a transfer of coloring material as facings on to said characters, means to power the punch and die mechanism, means for transmitting such power to a one-revolution clutch adapted to impart drive to the feed means for said strip and the actuating means for said pressure applying means, feed means for said plates adapted to transfer the plates individually from the embossing station to the facing station and from the facing station to a receiving station, and means adjacent said receiving station to eliminate charges on said plates produced as an incident to movement of the plates through the machine.

2,973,854
BUCKET ELEVATOR
Alfred H. Roloson, Worthington, Ohio, assignor to The Jeffrey Manufacturing Company, a corporation of Ohio
Filed Jan. 13, 1958, Ser. No. 708,455
5 Claims. (Cl. 198—152)

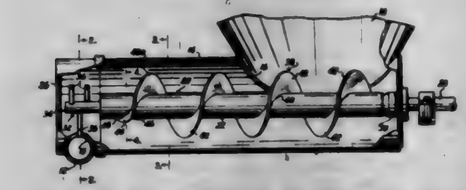
1. A bucket elevator comprising a wheel and a shaft for the wheel, a chain trained about the wheel, a plurality of buckets for conveying material secured to the

chain in succession and adapted to be carried around the wheel by the chain, each of said buckets comprising a bottom wall and a rear wall, the surface area of the bottom wall of one bucket being disposed so closely adjacent the surface area of the rear wall of a successive bucket as the buckets are carried around on the periphery of the wheel by the chain that the closely adjacent bottom wall surface area and rear wall surface area of successive buckets are divergent in the direction of the shaft



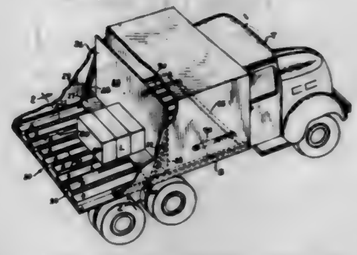
when said wheel and chain are in unworn condition and said closely adjacent bottom wall surface area and rear wall surface areas of successive buckets are less divergent than aforesaid when the wheel is partially worn and the diameter thereof is less than the diameter of the wheel in unworn condition and said closely adjacent bottom wall surface area and rear wall surface area of successive buckets are convergent in the direction of the shaft when said wheel is completely worn.

2,973,855
AUGER ASSEMBLY HAVING NOVEL DISCHARGE END
George M. Pro, Leawood, Kans., assignor to Air Placement Equipment Company, Kansas City, Mo., a corporation of Missouri
Filed Sept. 15, 1958, Ser. No. 760,892
1 Claim. (Cl. 198—213)



A conveyor unit for cementitious materials comprising an elongated, normally horizontally disposed cylinder provided with a materials inlet opening in the top thereof adjacent one end of same, and a materials outlet at the opposite end thereof, said one end of the cylinder having a transversely extending end wall closing the same; a drive shaft extending through said end wall in axial alignment with said cylinder and provided with a coupling on the inner end thereof within said cylinder, the innermost extremity of said coupling being transversely polygonal; a rotatable member extending substantially the full length of the cylinder, disposed in spaced, axial relationship thereto, and having an elongated core provided with a polygonal socket at one end thereof, proximal to said end wall, complementally and loosely receiving said coupling to permit free swinging movement of said member within the cylinder, there being a continuous blade fixed to said core and coiled spirally thereabout from end to end thereof, defining a plurality of convolutions of equal diameter and a terminal convolution of lesser diameter adjacent said opposite end of the cylinder, said terminal convolution gradually, progressively and uniformly decreasing in diameter as said opposite end of the cylinder is approached until its diameter reduces to zero as the same merges at the terminus thereof with said core, said terminus of the blade being in spaced relationship to said opposite end of the cylinder; a pipe for receiving said materials connected to and communicating with the cylinder in underlying, partial, intersecting relationship thereto; and a paddle wheel in said cylinder at its said opposite end above the pipe secured to the opposite end of the core in axial alignment with the latter for rotation therewith and spaced from said terminus of the blade whereby cementitious material delivered into the cylinder through said inlet is transferred longitudinally of the cylinder by said blade during rotation of the member and finally delivered to said pipe, and whereby movement of the member prevents compacted cementitious material from damaging the screw during conveyance through the cylinder, as the paddle wheel precludes bridging of materials across said pipe.

2,973,856
CONVEYOR
Will E. Brooks, Appleton, Wis., assignor to Precision Scientific Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 9, 1958, Ser. No. 727,428
19 Claims. (Cl. 198—219)

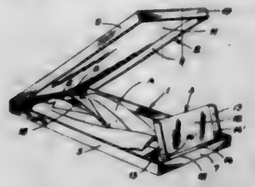


1. In a conveyor the combination comprising a longitudinal bed, a first load conveying member on said bed, a second load conveying member on said bed adjacent said first member, means for guiding said first conveying member for angular movement upwardly from a seated position and forwardly with respect to said bed, and means for guiding said second conveying member for angular movement upwardly from a seated position and rearwardly with respect to said bed, said load conveying members being at substantially the same level relative to the bed in their seated and upraised limit positions respectively, and control means for cyclically moving said members between their limit positions so that they reach their upraised positions in sequence for conveying a load step-by-step along said bed.

2,973,857
GARMENT BOX
Irving Richer, 5415 Cavendish St., Montreal, Quebec, Canada
Filed Feb. 13, 1959, Ser. No. 793,063
3 Claims. (Cl. 206—7)

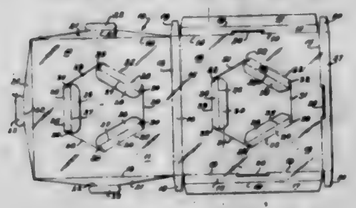
1. A box for a garment, said box made of corrugated fibreboard and comprising, a body member, a cover member and a garment clamping panel integral with said body member, said body member including a bottom panel and walls integrally formed therewith, said clamping panel comprising a substantially rectangular main part and side parts which form a right angular marginal portion for said main part, said clamping panel being integrally united to said body member along a score line formed at the junction of one of said side parts of said clamping panel with a wall of said body member, such

that said clamping panel will fit concavely within said body member, and the main part of said clamping panel will directly contact a garment in the box, said marginal



portion of said clamping panel engageable with said cover member in the closed position of the latter to cause said main part of said clamping panel to clamp said garment against shifting within the box.

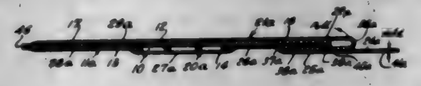
2,973,858
CONTAINER FOR WIRE, TUBING, CORDAGE AND THE LIKE
Arthur L. Laseve and Harold E. Nash, Erie, and Richard L. Tress, Beaver Falls, Pa., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Mar. 13, 1958, Ser. No. 721,222
5 Claims. (Cl. 206—52)



2. A one piece container for packaging a cylindrical article having a substantially greater diameter than height and a central void therein comprising rectangular, substantially counterpart top and bottom wall panels spaced in parallel relation by relatively shallow opposed pairs of vertical side walls integral with the sides of the bottom wall panels, the top wall being hinged to the top edge of one side wall with flaps on its free edges disposed flatwise against the outer face of the side walls with locking tabs on said flaps locked in aligned slots in the side walls, in the top and bottom walls, centrally positioned and aligned marginal edges defining openings, flaps integral with alternate margins with tabs on their outer ends, folded into mutual edgewise interlocking engagement, the top wall flanges right angularly downward, the bottom wall flaps positioned right angularly upward with their tab extensions folded outwardly flatwise against the inner face of the opposite wall, the tabs on the flanges integral with the interior margins of the top and bottom wall panels having locking ears in engagement with aligned cutouts in the side edges of the bottom wall flanges, firmly locking the hub structure together.

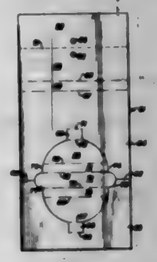
2,973,859
ADHESIVE BANDAGE
Peter Schladermundt, Bronxville, and William H. Dennerlein, Bethpage, N.Y., and Langdon S. Simons, Jr., Medina, Wash., assignors to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey
Continuation of application Ser. No. 582,287, May 2, 1956. This application Apr. 20, 1959, Ser. No. 807,717
16 Claims. (Cl. 206—63.2)

1. An adhesive bandage package unit comprising an adhesive bandage including an adhesive tape presenting on its front face an adhesive surface, a wrapper for the adhesive bandage comprising a pair of wrapper sheets, one of said wrapper sheets having an end section folded and wrapped around one end of the adhesive bandage to form a group of three contiguous folds, one fold at one end of said group extending along the rear face of the adhesive bandage, the other two folds overlapping and



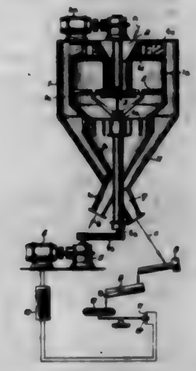
extending along the front face of the adhesive bandage with the inner fold at the other end of said group attached to the adhesive bandage by the adhesive on said adhesive surface to form with said bandage end a tab by which the adhesive bandage with said one sheet attached may be withdrawn from the other wrapper sheet, and breakable juncture means connecting said wrapper sheets together.

2,973,860
ONE-PIECE PLATFORM TYPE ARTICLE HOLDER FOR PACKAGES
Manuel Cohen, Buffalo, N.Y., assignor to Wagner Folding Box Corporation, Buffalo, N.Y., a corporation of New York
Filed Apr. 21, 1958, Ser. No. 729,894
10 Claims. (Cl. 206—79)



7. A one-piece platform type article holder comprising a generally rectangular base of sheet material, a transverse score line on said base to facilitate separating the same into two parts, an article engaging platform forming member of generally oval shape cut from said base with the major axis of said member at right angles to said score line, hinge members cut from said base and connected to opposite ends of said platform member along inner fold lines and to said base along parallel outer fold lines, a central transversely disposed rectangular section extending between the side edges of said platform member and connected thereto by spaced parallel fold lines, an outwardly extending tab at each end of said central section and a wall section on each side of said central section connected thereto along said last named fold lines and to said platform member along parallel fold lines, said wall sections extending between the side edges of said platform member, whereby upon separation of said base along said score line and movement of said two parts in partially overlapping position, said hinge members will bend along their connecting fold lines to elevate said platform member above said base, said central section remaining substantially in the plane of said base with said tabs disposed below the overlapping portions of said base and with said wall sections substantially vertical to form an article receiving trough, said platform member when in elevated position being substantially circular, whereby a ring-shaped article may be disposed around said platform member and be retained between said platform member and said base.

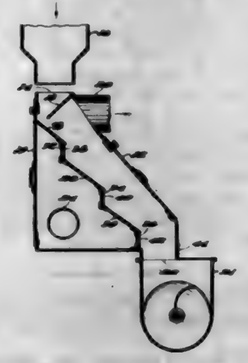
2,973,861
METHOD AND MEANS FOR REGULATING THE SIZING OPERATION OF AN AIR CLASSIFIER
Heinz Jäger, Bochum-Riemke, Germany, assignor to Westfalia Dinnendahl Groppel Aktiengesellschaft, Bochum, Germany, a corporation of Germany
Filed Apr. 13, 1959, Ser. No. 805,984
3 Claims. (Cl. 209—1)



1. An air classifying apparatus comprising a classifier having a centrifugal system whose speed determines the grain size of the fines being separated, said classifier having an outlet conduit for the separated fines and having a variable-speed drive connected with said system, a specimen receiver in the flow path of said outlet conduit for continuously withdrawing a specimen quantity of fines, said receiver having an overflow, a screening device mounted for continuously receiving material from said overflow and adapted to separate from said material the component content of material beyond a given grain size, an endless-belt weighing scale mounted to continuously receive said content from said receiving device and having a member movable in opposite directions from a balance position in response to departure of the weight per time unit of said content from a given range, and speed control means connected with said drive and controlled by said member for accelerating and decelerating said centrifugal system in dependence upon said departure so as to maintain the grain size of the separated fines within a given range of uniformity.

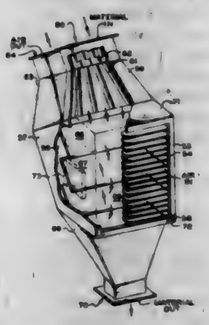
2,973,862
PROCESS AND APPARATUS FOR FRACTIONATING SOLID MATERIALS
Robert St. P. Vail, Pampa, Tex., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware
Filed Jan. 31, 1956, Ser. No. 562,509
4 Claims. (Cl. 209—136)

3. Apparatus for fractionating free-flowing solid materials which comprises a container divided internally by a flight of stairs therein into two separate compartments one above and one below said stair flight, the flat tread on each step of said stair flight sloping at about the same angle, this being greater than the angle of repose of the said material to be fractionated therein, relatively short vertical risers connected between adjacent stair treads, orifices of uniform size and direction in said risers, means to supply gas from a source outside said container to the compartment below said stair flight; the wall of said container which is directly opposite the upper surface of said stair flight being disposed as a substantially flat plane slanting at an angle substantially equal to the average slope of the entire stair flight, means for feeding the free-flowing solids to be fractionated onto the top tread of said stair flight, means for withdrawing the fraction of said free-flowing solids which finally slides off of the bottom tread of said stair flight, an opening in one of the outer walls of the compartment above said stair flight near the foot of same, a conduit leading out of the top of the



compartment above said stair flight and located away from said stair flight, and means for supplying gas to said opening and withdrawing gases laden with entrained solids through said conduit.

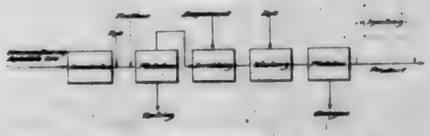
2,973,863
CASCADING VANE DUST REMOVAL ELUTRIATOR
William R. King and Fred Rowe, Jr., Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,591
3 Claims. (Cl. 209—136)



1. In a pelletized carbon black handling system, improved means for separating carbon black fines from pellets comprising a shell having an open top and bottom, a rectangular fully louvered face lying in a vertical plane, a rectangular sloping rear panel opposite said face and lying in an oblique plane intersecting said vertical plane below said face, and two vertical side panels adjoining opposite edges of said face and rear panel to complete said shell; a feed section positioned centrally above said shell and adjoining said side panels, said feed section having rectangular cross section and tapering upwardly from a width equal to that of said shell to a substantially narrower inlet opening; a plurality of distribution fins positioned longitudinally in said feed section, extending less than the full width of said section and dividing same into a plurality of substantially equal longitudinal channels; a suction section having rectangular cross section, positioned above said shell, behind said feed section and adjoining said side panels and rear panel, said suction section tapering upwardly in two dimensions to an outlet opening and having an axis of symmetry lying in a plane parallel to said oblique plane;

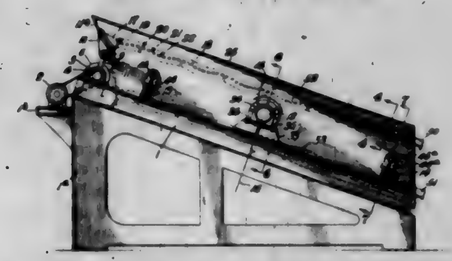
three rectangular baffle plates distributed from top to bottom within said shell in near vertical alignment below said feed section and equally spaced apart in planes parallel to said oblique plane, the middle baffle positioned generally forward of the upper baffle but rearwardly of the depending edge thereof and the lower baffle positioned generally forward of the middle baffle but rearwardly of the depending edge thereof so that material falling from top to bottom of said shell from said feed section must pass successively over each baffle; a hopper bottom adjoining the lower edge of said rear panel and side panels and disposed to receive material from said lower baffle, panel means closing the top and bottom of said shell between said face, hopper, feed and suction sections; and vibrating means attached to the center portion of each side panel.

2,973,864
PROCESS FOR BENEFICIATION OF ASPHALTITE MATERIAL
Phillip E. McGarry, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York
Filed Jan. 6, 1955, Ser. No. 480,289
9 Claims. (Cl. 209—166)



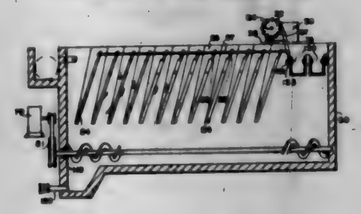
1. A method for the beneficiation of uranium-bearing asphaltite ore which comprises comminuting the ore to liberation of the bituminous constituents, converting the liberated ore to an aqueous pulp and agitating and aerating the pulp in the absence of a collector to effect flotation of a bituminous concentrate, scrubbing the concentrate in slurry form with dispersants for bituminous material, washing the scrubbed slurry free of contaminants and dispersants and aerating and agitating the scrubbed concentrate in the absence of a collector to effect flotation and to recover a second bituminous concentrate containing the uranimum constituents.

2,973,865
ROCKER SCREEN VIBRATING MACHINE WITH UNDULATED SCREEN CLOTH
John F. Cibula, 609 W. Lemon St., Lancaster, Pa.
Filed Sept. 17, 1957, Ser. No. 684,521
5 Claims. (Cl. 209—315)



1. A separating machine for separating fines from agglomerate comprising a supporting structure, a vibratory unit extending longitudinally of said supporting structure and transversely journalled therein for vibratory movement, compression coil springs extending between said supporting structure and positions adjacent opposite ends of said vibratory unit for floating said vibratory unit in a plane inclined from the upper end to the lower end thereof in said supporting structure, an inclined chute attached to the upper end of said vibrating unit, a bracket centrally disposed beneath said chute, means on said supporting structure and connected with said bracket for cyclically impressing vibrations on said vibratory unit, said means and said bracket all being arranged immediately adjacent the upper end of said unit and substantially beneath said inclined chute and within the dimensional limits of the rearward extension of the inclined chute of said vibratory unit and screen structure carried by said vibratory unit for receiving agglomerate and fines at the upper end of said unit for separating the fines from the agglomerate and discharging the agglomerate at the lower end of the vibratory unit.

2,973,866
SETTLING TANK
Albert L. Genter, Wyman Park Apts., Baltimore 11, Md., and Richard R. Kennedy and Robert M. Kennedy, both of 604 Mission St., San Francisco 5, Calif.
Filed May 14, 1959, Ser. No. 813,231
14 Claims. (Cl. 210—519)



1. A settling tank comprising an elongated containing means having a bottom wall, side walls and end walls, fluid inlet means and fluid outlet means communicating with opposite ends of the interior of said tank, a fluid inlet channel communicating with said fluid inlet means, a series of fluid distributors communicating with said fluid inlet channel, said fluid distributors comprising means for directing fluids in opposing directions whereby the fluid entering said tank through said distributors assumes a substantially non-turbulent laminar flow, a plurality of baffles disposed in said tank over which fluid exiting from said distributors passes, said baffles having top and bottom ends and being inclined with the bottom ends closer to said distributors than the top ends, a collection chamber located below the bottom ends of said baffles for collecting settled solids, an outlet chamber, and submerged conveying means for transporting settled materials from said collection chamber to said outlet chamber.

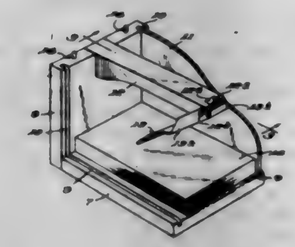
2,973,867
DISPLAY RACK
Maurice Cohen, 8580 NW. 52nd St., Miami, Fla.
Filed Jan. 31, 1957, Ser. No. 637,465
10 Claims. (Cl. 211—37)



1. In a display device, a shaft, a display assembly mounted for rotation on said shaft, said display assembly

including a tubular member, a plurality of drums and discs alternately positioned in spaced vertical arrangement and located in coaxial relation with respect to said tubular member, each of said discs having a circular display member secured thereto, at least one of said display members including coaxial vertically spaced rings, and a top plate secured to the uppermost of said discs and forming the top of said display device.

2,973,868
HOLDER FOR STACKED SHEET MATERIAL
Irvin C. Poskin, 1828 S. Robertson Blvd., Los Angeles, Calif.
Filed Oct. 12, 1959, Ser. No. 845,769
5 Claims. (Cl. 211—51)



1. A sheet material holder comprising a baseboard, a wall member upstanding from an end of said baseboard, a horizontally extending mounting arm carried by the top portion of said wall member in an upwardly spaced relation to said baseboard, a clamp member carried by said mounting arm in a position releasably to engage sheet material overlying said baseboard, and an abutment member upstanding from an edge portion of said baseboard in a position to have abutted edgewise against it the sheets of a pack of sheet material overlying said baseboard, said abutment member being removably mounted, there being mounting means therefor at each side of the device, thus adapting the device for having sheets stacked upon the baseboard in either a right hand or left hand manner.

2,973,869
BAGGAGE RACK
Malcolm L. Raymond, 88 Osborne St., Johnstown, Pa.
Filed May 8, 1958, Ser. No. 733,856
4 Claims. (Cl. 211—90)



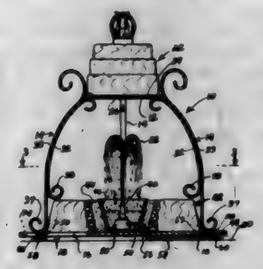
1. A tilting shelf assembly comprising an elongated platform having front and rear portions, a supporting bracket assembly for said platform on which said platform is slidable forwardly and rearwardly and tiltable from a horizontal position about a horizontal axis, said bracket assembly comprising a pair of support members at opposite sides of the platform attachable to a wall structure in fixed position and having horizontally aligned pivots, a pair of transverse members on said platform at opposite sides thereof having closed end slots therein through which said pivots extend, said slots having closed front and rear ends terminating forwardly and rearwardly respectively of the transverse center of gravity of said platform and inclining downwardly and rearwardly of said platform, whereby said platform is slidable on said pivots to engage said pivots with the front and rear ends of the slots to overbalance said platform for tilting from and into horizontal positions, respectively, and gravitational movement on said pivots downwardly and rearwardly when overbalanced for tilting into horizontal position.

2,973,870
SPRING MOUNTED CURTAIN ROD
Maurice A. Schoos, East Greenwich, R.I., assignor to Kenney Manufacturing Company, Cranston, R.I., a corporation of Rhode Island
Filed May 21, 1959, Ser. No. 814,695
1 Claim. (Cl. 211—123)



A drapery support comprising an elongated body, a hollow casing adapted to receive said body, a compression spring in said casing, first means for limiting motion of said spring in said casing comprising a deep groove in said casing forming a narrowly constricted passage therein of smaller transverse dimension than the smallest transverse dimension of said spring under heavy compression, second means for limiting motion of said spring in said casing spaced from said first means comprising a shallow groove in said casing forming a less narrowly constricted passage therein of sufficiently wide transverse dimension to permit said spring to pass through under heavy compression but narrow enough to restrain said spring against such motion under relatively light pressure, whereby said spring may be inserted in said casing from the end thereof nearest said second means and forced beyond said second means to a position abutting said first means leaving said spring in operative position to abut the end of said elongated body in said casing and urging the same outwardly thereof under spring compression.

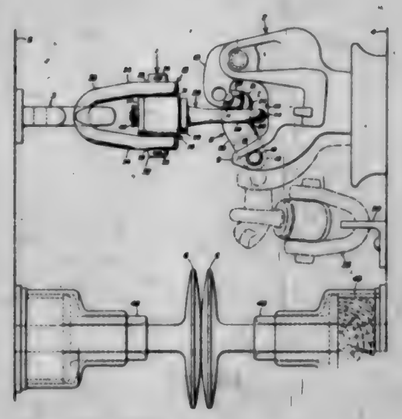
2,973,871
HOLDER FOR DIFFERENT LAYERS OF CAKE
Edward Wukowitz, Wells Ave., Congers, N.Y.
Filed Oct. 14, 1957, Ser. No. 689,949
7 Claims. (Cl. 211—134)



1. A holder for a wedding cake including a platform and three supports at angularly spaced locations around the periphery of the platform, each of the supports comprising inner and outer straps having confronting faces adjacent to one another along most of the length of the inner straps, the upper end of both straps of each support terminating in a scroll and the scroll of each strap turning in the opposite direction from that of the other strap, the scrolls of the inner straps extending upwardly from their region of divergence with the outer straps

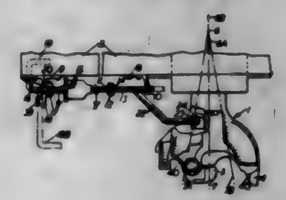
and all becoming tangent with a horizontal plane at substantially the same level and then curving inwardly and downwardly and then outwardly at a lower level, detachable fastening means connecting the platform to the scrolls of the inner straps with the platform resting on top of the scrolls of the inner straps, each scroll of the outer straps extending upwardly through a location where it is tangent to a vertical plane and then curving upwardly and outwardly and then downwardly, each scroll of the outer strap passing outside of the platform and extending for a substantial distance above the top of the platform and forming an abutment for preventing transverse displacement of a cake from the platform, and a bottom scroll at the lower end of each outer strap curving outwardly and then upwardly and constituting a foot of the cake holder.

2,973,872
TRANSITION COUPLING
Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Mar. 11, 1958, Ser. No. 720,579
18 Claims. (Cl. 213—112)



14. The combination with an automatic knuckle coupler of a transition coupling for connecting said coupler to a draw hook, said coupling comprising a dog having an end fitting into a slot in a pivotally connected for substantially horizontal relative swinging to a guard arm of said coupler, shoulder means on a free end portion of said dog and adapted to bear against and seat an inner face of a knuckle of said coupler with said knuckle in closed position and said dog in a throat of said coupler, an eye-bolt having an eye encircling said dog intermediate ends thereof and limited in outward movement relative thereto by said shoulder means, an internally threaded sleeve encircling and threadedly engaging a threaded stem of said eye-bolt, a collar rotatably encircling said sleeve, means at one end of said sleeve for limiting axial movement of said collar in one direction relative thereto, trunnions carried by and projecting radially from said collar, a clevis pivotally connected to said collar through said trunnions and connectable to said draw hook, means at the other end of said sleeve and cooperating with said means at said one end for limiting relative axial movement of said sleeve and collar in either direction, a lever connected to said last named means for turning said sleeve on the stem of said eye-bolt and extending and contracting said coupling, and means for limiting outward movement of said sleeve relative to said stem.

2,973,873
AUTOMATIC COUPLERS FOR RAIL VEHICLES
Glenrey D. Whitehouse and John O. Cooke, Sheffield, England, assignors to English Steel Corporation Limited, Sheffield, England
Filed Nov. 16, 1959, Ser. No. 853,364
Claims priority, application Great Britain Nov. 28, 1958
5 Claims. (Cl. 213—166)



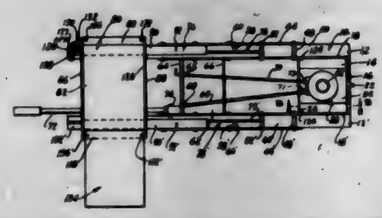
1. In lock-operating means for a knuckle-type automatic coupler for a rail vehicle in which the lock is released by means of a rotor rotatable by engagement in an eye in the rotor of a hook on the inner end of a rod the outer end of which is connected to a rod having a crank handle by means of a crosshead axially slidable on but non-rotatable with respect to the rod of the crank handle which is rotatably mounted in a pair of spaced brackets on the frame of the vehicle, the provision of a torsion coupling interposed between the handle and its rod, together with a wing on the outer bracket, said wing being formed into an upwardly facing hook to receive the crank handle when it has been first rotated to release the lock by consequent rotation of the rods and rotation of the handle continued to beyond the hooked wing, and then moved laterally to extend directly over the hooked wing, when the load applied to the torsion coupling in the rotation of the handle to beyond the hooked wing holds the handle in the hook formed by the wing.

2,973,874
SWING SYSTEM FOR DIGGING ATTACHMENT
Valno J. Holopainen, Rutland, Mass., assignor to Wain-Roy Corporation, Hubbardston, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 651,229, Apr. 8, 1958. This application July 13, 1959, Ser. No. 826,882
7 Claims. (Cl. 214—132)



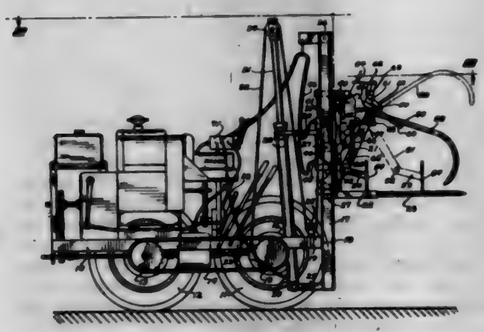
1. A hydraulic digging attachment for use with a vehicle, comprising a base member adapted to be secured to a vehicle, a hinge member attached to the base member for pivotal movement relative thereto about a vertical axis, the hinge member having a cylindrical surface which is co-axial with the said vertical axis, a boom connected to the hinge member for pivotal movement relative thereto about a horizontal axis, a boom-actuating hydraulic cylinder connected to the hinge member for pivotal movement relative thereto about a horizontal axis, the connection being at a point spaced vertically from the point of connection of the boom thereto, a pair of hydraulic cylinders each having one end connected to the base member, a link located adjacent each side of the hinge member, each link being pivotally connected at one end to the other end of one of said pair of hydraulic cylinders and at its other end to the hinge member at a point considerably spaced from the said vertical axis, each link having a circular segmental intermediate pressure portion, the links being located on a level for engagement of the said pressure portion with the said cylindrical surface during certain portions of the swinging cycle of the hinge member about the vertical axis.

2,973,875
VEHICLE JACK
John Malik, 47595 W. Huron River Drive, Belleville, Mich.
Filed May 27, 1957, Ser. No. 661,906
7 Claims. (Cl. 214—334)



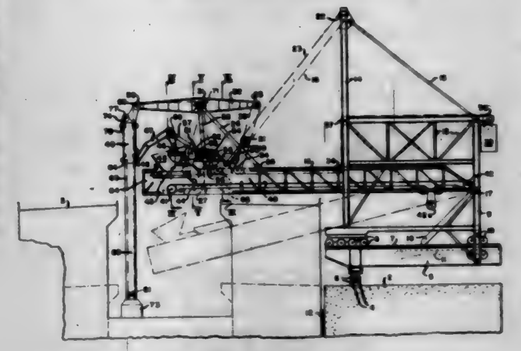
1. A vehicle jack comprising a lifting jack, a base member for supporting said lifting jack, said base member secured at the ends of a pair of generally J-shaped trackways, a plurality of rollers disposed on said trackways; a carriage supported by said rollers and movable thereon, said carriage comprising a pair of T-shaped rails in spaced relation, said rails being joined at one end by a first wheel bottom support; a second wheel bottom support adapted to be detachably mounted on a plurality of pins projecting from said rails adjacent said first support when said vehicle jack is being used and said second support adapted to be detachably secured within said first support when said vehicle jack is stored; a ramp for a wheel adapted to be detachably mounted at either end of said first wheel bottom support on a plurality of pins projecting therefrom when said vehicle jack is being used and said ramp adapted to be detachably secured on said base between clamps on said base and clamps on said first support when said vehicle jack is being stored.

2,973,876
MANURE LOADER
Leon F. Voss, Lakefield, Minn. (Jackson, Minn.)
Filed May 14, 1959, Ser. No. 813,221
6 Claims. (Cl. 214—654)



1. In a manure loader, a vehicle frame, transversely spaced, vertical bars rigid with a forward end of said frame, a carriage including an upright transversely extending member assembled with said vertical bars for slidable upward and downward movement, a horizontal transversely extending platform rigid with and extending forwardly from a lower portion of said transversely extending member and transversely spaced prongs extending forwardly from said platform in the plane thereof, an arm rigid with and extending forwardly from the transversely extending member, a transverse shaft rotatably mounted in said arm, a wiper lever rigid with and extending downwardly from said transverse shaft, a transverse wiper plank to be rested on and scraped over said platform and prongs pivoted to and disposed forwardly of said wiper lever, an upright cylinder rigid with said transversely extending member at the rear thereof, a piston in said cylinder and extending upwardly therefrom, hoses for hydraulic fluid leading into said cylinder above and below said piston, a forwardly facing vertical rack at the front of and guided for upward and downward movement relative to said transversely extending member, means above the transversely extending member securing said piston and rack to each other, and a vertical, longitudinally extending quadrant rigid with said transverse shaft at the rear thereof and in mesh with said rack.

2,973,877
UNLOADER
Bennie A. Rose, Mount Lebanon, Pa., assignor to Heyl & Patterson, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 750,072, July 22, 1958. This application June 8, 1959, Ser. No. 818,763
11 Claims. (Cl. 214—656)

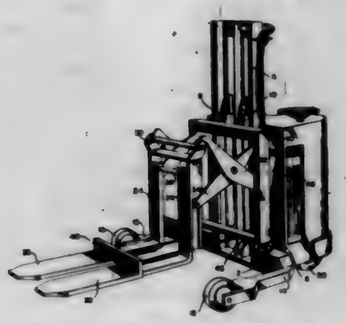


1. In an unloader comprising material carrying means and lowering means for lowering the material carrying means toward the material to be carried preparatory to picking up some of the material, control means for controlling the lowering means to determine the speed of lowering of the material carrying means, the control means having means becoming effective when the material carrying means move to a position a predetermined distance removed from the material to be carried as the level of the material lowers as the unloading progresses to reduce the speed of lowering of the material carrying means so that the material carrying means will be moving relatively slowly when such means engage the material.

2,973,878
MATERIAL HANDLING TRUCK
Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York
Filed June 24, 1957, Ser. No. 667,550
2 Claims. (Cl. 214—730)

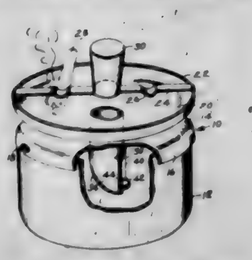
1. In a material handling truck, the combination with a wheel-supported base having a mast thereon and a car-

riage slidable up and down said mast and having thereon a projectable and retractable load support, a telescopable extension on the load support projectable thereon to extend its length and retractable thereon into telescoped relation thereto, and means for effecting the projection and retraction of said load support and, synchronously therewith, the projection of the telescopable load support extension, said means including a flexible connecting member and a pulley wheel, said pulley wheel being



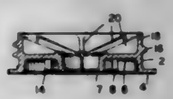
mounted on said load support, one end of said flexible connecting member being anchored to the carriage of said material handling truck and said connecting member being passed about said pulley wheel and the other end of said member anchored to said telescopable extension at a point on said extension and between said pulley and said carriage, whereby a projection of said load support imparts a similar and synchronous motion to said telescopable extension.

2,973,879
ASH TRAY
Lloyd E. Darst, 330 6th Ave., Santa Cruz, Calif.
Filed Feb. 29, 1960, Ser. No. 11,733
3 Claims. (Cl. 220—20.5)



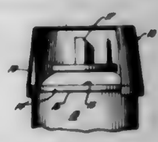
1. A tiltable ash tray assembly comprising a normally, vertically arranged receptacle having an open upper end, a cover of dome shaped configuration with depending flanges closing said open upper end of said receptacle, a tubular member having a circular horizontal top opening extending through the cover and terminating in a lower curved end disposed within the receptacle, a concave funnel-like member mounted on said cover with the upper end of the tubular member extending through the bottom of the funnel-like member and terminating flush with the inner surface thereof for receiving cigarette butts, said lower curved end of the tubular member being curved laterally and including a vertically disposed discharge outlet, a closure door pivotally mounted on the lower end of said tubular member by a hinge means, a weight mounted on the door and normally urging said door to a vertical closed position, said hinge means being mounted upon said tubular member adjacent the top of said vertical side outlet and pivotally mounting the door for swing movement in a vertical plane, said weight being disposed adjacent the bottom edge of the door and holding the door normally closed for holding cigarette butts in said tubular member as long as said receptacle is in a vertical position, and said closure door pivoting and remaining in a vertical position when said ash tray assembly is tilted from the vertical plane thereby allowing the cigarette butts to fall from said tubular member through the discharge outlet.

2,973,880
CLOSURE CAP FOR CONDUITS
William G. Rowell, Quincy, Mass., assignor to Scully Signal Company, Melrose, Mass., a corporation of Massachusetts
Filed June 5, 1959, Ser. No. 818,396
1 Claim. (Cl. 220—39)



A cap for closing the end of a pipe, said cap comprising a short cylindrical portion having a coarse thread thereabout, a laterally extending flange at the outer end of said cylindrical portion, a transverse closure portion located below said flange and intermediate the length of said cylindrical portion, an upwardly extending centrally located diamond shaped projection having flat slightly tapering sides and adapted to receive thereover a socket wrench having its internal walls of similar configuration, four upwardly extending lugs integral with said closure portion and located intermediate said projection and the cylindrical portion of said cap, the inner sides of said lugs if extended parallel to said closure portion and intersecting each other and forming a diamond pattern similar to the pattern of said projection, the inner sides of said lugs adapted to make cooperative engagement with the exterior of a wrench similar to but larger than the wrench adapted to cooperate with said projection.

2,973,881
SNAP-ACTION CAP
Milton Ostrowitz, Hillside, N.J., assignor to Gilbert Plastics, Inc., Hillside, N.J., a corporation of New Jersey
Filed Jan. 28, 1959, Ser. No. 789,673
3 Claims. (Cl. 220—60)



1. A snap action cap for registering latching engagement with the marginal bead of a container and for covering the adjacent discharge end of the container, comprising a bottom portion of given diameter and a depending wall extending therefrom, said wall having a free marginal edge of greater diameter than the bottom portion, said wall thereby sloping outwardly from the bottom portion, said cap being made of flexible material, a plurality of annular elongated ribs formed circumferentially inwardly of and parallel to the free edge of the wall of the cap at equidistant diametrically spaced points therealong for snapping interlocking engagement with the underside of the container bead, a plurality of equidistantly spaced bars extending axially along the inner wall of the cap toward the ribs in alignment therewith and terminating a distance short of the ribs substantially equal to the thickness of the bead.

2,973,882
POCKET GUM CASE
Samuel C. Jeffus, Detroit, Mich. (10275 Talladay Road, Wills, Mich.)
Filed Mar. 27, 1959, Ser. No. 802,456
3 Claims. (Cl. 221—228)



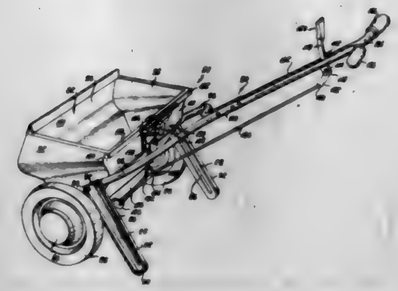
1. A pocket gum case comprising a base having upwardly disposed side and end walls, the side walls having grooves in upper edges thereof, a cover having flanges with inwardly extended tongues thereon, depending from the sides, a T-shaped slot in the cover, a T-shaped button slidably mounted in the slot in the cover and having a projection depending from the under portion, and a spring in the case positioned to urge cakes of chewing gum in the case upwardly against the under surface of the cover and in the path of the projection depending from the button, the case having a discharge slot therein and said slot being positioned to receive cakes of chewing gum actuated by the projection of the button, a partition positioned in said case to provide an opening to receive said lug to permit the lug to pass beyond the ends of the cakes of gum.

2,973,883
PRESSURIZED DISPENSING DEVICE
John Paul Modderno, Gambrills, Md., assignor to Modern-Lab, Incorporated, Baltimore, Md., a corporation of Maryland
Filed May 22, 1957, Ser. No. 660,897
6 Claims. (Cl. 222—94)



1. A pressurized dispensing device for discharging a composition formed from a plurality of ingredients maintained in separate compartments comprising a pressure container having compartments therein separated by a movable wall operable by a differential in pressure between adjacent compartments when said composition is discharged from the container; a discharge head located on the said container having a discharge nozzle therein, said discharge head forming a mixing chamber intermediate the interior of said container and said discharge head; a plurality of valve means located between said mixing chamber and the interior of said container, each valve means communicating the interior of one of said compartments in said container with said mixing chamber, and means associated with said discharge head for operating said plurality of valve means in unison to release simultaneously the contents of each compartment into said mixing chamber to effect formation of said composition prior to discharge from said nozzle.

2,973,884
SPREADER CONSTRUCTION
Virgil H. Peoples and John R. West, Marysville, Ohio, assignors to The O. M. Scott & Sons Company, Marysville, Ohio, a corporation of Ohio
Filed Mar. 20, 1957, Ser. No. 647,229
5 Claims. (Cl. 222—177)

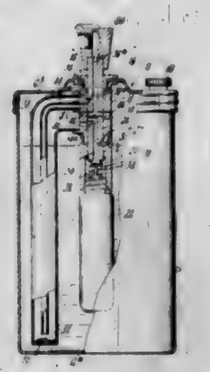


1. A spreader for distributing material comprising: a wheeled hopper having material distribution means with an adjustable outlet control; structural means fixed to said hopper for moving the spreader; an operating means for said outlet control; said hopper comprising front, rear and side walls, said front wall comprising an upper portion, an intermediate portion and a lower portion, said rear wall comprising an upper portion and a lower portion, at least said lower portion of said front wall and said lower portion of said rear wall being downwardly convergent, the inner surface of approximately the upper half of said front wall having a laterally disposed forward bulge provided by said intermediate portion of said front wall being inclined forwardly from said lower portion of said front wall, a transition bend joining said intermediate portion with said upper portion of said front wall and said upper portion of said front wall having a rearward inclination relative to said lower portion of said front wall, portions of the sidewalls of said hopper disposed above the hopper wheels having outwardly disposed bulges to provide a hopper overhang above each wheel, said side walls having edges shaped to conform with the rear wall and the front wall with the front edge of each side wall bulge portion matching the associated side edge of said front wall forward bulge, and means fastening said side wall to said front and rear walls.

2,973,885
PRESSURIZABLE DISPENSER
Carl S. Ferguson, Fort Lauderdale, Fla., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
Filed Apr. 11, 1960, Ser. No. 21,563
14 Claims. (Cl. 222—399)

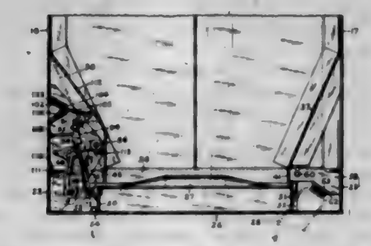
1. A dispenser comprising a container adapted to hold a body of liquid to be dispensed, a pressure chamber having an inlet from said container for admission of said liquid, means associated with said inlet to resist flow through said inlet from said chamber, a source of pressurizing fluid operatively associated with said pressure chamber to discharge thereinto when dispensing, a valve body in said container, a valve stem reciprocable in said valve body to a first position and to a second position and means operatively associated with said stem for venting said pressure chamber to the atmosphere when said stem is in said first position, said valve body having dispensing conduit means in sealed communication with said chamber to receive liquid to be dispensed, said valve stem having dispensing conduit means to deliver liquid

to a nozzle, said respective dispensing conduit means being in communication with each other at said second



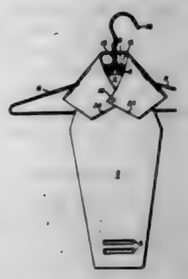
position and out of communication with each other at said first position.

2,973,886
DROP-BOTTOM SHIPPING CONTAINER
Lauritz Elgaard, Malverne, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 9, 1959, Ser. No. 798,183
4 Claims. (Cl. 222—556)



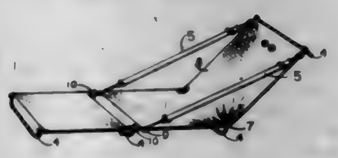
1. A container for transporting bulk material providing a bottom discharge opening, a hinged door for said opening, and a locking assembly mounted on said container adjacent the free end of said door adapted to receive and support said free end and lock the same in closed position upon closure of said door and to effect release of said door end at will to permit said door to swing downwardly to open and discharge position, said locking assembly comprising a vertical pivoted locking member providing a pair of spaced jaws positioned and adapted to effect rotation of said member and to receive and support respectively said door end as the latter in upward movement approaches and reaches closed position, said locking member having an upwardly extending arm subject to movement through a predetermined arc between extreme positions at which said door end is supported and released respectively by said jaws, a lock arm mounted at one end on a fixed pivot to extend toward said locking member, a roller carried by the lock arm for engaging the periphery of said locking member arm, said lock arm being positioned and adapted to maintain said engagement of its roller with the periphery of the locking member arm throughout movement of said locking member arm through said arc, spaced recesses in the periphery of said locking member arm adapted and arranged to receive said lock arm roller at the aforesaid extreme positions, spring means attached to said lock arm arranged and adapted to maintain said engagement of the lock arm roller with the periphery of the locking member arm under pressure at all times, the recess at the extreme position of said locking member arm for supporting said door end being a step of depth greater than the radius of said lock arm roller for insuring receipt of the lock arm roller therein to lock the locking member arm against motion through said arc, and release means connected to said lock arm for lifting said lock arm roller out of said step thereby permitting rotation of said locking member arm by said door end, the recess at said other extreme position being of depth substantially less than the radius of said lock arm roller and adapted to prevent travel of said locking member arm therebeyond and to resist but permit initiation of reverse movement of the locking member arm upon closure of said door.

2,973,887
FORM TO BE USED WITH GARMENT HANGER
Giacomo M. Bonaldi, 3655 Noriega St., San Francisco, Calif.
Filed July 15, 1955, Ser. No. 748,630
2 Claims. (Cl. 223—88)



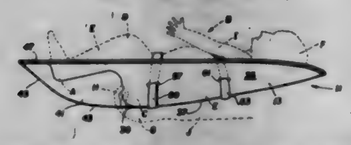
1. A device of the character described comprising a blank of flexible material including a main body portion, a collar portion including a pair of wing portions integral with said main body portion, a tab disposed substantially intermediate the wing portions, said tab being punched out to receive the shank of the hook of a garment hanger on which the device is mounted, the bottom of said collar portion being slotted to receive the upper edge of a garment hanger on which the device is mounted, means for securing together the upper ends of the wing portions to form a conical hollow collar portion adapted to receive the collar of a garment, and a reinforcing member comprising an elongated strip having a length substantially equal to the length of the wing portions, said strip being slotted substantially intermediate the ends to receive the tab, and means for holding said reinforcing member securely on the collar portion of the device to reinforce the same.

2,973,888
CONVERTIBLE CAMP COTS
Harold Herbert Beardsley, 5885 W. 4th Ave., Denver, Colo.
Filed June 30, 1958, Ser. No. 745,364
5 Claims. (Cl. 224—9)



1. A convertible chair and pack-carrying device comprising a pair of pivotally connected seat and back panels, each of said panels comprising a rigid frame and sheet material secured tautly thereon, the frame of one of said panels including a cross piece near the end thereof remote from the pivotal connection between the frames and having a portion spaced substantially from the plane of the sheet material of said one frame, carrying straps for said device, means for detachably connecting said straps to said frames remote from said pivotal connection for holding said panels at the angle desired for the seat and back of the chair, the other of said panels being foldable into engagement with said one panel on the side thereof away from said cross piece, means for detachably connecting one end of each of said straps to said device near said pivotal connection, said other panel having at least one opening in the sheet material thereof near the center of its outer end and substantially opposite said cross piece when said panels are folded, and means utilizing an adjacent opening in said other panel for connecting the other end of each of said straps to said cross piece to provide pack-carrying straps and for holding said panels in their folded position.

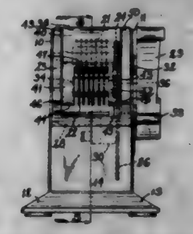
2,973,889
BABY HOLDER
Roy S. Phillips, 428 Elwood Lane, Memphis, Tenn.
Filed Jan. 25, 1960, Ser. No. 4,383
3 Claims. (Cl. 224—45)



1. A holder for a baby comprising an elongated rigid carrier body having an upper surface and a lower surface; said carrier body being contoured to fit the baby's body to establish an elongated first cupped area extending longitudinally of said carrier body adapted to conform to and receive the baby's back on the upper surface thereof, a second cupped area adapted to receive the baby's hips on the upper surface thereof, and a third cupped area adapted to receive the baby's heels on the upper surface thereof; strap means attached to said carrier body for holding a baby therein, said carrier body being rounded transversely on the under side thereof adjacent said first cupped area, a vertical rib attached to said carrier body on the under side thereof extending from adjacent said second cupped area longitudinally of said carrier body to a place adjacent said third cupped area, said rib adjacent its lower edge forming an extension of said rounded under side of said carrier body, said carrier body adjacent said second cupped area being provided with at least one finger hole therethrough and being rounded on the under side of said second cupped area to fit the palm of a person's hand, whereby said carrier is adapted to be carried in one arm only in such a position that the person's hand grips the under side of said carrier body adjacent said second cupped area with at least one finger extending into said finger hole and with said rib extending between an adjacent pair of fingers.

2,973,890
TAPE-DISPENSING MECHANISM
Alfred P. Krueger, Southbury, Conn., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed May 1, 1959, Ser. No. 810,397
6 Claims. (Cl. 225—43)

1. A tape-dispensing mechanism comprising a casing and tape-feeding means carried thereby adjacent the forward end thereof, said casing having side walls providing an opening therebetween adjacent the feeding mechanism, a cover disposed between said walls and hinged thereto adjacent the lower portion of said opening, said cover having a first portion lying above the feeding mechanism and a second portion in front thereof, said second portion having spaced leg members extending downwardly there-



from to provide an opening therebetween through which the tape issues and a severing member formed integrally with the cover and constituting the upper edge of said opening, said tape-feeding means comprising a rotatable feed roll and a rotatable stripper roll, and said stripper roll being disposed opposite said opening in the cover to direct the tape therethrough.

2,973,891
TEARING DEVICE FOR TOILET TISSUE HOLDER
Seymour Schener, 215 Andre Ave., Monrovia, Calif., and Fred A. Schener, Monrovia, Calif. (P.O. Box 517, Ray, Ariz.)
Filed Dec. 23, 1957, Ser. No. 704,480
5 Claims. (Cl. 225—89)



1. In combination with bracket means for supporting a roll of toilet paper including arms for projecting from a vertical surface and a cross member spanning the space between such arms, of a member provided with a pressure plate portion and connected with such bracket means to follow a diminishing roll, said plate portion continuously presenting an engageable edge to resist downward tearing force, said member being pivoted on the cross member, said member being provided with a stop lug engaging a bracket arm to limit the rotational position of the member having the pressure plate on the cross member, and means providing a sliding connection of the former member on the cross member to follow the diminishing roll.

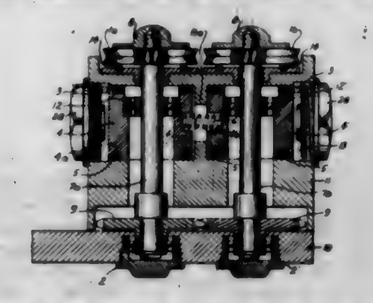
ERRATUM

For Class 226—130 see:
Patent No. 2,973,958

2,973,892
FEEDING ARRANGEMENT FOR METAL SPRAY GUN
André F. Hedde, Paris, France, assignor to Societe Nouvelle de Metallisation, Paris, France
Filed Mar. 3, 1959, Ser. No. 796,950
Claims priority, application France Mar. 4, 1958
2 Claims. (Cl. 226—184)

2. In a feeding arrangement for feeding a rod-shaped material to a pressure fluid operated atomizing gun and

the like, in combination, a support; a source of pressure fluid; two shafts mounted on said support each turnable about the axis thereof and each pivotable about a point located on the axis of the respective shaft adjacent one end thereof; two pulleys respectively fixedly mounted on said shafts adjacent the other ends thereof, each of said pulleys having a peripheral groove facing each other at adjacent portions thereof; a pair of gears respectively fixedly mounted on said shafts adjacent at one end thereof, said gears meshing with each other; means operatively connected to one of said gears for rotating

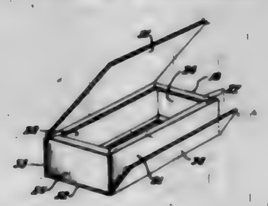


the same to simultaneously rotate said shafts; means responsive to the pressure of said pressure fluid for urging each of said shafts to pivot in a predetermined respective direction about said pivot points relative to the support in such a manner so as to urge said facing groove portions toward each other; and means permanently urging each of said shafts to pivot in a respective direction opposite to said predetermined direction, whereby a rod-like material may be clamped between said facing groove portions of said pulleys for feeding during rotation of said pulleys while pressure is applied to said pressure-responsive means.

ERRATUM

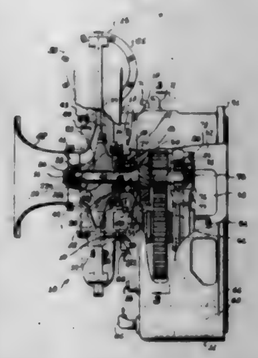
For Class 226—198 see:
Patent No. 2,973,957

2,973,893
LINER TYPE BOX WRAP PACKAGE
Raymond Walter Carlin and James Clair McKinney, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 10, 1958, Ser. No. 779,490
1 Claim. (Cl. 229—40)



A box wrap for packaging articles of irregular shape comprising an inner liner blank cut and scored to form two side panels with a first end panel interposed and having a second end panel at one end and a locking tab at the other, flanges extending from the upper and lower edges of said panels, said blank being folded into a rectangular frame surrounding an article with the locking tab and the outer end panel superposed over one end of the article, the flanges extending from said panels being infolded so that the walls of the frame are channel-shaped in cross-section, an outer liner blank cut and scored to form top and bottom panels with a side panel interposed and having a second side panel at one end of the blank, said outer liner being folded around the frame formed by the inner liner to cover the openings in said frame and thereby form a rectangular box structure surrounding and enclosing the article, the said superposed locking tab and outer end panel of said inner blank being free from attachment to each other and defining a discharge end for said box structure, a flexible outer wrapper having a tear tape sealed thereto near one edge of said wrapper in parallel relation to the said edge, said outer wrapper being folded around the top, bottom and side panels of said rectangular box structure formed by the inner and outer liner with its ends infolded and sealed over the ends of the box structure to form a finished box wrap in which the tear tape surrounds the top, bottom and side walls of the box structure near and in parallel relation to the said discharge end thereof, whereby the article can be removed by severing the outer wrapper with the tear tape and thereafter tilting the box wrap so that the article therein moves the locking tab and outer end panel of the inner liner outwardly to allow its removal from the box wrap.

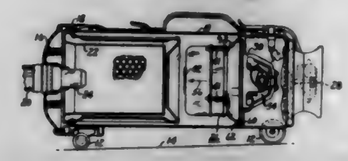
2,973,894
CENTRIFUGAL COMPRESSOR FOR STARTING JET ENGINES
John G. Kimball, Los Angeles, Daniel Willens, Culver City, Roger M. Oswalt, Los Angeles, and Donald E. O'Neill, Gardena, Calif., assignors to Turbo Research Corporation, a corporation of California
Filed June 17, 1957, Ser. No. 666,027
3 Claims. (Cl. 230—127)



1. An integral centrifugal compressor and drive gear system, which includes: a gear housing with an inwardly recessed rear wall; a unitary front panel on said housing, said front panel being disposed in substantially a single plane and removable; flange means to the rear of said housing for mounting said housing on a power source; a drive shaft mounted in bearings in said front panel and said recessed rear wall, said shaft having an extension to the rear of said rear wall for coupling to a power source near the plane of said flange; a high speed shaft mounted in bearings in said front panel and said rear wall, said high speed shaft having an extension to the front of said front panel for mounting an impeller; a gear train means between said drive shaft and said high speed shaft for driving said high speed shaft at a substantially higher rate of revolutions than said drive shaft and including at least one bearing support in said front panel; a centrifugal impeller mounted on said forward extension of said high speed shaft, a back scroll section mounted on said front panel and shrouding the back of said impeller; a front scroll section mating with said back scroll section to provide a passage for collecting the peripheral discharge of said impeller and discharging it

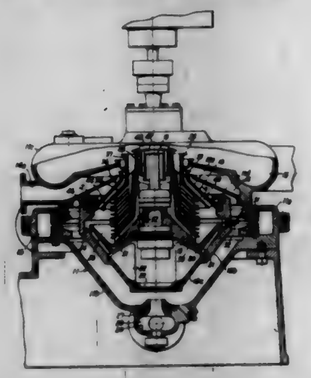
in a substantially tangential stream; and intake and shroud means mounted on said front scroll section for funneling an axial stream of air to said impeller and shrouding the front of said vane.

2,973,895
MOTOR MOUNTINGS
Raymond L. Brown, Banksville, N.Y., and Garret Mott, Jr., New Canaan, and Lawrence J. Smeriglio, Greenwich, Conn., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed June 3, 1959, Ser. No. 817,898
11 Claims. (Cl. 230—235)



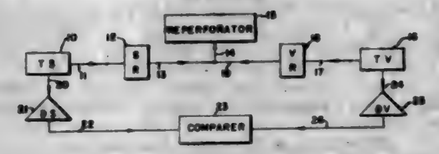
1. In a vacuum cleaner, a housing having axial extent, a plurality of brackets mounted within said housing having axially extending portions formed with apertures extending radially therethrough, a plurality of resilient blocks seating on the radially outer surfaces of said portions and having projections extending through said apertures, a motor-fan unit, the inner ends of said projections bearing against the outer surface of said motor-fan unit and spacing the latter from said brackets, said blocks and projections being formed with openings therethrough, and rigid structure fixed to said motor-fan unit extending through said openings and bearing against the outer surfaces of said blocks.

2,973,896
CENTRIFUGE APPARATUS
Albert Peltzer, Sr., San Francisco, Calif., assignor, by mesne assignments, to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Jan. 19, 1956, Ser. No. 560,152
14 Claims. (Cl. 233—19)



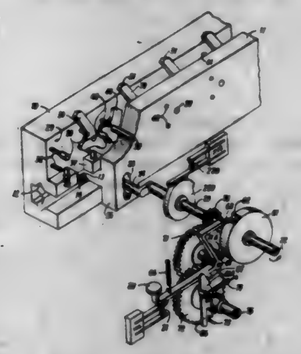
1. In a centrifuge machine, a rotor having a separating chamber, means for supplying feed material to the rotor, means for discharging centrifugally separated overflow material from the rotor, means including discharge nozzles mounted upon the periphery of the rotor for the discharge of a centrifugally separated first underflow, means forming a return circuit for continuously returning such centrifugally separated underflow material back into the rotor, means for discharging a second centrifugally separated underflow material from the rotor, and means including a return path located within the rotor for continuously returning said second underflow material back into the separating chamber of the rotor.

2,973,897
PUNCHED TAPE CONTROL MECHANISM
Herbert L. Paulding, Port Washington, and Richard T. Yu, New York, N.Y., assignors to Dow Jones & Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 13, 1956, Ser. No. 565,282
19 Claims. (Cl. 234—3)



1. A control system for a tape punching device having therein a plurality of punches selectively operable either singly or in predetermined combinations and tape advancing and punch operating means, which comprises a plurality of perforated tapes each having successive groups of perforations in accordance with a predetermined code system, devices for separately advancing said tapes step by step and analyzing the successive groups of perforations therein, electrical circuits controlled by said perforated tapes for simultaneously selecting one or more punches to be operated and for operating said tape advancing and punch operating means of said tape punching device and for operating said tape advancing and analyzing devices, and means comprising a driven cam unit for closing certain of said circuits selected by one and then another of said perforated tapes in predetermined sequence, to thereby reproduce in the tape of said tape punching device the information represented by successive groups of perforations appearing in said plurality of perforated tapes.

2,973,898
REGISTERS
Eugene E. Reynolds, Richmond Annex, Calif., assignor to Marchant Calculators, Inc., a corporation of California
Filed Aug. 23, 1957, Ser. No. 679,819
22 Claims. (Cl. 235—61)



1. In a shift register, a plurality of devices ordinarily mounted on a first framework and each settable from a first to a second stable state position; a plurality of members mounted on a second framework and each settable from a first to a second stable state position, each of said second members being interposed between a respective

pair of adjacent devices; cyclically operable drive means for reciprocating said frameworks relative to each other; means for setting a first device to a second stable state position; means operable in response to said reciprocating means and under the control of said first device to move an interposed member from the first stable state position to the second stable state position; and means operable in response to said reciprocating means and under the control of said member to move a second device from the first to the second stable state position.

2,973,899

ARRANGEMENT FOR THE REMOTE MEASURING OF THE INCREASE DURING A PREDETERMINED PERIOD OF THE NUMBER GIVEN OUT BY AN IMPULSE-CONTROLLED METER

Max Hegner, Geneva, Switzerland, assignor to Sodeco Societe des Compteurs de Geneve, Geneva, Switzerland, a firm

Filed Aug. 6, 1956, Ser. No. 602,393
Claims priority, application Switzerland Aug. 9, 1955
2 Claims. (Cl. 235—92)



1. An arrangement for the remote measuring of the increase during a predetermined period of the numeric data of a meter controlled through impulses, comprising an intermediate differential meter including two windings, a sun and planet gear the sunwheels of which are controlled by the corresponding windings and a gearing controlled by the planet wheel of said sun and planet gear, means whereby the impulses acting on the impulse-controlled meter are transferred to the first winding, an independent impulse transmitter, a remote metering instrument, means operatively connecting the impulse transmitter with the second winding of the differential meter and with the remote measuring instrument to furnish simultaneously to the latter at the end of the period considered with a number of impulses equal to that of the metering impulses feeding the differential meter during said elapsed period as required for returning the gearing of the latter to zero and increasing the figure shown by the remote measuring instrument by an equal amount, and means whereby the return to zero of the differential meter switches off the transmission of impulses to said second winding and to the remote measuring instrument, the number of impulses transmitted being then equal to the precedingly defined number.

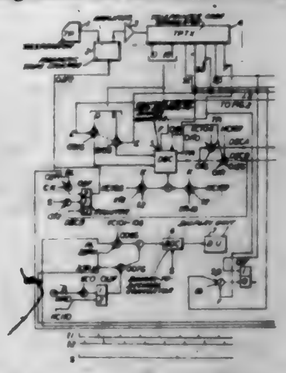
2,973,900

ACCOUNTING SYSTEMS

Esmond Philip Goodwin Wright, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 9, 1956, Ser. No. 621,284
Claims priority, application Great Britain Nov. 17, 1955
11 Claims. (Cl. 235—153)

1. Accounting equipment which comprises a set of storage devices in each of which electrical signals representing an arithmetic record may be stored, a transfer register in which may be stored a series of signals in sequence to be used to control a modification of the contents of one or several of said sets of storage devices, means for making individual modifications of the signals representing arithmetic records stored in said storage devices each modification being made under the control of the control signals stored in said register, means for obtaining signals representing totals of the contents of all said devices, both before and after a modification is made, means for obtaining signals representing totals of the series of modifications both before and after a modification is made, and comparing means for checking the accuracy of said



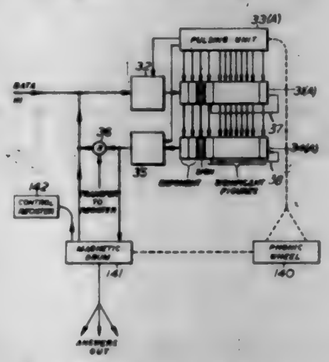
modifications by the comparison of the contents of both said signals obtaining means both before and after a modification has been effected.

2,973,901

DIGITAL COMPUTING ENGINES

Edward John Petherick, Rowledge, near Farnham, and Geoffrey Charles Rowley, Sutton, England, assignors, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 11, 1954, Ser. No. 415,610
Claims priority, application Great Britain Mar. 17, 1953
14 Claims. (Cl. 235—160)



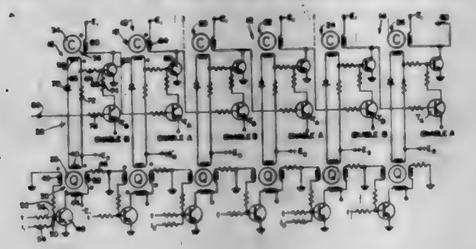
1. A decimal digital computing engine comprising a parallel accumulator including a plurality of scale-of-ten counters in which negative decimal digits are stored as states representative of their complements on nines and to which negative decimal digits are added by the application of pulses thereto representative of their complements on lines, said scale-of-ten counters being connected in a closed ring, a sign stage comprising a scale-of-ten counter, means for applying nine pulses to said sign stage counter each time pulses representing the complements on nines of the digits of a negative number are applied to said accumulator, means for adding to said sign stage counter any carry digit pulse from said accumulator counter assigned to store the highest order decimal digit, means for applying pulses to said sign stage counter to determine the number recorded therein after a number has been added to said accumulator, and means to define any one of said accumulator counters as that assigned to store the highest order decimal digit thus enabling the computing engine to operate using a floating point system.

2,973,902

DECIMAL ACCUMULATING SHIFT REGISTER

Sidney N. Einhorn, Philadelphia, Pa., and John R. Van Andel, Dearborn, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 30, 1959, Ser. No. 802,902
11 Claims. (Cl. 235—173)



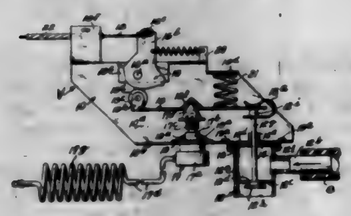
1. A decimal shift register comprising a plurality of stages 1, 2, . . . m, each stage comprising a primary and secondary magnetic count core, each core having multiple stable states and being capable of being switched from one state of saturation (reset) to the other state of saturation (set) in a predetermined number of steps, a discrete step representing a digit bit n where n may have any value 0, 1, 2, 3 . . . 9, input signal means "i_1" . . . "i_m" coupled to said primary count cores 1 . . . m for storing a word of m bits in said register, an enable gate A coupled between a primary count core and its adjacent secondary count core within the same stage, and an enable gate B between a secondary count core in one stage and the primary count core in the next adjacent stage, including between the secondary count core of the "m^{th}" stage and the primary count core of the first stage, the whole arranged to form a closed shift loop, means for applying timed pulses to said primary and secondary count cores, the first ten pulses being defined as enable step A, the second ten being defined as enable step B, means for enabling gate A during enable step A and for enabling gate B during step B, whereby during enable step A the $(10-n)^{th}$ pulse to a given secondary count core in any stage resets said latter core, the remaining n pulses storing the number n in both primary and secondary count cores, and during enable step B the $(10-n)^{th}$ pulse providing a signal through enable gate B for resetting a secondary count core and the primary count core to which it is coupled, so that any digit n stored in a secondary count core is shifted to the adjacent primary count core in the direction of loop shift.

2,973,903

TEMPERATURE CONTROL APPARATUS

George P. Saliaris, Worthington, Ohio, assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio

Filed Mar. 5, 1959, Ser. No. 797,509
1 Claim. (Cl. 236—42)



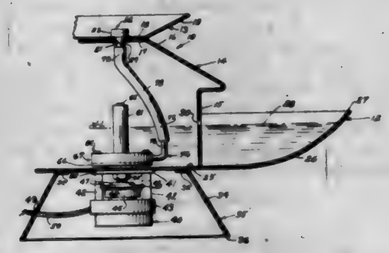
A control apparatus comprising a sheet metal frame plate having one edge portion turned outwardly to form a flange projecting laterally from one surface thereof and having a portion adjacent to the edge opposite said flange offset from said one surface of said plate and parallel to said plate proper, a valve mechanism attached to said flange adjacent to one end thereof and extending beyond said plate, said valve mechanism having an operating member projecting through an opening in said flange, a condition responsive element attached to said flange and having a part projecting toward said opposite edge of said plate and movable in response to changes in a condition, a lever attached at one end to said operating member of said valve mechanism and having its intermediate portion pivotally engaged by said part of said condition responsive element, a roller attached to the other end of said lever, a cam formed of sheet metal and pivoted to the opposite portion of said plate and having a cam edge engaged by said roller on said lever, said cam having an arm projecting beyond said opposite edge of said plate, an actuating member attached to said arm, and spring means urging said lever about said part in a direction tending to engage said roller with said cam surface.

2,973,964

ELECTRICALLY OPERATED DISPLAY FOUNTAIN

Frederick N. Zimmermann and Willy E. Zimmermann, Bannockburn, Ill., assignors to March Manufacturing Co., Skokie, Ill., a corporation of Illinois

Filed May 6, 1960, Ser. No. 27,344
9 Claims. (Cl. 239—23)



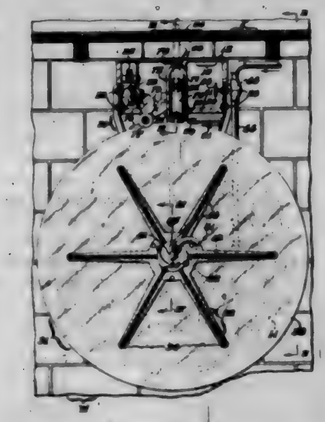
1. An electrically operated water fountain comprising, in combination, a basin, a fountain housing within said basin, an electric motor having a mounting plate assembled therewith, a rotary pump within said fountain housing within said basin, said pump embodying a pump housing, said pump housing having a water inlet opening and a water discharge opening, a vertical stationary tube having a smooth exterior portion and a threaded exterior lower end portion, said threaded lower end portion of said tube arranged to be detachably connected with and extending through a threadless bore in the bottom central portion of said basin, the upper end of said tube extending above the normal water level in said basin, said mounting plate of said motor having a bore therethrough and arranged adjacent the lower end of said tube, means threadedly secured upon the threaded end portion of said tube clamping said mounting plate adjacent the bottom surface of said basin, said fountain housing having a port opening at the normal water level of the water contained in said basin, a vertical motor drive shaft connected at its lower end with the armature of said motor, said rotary pump embodying a plurality of rotary impeller blades secured to the bottom end of an impeller tube, said impeller tube extending over and around said stationary tube, means connecting said impeller tube to said motor drive shaft, a single nozzle mounted in the central upper portion of said fountain housing, and a tubular means for delivering water from said pump to said nozzle.

2,973,905
NOZZLE CONSTRUCTION WITH SCREEN SUPPORT
John W. Ackley, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 13, 1959, Ser. No. 793,107
2 Claims. (Cl. 239—123)



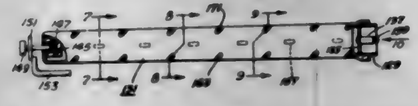
1. In a spray nozzle construction having a generally cylindrical body with an inlet opening adjacent one end and an outlet opening at the other end, the improvement comprising a screen support disposable in the outlet opening of said body and comprising a cylindrical portion adjacent one end and a head at the other end, bars extending from said cylindrical portion generally longitudinally of said screen support to said head, and each of said bars having a longitudinally continuous screen engaging narrow edge portion extending longitudinally of said support in contact with said screen, the outer faces of said bars being angled so as to extend divergingly away from a tangent at said narrow edge portion, whereby rotation of the screen on said head and cylindrical portion in a direction away from said diverging portions serves to cause said narrow edges to scrape material off the inside surface and said screen and an open end cylindrical strainer screen having an internal diameter so as to pass over said head and frictionally engage said head and said cylindrical portion.

2,973,906
HOSE REELING APPARATUS
Hilton B. Murray, R.D. 9, and Henry K. Flinchbaugh, 930 Arlington Road, both of York, Pa.
Filed Mar. 10, 1959, Ser. No. 798,518
9 Claims. (Cl. 239—197)



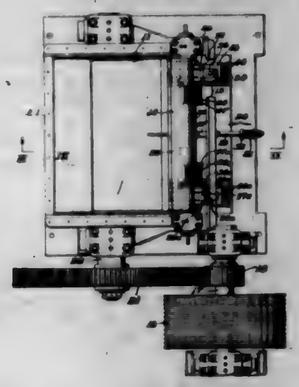
1. Hose reeling apparatus comprising a reel supported for rotation to permit withdrawal of the hose therefrom; a circumferentially grooved toothed wheel affixed to the reel; a ring lodged in the groove of the wheel; a normally retracted pawl pivoted on a radial projection of the ring and adapted to engage the teeth of the wheel; a medially fulcrumed spring-restrained rocker arm; a sling cord or cable partly under-rounding said ring and having its ends secured respectively to opposite ends of the rocker arm; actuating means for actuating rocker arm against the pull of the spring for impartation of successive rotary movements to the ring by the cord or cable and communication by the ring through the pawl to the wheel to reversely rotate the reel in retrieving the hose.

2,973,907
SPRAY DEVICE
Carel F. Ahrnch and Robert L. Mercer, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 30, 1955, Ser. No. 556,613
7 Claims. (Cl. 239—261)



2. In combination, a rotatable spray tube of molded plastic, said tube having an open end and a closed end provided with an outwardly facing recess containing a sleeve of graphited material, an inlet fitting connecting with and rotatably supporting said open end, a supporting pin extending into said sleeve having sufficient clearance to permit the sleeve to rotate thereon, a support for said pin, and means for supplying fluid to said inlet fitting for delivery into said spray tube.

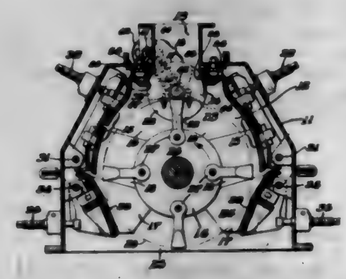
2,973,908
BREAKER PLATE RELEASE MECHANISM FOR SINGLE ROLL CRUSHER
Ostap Danyluke, Newtown Square, Pa., assignor to Bath Iron Works Corporation, Bath, Maine, a corporation of Maine
Filed June 2, 1958, Ser. No. 739,264
7 Claims. (Cl. 241—32)



6. In breaker plate release mechanism for a crusher having a rotary crusher roll and a breaker plate normally positioned a definite distance from the crusher roll, said release mechanism comprising a pair of toggle links, one link pivotally connected to the breaker plate and the other link pivotally connected to a stationary anchorage; a shaft forming a common pivotal connection between the two links, said shaft being fixed in one of the links; and stop means for maintaining the links inclined relative to each other normally at complemental angles slightly inclined to the horizontal including a helical torsion spring surrounding the shaft, a pair of retainer disks between

which the spring is confined, one rotatively free on the shaft and the other affixed to the shaft, between the disks and to which the opposite ends of the springs are connected respectively, and a radial arm on the rotatively free disk engaged with a lateral lug projection on one of the toggle links.

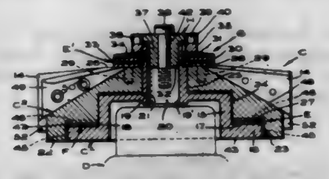
2,973,909
REVERSIBLE PULVERIZER AND DUST GATE ASSEMBLY
Ostap Danyluke, Newtown Square, Pa., assignor to Bath Iron Works Corporation, Bath, Maine, a corporation of Maine
Filed July 3, 1958, Ser. No. 746,420
4 Claims. (Cl. 241—186)



1. In a reversible pulverizer for coal or the like having outer end frame pieces and center frame end pieces, a feed hopper at the top of the pulverizer; a hammer rotor disposed within the pulverizer chamber between the center frame end pieces below the feed hopper; breaker blocks positioned between the center frame end pieces and defining with the hammer rotor respectively at opposite sides of the latter within the pulverizing chamber, downward flow channels for the coal; an adjustable gate means for preventing dust laden air from escaping upwardly through the feed hopper during operation of the pulverizer, said gate means being located between the feed hopper and the hammer rotor and comprising a pair of circular disks laterally spaced from each other and arranged to downwardly overlap, with slight intervening clearances, the sides of the ends of the outermost hammers of the rotor during operation of the pulverizer and disposed, with close working clearances, within conformative openings in the center end frame pieces, a deflecting plate extending horizontally between the peripheries of the disks, and trunnions extending axially outward from the respective disks and rotatively borne in the opposite outer frame end pieces; and operating means whereby the gate means can be turned to swing the plate over the axis of the trunnions in one direction or the other to form a deflecting obstruction between the bottom of the hopper and the hammer circle crosswise of the entrant end of one or the other of said channels depending upon the direction of rotation of the hammer rotor.

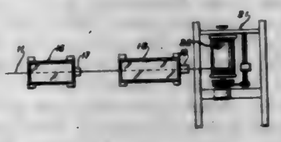
2,973,910
GARBAGE DISINTEGRATOR ROTOR WITH AN AUTOMATIC RELEASE CLUTCH
George Joseph Federighi and Tore H. Noren, both of 333 11th St., San Francisco, Calif.
Filed Feb. 16, 1959, Ser. No. 793,545
5 Claims. (Cl. 241—257)

3. In a garbage disintegrator rotor with an automatic release clutch: a rotatably mounted driving part operatively connected to a motor shaft for rotation thereby, and being rotatable about a vertical axis; a rotatably mounted driven part disposed above and being supported on the driving part; said parts constituting a friction clutch in which the driven part is rotated by frictional engagement with the driving part; the driven part being provided with cutting blades disposed to strike garbage descending around the driven part; the driving part being rotatable through complete rotations relative to the driven part when the latter becomes jammed by the garbage; the driven part being supported for free gravitation toward the driving part to thereby provide friction for said clutch; and frictional adjusting means provided for varying the amount of friction between the driving and driven



parts, and thereby determining the point at which the driving part will commence to rotate relative to the driven part; said friction adjusting means being accessible for adjustment from a position above the driven part without disassembly of the rotor; the driven part projecting peripherally beyond the driving part and downwardly at least to the bottom of the driving part to thereby protect the driving part against direct contact by the descending garbage.

2,973,911
METHODS OF HANDLING WIRE
Vincent A. Rayburn, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 28, 1957, Ser. No. 636,786
3 Claims. (Cl. 242—1)

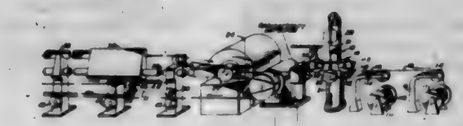


1. The method of handling wire, which comprises the steps of applying a coating of a hard, frangible, brittle, shatterable material selected from the group consisting of rosin and shellac, in a liquid state to a bare metal wire winding the coated wire into a coil having an exposed end; drying the applied coating material in situ to its hard, frangible state so that the hardened material temporarily binds convolutions of the coil together into a self-supporting coil, the wire of the coil being protected from corrosion by the hardened coating material; and subsequently, when it is desired to use the wire, unwinding the coil by pulling the exposed end of the wire away from the coil, the coating material being such that, as the wire is unwound, a major part fo the coating material shatters and drops off the wire as the wire is pulled away from the coil, leaving the wire in a reasonable clean condition.

2,973,912
METHOD OF AND APPARATUS FOR COILING FILAMENTARY MATERIALS
Julian E. Wilburn, Parkville, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 31, 1956, Ser. No. 619,612
22 Claims. (Cl. 242—25)

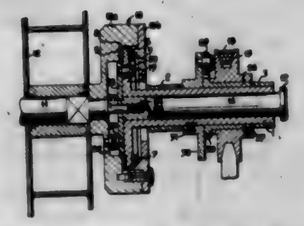
22. The method of handling strand material, which comprises connecting adjacent ends of a plurality of

lengths of filamentary material together to form one length of filamentary material, rendering the connections radioactive, advancing the formed length of filamentary material along its longitudinal axis, coiling the



advancing filamentary material, detecting the radioactive connections, and controlling the coiling of the filamentary material in response to the detection of the radioactive connections.

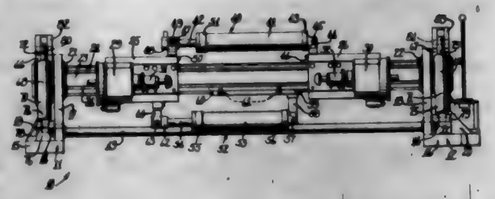
2,973,913
MECHANISM FOR DRIVING A SPOOL OF A CINEMATOGRAPHIC PROJECTOR
Jean Thevenaz, Grandson, Switzerland, assignor to Paillard S.A., Vaud, Switzerland, a corporation of Switzerland
Filed Aug. 14, 1957, Ser. No. 678,194
Claims priority, application Switzerland Sept. 28, 1956
3 Claims. (Cl. 242—55.14)



2. A driving mechanism for effecting rotational movement of a film spool, comprising, a driven shaft, a film spool mounted on said driven shaft, a hollow driving shaft, a sleeve having a driving pulley and free to rotate on said driving shaft, co-operating means on the sleeve and shaft to drive said hollow shaft in one direction, friction coupling means connecting said shafts, including coupling means including a housing having internal frictional surfaces, a first disc on the hollow shaft and having frictional surfaces engaging with said frictional faces on the housing, a piston in said hollow shaft, a second disc on the piston and interlocked with the first disc against angular movement but slidable relative to the hollow shaft upon movement of the piston, clutch means on the facing portions of the housing and the second disc rendered effective when the piston is pushed in the direction of the spool, and spring means normally to maintain the clutch means disengaged.

2,973,914
ROLL STAND
Robert L. Beninger, Sheboygan, and Paul W. Jacobsen, Kiel, Wis., assignors to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
Filed Feb. 16, 1956, Ser. No. 565,907
5 Claims. (Cl. 242—58)

1. In a roll stand having a rock-shaft, a pair of substantially parallel roll-supporting arms corotatably carried on the rock shaft and slidable therealong axially, a support structure rotatably supporting the rock shaft, and means acting between the supporting structure and the shaft for rotatably positioning the shaft, the improvement in combination therewith of: means precluding axial displacement of the shaft with respect to the support structure; a pair of hydraulic actuators for jointly effecting roll edge alignment and for jointly effecting oppositely directed movements of the arms longitudinally of the rock shaft, the first of said actuators being operatively connected for acting between one of the arms and the shaft, and the second of said actuators being operatively connected for acting between the arms; whereby further-



more when said first actuator is hydraulically locked, said second actuator may be operated to move only the other of the arms with respect to the shaft; and whereby furthermore when said actuators are simultaneously operated at the same rate, only said one of the arms is moved with respect to the shaft.

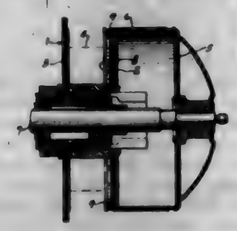
2,973,915
WIRE REEL CONSTRUCTION
David I. Elow, New Rochelle, N.Y., assignor to Consolidated Spring Corporation, Brooklyn, N.Y., a corporation of New York
Filed Feb. 24, 1958, Ser. No. 717,247
7 Claims. (Cl. 242—77.2)



1. A reel comprising a pair of similar, symmetrically disposed reel halves, each half comprising a plurality of similar, circularly arranged members, each made of a single piece of wire, each member comprising a peripheral portion, portions extending inwardly from the ends of the peripheral portion toward each other and in the plane of the peripheral portion, spoke portions extending at an angle to said inwardly extending portions and in the plane of said inwardly extending portions and peripheral portion, and core portions extending from the outer ends of said spoke portions at right angels to said planes, and a hub member attached to said spoke portions and having a central bearing, and the outer ends of the core portions of each half being fixedly connected to the outer ends of the core portions of the other half, the junctions of the peripheral and inwardly extending portions of each member being adjacent to similar junctions of adjacent members.

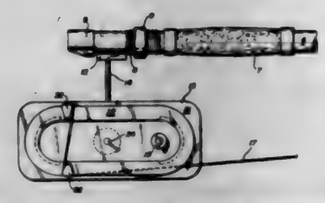
2,973,916
FISHING REEL CONSTRUCTION
Henry G. Shakespeare, Kalamazoo, Mich., assignor to Shakespeare Company, Kalamazoo, Mich., a corporation of Michigan
Filed Dec. 2, 1957, Ser. No. 700,114
2 Claims. (Cl. 242—242)

2. In a fishing reel, a spool having an axis and a circular front flange perpendicular thereto, a line spooling member mounted for rotation in front of said spool and about the axis thereof and having a cylindrical recess of a diameter greater than said front flange and having a wall fitted loosely and concentrically over said front flange and a disk of waterproof flexible sheet material having a low coefficient of friction of a diameter greater than that of said cylindrical recess and having a central body portion disposed against said flange and having a portion adjacent the wall of said recess crimped to form a wavy outer peripheral edge comprising a plurality of



bends and extending rearwardly at a substantial angle to said body portion to provide a portion offset from the plane of said body portion and having the outermost portion only of each bend of its crimped periphery in contact with the wall of said recess to present a minimum of frictional surface to said wall.

2,973,917
ADJUSTABLY MOUNTED FISHING REEL
Ora S. Fowler, 1259 Steele St., Denver, Colo.
Filed Apr. 7, 1958, Ser. No. 726,797
2 Claims. (Cl. 242—84.2)



1. In a fishing reel having means for its connection to a seat on a rod, a housing inclusive of a spool supported from said means, said spool comprising an inner plate portion of generally rectangular shape, an outer plate having a front surface of generally elliptical shape with the longest axis of the inner plate and the outer plate being substantially parallel and a line-receiving surface portion held between said inner and outer plates thereby forming the spool, a pivotal mounting for said spool including means for holding said spool in selective casting and winding positions, and two peripheral projections at opposite edges of the same side of the front surface of said outer plate adjacent one of its ends for crossing the fishing line over said front surface so as to reverse the direction of the winding and reduce the twist imparted to the line during casting and retrieve.

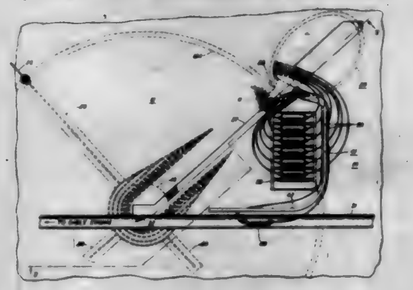
2,973,918
COMBINATION ANCHOR, REEL, AND HOUSING FOR SMALL BOATS
John E. Hancock, 3733 Chestnut Ave., Long Beach, Calif., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Dec. 24, 1956, Ser. No. 638,166
3 Claims. (Cl. 242—99)

1. Reeling and unreeling apparatus, comprising: a bidirectional reel provided with an axle and a handle rotatably and pivotally mounted by said axle with respect to said reel, for actuating said reel into a locked and unlocked position, and for actuating said reel, when in said unlocked position, between a reel-winding position and a reel-free-spinning position; said reel including two longitudinally spaced bearings rotatably disposed on said axle and having opposed spaced inner ends, with at least one of said inner ends having a braking surface; said reel including a capstan rotatably mounted around said bearings and having a braking portion extending inwardly into a position adjacent to said braking surface; at least



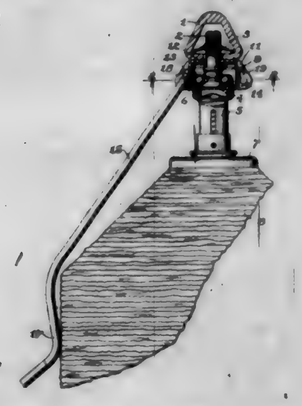
one of said bearings being longitudinally slidable on said axle and being positioned for forcible abutment and longitudinal slidable movement toward the other of said bearings in response to movement of said handle into said locked position, thereby forcing said braking surface into frictional braking engagement with said braking portion of said capstan; said handle having capstan retaining means controllably retainingly engageable with said capstan for retaining said handle in said reel-winding position with respect to said capstan.

2,973,919
APPARATUS FOR STOWING AND PREPARING FOR OVERBOARDING A SUBMARINE CABLE INCLUDING RIGID INSTRUMENTALITY HOUSINGS
Richard J. Goldrick, Ridgewood, N.J., and Frank W. Kinsman, Penfield, and Leif Line, Westerleigh, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 4, 1958, Ser. No. 739,891
12 Claims. (Cl. 242—128)



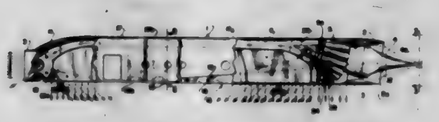
1. Means for shipboard stowage and control of undersea cable including at intervals rigid repeaters, said means comprising a main cable stowage tank having wall portions defining a slot, a central cone in said tank, a bellmouth above said cone, a crinoline around said cone, said bellmouth and crinoline each having portions defining a slot; an auxiliary cable tank adjacent to said main tank and having portions defining a slot; a deck above said tanks, said deck having portions defining a slot extending between said tanks, all of said slots being in substantial alignment; a repeater stowage rack on said deck and adjacent the juncture of said tanks; and a repeater and cable guiding trough extending from adjacent said tanks and rack to other cable handling facilities.

2,973,920
BOBBIN HOLDER SUSPENSION MEANS
Theodore L. Kucmerosky, Elmira, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 26, 1959, Ser. No. 795,680
4 Claims. (Cl. 242—130.2)



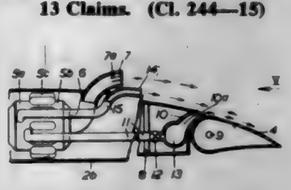
1. In a spinning frame a creel member, fastening means non-rotatably secured in said creel, a bobbin for holding a cop of yarn or the like, a pendulous rotary support for the bobbin including a bolt member having one extremity threaded and engageable with said fastening means and a bearing mounted on the other extremity of said bolt member, shoulder means provided on said bolt member adjacent said bearing, said bolt member having a non-circular portion intermediate said threaded extremity and said shoulder, a combination mounting member and dust cap slidably journalled on such non-circular portion of said bolt member surrounding said bearing and means detachably connected to said mounting member for rotating said pendulous support into and out of engagement with said fastening means.

2,973,921
WINGLESS SUPERSONIC AIRCRAFT
Nathan C. Price, Geneva, Switzerland
(4241/4 Kelton Ave., Westwood, Calif.)
Filed Mar. 24, 1958, Ser. No. 723,434
25 Claims. (Cl. 244—12)



22. In an aircraft the combination of a fuselage having an inherent high L/D ratio at all flight speeds, a ram inlet at the forward end of said fuselage, the fuselage formed by a substantially conical surface of revolution extending aft from the inlet lip for a short length to a first fuselage point, the outer fuselage surface transforming to a first and second surface at the first fuselage point, the first surface extending from the first fuselage point to a second fuselage point mid-length of the fuselage as a semi-circular shape of increasing radius, the first surface extending aft from the second fuselage point with the semi-circular radius constant, the second surface extending from the first fuselage point to the second fuselage point as a flat triangle bounded laterally by slightly conical surfaces of decreasing radii in a rearward direction, the second surface extending aft of the second fuselage point as a flat surface of constant width, a plurality of turbo-jet powerplants located at the downstream portion of the inlet, a first valve means at the downstream end of each of the turbo-jet powerplants, and an engine starting spill gate means comprising a duct communicating each of the turbo-jet powerplants from a connection upstream of the downstream end first valve means to the atmosphere on the second fuselage surface, a second valve means at each connection of the duct to a turbo-jet powerplant whereby when less than all of the turbo-jet powerplants are operating and the first valve means on each shut down turbo-jet powerplant is closed, a shut down turbo-jet powerplant can be started by opening its second valve means to allow the starting exhaust from that powerplant to pass through the duct to the atmosphere for ease of starting without adverse effects of back pressure caused by already running turbo-jet powerplants, a ram air spill gate means comprising a valve controlled passage from the inlet interior to the atmosphere on the second fuselage surface, a valve in said passage, and means controlling said valve, said valve controlling means being responsive to conditions of ram air spill over the lip of said inlet whereby said valve is opened for passage of ram air to the atmosphere to reduce the spill of ram air over the inlet lip.

2,973,922
JET PROPELLED AIRCRAFT
Ivor Macaulay Davidson and Brian Stapleton Stratford, Farnborough, England, assignors to Power Jets (Research and Development) Limited, London, England, a company of Great Britain
Continuation of abandoned application Ser. No. 452,901, Aug. 30, 1954. This application Apr. 10, 1959, Ser. No. 805,631
13 Claims. (Cl. 244—15)



1. An aircraft comprising a wing having a trailing edge wing flap extending along the wing span; a plurality of jet pipes projecting from the upper surface of the wing and terminating in rearwardly directed jet nozzles distributed along the wing span at a position located forwardly of the flap leading edge; jet propulsion means connected to said jet pipes to discharge propulsive jet streams through said nozzles; said nozzles being spaced apart from one another to define between them passages for the flow of part of the main air stream over the wing to mix with said jet streams, and being so shaped and directed as to cause the jet streams together with the air mixed therewith to flow rearwardly over and follow the upper surfaces of the wing and flap and to leave the flap trailing edge as a long shallow spanwise extending sheet, and the flap being disposed to guide the sheet along a path following its upper surface; and means mounting the flap for turning between a position in which it causes the sheet to leave the wing in a rearward direction and a position in which it causes the sheet to leave the wing in a downwardly inclined direction.

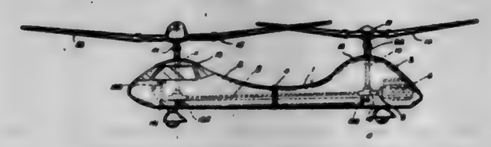
2,973,923
HELICOPTER CONSTRUCTION
Bernard W. Szuycer, New York, N.Y., assignor to Omega Aircraft Corporation, New York, N.Y., a corporation of New York
Filed May 3, 1957, Ser. No. 656,903
4 Claims. (Cl. 244—17.11)

1. In a single rotor helicopter, in combination, a fuselage, the main body portion whereof consists of a single elongated fuselage frame, the forward portion whereof consists of a cabin structure connected to and downwardly depending from said fuselage frame; a single rotor, having rotor blades mounted on the said body portion of the fuselage adjacent the forward end thereof substantially above the normal center of gravity of the helicopter; said main body portion and said cabin structure defining a cargo bay located beneath said main body portion, the center of which cargo bay is located substantially beneath said rotor and occupying a zone surrounding said center of gravity, the forward end of said cargo bay extending forwardly to the rear of said cabin portion, said cargo bay being unobstructed by structural



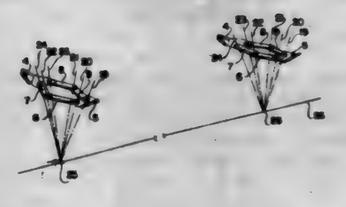
elements in the direction of the ground; driving means for said rotor mounted on said main body portion of the fuselage in a position to preserve the location of said center of gravity at the aforesaid position beneath said rotor without occupying any portion of said cargo bay and landing gear means connected to said fuselage, said means supporting said cabin structure in close proximity to the ground and said main body portion a relatively substantial distance above the ground, said landing gear means including at least two ground engaging members spaced from each other at opposite sides of said fuselage frame a distance substantially in excess of the width of said cargo bay.

2,973,924
APPARATUS FOR CHANGING THE PITCH OF PROPELLER BLADES FOR AIRCRAFT
Ira J. Marriage, 4520 State, Kansas City, Kans.
Filed Nov. 5, 1956, Ser. No. 620,396
6 Claims. (Cl. 244—17.23)



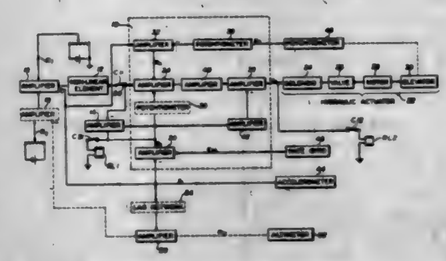
5. In combination with an aircraft having a fuselage having two sections rotatably connected together and a drive shaft extending longitudinally of the fuselage and power means having driving connection with the drive shaft, propellers including a head and having a plurality of blades thereon, said blades having shanks rotatable in said head and collar clamps rigidly secured to the inner ends of the shanks, tubular propeller shafts, means operatively connecting said propeller shafts to said drive shaft for rotating said propellers, hubs connected to the upper end of the propeller shafts, guide members secured to the upper end of the hubs, cylindrical heads slidable in said guide members, rods having their upper ends connected to said cylindrical heads and extending through said tubular propeller shafts, means for raising and lowering said rods, the improvement consisting of means movably connecting the cylindrical heads with said propeller blades, whereby vertical movement of the cylindrical head will vary the pitch of said blades on the propellers, said means including a plurality of spaced arms having one end pivotally secured to the upper portion of said cylindrical head and extending outwardly therefrom, posts having one end pivotally secured to said arms and the other ends to said propeller heads, spaced ears on said collar clamps on the propeller shafts, and means pivotally connected to said arms spaced inwardly from said posts and to said ears.

2,973,925
AERODYNAMICALLY AUTOMATIC AIRFOIL SLAT MECHANISM
Robert F. Wiele, Van Nuys, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Mar. 24, 1958, Ser. No. 723,175
11 Claims. (Cl. 244—42)



1. A guide means for controlling the path of a movable slat from the leading edge of an airfoil comprising a plurality of fittings secured to said slat, a plurality of fittings secured to the leading edge of said airfoil, a plurality of link mechanisms, each link mechanism having two pairs of link members, a pair of first hinge means, each of said first hinge means pivotally joining a pair of links together, a pair of second hinge means, each of said second hinge means pivotally connecting one end of each of said pair of links to the slat fitting, and a third pair of hinge means, each of said third hinge means pivotally connecting the other end of each of said pairs of links to the wing fitting, said pairs of links pivotally folding or unfolding together during movement of the slat relative to the wing, the axes of one of said pairs of hinge means being angulated relative to each other to guide said slat movement perpendicularly to the wing leading edge.

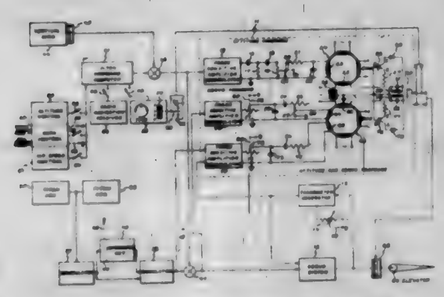
2,973,926
CONTROL APPARATUS
Sheldon S. L. Chang, 2440 Sedgwick Ave., Bronx, N.Y.
Filed June 19, 1956, Ser. No. 592,407
10 Claims. (Cl. 244—77)



1. Control means for controlling the dynamic state of a body, said control means comprising a controlling agent, means for changing the condition of said controlling agent, a summing actuator, an error sensing means, an interrupting means, means for preventing the operation of said interrupting means, and means for producing feedback signals which are substantially proportional to linear combinations of changes in the dynamic state of said body and the condition of said controlling agent and time derivatives thereof, said error sensing means being adapted to produce an actuating error signal which in-

creases in magnitude as the difference of said dynamic state of said body increases from the desired value of said dynamic state, said means connecting said error sensing means and said means for producing feedback signals to said summing actuator for supplying said actuating error signal and said feedback signals to said summing actuator to cause the latter to put out an output signal in accordance with a predetermined relation between said actuating error signal and said feedback signals, means connecting said summing actuator to said means for changing said condition of said controlling agent for supplying said output signal from said summing actuator to said means for changing said condition of said controlling agent to operate said last mentioned means in accordance with said predetermined relationship between said actuating error signal and said feedback signals, means including said interrupting means for preventing said actuating error signal from being supplied to said summing actuator when said interrupting means is operative whereby to cause said summing actuator to change the condition of said controlling agent only in accordance with said feedback signals, means including preventing means for operating said interrupting means effective only when said preventing means is not operating and said feedback signals are above a predetermined value, and means including said interrupting means for operating said preventing means effective only when said interrupting means is not operating and a combination of said error signal and said feedback signals are above a predetermined amount.

2,973,927
MONITORING DEVICE FOR AUTOMATIC PILOT SYSTEMS
Harry Miller, Westbury, and Robert H. Parker, New Rochelle, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Nov. 21, 1956, Ser. No. 623,592
17 Claims. (Cl. 244—77)



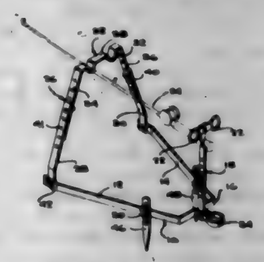
1. A monitoring device for an aircraft automatic pilot having long period gyroscopic reference means and short period accelerometer reference means comprising means including said gyroscopic reference means sensing the direction and magnitude of the deviations of the craft from a desired flight condition about an axis for providing a first control signal in accordance therewith, means including said accelerometer reference means sensing the direction and magnitude of accelerations of the craft about said axis for providing a second control signal in accordance therewith, means including servo means responsive to said signals connected to control the movement of the craft in accordance therewith during normal operation of said automatic pilot, means for rendering said signals compatible only during normal operation of said automatic pilot and monitoring device, and means responsive to said signals including means for comparing said signals to render said automatic pilot ineffective when said signals are not compatible.

2,973,928
PARACHUTE CONSTRUCTION
Pino G. Turolla, 3435 Barclay Ave., Apt. A, Montreal, Quebec, Canada
Filed Sept. 15, 1958, Ser. No. 761,172
5 Claims. (Cl. 244—152)



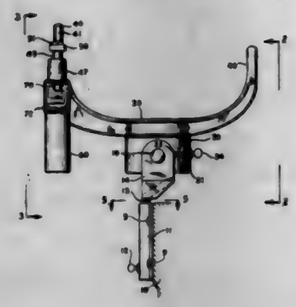
1. A controllable parachute construction comprising a main canopy having a central opening, a suspension harness, a plurality of primary shroud lines extending from about the outer periphery of said canopy to a connection with a pair of elongated harness risers extending to said suspension harness, a portion of the length of each of said risers being folded on itself and releasably secured to a first release means attached to said suspension harness, an annular seam about the central portion of said canopy body in radially spaced relationship from said central opening defining therebetween a canopy top portion constituting a minor portion of the total bearing area of said canopy, a plurality of secondary shroud lines connected to said canopy along said annular seam and extending therefrom to a central connection with one end of an elongated control line, the other end of said control line being releasably secured to a second release means attached to said suspension harness, air vent means adjacent the outer periphery of said canopy, said first and second release means on said suspension harness being adapted to separately control said risers and said control line whereby the effective bearing surface of said canopy when opened and sustaining a load can be decreased by the release of said folded riser portions increasing the length of said risers relative to the fixed length of said control line and in sequence can be sharply increased by release of the said control line end from said suspension harness.

2,973,929
FISHING ROD HOLDER
Antoni Zawadzki, 43 B St., Buffalo, N.Y.
Filed Apr. 12, 1960, Ser. No. 21,753
3 Claims. (Cl. 248—39)



3. A fishing rod holder comprising a frame adapted to rest upon a ground surface, said frame including a pair of legs arranged in lateral spaced relation and having a bar member connecting one of the adjacent ends of said legs together, an upright embodying a pair of elongated sections arranged in aligned abutting relation and adjustably secured together positioned adjacent said bar member and connected to said bar member for movement from the upright position to a lay-down position within said frame, an upstanding support including a vertically disposed arm positioned adjacent each of the other ends of said legs, the lower ends of said arms being connected to the other ends of said legs for pivotal movement of said arms from the vertical position to a nested position within said frame, an inverted U-shaped member fabricated of strip material and arranged so that the lower end portions of its legs extend along and abuttingly engage the upper end portions of said arms with the bight bridging and above the upper ends of said arms, means embodying bolt and wing nut assemblies adjustably securing the lower ends of said arms to the other ends of said frame legs, a ring member on the upper end of said upright adapted to receive the butt end of a fishing rod, and rest means embodying downwardly struck saddles on the bight of said U-shaped member for releasably holding a fishing rod when the butt end thereof is received in said ring member.

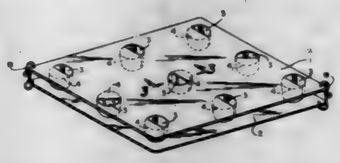
2,973,930
FISHING ROD HOLDER
Walter G. E. Smith, Longbranch, Wash., assignor to The United States National Bank of Portland, Oregon, trustee
Filed Sept. 14, 1959, Ser. No. 839,859
9 Claims. (Cl. 248—40)



1. A fishing rod holder comprising a vertical flat socket member, a flat plate post removably supported in said socket, a pair of upstanding clevis arms on opposite sides of said plate, a horizontal bolt extending through said clevis arms, a cylindrical socket member pivotally mounted on said bolt between said clevis arms with said bolt extending diametrically through said cylindrical socket, a cradle having a cylindrical base portion rotatably mounted in said cylindrical socket member, a front fork on said cradle for supporting a rod, a rear saddle on said cradle for supporting a rod, and a clamp arm arranged to clamp the rod in said rear saddle, said bolt providing a pivotal support for tiking movement of said cradle in a vertical plane and said cylindrical socket providing a pivotal support for lateral swinging movement of said cradle.

2,973,931
DUAL PURPOSE NESTING TYPE PALLETS
Dwight C. Brown, 414 N. Granada St., Arlington, Va.
Filed Apr. 23, 1958, Ser. No. 730,503
9 Claims. (Cl. 248—120)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A pallet comprising a pair of decks, each deck having a deck side adapted to receive a load on its surface and an underside, a plurality of spaced hollow projections extending from the underside, the hollow projections of one deck registering and nesting with the hollow projections of the other deck, when the two decks are assembled for storage, the decks when in spaced apart loading position having the projections on each deck in contact with the underside of the opposite deck to provide for supports



for a load on the deckside, the space between the decks when in spaced apart position having substantially the same dimension as the length of the extension of the projections beyond the underside, the projections being in contacting relationship for preventing lateral movement of the decks relative to each other when the decks are in spaced apart assembled relationship.

2,973,932
NOTCHED LEG SUPPORT
Robert L. Van Huis, Holland, and Edward F. Bares, Grand Haven, Mich., assignors to Automatic Poultry Feeder Company, Zeeland, Mich., a corporation of Michigan
Filed Sept. 24, 1959, Ser. No. 842,829
7 Claims. (Cl. 248—125)



1. An adjustable notched leg support, comprising: an upstanding leg; a plurality of notches in said leg; a bracket vertically slidable on said leg; support means on said bracket; a generally U-shaped member secured to said bracket; each leg of said member including a spring tensioned coil therein; and the bight portion of said member extending below said bracket, said coils normally biasing said bight portion between said notches.

2,973,933
FOLDABLE TRIPOD EASEL
David S. Howell, Royal Oak, Mich., assignor to Arlington Aluminum Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 10, 1959, Ser. No. 805,543
4 Claims. (Cl. 248—166)

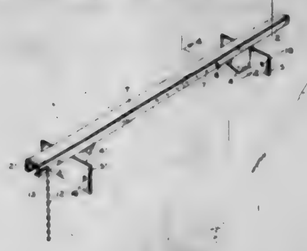
1. A foldable easel comprising a cap structure having a central support and a plurality of radially-disposed circumferentially-spaced pockets extending outwardly from said support, a resilient leg holder having a central base connected to said central support and a plurality of resilient leg-holding arms connected to said base, said arms being spaced circumferentially around said base in radial alignment with said pockets and extending downwardly and outwardly from said base in the relaxed condition of said leg holder, and a plurality of tripod legs having

upper end portions disposed in said pockets, said upper end portions of said legs having recesses therein receiving said arms and said arms yieldingly engaging and urging



said upper end portions of said legs outwardly against said cap structure, means restrainingly engaging said legs against withdrawal from said arms.

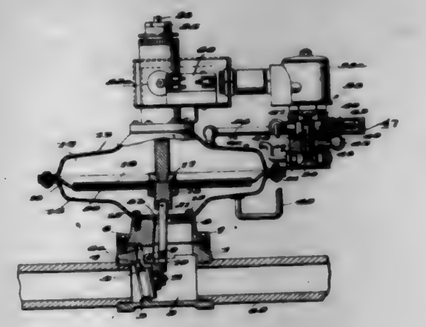
2,973,934
STABILIZER FOR BRACING LOADS
Allen D. Foster, 7184 N. Central, Portland, Oreg.
Filed June 9, 1958, Ser. No. 740,689
1 Claim. (Cl. 248—356)



A stabilizer for bracing loads during transportation, comprising pallets on which loads are stacked and placed in truck bodies, channel bars adapted to rest atop a truck load, means to connect said channel bars in longitudinal parallel alinement, guides longitudinally movable in said channel bars, gusset plates welded to said guides, spreaders rectangularly affixed to said gusset plates to contact one lateral surface of a truck load, a manually operable pin passing through each channel bar and one of said guides to lock one of the spreaders in contact with a truck load, a spring attached to one end of one of said guides in each channel bar, a chain attached to the spring remote from said last mentioned guide to manually tense said spring bringing said spreader into registration with one lateral surface of a truck load, thus causing the opposite spreader to force a load against a truck body, and means defined adjacent one end of each channel bar to lock said chain in a predetermined position to prevent lateral shifting of a load during transit.

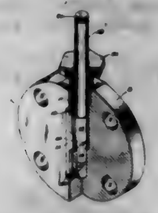
2,973,935
TWO-STAGE SINGLE DIAPHRAGM VALVE
Timothy J. Sullivan, Butte, Mont., assignor to Sullivan Valve and Engineering Company, Butte, Mont., a corporation of Montana
Filed Oct. 21, 1957, Ser. No. 691,362
5 Claims. (Cl. 251—30)

1. Two-stage valve control means adapted to be connected in series in the gas supply main of a gas burner comprising a valve body having an inlet chamber and an outlet chamber divided by a transverse wall having an opening with a valve seat mounted therein; a valve member in said inlet chamber adapted to be seated on said valve seat to close the passage between said inlet and outlet chambers; a pressure motor having a housing divided into an upper chamber and a lower chamber by a flexible diaphragm mounted therein, said lower chamber being in communication with said valve body inlet chamber; means connecting said diaphragm to said valve member so that when said diaphragm has a first lowermost position in said housing said valve member will be seated upon said valve seat, so that when said diaphragm has a second intermediate position in said housing said valve member will be partially opened to a low-fire position relative to said seat, and so that when said diaphragm has a third uppermost position in said housing said valve member will be fully opened to a full-fire position relative to said seat; and means controlling the position of said diaphragm within its housing comprising a conduit connecting said lower chamber with said upper chamber, a three-way solenoid valve having an inlet and a first outlet connected in series in said conduit, a two-way solenoid valve having an inlet and an outlet connected in series in said conduit intermediate said three-way solenoid valve and said upper chamber, said three-way solenoid valve having a second outlet vented to the atmoshpere, said three-way and two-way solenoid valves



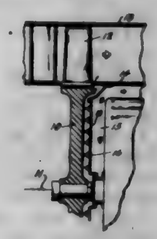
each having solenoid-operated plunger means so arranged that when both said solenoid valves are in their de-energized states the second outlet of said three-way solenoid valve will be closed, the two-way solenoid valve will be open, and the pressure in the upper and lower diaphragm chambers will be equalized through said conduit, means energizing said three-way solenoid to actuate the plunger thereof to close said three-way solenoid valve inlet and to connect said three-way solenoid valve outlets so that the pressure in said upper chamber is vented through said two-way solenoid valve and through the outlets of said three-way valve when said two-way valve remains in the de-energized state to cause upward movement of the diaphragm from its first lowermost position when the pressure in the lower chamber exceeds the pressure in the upper chamber, means for energizing said two-way solenoid valve when said diaphragm reaches said second intermediate position in its housing to actuate the plunger thereof to close the passage between the inlet and the outlet of said two-way valve and thus trap gas in said upper chamber to prevent further upward movement of the diaphragm and further opening of the valve member from said seat, and means for subsequently de-energizing said two-way solenoid valve when said diaphragm is in said second position to again vent said pressure motor upper chamber to atmosphere to cause said diaphragm to be further moved upwardly to its third uppermost position in said housing.

2,973,936
CONTROL VALVE
Eugene S. Dehaven, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 27, 1957, Ser. No. 661,682
6 Claims. (Cl. 251—285)



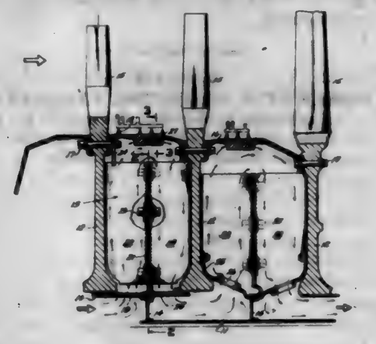
1. In a control valve for liquids in viscous flow, means defining a body having a central, well-like cavity therein and formed with inlet and outlet ports leading into and out of the central portion of said cavity in a path across said body that is substantially perpendicular to the central axis of said cavity; a concentric plunger stem positioned coaxially in said cavity and extending out of said body, said stem adapted to be moved longitudinally in said cavity and relatively into and out of said body to provide closed and open settings, respectively, for said valve, said stem forming a divided channel in said cavity that proceeds around each side of said stem through said cavity for the flow of liquid from said inlet to said outlet port when said valve is set to an open position; a seat in said cavity about said stem, said seat being in alignment with both the inlet and outlet ports and having its surface in a direction substantially transverse to the central axis of said cavity; a plug on said stem positioned intermediately thereon, said plug conforming to said cavity and being slidably and sealingly engageable with said body in said cavity; and having a transverse end surface to engage said seat said plug being adapted to restrict said channel when said stem is moved inwardly into said valve body so as to regulate the flow of said viscous liquid at a rate between the flow under any given pressure with the valve at wide open position and at cut-off in direct linear proportion to the setting of the valve and to finally engage said seat at the end of said inward movement of said stem when said valve is closed thereby against the flow of liquid therethrough.

2,973,937
COOLING STRUCTURE
Philip C. Wolf, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Mar. 31, 1958, Ser. No. 725,098
6 Claims. (Cl. 253—39.15)



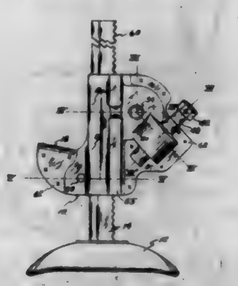
1. Cooling structure for a rotating member having a surface to be cooled comprising, a plenum chamber containing cooling fluid and including a wall closely adjacent the member surface, plural converging nozzle means in the wall directing the cooling fluid in a high velocity jet onto the member surface and providing a scrubbing action thereto, the axis of the jet being directed at the surface at an angle that provides no radially outward component.

2,973,938
COOLING MEANS FOR A MULTI-STAGE TURBINE
Joseph S. Alford, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 557,725, Jan. 6, 1956. This application Aug. 18, 1958, Ser. No. 756,062
6 Claims. (Cl. 253—39.15)



1. Cooling means for rotating parts comprising, a rotatable assembly including spaced wheels, a spacer band interconnecting said wheels substantially at the periphery thereof for rotation of the assembly about the axis of the wheels, a radially extending supporting disk intermediate said wheels and connected for rotation therewith, the periphery of said disk being adjacent the spacer band to define an opening therebetween for the passage of cooling fluid, a plurality of radially directed vanes carried by said supporting disk on the downstream side thereof, means for introducing cooling fluid at the radially inner portion of said rotating disk on the upstream side of said supporting disk, and means for removing it from the opposite side of said supporting disk.

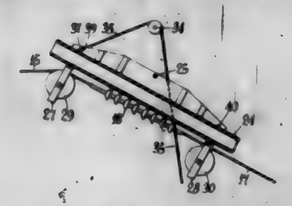
2,973,939
JACK
Creighton W. Ryerson, 106 S. Brown St., Jackson, Mich.
Filed Sept. 7, 1956, Ser. No. 608,614
2 Claims. (Cl. 254—97)



1. A jack for lifting vehicles comprising a rack shaft having rack teeth formed along one side and a guide surface along the opposite side, a housing slidable along said shaft, a roller supported in said housing and engaging with said guide surface to give roller support to one side of said housing, a gear upon the opposite side of said rack shaft in vertical disposed relation above said roller having rolling contact with said rack teeth and

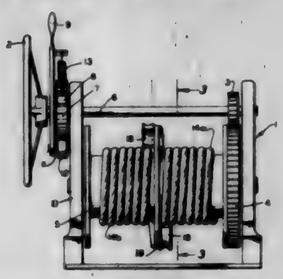
carried by said housing and giving roller support to said opposite side of said housing, a load supporting ledge defined on said housing above said roller upon said one side thereof whereby a load upon said ledge tends to fulcrum said housing about the point of rolling contact between said roller and said guide surface to hold said gear in mesh with said rack teeth, worm gear means for selectively rotating said gear in either direction, said housing having clearance with said shaft to permit said housing to be rocked about said point of roller rolling contact to unmesh said gear and rack teeth to enable said housing to be freely shifted along said shaft without rotating said gear and braking means coupled to said worm gear upon rotation of the same in a direction lowering said housing.

2,973,940
POWER LINE STRINGING APPARATUS
Allen Deane, Star Rte., Owego, N.Y.
Filed Apr. 16, 1958, Ser. No. 728,829
4 Claims. (Cl. 254—134.3)



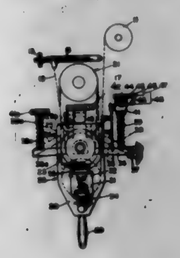
1. Power line stringing apparatus comprising an elongated beam member and means pivoting the same to a support substantially centrally of the beam member, a sheave above said beam pivot and a lift line extending upwardly from the ground and over said sheave, means for connecting said lift line selectively to either end of said beam member, and a snatch block secured to each end of said beam member, said snatch blocks being spaced longitudinally a distance sufficient to accommodate a string of power line insulators therebetween.

2,973,941
SELF-BRAKING WINCH
Thomas T. Lunde, 233 Cervantes Blvd., San Francisco, Calif.
Filed Aug. 25, 1958, Ser. No. 757,014
5 Claims. (Cl. 254—186)



1. A self-braking winch comprising in combination a rigid frame; a rope drum including a rope spooling surface rotatably mounted on said frame; a length of rope carried on said drum and having one end affixed thereto; means for rotating said drum so as to wind said rope thereon; means for disengaging said rotating means and for releasing said drum to rotate in response to an external load connected to said rope; and means for directing said rope to rewind on said drum immediately after said rope has unwound therefrom, said means overlying said rope spooling surface and directing said rope to rewind in a direction opposite that in which it had previously been wound, thereby decelerating the rotation of said drum.

2,973,942
MULTIPLE HOIST APPARATUS
Donald W. Schaper, Alliance, Ohio, assignor to The Morgan Engineering Company, a corporation of Ohio
Filed Aug. 18, 1958, Ser. No. 755,485
13 Claims. (Cl. 254—188)

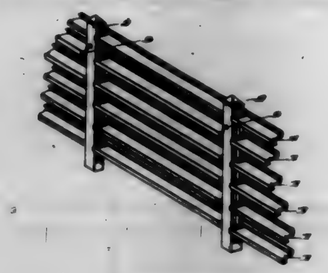


7. The combination in an electric motor operated cable hoist having a hoisting electrical circuit of, a first plurality of sheaves journaled on fixed axes, a second plurality of sheaves journaled on a movable axis, a third plurality of sheaves journaled on a movable axis, cable means reeved around said first, second and third pluralities of sheaves to raise the third plurality of sheaves, a load-engaging member carried by the third plurality of sheaves, the axes of the second and third pluralities of sheaves being movable by said cable means toward the axis of the first plurality of sheaves upon the raising of the third plurality of sheaves and load-engaging member, limit switch means adapted to be electrically connected to said hoisting electrical circuit and operable by the approach of the third plurality of sheaves upwardly toward the first plurality of sheaves to terminate upward operation of the hoist, stop means limiting upward movement of the second plurality of sheaves relative to the first plurality of sheaves, and coupling means for selectively coupling and uncoupling the second plurality of sheaves and third plurality of sheaves, said second and third pluralities of sheaves upon being coupled being movable as a unit relative to the first plurality of sheaves and said third plurality of sheaves upon being uncoupled from the second plurality of sheaves being movable relative to the first plurality of sheaves independently of the second plurality of sheaves, and means for delaying the operation of said limit switch means by the said approach of the third plurality of sheaves toward the first plurality of sheaves until the second plurality of sheaves engages said stop member.

2,973,943
FENCE BLIND
James W. Loter, 423 Hughes Drive, Irving, Tex., and Ulus S. Roberts, 9037 Dorinda Circle, Dallas, Tex.
Filed Oct. 18, 1957, Ser. No. 691,049
1 Claim. (Cl. 256—21)

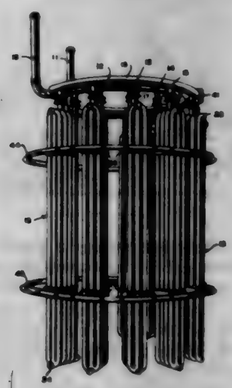
An aluminum fence blind constructed from a plurality of sections each comprising a hollow fence post having a plurality of vertically spaced holes on one side of said post, a plurality of vertically spaced slats each pivotally mounted at one end thereof to the opposite side of said post from said holes, said slats each having a pivot pin at the other ends thereof to be received in holes of the post of an adjoining section, at least one vertically extending bar pivotally connected to one end of each said slat at a point spaced from said pivotal mounting, rack teeth

on said bar, a pinion rotatably mounted in said post and engaging said rack teeth, and a crank connected to said



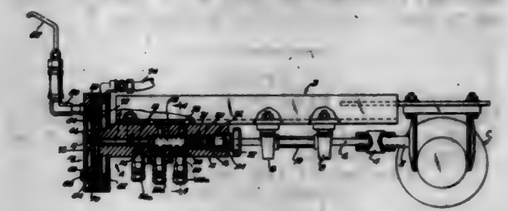
pinion for driving said pinion to raise and lower said rack bar thereby pivoting said slats.

2,973,944
HEAT TRANSFER APPARATUS
Joseph Augustus Etter, Cincinnati, Ohio, assignor, by mesne assignments, to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Feb. 10, 1955, Ser. No. 487,371
6 Claims. (Cl. 257—248)



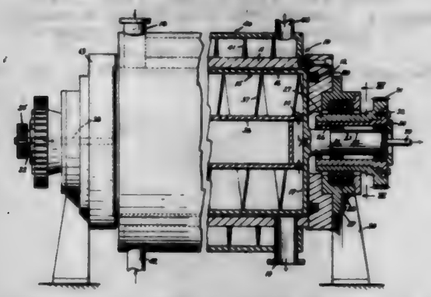
1. In a heat exchanger, an inlet header comprising a conduit arranged in a partial circle and having an inlet end and a closed end, a discharge header comprising a conduit arranged in a partial circle of substantially the same extent as the inlet header, the two being substantially co-planar and having the same axis, the discharge header having a greater radius than the inlet header and having a closed end adjacent to said inlet end and a discharge end adjacent to the closed end of said inlet header, whereby the inlet header is spaced inwardly of the discharge header, and a plurality of coil units depending from the headers and substantially parallel to the axis thereof, each coil unit comprising a supply pipe having its upper end connected to the inlet header and having its lower end connected to a transverse supply header extending in a direction substantially radially from the axis about which the inlet and discharge headers are formed, a transverse discharge header extending parallel to and above said transverse supply header and spaced just below the inlet and discharge headers, means connecting the transverse discharge header to the discharge header, and a plurality of spaced substantially straight conduits extending from the transverse supply header to the transverse discharge header, the sum of the cross-sectional areas of said straight conduits being greater than that of said supply pipe.

2,973,945
MIXING DEVICE
Marvin Schneider, Wyncote, Pa., assignor to Novo Industrial Corporation, a corporation of New York
Filed Oct. 22, 1958, Ser. No. 768,981
16 Claims. (Cl. 259—9)



1. A mixer comprising a casing with a mixing chamber therein having an outlet end and comprising a passage adjacent its inlet end, an exit port communicating with said chamber adjacent the outlet end thereof, and a pair of inlet ports communicating with said passage and spaced therealong, a first of said inlet ports being closer to said exit port than the second of said inlet ports, and one-way valve means interposed in said passage between said inlet ports, oriented to permit flow toward said first port from said second port and to substantially prevent flow in the opposite direction, said passage having a closed end remote from said exit port, said second of said inlet ports being located substantially at said closed passage end.

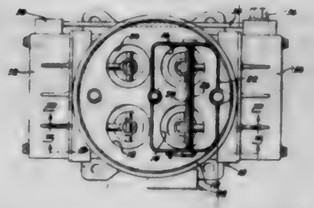
2,973,946
MIXING APPARATUS
Adrianus L. Bunting, Deventer, Netherlands, and David T. Milne, Fredericksburg, Va., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 29, 1958, Ser. No. 751,722
2 Claims. (Cl. 259—111)



1. Apparatus of the type described comprising a fixed outer cylindrical container having end walls having axial openings therein, a cylindrical rotor positioned within said container, said rotor having an outside diameter only slightly smaller than the inside diameter of said container, axial shafts fixed to said rotor and extending outwardly from the ends thereof and through the axial openings in the end walls of said container, said shafts fitting loosely within said axial openings, means for preventing material placed in said apparatus from escaping through said axial openings, mounting means mounting said shafts for rotation and revolution, said mounting means each comprising a pair of telescoped sleeves each of which has a right circular cylindrical bore which is eccentric with respect to the outer right circular cylindrical periphery thereof, means for locking the sleeves of each pair together in a plurality of relatively rotated positions whereby the eccentricity of the bore of the inner sleeve may be varied with respect to the outer periphery of the outer sleeve, bearing means rotatably supporting one of the

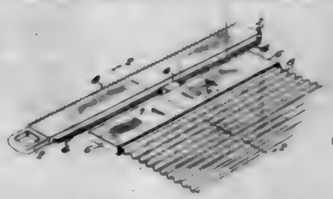
axial shafts of the rotor within the bore of each inner sleeve, bearing means rotatably supporting each outer sleeve, means for rotating said outer sleeves whereby said rotor is caused to revolve within said container, and means independent of said last-named means for rotating selectively in opposite directions one of said axial shafts and the rotor to which the shaft is connected.

2,973,947
CARBURETOR FUEL BOWL TRANSFER TUBE
Melvin F. Sterner, Bloomfield Hills, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed June 11, 1958, Ser. No. 741,303
3 Claims. (Cl. 261—23)



1. In a carburetor having a main body portion with induction passages therethrough, a plurality of fuel bowls having means for maintaining normal fuel levels therein located substantially at opposite sides of said main body, conduit means communicating between said fuel bowls at a level substantially above that of said normal fuel level within said fuel bowls, said conduit means having one end thereof terminating in the wall of one fuel bowl and the other end projecting a substantial distance within the other fuel bowl.

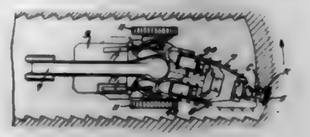
2,973,948
SNOW SAW AND SEPARATION LAYER
Kenneth L. Treiber, 1006 Duke Drive, Alexandria, Va.
Filed Nov. 6, 1958, Ser. No. 772,388
6 Claims. (Cl. 262—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



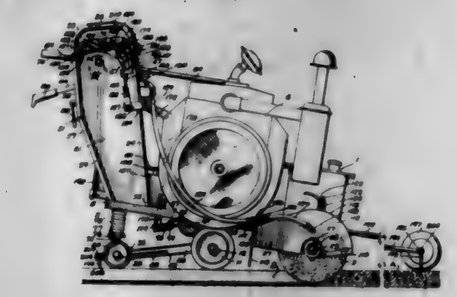
5. A device for dividing a frozen material capable of rebonding, said device comprising a saw having a handle and a cutting means secured to the handle, and a separator material attached to the saw by means permitting relative transverse movement between the material and the saw whereby as the cutting means makes a kerf in the frozen material the separator material will enter the kerf to prevent the frozen material from rebonding.

2,973,949
MINING AND LOADING MACHINE
Neal W. Densmore, Franklin, Pa., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 21, 1957, Ser. No. 679,398
7 Claims. (Cl. 262—9)

5. A mining machine comprising a base, a frame swingably mounted on said base, a dislodging and disintegrating mechanism adjustably supported on said swingable frame, a first conveyor mounted on one side of said swingable frame adapted to convey dislodged material rearwardly of said disintegrating mechanism, a second conveyor extendibly mounted on the other side of said swingable frame adapted to be extended and retracted longitudinally to remove dislodged material while said dislodging and disintegrating mechanism is operating.



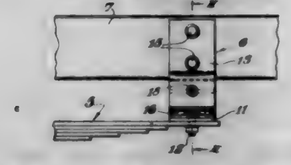
2,973,950
CONCRETE SAWING MACHINE HAVING STABILIZING WHEELS
Ray Tucker, Kansas City, Mo., assignor to Robert G. Evans Company, Kansas City, Mo., a partnership
Filed Mar. 27, 1956, Ser. No. 574,223
6 Claims. (Cl. 262—24)



1. A mobile machine for making a linear cut into the surface of a concrete slab or like structure, said machine including a main frame having a fore portion and a rear portion, a rotary cutter having fixed rotational support on the fore portion of the frame on a transverse axis, a pair of transversely aligned traction wheels having connection with opposite sides of the frame and intermediate said portions for maneuverably supporting the machine on said surface in which the cut is to be made, a dolly having transversely spaced apart stabilizing wheels adapted for rolling contact with said surface, means pivotally connecting the dolly with the frame for retaining the axis of the dolly wheels in parallel relation with the axes of the traction wheels and the rotary cutter and to cooperate with said traction wheels in maintaining movement of the machine in a linear direction, a pulley on the rear portion of the main frame and above the dolly, a cable running over the pulley and having one end connected with the dolly, a spring yieldingly connecting the other end with a part on the main frame, a coil spring having one end seating on the main frame and the other end connected with the cable for supporting the dolly with the wheels free of the slab when the main frame is in a position with the rotary cutter out of contact with the slab whereby the dolly wheels do not interfere with maneuvering of the machine on the traction wheels, a jack connecting the dolly with the rear portion of the main frame including piston and cylinder members, and means for supplying a pressure medium to the cylinder for urging the wheels of the dolly into rolling contact with the slab to cooperate with the traction wheels in maintaining said straightaway direction on movement of the machine and to effect pivotal movement of the main frame to bring said rotary cutter into cutting contact with the slab.

4. In a mobile machine for making a linear cut into the surface of a concrete slab or like structure, the combination of a frame, a rotary cutter having fixed rotational support on a fore part of the frame, transversely aligned traction wheels, brackets depending from a midportion of sides of the frame, axle means carried by the brackets for journaling the traction wheels for maneuverably supporting the frame on said surface in which the cut is to be made and to provide a pivotal axis on which the frame is adapted to rock, a dolly pivotally connected with said axle means and trailing therefrom under a rear part of said frame and having transversely aligned stabilizing wheels, yieldable means connecting the dolly with the frame for suspending the dolly with the stabilizing wheels out of contact with said surface when the machine is maneuvered on said traction wheels, and power means connected with the dolly and a rear part of the frame for bringing the stabilizing wheels into stabilizing contact with said surface and for rocking the frame on its pivotal axis, whereby the frame acts as a lever with the cutter at one end with the power being applied between the other end and the dolly to bring the rotary cutter into cutting contact with the slab while the stabilizing wheels are bearing upon said surface to cooperate with the traction wheels in maintaining a straightaway course for the cutter.

2,973,951
SPRING ASSEMBLIES
Henry James Billing, Blaby, England, assignor to Metalastik Limited, Leicester, England, a British company
Filed Jan. 21, 1959, Ser. No. 788,121
Claims priority, application Great Britain Jan. 21, 1958
6 Claims. (Cl. 267—30)



1. A spring assembly for a vehicle having chassis and running gear structures comprising a leaf spring secured to one of said structures, and an end attachment means for said spring, said means comprising one pair of members having external converging surfaces, rigid means bridging said members at their closest ends, and another pair of members having internal converging surfaces which confront respectively the surfaces of said one pair, one of said pair of members being secured to one end of the leaf spring and the other pair of said members being secured to the other of said structures, a resilient member interposed between the chassis and running gear including a resilient block of rubber-like material between each of the confronting surfaces, each of the surfaces of one pair being removably secured to said block and the surfaces of said other pair being bonded to said resilient block, and normally uncompressed buffer means of rubber-like material in a strip of lesser thickness than said block integrally connected with said blocks and extending over said bridging means to provide a buffer for excessive loads.

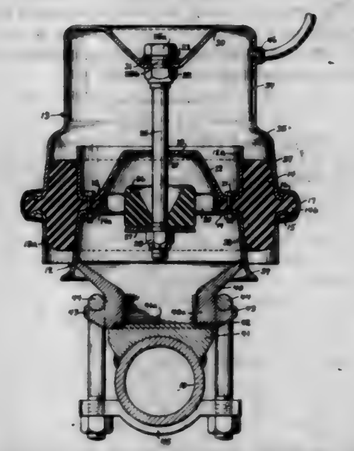
2,973,952
SHOCK ABSORBER AND RETAINER THEREFOR
Henry C. Heintzelman, North Baltimore, Ohio, assignor to Cooper Tire & Rubber Company, Findlay, Ohio, a corporation of Delaware
Filed Apr. 1, 1959, Ser. No. 803,481
3 Claims. (Cl. 267—30)

1. A shock absorber comprising a block of resilient, deformable material having a substantially planar face and two adjacent end faces substantially normal to said planar face and substantially parallel to each other, there being an opening extending through said block from one end to the other spaced from and parallel to said planar face, and a sheet metal block retainer having spring resiliency, said retainer having a central body portion adapted to be inserted in a circular aperture for retaining said shock absorber therein and a pair of divergent arms, said arms having planar sections extending over said planar face, downwardly turned sections extending across said end faces between said planar face and such opening, the junctions between said planar sections and said downwardly turned sections being spaced from the corners of



said block at the junction of the end faces and the ends of said planar face whereby the deformable material is maintained out of engagement with said junctions under a light impact, and ends turned inwardly into the ends of such opening, the downwardly turned sections of said arms being inclined inwardly from the said first named junctions toward said end faces of said block, with the inner corners at the junctions of the downwardly turned sections and ends contacting the corners of said block at the junction of the end faces and the upper sides of the opening through the block, whereby the deformable material engages a portion of the outer surfaces of said downwardly turned sections adjacent said inner corners under a heavy impact to force said ends into said opening.

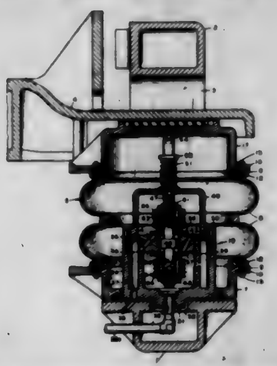
2,973,953
AIR SPRING ASSEMBLY
Tyman H. Fikse, 4727 38th SW., Seattle, Wash.
Filed Jan. 2, 1957, Ser. No. 632,286
7 Claims. (Cl. 267—63)



1. In an air spring, an elastic ring having inner and outer circumferential ribs, an outer unit having two clamping complements gripping said outer rib, an inner unit having two clamping complements gripping said inner rib, said units being telescopically associated with one another through part of their length and being adapted to be mounted one on a vehicle frame assembly and the other on an axle assembly, said clamping complements

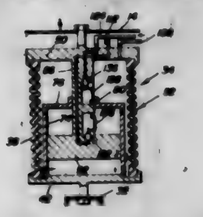
of the units providing two sets of opposed spaced generated surfaces between which the non-ribbed portions of the ring are compressed.

2,973,954
PNEUMATIC SPRING
Theodore D. Eater, Nashville, Ill., assignor to General Steel Castings Corporation, Granite City, Ill., a corporation of Delaware
Filed Mar. 12, 1958, Ser. No. 720,985
18 Claims. (Cl. 267—65)



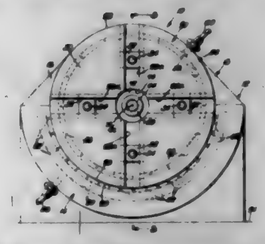
16. A valve device comprising a valve member having first and second oppositely facing surfaces, a first passage extending from said first surface through said valve member, a second passage extending from said second surface through said valve member from said first to said second surface, an aperture through said valve member, a rod extending through said aperture and having an enlarged collar portion slidably received within said aperture, a first closure member normally urged against said first surface of said valve member and closing said first passage, a second closure member normally urged against said second surface of said valve and closing said second passage, only a first end of each of said passages being in registry with a closure member, opposite surfaces of said collar portion being adapted to engage a portion of adjacent closure members when said rod is moved axially in said aperture for selectively unseating said closure members and opening said passages.

2,973,955
PNEUMATIC SUSPENSION UNIT
Daniel A. Brief, 200 Donaldson St., San Antonio, Tex.
Filed May 6, 1958, Ser. No. 733,427
4 Claims. (Cl. 267—65)



1. A pneumatic suspension unit for vehicles comprising an endwise expansible and compressible outer casing, top and bottom plates secured to opposite ends of said outer casing in sealed relation to form a sealed unit, anchoring means carried by said top and bottom plates for mounting said sealed unit, an inner cylinder secured to one of said plates and projecting into said outer casing, an end wall closing the end of said inner cylinder remote from one plate, said end wall being spaced from the other of said plates, a piston rod fixedly secured to said other plate and projecting into said outer casing, an imperforate piston disposed within said inner cylinder in sealed relation, said piston rod extending through said end wall and being connected to said piston said inner cylinder being perforated on opposite sides of said piston, means for continuously supplying low pressure fluid to said sealed unit, means for the controlled supplying of high pressure fluid to said sealed unit, and means for the controlled venting of fluid from said sealed unit for compensating for variations in loads imposed on said suspension unit, said means for the controlled supply of high pressure fluid to said sealed unit including a high pressure fluid passage through said piston rod, a high pressure fluid supply line connected to said high pressure fluid passage, and a control valve, said control valve being carried by said piston rod and including an operator engageable with said end wall in response to relative movement between said piston rod and said end wall.

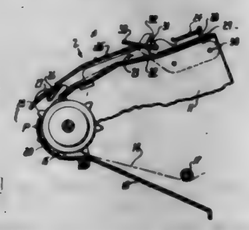
2,973,956
NON-VERTICAL AIR-FLOATED INDEXING FIXTURE
James C. Hartley, Branford, Conn., assignor to Union Manufacturing Company, New Britain, Conn., a corporation of Connecticut
Filed Nov. 12, 1958, Ser. No. 773,316
6 Claims. (Cl. 269—133)



1. A workholder, comprising a fixed support having a bearing surface part-circular about a non-vertical axis; a table with a rotary axis having opposite faces normal to the latter with provisions on one face for releasably carrying a work load directly on said one face, and a peripheral surface arcuate about said rotary axis turnable and axially slidable on said bearing surface and normally seated thereon by gravity to center said table; a fixed member having a backing surface against and from which said table is axially slidable on said bearing surface with the other face of said table confronting and engageable with and disengageable from said backing surface, said support and member having orifices leading to said bearing and backing surfaces, respectively, and adapted to conduct compressed air thereat for air-floating said table on said bearing and backing surfaces, and said bearing surface being of limited circular extent for lateral removability of said table therefrom; means permitting rotation of said table but limiting axial motion of the same from said backing surface to sustain its air-float thereon; and means for releasably holding said table in uniform engagement with said backing surface.

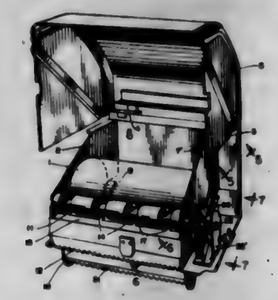
2,973,957
ANTI-JAMMING DEVICE FOR FEEDING PAPER
Richard E. Busch, La Puente, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed July 7, 1958, Ser. No. 746,877
1 Claim. (Cl. 226—198)

An anti-jamming record medium guiding device for a printing machine or the like in which an elongate flexible record medium is fed through an elongate guiding chute by a feeding device acting to push said record medium endwise through said chute, comprising a chute, an opening in one wall of said chute intermediate the ends thereof, a guide member extending over at least a portion of said opening, means pivotally supporting said guide member for movement toward and away from said opening about an axis extending transversely to the length of said chute, a second wall of said chute extending into the path of movement of said record medium opposite said opening whereby to cause said record medium to bow



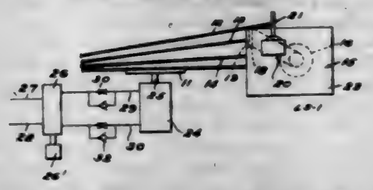
longitudinally toward said guide member, said guide member comprising a center section adjacent said pivotal supporting means and spaced legs extending from said center section; said center section being inclined toward the interior of said chute in the direction of movement of said record medium whereby to prevent transverse bowing of said record medium, said guide member being normally effective to maintain said record medium in said chute but being yieldable away from said opening in response to undue longitudinal bowing of said record medium opposite said opening when the leading edge of said record medium is blocked from endwise movement.

2,973,958
PAPER TOWELING DISPENSER
Charles L. Casey, Riverside, and Juddson B. Ryno, Chicago, Ill., assignors to Reliable Engineering Co., Chicago, Ill., a corporation of Illinois
Filed July 28, 1955, Ser. No. 525,849
5 Claims. (Cl. 226—130)



1. Apparatus for dispensing paper toweling in predetermined amounts, said apparatus comprising a roller frictionally engaged against the toweling, a manually actuated member, means cooperating between said roller and said manually actuated member for turning said roller as said member is actuated, a first means for limiting the amount of turning of said roller, a second means for limiting the amount of turning of said roller, said first limiting means being operative when said manually actuated member is in a normal position and being disabled when said member is actuated, said second limiting means being disabled when said manually operated member is in the normal position and being operative when said member is actuated.

2,973,959
ELECTROMAGNETIC METHOD OF SHEET FEED CONTROL AND CONTROL DEVICES
William Stolk, Lansing, Mich., assignor to Machine Tool Electric Corporation, Lansing, Mich., a corporation of Michigan
Filed Oct. 24, 1958, Ser. No. 769,332
10 Claims. (Cl. 271—18)



1. A method of electromagnetically separating stacked sheets and feeding the topmost thereof in the direction of its plane, comprising the steps of horizontally restraining the stack up to a predetermined level along a leading side thereof which is toward said direction of the desired feed, while creating a fixed electromagnetic field at said side effective from the direction of said restraint to urge said topmost sheet in said first named direction as well as downwardly, and elevating said stack to bring said topmost sheet above said predetermined level of horizontal restraint for advance in said direction under the influence of said magnetic field, while causing said advancing topmost sheet to maintain the sheet therebeneath below said level under the downward effect of said field.

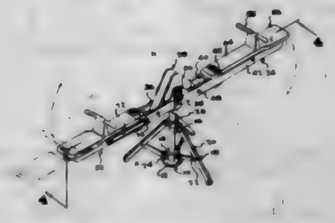
2,973,960
ARTICLE CONVEYOR
Dario Buccicone, Gary, Ind., assignor to Buccicone Engineering Co., Inc., Gary, Ind., a corporation of Indiana
Filed Jan. 14, 1960, Ser. No. 2,520
30 Claims. (Cl. 271—74)



1. In a conveyor assembly having a mounting frame and a plurality of traveling belts supported on spaced end pulleys on said frame, a downwardly opening channel-shaped housing extending along the bottom of the mounting frame, a belt guide plate closing the bottom of the housing and end closure members cooperating therewith to form a vacuum chamber, means for connecting the vacuum chamber to a suction device, said belt guide plate having a belt receiving recess on the bottom face with inwardly tapered side walls which form side edge guides for the outermost edges of the traveling belts along the lower run thereof, said belts being in edge-to-edge relation and being seated in the bottom recess of the belt guide plate, said belts being of uniform width and thickness and each of said belts having a transverse cross section in the form of a truncated triangle, said belts having a combined width when in predetermined transverse alignment with the side edge of each belt in abutting engagement with the side edge of the adjoining belt which corresponds to the width of the recess in the bottom face of the belt guide plate so as to extend completely across said recess, said belts having their side edges in spaced relation when one of said belts is moved upwardly relative to an adjoining belt in said recess, said belt guide plate having a series of elongate openings in longitudinally spaced and longitudinally extending relation therein, and belt engaging rollers in said openings, said belt engaging rollers being journaled on a supporting sleeve member which is eccentrically mounted on a

cross shaft supported in said housing, said roller supporting sleeve member having a radially extending arm normally projecting above the inner face of said belt guide plate, a longitudinally extending rod within the housing and having a sliding connection with said arm, said rollers being in engagement with the upper face of a traveling belt and being movable upwardly by reason of said eccentric mounting when pressure is applied to the lower face of the belt which the rollers engage, whereby when an article is forced against the bottom of the conveyor so as to move the belt which is engaged by the rollers in an upward direction in said recess, suction is applied through the openings in the vacuum chamber and between the belts to the top surface of the article to hold the same in engagement with the belts, and said rod having abutment means thereon for engaging the arm on said eccentric sleeve and being movable to swing said arm and position the rollers for applying pressure to the belt which said rollers engage thereby to move said belt downwardly relative to the adjoining belts to cut off the suction and release the article from the conveyor.

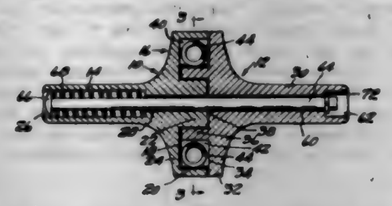
2,973,961
SEESAW
Karl Behrens, 3480 Shank Road, Hamilton, Ohio
Filed May 15, 1959, Ser. No. 813,582
3 Claims. (Cl. 272—30)



1. In a collapsible seesaw, a standard, an inverted hollow V-shaped housing open at the lower end positioned so that the upper end portion of said standard projects into the lower open end of said housing with the upper end of said standard rollably engaging the apex of said housing, a pair of planks arranged in confronting end to end relation positioned so that they extend horizontally across the lower open end of said housing with the confronting end to end portions straddling the lower open end of said housing, the straddling confronting end portions of said planks bearing against the adjacent portions of the lower open end of said housing for holding the planks in horizontal end to end position, releasable latch means on said housing and engaging the confronting end portions of said planks when the planks are in the horizontal position for retaining said planks in the horioznal position, said means embodying a hinge having one leaf secured to said housing and having the portion adjacent one end of the other leaf bent inwardly to form a hook, the hook underlying the lower edges of the plank confronting end portions, and means including a horizontally disposed pivot pin carried by each of the adjacent portions of said housing and extending through each of the adjacent plank confronting end portions connecting each of said planks intermediate the ends to said housing for swinging movement from the horizontal position to a position perpendicular with respect to said housing.

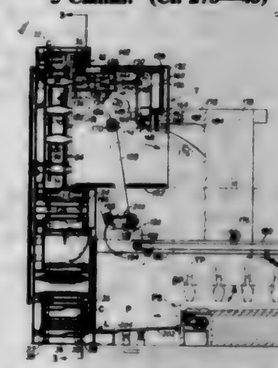
2,973,962
EXERCISING DEVICE
Benjamin J. Griffin, P.O. Box 183, La Porte, Ind.
Filed May 23, 1960, Ser. No. 31,107
8 Claims. (Cl. 272—67)

1. An exercising device comprising a pair of members connected for relative rotation and having confronting faces, the face of one member having an annular concentric groove partially interrupted by an abutment, the other member having a concentric annulus



fitting in said groove, an abutment projecting from said annulus and fitting freely in said groove, and coil springs fitting in said groove and each engaging opposite abutments at opposite ends thereof.

2,973,963
CONVERTIBLE BOWLING PIN SPOTTING MACHINE
Morehead Patterson, New York, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Original application Feb. 3, 1950, Ser. No. 142,183, now Patent No. 2,743,927, dated May 1, 1956. Divided and this application June 27, 1955, Ser. No. 517,965
5 Claims. (Cl. 273—43)

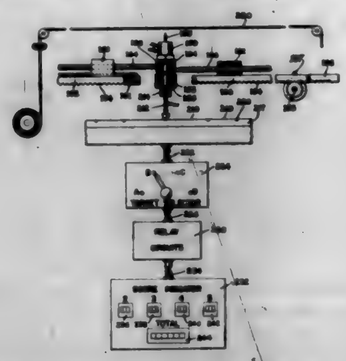


1. In a bowling pin-spotting machine having a pin-setting frame mounted above the bed of a bowling alley for movement toward and away therefrom, apparatus for adapting said machine for selective use with pins of more than one length, comprising pin-holding means on said frame for gripping the handle end of each of a set of pins and means for adjusting the extent of movement of said frame toward said bed in accordance with the length of the pins.

2,973,964
IMPACT INDICATING SYSTEM
Ralph Zito, Pelham, N.Y., assignor to American Machine & Foundry Co., a corporation of New Jersey
Original application Aug. 1, 1955, Ser. No. 525,433, now Patent No. 2,916,289, dated Dec. 8, 1959. Divided and this application Nov. 26, 1958, Ser. No. 796,715
8 Claims. (Cl. 273—102.2)

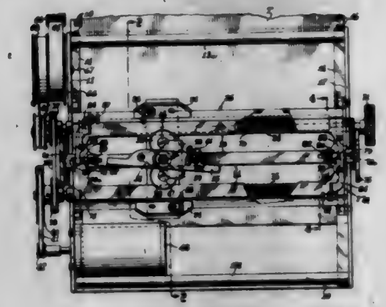
1. In a system for remotely indicating the position of impacts on a selected area having a target pattern thereon, an indicator for indicating said impact positions comprising a facsimile of said target pattern, means for marking on said facsimile the position of said impacts, a plurality of laterally movable arm members adapted to convey said marking means towards the interior of said facsimile target to a point thereon corresponding to said

position of impact, and driving means rotatably mounted adjacent the edges of said target facsimile and operable in response ot signals representative of the position of said impact on said target to move said movable arm members inwardly to said marking position, at least two



of said arm members having guide rods slidably attached thereto, the ends of said guide rods being pivotally secured to an end of a third arm member whereby all of said arms are constrained to converge into engagement with each other at said impact position when urged inwardly by said driving means.

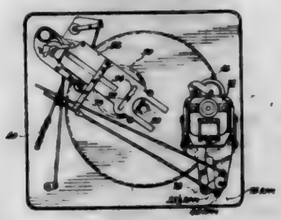
2,973,965
TRANSVERSAL-PHONOGRAPHIC MACHINES
William G. Whitney, Pines Lake, Wayne Township, Passaic County, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,491
4 Claims. (Cl. 274—4)



4. In a phonographic machine having a head for recording on a movable record: the combination of a carriage for said head mounted for movement transversely with respect to the movement of the record; reversible drive means for moving said carriage back and forth across the record; and motive means controlled by said carriage and operable independently of said drive means for reversing said drive means and concurrently advancing said record by one increment at each instant the carriage reaches an end point of its travel.

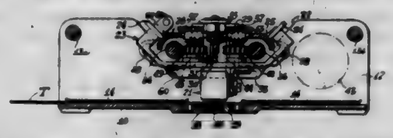
2,973,966
AUTOMATIC RECORD CHANGER SPEED CONTROL
Edwin S. Bara, Chicago, Ill., assignor to Webcor, Inc., Chicago, Ill, a corporation of Illinois
Filed Aug. 7, 1956, Ser. No. 602,649
5 Claims. (Cl. 274—10)

1. In a record changer having automatic cycles for the sequential playing of a plurality of record tablets of different diameters, a rotatable turntable having means for releasably supporting a stack of record tablets above the turntable and means for dropping one of said tablets on said turntable during each cycle, a tone arm adapted for vertical and horizontal swinging movement relative to said turntable, a sliding carriage for effecting said tone arm movement, indexing means having a normal position and a position corresponding to each of a plurality of record diameters, means operable during each cycle for operating said indexing means to a position corresponding to the diameter of the record tablet



dropped on said turntable, means operative in response to the movement of said indexing means for limiting a backswing of said tone arm to a position corresponding to the diameter of the record tablet dropped on the turntable during a cycle and means actuable by said carriage and operable in response to the position of said indexing means for varying the speed of said turntable to correspond to the reproducing speed associated with the diameter of the record dropped, said last-named means including an actuator bar on said carriage, a plurality of rods positionable by said indexing means into or out of engagement with said actuator bar.

2,973,967
TRANSVERSAL-PHONOGRAPHIC MACHINES
James F. Freeman, Parsippany-Troy Hills Township, Morris County, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,492
9 Claims. (Cl. 274—11)



1. In a phonographic machine: the combination of means for supporting and advancing a record medium; a record cooperable translating head; a carriage for said head mounted for movement in a path transverse to the direction of advance of said medium; a pair of feed screw extending along said path of the carriage; respective circular feed worms engaging said feed screws and rotatably mounted on said carriage; means for rotating said feed screws to render the same effective respectively for driving said carriage in reverse directions; and shiftable means for alternately braking said feed worms against rotation.

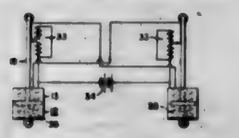
2,973,968
PNEUMATIC EQUALIZATION SPRING SYSTEM FOR VEHICLES
Franz G. F. Behles, Sindelfingen, Kreis Boblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Sept. 10, 1956, Ser. No. 608,943
Claims priority, application Germany Sept. 12, 1955
6 Claims. (Cl. 280—104)

1. A pneumatic equalization system operatively connected between a front and a rear wheel of a vehicle

having a body and a plurality of wheels, especially a motor vehicle, comprising pneumatic spring means for each of said two wheels, the pneumatic spring means of one of said wheels being so constructed and arranged that the effective cross section thereof continuously changes during spring movements thereof and the pneumatic spring means of the other of said wheels being so constructed and arranged that the effective cross section thereof remains essentially constant, means for interconnecting the two spring means for equalization therebetween, means for selectively replenishing and discharging said pneumatic system, and means operatively connected to the other of said wheels to actuate said replenishing and discharging means upon attaining a position corresponding to predetermined spring movements of said other wheel, said pneumatic spring means constituting the sole means for springily supporting the body of said vehicle on said wheels.



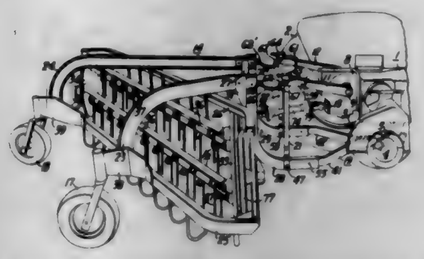
2,973,969
ELECTRICAL SHOCK ABSORBING SYSTEM
Earle S. Thall, 299 St. Cloud Ave., West Orange, N.J.
Filed May 11, 1955, Ser. No. 507,639
9 Claims. (Cl. 280—124)



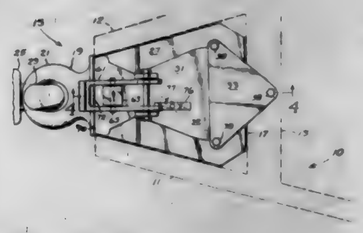
1. A vehicle having sprung and unsprung parts and having a shock absorbing system, said system comprising shock sensing means sensitive to rate of change of relative motion between said parts and mounted at one end of said vehicle and a shock absorber element responsive to said sensing means and mounted at an end of said vehicle remote from said shock sensing means, said shock sensing means being mounted for movement in either of two opposite directions with substantially equal facility, said shock absorber element including a magnetic field producing element and a fluid disposed within the influence of said magnetic field producing element, said fluid being of the type having a viscosity which is increased under the influence of a magnetic field, the rigidity of said shock absorber element being determined by the viscosity of said fluid, said magnetic field producing element being connected to said shock sensing means, whereby the rigidity of said shock absorber element is controlled by said shock sensing means.

2,973,970
IMPLEMENT HITCH
Paul H. Harrer and William H. Shannon, La Porte, Ind., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 28, 1958, Ser. No. 776,905
11 Claims. (Cl. 280—461)

1. A pickup type implement for connection with a tractor comprising, in combination, an implement frame; a draft structure pivotally connected with said implement frame on a transverse axis and swingable about said axis upwardly into and downwardly from an operative position in forwardly extending relation to said implement frame; relatively engageable abutments connected, respectively, with said implement frame and draft structure for preventing the latter from swinging upwardly relative to said implement frame beyond said operative position; link means operatively connected in back and forth swinging, lift force transmitting relation with said draft structure; and lost motion connecting means operatively interposed between said link means and implement frame so as to accommodate backward swinging movement of said link means toward and limit forward swinging movement of said link means away from said implement frame.

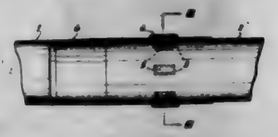


2,973,971
COUPLING AND ALIGNMENT MECHANISM
Elmer H. Oddson, 13324 NE. Glisan St., Portland 16, Oreg.
Filed Nov. 24, 1958, Ser. No. 775,762
4 Claims. (Cl. 280—478)



1. For a vehicle train having drawing and drawn vehicles, a draft tongue and coupler alignment mechanism for connecting adjacent ends of the vehicles comprising, in operative position, a hollow casing mounted on one of said vehicles having continuous top, bottom, and side walls joined together and defining an elongated chamber within the casing aligned longitudinally with said one vehicle, a passage connecting with the one of the pair of ends of the chamber nearer the other of said vehicles and leading from the chamber to the exterior of the casing, an elongated bar member loosely threaded through said passage having one end within and engageable with the side walls defining the chamber and its other end outside said casing and connected to said other vehicle, the side walls defining said chamber laterally diverging from each other at the one of the pair of ends of the chamber farther from said other vehicle and defining pocketing means for snugly receiving said one end of said bar member, a pin-receiving aperture formed in said casing connecting with said passage, a pin-receiving aperture formed in said bar member movable into registry with said first-mentioned aperture when said one end of said bar member is snugly received by said pocketing means, a removable pin operable to lock together the bar member and casing when inserted through both of said apertures, catch means joined to said bar member, lever means pivoted to said casing positionable over said catch means and operable when so positioned to prevent extension of said bar member from said casing, and means mounting said removable pin on said lever means.

2,973,972
DETACHABLE JUNCTION BETWEEN THE ENDS OF TWO SUCTION CLEANER TUBES
Arnold George Rolf von den Baumen, Wassenaar, Netherlands, assignor to Holland-Electro C.V., Rotterdam, Netherlands, a Dutch limited partnership
Filed Aug. 19, 1957, Ser. No. 678,972
Claims priority, application Netherlands Aug. 23, 1956
4 Claims. (Cl. 285—7)



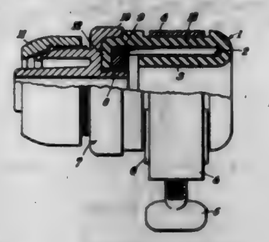
1. A detachable junction between the ends of an inner and outer suction cleaner tube, the end of the inner tube being tapered to telescopically fit in the end of the outer tube, said outer tube having circumferentially spaced openings formed therein and a ring of flexible material circumposed on the outer tube and having cams of flexible material extending through the openings to bear against the inner tube, said cams and openings being positioned in two parallel planes perpendicularly to the longitudinal axis of the tubes, the cams and the two planes being so shifted circumferentially relative to each other that a cam in one plane covers the space between two adjacent cams in the other plane, and the distance between the two planes being so slight that in assembly each cam will be pressed outwardly and expanded in directions perpendicular to its axis whereby the circumferences of adjacent cams will touch each other so that a hermetical joint is obtained when the junction is in operative condition.

2,973,973
HOSE AND CONNECTOR FOR EMERGENCY USE
John C. Borth, 2540 N. 93rd St., Milwaukee, Wis.
Filed Oct. 4, 1957, Ser. No. 688,293
1 Claim. (Cl. 285—8)



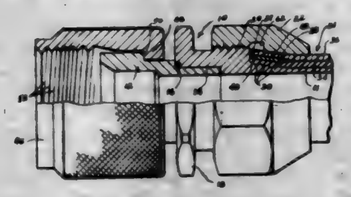
An attachment for a faucet and the like comprising, a length of hose having one end adapted to slide telescopically on the end of a faucet, a wire encircling said hose inwardly of said one end, means for tightening the wire on the hose, said hose being longitudinally slotted from said one end inwardly thereof to provide a plurality of circumferentially spaced tabs integral with said one end of the hose and with the free ends thereof looped back over said wire and fastened to the hose thereby forming closed loops for capturing the wire and retaining the same on the hose at said one end, said tightening means comprising a stamped wing nut shaped part with a central opening therein through which the ends of said wire extend, said ends of the wire being fastened to the wings of the nut on opposite sides of said opening.

2,973,974
FLEXIBLE SLEEVE HAVING NUT MEANS THEREIN FOR CONNECTING HOSE PIPES TO TAPS OR THE LIKE
Francis John Dimey, Haddenham, England, assignor to Airtech Limited, Haddenham, England, a British company
Filed Apr. 24, 1959, Ser. No. 808,755
Claims priority, application Great Britain Mar. 10, 1959
3 Claims. (Cl. 285—8)



3. A device for connecting a hose pipe to a tap or the like, said device comprising a unitary connector of flexible material including an inner skirt to fit over the tap and an outer skirt joined at one end of said connector to said inner skirt and extending coaxially therewith, said outer skirt having on its inner surface a plurality of longitudinally extending ribs and extending beyond the inner skirt at the other end of the connector, a notched nut mounted within said outer skirt with its notches engaged with said ribs and in a position aligned with said inner skirt, said outer skirt having a formation for retaining said nut in position thereon.

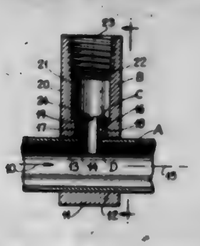
2,973,975
REUSABLE FITTING FOR BRAID-COVERED HOSE
Einar M. Ramberg and Harry William La Rose, Jr., Longmeadow, Mass., assignors to Titeflex, Inc., Springfield, Mass., a corporation of Massachusetts
Filed Oct. 31, 1957, Ser. No. 693,568
9 Claims. (Cl. 285—149)



1. A reusable end fitting for braid-covered plastic hose including a body portion having an insert at one end integral therewith for insertion into a hose, the insert having one part that has a cylindrical outside surface that fits snugly into the hose, and the insert having another part between its cylindrical part and said body portion of the fitting, the other part having an outside surface that diverges toward the end of the hose, a clamping nut that screws over the threads formed on the outside of the body portion, the clamping nut surrounding the insert and having a surface extending to the end of the diverging surface and along part of the cylindrical surface of the insert, the nut having a diverging clamping face, and a ring of generally frusto-conical shape between the diverging surface of the insert and the clamping face of the nut and located between the hose and the braid of the hose, the inside surface of the ring having its minimum diameter adjacent to the end of the ring remote from the end of the hose, the ring being closest to the insert at said minimum diameter and the inside surface of the ring flaring outwardly beyond said minimum diameter, the

ring being of malleable metal and deformed radially to smaller diameter by a radial component of the clamping pressure developed by axial movement of the nut as it is screwed along the threads of the body portion.

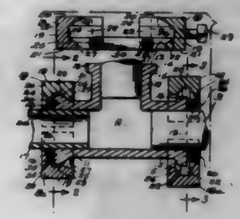
2,973,976
NOZZLE MOUNTING ADAPTER FOR IN LINE PIPE AND TUBE INSTALLATIONS
William F. Steinen, Short Hills, N.J.
(% Wm. Steinen Mfg. Co., 43 Bruen St., Newark, N.J.)
Filed Aug. 19, 1957, Ser. No. 678,815
1 Claim. (Cl. 285—197)



A nozzle mounting adapter, assembly for use with cylindrical tubing having a radial hole in the side thereof, comprising an adapter element having an eye to receive said tubing, said adapter element having a tubular connection with two interior threaded portions, a first threaded portion being adjacent to the said eye and a second threaded portion being adjacent to the outer end thereof and a tubular nipple having a cylindrical extension adapted to be received in the hole in the tubing, said extension having an outside diameter substantially equal to the diameter of the hole in the tubing, said nipple having an enlarged externally threaded portion adapted to cooperate with said first threaded portion of said tubular connection, the bottom of said enlarged portion forming a radial shoulder, an annular groove in said radial shoulder of said enlarged portion, said groove having three walls, a first wall being cylindrical and aligned with the outer wall of said extension, a second oblique outer wall converging upwardly from said radial shoulder, a third radially extending bottom wall joining the upper ends of said first and second walls, a gasket normally circular in cross-section and having an internal diameter no greater than the diameter of said first wall, the cross-sectional area of said gasket being substantially equal to but no greater than the cross-sectional area of said grove whereby in operative position on said tubing the gasket will sealingly engage throughout its annular extent the outer surface of the tubing, said first cylindrical wall and said oblique wall without any portion of the gasket being in contact with the threads of the first threaded portion of said adapter, said radial shoulder between said grove and said enlarged portion beign tangential to the outer wall of said tubing.

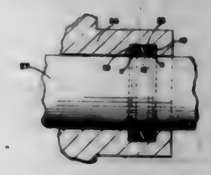
2,973,977
PIPE COUPLING HAVING A PAIR OF CLAMPING MEMBERS WITH SHARP TUBE BITING MEANS
Kenneth L. Stovall, 628 Pittock Block, Portland, Oreg.
Filed Oct. 22, 1957, Ser. No. 691,719
1 Claim. (Cl. 285—337)

In combination, a pipe fitting including a cylindrical extremity terminating in a radially outwardly extending protuberance having an axially tapered undersurface, a pipe section terminating in a portion slidably fitted into said cylindrical extremity, a sealing ring tightly embracing said pipe section and abutting said cylindrical extremity; and a coupling including a pair of coupling parts conjointly embracing said sealing ring and protuberance and provided respectively with a pair of arcuate channels formed upon the inner peripheries thereof and conjointly operative for receiving said protuberance and seal, and means for drawing said coupling parts together to thereby bring the opposite side channel walls thereof to bear radially inwardly respectively upon said axially tapered undersurface of the protuberance and the



outer surface of said pipe section, said sealing ring being wedged thereby tightly between the channel side walls bearing upon said pipe section and said cylindrical extremity, the channel side walls upon the pipe section engaging side of the coupling being axially tapered to thereby provide radially inwardly extending sharp means bearing upon and biting into said pipe section.

2,973,978
BIMATERIAL BACK-UP RING
Thomas N. Oppenheim, Los Angeles, Calif., assignor to North American Aviation, Inc.
Filed Aug. 21, 1957, Ser. No. 679,465
11 Claims. (Cl. 286—26)

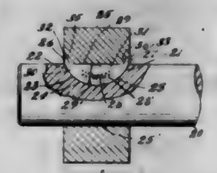


11. A fluid seal for high-temperature, high-pressure sealing between two relatively movable members having slidably fitted complementary cylindrical working surfaces with a clearance gap therebetween, one of which members contains an annular groove juxtaposed to the other working surface, said seal comprising an elastomeric O-ring disposed in said groove in sealing engagement with said other working surface; a bimaterial backup ring disposed in said groove on each side of and axially adjacent said O-ring, said O-ring and said bimaterial back-up rings incompletly filling said groove, said back-up ring comprising a first annular member having a shoulder portion at its cylindrical surface next adjacent the other working surface adapted for reception of a second annular member; and a high-strength second annular member encircling said first annular member at said shoulder portion and projecting above said first annular member into contact with said other working surface to substantially close the clearance gap between said working surfaces whereby extrusion of said back-up rings and said O-ring into said gap is prevented.

2,973,979
KEY
C Walton Musser, 66 McKay St., Beverly, Mass.
Filed Feb. 26, 1958, Ser. No. 717,660
9 Claims. (Cl. 287—52.05)

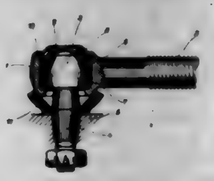
1. A machine element comprising a shaft having a longitudinally extending keyway whose wall nearest the longitudinal axis of the shaft conforms in shape to an arc,

said keyway being shallowest at the ends and deepest intermediate the ends, and a collar element having a shaft-receiving opening extending longitudinally thereof, the collar element surrounding and engaging the shaft about the keyway and having on the collar element adjoining the keyway interlock recess means cooperating in alignment with the keyway, in combination with a locking key having two opposed segments which occupy the keyway and extend into the interlock recess means of the collar element, one of said segments being partially located at one longitudinal end of the keyway and the other of the segments being partially located at the other longitudinal



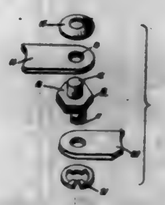
end of the keyway, said segments having arcuate outer surfaces which engage and are slidable on the arc surface of the keyway and said key including spring means interposed between the segments and urging the segments apart and into locking relation with respect to the collar element and the shaft, each segment having a portion at the end remote from the other segment which extends out radially beyond all other parts of the segment and engages one of the opposed ends of the collar element, and said segment also engaging the collar element at the interlock recess means against rotation, said segments also having a retracted position in which one of said segments leaves said collar element free from engagement at one end.

2,973,980
BALL JOINT, ESPECIALLY FOR THE STEERING SUSPENSION OF MOTOR VEHICLES
Jakob F. J. Vogt and Josef H. Latzen, Dusseldorf-Oberkassel, Germany, assignors to A. Ehrenreich & Cie., Dusseldorf-Oberkassel, Germany
Filed Sept. 19, 1955, Ser. No. 535,241
Claims priority, application Germany Mar. 16, 1955
7 Claims. (Cl. 287—87)



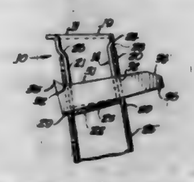
2. In a ball joint, especially for use in connection with the steering system of motor vehicles, the combination of: a stud having a ball head connected thereto, resilient ball cup means provided with a complementary ellipsoidal configuration interiorly thereof for engagement with said ball head, the curvature of said ellipsoidal configuration corresponding substantially to that of said ball head, said ball cup means being so dimensioned that in a non-loaded condition corresponding centers of curvature of said ellipsoidal configuration will be located in spaced relationship on opposite sides of a horizontal plane passing through the center of said ball head, said plane and said configuration being spaced from the ends of said ball head, and a casing housing said ball means and having transverse abutments engaging the ends of said cups and compressing said cups against each other tending to cause said inner surfaces to contact said ball head at the ends thereof.

2,973,981
ADJUSTABLE FASTENERS
Harry Francis Nollar, Orinda, Calif., assignor to Smith-Corona Marchant, Inc., a corporation of New York
Filed Aug. 11, 1958, Ser. No. 754,459
3 Claims. (Cl. 287—101)



1. An adjustable assembly comprising: a hexagonal element having parallel terminal faces; a shank extending from one of said terminal faces; a first link member pivotally mounted on said shank; a dished spring washer on said shank with the larger diameter of said washer in contact with said first link member; a head formed on said shank to compress said dished spring washer; a pin, eccentric with respect to said shank, extending from the other terminal face of said hexagonal element; a second link member pivotally mounted on said pin; and means to limit the axial movement of said second link member on said pin.

2,973,982
ATTACHING MEANS
Donald N. Elting, Hinsdale, and Frederick John Spencer, Chicago, Ill., assignors to Allegheny Steel & Brass Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 22, 1958, Ser. No. 782,181
8 Claims. (Cl. 287—114)

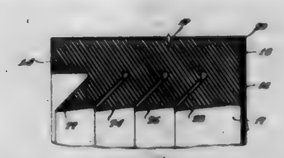


1. Attaching means for removably securing one member to another member, said attaching means, comprising: a bracket secured to said other member and having a tubular portion extending therefrom, said tubular portion having a pair of opposed longitudinally disposed slots therein; said one member having an open tubular end portion, said tubular end portion being removably telescoped over said tubular bracket portion and having a pair of opposed longitudinally disposed slots therein longitudinally aligned with and partially overlapping the tubular bracket portion slots; an annular shoulder having a tapered surface formed in said tubular bracket portion against which the tubular end portion abuts; and a wedging element insertable through the slots to wedge the tubular end portion on the tapered surface of the shoulder to secure the members together.

2,973,983
PRESSURE SEAL
Francis L. Townsend, West Chicago, Ill., assignor, by mesne assignments, to Crane Packing Company, Morton Grove, Ill., a corporation of Illinois
Filed Oct. 24, 1957, Ser. No. 692,083
5 Claims. (Cl. 288—16)

3. In a fluid packing article, a unitary cartridge formed of resilient material, said cartridge having an annular solid portion bounded by a cylindrical surface, a plurality

of mutually independent annular sealing blades extending from said solid annular portion in a direction away from the cylindrical surface with the free edges adapted for sealing against a second cylindrical surface concentric with the first said cylindrical surface, and said blades having sharp free edges and being pitched toward the



first said end, the overall axial dimension of the sealing blades at the radially inner ends thereof in the free state of the cartridge being appreciably less than the axial dimension of the solid portion, and no part of the sealing blades extending to the radial plane passing through either end of the solid portion.

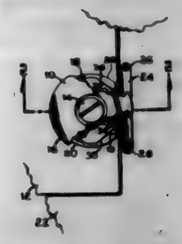
2,973,984
VEHICLE DOOR BOLT LOCK
Charles E. Burke, 48 Great George St., Charlottetown, Prince Edward Island, Canada
Filed July 27, 1959, Ser. No. 829,646
2 Claims. (Cl. 292—182)



2. A vehicle door lock comprising a housing, a cam movable within said housing into and out of a position of rest, means restraining said cam against other than substantially rectilinear movement into and out of said position of rest, a lock bolt, a leaf spring secured to said housing and carrying said lock bolt for movement thereof at generally a right angle to said cam movement between retracted and extended positions relative to said housing, said leaf spring urging said lock bolt into engagement with said cam for movement thereby into said extended position upon movement of said cam out of said position of rest and into said retracted position upon return of said cam to said position of rest, and means for selectively moving said cam into and out of said position of rest.

2,973,985
LATCHING APPARATUS
Burton L. Siegal, Chicago, Ill., assignor, by mesne assignments, to Chicago Aerial Industries, Inc., Melrose Park, Ill., a corporation of Delaware
Filed Jan. 22, 1959, Ser. No. 788,411
11 Claims. (Cl. 292—204)

1. Apparatus for latching a door to a doorframe comprising: cam means including a plurality of flat sides for locating said cam means in at least one latched and at least one unlatched position; a graspable knob fastened to one surface of said cam means; a segmented disc fastened to the opposite surface of said cam means, including a secant side which forms a common surface with a flat side of said cam means in order to allow opening and closing of the door in an unlatched position; a locking bar operably engageable with said cam means and constrainable between said knob and said disc in a latched position; and a resilient member adapted to facilitate relative lateral displacement between said cam means



and said locking bar to permit the passage of said cam means from one to another of the latched and unlatched positions.

2,973,986
DOOR LATCH CONSTRUCTION
Bert A. Quinn, 250 E. 5th St., St. Paul, Minn.
Filed Sept. 9, 1959, Ser. No. 838,977
1 Claim. (Cl. 292—228)



In a door latch mechanism, a latch element and a cooperating strike, means for mounting said latch element to one side of a door and adjacent an edge of the door for common movements with the door and for rotation on an axis normal to the plane of the door between a latching position and a latch release position angularly disposed with respect to said latching position, yielding means biasing said latch element toward said latching position, means for mounting said strike to a door casing for movements into and out of the path of travel of said latch element, yielding means biasing said strike toward said path of travel, said strike extending in a direction normal to the axis of rotation of said latch element, said latch element defining a cam surface engaging said strike upon movement of said latch element in a door closing direction to move said strike out of the path of travel against bias of said last-mentioned yielding means, said latch element further defining a latching surface angularly disposed to said axis of rotation of the latch element and projecting in a direction generally radially therefrom for latching engagement with said strike when said cam surface moves beyond said strike coincidental with closing of said door, whereby to hold the door against opening movement, said latch element further defining a surface portion between said latching surface and the adjacent side of the door and angularly disposed with respect to said latching surface, said surface portion being disposed in a plane in closely spaced parallel relation to the axis of rotation of the latch elment and generally parallel to said strike when said latch element is in its door closed and latching positions, said latch element having a side surface angularly disposed to said surface portion and cooperating therewith to define a second cam having a curved strike-engaging surface, said curved cam surface engaging said strike responsive to rotation of said latch element whereby to move the strike out of said path of travel of the latch element in a door

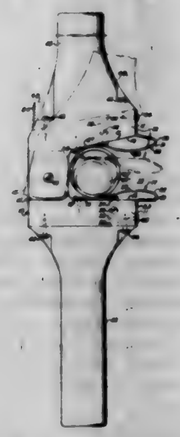
opening direction, and a handle integrally formed with said latch element and extending therefrom in a direction generally normal to the axis of rotation of said latch element for imparting rotation to the latch element against bias of said first mentioned yielding means, said latching surface being moved circumferentially about the axis of rotation of said latch element during said rotation thereof and in a direction away from engagement with said strike.

2,973,987
HASPS
Gordon Peter James Squire, Pattingham, England, assignor to Henry Squire & Sons Limited, Willenhall, England, a British company
Filed Dec. 19, 1958, Ser. No. 781,566
2 Claims. (Cl. 292—281)



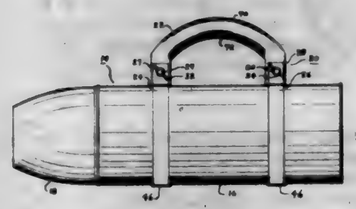
1. In a hasp comprising an attachment plate formed with at least one aperture enabling it to be secured to the forward face of a mounting member, and a hasp plate having an aperture formed therein and hingedly connected with said attachment plate; the provision on said attachment plate of a combined hinge bearing and securement part comprising a tongue including a looped portion intermediate its ends and projecting forwardly of the forward face of said attachment plate, said looped portion extending through the aperture of said hasp plate, and having a first end portion connected integrally with said attachment plate adjacent to one end thereof, and a second end portion projecting rearwardly of the rearward face of said attachment plate in a direction transverse to the plane of said attachment plate, said second end portion being formed with an opening whereby it can be secured to a face of said mounting member transverse to said forward face.

2,973,988
PIPE HANDLING TOOL
John Goins, Aztec, N. Mex. (415 W. Park, Hobbs, N. Mex.)
Filed Aug. 7, 1959, Ser. No. 832,392
6 Claims. (Cl. 294—15)



5. A pipe handling tool comprisng a pipe engaging head, said head including hingedly connected jaws providing opposed pipe engaging faces, said jaws being movable from an open pipe receiving position to a pipe engaging position, means to limit opening of said jaws, yieldable detent means on each jaw for engaging a pipe in the open position of said jaws to prevent inadvertent removal of said tool from said pipe, means on each jaw projecting inwardly of each jaw face to engage the pipe and prevent movement of the pipe relative to said tool and an elongated handle secured to each jaw and extending at substantially right angles to the plane of each jaw face.

2,973,989
ARTICLE CARRYING DEVICE
Fred B. Harwood, 54728 Terrace Lane, South Bend, Ind.
Filed Mar. 17, 1958, Ser. No. 721,820
7 Claims. (Cl. 294—31.2)



3. A device for carrying cylindrical and tubular shaped articles, comprising an arcuate shaped rigid handle, a pair of opposed recesses in said handle at each end thereof, each pair of recesses being connected by a hole, a rubber lug for each recess, said lug having a cylindrical portion seating in the recess and a flange extending radially from the recess, a fixture at each end of said handle, each fixture including a section of strip metal having a flange at one end for engaging one of said lugs and a series of spaced cross members near the other end, a section of strip metal having a flange at one end for engaging the lug opposite the last mentioned lug and a hook on the other end for engaging one of said cross members, and a means extending through the oppositely disposed flanges and lugs and the respective hole in the handle for clamping the flanges, lugs and handle together.

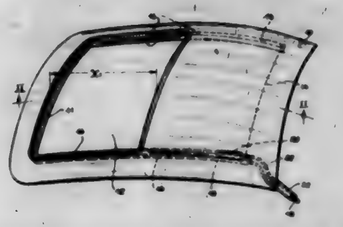
2,973,990
SLIDABLE ROOF STRUCTURE FOR VEHICLES
Johannes Werner, Offenbach (Main), Germany, assignor to H. T. Golde G.m.b.H. & Co. K.G., Frankfurt am Main, Germany
Filed July 19, 1957, Ser. No. 672,990
Claims priority, application Germany Mar. 9, 1957
5 Claims. (Cl. 296—137)



1. A canopy frame for supporting a roof lining for a vehicle having a sliding cover and adapted for being slidably supported between fixed guides adjacent a roof, said frame comprising lateral members of flexible material adapted to slide in said guides, cross members of flexible material connecting said lateral members, and at least one substantially U-shaped member of predetermined form and of rigid material internally accommodating one of said cross members, said U-shaped member extending over a major part of the length of said one cross member and imparting said predetermined form

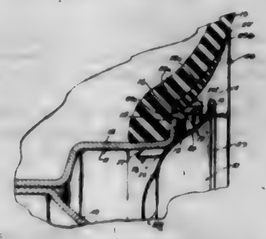
thereto, the flexibility of said lateral and cross members facilitating mounting of the frame prior to engagement of the U-shaped member with said one cross member.

2,973,991
CONTROL DEVICE
Johannes Werner, Offenbach (Main), Germany, assignor to H. T. Golde G.m.b.H. & Co. K.G., Frankfurt am Main, Germany
Filed Dec. 10, 1958, Ser. No. 779,471
Claims priority, application Germany Dec. 12, 1957
5 Claims. (Cl. 296—137)



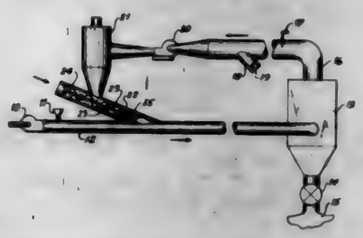
1. A vehicle comprising a roof provided with an opening, a rigid sliding cover adjacent said roof for closing said opening, a threaded cable connected to said cover for sliding the same, a guide housing said cable to guide the latter for moving said cover, a worm engaging said cable to move the latter in said guide, an electric motor driving said worm, said cable extending over and beyond said worm and having a free end movable between positions which correspond to open and closed positions of said cover, and a mechanical stop adjustably positionable to correspond to the position of said free end with the cover open, said mechanical stop being positioned in the path of movement of the free end to terminate movement of said cable.

2,973,992
WHEEL COVER
John V. Shoemaker, Detroit, Mich., assignor to Lyon Incorporated, Detroit, Mich., a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,419
10 Claims. (Cl. 301—37)



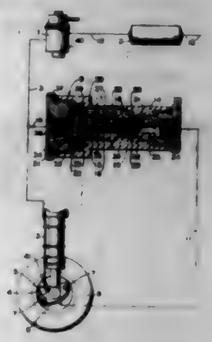
7. In a wheel structure, a wheel including a tire rim having an outer margin defined by junctioned radial and axial rim flanges with a radially outwardly facing grooved rim area generally at the junction of the rim flanges and with a tire carried on the wheel in abutment with the tire rim and the radial rim flange radially inwardly of the grooved rim area, a side wall ring member carried by the wheel having an inner marginal diameter slightly at variance with the radially outwardly facing grooved rim area and having its inner margin deflected and retainingly seated in the radially outwardly facing grooved rim area radially outwardly of the radial rim flange and with an axially inner side wall area of the ring member abutted in frictional engagement with the tire.

2,973,993
APPARATUS FOR FEEDING SOLIDS
Carl R. Delagrange, Ripplemead, and Gerard F. Meehan, Blacksburg, Va., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Mar. 25, 1958, Ser. No. 723,740
16 Claims. (Cl. 302—59)



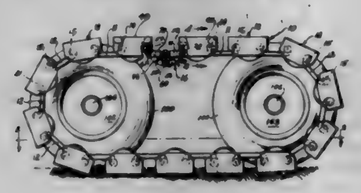
1. An apparatus for efficient feeding of subdivided material to a vessel comprising, in combination, means for pneumatically conveying said subdivided material to said vessel, means for separating conveying gas together with fine particles of said subdivided material from other particles entering said vessel, means for recovering said fine particles, means for feeding said recovered fine particles back to said conveying means, and means for compacting said fine particles into a plug prior to reaching said conveying means and for subdividing said plug into aggregates larger than said fine particles.

2,973,994
ANTI-SKID CONTROL
Richard H. Wells, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 29, 1958, Ser. No. 770,481
2 Claims. (Cl. 303—24)



1. A fluid pressure charging means for use with fluid pressure operable apparatus including a source of fluid under pressure, a fluid pressure receiving device, a supply conduit whereby fluid under pressure may flow from the source to the receiving device, and control means interposed in the supply conduit between the source and the receiving device for controlling supply and relief of fluid under pressure to and from, respectively, the receiving device, said fluid pressure charging means comprising, in combination, a bypass conduit connected at its opposite ends to the supply conduit on the supply side and the delivery side, respectively, of the control means in bypassing relation thereto, a casing having an inlet and an outlet connected respectively to the supply side and the delivery side of said bypass conduit and having formed therein, adjacent respective opposite ends thereof, a control chamber and a pressure chamber, a piston assemblage operably disposed within said casing between said control chamber and said pressure chamber and comprising two pistons, one having a larger pressure area than the other, the pressure area of said other piston being subjected to pressure of fluid in said pressure chamber which is open to said inlet through a first passageway formed in said casing between said inlet and said outlet, a stem integrally and coaxially connecting said two pistons and having a coaxial passageway extending therethrough and opening at its opposite ends to the respective pressure areas of said two pistons, a valve carried by said other piston, a valve seat disposed in said pressure chamber encircling said first passageway and on which said valve is adapted to seat, said piston assemblage having a normal position in which said valve is unseated from said valve seat for establishing communication between said inlet and said outlet, and thereby through said bypass conduit, and between said control chamber and said pressure chamber through said coaxial passageway, and being operable, in response to a differential force established by fluid pressure acting on said two pistons, to a cut-off position in which said valve is seated on said valve seat for disestablishing said communications between said inlet and said outlet and between said control chamber and said pressure chamber, and spring means effective for restoring said piston assemblage to its normal position upon reduction of fluid pressure in said control chamber to a value at which said differential force acting on the piston assemblage becomes less than the force exerted by the spring.

2,973,995
TRACTION DEVICES
Jacob J. Weier, 10611 S. Sawyer Ave., Chicago, Ill.
Filed Jan. 8, 1959, Ser. No. 785,695
9 Claims. (Cl. 305—13)



1. In a traction device having a pair of single vehicle wheels arranged in tandem, the combination, of a pair of single wheels arranged in tandem and having tires assembled thereon, said tires on said pair of single wheels arranged in tandem having adjacent semicircular surface portions and opposite semicircular surface portions, a chain for arrangement around the opposite semicircular surface portions of the pair of single tires and spanning between said single tires on the pair of single wheels in tandem, said chain having a pair of rectangular shaped terminal shoes and a plurality of rectangular intermediate shoes joined together by a plurality of terminal and intermediate links and a pair of adjustable connector links thereby forming an endless chain, each of said shoes embodying a body portion formed with a plurality of opposed slotted portions, said intermediate shoes joined together by said intermediate links and thereby forming the central portion of said chain, one of said terminal shoes arranged at each end of said central portion of said chain and each joined thereto by one of said terminal links, said terminal links having outer terminal ends and inner opposite ends, said pair of terminal shoes joined together by said pair of adjustable connector links, said terminal links carrying terminal pins on the outer terminal ends thereof and trunnion pins on the inner opposite ends thereof, said intermediate links carrying trunnion pins on each of their opposite ends, said intermediate shoes receiving in their slotted portions the trunnion pins on adjacent ends of said intermediate links and on said terminal links, said terminal shoes receiving in their slotted portions adjacent said intermediate shoes the terminal pins of said terminal links, said terminal shoes receiving in their remaining slotted portions the terminal pins formed on said adjustable connector links to assemble said elements of said endless chain in operable relation, a pair of arc-shaped side walls carried by each of said shoes and disposed transversely thereof for arrangement with the side walls of said tires on said wheels, and manually operable means for manipulating said pair of adjustable connector links in adjusted position.

2,973,996
STABILIZER FOR DRILL PIPE
Edward Samuel Self, Ventura, Calif.
(1315 Gravier St., New Orleans 12, La.)
Filed Jan. 9, 1957, Ser. No. 633,355
17 Claims. (Cl. 308—4)

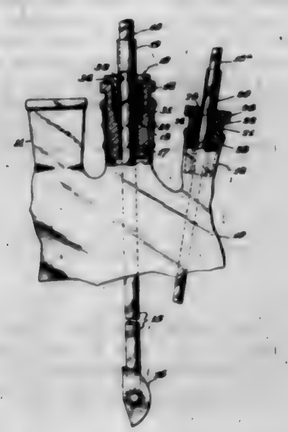


1. In a stabilizer for drill pipe having tool joints along its length, said stabilizer being constructed for use in a well in which drilling fluid is upwardly circulated, the combination comprising: a hard rubber bearing to fit around the pipe; spacing means surrounding said bearing mounted rotatably with respect to said pipe to prevent substantial transverse movement of said pipe in the well, said spacing means being made of a relatively soft millable material; and upper and lower clamps fixed to said drill pipe respectively above and below said spacer means and said bearing for limiting axial movement of both said spacer means and said bearing along said pipe without limiting the rotational movement of said spacing means therearound, said lower clamp being provided with upwardly extending dog means having knife edges to mill the bottom surface of said spacing means and said bearing in response to their rotational movement on said knife edges.

2,973,997
SHAFT BEARING AND SEAL
Earl V. Kirkland, La Marque, Tex., assignor to American Oil Company, Texas City, Tex., a corporation of Texas
Filed Sept. 20, 1957, Ser. No. 685,215
6 Claims. (Cl. 308—36.2)

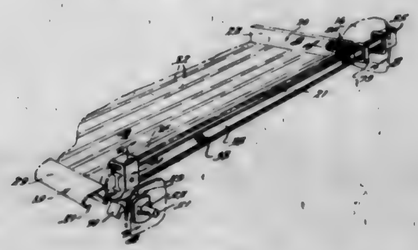
1. An apparatus which comprises a stopper bushing, a bore through said bushing, a deformable sleeve having a first axial portion and a second axial portion, said second axial portion extending within said bore and said first and second portions being unitary, threaded means surrounding said second axial portion of said sleeve, said threaded means being at least partly within said bushing, a recess

providing a shoulder in said bore, and an annular shoulder on said sleeve between said first and second portions, said



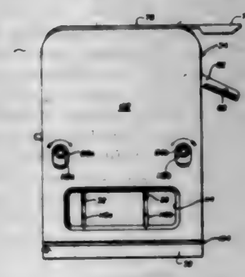
annular shoulder being placed under compression by said threaded means.

2,973,998
SLIDABLE SHELF CONSTRUCTION
David A. Rackliffe, Greenville, Mich., assignor to Ramsey Refrigerator Company, Greenville, Mich., a corporation of Michigan
Filed Mar. 5, 1958, Ser. No. 719,256
3 Claims. (Cl. 312—332)



1. In a storage cabinet having a rear wall and a pair of parallel spaced side walls perpendicular to the rear wall, a sliding shelf construction including a pair of laterally spaced beam members, a shelf slidably supported between said beam members and maintained in assembled relation therewith, a pair of supporting posts extending laterally inwardly from opposite of the side walls, a pair of supporting portions secured one to the forward end of each of said beam members and each having a pair of spaced fingers operable to clamp the adjacent of said posts transversely thereacross for supporting the forward ends of said beam members, means for supporting the rear ends of said beam members permitting longitudinal movement of said beam members during application of said fingers to said posts, and shoulder means on each of said supporting portions engageable with said posts to limit longitudinal movement of said beam members when said fingers are applied to said posts.

2,973,999
PORTABLE TIME RECORDING DEVICE
Elbert V. Abbott, 69 Vicksburg St., San Francisco 14, Calif.
Filed May 8, 1959, Ser. No. 812,020
2 Claims. (Cl. 346—82)



1. A portable time recording device comprising a bottom plate, an enclosure mounted upon said bottom plate and having a recessed bottom edge to form a slot for the insertion of a card along the top surface of said bottom plate, a settable printing mechanism having a printing face at its bottom and rigidly mounted upon said printing mechanism, a clock mechanism arranged to set said printing mechanism, said clock mechanism having a winding device and a time-setting mechanism, means mounting said combined clock and printing mechanisms within said enclosure for downwardly sliding movement from an elevated position wherein said printing face is spaced from the top surface of said bottom plate, spring means yieldably holding said combined clock and printing mechanisms in said elevated position, a lever mounted within said enclosure and having an outwardly protruding arm manually operable to lower said combined clock and printing mechanisms against the urgency of said spring means with said printing face thereof into operative engagement with a card positioned upon the top surface of said base plate, and means permitting access to said clock winding device from the outside while prohibiting access to said time setting mechanism.

CHEMICAL

2,974,000
FAT-LIQUORING PROCESS
Clinton Edward Retzsch, Caldwell, Jacob Levy, Livingston, and Charles Herbert Lightfoot, Bernardsville, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 5, 1956, Ser. No. 614,849
23 Claims. (Cl. 8—94.23)

1. A process for fat-liquoring leather which comprises contacting said leather with a composition comprising water and a cationic amine salt of a condensate produced by heating at temperatures between about 100° to 210° C., (*a*) a fatty material selected from the group consisting of fatty acids having carbon chain lengths of from about 10 to about 20 carbon atoms, glycerides composed of said fatty acids and esters of said fatty acids and aliphatic monohydric alcohols having a carbon chain length of from 1 to about 5 carbon atoms and (*b*) a dialkanolamine, the alkyl groups of which contain up to about 4 carbon atoms, said (*a*) and (*b*) being reacted in such quantities that the ratio of acyl groups to nitrogen atoms in the reaction mixture is about 1 to 2.

2,974,001
PROCESS AND COMPOSITIONS FOR ENZYMATIC DESIZING AND BLEACHING OF TEXTILES
Victor Windbichler and Hans Ferdinand Göbel, both of Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed July 16, 1958, Ser. No. 748,784
14 Claims. (Cl. 8—108)

1. In the process of bleaching starch-sized textile fabric with aqueous sodium chlorite liquor, the improvement which comprises supplying the chlorite liquor in neutral condition and containing a concentration of amylase desizing agent sufficient to effectively desize the fabric in a period of from 10 to 60 minutes, the liquor also containing a compound that liberates acid upon being heated to at least 60° C., the acid-liberating compound being in a concentration sufficient to cause the liquor with the liberated acid to effectively bleach the fabric, and first contacting the fabric with the liquor at a temperature between 20° and 60° C. for between 10 and 60 minutes to effect desizing, and then raising the temperature of treatment to above 60° C. to effect bleaching.

2,974,002
MERCERIZING COMPOSITIONS CONTAINING PINONIC ACID
Glen W. Hedrick, Lake City, Fla., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed June 30, 1959, Ser. No. 824,156
1 Claim. (Cl. 8—125)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A mercerizing composition comprising an aqueous caustic soda solution of mercerizing strength, from about 0.08 to 0.64 weight percent of pinonic acid, and from about 0.72 to 0.16 weight percent of butyl Cellosolve, the lesser amounts of butyl Cellosolve being employed with the greater amounts of pinonic acid.

2,974,003
TREATMENT OF WOOL WITH ISOCYANATES IN THE PRESENCE OF DIMETHYLFORMAMIDE
Nathan H. Koenig, El Cerrito, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed July 14, 1959, Ser. No. 827,129
10 Claims. (Cl. 8—128)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for chemically modifying wool which comprises reacting wool under essentially anhydrous conditions, in the presence of dimethylformamide, with an organic isocyanate of the class consisting of aliphatic, aromatic, and aromatic-aliphatic isocyanates at a temperature about from 25 to 150° C. until the wool combines with about from 1 to 70% of its weight of the isocyanate.

2,974,004
PRODUCTION OF SHAPED OBJECTS FROM VISCOSE
Kurt Heuer, Oberbruch-Grebben, Hugo Elling, Grebben, and Richard Ebsener, Rundenath, Bez. Aachen, Germany, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed Oct. 17, 1956, Ser. No. 541,096
Claims priority, application Germany Nov. 25, 1954
2 Claims. (Cl. 18—54)

2. A process for the production of regenerated cellulose threads from viscose, comprising incorporating into viscose 0.06–0.4% by weight based on the viscose of imidazole, extruding the resulting viscose into an aqueous bath having the composition of 30–50 g./l. of zinc sulphate and 40–65 g./l. of sulphuric acid, treating the resulting extruded object in a second hot bath containing 2–10 g./l. of sulphuric acid, and stretching same by a factor of 80–120%.

2,974,005
MANUFACTURE OF RAYON
Kurt Heuer, Grebben, Germany, Arnold L. McPeters, West Asheville, and Albin F. Knight, Asheville, N.C., assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed June 2, 1958, Ser. No. 738,950
7 Claims. (Cl. 18—54)

1. A process for the production of high tenacity, highly fatigue resistant, viscose rayon yarn which comprises incorporating a quaternary derivative of an ethoxylated amine into a viscose solution, extruding the solution through a spinneret into an aqueous sulphuric acid coagulating bath containing zinc sulphate and 800–2000 p.p.m. of a long chain aliphatic tertiary amine-ethylene oxide condensate to form a filamentary yarn therefrom and withdrawing the yarn from the bath and aftertreating the same.

2,974,006
DIRECT CONVERSION OF URANIUM TURNINGS TO URANIUM TETRAFLUORIDE
Otto E. Fry, Baton Rouge, La., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Oct. 6, 1953, Ser. No. 384,532
2 Claims. (Cl. 23—14.5)

1. The method of converting uranium metal turnings directly into uranium tetrafluoride which consists of cleaning uranium metal turnings, treating the cleaned turnings with a stream of anhydrous, hydrogen-free, hydrogen fluoride for from two to four hours at a temperature of between 400° C. and 600° C., raising the temperature by at least 200° C. while continuing the hydrogen fluoride treatment, and maintaining the increased temperature treatment for at least one-half hour.

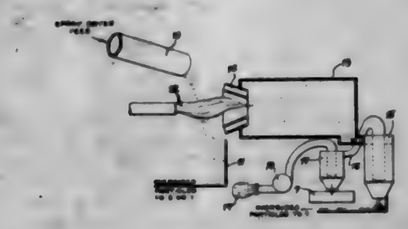
2,974,007
PROCESS FOR THE RECOVERY OF NIOBIUM AND/OR TANTALUM FROM MIXTURES OF THEIR PENTAHALIDES
Walter Scheller, Neuewelt, near Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland
No Drawing. Filed Nov. 8, 1957, Ser. No. 695,213
Claims priority, application Switzerland Nov. 13, 1956
14 Claims. (Cl. 23—21)

1. A process for the separation of niobium and tantalum values from mixtures of their pentachlorides comprising the steps of reacting under anhydrous and oxygen-free conditions a mixture of such pentachlorides with a metal halide, the metal being a member selected from the group consisting of an alkali metal and an alkaline earth metal and said metal ion having a diameter larger than that of the sodium ion, and thereby selectively forming a double salt with the tantalum pentachloride fraction, and separating the tantalum-containing double salt from the mixture thereby enriched in niobium.

2,974,008
METHOD FOR CALCINING OR FRITTING CERAMICS
Glenn N. Howatt, Metuchen, N.J., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed Mar. 14, 1957, Ser. No. 646,077
2 Claims. (Cl. 23—51)

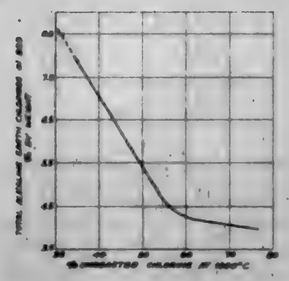
1. The method of forming fine particles of pure calcined ceramics which comprises mixing and grinding at least two reactive compounds in the proper proportions

to form said ceramic, heating the said ground and mixed compounds in a container to a temperature just below the temperature at which said compounds would react with the container, dropping the said heated compounds into a flame for suspending said compounds in the flame and further heating said compounds in the flame to a



temperature for completing the reaction and calcining said ceramic without substantial volatilization thereof, catching said flame suspended calcined ceramic in a cooling air stream for suspending and cooling therein the ceramic to below reaction temperatures to recover pure fine particles thereof, and classifying the said particles.

2,974,009
PRODUCTION OF TITANIUM TETRACHLORIDE
Joseph T. Basbour and Henry L. Bilofsky, New York, and Jerome N. Haimsohn, Ardsley, N.Y., assignors to Stauffer Chemical Company, a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,895
2 Claims. (Cl. 23—87)

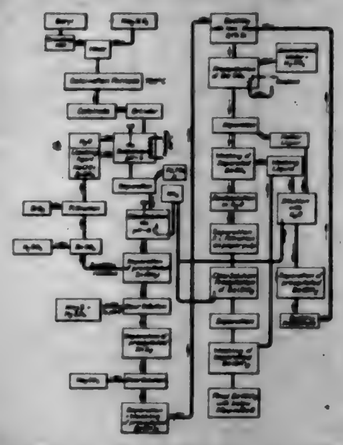


1. In a process for the production of titanium tetrachloride from a titaniferous material, containing a component forming a liquid metal chloride of low volatility at the hereinafter selected temperature, and wherein said titaniferous material and carbon in finely divided form are added to a hot reaction chamber containing a fluidized bed composed predominantly of carbon, and chlorine is added to said chamber to pass upwardly to provide fluidization of the bed while reacting to form metal chlorides, the improvement comprising removing the low-volatility metal chloride in the volatilized state as formed as part of the exiting gas stream from said chamber by maintaining the reaction zone at a selected temperature of from 800° C. to 1300° C., and by adding an excess of chlorine at a rate sufficient to maintain an amount of unreacted chlorine in said exiting gas stream of at least 15% of the chlorine feed and sufficient to maintain the partial pressure of the low-volatility chloride in said stream such that said chloride is below its dew point at the temperature of said stream, and recovering titanium tetrachloride from the chloride-containing gas removed from the chamber and recovering the unreacted chlorine from said gas.

2,974,010
PREPARATION OF NITROGEN-PHOSPHORIC ACID COMPOUNDS
Alfred Köster, Duesseldorf-Oberkassel, Germany, assignor to Henkel & Cie. G.m.b.H., Duesseldorf-Holthausen, Germany, a German corporation
No Drawing. Filed July 19, 1957, Ser. No. 672,860
Claims priority, application Germany Aug. 16, 1956
12 Claims. (Cl. 23—106)

1. Process for the production of nitrogen-phosphoric acid compounds which consists essentially of reacting anhydrous ammonia with a member selected from the group consisting of the anhydrous phosphate salt of ammonia and alkali metals, and mixtures thereof, said phosphate salt being selected from the group consisting of pyrophosphate, metaphosphate, trimetaphosphate, hexametaphosphate, tripolyphosphate and tetrapolyphosphate at a pressure of between about 30 to 120 atmospheres' gauge and at a temperature of between about 50 to 130 degrees C. and recovering the nitrogen-phosphoric acid compound formed.

2,974,011
PROCESS OF PURIFYING BERYLLIUM COMPOUNDS
Prokop Riabovol, Salindres, France, assignor to Pechiney, Compagnie de Produits Chimiques et Electrométallurgiques, Paris, France
Filed Jan. 27, 1959, Ser. No. 789,451
14 Claims. (Cl. 23—183)



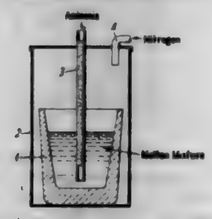
1. A process for the purification of beryllium compounds comprising the steps of treating an aqueous solution of a water soluble inorganic beryllium salt having at least one impurity selected from the group consisting of silicon, mangancse and phosphorous; with a precpitate of zinc hydroxide in the presence of fluoride ions while maintaining the pH of the solution lower than that corresponding to the precipitation of beryllium hydroxide, separating the precipitated zinc hydroxide from the solution, then adding an alkaline agent to raise the pH of the solution separated from the zinc hydroxide precipitate, until the beryllium hydroxide precipitates, and separating the beryllium hydroxide precipitate from its mother liquor.

2,974,012
PREPARATION OF BERYLLIUM OXIDE OF HIGH PURITY
Raymond Cooperstein and Gary R. Anderson, Cincinnati, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed July 18, 1959, Ser. No. 826,384
4 Claims. (Cl. 23—183)

1. A process for preparing beryllium oxide of high purity which comprises reacting a beryllium compound

selected from the group consisting of beryllium oxide, beryllium hydroxide, beryllium sulfate, beryllium carbonate and beryllium nitrate with molten oxalic acid to produce beryllium oxalate, leaching the reaction mass with water to recover beryllium oxalate from the associated impurities, filtering said leach solution to separate it from unreacted beryllium compound and the more insoluable oxalates, cooling the leach solution to crystallize the beryllium oxalate, recovering the beryllium oxalate by filtration and subsequently converting the beryllium oxalate to beryllium oxide by pyrolysis.

2,974,013
BORON NITRIDE PRODUCTION
Lawrence M. Litz, Lakewood, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 13, 1957, Ser. No. 677,936
8 Claims. (Cl. 23—191)



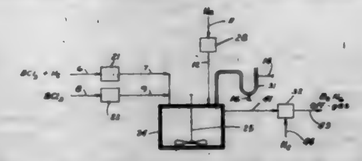
1. A process for preparing boron nitride which comprises dispersing in a molten bath of at least one relatively non-volatile metal halide selected from the group consisting of alkali metal halides and alkaline earth metal halides, a boron-containing reactant which is chosen from the group consisting of acids of boron, anhydrides and metal salts thereof, mixtures of calcium oxide and boric oxide, and mixtures of lead oxide and boric oxide thereby forming a molten reaction mixture; introducing gaseous ammonia into said resultant molten reaction mixture; reacting said boron containing reactant and ammonia while maintaining said molten reaction mixture at a temperature in the range of from about 600° C. to about 950° C. to form boron nitride, and separating the boron nitride from the reaction mixture.

2,974,014
TREATMENT OF METALLIC ORES
Howard H. Hoekje and Robert A. Kearley, Corpus Christi, Tex., assignors to Columbia-Southern Chemical Corporation, a corporation of Delaware
No Drawing. Filed Nov. 14, 1955, Ser. No. 546,770
17 Claims. (Cl. 23—202)

1. A method of separating oxides of elements forming solid oxides which comprises contacting with fused alkali metal hydroxide a composition comprising oxides of elements in solid state, one of the oxides being soluble and one being insoluble in the fused alkali metal hydroxide, without substantial reduction of the insoluble oxide to elemental state to form a composition having a liquid component rich in an element of an oxide soluble in fused alkali metal hydroxide and a solid component rich in an oxide insoluble in the fused alkali metal hydroxide, and separating solid component rich in an oxide insoluble in fused alkali metal hydroxide from liquid phase component.

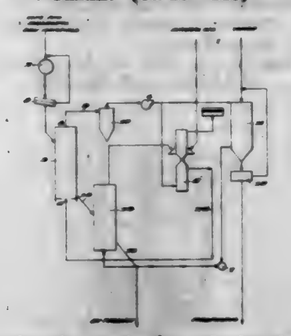
2,974,015
PREPARATION OF BOROHYDRIDES AND THEIR INTERMEDIATES
Willard D. Peterson, San Marino, Calif., assignor to American Potash & Chemical Corporation, a corporation of Delaware
Filed Aug. 20, 1957, Ser. No. 679,799
2 Claims. (Cl. 23—204)

1. A process for the formation of sodium borohydride comprising: (1) agitating a mass of finely divided sodium chloride in a closed reaction zone while maintaining the temperature in said zone at between 200° and 400° C.; (2) adding hydrogen gas thereto whereby to raise the pressure within said zone to a predetermined level above atmospheric pressure; (3) incrementally passing molten sodium into said zone while agitating the said mass of finely divided sodium chloride whereby to disperse the said molten sodium throughout the said sodium chloride and continuing the addition thereto of said molten sodium until the pressure within the said zone drops by a perceptible amount and terminating the said sodium addition



when this occurs; (4) incrementally passing additional hydrogen gas into said zone until the pressure within the said zone is restored to the said predetermined level above atmospheric pressure and continuing to introduce the said hydrogen gas increments until the pressure within the said zone remains constant for a predetermined time on the cessation of hydrogen addition; (5) incrementally passing boron trichloride gas into said zone until the pressure within the said zone remains constant at the said predetermined level above atmospheric pressure for a predetermined period of time on cessation of boron trichloride addition, and (6) thereafter repeating steps 3 to 5.

2,974,016
PROCESS FOR THE PRODUCTION OF PHOSPHORUS
John Perrine Horton, Maplewood, N.J., and Brooks Morris Whitehurst, Richmond, Va., assignors to Virginia-Carolina Chemical Corporation, Richmond, Va., a corporation of Virginia
Filed June 27, 1957, Ser. No. 668,397
4 Claims. (Cl. 23—223)

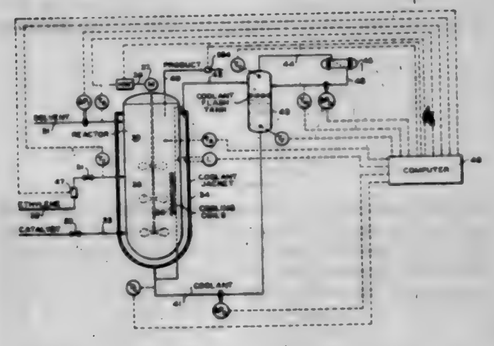


1. Process for the production of phosphorus which comprises contacting a gas consisting essentially of carbon monoxide and phosphorus, preheated to a temperature above 2400° F., with a fluidized bed consisting of a fluent mixture of finely divided phosphatic material and finely divided carbonaceous material and recovering phosphorus from the resulting gases, the preheated gas being the sole supply of heat to said bed.

2,974,017
MEASUREMENT OF POLYMERIZATION REACTIONS
Lyman W. Morgan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 21, 1957, Ser. No. 697,997
7 Claims. (Cl. 23—253)

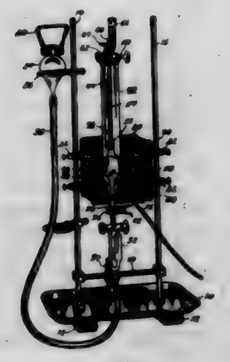
1. A computer for use in measuring the concentration of polymer within a reactor in a continuous poly-

merization reaction wherein material to be polymerized is introduced into a reactor and polymer is withdrawn from the reactor comprising means to establish a first signal representative of the rate of polymer production within the reactor, means to establish a second signal representative of the rate of withdrawal of polymer from the reactor, means to integrate to establish a third signal, means



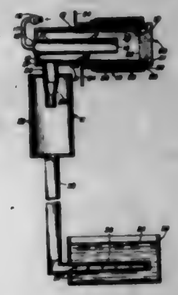
to multiply said second signal by said third signal to establish a fourth signal, means to subtract said fourth signal from said first signal to establish a fifth signal, means to divide said fifth signal by a constant representative of the volume of the reactor to establish a sixth signal, and means to apply said sixth signal to the input of said means to integrate, said third signal being representative of the concentration of polymer in the reactor.

2,974,018
VOLUMETRIC APPARATUS FOR DETERMINING THE GAS CONTENT OF LIQUIDS
Joseph A. McNeilly, Plymouth Meeting, Pa., assignor to Arthur H. Thomas Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1959, Ser. No. 790,863
11 Claims. (Cl. 23—253)



1. Apparatus comprising an upright vessel containing a stirring bar comprising magnetic material, an elongated first magnet uprightly mounted adjacent said vessel, means for rotating said first magnet, and an elongated second magnet fixedly mounted adjacent to and above said first magnet, with said second magnet being adjacent said upright vessel.

2,974,019
APPARATUS FOR OBTAINING NITROGEN DIOXIDE FROM NITROUS OXIDE
Alexander P. Sabol, Queens Lake, Rte. 2, Williamsburg, Va.
Original application Mar. 19, 1957, Ser. No. 647,168. Divided and this application July 23, 1958, Ser. No. 758,543
2 Claims. (Cl. 23—284)
(Granted under Title 35, U.S. Code (1952), sec. 266)

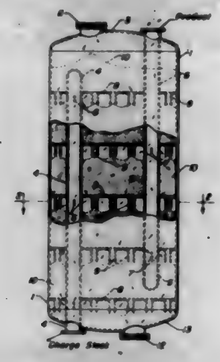


1. A reactor for obtaining self-sustaining exothermic decomposition of a gaseous compound comprising a decomposition chamber, a gas inflow tube connected to said chamber and providing access thereto, supply means connected to said inflow tube for passing a continuous flow of said gaseous compound under pressure through said tube and chamber, heat reservoir means in said chamber located in the path of flow of said gaseous compound under pressure passing from said inflow tube, means located in physical contiguity with said chamber for initiating said exothermic decomposition and for heating said gasous compound and said heat reservoir means, said heat reservoir means being heated above the decomposition temperature of said gaseous compound by said initial exothermic decomposition whereby said gaseous compound continuously entering said chamber is heated above its temperature of decomposition by said heat reservoir means, an expansion cooling chamber, conduit means interconnecting said decomposition chamber and expansion cooling chamber, an outlet pipe connected to said expansion chamber, means for pumping gases from said expansion chamber through said outlet pipe, a return pipe connecting said outlet pipe with said expansion chamber, and a valve positioned in said return pipe for controlling the rate of gas flow therethrough.

2,974,020
CONTACTOR
Louis S. Kassel, Oak Park, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 19, 1958, Ser. No. 781,575
3 Claims. (Cl. 23—288)

1. A contacting apparatus maintaining a plurality of superimposed beds of particles comprising a vertically elongated shell, a normally closed particle inlet at the top and a normally closed particle outlet at the bottom of the shell, a plurality of vertically spaced, horizontal perforated supporting elements within the shell, multiple conduit means substantially shorter than the distance between said supporting elements depending from each of said supporting elements, fluid introducing means immediately below alternate supporting elements and above the bottom of the conduit means depending from said alternate supporting elements, fluid withdrawal means immediately below the remainder of said supporting elements and above the bottom of the conduit means depending from the last-mentioned supporting elements, a fixed bed of particles maintained on each

of said supporting elements extending upwardly to the lower portion of the conduit means depending from the next higher supporting element, and a reservoir of par-



ticles on the uppermost of said supporting elements for maintaining a constant inventory of particles on each of the supporting elements therebelow.

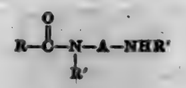
2,974,021
PROCESS AND COMPOSITION FOR CHEMICALLY TREATING TITANIUM AND ITS ALLOYS
Albert Borowik, Bridgeport, Pa., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Feb. 8, 1957, Ser. No. 639,121
8 Claims. (Cl. 41—42)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A metallographic reagent for chemical polishing and simultaneously preferentially etching metallographic specimen of titanium and its alloys in solid solution whereby they are made ready for microscopic metallographic examination, said reagent consisting essentially of 10 parts by volume of 48% C.P. hydrofluoric acid, 10 parts by volume of commercial 69.3% nitric acid, 60 parts by volume of U.S.P. 3% hydrogen peroxide and 30 parts by volume of distilled water.

5. A process for preparing a specimen of titanium solid solution alloys for metallographic examination by reflected light from a specimen into a microscope which comprises chemically polishing said specimen to enhance reflectivity of light rays incident upon a surface of the specimen into a microscope, and simultaneously etching said surface of said specimen for delineation of grain boundaries during said polishing by reacting grain boundaries in said surface to the action of a reagent at a temperature of not over about 200° F. for not more than about one minute depending on the temperature of the reagent, and terminating said reaction by separating said surface from said reagent, when said reagent consists essentially of 10 parts by volume of 48% C.P. hydrofluoric acid, 60 parts by volume of U.S.P. 3% hydrogen peroxide, 10 parts by volume of commercial 69.3% nitric acid, and 30 parts by volume of distilled water.

2,974,022
GASOLINE COMPOSITIONS CONTAINING PHOSPHATED AMINO AMIDES
Eddie G. Lindstrom, Martinez, and Maurice R. Barusch, Richmond, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Aug. 11, 1958, Ser. No. 754,135
13 Claims. (Cl. 44—56)

13. An additive concentrate capable of incorporation into a gasoline, said concentrate consisting essentially of an organic solvent boiling substantially within the gasoline-boiling range and selected from the group consisting of hydrocarbon solvents and mixtures of these hydrocarbon and aliphatic saturated C_2–C_8 alcohol solvents, and having dissolved in said organic solvent from about 10 to about 70% by weight a phosphoric acid salt of an oil-soluble acyclic aminoalkylene amides of the formula



wherein R is an acyclic hydrocarbon radical containing 11 to 17 carbon atoms, A is an alkylene radical containing 2 to 4 carbon atoms, and in the two occurrences of R′, one is hydrogen and the other is an aliphatic radical containing 4 and fewer carbon atoms and selected from the group consisting of alkyl, hydroxyalkyl, and aminoalkyl radicals, and the phosphoric acid being selected from the group consisting of unsubstituted phosphoric acids and organo-substituted phosphoric acids in which the organic substituent is attached to the oxyphosphorus radical and is a hydrocarbon radical.

2,974,023
STABILIZED HYDROCARBON DISTILLATE
Henry A. Cyba, Chicago, and Ralph B. Thompson, Hinsdale, Ill., assignors, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed June 14, 1956, Ser. No. 591,295
9 Claims. (Cl. 44—62)

1. A hydrocarbon distillate normally tending to deteriorate containing from about 0.00001% to about 5% by weight, sufficient to retard said deterioration, of the condensation product of an N-aliphatic hydrocarbon substituted dialkanolamine having from about 6 to about 50 carbon atoms in the aliphatic hydrocarbon substituent with the reaction product of a terpene and a compound selected from the group consisting of an alpha,beta-unsaturated polycarboxylic acid, anhydride and ester thereof, said condensation product having been formed at a temperature of from about 80° C. to about 200° C. and with the use of from about 0.5 to about 2 equivalents of total acid and potential acid groups in said reaction product per equivalent of hydroxyl groups in the dialkanolamine.

2,974,024
STABILIZED HYDROCARBON DISTILLATE
Henry A. Cyba, Chicago, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed June 14, 1956, Ser. No. 591,296
9 Claims. (Cl. 44—62)

1. A hydrocarbon distillate normally tending to deteriorate containing from about 0.00001% to about 5% by weight, sufficient to retard said deterioration, of the condensation product of an N-aliphatic hydrocarbon substituted alkanolamine having from about 6 to about 50 carbon atoms in the aliphatic hydrocarbon substituent with the reaction product of a terpene and a compound selected from the group consisting of an alpha,beta-unsaturated polycarboxylic acid, anhydride and ester thereof, said condensation product having been formed at a temperature of from about 80° C. to about 200° C. and with the use of from about 0.5 to about 2 equivalents of total acid and potential acid groups in said reaction product per equivalent of total amino and hydroxyl groups in the alkanolamine.

2,974,025
ASHLESS ADDITIVE FOR FUELS
Henry R. Ertelt, Fanwood, N.J., Edward F. Perlowski, Jr., Lenox, Mass., and Thomas S. Tutwiler, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 24, 1958, Ser. No. 711,067
11 Claims. (Cl. 44—62)

1. A petroleum distillate fuel having a 20% by volume minimum distillation temperature of more than 290° F. containing from about 0.001% to about 0.045% by weight of one part of an oil-soluble dispersant copolymer of (*a*) an ester selected from the group consisting of the acrylic esters of C_8 to C_{18} unsubstituted aliphatic alcohols and the alpha substituted acrylic esters of said alcohols in which the alpha substituent is a lower alkyl group and (*b*) a tertiary amino alkyl acrylate, said copolymer containing from about 0.2 to about 3.5 wt. percent of basic amino nitrogen, and from about 2 to about 18 parts by weight of a tertiary alkyl primary amine containing from 8 to 27 carbon atoms per molecule.

2,974,026
SOLID COMPOSITE, SMOKELESS, SLOW BURNING, LOW FLAME PROPELLANT
George W. Batchelder, Glendora, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 14, 1952, Ser. No. 276,703
5 Claims. (Cl. 52—5)

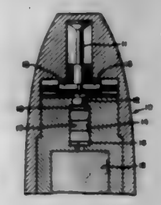
1. A substantially smokeless, slow burning, low flame temperature propellant comprising from 4 to 14% by weight based on the weight of the total propellant of a polyester resin obtained by condensing 10 to 11 moles of diethylene glycol with from 8 to 9 moles of adipic acid and 1 to 2 moles of maleic anhydride; from 1 to 6% by weight styrene based on the weight of the total propellant; from 4 to 16% by weight methyl acrylate based on the weight of the total propellant; from 65 to 80% by weight ammonium nitrate based on the weight of the total propellant; from 1 to 5% by weight ammonium dichromate based on the weight of the total propellant; from 0.1% to 1.0% by weight methyl ethyl ketone peroxide based on the weight of the total propellant; from 0.01 to .10% by weight cobalt octoate based on the weight of the total propellant; and from .01 to 0.5% by weight lecithin based on the weight of the total propellant.

2,974,027
ADDITIVES FOR IMPROVING THE ELECTRICAL PROPERTIES OF HYDROCARBON OILS
James T. Di Piazza, Mountainside, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 6, 1958, Ser. No. 765,306
15 Claims. (Cl. 52—5)

1. A hydrocarbon oil boiling in the range between about 75° F. and about 750° F. to which has been added from about 0.00005% to about 0.5% by weight of a tetra-acyclic aliphatic ammonium salt of an unsubstituted C_2 to C_{10} hydroxy carboxylic acid, the acyclic aliphatic groups of said salt selected from the class consisting of alkyl and alkenyl radicals each radical containing from 1 to about 24 carbon atoms, and from about 0.00005% to about 0.5% by weight of an acidic compound selected from the group consisting of alkyl acid phosphates in which the alkyl radicals each contain from about 6 to about 10 carbon atoms and alkyl mercapto acetic acids having alkyl groups containing from 4 to 20 carbon atoms.

2,974,028
WITHDRAWN

2,974,029
NONGASEOUS PYROTECHNIC DELAY MIXTURE
Raymond H. Comyn, 316 Southampton Drive, Northwest Park Apts., Silver Spring, Md.
Filed July 13, 1950, Ser. No. 173,636
1 Claim. (Cl. 52—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



The method of producing a nongaseous pyrotechnic delay mixture which comprises the steps of first treating a quantity of powdered cobalt with a hot aqueous solution of potassium dichromate and thereafter treating the cobalt with a carbon tetrachloride solution of stearic acid, and mixing the treated cobalt with quantities of lead chromate and potassium perchlorate.

2,974,030
INSECTICIDAL PLANT MULCH
Robert J. Geary, Blue Point, N.Y., assignor to Plant Products Corporation, Long Island City, N.Y.
No Drawing. Filed Mar. 11, 1957, Ser. No. 644,966
17 Claims. (Cl. 71—3)

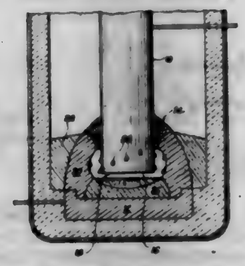
1. An insecticidal plant mulch composition in particulate form consisting essentially of, approximately by weight, 0.1 to 5% of a nuclearly polychlorinated organic contact insecticide, 0.05 to 5% of a systemically active insecticide, 80 to 99% of mulch materials, and 1 to 18% of a decatalyzer selected from the group consisting of urea and hexamethylenetetramine.

2,974,031
MANUFACTURE OF IRON SHOT
Lewis P. Wilson, Edwardsville Township, Madison County, Ill., and Robert L. Turner, deceased, late of Alton, Ill., by Dorothy H. Turner, executrix, New Haven County, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application Apr. 20, 1953, Ser. No. 349,612, now Patent No. 2,867,554, dated Jan. 6, 1959. Divided and this application July 17, 1958, Ser. No. 751,817
4 Claims. (Cl. 75—5)



1. Shot having a diameter between about 0.062 and about 0.144 of an inch and composed of substantially pure unworked iron containing not more than about 0.25% impurities and having a hardness on the order of not more than 110 D.P.H.

2,974,032
REDUCTION OF ALUMINA
Erhard Grunert, La Tronche, and Jean Mercier, Grenoble, France, assignors to Pechiney, Paris, France
Filed Feb. 24, 1960, Ser. No. 10,581
24 Claims. (Cl. 75—10)

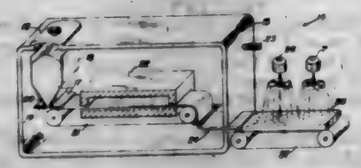


13. The process of reducing alumina comprising the step of subjecting a charge of alumina and carbon to the action of an electric arc and heating the charge to a temperature above 2300° C. and thereby forming and maintaining a molten mixture of aluminum and aluminum carbide containing less than about 3 percent by weight aluminum oxide.

2,974,033
MELTING TITANIUM METAL
Robert J. Krieger, Henderson, Nev., assignor to Titanium Metals Corporation of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed June 7, 1954, Ser. No. 435,046
3 Claims. (Cl. 75—10)

1. A method for melting a metal containing volatilizable impurities selected from the group consisting of titanium and titanium base alloys which comprises arc melting said metal in the form of a consumable electrode in a furnace having the atmosphere therein composed substantially of impurity gases evolved from said metal during melting, maintained at a pressure of between 5 mm. and 0.5 mm. of mercury absolute.

2,974,034
METHOD OF FOAMING GRANULATED METAL
Stuart O. Fiedler, Johan A. Bjorksten, and William S. Fiedler, Madison, Wis., assignors, by direct and mesne assignments, to Lor Corporation, a corporation of Delaware
Filed Dec. 12, 1957, Ser. No. 702,745
21 Claims. (Cl. 75—20)



1. The method for making a metal foam body comprising providing solid particles obtained as the mixing product of metal and a solid substance which decomposes and liberates gas when heated, then heating said solid particles to a temperature sufficiently high to provide molten metal and to decompose said solid substance to liberate said gas in the molten metal thus provided, thus forming cellular bubbles in the metal and then cooling the metal to provide a metal foam body.

2,974,035
NODULAR GRAPHITE STEEL
Tohei Ototani, Tokyo, Japan, assignor to The Research Institute for Iron, Steel and Other Metals of the Tohoku University, Sendai City, Japan
Filed June 10, 1958, Ser. No. 741,143
Claims priority, application Japan Oct. 12, 1957
3 Claims. (Cl. 75—123)



2. A nodular graphite steel containing calcium and cerium in the amount of 0.001 to 0.5% of calcium and 0.005 to 0.15% of cerium and the balance a steel composition with less than about 1.7% of carbon, said casting being characterized in the as-cast condition by a microstructure comprised of soft, gray-colored, substantially spherical graphite particles dispersed in ferrite and pearlite.

3. A nodular graphite steel having the characteristic, in the as-cast condition, of a microstructure containing substantially spherical particles of uncombined carbon dispersed in ferrite and pearlite and being comprised of about 0.001 to 0.5% of calcium with the balance steel composition with less than about 1.7% of carbon.

2,974,036
HIGH TEMPERATURE COBALT-BASE ALLOY
Rudolf H. Thielemann, Palo Alto, Calif., assignor to Sierra Metals Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 28, 1958, Ser. No. 751,136
7 Claims. (Cl. 75—171)

1. A metal alloy composed of, by weight, from about 15 to about 30 percent of chromium, from about 5 to about 15 percent of tungsten, from about 0.5 to about 20 percent of tantalum, from about 0.01 to about 3 percent of zirconium, from about 0.1 to about 1.3 percent of carbon, and the balance cobalt except for impurities and minor alloying constituents which do not substantially affect the properties of the basic alloy.

2,974,037
HIGH TEMPERATURE COBALT BASE ALLOY
Rudolf H. Thielemann, Palo Alto, Calif., assignor to Sierra Metals Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 28, 1958, Ser. No. 751,162
8 Claims. (Cl. 75—171)

1. A metal alloy consisting essentially of by weight: from about 15 to about 30 percent of chromium; from about 5 to about 15 percent of tungsten; from about 0.01 to about 0.2 percent of boron; from about 0.5 to about 5 percent of columbium; from about 0.1 to about 1.3 percent of carbon; and the balance cobalt.

2,974,038
GALL RESISTANT NICKEL ALLOY
John Trimble Eash, Westfield, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 19, 1959, Ser. No. 800,589
8 Claims. (Cl. 75—171)

2. A nickel-base alloy consisting essentially of about 4% to about 5.5% chromium, about 3% to about 5% aluminum, about 0.25% to about 1% titanium, about 0.4% to about 0.85% carbon, up to about 0.4% silicon, up to about 0.6% manganese, up to about 1.5% iron, up to about 0.1% magnesium, up to about 0.02% zir-

conium, up to about 2% copper, and up to about 1% cobalt, said alloy being characterized by the presence of flake graphite, by forgeability, by high resistance to galling and by a high combination of mechanical properties.

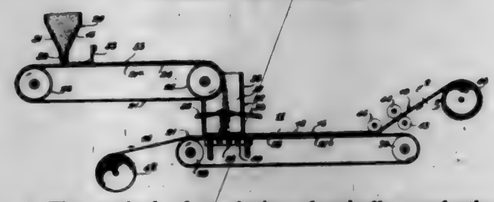
2,974,839
MOLDING OF METAL POWDERS
Max Deventer, 672 Dag-Gelande, Albendorf, Kreis Marburg, Germany, and Richard Felix Paul Wagner, deceased, late of Velburg, Germany; Elisabeth Steichele, heir of Richard Felix Paul Wagner, deceased
No Drawing. Filed Feb. 7, 1956, Ser. No. 598,223
(Filed under Rule 47(a) and 35 U.S.C. 116)
Claims priority, application Germany Feb. 5, 1951
2 Claims. (Cl. 75—201)

1. A process for the manufacture of graphite-containing metal powder moldings which comprise mixing about 4% to 17% by weight of graphite predominantly of a particle size less than about 1 micron intimately with a mixture of metal powders consisting essentially of a predominant proportion of metal powder selected from the class consisting of iron, nickel, copper and aluminum powders and having an apparent density not exceeding about 20% of the true density of the metal and containing about 5% to about 80% by weight of irregularly-shaped particles of a size less than 30 microns and a minor proportion of a metal powder other than the predominant metal powder and capable of bonding therewith, said other powder being selected from the class consisting of copper, nickel, iron, titanium, tin, zinc, cobalt, chromium, lead, beryllium, silicon and antimony, cold pressing the mixture in a mold to produce a self-sustaining molded article subjecting the article in a mold to a pressure greater than 1000 atmospheres absolute and less than a pressure sufficient to bond the article to the mold at an elevated temperature of about 930° to 1000° C. for mixtures in which iron powder predominates, 720° C. to 800° C. for mixtures in which copper powder predominates, as high as 1200° C. for mixtures in which nickel predominates and up to about 570° C. for mixtures in which aluminum predominates to forge weld the metal particles together at their contacting surfaces without melting them and then, the pressure being maintained, cooling the article.

2,974,840
PROCESS TO PRODUCE VOID FREE REFRACTORY BORIDE PRODUCT
Elwyn D. Fisher and Raymond H. Baskey, Lakewood, Ohio, assignors to Horizons Incorporated, Cleveland, Ohio, a corporation
No Drawing. Filed June 20, 1958, Ser. No. 743,591
2 Claims. (Cl. 75—202)

1. A process for producing a pore-free product which comprises: forming an intimate mixture consisting essentially of nickel, silver and a refractory material which is not wet by silver and which is selected from the group consisting of borides of the metals W, Mo, Cr, V and Ti; compacting the mixture of refractory material and metals to form a compact having a density somewhat less than the theoretical density of said mixture; maintaining the compact in physical contact with additional silver and simultaneously therewith heating the additional silver and compacted material to a temperature and for an interval at least sufficient for the additional silver to melt and to impregnate the compact to substantially theoretical density; the relative amounts of silver being such that at least 15% of the total silver is present in the original mixture and the remainder of the silver being at least sufficient to completely fill the voids in said compact.

2,974,841
METHOD OF PRODUCING ELECTRICALLY CONDUCTIVE POROUS STRIP MATERIAL
Joseph B. Brennan, deceased, late of Cleveland, Ohio, by Helen E. Brennan, executrix, 13018 Lake Shore Blvd., Cleveland 8, Ohio
Filed June 15, 1959, Ser. No. 820,277
8 Claims. (Cl. 75—208)



1. The method of producing electrically conductive porous strip material comprising the steps of providing a supply of discrete exteriorly convex metal particles, advancing a support surface, dropping said particles as free-falling particles from a delivery point spaced above said surface, heating the particles to at least an exteriorly molten condition during their free-falling movement so that the molten exteriors of the particles remain convex in shape and are of a fusible character when the particles reach said surface, and collecting the particles on said surface as such conductive strip material and so that the particles assume a condition of repose with convex surface portions of adjacently grouped particles in interfitting relation and fused together at their points of contact and with interstices remaining between the adjacent particles to provide the porous character of the strip material.

2,974,842
DIAZOTYPE REPRODUCTION PROCESS
Oskar Süs, Wiesbaden-Biebrich, and Martin Glos, Wiesbaden, Germany, assignors, by mesne assignments, to Kenfel & Esser Company, Hoboken, N.J.
No Drawing. Filed June 19, 1957, Ser. No. 666,755
Claims priority, application Germany June 23, 1956
13 Claims. (Cl. 96—49)

1. In a process for the reproduction of copies wherein a light sensitive diazo compound coated on a base material is exposed to light in a predetermined pattern to decompose the light sensitive diazo compound in the exposed areas, the step which comprises coupling the undecomposed diazo compound not exposed to light with a thiophene derivative which is substituted on the thiophene nucleus by at least one hydroxyl group and substituted on the thiophene nucleus by at least one organic radical selected from the groups consisting of phenyl, methyl, carboxyl, and salts, esters and amides of carboxyl.

2,974,843
POULTRY FEED
Melvin Hochberg and Charles M. Ely, Livingston, N.J., and Howard C. Klein, Brooklyn, N.Y., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 31, 1958, Ser. No. 770,944
19 Claims. (Cl. 99—4)

1. An animal feed comprising a feed ration having incorporated therein zinc nicotinate in growth promoting quantities.

2,974,844
MICROBIOLOGICAL PRODUCTION OF CAROTENOIDS
Wendall Moore Farrow, Orange, and Benjamin Tabenkin, Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Nov. 12, 1958, Ser. No. 773,184
14 Claims. (Cl. 99—4)

1. A process for the production of carotenoids which comprises culturing a fungus of the family Dacrymycetaceae in submerged culture in an aqueous medium containing a source of assimilable organic nitrogen, a source of ammonia nitrogen, a metabolizable source of carbon, a metabolizable source of phosphorus and essential trace minerals while maintaining the culture under conditions of aeration and agitation, and subjecting the fungal material to radiation in the visible spectrum.

2,974,845
METHOD FOR THE MANUFACTURING OF CHEESE
Jacques M. A. C. Berge, Frechet, France, assignor to Ch. Gervais, Societe Anonyme, Paris, France, a company of France
Filed Sept. 14, 1956, Ser. No. 609,833
Claims priority, application France Oct. 25, 1956
2 Claims. (Cl. 99—116)



1. A method for draining liquid from cheese curds comprising placing liquid containing curds on one side of a filter cloth, maintaining a supplementary filter material distinct of said filter cloth against the other side of said filter cloth, whereby the supplementary filter material absorbs by capillary action the liquid which accumulates in the filter, and subjecting the supplementary filter material alone to a wringing operation in order to free it of the absorbed liquid.

2,974,846
METHOD OF INHIBITING THE GROWTH OF MICROBACTERIAL ORGANISMS IN A CULTURED MILK PRODUCT AND THE RESULTING PRODUCT
George A. Perry, Elmhurst, N.Y., and Robert L. Lawrence, Middlesex, N.J., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 19, 1959, Ser. No. 814,162
10 Claims. (Cl. 99—162)

1. The method of selectively controlling the growth of microbacterial organisms in a cultured milk product which comprises adding to said cultured milk product a substance selected from the group consisting of sorbic acid and the calcium, potassium and sodium salts of sorbic acid in an amount sufficient to produce about 0.03% to about 0.15% by weight of sorbic acid therein.

2,974,847
METHOD OF PRODUCING CURED PACKED SLICES OF PIG MEAT
Alan William Holmes, Sharnbrook, England, assignor to Thomas J. Lipton, Inc., Hoboken, N.J., a corporation of Delaware
No Drawing. Filed May 5, 1958, Ser. No. 732,805
Claims priority, application Great Britain May 9, 1957
3 Claims. (Cl. 99—174)

1. A method for rapidly producing cured, packed slices of pig meat which comprises the steps of slicing pig meat into slices having a thickness ranging from about 2 mms. to about 8 mms., dipping the slices in brine containing 0.005–0.5% of an alkali metal nitrite and from 10% to 32% weight/volume of sodium chloride at from 10° to 55° C. for from 30 seconds to 15 minutes, draining the slices, sealing them in an air-impermeable container in the substantial absence of free oxygen, and allowing the slices to mature in the container for a few hours, said time of dipping the slices in the brine being sufficient to provide from 5 to 12% of sodium chloride, weight/volume, in the aqueous phase of the cured slices.

2,974,848
CORE BINDER
Jacob W. Sietsema, Northbrook, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Dec. 30, 1957, Ser. No. 705,793
4 Claims. (Cl. 106—38.5)

1. In a method for the production of a foundry core from a mixture of sand, water, and binder, the improvement which comprises employing as said binder a starch fraction consisting of gelatinized amylopectin in a proportion sufficient to produce a core of improved baked strength.

2,974,849
FOUNDRY CORE BINDER
John W. Frieders, Evanston, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Dec. 30, 1957, Ser. No. 705,794
11 Claims. (Cl. 106—38.5)

1. An alkali-metal orthophosphate derivative of amylose, obtained by impregnating gelatinized amylose with at least about 1% by weight of an alkali-metal orthophosphate in the form of an aqueous solution having a pH between about 4 and about 7, and heating the impregnated amylose at a moisture content less than about 15% by weight and at a temperature between about 125 and about 200° C. for a period of about 1 to about 15 hours, the length of the heating period varying inversely with the temperature.

2,974,850
CORE BINDER
Thomas E. Barlow, McHenry, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed June 27, 1958, Ser. No. 744,917
5 Claims. (Cl. 106—38.5)

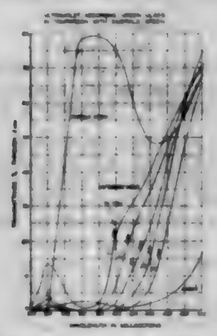
1. In a method for producing a foundry core, which method comprises commingling sand, water, and binder, forming the resulting mixture into the desired shape, and baking the shaped mixture at a temperature between about 350 and about 450° F., the improvement which comprises employing as said binder, in combination, at least about 0.5% by weight of gelatinized amylopectin, based on the dry weight of sand contained in the core mixture, and a phosphate salt selected from the group consisting of the water-soluble alkali-metal and alkaline-earth-metal phosphates and mixtures thereof which produce a pH between about 4 and 7 in saturated aqueous solution at about 25° C., the proportion of said phosphate salt being between about 5 and about 25% by weight, based upon said gelatinized amylopectin.

2,974,851
PROTECTIVELY COATED METAL ARTICLE AND PROCESSES
Dwight G. Moore, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Air Force
No Drawing. Original application Nov. 9, 1954, Ser. No. 467,901, now Patent No. 2,857,292, dated Oct. 21, 1958. Divided and this application Apr. 28, 1958, Ser. No. 731,553
4 Claims. (Cl. 106—48)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A metal surface coat slip composition under standard conditions of temperature and pressure, consisting of

by weight about 70 parts metal Cr—B—Ni eutectic having the approximate proportional composition of ingredients expressed in weight percentages of Ni 65 to 75 weight percent, Cr 13 to 20 weight percent, B 3 to 5 weight percent, and Fe, Si and C a maximum of 10 weight percent; about 30 parts frit consisting of the ceramic oxides having the composition in weight percentages of about 44.0% BaO, 37.5% SiO_2, 6.5% B_2O_3, 5.0% ZnO, 3.5% CaO, 2.5% ZrO_2 and 1% Al_2O_3; about 5 parts clay selected from the clays kaolin, enameling clay and porcelain enamel clay; and about 40 parts water.

2,974,052
ULTRAVIOLET LIGHT ABSORBING GLASS
Frank R. Bacon, Toledo, and Carroll J. Billian, Perrysburg, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 11, 1960, Ser. No. 42,814
3 Claims. (Cl. 106—52)



1. An ultraviolet radiation absorbing green glass composition comprising essentially by weight 60 to 75% SiO_2; 0.1 to 9.5% Al_2O_3; 6 to 12% CaO; 0 to 6% MgO; 0 to 1% BaO; 0 to 5% B_2O_3; 10 to 21% alkali metal oxides; including less than about 0.3% Fe_2O_3; and less than about 0.3% total chromium oxides present as both trivalent chromium oxide (Cr_2O_3) and hexavalent chromium oxide (CrO_3), the latter ranging from about 0.005 to 0.070%.

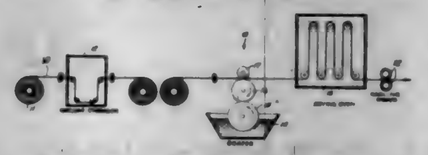
2,974,053
LIGHT-STABLE BISMUTH OXYCHLORIDE NACREOUS PIGMENT AND METHOD OF PREPARING SAME
Lawrence Sochow, Yonkers, N.Y., assignor to Francis Earle Laboratories, Inc., Peekskill, N.Y., a corporation of New York
No Drawing. Filed Feb. 7, 1958, Ser. No. 713,791
12 Claims. (Cl. 106—187)

1. A nacreous composition consisting essentially of a paste of a light-transmitting, film-forming vehicle having, as a nacre-producing pigment therein flat, plate-like crystals of bismuth oxychloride, said crystals having a thickness not greater than 1 micron and a diameter to thickness ratio of at least four, said composition being made stable to ultraviolet light by the inclusion therein of at least 0.005 percent of a 2-hydroxy benzophenone light-stabilizing compound, the weight ratio of said compound to the said bismuth oxychloride nacreous pigment being in the range of about 2–75:100.

2,974,054
TREATMENT OF CLAY
John W. Beamesderfer, Orono, Maine, and Horton H. Morris, Macon, Ga., assignors to Southern Clays, Inc., New York, N.Y., a corporation of Georgia
No Drawing. Filed Aug. 7, 1957, Ser. No. 676,711
4 Claims. (Cl. 106—288)

1. The method of treating clay which comprises calcining the clay at a temperature of about 500° to 900° C., treating the calcined clay with hot dilute acid, of from about 20% to about 50% strength selected from the group which consists of phosphoric acid and a mixture of sulfuric acid and phosphoric acid, to extract alumina from the calcined clay and to give a silica residue, the amount of phosphoric acid in the hot dilute acid being at least approximately equal to the amount required to produce aluminum phosphate with the alumina content of the clay and the total amount of hot dilute acid being a sufficient excess to keep the dissolved aluminum salts in solution, separating the resulting acid solution from the residue, and neutralizing the resulting acid solution with an alkaline compound which forms an insoluble precipitate with the acid of such solution.

2,974,055
LUSTROUS FABRICS AND METHODS OF PRODUCING SAME
Walter George Scharf, Forest Hills, N.Y., assignor to Metal Film Company, Inc., New York, N.Y., a corporation of New York
Filed June 18, 1956, Ser. No. 591,833
11 Claims. (Cl. 117—4)



1. The method of producing filamentary metallized threads comprising the steps of passing a relatively broad web of flexible, transparent thermoplastic material through a vacuum chamber to plate one surface thereof with a deposit of metal having a thickness not exceeding one-fifty thousandths of an inch, coating the metallized surface of said web with a transparent plastic material in liquid form, drying and curing said plastic coating to form an adherent film on the metallized surface, said plastic material being non-tacky and having substantially the same tensile strength and elongation characteristics as said web material and having an affinity therefor, and slitting the plastic-coated metallized web to form filamentary threads.

2,974,056
MAGNETIC RECORDING MEDIA
Laszlo Nameayi-Katz, London, England, assignor to Epsylon Research & Development Company Limited, Bedfont, England
Filed Dec. 9, 1957, Ser. No. 701,641
Claims priority, application Great Britain May 13, 1957
8 Claims. (Cl. 117—8)

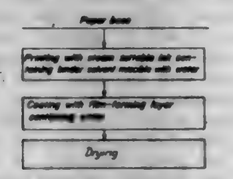


1. A method of reducing a magnetic recording filament to a uniform diameter comprising passing said filament under tension through a rotating die having an eccentric aperture, whereby small particles are removed from the surface of said filament by the edges of said aperture due to the eccentric rotation thereof.

2,974,057
PRINTED PLASTIC FILMS
George M. Adams, Palos Heights, Ill., assignor to Union Carbide Corporation, a corporation of New York
Filed June 18, 1959, Ser. No. 819,442
8 Claims. (Cl. 117—12)

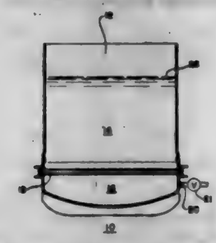
8. A method for preventing offsetting and blocking of ink prints on plasticized self-supporting polyvinyl chloride films, comprising the steps of printing a surface of said film with a flexographic ink, applying a clear coating solution at least over said printing, said coating consisting essentially of a solution of a cellulosic polymer and an acrylate polymer in a solvent mixture consisting of a monohydric aliphatic alcohol and a member selected from the class consisting of the nitroalkanes and alkyl esters of a monohydric aliphatic alcohol and a monocarboxylic aliphatic acid, said cellulosic polymer consists of 60 to 75% of the total polymeric content, and thereafter drying the coated film.

2,974,058
METHOD OF APPLYING A LAYER OF PRINTING INK PLUS AN ADDITIONAL LAYER ON AN UNDERLAY
Lennart Pihl, Solna, Sweden, assignor to Research Aktiebolag, Solna, Sweden, a corporation of Sweden
Filed Oct. 10, 1958, Ser. No. 766,375
6 Claims. (Cl. 117—15)



1. A method of producing a print on a backing material which comprises applying to the backing material a layer of wet steam-settable printing ink formed of a pigment, a binder and a binder solvent which is miscible in all proportions with water, applying on top of the unset printing ink layer a film-forming layer containing water in a quantity sufficient to precipitate said binder, the film-forming layer also containing a material capable of forming a protecting layer over the ink layer, and drying said layers.

2,974,059
FLUIDIZED BED COATING PROCESS
Erwin Gemmer, Frankfurt am Main, Germany, assignor to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Koln, Germany, a German company
Filed Dec. 20, 1957, Ser. No. 704,107
7 Claims. (Cl. 117—21)



1. The process of forming a layer of material on a surface of an article which comprises forming a fluidized bed consisting of a dense phase bounded by an upper free surface by passing a distributed ascending current of gas through a mass of resinous solid pulverulent layer-forming material containing particles therein which sinter when heated, immersing the article surface in said dense phase while said article is heated to a temperature below the deterioration temperature of the article but at least as high as the sintering temperature of said particles and at least as high as the transient degradation temperature of said particles, and cooling the article.

2,974,060
FLUIDIZED BED COATING METHOD
Conrad J. Dettling, Reading, Pa., assignor to The Polymer Corporation, a corporation of Pennsylvania
No Drawing. Filed July 18, 1958, Ser. No. 749,309
5 Claims. (Cl. 117—21)

1. The process of coating an article having sections of different heat capacity in the ratio of at least 2 to 1, comprising heating the article, immersing the article while it is heated in the dense phase of a fluidized bed of pulverulent fusible coating material, the heating temperature being sufficient to maintain said section of lower heat capacity above the sintering temperature of the coating material but low enough that on subsequent withdrawal from the fluidized bed a powdery, incompletely fused layer of coating material is produced thereon, maintaining said article in said dense phase for a time sufficient to produce a coating on both of said sections, thereafter withdrawing the article from the fluidized bed, cooling all portions of the article to a temperature sufficiently below the melting point of the coating material to produce a hardened coating and thereafter heating said incompletely fused layer to a temperature above the melting point of the coating material.

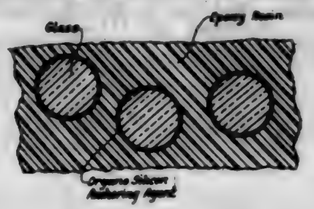
2,974,061
PROCESS OF MODIFYING THE COMPOSITION OF THE SURFACE OF A LAYER OF PLASTIC MATERIAL
Herman H. Duerr, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 17, 1958, Ser. No. 721,648
10 Claims. (Cl. 117—62)

1. A process for chemically modifying the surface of a layer of organic plastic material, casting a solution of an organic plastic material in a volatile solvent on a supporting surface and drying to form a layer of said plastic material on said surface, forming a barrier layer on the layer of the organic plastic material by casting a solution comprising a lower alkyl cellulose ether dissolved in a volatile organic solvent which does not attack the first-mentioned organic plastic material, and drying to produce a uniform layer on said layer of plastic material, flowing a film-forming solution comprising an organic plastic material dissolved in a volatile organic solvent which does not attack the first mentioned organic plastic material and containing a reagent capable of chemically reacting with the first mentioned organic plastic material but inert to the second mentioned organic plastic material onto the barrier layer, whereby the said reagent permeates through the barrier layer and reacts with the first mentioned plastic material at the surface thereof and thereafter stripping from said first layer the layers cast thereover.

2,974,062
EPOXY-GLASS FIBER SYSTEMS AND METHOD FOR IMPROVING THE BONDING RELATION THEREBETWEEN
Theodore J. Collier, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Feb. 14, 1956, Ser. No. 565,511
7 Claims. (Cl. 117—76)

1. In an article of manufacture embodying the combination of glass fibers and epoxy type resins and wherein an anchoring agent is present on the glass fiber surfaces to improve the bonding relationship between the epoxy resins and the surface of the glass fibers, the improvement wherein the anchoring agent on the glass fiber surfaces is formed of a compound selected from the group consisting of a silane, its hydrolysis product, and its condensation polymerization product wherein the silane is formed with at least one hydrolyzable group attached

directly to the silicon atom and with an organic group attached directly to the silicon atom containing a group



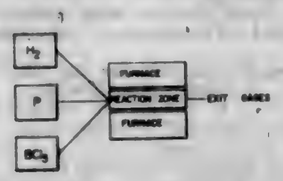
selected from the group consisting of an amido, acid, and acid anhydride.

2,974,063
COMPOSITE TAPES
William J. Bobear, Latham, and Karl W. Krantz, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 19, 1958, Ser. No. 774,983
6 Claims. (Cl. 117—76)



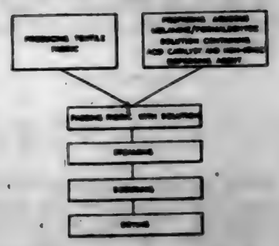
1. A composite tape comprising (1) a glass-containing cloth, (2) a heat cured primer for (1) comprising a monohydric alcohol-free residue of the reaction at temperatures below 100° C. of ethylene glycol and a material consisting essentially of a vinyl trialkoxysilane having alkoxy groups containing from 1 to 5 carbon atoms and where there is utilized in said reaction at least 2½ moles of ethylene glycol per mole of said material and (3) a coating for the primed cloth comprising an organopolysiloxane convertible to the cured, solid, elastic state, said organopolysiloxane containing an average of from 1.95 to 2.05 organic groups per silicon atom attached to silicon through carbon-silicon linkages, said organic groups being selected from the class consisting of methyl, vinyl, and phenyl radicals, at least 50% of said organic groups being methyl radicals.

2,974,064
PROCESS FOR THE PRODUCTION OF BORON PHOSPHIDE
Forrest V. Williams and Robert A. Ruehrwein, Dayton, Ohio, and Therald Moeller, Urbana, Ill., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 3, 1958, Ser. No. 718,464
4 Claims. (Cl. 117—106)



1. Process for the production of crystalline boron phosphide which comprises contacting a gaseous boron compound with elemental phosphorus and hydrogen at a temperature of at least 1,100° F.

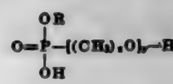
2,974,065
PROCESS FOR REDUCING THE LUSTER OF TEXTILE MATERIALS
Ralph James Mann and Josef Sladowski, Spondon, near Derby, England, assignors to British Celanese Limited, a corporation of Great Britain
Filed Oct. 17, 1957, Ser. No. 690,615
Claims priority, application Great Britain Nov. 1, 1956
10 Claims. (Cl. 117—119.3)



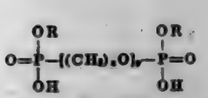
1. In a process for effecting a reduction of the lustre of textile materials which comprises uniformly impregnating the material with an aqueous solution containing a catalyst selected from the group consisting of acids and salts thereof with ammonia, said acids being substantially non-volatile in steam at 100° C. and of dissociation constant at least 1×10^{-4}, and a water-soluble condensation product of formaldehyde with a compound selected from the group consisting of melamine, urea, ethylene urea, and thiourea and then heating the impregnated material to a temperature of at least 50° C. under such conditions that the material remains wet, the step of including a non-ionic dispersing agent in the aqueous solution.

2,974,066
ANTI-STATIC COMPOSITIONS AND SYNTHETIC FILAMENTARY TEXTILE MATERIALS TREATED THEREWITH
Karl Macura, Klingenberg, and Erhard Siggel, Landenbach (Main), Germany, assignors to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany
No Drawing. Filed June 30, 1958, Ser. No. 745,322
Claims priority, application Germany June 28, 1957
11 Claims. (Cl. 117—139.5)

8. A textile material composed of synthetic fibers having combined therewith in a small quantity sufficient to impart anti-static properties to said fibers at least one surface active agent which is an ampholytic reaction product of a polyalkylene glycol alkyl orthophosphoric acid ester having a formula selected from the group consisting of

(I)


and

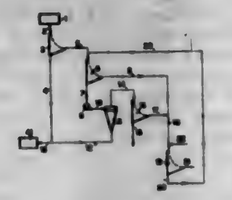
(II)


wherein R is a lower alkyl group, x is an integer of from 2 to 10, inclusive, and y is an integer of from 2 to 20, inclusive, and a compound selected from the group consisting of alkyl and alkylol amines, said alkyl and alkylol amines containing at least two carbon atoms.

2,974,067
HYDROLYSIS OF VEGETABLE CELLULOSIC MATERIALS
Alfons Apel, Mannheim, Germany, assignor to Udic Societe Anonyme, Vevey, Switzerland
No Drawing. Filed Feb. 11, 1958, Ser. No. 714,509
3 Claims. (Cl. 127—37)

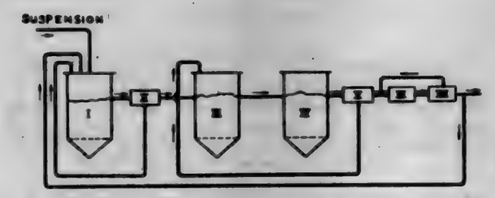
1. A method of hydrolyzing cellulosic lignin-containing materials comprising treating said materials at a temperature of about 15 to 30° C. with a hydrochloric acid solution of about 38 to 42 percent by weight of HCl in a substantially anhydrous aliphatic alcohol containing 1 to 3 C atoms, thereby obtaining essentially pure cellulose and a solution of sugars and lignin, separating said solution from the cellulose, diluting the solution with water to precipitate the lignin, heating the lignin-free solution to evaporate the alcohol and hydrochloric acid, and recovering the sugars remaining in the residue from said evaporation.

2,974,068
PREPARING STARCH FROM BASIC MATERIALS
Freerk J. Fontein, Heerlen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Feb. 17, 1958, Ser. No. 715,631
Claims priority, application Netherlands Feb. 18, 1957
9 Claims. (Cl. 127—67)



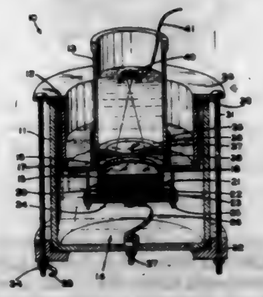
1. A process for preparing starch from basic starch containing materials by which a suspension containing starch particles and impurities is purified which comprises the steps of screening the suspension to obtain at least one intermediate fraction substantially containing particles the largest of which are at least of the same size as the largest starch particles and the smallest of which are of a size intermediate between the largest and smallest starch particles, and then separating by settling rate said intermediate fraction into a substantially pure coarse starch fraction and a fraction containing substantially the impurities contained in said intermediate fraction.

2,974,069
PREPARATION OF GELATINIZED STARCHES
Leendert J. van Nieuwenhuyzen, Steenbergen, Netherlands, assignor to Duistjer Wilkens Meelmixen & Co. N.V., Veendam, Netherlands
Filed Oct. 23, 1957, Ser. No. 691,943
Claims priority, application Netherlands Oct. 24, 1956
6 Claims. (Cl. 127—71)



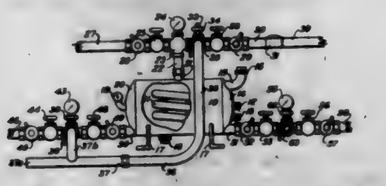
1. A method for gelatinizing and drying a starchy polysaccharide comprising introducing said polysaccharide, having a moisture content of from 30% to 90%, into a mass of hot fluidized solid particles ranging in size from 10–5000 microns, the particles being kept at a temperature sufficient to gelatinize the starchy polysaccharide, but beneath that sufficient to scorch the same.

2,974,070
PROCESS FOR CLEANING SPINNERETS
Bernhard Johann van Dongeren, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Jan. 24, 1958, Ser. No. 711,048
Claims priority, application Netherlands Feb. 7, 1957
5 Claims. (Cl. 134—1)



1. A process for cleaning contaminated articles having a substantially flat face provided with minute orifices in a body of cleaning liquid comprising the steps of directing a bundle of ultrasonic vibrations upwardly toward the surface of said liquid, converging the bundle of vibrations into a focal point near the surface of said liquid, and positioning the article to be cleaned above said focal point in the boundary layer of said cleaning liquid with the substantially flat, orifice-containing face of said articles extending transversely of the axis of said bundle of vibrations, whereby said vibrations will force said cleaning liquid through the orifices in the form of small fountains and the extent of orifice cleaning may be determined visually during the operation.

2,974,071
LINE CLEANING PROCESS
Frank E. Morris, 4435 NE. Prescott St., Portland, Oreg.
Filed Dec. 21, 1953, Ser. No. 399,492
8 Claims. (Cl. 134—21)

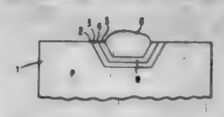


1. A process for cleaning the interior of a plugged, inaccessible line having an accessible end consisting of drawing hot oil from an exterior source, forcing said hot oil into the accessible end of said line and against the plug therein at a controlled and predetermined pressure until said plug has been dissolved, withdrawing said hot oil and dissolved plug through said accessible end at a controlled and predetermined suction and redepositing said hot oil and dissolved plug in said exterior source.

2,974,072
SEMICONDUCTOR CONNECTION FABRICATION
Milton Genser, Linden, N.J., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 27, 1958, Ser. No. 745,156
1 Claim. (Cl. 148—1.5)

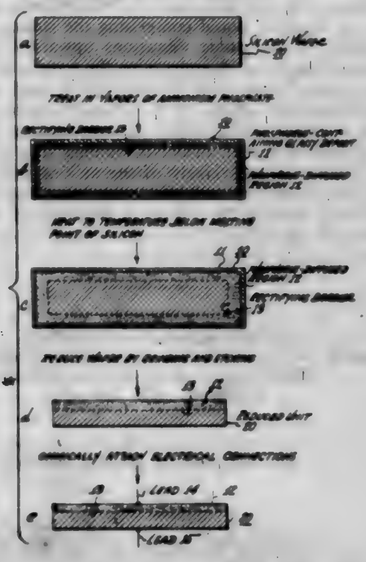
The process of providing a rectifying connection to semiconductor material, comprising the steps of provid-

ing a quantity of inert lead in contact with a P conductivity type germanium semiconductor body, raising the temperature of said lead and said germanium body to 700° centigrade, reducing the temperature of said lead and said semiconductor body to 500° centigrade,



exposing said semiconductor body and the remainder of said lead to a vapor comprising N conductivity type determining impurities, while maintaining the temperature at 500° centigrade and cooling said semiconductor body and said lead to room temperature.

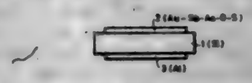
2,974,873
METHOD OF MAKING PHOSPHORUS DIFFUSED SILICON SEMICONDUCTOR DEVICES
Lorne D. Armstrong, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 4, 1958, Ser. No. 778,173
6 Claims. (Cl. 148—1.5)



1. The method of introducing a rectifying barrier in a silicon wafer, comprising the steps of heating said wafer to a temperature of about 1000° C. to 1350° C. in vapors of ammonium phosphate so as to simultaneously form a phosphorus-containing film and a phosphorus-diffused surface layer on said wafer.

2,974,874
METHOD OF PRODUCING A SILICON SEMICONDUCTOR DEVICE
Adolf Herlet and Hubert Patalong, Pretzfeld, Upper Franconia, and Norbert Schink, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Feb. 18, 1959, Ser. No. 794,001
Claims priority, application Germany Feb. 19, 1958
9 Claims. (Cl. 148—1.5)

1. The method of producing an electric semi-conductor device having a substantially monocrystalline silicon body and an electrode on said body, which comprises forming an alloyed composition of gold, antimony and traces of arsenic and oxygen in amounts between about 0.2 and 5% antimony and about 10^{-4} to about 10^{-1}% arsenic, and containing a trace of oxidic oxygen in an

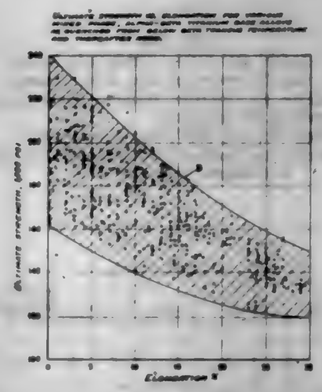


amount between 10^{-3} to about 10^{-1}%, the remainder being substantially all gold; and alloying the composition together with the silicon body to form an area fusion joint between said body and said electrode.

2,974,875
TREATMENT OF SEMICONDUCTIVE DEVICES
Lewis E. Miller, Fullerton, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 28, 1957, Ser. No. 692,550
5 Claims. (Cl. 148—6.3)

1. A process of treating the surface of a semiconductive body consisting of a material selected from the group consisting of germanium, silicon and germanium-silicon alloys which consists essentially of wetting said body with a solution consisting essentially of hydrogen peroxide and water and heating said wetted body having said hydrogen peroxide retained thereon in an atmosphere containing oxygen which is independent of any oxygen which may be derived from said hydrogen peroxide to a temperature of at least approximately 100° C. and below the melting point of the lowest melting component of the body and maintaining said body in contact with said atmosphere at said temperature.

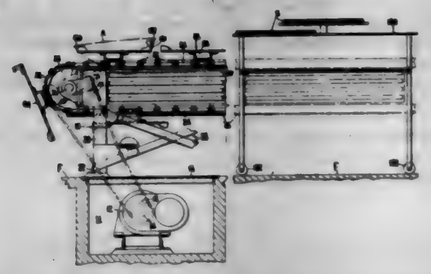
2,974,876
MIXED PHASE, ALPHA-BETA TITANIUM ALLOYS AND METHOD FOR MAKING SAME
Milton B. Vordahl, Beaver, Pa., assignor, by mesne assignments, to Crucible Steel Company of America, Borough of Flemington, N.J., a corporation of New Jersey
Filed June 10, 1954, Ser. No. 435,754
12 Claims. (Cl. 148—12.7)



1. The method of strengthening a titanium base alloy having a mixed alpha-beta microstructure which comprises: heating said alloy to a temperature within the range of about 50° to 400° F. below the beta transus temperature, and thereupon rapidly cooling substantially to room temperature.

12. The method of strengthening and thermally stabilizing a titanium base alloy having a mixed alpha-beta microstructure, but without unduly embrittling the same, which comprises: plastically deforming the alloy at a temperature of about 100 to 750° F. below the beta transus temperature for imparting a fine grained interspersion of the alpha and beta phases, thereupon soaking at a temperature within the range of about 150° to 300° F. below said beta transus and rapidly cooling, and thereupon aging at about 800° to 900° F. for about 2 to 12 hours.

2,974,877
METHOD AND APPARATUS FOR PREPARING COMPOSITE ASSEMBLY
Earl R. Smith, Northridge, Calif., and Harry L. Ziegler, Delmont, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed June 21, 1957, Ser. No. 667,262
15 Claims. (Cl. 154—2.7)

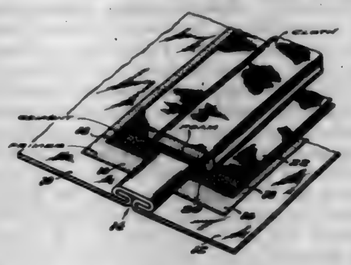


1. A method for the preparation of a curved composite assembly which comprises supporting a curved glass sheet with its convex surface facing upwardly, placing a thermoplastic sheet on the supported sheet, and placing a matching curved glass sheet on the upper major surface of the thermoplastic sheet to form the composite assembly.

8. An apparatus for the preparation of a curved composite assembly including two matched curved glass sheets and a thermoplastic interlayer which comprises sets of means for supporting a curved glass sheet with its ends pointing downwardly, each set being constructed and arranged to support one of said glass sheets only by contact of the set of support means with the lower major surface of the glass sheet at areas transversely spaced apart between the center of the glass sheet and its ends by transverse spacing and longitudinally spacing between the support means of each sheet, and means for conveying the sets of support means in a cyclic path, said conveyor means being constructed and arranged to provide said sets of support means in spaced relationship and with said support means of each set extending upwardly with an upper resilient portion for each support means during a top portion of said path to provide said contact of the glass sheet by the set of support means.

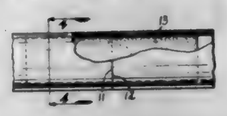
2,974,878
DEVICE FOR SEALING A SEAM FORMED BY ADJACENT METAL PLATES
Anthony F. Petritz, Newton Highlands, and Donald F. Larson, Sudbury, Mass., assignors to Haartz-Mason, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Aug. 15, 1958, Ser. No. 755,194
3 Claims. (Cl. 154—43)

1. A device for sealing a seam formed by adjacent metal plates yet permitting a slight amount of relative motion between said metal plates, comprising a urethane foam strip covering said seam, said urethane foam strip being slightly shorter than said seam and slightly wider than said seam, a sheet of neoprene impregnated nylon cloth covering said urethane foam strip, said sheet being approximately as long as said seam, and substantially wider than said urethane foam strip, and overlapping onto said adjacent metal plates by an approximately equal amount on each side, and means consisting of a cement applied to said adjacent metal plates and an adhesive gum



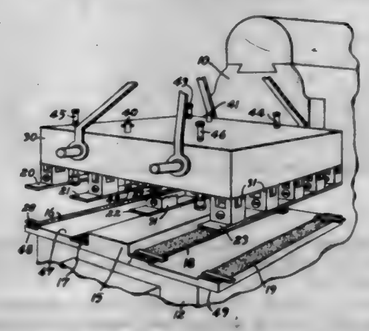
applied to said sheet for firmly attaching said sheet to said adjacent metal plates.

2,974,879
HEAT DECOMPOSABLE SPLICE MANDREL FOR ENDLESS TUBULAR SEALS
Nikolai N. Korotkevich, New Haven, Conn., assignor to The Connecticut Hard Rubber Company, New Haven, Conn., a corporation of Connecticut
Filed Sept. 30, 1959, Ser. No. 843,484
2 Claims. (Cl. 154—43)



1. As an article of manufacture a splice construction comprising a mandrel predominantly composed of ammonium carbonate and hollow members capable of heat integration butted together over the mandrel.

2,974,080
PROCESS OF CONSTRUCTION OF MACHINE TOOLS
Winthrop Trible, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed June 29, 1956, Ser. No. 594,836
2 Claims. (Cl. 154—129)



1. The process of forming a plurality of parallel ways on a machine tool unit by bonding hardened steel way strips in accurately aligned positions on the machine tool unit comprising the steps of magnetically holding the way strips with their working surfaces in accurately aligned positions with respect to one another, adjusting the way strips while thus held to predetermined accurately aligned positions with respect to the machine tool unit, said predetermined positions corresponding to the positions which the way strips are to occupy when finally

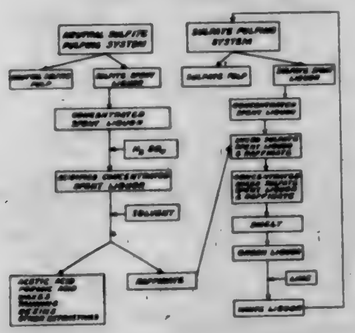
fastened to the machine tool unit, removing the strips from the machine tool unit while continuing to hold them in said accurately aligned positions with respect to one another, interposing a layer of adhesive between the underside of each way strip and the area of the machine tool unit to be covered thereby, then returning the way strips while still magnetically holding them in said accurately aligned positions to said predetermined positions with respect to the tool unit to compress the adhesive between the way strips and the machine tool unit, and maintaining the way strips in said positions until the adhesive as set after which the strips are released from the influence of the magnetic bias whereby the way strips are securely and accurately fastened in place on the machine tool unit.

2,974,081

METHOD FOR INTEGRATING SODIUM BASED SULFITE AND SULFATE PULPING PROCESSES

William A. Biggs, Jr., and Julius D. Robertson, Hartsville, S.C., assignors to Sonoco Products Company, a corporation of South Carolina

Filed May 19, 1955, Ser. No. 509,694
4 Claims. (Cl. 162—33)



4. In an integrated process for pulping wood by a sodium based sulfite process and by the sulfate process, the improvement of producing sulfate white cooking liquor that has sufficiently high sulfidity to avoid the necessity of adding the usual salt cake and sulfur, comprising adding to the sulfate black liquor, concentrated spent liquor from the sulfite process which has been acidified with sulfuric acid and from which substantially all acetic and formic acid have been removed, concentrating the resulting mixture, burning said mixture, dissolving the smelt therefrom to produce sulfate green liquor, and causticizing said green liquor, the quantity of spent liquor from the sulfite process being sufficient to supply all of the added sulfur for the sulfate process.

2,974,082

PROCESS OF INHIBITING MICROORGANISMS WITH ALKYLENE BIS-DITHIOCARBAMATE ESTERS

Alfred P. Collins, Terre Haute, Ind., assignor to the State of Iowa, for the use and benefit of the State University of Iowa, Iowa City, Iowa, an educational institution of Iowa

No Drawing. Filed Apr. 25, 1957, Ser. No. 654,982
6 Claims. (Cl. 167—22)

1. The process of inhibiting and destroying microorganisms selected from the group consisting of *Microsporum audouini, M. gypseum, M. lanosum, M. canis, Trichophyton schoenleini, T. rubrum, T. mentagrophytes,* and *Staphylococcus aureus* comprising applying to the micro-organisms a fungicidal amount of alkylene bis-dithiocarbamate ester.

2,974,083

INSECTICIDAL COMPOSITIONS

Moshe Neeman, Buffalo, N.Y., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin

No Drawing. Filed Mar. 2, 1960, Ser. No. 12,272
10 Claims. (Cl. 167—30)

1. Insecticidal DDT compositions for destroying insects resistant against the action of DDT alone, containing by weight for each part of DDT, as a DDT potentiating agent, 0.025 to 10 parts of p-chlorobenzenesulfonic acid-N-di-(R)-amide, where R represents an n-alkyl group containing 2 to 7 carbon atoms.

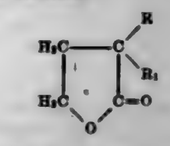
2,974,084

α-HALOGENATED-γ-BUTYROLACTONES AS NEMATOCIDES

Raymond L. Mayhew, Phillipsburg, N.J., and Earl P. Williams, Pen Argyl, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 6, 1958, Ser. No. 719,521
5 Claims. (Cl. 167—33)

1. A method for controlling soil nematodes which comprises contacting said nematodes with a fumigating amount of an α-halogenated-γ-butyrolactone having the following general formula:



wherein R represents a member selected from the class consisting of hydrogen and chlorine, and R_1 represents a member from the class consisting of chlorine and bromine.

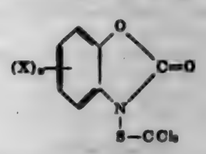
2,974,085

5-TRICHLOROMETHYL-THIO BENZOXAZOLONES

Ernst A. Bartels, Wiesbaden, Berthold Brühler and Johannes Reese, Wiesbaden-Biebrich, and Rolf Zimmermann, Wiesbaden, Germany, assignors to Chemische Werke Albert, Wiesbaden-Biebrich, Germany, a corporation of Germany

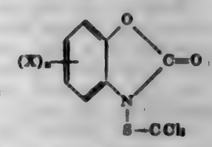
No Drawing. Filed Oct. 20, 1958, Ser. No. 768,011
Claims priority, application Germany Oct. 31, 1957
11 Claims. (Cl. 167—33)

1. A benzoxazolone having the formula



wherein X is selected from the group consisting of halo, alkyl containing 1 to 6 carbon atoms and nitro groups, and *n* is an integer from 0 to 3.

7. The method of inhibiting germination of fungi which comprises contacting said fungi with a benzoxazolone having the structural formula



wherein X is selected from the group consisting of halo-, nitro- and alkyl with 1 to 6 carbon atoms, in an amount sufficient to produce inhibition of germination.

2,974,086

DERIVATIVES OF 4-PHENYL-2-BUTANONE AS ATTRACTANTS FOR THE MELON FLY

Morton Beroza, Silver Spring, Md., and Benjamin H. Alexander, Washington, D.C., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Nov. 6, 1959, Ser. No. 851,484
12 Claims. (Cl. 167—48)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of detecting and controlling infestations of melon fly which comprises baiting a trap with an attractant selected from the group consisting of 4-(p-hydroxyphenyl) - 2 - butanone, 4 - (p - acetoxyphenyl) - 2-butanone, 4-(p-propionoxyphenyl)-2-butanone, and 4-(p-butyroxyphenyl)-2-butanone.

2,974,087

1-METHYL-4-NITRO-5-CYANO-IMIDAZOLE COMPOSITIONS FOR TREATING COCCIDIOSIS

Edward F. Rogers, Middletown, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 26, 1958, Ser. No. 744,671
3 Claims. (Cl. 167—53.1)

1. A composition useful in the prevention and treatment of coccidiosis which comprises 1-methyl-4-nitro-5-cyano-imidazole in intimate dispersion in an animal feedstuff.

2,974,088

METHOD OF PREPARING GROWTH HORMONE

Urban J. Lewis, Scotch Plains, and Norman G. Brink, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 18, 1958, Ser. No. 749,326
2 Claims. (Cl. 167—74)

1. The process for recovering human growth hormone in crystalline form which comprises the following steps:

(*a*) extracting human pituitary glands with acetone at a temperature below about −5° C. and separating and drying the resulting insoluble portion,

(*b*) extracting this insoluble portion with a 0.3 M water solution of potassium chloride at a pH of about 5.5 and separating the resulting precipitate,

(*c*) adjusting the pH of the separated extract to about 8.5 with 1 N potassium hydroxide slowly adding sufficient ethanol to bring the ethanol concentration to about 30%, and separating and drying the resulting precipitate,

(*d*) adjusting the ethanol extract to about pH 6.1 with 4 N hydrochloric acid and separating and drying the resulting precipitate,

(*e*) extracting the combined precipitates of (*c*) and (*d*) with a 0.1 N solution of potassium chloride at pH 11 and separating the resulting precipitate,

(*f*) adjusting the pH of the resulting extract from (*e*) to pH 4.8 with 4 N hydrochloric acid and separating the resulting precipitate,

(*g*) adjusting the extract from (*f*) to a pH of about 7.5 with 1 N potassium hydroxide, slowly adding ethanol in an amount sufficient to bring the concentration of ethanol to about 15%, and recovering and drying the crystalline growth factor precipitated; all of said steps (*a*)–(*g*) being carried out at a temperature below about 10° C.

2,974,089

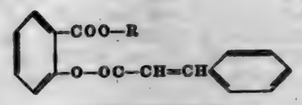
SUN SCREEN COMPOSITIONS

Everett Alexander, Yonkers, Norman Greif, Brooklyn, Herman Jass, Hartsdale, and Raymond Stetzer, Roslyn Heights, N.Y., assignors to Revlon, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 21, 1957, Ser. No. 679,536
5 Claims. (Cl. 167—90)

1. A sunscreen composition comprising methyl salicyl cinnamate 1 to about 4 parts by weight; methyl phenyl polysiloxane 1 to about 2 parts by weight; propylene glycol 5 to about 10 parts by weight; alcohol 70 to about 80 parts by weight; and water, with a minor proportion of perfume, to bring the volume to a total of 100 parts by weight.

5. The method of protecting the skin against sunburn while allowing tanning to take place, which comprises topically applying to the skin a compound having the formula



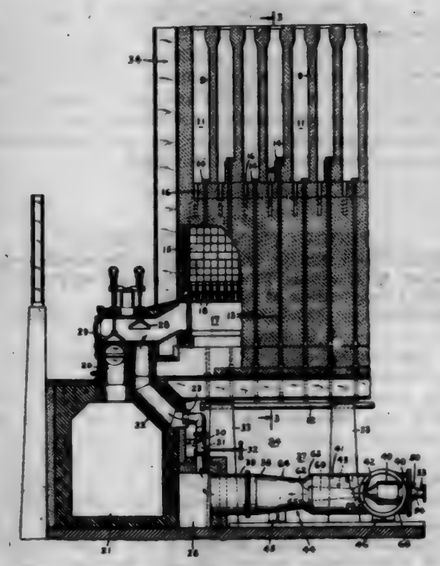
in which the hydrocarbon radical R is selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, n-amyl, and benzyl radicals, and a fluid cosmetic carrier therefor, the compound having said structure constituting 1% to about 5% by weight, of the said fluid carrier.

2,974,090

HIGH VELOCITY COMBUSTION-JET MOTIVATER COKE OVEN BATTERY

Lawrence D. Schmidt, New York, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Nov. 24, 1959, Ser. No. 855,881
9 Claims. (Cl. 202—12)



6. A process for production of uniform coke which comprises subjecting a coking coal charge to coking by indirect heating in coke oven coking chambers having interposed flued heating walls, burning rich fuel gas in the heating flues to obtain flames in an end portion of the flues with attendant distribution of heat through the heating walls to the coking chambers for the coking, hot corrosive waste gas also being obtained from said burning, burning fluid fuel under pressure in a separate combustion zone to obtain hot gaseous combustion products, discharging the hot gaseous combustion products from said combustion zone and passing the same as a high velocity hot gaseous jet through an entrainment nozzle, entraining the hot waste gas in the high velocity jet passing through the nozzle and propelling the waste gas within the nozzle by the gaseous jet, passing a stream of oxygen-containing gas into a preheating zone, passing the

hot gaseous jet containing the entrained waste gas into admixture with the oxygen-containing gas stream prior to its introduction into said preheating zone, preheating the gaseous stream containing the waste gas together with the oxygen-containing gas in said preheating zone, and withdrawing the hot gaseous stream containing the waste gas together with the oxygen-containing gas from the preheating zone and passing the same into an end portion of the heating flues in the region of the burning fuel gas therein, incombustible constituents of said waste gas effecting elongation of the flames within the flues with attendant substantially uniform distribution of heat to the coking chambers and uniform coking of the coal.

2,974,091

METHOD OF REDUCING EYE HOLING IN LACQUERED TIN-PLATE

Richard A. Neish, Snowden Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Dec. 11, 1958, Ser. No. 779,657
2 Claims. (Cl. 204—37)



1. A method of making tin plate which consists in electrodepositing a coating of tin on a sheet-steel base, forming a protective film containing chromium compounds and at least a residual amount of free hexavalent chromium over the tin coating and then treating the tin plate with an aqueous solution containing from .2 to 1% of a reducing agent effective to reduce any free hexavalent chromium thereon to trivalent chromium.

2,974,092

PRODUCTION OF TITANIUM

Merle E. Sibert, Euclid, Ohio, assignor, by mesne assignments, to Horizons Titanium Corporation, Princeton, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 16, 1955, Ser. No. 553,416
8 Claims. (Cl. 204—64)

1. The method of producing metallic titanium in an electrolytic cell which comprises: preparing a fused electrolyte consisting essentially of at least one alkali metal chloride and between about 5% and 25% by weight of a titanium halide, maintaining the fused electrolyte bath under an inert atmosphere, providing solid titanium nitride as the source of titanium in said bath, providing an electrical circuit whereby said nitride is electrically connected to the anode in said cell and is thereby made anodic in the electrolysis which follows, passing an electrolyzing current through the fused bath to maintain a cathode current density of between about 25 and 500 amperes per square decimeter and recovering the resultant cathodically deposited titanium metal.

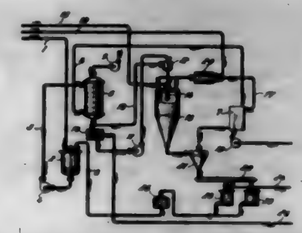
2,974,093

PROCESS FOR THE MANUFACTURE OF SALT MIXTURES FOR THE ELECTROLYTIC PRODUCTION OF MAGNESIUM

Erich Bauer, Frankfurt am Main, Hans Ebert and Willi Forst, Knapsack, near Koln, and Hans Pieper, Amberg, Oberpfalz, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Koln, Germany, a corporation of Germany

Filed Oct. 27, 1958, Ser. No. 769,765
11 Claims. (Cl. 204—70)

1. The process for producing electrolyzable substantially anhydrous magnesium chloride having a magnesium oxide content of 0.1 to 0.5% comprising the steps of atomizing a concentrated mash comprising magnesium chloride solution in an atomizing tower by means of compressed air to yield a dry powder, introducing into the tower fresh air having a temperature of about 400–600° C. during the atomizing step, collecting gas escaping from the atomization tower, said gas having a temperature of about 300 to about 350° C. and a steam content of about 7 to about 12% by volume, using the heated gases escaping during the atomization for preheating the fresh air, collecting the resultant separated dry powder salt mixture, said mixture containing about 2 to about 3% by weight of magnesium oxide and about 1 to about 2% by weight of water, melting said resultant separated salt mixture without bringing it into contact with the atmosphere, permitting salt-containing magnesium oxide separated during the melting step to deposit,



withdrawing the overlying substantially anhydrous salt melt, directly transferring the melt to an electrolysis station, withdrawing the salt-containing magnesium oxide which has deposited, mixing said salt-containing magnesium oxide with a starting solution of magnesium chloride containing salt solution to form the mash introduced into the atomizing tower, concentrating the mash in a column with the gases escaping from the atomizing tower which gases have cooled through said heating of the fresh air to a temperature of about 70–150° C. and are not saturated with steam to such an extent that the gas leaves the column at a temperature of about 50–80° C., separating the concentrated salt solution from undissolved magnesium hydroxide, and binding the hydrogen chloride and the fine dust of magnesium chloride contained in the escaping gases from the concentration column with a salt solution containing magnesium hydroxide and magnesium chloride.

2,974,094

RADIO-SULFOCHLORINATION OF PARAFFINS

James F. Black, Convent, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 16, 1958, Ser. No. 735,668
7 Claims. (Cl. 204—162)

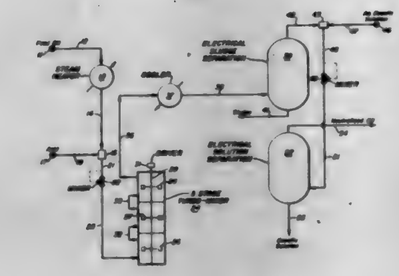
1. A sulfochlorination process comprising irradiating with radiation consisting of ionizing electromagnetic radiation having a wave length in the range of 10^{-8} to 10^{3} A. a reaction mixture consisting essentially of a saturated hydrocarbon having in the range of 4 to 40 carbon atoms per molecule selected from the group consisting of paraffins and naphthenes, 0.1 to 2.0 moles of sulfur dioxide per mole of said saturated hydrocarbon, chlorine, the mole ratio of chlorine to sulfur dioxide being in the range of 0.001 to 1.0, and free oxygen, the mole ratio of oxygen to sulfur dioxide being in the range of 0.0001 to 2; and recovering a mono-substituted hydrocarbon sulfonyl chloride in amounts in the range of 2 to 50 mole percent based on said saturated hydrocarbon, the amount of hydrocarbon chlorides produced being less than 2 moles per mole of said saturated hydrocarbons; the dose rate being in the range of $.1\times10^{3}$ to 3×10^{3} Rads/min. and the total dose being in the range of 10^{3} to 10^{10} Rads, based on said mono-substituted hydrocarbon sulfonyl chloride.

2,974,095

ACID TREATING FOR SPRAY OIL

Moses Gordon, Chicago, Ill., and Gordon D. Kerns, El Dorado, Kans., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Apr. 22, 1958, Ser. No. 730,896
3 Claims. (Cl. 204—190)



1. A process for producing a petroleum oil of low sulfonatable-material content which process comprises (*a*) treating a virgin petroleum oil boiling over the range of 450° F. and 700° F. with sulfuric acid, in intimate mixture, in an amount between about 1 and 1.5 lbs. of acid per gallon of oil, said acid having a concentration of between about 96% and 100%, at a temperature between about 150° F. and 170° F. for a time between about 10 and 30 minutes, (*b*) substantially immediately after said treating, cooling the mixture of oil and dispersed sludge particles produced in step (*a*) to a temperature between 70° F. and 100° F., (*c*) passing said cooled oil-sludge mixture into sludge separation zone wherein said cooled mixture is subjected to the action of a high-voltage electrical field of sufficient intensity to coalesce said sludge particles and separating a sludge phase from a treated oil phase containing not more than about 0.01 weight percent of sludge, and (*d*) subjecting said treated oil phase to a neutralization operation consisting of (1) intimately mixing said treated oil phase with aqueous caustic solution containing between about 5 and 15 weight percent of caustic in an amount sufficient to neutralize the acidic materials present in said treated oil phase at a temperature between 90° F. and 100° F., (2) passing said oil-solution mixture of oil and solution into a solution separation zone wherein said oil-solution mixture is subjected to the action of a high-voltage electrical field of sufficient intensity to coalesce the solution particles in said oil-solution mixture and separating a solution phase from a neutralized oil.

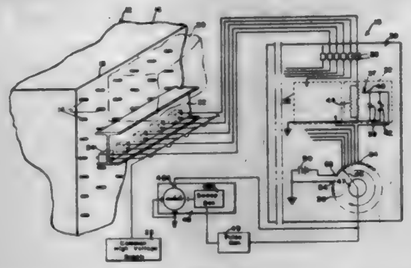
2,974,096

FUEL SLUG RUPTURE DETECTOR

Ronald S. Paul, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 3, 1958, Ser. No. 758,875
3 Claims. (Cl. 204—193.2)

1. A device for detecting fuel slug ruptures in a nuclear reactor having said fuel slugs positioned in parallel channels arranged in rows and columns, each of said channels having one end extending through a flat exterior surface of said reactor, comprising: mobile means, a plurality of radiation detectors on said mobile means, each of said radiation detectors associated with one of said columns of channels, said detectors arranged to be simultaneously positioned opposite the one ends of a row of channels, said mobile means translatable in a direction parallel to said columns of channels, said radiation detectors adapted to transmit unipolarity voltage pulses responsive to the radiation detected thereby, a switch having a plurality of stationary contacts and a rotatable wiper engageable with said contacts, means for distributing the pulses from each detector to an assigned stationary contact, an oscilloscope having vertical deflection plates and horizontal sweep means, said vertical



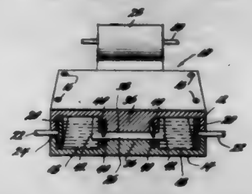
deflection plates being electrically connected to said wiper, means for rotating the wiper, and means for triggering the horizontal sweep means of the oscilloscope for each rotation of said wiper.

2,974,097

ELECTROLYTIC MEANS FOR TREATING METAL

Ernest R. Ramirez, Detroit, Mich., and Erik F. Barkman, Richmond, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Nov. 12, 1957, Ser. No. 695,901
4 Claims. (Cl. 204—206)



1. Apparatus for the electrolytic treatment of the edge portions of a flexible metal web comprising a hollow vessel for containing electrolyte, means for supplying electrolyte to and removing it from said vessel, means for guiding said metal web through the electrolyte comprising a pair of opposing ribs terminating in flat faces spaced apart to permit passage of the metal web between them, stationary resilient sealing means mounted in said ribs extending toward and longitudinally of said metal web and adapted to maintain contact with the metal web near the edge portions thereof to confine the action of the electrolyte to said edge portions, and at least one electrode mounted in the interior of said vessel opposite the line of passage of said metal web, and means for conducting electric current to said electrode and to the metal web.

2,974,098

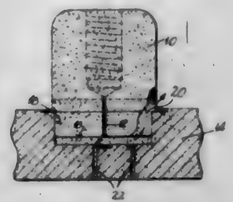
ROD AND PLATE ELECTRODE ASSEMBLY

John P. Oliver, Berea, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed Apr. 9, 1958, Ser. No. 727,355
2 Claims. (Cl. 204—288)

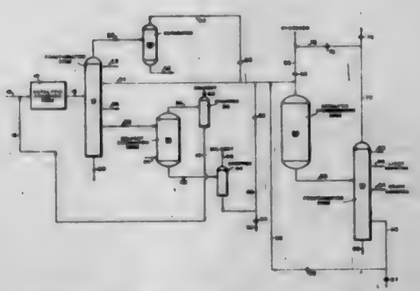
1. For use in an electrolytic cell, as assembly which comprises an anode plate and at least one riser rod, said assembly being adapted to be positioned horizontally with respect to a fluid cathode of said electrolytic cell; said anode plate and said riser rods being made of a material chosen from the group consisting of amorphous carbon and graphite; said anode plate having blind holes therein, and said anode riser rods having ends in the unstressed condition of a greater transverse dimension than said holes, said anode riser rods having kerfs provided

in the lower ends thereof and being interference fitted into said blind holes in said anode plate thereby forming a low resistance current-carrying joint; said anode plate being provided with a plurality of evenly distributed venting apertures over its entire area which extend completely through said anode plate and some of which ex-



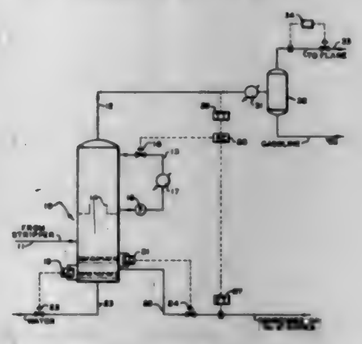
tend into said blind holes beneath said riser rods and thereby permit the escape of gases from beneath said anode plate and from the electrolyte area of said cell; said kerfs in said riser rods forming passages which extend from the lower ends of said riser rods to exit points in said riser rods above said anode plate and thereby permit the escape of gases from beneath said riser rods.

2,974,099
CATALYTIC CONVERSION OF HEAVY NAPHTHA FRACTIONS
James A. Anderson, Jr., Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed July 24, 1958, Ser. No. 750,793
7 Claims. (Cl. 208—68)



7. A method for treating the products obtained from the catalytic cracking of a hydrocarbon gas oil fraction which comprises the steps of recovering from the products of catalytic cracking a heavy naphtha fraction boiling within the range of about 350° to 430° F. and a heavier fraction boiling within the range of about 450° to 900° F., subjecting said heavier product fraction to solvent extraction in the presence of a solvent for the selective removal of aromatics to thereby provide an aromatics extract fraction boiling within the range of about 450° to 900° F., admixing from about 50 to 80 volume percent of said aromatic extract fraction with said heavy naphtha fraction and charging the resultant mixture to a catalytic hydrocracking zone containing a bed of a supported cobalt molybdate catalyst in the presence of about 500 to 2000 cubic feet of hydrogen per barrel of mixture under hydrocracking conditions including a temperature within the range of about 900° to 950° F. and a pressure within the range of about 700 to about 950 p.s.i.g. at a naphtha feed stock charge rate within the range of about 0.7 to 1 v./v./hr., and recovering from the products of said catalytic hydrocracking step a naphtha fraction boiling within the range of about 120° to about 350° F.

2,974,100
METHOD FOR CONTROLLING DEPHLEGMATORS
Charles G. Mitchell, Odessa, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 12, 1958, Ser. No. 741,565
2 Claims. (Cl. 208—341)



1. A method for recovery of gasoline vapors from a mixture containing the same and some absorber oil unavoidably entrained when said vapors have been stripped from a rich absorber oil obtained in the recovery of natural gasoline which comprises feeding the vapor mixture to a dephlegmation zone, condensing oil in said zone, removing gasoline vapor overhead from said zone, removing condensed oil from the lower portion of said zone, recirculating water from an intermediate portion of said zone to the upper portion thereof to provide cooling of said upper portion, determining changes in the amount of condensed oil removed from the lower portion of said zone, determining changes in the temperature of the vapor removed overhead from said zone, and increasing the amount of water recirculated in response to a decrease in flow of condensed oil, increasing the amount of water recirculated in response to an increase in the temperature of the overhead vapors, decreasing the amount of water recirculated in response to an increase in the flow of condensed oil and decreasing the amount of water circulated in response to a decrease in the temperature of the overhead vapors, the net effect of said changes being such that when the volume of condensed oil removed increases the flow rate of cooling water is adjusted to provide an increase in the temperature of the vapors removed overhead and vice versa.

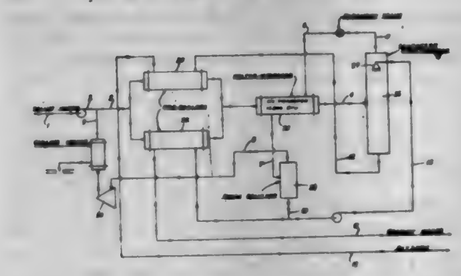
2,974,101
ION-EXCHANGE ASSEMBLIES AND METHODS OF TREATING LIQUIDS
George A. Richter, Jr., Abington, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
Filed May 22, 1957, Ser. No. 660,975
22 Claims. (Cl. 210—37)



7. A method comprising interspersing the members of one set of a plurality of filamentous structures comprising filaments having anion-exchange groups with those of another set of a plurality of filamentous structures comprising filaments having cation-exchange groups to provide an assembly of such structures with at least one

long dimension of the structures inclined from the horizontal, said structures being suspended from their upper ends with their lower portions movable in lateral directions so that the assembly as a whole is free to expand and contract under the influence of liquid flowing freely down the assembly by gravity, directing a liquid containing ions adapted to interact with said groups to the assembly at a point above the lowermost point of the assembly whereby the liquid flows by gravity along the assembly without contacting any surface surrounding the assembly and ion-exchange occurs during such flow.

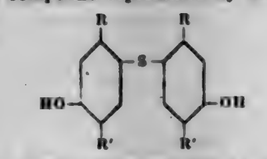
2,974,102
HYDRATE FORMING SALINE WATER CONVERSION PROCESS
Virgil C. Williams, St. Louis, Mo., assignor to Projex Engineering Corporation, St. Louis, Mo., a corporation of Missouri
Filed Nov. 9, 1959, Ser. No. 851,581
17 Claims. (Cl. 210—59)



1. A process for reducing the salt content of saline water which comprises adding to said water a gas which is capable of forming a hydrate with said water before cooling, forming a solid gas hydrate and subsequently volatilizing said gas to provide a liquid water of reduced saline content, the latent heat for the separation of said gas being provided by passing the gas hydrate in heat exchange relationship with the saline water and said gas in the solid gas hydrate formation stage to provide the necessary cooling in said formation stage.

2,974,103
STABILIZATION OF WAX ACID GREASES BY MEANS OF DIPHENOL SULFIDES
William H. Goff, Port Arthur, Tex., assignor to Texaco Inc., a corporation of Delaware
No Drawing. Filed Apr. 10, 1957, Ser. No. 651,819
8 Claims. (Cl. 252—40)

1. A lubricating grease which normally undergoes surface crusting and discoloration in storage consisting essentially of a mineral lubricating oil thickened to a grease consistency by about 5–45 percent by weight based on the composition of a metal soap of a saponifiable material obtained by the oxidation of a petroleum fraction wherein the said metal is chosen from the group consisting of alkali metals, alkaline earth metals and mixtures thereof, and wherein said surface crusting and discoloration are inhibited by about 0.5–5.0 percent by weight of a compound represented by the formula



wherein R is an alkyl group containing 1–6 carbon atoms and R' is selected from the group consisting of secondary and tertiary alkyl groups containing 3–8 carbon atoms.

2,974,104
HIGH-ENERGY MAGNETIC MATERIAL
Thomas O. Paine, Nahant, Lewis I. Mendelsohn, Lynn, and Fred E. Luborsky, Stoneham, Mass., assignors to General Electric Company, a corporation of New York
Filed Apr. 8, 1955, Ser. No. 500,078
17 Claims. (Cl. 252—62.5)

5. A magnetic material comprising elongated fine particles selected from the class consisting of (1) iron and (2) alloys of cobalt and iron in atomic ratios of up to about 3 to 1, at least half of said particles having elongation ratios of at least 2 to 1, the transverse dimension of each of said particles being that of a single magnetic domain, a protective material coating said particles and a material binding said coated particles in magnetically oriented fixed spaced relationship such that the major axes of substantially all of said particles are substantially parallel.

2,974,105
SILICA ORGANOSOLS AND THEIR PREPARATION
Ralph K. Iler, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 1, 1956, Ser. No. 581,843
18 Claims. (Cl. 252—309)

1. A silica organosol characterized by showing substantially no increase in relative viscosity when stored at 30° C. for one month, the organosol comprising amorphous, dense, substantially non-aggregated silica spheroids 5 to 130 millimicrons in diameter dispersed in a continuous liquid phase consisting essentially of a water-miscible, alkoxy-substituted ethanol, the organosol having a silica content of 26 to 60% SiO_2, a pH of 6 to 9, and a salt content as measured by conductivity and expressed as Na_2SO_4 of less than 0.2 mol percent based on the silica, and having a relative viscosity, as measured at 5% SiO_2 of from 1.1 to 1.5.

10. In a process for producing a stable silica organosol characterized by showing substantially no increase in relative viscosity when stored at 30° C. for one month, the steps comprising adding to a deionized aquasol of amorphous, dense, substantially non-aggregated silica spheroids 5 to 130 millimicrons in diameter, the sol having a salt content as measured by conductivity and expressed as Na_2SO_4 of less than 0.2 mol percent based on the silica, an alkali of the class consisting of water-soluble monovalent metal silicates and basic hydroxides of monovalent cations, in an amount sufficient to give an $SiO_2:M_2O$ ratio of from 20D:1 to 300D:1, where D is the average particle diameter in millimicrons and M_2O is the alkali expressed as the equivalent basic oxide, mixing the so-treated aquasol with from three to six times its volume of a water-miscible, alkoxy-substituted ethanol to make an aqua-organosol, and distilling water from said aqua-organosol until the liquid remaining consists essentially of said alkoxy-substituted ethanol.

2,974,106
EMULSIFIER-WAX COMPOSITIONS
George D. Fronmuller, Mamaroneck, and Michael J. Mirra, Woodside, N.Y., assignors to Concolloid, Inc., a corporation of New York
No Drawing. Filed Dec. 2, 1955, Ser. No. 550,788
8 Claims. (Cl. 252—311.5)

1. A substantially anhydrous composition taken from the group consisting of hydrocarbon wax and oil compositions blended with a mixture of emulsifying agents in sufficient amount to form emulsions, said mixture consisting essentially of a substance taken from the group consisting of glyoxalidines and salts thereof with acids and the condensation product of a glyceride oil with an alkylolamine taken from the group consisting of mono-, di-, and tri-ethanol and propanol-amines, the amounts of glyoxalidine and condensation product being approximately equal.

2,974,107
PREPARATION OF QUICK-BREAKING BITUMINOUS EMULSIONS CHARACTERIZED BY IMPROVED DEMULSIBILITY
Edward W. Mertens and James R. Wright, El Cerrito, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Jan. 27, 1959, Ser. No. 789,253
8 Claims. (Cl. 252—311.5)

1. A method of treating an asphalt characterized by an acid number of at least 2.0, which comprises intimately contacting said asphalt at a temperature from about 250 to about 325° F. with a nitrogen-containing material capable to form amides with the carboxylic acids present in the asphalt at these temperatures, said nitrogen-containing material being contacted with the asphalt in an amount and for a period of time sufficient to reduce the acid number of said asphalt to a figure within the range from 1.8 to not lower than about 0.8.

7. A process for the production of quick-breaking asphalt emulsions, which comprises intimately contacting at a tempertaure from about 250° to 325° F. for at least 30 minutes an asphalt characterized by an acid number of at least 2.0 with an amino-nitrogen-containing material which reacts at these temperatures with the carboxylic acids in said asphalt to form amides, said material being added to the asphalt in a sufficient amount to reduce the acid number thereof to a figure in the range from 1.8 to not lower than about 0.8, and emulsifying from about 50 to about 75% by weight of the resultant product mixture in water with an alkali metal-emulsifying base to produce an asphalt-in-water emulsion characterized by viscosity which conforms with ASTM Specification D–977–53 for rapid-setting emulsified asphalt, and has a minimum demulsibility of 60%.

2,974,108
ALUMINOSILICATE AQUASOLS AND THEIR PREPARATION
Guy B. Alexander, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 14, 1957, Ser. No. 633,832
10 Claims. (Cl. 252—313)

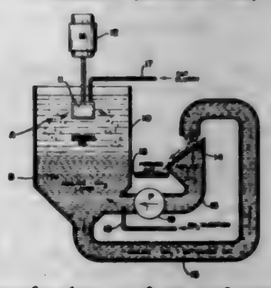
1. An aquasol having a pH of about 4 to 10, the sol consisting essentially of (*a*) water as the continuous phase, and (*b*) a dispersed solid phase of negatively charged particles, the solid in said particles consisting throughout of an aluminosilicate having the empirical formula $MAlO_2.XAl_2O_3.YSiO_2$, where X ranges from 0 to 25, Y ranges from 1 to 200, and M is a monovalent cation selected from the group consisting of elements of group 1A of the periodic table, ammonium, and substituted ammonium ions, and the Si:Al mol ratio is from 1:1 to 50:1, said particles being amorphous, substantially spheroidal in shape, and ranging in size from 3 to 150 millimicrons in diameter, and being present in a concentration of from 3 to 70% by weight in the sol, the soluble salt content of the aquasol being not substantially greater than 0.05 Normal, and the aquasol being stable against any substantial increase in viscosity when stored at 20 to 35° C. for six months.

7. In a process for producing an aluminosilicate aquasol which is stable against any substantial increase in viscosity when stored at 20 to 35° C. for six months the step comprising adding simultaneously, but as separate solutions, an aqueous solution containing about from 1 to 3% by weight calculated as SiO_2, of active silica and an aqueous solution of an alkali metal aluminate to a vigorously agitated body of water having dissolved therein an amount of alkali sufficient to maintain the pH in the range of from 8 to 12, initially, and the proportions of said active silica and aluminate solutions added being such as to maintain the pH in the range of about 9 to 12 during said additions, and the soluble salt contents of the agitated mixture and of the solutions added thereto being low enough that the concentration of salt in the aluminosilicate sol formed is not substantially greater than 0.05 Normal.

2,974,109
PREPARATION OF SILICA SOLS OF MINIMUM TURBIDITY
Lawrence A. Dirnberger, Westfield, N.J., and Robert T. Nelson, Pasadena, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 12, 1958, Ser. No. 714,689
1 Claim. (Cl. 252—313)

In a process for producing an aqueous silica sol having a turbidity not substantially greater than about 6, as measured on the linear scale of a Fisher Electrophotometer AC model using a B525 green filter and a 23 milliliter cylindrical cell and comparing the light transmitted to the light transmitted by distilled water in the same cell, by neutralizing the alkali in an alkali metal silicate solution with a cation-exchanger in the hydrogen form at a pH above 8 while agitating the exchanger, the steps comprising conducting the ion-exchange reaction at a temperature of 88 to 90° C., a sufficient proportion of the silicate being added to a heel of water to give a solution having a pH of 8.3 to 8.7 and additional silicate solution and ion-exchanger in hydrogen form being added to the heel over a period of 27 to 33 minutes and at such rates that the pH remains in the range from 8.3 to 8.7, and the pounds of SiO_2 added per pound of water in the heel being from 0.236 to 0.304, all said silicate additions being made as alkali-metal silicate aqueous solutions having an SiO_2 content of about from 25 to 28.5% by weight.

2,974,110
MANUFACTURE OF SPHEROIDAL CATALYSTS
James L. Callahan, Bedford, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 30, 1958, Ser. No. 783,812
3 Claims. (Cl. 252—448)



1. A process for the manufacture of catalysts having a small uniform spheroidal shape from a liquid slurry containing acidic catalyst constituents at least some of which are water soluble which comprises the following steps: (1) forming small globules of uniform size from said liquid slurry of the catalyst constituents, (2) causing said small globlues to fall by gravity through a liquid bath comprising an upper layer consisting of a liquid inert to said slurry and the hereinafter-mentioned lower layer, whereby said small globules assume a uniform spheroidal shape, and then fall through a lower layer consisting essentially of a solution of ammonia in aniline whereby said small uniform spheroidal globules descending from said upper layer set into semi-rigid spheroidal particles, and finally (3) recovering said semi-rigid spheroidal particles from said liquid bath.

2,974,111
ACTIVATED INORGANIC METAL OXIDES
William G. Nixon, Westchester, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Oct. 13, 1958, Ser. No. 766,675
8 Claims. (Cl. 252—466)

1. A process for the manufacture of a refractory inorganic metal oxide of increased surface area which comprises preparing a wet refractory metal oxide, thereafter contacting said oxide in the wet condition with sulfur dioxide at a temperature in excess of 25° C., and calcining the thus treated oxide.

4. A method for manufacturing a refractory inorganic metal oxide-noble metal containing catalytic composite which comprises preparing a wet inorganic metal oxide, contacting the prepared oxide in the wet condition with sulfur dioxide at a temperature of from about 100° C. to about 700° C. and thereafter impregnating the sulfur dioxide-treated metal oxide with said noble metal.

2,974,112
POLYESTER CONTAINING ESTER OF LEVULINIC ACID AND PENTAERYTHRITOL AND DRYING OIL ACIDS WITH OXIDATION OF POLYESTER PRODUCT
Alan K. Forsythe, Manor Township, Lancaster County, and John A. Parker, Lancaster Township, Lancaster County, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed May 1, 1959, Ser. No. 810,229
12 Claims. (Cl. 260—22)

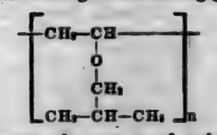
1. The method of making a plastic binder system for resilient flooring comprising reacting isophthalic acid and a glycol selected from the group consisting of 1,3-butylene glycol, neopentyl glycol, ethylene glycol, and diethylene glycol, to form a polyester having an acid number in the range of 10–40, admixing with said polyester a material selected from the group consisting of the monoester of levulinic acid and pentaerythritol, and a mixture of levulinic acid and pentaerythritol containing a 0–0.6 molal excess of pentaerythritol, the resulting mixture containing about 40–60% by weight of said polyester, adding to said resulting mixture a drying oil acid, heating the drying oil acid-containing mixture to produce a mixed polyester having an acid number in the range of 5–25, and oxidizing said mixed polyester with oxygen at a temperature in the range of about 160–220° F. to produce said plastic binder system.

2,974,113
METHOD FOR IMPROVING THE OZONE RESISTANCE OF STEAM CURED BUTYL RUBBER
Walter L. Dunkel, Fanwood, Robert F. Nee, Westfield, and Richard R. Phelan, Nixon, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 9, 1957, Ser. No. 689,862
6 Claims. (Cl. 260—28.5)

1. A process which comprises preparing a rubbery polymer of 70 to 99.5 parts of an isoolefin with 30 to 0.5 parts of a multiolefin; compounding said rubbery polymer with 0 to 50% of a plasticizer selected from the group consisting of oils, petrolatum, and wax; 0 to 500% of a filling agent selected from the group consisting of carbon black, and pigments; small amounts of anti-oxidants, and anti-ozonants; and an accelerator selected from the group consisting of tetramethyl thiuram disulfide, tellurium diethyl dithiocarbamate, zinc dibenzyl dithiocarbamate, sulfur, and mixtures thereof; passing said compounded polymer continuously through an aqueous slurry containing 5 to 50% by weight of an accelerator selected from the group consisting of tetramethyl thiuram disulfide, tellurium diethyl dithiocarbamate, zinc dibenzyl dithiocarbamate and mixtures thereof; subsequently curing said compounded polymer with said slurry on its surface at a temperature between 100 and 400° F. to provide a vulcanizate therefrom with increased ozone resistance.

2,974,114
FILM FORMING COMPOSITION CONTAINING POLYVINYLACETATE AND POLYVINYL ISOBUTYL ETHER
Robert Steckler, Cuyahoga Falls, Ohio, and Francis J. Prescott, Flushing, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 16, 1958, Ser. No. 728,778
5 Claims. (Cl. 260—29.6)

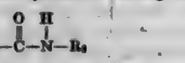
1. A polyvinyl acetate film forming composition having improved wash and scrub resistance comprising polyvinyl acetate, pigment and vehicle carrier selected from the class consisting of water and organic solvents in which the said polyvinyl acetate is soluble therein, said composition containing from 2 to 20% by weight based on the weight of the total solids of said composition of a polyvinyl isobutyl ether having the following general formula:



wherein *n* represents the extent of polymerization and indicated by a molecular weight ranging from 10,000 to 250,000.

2,974,115
ACRYLONITRILE POLYMERS PLASTICIZED BY ADDUCTS OF FORMAMIDE WITH ACRYLONITRILE AND METHOD OF MAKING SAME
Samuel Allen Heininger, Warson Woods, and Paul R. Graham, Richmond Heights, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Feb. 17, 1958, Ser. No. 715,505
13 Claims. (Cl. 260—32.4)

1. An acrylonitrile polymer selected from the class consisting of homopolymers of acrylonitrile and copolymers of acrylonitrile and a monoethylenically unsaturated monomer copolymerizable therewith, said copolymer containing at least 20% by weight of combined acrylonitrile, and said polymer containing intimately dispersed therein from 5 percent to 80 percent by weight of an adduct obtained by reacting at an elevated temperature, one mole of an acylamide having the formula:



where R_1 is a radical selected from the group consisting of hydrogen radicals and alkyl radicals of from 1 to 4 carbon atoms and R_2 is a radical selected from the group consisting of hydrogen radicals and alkyl radicals of from 1 to 4 carbon atoms, together with from 1 to 6 moles of acrylonitrile.

2,974,116
POLYESTERS EXTENDED WITH DIALLYLIDENE PENTAERYTHRITOL AND COMPOSITIONS CONTAINING SAME
John A. Parker, Lancaster Township, Lancaster County, Harold R. Ready, Manheim Township, Lancaster County, and John Vermel, Manor Township, Lancaster County, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 16, 1957, Ser. No. 653,071
8 Claims. (Cl. 260—40)

1. The elastomeric reaction product of 0.6–1.6 equivalents of diallylidene pentaerythritol per each equivalent of a polyester having a number average molecular weight in the range of about 1,000–4,000 and having a hydroxyl number in the range of about 20–55 and an acid num-

ber in the range of about 2–15, and when said polyester is a carboxyl terminated polyester, having a hydroxyl number in the range of about 2 to 15 and an acid number in the range of about 20 to 55, said polyester being the condensation product of a saturated glycol selected from the group consisting of 1,3-butylene glycol, 1,4-butylene glycol, diethylene glycol, and 1,5-pentalene glycol, a saturated dicarboxylic acid containing 6–10 carbon atoms selected from the group consisting of adipic, sebacic, azelaic, and methyl adipic acids, and a dicarboxylic acid containing a single unsaturated bond and no more than 8 carbon atoms, said saturated acid and unsaturated acid being present in a mole ratio in the range of 1:1 to 6:1.

2,974,117

VULCANIZABLE COMPOSITION COMPRISING BUTYL RUBBER, AN ALKALI METAL SILICO-ALUMINATE AND A SULFUR COMPOUND, AND PROCESS FOR VULCANIZING SAME

Walter L. Dunkel, Fanwood, John L. Ernst, Westfield, and James F. Wernersbach, South Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 10, 1957, Ser. No. 633,392
10 Claims. (Cl. 260—41.5)

1. A non-corrosive, completely vulcanizable composition comprising 100 parts by weight of a rubbery copolymer of about 85 to 99.5 weight percent of a C_4 to C_8 isoolefin and about 0.5 to 15 weight percent of a C_4 to C_{14} multiolefin, about 20 to 80 parts by weight of a synthetic precipitated hydrated alkali metal silico-aluminate having a pH between about 9 and 12, and about 0.5 to 15 parts by weight of a sulfur compound selected from the class consisting of dipentamethylene thiuram tetrasulfide and N,N'-dithiomorpholine, and about 2 to 30 parts by weight of zinc oxide, said composition being free of added elemental sulfur.

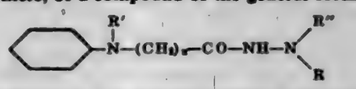
2,974,118

PROCESS FOR THE PRODUCTION OF POLYMERS

Günther Nischk, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 5, 1956, Ser. No. 589,389
1 Claim. (Cl. 260—45.4)

In a process wherein an ethylenically unsaturated polymerizable monomer containing a terminal vinylidene group, $CH_2=C<$ is polymerized in the presence of an initiator consisting essentially of a free radical-generating peroxide catalyst and a polymerization activator, the improvement comprising adding to the polymerization mixture as the activator 0.01–1%, calculated on the amount of monomers, of a compound of the general formula



in which formula x is an integer from 1 to 5, R' stands for a member selected from the group consisting of lower alkyl and aralkyl, and R'' and R''' stand for a member selected from the group consisting of hydrogen, lower alkyl, phenyl, aralkyl, and acyl.

2,974,119

METHOD OF PLASTICIZING POLYACRYLONITRILE WITH A BASE-INITIATED COPOLYMER OF ACRYLONITRILE AND ACRYLAMIDE

Walter H. Schuller, Stamford, and David C. Guth, Norwalk, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 21, 1956, Ser. No. 572,833
1 Claim. (Cl. 260—45.5)

A method of plasticizing free-radical initiated homopolymeric acrylonitrile by mixing the said homopolymeric acrylonitrile with a base-initiated copolymer of acrylonitrile and acrylamide which was prepared by reacting 80 to 98 parts of acrylonitrile with 20 to 2 parts of acrylamide in the presence of a catalyst selected from the class consisting of (1) alkali-forming metal salts of an acid having a pK_a of from 15 to 75 and (2) a quaternary ammonium hydroxide selected from the class consisting of tetramethyl ammonium hydroxide, tetraethanol ammonium hydroxide, benzyl trimethyl ammonium hydroxide and benzyl triethyl ammonium hydroxide, at a temperature ranging from —30° C. to about 75° C.

2,974,120

RUBBER COMPOSITIONS AND PREPARATION THEREOF

Robert E. Miller, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 23, 1957, Ser. No. 704,327
8 Claims. (Cl. 260—45.5)

1. The vulcanized rubber product obtained by vulcanizing a conjugated diolefin rubber composition containing diphenylfuroxan in an amount from 0.5 to 3 parts for each 100 parts of said rubber, the parts being by weight.

2,974,121

COATING COMPOSITIONS AND METHODS

George A. Salensky, Metuchen, N.J., assignor to A. Gaasner, Inc., Hoboken, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 1, 1960, Ser. No. 19,142
11 Claims. (Cl. 260—47)

1. Coating compositions curing at room temperature to produce a glossy water-resistant coating on a solid substrate, consisting essentially of a diglycidyl ether of a dihydric phenol and having admixed therewith as a hardening agent an adduct of (1) a polyamine more than one of whose nitrogen atoms are bonded to non-aryl carbon and have neither less than one nor more than two active amine hydrogens per nitrogen atom and (2) a phenol having per molecule at least one benzene ring bearing only one hydroxyl group, thereby to form a coating composition, said adduct being present in an amount sufficient to promote curing of said composition, said ether and adduct having compositions and proportions related by the equation

$$\frac{A}{B}-C=\frac{DE}{F}$$

where A is the molecular weight of said polyamine times the number of mols thereof, B is the mols of said hydrogen, C is a dimensionless number between about 20 and about 60, D is a dimensionless number between about 10 and about 50, E is the mols of said ether, and F is the mols of monohydroxyphenyl hydroxyl in said adduct phenol.

2,974,122

MAKING HIGH LINEAR POLYESTER WITH MAGNESIUM HYPOPHOSPHITE CATALYST

James Lincoln, Brian James Hawthorne, and Ernest Jan Kowolik, Putteridge Bury, near Luton, England, assignors to British Celanese Limited, a company incorporated of Great Britain

No Drawing. Filed May 7, 1957, Ser. No. 657,495
Claims priority, application Great Britain May 18, 1956
7 Claims. (Cl. 260—47)

1. A process for the manufacture of a high linear polyester from a lower linear polyester of a lower alkylene glycol and an aromatic dicarboxylic acid selected from the group consisting of terephthalic acid, diphenyl-4,4'-dicarboxylic acid, α,β-diphenylethane-4,4'-dicarboxylic acid, α,β-diphenylbutane-4,4'-dicarboxylic acid, α,β-diphenoxyethane-4,4'-dicarboxylic acid, α,β-diphenoxybutane-4,4'-dicarboxylic acid, 1,5-naphthalene-dicarboxylic acid, 2,6-naphthalene-dicarboxylic acid, and 2,7-naphthalene-dicarboxylic acid, said lower polyester having an intrinsic viscosity of 0.1 to 0.4, which comprises heating the said lower polyester at a temperature of 250°–300° C. in the presence of magnesium hypophosphite as catalyst, the amount of magnesium hypophosphite, reckoned as magnesium, being less than 0.05 percent of the weight of high linear polyester theoretically obtainable, and continuing the heating until the intrinsic viscosity of the polyester is increased to at least 0.5.

2,974,123

PROCESS FOR PREPARING ACRYLONITRILE POLYMERS

Charles Clifford Ketterer, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 5, 1957, Ser. No. 638,223
6 Claims. (Cl. 260—63)

1. The method of producing substantially white acrylonitrile polymers which comprises polymerizing a reaction mass containing from 18.5% to 35% of monomers selected from the group consisting of acrylonitrile and a mixture of ethylenically unsaturated monomers containing at least 85% acrylonitrile and up to 15% of a copolymerizable monomer, from 0.2 to 5 parts per million of a soluble iron compound calculated as Fe, from 0.05% to 0.3% of beta-mercaptoethanol, from 0.2% to 3.8% of a sulfoxy reducing agent as an activator, from 0.2% to 0.7% of a persulfate as a catalyst, the balance being water, acidifying the mass with sulfuric acid until a pH of from 1.8 to 3.75 is obtained, heating the acidified solution from about 30 to 110 minutes at a temperature of about 45° to 60° C., and separating the polymer so formed, the percentage of the beta-mercaptoethanol, activator and catalyst being based on the weight of the monomers.

2,974,124

CONDENSATE OF BIUREA WITH CARBOXYLIC ACIDS

Cornelius Sherman Grove, Jr., East Syracuse, and Gerald F. Grillot and Vivian T. Stannett, Syracuse, N.Y., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 20, 1958, Ser. No. 716,280
7 Claims. (Cl. 260—77.5)

1. The process of forming a resin that comprises condensing biurea with an equimolar amount of a linear saturated dicarboxylic acid having a chain length of 3–9 carbon atoms at atmospheric pressure and at a temperature in the range of about 200° to 250° C.

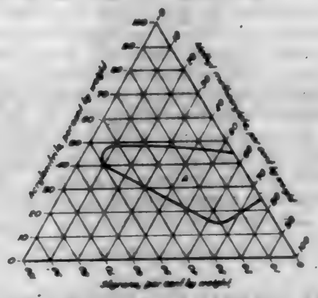
2,974,125

COPOLYMERS OF METHYL METHACRYLATE POSSESSING GOOD ELONGATION VALUES

John L. Lang, Midland, Clifford Jones, Linwood, Arthur F. Roche, Freeland, and Frank L. Ingley, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Aug. 24, 1953, Ser. No. 376,168
4 Claims. (Cl. 260—80.5)

1. A method of making a thermoplastic, moldable copolymer, characterized by an ultimate elongation of more than 10 percent, which comprises copolymerizing at least the first two of the monomeric compounds methyl methacrylate, acrylonitrile and styrene, in one of the proportions represented by points falling within and on the perimeter of area A on the annexed drawing, by heating a homogeneous liquid polymerization mixture consisting essentially of such monomeric compounds and the copolymer product of polymerization thereof at a polymerization temperature between about 130° C. and about 155° C., the proportion of copolymer product being from 10 to 50 percent by weight of the polymerization mixture, maintaining the proportions of monomeric compounds and the proportion of copolymer product in the polymerization mixture substantially constant at values within the above-stated limits of proportion, respectively, by feeding said monomeric compounds to the polymerization reaction mixture, and separating a copolymer product from at least a portion of the polymerization mixture.

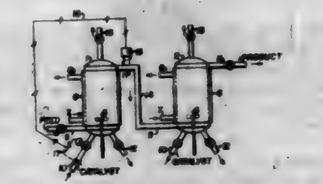


2,974,126

CONTROL OF DEGREE OF CONVERSION

Roland Timothy Kelley, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Aug. 9, 1955, Ser. No. 527,357
8 Claims. (Cl. 260—80.7)



1. In a continuous catalytic polymerization process wherein the polymer density is greater than the density of reactants mixture and is a proportional function of the amount of added catalyst, said polymerization being at a temperature between about —76° and about —112° F. and, in at least one stage, said reactants mixture comprising a diluent and an admixture of a C_3–C_8 olefin with a monomer selected from the group consisting of a vinyl aromatic hydrocarbon, a halogated vinyl aromatic hydrocarbon, a C_4–C_{14} multiolefin, and mixtures thereof, the diluent comprising an alkyl halide which is a solvent for the resulting polymer, at least two of said members of said reactants mixture having approximately the same density at a specific temperature level between about 70° and about 120° F., the improvement which comprises mixing said members for introduction to the first polymerization stage at said temperature level, blending therewith sufficient amounts of the remaining members of said reactants mixture to give a predetermined density of the blend formed at said temperature level, cooling the blend to between about +32° F. to about —250° F., and thereafter continuously regulating the catalyst addition rate to at least the first stage in proportion to changes in density of the reaction mixture containing polymer product withdrawn therefrom and measured at said temperature level of between about 70° and about 120° F., the higher the catalyst condition rate, the higher the resulting density.

2,974,127
RESINS FROM UNSATURATED ACETALS
Donald E. Hudgin, Summit, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 9, 1957, Ser. No. 651,571
10 Claims. (Cl. 260—88.3)

1. A method for the production of a resin which comprises contacting a molten unsaturated diacetal of a polyhydric alcohol selected from the group consisting of pentaerythritol and anhydroenneaheptitol and an aldehyde selected from the group consisting of acrolein and crotonaldehyde with from about 0.2 to 1.5 equivalents of water per equivalent of said unsaturated diacetal based upon moles of water per double bond, maintaining the thus formed mixture in the presence of an acidic catalyst above the fusion temperature of said diacetal, and then allowing said admixture to cure.

2,974,128
NOVEL ACETALS AND RESINS THEREFROM
Donald E. Hudgin, Summit, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 9, 1957, Ser. No. 651,572
9 Claims. (Cl. 260—88.3)

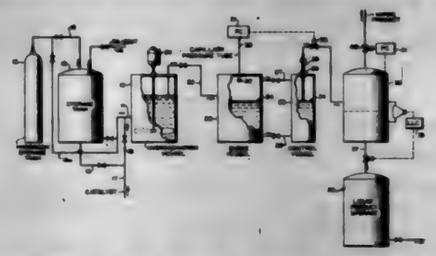
1. A method of preparing a resin which comprises combining a polyhydroxy alcohol consisting of carbon, hydrogen and oxygen and containing from two to six hydroxy groups, at least two of which are displaced from each other by a carbon chain of at least three carbon atoms, with an acetal of anhydroenneaheptitol and a member selected from the group consisting of acrolein and crotonaldehyde, and curing the thus obtained admixture in the presence of an acidic catalyst.

2,974,129
PROCESS FOR PREPARING POLYVINYL CHLORIDE USEFUL IN PLASTISOLS
Alfred R. Nelson, Bay City, and Erwin M. Jankowiak, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 1, 1957, Ser. No. 643,215
2 Claims. (Cl. 260—92.8)

1. A process for preparing polyvinyl chloride suitable for use in making plastisols wherein vinyl chloride is dispersed into an aqueous phase consisting of (1) from 2.5 to 3 parts water for each part of monomer, (2) catalytic amounts of a water-soluble inorganic persulfate polymerization catalyst, and (3) from 0.4 to 4 percent of the weight of monomers of a wetting agent, the so-formed dispersion is subjected to a temperature of from about 25 to about 50° C. and the polymer is isolated and dried, wherein said wetting agent is prepared immediately prior to polymerization by mixing at from 50 to 150° C. from 1 to 2 parts by weight of sulfuric acid with from 2 to 1 parts by weight of a monohydroxy alkanol having from 6 to 10 carbon atoms and is dispersed in said aqueous phase before any of said monomers are added.

2,974,130
METHOD OF CONTROLLING PRESSURE AND LIQUID LEVEL IN A VESSEL
Charles W. Moberly, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 22, 1954, Ser. No. 470,291
5 Claims. (Cl. 260—94.7)

5. A method of producing a hydrogenated rubber which comprises charging polybutadiene having a Mooney value (ML-4) at 212° F. of less than 40, and 2 to 30 weight percent, on an unreduced basis, of a nickel catalyst supported on kieselguhr together with methylcyclohexane as a diluent and hydrogen to a hydrogenation zone; withdrawing a stream containing hydrogenated rubber dissolved in said methylcyclohexane together with hydrogen to a confined zone; maintaining a pressure of 400 to 1000 pounds per square inch gauge and a temperature within the range of 300 to 600° F. in said hydrogenation zone and said confined zone; measuring the pressure of the vapor phase within said confined zone; withdrawing fluid from said confined zone through a confined path which originates at a third zone within



said confined zone, located intermediate the top and bottom of said confined zone, when the measured pressure exceeds a predetermined value; terminating flow of fluid through said confined path when the measured pressure becomes less than a predetermined value; and separating the fluid withdrawn through said confined path into a gaseous product and a liquid product in a fourth zone which is maintained at a pressure lower than that existing in said confined zone.

2,974,131
REMOVAL OF OLEFIN POLYMERS FROM SOLUTION
Norman F. McLeod, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 4, 1956, Ser. No. 607,864
10 Claims. (Cl. 260—94.9)

1. A process for precipitating solid olefin polymers from a heated solution thereof which comprises introducing a polymer solution to a confined precipitation zone containing an inert gas phase and having a surface wetted with moving water disposed to provide downward movement of said water, said water being at a temperature below the temperature of the polymer solution, spraying the polymer solution onto said wetted surface whereby polymer is precipitated and dispersed in the water and removing a mixture of polymer, water and solvent from the precipitation zone.

2,974,132
PURIFICATION OF POLYETHYLENE WITH ALKYLENE OXIDES
Bernhard Jacobi, deceased, late of Marl, Kreis Recklinghausen, Germany, by Margarete Jacobi, Irmgard Jacobi, Walter Jacobi, and Robert Jacobi, heirs, all of Marl, Kreis Recklinghausen, Germany, and Oswald Wolff, Marl, Kreis Recklinghausen, Germany, assignors to Chemische Werke Hüls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany
No Drawing. Filed Oct. 29, 1956, Ser. No. 619,882
Claims priority, application Germany Nov. 19, 1955
1 Claim. (Cl. 260—94.9)

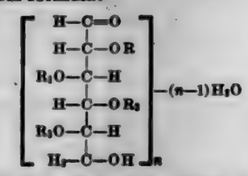
A process for the purification of a crude polyethylene polymerizate, obtained by contacting ethylene in a liquid aliphatic hydrocarbon reaction medium with a catalyst consisting essentially of triisobutyl aluminum and titanium tetrachloride under polymerizing conditions, which comprises contacting said crude polymerizate with an alkylene oxide selected from the group consisting of ethylene oxide and propylene oxide in order to deactivate said catalyst and then separating solid polyethylene from said polymerizate.

2,974,133
CATALYST OF HEAVY METAL COMPOUND AND POLYSILOXANE AND USE THEREOF IN OLEFIN POLYMERIZATION
Egon Wiberg and Robert Hartwimmer, Munich, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Feb. 25, 1959, Ser. No. 795,368
12 Claims. (Cl. 260—94.9)

7. A catalyst system for the polymerization of normally gaseous alpha-monoolefins consisting essentially of (1) titanium chloride and (2) methyl hydrogen polysiloxane.

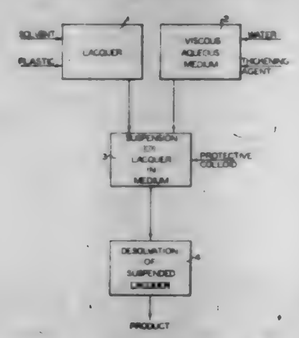
2,974,134
SURFACE ACTIVE GLUCOSE ETHERS
Ernest L. Pollitzer, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 2, 1957, Ser. No. 699,927
1 Claim. (Cl. 260—209)

A water-soluble surface active agent having the following empirical formula:



wherein R, R_1, R_2 and R_3 are selected from the group consisting of hydrogen and monovalent hydrocarbon containing at least six and not more than twenty carbon atoms and n is a whole number having a value of from 2 to 4, said surface active agent being further characterized in that at least one and less than all of said R, R_1, R_2 and R_3 is said monovalent hydrocarbon group, the total aggregate number of carbon atoms in said monovalent hydrocarbon radicals being not in excess of twenty per molecule.

2,974,135
METHOD OF MAKING PLASTIC PELLETS
Eugene A. Andrew, Berkeley, Mo., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Mar. 4, 1958, Ser. No. 718,975
6 Claims. (Cl. 260—223)



1. A process for the manufacture of substantially spherical particles of water insoluble organic material having a minimum diameter of about 0.04 inch comprising dissolving the organic material in a substantially water-immiscible solvent to form a lacquer, suspending bodies of the lacquer in an agitated aqueous liquid medium having a relative viscosity between about 5 and about 100 centipoise in the presence of a protective colloid, maintaining the suspension by agitation until the bodies become substantially spherical, removing the solvent from the suspended lacquer bodies while maintaining the viscosity of the liquid medium between about 5 and about 100 centipoise, and separating the particles from the suspending medium.

2,974,136
PENICILLIN SALTS
Erling Juhl Nielsen, Charlottenlund, Denmark, assignor to Løvens kemiske Fabrik ved A. Kongsted, Copenhagen, Denmark, a firm
No Drawing. Filed Jan. 3, 1956, Ser. No. 556,773
Claims priority, application Great Britain Oct. 19, 1955
2 Claims. (Cl. 260—239.1)

1. The salt $Pen_2Ca,2H_2O$, where Pen represents the phenoxymethyl penicillin ion:

$$C_6H_5—O—CH_2—C_9H_{10}N_2O_4S$$

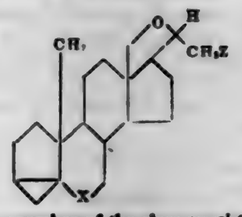
2,974,137
N^4-(BENZ- OR ANISYLIDENE)-N^1-(6-METHOXY-3-PYRIDAZINYL)-SULFANILAMIDES
Gilmer T. Fitchett, Dunellen, John E. Gordon, Middlesex, and Robert G. Shepherd, Ridgewood, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Feb. 3, 1958, Ser. No. 712,682
4 Claims. (Cl. 260—239.7)

1. N^4-benzylidene-N^1-(6-methoxy-3-pyridazinyl)-sulfanilamide.

4. N^4 - anisylidene-N^1-acetyl - N^1-(6-methoxy-3-pyridazinyl)-sulfanilamide.

2,974,138
18,20-EPOXYPREGNANES AND DERIVATIVES THEREOF
Raphael Pappo, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Apr. 13, 1960, Ser. No. 21,852
7 Claims. (Cl. 260—239.55)

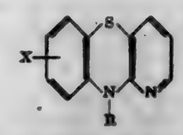
1. A compound of the formula



wherein X is a member of the class consisting of carbonyl and hydroxymethylene groups and Z is selected from the group consisting of hydrogen and iodo radicals.

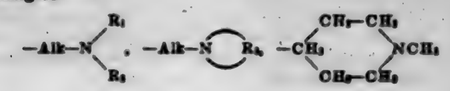
2,974,139
THIOPHENYLPYRIDYL AMINES
Wilhelm A. Schuler, Bad Homburg, and Hans Klabe, Gelnhausen, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed Sept. 30, 1955, Ser. No. 537,896
Claims priority, application Germany Oct. 2, 1954
6 Claims. (Cl. 260—243)

1. A thiophenylpyridyl amine compound of the general formula

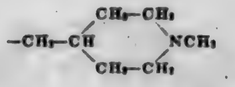


wherein X is selected from the group consisting of hy-

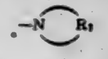
drogen and chlorine, R is selected from the group consisting of



and



in which Alk is lower alkylene, R_1 and R_2 are lower alkyl radicals and



is selected from the group consisting of piperidino, pyrrolidino and morpholino radicals.

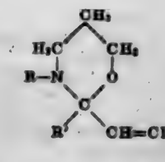
2,974,140

SUBSTITUTED 2-ALKENYLTETRAHYDRO-1,3-OXAZINES

Willard J. Croxall, Elkhart, Ind., and Jack H. Mellema, Holland, Mich., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Mar. 4, 1959, Ser. No. 797,828
7 Claims. (Cl. 260—244)

1. A substituted alkenyltetrahydro-1,3-oxazine having the formula



wherein R is a substituent selected from the group consisting of lower alkyl and lower phenalkyl groups; R′ is a substituent selected from the group consisting of hydrogen and lower alkyl groups and R″ is a substituent selected from the group consisting of hydrogen and lower alkenyl groups.

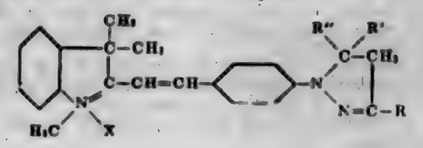
2,974,141

P-(3-PYRAZOLIN-1-YL) STYRYL DYES

Arnold F. Pfau, Albany, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 17, 1958, Ser. No. 780,916
6 Claims. (Cl. 260—249.9)

1. The styryl dye of the formula:



wherein R and R′ represent a member selected from the class consisting of lower alkyl, phenyl and naphthyl groups and these mono-substituted by a member selected from the class consisting of halogen, lower alkoxy, lower dialkylamino, nitro, cyano, sulfonamido, methyl sulfonamido, dimethyl sulfonamido, morpholino and piperidino, R″ represents a member selected from the class consisting of hydrogen R and R′, and X represents an inorganic anion suitable for dyeing.

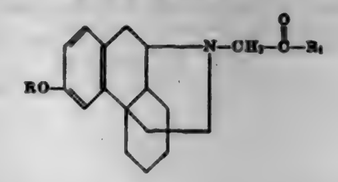
2,974,142

MORPHINAN DERIVATIVES

André Grüssner, Joseph Hellerbach, and Otto Schnider, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed May 5, 1958, Ser. No. 732,827
Claims priority, application Switzerland May 9, 1957
12 Claims. (Cl. 260—285)

1. A compound selected from the group consisting of those represented by the formula



wherein R represents a member of the group consisting of hydrogen, lower alkyl and lower alkanoyl and R_1 represents a member of the group consisting of phenyl, hydroxyphenyl, lower alkylphenyl, lower alkoxyphenyl, lower alkoxy-lower alkylenephenyl, lower alkylenedioxyphenyl, lower alkylmercaptophenyl, nitrophenyl, aminophenyl, lower alkylaminophenyl, dilower alkylaminophenyl and lower alkanoyl-aminophenyl,

and pharmaceutically acceptable acid addition salts thereof.

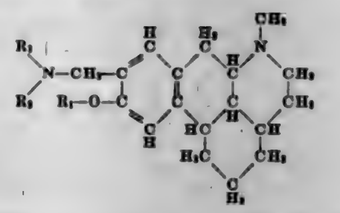
2,974,143

DIBENZO [de,g] QUINOLINE COMPOUNDS

Robert August Schmidt, Wallington, and Wilhelm Wenner, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 26, 1958, Ser. No. 776,396
9 Claims. (Cl. 260—286)

1. A compound selected from the group consisting of bases represented by the structural formula



wherein R_1 represents a member of the group consisting of hydrogen and lower alkyl and R_2 and R_3 each represents a member of the group consisting of lower alkyl and phenyl lower alkyl individually, and oxypolymethylene and polymethylene jointly in a saturated 5 to 6 membered monocyclic nitrogen monoheterocyclic together with the nitrogen atom to which R_2 and R_3 are attached,

and medicinally acceptable acid addition salts, lower alkyl quaternary and phenyl lower alkyl quaternary salts of said bases.

2,974,144

ALKALOID AND PROCESS FOR ITS PRODUCTION

Merle W. Klohs, Northridge, and Marshall D. Draper and Fred Keller, Los Angeles, Calif., assignors to Riker Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Apr. 2, 1954, Ser. No. 420,754
17 Claims. (Cl. 260—287)

1. A process for the preparation of the 3,4,5-trimethoxycinnamic ester of methyl reserpate substantially free from reserpine, which comprises extracting an aqueous acidic extract of a plant material of the Rauwolfia species with a substantially water-immiscible non-polar organic solvent, removing the organic solvent, dissolving the residue in aqueous acid, removing the major portion of the reserpine present from the resulting solution, removing the solvent, and finally crystallizing the 3,4,5-trimethoxycinnamic ester of methyl reserpate from a water-immiscible non-polar organic solvent.

12. In a process for obtaining an extract consisting of the weakly basic alkaloids of Rauwolfia plant material, the improvement which comprises wetting the Rauwolfia plant material with water under conditions varying from neutral to dilutely acidic and thereafter treating the so wetted plant material with a non-polar organic solvent to obtain said extract containing the weakly basic alkaloids.

2,974,145

PROCESS FOR RACEMIZING L 1-(p-METHOXY-BENZYL)-2-METHYL-1,2,3,4,5,6,7,8-OCTAHYDRO-ISOQUINOLINE

Nathan Chadwick Hindley, Welwyn Garden City, England, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 21, 1958, Ser. No. 775,363
Claims priority, application Great Britain Nov. 29, 1957
1 Claim. (Cl. 260—289)

A process of racemizing L 1-(p-methoxy-benzyl)-2-methyl-1,2,3,4,5,6,7,8-octahydroisoquinoline which comprises heating the same, dissolved in a liquid medium consisting essentially of methanol, to a temperature of 100 to 170° C. and under a hydrogen pressure of about 30 to 40 atmospheres in the presence of a catalyst consisting essentially of copper deposited on a Raney cobalt substrate.

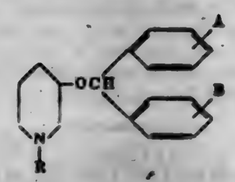
2,974,146

3-PIPERIDYL BENZHYDRYL ETHERS

John H. Biel, Milwaukee, Wis., assignor, by mesne assignments, to Lakeside Laboratories, Inc., Milwaukee, Wis., a corporation of Delaware

No Drawing. Filed Feb. 24, 1956, Ser. No. 567,446
7 Claims. (Cl. 260—294.7)

1. A compound of the formula



wherein R is a member of the group consisting of hydrogen, lower alkyl, phenyl-lower alkyl, formyl, acetyl, propionyl and benzoyl, and A and B are members of the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy, and the salts thereof of the group consisting of the hydrochloride, sulfate, formate, acetate, citrate, maleate, fumarate, phosphate, tartrate, benzoate, cinnimate, succinate, mandelate, methyl bromide, methyl sulfate, benzyl chloride, propargyl bromide and methyl iodide.

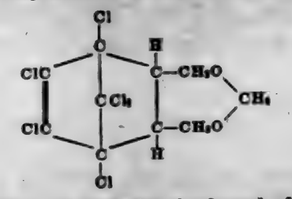
2,974,147

2-BUTENEDIOL(1,4) WITH HEXACHLOROCYCLIC-PENTADIENE AND SUBSEQUENT ACETAL-FORMATION BY MEANS OF FORMALDEHYDE

Franz Marschall, Easton, Pa., and Raymond L. Mayhew, Phillipsburg, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 2, 1958, Ser. No. 777,588
3 Claims. (Cl. 260—340.3)

1. The formal of the adduct of 2-butenediol(1,4) with hexachlorocyclopentadiene having the following formula:



2. The process of preparing the formal of the adduct of 2-butenediol(1,4) with hexachlorocyclopentadiene which comprises condensing 1 mole of said adduct with 1 mole of formaldehyde in the presence of ferric chloride and dioxane as a solvent diluent and recovering the said formal.

2,974,148

ANOREXIGENIC PREPARATION AND METHOD OF CURBING THE APPETITE

Leonard Cook, Abington, and Edwin J. Fellows, Glenside, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 30, 1959, Ser. No. 802,635
1 Claim. (Cl. 260—340.5)

Optically active *l*-2-amino-1-(3,4-methylenedioxyphenyl)-propane *l*-menthoxyacetic acid salt.

2,974,149

CONDENSATION OF ETHERS WITH POLY-CHLOROOLEFINS

Louis Schmerling, Riverside, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 21, 1957, Ser. No. 697,790
4 Claims. (Cl. 260—349.6)

1. A compound selected from the group consisting of 2-(2-chlorovinyl)-1,4-dioxane, 2-(2-dichlorovinyl)-1,4-dioxane, 2-(1,2-dichloropropenyl)-1,4-dioxane, 2-(2-chloropropenyl)-1,4-dioxane, 2-(2-chloro-2-fluorovinyl)-1,4-dioxane, and 2-(2-chloro-3,3-difluoropropenyl)-1,4-dioxane.

2,974,150

ETHYLENE OXIDATION

Willard J. McClements, Hopewell, and Richard C. Datin, Petersburg, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Feb. 20, 1959, Ser. No. 794,743
5 Claims. (Cl. 260—348.5)

1. A process for production of ethylene oxide which comprises passing a gas mixture containing 0.25–3% C_2H_4, 1.0–4.5% O_2 with the remainder inert gas, through an elongated tube of small diameter of about 1–2 inches packed with low flow resistance silver-alkaline earth metal alloy catalyst at a space velocity of 14,000–25,000 $hr.^{-1}$ under high superatmospheric pressure above 100 to 300 p.s.i.g. and a temperature within the range of 175–230° C. and maintaining said conditions of space velocity, temperature, pressure and concentration of C_2H_4 and O_2 for a period of about 15–30 hours to effect conditioning of the catalyst, thereafter increasing the concentration of ethylene and oxygen during the next 40–60 hours to about 3.5–5.5% and 4.5–8.0%, respectively, then increasing the temperature to above 230° C. to

about 300° C., and maintaining the operation under said conditions of higher temperature within the range of 230–300° C. and higher concentration of reactants within the range of 3.5–5.5% ethylene and 4.5–8.0% oxygen.

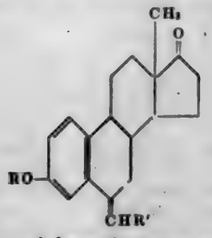
2,974,151

6-ALKYLIDENESTRA-1,3,5(10)-TRIENE-3,17β-DIOLS AND DERIVATIVES THEREOF

Norman W. Atwater, Arlington Heights, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 31, 1960, Ser. No. 18,878
7 Claims. (Cl. 260—397.4)

1. A compound of the structural formula



wherein R is selected from the group consisting of hydrogen, lower alkyl, and lower alkanoyl radicals; and R' is selcted from the group consisting of hydrogen and lower alkyl radicals.

2,974,152

PREPARATION AND ISOLATION OF ALKALI METAL AND AMMONIUM SULFONATES OF LONG CHAIN CARBOXYLIC ACIDS

Heinz Schulze and Stanley P. Popeck, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 26, 1956, Ser. No. 580,728
6 Claims. (Cl. 260—400)

1. In the process of producing α-sulfocarboxylic acids by treating with a sulfonating agent, a carboxylic acid of the formula:

R—COOH

in which R is an alkyl group of at least 6 carbon atoms, the improvement which comprises isolating the resulting sulfocarboxylic acid as a sulfonate selected from the class consisting of alkali metal and ammonium sulfonates by adding to the crude reaction mixture an aqueous solution of a salt selected from the class consisting of alkali metal and ammonium chloride and isolating the resulting solid product.

2,974,153

PROCESS OF PREPARING SALT-FREE N-ACYL TAURINES

Fred J. Gajewski, Westfield, and Leslie M. Schenck, Mountainside, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 30, 1958, Ser. No. 783,680
16 Claims. (Cl. 260—401)

1. A process comprising intimately mixing an aqueous slurry containing (A) an N-higher acyl taurine of the formula R'CONR"—CHR—CHR—SO_3M wherein one R is selected from the group consisting of H and methyl and the other R is H, R" is selected from the group consisting of H, phenyl, alkyl radicals of 1 to 6 carbon atoms, and cyclohexyl, R' is selected from the group consisting of aliphatic and alicyclic hydrocarbon radicals of 7 to 23 carbon atoms, and M is selected from the group consisting of H, alkali metal, alkaline earth metal, ammonium and amino, and (B) a water soluble salt selected from the group consisting of the alkali metal chlorides and sulfates, with a water insoluble compound (C) selected from the group consisting of aliphatic and alicyclic monocarboxylic acids of 8 to 24 carbon atoms and their esters in an amount and at a temperature sufficient to form a compatible liquid solvent system with said taurine (A), allowing the resulting mixture to settle into a lower aqueous phase and an upper oil phase containing said solvent system, and then separating said aqueous phase from said oil phase at a temperature above the solidification point of said solvent system.

2,974,154

PROCESS OF PREPARING SALT-FREE N-ACYL TAURINES

Leslie M. Schenck, Mountainside, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 30, 1958, Ser. No. 783,681
12 Claims. (Cl. 260—401)

1. A process comprising adding to an aqueous slurry containing (A) an N-higher acyl taurine of the formula

R'CONR"—CHR—CHR—SO_3M

wherein one R is selected from the group consisting of H and methyl and the other R is H, R" is selected from the group consisting of H, phenyl, alkyl radicals of 1 to 6 carbon atoms, and cyclohexyl, R' is selected from the group consisting of aliphatic and alicyclic and hydrocarbon radicals of 7 to 23 carbon atoms, and M is selected from the group consisting of H, alkali metal, alkaline earth metal, ammonium and amino, and (B) a water soluble salt selected from the group consisting of the alkali metal chlorides and sulfates, a water insoluble compound C selected from the group consisting of aliphatic and alicyclic monocarboxylic acids of 8 to 24 carbon atoms and their esters in an amount sufficient to form a compatible solvent system with said taurine A, heating the resulting mixture to distill off the water, and then separating the crystallized salt B from the mixture at a temperature above the solidification point of the A and C solvent system.

2,974,155

PROCESS FOR THE PRODUCTION OF UNSATURATED COMPOUNDS

Karl Eiter and Ernst Treuheit, Leverkusen-Bayerwerk, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 15, 1958, Ser. No. 767,280
Claims priority, application Germany Oct. 18, 1957
12 Claims. (Cl. 260—465.5)

1. Process for the production of unsaturated compounds which comprises reacting a compound which is a member selected from the group consisting of the vitamin A, carotene and polyene series, said compound containing a tertiary hydroxyl group with an N-halogen compound selected from the group consisting of N-halogen monoamides and diamides of aliphatic monocarboxylic acids containing up to six carbon atoms and N-halo-imides of aliphatic and aromatic dicarboxylic acids.

2,974,156

METHOD FOR STABILIZATION OF MANGANESE SALTS OF ALKYLENE BISDITHIOCARBAMIC ACIDS AND THE PRODUCTS THEREOF

Raymond J. Sobatzki, Glenside, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Aug. 29, 1958, Ser. No. 757,939
5 Claims. (Cl. 260—429)

1. A composition resistant to decomposition on ageing comprising manganese ethylene bisdithiocarbamate having intimately admixed therewith a stabilizing amount of hexamethylene tetramine.

2,974,157

CYCLOPENTADIENYL VINYL SILANES AND PROCESS FOR MAKING SAME

Victor B. Jex, Buffalo, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 4, 1954, Ser. No. 447,911
7 Claims. (Cl. 260—448.8)

1. As new compositions, the cyclopentadienyl vinyl silanes of the formula

$(CPD)_mR_nSiX_{4-m-n}$

wherein CPD is a cyclopentadienyl radical, R is a vinyl radical and X is selected from the group consisting of chloro and ethoxy, m has the values 1, 2 and 3, n has the values 1, 2, and 3, and $m+n$ equals, at most, 4.

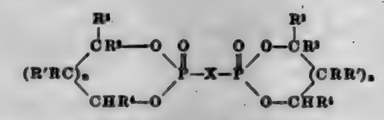
2,974,158

PREPARATION OF BI-HETEROCYCLIC PHOSPHORUS CONTAINING COMPOUNDS

William M. Lanham, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 2, 1953, Ser. No. 346,525
18 Claims. (Cl. 260—461)

1. Phosphrous-containing compounds of the general formula



wherein R, R', R_3, R_3 and R_4 represent, respectively, a radical selected from the class consisting of hydrogen and the lower alkyl groups; and X designates a divalent substituted-hydrocarbon residue having two terminal oxy groups respectively connected with different phosphorus atoms, said residue being selected from the class consisting of the divalent residues having two terminal oxy atoms and selected from the class consisting of the residues of the following: the alkylene glycols having up to 18 carbon atoms, the polyethylene glycols having up to 18 carbon atoms, the dipropylene glycols, the dihydric phenols, the biphenols, and the diphenylolalkanes and ditolylolalkanes having 1 to 10 carbon atoms in the alkane group; and n is of the class consisting of 0 and 1.

2. Process which comprises reacting a compound selected from the class consisting of the unsubstituted and the heterocyclic ring lower alkyl-substituted 2-halo-2-oxo-1,3,2-dioxaphospholanes and the unsubstituted and the heterocyclic ring lower alkyl-substituted 2-halo-2-oxo-1,3,2-dioxaphosphorinanes with a difunctional organic compound selected from the class consisting of the alkylene glycols having up to 18 carbon atoms, the polyethylene glycols having up to 18 carbon atoms, the dipropylene glycols, the dihydric phenols, the biphenols, and the diphenylolalkanes and ditolylolalkanes having 1 to 10 carbon atoms in the alkane group, and the alkali metal salts of said difunctional compounds.

2,974,159

PRODUCTION OF PRIMARY-2-HYDROXYETHYLPHOSPHITE

Marvin Koral, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 10, 1959, Ser. No. 819,237
6 Claims. (Cl. 260—461)

1. A process for the production of primary-2-hydroxyethylphosphite which comprises reacting phosphorus trichloride and ethylene glycol in the proportion of at least 2 mols of ethylene glycol per mol of phosphorus trichloride by adding the phosphorus trichloride to the ethylene glycol at a temperature below about 80° C. and maintaining the reaction mixture for a sufficient period of time to effect reaction of the phosphorus trichloride and ethylene glycol to produce primary-2-hydroxyethylphosphite.

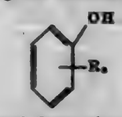
2,974,160

CYANOETHYLATION PROCESS

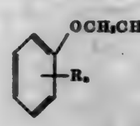
Samuel Allen Heininger, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 11, 1957, Ser. No. 701,965
10 Claims. (Cl. 260—465)

1. The method which comprises heating acrylonitrile with a phenol having the formula



in which R is selected from the class consisting of hydrogen, alkyl radicals of from 1 to 18 carbon atoms and halogen, and n is a number of from 1 to 3, in the presence of a catalyst comprising a copper compound selected from the class consisting of copper oxides and hydroxides and copper salts of an acid selected from the class consisting of alkanoic acids and aromatic carboxylic acids of from 1 to 18 carbon atoms, at a temperature of from approximately 80° C. to refluxing, and recovering from the resulting reaction product an ether-nitrile of the formula



in which R and n are as herein defined.

2,974,161

OLEFIN OXIDATION WITH A SOLID CALCINED CATALYST

Willis C. Keith, Lansing, and Emmett H. Burk, Jr., Hazel Crest, Ill., and Carl D. Keith, Summit, N.J., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 25, 1958, Ser. No. 730,831
5 Claims. (Cl. 260—491)

1. In a method for the oxidation of an olefin hydrocarbon of 2 to 18 carbon atoms, the steps comprising contacting said olefin at a temperature of about 50 to 300° C. and a pressure sufficient to maintain the liquid phase and in the presence of molecular oxygen with a calcined solid oxidation catalyst containing a material selected from the group consisting of the silicates and aluminates of promoting metals having an atomic number of 24 to 28, said catalyst being obtained by calcination of a catalyst precursor prepared by the coprecipitation of a catalytic amount of said promoting metal with a solid inorganic base, in hydrated form, selected from the group consisting of alumina and silica, said calcination being at a temperature of about 250 to 700° C. for a time sufficient to remove the predominant amount, but not all, of the water of hydration.

4. In a method for the oxidation of allyl acetate to glycerine esters, the steps comprising contacting said allyl acetate at a temperature of about 50 to 300° C. and a pressure sufficient to maintain the liquid phase and in the presence of molecular oxygen with a calcined solid oxidation catalyst containing a material selected from the group consisting of the silicates and aluminates of promoting metals having an atomic number of 24 to 28, said catalyst being obtained by calcination of a catalyst precursor prepared by the coprecipitation of a catalytic amount of said promoting metal with a solid inorganic

base, in hydrated form, selected from the group consisting of alumina and silica, said calcination being at a temperature of about 250 to 700° C. for a time sufficient to remove the predominant amount, but not all, of the water of hydration.

2,974,162

METHOD OF MANUFACTURE OF CYCLOPENTENOPHENANTHRENE COMPOUNDS

Curtis W. De Walt, Jr., and Chester S. Sheppard, Wilkins Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Oct. 21, 1958, Ser. No. 768,538

2 Claims. (Cl. 260—515)

1. A method of producing 1'-keto-3'-carboxy-9,10-cyclopentenophenanthrene which comprises bringing phenanthrene into contact with maleic anhydride at a ratio of from ⅓ to 3 moles of anhydride per mole of phenanthrene, at a temperature between 0 and 100° C., in the presence of from 2 to 4 moles of a Friedel-Crafts condensing agent per mole of phenanthrene and acidifying the reaction mixture thereby precipitating 1'-keto-3'-carboxy-9,10-cyclopentenophenanthrene.

2,974,163

PRODUCTION OF PARA-CHLOROPHENYL CARBAMYL CHLORIDE

Frank M. Julian and Howard T. Siefen, Pasadena, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 11, 1958, Ser. No. 754,453

3 Claims. (Cl. 260—544)

1. The process comprising continuously (*a*) introducing into a reaction zone phenyl isocyanate in an inert organic solvent and from 80% to 98% of the theoretical amount of chlorine required to react with all of said phenyl isocyanate, (*b*) maintaining said reaction zone at a temperature below about 15° C. throughout said process while contacting said phenyl isocyanate and said chlorine with a catalytic amount of a chlorination reaction catalyst selected from the group consisting of iodine, ferric chloride, antimony trichloride, antimony pentachloride and stannic chloride, (*c*) moving said phenyl isocyanate and said chlorine through said reaction zone at a velocity greater than 5 ft./sec., (*d*) recycling back into said reaction zone an amount of the materials leaving said reaction zone, said amount being recycled being sufficient to reintroduce into said reaction zone at least half as much unchlorinated phenyl isocyanate as is initially introduced into said reaction zone, (*e*) drawing off a portion of the material leaving said reaction zone, and (*f*) combining said portion with additional chlorine in an amount from 2% to 20% of the theoretical amount of chlorine required to react with all of said phenyl isocyanate, said additional chlorine amount being sufficient to complete the chlorination of said phenyl isocyanate.

2,974,164

PREPARATION OF p-TOLUENESULFONYL ISOCYANATE

John E. Franz, Crestwood, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 24, 1958, Ser. No. 769,290

5 Claims. (Cl. 260—545)

1. A method of preparing p-toluenesulfonyl isocyanate comprising reacting p-toluenesulfonyl chloride and an alkali metal cyanate at a temperature of 150–250° C. in the presence of a highly polar compound of the class consisting of nitrobenzene, nitrotoluene, nitroxylene, dinitrobenzene, nitrochlorobenzene, nitrobiphenyl, nitronaphthalene, nitropyridine, nitroquinoline, benzonitrile, and naphthonitrile.

2,974,165

METHOD FOR PRODUCING STABLE MATERIALS CONTAINING BORON-BORON BONDS

Robert J. Brotherton and Howard Steinberg, Fullerton, and Allen L. McCloskey, Orange, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Feb. 4, 1959, Ser. No. 791,843

4 Claims. (Cl. 260—551)

1. The method of producing compounds having boron-boron bonds which comprises the reaction of a diaminohaloborane with a metal having a continuously available clean, active surface, said metal selected from the group consisting of the alkali metals, sodium-potassium alloys, and sodium amalgam, as follows:

$$2(R_2N)_2BX+2M\rightarrow(R_2N)_2B\text{-}B(NR_2)_2+2MX$$

where M is the active metal, X is a halogen and R is a material selected from the group consisting of hydrogen alkyl groups of from 1–6 carbon atoms and aryl groups.

2,974,166

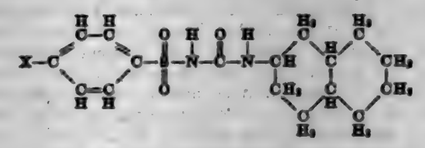
CERTAIN 1-ARYLSULFONYL-3-(CIS-1-DECALYL)UREAS

John Alfred Aeschlimann, Montclair, and Arthur Stempel, Teaneck, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 15, 1959, Ser. No. 840,014

8 Claims. (Cl. 260—553)

1. A compound represented by the formula



wherein X represents a member selected from the group consisting of hydrogen, methyl, chlorine and bromine, and the hydrogen atoms attached to the two carbon atoms at the ring junction are in cis relationship to each other.

2,974,167

ACTIVE DERIVATIVES OF THE TETRACYCLINE ANTIBIOTICS

Charles R. Stephens, Jr., Niantic, Conn., assignor to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 26, 1958, Ser. No. 717,554

10 Claims. (Cl. 260—559)

1. The process which comprises reacting in a substantially non-aqueous inert solvent a tetracycline antibiotic selected from the group consisting of tetracycline, oxytetracycline, chlortetracycline, the mineral acid addition salts thereof, the p-toluenesulfonic salts thereof, the alkali metal salts thereof, the calcium salts thereof, and the barium salts thereof with at least one molecular proportion of a carbonyl compound to obtain the 1:1 adduct of said tetracycline antibiotic and said carbonyl compound, said carbonyl compound being selected from the group consisting of chloral, glyoxal, bromal, 1,2,3-indanetrione, diacetyl, acetyl cyanide, ethyl pyruvate, pyruvaldehyde, benzoyl cyanide, phenylglyoxal, ethyl phenylpyruvate, diethyl oxaloacetate, ethyl 4-nitrophenylpyruvate, 5-nitrofurfural, and 2-methyl-3-formylquinoxaline-1,4-dioxide, the temperature of reaction being from about 15° to about 85° C. and the time of reaction being up to about 100 hours.

2,974,168

PROCESS FOR MAKING METHYLENEDIANILINE

Dexter B. Sharp, Vandalia, and Floyd B. Erickson, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 19, 1955, Ser. No. 535,260

1 Claim. (Cl. 260—570)

The process of preparing 4,4'-methylenedianiline which comprises reacting at least 2 moles of aniline with 1 mole of formaldehyde, distilling the methylenedianiline from the resulting product, separating some material boiling higher than methylenedianiline from other residue by distillation, adding this higher boiling material to another charge of aniline, adding formaldehyde to the resulting mixture, and heating to form the methylenedianiline.

2,974,169

PARA-AMINO DIPHENYLAMINE

Thomas H. Newby, Middlebury, and Byron A. Hunter, Waterbury, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 31, 1957, Ser. No. 693,562

4 Claims. (Cl. 206—576)

1. In a process of producing p-amino diphenylamine from p-nitroso diphenylamine the improvement which consists in reducing an alkali-metal salt of p-nitroso diphenylamine to p-amino diphenylamine with hydrogen while the said metal salt is dissolved in water, and while agitated with a hydrogenation catalyst.

2,974,170

PREPARATION OF NUCLEARLY UNSATURATED IONONES AND INTERMEDIATES THEREFOR

Walter Kimel, Highland Park, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 16, 1959, Ser. No. 787,099

6 Claims. (Cl. 260—587)

1. 6,10-dimethyl-4,6,9-undecatrien-2-one.

5. A method for the preparation of a nuclearly unsaturated ionone which comprises treating a compound selected from the group consisting of 6,10-dimethyl-4,6,9-undecatrien-2-one and 6,9,10-trimethyl-4,6,9-undecatrien-2-one with phosphoric acid.

2,974,171

PROCESS OF PREPARING 2,6-DI-TERT-BUTYL-4-BENZOYL PHENOL

Thomas H. Coffield, Farmington, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 18, 1957, Ser. No. 703,501

2 Claims. (Cl. 260—591)

1. Process for the preparation of 2,6-di-tert-butyl-4-benzoyl phenol which comprises reacting the sodium salt of 2,6-di-tert-butyl phenol with a benzoyl halide.

2,974,172

PREPARATION OF AROMATIC KETONES

John P. Lavisi, Park Ridge, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,152

10 Claims. (Cl. 260—592)

1. A process for the preparation of an aromatic ketone which comprises reacting a lower alkyl benzene hydrocarbon with an alkane nitrile in the presence of a Friedel-Crafts catalyst and anhydrous hydrogen chloride, hydrolyzing the resultant compound, and recovering the resultant alkyl phenyl ketone.

2,974,173

ACETALDEHYDE MANUFACTURE

Robert B. Long, Wenonah, Carl E. Heath, Jr., Nixon, and Victor Kevorkian, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 24, 1959, Ser. No. 794,821

8 Claims. (Cl. 260—604)

1. A process for producing acetaldehyde which comprises reacting ethane in a vapor-phase noncatalytic system with from 0.15 to 2.0 moles of oxygen per mole of ethane and further in the presence of 0.05 to 8 volume percent ozone based on oxygen at a temperature between about 200–700° F.

2,974,174

SOLVENT EXTRACTION PROCESS

Gilbert L. Edmisten, Ponca City, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 3, 1958, Ser. No. 771,258

5 Claims. (Cl. 260—631)

1. A process for separating cyclic alcohols from admixture with the corresponding cyclic ketones, wherein said alcohols and ketones are selected from the group consisting of cyclohexanone, cyclohexanol, cyclopentanone, cyclopentanol and alkyl derivatives of same containing not more than 2 carbon atoms in the alkyl substituent, which comprises intimately contacting said mixture with a mixture of from about 50 to about 70 weight percent of water and from about 30 to about 50 weight percent of a polyhydroxyl alcohol selected from the group consisting of ethylene glycols having not more than 4 ethylene groups per molecule, monomethyl ethers of said glycols, monoacetic-esters, and monoformic-esters of said glycols, at a temperature in the range of about 100 to about 135° F.; recovering an extract phase comprising solvent and cyclic alcohol; and recovering said cyclic alcohol from said solvent.

2,974,175

PROCESS OF PRODUCING ALCOHOL OF IMPROVED ODOR FROM ETHER HYDRATION

Rhea N. Watts, St. Francisville, and Ralph Burgess Mason, Denham Springs, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 29, 1958, Ser. No. 764,040

3 Claims. (Cl. 260—632)

1. In a process for producing ethanol from diethyl ether which comprises passing a feed stream of diethyl ether and water under superatmospheric pressures over a hydration catalyst at temperatures in the range of 350° to 800° F., the improvement which comprises dividing said feed stream into a first portion and a second portion, passing said first portion over said catalyst at said temperatures and pressures in a reaction zone, recovering from said reaction zone a vaporous catalytic hydration product containing ethanol, diethyl ether, water and polymeric hydrocarbon impurities, cooling said product to form an ether-rich phase and an alcohol-rich aqueous phase containing traces of said impurities, separating said alcohol-rich phase from said ether-rich phase, admixing said alcohol-rich aqueous phase and said second portion of said feed stream in a ratio of about 10:1 to 10:4 in an ether extraction zone, removing an ether extract from said extraction zone containing said trace

impurities and recovering an aqueous ethanol bottoms from said extraction zone essentially free of said polymeric hydrocarbon impurities.

2,974,176

DIMERIZATION OF CONJUGATED DIENES

Paul F. Warner, Phillips, Tex., and James D. Maxwell, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 5, 1957, Ser. No. 676,434
7 Claims. (Cl. 260—666)

1. A process for dimerizing lower acyclic dienes which comprises subjecting a lower acyclic conjugated diene to dimerizing conditions of temperature and pressure in the presence of a substantial amount of diluent consisting essentially of material selected from the group consisting of a branched-chain paraffinic hydrocarbon and mixtures of such hydrocarbons substantially free of aromatics and boiling in the range of 270 to 800° F.

2,974,177

SEPARATION OF A DRYING OIL AND PURE CYCLOPENTENE FROM A MIXTURE OF PIPERYLENE AND CYCLOPENTENE BY POLYMERIZATION

Paul F. Warner and Danny P. Sims, Phillips, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 19, 1959, Ser. No. 794,232
5 Claims. (Cl. 260—666)

2. The method of simultaneously producing essentially pure cyclopentene and a drying oil from a mixture consisting essentially of cis and trans piperylenes and cyclopentene which comprises contacting said mixture with a sodium dispersion polymerization catalyst under polymerization conditions for a time sufficient to convert the piperylenes substantially to polymers and separating the reaction product into an essentially pure cyclopentene fraction and a piperylene polymer containing drying oil fraction.

2,974,178

LIQUID ENRICHMENT AND/OR SEPARATION BY ABSORPTION PROCESSES

Jesse C. H. Hwa, Levittown, Charles H. McBurney, Huntingdon Valley, and Erich F. Meitzner, Glenside, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 15, 1956, Ser. No. 615,779
45 Claims. (Cl. 260—674)

2. A method for concentrating a component of a homogeneous mixture consisting of at least two substantially non-ionogenic liquids, at least one of which is organic, which method comprises contacting with such mixture a resin absorbent which will absorb an organic liquid in preference to water from a mixture of the two, said resin comprising a particulate addition copolymer of a mixture of about one to about thirty mole percent of at least one polyethylenically unsaturated cross-linking agent with at least one copolymerizable monoethylenically unsaturated monomer, which copolymer is insoluble in the liquid mixture and is preferentially swollen by an organic component of the mixture and thereby has a preferential absorptive capacity for that component of the mixture, and subsequently removing from the copolymer, the liquid absorbed thereon.

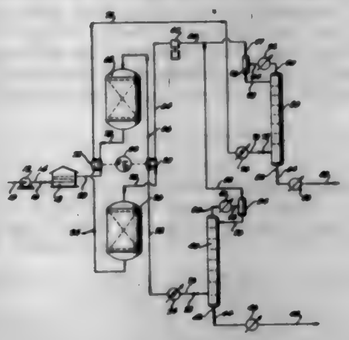
13. A process as defined in claim 2 in which the liquid mixture consists of hydrocarbons, at least one being aromatic and at least one being paraffinic.

2,974,179

SEPARATION OF STRAIGHT CHAIN HYDROCARBONS WITH ZEOLITIC MOLECULAR SIEVES AND H_2S DESORBENT

Raymond N. Fleck, Whittier, and Carlyle G. Wight, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Feb. 3, 1958, Ser. No. 712,869
17 Claims. (Cl. 260—676)



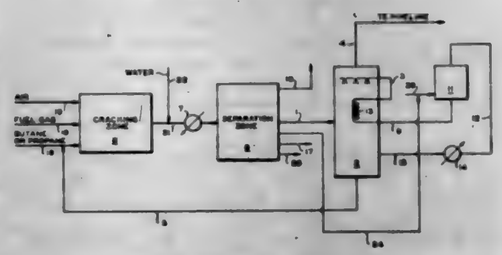
1. The process for separating straight chain hydrocarbons containing from about 4 to about 12 carbon atoms from a hydrocarbon mixture comprising the same, which process comprises (1) contacting said mixture in the vapor phase with a solid granular adsorbent consisting essentially of a partially dehydrated zeolitic metallo alumino silicate having pores of a substantially uniform diameter between about 4.5 A. and about 5.5 A., said contacting being effected at a temperature between about 0° F. and about 700° F., whereby there is obtained a raffinate product lean in said straight chain hydrocarbons and a rich adsorbent comprising said silicate having said straight chain hydrocarbons adsorbed therein; (2) contacting said rich adsorbent with a displacement exchange fluid essentially comprising hydrogen sulfide whereby there is obtained an extract product comprising said straight chain hydrocarbons and said exchange fluid; and (3) treating said extract product to separate said straight chain hydrocarbons therefrom.

2,974,180

PRODUCTION AND PURIFICATION OF ACETYLENE

Robert A. Koble and Joseph R. Cobb, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 10, 1957, Ser. No. 701,826
33 Claims. (Cl. 260—679)



32. An apparatus suitable for separating acetylene contained in gases also containing gases higher boiling than acetylene which comprises in combination an absorber column, comprising a contact chamber, a conduit for feeding gases to a mid-portion of said chamber, a conduit for removing overhead gases from said chamber, a conduit for removing enriched absorbent from the foot of said chamber, a tank for vaporizing liquid normally gaseous hydrocarbon, a conduit communicating with the upper end of said tank and with the inside of the lower portion of said chamber, below the point of feed of said gases for introducing vaporized normally gaseous hydrocarbon as a stripping vapor to said chamber, a cooling coil located in said chamber at a mid-point thereof, means for passing cooled liquid hydrocarbon from said tank into said cooling coil, comprising a conduit communicating with the lower end of said tank and with said cooling coil and means for passing liquid and vaporous hydrocarbon from within said cooling coil into the top of said chamber.

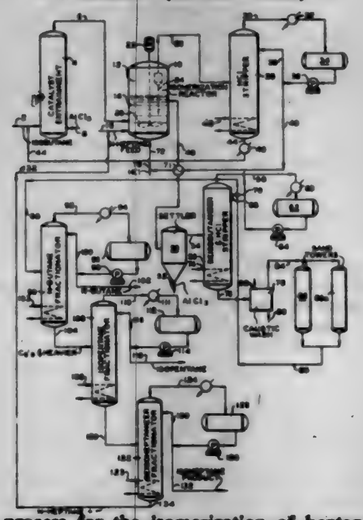
33. A method for the purification of acetylene-containing gases to produce acetylene free from gases higher boiling than acetylene, such as methyl and heavier acetylene, obtaining the acetylene in condition for pipeline transportation, which comprises feeding said gases to an intermediate point of an absorption column, passing said gases in said column upwardly in countercurrent flow with a downwardly flowing liquefied, normally gaseous hydrocarbon absorbent, maintaining the top of said column at a temperature under existing pressure such that a portion of said absorbent will leave the top of the column as a gas together with purified acetylene also taken from the top of said tower; maintaining a mid-portion of said column cooler than the top of said column; and removing from the bottom of said column said absorbent enriched with gases higher boiling than acetylene.

2,974,181

HYDROCARBON ISOMERIZATION USING A VAPORIZED CATALYST

Robert A. Findlay, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 18, 1958, Ser. No. 755,455
3 Claims. (Cl. 260—683.7)



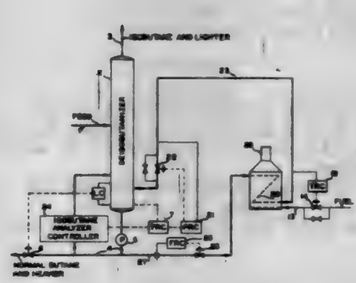
1. A process for the isomerization of heptane which comprises dissolving aluminum chloride in isobutane at a temperature between about 100 and about 300° F., introducing the solution to a reaction zone of substantially constant reduced pressure containing normal heptane, below the liquid level of said normal heptane, whereby isobutane is vaporized, the reaction zone temperature is decreased to between 0 and about 100° F., catalyst is released as a finely subdivided powder and dispersed through the normal heptane and maintaining the reaction zone under conditions whereby said normal heptane is isomerized.

2,974,182

FRACTIONATOR REBOILER OPERATION AND METHOD OF USING SAME

Joe Van Pool, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 20, 1958, Ser. No. 775,222
8 Claims. (Cl. 260—683.42)



4. A process for the thermal defluorination of an HF alkylation effluent, which is being subjected to deisobutanization, the steps in combination as follows:

Removing an at least partially deisobutanized fraction from a deisobutanization zone, passing said fraction to a heating zone, heating said fraction

in said heating zone and controlling the effluent temperature of said heating zone to a constant predetermined value suitable for defluorination of said fraction, returning said thus heated fraction to said deisobutanization zone, and maintaining a constant temperature of said fraction in said deisobutanization zone by controlling the pressure of said effluent at a constant predetermined value which is above the pressure in said deisobutanization zone, then expanding said effluent into said deisobutanization zone, and

controlling the rate of flow of said fraction from said deisobutanization zone to said heating zone and back to said deisobutanization zone responsive to a predetermined temperature of said fraction in said deisobutanization zone.

ELECTRICAL

2,974,183
GASKET FOR ELECTRIC EQUIPMENT
William Kos, Bethpage, and Jasper J. Olivet, Flushing, N.Y., assignors to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 424,565, Apr. 21, 1954. This application Apr. 8, 1959, Ser. No. 805,893
4 Claims. (Cl. 174—35)



2. A sealed joint in an electrical shield which completely encloses and thereby electrically shields electric equipment against electric fields and moisture leakage comprising: juxtaposed edges in the shield forming a line of closure therein; a flat gasket strip of resilient material between the edges for preventing moisture leakage; and a length of metal braid imbedded in the gasket along an edge thereof in electrical contact with the edges of the shield along the line of closure to bar external electric fields from the space between them.

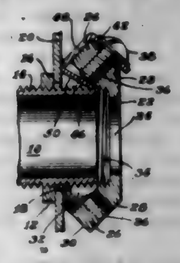
2,974,184
BUNDLE CONDUCTOR SPACER
Richard J. Mather, Portland, Oreg., assignor to the United States of America as represented by the Secretary of the Interior
Filed Aug. 19, 1958, Ser. No. 756,050
4 Claims. (Cl. 174—40)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In a bundle conductor for a high voltage transmission line wherein a pair of conductors are spaced a uniform distance from each other by spacer means; an improved spacer means comprising, a pair of opposing clamps each removably fastened to a conductor of said pair of conductors respectively, a stud means fastened to the rearward portion of each clamp, thread-like grooves on each of said stud means, a bore passing through each stud means axially thereof, a coiled spring having two opposite end portions, and a diameter at least equal to the diameter of a conductor, each of said end portions threadably engaging respectively the stud means on the opposing clamps whereby the spring extends between the said clamps, said spring having substantial compressive strength when in normal retracted position, a cable means fitted into said bore in both of said stud means and passing through the central portion of the coiled spring, means detachably fastening said cable means within said bore, said cable means limiting the amount of extension of the spring.

2,974,185
GROUNDING DEVICE FOR ELECTRICAL WIRING SYSTEMS
Lawrence M. Curtis, Mountainside, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed July 5, 1957, Ser. No. 670,109
2 Claims. (Cl. 174—51)

1. A grounding bushing for securing a screw-threaded end portion of a conduit in a knock-out opening provided therefor in an outlet box, comprising an internally screw-threaded annular member having a rectangular boss projecting radially from its outer periphery at a forwardly inclined angle to its axial center, a rectangular U-shaped grounding clip having parallel screw-thread engaging grooves transversely of the outer face of one leg thereof and an aperture through its opposite leg mounted on said boss in inverted position astride said bushing with its grooved leg depending into said bushing in central parallel alignment with said boss, said bushing having a rectangular slot transversely of its inner periphery and extending into said boss in central angular alignment therewith, and a screw extending through the aperture in said opposite leg and adjustably threaded through said boss at right angles thereto securing said



grounding clip on said boss, said depending leg being deflected substantially into said slot upon threading said bushing on said conduit end portion with the grooved face of said depending leg in bearing engagement with the leading screw-thread on said conduit end portion, and said depending leg further deflected toward the axial center of said conduit end portion upon securing the apertured leg of said clip on the outer inclined face of said boss by further adjustment of said screw to bring the heel portion of said depending leg into intimate contact with an inner side of said outlet box and additional grooves in said depending leg into engagement with the screw-threads on said conduit end portion while the toe portion thereof is held between the leading screw-thread on said conduit end portion and the bottom of said rectangular slot.

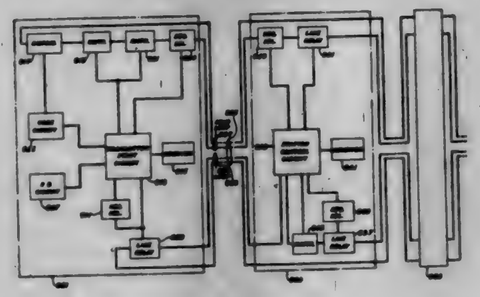
2,974,186
STRAIN RELIEF BUSHING
Ferdinand Klumpp, Jr., Union, N.J., assignor to Heyman Manufacturing Company, Inc.
Filed Oct. 3, 1958, Ser. No. 765,189
6 Claims. (Cl. 174—153)



1. A strain relief bushing of insulating material for holding an electrical conductor in a suitable aperture in a mounting member, comprising a body portion having a flange at one end to engage the mounting member on one side thereof and having a locking groove adjacent said flange, said bushing having a chamber, a grip block having substantially the same length as said body portion and fitting into said chamber, said grip block and body portion having cooperating means preventing relative longitudinal movement, a tongue on said grip block to extend into said chamber to grip a cable positioned

within said channel, and an integral flexible connecting strap connected between registering ends of the body portion and the grip block for flexibly holding said body portion and grip block together to permit ready relative movement therebetween in all planes, said connecting strap being connected adjacent the outside surfaces of said body portion and said body portion being recessed at one end, said strap being connected to said body portion in said recess, and having a width substantially less than the length of said bushing.

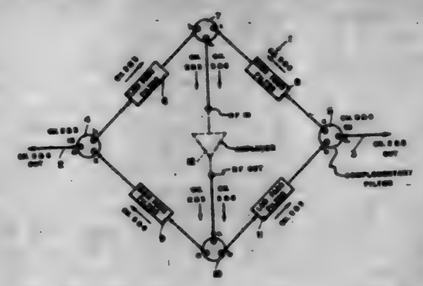
2,974,187
SELECTIVE CALLING SYSTEM
Edward E. Barrett, Paramus, Leo M. Kolensky, Newark, and Clarence J. Votaw, Bergenfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 17, 1958, Ser. No. 781,062
17 Claims. (Cl. 178—3)

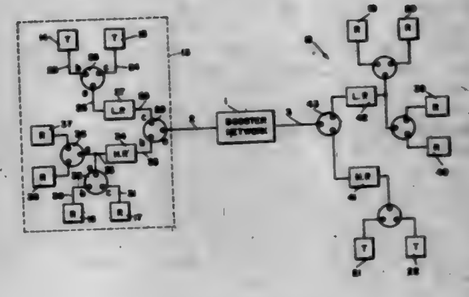


1. In a telegraph system, a telegraph station, a transmission channel extending from said station, a code generator at said station for transmitting to said channel consecutive code patterns each comprising a sequence of variable code signals and means at said station responsive to the reception of a predetermined code signal from said channel for enabling said code generator to transmit to said channel a portion only of said sequence of variable code signals.

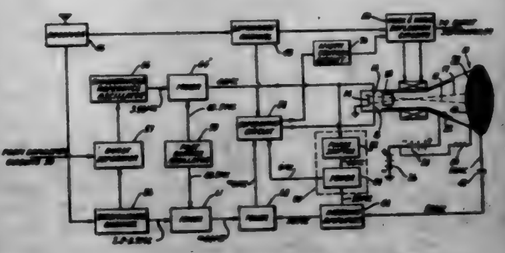
2,974,188
BILATERAL VIDEO TRANSMISSION SYSTEM
Henry M. Diambert, Silver Spring, Md., assignor to Citizens Bank of Maryland, Riverdale, Md., and Small Business Administration, Richmond, Va.
Filed Dec. 19, 1956, Ser. No. 629,378
11 Claims. (Cl. 178—5)

1. A bilateral coaxial cable transmission line including a booster network for simultaneously transmitting in opposite directions over a conductive line, information contained in modulated independent carriers occupying separate broad frequency bands, said booster network comprising a four-arm impedance bridge having two pairs of opposite arms, two signal terminals and two conjugate terminals, first band pass means adapted to pass information in one of said frequency bands only, means connecting one of said first band pass means in each of said arms of one of said pair of opposite arms of said bridge network, second band pass means adapted to pass information in the other of said frequency bands only, means connecting one of said second band pass means in each of the said arms of the other pair of opposite arms, directional coupler means at each terminal of the network providing a high effective attenuation between adjacent arms of said bridge network and a low effective attenuation between said arms and said signal and conjugate terminals, a single broad band amplifying means for amplifying information in the two frequency bands, means connecting said amplifying means between said conjugate terminals, and means connecting each of said signal terminals to a coaxial cable through the directional coupler means at the signal terminals, said directional coupler means providing sufficient attenuation, together with the attenuation of said band pass means, to keep below unity the gain in the closed loop formed by said bridge while permitting high gain of the respective frequency bands in opposite directions through said bridge.





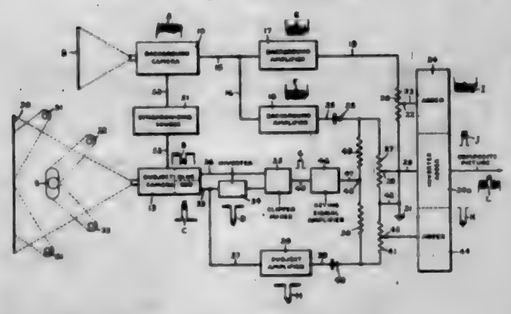
2,974,189
BEAM INDEXING SYSTEM HAVING AUTOMATIC WIDTH CONTROL DURING COLOR RECEPTION
Wilson P. Boothroyd, Huntingdon Valley, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 18, 1960, Ser. No. 3,007
28 Claims. (Cl. 178—5.4)



17. A color television reproducing system which includes a cathode ray tube wherein first and second electron beams are produced and deflected in unison over a beam-intercepting structure, said beam-intercepting structure including an image-forming portion composed of a plurality of phosphor elements which fluoresce in selected colors in response to the impingement of said first beam

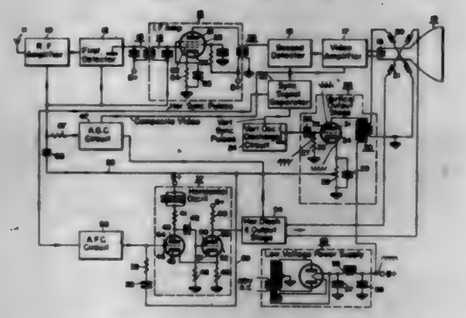
thereupon, said image-forming portion being constructed to produce white of a first predetermined color temperature when scanned by a beam of constant amplitude, said structure also containing a beam-indexing portion comprising a plurality of electron-sensitive elements for generating an indexing signal in response to the scanning of said second beam thereupon, a source of received signals comprising a monochrome television signal and a color television signal which includes a burst of a subcarrier wave having a reference phase, a luminance component, and which may also include chrominance components representative of color information in a televised scene, means for producing a first oscillatory wave in response to said burst which has the same frequency and phase as said burst, means for producing a second oscillatory wave having a frequency appreciably higher than that of said burst, means responsive to the application thereto of said first and second oscillatory waves for producing a signal for modulating said second beam, means for producing an output signal only in response to the application thereto of at least two signals, means for supplying said second oscillatory wave and said chrominance components, whenever they appear in said color television signals, to said output signal producing means, means for applying said first oscillatory wave in a predetermined phase to said last-named means whenever said color television signal is received, means responsive to said output signal and to said indexing signal for producing a signal for modulating said first beam, said modulating signal containing a component corresponding to said indexing signal, and means coupled to said last-named modulating signal producing means responsive to the indexing signal component of said modulating signal for controlling the scanning of said first beam.

2,974,190
ELECTRONIC MATTING APPARATUS
Joseph R. Geiger, Levittown, N.Y., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Dec. 9, 1957, Ser. No. 701,513
15 Claims. (Cl. 178—7.1)



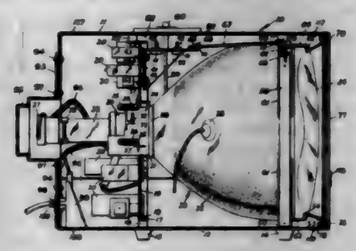
2. In electronic matting apparatus, the combination of background television camera means, subject television camera means adapted to provide separate outputs responsive to at least two different colors, respectively, means providing scanning synchronization between said subject television camera means and said background television camera means, first and second signal transmission channel means connected to receive the output of said background television camera means, control means responsive to a combination of the amplitudes of the outputs of said subject television camera means representing said two different colors for blocking and unblocking one of said channels, and means for combining the outputs of said two channels.

2,974,191
TELEVISION RECEIVER COMPENSATING CIRCUIT
Albert Cotsworth III, Oak Park, and Walter J. Strob, Barrington, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware
Filed Dec. 1, 1954, Ser. No. 472,304
4 Claims. (Cl. 178—7.3)



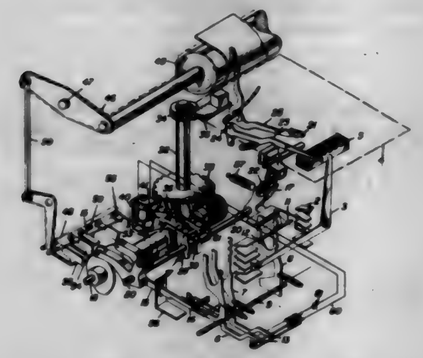
1. A television receiver comprising: a vertical sweep output stage including an electron-discharge device, a load circuit and a source of a unidirectional potential connected in series for translating a deflection signal of pulsed sawtooth wave form through said load circuit, said potential source including a filter condenser which in response to said deflection signal has a tendency to superpose a component of parabolic wave form on said unidirectional potential; a D.C.-controlled stage for varying an operating characteristic of said receiver in accordance with an applied control signal and including an electron-discharge device having an anode coupled to said source and further having a plurality of other electrodes; means for applying a D.C. control signal to one of said other electrodes; and an integrating network included in said load circuit for deriving therefrom and for applying to one of said other electrodes a signal of parabolic wave form to compensate said parabolic component of said unidirectional potential.

2,974,192
CATHODE RAY TUBE INDICATOR SYSTEMS
Richard C. Marholz, Chicago, Ill., assignor to Raytheon Company, a corporation of Delaware
Filed Dec. 21, 1955, Ser. No. 554,451
7 Claims. (Cl. 178—7.8)



1. A cathode ray tube display device comprising a glass cathode ray tubes having a display screen, a neck and a dome-shaped portion extending therebetween, a cabinet having a base member subetantially perpendicular to said display screen and extending along the length of said tube, a clamp member surrounding and firmly engaging said dome-shaped portion adjacent said display screen, one portion of said clamp member being fixedly secured to said base member, a chassis surrounding said neck portion of said tube and having an edge connected to said base member, said chassis being positioned substantially parallel to said display screen and perpendicular to said base member, mounting means affixed solely to said chassis and engaging said dome-shaped portion adjacent said neck of said tube, and adjustable securing means connected between said chassis and said clamp member and including at least one rigid support rod having one end connected to said clamp member at a position thereon substantially opposite to the said portion which is secured to said base member, with the other end of said support rod being connected to said chassis at a position remote from the said edge which is connected to said base member, whereby a reduction of the length of said adjustable securing means urges said tube toward said chassis for support of said tube substantially entirely by the said dome-shaped portion.

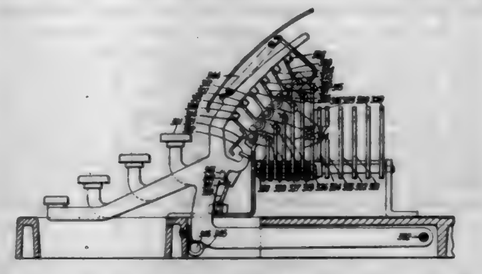
2,974,193
TELEGRAPHIC APPARATUS
Tsuneharu Yamura and Bunzo Fujio, Hanamaki-shi, Iwate-ken, Japan, assignors to Teiji Yamura, Iwate-ken, Japan
Filed Apr. 7, 1958, Ser. No. 726,877
6 Claims. (Cl. 178—25)



1. In a telegraphic receiving apparatus the combination comprising a shiftable platen, means for shifting said platen, a plurality of type bars each having a plurality of characters in a carriage type basket, means for actuating said type bars, code bars for selecting which of said type bars are to be actuated, selector vanes cooperating with said code bars, operating means operable in response to a received signal for operating said actuating means, spacing means coacting with said type basket, said spacing means comprising means for spacing said type basket a full spacing upon receipt of a predetermined signal and means for spacing said type basket one half a full spacing upon receipt of another predetermined signal.

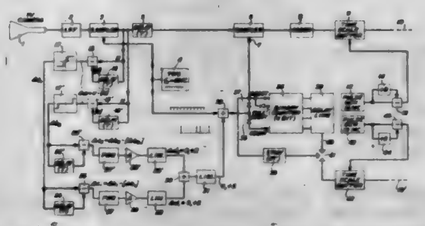
2,974,194
PRINTING TELEGRAPH SELECTOR APPARATUS
John Handley, Briar Hill, Purley, England, assignor to Creed & Company Limited, Croydon, England, a British company
Filed Jan. 21, 1955, Ser. No. 483,313
Claims priority, application Great Britain Jan. 25, 1954
6 Claims. (Cl. 178—27)

1. Printing telegraph apparatus comprising an electromagnet adapted to operate in response to received signal combinations, a keyboard, a set of control members, means for setting successively said control members in accordance with the response of said electromagnet to received signal combinations, means for setting simultaneously said control members mechanically under control of a key of said keyboard in accordance with the elements of a signal combination represented by the controlling key, and means under control of said control members and a motor driven cam sleeve for



selectively positioning a type carrier in accordance with the setting of said control members.

2,974,195
ECONOMY IN TELEVISION TRANSMISSION
Bela Julesz, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 30, 1958, Ser. No. 770,858
16 Claims. (Cl. 178—43.5)

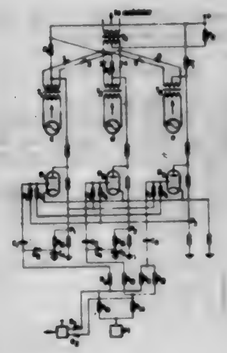


1. In combination with a source of a television wave characterized by portions of rapid, irregular fluctuation and by other portions of extended length throughout which fluctuation is substantially absent, said other portions being irregularly interspersed among said fluctuating portions, apparatus which comprises means for deriving a marking signal at each instant at which the slope of the wave changes in sign, at each instant at which it attains zero magnitude and at each instant at which it departs from zero magnitude, means for deriving a brief sample of the amplitude of said wave under control of each of said marking signals, whereby the sequence of said samples is characterized by the same irregularity as is the original wave, means for transmitting the amplitude and the instant of occurrence of each sample of said sequence to a receiver station, and, at said receiver station, means for reproducing said irregular sample sequence from said transmitted amplitudes and instants, and means for reconstituting said television wave from said reproduced sample sequence.

2,974,196
METHOD AND APPARATUS FOR PREVENTING DISTORTION DURING TRANSMISSION IN TELEGRAPH SIGNALS CONSISTING OF ELEMENTS OF EQUAL DURATION
Hendrik Cornelis Anthony van Duuren, Wassenaar, Netherlands, assignor to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands
Filed Oct. 17, 1957, Ser. No. 690,706
Claims priority, application Netherlands Oct. 20, 1956
16 Claims. (Cl. 178—50)

10. In a multiplex telegraph system in which the marking and spacing elements of messages which occur in each

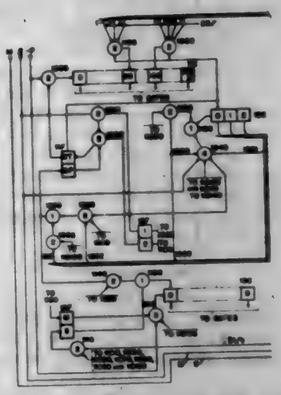
of a plurality of channels are modified for multiplex transmission, and in which a predetermined frequency output signal is assigned to represent the value of a plurality of signals input thereto, different output frequency signals being assigned to represent different combinations of frequency signals input thereto, and different sets of said frequency signals being assigned for transmission over different subchannels; an output circuit, signal generator means including a frequency generator means for each channel, each of which includes switch means operative to couple a frequency signal to said output circuit which is representative of a particular species of said elements in its associated channel, auxiliary frequency



generator means operative in response to the occurrence of consecutive combinations which require the transmission of consecutive frequency signals over the same one of said sub-channels to couple a preassigned frequency signal to said output circuit in lieu of one of the normally generated frequencies to thereby effect transmission of an auxiliary output frequency signal over an auxiliary channel in lieu of the assigned frequency signal over the assigned channel, and detector means connected to the frequency generator means for at least one of said channels operative responsive to the coupling of two consecutive channel elements to the same frequency generator means to couple a control signal to said auxiliary frequency generator means.

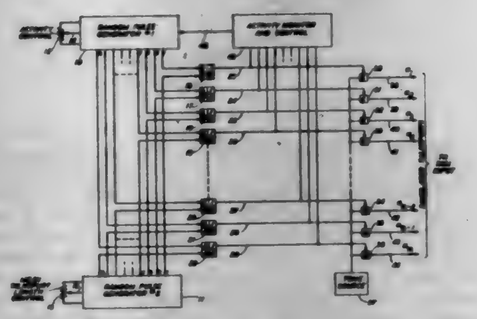
2,974,197
SYNCHRONIZING ARRANGEMENT FOR A REGENERATIVE TELEGRAPHIC REPEATER UTILIZING SIGNAL TRANSITIONS
Esmond Philip Goodwin Wright and Victor John Terry, London, England, assignors to International Standard Electric Corporation, New York, N.Y.
Filed Nov. 26, 1954, Ser. No. 471,422
Claims priority, application Great Britain Dec. 10, 1953
5 Claims. (Cl. 178—70)

2. Telegraph receiver for equal length combinations of elements of two signalling conditions comprising a source of regularly repeated pulses, a time scale circuit driven by said pulses, means for deriving from said time scale circuit potentials for examining the condition of incoming signals at predetermined positions in said time scale, means for regenerating signals dependent upon said condition at said predetermined positions, means for recording whether transitions from one incoming signalling condition to another occur early or late in respect of their nominal positions on said time scale, means for momentarily stopping and restarting said time scale circuit independently of the transmitter and of received signals, and means for adjusting the position in the time scale at



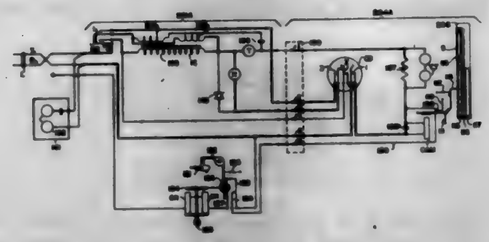
which the time scale circuit is restarted under control of said recording means.

2,974,198
RANDOM SIGNAL GENERATOR
Bruce A. McLeod, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 10, 1958, Ser. No. 714,392
12 Claims. (Cl. 179—1)



12. A signal generator which comprises first and second random pulse generating means, each of said random pulse generating means including a source of random signals, means for sampling and distributing random signals from said source to a plurality of filtering means in sequence, means for detecting the instantaneous amplitude of the envelope of the output of each of said filtering means, a plurality of control leads, and means for producing pulses on each one of said control leads in response to the instantaneous amplitude of said envelope from a respective one of said detecting means, said signal generator further comprising a plurality of bistable devices, means for setting each one of said bistable devices in one condition of stability in response to pulses on a respective one of said plurality of control leads from said first pulse generating means, and means for setting each one of said bistable devices in the other condition of stability in response to pulses on a respective one of said plurality of control leads from said second pulse generating means.

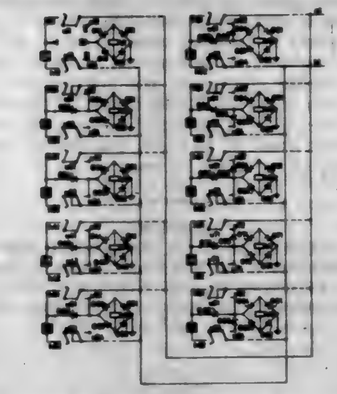
2,974,199
TELEPHONE PAYSTATION CIRCUIT WITH COIN-ACCEPT CONTROL
John L. Bellamy, Wheaton, Ill., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Aug. 22, 1955, Ser. No. 529,755
3 Claims. (Cl. 179—6.3)



1. In a paystation for rendering service requiring only a minimum fee as well as service requiring a greater fee, gauged coin chutes for receiving coins of respective denominations in payment of fees, the coin chutes including a high-value chute gauged to receive a coin having a value at least equal to the minimum fee, and including a low-value chute gauged to receive a coin having a value less than the minimum fee, barring means normally preventing passage through the low-value chute of a single deposited coin while permitting passage therethrough of a plurality of coins and freely permitting the passage of coins through the high-value chute, normally closed electrical contact means and means for opening it responsive either to the passage of a coin through the high-value chute or to the passage of a plurality of coins through the low-value chute, an electromagnet having a winding, means responsive to energization of the winding for disabling the barring means, an energizing path for the winding, a calling device having sending contacts for producing circuit interruptions necessary to the rendering of service by the paystation, the sending contacts being in the energizing path in series with the winding, circuit means normally establishing a shunt path for shunting energizing current from the sending contacts and winding, the normally closed electrical contact means being included in the shunt path to open it when the contact means is opened, whereby the shunt is removed from the sending contacts and the winding in the energizing path, the consequent energization of the winding causing the said disabling of the barring means.

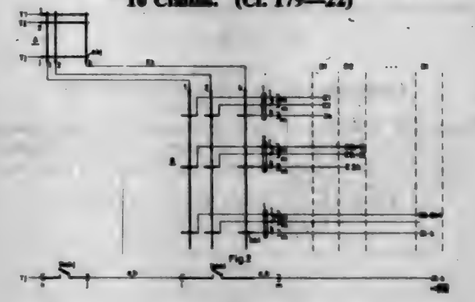
2,974,200
CIRCUIT ARRANGEMENT FOR IDENTIFYING CALLING TELEPHONE PARTY LINE STATIONS
Wolfgang Papke, Munich, Germany, assignor to Siemens und Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed July 14, 1959, Ser. No. 826,993
Claims priority, application Germany Aug. 11, 1958
2 Claims. (Cl. 179—17)

1. A circuit arrangement for identifying telephone party line stations, comprising a party line having a plurality of stations connected thereto and having line conductors extending to an exchange, a control relay disposed at each station and being individual thereto, rectifier bridge means for cooperation with each of said control relays, circuit means for connecting the respective control relays and the rectifier bridge means respectively cooperating therewith between ground potential and at least one of said line conductors, evaluation relay means at the exchange, circuit means at the exchange operative upon initiation of the identification for causing operative actuation of the control relay of a party line station involved in a call, the operative actuation of such control relay being effective to close a marking circuit extending by way of said line conductors for



operatively affecting said evaluation relay means in a combination which is characteristic of the station involved in the call for the purpose of marking such station correspondingly.

2,974,201
CIRCUIT ARRANGEMENT FOR EXTENDING CONNECTIONS IN A TWO-STAGE COUPLING FIELD
Peter Gerke, Munich-Solln, and Otto Kneisel, Munich-Grosshesselohe, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Jan. 14, 1959, Ser. No. 786,741
Claims priority, application Germany June 2, 1958
16 Claims. (Cl. 179—22)



1. In a telephone system having a coupling field for extending connections to be established, said coupling field having an inlet coupling multiple and an outlet coupling multiple represented respectively by switching means operating in the manner of coordinate switches, trunk lines extending between said coupling multiples, means forming coupling points in the respective coupling multiples, the coupling points in said inlet multiple being multipled column-wise and row-wise and the coupling points in said outlet coupling multiple being multipled solely column-wise and respectively allotted to individual outlets disposed in groups, a circuit arrangement for routing connections to be established between inlets of said inlet coupling field and idle outlets of desired outlet groups in said outlet coupling field, said arrangement comprising a routing network comprising private conductors which are respectively allotted to said trunk lines and routing conductors which are respectively cooperatively connected with said private conductors, means for connecting to idle outlets of a desired outlet group a first

potential signifying the idle condition thereof, means for connecting to all busy inlets a second potential signifying the busy condition thereof, said second potential appearing on the private conductors of the respective trunk lines, circuit means including decoupling rectifier means for extending said second potential by way of said routing conductors to coupling points involved in the extension of a connection, said second potential dominating at said coupling points over said first potential extended thereto from said outlets, and means for selecting, from the coupling points of the outlet coupling multiple carrying said first potential, an outlet and thereby determining the routing of the desired connection path.

2,974,202
ELECTROSTATIC TRANSDUCERS
Marcel Hervé, 20 Rue Cajas, Paris V, France
Filed Aug. 23, 1957, Ser. No. 679,892
Claims priority, application France Aug. 30, 1956
14 Claims. (Cl. 179—100.41)



1. An electrostatic transducer comprising four parallel plate condensers arranged in a bridge circuit, each condenser having one fixed plate and one movable plate, and the movable plates being arranged for simultaneous angular displacement relative to the fixed plates, input and output terminals to said bridge circuit, means for connecting a voltage source to the input terminals of said bridge circuit, means for applying mechanical movement to the movable plate of each condenser, and means for deriving an electrical voltage from the output terminals of the bridged circuit depending upon the mechancal movement applied to the movable plates.

2,974,203
CERAMIC ELECTROMECHANICAL TRANSDUCERS
Steward S. Flaschen, New Providence, N.J., and Harold A. Sauer, Hatboro, Pa., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 29, 1958, Ser. No. 731,752
9 Claims. (Cl. 179—110)

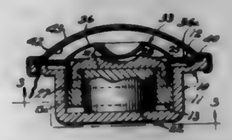


1. A stoichiometric semiconducting ceramic composition exhibiting a positive piezoresistive effect having the following composition expressed in mol fractions:

$$Ba_{0.750\text{ to }0.250}Sr_{0.244\text{ to }0.044}La_{0.001\text{ to }0.006}TiO_3$$

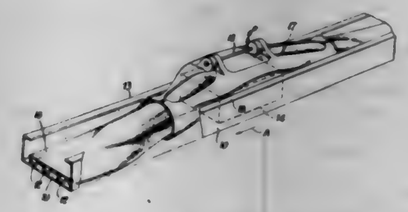
2,974,204
TRANSDUCER
Michael C. Supitilov, St. Charles, Ill., assignor to Du Kane Corporation, St. Charles, Ill., a corporation of Delaware
Filed July 6, 1954, Ser. No. 441,335
19 Claims. (Cl. 179—115.5)

1. An electrodynamic type of transducer comprising a ferromagnetic member provided with a cylindrical portion having an annular externally extending supporting flange at the edge, a non-magnetic positioning sleeve member having stepped outer surfaces providing at least one annular shoulder, the maximum outer diameter being large enough so that the positioning member may be press fitted into the cylindrical portion to a desired depth, a straight permanent magnet having ground pole faces at the free ends thereof and having a length greater than the length of the positioning member, the magnet being



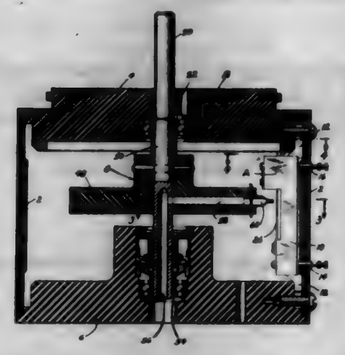
small enough to slide into the positioning member, a shallow cup-shaped ferromagnetic pole piece, means for maintaining said pole piece on said positioning member, said pole piece having an outer annular surface cooperating with the inner cylindrical surface near the flange to provide an annular air gap, said annular shoulder on the positioning member being at the inner end of the annular air gap, and a diaphragm and voice coil assembly carried by said flange, the voice coil extending into the annular air gap.

2,974,205
BUSBARS AND SIMILAR ELECTRICAL POWER CONDUCTING ASSEMBLIES
Henry Walter Mayer King, Argyle Works, Stevenage, Hertfordshire, England
Filed July 5, 1957, Ser. No. 670,039
Claims priority, application Great Britain July 6, 1956
1 Claim. (Cl. 191—25)



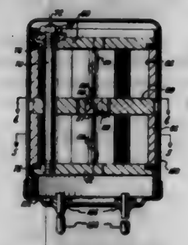
An electrical current conducting assembly associated with a trolley of a conveyor system comprising an upwardly opening channelled casing including longitudinally extending uppermost portions in the form of inturned lips, electrical current conductors supported within and at the bottom of said casing, said trolley being movable longitudinally of and within said casing and in contact with said conductors, a flexible strip of electrical insulator material disposed within and at the bottom of said casing to mask said conductors, said strip extending lengthwise of said casing and being of such a width that the longitudinal edge portions thereof will underlie said lips, and plough means coupled to said trolley for movement therewith and projecting forwardly and rearwardly thereof, said plough means transversely flexing portions of said strip immediately preceding and following said trolley and including arched guide means to bend said strip into arched form transversely and longitudinally of said casing so that said edge portions will clear said lip portions and to permit travel of the trolley along said contacts, said guide means being of a shape for guiding said strip over the top of said trolley and at least in part out of the casing between said lips and for positively guiding said strip into said casing immediately to the rear of said trolley.

2,974,206
SWITCH ASSEMBLY
Richard D. May, Westport, Conn., assignor to Electric Regulator Corporation, Norwalk, Conn., a corporation of New York
Filed Dec. 16, 1958, Ser. No. 780,835
8 Claims. (Cl. 200—81.9)



1. A switch assembly comprising a support, a stationary contact connected to said support, a movable contact on said support comprising an elongated spring strip fixed at one end to said support, free at its other end for coaction with said stationary contact and fulcrumed on said support at a point closely adjacent the stationary contact, said fulcrum point dividing the spring strip into an unequal-arm lever with a long actuating arm and a short contact arm, and means associated with said long actuating arm for flexing the same to move and operate the short contact arm.

2,974,207
HIGH SPEED CHOPPER
Herbert I. Chambers and Albert W. Fischer, Pasadena, Calif., assignors, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed May 26, 1958, Ser. No. 737,923
8 Claims. (Cl. 200—90)



1. A high speed switching device comprising a flexible current-conductive straight wire element, magnetic means defining an elongated magnetic gap, means for supporting the conductive element in the gap including a resilient support at one end of the element for maintaining tension on the wire element, the elongated magnetic gap extending substantially the full length of the flexible element, means for passing a current through the flexible element, the current producing a lateral deflection of the flexible element due to the interaction of the current and the magnetic field in the gap, the resilient support permitting the element to deflect laterally by allowing the ends of the element to move closer together, and contact means actuated by movement of the element in response to the current applied through the element, the contact means being electrically insulated from the flexible element to provide switching of an isolated circuit.

2,974,208
TIME DELAY FUSE
Edward V. Sundt, Wilmette, Ill., assignor to Sundt Engineering Company, Des Plaines, Ill., a corporation of Illinois
Filed Jan. 24, 1957, Ser. No. 636,080
11 Claims. (Cl. 200—131)



1. A time delay fuse for protecting an electric circuit against overload conditions comprising, a pellet consisting essentially of a compressed mixture of powdered metallic oxide and less than 50% powdered metallic filler which are uniformly dispersed in the compressed mixture throughout the entire pellet, and which pellet is normally electrically conductive but which becomes substantially non-conductive when heated above a predetermined temperature value, and means for electrically connecting the pellet in series in the electric circuit to be protected so as to be heated by the current flow in the electric circuit and to interrupt the current flow upon overload conditions in the circuit.

2,974,209
CONTROL DEVICE
Robert G. McMichael, Malvern, Pa., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed June 26, 1959, Ser. No. 823,146
5 Claims. (Cl. 200—138)

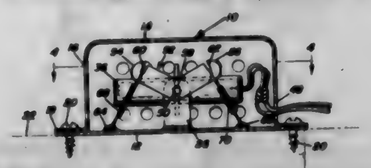


1. In a control device for an electric circuit means, the combination comprising a support member, a plate rotatably mounted on said support member, first and second contact members, means mounting said first contact member on said plate for movement therewith and for rotatable movement relative thereto, means including a thermally responsive bimetallic strip mounting said second contact member on said support member for movement therewith, said first and second contacts being mounted in opposed relation for moving into and out of engagement, a strip of hygroscopic material mounted on said plate and connected to said first contact mounting means for actuating said first contact relative to said second contact in accordance with the ambient humidity, said bimetallic strip being movable in response to ambient temperature variations to actuate said second contact relative to said first contact in accordance with the ambient temperature, and means for rotatably positioning said plate whereby said first contact is positioned relative to said second contact.

2,974,210
FIRE DETECTOR
Harvey C. Smith, 34160 W. Bordeman, Memphis, Mich.
Filed July 9, 1959, Ser. No. 826,071
3 Claims. (Cl. 200—142)

1. A fire detection switch comprising a pivotally mounted closed container, a pool of conductive fluid in

said container, a pair of spaced contacts in said container adapted to be bridged by said pool, spring bias means pivotally urging said container into a pivoted position such that said pool bridges said contacts, and fuse means acting on said container, opposed to said spring bias means, for retaining said container in a position such that said pool is remote from said contacts, a base portion, a pair of spaced support members extending upwardly therefrom, opposed spindles rotatably mounted



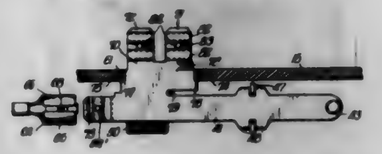
in said support members, means securing said container to said spindle, one of said spindles having a square end portion, a V-shaped member defining a square opening proximate the vertex thereof, said square opening receiving said end portion, said V-shaped member having a first leg and a second leg, said fuse means including a link fuse secured between said first leg and said base, said spring bias means including a spring secured between said second leg and said base.

2,974,211
ELECTRIC SWITCHES
Erwin F. Brede, 18900 Warrington Drive, Detroit, Mich.
Filed Mar. 23, 1959, Ser. No. 801,139
1 Claim. (Cl. 200—152)



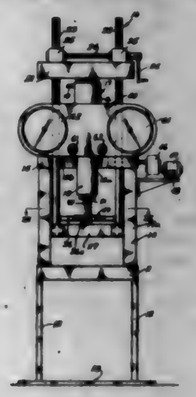
In a push button electric switch an improvement in the compactness and durable qualities of the switch by the elimination of all flexible solid parts, including membranous parts, other than a single compression spring portion, and elimination of all electric contact points of the butting or sliding type that close the circuit exclusively through a solid state medium; with the result that there is no component part subject to the destructive effects of repeated flexure that could cause breakdown and failure of the switch: accomplished by means of a tubular capsule constructed of hard insulator inert to the chemical effects of mercury and which houses three component parts; a fixed electric contact plug which hermetically seals the inner end of the tube and secures the capsule to the top of the base and, in electrical contact, to a flat copper strip connecting it on the under side of the base to a binding post fastener; a globule of mercury that by volume is less than one half the internal space left in the tube when the capsule is assembled and no pressure is applied to the button; an electric plunger contact whose shank is a rod which fits into the outer end of the tube and keeps it closed at all times and whose head is a thin round flange which is in articulation with the button and is electrically connected to an electric compression spring connector serving to connect the plunger contact to the other binding post on the top side of the base and to keep the switch circuit open when no pressure is applied to the button; assembled in such manner that when the button is pressed sufficiently the plunger contact moves in the tube toward the mercury, pushes it, and finally compresses it against the contact plug that seals the inner end of the tube thus closing the circuit and coming to rest as the head of the plunger contact strikes the outer end of the tubular capsule at the same time that the mercury completely occupies the space remaining in the tube, and that when pressure on the button is released sufficiently the compression spring portion of the compression spring connector returns the button and plunger contact to their original open circuit position.

2,974,212
SWITCH BLADE AND MOUNTING THEREFOR
Anthony D. Stolle and Robert B. Ellis, Chicago, Ill., assignors to International Register Company, Chicago, Ill., a corporation of Illinois
Filed May 21, 1958, Ser. No. 736,755
9 Claims. (Cl. 200—166)



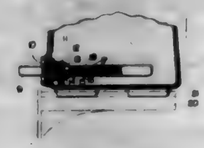
1. In electrical switch apparatus, the combination of a support having an anchoring aperture therein, a mounting block of insulating material having an anchoring aperture therein, said mounting block being secured to said support, with the anchoring aperture therein substantially in aligned registration with the anchoring aperture in said support, and a laterally flexible switch blade having a movable contact actuating end and an anchoring end, said anchoring end having anchored mounting in the anchoring aperture of said support and in the anchoring aperture of said mounting block, the side walls of one of said anchoring apertures being spaced apart a distance greater than the thickness of said anchoring end so as to permit the locating of said anchoring end in different positions transversely of said aperture, the end walls of said latter aperture predetermining the location of said anchoring end in one plane, and the side walls of said other anchoring aperture predetermining the location of said anchoring end in another plane substantially at right angles to said first plane.

2,974,213
GATHERING APPARATUS AND METHOD
William E. Achor, Whittier, and Eugene C. Booth, Bell, Calif., assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Oct. 15, 1956, Ser. No. 616,085
22 Claims. (Cl. 219—7.5)



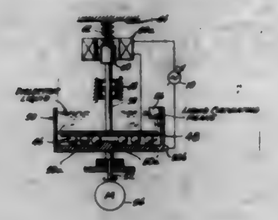
1. A method of upsetting thermoplastic material which comprises longitudinally compression loading a thermoplastic article, heating a thin transverse zone of the loaded article to a plastic state, shifting the areas being heated to progressively plasticize thin areas immediately adjacent the portion of the article to be upset and feeding the plasticized areas into the upset.

2,974,214
ELECTRICAL APPLIANCE AND SUPPORT MEANS THEREFOR
Fumio Tsuiguchi, 2—3, 3-Chome, Ueno Machi, Tajimi City, Japan
Filed Sept. 9, 1958, Ser. No. 760,040
Claims priority, application Japan June 20, 1958
1 Claim. (Cl. 219—43)



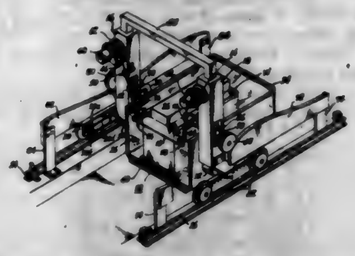
The combination of an electric appliance having a body formed with handle means at one side thereof, a pair of parallel horizontal terminal pins extending from the other side thereof, and a bottom plate formed with a pair of intersecting recesses one of which is aligned with said terminal pins; with a support comprising a horizontal plate member having an upper side and formed with a rib extending above said upper side and receivable in each of said recesses, and a vertical plate member extending upwardly from the horizontal plate member and having a pair of apertures for receiving said terminal pins when the rib is received in said one recess and the body of said appliance is moved by its handle toward said vertical plate member, the other recess being adapted to receive said rib when the terminal pins are withdrawn from said apertures and the appliance is placed onto the horizontal plate member of said support.

2,974,215
MACHINING METHOD AND MEANS
Kiyoshi Inoue, 182 Yoga Tamagawa, Setagaya-ku, Tokyo, Japan
Filed May 1, 1959, Ser. No. 810,327
14 Claims. (Cl. 219—68)



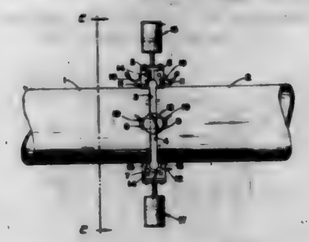
1. The method of grinding round metal articles between opposing metal surfaces comprising pressing the surfaces into contact with the articles immersed in a dielectric liquid, effecting relative motion between the surfaces in a direction generally parallel to one of the surfaces thereby to roll said articles between said surfaces, and simultaneously with such pressure and such motion applying voltage between such surfaces to pass a strong electric current through the articles therebetween sufficient to soften and melt surface irregularities on the articles during such rolling motion, thereby to flatten and remove such irregularities progressively as the process continues.

2,974,216
SPARK DISCHARGE CONTOURING MACHINE USING WIRE ELECTRODE
Kiyoshi Inoue, 182 Yoga Tamagawa, Setagaya-ku, Tokyo, Japan
Filed Jan. 5, 1959, Ser. No. 784,962
16 Claims. (Cl. 219—69)



1. Electric spark discharge metal contouring apparatus comprising, in combination, means supporting a metal workpiece to be contoured and immersing the working region thereof in dielectric liquid, an elongated wire electrode, electrode carriage means including electrode supports at opposite sides of the work supporting means, said electrode supports comprising means upon which the wire is mounted to stretch the same into a straight electrode between said supports in position to engage the working region of the workpiece, means guiding and effecting relative translational feed movement between said carriage means, the wire electrode and the workpiece support progressively in a direction transverse to the stretch of the wire electrode, electric spark energy source means connected operatively between the wire electrode and workpiece to pass electric spark current therebetween, thereby to erode the workpiece ahead of the wire electrode, and means operable to move at least one of said electrode supports in a direction transverse both to the wire electrode stretch and to the line of said advance accompanying such translational movement, thereby to impart predetermined contour to the work being cut by the discharge.

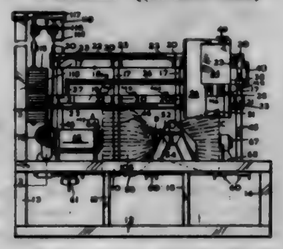
2,974,217
METHOD AND APPARATUS FOR ELECTRIC WELDING PIPE AND THE LIKE
Thomas J. Crawford, Berkley, Mich. (P.O. Box 171, Gaylord, Mich.)
Filed Jan. 7, 1959, Ser. No. 785,500
10 Claims. (Cl. 219—101)



1. The method of heating pipe ends and the like, which comprises the steps of bringing such ends into close-spaced opposition, applying alternating electric energy across the spaced ends of the two pipes at one peripheral location, completing a circuit for current flow in the ends by conductively bridging the same at another substantially diametrically opposite location, the instantaneous current in any portion of one pipe end flowing oppositely to the direction of current flow in the closely spaced corresponding portion of the other end, whereby such work currents are concentrated toward the pipe end faces by proximity effect, and shifting the points

of energy supply to and bridging of the pipe ends circumferentially relative thereto so that the end faces are fully traversed by such concentrated current flow.

2,974,218
WELDING MACHINE
William Wills, Wolvey Heath, near Hinckley, Peter J. C. Gough, Nuneaton, and Bernard V. Davis, Willoughby, near Rugby, England, assignors to Bristol Siddeley Engines Limited, Bristol, England
Filed Aug. 19, 1959, Ser. No. 834,789
Claims priority, application Great Britain Aug. 30, 1958
5 Claims. (Cl. 219—125)



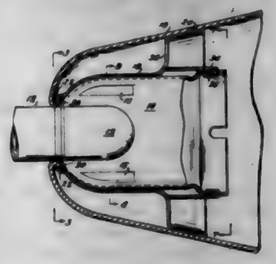
1. A machine, for welding together in side-by-side relationship a plurality of elongated elements which have portions identically curved in the longitudinal direction and which are arranged in a circle for the formation of a body of varying circular cross-section in different axial positions, comprising a framework, guide means supported from said framework, a welding head supported from said guide means to be traversable therealong, a holder, said holder provided with aligned rotatable supports for the elements to be welded together, means for rotating said supports for bringing different adjacent pairs of the elements into the welding station, means pivotally supporting said holder from said framework on an axis which is at right-angles to the direction of traverse of the welding head, and means for tilting said holder about its pivot axis during traversing of the welding head whereby to move those portions of said elements which are in the welding position into an angular position relatively to said welding head favourable to the welding operation.

2,974,219
LUMINAIRE
Donald E. Husby, Fairview Park, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 6, 1957, Ser. No. 682,485
11 Claims. (Cl. 240—25)



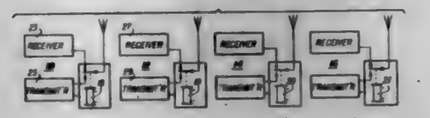
1. In a luminaire for street lighting employing a source of light supported at one end, in combination, a reflector, means for mounting the reflector and adjusting it to a predetermined position, a socket for receiving the source of light disposed in the reflector, terminals for supplying current to the source of light carried by the socket and disposed outside of the reflector to provide ready access for making connections, a separate removable refractor ring for suspending the refractor from the reflector, means for connecting and locking the refractor in the ring, the reflector having spring hinge means cooperating with the ring for attaching the ring to the reflector and for biasing the refractor toward the reflector.

2,974,220
ENCLOSED SWIVEL LIGHTING FIXTURE
Nathan R. Schwartz, Yonkers, N.Y., assignor to Naras Research Inc., New York, N.Y., a corporation of New York
Filed Nov. 28, 1958, Ser. No. 776,972
9 Claims. (Cl. 240—128)



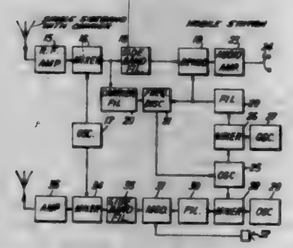
1. In an electrical lighting fixture, a shade having a neck at one end and an open light-emitting portion at the other end, said shade having a swivel assembly enclosed therein, the swivel assembly being rigidly secured to a mounting flange, said mounting flange being disposed within the contours of said shade and being secured to the neck of said shade; an arm for enclosing electrical wiring extending from said swivel assembly through an opening in the neck of said shade; the said swivel assembly being adapted to permit relative movement of said shade with respect to said arm.

2,974,221
SQUELCH CIRCUIT
Robert Peth, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 14, 1957, Ser. No. 634,087
5 Claims. (Cl. 250—6)



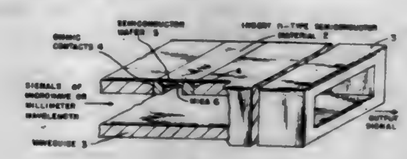
1. In a selective calling communication system including a wave signal receiver having a squelch circuit adapted to be opened upon reception of a carrier wave modulated by a tone of given frequency, which squelch circuit is operated by a resonant reed device subject to continuing vibration for a given period upon termination of energization thereof, a transmitter for said system including means for generating a carrier wave, modulating means for modulating the carrier wave with intelligence, tone generator means providing audio frequency tones of the given frequency including a first tone of a phase for operating the reed device with given motion and a second tone of a phase for damping said motion, first relay means having first and second contacts, said first relay means being operable to apply said first tone to said modulating means and being releasable to apply said second tone to said modulating means, second relay means having third contacts for energizing said transmitter so that the carrier wave is transmitted, said second relay means including means for causing delayed release of said third contacts for a given period after deenergization thereof, and switch means operable to energize said first and second relay means for selective calling of the receiver and releasable to deenergize said first and second relay means with the delayed release of said third contacts providing transmission of the carrier wave for said given period modulated by said second tone, so that the carrier wave may be translated by the receiver to cause quieting thereof during damping of the reed device.

2,974,222
COMMUNICATION SYSTEMS
Anthony Newton Lawson, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1958, Ser. No. 724,620
Claims priority, application Great Britain Apr. 2, 1957
2 Claims. (Cl. 250—6)



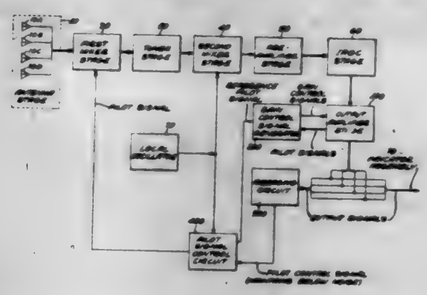
1. A transmitter-receiver for a single sideband radio communication system in which frequency shifts in signals received from a cooperating station are caused through Doppler effect comprising: a receiver portion and a transmitter portion; a stable receiver oscillator connected to said receiver portion; a stable transmitter oscillator connected to said transmitter portion; a reactance-controlled oscillator; first combining means connected to said stable receiver oscillator and to said reactance-controlled oscillator for combining the frequencies thereof; second combining means connected to said stable transmitter oscillator and to said reactance-controled oscillator for combining the frequencies thereof; the frequencies of said receiver oscillator, said transmitter oscillator and said reactance-controlled oscillator being chosen such that the output frequencies of said first and said second combining means contain a common frequency in the absence of said frequency shifts and vary in opposite directions when said frequency shifts are present in the received signals; control means including a discriminator, responsive to the frequency shifts due to said Doppler effect, connected to said reactance-controlled oscillator for varying the frequency thereof in accordance with said shifts; a demodulator in said receiver portion; means connecting the output of said first combining means to said demodulator for recovering said received signals; and modulator means connected to said second combining means to produce a modulated output signal.

2,974,223
NON-LINEAR MICROWAVE ELEMENT BASED ON CHARGE DEPLETION
Edwin Langberg, Cambridge, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 31, 1960, Ser. No. 19,135
7 Claims. (Cl. 250—20)



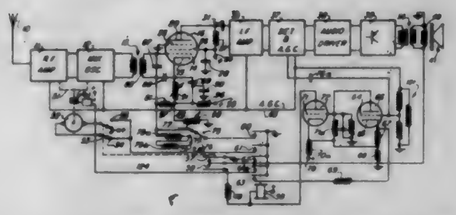
1. A device for controlling high frequency signal waves comprising a high frequency transmission medium over which such waves are propagated longitudinally, a thin wafer of semiconductive material inserted at a given point along the wave boundary of said medium so as to be out of the direct path of the propagated waves but subjected to the electric field produced by said waves, said wafer in response to the strong, normal electric field component exhibiting a majority charge depletion proportional to the strength of the electric field resulting in non-linear transmission of the waves through said wafer and impedance modulation thereof and output means for translating the resulting waves appearing in said medium in the output of said wafer into electric variations proportional to a component of the propagated waves.

2,974,224
APPARATUS FOR AUTOMATIC GAIN CONTROL
Louis A. Ule, Alhambra, Calif., assignor to Gilfillan Bros., Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 28, 1956, Ser. No. 607,539
8 Claims. (Cl. 250—20)



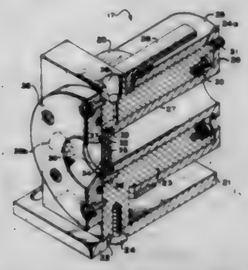
1. In a system for equalizing the gain of a plurality of radiant energy receiving channels, each of said channels including an input mixer to receive an input signal and a variable gain network, the combination comprising: means for introducing a pilot signal to each of the mixers, means at the output of each channel for filtering out the pilot signal in each channel, means for developing a plurality of difference signals by subtracting the output pilot signal of each of the channels from corresponding signals having a gain within the range of all the channels, and means for controlling the gain of each of the channels substantially inversely with the amplitude of each corresponding difference signal.

2,974,225
RADIO RECEIVER
Frederick P. Hill, Elgin, and Robert G. Hartfield, Berwyn, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 9, 1957, Ser. No. 633,298
8 Claims. (Cl. 250—20)



4. A radio receiver including a motor driven search tuner with control circuit means for energizing the motor and automatically deenergizing the same when a signal is tuned and applied to said circuit means with a given strength, said control circuit means including a relay having only contacts adapted to close on energization thereof during search tuning, an amplifier circuit for translating a signal to be demodulated in said receiver and for application to said control circuit means, said amplifier circuit including an electron valve having cathode, grid and anode electrodes, a direct current energization circuit for said electron valve including resistor means coupling said cathode electrode to a reference point and further resistor means coupling said anode electrode to a positive potential source thereby energizing said valve for signal translation at relatively high amplifier sensitivity, and shunting resistor means series coupled with a pair of said contacts of said relay between one of said resistor means of said direct current energization circuit and the reference point for reducing the gain of said electron valve, whereby closing said contacts during search tuning lowers the sensitivity of said amplifier circuit for search tuning of only signals of high level.

2,974,226
ULTRAVIOLET ANALYZER
Horace L. Fisher, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 1, 1957, Ser. No. 693,848
2 Claims. (Cl. 250—43.5)

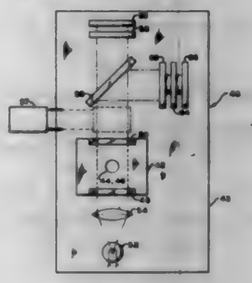


1. An analyzer adapted to detect the presence of benzene and toluene comprising a source of ultraviolet radiation; a detector responsive to ultraviolet radiation; a sample cell; a first filter comprising an aqueous solution of nickel sulfate ($NiSO_4 \cdot 6H_2O$) and cobalt sulfate

($CoSO_4 \cdot 7H_2O$)

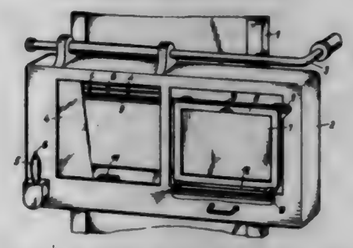
which has a band pass from a lower wavelength of about 230 millimicrons to an upper wavelength greater than about 275 millimicrons; a second filter of chlorine gas which is substantially transparent to radiation of wavelengths lower than about 270 millimicrons and substantially opaque to radiation of higher wavelengths; a rotatable chopper having a first sector transparent to ultraviolet radiation and a second sector comprising liquid carbon tetrachloride; and means for passing radiation from said source through said first filter, said second filter, said sample cell, and alternately through said first and second sectors to said detector.

2,974,227
ANALYZER
Horace L. Fisher and Elmer C. Miller, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed May 7, 1958, Ser. No. 733,558
1 Claim. (Cl. 250—43.5)



Analysis apparatus comprising a source of ultraviolet radiation, a sample cell, means for transmitting a sample stream containing oxides of nitrogen through said sample cell, a first filter for blocking wavelengths except those in the region of 405 millimicrons, a first photocell, means for passing a beam of radiation from said source through said sample cell and said first filter to said first photocell, a light divider comprising an uncoated transparent glass plate disposed obliquely in and making an angle of 45° with said beam of radiation between said cell and said first filter, whereby a corrosive atmosphere does not affect the relative amounts of light transmitted and reflected from said plate, a second filter for blocking wavelengths in the region of 405 millimicrons, a second photocell, and means positioning said second filter and said second photocell so that radiation reflected from said glass plate passes through said second filter to said second photocell.

2,974,228
CASSETTE CHANGING DEVICE FOR TAKING X-RAY PHOTOGRAPHS
Helmut Berger, Erlangen, Germany, assignor to Siemens-Reiniger-Werke Aktiengesellschaft, Erlangen, Germany
Filed Aug. 18, 1958, Ser. No. 755,553
Claims priority, application Germany Aug. 21, 1957
9 Claims. (Cl. 250—66)



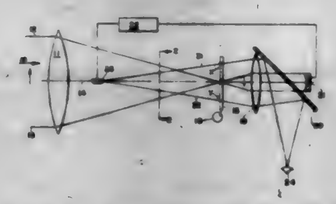
1. A cassette changing device for use in taking spot and serial radiographs, comprising a movable cassette carrier, an electromagnet for limiting the path of movement of said cassette carrier, a circuit for energizing said electromagnet, a plurality of switch-in contacts disposed in parallel in said energizing circuit, actuating elements respectively cooperatively associated with the respective switch-in contacts and projecting at predetermined points into the path of movement of said cassette carrier in different positions respectively related to different exposure positions, and a mechanism for selecting from said parallel connected switch-in contacts at least one such switch-in contact to become operatively effective response to actuation, by said cassette carrier, of the actuating element cooperatively associated with the selected switch-in contact.

2,974,229
SHEET FILM PACK FOR X-RAY PHOTOGRAPHIC PURPOSES
Hans Robert Schmidt, Leverkusen, and Max Wiesner, Leverkusen-Bayerwerk, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Aug. 26, 1958, Ser. No. 757,395
Claims priority, application Germany Aug. 28, 1957
4 Claims. (Cl. 250—69)



1. A dental film pack comprising a light-tight wrapper, a film sheet disposed within said wrapper, said wrapper including an inwardly folded closure flap at one end thereof and a substantially longer inwardly folded body flap disposed in line with said closure flap and extending to within a short distance of its end to provide a space therebetween, a flat cover sheet fastened over said body flap and overlapping said closure flap to form a slot between it and said closure flap, a pull strip engaging an edge of said film sheet within said wrapper and extending outwardly through space and said slot, said pull strip interlocking with said closure flap and extending through said slot and space across the face of said film sheet adjacent said cover sheet and slightly around said edge of said film sheet which is disposed remote from said closure flap to seal said slot and space from entry of light and permit said film sheet to be readily withdrawn and subsequently readily disengaged from said pull strip, a film-protecting layer of lead foil attached to said cover sheet and disposed between said cover sheet and said wrapper over the full area of said wrapper, and said cover sheet extending a short distance beyond the end of said wrapper opposite to said pull strip to provide a grip tab.

2,974,230
OPTICAL DETECTOR
Clyde W. Harris, Duarte, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Feb. 9, 1955, Ser. No. 487,156
10 Claims. (Cl. 250—83.3)



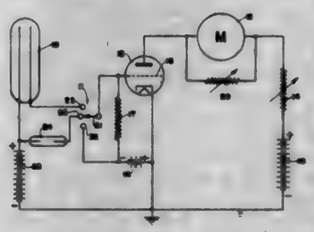
1. A device for transforming an image of infrared waves to a similar image of visible light waves, said device having an optical central axis, comprising means for forming an image in the device, an infrared detector for controlling an electric current when exposed to infrared waves, a moveable reticle between the infrared image source and the detector, said reticle having regions of its surface which are transparent to both infrared and visible waves, and regions of which are opaque thereto, means for moving the reticle, a source of visible light waves whose luminar intensity is modulated by the current from the detector disposed on the side of the reticle opposite the detector, and reflective means substantially transparent to infrared waves and substantially totally reflective of visible light waves disposed between the reticle and the detector at an angle to the optical central axis, the said means for forming an image, infrared detector, reticle, source of visible light, and reflective means being disposed along a single axis, whereby infrared and visible waves coincide through the reticle.

2,974,231
MEASURING APPARATUS
Manuel H. Greenblatt and Milton W. Green, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 2, 1958, Ser. No. 725,859
8 Claims. (Cl. 250—83.3)



3. An apparatus for determining the half life and the decay constant of a radioactive material, said apparatus comprising a device having an output of pulses proportional to the rate of decay of said radio active material, delay means connected to receive and to delay said output, a subtraction network connected to receive and subtract the outputs of said pulse device and said delay means, a dividing circuit having a divisor input, a dividend input, and a quotient output representing the quotient of its said inputs, said dividend input being connected to receive the output of said subtraction network, said divisor input being connected to receive the output from one of said delay means and said pulse device, and an indicating means connected to receive the said quotient output.

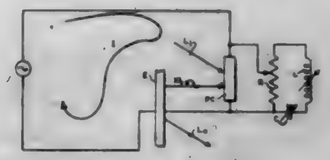
2,974,232
CALIBRATION CIRCUIT
Wilbert Minowitz, New York, N.Y., assignor, by mesne assignments, to Tung-Sol Electric Inc., Newark, N.J., a corporation of Delaware
Filed Nov. 29, 1956, Ser. No. 625,048
5 Claims. (Cl. 250—83.6)



4. A measuring circuit and calibration means therefor comprising, an ionization chamber, an amplifier, a current indicating means connected to the output of the amplifier, a constant current gaseous discharge device, a multiple position switch adapted in one position to con-

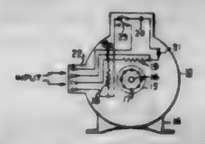
nect said constant current device to the input of said amplifier for calibration of the current indicating means, and in another position to disconnect said constant current device from the amplifier and to connect said ionization chamber to the input of the amplifier for measuring penetrating radiation, and a source of operating energy for said circuit and calibrating means.

2,974,233
FREQUENCY AND PHASE MODULATION OF OPTICAL FEEDBACK STORAGE LIGHT AMPLIFIERS
Egon E. Loebner, Princeton, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 13, 1959, Ser. No. 833,654
4 Claims. (Cl. 250—213)



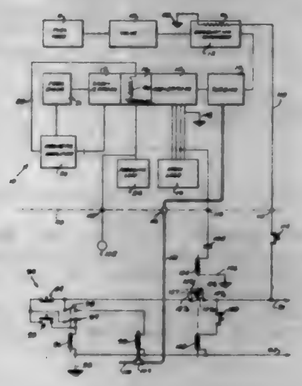
1. In an electroluminescent storage circuit including an electroluminescent emitter in light exchange relation with a photoconductive material, means for applying an audio frequency energizing voltage to said circuit, there being a first phase relationship between said energizing voltage and the voltage appearing across said emitter and a second phase relationship between said energizing voltage and the voltage appearing across said photoconductor and means in said circuit connected across said photoconductor for varying the amount of light fed back from said emitter onto said photoconductor.

2,974,234
DYNAMOELECTRIC DEVICE
Raymond N. Rowe, New Britain Ave., Plainville, Conn.
Filed Oct. 10, 1958, Ser. No. 766,575
9 Claims. (Cl. 290—31)



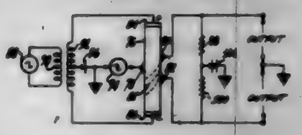
1. A dynamoelectric device comprising an enclosure, a squirrel-cage type induction rotor rotatably supported in said enclosure, a main field winding in said enclosure, an auxiliary field winding in said enclosure, capacitance means, means for connecting said field windings and said capacitance means in a first relation for operation of said device as a motor and in a second relation for operation of said device as an alternator, said auxiliary winding in said first relation being connected electrically in series with at least a portion of said capacitance means across said main winding, said auxiliary winding in said second relation being connected electrically in parallel with at least a portion of said capacitance means to form a closed loop circuit electrically independent of said main winding for operation of said device as an alternator, and means for selectively making external electrical connection directly across said main winding to apply an externally generated voltage thereto and for making external connection to said main winding with at least a portion of said capacitance means in series with said external connection and said main winding.

2,974,235
POWER GENERATOR CONTROL SYSTEM
Fred H. Guth, Warrensville Heights, and John Donald Blake, East Cleveland, Ohio, assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Feb. 12, 1957, Ser. No. 639,765
3 Claims. (Cl. 290—40)



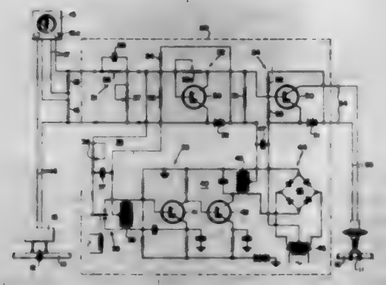
2. In a control system for an electrical power generating system having a plurality of commonly driven alternators, the frequency of which is controlled by control of the load on the alternators, a frequency discriminator connected to one of the alternators to obtain an input signal therefrom, means in said frequency discriminator to develop an output therefrom having a sign and amplitude indicative of the direction and amplitude of any difference between the frequency of said one alternator and a predetermined frequency therefor, a magnetic amplifier connected to said means in said frequency discriminator to be controlled by the output therefrom, said magnetic amplifier also being connected to said one of said alternators to be energized therefrom, a second of said alternators having a field winding connected to be energized from said magnetic amplifier and said means in said frequency discriminator whereby the output from the second alternator is a function of any frequency error and is controlled by the output of the means in the frequency discriminator and the magnetic amplifier, and a load on said second alternator supplied by the variable output of said second alternator to variably control the speed of the power generating system and maintain the frequency thereof substantially constant.

2,974,236
MULTI-ELECTRODE SEMICONDUCTOR DEVICES
Jacques I. Pankove, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 11, 1953, Ser. No. 341,689
6 Claims. (Cl. 307—88.5)



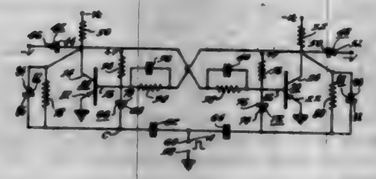
1. A circuit including a semiconductor device comprising a body of semiconductor material of one type of conductivity, an input emitter rectifying electrode and an output collector rectifying electrode of opposite conductivity types mounted on said body, a plurality of base non-rectifying electrodes mounted on said body, and a separate signal source connected between each of said base electrodes and said emitter electrode for applying a plurality of electrical signals to said body.

2,974,237
CONTROL APPARATUS
Robert J. Ehret, Palo Alto, Calif., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 26, 1956, Ser. No. 561,602
4 Claims. (Cl. 307—88.5)



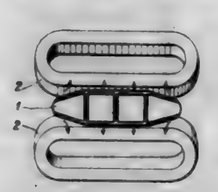
1. An electrical controller for producing an electrical signal variation which varies in accordance with the rate of change of an input signal, proportionally with the input signal and as an integrated function of the input signal comprising a pair of signal input terminals, a first resistor and a first condenser connected in series across the input terminals to form a rate circuit, a first transistor amplifier stage having an input and an output, means connecting said input to said first resistor, a controller proportionality adjusting means connected between the output and input of said stage, an integrator comprising a second resistor and a second condenser connected in series with each other and in parallel with said first resistor, a direct current to alternating current converter connected across said second condenser to produce an alternating current proportional to the integrated signal on said condenser, an alternating current amplifier connected to said converter, a phase sensitive discriminator connected to the output of said amplifier and producing a direct current signal, a second transistor amplifier stage having an input and an output, means connecting the output of said first transistor amplifier stage in series with said phase sensitive discriminator and the input of said second transistor amplifier stage, and a signal utilization means connected to the output of said second transistor amplifier stage.

2,974,238
MULTIVIBRATOR CIRCUIT
Robert D. Lohman, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 4, 1957, Ser. No. 694,385
9 Claims. (Cl. 307—88.5)



3. The combination with a flip-flop circuit including a pair of active electron devices each having a first electrode, a second electrode, and a control electrode; a pair of cross-coupling networks respectively connecting said control electrode and said first electrode of different said electron devices; signal input means; and a pair of signal gating circuits each comprising a capacitor connected between said signal input means and a different junction point, a first unilateral conducting device connected between said junction point and said control electrode of one of said electron devices, and an impedance means connected between said junction point and said first electrode of said one of said electron devices; of a pair of second unilateral conducting devices each connected in parallel with a respective said impedance means to provide faster charging of the connected said capacitor.

2,974,239
ARRANGEMENT FOR DISSIPATING HEAT GENERATED IN THE FIELD COILS
Karel Havelka, Vladimír Kořán, Jaroslav Vaníček, and Miloslav Ziegler, all of Plzen, Czechoslovakia, assignors to Závody V. I. Lenina Plzen, národní podnik, Plzen, Czechoslovakia
Filed Sept. 17, 1958, Ser. No. 761,549
4 Claims. (Cl. 310—61)

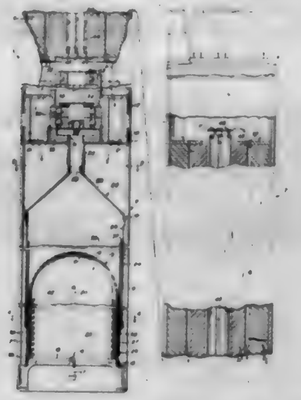


1. In a cooling arrangement for an electric machine, in combination, a rotor body having an axis and formed with radially extending passages for the flow of a fluid coolant; a plurality of radially extending pole pieces on said rotor body; magnet windings on each of said pole pieces, the axial length of said windings being substantially greater than the circumferential width thereof, said windings having radially extending flanks, and the axial flanks of adjacent windings defining axially elongated spaces which taper in a radially inward direction; a coolant distributing member in each of said spaces, said member being of substantially V-shaped radial cross section, the legs of the V and said axial flanks defining a duct communicating with one of said passages; a plurality of spaced projections on said member respectively abutting against the axial flanks of said adjacent windings; and means for fixedly fastening said members to said rotor body, whereby said windings are held in place by said members and said fluid coolant is made to flow over said flanks.

2,974,240
COMBINED HEAT EXCHANGER AND PROTECTOR FOR SUBMERGIBLE ELECTRIC MOTORS
Armais Arutunoff, Bartlesville, Okla., assignor to Reda Pump Company, Bartlesville, Okla., a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 712,038
7 Claims. (Cl. 310—87)

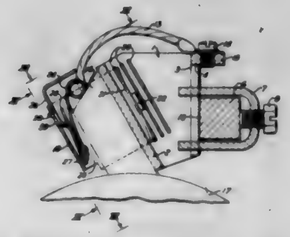
1. In a submergible pumping assembly, including a pump unit and a coaxial, oil filled electric motor unit having a vertical shaft suspended therefrom; a combined heat exchanger and motor protecting unit, comprising a housing coaxially connected to said motor unit, a reservoir in said housing communicating with said motor unit, for receiving, protecting and lubricating fluid, a flexible diaphragm partition in said housing, exposed on one side to the fluid pressure within said reservoir and on the other side to the pressure of the surrounding well fluid, to thereby compensate for a pressure differential within and without said reservoir, means associated with said motor shaft for circulating lubricating and protecting fluid from said motor unit to and from said reservoir, and an extended surface-contact heat exchanger in said reservoir, arranged to direct the course of circulation of

said lubricating and protecting fluid to and from said motor unit, said heat exchanger comprising at least two nested, elongated cylindrical sleeves, concentrically arranged in said housing in radially spaced relation to the latter and to each other, to define intercommunicating,



annular fluid passageways, one of said passageways establishing communication between said reservoir and the inlet side of said fluid circulating means and the other of said passageways establishing communication between said reservoir and the discharge side of said fluid circulating means.

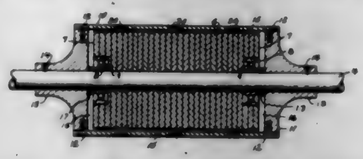
2,974,241
ELECTRIC BRUSH HOLDER
Earl F. Harter, Murraysville, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,288
8 Claims. (Cl. 310—246)



1. An electric brush holder comprising a bracket adapted to be fastened to a support adjacent a rotating circular member and having an end wall and side walls, the outside of the end wall being adapted to be engaged by one side of an electric brush extending toward the rotating member, and a resilient guard of general U-shape adapted to extend around the remaining sides of the brush and overlapping said bracket side walls, said side walls and guard being provided with interengaging detents for connecting them together with the end wall of the bracket different distances from the opposite side of the guard.

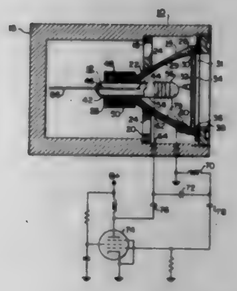
2,974,242
LOW-INERTIA INDUCTION MOTOR ROTOR
Maurice Apstein, 4611 Maple Ave., Bethesda, Md.
Filed Jan. 22, 1957, Ser. No. 635,553
3 Claims. (Cl. 310—266)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An improved rotor for providing extremely fast starting and reversing in an induction motor while maintaining the power output, said rotor comprising: a cylindrical magnetic core rotatably mounted on a shaft, a cylindrical shell coaxial with said core and rigidly attached to said shaft, said shell having a thickness of not more than 5% of its diameter, the air gap between said core and said shell being just sufficient to permit rotation



therebetween, said shell having an axially extending electrical circuit and a radially extending magnetic circuit, said electrical circuit being composed of a low resistance material in parallel with a high resistance material, and said magnetic circuit being composed of a low reluctance material in parallel with a high reluctance material.

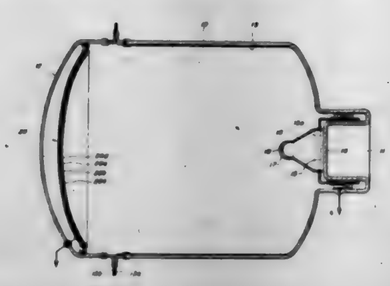
2,974,243
LIGHT SOURCE
Warren A. Marrison, Palos Verdes Estates, Calif., assignor to Space Technology Laboratories, Inc., a corporation of Delaware
Filed Nov. 12, 1959, Ser. No. 852,266
19 Claims. (Cl. 313—46)



1. A light source comprising, in combination: a vapor discharge lamp including an envelope, a vaporizable substance within said envelope the vapors of which are adapted to emit light when subjected to an electromagnetic field, a vapor condensing member disposed within said envelope and positioned remotely from the transmission path of light emitted from the light source and constructed of a material having an affinity for said vaporizable substance, heat dissipating means disposed exteriorly of said envelope and thermally coupled to said condensing member to maintain the temperature of said condensing member below that of said envelope during light emission periods of the light source; and electromagnetic field producing means positioned along a portion of said lamp; said condensing member being sufficiently spaced from said electromagnetic field producing means as to be inappreciably within the influence of the electromagnetic field produced by said field producing means.

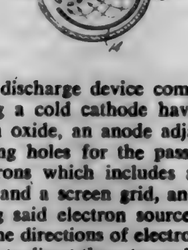
2,974,244
ELECTRON DISCHARGE DEVICE
Wilfrid F. Niklas, Park Ridge, Ill., assignor to The Rauland Corporation, a corporation of Illinois
Filed Dec. 3, 1959, Ser. No. 857,005
5 Claims. (Cl. 313—65)

1. An image-converter comprising: an electron-optical system including a photo-sensitive cathode having a generally spherical emitting surface disposed transversely and substantially coaxial of the axis of an electron-optical path along which electrons emitted from said cathode are projected; an anode also included in said system disposed transversely and substantially coaxial of said axis and



being arranged to admit electrons to an image plane symmetrical relative to said axis and spaced from said cathode surface beyond said anode; and said cathode having a nonuniform radius in that the radius of contiguous sections thereof decreases with the spacing of said sections from said axis.

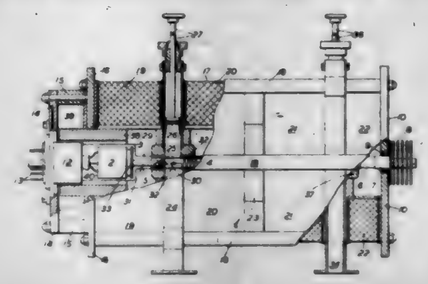
2,974,245
VACUUM TUBE HAVING THYRATRON CHARACTERISTICS
Albert M. Skellett, Madison, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed July 13, 1959, Ser. No. 826,518
8 Claims. (Cl. 313—71)



1. An electron discharge device comprising: a sealed envelope enclosing a cold cathode having a coating of porous magnesium oxide, an anode adjacent to the cold cathode and having holes for the passage of electrons, a source of electrons which includes a hot cathode, a control electrode, and a screen grid, and an electrostatic shield surrounding said electron source, said shield designed to change the directions of electrons emitted by the hot cathode source to direct them toward the cold cathode.

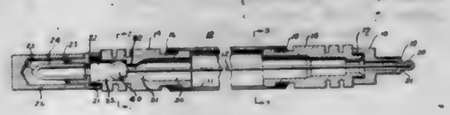
2,974,246
ELECTRON GUN FOR ELECTRON DISCHARGE TUBE
Arnold Hugh William Beck, Douglas Cecil Rogers, and Peter Francis Conway Burke, London, England, assignors to International Standard Electric Corporation, New York, N.Y.
Filed Mar. 18, 1954, Ser. No. 417,116
Claims priority, application Great Britain Mar. 26, 1953
10 Claims. (Cl. 313—84)

1. An electron gun comprising: a cathode, an apertured anode of non-magnetic material, an electrostatic throat piece beyond said anode, and a focussing electrode surrounding the cathode arranged together to focus a space-charge-limited electron beam from the cathode, through the anode aperture to said electrostatic throat, and magnetic shielding means surrounding the anode, the cathode and focussing electrode to form a pole piece of a beam focussing arrangement which is external to the gun, the said magnetic shielding means comprising an end plate having an aperture larger than at least a



first portion of said anode, and means for securing a second portion of said anode to said end plate.

2,974,247
GEIGER-MUELLER COUNTER TUBE
Nicholas Anton, 1226 Flushing Ave., Brooklyn, N.Y.
Filed Aug. 4, 1955, Ser. No. 526,517
4 Claims. (Cl. 313—93)

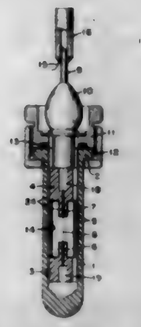


1. A Geiger-Mueller tube comprising a cylindrical cathode formed of a conductive material, a first insulated coaxial anode support at one end of said cathode, a second coaxial anode support at the opposite end of said cathode, said second support having a circular aperture therein, and a straight coaxial anode wire extending centrally through said cylindrical cathode and having an enlarged end seated in said aperture, said anode wire having an outer surface comprising a metal of high atomic weight, said anode wire further having a thermal coefficient of expansion substantially equal to that of said cylindrical cathode, said end being of generally circular cross-section larger than said aperture but with a cut-away portion so that said aperture is not fully obscured, said wire being elongated beyond its unstressed length and having its other end attached under tension to said first anode support, said wire being attached with a tension sufficient to elongate it beyond its unstressed length but substantially less than its elastic limit.

2,974,248
NEUTRON-INSENSITIVE BETA-GAMMA DOSIMETER
John A. Auxier, Oak Ridge, George S. Hurst, Knoxville, and Richard E. Zedler, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 10, 1957, Ser. No. 683,189
3 Claims. (Cl. 313—93)

1. A dosimeter for measuring beta and gamma dose in the presence of fast neutrons comprising a closed cylinder, a liner inside said cylinder defining an internal cylindrical cavity of substantially equal length and diameter, the thickness of said liner walls being greater than the range of secondary electrons therein, a counter filling gas disposed within said cavity at subatmospheric pressure, the length of said cavity being smaller than substantially one-tenth the mean free path for ionization by primary electrons of 30,000 electron volts energy in said gas at said subatmospheric pressure, said liner and said

gas having an equivalent atomic number of from 6–16, a conductive coating on the inner surfaces of said liner



to define an outer electrode, and an inner electrode axially disposed within said liner.

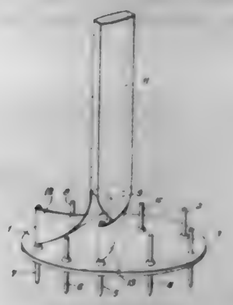
2,974,249
XENON SHORT ARC LAMPS
Wolfgang E. Thouret, East Orange, N.J., assignor to Duro-Test Corporation, North Bergen, N.J., a corporation of New York
Filed Jan. 28, 1958, Ser. No. 711,669
11 Claims. (Cl. 313—113)



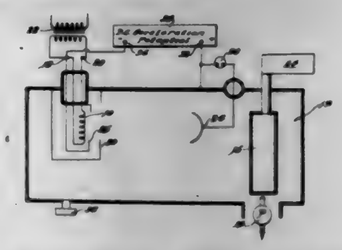
1. A lighting combination comprising in combination a parabolic reflector, a xenon short arc lamp at the focal point of said reflector having at least two cathodes aligned with an anode, and a spherical reflector facing said parabolic reflector positioned with its focal point at the focal point of said spherical reflector, the focal length of said spherical reflector being shorter than the focal length of said parabolic reflector.

2,974,250
ELECTRONIC TUBE
Helmut Katz, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Munich and Berlin, Germany, a corporation of Germany
Filed Feb. 4, 1955, Ser. No. 486,217
Claims priority, application Germany Feb. 18, 1954
4 Claims. (Cl. 313—331)

1. An electronic high-frequency discharge device including a cathode operating at relatively high temperature comprising oppositely arranged emitting surfaces, lead-in members, lead-in conductors operatively connected to said emitting surfaces and to said lead-in members, said lead-in conductors comprising a nonmagnetic alloy of metals of the group consisting of nickel, chromium and molybdenum, said alloy possessing low inductance and low thermal conductivity not exceeding 0.03 kal./cm. sec. degrees and remaining substantially constant within a relatively wide temperature range extending beyond the operating temperature of said cathode, and said width of said lead-in conductors substantially the predetermined width of said oppositely arranged emitting surfaces of said cathode.



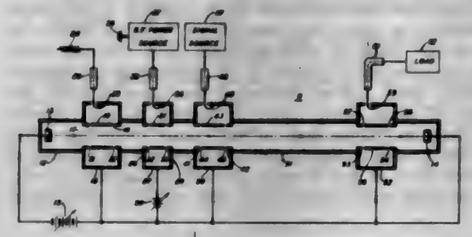
2,974,251
METHOD AND MEANS FOR INCREASING ELECTRON EMISSION
Alfred J. Barrett, Ames, Iowa, assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 19, 1960, Ser. No. 3,467
5 Claims. (Cl. 313—345)



1. In a thoriated-tungsten electron emitter operable in a chamber having evacuating means, the method of improving the operation of said thoriated-tungsten emitter comprising partially evacuating said chamber, introducing a silicone oil vapor into said partially evacuated chamber, establishing the emission of said thoriated-tungsten emitter when the partial vacuum pressure in said evacuated chamber is at about 4×10^{-4} mm. of mercury, retaining said silicone oil vapor in the atmosphere of said partially evacuated chamber for a period of about 15 minutes, and then removing said silicone oil vapor from said atmosphere of said partially evacuated chamber.

2,974,253
LOW NOISE AMPLIFIER
Calvin F. Quate, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 25, 1957, Ser. No. 698,854
28 Claims. (Cl. 315—3)

1. A high frequency amplifier comprising means for forming and projecting an electron beam along a path, said beam being characterized by the presence of both fast and slow mode noise waves thereon, first means positioned along said path for extracting from said beam fast mode noise waves, second means positioned along said path for modulating said beam in the fast mode with radio frequency energy, input means disposed along said path for introducing into fast mode coupling relationship with said beam a signal wave to be amplified, and output means downstream of said input means for extracting from the fast mode of the beam an amplified signal.

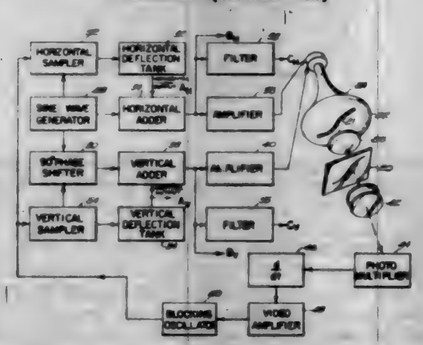


2,974,253
ELECTRON DISCHARGE APPARATUS
Robert L. Jepsen, Los Altos, Calif., assignor to Varian Associates, San Carlos, Calif., a corporation of California
Original application Oct. 5, 1953, Ser. No. 384,918, now Patent No. 2,888,599, dated May 26, 1959. Divided and this application Apr. 13, 1959, Ser. No. 806,115
1 Claim. (Cl. 315—5.19)



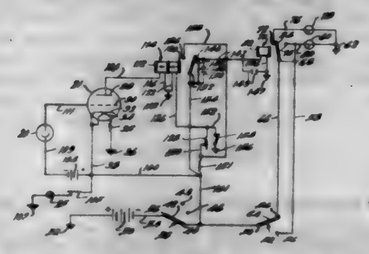
A reflex klystron including a cavity resonator having a pair of resonator grids therein, each grid having a plurality of electron-permeable interstices, and a reflector aligned with the resonator grids wherein the resonator grid nearest to the reflector is substantially thinner than the other resonator grid and wherein the interstices of the first mentioned grid are substantially larger than the interstices in said other grid, to thereby cause ions formed in the gap between the resonators to be drained through the thinner, larger-interstriced grid to the reflector.

2,974,254
CURVE TRACER
John A. Fitzmaurice, Brookline, and Eugene Blacquier, Medford, Mass., assignors to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed July 25, 1958, Ser. No. 750,963
9 Claims. (Cl. 315—18)



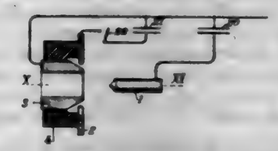
7. A scanning system comprising first means for scanning a field containing a curve to be traced with a spot following a path, second means for applying at least a pair of synchronized deflection signals to said first means, third means for applying at least a pair of synchronized repetitive signals to said second means such that said path intersects itself repetitively, fourth means for applying at least a pair of synchronized error signals to said second means, fifth means for applying at least a pair of synchronized magnitude signals to said fourth means in response to at least a pair of synchronized signals received from said first means.

2,974,255
ELECTRONIC CONTROL DEVICE
George E. Platzer, Jr., Detroit, and Harry L. Brown, Inkster, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed June 5, 1953, Ser. No. 359,941
12 Claims. (Cl. 315—83)



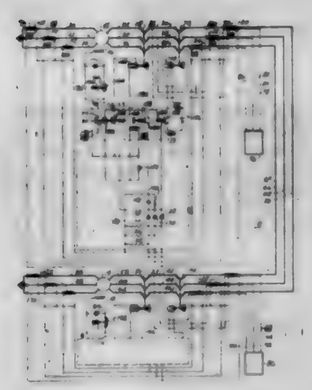
1. An improved electronic system for effecting automatic control of high and low beam headlights of a vehicle comprising a battery; a vacuum tube; including a cathode, a control grid and a plate; first circuit means including a light responsive element connected between the cathode and control grid of said tube for effecting control of current passing between the cathode and plate of said tube; a relay including coil means and switch means; second circuit means connecting said relay coil means directly in series with said battery, the plate and cathode of said tube; and third circuit means connecting said electric circuit with said switch means.

2,974,256
LIGHT SOURCES FOR THE SPECTRO-CHEMICAL ANALYSIS OF SUBSTANCES
Jacques Louis Romand, Bourg-la-Reine, and Boris Vodar, Paris, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a society of France
Filed Apr. 29, 1958, Ser. No. 731,674
Claims priority, application France Mar. 29, 1958
11 Claims. (Cl. 315—168)



1. A light source for use in a spectral analysis apparatus comprising, in combination, means forming an evacuated chamber, a cathode mounted in said chamber, a main anode mounted in said chamber and spaced from said cathode, an auxiliary anode disposed closely adjacent the cathode and means for producing a starting spark between the auxiliary anode and the cathode in the evacuated chamber for initiating a spark between the main anode and the cathode so that the spectrum of the main anode may be analyzed in a vacuum.

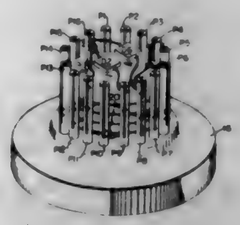
2,974,257
PROTECTIVE APPARATUS FOR POWER SYSTEMS
Morris Flagstad, Seattle, Wash., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Apr. 13, 1959, Ser. No. 806,066
7 Claims. (Cl. 317—29)



1. In a power and distribution system, the combination comprising, a plurality of energy sources, a separate feeder bus network for each of said plurality of energy sources, separate energy source disconnecting means arranged for connecting such feeder bus networks to their respective energy sources, a paralleling bus network for the system, separate bus tie disconnecting means arranged for connecting their respective energy source feeder bus network of such paralleling bus network, circuit means for connecting a load to the feeder bus network of one of said energy sources, means for obtaining a first signal proportional to said one of said energy sources current that flows on the energy source side of its energy source disconnecting means, means for obtaining a second signal proportional to the vector sum of the current flowing in said circuit means and the current flowing in said paralleling bus network, a sensing circuit responsive to said first and said second signal for effecting a control signal proportion to the difference in magnitude of said first and said second signal, relaying means responsive to said control signal for effecting a deenergization of said one of said energy sources and an actuation of said energy source disconnecting means to the circuit open position when a fault occurs either between said one of said energy sources and said energy source disconnecting means or between said energy source disconnecting means and said means for obtaining said second signal, and other relaying means also responsive to said control signal for effecting, subsequent to the actuation of said energy source disconnecting means, an actuation of the bus tie disconnecting means of said one of said energy sources to the circuit open position only when a fault occurs between said energy source disconnecting means and said means for obtaining said second signal.

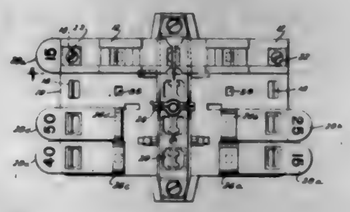
2,974,258
ELECTRONIC PACKAGING
Albert N. Garthwaite, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 19, 1956, Ser. No. 629,349
2 Claims. (Cl. 317—101)

1. A modular package for an electrical circuit which includes a plurality of circuit elements having connecting leads attached thereto and a number of electrical junction points, there being one electrical junction point for each point at which one or more of said connecting leads of said elements are electrically connected together and one electrical junction point for each point at which an input for said circuit is to be applied or an output developed at other than one of the junction points between the leads of said elements, said modular package comprising; a plurality of electrically conductive terminal posts and an insulating base member; said plurality of posts being equal in number to said number of junction points; each of said posts including a first portion having a longitudinal slot therein and a second portion formed as a contact pin; all of said posts extending through said base member with said first portions ex-



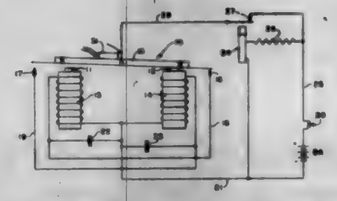
tending above said member and said second portions extending below said member and arranged in a circular configuration in essentially parallel relationship; the diameter of said configuration being less than the length of any of said elements and connecting leads; said circuit elements being divided into groups with each group arranged in a plane substantially normal to said posts, the leads on said elements in said groups extending into the slots in the posts representing the junctions to which they are required to be connected in said circuit and connected to and supported by these posts; and each of said posts connected to others of said posts only through one or more of said elements.

2,974,259
CIRCUIT BREAKERS AND PANELBOARDS THEREFOR
Thomas M. Cole, Harrison, N.Y., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Oct. 23, 1957, Ser. No. 691,998
14 Claims. (Cl. 317—119)



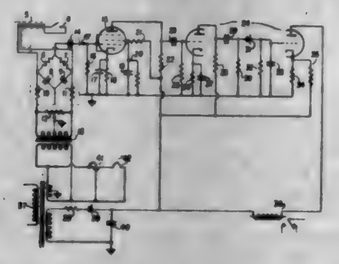
1. A circuit breaker panelboard having means for securing a circuit breaker thereon, said panelboard including a circuit-breaker supporting panel, and one of a series of rating-classification members having interlocking engagement with the panel and adapted to mate with a characterizing relief in a circuit breaker of a particular rating and to act as an obstruction against mounting of circuit breakers of other ratings not having a relief for said one member, and an indicator distinctively identified with the rating classification member extending to a location outside that portion of the panelboard that is covered by a circuit breaker when mounted.

2,974,260
REMOTE CONTROL SWITCHING CIRCUIT
Morton Stimler, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 28, 1957, Ser. No. 668,833
7 Claims. (Cl. 317—137)
(Granted under Title 35, U.S. Code (1952), sec. 266)



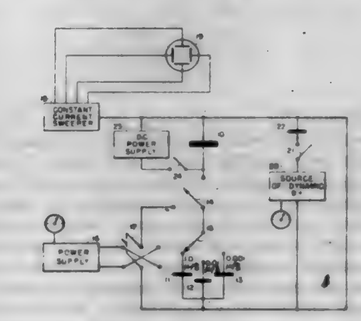
1. A "flip-flop" relay circuit comprising a "flip-flop" relay having a pair of cores, a pair of normally deenergized coils disposed on said cores, a permanently magnetized armature pivoted for movement into engagement with each of said cores selectively as the coils are momentarily energized in alternative sequential order and for maintaining the armature in engagement with each of said cores selectively by magnetic attraction therebetween when said pair of coils are deenergized, a pair of condensers connected across said coils, a pair of switching contacts on said armature interconnecting each coil therewith when the armature is displaced from the core on which the coil is mounted, a source of potential, a control circuit interconnecting the "flip-flop" relay with said source of potential, said control circuit including a manually manipulative key for selectively applying potential from said source to the "flip-flop" relay, a slow operating relay having a normally closed contact included in said control circuit and the winding thereof connected to said key in a manner to cause the slow operating relay to operate when the key is closed and at the normally closed contact thereof interrupt the control circuit a predetermined period of time after the key has been closed, said predetermined period of time being the time interval required for the armature of the "flip-flop" relay to move from a position of rest after the circuit through the operating coil thereof has been closed by said key.

2,974,261
INTRINSICALLY SAFE SWITCHING SYSTEM
Angus Guild Le Lacheur, 36 Burnam St., Boston 26, Mass.
Filed Sept. 24, 1957, Ser. No. 685,842
3 Claims. (Cl. 317—149)



1. In an intrinsically safe switching system for hazardous locations the combination of an explosive atmosphere; general purpose switching means capable of having atmospheric communication with the said explosive atmosphere; an intrinsically safe actuating energy incapable of igniting the said explosive atmosphere when interrupted by the said switching means; a source of alternating current; a remote control apparatus and vapor seal means preventing travel of the said explosive atmosphere from the hazardous location to the said remote control apparatus; said remote control apparatus being comprised of means for reducing and limiting the said source current to the said intrinsically safe actuating energy, means for supplying the said intrinsically safe actuating energy to the said switching means, a change responsive amplifying circuit adapted to raise the said intrinsically safe actuating energy to higher electrical energy levels, impedance means supplying the said actuating energy to the input of the said amplifying circuit, said amplifier circuit responsive to the change in potential of the said actuating energy when the said switching means are operated; said mentioned means for reducing and limiting the said source current to the said intrinsically safe actuating energy being a combination of elements of optimum values of reactance and resistance or reactance or resistance that reduce and limit the said source current to the said intrinsically safe actuating energy; said mentioned elements being arranged in series and having electrical failure characteristics not common to each other with said arrangment being such that electric failure of any one of the said mentioned elements will not endanger the intrinsically safe operation of the said switching means in the said explosive atmosphere.

2,974,262
SOLID STATE DEVICE AND METHOD OF MAKING SAME
George Abraham, 3107 Westover Drive SE., Washington, D.C.
Filed June 11, 1957, Ser. No. 665,182
8 Claims. (Cl. 317—234)
(Granted under Title 35, U.S. Code (1952), sec. 266)

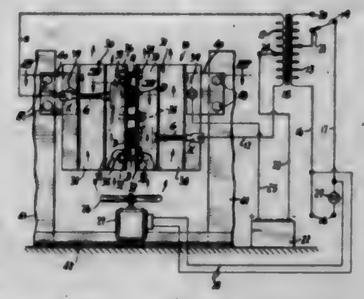


5. A solid state device comprising a body having a first surface and a second surface, said body consisting of semiconductor material having a resistivity in the order of 5 ohm-cm. in which particles of another type of semiconductor material have been dispersed in discrete zones in the crystal lattice to establish p-n junctions in distances up to approximately 25 microns from said first surface, and an electrode connected to said first surface.

2,974,263
HEAT SINK AND DIODE ASSEMBLY
Clifford M. Aklus, Minneapolis, Minn., assignor, by mesne assignments, to Marquette Corporation, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,220
11 Claims. (Cl. 317—234)

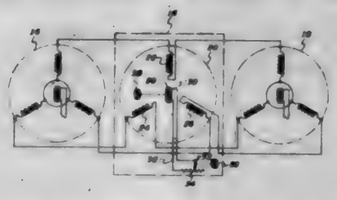
1. For a pair of diodes each having a terminal projecting from one end and the other end closed, a heat sink having parallel diode carrying portions, at least one of the diodes engaging and extending through one of said carrying portions and the other portion bearing against the closed end thereof, means for clamping these

carrying portions together, and flange elements extending in diverging and radiating relationship from the said



carrying portions for conducting heat away from each diode with equal effectiveness.

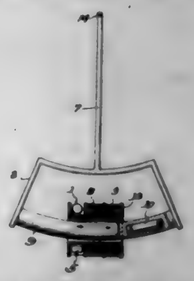
2,974,264
SYNCHRO SERVOSYSTEM TWO-CYCLE ERROR COMPENSATOR
Martin C. Depp, Wantagh, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 16, 1959, Ser. No. 846,960
6 Claims. (Cl. 318—30)



1. Apparatus for compensating two cycle error in a data transmission system having an interconnected *n* leg transmitter and receiver comprising means having a plurality of spaced apart inductors secured to it, each of said inductors being electrically insulated from the others and adapted to be serially connected between respective legs of the transmitter and receiver, inductor means positionable relative to each inductor in said plurality of inductors to vary the ratio of the impedances between the inductors in said plurality of inductors, and variable impedance means connected across said inductor means whereby the impedance of each inductor in said plurality of inductors is increased when the variable impedance is increased and the impedance of each inductor in said plurality of inductors is decreased when the variable impedance is decreased.

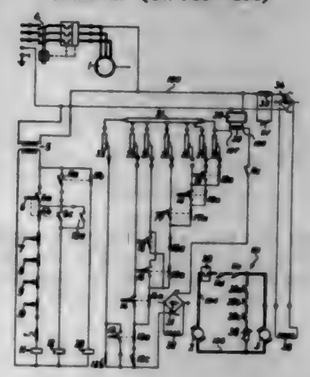
2,974,265
ELECTRIC CLOCK
Fritz Thoma, St. Georgen, Black Forest, Germany, assignor to Kienzinger & Obergfell, St. Georgen, Black Forest, Germany, a German company
Filed Dec. 24, 1956, Ser. No. 630,421
Claims priority, application Germany Dec. 24, 1955
12 Claims. (Cl. 318—132)

1. In an electronically controlled clock having a transistor control circuit and an oscillating member including a magnetic portion operative with respect to two coils arranged coaxially with respect to the path of oscillation of said oscillating member, said coils being included in said transistor control circuit and being respectively operative as a generator coil and as a motor coil, said magnetic portion being in the form of a rod-like magnet carried by said oscillating member near one end thereof, said coils being disposed closely adjacent one with respect to the other and acting in said transistor control circuit respectively as input and output impedances, thereby providing an oscillating circuit, electrical compensation means cooperatively disposed with respect to at least one of said coils for damping said oscillating cir-



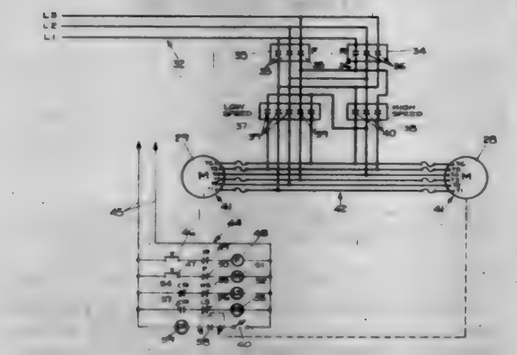
cuit to such extent that the circuit is caused to oscillate only in predetermined positions of the oscillating member, by the inductive effect imparted to said coils by the oscillating member, thereby delivering sharply defined impulses for driving said oscillating member, while inhibiting oscillation of said circuit at instances outside of the impulses produced.

2,974,266
MOTOR CONTROL FOR KNITTING MACHINES
Wilhelm Schobbe, Frankfurt am Main, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Hamburg, Germany
Filed Mar. 27, 1957, Ser. No. 648,816
Claims priority, application Germany Mar. 27, 1956
1 Claim. (Cl. 318—158)



A control arrangement for use in straight-bar knitting machines which is powered from an A.C. voltage source, comprising, in combination, a Ward Leonard circuit comprising a motor and a generator, said motor being connected to the knitting machine for driving the same first means connected to the A.C. voltage source for producing a shunt exciting field for said motor, second means connected to the A.C. voltage source for producing a shunt exciting field for said generator, said second field-producing means comprising a rectifier system for rectifying the A.C. voltage supplied by said A.C. voltage source and delivering D.C. voltage to said shunt exciting field of said generator, said field producing means thus being divided into A.C. and D.C. branches, means incorporated in said A.C. branch of said second field producing means for controlling selectively said shunt exciting field produced by said second-field-producing means so as to control the speed of said motor and consequently that of the knitting machine, and a voltage stabilizer connected to said A.C. voltage source and adapted for feeding voltage to said shunt exciting field produced by said second field-producing means via said rectifier system, said voltage stabilizer being so laid out as to compensate voltage fluctuations originating in said A.C. voltage source up to a fraction corresponding to the changes effected by said voltage fluctuations in the shunt exciting field produced by said first field-producing means and consequently in the speed of said motor, whereby an exciter may be dispensed with.

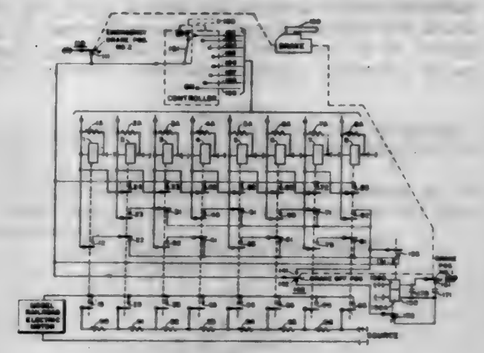
2,974,267
SHUTTLE CAR WITH TRACTION MOTOR CONTROL
Robert C. Holcombe, Dublin, Ohio, assignor to The Jeffrey Manufacturing Company, a corporation of Ohio
Filed Jan. 13, 1959, Ser. No. 786,613
10 Claims. (Cl. 318—224)



1. In a shuttle car comprising a motor for operating traction means to propel the shuttle car, means for connecting a source of power to the motor to drive the motor in a low speed range in which the motor delivers a high torque, alternate means for connecting the source of power to the motor to drive the motor in a high speed range in which the motor delivers a low torque, said motor having a speed-torque characteristic common to the low speed range and the high speed range, and speed responsive means operative at a motor speed at least approximately equal to the motor speed at said common speed-torque characteristic for deactivating one of said connecting means and activating the other of said connecting means to connect the source of power to the motor in accordance with the speed of the motor.

2,974,268
MODEL RAILROAD CONTROL SYSTEM
Francis E. Blake, Penfield, N.Y. (6113 Renegate Road, Washington 16, D.C.); Floyd H. Henson, Rochester, N.Y. (1309 Knollwood Drive, Park Forest, Pitcairn, Pa.); and Richard P. Boyer, Jr., 2515 St. Paul Blvd., Rochester 17, N.Y.
Filed Oct. 20, 1956, Ser. No. 618,988
3 Claims. (Cl. 318—349)

1. An electric motor control system comprising, a control member movable progressively between Off and On positions, first circuit means controlled by said member to be energized to connect power to the motor in increasing amounts in response to movement of said member progressively to the On position, time delay circuit means having an electrical time constant, said time delay circuit means energized together with the energization of said first circuit means and connected to additionally control said first circuit means to gradually reduce the amount of power coupled to said motor



at a rate determined by said time constant as said member is moved toward the Off position.

2,974,269
SIGNAL VOLTAGE AMPLITUDE LIMITER AND PHASE DISCRIMINATOR
James M. Cooper, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 31, 1957, Ser. No. 662,695
2 Claims. (Cl. 323—9)

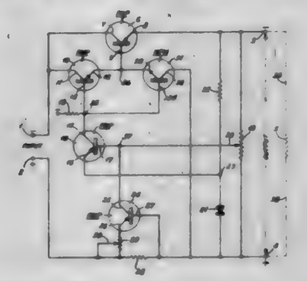


1. A combined amplitude limiter and phase discriminator for an amplitude modulated alternating signal voltage comprising, a pair of output terminals, means supplying said signal voltage to said terminals, a pair of unilateral conducting devices connected across said terminals in oppositely poled parallel circuit relation, means for deriving from an alternating voltage source pulsating unidirectional voltages having pulse shapes substantially the same as said alternating signal voltage, said means including three unilateral conducting devices and a switching means, said switching means including a two position switch, one position of said switch connecting two of said three unilateral conducting devices in circuit to provide pulsating unidirectional voltages of the same frequency as said signal voltage and the second position of said switch connecting the other unilateral conducting device in circuit with one of the first two unilateral conducting devices to provide pulsating unidirectional voltages of twice the frequency as said signal voltage, and means utilizing either of said pulsating unidirectional voltages to oppositely bias said first named unidirectional conducting devices.

2,974,270
D.C. VOLTAGE OR CURRENT REGULATOR
Richard A. Christianson, Apalachin, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1958, Ser. No. 783,956
5 Claims. (Cl. 323—22)

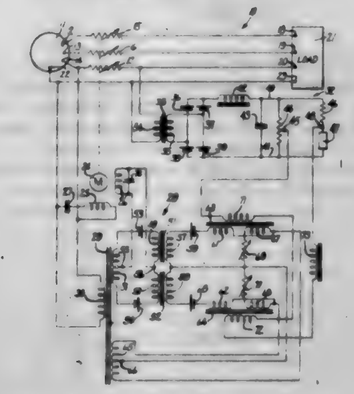
5. In a voltage or current regulator with a potential source for supplying current to a load circuit including a load, a plurality of transistors including a first and a last,

each of the transistors having a collector, an emitter and a base, means for supplying current from the source to the load through the collector-emitter path of the first transistor, feedback means for deriving from the load circuit and impressing upon the base with respect to the emitter of the last transistor a control voltage, control means comprising a control transistor connected as an



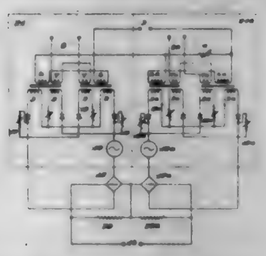
emitter follower to provide current amplification from the collector of the last transistor to the base of the first transistor, biasing means connected to the collector of the last transistor, shunting transistor means connected in said regulator circuit and operable to remove capacitive potential from between the collector and emitter of said control transistor.

2,974,271
VOLTAGE REGULATOR
Fred H. Guth, Warrensville Heights, and John V. Majercak, Cleveland, Ohio, assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed July 8, 1957, Ser. No. 670,417
3 Claims. (Cl. 323—66)



3. In an electrical supply system including an alternator arranged to be coupled to a load, mechanically operated means for controlling the voltage applied to the load, a two phase induction motor mechanically coupled to said mechanically operated means and having a pair of windings, sensing means arranged to produce a D.C. error signal having a polarity and magnitude determined by the direction and deviation of the load voltage from a certain value, a first transformer winding having a center cap connected to one terminal of one of said motor windings, a pair of rectifier devices having terminals connected to end terminals of said transformer winding, a first pair of saturable reactors having a first pair of windings connected between the other terminal of said one of said motor windings and the other terminals of said rectifier devices, a second pair of windings on said first pair of saturable reactors, a second transformer winding having a center cap connected to one terminal of each of said second pair of windings, means including windings of a second pair of saturable reactors and a pair of rectified devices connecting the other terminals of said second pair of windings to the end terminals of said second transformer winding, means controlled by said error signal for controlling the relative degree of saturation of said second pair of saturable reactors, and means applying to A.C. voltages from said alternator to said motor winding and to said transformer windings including means for shifting the phase of one A.C. voltage 90° relative to the other.

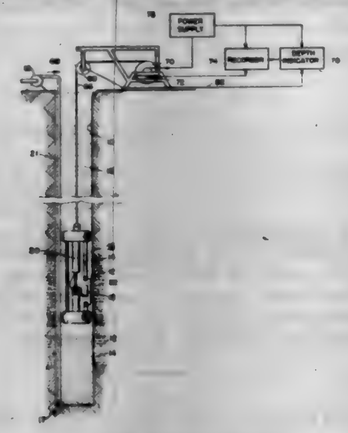
2,974,272
VOLTAGE REGULATING SYSTEM
Katsuhiko Noda and Kazuo Kurokawa, Shinjuku-ku, Tokyo-to, Japan, assignors to Agency of Industrial Science and Technology, Ministry of International Trade and Industry, Chuo-ku, Tokyo-to, Japan, an authority of the Japanese Government
Filed Apr. 21, 1958, Ser. No. 729,708
Claims priority, application Japan July 2, 1957
6 Claims. (Cl. 323—89)



6. In an automatic control system having an automatic device having a control output for maintaining an ideal value on a controlled variable in a controlled system deviating for periods of time in performing its control function so that the output thereof does not correspond to the ideal value, a compensation and anti-hunt feed-back compensating sub-system for automatically compensating for the variation in the output of said device during the variation periods comprising, means responsive to the output of the control device to derive an output compensating signal for compensating for said periods of variation, means connected to continuously apply the output of said control device to said last mentioned means as an input, means to apply said compensating signal at a given point in the controlled system, said means to derive the compensating signal comprising two time-lag elements connected in parallel in a loop with different outputs and having the same amplification characteristic over their operating range, one of said elements having a lag constant greater than the other, both elements having time-lag constants so chosen as to be less than a variation period of the automatic device, means differentially connecting output sides of the two elements to cause the compensating signal to correspond to a signal representative of the difference between the two outputs of the time-lag elements.

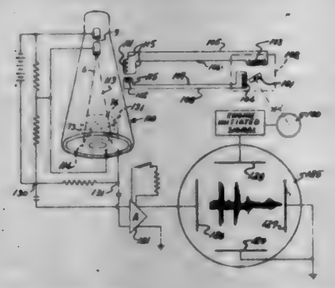
2,974,273
METHOD AND APPARATUS FOR INVESTIGATING EARTH FORMATIONS
Charles B. Vogel and Daniel Weiser, Houston, Tex., assignors to Shell Oil Company, a corporation of Delaware
Filed Jan. 28, 1957, Ser. No. 636,565
4 Claims. (Cl. 324—1)

1. A method for determining the permeability of a formation traversed by a fluid filled borehole wherein the face of the formation is covered by a relatively impermeable mud sheath in contact with the borehole fluid, comprising the steps of: dispersing a portion of the mud sheath by irradiating it with sonic energy to permit the fluid in the borehole to flow through the irradiated portion at a



rate proportional to the permeability of the formation, and simultaneously measuring a quantity representing the permeability of the formation and effected by the flow of fluid through said portion of the mud sheath and into the formation.

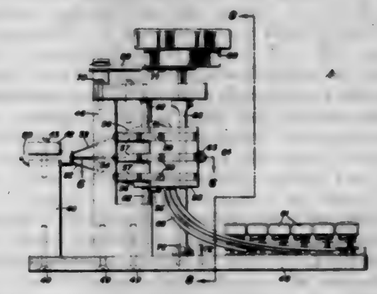
2,974,274
SECONDARY-EMISSION CATHODE-RAY TUBE AND ENGINE ANALYZER EMPLOYING THE SAME
John E. Lindberg, Jr., 1170 Oleander Drive, and Leslie J. Cook, both of Lafayette, Calif.; said Cook assignor to said Lindberg
Filed Dec. 13, 1955, Ser. No. 552,870
16 Claims. (Cl. 324—16)



1. In an engine analyzer, engine-operated means to generate a cyclic-path cathode-ray sweep beam in cycle with its engine; a target upon which said beam impinges so as to produce secondary electron emission, the intensity of which changes in a predetermined manner during each cycle; a collection ring adjacent said target for collecting secondary electrons so emitted, so that the motion of said sweep generates a secondary electron current that varies in a predetermined relation depending on the angular position of said beam; an engine analyzer tube having deflection means; and means to vary the potential difference across said deflection means with said secondary electron current.

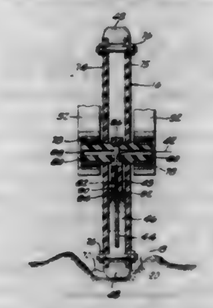
10. An electronic tube for utilizing the phenomenon of secondary electron emission, comprising a target capable of emitting secondary electrons; means for projecting a beam of primary electrons at said target; collection means for secondary electrons emitted by said target; and two sets of deflection means operating on said beam so as to vary the direction from which said beam comes when it strikes the target at substantially a single point, to vary secondary electron emission from said target by varying the angle of incidence of said beam relative to said target without changing the point at which the beam strikes said target.

2,974,275
TUBE HOLDER AND CONTACTOR FOR ELECTRICAL AND VIBRATION TESTS OF SUB-MINIATURE RADIO TUBES
Thomas J. Haviland, Brookeville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 5, 1952, Ser. No. 275,008
13 Claims. (Cl. 324—20)



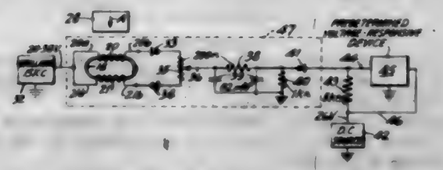
1. A connect-disconnect arrangement for testing an electron tube, comprising, a base plate, clamping support means mounted thereon for supporting said electron tube, a terminal block for receiving the electrode leads of said electron tube, said tube being mechanically isolated from terminal block and clamping means for holding said electrode leads of said tube against terminal strips for a multi-conductor cable.

2,974,276
METHOD OF AND APPARATUS FOR USE IN MEASURING EARTH POTENTIALS
Robert L. Davis, Bakersfield, Calif., assignor to The Superior Oil Company, Los Angeles, Calif., a corporation of California
Filed Aug. 16, 1957, Ser. No. 678,508
10 Claims. (Cl. 324—29)



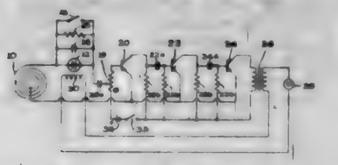
1. A device for contacting the ground in earth potential surveys, said device comprising: a hollow dielectric wheel having a porous dielectric rim to be saturated with an electrolyte contained therein over the ground to improve electrical contact therewith; and a metal electrode in the hollow space in said wheel in a position to be at least partially immersed in said electrolyte to provide good electrical contact therewith.

2,974,277
MAGNETIC FIELD SENSING DEVICE
Donald A. Weiss, Minneapolis, Minn., assignor to Maico Electronics, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 16, 1958, Ser. No. 780,723
5 Claims. (Cl. 324—43)



2. A magnetic field sensing device comprising a sensing head for sensing the field and having a low reluctance core forming a closed loop and having opposite sides each having a coil wound thereon, an alternating current source, said coils having first ends coupled with said source, and said coils also having second ends respectively connected to oppositely arranged diodes respectively conducting positive and negative current pulses, resistance means connected across the diodes and having an adjustable tap to normally equalize the magnitudes of and to carry said positive and negative current pulses, the coils being wound in such a direction to produce flux in similar directions in the core upon conduction of positive and negative current pulses respectively, and means connected to said tap to produce an output signal in response to a comparison of magnitudes of successive current pulses conducted by said tap, whereby the presence of the magnetic field adjacent the core will vary the relative magnitudes of the current pulses conducted by the coils and will thereby cause a change in the output signal.

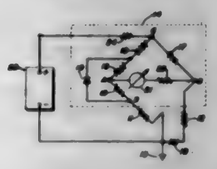
2,974,278
ELECTRICAL TESTING DEVICES FOR DETECTING AND LOCATING FAULTS IN CIRCUITS
John B. Kennon, 330 Gertrude St., Syracuse, N.Y., assignor of one-half to Charles E. Wright, Syracuse, N.Y.
Filed Jan. 25, 1960, Ser. No. 4,330
6 Claims. (Cl. 324—52)



1. A testing instrument for detecting and locating faults in electrical circuits and the like, comprising a pick-up coil, an amplifier, an output transformer in series connection with a feedback coil, a neon tube in series connection with said pick-up coil, with the neon tube positioned in inductive relation to the feedback coil and constituting therewith a variable impedance said neon tube being connected to the input of said amplifier, and means connected in circuit with the amplifier output and with the feedback coil for producing signal indications responsive to faults detected by the pick-up coil.

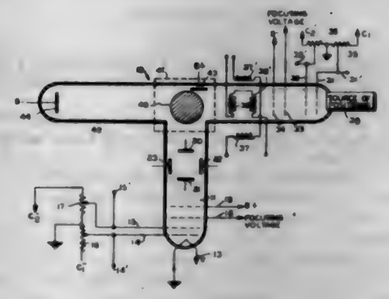
2,974,279
VOLTAGE COMPENSATED RESISTANCE BRIDGE
Austin W. Barry, Lindon, and Richard P. Schuhs, East Orange, N.J., assignors, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey
Filed Nov. 18, 1957, Ser. No. 697,008
12 Claims. (Cl. 324—62)

1. A circuit arrangement comprising a Wheatstone bridge, a source of D.-C. potential connected across one diagonal of the bridge, a compensating resistor in series circuit with one arm of the bridge, a semi-conductor Zener diode in addition to the bridge arms connected across the source of D.-C. potential through the said compensating resistor, the said semi-conductor being ar-



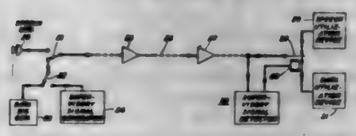
ranged in reverse-polarity sense relative to the source of D.-C. potential, the said compensating resistor compensating for changes in the voltage drop across the said Zener diode with changes in current through the said Zener diode which changes result from variations in the potential of the said source of D.-C. potential.

2,974,280
METHOD OF ELECTRIC TIMING AND APPARATUS FOR SAME
Robert L. Hoover, 3077 E. Shadowland Ave. NE., Atlanta, Ga.
Filed Sept. 20, 1954, Ser. No. 457,219
15 Claims. (Cl. 324—68)



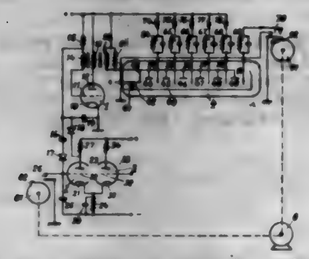
1. Apparatus having an annihilation area for determining the time relationship between two pulses comprising means for producing two beams of oppositely charged particles, means for effecting the arrival of said oppositely charged particles at said annihilation area and for controlling the arrival timewise with respect to said pulses, and means for determining the time relationship of said pulses by detecting the annihilation products resulting from collision of oppositely charged particles.

2,974,281
SELECTIVE SIGNAL RECOGNITION SYSTEM
Carl B. H. Feldman, Clearwater, Fla., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 1, 1957, Ser. No. 693,914
13 Claims. (Cl. 324—77)



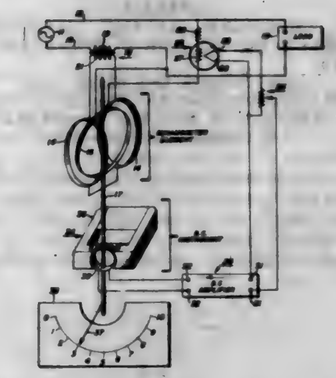
13. In apparatus for analyzing a wave for its periodic and aperiodic portions, the combination of means for limiting the amplitude of said wave, means for generating a pulse indicative of the rising portion of each cycle of said limited wave, means for deriving from said pulses an auxiliary wave whose amplitude at every instant is proportional to the repetition rate of said generated pulses, means for differentiating said auxiliary wave, and means for detecting portions of said differentiated auxiliary wave having amplitudes below a preassigned amplitude level.

2,974,282
DEVICE FOR REPRESENTING A VOLTAGE IN THE SHAPE OF A CODE
Henry Scheftelowitz, Stockholm, Sweden, assignor to Telefonaktiebolaget LM Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed June 1, 1955, Ser. No. 512,443
Claims priority, application Sweden June 18, 1954
1 Claim. (Cl. 324—99)



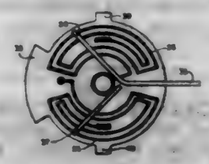
A device for producing a measuring voltage in the form of a code comprising, in combination, a source of auxiliary voltage generating a pulse-shaped output voltage, amplitude comparing means connected in circuit with said voltage source for feeding the comparing means with said pulse-shaped voltage, said comparing means generating a comparison voltage having a step-wise increasing amplitude and being arranged to block said voltage source in response to a comparison voltage above a predetermined value controlled by the measuring voltage, electronic stepping means including electrodes defining several boxes in a row array and having an electron beam arranged to step from box to box in time with incoming pulses of said pulse-shaped voltage, said stepping means being connected in circuit with said auxiliary voltage source for feeding said pulse-shaped voltage to the stepping means also, circuit means for feeding the measuring voltage to said comparing means and test-circuit means connected in circuit with said electrodes and arranged to transform the momentary amplitude of the measuring voltage into the desired code form, said test circuit means having a reaction time longer than the duration of the pulses controlling the stepping of the electron beam, said auxiliary source of voltage including a first, a fourth and a fifth electron tube, each having a control grid, said electronic stepping means including a trochotron including plates and auxiliary dividers, and said amplitude comparing means including a second and a third electron tube, each including a control grid and connected in push-pull, the said first tube being connected to the control grid of said fourth tube, said fourth tube being connected in a push-pull circuit with the fifth tube, said fifth tube being connected in circuit with the control grid of said second tube, said circuit including a rectifying means, and said fifth tube being further connected in circuit with said auxiliary dividers of said trochotron, said last mentioned circuit including a sixth electron tube, and said comparing means further including a seventh electron tube having a control grid, the anode of the third tube being connected in circuit with the grid of said seventh tube, said last mentioned circuit including a second rectifying means, the cathode of the seventh tube being connected to the control grid and the anode of the said tube to the anode of the first tube.

2,974,283
WATTMETER POTENTIAL CIRCUIT POWER COMPENSATION ARRANGEMENT
Royden F. Estoppey, Berkeley Heights, N.J., assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey
Filed Nov. 4, 1957, Ser. No. 694,357
2 Claims. (Cl. 324—144)



1. An arrangement for compensating for the power dissipated in the potential circuit of a wattmeter, which wattmeter comprises an electrodynamometer mechanism having a movable coil secured to a staff, the said staff being rotatable in direction and magnitude in response to the electrodynamometer mechanism energization, electromagnetic means mechanically coupled to the said staff and developing an alternating current component having a magnitude and phase sense relating to rotation of the staff, means phase-rectifying the said alternating current component to produce a corresponding output current, the said compensating arrangement comprising a thermocouple having input terminals connected to the wattmeter potential circuit, means feeding the thermocouple output current and the said output current from the phase-rectifying means back into the said electromagnetic means to return said staff to its initial position, the said output current from the said phase-rectifying means being a measure of the true load power.

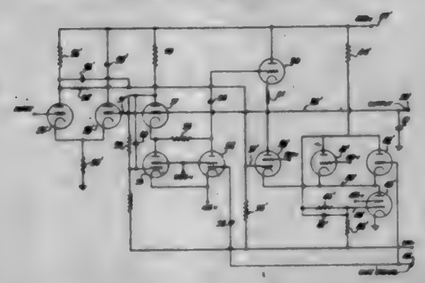
2,974,284
ROTORS FOR ELECTRICAL INDICATING INSTRUMENTS AND METHODS OF MAKING THE SAME
Louis W. Parker, 130 Cutter Mill Road, Great Neck, N.Y.
Filed Oct. 22, 1957, Ser. No. 691,665
5 Claims. (Cl. 324—150)



1. An indicating instrument of the type comprising a permanent magnet having a rotor structure mounted for rotation adjacent thereto and adapted to produce a varying field cooperating with the field of said magnet to effect varying rotation of said rotor structure, said rotor structure comprising a substantially flat disk of insulating material having outer substantially flat metallized surfaces of coil configuration for producing said varying field, an inner sheet of metallic material imbedded in said disk in insulated relation to said outer metallized surfaces, means electrically connecting portions of both said outer metallized surfaces to one another, through said disk, in

insulated relation to said inner sheet of metallic material, and a pointer element comprising a light, strong and resilient plastic strand, in the nature of nylon, of elongate configuration having a portion of its length cemented to one of said outer surfaces and having the remainder of its length extending beyond the periphery of said disk.

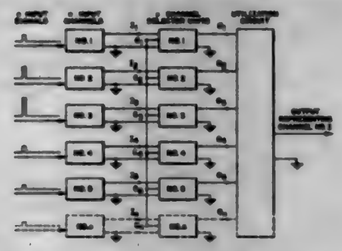
2,974,285
GATED AMPLIFIER HAVING DEGENERATIVE FEEDBACK MEANS FOR ELIMINATING TRANSIENTS
James Schoeck, Oak Ridge, Tenn.
(119 Commonwealth Ave., Boston 16, Mass.)
Filed Jan. 30, 1957, Ser. No. 637,274
6 Claims. (Cl. 328—91)



1. A gated amplifier for gating an input signal voltage to produce an output voltage proportional to the input voltage during the period of gating pulses of selected polarity comprising an input amplifier stage for receiving said signal voltage, an output amplifier stage including a vacuum tube having a plate and a control grid, means for coupling the amplified input signal from said input amplifier stage to the grid of said output amplifier stage, degenerative feedback means for applying a feedback signal proportional to the signal at the plate of said output amplifier tube to said input amplifier stage to cancel gating transients from the output of said output amplifier stage, gating means for terminating conduction in said output amplifier tube for the period of said gating pulses to cut off plate current in the output stage, an output load for said output amplifier tube comprising an output load vacuum tube serially connected to the plate of said output amplifier tube and a capacitance connected in parallel with said output load vacuum tube and having a discharge path including said output load vacuum tube, means responsive to said gating pulses for cutting off the plate current of said output load vacuum tube, and means including said output load vacuum tube for open-circuiting the discharge path of said capacitance for preserving substantially a constant charge on the output capacitance during the occurrence of said gating pulses.

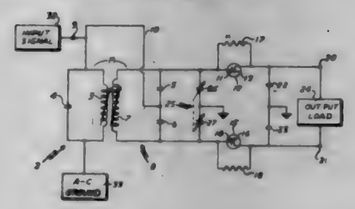
2,974,286
CHANNEL SELECTOR
Maurice A. Meyer, Natick, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Sept. 27, 1952, Ser. No. 311,885
6 Claims. (Cl. 328—116)

1. An electronic channel selector unit comprising a differential amplifier formed of first and second electron tubes having input and output circuits, means for establishing at substantially constant value the combined currents of said first and second tubes, means for applying a signal for selection to the input of said first electron tube, a third electron tube coupling the output of said second electron tube to an output terminal, a rectifier coupling said output terminal to said input of said second electron tube and being poled for the transfer to said input of signals of a predetermined polarity, and a second rectifier connected to said output terminal and



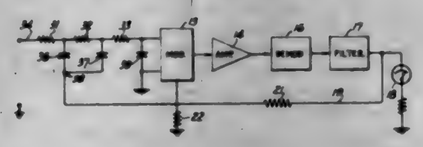
poled to effectively short circuit thereat signals of opposite polarity.

2,974,287
BALANCED DISCRIMINATORS
Robert F. Arnesen, Needham Heights, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Nov. 28, 1958, Ser. No. 777,019
5 Claims. (Cl. 329—138)



1. A discriminator circuit comprising, in combination, resonance means adapted to be connected to an input signal source, said input signal having a variable frequency; rectifying means connected to said resonance means for providing an output signal to voltage of which is proportional to the frequency of said input signal; a differential reactance means including a pair of reactance elements each having a terminal connected to opposite ends of said resonance means and having a common terminal connected to a reference point for controlling the response of said output voltage to said input frequency.

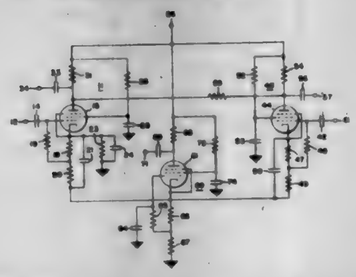
2,974,288
D.-C. AMPLIFIER AND FILTER THEREFOR
Donald E. Norgaard, Los Altos, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Oct. 9, 1957, Ser. No. 689,093
2 Claims. (Cl. 330—10)



1. A D.-C. amplifier system for input signals having A.-C. and D.-C. components, said system comprising a modulator having first and second input terminals, an A.-C. amplifier connected to said modulator and serving to amplify the modulated output signal of said modulator, a demodulator connected to said amplifier and serving to demodulate the amplified signal to form a D.-C. signal proportional to the D.-C. component of said input signal, an output device, means to apply said last named D.-C. signal to said output device, a feedback means in-

cluding a potential divider comprising two resistances connected in series between the output of said demodulator and a point of fixed reference potential, said potential divider having a divider ratio such that the potential at the junction of said resistances with respect to said reference potential is substantially equal to the D.-C. component of said input signal with respect to said reference potential, a direct connection between the junction of said resistances and the second input terminal of said modulator, said system comprising also a low-pass input filter having an input terminal, said filter comprising two resistors connected in series between the input terminal of said filter and the first input terminal of said modulator, a capacitor connected from a point located between said last-named resistors to the junction of the two resistances of said potential divider, and a capacitor connected between the first input terminal of said modulator and said point of reference potential, and means to apply the signal to be amplified between the input terminal of said input filter and said point of reference potential.

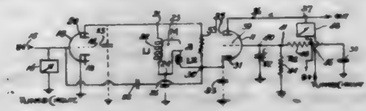
2,974,289
MATRIX AMPLIFIER FOR COMBINING COLOR-DIFFERING SIGNALS
Curtis D. Cockburn, Frankfort, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 9, 1957, Ser. No. 677,304
18 Claims. (Cl. 330—69)



1. A circuit for matrixing two color signals to produce a third color signal, said circuit comprising, a first amplifier having a tube therein for amplifying one color signal, a second amplifier having a tube therein for amplifying another color signal, an impedance connected to be common to the cathode circuits of the tubes of said first and second amplifiers, a third amplifier having an input connected to said impedance, an impedance connected between the plates of the tubes of said first and second amplifiers, a first resistor connected in the cathode circuit of the tube of said first amplifier, a capacitor connected in shunt with said first resistor for presenting a low impedance only at high frequencies, and means between the cathode circuit and grid circuit of the tube of said first amplifier for applying at least a portion of the direct current voltage developed across said first resistor between the cathode and grid circuit of said first amplifier.

2,974,290
V.H.F. TELEVISION AMPLIFIER CIRCUIT
Alexis N. Azelickis, Chicago, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Sept. 4, 1958, Ser. No. 759,690
1 Claim. (Cl. 330—70)

In a cascode circuit for TV frequencies comprising channels 2 to 6 inclusive as a low band and channels 7 to 13 inclusive as a high band with the two bands separated by an unused intermediate band, two three-element tubes, each tube having a cathode, control grid and anode, the lower tube in the cascode arrangement having its anode connected to the cathode of the upper tube, the cascode input being to the lower tube across the control grid and cathode thereof, the cascode output being across the anode of the upper tube and cathode of the lower tube, manually tunable means in the input and output of the cascode circuit for selecting a desired TV channel, the connection between the lower tube anode and upper tube cathode consisting of two branches in shunt to each other, one branch having a step-down transformer provided with a primary and a secondary winding connected in series aiding relation, the primary winding being connected between the lower tube anode and a junction point, the secondary winding being connected between the junction point and upper tube cathode, said primary having more turns than the secondary with the two windings being wound in bifilar relation to provide tight coupling, the primary having those turns in excess of the secondary turns free of any bifilar relationship and such excess turns being at that end of the primary which is nearest to the anode of the lower tube, a capacitor connected between said transformer winding junction point

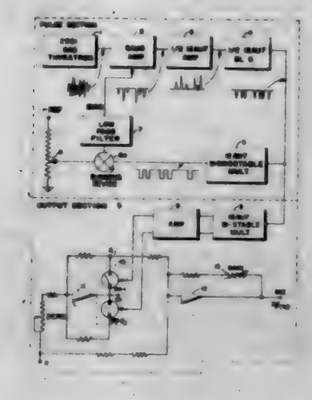


and ground, said capacitor having such a capacitance that for frequencies at the low band, the reactance is high enough so that negligible energy is by-passed to ground and the currents at such low band frequencies pass through the primary and secondary windings successively, said capacitor presenting a substantially lower reactance to frequencies in the high band so that currents in the transformer primary are by-passed, said branch containing the transformer windings at low band operation acting as if the inductances due to the primary, secondary and mutual inductance add to provide a resonance peak in the upper part of the low band, said branch containing the transformer windings at high band operation acting as if the only inductance present is that due to the excess non-filar wound turns of the primary to provide a resonance peak in the upper part of the high band, the second branch of the connection between the lower tube anode and upper tube cathode containing a resistor of sufficiently low value to broaden the resonance peaks and reduce tilt of response curves of channels tuned in.

2,974,291
RANDOM NOISE GENERATOR
Nicasio Collotti, Akron, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed June 19, 1959, Ser. No. 822,983
5 Claims. (Cl. 331—78)

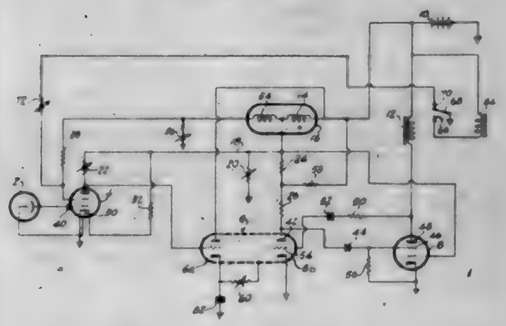
1. A random noise generator comprising a thyratron gas discharge tube, amplifier means for amplifying the random anode current thereof and to pass certain peak value pulses, a blocking oscillator triggered by said peak value pulses, a monostable multivibrator triggered by output of said blocking oscillator, means for setting the mean count of the thyratron, means providing a sum of the output of said monostable multivibrator and a manually adjustable bias voltage to control bias of said amplifier means, a bistable multivibrator also triggered by pulses from said blocking oscillator, a first direct current amplifier having a pair of alternate feedback circuits, each feedback circuit including electronic switch means for alternately opening and closing them with one circuit open when the other is closed, said switch means being triggered by the outputs of said bistable multivibrator, said first direct current amplifier providing at a point in one of its

feedback circuits alternately zero or the negative of an input signal applied to said amplifier of random duration in time, a second direct current amplifier means for



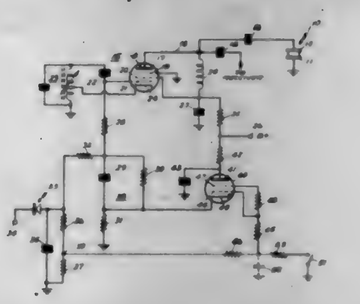
summing at the input of the second direct current amplifier the voltage of said point and the input signal of said first direct current amplifier.

2,974,292
OSCILLATOR CONTROL CIRCUIT
Carl E. Atkins, Bloomfield, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed Aug. 9, 1957, Ser. No. 677,377
4 Claims. (Cl. 331—145)



1. An oscillatory circuit and control therefor comprising a D.C. source of operating energy, an electronic triode having an anode, a control grid and a cathode, an electronic tube having an anode, a cathode and at least one grid, means capacitatively coupled the anode of said triode with a grid of said tube and the anode of said tube with the grid of the triode, means connecting the cathodes of said triode and tube to the negative terminal of said source, a resistive impedance connected between the anode of said triode and the positive terminal of said source, said resistive impedance being of a magnitude selected with reference to the voltage of the source and to the characteristics of said triode as to cause said triode to be current saturated when the potential of the grid thereof is at or above a preselected value, an inductive impedance connected between the positive terminal of said source and the anode of said electronic tube, said triode and tube comprising together a circuit which breaks into oscillation when a potential below said preselected value is applied at the grid of said triode and in which oscillations are quenched when the grid potential of the triode is at or above said preselected value, means energized from said source and responsive to a condition to be detected for creating a control potential variable with the condition, means for converting the magnitude of the created control potential into a value suitable for control of oscillation of the oscillatory circuit, said last mentioned means comprises a second triode having a control grid, an anode connected to the positive terminal of said source, and a cathode connected through a cathode resistor to the grid of said first mentioned triode only, the grid and cathode of said first triode providing the sole direct current path to the negative terminal of the source for said second triode, and means for applying said created control potential to the control grid of said second triode.

2,974,293
PULSED OSCILLATOR HAVING OSCILLATION TERMINATING MEANS INDEPENDENT OF INITIATING PULSE
Robert A. Frykland, Johnson City, N.Y., assignor to Raytheon Company, a corporation of Delaware
Filed Mar. 12, 1956, Ser. No. 571,047
14 Claims. (Cl. 331—149)

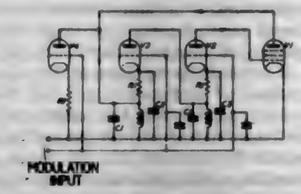


1. In combination, a keying system comprising an electronic oscillator, a gaseous discharge tube circuit including a gaseous discharge tube, a source of initiating voltage and electrical switching means in said discharge tube circuit for controlling the initiation of conduction of said gaseous discharge tube, said discharge tube circuit including a capacitor coacting with said conduction of said discharge tube to produce a pulse of fixed energy content independently of the continued operation of said electrical switching means, said electronic oscillator having an input circuit responsive to said pulse of fixed energy content to be triggered into oscillation for a predetermined period of time independently of the duration of said pulse, and an energy storage device responsive to said oscillation to inhibit said oscillation independently of the time of termination of said pulse of fixed energy content.

2,974,294
FREQUENCY MODULATED OSCILLATOR CIRCUITS
Ivor Albert Ravenscroft, Caversham, near Newport, England, assignor to National Research Development Corporation, London, England, a corporation of England
Filed Dec. 12, 1957, Ser. No. 702,304
Claims priority, application Great Britain Dec. 13, 1956
3 Claims. (Cl. 332—16)

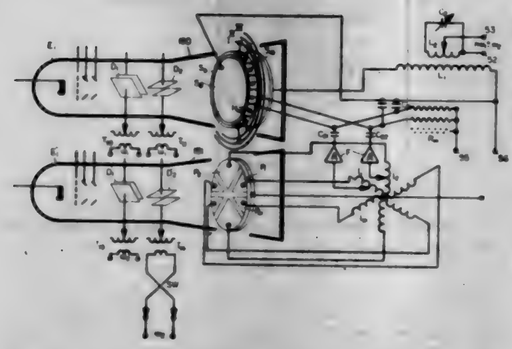
1. A frequency modulated valve oscillator circuit comprising a plurality of valve stages at least two of which valve stages control the frequency of the oscillator, each of said frequency controlling valve stages including a cathode-driven valve, means for earthing the grid of said valve at carrier frequency, and a feedback resistor in

the cathode circuit of the said valve for effecting negative feedback over the valve; and means for equalizing



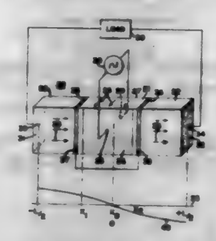
the transconductances of the said two valve stages, thereby to balance out the modulation frequency components.

2,974,295
FREQUENCY ADDITION AND SUBTRACTION BY MEANS OF AUXILIARY DEFLECTION ELECTRODES IN A CATHODE RAY TUBE
Olof Erik Hans Rydbeck, Goteborg, Sweden (Fjaras, Sweden), and Carl Mårten Eugen Stenhardt, Langselerlingen 28, Vallingby, Sweden
Filed Apr. 29, 1957, Ser. No. 655,788
Claims priority, application Sweden May 2, 1956
5 Claims. (Cl. 332—58)



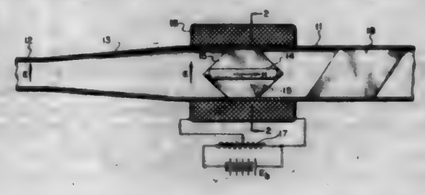
1. An electronic apparatus for obtaining frequency addition or frequency subtraction of two frequencies f_1 and f_2, said apparatus comprising a tube, an electron gun for generating an electron beam within said tube, first deflecting means in said tube for imparting a periodic deflection of said beam in a predetermined, periodical sweep along a closed sweep path with a frequency of f_1 cycles per second, a target electrode in said tube, a plurality of auxiliary deflecting means located near said target electrode between said first deflection means and said target electrode, said auxiliary deflection means being symmetrically disposed along said closed sweep path and being divided into m groups each having n auxiliary deflection means therein, where m is an integer greater than 1 but less than the number of auxiliary deflection means, the deflection means of each of the groups of such deflection means being interspersed among the auxiliary deflection means of the other groups, a source of multiphase energy having a frequency f_2 and m phases, connecting means connecting each phase of said source to a different one of said groups of deflection means for producing an auxiliary deflection field having m phases and n pole pairs, said auxiliary deflection field moving along said deflection path at a frequency of f_2/n cycles per second, said auxiliary deflection field causing a periodical auxiliary deflection of said beam to and from said target electrode during its sweep along said closed path, and a tank circuit tunable to the frequencies $n \cdot f_1 + f_2$ or $n \cdot f_1 - f_2$ for deriving an alternating output energy from said target electrode of the frequency of $n \cdot f_1 \pm f_2$ cycles per second.

2,974,296
ELECTROMECHANICAL TRANSDUCER
Charles A. Rosen, Menlo Park, Calif., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 524,221, July 25, 1955, which is a division of application Ser. No. 439,992, June 29, 1954, now Patent No. 2,830,274, dated Apr. 8, 1958. This application May 26, 1959, Ser. No. 816,010
19 Claims. (Cl. 333—72)



1. In an electrical energy transfer device having a substantial transformation ratio, a piezo-electric body having a resonant mode at a predetermined frequency, first electrode means for impressing a periodic field over a predetermined region of said body, the period of said field corresponding substantially to said frequency so as to cause resonance of said body accompanied by a field throughout the resonant region, and second electrode means for abstracting energy from said body applied to a second region of said body embracing an integral of electric gradient different from the integral of electric gradient embraced by said first electrode means.

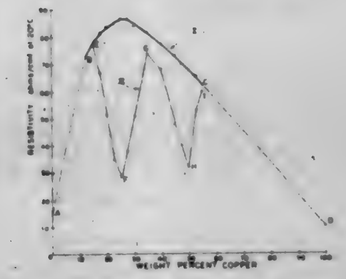
2,974,297
CONSTANT PHASE SHIFT ROTATOR
Dino A. De Ros, Astoria, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Apr. 28, 1959, Ser. No. 809,437
4 Claims. (Cl. 333—98)



1. A constant phase shift polarization rotator for producing output waves having a desired substantially constant value of relative phase shift irrespective of angle of rotation comprising a non-resonant section of circular waveguide adapted to propagate traveling electromagnetic waves, polarization selective means coupled to one end of said circular waveguide for launching therein linearly polarized traveling electromagnetic waves at a given angle of polarization, Faraday rotating means positioned within said waveguide for rotating the plane of polarization of said waves throughout a range of angles of substantially 90°, said rotating means also producing in said waves a relative phase shift which increases when the angle of rotation is increased from said given angle by said rotating means, and means in said waveguide for compensating for the varying phase shift with rotation produced by said rotating means to produce a substantially constant phase shift in output waves irrespective of angle of rotation within said range, said compensating means comprising a polarization selective phase shifter which produces a phase shift whose magnitude is a function of the angle of polarization of electromagnetic waves

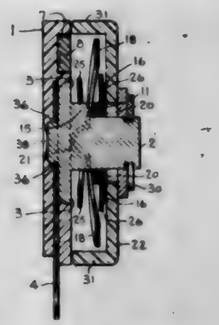
incident thereon, said polarization selective phase shifter being designed to produce in waves at any angle of polarization within said range a phase shift which differs from a constant value of relative phase shift by substantially the magnitude of relative phase shift produced by said rotating means when rotating the plane of polarization of waves to a corresponding angle, said constant value of relative phase shift being the desired constant value of phase shift of output waves.

2,974,298
LOW RESISTIVITY POTENTIOMETER WIRE
Bert Bronner, Tenafly, N.J., assignor to Sigmund Cohn Corp., Mount Vernon, N.Y., a corporation of New York
Filed Jan. 30, 1959, Ser. No. 790,149
5 Claims. (Cl. 338—160)



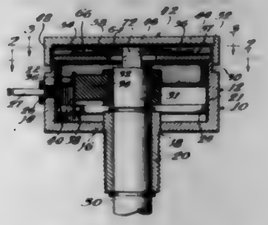
1. In a potentiometer or the like, a support, a resistance wire wound on the support in a manner that successive convolutions thereof are closely adjacent each other, said resistance wire being composed of a binary alloy comprising from 15% to 56% copper by weight and the balance essentially gold, said resistance wire being ordered by heating the same for at least one half hour at an elevated temperature of about 700° F., followed by slow cooling, to reduce its resistivity, and a wiper in contact with the resistance wire and movable with respect thereto.

2,974,299
MINIATURE VARIABLE RESISTANCE DEVICE
Karl W. Youngbeck, Charles R. Goerg, and Donald K. Schuette, Milwaukee, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,561
5 Claims. (Cl. 338—163)



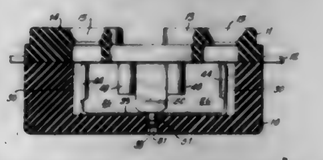
1. In a variable resistance device, the combination comprising, a molded base of insulating material having flat outer and inner sides, said inner side having a groove, a conductive shaft fixedly mounted on said base, and projecting from said inner side only, a resistance element secured in said groove, a plurality of terminals molded in the base, at least one of said terminals being in contact with said shaft and other of said terminals contacting said resistance element, a bushing rotatably mounted on said shaft, a cover secured to said bushing and having a downturned peripheral flange slidably bearing on said molded base, a contact spring secured to said bushing within the confines of said cover and said flange and biased into sliding contact with said resistance element, a take-off spring secured to said bushing and to said contact spring within the confines of said cover and said flange and biased into sliding electrical contact with said shaft, and a retaining ring on said shaft to hold said bushing in place thereon.

2,974,300
POTENTIOMETER
William W. Bartell, Winchester, Michael A. Ayoub, Needham, Richard W. Houghton, Littleton, and John Clayton, Jr., Maynard, Mass., assignors to Waters Manufacturing, Inc., Wayland, Mass., a corporation of Massachusetts
Filed Apr. 14, 1959, Ser. No. 806,276
15 Claims. (Cl. 338—170)



1. A torque control device for use with a variable impedance element having a rotatable shaft, said torque control device including first and second rigid friction members, a resilient friction member compressed between said first and second friction members, said resilient friction member being adapted to be attached to the shaft, and a threaded adjustment member associated with the second friction member to selectively space the second friction member from the first friction member against the resilience of the resilient friction member.

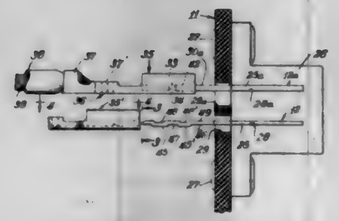
2,974,301
DUPLEX PLUG RECEPTACLE
Saul I. Slater, 10 Westland Drive, Glen Cove, N.Y.
Filed Aug. 11, 1958, Ser. No. 754,348
8 Claims. (Cl. 339—14)



1. In a heavy duty duplex plug receptacle, in combination, a housing formed of electrically insulating material and having a pair of cavities therein separated by a central rib, a terminal strip mounted in each said cavity, each terminal strip comprising two pairs of plug prong-receiving fingers and two pairs of current wire-receiving fingers, an opening in said housing adjacent a central portion of each said terminal strip, means comprising a bent central portion of said terminal strip extending through a corresponding housing opening, said means electrically connecting one of said pair of plug prong-receiving fingers and an associated pair of circuit wire-receiving fingers with the other pairs of fingers, said

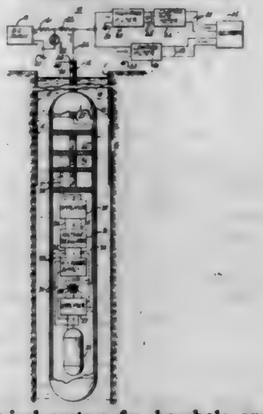
connecting means being readily mechanically fractionable from the exterior of said housing to divide said terminal strip and electrically isolate one of said pairs of prong-receiving fingers and wire-receiving fingers from the second pairs of like elements, and a cover member fixed to said housing and having dependent bosses thereon, said bosses bearing against central portions of said terminal strips and holding said strips in position in said cavities, said bent central portion of said terminal strip being in the shape of a U, said bosses on said cover holding said terminal strips in place and having depending projections thereon which extend through said housing openings and lie between the arms of said U-shaped bend, the base of said projection being spaced from the base of said U-shaped bend, whereby a tool may be inserted between said projection and said base of said bend to break away the base of said bend.

2,974,302
ELECTRICAL TERMINAL CONSTRUCTION
Robert B. Ellis, Chicago, Ill., assignor to International Register Company, Chicago, Ill., a corporation of Illinois
Filed June 11, 1958, Ser. No. 741,314
8 Claims. (Cl. 339—278)



1. In a terminal structure for use with a standard female connector adapted to be thrust axially onto a projecting male terminal tab and presenting separated arm portions spaced from a platform portion containing a projecting detent means, the spacing between the said arm portions and said platform portion defining a dimension connectively receptive of the cross-sectional thickness of a standard terminal tab, the combination therewith of a specially formed male terminal tab comprising a metal body having a cross-sectional thickness substantially less than the distance between the arm and platform portions of the connector, a plurality of parallel spaced projections extending outwardly of one face of said body in a direction transverse of the longitudinal dimension of said body and defining a plurality of relatively large flat current conducting surfaces on said male terminal tab adapted to engage flat current conducting surfaces on said female connector, said projections being opposed by corresponding depressions in the opposite face of said body, the extension of said projections beyond the general plane of said body serving to define an effective tab cross section for connective engagement with the female terminal connector, and separate oppositely facing detent lips formed in the opposite faces of said female body for detachable locking cooperation with the detent projection means of the terminal connector regardless of whether the female connector is assembled to have its detent projection means engage the detent lip on one side of said male terminal or to engage the detent lip on the other side of said male terminal.

2,974,303
ELECTRICAL SYSTEMS FOR BOREHOLE APPARATUS
Dwight R. Dixon, Bellaire, Tex., assignor, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Feb. 8, 1957, Ser. No. 639,007
9 Claims. (Cl. 340—18)

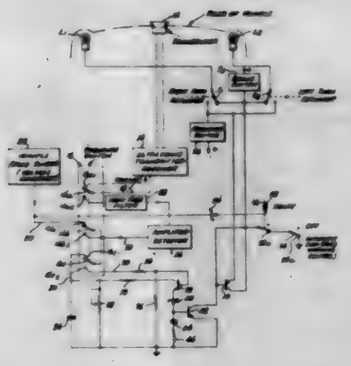


1. An electrical system for borehole apparatus comprising: a support adapted to be passed through a borehole; an energizing circuit including at least one conductor extending from the surface of the earth to said support; means coupled to said conductor at the surface of the earth and to a reference point for supplying a unidirectional current over said conductor; a load circuit carried by said support and coupled to said conductor and to a reference point for utilizing said unidirectional current; a voltage regulator circuit carried by said support and including an adjustable impedance circuit coupled to said conductor and to a reference point for providing an alternative path for said unidirectional current, circuit means for providing a reference voltage, and adjusting circuit means responsive to the conductor voltage and to the reference voltage for adjusting the impedance circuit for minimizing voltage fluctuations at the lower end of said conductor; a source of information-bearing signals carried by said support and coupled to said adjusting circuit means to effect current variations in said conductor corresponding to said signals; and means coupled to said conductor at the surface of the earth and responsive to current variations in said conductor for obtaining indications representative of said signals.

2,974,304
CLOSE-FOLLOWING VEHICLE WARNING SYSTEM
Lester H. Nordlund, Rte. 2, Box 642F, Tacoma 22, Wash.
Filed Jan. 15, 1960, Ser. No. 2,695
9 Claims. (Cl. 340—104)

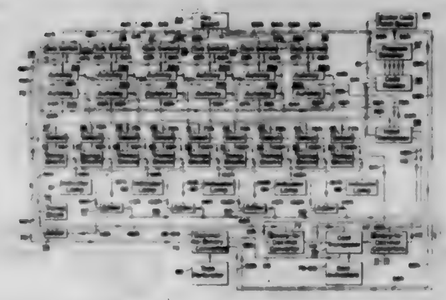
1. A close-following vehicle warning system comprising ultrasonic sound-electrical transducer means adapted for mounting in a rearwardly facing direction on a carrier vehicle for directionally selective transmission and reception of ultrasonic sound energy impulses, transmitter means connected to said transducer means operatively to apply thereto periodic energizing impulses of electrical energy at ultrasonic frequency, receiver means connected to said transducer means for electrically detecting ultrasonic sound impulses incident thereon by reflection from objects in the path of the transmitted sound energy during the period between transmitted impulses, said receiver means including frequency sensitive circuit means operable to discriminate against such electrically detected impulses shifted by Doppler effect to a frequency below said transmitter ultrasonic frequency, and warning indicator means adapted for mount-

ing in the carrier vehicle to produce a warning indication to a vehicle following at an unsafely close distance behind the carrier vehicle, said latter means including a carrier vehicle speed measuring device synchronized with the periodic transmitter operation and operable thereby to establish after each transmitted pulse a time reference



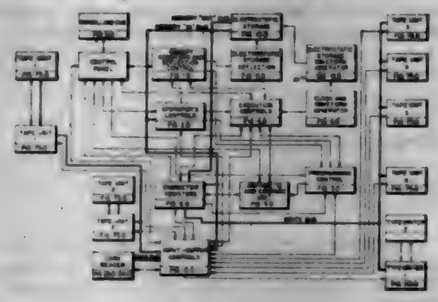
interval, which is at least approximately proportional to vehicle speed, representing minimum safe-following distance at the existing speed, and output circuit means responsively connected to the receiver means and to be controlled by said measuring device for producing a warning indication output in response to received signals occurring prior to termination of the established interval.

2,974,305
SUBSCRIPTION TELEVISION COMPUTER
George V. Morris, Chicago, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Nov. 14, 1955, Ser. No. 546,592
18 Claims. (Cl. 340—147)



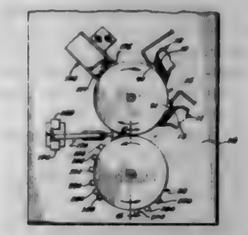
1. A subscription television computer for determining the adjustment of a decoding mechanism having a plurality of operating positions each of which establishes a predetermined code condition, said computer comprising: program selection means for providing information representing a selected code condition that must be established in said decoding mechanism to effect decoding of a given subscription television program; decoder identification means for providing information representing the correlation between operating positions and code conditions of said decoding mechanism; and control apparatus responsive to said information from both said means for determining the particular operating position of said decoding mechanism required to establish said selected code condition.

2,974,306
FILE MAINTENANCE MACHINE
Max E. Fenemer, Hopewell Junction, Joseph J. Secher, Poughkeepsie, Arthur A. Kamnick, Wappingers Falls, and Glen F. Nielsen and Thomas L. Vinson, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 15, 1954, Ser. No. 472,144
54 Claims. (Cl. 340—172.5)



1. In a data processing machine, an electrostatic data storage device, a data input device for said electrostatic storage device, means for entering a plurality of records of variable length from said input device into successive raster lines in said electrostatic storage device, means for indicating the end of each record in said electrostatic storage device, means for sensing the end of a record in said electrostatic storage device, a regeneration counter adapted to control regeneration of data stored in said electrostatic storage device and means responsive to said sensing means for limiting the operation of said counter to control regeneration of data stored in said electrostatic storage device to the length of the individual records stored therein.

2,974,307
CARD PROCESSING SYSTEM
Jerome B. Wiener, Granada Hills, Calif., assignor to The Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Aug. 27, 1956, Ser. No. 606,456
17 Claims. (Cl. 340—172.5)



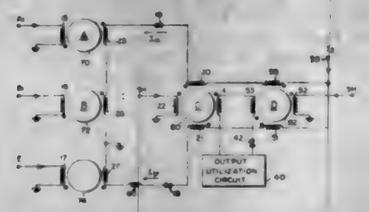
1. In apparatus for transferring data from one information storage card to another, the combination of: a first input stack for retaining cards having data stored therein in successive positions, a second input stack for retaining cards onto which data is to be transferred in successive positions, transport means for the cards, first transfer means disposed in co-operative relationship with the transport means for obtaining a transfer of a card from said first input stack to said transport means, information storage means having a plurality of positions and operative to present successive positions at the same rate as the successive positions on the cards transferred to the transport for movement, means including first transducing means for sensing the data on the first card and for introducing such data to said information storage means, second transfer means disposed in co-operative relationship with the transport means for subsequently obtaining a transfer of a card from said second input stack to said transport means, and means including second transducing means for introducing data stored in said information storage means to the second card after the transfer of the card to the transport means and in positions on the second card related to the positions of the corresponding data on the first card.

2,974,308
MAGNETIC MEMORY DEVICE AND MAGNETIC CIRCUIT THEREFOR
Frans van Tongerloo, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1955, Ser. No. 494,956
Claims priority, application Netherlands Apr. 15, 1954
5 Claims. (Cl. 340—174)



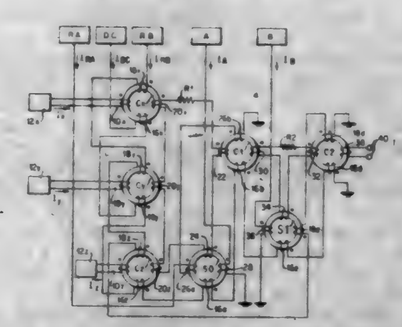
1. A magnetic memory device comprising a closed core of ferromagnetic material having a substantially parallelogram-shaped hysteresis curve, an input winding coupled to a portion of said core to produce therein remanent flux in a given direction indicative of one of two informational states, an output winding coupled to another portion of said core for deriving electrical information indicative of the informational state of said core, and a read-out winding including two winding portions coupled to opposed portions of said core located symmetrically between the core portions to which the input and output windings are coupled, said two winding portions providing magnetic fields in opposite directions in said core.

2,974,309
MAGNETIC CORE LOGICAL CIRCUITS
Albert J. Meyerhoff, Wynnewood, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 4, 1956, Ser. No. 589,141
4 Claims. (Cl. 340—174)



1. A material-equivalence circuit comprising in combination, a circuit having two branch current paths and adapted to pass interrogating current in a single direction through said branch paths, first and second binary magnetic elements each having two stable states of magnetic remanence, each element having two windings coupled thereto, with one winding coupled respectively in each of said two branch current paths in such polarity that the current in the branch paths tends to establish opposite storage states in each element, third, fourth, and fifth binary magnetic elements each having two stable states of magnetic remanence, said third and fourth binary elements having interrogating windings associated therewith, said interrogating windings being connected in one current path, said fifth element having an interrogating winding coupled thereto and connected in the second current path, means for presetting the fifth binary element to a predetermined remanent state, means for setting said third and fourth elements respectively to one or the other of said magnetic remanent states in accordance with the nature of the signal pulses applied thereto, means for introducing interrogating current into the two branch paths, said interrogating current applying switching energy to said third, fourth, and fifth elements, the switching of said fifth element from its predetermined remanent state to its other stable state providing a fixed inhibition to interrogating current flow in the second current path, said third and fourth binary elements providing a degree of inhibition to the flow of interrogating current in said first current path which differs substantially from said fixed inhibition in said second path whenever said latter binary elements are respectively in the same remanent state at the time of interrogation, said difference in inhibition resulting in unequal current flow through said two windings coupled respectively to each of said first and second elements whereby one of said latter elements will be switched to a preselected storage state, and a shift winding and an output winding coupled to each of said first and second elements for detecting said preselected storage state in either of said latter elements and for delivering an output signal to a utilization device.

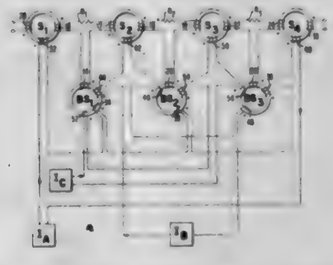
2,974,310
MAGNETIC CORE CIRCUIT
Louis A. Russell, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 5, 1957, Ser. No. 644,118
3 Claims. (Cl. 340—174)



1. An Inclusive OR logical circuit comprising; first, second, third and fourth cores of magnetic material each capable of being caused to assume a first stable state of flux orientation in a first direction and a second stable state of flux orientation in a second direction and each normally in said first stable state; first and second input windings linking said first and second cores, respectively; each of said input windings being effective when input pulses are applied thereto to produce flux reversal in the linked core from said first toward said second stable state; first and second individual input means coupled to said first and second input windings, respectively, for applying logical inputs to said circuit by selectively energizing one only or both of said input windings simultaneously; first and second output windings each associated with a corresponding one of said first and second cores for developing an output voltage when the flux in the associated core is being reversed; third and fourth windings associated with said third and fourth cores, respectively; and means connecting said first and second

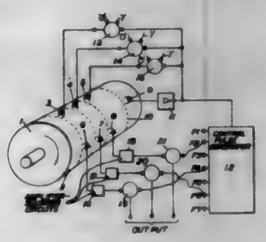
output windings and said third and fourth windings in a series circuit; the characteristics of said third and fourth cores and the number of turns in said third and fourth windings being such that the current flow through said fourth winding required to switch said fourth core from said first to said second state is greater than the current flow through said third winding required to switch said third core from said first to said second state; whereby the current produced in said series circuit and, thus, in said third and fourth windings in response to voltages developed in said output windings when one or both of said first and second input windings is energized to produce flux reversal in the associated core is effective to cause said third core to be switched but is ineffective to cause said fourth core to be switched from said first to said second state.

2,974,311
MAGNETIC REGISTER
John A. Kauffmann, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 22, 1958, Ser. No. 768,995
9 Claims. (Cl. 340—174)



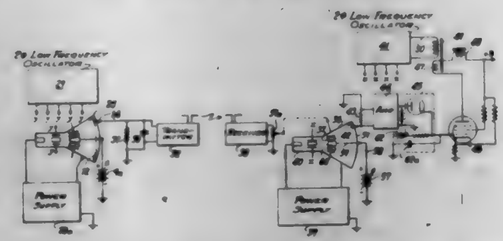
4. A shifting register having three stages for each bit of information to be shifted comprising, a first and a second magnetic core for each of said stages capable of attaining bistable states of residual flux density, input and output winding means on each of said first cores, control winding means on each of said second cores adapted to act as an input and an output winding, circuit means including a resistor connecting the output winding on said first cores with the control winding on said second cores in one sense and the input winding on the first core of the succeeding stage in an opposite sense, a first group of windings comprising a shift winding on said first core of said first stage serially connected with a bias winding on the second core of said first stage and a bias winding on the second core of said second stage and a shift winding on the second core of said third stage adapted to shift the first core of said fist stage and the second core of said third stage to a datum stable state and to bias the second core of said first and second stages toward an opposite stable state when energized, a second group of windings comprising a shift winding on the second core of said first stage serially connected with a shift winding on the first core of the second stage and a bias winding on the second core of said second stage and a bias winding on the second core of said third stage adapted to cause the second core of said first stage and the first core of said second stage to shift to the datum stable state and to bias the second core of said second and third stages toward an opposite stable state when energized, and a third group of windings comprising a shift winding on the second core of second stage series connected with a shift winding on the first core of said third stage and a bias winding on the second core of said first stage and a bias winding on the second core of said third stage adapted to cause the second core of said second stage and the first core of said third stage to shift to the datum state and to bias the second cores of said first and third stages toward the opposite state when energized.

2,974,312
METHODS OF SYNCHRONISING RECORDED INTELLIGENCE
Desmond Sydney Ridler, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 10, 1955, Ser. No. 487,419
Claims priority, application Great Britain Feb. 25, 1954
7 Claims. (Cl. 340—174.1)



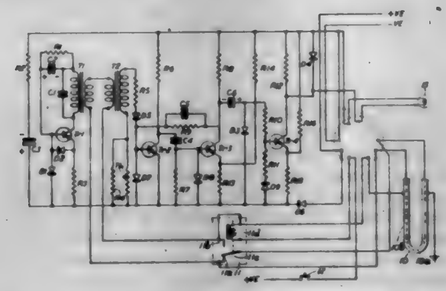
4. A storage equipment comprising a storage device including a movable magnetic storage medium, a recording head for storing signals on said medium and a reading head for reading said stored signals, gating means connected to said reading head and adapted to be opened by a control pulse applied thereto, a source of clock pulses, means under control of said clock pulses for determining the instant at which said signals are to be recorded on said magnetic medium, and means for finely adjusting the time at which reading takes place, so as to compensate for normally occurring variations in adjustment of the equipment, said means comprising means operated by said clock pulses for generating a plurality of control pulses within the width of a single signal element, and means for selectively applying one of said control pulses to said gating means connected to said reading head whereby a selected portion only of a signal element read by said reading head passes through said gating means.

2,974,313
MULTIPLE READING INSTRUMENTS AND SYSTEMS FOR REMOTE INDICATION
Louis W. Parker, Beechcroft Road, Greenwich, Conn.
Filed Sept. 18, 1958, Ser. No. 761,863
11 Claims. (Cl. 340—183)



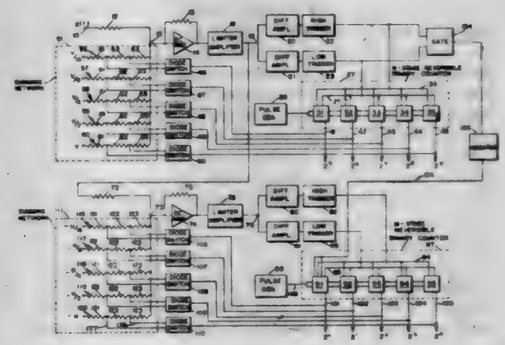
8. A system for repetitively evaluating and remotely indicating the magnitudes of a plurality of potentials subject to variation, comprising: transmitting and receiving stations including a transmitter and a receiver thereat, respectively, a cathode ray tube at each station, each including a screen, an electron gun for deflecting an electron beam onto the screen, main deflecting plates and a two-phase low frequency source connected thereto for deflecting said beam in a circular trace onto the screen, a plurality of auxiliary deflecting plates disposed about the axis of said tube between said main plates and the screen, a metal member coaxially disposed within said plates and means applying a biasing potential thereto, the tube at the transmitting station having an auxiliary plate connected to a synchronizing potential and additional auxiliary plates connected to said variable potential sources, respectively, and also connected through condensers to a high frequency source, and said tube having a metal annulus disposed adjacent the screen interior adjacent its periphery for producing secondary emission when impinged by the electron beam thereof, said annulus containing a segment of increased emissivity in alignment with the auxiliary plates connected to the synchronizing potential, said annulus being connected to the input of said transmitter and to ground through a condenser and resistance in parallel for integrating the pulse signals generated in said annulus and applying the same to said transmitter, the tube at said receiving station having its auxiliary plates connected in multiple to the output of said receiver and having mounted thereon adjacent the periphery of the screen thereof, a metal segment disposed in alignment with the auxiliary plate which receives the synchronizing pulse as the electron beam thereof sweeps past it, and means for maintaining the two-phase source at said receiver in synchronization with that at said transmitter comprising, a rectifier connected to said receiving tube segment, an amplifier having its input connected to said rectifier and its output connected to the primary winding of a saturable core transformer, the secondary winding of which controls the frequency of said two-phase source, and the receiving tube screen having thereon a plurality of scales in alignment with the remaining auxiliary plates thereof, respectively, for measuring the magnitudes of the signals corresponding to said variable potentials.

2,974,314
ELECTRICAL CIRCUITS FOR USE WITH TEMPERATURE RESPONSIVE DEVICES
Arthur John Bennett, Brentford, and Leslie Thorpe Thurlby, Amersham, England, assignors of one-half to Graviner Manufacturing Company Limited, a British company, and one-half to Wilkinson Sword Limited, a British company, both of London, England
Filed Aug. 26, 1959, Ser. No. 836,106
Claims priority, application Great Britain Aug. 29, 1958
7 Claims. (Cl. 340—227)



7. An electrical circuit comprising a temperature responsive device whose electrical resistance falls with rising temperature, a source of oscillatory voltage, a monostable transistor switching circuit having an input transistor stage and an output transistor stage, said input transistor stage being normally conductive and said output transistor stage being normally non-conductive, circuit connections coupling said oscillatory voltage source via said temperature responsive device to the input stage of said transistor switching circuit whereby when said temperature responsive device attains a predetermined temperature said switching circuit is switched to render said output stage conductive, a further transistor, capacitive coupling means coupling said output transistor stage to the input of said further transistor, said capacitive coupling means transmitting to the input of said further transistor substantially the total pulse amplitude of the negative going pulse developed at the output transistor stage when said output transistor stage ceases to conduct whereby said further transistor is rendered conductive, and an electrically energised warning device electrically connected to said further transistor and electrically energised by conduction of said further transistor.

2,974,315
SIGNAL CONVERTING SYSTEMS
Jean D. Lebel, New Canaan, and Gunther J. Martin and Frank S. Replogle, Jr., Ridgefield, Conn., assignors, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed July 21, 1955, Ser. No. 523,596
9 Claims. (Cl. 340—347)

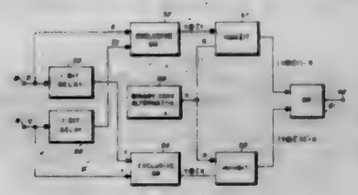


1. In an analog-to-binary signal converting system, the combination comprising an *n*-stage binary counter circuit for registering the higher order digits of a binary number, an *m*-stage binary counter circuit for registering lower order digits of said number, circuit means responsive exclusively to the setting of said *n*-stage counter and to an analog input signal to be converted for generating a coarse error signal, circuit means responsive to the setting of said *m*-stage counter and to said coarse error signal for generating a fine error signal, circuit means for periodically actuating said *m*-stage counter circuit at a rate substantially greater than said *n*-stage counter circuit, circuit means responsive exclusively to said coarse error signal for controlling the actuation of said *n*-stage counter, and circuit means responsive to said fine error signal for controlling the actuation of said *m*-stage counter.

2,974,316
SHAFT-TO-DIGITAL CONVERTER
Ronald A. Guidal, 4918 Gardena Ave., San Diego 10, Calif., and George S. Stringfellow, 4371 Mount Everest, San Diego 17, Calif.
Filed Dec. 21, 1959, Ser. No. 861,154
6 Claims. (Cl. 340—347)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A shaft to digital converter comprising commutating means mechanically coupled to a rotatable shaft, said commutating means having at least one insulating and one conducting segment integral therewith, first and sec-

ond output contacts mounted in alternate physical contact with said insulating and conducting segments, a common electrical contact in constant physical and electrical contact with said conducting segment, continuity sensing means connected to said first and second output contacts and said common contact for generating a binary signal determined by continuity between said first and second output contacts and said common contact, converter means having first, second, and third inputs connected to said first and second commutator output contacts and an alternate-binary-signal generator output respectively, said converter means comprising first and second electrical delaying means each having an input connected to said first and second slidable electrical contacts' sensing means respectively, first and second exclu-

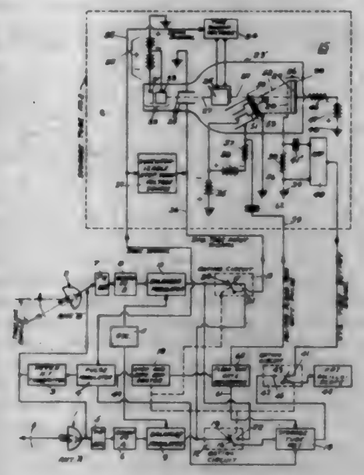


sive-OR circuits each having an input connected to said first and second slidable electrical contacts respectively, the outputs of said first and second electrical delaying means connected to a second input of said second and first exclusive-OR circuit respectively, the output of said first exclusive-OR circuit connected to an input of a first inhibit circuit, the output of said second exclusive-OR circuit connected to inhibit a second inhibit circuit, the inhibit input of said first inhibit circuit, and the signal input of said second inhibit circuit connected to said binary code generator, the outputs of said first and second inhibit circuits connected to the inputs of an OR circuit, said converter operable to convert said inputs to a binary signal having a net count dependent upon the amount of rotation of said shaft and a net polarity dependent upon the direction of rotation of said shaft

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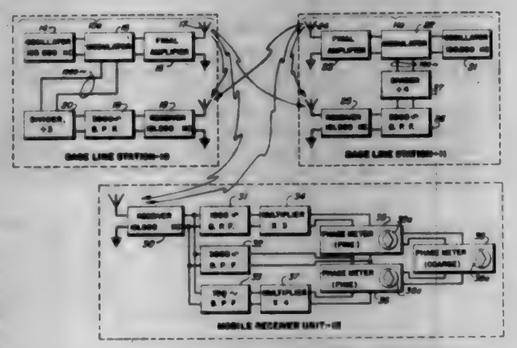
2,974,317
MOVING TARGET RADAR SYSTEM
Hans Klemperer, Belmont, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Jan. 16, 1948, Ser. No. 1,638
20 Claims. (Cl. 343—7.7)

20. In combination, first means for radiating time-spaced pulses of high frequency energy and for receiving reflections of said radiated energy from target objects, said first means including a first directional radiating and receiving antenna controllable to effect rotation of its directional axis about a predetermined axis of rotation, second means for radiating time-spaced pulses of high frequency energy and for receiving reflections of said radiated energy from target objects, said second means including a second directional radiating and receiving antenna also controllable to effect rotation of its directional axis about said predetermined axis of rotation, means for controlling said first and second means to cause each of them to radiate a series of pulses of energy, means for further controlling said first and second means simultaneously to effect rotation of the directional axes of said antennae about said predetermined axis of rotation, means for maintaining the angular spacing between the directional axes of said antennae, measured about said axis of rotation, substantially equal to the angle through which said directional axes rotate during the interval between the radiation of each pulse from said first means and the radiation of a later pulse from said second means, and means supplied with the reflections received by both said first and second means for comparing the reflections received by one of said means from a given target object with the reflection received



by the other of said means from the same target object and for producing indications of differences between said reflections.

2,974,318
RADIO LOCATION SYSTEM
Beverly W. Koeppel, Tulsa, Okla., assignor to Seismograph Service Corporation, Tulsa, Okla., a corporation of Delaware
Filed Oct. 16, 1956, Ser. No. 616,332
15 Claims. (Cl. 343—105)



10. In a radio position finding system of the hyperbolic continuous wave type for locating the position of a mobile receiving point, the combination of first and second spaced apart transmitting stations respectively radiating first and second position indicating signals having different frequencies, means at the first station for heterodyning said position indicating signals to develop a first beat signal, means at said first station for dividing said beat signal by a first integer to develop a first reference signal, means for modulating the first reference signal upon the first position indicating signal, means at the second station for receiving the modulated signal from said one station and for developing a second reference signal differing in frequency from the first reference signal, means for modulating the second position indicating signal with said second reference signal, means

at said receiving point for heterodyning said position indicating signals to produce the beat frequency therebetween and for detecting both of the reference signals modulated upon said position indicating signals, means at the receiving point for altering the frequencies of both of the reproduced reference signals to produce resulting signals of equal frequency, means jointly responsive at least in part to both of the resulting signals for producing a coarse position indication representative of the location of said receiving point relative to said transmitting stations, and means jointly responsive to said beat frequency and to one of said resulting signals for producing a fine indication representative of the location of said mobile receiving point relative to said transmitting stations.

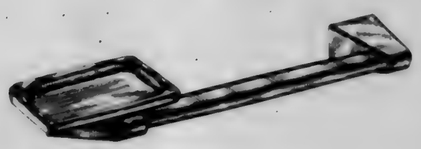
DESIGNS

MARCH 7, 1961

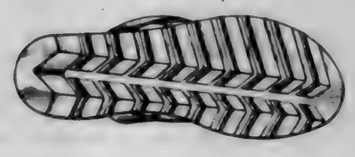
189,837
MOBILE TRAFFIC SIGN
Harold T. Atwood, 11129 Eggleston Ave., Chicago, Ill.
Filed Jan. 5, 1960, Ser. No. 58,941
Term of patent 14 years
(Cl. D72—1)



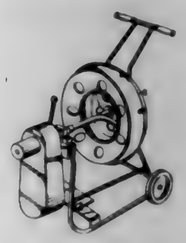
189,838
COMBINED SOAP HOLDER AND GRAB BAR OR THE LIKE
Carl U. Larson,1643 Wenonah Ave., Berwyn, Ill., and James R. Turek, 4108 N. KenmoreAve., Chicago, Ill.
Filed Jan. 8, 1960, Ser. No. 58,986
Term of patent 14 years
(Cl. D4—3)



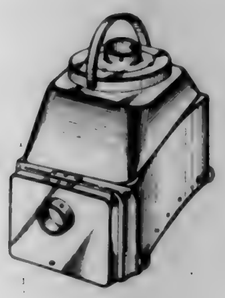
189,839
SANDAL OR THE LIKE
Toshigoro Nakashima, Hiroshima, Japan, assignor to Victor B. Handal & Bro., Inc., New York, N.Y., a corporation of New York
Filed Sept. 21, 1959, Ser. No. 57,636
Term of patent 7 years
(Cl. D7—5)



189,840
PIPE CLEARING MACHINE
Robert G. Hunt, Los Angeles, Calif., assignor to Marco Products Company, Los Angeles, Calif., a firm
Filed May 26, 1959, Ser. No. 56,075
Term of patent 14 years
(Cl. D9—2)



189,841
VACUUM CLEANER
Salvatore Buda, Brooklyn, N.Y., assignor to Strapavac Corp., Brooklyn, N.Y., a corporation of New York
Filed Apr. 23, 1959, Ser. No. 55,629
Term of patent 14 years
(Cl. D9—2)



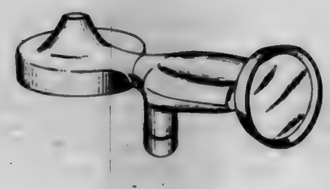
189,842
CANOPY
Claude W. Ahrens, Grinnell, Iowa
Filed Apr. 8, 1960, Ser. No. 60,894
Term of patent 14 years
(Cl. D13—1)



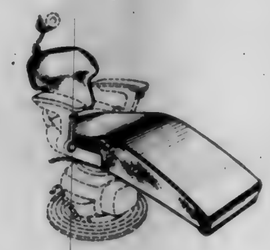
189,843
PORTABLE REFRIGERATOR CABINET
Delmar D. Rhoads, 3112 Oakwood Drive, Fort Wayne, Ind.
Filed Sept. 10, 1958, Ser. No. 52,590
Term of patent 14 years
(Cl. D14—3)



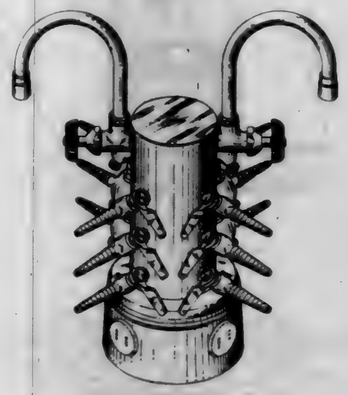
189,844
COMBINED SEARCHLIGHT AND REAR VIEW MIRROR
Douglas R. Cleminshaw, 916 Lancaster Ave., Syracuse, N.Y.; Donald Lee Du Sell, 114 Midwood, Liverpool, N.Y.; and Arthur J. Pulos, 201 Churchill Lane, Fayetteville, N.Y.
Filed June 4, 1959, Ser. No. 56,213
Term of patent 14 years
(Cl. D14—6)



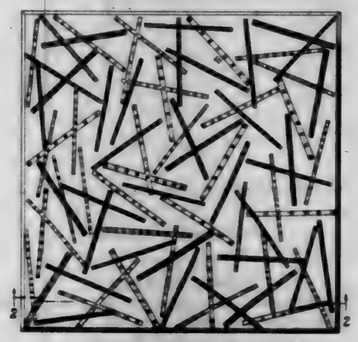
189,845
DENTAL CHAIR OR SIMILAR ARTICLE
Charles Dwight Graham, Denver, Colo., assignor to Densco, Incorporated, Denver, Colo., a corporation of Colorado
Filed Mar. 23, 1959, Ser. No. 55,103
Term of patent 14 years
(Cl. D15—3)



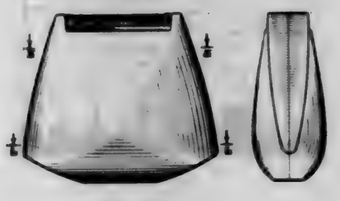
189,846
UTILITY CONTROL, SUPPLY, AND SERVICE UNIT FOR LABORATORY TABLES
Loyd A. Whitener, Jr., and Herman B. Carpenter, Hickory, N.C., assignors to Southern Desk Company, Hickory, N.C., a corporation of North Carolina
Filed Apr. 10, 1959, Ser. No. 55,433
Term of patent 14 years
(Cl. D16—2)



189,847
ACOUSTIC TILE OR SIMILAR ARTICLE
Philip M. Brody, Scarsdale, and Frederic H. Rahr, New York, N.Y., assignors to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 25, 1960, Ser. No. 59,869
Term of patent 14 years
(Cl. D18—2)



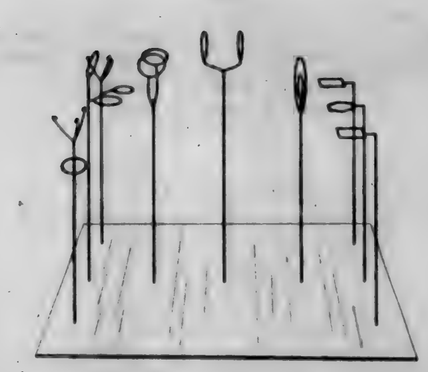
189,848
ELECTRIC SHAVER
Carl L. Otto, New York, N.Y., assignor to Schick, Incorporated, Lancaster, Pa., a corporation of Delaware
Filed Sept. 23, 1959, Ser. No. 57,650
Term of patent 14 years
(Cl. D22—3)



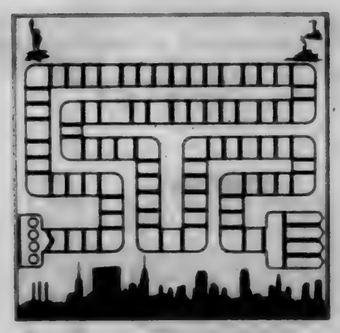
189,849
INDICATOR HOUSING
Samuel J. Koch, 26 Martin Court, Great Neck, N.Y.
Filed Aug. 18, 1960, Ser. No. 61,807
Term of patent 14 years
(Cl. D26—13)



189,850
TARGET GAME APPARATUS
Robert C. Jones, Duluth, Minn.
Filed Dec. 30, 1959, Ser. No. 58,859
Term of patent 14 years
(Cl. D34—5)



189,851
GAME BOARD
Walter C. Milewski, 3815 Market St., Camp Hill, Pa.
Filed Feb. 1, 1960, Ser. No. 59,219
Term of patent 14 years
(Cl. D34—5)



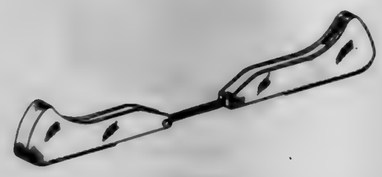
189,852
GRIP FOR GOLF CLUBS
Austin E. Cox, Wadsworth, and William McMillan, Akron, Ohio, assignors to A. G. Spalding & Bros., Inc., Chicopee, Mass., a corporation of Delaware
Filed July 11, 1960, Ser. No. 61,287
Term of patent 14 years
(Cl. D34—5)



189,853
GRIP FOR GOLF CLUBS
Austin E. Cox, Wadsworth, and William McMillan, Akron, Ohio, assignors to A. G. Spalding & Bros., Inc., Chicopee, Mass., a corporation of Delaware
Filed July 11, 1960, Ser. No. 61,288
Term of patent 14 years
(Cl. D34—5)



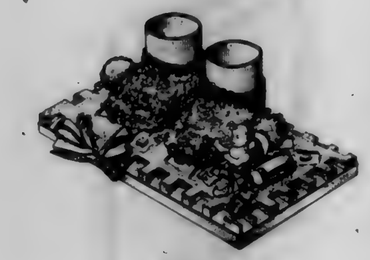
189,854
ICE SKATE SCABBARD
Richard N. Kenner, Needham, and Herbert B. Hawes, East Brookfield, Mass., assignors to St. Lawrence Manufacturing Company, Inc., Gilford, Quebec, Canada, a corporation of Quebec
Filed Apr. 5, 1960, Ser. No. 60,050
Term of patent 14 years
(Cl. D34—5)



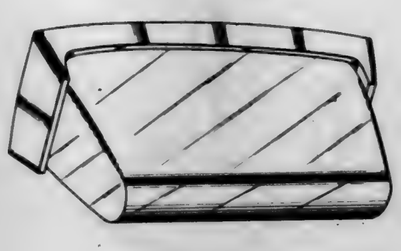
189,855
TOY TRAIN AQUARIUM CAR
Gerald Matyas, Wharton, N.J., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed Feb. 17, 1960, Ser. No. 59,432
Term of patent 14 years
(Cl. D34—15)



189,856
FLOWER HOLDER
Austin J. Doran, 611 W. Arnold, Marshfield, Wis.
Filed June 13, 1960, Ser. No. 60,922
Term of patent 14 years
(Cl. D35—3)



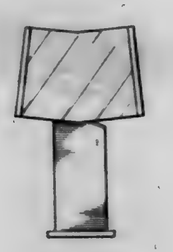
189,857
LIGHTING FIXTURE
Martin L. Lasker, Flushing, N.Y., assignor to McPhilben Lighting Inc., Brooklyn, N.Y., a corporation of New York
Filed May 17, 1960, Ser. No. 60,619
Term of patent 14 years
(Cl. D48—4)



189,858
LAMP OR SIMILAR ARTICLE
Arnold Goldstein, 3363 Trexler Blvd., Allentown, Pa.
Filed Sept. 9, 1959, Ser. No. 57,491
Term of patent 14 years
(Cl. D48—20)



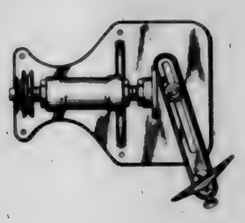
189,859
LAMP
Herbert T. Osman, 8621 Ramsgate Ave., Los Angeles, Calif.
Filed Oct. 26, 1959, Ser. No. 58,058
Term of patent 3½ years
(Cl. D48—20)



189,860
COMBINED LAMP AND PLANTER
Arnold Goldstein, 3363 Trexler Blvd., Allentown, Pa.
Filed Sept. 9, 1959, Ser. No. 57,490
Term of patent 14 years
(Cl. D48—20)



189,861
TURNING LATHE FOR MAKING BOWLS
Robert Irving, 123 Bruce Road, Walpole, Mass., and William M. Irving, 573 Dover Road, Westwood, Mass.
Filed Nov. 3, 1958, Ser. No. 53,260
Term of patent 14 years
(Cl. D54—6)



189,862
ACCORDION GRILL
Dorothy K. Traficante, 5308 Dundee Road, Minneapolis, Minn.
Filed June 16, 1958, Ser. No. 51,290
Term of patent 14 years
(Cl. D56—1)



189,863
TYPEWRITER
Marcello Nizzoli, Milan, Italy, assignor to Ing. C. Olivetti, & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Oct. 7, 1959, Ser. No. 57,847
Term of patent 14 years
(Cl. D64—11)



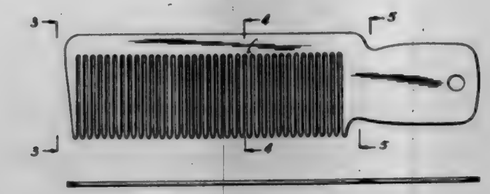
189,864
COMBINED WINE BUCKET AND STAND
Harold Bloomfield, Chicago, Ill., assignor to Bloomfield Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1960, Ser. No. 61,603
Term of patent 14 years
(Cl. D67—4)



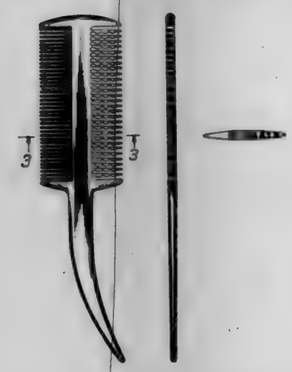
189,865
BORDER FRAME FOR OVEN DOORS
George W. Kamin, Arcadia, Calif., assignor to Pan-Pacific Manufacturing Corp., Los Angeles, Calif., a corporation of California
Filed Feb. 1, 1960, Ser. No. 59,226
Term of patent 3½ years
(Cl. D81—25)



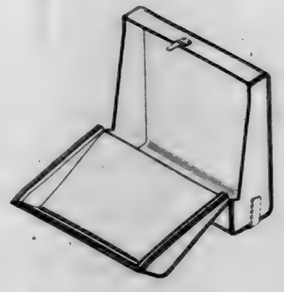
189,866
COMB
Armando Di Bonaventura, 227 N. 65th St., Philadelphia, Pa.
Filed July 24, 1959, Ser. No. 56,920
Term of patent 14 years
(Cl. D86—8)



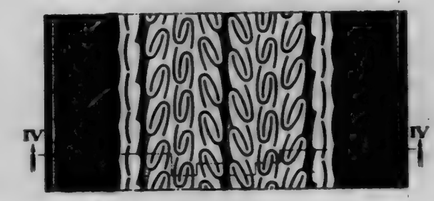
189,867
COMB
Philip B. Schoen, 7301 N. Sheridan Road, Chicago, Ill.
Filed Aug. 30, 1960, Ser. No. 61,952
Term of patent 14 years
(Cl. D86—8)



189,868
CARRYING CASE
Robert C. Casselman, Auburndale, Mass., and Michael K. Stoller, Massapequa, N.Y., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 22, 1959, Ser. No. 56,884
Term of patent 14 years
(Cl. D87—5)



189,869
TIRE
James F. Newman, St. Clair Shores, Walter L. Gemert, Detroit, and Verne H. Berry, Roseville, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 13, 1960, Ser. No. 62,131
Term of patent 7 years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Burden, Edward R. Self-locking folding box. Re. 24,946, 3–7–61, Cl. 229—34.

Vibber, Alfred W. Method of and apparatus for plying strands. Re. 24,945, 3–7–61, Cl. 57—58.3.

LIST OF PLANT PATENTEES

Conard-Pyle Co., The: *See*—
Swim, Herbert C., and Weeks. 2,032.

Swim, Herbert C., and O. L. Weeks, to The Conard-Pyle Co. Rose plant. 2,032, 3–7–61, Cl. 47—61.

Weeks, O. L.: *See*—
Swim, Herbert C., and Weeks. 2,032.

LIST OF DESIGN PATENTEES

Ahrens, Claude W. Canopy. 189,842, 3–7–61, Cl. D13—1.

Atwood, Harold T. Mobile traffic sign. 189,837, 3–7–61, Cl. D72—1.

Berry, Verne H.: *See*—
Newman, James F., Gessert, and Berry. 189,869.

Bloomfield, Harold, to Bloomfield Industries, Inc. Combined wine bucket and stand. 189,864, 3–7–61, Cl. D67—4.

Bloomfield Industries, Inc.: *See*—
Bloomfield, Harold. 189,864.

Brody, Philip M., and F. H. Rahr, to Wood Conversion Co. Acoustic tile or similar article. 189,847, 3–7–61, Cl. D18—2.

Buda, Salvatore, to Strapavac Corp. Vacuum cleaner. 189,841, 3–7–61, Cl. D9—2.

Carpenter, Herman B.: *See*—
Whitener, Loyd A., Jr., and Carpenter. 189,846.

Casselman, Robert C., and M. K. Stoller, to Polaroid Corp. Carrying case. 189,868, 3–7–61, Cl. D87—5.

Cleminshaw, Douglas R., D. L. Du Sell, and A. J. Pulos. Combined searchlight and rear view mirror. 189,844, 3–7–61, Cl. D14—4.

Cox, Austin E., and W. McMillan, to A. G. Spalding & Bros., Inc. Grip for golf clubs. 189,852, 3–7–61, Cl. D34—5.

Cox, Austin E., and W. McMillan, to A. G. Spalding & Bros., Inc. Grip for golf clubs. 189,853, 3–7–61, Cl. D34—5.

Denaco, Inc.: *See*—
Graham, Charles D. 189,845.

Di Bonaventura, Armando. Comb. 189,866, 3–7–61, Cl. D86—5.

Dorsa, Austin J. Flower holder. 189,856, 3–7–61, Cl. D35—3.

Du Sell, Donald L.: *See*—
Cleminshaw, Douglas R., Du Sell, and Pulos. 189,844.

Gessert, Walter L.: *See*—
Newman, James F., Gessert, and Berry. 189,869.

Goldstein, Arnold. Lamp or similar article. 189,858, 3–7–61, Cl. D48—20.

Goldstein, Arnold. Combined lamp and planter. 189,860, 3–7–61, Cl. D48—20.

Graham, Charles D., to Denaco, Inc. Dental chair or similar article. 189,845, 3–7–61, Cl. D15—3.

Hawes, Herbert B.: *See*—
Kesner, Richard N., and Hawes. 189,854.

Handal, Victor B., & Bro., Inc.: *See*—
Nakashima, Toshigoro. 189,839.

Hunt, Robert G., to Marco Products Co. Pipe clearing machine. 189,840, 3–7–61, Cl. D9—2.

Irving, Robert and W. M. Turning lathe for making bowls. 189,861, 3–7–61, Cl. D54—6.

Irving, William M.: *See*—
Irving, Robert and W. M. 189,861.

Jones, Robert C. Target game apapratus. 189,850, 3–7–61, Cl. D34—5.

Kamin, George W., to Pan-Pacific Mfg. Corp. Border frame for oven doors. 189,865, 3–7–61, Cl. D61—25.

Kesner, Richard N., and H. B. Hawes, to St. Lawrence Mfg. Co., Inc. Ice skate scabbard. 189,854, 3–7–61, Cl. D34—5.

Koch, Samuel J. Indicator housing. 189,849, 3–7–61, Cl. D26—13.

Larson, Carl U., and J. R. Turek. Combined soap holder and grab bar or the like. 189,838, 3–7–61, Cl. D4—3.

Lasker, Martin L., to McPhilben Lighting Inc. Lighting fixture. 189,857, 3–7–61, Cl. D48—4.

Lionel Corp., The: *See*—
Matyas, Gerald. 189,855.

Marco Products Co.: *See*—
Hunt, Robert G. 189,840.

Matyas, Gerald, to The Lionel Corp. Toy train aquarium car. 189,855, 3–7–61, Cl. D34—15.

McMillan, William: *See*—
Cox, Austin E., and McMillan. 189,852.
Cox, Austin E., and McMillan. 189,853.

McPhilben Lighting Inc.: *See*—
Lasker, Martin L. 189,857.

Milewski, Walter C. Game board. 189,851, 3–7–61, Cl. D34—5.

Nakashima, Toshigoro, to Victor B. Handal & Bro., Inc. Sandal or the like. 189,839, 3–7–61, Cl. D7—5.

Newman, James F., W. L. Gessert, and V. H. Berry, to United States Rubber Co. Tire. 189,869, 3–7–61, Cl. D90—20.

Nizzoli, Marcello, to Ing. C. Olivetti & C., S.p.A. Typewriter. 189,863, 3–7–61, Cl. D64—11.

Olivetti, Ing. C., & C., S.p.A.: *See*—
Nizzoli, Marcello. 189,863.

Osman, Herbert T. Lamp. 189,859, 3–7–61, Cl. D48—20.

Otto, Carl L., to Schick, Inc. Electric shaver. 189,848, 3–7–61, Cl. D22—3.

Pan-Pacific Mfg. Corp.: *See*—
Kamin, George W. 189,865.

Polaroid Corp.: *See*—
Casselman, Robert C., and Stoller. 189,868.

Pulos, Arthur J.: *See*—
Cleminshaw, Douglas R., Du Sell, and Pulos. 189,844.

Rahr, Frederic H.: *See*—
Brody, Philip M., and Rahr. 189,847.

Rhoads, Delmar D. Portable refrigerator cabinet. 189,843, 3–7–61, Cl. D14—3.

St. Lawrence Mfg. Co., Inc.: *See*—
Kesner, Richard N., and Hawes. 189,854.

Schick, Inc.: *See*—
Otto, Carl L. 189,848.

Schoen, Philip B. Comb. 189,867, 3–7–61, Cl. D86—5.

Southern Desk Co.: *See*—
Whitener, Loyd A., Jr., and Carpenter. 189,846.

Spalding, A. G., & Bros., Inc.: *See*—
Cox, Austin E., and McMillan. 189,852.
Cox, Austin E., and McMillan. 189,853.

Stoller, Michael K.: *See*—
Casselman, Robert C., and Stoller. 189,868.

Strapavac Corp.: *See*—
Buda, Salvatore. 189,841.

Traficante, Dorothy K. Accordion grill. 189,862, 3–7–61, Cl. D56—1.

Turek, James R.: *See*—
Larson, Carl U., and Turek. 189,838.

United States Rubber Co.: *See*—
Newman, James F., Gessert, and Berry. 189,869.

Whitener, Loyd A., Jr., and H. B. Carpenter, to Southern Desk Co. Utility control, supply, and service unit for laboratory tables. 189,846, 3–7–61, Cl. D16—2.

Wood Conversion Co.: *See*—
Brody, Philip M., and Rahr. 189,847.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries Inc.: *See*—
Udstad, Sigvald F. 2,973,722.

AMP Inc.: *See*—
Klingler, Martin L. 2,973,625.

Abbott, Elbert V. Portable time recording device. 2,975,999, 3-7-61, Cl. 346—62.

Abel, Finn E., to Allied Tractor Equipment Co. Bulldoser. 2,973,592, 3-7-61, Cl. 37—144.

Abraham, George. Solid state device and method of making same. 2,974,262, 3-7-61, Cl. 317—234.

Abresch, Carel F., and R. L. Mercer, to General Motors Corp. Spray device. 2,973,907, 3-7-61, Cl. 239—261.

Achor, William E., and E. C. Booth, to Thompson Ramo Wooldridge Inc. Gathering apparatus and method. 2,974,218, 3-7-61, Cl. 219—7.5.

Ackley, John W., to Deere & Co. Nozzle construction with screen support. 2,973,908, 3-7-61, Cl. 239—123.

Adams, George F. and W. C. Well screen assembly. 2,973,814, 3-7-61, Cl. 166—228.

Adams, George M., to Union Carbide Corp. Printed plastic films. 2,974,057, 3-7-61, Cl. 117—12.

Adams, Warren C.: *See*—
Adams, George F., and W. C. 2,973,814.

Addressograph-Multigraph Corp.: *See*—
Freedson, Joseph. 2,973,853.

Adkins, Theodore E. Refrigerated display unit. 2,973,631, 3-7-61, Cl. 62—246.

Aerojet-General Corp.: *See*—
Batchelder, George W. 2,974,026.
Harris, Clyde W. 2,974,280.

Aeroquip Corp.: *See*—
Elsner, Edwin C. 2,973,566.

Aeschlimann, John A., and A. Stempel, to Hoffmann-La Roche Inc. Certain 1-arylsulfonyl-3-(cis-2-decalyl) ureas. 2,974,166, 3-7-61, Cl. 260—553.

Agency of Industrial Science and Technology, Ministry of International Trade and Industry: *See*—
Noda, Katsuhiko, and Kurokawa. 2,974,272.

Agfa Aktiengesellschaft: *See*—
Schmidt, Hans R., and Wiesner. 2,974,220.

Air Placement Equipment Co.: *See*—
Pro, George M. 2,973,855.

Air Products Inc.: *See*—
Lady, Edward R. 2,973,629.

Airtech Ltd.: *See*—
Disney, Francis J. 2,973,974.

Akins, Clifford M., to Marquette Corp. Heat sink and diode assembly. 2,974,263, 3-7-61, Cl. 317—234.

Aktiebolaget Separator: *See*—
Hagerman, Tor H., Morfeldt, and Svensjö. 2,973,820.

Alcan Co., Inc.: *See*—
Clark, Homer E., Jr. 2,973,711.

Alexander, Benjamin H.: *See*—
Beroza, Morton, and Alexander. 2,974,086.

Alexander, Everett N. Greif, H. Jass, and R. Stetzer, to Revlon, Inc. Sun screen compositions. 2,974,089, 3-7-61, Cl. 167—90.

Alexander, Guy B., to E. I. du Pont de Nemours and Co. Aluminosilicate aquasols and their preparation. 2,974,108, 3-7-61, Cl. 252—313.

Alford, Joseph S., to General Electric Co. Cooling means for a multi-stage turbine. 2,973,938, 3-7-61, Cl. 253—39.15.

Allegheny Steel & Brass Corp.: *See*—
Elting, Donald N., and Spencer. 2,973,982.

Allen, Herbert, to Cameron Iron Works, Inc. Snap-acting pressure relief valve. 2,973,776, 3-7-61, Cl. 137—467.

Allen, Joseph N., III: *See*—
McKnight, John T. 2,973,601.

Allied Chemical Corp.: *See*—
Elgaard, Lauritz. 2,973,886.
Koral, Marvin. 2,974,159.
McClements, Willard J., and Datin. 2,974,150.
Schmidt, Lawrence D. 2,974,090.

Allied Tractor Equipment Co.: *See*—
Abel, Finn E. 2,973,592.

Allis-Chalmers Mfg. Co.: *See*—
Harrer, Paul H., and Shannon. 2,973,970.
Kurre, Paul G. 2,973,656.

Allred, George W., to The Bahnson Co. Traveling cleaner for textile rooms. 2,973,543, 3-7-61, Cl. 15—312.

Altschuler, Samuel, to United States of America, Army. Single-shuttle twin-barrel gun. 2,973,692, 3-7-61, Cl. 89—33.

American Can Co.: *See*—
Arslanian, Charles S. 2,973,551.
Grover, Victor T. 2,973,735.

American Cyanamid Co.: *See*—
Fitchett, Gilmer T., Gordon, and Shepherd. 2,974,137.
Schuller, Walter H., and Guth. 2,974,119.

American Enka Corp.: *See*—
Heuer, Kurt, Elling, and Elsaner. 2,974,004.
Heuer, Kurt, McPeters, and Knight. 2,974,005.
Van Dongeren, Bernhard J. 2,974,070.

American Machine & Foundry Co.: *See*—
Hladik, Joseph A. 2,973,674.
Patterson, Morehead. 2,973,963.
Zito, Ralph. 2,973,964.

American-Marietta Co.: *See*—
Saenz, Henry H. 2,973,540.

American Oil Co.: *See*—
Kirkland, Earl V. 2,973,997.

American Optical Co.: *See*—
Brown, Morden G. 2,973,580.
Flodstrom, Albert C., and Leonardson. 2,973,679.
Rowe, Louis F., Smith, and Dillon. 2,973,683.

American Potash & Chemical Corp.: *See*—
Peterson, Willard D. 2,974,015.

American Viscose Corp.: *See*—
Bauling, Adrianus L., and Milne. 2,973,946.
Speers, Stewart W. 2,973,635.

Amsco Packaging Machinery, Inc.: *See*—
Sylvester, John D. 2,973,797.

Anderson, Gary R.: *See*—
Cooperstein, Raymond, and Anderson. 2,974,012.

Anderson, James A., Jr., to Esso Research and Engineering Co. Catalytic conversion of heavy naphthe fractions. 2,974,099, 3-7-61, Cl. 208—46.

Andresen, John H., Jr., to Kollsman Instrument Corp. Cabin pressurization system using A.-C. power. 2,973,702, 3-7-61, Cl. 98—1.5.

Andrew, Eugene A., to Olin Mathieson Chemical Corp. Method of making plastic pellets. 2,974,135, 3-7-61, Cl. 260—223.

Anton, Nicholas. Geiger-Mueller counter tube. 2,974,347, 3-7-61, Cl. 313—93.

Apel, Alfons, to Udic Societe Anonyme. Hydrolysis of vegetable cellulosic materials. 2,974,067, 3-7-61, Cl. 127—37.

Apstein, Maurice. Low-inertia induction motor rotor. 2,974,242, 3-7-61, Cl. 310—266.

Arlington Aluminum Co.: *See*—
Howell, David S. 2,973,933.

Arlington Seating Co.: *See*—
Close, Charles F. 2,973,807.

Armacost, Wilbur H., to Combustion Engineering, Inc. Steam generator. 2,973,750, 3-7-61, Cl. 122—479.

Armstrong Cork Co.: *See*—
Forsythe, Alan K., and Parker. 2,974,112.
Parker, John A., Ready, and Vernel. 2,974,116.

Armstrong, Lorne D., to Radio Corp. of America. Method of making phosphorus diffused silicon semiconductor devices. 2,974,073, 3-7-61, Cl. 148—1.5.

Arneson, Robert F., to Raytheon Co. Balanced discriminators. 2,974,287, 3-7-61, Cl. 329—138.

Arslanian, Charles S., to American Can Co. Nozzle. 2,973,551, 3-7-61, Cl. 18—12.

Arutunoff, Armais, to Reda Pump Co. Combined heat exchanger and protector for submergible electric motors. 2,974,240, 3-7-61, Cl. 310—87.

Atchison, Topeka & Santa Fe Railway Co., The: *See*—
Miller, Donald E., and Frank. 2,973,724.

Atkins, Carl E., to Tung-Sol Electric Inc. Oscillator control circuit. 2,974,292, 3-7-61, Cl. 331—145.

Atwater, Norman W., to G. D. Searle & Co. 6-alkylidenestra-1,3,5(10)-triene-3,17β-diols and derivatives thereof. 2,974,151, 3-7-61, Cl. 260—397.4.

Auto Facto Systems, Inc.: *See*—
Sternberg, Herbert B. 2,973,506.

Automatic Poultry Feeder Co.: *See*—
Van Huis, Robert L., and Bares. 2,973,932.

Automation Products, Inc.: *See*—
Banks, William B. 2,973,639.

Auxier, John A., G. S. Hurst, and R. E. Zedler, to United States of America, Atomic Energy Commission. Neutron-insensitive beta-gamma dosimeter. 2,974,248, 3-7-61, Cl. 313—93.

Avakain, Avak: *See*—
Feinberg, Irving, and Avakain. 2,973,569.

Ayoub, Michael A.: *See*—
Bartell, William W., Ayoub, Houghton, and Clayton. 2,974,300.

Azelickis, Alexis N., to Oak Mfg. Co. V.H.F. television amplifier circuit. 2,974,290, 3-7-61, Cl. 330—70.

Bacon, Frank R., and C. J. Billian, to Owens-Illinois Glass Co. Ultraviolet light absorbing glass. 2,974,062, 3-7-61, Cl. 106—52.

Bahnson Co., The: *See*—
Allred, George W. 2,973,543.

Bailey, Ralph E. Apparatus for projecting slides. 2,973,680, 3-7-61, Cl. 88—28.

Baird-Atomic, Inc.: *See*—
Fitzmaurice, John A., and Blacquier. 2,974,254.
Foreman, William T., and Fanning. 2,973,585.

Baker Perkins Ltd.: *See*—
Farrer, Kenneth. 2,973,725.

Baker, Stephen C. Hydraulic valve. 2,973,778, 3-7-61, Cl. 137—501.

Baldwin Rubber Co.: *See*—
Pryale, Harry M. 2,973,770.

Ballard, Hyde W., to James Lees and Sons Co. Method and apparatus for providing a separable protective edge for carpeting. 2,973,801, 3-7-61, Cl. 154—42.

Band-It Mfg. Co.: *See*—
Powell, Walter G. 2,973,597.
Powell, Walter G. 2,973,798.

Banks, William B., to Automation Products, Inc. Mass presence sensing device. 2,973,639, 3-7-61, Cl. 73—54.

Bara, Edwin S., to Webcor, Inc. Automatic record changer speed control. 2,973,966, 3-7-61, Cl. 274—10.

Baranski, Bernard R., to U.S. Industries, Inc. Gear shifting mechanisms. 2,973,657, 3-7-61, Cl. 74—343.

Bares, Edward F.: *See*—
Van Huis, Robert L., and Bares. 2,973,932.

Barkman, Erik F.: *See*—
Ramires, Ernest R., and Barkman. 2,974,007.

Barlow, Thomas E., to International Minerals & Chemical Corp. Core binder. 2,974,050, 3-7-61, Cl. 106—38.5.

Barnhart, John S. Retractable step structure for vehicles. 2,973,826, 3-7-61, Cl. 182—91.

Barrett, Edward E., L. M. Kolensky, and C. J. Votaw, to Bell Telephone Laboratories, Inc. Selective calling system. 2,974,187, 3-7-61, Cl. 178—3.

Barry, Austin W., and R. P. Schake, to Daystrom, Inc. Voltage compensated resistance bridge. 2,974,279, 3-7-61, Cl. 324—62.

Bartell, William W., M. A. Ayoub, R. W. Houghton, and J. Clayton, Jr., to Waters Mfg., Inc. Potentiometer. 2,974,300, 3-7-61, Cl. 336—170.

Bartels, Ernst A., B. Brühler, J. Reese, and R. Zimmermann, to Chemische Werke Albert. 3-trichloromethyl-thio benzoxazolones. 2,974,065, 3-7-61, Cl. 167—33.

Barth, Eugene W., and J. R. Shields, to Carrier Corp. Shaft speed limiting apparatus. 2,973,771, 3-7-61, Cl. 137—57.

Barusch, Maurice R.: *See*—
Lindstrom, Eddie G., and Barusch. 2,974,022.

Bashour, Joseph T., H. L. Bikofsky, and J. N. Haimsohn, to Stauffer Chemical Co. Production of titanium tetrachloride. 2,974,009, 3-7-61, Cl. 23—87.

Baskey, Raymond H.: *See*—
Fisher, Elwyn D., and Baskey. 2,974,040.

Bassick Co., The: *See*—
Kramcsak, Michael, Jr. 2,973,545.

Bastian-Blessing Co., The: *See*—
Garretson, Owen L. 2,973,728.

Batchelder, George W., to Aerojet-General Corp. Solid composite smokeless slow burning, low flame propellant. 2,974,026, 3-7-61, Cl. 62—5.

Bath Iron Works Corp.: *See*—
Danyluke, Ostap. 2,973,905.
Danyluke, Ostap. 2,973,909.

Bauer, Erich, H. Ebert, W. Forst, and H. Pieper, to Knapsack-Griesheim Aktiengesellschaft. Process for the manufacture of salt mixtures for the electrolytic production of magnesium. 2,974,093, 3-7-61, Cl. 204—70.

Bauling, Adrianus L., and D. T. Milne, to American Viscose Corp. Mixing apparatus. 2,973,946, 3-7-61, Cl. 259—111.

Bausch & Lomb Optical Co.: *See*—
Oswold, Oluf G. 2,973,838.
Straat, Harold W. 2,973,686.

Beamesderfer, John W., and H. H. Morris, to Southern Clays, Inc. Treatment of clay. 2,974,054, 3-7-61, Cl. 106—288.

Beardsley, Harold H. Convertible camp cots. 2,973,888, 3-7-61, Cl. 224—9.

Beck, Arnold H. W., D. C. Rogers, and P. F. C. Burke, to International Standard Electric Corp. Electron gun for electron discharge tube. 2,974,240, 3-7-61, Cl. 313—84.

Beck, Peter M. Dental mirror wiper attachment. 2,973,541, 3-7-61, Cl. 15—250.15.

Becker, Willy, to Rheinmetall Aktiengesellschaft. Control means for the number printing mechanism of a calculating device for an office machine. 2,973,709, 3-7-61, Cl. 101—95.

Behles, Frans G. F., to Daimler-Benz Aktiengesellschaft. Pneumatic equalisation spring system for vehicles. 2,973,968, 3-7-61, Cl. 280—104.

Behrens, Karl. Seesaw. 2,973,961, 3-7-61, Cl. 272—30.

Bell, Lewis W., to Star Precision Devices, Inc. Small diameter stud adapter. 2,973,520, 3-7-61, Cl. 1—47.

Bell Telephone Laboratories, Inc.: *See*—
Barrett, Edward E., Kolensky, and Votaw. 2,974,187.
Feldman, Carl B. H. 2,974,281.
Flaschen, Steward S., and Sauer. 2,974,203.
Goldrick, Richard J., Kinsman, and Line. 2,973,919.
Juless, Bela. 2,974,195.
McLeod, Bruce A. 2,974,198.
Miller, Lewis E. 2,974,075.
Quate, Calvin F. 2,974,252.
Robertson, Gordon I. 2,973,586.

Bell, Walter: *See*—
Maynard, Richard H., and Bell. 2,973,527.

Bellamy, John L., to International Telephone and Telegraph Corp. Telephone paystation circuit with coin-accept control. 2,974,199, 3-7-61, Cl. 179—6.3.

Bellavance, Harold P., to United Findings Co., Inc. Lighter. 2,973,634, 3-7-61, Cl. 67—7.1.

Bemis Bro. Bag Co.: *See*—
Hopkins, Frank L., and Heim. 2,973,740.

Bendix Corp., The: *See*—
Kucmerosky, Theodore L. 2,973,920.
Prather, Edwin E. 2,973,844.
Rudisch, Walter E. 2,973,851.
Sekella, Youston, Digby, and Covert. 2,973,712.
Wilson, Harold S. 2,973,837.

Beninger, Robert L., and P. W. Jacobsen, to H. G. Weber and Co., Inc. Roll stand. 2,973,914, 3-7-61, Cl. 242—58.

Bennett, Arthur J., and L. T. Thurlby, ½ to Graviner Mfg. Co. Ltd., and ½ to Wilkinson Sword Ltd. Electrical circuits for use with temperature responsive devices. 2,974,314, 3-7-61, Cl. 340—227.

Benson, Donald O.: *See*—
Horner, Herbert F., Kroll, and Benson. 2,973,614.

Benson, John A.: *See*—
Pierce, Lowell J., Benson, and Jaramillo. 2,973,624.

Berge, Jacques M. A. C., to Gervais, Ch., Societe Anonyme. Method for the manufacturing of cheese. 2,974,045, 3-7-61, Cl. 99—116.

Berger, Helmut, to Siemens-Reiniger-Werke Aktiengesellschaft. Cassette changing device for taking X-ray photographs. 2,974,228, 3-7-61, Cl. 250—66.

Beroza, Morton, and B. H. Alexander, to United States of America, Agriculture. Derivatives of 4-phenyl-2-butanone as attractants for the melon fly. 2,974,086, 3-7-61, Cl. 167—48.

Bertin, Jean H., to Societe Bertin et Cie (Societe a Responsabilite Limitee). Discharge nozzles with a view to reducing the noise of the jet. 2,973,828, 3-7-61, Cl. 181—43.

Biedawski, Josef: *See*—
Mann, Ralph J., and Biedawski. 2,974,065.

Biel, John H., to Lakeside Laboratories, Inc. 3-piperidyl benzhydryl ethers. 2,974,144, 3-7-61, Cl. 260—294.7.

Biggs, William A., Jr., and J. D. Robertson, to Sonoco Products Co. Method for integrating sodium based sulfite and sulfate pulping processes. 2,974,081, 3-7-61, Cl. 162—33.

Bikofsky, Henry L.: *See*—
Bashour, Joseph T., Bikofsky, and Haimsohn. 2,974,009.

Billbok, Desso. Adjustable pattern projecting machine. 2,973,688, 3-7-61, Cl. 88—24.

Billian, Carroll J.: *See*—
Bacon, Frank R., and Billian. 2,974,062.

Billing, Henry J., to Metalastik Ltd. Spring assemblies. 2,973,951, 3-7-61, Cl. 267—30.

Bishop, Arthur E. Variable ratio power steering gear. 2,973,658, 3-7-61, Cl. 74—388.

Bjorksten, Johan A.: *See*—
Fiedler, Stuart O., Bjorksten, and Fiedler. 2,974,024.

Black, James F., to Esso Research and Engineering Co. Radio-sulfochlorination of paraffins. 2,974,094, 3-7-61, Cl. 204—162.

Blackmer, Richard H., to General Electric Co. Internal combustion engine. 2,973,751, 3-7-61, Cl. 123—32.

Blacquier, Eugene: *See*—
Fitzmaurice, John A., and Blacquier. 2,974,254.

Blair, Earl D.: *See*—
Monthei, Edward G., and Blair. 2,973,817.

Blake, Francis E., F. H. Henson, and R. P. Boyer, Jr. Model railroad control system. 2,974,265, 3-7-61, Cl. 318—349.

Blake, John D.: *See*—
Guth, Fred H., and Blake. 2,974,235.

Bobear, William J., and K. W. Krantz, to General Electric Co. Composite tapes. 2,974,063, 3-7-61, Cl. 117—76.

Boe, Carsten F. Structural form production method and apparatus. 2,973,783, 3-7-61, Cl. 138—55.

Boeing Airplane Co.: *See*—
Flugstad, Morris. 2,974,257.

Bognar, Charles J., to The Yoder Co. Differential signal developer. 2,973,662, 3-7-61, Cl. 74—472.

Bomzer, Herbert W.: *See*—
Kaplan, Sidney J., Bomzer, Smith, and Gold. 2,973,587.

Bonaldi, Giacomo M. Form to be used with garment hanger. 2,973,887, 3-7-61, Cl. 223—68.

Booth, Eugene C.: *See*—
Achor, William E., and Booth. 2,974,213.

Boothroyd, Wilson P., to Philco Corp. Beam indexing system having automatic width control during color reception. 2,974,189, 3-7-61, Cl. 178—5.4.

Borowik, Albert, to United States of America, Army. Process and composition for chemically treating titanium and its alloys. 2,974,021, 3-7-61, Cl. 41—42.

Borth, John C. Hose and connector for emergency use. 2,973,973, 3-7-61, Cl. 285—8.

Bosl, George F., G. J. Janke, and J. Evans, Jr., to The Osborn Mfg. Co. Automatic loading and unloading mechanism. 2,973,532, 3-7-61, Cl. 15—21.

Bourassa, Pierre. Transportation apparatus. 2,973,720, 3-7-61, Cl. 104—20.

Boyer, Richard P., Jr.: *See*—
Blake, Francis E., Henson, and Boyer. 2,974,268.

Brühler, Berthold: *See*—
Bartels, Ernst A., Brühler, Reese, and Zimmermann. 2,974,065.

Brainard, Carl W. and H. V. Disposable garment. 2,973,523, 3-7-61, Cl. 2—46.

Brainard, Helen V.: *See*—
Brainard, Carl W. and H. V. 2,973,523.

Brandt Automatic Cashier Co.: *See*—
Buchholz, Arnold R., and Haban. 2,973,768.

Brandt, William E., to Lord Chemical Corp. Machine for precision finishing of parts by controlled vibration. 2,973,606, 3-7-61, Cl. 51—163.

Brede, Erwin F. Electric switches. 2,974,211, 3-7-61, Cl. 200—152.

Brennan, Helen E.: *See*—
Brennan, Joseph B. 2,974,041.

Brennan, Joseph B., deceased, by H. E. Brennan, executrix. Method of producing electrically conductive porous strip material. 2,974,041, 3-7-61, Cl. 75—208.

Brenner, Bert, to Sigmund Cohn Corp. Low resistivity potentiometer wire. 2,974,296, 3-7-61, Cl. 338—160.

Brief, Daniel A. Pneumatic suspension unit. 2,973,955, 3-7-61, Cl. 267—65.

Brink, Norman G.: *See*—
Lewis, Urban J., and Brink. 2,974,088.

Bristol Siddeley Engines Ltd.: *See*—
Willis, William, Gough, and Davis. 2,974,218.

British Celanese Ltd.: *See*—
Lincoln, James, Hawthorne, and Kowolik. 2,974,122.
Mann, Ralph J., and Biedawski. 2,974,065.

Bromfield, Morton S. Method of manufacturing shoes. 2,973,530, 3-7-61, Cl. 12—142.

Bromfield, Morton S. Method for mulling shoe uppers. 2,973,531, 3–7–61, Cl. 12—142.

Brooks, Will E., to Precision Scientific Co. Conveyor. 2,973,856, 3–7–61, Cl. 198—219.

Brotherton, Robert J., H. Steinberg, and A. L. McCloskey, to United States Borax & Chemical Corp. Method for producing stable materials containing boron-boron bonds. 2,974,165, 3–7–61, Cl. 260—551.

Brow, Arthur J., Jr., and O. L. Franks; said Franks assor. to said Brow, Jr. Foundation form clip. 2,973,567, 3–7–61, Cl. 25—131.

Brown, Dwight C. Dual purpose nesting type pallets. 2,973,931, 3–7–61, Cl. 248—120.

Brown, Harry L.: *See*—
Platner, George E., Jr., and Brown. 2,974,255.

Brown, Morden G., to American Optical Co. Apparatus for use in analysing blood. 2,973,580, 3–7–61, Cl. 33—125.

Brown, Raymond L., G. Mott, Jr., and L. J. Smeriglio, to Electrolux Corp. Motor mountings. 2,973,995, 3–7–61, Cl. 230—238.

Bucciconi, Dario, to Bucciconi Engineering Co., Inc. Article conveyor. 2,973,960, 3–7–61, Cl. 271—74.

Bucciconi Engineering Co., Inc.: *See*—
Bucciconi, Dario. 2,973,960.

Buchholz, Arnold R., and F. Habaa, to Brandt Automatic Cashier Co. Coin counting machine. 2,973,768, 3–7–61, Cl. 133—6.

Buehrle, William F. Buffing brush. 2,973,539, 3–7–61, Cl. 15—179.

Bureau, Alfred J., to United States of America, Atomic Energy Commission. Method and means for increasing electron emission. 2,974,251, 3–7–61, Cl. 313—345.

Burk, Emmett E., Jr.: *See*—
Keith, Willis C., Burk, and Keith. 2,974,161.

Burke, Charles E. Vehicle door bolt lock. 2,973,984, 3–7–61, Cl. 292—182.

Burke, Peter F. C.: *See*—
Beck, Arnold H. W., Rogers, and Burke. 2,974,246.

Burroughs Corp.: *See*—
Elnhorn, Sidney N., and Van Andel. 2,973,902.
Meyerhoff, Albert J. 2,974,309.

Burstein, Albert, to Radio Corp. of America. Clutch control. 2,973,848, 3–7–61, Cl. 192—22.

Burton, Joe M., to Phillips Petroleum Co. Ignition of solid rocket propellants. 2,973,712, 3–7–61, Cl. 102—70.

Busch, Richard E., to Clary Corp. Anti-jamming device for feeding paper. 2,973,957, 3–7–61, Cl. 271—2.1.

C.I.C. Engineering Ltd.: *See*—
Turner, Frederick T. 2,973,553.

Cabot Corp.: *See*—
Vail, Robert St. P. 2,973,882.

Cadella, Anthony. Automatic hydraulic timer valve. 2,973,781, 3–7–61, Cl. 137—553.

California Research Corp.: *See*—
Lindstrom, Eddie G., and Barusch. 2,974,022.
Mertens, Edward W., and Wright. 2,974,107.

Callahan, James L., to The Standard Oil Co. Manufacture of spheroidal catalysts. 2,974,110, 3–7–61, Cl. 252—448.

Cambridge Filter Mfg. Corp.: *See*—
Engle, Paul M. 2,973,828.

Cameron Iron Works, Inc.: *See*—
Allen, Herbert. 2,973,776.
Troxell, John N., Jr. 2,973,777.

Campbell, William H., J. N. Miale, and J. B. Kirkpatrick. Measuring instruments. 2,973,646, 3–7–61, Cl. 73—427.

Carlin, Raymond W., and J. C. McKinney, to The Procter & Gamble Co. Liner type box wrap package. 2,973,893, 3–7–61, Cl. 229—40.

Carman, Justice N., and L. C. De Mild, Jr., to Carman Laboratories, Inc. Lapping machine. 2,973,605, 3–7–61, Cl. 51—118.

Carman Laboratories, Inc.: *See*—
Carman, Justice N., and De Mild. 2,973,605.

Carrier Corp.: *See*—
Barth, Eugene W., and Shields. 2,973,771.
Harter, Earl P. 2,974,241.

Carroll, John L., and C. D. Whitcomb, to Quikut, Inc. Knife. 2,973,578, 3–7–61, Cl. 30—355.

Casey, Charles L., and J. B. Ryno, to Reliable Engineering Co. Paper toweling dispenser. 2,973,953, 3–7–61, Cl. 271—2.4.

Celanese Corp. of America: *See*—
Delagrange, Carl R., and Meehan. 2,973,863.
Hudgin, Donald E. 2,974,127.
Hudgin, Donald E. 2,974,128.

Centre National de la Recherche Scientifique: *See*—
Romand, Jacques L., and Vodar. 2,974,266.

Chain Belt Co.: *See*—
Hudis, Michael I., and Marcello. 2,973,723.

Chambers, Herbert I., and A. W. Fischer, to Consolidated Electrodynamics Corp. High speed chopper. 2,974,207, 3–7–61, 200—90.

Chang, Sheldon S. L. Control apparatus. 2,973,926, 3–7–61, 244—77.

Chemische Werke Albert: *See*—
Bartels, Ernst A., Brähler, Reese, and Zimmermann. 2,974,085.

Chemische Werke Huls Aktiengesellschaft: *See*—
Jacobi, Bernhard, and Wolff. 2,974,132.

Chicago Aerial Industries, Inc.: *See*—
Siegal, Burton L. 2,973,965.

Christiansen, Richard A., to International Business Machines Corp. D. C. voltage or current regulator. 2,974,270, 3–7–61, Cl. 323—22.

Chrysler Corp.: *See*—
Folkerts, Walter H. 2,973,747.
Meilen, George F., and Rickert. 2,973,665.
Platner, George E., Jr., and Brown. 2,974,255.

Ciba Ltd.: *See*—
Scheller, Walter. 2,974,007.

Cibula, John F. Rocker screen vibrating machine with undulated screen cloth. 2,973,966, 3–7–61, Cl. 209—315.

Cicalese, Michael J., to Hydrocarbon Research, Inc. Hydrocarbon recovery from natural gas. 2,974,854, 3–7–61, Cl. 183—120.

Cincinnati Milling Machine Co., The: *See*—
Trible, Winthrop. 2,974,080.

Citizens Bank of Maryland: *See*—
Diambra, Henry M. 2,974,188.

Clark, Homer E., Jr., to Alcan Co., Inc. Base wad overlay. 2,973,711, 3–7–61, Cl. 102—42.

Clary Corp.: *See*—
Busch, Richard E. 2,973,957.
Nessel, Jiri M. 2,973,602.

Clayton, John, Jr.: *See*—
Bartell, William W., Ayoub, Houghton, and Clayton. 2,974,300.

Clifford, Cecil F., to Horstmann Clifford Magnetics Ltd. Frequency controlling and regulating means for mechanical oscillators. 2,973,619, 3–7–61, Cl. 58—116.

Close, Charles F., to Arlington Seating Co. Article of furniture. 2,973,807, 3–7–61, Cl. 155—194.

Clure, Claremont F. Transparent shield for gate valve stems. 2,973,774, 3–7–61, Cl. 137—382.

Coats & Clark Inc.: *See*—
Morin, Louis H. 2,973,556.

Cobb, Joseph R., Jr.: *See*—
Koble, Robert A., and Cobb. 2,974,180.

Cockburn, Curtis D., to General Electric Co. Matrix amplifier for combining color-differing signals. 2,974,280, 3–7–61, Cl. 330—69.

Cofield, Thomas H., to Ethyl Corp. Process of preparing 2,6-di-tert-butyl-4-benzoyl phenol. 2,974,171, 3–7–61, Cl. 260—591.

Cohen, Manuel, to Wagner Folding Box Corp. One-piece platform type article holder for packages. 2,973,980, 3–7–61, Cl. 206—70.

Cohen, Maurice. Display rack. 2,973,867, 3–7–61, Cl. 211—87.

Cohen, Rebecca. Combination denture compact device. 2,973,767, 3–7–61, Cl. 132—64.

Cohn, David, to Model Plastic Corp. Apparatus for fastening eyes in dolls' heads. 2,973,573, 3–7–61, Cl. 29—209.

Cohn, Sigmund, Corp.: *See*—
Brenner, Bert. 2,974,296.

Colby, Richard H., to United States of America, Army. Loading, firing and unloading mechanism for a firearm with a laterally actuated breech closure. 2,973,693, 3–7–61, Cl. 89—169.

Cole, Hyman E., to New York Pressing Machinery Corp. Pressing machine. 2,973,894, 3–7–61, Cl. 38—17.

Cole, Thomas M., to Federal Pacific Electric Co. Circuit breakers and panelboards therefor. 2,974,289, 3–7–61, Cl. 317—119.

Collotti, Nicasio, to Goodyear Aircraft Corp. Random noise generator. 2,974,291, 3–7–61, Cl. 331—78.

Collyer, Theodore J., to Owens-Corning Fiberglas Corp. Epoxy-glass fiber systems and method for improving the bonding relation therebetween. 2,974,062, 3–7–61, Cl. 117—76.

Collins, Alfred F., to The State of Iowa, for the use and benefit of the State University of Iowa. Process of inhibiting microorganisms with alkylene bis-dithiocarbamate esters. 2,974,082, 3–7–61, Cl. 167—22.

Columbia Broadcasting System, Inc.: *See*—
Geiger, Joseph E. 2,974,190.

Columbia-Southern Chemical Corp.: *See*—
Hoekje, Howard H., and Kearley. 2,974,014.

Combustion Engineering, Inc.: *See*—
Armacost, Wilbur H. 2,973,780.

Comcelloid Inc.: *See*—
Frommuller, George D., and Mirra. 2,974,106.

Community Gin Co.: *See*—
O'Neal, Andrew. 2,973,559.

Compur-Werk Friedrich Deckel O.H.G.: *See*—
Gebele, Kurt. 2,973,700.

Comyn, Raymond H. Nongaseous pyrotechnic delay mixture. 2,974,029, 3–7–61, Cl. 52—3.

Connecticut Hard Rubber Co., The: *See*—
Korotkevich, Nikolai N. 2,974,079.

Consolidated Electrodynamics Corp.: *See*—
Chambers, Herbert I., and Fischer. 2,974,207.

Consolidated Spring Corp.: *See*—
Elow, David I. 2,973,915.

Controls Co. of America: *See*—
Thornbery, James M. 2,973,672.

Cook, Donald J., and P. J. Schoemer, to Purolator Products, Inc. Flame arrestor for air filter. 2,973,852, 3–7–61, Cl. 183—71.

Cook, Harold G., to United States of America, Navy. Piston with filter. 7,973,853, 3–7–61, Cl. 183—71.

Cook, Leonard, and E. J. Fellows, to Smith Kline & French Laboratories. Anorexigenic preparation and method of curbing the appetite. 2,974,146, 3–7–61, Cl. 260—340.5.

Cook, Leslie J.: *See*—
Lindberg, John E., Jr., and Cook. 2,974,274.

Cooper, James M., to General Electric Co. Signal voltage amplitude limiter and phase discriminator. 2,974,209, 3–7–61, Cl. 323—9.

Cooper Tire & Rubber Co.: *See*—
Heintzelman, Henry C. 2,973,953.

Cooperstein, Raymond, and G. R. Anderson, to United States of America, Atomic Energy Commission. Preparation of beryllium oxide of high purity. 2,974,012, 3–7–61, Cl. 23—183.

Conver, Delos G. A. Irrigation pipe coupling. 2,973,780, 3–7–61, Cl. 137—517.

Cope, Geoffrey W., to Symington Wayne Corp. Transition coupling. 2,973,872, 3–7–61, Cl. 213—112.

Corde De Paris Corset Co., Inc.: *See*—
Steiner, Harry. 2,973,764.

Corken's, Inc.: *See*—
Kennedy, Garth P. 2,973,779.

Corn Products Co.: *See*—
Perry, George A., and Lawrence. 2,974,046.

Cotsworth, Albert, III, and W. J. Stroh, to Zenith Radio Corp. Television receiver compensating circuit. 2,974,191, 3–7–61, Cl. 178—7.3.

Covert, Robert J.: *See*—
Sekella, Youston, Digby, and Covert. 2,973,712.

Crane Packing Co.: *See*—
Townsend, Francis L. 2,973,983.

Crawford, Thomas J. Method and apparatus for electric welding pipe and the like. 2,974,217, 3–7–61, Cl. 219—101.

Creed & Co. Ltd.: *See*—
Handley, John. 2,974,194.

Cri-Dan: *See*—
Renoux, Pierre E. 2,973,528.

Crivelli, Henry A. Ticket printing and issuing machine. 2,973,707, 3–7–61, Cl. 101—66.

Cross, Newbold O.: *See*—
Stolle, Donald E., and Cross. 2,973,583.

Crown Zellerbach Corp.: *See*—
Laneve Arthur L., Nash, and Trees. 2,973,858.

Croxall, Willard J., and J. H. Mellema, to Miles Laboratories, Inc. Substituted 2-alkenyltetrahydro-1,3-oxazines. 2,974,140, 3–7–61, Cl. 260—244.

Crucible Steel Co. of America: *See*—
Vordahl, Milton B. 2,974,076.

Curtiss, Lawrence M., to The Thomas & Betts Co. Grounding device for electrical wiring systems. 2,974,185, 3–7–61, Cl. 174—51.

Custom-Made Paper Bag Co., Inc.: *See*—
Lerner, Bernard. 2,973,097.

Cyba, Henry A., and R. B. Thompson, to Universal Oil Products Co. Stabilized hydrocarbon distillate. 2,974,023, 3–7–61, Cl. 44—62.

Cyba, Henry A., to Universal Oil Products Co. Stabilized hydrocarbon distillate. 2,974,024, 3–7–61, Cl. 44—62.

DICO Corp.: *See*—
De Puydt, Frank A., and Silver. 2,973,839.

Daimler-Benz Aktiengesellschaft: *See*—
Behles, Frans G. F. 2,973,968.

Dameron, Robert O., to Ford Motor Co. Centrifugally operated fluid pressure governor. 2,973,670, 3–7–61, Cl. 74—752.

Daniels, Albert A. Rim structure and means for attachment thereof. 2,973,524, 3–7–61, Cl. 4—187.

Danyluke, Ostap, to Bath Iron Works Corp. Breaker plate release mechanism for single roll crusher. 2,973,908, 3–7–61, Cl. 241—32.

Danyluke, Ostap, to Bath Iron Works Corp. Reversible pulverizer and dust gate assembly. 2,973,909, 3–7–61, Cl. 241—186.

Da Ros, Dino A., to Sperry Rand Corp. Constant phase shift rotator. 2,974,297, 3–7–61, Cl. 333—98.

Darst, Lloyd E. Ash tray. 2,973,879, 3–7–61, Cl. 220—20.5.

Datin, Richard C.: *See*—
McClements, Willard J., and Datin. 2,974,150.

Davidson, Ivor M., and B. S. Stratford, to Power Jets (Research and Development) Ltd. Jet propelled aircraft. 2,973,922, 3–7–61, Cl. 244—15.

Davis, Bernard V.: *See*—
Willis, William, Gough, and Davis. 2,974,218.

Davis, Mary A.: *See*—
Leland, Gerald H., and Davis. 2,973,748.

Davis, Oliver F.: *See*—
Leland, Gerald H., and Davis. 2,973,748.

Davis, Robert L., to The Superior Oil Co. Method of and apparatus for use in measuring earth potentials. 2,974,276, 3–7–61, Cl. 324—29.

Daystrom, Inc.: *See*—
Barry, Austin W., and Schake. 2,974,279.
Estoppey, Royden F. 2,974,283.

Deere & Co.: *See*—
Ackley, John W. 2,973,905.

Dehaven, Eugene S., to The Dow Chemical Co. Control valve. 2,973,936, 3–7–61, Cl. 251—205.

Delagrange, Carl R., and G. F. Meehan, to Celanese Corp. of America. Apparatus for feeding solids. 2,973,993, 3–7–61, Cl. 302—59.

De Mild, Leonard C., Jr.: *See*—
Carman, Justice N., and De Mild. 2,973,605.

De Millar, Floyd O., to Radian Corp. Starter for internal combustion engine. 2,973,754, 3–7–61, Cl. 123—179.

Dence, Allen. Power line stringing apparatus. 2,973,940, 3–7–61, Cl. 254—134.3

Dennerlein, William H.: *See*—
Schladermundt, Peter, Dennerlein, and Simons. 2,973,859.

Densmore, Neal W., to Joy Mfg. Co. Mining and loading machine. 2,973,949, 3–7–61, Cl. 262—9.

Depp, Martin C., to Sperry Rand Corp. Synchro servo system two-cycle error compensator. 2,974,264, 3–7–61, Cl. 318—30.

De Puydt, Frank A., and R. C. Silver, to DICO Corp. Automatic brake for trailer vehicle. 2,973,839, 3–7–61, Cl. 188—112.

De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie: *See*—
Van Duuren, Hendrik C. A. 2,974,196.

Dettling, Conrad J., to The Polymer Corp. Fluidized bed coating method. 2,974,060, 3–7–61, Cl. 117—21.

Deutsch, Bela: *See*—
Deutsch, Carl J. 2,973,718.

Deutsch, Carl J., to C. J., B., and H. Deutsch, d.b.a. Standard Machine & Mfg. Co. Fluid mixing device. 2,973,718, 3–7–61, Cl. 103—262.

Deutsch, Herman: *See*—
Deutsch, Carl J. 2,973,718.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Schuler, Wilhelm A., and Klebe. 2,974,139.

Deventer, Max, and R. F. P. Wagner, deceased; E. Steichele, heir of said R. F. P. Wagner. Molding of metal powders. 2,974,039, 3–7–61, Cl. 75—201.

Devery, James J., and J. Pelensky, to Philco Corp. Laundry-aid dispensing device for washing machine. 2,973,636, 3–7–61, Cl. 68—17.

De Vincenzo, Frank. Portable multi-purpose desk. 2,973,603, 3–7–61, Cl. 45—80.

De Walt, Curtis W., Jr., and C. S. Sheppard, to United States Steel Corp. Method of manufacture of cyclopentenophenanthrene compounds. 2,974,162, 3–7–61, Cl. 260—515.

Diambra, Henry M., to Citizens Bank of Maryland, and Small Business Administration. Bilateral video transmission system. 2,974,188, 3–7–61, Cl. 178—5.

Diebold, George L., to Venus Foundation Garments, Inc. Foundation garment with abdominal control panel. 2,973,765, 3–7–61, Cl. 128—641.

Diesfeld, Frans, to J. P. Sauer & Sohn, Gesellschaft mit beschraenkter Haftung. Eddy current dynamometer. 2,973,640, 3–7–61, Cl. 73—134.

Digby, James J.: *See*—
Sekella, Youston, Digby, and Covert. 2,973,712.

Digirolamo, John V. M., and M. Zion, to The Lionel Corp. Operating horse car and corral. 2,973,604, 3–7–61, Cl. 46—40.

Dillon, Oscar W.: *See*—
Rowe, Louis F., Smith, and Dillon. 2,973,683.

Di Piazza, James T., to Esso Research and Engineering Co. Additives for improving the electrical properties of hydrocarbon oils. 2,974,027, 3–7–61, Cl. 52—51.

Dirnberger, Lawrence A., and R. T. Nelson, to E. I. du Pont de Nemours and Co. Preparation of silica sols of minimum turbidity. 2,974,109, 3–7–61, Cl. 252—313.

Disney, Francis J., to Airtech Ltd. Flexible sleeve having nut means therein for connecting hose pipes to taps or the like. 2,973,974, 3–7–61, Cl. 285—8.

Dixon, Dwight R., to Schlumberger Well Surveying Corp. Electrical systems for borehole apparatus. 2,974,303, 3–7–61, Cl. 340—18.

Dixon, Paul H. Torque responsive clutch. 2,973,848, 3–7–61, Cl. 192—56.

Dixon, Ronald H. T., and J. H. Gittus, to The International Nickel Co., Inc. Method of graphitising cast iron. 2,973,564, 3–7–61, Cl. 22—200.

Dorr-Oliver Inc.: *See*—
Peltzer, Albert, Sr. 2,973,896.

Dow Chemical Co., The: *See*—
Dehaven, Eugene S. 2,973,936.
Lang, John L., Jones, Roche, and Ingley. 2,974,125.
Nelson, Alfred R., and Jankowiak. 2,974,129.

Dow Jones & Co., Inc.: *See*—
Paulding, Herbert L., and Yu. 2,973,807.

Downing, Harold: *See*—
Thwaites, George P., and Downing. 2,973,787.

Downing, Richard M., L. T. Staats, Jr., and N. C. Wyeth, to E. I. du Pont de Nemours and Co. Apparatus for wire manufacture. 2,973,552, 3–7–61, Cl. 18—13.

Doyle, Frank J. Scraper for removing coal dust and other materials from coal mine floors. 2,973,536, 3–7–61, Cl. 15—93.

Draper, Marshall D.: *See*—
Kloha, Murle W., Draper, and Keller. 2,974,144.

Dreyfus, Marc G., and C. M. Poland, to General Precision, Inc. Apparatus for spectrophotometric monitoring of thin film coatings. 2,973,680, 3–7–61, Cl. 88—14.

Dudley, Elizabeth, to Scott Paper Co. Sanitary napkin. 2,973,760, 3–7–61, Cl. 128—287.

Duerr, Herman H., to General Aniline & Film Corp. Process of modifying the composition of the surface of a layer of plastic material. 2,974,061, 3–7–61, Cl. 117—62.

Duintjer Wilkens Methuisen & Co., N.V.: *See*—
Van Nieuwenhuysen, Leendert J. 2,974,089.

Du Kane Corp.: *See*—
Supitilov, Michael C. 2,974,204.

Dunkel, Walter L., E. F. Ney, and R. R. Phelan, to Esso Research and Engineering Co. Method for improving the ozone resistance of steam cured butyl rubber. 2,974,113, 3–7–61, Cl. 260—28.5.

Dunkel, Walter L., J. L. Ernst, and J. F. Wernersbach, to Esso Research and Engineering Co. Vulcanizable composition comprising butyl rubber, and alkali metal silicoaluminate and a sulfur compound, and process for vulcanizing same. 2,974,117, 3–7–61, Cl. 260—41.5.

Du Pont de Nemours, E. I., and Co.: *See*—
Alexander, Guy B. 2,974,108.
Dirnberger, Lawrence A., and Nelson. 2,974,109.
Downing, Richard M., Staats, and Wyeth. 2,973,552.
Iler, Ralph K. 2,974,105.
Julian, Frank M., and Siefen. 2,974,163.
Ketterer, Charles C. 2,974,123.

Duro-Test Corp.: *See*—
Thouret, Wolfgang E. 2,974,249.

Earle, Francis, Laboratories, Inc.: *See*—
Suchow, Lawrence. 2,974,053.

Eash, John T., to The International Nickel Co., Inc. Cast resistant nickel alloy. 2,974,038, 3–7–61, Cl. 75—171.

Eastman Kodak Co.: *See*—
Nerwin, Hubert. 2,973,699.

Eater, Theodore D., to General Steel Castings Corp. Pneumatic spring. 2,973,954, 3–7–61, Cl. 267—65.

Eaton Mfg. Co.: *See*—
Jaeschke, Ralph L. 2,973,850.

Ebert, Hans: *See*—
Bauer, Erich, Ebert, Forst, and Pieper. 2,974,092.

Edmiston, Gilbert L., to Phillips Petroleum Co. Solvent extraction process. 2,974,174, 3–7–61, Cl. 260—631.

Edwards, George E., and G. A. Langford. Headgear attachment mechanism for face-protective shields. 2,973,522, 3-7-61, Cl. 2—8.

Edwards, Paul H.: *See*—
Leaberry, Ernest F., Hendershot, and Edwards. 2,973,-563.

Eggman, Max E., to The Magnavox Co. Gas entrapment eliminator. 2,973,827, 3-7-61, Cl. 183—2.5.

Ehrenreich, A., & Cie: *See*—
Vogt, Jakob F. J., and Latzen. 2,973,960.

Ehret, Robert J., to Minneapolis-Honeywell Regulator Co. Control apparatus. 2,974,237, 3-7-61, Cl. 307—88.5.

Einhorn, Sidney N., and J. R. Van Andel, to Burroughs Corp. Decimal accumulating shift register. 2,973,902, 3-7-61, Cl. 235—173.

Eiter, Karl, and E. Truscheit, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of unsaturated compounds. 2,974,155, 3-7-61, Cl. 260—405.5.

Electric Regulator Corp.: *See*—
May, Richard D. 2,974,206.

Electrolux Corp.: *See*—
Brown, Raymond L., Mott, and Smeriglio. 2,973,895.

Electronic Pianos, Inc.: *See*—
Nolder, Charles C. and Phillips. 2,973,680.

Elgnard, Laurits, to Allied Chemical Corp. Drop-bottom shipping container. 2,973,886, 3-7-61, Cl. 222—556.

Elkins, Douglas A. Friction drive, power transmission mechanism. 2,973,671, 3-7-61, Cl. 74—796.

Elling, Hugo: *See*—
Heuer, Kurt, Elling, and Elsner. 2,974,004.

Ellis, Robert B.: *See*—
Stolle, Anthony D., and Ellis. 2,974,212.

Ellis, Robert B., to International Register Co. Electrical terminal construction. 2,974,302, 3-7-61, Cl. 339—278.

Elow, David I., to Consolidated Spring Corp. Wire reel construction. 2,973,915, 3-7-61, Cl. 242—77.2.

Elsner, Edwin C., to Aeroquip Corp. Chain lock. 2,973,566, 3-7-61, Cl. 24—116.

Elsner, Richard: *See*—
Heuer, Kurt, Elling, and Elsner. 2,974,004.

Elting, Donald N., and F. J. Spencer, to Allegheny Steel & Brass Corp. Attaching means. 2,973,982, 3-7-61, Cl. 287—114.

Ely, Charles M.: *See*—
Hochberg, Melvin, Ely, and Klein. 2,974,043.

Emerson Electric Mfg. Co., The: *See*—
Palmer, John A. 2,973,789.

Engel, Charles F., and B. V. Mace, to Engel Sheet Metal Equipment, Inc. Cleat flanger for sheet metal ducts and the like. 2,973,796, 3-7-61, Cl. 153—4.

Engel Sheet Metal Equipment, Inc.: *See*—
Engel, Charles F., and Mace. 2,973,796.

Engineering and Research Lab. Service Co.: *See*—
Moore, Cecil L. 2,973,632.

Englander Co., Inc., The: *See*—
Wetzler, Justin J. 2,973,526.

Engle, Paul M., to Cambridge Filter Mfg. Corp. Filter. 2,973,828, 3-7-61, Cl. 183—.

Engleson, Harry E., and E. D. Sramek, to F. B. Redington Co. Packaging machine. 2,973,611, 3-7-61, Cl. 53—266.

English Steel Corp. Ltd.: *See*—
Whitehouse, Glenroy D., and Cooke. 2,973,873.

Epsylon Research & Development Co. Ltd.: *See*—
Namenyi-Katz, Laszlo. 2,974,056.

Erickson, Alton L. Hood for golf cart. 2,973,794, 3-7-61, Cl. 150—52.

Erickson, Floyd B.: *See*—
Sharp, Dexter B., and Erickson. 2,974,168.

Ernst, John L.: *See*—
Dunkel, Walter L., Ernst, and Wernersbach. 2,974,117.

Erteit, Henry R., E. F. Perlowski, Jr., and T. S. Tutwiler, to Esso Research and Engineering Co. Ashless additive for fuels. 2,974,025, 3-7-61, Cl. 44—62.

Esso Research and Engineering Co.: *See*—
Anderson, James A., Jr. 2,974,099.
Black, James F. 2,974,094.
Di Piazza, James T. 2,974,027.
Dunkel, Walter L., Ernst, and Wernersbach. 2,974,117.
Dunkel, Walter L., Neu, and Phelan. 2,974,113.
Erteit, Henry R., Perlowski, and Tutwiler. 2,974,025.
Kelley, Roland T. 2,974,126.
Long, Robert B., Heath, and Kevorkian. 2,974,173.
Stolle, Donald E., and Cross. 2,973,583.
Watts, Rhea N., and Mason. 2,974,175.

Estes, Nelson N. Underwater transducer. 2,973,739, 3-7-61, Cl. 116—137.

Estoppey, Royden F., to Daystrom, Inc. Wattmeter potential circuit power compensation arrangement. 2,974,283, 3-7-61, Cl. 324—144.

Ethyl Corp.: *See*—
Coffield, Thomas H. 2,974,171.

Etter, Joseph A., to Frick Co. Heat transfer apparatus. 2,973,944, 3-7-61, Cl. 257—248.

Evans, Joseph, Jr.: *See*—
Boel, George F., Janke, and Evans. 2,973,532.

Evans, Robert G., Co.: *See*—
Tucker, Ray. 2,973,950.

Ewing, R. Ines, to Worthington Corp. Drum pulley. 2,973,-654, 3-7-61, Cl. 74—230.01.

Fanning, Jeremiah J.: *See*—
Foreman, William T., and Fanning. 2,973,585.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Eiter, Karl, and Truscheit. 2,974,155.
Nischk, Gunther. 2,974,118.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Wilbert, Egon, and Hartwimmer. 2,974,133.

Farrer, Kenneth, to Baker Perkins Ltd. Sandwiching machine. 2,973,725, 3-7-61, Cl. 107—1.

Farrow, Wendall M., and B. Tabenkin, to Hoffmann-La Roche Inc. Microbiological production of carotenoids. 2,974,044, 3-7-61, Cl. 99—4.

Federal Pacific Electric Co.: *See*—
Cole, Thomas M. 2,974,259.

Federighi, George J., and T. H. Noren. Garbage disintegrator rotor with an automatic release clutch. 2,973,910, 3-7-61, Cl. 241—257.

Feinberg, Irving, and A. Avakain, to Sylvania Electric Products Inc. Semiconductor assembly methods. 2,973,569, 3-7-61, Cl. 29—25.3.

Feldman, Carl B. H., to Bell Telephone Laboratories, Inc. Selective signal recognition system. 2,974,281, 3-7-61, Cl. 324—77.

Fellows, Edwin J.: *See*—
Cook, Leonard, and Fellows. 2,974,148.

Femmer, Max E., J. J. Sochor, A. A. Kusnick, G. F. Nielsen, and T. L. Vinson, to International Business Machines Corp. File maintenance machine. 2,974,306, 3-7-61, Cl. 340—172.5.

Fender, Clarence L. Apparatus for producing tremolo effects. 2,973,681, 3-7-61, Cl. 84—1.25.

Fender, Clarence L. String tension controlling means for lute-type instrument. 2,973,682, 3-7-61, Cl. 84—312.

Fenner, J. H., & Co. Ltd.: *See*—
Hall, Thomas. 2,973,633.

Ferguson, Carl S., to A. E. Staley Mfg. Co. Pressurizable dispenser. 2,973,885, 3-7-61, Cl. 222—399.

Fiedler, Stuart O., J. A. Bjorksten, and W. S. Fiedler, to Lor Corp. Method of foaming granulated metal. 2,974,-034, 3-7-61, Cl. 75—20.

Fiedler, William S.: *See*—
Fiedler, Stuart O., Bjorksten, and Fiedler. 2,974,034.

Fikse, Tyman H. Air spring assembly. 2,973,953, 3-7-61, Cl. 267—63.

Findlay, Robert A., to Phillips Petroleum Co. Hydrocarbon isomerisation using a vaporized catalyst. 2,974,181, 3-7-61, Cl. 260—683.7.

Fink, Robert E.: *See*—
Scott, John F., Hoffman, and Fink. 2,973,678.

Firma Kienzle Apparate G.m.b.H.: *See*—
Kelch, Heinz. 2,973,652.

Fischer, Albert W.: *See*—
Chambers, Herbert L., and Fischer. 2,974,207.

Fisher, Elwyn D., and R. H. Baskey, to Horizons Inc. Process to produce void free refractory boride product. 2,974,040, 3-7-61, Cl. 75—202.

Fisher, Horace L., to Phillips Petroleum Co. Ultraviolet analyser. 2,974,226, 3-7-61, Cl. 250—43.5.

Fisher, Horace L., and E. C. Miller, to Phillips Petroleum Co. Analyser. 2,974,227, 3-7-61, Cl. 250—43.5.

Fitchett, Gilmer T., J. E. Gordon, and R. G. Shepherd, to American Cyanamid Co. N4-(benz- or anisylidene)-N'-(6-methoxy-3-pyridazinyl)-sulfanilamides. 2,974,137, 3-7-61, Cl. 260—239.7.

Fitzmaurice, John A., and E. Blacquier, to Baird-Atomic, Inc. Curve tracer. 2,974,254, 3-7-61, Cl. 315—10.

Flanagan, John C. Roof ventilator. 2,973,704, 3-7-61, Cl. 98—42.

Flaschen, Steward S., and H. A. Sauer, to Bell Telephone Laboratories, Inc. Ceramic electromechanical transducers. 2,974,203, 3-7-61, Cl. 179—110.

Fleck, Raymond N., and C. G. Wight, to Union Oil Co. of California. Separation of straight chain hydrocarbons with zeolitic molecular sieves and H_2S desorbent. 2,974,179, 3-7-61, Cl. 260—676.

Flinchbaugh, Henry K.: *See*—
Murray, Hilton B., and Flinchbaugh. 2,973,906.

Flodstrom, Albert C., and V. E. Leonardson, to American Optical Co. Lever actuated trimming device having twisted blades. 2,973,679, 3-7-61, Cl. 83—606.

Fluegel, Dale A., to Phillips Petroleum Co. Engine analysis apparatus. 2,973,638, 3-7-61, Cl. 73—35.

Flugstad, Morris, to Boeing Airplane Co. Protective apparatus for power system. 2,974,257, 3-7-61, Cl. 317—29.

Folkerts, Walter E., to Chrysler Corp. Expandable ring seal valve. 2,973,747, 3-7-61, Cl. 121—46.5.

Fonken, William A. General utility clamp means. 2,973,792, 3-7-61, Cl. 144—303.

Fontein, Freerk J., to Stamicarbon N.V. Preparing starch for basic materials. 2,974,068, 3-7-61, Cl. 127—67.

Food Machinery and Chemical Corp.: *See*—
Killion, John F. 2,973,606.

Ford Motor Co.: *See*—
Dameron, Robert O. 2,973,670.
Stockton, Thomas R. 2,973,847.

Foreman, William T., and J. J. Fanning, to Baird-Atomic, Inc. Spirit level. 2,973,585, 3-7-61, Cl. 33—212.

Forst, Willi: *See*—
Bauer, Erich, Ebert, Forst, and Pieper. 2,974,003.

Forsythe, Alan K., and J. A. Parker, to Armstrong Cork Co. Polyester containing ester of levulinic acid and pentaerythritol and drying oil acids with oxidation of polyester product. 2,974,112, 3-7-61, Cl. 260—22.

Foster, Allen D. Stabiliser for bracing loads. 2,973,934, 3-7-61, Cl. 248—356.

Fowler, Ora S. Adjustably mounted fishing reel. 2,973,917, 3-7-61, Cl. 242—84.2.

Fox Products Co.: *See*—
Witham, Robert E. 2,973,775.

Fox, William B., Jr. Flame stabiliser-mixer. 2,973,808, 3-7-61, Cl. 158—1.

Frank, Edmund: *See*—
Müller, Donald E., and Frank. 2,973,724.

Franke, Edward L., Jr., to Western Electric Co., Inc. Cleaning apparatus. 2,973,533, 3-7-61, Cl. 15—21.

Franks, Oscar L.: *See*—
Brow, Arthur J., Jr., and Franks. 2,973,567.

Franz, John E., to Monsanto Chemical Co. Preparation of P-toluenesulfonyl isocyanate. 2,974,164, 3-7-61, Cl. 260—545.

Freedson, Joseph, to Addressograph-Multigraph Corp. Embossing machine. 2,973,853, 3-7-61, Cl. 197—6.6.

Freeman, James F., to McGraw-Edison Co. Transversal-phonographic machines. 2,973,967, 3-7-61, Cl. 274—11.

French, Elby E., to O. K. Rubber Welders, Inc. Rotatable tire supporting stand. 2,973,791, 3-7-61, Cl. 144—288.

Frick Co.: *See*—
Etter, Joseph A. 2,973,944.

Frieders, John W., to International Minerals & Chemical Corp. Foundry core binder. 2,974,049, 3-7-61, Cl. 106—38.5.

Frommuller, George D., and M. J. Mirra, to Comcolloid Inc. Emulsifier-wax compositions. 2,974,106, 3-7-61, Cl. 252—311.5.

Fry, Otto E., to United States of America, Atomic Energy Commission. Direct conversion of uranium turnings to uranium tetrafluoride. 2,974,006, 3-7-61, Cl. 23—14.5.

Fryklund, Robert A., to Raytheon Co. Pulsed oscillator having oscillation terminating means independent of initiating pulse. 2,974,293, 3-7-61, Cl. 331—149.

Fujio, Bunzo: *See*—
Yamura, Tsuneharu, and Fujio. 2,974,193.

Fuller, George L. Jalousie operator or the like. 2,973,666, 3-7-61, Cl. 74—531.

Gadget-of-The-Month Club, Inc.: *See*—
Hancock, John E. 2,973,918.
Jackson, Paul R. 2,973,561.

Gaede, Virgil E.: *See*—
Green, William B., and Gaede. 2,973,628.

Gajewski, Fred J., and L. M. Schenck, to General Aniline & Film Corp. Process of preparing salt-free N-acyl taurines. 2,974,153, 3-7-61, Cl. 260—401.

Gallagher, William P., A. D. Stolle, and D. E. Schroeder, to International Register Co. Yieldable gear arrangement for an interval timer. 2,973,659, 3-7-61, Cl. 74—405.

Garretson, Owen L., to The Bastian-Blessing Co. Anhydrous ammonia metering dispenser. 2,973,726, 3-7-61, Cl. 111—6.

Garthwaite, Albert N., to International Business Machines Corp. Electronic packaging. 2,974,258, 3-7-61, Cl. 317—101.

Gaskill, Robert K. Foot guard. 2,973,590, 3-7-61, Cl. 36—72.

Gauthier, Alfred, G.m.b.H.: *See*—
Rentschler, Karl F. 2,973,701.

Geary, Robert J., to Plant Products Corp. Insecticidal plant mulch. 2,974,030, 3-7-61, Cl. 71—3.

Gebele, Kurt, to Compur-Werk Friedrich Deckel O.H.G. Photographic camera. 2,973,700, 3-7-61, Cl. 95—44.

Geiger, Joseph R., to Columbia Broadcasting System, Inc. Electronic matting apparatus. 2,974,190, 3-7-61, Cl. 178—7.1.

Gemmer, Erwin, to Knapsack-Griesheim Aktiengesellschaft. Fluidized bed coating process. 2,974,059, 3-7-61, Cl. 117—21.

General Aniline & Film Corp.: *See*—
Duerr, Herman H. 2,974,061.
Gajewski, Fred J., and Schenck. 2,974,153.
Marschall, Franz, and Mayhew. 2,974,147.
Mayhew, Raymond L., and Williams. 2,974,084.
Plue, Arnold F. 2,974,141.
Schenck, Leslie M. 2,974,154.
Schuline, Heinz, and Popeck. 2,974,152.
Steckler, Robert, and Prescott. 2,974,114.

General Electric Co.: *See*—
Alford, Joseph S. 2,973,938.
Blackmer, Richard H. 2,973,751.
Bobear, William J., and Krantz. 2,974,063.
Cockburn, Curtis D. 2,974,280.
Cooper, James M. 2,974,269.
Paine, Thomas O., Mendelsohn, and Luborsky. 2,974,104.
Pierce, Lowell J., Benson, and Jaramillo. 2,973,624.
Rosen, Charles A. 2,974,296.
Wolf, Philip C. 2,973,937.
Abresch, Carel F., and Mercer. 2,973,907.
Jacobs, James W., and Mercer. 2,973,769.
Sisson, Kenneth O. 2,973,637.
Smiley, James O. 2,973,842.

General Precision, Inc.: *See*—
Dreyfus, Marc G., and Poland. 2,973,686.

General Steel Castings Corp.: *See*—
Eater, Theodore D. 2,973,954.

Genser, Milton, to International Business Machines Corp. Semiconductor connection fabrication. 2,974,072, 3-7-61, Cl. 148—1.5.

Genter, Albert L., R. R. and R. M. Kennedy. Settling tank. 2,973,866, 3-7-61, Cl. 210—519.

Gerke, Peter, and O. Kneisel, to Siemens & Halske Aktiengesellschaft Berlin and Munich. Circuit arrangement for extending connections in a two-stage coupling field. 2,974,-201, 3-7-61, Cl. 179—22.

Gervias, Ch., Societe Anonyme: *See*—
Berge, Jacques M. A. C. 2,974,045.

Gibson, Christian D., to The Raymond Corp. Material handling truck. 2,973,878, 3-7-61, Cl. 214—730.

Gilbert Plastics, Inc.: *See*—
Ostrowitz, Milton. 2,973,881.

Gilderbloom, Clarence W. Dishwashing machine. 2,973,534, 3-7-61, Cl. 15—74.

Gilfillan Bros., Inc.: *See*—
Ule, Louis A. 2,974,224.

Gill, Donald W., to The Frank F. Taylor Co. Foldable high-chair. 2,973,804, 3-7-61, Cl. 155—147.

Gittus, John H.: *See*—
Dixon, Ronald H. T., and Gittus. 2,973,564.

Glenny, Arthur P., to The Sperry Gyroscope Co. Ltd. Safety device for control systems for aircraft. 2,973,650, 3-7-61, Cl. 74—5.6.

Globe-Union Inc.: *See*—
Youngbeck, Karl W., Goerg, and Schuette. 2,974,290.

Glos, Martin: *See*—
Süs, Oskar, and Glos. 2,974,042.

Gobel, Hans P.: *See*—
Windbichler, Victor, and Gobel. 2,974,001.

Goerg, Charles R.: *See*—
Youngbeck, Karl W., Goerg, and Schuette. 2,974,290.

Goff, William H., to Texaco Inc. Stabilization of wax acid greases by means of diphenol sulfides. 2,974,103, 3-7-61, Cl. 252—40.

Goins, John. Pipe handling tool. 2,973,988, 3-7-61, Cl. 294—15.

Gold, Edward: *See*—
Kaplan, Sidney J., Bomser, Smith, and Gold. 2,973,587.

Golde, H. T., G.m.b.H. & Co. K.G.: *See*—
Werner, Johannes. 2,973,990.
Werner, Johannes. 2,973,991.

Goldrick, Richard J., F. W. Kinsman, and L. Line, to Bell Telephone Laboratories, Inc. Apparatus for stowing and preparing for overboarding a submarine cable including rigid instrumentality housings. 2,973,919, 3-7-61, Cl. 242—128.

Goldsmith, Herbert. Missile launcher. 2,973,691, 3-7-61, Cl. 89—1.7.

Goodrich, B. F., Co., The: *See*—
Kelly, Arthur. 2,973,799.

Goodyear Aircraft Corp.: *See*—
Colletti, Nicasio. 2,974,291.

Gordon, John F.: *See*—
Fitchett, Gilmer T., Gordon, and Shepherd. 2,974,137.

Gordon, Moses, and G. D. Kerns, to Standard Oil Co. Acid treating for spray oil. 2,974,005, 3-7-61, Cl. 204—190.

Gough, Peter J. C.: *See*—
Willis, William, Gough, and Davis. 2,974,218.

Grace, W. R., & Co.: *See*—
Grove, Cornelius S., Jr., Grillot, and Stannett. 2,974,-124.

Graham, Paul R.: *See*—
Heininger, Samuel A., and Graham. 2,974,115.

Grau, Henry W. Portable drill attachment. 2,973,673, 3-7-61, Cl. 77—7.

Graviner Mfg. Co. Ltd.: *See*—
Bennett, Arthur J. and Thuriby. 2,974,314.

Green, Harold F.: *See*—
Zellner, Floyd L., and Green. 2,973,593.

Green, Milton W.: *See*—
Greenblatt, Manuel H., and Green. 2,974,231.

Green, William B., and V. E. Gaede, to Phillips Petroleum Co. Removal of carbon monoxide from ethylene. 2,973,-628, 3-7-61, Cl. 62—24.

Greenawalt, Frederick A., to Ranco Inc. Expansible power element. 2,973,644, 3-7-61, Cl. 73—368.3.

Greenblatt, Manuel H., and M. W. Green, to Radio Corp. of America. Measuring apparatus. 2,974,231, 3-7-61, Cl. 250—83.3.

Gregor, Herbert H. Apparatus for fast-firing ceramic ware. 2,973,568, 3-7-61, Cl. 25—132.

Greif, Norman: *See*—
Alexander, Everett, Greif, Jass, and Stetzer. 2,974,089.

Griffin, Benjamin J. Exercising device. 2,973,962, 3-7-61, Cl. 272—67.

Grillot, Gerald F.: *See*—
Grove, Cornelius S., Jr., Grillot, and Stannett. 2,974,-124.

Grimes, William W., L. D. Mills, Jr., and J. S. Wishart, to The Standard Oil Co. Catalyst sampling. 2,973,045, 3-7-61, Cl. 73—424.

Grinnell, Stuart W., W. A. Perkins, Jr., and L. M. Vaughan, to Metronics Associates, Inc. Sampling apparatus and method. 2,973,642, 3-7-61, Cl. 73—170.

Grove, Cornelius S., Jr., G. F. Grillot, and V. T. Stannett, to W. R. Grace & Co. Condensate of biurea with carboxylic acids. 2,974,124, 3-7-61, Cl. 260—77.5.

Grover, Victor T., to American Can Co. Apparatus for producing reclosure container covers. 2,973,735, 3-7-61, Cl. 113—48.

Gruner, Frederick R., to Purolator Products, Inc. Air cleaning means. 2,973,830, 3-7-61, Cl. 183—45.

Grunert, Erhard, and J. Mercier, to Pechiney. Reduction of alumina. 2,974,032, 3-7-61, Cl. 75—10.

Grüssner, Andre, J. Hellerbach, and O. Schnider, to Hoffmann-La Roche Inc. Morphinan derivatives. 2,974,142, 3-7-61, Cl. 260—285.

Guidal, Ronald A., and G. S. Stringfellow. Shaft-to-digital converter. 2,974,316, 3-7-61, Cl. 340—347.

Gulton Industries, Inc.: *See*—
Howatt, Glenn N. 2,974,008.

Gusmer, A., Inc.: *See*—
Salensky, George A. 2,974,121.

Guth, David C.: *See*—
Schuller, Walter H., and Guth. 2,974,119.

Guth, Fred H., and J. D. Blake, to Thompson Ramo Wooldridge Inc. Power generator control system. 2,974,235, 3-7-61, Cl. 290—40.

Guth, Fred H., and J. V. Majercak, to Thompson Ramo Wooldridge Inc. Voltage regulator. 2,974,271, 3-7-61, Cl. 323—66.

Gwathmey, Edward S.: *See*—
Roderick, Robert L., and Gwathmey. 2,973,643.

Haarts-Mason, Inc.: *See*—
Petrits, Anthony F., and Larson. 2,974,078.

Haban, Frank: *See*—
Buchhols, Arnold R., and Haban. 2,973,768.

Hagedorn, William H. Safety guide for rotary lawn mower. 2,973,613, 3-7-61, Cl. 56—25.4.

Hagerman, Tor H., C.-O. O. Morfeldt, and N. E. Svensjö, to Aktiebolaget Separator. Mineral and rock sampling unit. 2,973,820, 3-7-61, Cl. 175—206.

Haimsohn, Jerome N.: *See*—
Bashour, Joseph T., Bikofsky, and Haimsohn. 2,974,009.

Hall, Thomas, to J. H. Fenner & Co. Ltd. Flexible couplings. 2,973,633, 3-7-61, Cl. 64—11.

Hancock, John E., Jr. to Gadget-of-the-Month Club, Inc. Combination anchor, reel, and housing for small boats. 2,973,918, 3–7–61, Cl. 242—99.

Handley, John, to Creed & Co. Ltd. Printing telegraph selector apparatus. 2,974,194, 3–7–61, Cl. 178—27.

Hansen, Harry. Method and apparatus for use in the production of a helical row of coupling links. 2,973,554, 3–7–61, Cl. 18—19.

Hansjosten, Nikolaus. Shoes. 2,973,567, 3–7–61, Cl. 18—24.

Hantscho, George. Printing press rollers. 2,973,710, 3–7–61, Cl. 101—415.1.

Harrer, Paul H., and W. H. Shannon, to Allis-Chalmers Mfg. Co. Implement hitch. 2,973,970, 3–7–61, Cl. 280—461.

Harris, Clyde W., to Aerojet-General Corp. Optical detector. 2,974,230, 3–7–61, Cl. 250—83.3.

Harter, Earl F., to Carrier Corp. Electric brush holder. 2,974,241, 3–7–61, Cl. 310—246.

Hartfield, Robert G.: *See*—
Hill, Frederick P. and Hartfield. 2,974,225.

Hartley, James C., to Union Mfg. Co. Non-vertical air-floated indexing fixture. 2,973,956, 3–7–61, Cl. 269—133.

Hartwimmer, Robert: *See*—
Wibert, Egon, and Hartwimmer. 2,974,133.

Harvard Mfg. Co.: *See*—
Roche, Melvin E. 2,973,546.

Harwood, Fred B. Article carrying device. 2,973,089, 3–7–61, Cl. 294—31.2.

Haveika, Karel, V. Koran, J. Vanicek, and M. Ziegler, to Zavody V. I. Lenina Plzen, narodni podnik. Arrangement for dissipating heat generated in the field coils. 2,974,230, 3–7–61, Cl. 310—61.

Haviland, Thomas J., to United States of America, Navy. Tube holder and contactor for electrical and vibration tests of sub-miniature radio tubes. 2,974,275, 3–7–61, Cl. 324—20.

Hawthorne, Brian J.: *See*—
Lincoln, James, Hawthorne, and Kowolik. 2,974,122.

Hayes, Robert A., to Union Special Machine Co. Sewing machines. 2,973,732, 3–7–61, Cl. 112—163.

Haseltine Research, Inc.: *See*—
Kee, William, and Okrent. 2,974,183.

Heath, Carl E., Jr.: *See*—
Long, Robert B., Heath, and Kevorkian. 2,974,173.

Hecht, Ferdinand. Device for producing cam surfaces with merging sine-shaped portions. 2,973,696, 3–7–61, Cl. 90—15.

Hedde, André F., to Societe Nouvelle de Metallisation. Feeding arrangement for metal spray gun. 2,973,892, 3–7–61, Cl. 226—184.

Hedrick, Glen W., to United States of America, Agriculture. Mercerizing compositions containing pinonic acid. 2,974,002, 3–7–61, Cl. 8—125.

Hegner, Max, to Sodeco Societe des Compteurs de Geneve. Arrangement for the remote measuring of the increase during a predetermined period of the number given out by an impulse-controlled meter. 2,973,909, 3–7–61, Cl. 235—92.

Heininger, Samuel A., and P. H. Graham, to Monsanto Chemical Co. Acrylonitrile polymers plasticised by adducts of formamide with acrylonitrile and method of making same. 2,974,115, 3–7–61, Cl. 260—32.4.

Heininger, Samuel A., to Monsanto Chemical Co. Cyanoethylation process. 2,974,160, 3–7–61, Cl. 260—465.

Heintzelman, Henry C., to Cooper Tire & Rubber Co. Shock absorber and retainer therefor. 2,973,952, 3–7–61, Cl. 267—30.

Hellerbach, Joseph: *See*—
Grüssmer, Andre, Hellerbach, and Schnider. 2,974,142.

Helm, Jack D.: *See*—
Hopkins, Frank L., and Helm. 2,973,740.

Heltzel Steel Form and Iron Co.: *See*—
Hudis, Michael I., and Marcello. 2,973,723.

Hendershot, Harold F.: *See*—
Leaberry, Ernest F., Hendershot, and Edwards. 2,973,563.

Hendrickson, Severin B., to Heywood-Wakefield Co. Chair with a removable upholstery cover. 2,973,806, 3–7–61, Cl. 155—182.

Henkel & Cie, G.m.b.H.: *See*—
Koster, Alfred. 2,974,010.

Hennells, Ransom J., to W. E. Hennells Co. Cushioning structure for fluid actuated cylinder. 2,973,744, 3–7–61, Cl. 121—38.

Hennells, W. E., Co.: *See*—
Hennells, Ransom J. 2,973,744.

Henson, Floyd H.: *See*—
Blake, Francis E., Henson, and Boyer. 2,974,268.

Hentke, Kurt, to A. Kuster & Co. Werkzeugmaschinen. Electric cutting machine. 2,973,576, 3–7–61, Cl. 30—92.

Herlach, Friedrich, F. Linder, and W. Spalding, to Machine Tool Works Oerlikon, Administration Co. Buffer for automatic firearms. 2,973,694, 3–7–61, Cl. 89—198.

Herlet, Adolf, H. Patalong, and N. Schink, to Siemens-Schuckertwerke Aktiengesellschaft. Method of producing a silicon semiconductor device. 2,974,074, 3–7–61, Cl. 148—1.5.

Herve, Marcel. Electrostatic transducers. 2,974,202, 3–7–61, Cl. 179—100.41.

Heuer, Kurt, H. Kiling, and R. Elsner, to American Enka Corp. Production of shaped objects from viscose. 2,974,004, 3–7–61, Cl. 18—54.

Heuer, Kurt, A. L. McPeters, and A. F. Knight, to American Enka Corp. Manufacture of rayon. 2,974,005, 3–7–61, Cl. 18—54.

Hewlett-Packard Co.: *See*—
Norgaard, Donald E. 2,974,288.

Hever, Don, to M and H Industries, Inc. Hinge. 2,973,547, 3–7–61, Cl. 16—129.

Heyl & Patterson, Inc.: *See*—
Ross, Bennie A. 2,973,877.

Heyman Mfg. Co., Inc.: *See*—
Klumpp, Ferdinand, Jr. 2,974,184.

Heywood-Wakefield Co.: *See*—
Hendrickson, Severin B. 2,973,806.

Hill, Frederick P., and R. G. Hartfield, to Motorola, Inc. Radio receiver. 2,974,225, 3–7–61, Cl. 250—20.

Hindley, Nathan C., to Hoffmann-La Roche Inc. Process for racemizing L 1-(p-methoxy-benzyl)-2-methyl-1,2,3,4,5,6,7,8-octahydro-isoquinoline. 2,974,145, 3–7–61, Cl. 260—289.

Hladik, Joseph A., to American Machine & Foundry Co. Drilling fixture for spherical objects. 2,973,674, 3–7–61, Cl. 77—63.

Hochberg, Melvin, C. M. Ely, and H. W. Klein, to Nopco Chemical Co. Poultry feed. 2,974,043, 3–7–61, Cl. 99—4.

Hoekje, Howard H., and R. A. Kearley, to Columbia-Southern Chemical Corp. Treatment of metallic ores. 2,974,014, 3–7–61, Cl. 23—202.

Hoffman, Charles E.: *See*—
Scott, John F., Hoffman, and Fink. 2,973,678.

Hoffmann-La Roche Inc.: *See*—
Aeschlimann, John A., and Stempel. 2,974,166.
Farrow, Wendall M., and Tabenkin. 2,974,044.
Grüssmer, Andre, Hellerbach, and Schnider. 2,974,142.
Hindley, Nathan C. 2,974,145.
Kimel, Walter. 2,974,170.
Schmidt, Robert A., and Weaner. 2,974,143.

Hoglund, Nils. Grinding wheel dressing apparatus. 2,973,756, 3–7–61, Cl. 125—11.

Holcombe, Robert C., to The Jeffrey Mfg. Co. Shuttle car with traction motor control. 2,974,267, 3–7–61, Cl. 318—224.

Hollan-Electro C.V.: *See*—
Von Den Baumen, Arnold G. R. 2,973,972.

Holley Carburetor Co.: *See*—
Sterner, Melvin F. 2,973,947.

Hollingsworth, Harry A.: *See*—
Parks, Edwin S. and Hollingsworth. 2,973,743.

Hollingsworth, John D. Card roll construction. 2,973,560, 3–7–61, Cl. 19—112.

Holmes, Alan W. to Thomas J. Lipton Inc. Method of producing cured packed slices of pig meat. 2,974,047, 3–7–61, Cl. 99—174.

Holopainen, Vaino J., to Wain-Roy Corp. Swing system for digging attachment. 2,973,874, 3–7–61, Cl. 214—132.

Holtsclaw, Richard T. Bed frame apparatus. 2,973,525, 3–7–61, Cl. 5—181.

Hoover, Robert L. Method of electric timing and apparatus for same. 2,974,280, 3–7–61, Cl. 324—68.

Hopkins, Frank L., and J. D. Helm, to Bemis Bro. Bag Co. Apparatus for spraying loose bulk material. 2,973,740, 3–7–61, Cl. 118—303.

Horizons Inc.: *See*—
Fisher, Elwyn D., and Baskey. 2,974,040.

Horizons Titanium Corp.: *See*—
Sibert, Merle E. 2,974,092.

Horner, Herbert F., H. E. Kroll, and D. O. Benson, to Toro Mfg. Corp. Rotary power mower and catcher. 2,973,614, 3–7–61, Cl. 56—25.4.

Horstmann Clifford Magnetics Ltd.: *See*—
Clifford, Cecil F. 2,973,619.

Horton, Erwin C., to Trico Products Corp. Windshield cleaner. 2,973,542, 3–7–61, Cl. 15—250.23.

Horton, John P., and B. M. Whitehurst, to Virginia-Carolina Chemical Corp. Process for the production of phosphorus. 2,974,016, 3–7–61, Cl. 23—223.

Houghton, Richard W.: *See*—
Bartell, William W., Ayoub, Houghton, and Clayton. 2,974,300.

Howatt, Glenn N., to Gulton Industries, Inc. Method for calcining or fritting ceramics. 2,974,008, 3–7–61, Cl. 23—51.

Howell, David S., to Arlington Aluminum Co. Foldable tripod easel. 2,973,933, 3–7–61, Cl. 248—166.

Hudgin, Donald E., to Celanese Corp. of America. Resins from unsaturated acetals. 2,974,127, 3–7–61, Cl. 260—88.3.

Hudgin, Donald E., to Celanese Corp. of America. Novel acetals and resins therefrom. 2,974,128, 3–7–61, Cl. 260—88.3.

Hudis, Michael I., and J. J. Marcello: said Marcello, assor. Chain Belt Co., and said Rudis, assor. Heltzel Steel Form and Iron Co. Roadway working apparatus. 2,973,723, 3–7–61, Cl. 105—178.

Huet, Andre. Thermal installations. 2,973,749, 3–7–61, Cl. 122—32.

Huettner, Will, to H. van Huellen and A., trading as the firm Niederrheinische Maschinenfabrik Becker and van Huellen. Multi-stage presses. 2,973,790, 3–7–61, Cl. 144—281.

Hughes Aircraft Co.: *See*—
Pennington, Philip R., and Turner. 2,973,687.

Hunter, Byron A.: *See*—
Newby, Thomas H., and Hunter. 2,974,169.

Hursen, Thomas F.: *See*—
McClure, Glenn T., and Hursen. 2,973,841.

Hurst, George S.: *See*—
Auxier, John A., Hurst, and Zedler. 2,974,248.

Hurst, James W., to Phillips Petroleum Co. Horizontal cutter and take-off device. 2,973,549, 3–7–61, Cl. 18—2.

Husby, Donald E., to Westinghouse Electric Corp. Luminaire. 2,974,219, 3–7–61, Cl. 240—25.

Hwa, Jesse C. H., C. H. McBurney, and E. F. Meitzner, to Rohm & Haas Co. Liquid enrichment and/or separation by absorption processes. 2,974,178, 3–7–61, Cl. 260—674.

Hydrocarbon Research, Inc.: *See*—
Cicalese, Michael J. 2,973,834.

Iler, Ralph K., to E. I. du Pont de Nemours and Co. Silica organosols and their preparation. 2,974,105, 3–7–61, Cl. 252—309.

Ingley, Frank L.: *See*—
Lang, John L., Jones, Roche, and Ingley. 2,974,125.

Innocenti Soc. Gen. per l'Industrie Metallurgica e Meccanica: *See*—
Torre, Pier L. 2,973,752.

Inoue, Kiyoshi. Machining method and means. 2,974,215, 3–7–61, Cl. 219—68.

Inoue, Kiyoshi. Spark discharge contouring machine using wire electrode. 2,974,216, 3–7–61, Cl. 219—69.

International Business Machines Corp.: *See*—
Christiansen, Richard A. 2,974,270.
Femmer, Max E., Sochor, Kusnick, Nielsen, and Vinson. 2,974,300.
Carthwaite, Albert N. 2,974,258.
Genser, Milton. 2,974,072.
Kauffmann, John A. 2,974,311.
Oldenboom, Derk J. 2,973,706.
Petherick, Edward J. and Rowley. 2,973,901.
Russell, Louis A. 2,974,310.

International Minerals & Chemical Corp.: *See*—
Barlow, Thomas R. 2,974,050.
Frieders, John W. 2,974,049.
McGarry, Phillip E. 2,973,864.
Sletsema, Jacob W. 2,974,046.

International Nickel Co., Inc., The: *See*—
Dixon, Ronald H. T. and Gittus. 2,973,564.
Eash, John T. 2,974,038.
Leaberry, Ernest F., Hendershot, and Edwards. 2,973,563.

International Register Co.: *See*—
Ellis, Robert B. 2,974,302.
Gallagher, William P., Stolle, and Schroeder. 2,973,659.
Stolle, Anthony D., and Ellis. 2,974,212.

International Standard Electric Corp.: *See*—
Beck, Arnold H. W., Rogers, and Burke. 2,974,246.
Lawson, Anthony N. 2,974,222.
Ridler, Desmond S. 2,974,312.
Thwaites, George P., and Downing. 2,973,787.
Wright, Esmond P. G. 2,973,900.
Wright, Esmond P. G. and Terry. 2,974,197.

International Telephone and Telegraph Corp.: *See*—
Bellamy, John I. 2,974,199.

Invenex Pharmaceuticals: *See*—
Murrish, Clarence L. 2,973,758.

Irvine, John M., to Koppers Co., Inc. Process of straightening crooked wooden poles and piles. 2,973,793, 3–7–61, Cl. 144—327.

Jack, William A., to Johns-Manville Corp. Air regulation means in a sound absorbing and ventilating ceiling. 2,973,703, 3–7–61, Cl. 98—40.

Jackson, Paul R., ½ to Gadget-Of-The-Month Club, Inc. Panel mounted for movement between a vertical position, a horizontal position, and a position extended horizontally therefrom. 2,973,561, 3–7–61, Cl. 20—16.

Jacobi, Bernhard, deceased (by M., L., and R. Jacobi, heirs), and O. Wolff, to Chemische Werke Huls Aktiengesellschaft. Purification of polyethylene with alkylene oxides. 2,974,132, 3–7–61, Cl. 260—94.9.

Jacobi, Irmgard: *See*—
Jacobi, Bernhard, and Wolff. 2,974,132.

Jacobi, Margarete: *See*—
Jacobi, Bernard, and Wolff. 2,974,132.

Jacobi, Robert: *See*—
Jacobi, Bernhard, and Wolff. 2,974,132.

Jacobs, James W., and E. L. Mercer, to General Motors Corp. Detergent dispenser for a washing machine. 2,973,760, 3–7–61, Cl. 134—58.

Jacobsen, Paul W.: *See*—
Beninger, Robert L., and Jacobsen. 2,973,914.

Jaeger, Hans, to Landis & Gyr A.G. Thermally actuated control apparatus. 2,973,620, 3–7–61, Cl. 60—23.

Jaeschke, Ralph L., to Eaton Mfg. Co. Electromagnetic couplings. 2,973,850, 3–7–61, Cl. 192—84.

Jager, Henis, to Westfalia Dinnendahl Groppel 'Aktiengesellschaft. Method and means for regulating the sizing operation of an air classifier. 2,973,861, 3–7–61, Cl. 209—1.

Janke, Gilbert J.: *See*—
Bosl, George F., Janke, and Evans. 2,973,532.

Jankowiak, Erwin M.: *See*—
Nelson, Alfred R., and Jankowiak. 2,974,129.

Jaramillo, Edward V.: *See*—
Pierce, Lowell J., Benson, and Jaramillo. 2,973,024.

Jass, Herman: *See*—
Alexander, Everett, Greif, Jass, and Stetser. 2,974,089.

Jeffrey Mfg. Co., The: *See*—
Holcombe, Robert C. 2,974,267.
Roloson, Alfred H. 2,973,854.

Jeffus, Samuel C. Pocket gum case. 2,973,882, 3–7–61, Cl. 221—228.

Jepsen, Robert L., to Varian Associates. Electron discharge apparatus. 2,974,253, 3–7–61, Cl. 315—5.19.

Jet-Heet, Inc.: *See*—
MacCracken, Calvin D. 2,973,715.

Jex, Victor B., to Union Carbide Corp. Cyclopentadienyl vinyl silanes and process for making same. 2,974,157, 3–7–61, Cl. 260—448.8.

Johansson, Nils G. L., to K. E. Person. Screw vice. 2,973,675, 3–7–61, Cl. 81—17.

Johns-Manville Corp.: *See*—
Jack, William A. 2,973,703.

Johnson & Johnson: *See*—
Schladermundt, Peter, Denneriein, and Simons. 2,973,859.

Johnson, Ralph E., to The Singer Mfg. Co. Needle clamp for sewing machines. 2,973,732, 3–7–61, Cl. 112—226.

Johnston, Harold L. Electric keyboard for tape perforator. 2,973,910, 3–7–61, Cl. 164—111.

Jones, Clifford: *See*—
Lang, John L., Jones, Roche, and Ingley. 2,974,125.

Jopp, Walter. Stapler. 2,973,519, 3–7–61, Cl. 1—3.

Joy Mfg. Co.: *See*—
Densmore, Neal W. 2,973,949.

Julesz, Bela, to Bell Telephone Laboratories, Inc. Economy in television transmission. 2,974,196, 3–7–61, Cl. 178—43.5.

Julian, Frank M., and H. T. Stefen, to E. I. du Pont de Nemours and Co. Production of para-chlorophenyl carbamyl chloride. 2,974,162, 3–7–61, Cl. 260—544.

Jupa, Edward C., to United States of America, Air Force. Hydraulic servo valve. 2,973,746, 3–7–61, Cl. 121—46.5.

Kaegebein, Carl F. Hen house flooring. 2,973,741, 3–7–61, Cl. 119—22.

Kaegebein, Carl F. Egg handling device. 2,973,742, 3–7–61, Cl. 119—46.

Kalle Aktiengesellschaft: *See*—
Windbichler, Victor, and Gobel. 2,974,001.

Kaplan, Sidney J., H. W. Bomser, F. B. Smith, and E. Gold, to Sperry Rand Corp., Ford Instrument Co. Division. Optical radar trainer. 2,973,587, 3–7–61, Cl. 35—10.4.

Kassel, Louis S., to Universal Oil Products Co. Contactor. 2,974,020, 3–7–61, Cl. 23—288.

Katthoefer, Eric. Therapeutic aid. 2,973,757, 3–7–61, Cl. 128—80.

Katz, Helmut, to Siemens & Halske Aktiengesellschaft. Electronic tube. 2,974,250, 3–7–61, Cl. 313—331.

Kauffmann, John A., to International Business Machines Corp. Magnetic register. 2,974,311, 3–7–61, Cl. 340—174.

Kaufmann, John J., to Steel Heddle Mfg. Co. Loom harness. 2,973,786, 3–7–61, Cl. 139—92.

Kearley, Robert A.: *See*—
Hoekje, Howard H., and Kearley. 2,974,014.

Keith, Carl D.: *See*—
Keith, Willis C., Burk, and Keith. 2,974,161.

Keith, Willis C., E. H. Burk, Jr., and C. D. Keith, to Sinclair Refining Co. Olefin oxidation with a solid calcined catalyst. 2,974,161, 3–7–61, Cl. 260—491.

Kelch, Heinz, to Firma Kienzle Apparate G.m.b.H. Arrangement for transforming rotary movement into reciprocating movement. 2,973,652, 3–7–61, Cl. 74—54.

Keller, Fred: *See*—
Kloba, Murle W., Draper, and Keller. 2,974,144.

Kelley, Roland T., to Esso Research and Engineering Co. Control of degree of conversion. 2,974,126, 3–7–61, Cl. 260—80.7.

Kelly, Arthur, to The B. F. Goodrich Co. Vented rubberized fabric article and method of making same. 2,973,790, 3–7–61, Cl. 154—14.

Kendig, Robert M., to Westinghouse Air Brake Co. Booster pump. 2,973,717, 3–7–61, Cl. 103—152.

Kennedy, Garth P., to Corken's, Inc. Vapor by-pass valve. 2,973,779, 3–7–61, Cl. 137—512.1.

Kennedy, Richard R.: *See*—
Genter, Albert L., and R. R. and R. M. Kennedy. 2,973,866.

Kennedy, Robert M.: *See*—
Genter, Albert L., and R. R. and R. M. Kennedy. 2,973,866.

Kenney Mfg. Co.: *See*—
Schoos, Maurice A. 2,973,870.

Kennon, John B., ½ to Charles E. Wright. Electrical testing devices for detecting and locating faults in circuits. 2,974,278, 3–7–61, Cl. 324—52.

Kerns, Gordon D.: *See*—
Gordon, Moses, and Kerns. 2,974,095.

Kee, William, and J. J. Okrent, to Haseltine Research, Inc. Gasket for electric equipment. 2,974,183, 3–7–61, Cl. 174—35.

Ketterer, Charles C., to E. I. du Pont de Nemours and Co. Process for preparing acrylonitrile polymers. 2,974,123, 3–7–61, Cl. 260—63.

Keuffel & Esser Co.: *See*—
Sils, Oskar, and Glos. 2,974,042.

Kevorkian, Victor: *See*—
Long, Robert B., Heath, and Kevorkian. 2,974,173.

Kieninger & Obergfell: *See*—
Thoma, Frits. 2,974,265.

Killion, John F., to Food Machinery and Chemical Corp. High-speed system for feeding and sealing cartons. 2,973,608, 3–7–61, Cl. 53—38.

Kimball, John G., D. Williams, R. M. Oswalt, and D. E. O'Neill, to Turbo Research Corp. Centrifugal compressor for starting jet engines. 2,973,894, 3–7–61, Cl. 230—127.

Kimel, Walter, to Hoffmann-La Roche Inc. Preparation of nuclearly unsaturated ionones and intermediates therefor. 2,974,170, 3–7–61, Cl. 260—587.

King, Henry W. M. Busbars and similar electrical power conducting assemblies. 2,974,205, 3–7–61, Cl. 191—25.

King, William R., and F. Rowe, Jr., to Phillips Petroleum Co. Cascading vane dust removal elutriator. 2,973,863, 3–7–61, Cl. 209—136.

Kingsley, Lewis A. Wire-stamping and cutting machine. 2,973,708, 3–7–61, Cl. 101—11.

Kinsman, Frank W.: *See*—
Goldrick, Richard J., Kinsman, and Line. 2,973,919.

Kirkland, Earl V., to American Oil Co. Shaft bearing and seal. 2,973,997, 3–7–61, Cl. 308—36.2.

Kirkpatrick, James B.: *See*—
Campbell, William H., Miale, and Kirkpatrick. 2,973,646.

Klaue, Hermann. Air-cooled disc brake. 2,973,836, 3–7–61, Cl. 188—72.

Klebe, Hans: *See*—
Schuler, Wilhelm A., and Klebe. 2,974,189.

Klein, Howard C.: *See*—
Hochberg, Melvin, Ely, and Klein. 2,974,043.

Klemm, William F. Moistening and heating device. 2,973,705, 3–7–61, Cl. 99—234.

Klemperer, Hans, to Raytheon Co. Moving target radar system. 2,974,317, 3–7–61, Cl. 343—7.7.

Klingler, Martin L., to AMP Inc. Hydraulic system for operating a crimping tool. 2,973,625, 3–7–61, Cl. 60—52.

Kloba, Murle W., M. D. Draper, and F. Keller, to Riker Laboratories, Inc. Alkaloid and process for its production. 2,974,144, 3–7–61, Cl. 260—287.

Klumpp, Ferdinand, Jr., to Heyman Mfg. Co., Inc. Strain relief bushing. 2,974,186, 3–7–61, Cl. 174—153.

Knapsack-Griesheim Aktiengesellschaft: *See*—
Bauer, Erich, Ebert, Forst, and Pieper. 2,974,093.
Gemmer, Erwin. 2,974,050.
Kneisel, Otto: *See*—
Gerke, Peter, and Kneisel. 2,974,201.
Knight, Albin F.: *See*—
Heuer, Kurt, McPeters, and Knight. 2,974,005.
Koble, Robert A., and J. R. Cobb, Jr., to Phillips Petroleum Co. Production and purification of acetylene. 2,974,180, 3-7-61, Cl. 260—679.
Kobler, Paul. Shaverheads on electrical or mechanical shavers. 2,973,574, 3-7-61, Cl. 30—43.
Koenig, Mathias. Steam cloth. 2,973,762, 3-7-61, Cl. 128—399.
Koenig, Nathan H., to United States of America, Agriculture. Treatment of wool with isocyanates in the presence of dimethylformamide. 2,974,003, 3-7-61, Cl. 8—128.
Koeppel, Beverly W., to Seismograph Service Corp. Radio location system. 2,974,318, 3-7-61, Cl. 343—105.
Kohl, Gerald C. Umbilical cord protector sheath and applicator instrument therefor. 2,973,761, 3-7-61, Cl. 128—346.
Kolarik, Donald G. Reciprocating display devices. 2,973,598, 3-7-61, Cl. 40—37.
Kolensky, Leo M.: *See*—
Barrett, Edward E., Kolensky, and Votaw. 2,974,187.
Kollsman Instrument Corp.: *See*—
Andresen, John H., Jr. 2,973,702.
Koppers Co., Inc.: *See*—
Irvine, John M. 2,973,793.
Koral, Marvin, to Allied Chemical Corp. Production of primary-2-hydroxyethylphosphite. 2,974,189, 3-7-61, Cl. 260—461.
Koran, Vladimir: *See*—
Havelka, Kavel, Koran, Vanicek, and Ziegler. 2,974,239.
Korotkevich, Nikolai N., to The Connecticut Hard Rubber Co. Heat decomposable splice mandrel for endless tubular seals. 2,974,079, 3-7-61, Cl. 154—43.
Köster, Alfred, to Henkel & Cie, G.m.b.H. Preparation of nitrogen-phosphoric acid compounds. 2,974,010, 3-7-61, Cl. 23—106.
Kowolik, Ernest J.: *See*—
Lincoln, James, Hawthorne, and Kowolik. 2,974,122.
Kramarcsak, Michael, Jr., to The Bassick Co. Caster glides. 2,973,545, 3-7-61, Cl. 16—42.
Krantz, Karl W.: *See*—
Bobear, William J., and Krantz. 2,974,063.
Kriechbaum, John P., to Minneapolis-Honeywell Regulator Co. Control apparatus. 2,973,630, 3-7-61, Cl. 62—139.
Krieger, Robert J., to Titanium Metals Corp. of America. Melting titanium metal. 2,974,033, 3-7-61, Cl. 75—10.
Kroll, Harley E.: *See*—
Horner, Herbert F., Kroll, and Benson. 2,973,614.
Krueger, Alfred P., to Minnesota Mining and Mfg. Co. Tape-dispensing mechanism. 2,973,890, 3-7-61, Cl. 225—43.
Kucmerosky, Theodore L., to The Bendix Corp. Bobbin holder suspension means. 2,973,920, 3-7-61, Cl. 242—130.2.
Kurokawa, Kazuo: *See*—
Noda, Katsuhiko, and Kurokawa. 2,974,272.
Kurre, Paul G., to Allis-Chalmers Mfg. Co. Variable pitch diameter sheave. 2,973,656, 3-7-61, Cl. 74—230.17.
Kusnick, Arthur A.: *See*—
Femmer, Max E., Sochor, Kusnick, Nielsen, and Vinson. 2,974,306.
Kuster, A., & Co. Werkzeugmaschinen: *See*—
Hentke, Kurt. 2,973,576.
Laboratory for Electronics, Inc.: *See*—
Meyer, Maurice A. 2,974,286.
Lackey, Robert S., and J. D. Meess, to Westinghouse Electric Corp. Thermoelectric heat pump. 2,973,627, 3-7-61, Cl. 62—3.
Ladewig, Roland E., to Whitehouse Reinforced Plastics Co. Hinged marine drive unit. 2,973,738, 3-7-61, Cl. 105—41.
Lady, Edward R., to Air Products Inc. Method and apparatus for pumping liquefied gases. 2,973,629, 3-7-61, Cl. 62—41.
Lakeside Laboratories, Inc.: *See*—
Biel, John H. 2,974,146.
Lamphier, Charles R. Gate fastener. 2,973,595, 3-7-61, Cl. 39—74.
Landis & Gyr A. G.: *See*—
Jaeger, Hans. 2,973,620.
Laneve, Arthur L., H. E. Nash, and R. L. Treas, to Crown Zellerbach Corp. Container for wire, tubing, cordage and the like. 2,973,858, 3-7-61, Cl. 206—52.
Lang, John L., C. Jones, A. F. Roche, and F. L. Ingley, to The Dow Chemical Co. Copolymers of methyl methacrylate possessing good elongation values. 2,974,125, 3-7-61, Cl. 260—80.5.
Langberg, Edwin, to United States of America, Army. Nonlinear microwave element based on charge depletion. 2,974,223, 3-7-61, Cl. 250—20.
Langford, George A.: *See*—
Edwards, George Z., and Langford. 2,973,522.
Lanham, William M., to Union Carbide Corp. Preparation of bi-heterocyclic phosphorus containing compounds. 2,974,158, 3-7-61, Cl. 260—461.
La Rose, Harry W., Jr.: *See*—
Ramberg, Einar M., and La Rose. 2,973,975.
Larson, Donald F.: *See*—
Petritz, Anthony F., and Larson. 2,974,078.
Latsen, Josef H.: *See*—
Vogt, Jakob P. J., and Latsen. 2,973,980.
Lawrence, Robert L.: *See*—
Perry, George A., and Lawrence. 2,974,046.
Lawson, Anthony N., to International Standard Electric Corp. Communication systems. 2,974,222, 3-7-61, Cl. 250—6.
Leaberry, Ernest F., H. F. Hendershot, and P. H. Edwards, to The International Nickel Co., Inc. Lining for ingot molds and method of producing ingots. 2,973,543, 3-7-61, Cl. 22—113.
Lebel, Jean D., G. J. Martin, and F. S. Replogle, Jr., to Schlumberger Well Surveying Corp. Signal converting systems. 2,974,315, 3-7-61, Cl. 340—347.
Ledex, Inc.: *See*—
Leland, Gerald H., and Davis. 2,973,748.
Lees, James, and Sons Co.: *See*—
Ballard, Hyde W. 2,973,801.
Mays, Samuel R., and Worth. 2,973,784.
Le Lacheur, Angus G. Intrinsically safe switching system. 2,974,261, 3-7-61, Cl. 317—149.
Leland, Gerald H., and O. F. Davis, deceased (by M. A. Davis, executrix), to Ledex, Inc. Rotary actuators. 2,973,748, 3-7-61, Cl. 121—48.
Leonardson, Victor E.: *See*—
Flodstrom, Albert C., and Leonardson. 2,973,679.
Lerner, Bernard, to Custom-Made Paper Bag Co., Inc. Method of and apparatus for producing thumb-notched bag lengths, each notch being confined to one wall of each bag length. 2,973,697, 3-7-61, Cl. 93—8.
Levy, Jacob: *See*—
Retzsch, Clinton E., Levy, and Lighthipe. 2,974,000.
Lewis, Tom B.: *See*—
Reilly, George B., Miles, Lewis, and Meisher. 2,973,600.
Lewis, Urban J., and N. G. Brink, to Merck & Co., Inc. Method of preparing growth hormone. 2,974,088, 3-7-61, Cl. 167—74.
Licentia Patent-Verwaltungs-G.m.b.H.: *See*—
Schobbe, Wilhelm. 2,974,266.
Lighthipe, Charles H.: *See*—
Retzsch, Clinton E., Levy, and Lighthipe. 2,974,000.
Lincoln, James, B. J. Hawthorne, and E. J. Kowolik, to British Celanese Ltd. Making high linear polyester with magnesium hypophosite catalyst. 2,974,122, 3-7-61, Cl. 260—47.
Lindberg, John E., Jr., and L. J. Cook, to said Cook assor. to said Lindberg, Jr. Secondary-emission cathode-ray tube and engine analyser employing the same. 2,974,274, 3-7-61, Cl. 324—16.
Lindblom, Frank W., to Welsh Mfg. Co. Spectacle bridge construction. 2,973,690, 3-7-61, Cl. 88—43.
Linder, Friedrich: *See*—
Herlach, Friedrich, Linder, and Spalding. 2,973,694.
Lindstrom, Eddie G., and M. R. Barusch, to California Research Corp. Gasoline compositions containing phosphated amino amides. 2,974,022, 3-7-61, Cl. 44—56.
Line, Leif: *See*—
Goldrick, Richard J., Kinsman, and Line. 2,973,910.
Lionel Corp., The: *See*—
Digirolamo, John V. M., and Zion. 2,973,604.
Lipton, Thomas J., Inc.: *See*—
Holmes, Alan W. 2,974,047.
Litz, Lawrence M., to Union Carbide Corp. Boron nitride production. 2,974,013, 3-7-61, Cl. 23—191.
Lockheed Aircraft Corp.: *See*—
Price, Nathan C. 2,973,621.
Wiele, Robert F. 2,973,925.
Loebner, Egon E., to United States of America, Army. Frequency and phase modulation of optical feedback storage light amplifiers. 2,974,233, 3-7-61, Cl. 250—213.
Lohman, Robert D., to Radio Corp. of America. Multivibrator circuit. 2,974,238, 3-7-61, Cl. 307—88.5.
Long, Robert B., C. E. Heath, Jr., and V. Kevorkian, to Esso Research and Engineering Co. Acetaldehyde manufacture. 2,974,173, 3-7-61, Cl. 260—604.
Lor Corp.: *See*—
Fiedler, Stuart O., Bjorksten, and Fiedler. 2,974,084.
Lord Chemical Corp.: *See*—
Brandt, William R. 2,973,606.
Loter, James W., and U. S. Roberts. Fence blind. 2,973,943, 3-7-61, Cl. 256—21.
Lovens kemiske Fabrik ved A. Kongsted: *See*—
Nielsen, Erling J. 2,974,136.
Lubonsky, Fred E.: *See*—
Paine, Thomas O., Mendelsohn, and Lubonsky. 2,974,104.
Lull, Le Grand H. Ice crushing and blading mechanism. 2,973,591, 3-7-61, Cl. 37—41.
Lunde, Thomas T. Self-braking winch. 2,973,941, 3-7-61, Cl. 254—186.
Luvisi, John P., to Universal Oil Products Co. Preparation of aromatic ketones. 2,974,172, 3-7-61, Cl. 260—592.
Lyon, George A. Method of making a wheel cover. 2,973,736, 3-7-61, Cl. 113—116.
Lyon, George A. Brake drum cooling ring structure. 2,973,843, 3-7-61, Cl. 188—264.
Lyon Inc.: *See*—
Shoemaker, John V. 2,973,992.
M and H Industries, Inc.: *See*—
Heyer, Don. 2,973,547.
MacCracken, Calvin D., to Jet-Heet, Inc. Electric generating systems. 2,973,715, 3-7-61, Cl. 103—44.
Mace, Bonard V.: *See*—
Engel, Charles F., and Mace. 2,973,796.
Machine Tool Electric Corp.: *See*—
Stolk, William. 2,973,959.
Machine Tool Works Oerlikon, Administration Co.: *See*—
Herlach, Friedrich, Linder, and Spalding. 2,973,694.
MacSporran, Charles, to Phillips Petroleum Co. Process and apparatus for in situ combustion. 2,973,812, 3-7-61, Cl. 166—11.
Macura, Karl, and E. Siggel, to Vereinigte Glasstoff-Fabriken A.G. Anti-static compositions and synthetic filamentary textile materials treated therewith. 2,974,066, 3-7-61, Cl. 117—139.5.
Magee Carpet Co., The: *See*—
Park, Orrin J., and Penman. 2,973,785.
Magnavox Co., The: *See*—
Eggman, Max E. 2,973,827.
Wiener, Jerome B. 2,974,207.
Maico Electronics, Inc.: *See*—
Wales, Donald A. 2,974,277.

Majercak, John V.: *See*—
Guth, Fred H., and Majercak. 2,974,271.
Malik, John. Vehicle jack. 2,973,875, 3-7-61, Cl. 214—334.
Mann, Ralph J., and J. Biedawski, to British Celanese Ltd. Process for reducing the luster of textile materials. 2,974,065, 3-7-61, Cl. 117—119.8.
Man-Sew Corp.: *See*—
Sigoda, Victor J. 2,973,731.
Marcello, Jacob J.: *See*—
Hudis, Michael L., and Marcello. 2,973,723.
March Mfg. Co.: *See*—
Zimmermann, Frederick N. and W. E. 2,973,904.
Marchant Calculators, Inc.: *See*—
Reynolds, Eugene E. 2,973,898.
Marholz, Richard C., to Raytheon Co. Cathode ray tube indicator systems. 2,974,192, 3-7-61, Cl. 178—7.8.
Marquette Corp.: *See*—
Akins, Clifford M. 2,974,263.
Marriage, Ira J. Apparatus for changing the pitch of propeller blades for aircraft. 2,973,924, 3-7-61, Cl. 244—17.23.
Marrison, Warren A., to Space Technology Laboratories, Inc. Light source. 2,974,243, 3-7-61, Cl. 313—46.
Marschall, Frans, and R. L. Mayhew, to General Aniline & Film Corp. 2-butenediol(1,4) with hexachlorocyclicpentadiene and subsequent acetal-formation by means of formaldehyde. 2,974,147, 3-7-61, Cl. 260—340.3.
Martin, Gunther J.: *See*—
Lebel, Jean D., Martin, and Replogle. 2,974,315.
Martin, Howard C. Protective device for safes and the like. 2,973,726, 3-7-61, Cl. 109—34.
Marvin, George I. N. Wheeled trailer for liquid fertilizer applying apparatus. 2,973,818, 3-7-61, Cl. 172—456.
Mason, Ralph R.: *See*—
Watts, Rhea N., and Mason. 2,974,175.
Mather, Richard J., to United States of America, Interior. Bundle conductor spacer. 2,974,184, 3-7-61, Cl. 174—40.
Maxwell, James D.: *See*—
Warner, Paul F., and Maxwell. 2,974,176.
May, Richard D., to Electric Regulator Corp. Switch assembly. 2,974,206, 3-7-61, Cl. 200—81.9.
Mayhew, Raymond L.: *See*—
Marschall, Frans, and Mayhew. 2,974,147.
Mayhew, Raymond L., and E. P. Williams, to General Aniline & Film Corp. α-halogenated-γ-butyrolactones as nematocides. 2,974,084, 3-7-61, Cl. 167—33.
Maynard, Richard H., and W. Bell, to Star Precision Devices, Inc. Combination hand tool. 2,973,527, 3-7-61, Cl. 7—15.
Mays, Samuel R., and M. W. Worth, to James Lees and Sons Co. Modified Axminster loom and method. 2,973,784, 3-7-61, Cl. 139—39.
McBurney, Charles H.: *See*—
Hwa, Jesse C. H., McBurney, and Meitzner. 2,974,178.
McClements, Willard J., and R. C. Datin, to Allied Chemical Corp. Ethylene oxidation. 2,974,150, 3-7-61, Cl. 260—348.5.
McCloskey, Allen L.: *See*—
Brotherton, Robert J., Steinberg, and McCloskey, 2,974,165.
McClure, Glenn T., and T. F. Hursen, to Westinghouse Air Brake Co. Double-acting mechanical slack adjuster. 2,973,841, 3-7-61, Cl. 188—196.
McGarry, Phillip E., to International Minerals & Chemical Corp. Process for beneficiation of asphaltite material. 2,973,864, 3-7-61, Cl. 209—166.
McGowan, Richard J., Jr., to United States of America, Navy. Full pressure suit helmet and torso tiedown system. 2,973,521, 3-7-61, Cl. 2—2.1.
McGowan, William S. Bag opener. 2,973,612, 3-7-61, Cl. 53—384.
McGraw-Edison Co.: *See*—
Freeman, James F. 2,973,967.
Whitney, William G. 2,973,965.
McKinney, James C.: *See*—
Carlin, Raymond W., and McKinney. 2,973,803.
McKnight, John T., to J. N. Allen, III. Soap dish. 2,973,601, 3-7-61, Cl. 45—28.
McLeod, Bruce A., to Bell Telephone Laboratories, Inc. Random signal generator. 2,974,198, 3-7-61, Cl. 179—1.
McLeod, Norman F., to Phillips Petroleum Co. Removal of olefin polymers from solution. 2,974,131, 3-7-61, Cl. 260—94.9.
McMichael, Robert G., to Robertshaw-Fulton Controls Co. Control device. 2,974,209, 3-7-61, Cl. 200—138.
McNeilly, Joseph A., to Arthur H. Thomas Co. Volumetric apparatus for determining the gas content of liquids. 2,974,018, 3-7-61, Cl. 23—253.
McPeters, Arnold L.: *See*—
Heuer, Kurt, McPeters, and Knight. 2,974,005.
Meehan, Gerard F.: *See*—
Delagrange, Carl R., and Meehan. 2,973,993.
Meess, Jack D.: *See*—
Lackey, Robert S., and Meess. 2,973,627.
Meitzner, Erich F.: *See*—
Hwa, Jesse C. H., McBurney, and Meitzner. 2,974,178.
Mellema, Jack H.: *See*—
Croxall, Willard J., and Mellema. 2,974,140.
Mellen, George F., and W. M. Rickert, to Chrysler Corp. Brake control mechanism. 2,973,665, 3-7-61, Cl. 74—531.
Meisher, Francis G.: *See*—
Reilly, George B., Miles, Lewis, and Meisher. 2,973,600.
Mendelsohn, Lewis I.: *See*—
Paine, Thomas O., Mendelsohn, and Lubonsky. 2,974,104.
Mercer, Robert L.: *See*—
Abresch, Carel F., and Mercer. 2,973,907.
Jacobs, James W., and Mercer. 2,973,769.
Mercier, Jean: *See*—
Grunert, Erhard, and Mercier. 2,974,032.
Merck & Co., Inc.: *See*—
Lewis, Urban J., and Brink. 2,974,088.
Rogers, Edward F. 2,974,087.
Merry, Clayton B. Mobile packer. 2,973,822, 3-7-61, Cl. 180—9.5.
Mertens, Edward W., and J. R. Wright, to California Research Corp. Preparation of quick-breaking bituminous emulsions characterized by improved demulsibility. 2,974,107, 3-7-61, Cl. 252—311.5.
Mesa, Agustin: *See*—
Schwepke, Frans. 2,973,555.
Metal Film Co., Inc.: *See*—
Scharf, Walter G. 2,974,055.
Metalastik Ltd.: *See*—
Billing, Henry J. 2,973,951.
Metronics Associates, Inc.: *See*—
Grinnell, Stuart W., Perkins, and Vaughan. 2,973,642.
Meyer, Maurice A., to Laboratory for Electronics, Inc. Channel selector. 2,974,286, 3-7-61, Cl. 328—116.
Meyerhoff, Albert J., to Burroughs Corp. Magnetic core logical circuits. 2,974,300, 3-7-61, Cl. 340—174.
Meyering, Jan L., to North American Philips Co., Inc. Current conductor. 2,973,571, 3-7-61, Cl. 29—194.
Miale, Joseph N.: *See*—
Campbell, William H., Miale, and Kirkpatrick. 2,973,646.
Mickelson, Samuel R. Folding combination desk and chair. 2,973,803, 3-7-61, Cl. 155—124.
Miehle-Goss-Dexter, Inc.: *See*—
Thumim, Carl. 2,973,852.
Milbourne, Benjamin K. Ashtray. 2,973,766, 3-7-61, Cl. 131—235.
Miles, Edward J.: *See*—
Reilly, George B., Miles, Lewis, and Meisher. 2,973,600.
Miles Laboratories, Inc.: *See*—
Croxall, Willard J., and Mellema. 2,974,140.
Miller, Donald E., and E. Frank, ¼ to The Atchison, Topeka & Santa Fe Railway Co., ¼ to The New York Central Railroad Co., ¼ to The Pennsylvania Railroad Co., and ¼ to Union Pacific Railroad Co. Freight supporting and restraining system for vehicles. 2,973,724, 3-7-61, Cl. 105—369.
Miller, Elmer C.: *See*—
Fisher, Horace L., and Miller. 2,974,227.
Miller, Harry, and R. H. Parker, to Sperry Rand Corp. Monitoring device for automatic pilot systems. 2,973,927, 3-7-61, Cl. 244—77.
Miller, Leon F., to The Osborn Mfg. Co. Mold blowing and squeeze machine. 2,973,562, 3-7-61, Cl. 22—36.
Miller, Lewis E., to Bell Telephone Laboratories, Inc. Treatment of semiconductive devices. 2,974,075, 3-7-61, Cl. 148—6.3.
Miller, Robert E., to Monsanto Chemical Co. Rubber compositions and preparation thereof. 2,974,120, 3-7-61, Cl. 260—45.8.
Mills, Lester D., Jr.: *See*—
Grimes, William W., Mills, and Wishart. 2,973,645.
Milne, David T.: *See*—
Bauling, Adrianus L., and Milne. 2,973,946.
Minneapolis-Honeywell Regulator Co.: *See*—
Ehret, Robert J. 2,974,237.
Kriechbaum, John P. 2,973,630.
Minnesota Mining and Mfg. Co.: *See*—
Krueger, Alfred P. 2,973,890.
Minowitz, Wilbert, to Tung-Sol Electric Inc. Calibration circuit. 2,974,232, 3-7-61, Cl. 250—83.6.
Mirra, Michael J.: *See*—
Fronmuller, George D., and Mirra. 2,974,106.
Mitchell, Charles G., to Phillips Petroleum Co. Method for controlling dephlegmators. 2,974,100, 3-7-61, Cl. 208—341.
Moberly, Charles W., to Phillips Petroleum Co. Method of controlling pressure and liquid level in a vessel. 2,974,130, 3-7-61, Cl. 260—94.7.
Modderno, John P., to Modern-Lab, Inc. Pressurized dispensing device. 2,973,883, 3-7-61, Cl. 222—94.
Model Plastic Corp.: *See*—
Cohn, David. 2,973,573.
Modern Lab, Inc.: *See*—
Modderno, John P. 2,973,883.
Moeller, Therald: *See*—
Williams, Forrest V., Ruehrwein, and Moeller. 2,974,064.
Monsanto Chemical Co.: *See*—
Frans, John E. 2,974,164.
Heininger, Samuel A. 2,974,160.
Heininger, Samuel A., and Graham. 2,974,115.
Miller, Robert E. 2,974,120.
Sharp, Dexter B., and Erickson. 2,974,168.
Williams, Forrest V., Ruehrwein, and Moeller. 2,974,064.
Monthel, Edward G., and E. D. Blair. Drawbar attachment for plows. 2,973,817, 3-7-61, Cl. 172—239.
Monsingo, Reginald V. Educational device. 2,973,588, 3-7-61, Cl. 35—8.
Moore, Cecil L., to Engineering and Research Lab. Service Co. Portable refrigerated cooler. 2,973,632, 3-7-61, Cl. 62—408.
Moore, Dwight G., to United States of America, Air Force. Protectively coated metal article and processes. 2,974,051, 3-7-61, Cl. 106—48.
Moosmann, Alois. Pneumatic control system for production machines, especially for machine tools. 2,973,648, 3-7-61, Cl. 74—1.
Moquist, Stanley A. Splicers for motion picture films. 2,973,802, 3-7-61, Cl. 154—42.1.
Morf, Pierre. Shock-absorbing pivot bearing. 2,973,618, 3-7-61, Cl. 58—140.
Morfeldt, Carl-Olaf O.: *See*—
Hagerman, Tor H., Morfeldt, and Svensjö. 2,973,820.
Morgan Engineering Co., The: *See*—
Schaper, Donald W. 2,973,942.
Morgan, Harry A., Jr., to Reddi-Wip, Inc. Radial machine for aseptic canning and the like. 2,973,609, 3-7-61, Cl. 53—112.

Morgan, Lyman W., to Phillips Petroleum Co. Measurement of polymerization reactions. 2,974,017, 3-7-61, Cl. 23—253.

Morin, Louis H., to Coats & Clark Inc. Traveler and method of producing the same with pre-shaped cast insert. 2,973,-556, 3-7-61, Cl. 18—30.

Morris, Frank E. Line cleaning process. 2,974,071, 3-7-61, Cl. 134—21.

Morris, George V., to Zenith Radio Corp. Subscription television computer. 2,974,305, 3-7-61, Cl. 340—147.

Morris, Horton H.: *See*—
Beamesderfer, John W., and Morris. 2,974,054.

Mosier, William H., to Owens-Corning Fiberglas Corp. Method and apparatus for packaging fibrous materials. 2,973,607, 3-7-61, Cl. 53—24.

Muller, Wilhelm Herm., & Co., Kommanditgesellschaft: *See*—
Rix, Johannes. 2,973,655.

Murphy, Howard J., to United-Carr Fastener Corp. Fastener. 2,973,565, 3-7-61, Cl. 24—73.

Murray, Hilton B., and H. K. Flinchbaugh. Hose-reeling apparatus. 2,973,906, 3-7-61, Cl. 239—197.

Motorola, Inc.: *See*—
Hill, Frederick P., and Hartfield. 2,974,225.
Peth, Robert. 2,974,221.

Mott, Garret, Jr.: *See*—
Brown, Raymond L., Mott, and Smeriglio. 2,973,695.

Muccino, Louis F. Methods of covering golf balls. 2,973,800, 3-7-61, Cl. 154—17.

Murrish, Clarence L., to Invenex Pharmaceuticals. Apparatus for manufacturing parenteral solutions. 2,973,758, 3-7-61, Cl. 128—272.

Musser, C. Walton, Key. 2,973,979, 3-7-61, Cl. 287—62.05.

Nachtman, John S. High temperature structural material and method of producing same. 2,973,540, 3-7-61, Cl. 29—182.5.

Namenyi-Kats, Laszlo, to Epsylon Research & Development Co. Ltd. Magnetic recording media. 2,974,056, 3-7-61, Cl. 117—8.

Narsa Research Inc.: *See*—
Schwartz, Nathan B. 2,974,220.

Nash, Harold B.: *See*—
Lenevo, Arthur L., Nash, and Tress. 2,973,558.

National Cleveland Corp.: *See*—
Stratton, Edward B., Jr. 2,973,558.

National Research Development Corp.: *See*—
Ravenscroft, Ivor A. 2,974,294.

Neeman, Moshe, to Wisconsin Alumni Research Foundation. Insecticidal compositions. 2,974,083, 3-7-61, Cl. 167—30.

Neill, George V.: *See*—
Schweda, Albert M., and Neill. 2,973,730.

Neish, Richard A., to United States Steel Corp. Method of reducing eye holing in lacquered tin-plate. 2,974,091, 3-7-61, Cl. 204—37.

Nelson, Alfred R., and E. M. Jankowiak, to The Dow Chemical Co. Process for preparing polyvinyl chlorides useful in plastisols. 2,974,129, 3-7-61, Cl. 260—92.8.

Nelson, Gorman R. Sliding piston-type fluid motor-operated nut running tool. 2,973,676, 3-7-61, Cl. 81—52.4.

Nelson, Robert T.: *See*—
Dirnberger, Lawrence A., and Nelson. 2,974,109.

Nerwin, Hubert, to Eastman Kodak Co. Apparatus for compensating battery decay. 2,973,690, 3-7-61, Cl. 95—10.

Nessel, Jiri M., to Clary Corp. Handle and cover construction for calculating machines. 2,973,602, 3-7-61, Cl. 45—68.1.

Nettel, Frederick. Elastic fluid power plant for intermittent operation. 2,973,622, 3-7-61, Cl. 60—39.51.

Nettel, Frederick. Elastic fluid power plant with matrices of solid material for heat transfer and regeneration. 2,973,-623, 3-7-61, Cl. 60—39.51.

Neu, Robert F.: *See*—
Dunkel, Walter L., Neu, and Phelan. 2,974,113.

Newby, Thomas H., and B. A. Hunter, to United States Rubber Co. Para-amino diphenylamine. 2,974,169, 3-7-61, Cl. 208—576.

Newell, George K., to Westinghouse Air Brake Co. Double-acting slack adjuster. 2,973,840, 3-7-61, Cl. 188—196.

Newton Chambers & Co. Ltd.: *See*—
Reilly, George B., Miles, Lewis, and Melsher. 2,973,600.

Newton, Norman B., to United Aircraft Corp. Control valve and actuating means. 2,973,745, 3-7-61, Cl. 121—42.

New York Central Railroad Co., The: *See*—
Miller, Donald E., and Frank. 2,973,724.

New York Pressing Machinery Corp.: *See*—
Cole, Hyman E. 2,973,594.

Niederrheinische Maschinenfabrik Becker and van Huellen: *See*—
Huetter, Will. 2,973,790.

Nielsen, Erling J., to Lovens kemiske Fabrik ved A. Kongsted. Penicillin salts. 2,974,136, 3-7-61, Cl. 260—239.1.

Nielsen, Glen F.: *See*—
Femmer, Max E., Sochor, Kusnick, Nielsen, and Vinson. 2,974,306.

Niklas, Wilfrid F., to The Rauland Corp. Electron discharge device. 2,974,244, 3-7-61, Cl. 313—65.

Nischk, Gunther, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of polymers. 2,974,118, 3-7-61, Cl. 260—45.4.

Nisle, Robert G., to Phillips Petroleum Co. Magneto-optical rotation analyzer. 2,973,684, 3-7-61, Cl. 88—14.

Nixon, William G., to Universal Oil Products Co. Activated inorganic metal oxides. 2,974,111, 3-7-61, Cl. 252—466.

Noda, Katsuhiko, and K. Kurokawa, to Agency of Industrial Science and Technology, Ministry of International Trade and Industry. Voltage regulating system. 2,974,272, 3-7-61, Cl. 323—89.

Nolder, Charles C., and L. Phillips, to Electronic Pianos, Inc. Piano capacitor reactor. 2,973,680, 3-7-61, Cl. 84—1.14.

Nolier, Harry F., to Smith-Corona Marchant, Inc. Adjustable fasteners. 2,973,981, 3-7-61, Cl. 287—101.

Nopco Chemical Co.: *See*—
Hochberg, Melvin, Ely, and Klein. 2,974,043.
Retzsch, Clinton E., Levy, and Lighthipe. 2,974,000.

Nordlund, Lester H. Close-following vehicle warning system. 2,974,304, 3-7-61, Cl. 340—104.

Noren, Tore H.: *See*—
Federighi, George J., and Noren. 2,973,910.

Norgaard, Donald E., to Hewlett-Packard Co. D.-C. amplifier and filter therefor. 2,974,288, 3-7-61, Cl. 330—10.

North American Aviation, Inc.: *See*—
Oppenheim, Thomas N. 2,973,978.

North American Philips Co., Inc.: *See*—
Meyering, Jan L. 2,973,571.
Van Tongerloo, Frans. 2,974,206.

Northcote, Reginald D., to Orr & Sembower Inc. Pulverised fuel burner. 2,973,727, 3-7-61, Cl. 110—28.

Novo Industrial Corp.: *See*—
Schneider, Marvin. 2,973,945.

O. K. Rubber Welders, Inc.: *See*—
French, Elby E. 2,973,791.

Oak Mfg. Co.: *See*—
Asclickis, Alexis N. 2,974,290.
Williams, John H. 2,973,663.
Williams, John H. 2,973,664.
Williams, John H. 2,973,667.

Oakley, Sterling A. Apparatus for manufacturing sheathed electrical heating elements. 2,973,572, 3-7-61, Cl. 29—203.

Oddson, Elmer H. Coupling and alignment mechanism. 2,973,971, 3-7-61, Cl. 280—478.

Oglesby, Minor W., Jr., to Phillips Petroleum Co. Controller limit system. 2,973,772, 3-7-61, Cl. 137—82.

Oishei, John R., to Trico Products Corp. Hydraulically powered windshield wiper system. 2,973,714, 3-7-61, Cl. 103—5.

Okrent, Jasper J.: *See*—
Kee, William, and Okrent. 2,974,183.

Olay, Andrew J. Brush construction. 2,973,535, 3-7-61, Cl. 15—78.

Oldenboom, Derk J., to International Business Machines Corp. Sheet feeding devices. 2,973,709, 3-7-61, Cl. 101—287.

Olin Mathieson Chemical Corp.: *See*—
Andrew, Eugene A. 2,974,135.
Wilson, Lewis P., and Turner. 2,974,031.

Oliver, John P., to Union Carbide Corp. Rod and plate electrode assembly. 2,974,008, 3-7-61, Cl. 204—286.

Olsen, Harold G. Sail boat control device. 2,973,737, 3-7-61, Cl. 114—98.

Olson, Nels F. Signal-equipped fishing pole. 2,973,599, 3-7-61, Cl. 43—17.

Omega Aircraft Corp.: *See*—
Sznycer, Bernard W. 2,973,661.
Sznycer, Bernard W. 2,973,915.
Sznycer, Bernard W. 2,973,923.

O'Neal, Andrew, to Community Gin Co. Lint nozzle. 2,973,-559, 3-7-61, Cl. 19—50.

O'Neill, Donald E.: *See*—
Kimball, John G., Willens, Oswalt, and O'Neill. 2,973,-594.

Oppenheim, Thomas N., to North American Aviation, Inc. Bimaterial back-up ring. 2,973,978, 3-7-61, Cl. 286—26.

Orlando, Matthew, to M. Orlando and L. Schub. Battery lining mechanism. 2,973,695, 3-7-61, Cl. 93—36.01.

Orr & Sembower Inc.: *See*—
Northcote, Reginald D. 2,973,727.

Osborn Mfg. Co., The: *See*—
Bosl, George F., Janke, and Evans. 2,973,532.
Miller, Leon F. 2,973,582.

Ostrowitz, Milton, to Gilbert Plastics, Inc. Snap-action cap. 2,973,881, 3-7-61, Cl. 220—60.

Oswalt, Roger M.: *See*—
Kimball, John G., Willens, Oswalt, and O'Neill. 2,973,-594.

Oswald, Olaf G., to Bausch & Lomb Optical Co. Lock and release mechanism. 2,973,838, 3-7-61, Cl. 188—82.2.

Otatani, Tohei, to The Research Institute For Iron, Steel and Other Metals of Tohoku University. Nodular graphite steel. 2,974,035, 3-7-61, Cl. 75—123.

Owens-Corning Fiberglas Corp.: *See*—
Collier, Theodore J. 2,974,062.
Mosier, William H. 2,973,607.
Russell, Robert G. 2,973,550.

Owens-Illinois Glass Co.: *See*—
Bacon, Frank R., and Billian. 2,974,052.

Paillard S.A.: *See*—
Thevenaz, Jean. 2,973,913.

Paine, Thomas O., L. I. Mendelsohn, and F. E. Luborsky, to General Electric Co. High-energy magnetic material. 2,974,104, 3-7-61, Cl. 252—62.5.

Palmer, John A., to The Emerson Electric Mfg. Co. Panel mounted angularly adjustable tools. 2,973,789, 3-7-61, Cl. 143—36.

Pankove, Jacques I., to Radio Corp. of America. Multi-electrode semiconductor devices. 2,974,236, 3-7-61, Cl. 307—88.5

Papke, Wolfgang, to Siemens and Halske Aktiengesellschaft Berlin and Munich. Circuit arrangement for identifying calling telephone party line stations. 2,974,200, 3-7-61, Cl. 179—17.

Pappo, Raphael, to G. D. Searle & Co. 18,20-epoxypregnanes and derivatives thereof. 2,974,138, 3-7-61, Cl. 260—239.55.

Park, Orrin J., and H. W. Penman, to The Masee Carpet Co. Loom for weaving pile fabrics. 2,973,785, 3-7-61, Cl. 139—46.

Parker, Harry W., to Phillips Petroleum Co. Process for controlling path of in situ combustion front. 2,973,813, 3-7-61, Cl. 166—11.

Parker, John A.: *See*—
Forsythe, Alan K., and Parker. 2,974,112.

Parker, John A., H. H. Ready, and J. Verspel, to Armstrong Cork Co. Polyesters extended with diallylidene pentaerythritol and compositions containing same. 2,974,116, 3-7-61, Cl. 260—40.

Parker, Louis W. Rotors for electrical indicating instruments and methods of making the same. 2,974,284, 3-7-61, Cl. 324—150.

Parker, Louis W. Multiple reading instruments and systems for remote indication. 2,974,312, 3-7-61, Cl. 340—163.

Parker, Robert E.: *See*—
Miller, Harry, and Parker. 2,973,927.

Parks, Edwin S., and H. A. Hollingsworth. Combination lamp and waterer. 2,973,743, 3-7-61, Cl. 119—73.

Patalong, Hubert: *See*—
Herlet, Adolf, Patalong, and Schink. 2,974,074.

Patterson, Morehead, to American Machine & Foundry Co. Convertible bowling pin spotting machine. 2,973,963, 3-7-61, Cl. 273—43.

Paul, Ronald S., to United States of America, Atomic Energy Commission. Fuel slug rupture detector. 2,974,066, 3-7-61, Cl. 204—193.2.

Paulding, Herbert L., and R. T. Yu, to Dow Jones & Co., Inc. Punched tape control mechanism. 2,973,897, 3-7-61, Cl. 234—3.

Pechiney: *See*—
Grunert, Erhard, and Mercier. 2,974,032.

Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques: *See*—
Riabovol, Prokop. 2,974,011.

Peck, Alvia W., to Phillips Petroleum Co. Liquid-ammonia flow control system. 2,973,729, 3-7-61, Cl. 111—7.

Pelensky, Joseph: *See*—
Devery, James J., and Pelensky. 2,973,636.

Peltzer, Albert, Sr., to Dorr-Oliver Inc. Centrifuge apparatus. 2,973,896, 3-7-61, Cl. 233—19.

Penman, Hurl W.: *See*—
Park, Orrin J., and Penman. 2,973,785.

Penn Controls, Inc.: *See*—
Siri, Louis J. 2,973,773.

Pennington, Philip R., and J. D. Turner, to Hughes Aircraft Co. Method for determining crystallographic orientation of single crystals. 2,973,667, 3-7-61, Cl. 88—14.

Pennsylvania Railroad Co., The: *See*—
Miller, Donald E., and Frank. 2,973,724.

Peoples, Virgil H., and J. E. West, to The O. M. Scott & Sons Co. Spreader construction. 2,973,884, 3-7-61, Cl. 222—177.

Perkins, William A., Jr.: *See*—
Grinnell, Stuart W., Perkins, and Vaughan. 2,973,642.

Periowski, Edward F., Jr.: *See*—
Ertelt, Henry R., Periowski, and Tutwiler. 2,974,025.

Perry, George A., and R. L. Lawrence, to Corn Products Co. Method of inhibiting the growth of microbacterial organisms in a cultured milk product and the resulting product. 2,974,046, 3-7-61, Cl. 99—162.

Person, Karl E.: *See*—
Johansson, Nils G. L. 2,973,675.

Peterson, Willard D., to American Potash & Chemical Corp. Preparation of borohydrides and their intermediates. 2,974,015, 3-7-61, Cl. 23—204.

Peth, Robert, to Motorola, Inc. Squelch circuit. 2,974,221, 3-7-61, Cl. 250—6.

Petherick, Edward J., and G. C. Rowley, to International Business Machines Corp. Digital computing engines. 2,973,901, 3-7-61, Cl. 235—160.

Petritz, Anthony F., and D. F. Larson, to Huartz-Mason, Inc. Device for sealing a seam formed by adjacent metal plates. 2,974,078, 3-7-61, Cl. 154—43.

Pfaff, G. M., A.-G.: *See*—
Schenkengel, Emerich. 2,973,734.

Pfizer, Chas., & Co., Inc.: *See*—
Stephens, Charles R., Jr. 2,974,167.

Phelan, Richard R.: *See*—
Dunkel, Walter L., Neu, and Phelan. 2,974,113.

Philco Corp.: *See*—
Bothroyd, Wilson P. 2,974,189.
Devery, James J., and Pelensky. 2,973,636.

Phillips, Leslie: *See*—
Nolder, Charles C., and Phillips. 2,973,680.

Phillips Petroleum Co.: *See*—
Burton, Joe M. 2,973,713.
Edmiston, Gilbert L. 2,974,174.
Findlay, Robert A. 2,974,181.
Fisher, Horace L. 2,974,226.
Fisher, Horace L., and Miller. 2,974,227.
Finegel, Dale A. 2,973,635.
Green, William B., and Gaede. 2,973,626.
Hurst, James W. 2,973,549.
King, William R., and Rowe. 2,973,863.
Koble, Robert A., and Cobb. 2,974,180.
MacSporran, Charles. 2,973,812.
McLeod, Norman F. 2,974,131.
Mitchell, Charles G. 2,974,100.
Moberly, Charles W. 2,974,130.
Morgan, Lyman W. 2,974,017.
Nisle, Robert G. 2,973,684.
Oglesby, Minor W., Jr. 2,973,772.
Parker, Harry W. 2,973,813.
Peck, Alvin W. 2,973,729.
Rogers, Allen S. 2,973,811.
Van Pool, Joe. 2,974,183.
Warner, Paul F., and Maxwell. 2,974,176.
Warner, Paul F., and Sims. 2,974,177.

Phillips, Roy S. Baby holder. 2,973,889, 3-7-61, Cl. 224—45.

Pieper, Hans: *See*—
Bauer, Erich, Ebert, Forst, and Pieper. 2,974,093.

Pierce, Lowell J., J. A. Benson, and E. V. Jaramillo, to General Electric Co. Cowled dome liners. 2,973,624, 3-7-61, Cl. 60—39.65.

Pihl, Lennart, to Research Aktiebolag. Method of applying a layer of printing ink plus an additional layer on an underlay. 2,974,058, 3-7-61, Cl. 117—15.

Pinski, Stanley M. High fidelity speaker apparatus. 2,973,824, 3-7-61, Cl. 181—31.

Pittsburgh Plate Glass Co.: *See*—
Smith, Earl R., and Ziegler. 2,974,077.

Plant Products Corp.: *See*—
Geary, Robert J. 2,974,030.

Plasser, Franz, and J. Theurer. Track tamper. 2,973,719, 3-7-61, Cl. 104—12.

Platzer, George E., Jr., and H. L. Brown, to Chrysler Corp. Electronic control device. 2,974,256, 3-7-61, Cl. 315—83.

Plue, Arnold F., to General Aniline & Film Corp. P-(2-pyrazolin-1-yl) styryl dyes. 2,974,141, 3-7-61, Cl. 260—249.6.

Plymale, William S., Jr., deceased; Mrs. W. S. Plymale, Jr., heir and guardian. Colostomy unit. 2,973,759, 3-7-61, Cl. 128—283.

Plymale, Mrs. W. S., Jr.: *See*—
Plymale, William S., Jr. 2,973,759.

Poland, Cedric M.: *See*—
Dreyfus, Marc G., and Poland. 2,973,686.

Pollitzer, Ernest L., to Universal Oil Products Co. Surface active glucose ethers. 2,974,134, 3-7-61, Cl. 260—209.

Polymer Corp., The: *See*—
Dettling, Conrad J. 2,974,060.

Popeck, Stanley P.: *See*—
Schulse, Heins, and Popeck. 2,974,152.

Popper, Jakhin B. Cooperating wedges including mating worms. 2,973,660, 3-7-61, Cl. 74—424.5.

Poskin, Irvin C. Holder for stacked sheet material. 2,973,868, 3-7-61, Cl. 211—51.

Powell, Walter G., to Band-Ti Mfg. Co. Band-tie. 2,973,697, 3-7-61, Cl. 10—21.

Powell, Walter G., to Band-Ti Mfg. Co. Machine for and method of making band-ties. 2,973,798, 3-7-61, Cl. 154—1.6.

Power Jets (Research and Development) Ltd.: *See*—
Davidson, Ivor M., and Stratford. 2,973,922.

Prather, Edwin E., to The Bendix Corp. Automatic brake holding system. 2,973,844, 3-7-61, Cl. 192—3.

Precision Scientific Co.: *See*—
Brooks, Will E. 2,973,856.

Prescott, Francis J.: *See*—
Steckler, Robert, and Prescott. 2,974,114.

Price, Leo, to Winslow Mfg. Co. Gages for contour and alignment control. 2,973,582, 3-7-61, Cl. 33—174.

Price, Nathan C., to Lockheed Aircraft Corp. Variable area ram inlet device. 2,973,621, 3-7-61, Cl. 60—35.6.

Price, Nathan C. Wingless supersonic aircraft. 2,973,921, 3-7-61, Cl. 244—12.

Pro, George M., to Air Placement Equipment Co. Auger assembly having novel discharge end. 2,973,855, 3-7-61, Cl. 198—213.

Procter & Gamble Co., The: *See*—
Carlin, Raymond W., and McKinney. 2,973,393.

Proctor-Silex Corp., The: *See*—
Scott, John F., Hoffman, and Fink. 2,973,878.

Projex Engineering Corp.: *See*—
Williams, Virgil C. 2,974,102.

Pryale, Harry M., to Baldwin Rubber Co. Conveying and cooling apparatus. 2,973,770, 3-7-61, Cl. 134—122.

Purolator Products, Inc.: *See*—
Cook, Donald J., and Schoemer. 2,973,832.
Gruner, Frederick R. 2,973,830.

Quate, Calvin F., to Bell Telephone Laboratories, Inc. Low noise amplifier. 2,974,252, 3-7-61, Cl. 315—3.

Quayle, George F. Lift truck. 2,973,835, 3-7-61, Cl. 187—9.

Quigley, Bernard T. Transmission. 2,973,669, 3-7-61, Cl. 74—752.

Quikut, Inc.: *See*—
Carroll, John L., and Whitcomb. 2,973,578.

Quinn, Bert A. Door latch construction. 2,973,986, 3-7-61, Cl. 292—228.

Rackliffe, David A., to Ranney Refrigerator Co. Slidable shelf construction. 2,973,998, 3-7-61, Cl. 312—332.

Radian Corp.: *See*—
De Millar, Floyd O. 2,973,754.

Radio Corp. of America: *See*—
Armstrong, Lorne D. 2,974,073.
Burstein, Albert. 2,973,548.
Greenblatt, Manuel H., and Green. 2,974,231.
Lohman, Robert D. 2,974,238.
Pankove, Jacques I. 2,974,236.

Ramberg, Einar M., and H. W. La Rose, Jr., to Titeflex, Inc. Reuseable fitting for braid-covered hose. 2,973,975, 3-7-61, Cl. 285—149.

Ramires, Ernest R., and E. F. Barkman, to Reynolds Metals Co. Electrolytic means for treating metal. 2,974,097, 3-7-61, Cl. 204—206.

Ranco Inc.: *See*—
Greenawalt, Frederick A. 2,973,644.
Sallaris, George P. 2,973,908.

Randall, Ralph S. Bag filling machine. 2,973,610, 3-7-61, Cl. 53—188.

Ranney Refrigerator Co.: *See*—
Rackliffe, David A. 2,973,998.

Rauland Corp., The: *See*—
Niklas, Wilfrid F. 2,974,244.

Ravenscroft, Ivor A., to National Research Development Corp. Frequency modulated oscillator circuits. 2,974,294, 3-7-61, Cl. 332—16.

Rayburn, Vincent A., to Western Electric Co., Inc. Method of coiling wire. 2,973,911, 3-7-61, Cl. 242—1.

Raymond Corp., The: *See*—
Gibson, Christian D. 2,973,878.

Raymond, Malcolm L. Baggage rack. 2,973,869, 3-7-61, Cl. 211—90.

Raytheon Co.: *See*—
Arneson, Robert F. 2,974,287.
Fryklund, Robert A. 2,974,293.
Klemperer, Hans. 2,974,317.
Marhols, Richard C. 2,974,192.

Ready, Harold R.: *See*—
Parker, John A., Ready, and Versnel. 2,974,116.

Reda Pump Co.: *See*—
Arutunoff, Armais. 2,974,240.

Redden, Annie M.: *See*—
Redden, George B. 2,973,575.

Redden, George B., deceased, by A. M. Redden, executrix. Razor having a triangular shape cap with spring and lever means in the handle to lock said cap. 2,973,576, 3-7-61, Cl. 30—68.

Reddi-Wip, Inc.: *See*—
Morgan, Harry A., Jr. 2,973,609.

Redington, F. B., Co.: *See*—
Engleson, Harry E., and Sramek. 2,973,611.

Reed, Clair S., to Van Dresser Specialty Corp. Apparatus for forming spring liners. 2,973,788, 3-7-61, Cl. 140—92.94.

Reese, Johannes: *See*—
Bartels, Ernst A., Brühler, Reese, and Zimmermann. 2,974,085.

Reilly, George E., E. J. Miles, T. B. Lewis, and F. G. Melsher, to Newton Chambers & Co. Ltd. Holder for detergent. 2,973,600, 3-7-61, Cl. 45—28.

Reiner, Kenneth. Internal wrenching tools. 2,973,677, 3-7-61, Cl. 81—71.

Reliable Engineering Co.: *See*—
Casey, Charles L., and Ryno. 2,973,958.

Renoux, Pierre E., to Cri-Dan. Control system for the transverse reciprocating movement of a tool-holder carriage for thread-cutting machines. 2,973,528, 3-7-61, Cl. 10—101.

Rentschler, Karl F., to Alfred Gauthier G.m.b.H. Photographic intra-lens shutter with delayed action device. 2,973,701, 3-7-61, Cl. 95—53.6.

Replogle, Frank S., Jr.: *See*—
Lebel, Jean D., Martin, and Replogle. 2,974,315.

Research Aktiebolag: *See*—
Pihl, Lennart. 2,974,058.

Research Institute for Iron, Steel and Other Metals of Tohoku University, The: *See*—
Ototani, Tohei. 2,974,035.

Retzsch, Clinton E., J. Levy, and C. H. Lighthipe, to Nopco Chemical Co. Fat-liquoring process. 2,974,000, 3-7-61, Cl. 8—64.23.

Revlon, Inc.: *See*—
Alexander, Everett, Greif, Jass, and Stetser. 2,974,089.

Reynolds, Eugene E., to Marchant Calculators, Inc. Registers. 2,973,898, 3-7-61, Cl. 235—61.

Reynolds Metals Co.: *See*—
Ramirez, Ernest R., and Barkman. 2,974,097.

Rheinmetall Aktiengesellschaft: *See*—
Becker, Willy. 2,973,706.

Rhodehamel, Charles M. Golf club calibration device. 2,973,591, 3-7-61, Cl. 33—174.

Riabovol, Prokop, to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques. Process of purifying beryllium compounds. 2,974,011, 3-7-61, Cl. 23—183.

Richard, Alphonse J. Lawn edger. 2,973,616, 3-7-61, Cl. 56—256.

Richer, Irving. Garment box. 2,973,857, 3-7-61, Cl. 206—7.

Richter, George A., Jr., to Rohm & Haas Co. Ion-exchange assemblies and methods of treating liquids. 2,704,101, 3-7-61, Cl. 210—37.

Rickert, Wilhelm M.: *See*—
Mellen, George F., and Rickert. 2,973,665.

Ridler, Desmond S., to International Standard Electric Corp. Methods of synchronising recorded intelligence. 2,974,312, 3-7-61, Cl. 340—174.1.

Riedl, Franz. Infinitely variable gear. 2,973,653, 3-7-61, Cl. 74—117.

Rigsby, Rowena N. Adjustable baby shoe. 2,973,589, 3-7-61, Cl. 36—25.

Riker Laboratories, Inc.: *See*—
Klohs, Marie W., Draper, and Keller. 2,974,144.

Rix, Johannes, to Wilhelm Herm. Muller & Co., Kommanditgesellschaft. Adjustable V-belt pulley for variable transmissions. 2,973,655, 3-7-61, Cl. 74—230.17.

Roberts, Ulius B.: *See*—
Loter, James W., and Roberts. 2,973,943.

Robertshaw-Fulton Controls Co.: *See*—
McMichael, Robert G. 2,974,209.

Robertson, Gordon L., to Bell Telephone Laboratories, Inc. Device for instructing the public in the proper use of dial-equipped telephone station apparatus. 2,973,586, 3-7-61, Cl. 35—8.

Robertson, Julius D.: *See*—
Biggs, William A., Jr., and Robertson. 2,974,081.

Roche, Arthur F.: *See*—
Lang, John L., Jones, Roche, and Ingley. 2,974,125.

Roche, Melvin E., to Harvard Mfg. Co. Plastic caster socket. 2,973,546, 3-7-61, Cl. 16—43.

Roderick, Robert L., and E. S. Gwathmey, to Specialties, Inc. Aircraft rate of climb indicating instruments. 2,973,643, 3-7-61, Cl. 73—179.

Rogers, Allen S., to Phillips Petroleum Co. Process for detecting underground water. 2,973,811, 3-7-61, Cl. 166—4.

Rogers, Douglas C.: *See*—
Beck, Arnold H. W., Rogers, and Burke. 2,974,246.

Rogers, Edward F., to Merck & Co., Inc. 1-methyl-4-nitro-5-cyano-imidazole compositions for treating coccidosis. 2,974,067, 3-7-61, Cl. 167—53.1.

Rohm & Haas Co.: *See*—
Hwa, Jesse C. H., McBurney, and Meitzner. 2,974,178.
Richter, George A., Jr. 2,974,101.
Sobatzki, Raymond J. 2,974,156.

Rolocon, Alfred H., to The Jeffrey Mfg. Co. Bucket elevator. 2,973,854, 3-7-61, Cl. 198—152.

Romand, Jacques L., and B. Vodar, to Centre National de la Recherche Scientifique. Light sources for the spectrochemical analysis of substances. 2,974,200, 3-7-61, Cl. 315—168.

Romaniuk, John. Vacuum type road sweeper. 2,973,544, 3-7-61, Cl. 15—340.

Rose, Bennie A., to Heyl & Patterson, Inc. Unloader. 2,973,677, 3-7-61, Cl. 214—656.

Rosen, Charles A., to General Electric Co. Electromechanical transducer. 2,974,296, 3-7-61, Cl. 333—72.

Rowan, Clyde F., to Stubnitz Greene Corp. Spring structure for vehicles. 2,973,805, 3-7-61, Cl. 155—179.

Rowe, Fred, Jr.: *See*—
King, William R., and Rowe. 2,973,663.

Rowe, Louis F., M. L. Smith, and O. W. Dillon, to American Optical Co. Dichroic mirror assembly. 2,973,683, 3-7-61, Cl. 88—1.

Rowe, Raymond N. Dynamoelectric device. 2,974,234, 3-7-61, Cl. 290—31.

Rowell, Rose F. Brassiere wire frame. 2,973,763, 3-7-61, Cl. 128—476.

Rowell, William G., to Scully Signal Co. Closure cap for conduits. 2,973,880, 3-7-61, Cl. 220—20.

Rowley, Geoffrey C.: *See*—
Petherick, Edward J., and Rowley. 2,973,901.

Rudisch, Walter E., to The Bendix Corp. Clutches. 2,973,851, 3-7-61, Cl. 192—84.

Ruehrwein, Robert A.: *See*—
Williams, Forrest V., Ruehrwein, and Moeller. 2,974,064.

Rumker, Robert W. Automatic transmission. 2,973,666, 3-7-61, Cl. 74—688.

Russell, Louis A., to International Business Machines Corp. Magnetic core circuit. 2,974,310, 3-7-61, Cl. 340—174.

Russell, Robert G., to Owens-Corning Fiberglas Corp. Method and apparatus for forming fibers. 2,973,560, 3-7-61, Cl. 18—8.

Rydbeck, Olof E. H., and C. M. E. Stenhardt. Frequency addition and subtraction by means of auxiliary dedection electrodes in a cathode ray tube. 2,974,295, 3-7-61, Cl. 332—58.

Ryerson, Creighton W., Jack. 2,973,930, 3-7-61, Cl. 254—97.

Ryno, Juddson B.: *See*—
Casey, Charles L., and Ryno. 2,973,958.

Sabatt, Charles. Clutch for presses and the like. 2,973,849, 3-7-61, Cl. 192—67.

Sabol, Alexander P. Apparatus for obtaining nitrogen dioxide from nitrous oxide. 2,974,019, 3-7-61, Cl. 23—284.

Saenz, Henry H., to American-Marietta Co. Dust mop. 2,973,540, 3-7-61, Cl. 15—229.

Salensky, George A., to A. Gummer, Inc. Coating compositions and methods. 2,974,121, 3-7-61, Cl. 260—47.

Salliaris, George P., to Ranco Inc. Temperature control apparatus. 2,973,903, 3-7-61, Cl. 236—42.

Sampietro, Achilles C., to Thompson Ramo Wooldridge Inc. Valve rotator and lock. 2,973,753, 3-7-61, Cl. 123—90.

Sauer, Harold A.: *See*—
Flaschen, Steward S., and Sauer. 2,974,208.

Sauer, J. P., & Sohn, Gesellschaft mit beschraenkter Haftung: *See*—
Diesfeld, Franz. 2,973,840.

Schake, Richard P.: *See*—
Barry, Austin W., and Schake. 2,974,279.

Schaper, Donald W., to The Morgan Engineering Co. Multiple hoist apparatus. 2,973,942, 3-7-61, Cl. 254—188.

Scharf, Walter G., to Metal Film Co., Inc. Lustrous fabrics and methods of producing same. 2,974,055, 3-7-61, Cl. 117—4.

Scheftelowitz, Henry, to Telefonaktiebolaget L M Ericsson. Device for representing a voltage in the shape of a code. 2,974,282, 3-7-61, Cl. 224—99.

Schekowski, Herbert O. Windshield wiper blade trimming device. 2,973,577, 3-7-61, Cl. 30—272.

Scheller, Walter, to Ciba Ltd. Process for the recovery of niobium and/or tantalum from mixtures of their pentahalides. 2,974,007, 3-7-61, Cl. 23—21.

Schenck, James. Gated amplifier having degenerative feedback means for eliminating transients. 2,974,285, 3-7-61, Cl. 328—91.

Schenck, Leslie M.: *See*—
Gajewski, Fred J., and Schenck. 2,974,153.

Schenck, Leslie M., to General Aniline & Film Corp. Process of preparing salt-free N-acyl taurines. 2,974,184, 3-7-61, Cl. 260—401.

Schenkengel, Emerich, to G. M. Pfaff A.-G. Presser foot for decorative stitching for sewing machines. 2,973,734, 3-7-61, Cl. 112—235.

Scheuer, Fred A.: *See*—
Scheuer, Seymour, and Scheuer. 2,973,891.

Scheuer, Seymour, and F. A. Tearing device for toilet tissue holder. 2,973,891, 3-7-61, Cl. 225—89.

Schink, Norbert: *See*—
Herlet, Adolf, Paralong, and Schink. 2,974,074.

Schladermundt, Peter, W. H. Dennerlein, and L. S. Simons, Jr., to Johnson & Johnson. Adhesive bandage. 2,973,859, 3-7-61, Cl. 206—63.2.

Schlumberger Well Surveying Corp.: *See*—
Dixon, Dwight R. 2,974,303.
Lebel, Jean D., Martin, and Replogle, Jr. 2,974,315.

Schlumbohm, Peter. Friction pump for evaporating liquids. 2,973,829, 3-7-61, Cl. 183—17.

Schmerling, Louis, to Universal Oil Products Co. Condensation of ethers with polychloroolefins. 2,974,149, 3-7-61, Cl. 260—340.6.

Schmid, Wolfgang, to Societe Automata. Electric control for copying machines. 2,973,695, 3-7-61, Cl. 90—13.5.

Schmidt, Hans R., and M. Wiesner, to Agfa Aktiengesellschaft. Sheet film pack for X-ray photographic purposes. 2,974,229, 3-7-61, Cl. 250—69.

Schmidt, Lawrence D., to Allied Chemical Corp. High velocity combustion-jet motivater coke oven battery. 2,974,090, 3-7-61, Cl. 202—12.

Schmidt, Robert A., and W. Wenner, to Hoffmann-La Roche Inc. Dibenzo[de,g]quinoline compounds. 2,974,143, 3-7-61, Cl. 260—286.

Schneider, Marvin, to Novo Industrial Corp. Mixing device. 2,973,945, 3-7-61, Cl. 259—9.

Schnider, Otto: *See*—
Grüssner, Andre, Hellerbach, and Schnider. 2,974,142.

Schobbe, Wilhelm, to Licentia Patent-Verwaltungs-G.m.b.H. Motor control for knitting machines. 2,974,266, 3-7-61, Cl. 318—138.

Schoemer, Patrick J.: *See*—
Cook, Donald J., and Schoemer. 2,973,832.

Schoos, Maurice A., to Kenney Mfg. Co. Spring mounted curtain rod. 2,973,870, 3-7-61, Cl. 211—123.

Schroeder, Donald E.: *See*—
Gallagher, William P., Stolle, and Schroeder. 2,973,659.

Schub, Leonard: *See*—
Orlando, Matthew. 2,973,698.

Schuert, Edward A., to United States of America, Navy. Fallout plotting device. 2,973,579, 3-7-61, Cl. 33—1.

Schuette, Donald K.: *See*—
Youngbeck, Karl W., Goerg, and Schuette. 2,974,290.

Schuler, Wilhelm A., and H. Klebe, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Thiophenylpyridyl amines. 2,974,139, 3-7-61, Cl. 260—243.

Schuller, Walter H., and D. C. Guth, to American Cyanamid Co. Method of plasticizing polyacrylonitrile with a base-initiated copolymer of acrylonitrile and acrylamide. 2,974,119, 3-7-61, Cl. 260—45.5.

Schulze, Heinz, and S. P. Popeck, to General Aniline & Film Corp. Preparation and isolation of alkali metal and ammonium sulfonates of long chain carboxylic acids. 2,974,152, 3-7-61, Cl. 260—400.

Schwartz, Nathan R., to Naras Research Inc. Enclosed swivel lighting fixture. 2,974,220, 3-7-61, Cl. 240—128.

Schweda, Albert M., and G. V. Neill, to Union Special Machine Co. Machines for and methods of producing seams and products thereof. 2,973,730, 3-7-61, Cl. 112—162.

Schwepke, Frans, to Agustin Mesa. Rotary press for fabrication of buttons and plastic articles. 2,973,555, 3-7-61, Cl. 18—20.

Scott, John F., C. E. Hoffman, and R. E. Fink, to The Proctor-Silex Corp. Cutting and transfer mechanism for gelatinous training apparatus. 2,973,678, 3-7-61, Cl. 83—96.

Scott, O. M., & Sons Co., The: *See*—
Peoples, Virgil H., and West. 2,973,884.

Scott Paper Co.: *See*—
Dudley, Elisabeth. 2,973,760.

Scully Signal Co.: *See*—
Roscell, William G. 2,973,880.

Searle, G. D., & Co.: *See*—
Atwater, Norman W. 2,974,151.
Pappo, Raphael. 2,974,138.

Seismograph Service Corp.: *See*—
Koeppel, Beverly W. 2,974,318.

Sekella, Youston, J. J. Digby, and R. J. Covert, to The Bendix Corp. High altitude sounding projectile. 2,973,712, 3-7-61, Cl. 102—63.

Self, Edward S. Stabiliser for drill pipe. 2,973,996, 3-7-61, Cl. 308—4.

Shakespeare Co.: *See*—
Shakespeare, Henry G. 2,973,916.

Shakespeare, Henry G., to Shakespeare Co. Fishing reel construction. 2,973,916, 3-7-61, Cl. 242—84.2.

Shannon, William H.: *See*—
Harrer, Paul H., and Shannon. 2,973,970.

Sharp, Dexter B., and F. B. Erickson, to Monsanto Chemical Co. Process for making methylenedianiline. 2,974,168, 3-7-61, Cl. 260—570.

Shell Oil Co.: *See*—
Vogel, Charles B., and Weiser. 2,974,278.

Shepherd, Robert G.: *See*—
Fitchett, Gilmer T., Gordon, and Shepherd. 2,974,137.

Sheppard, Chester S.: *See*—
De Walt, Curtis W., Jr., and Sheppard. 2,974,162.

Shields, James R.: *See*—
Barth, Eugene W., and Shields. 2,973,771.

Shoemaker, John V., to Lyon Inc. Wheel cover. 2,973,992, 3-7-61, Cl. 301—37.

Sibert, Merle E., to Horizons Titanium Corp. Production of titanium. 2,974,092, 3-7-61, Cl. 204—64.

Siefen, Howard T.: *See*—
Julian, Frank M., and Siefen. 2,974,163.

Siegal, Burton L., to Chicago Aerial Industries, Inc. Latching apparatus. 2,973,985, 3-7-61, Cl. 292—204.

Siemens & Halske Aktiengesellschaft: *See*—
Kats, Helmut. 2,974,250.

Siemens & Halske Aktiengesellschaft Berlin and Munich: *See*—
Gerke, Peter, and Kneisel. 2,974,201.
Papke, Wolfgang. 2,974,200.

Siemens-Reiniger-Werke Aktiengesellschaft: *See*—
Berger, Helmut. 2,974,228.

Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Herlet, Adolf, Patalong, and Schink. 2,974,074.

Sierra Metals Corp.: *See*—
Thielemann, Rudolf H. 2,974,036.
Thielemann, Rudolf H. 2,974,037.

Siemsma, Jacob W., to International Minerals & Chemical Corp. Core binder. 2,974,048, 3-7-61, Cl. 106—38.5.

Siggel, Erhard: *See*—
Macura, Karl, and Siggel. 2,974,066.

Sigoda, Victor J., to Man-Sew Corp. Compound stitching device. 2,973,731, 3-7-61, Cl. 112—162.

Silver, Roger C.: *See*—
De Puydt, Frank A., and Silver. 2,973,839.

Silverman, Jack J. Technique for making shoes. 2,973,529, 3-7-61, Cl. 12—142.

Simmons, William E. Mounting and adjustment means for ground working implements. 2,973,819, 3-7-61, Cl. 172—600.

Simons, Langdon S., Jr.: *See*—
Schladermundt, Peter, Dennerlein, and Simons. 2,973,859.

Simpson, Arthur W., ½ to Walds B. Telfer. Plumbing apparatus. 2,973,587, 3-7-61, Cl. 15—104.3.

Sims, Danny P.: *See*—
Warner, Paul F., and Sims. 2,974,177.

Sinclair, Harold. Hydraulic turbo-couplings. 2,973,626, 3-7-61, Cl. 60—54.

Sinclair, Harold. Marine propulsion systems. 2,973,845, 3-7-61, Cl. 192—4.

Sinclair Refining Co.: *See*—
Keith, Willis C., Burk, and Keith. 2,974,161.

Singer Mfg. Co., The: *See*—
Johnson, Ralph E. 2,973,732.

Siri, Louis J., to Penn Controls, Inc. Air volume control for water systems. 2,973,775, 3-7-61, Cl. 137—209.

Sisson, Kenneth O., to General Motors Corp. Sediment collecting arrangement. 2,973,837, 3-7-61, Cl. 68—23.

Skellett, Albert M., to Tung-Sol Electric Inc. Vacuum tube having thyratron characteristics. 2,974,245, 3-7-61, Cl. 313—71.

Sklar, Samuel. Knock-down door buck with folding door guide means. 2,973,809, 3-7-61, Cl. 160—206.

Slater, Saul I. Duplex plug receptacle. 2,974,301, 3-7-61, Cl. 339—14.

Small Business Administration: *See*—
Diambra, Henry M. 2,974,188.

Smeriglio, Lawrence J.: *See*—
Brown, Raymond L., Mott, and Smeriglio. 2,973,895.

Smiley, James O., to General Motors Corp. Friction element. 2,973,842, 3-7-61, Cl. 188—251.

Smith-Corona Marchant, Inc.: *See*—
Noller, Harry F. 2,973,981.

Smith, Earl R., and H. L. Ziegler, to Pittsburgh Plate Glass Co. Method and apparatus for preparing composite assembly. 2,974,077, 3-7-61, Cl. 154—2.7.

Smith, Fleur B.: *See*—
Kaplan, Sidney J., Bomser, Smith, and Gold. 7,973,587.

Smith, Harry J., and W. G. Wing, to Sperry Rand Corp. Accelerometers. 2,973,647, 3-7-61, Cl. 73—497.

Smith, Harvey C. Fire detector. 2,974,210, 3-7-61, Cl. 200—142.

Smith Kline & French Laboratories: *See*—
Cook, Leonard, and Fellows. 2,974,148.

Smith, Merton L.: *See*—
Rowe, Louis F., Smith, and Dillon. 2,973,683.

Smith, Walter G. E., to United States National Bank of Portland, Oregon, Trustee. Fishing rod holder. 2,973,930, 3-7-61, Cl. 248—40.

Snapp, Rex J. Door frame profile gauge. 2,973,584, 3-7-61, Cl. 33—194.

Sobatzki, Raymond J., to Rohm & Haas Co. Method for stabilisation of manganese salts of alkylene bisdithiocarbamic acids and the products thereof. 2,974,156, 3-7-61, Cl. 260—429.

Sochor, Joseph J.: *See*—
Femmer, Max E., Sochor, Kusnick, Nielsen, and Vinson. 2,974,306.

Societe Automata: *See*—
Schmid, Wolfgang. 2,973,695.

Societe Bertin et Cie (Societe a Responsabilite Limitee): *See*—
Bertin, Jean H. 2,973,825.

Societe Nouvelle de Metallisation: *See*—
Hedde, André F. 2,973,892.

Sodeco Societe des Compteurs de Geneve: *See*—
Hegner, Max. 2,973,899.

Sonoco Products Co.: *See*—
Biggs, William A., Jr. and Robertson. 2,974,081.

Southern Clays, Inc.: *See*—
Beamesdorfer, John W., and Morris. 2,974,054.

Space Technology Laboratories, Inc.: *See*—
Marrison, Warren A. 2,974,248.

Spalding, Wilhelm: *See*—
Herlach, Friedrich, Linder, and Spalding. 2,973,694.

Specialties, Inc.: *See*—
Roderick, Robert L., and Gwathmey. 2,973,643.

Speers, Stewart W., to American Viscose Corp. Apparatus for finishing textiles. 2,973,635, 3-7-61, Cl. 68—5.

Spencer, Frederick J.: *See*—
Elting, Donald N., and Spencer. 2,973,982.

Sperry Gyroscope Co. Ltd., The: *See*—
Glenny, Arthur P. 2,973,650.

Sperry Rand Corp.: *See*—
Da Ros, Dino A. 2,974,297.
Depp, Marlin C. 2,974,264.
Miller, Harry, and Parker. 2,973,927.
Smith, Harry J., and Wing. 2,973,647.
Swarts, Richard E., and Tiblin. 2,973,651.
Zeigler, Edgar L., and Tseng. 2,973,649.

Sperry Rand Corp., Ford Instrument Co., Division: *See*—
Kaplan, Sidney J., Bomzer, Smith, and Gold. 2,973,587.

Sprague, Frank. Sequence controller for valves. 2,973,782, 3-7-61, Cl. 137—627.5.

Sprouse, Lowell E.: *See*—
Sprouse, Verner E. and L. E. 2,973,831.

Sprouse, Verner E. and L. E. Filter frame. 2,973,831, 3-7-61, Cl. 183—51.

Squire, Gordon P. J., to Henry Squire & Sons Ltd. Hasps. 2,973,987, 3-7-61, Cl. 292—281.
Squire, Henry, & Sons Ltd.: *See*—
Squire, Gordon P. J. 2,973,987.
Sramek, Elmer D.: *See*—
Engleson, Harry E., and Sramek. 2,973,611.
Staatsbedrijf der Posterijen Telegrafie en Telefonie: *See*—
Wagter, Sjirk. 2,973,721.
Staley, A. E., Mfg. Co.: *See*—
Ferguson, Carl S. 2,973,885.
Stamicarbon N.V.: *See*—
Fontein, Freerk J. 2,974,068.
Standard Machine & Mfg. Co.: *See*—
Deutsch, Carl J. 2,973,718.
Standard Oil Co. (Indiana): *See*—
Gordon, Moses, and Kerns. 2,974,005.
Standard Oil Co., (Ohio), The: *See*—
Callahan, James L. 2,974,110.
Grimes, William W., Mills, and Wishart. 2,973,645.
Standard-Vacuum Oil Co.: *See*—
Stolle, Donald E., and Cross. 2,973,563.
Stannett, Vivian T.: *See*—
Grove, Cornelius S., Jr., Grillot, and Stannett. 2,974,124.
Star Precision Devices, Inc.: *See*—
Bell, Lewis W. 2,973,520.
Maynard, Richard H., and Bell. 2,973,527.
State of Iowa, for the use and benefit of the State University of Iowa, The: *See*—
Collins, Alfred P. 2,974,062.
Statts, Louis T., Jr.: *See*—
Downing, Richard M., Statts, and Wyeth. 2,973,552.
Stauffer Chemical Co.: *See*—
Bashour, Joseph T., Bikofsky, and Haimsohn. 2,974,009.
Steckler, Robert, and F. J. Prescott, to General Aniline & Film Corp. Film forming composition containing polyvinylacetate and polyvinyl isobutyl ether. 2,974,114, 3-7-61, Cl. 260—29.6.
Steel Heddle Mfg. Co.: *See*—
Kaufmann, John J. 2,973,786.
Steichele, Elisabeth: *See*—
Deventer, Max, and Wagner. 2,974,039.
Steinberg, Howard: *See*—
Brotherton, Robert J., Steinberg, and McCloskey. 2,974,165.
Steinen, William F. Nozzle mounting adapter for in line pipe and tube installations. 2,973,976, 3-7-61, Cl. 285—197.
Steiner, Harry, to Corde De Parie Corset Co., Inc. Brassiere construction. 2,973,764, 3-7-61, Cl. 128—476.
Stempel, Arthur: *See*—
Aeschlimann, John A., and Stempel. 2,974,166.
Stenhardt, Carl M. E.: *See*—
Rydbeck, Olof E. H., and Stenhardt. 2,974,295.
Stents, Blair E., to The Swartzbaugh Mfg. Co. Power wheel unit. 2,973,823, 3-7-61, Cl. 180—11.
Stephens, Charles R., Jr., to Chas. Pfizer & Co., Inc. Active derivatives of the tetracycline antibiotics. 2,974,167, 3-7-61, Cl. 260—559.
Sternberg, Herbert B., to Auto Facts Systems, Inc. Vehicle identification system. 2,973,596, 3-7-61, Cl. 40—2.2.
Sterner, Melvin F., to Holley Carburetor Co. Carburetor fuel bowl transfer tube. 2,973,947, 3-7-61, Cl. 261—23.
Stetzer, Raymond: *See*—
Alexander, Everett, Greif, Jass, and Stetzer. 2,974,089.
Stihl, Andreas. Rotatable earth borer. 2,973,821, 3-7-61, Cl. 175—388.
Stimler, Morton, to United States of America, Navy. Remote control switching circuit. 2,974,260, 3-7-61, Cl. 317—137.
Stockton, Thomas R., to Ford Motor Co. Overrunning coupling. 2,973,847, 3-7-61, Cl. 192—45.
Stolk, William, to Machine Tool Electric Corp. Electromagnetic method of sheet feed control and control devices. 2,973,959, 3-7-61, Cl. 271—18.
Stolle, Anthony D.: *See*—
Gallagher, William P., Stolle, and Schroeder. 2,973,659.
Stolle, Anthony D., and R. B. Ellis, to International Register Co. Switch blade and mounting therefor. 2,974,212, 3-7-61, Cl. 200—166.
Stolle, Donald E., and N. O. Cross; said Stolle assor. to Standard-Vacuum Oil Co., and said Cross assor. to Esso Research and Engineering Co. Tube calipering device. 2,973,583, 3-7-61, Cl. 33—178.
Stovall, Kenenth L. Pipe coupling having a pair of clamping members with sharp tube biting means. 2,973,977, 3-7-61, Cl. 285—337.
Straat, Harold W., to Bausch & Lomb Optical Co. Refractometer. 2,973,685, 3-7-61, Cl. 88—14.
Stratford, Brian S.: *See*—
Davidson, Ivor M., and Stratford. 2,973,922.
Stratton, Edward B., Jr., to Nathional Cleveland Corp. Method for deep-draw vacuum forming. 2,973,558, 3-7-61, Cl. 18—56.
Stringfellow, George S.: *See*—
Guidal, Ronald A., and Stringfellow. 2,974,316.
Stroh, Walter J.: *See*—
Cotsworth, Albert, III, and Stroh. 2,974,191.
Stubnits Greene Corp.: *See*—
Rowan, Clyde F. 2,973,805.
Suchow, Lawrence, to Francis Earle Laboratories, Inc. Light-stable bismuth oxychloride nacreous pigment and method of preparing same. 2,974,053, 3-7-61, Cl. 106—187.
Sullivan, Timothy J., to Sullivan Valve and Engineering Co. Two-stage single diaphragm valve. 2,973,935, 3-7-61, Cl. 251—30.
Sullivan Valve and Engineering Co.: *See*—
Sullivan, Timothy J. 2,973,935.
Sundt, Edward V., to Sundt Engineering Co. Time delay fuse. 2,974,208, 3-7-61, Cl. 200—131.
Sundt Engineering Co.: *See*—
Sundt, Edward V. 2,974,208.
Superior Oil Co., The: *See*—
Davis, Robert L. 2,974,276.
Supitilov, Michael C., to Du Kane Corp. Transducer. 2,974,204, 3-7-61, Cl. 179—115.5.
Süs, Oskar, and M. Glos, to Keuffel & Esser Co. Diazotype reproduction process. 2,974,042, 3-7-61, Cl. 96—49.
Svensjö, Nils E.: *See*—
Hagerman, Tor H., Morfeldt, and Svensjö. 2,973,820.
Swartz, Richard E., and B. V. Tiblin, to Sperry Rand Corp. Erection cutoff apparatus. 2,973,651, 3-7-61, Cl. 74—5.41.
Swartzbaugh Mfg. Co., The: *See*—
Stents, Blair E. 2,973,823.
Sylvania Electric Products Inc.: *See*—
Feinberg, Irving, and Avakain. 2,973,569.
Sylvester, John D., to Amsco Packaging Machinery, Inc. Apparatus for maintaining the orientation of stacked bags. 2,973,797, 3-7-61, Cl. 154—1.
Symington Wayne Corp.: *See*—
Cope, Geoffrey W. 2,973,873.
Sanycer, Bernard W., to Omega Aircraft Corp. Selective adjustment control mechanism. 2,973,661, 3-7-61, Cl. 74—471.
Sanycer, Bernard W., to Omega Aircraft Corp. Pitch control mechanism for helicopter rotors. 2,973,815, 3-7-61, Cl. 170—160.25.
Sanycer, Bernard W., to Omega Aircraft Corp. Helicopter construction. 2,973,923, 3-7-61, Cl. 244—17.11.
Tabenkin, Benjamin: *See*—
Farrow, Wendall M., and Tabenkin. 2,974,044.
Taniguchi, Fumio. Electrical appliance and support means therefor. 2,974,214, 3-7-61, Cl. 219—43.
Taylor, Frank F., Co., The: *See*—
Gill, Donald W. 2,973,804.
Telefonaktiebolaget L M Ericsson: *See*—
Scheftelowitz, Henry. 2,974,282.
Telfer, Walds B.: *See*—
Simpson, Arthur W. 2,973,537.
Terry, Victor J.: *See*—
Wright, Esmond P. G., and Terry. 2,974,197.
Texaco Inc.: *See*—
Goff, William H. 2,974,103.
Thall, Earle S. Electrical shock absorbing system. 2,973,969, 3-7-61, Cl. 280—124.
Theurer, *Josef*: *See*—
Plasser, Franz, and Theurer. 2,973,719.
Thevenaz, Jean, to Paillard S.A. Mechanism for driving a spool of a cinematographic projector. 2,973,913, 3-7-61, Cl. 242—55.14.
Thielemann, Rudolf H., to Sierra Metals Corp. High temperature cobalt-base alloy. 2,974,036, 3-7-61, Cl. 75—171.
Thielemann, Rudolf H., to Sierra Metals Corp. High temperature cobalt base alloy. 2,974,037, 3-7-61, Cl. 75—171.
Thoma, Fritz, to Kieninger & Obergfell. Electric clock. 2,974,265, 3-7-61, Cl. 318—132.
Thomas, Arthur H., Co.: *See*—
McNeilly, Joseph A. 2,974,018.
Thomas & Betts Co., The: *See*—
Curtiss, Lawrence M. 2,974,185.
Thomas, Louis G. L., to C. H. Wheeler Mfg. Co. Sound-dampening pump. 2,973,716, 3-7-61, Cl. 103—114.
Thompson, Ralph B.: *See*—
Cyba, Henry A., and Thompson. 2,974,023.
Thompson Ramo Wooldridge Inc.: *See*—
Achor, William E., and Booth. 2,974,213.
Guth, Fred H., and Blake. 2,974,235.
Guth, Fred H., and Majercak. 2,974,271.
Sampietro, Achilles C. 2,973,753.
Thomson, Mary G. Combination dispenser and cleaner apparatus. 2,973,538, 3-7-61, Cl. 15—136.
Thornbery, James M., to Controls Co. of America. Timer. 2,973,672, 3-7-61, Cl. 74—813.
Thouret, Wolfgang E., to Duro-Test Corp. Xenon short arc lamps. 2,974,240, 3-7-61, Cl. 313—113.
Thumim, Carl, to Miehle-Goss-Dexter, Inc. Safety pull bar for paper cutting machines. 2,973,852, 3-7-61, Cl. 192—150.
Thurlby, Leslie T.: *See*—
Bennett, Arthur J., and Thurlby. 2,974,314.
Thwaites, George P., and H. Downing, to International Standard Electric Corp. Method of winding grid electrodes. 2,973,787, 3-7-61, Cl. 140—71.5.
Tiblin, Bert V.: *See*—
Swarts, Richard E., and Tiblin. 2,973,651.
Titanium Metals Corp. of America: *See*—
Krieger, Robert J. 2,974,033.
Titeflex, Inc.: *See*—
Ramberg, Einar M., and La Rose. 2,973,975.
Toro Mfg. Corp.: *See*—
Horner, Herbert F., Kroll, and Benson. 2,973,614.
Torre, Pier L., ½ to Innocenti Soc. Gen. per l'Industrie Metallurgica e Meccanica. Two-stroke internal combustion engine. 2,973,752, 3-7-61, Cl. 123—59.
Townsend, Francis L., to Crane Packing Co. Pressure seal. 2,973,983, 3-7-61, Cl. 288—16.
Treiber, Kenneth L. Snow saw and separation layer. 2,973,948, 3-7-61, Cl. 262—1.
Tress, Richard L.: *See*—
Laneve, Arthur L., Nash, and Tress. 2,973,858.
Trible, Winthrop, to The Cincinnati Milling Machine Co. Process of construction of machine tools. 2,974,080, 3-7-61, Cl. 154—129.
Trico Products Corp.: *See*—
Horton, Erwin C. 2,973,542.
Oishei, John R. 2,973,714.
Trozell, John N., Jr., to Cameron Iron Works, Inc. Pressure relief valve. 2,973,777, 3-7-61, Cl. 137—467.
Truscheit, Ernst: *See*—
Eiter, Karl, and Truscheit. 2,974,155.

Tseng, Paul P.: *See*—
Ziegler, Edgar L., and Tseng. 2,973,649.
Tucker, Ray, to Robert G. Evans Co. Concrete sawing machine having stabilizing wheels. 2,973,950, 3-7-61, Cl. 262—20.
Tung-Sol Electric Inc.: *See*—
Atkins, Carl E. 2,974,292.
Minowitz, Wilbert. 2,974,232.
Skellett, Albert M. 2,974,245.
Turbo Research Corp.: *See*—
Kimball, John G., Willens, Oswalt, and O'Neill. 2,973,894.
Turner, Dorothy H.: *See*—
Wilson, Lewis P., and Turner. 2,974,031.
Turner, Frederick T., to C.I.C. Engineering Ltd. Apparatus for use in the manufacture of vulcanised footwear. 2,973,553, 3-7-61, Cl. 18—17.
Turner, John D.: *See*—
Pennington, Philip B., and Turner. 2,973,687.
Turner, Robert L.: *See*—
Wilson, Lewis P., and Turner. 2,974,031.
Turolla, Pino G. Parachute construction. 2,973,928, 3-7-61, Cl. 244—152.
Tutwiler, Thomas S.: *See*—
Ertelt, Henry R., Perlowski, and Tutwiler. 2,974,025.
Tylle, John A. Food container. 2,973,756, 3-7-61, Cl. 126—266.
Udic Societe Anonyme: *See*—
Ancel, Alfons. 2,974,067.
Udstad, Sigvald F., to ACF Industries Inc. Vehicle with centering device. 2,973,722, 3-7-61, Cl. 105—171.
Ule, Louis A., to Gilfillan Bros., Inc. Apparatus for automatic gain control. 2,974,224, 3-7-61, Cl. 250—20.
Union Carbide Corp.: *See*—
Adams, George M. 2,974,057.
Jex, Victor R. 2,974,157.
Lanham, William M. 2,974,158.
Litz, Lawrence M. 2,974,013.
Oliver, John P. 2,974,098.
Union Mfg. Co.: *See*—
Hartley, James C. 2,973,956.
Union Oil Co. of California: *See*—
Fleck, Raymond N., and Wight. 2,974,179.
Union Pacific Railroad Co.: *See*—
Miller, Donald E., and Frank. 2,973,724.
Union Special Machine Co.: *See*—
Hayes Robert A. 2,973,732.
Schweda, Albert M., and Neill. 2,973,730.
United Aircraft Corp.: *See*—
Newton, Norman B. 2,973,745.
United-Carr Fastener Corp.: *See*—
Murphy, Howard J. 2,973,565.
United Findings Co., Inc.: *See*—
Bellavance, Harold P. 2,973,634.
United States Borax & Chemical Corp.: *See*—
Brotherton, Robert J., Steinberg, and McCloskey. 2,974,165.
U.S. Industries, Inc.: *See*—
Baranski, Bernard R. 2,973,657.
United States National Bank of Portland, Oregon, Trustee: *See*—
Smith, Walter G. E. 2,973,930.
United States of America
Agriculture: *See*—
Berosa, Morton, and Alexander. 2,974,086.
Hedrick, Glen W. 2,974,002.
Koenig, Nathan H. 2,974,003.
Air Force: *See*—
Jupa, Edward C. 2,973,746.
Moore, Dwight G. 2,974,051.
Army: *See*—
Altschuler, Samuel. 2,973,692.
Borowik, Albert. 2,974,021.
Colby, Richard H. 2,973,693.
Langberg, Edwin. 2,974,223.
Loebner, Egon E. 2,974,233.
Atomic Energy Commission: *See*—
Auxier, John A., Hurst, and Zedler. 2,974,248.
Bureau, Alfred J. 2,974,251.
Coopersteln, Raymond, and Anderson. 2,974,012.
Fry, Otto E. 2,974,006.
Paul, Ronald S. 2,974,096.
Interior: *See*—
Mather, Richard J. 2,974,184.
Navy: *See*—
Cook, Harold G. 2,973,833.
Haviland, Thomas J. 2,974,275.
McGowan, Richard J., Jr. 2,973,521.
Schuert, Edward A. 2,973,579.
Stimler, Morton. 2,974,260.
United States Rubber Co.: *See*—
Newby, Thomas H., and Hunter. 2,974,169.
United States Steel Corp.: *See*—
De Walt, Curtis W., Jr., and Sheppard. 2,974,162.
Neish, Richard A. 2,974,091.
Universal Oil Products Co.: *See*—
Cyba, Henry A. 2,974,024.
Cyba, Henry A., and Thompson. 2,974,023.
Kassel, Louis S. 2,974,020.
Luvisi, John P. 2,974,172.
Nixon, William G. 2,974,111.
Pollitzer, Ernest L. 2,974,184.
Schmerling, Louis. 2,974,149.
Vail, Robert St. P., to Cabot Corp. Process and apparatus for fractionating solid materials. 2,973,862, 3-7-61, Cl. 209—136.
Van Andel, John R.: *See*—
Einhorn, Sidney N., and Van Andel. 2,973,902.
Van der Lely, Ary: *See*—
Van der Lely, Cornelius, and A. 2,973,616.
Van der Lely, C., N.V.: *See*—
Van der Lely, Cornelis, and A. 2,973,816.
Van der Lely, Cornelius, and A., to C. van der Lely, N.V. Beet harvesting machines. 2,973,816, 3-7-61, Cl. 171—58.
Van Dongeren, Bernhard J., to American Enka Corp. Process for cleaning spinnerets. 2,974,070, 3-7-61, Cl. 139—1.
Van Dresser Specialty Corp.: *See*—
Reed, Clair S. 2,973,788.
Van Duuren, Hendrik C. A., to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie. Method and apparatus for preventing distortion during transmission in telegraph signals consisting of elements of equal duration. 2,974,196, 3-7-61, Cl. 178—50.
Van Huellen, Alfred: *See*—
Huetter, Will. 2,973,790.
Van Huellen, Herbert: *See*—
Huetter, Will. 2,973,790.
Van Huis, Robert L., and E. F. Bares, to Automatic Poultry Feeder Co. Notched leg support. 2,973,932, 3-7-61, Cl. 248—125.
Vanicek, Jaroslav: *See*—
Haveika, Karel, Koran, Vanicek, and Ziegler. 2,974,239.
Van Nieuwenhuysen, Leendert J., to Duintjer Wilkens Meihuizen & Co., N.V. Preparation of gelatinised starches. 2,974,069, 3-7-61, Cl. 127—71.
Van Pool, Joe, to Phillips Petroleum Co. Fractionator reboiler operation and method of using same. 2,974,182, 3-7-61, Cl. 260—683.42.
Van Tongerloo, Frans, to North American Philips Co., Inc. Magnetic memory device and magnetic circuit therefor. 2,974,308, 3-7-61, Cl. 340—174.
Varian Associates: *See*—
Jepsen, Robert L. 2,974,253.
Vaughan, Leland M.: *See*—
Grinnell, Stuart W., Perkins, and Vaughan. 2,973,642.
Venus Foundation Garments, Inc.: *See*—
Diebold, George L. 2,973,765.
Vereinigte Glanzstoff-Fabriken A.G.: *See*—
Macura, Karl, and Siggel. 2,974,066.
Versnel, John: *See*—
Parker, John A., Ready, and Versnel. 2,974,116.
Vinson, Thomas L.: *See*—
Femmer, Max E., Sochor, Kusnick, Nielsen, and Vinson. 2,974,306.
Virginia-Carolina Chemical Corp.: *See*—
Horton, John P., and Whitehurst. 2,974,016.
Vodar, Boris: *See*—
Romand, Jacques L., and Vodar. 2,974,256.
Vogel, Charles B., and D. Weiser, to Shell Oil Co. Method and apparatus for investigating earth formations. 2,974,273, 3-7-61, Cl. 324—1.
Vogt, Jakob F. J., and J. H. Latzen, to A. Ehrenreich & Cie. Ball joint, especially for the steering suspension of motor vehicles. 2,973,980, 3-7-61, Cl. 287—87.
Von Den Baumen, Arnold G. R., to Hollan-Electro C.V. Detachable junction between the ends of two suction cleaner tubes. 2,973,972, 3-7-61, Cl. 285—7.
Vordahl, Milton B., to Crucible Steel Co. of America. Mixed phase, alpha-beta titanium alloys and method for making same. 2,974,076, 3-7-61, Cl. 148—2.7.
Voss, Leon P. Manure loader. 2,973,876, 3-7-61, Cl. 214—654.
Votaw, Clarence J.: *See*—
Barrett, Edward E., Kolensky, and Votaw. 2,974,187.
Wagner Folding Box Corp.: *See*—
Cohen, Manuel. 2,973,860.
Wagner, Richard F. P.: *See*—
Deventer, Max, and Wagner. 2,974,039.
Wagter, Sjirk, to Staatsbedrijf der Posterijen Telegrafie en Telefonie. Conveyor system. 2,973,721, 3-7-61, Cl. 104—172.
Wain-Roy Corp.: *See*—
Holopainen, Vaino J. 2,973,874.
Wales, Donald A., to Maico Electronics, Inc. Magnetic field sensing device. 2,974,277, 3-7-61, Cl. 324—43.
Walker, Harry E. Mechanism for orienting fish. 2,973,548, 3-7-61, Cl. 17—2.
Warner, Paul F., and J. D. Maxwell, to Phillips Petroleum Co. Dimerization of conjugated dienes. 2,974,176, 3-7-61, Cl. 260—666.
Warner, Paul F., and D. P. Sims, to Phillips Petroleum Co. Separation of a drying oil and pure cyclopentene from a mixture of piperylene and cyclopentene by polymerization. 2,974,177, 3-7-61, Cl. 260—666.
Waters Mfg., Inc.: *See*—
Bartell, William W., Ayoub, Houghton, and Clayton. 2,974,300.
Watts, Rhea N., and R. B. Mason, to Esso Research and Engineering Co. Process of producing alcohol of improved odor from ether hydration. 2,974,175, 3-7-61, Cl. 260—632.
Webcor, Inc.: *See*—
Bara, Edwin S. 2,973,966.
Weber, H. G., and Co., Inc.: *See*—
Beninger, Robert L., and Jacobsen. 2,973,914.
Webster Instrument, Inc.: *See*—
Webster, Robert A. 2,973,641.
Webster, Robert A., to Webster Instrument, Inc. Force measuring apparatus. 2,973,641, 3-7-61, Cl. 73—141.
Weier, Jacob J. Traction devices. 2,973,995, 3-7-61, Cl. 305—13.
Weinberger, Jan Viteslav. Device for monitoring the continuity of yarns, rovings and the like. 2,973,617, 3-7-61, Cl. 57—86.
Weiser, Daniel: *See*—
Vogel, Charles B., and Weiser. 2,974,273.

Wells, Richard H., to Westinghouse Air Brake Co. Anti-skid control. 2,973,994, 3–7–61, Cl. 303—24.

Welsh Mfg. Co.: *See*—
Lindblom, Frank W. 2,973,690.

Wenner, Wilhelm: *See*—
Schmidt, Robert A., and Wenner. 2,974,143.

Werner, Johannes, to H. T. Golde, G.m.b.H. & Co. K.G. Slidable roof structure for vehicles. 2,973,990, 3–7–61, Cl. 296—137.

Werner, Johannes, to H. T. Golde, G.m.b.H. & Co. K.G. Control device. 2,973,991, 3–7–61, Cl. 296—137.

Wernersbach, James F.: *See*—
Dunkel, Walter L., Ernst, and Wernersbach. 2,974,117.

West, John R.: *See*—
Peoples, Virgil H., and West. 2,973,884.

Western Electric Co., Inc.: *See*—
Franke, Edward L., Jr. 2,973,533.
Rayburn, Vincent A. 2,973,911.
Wilburn, Julian E. 2,973,912.

Westfalia Dinnendahl Groppel Aktiengesellschaft: *See*—
Jager, Heniz. 2,973,881.

Westinghouse Air Brake Co.: *See*—
Kendig, Robert M. 2,973,717.
McClure, Glenn T., and Hursen. 2,973,841.
Newell, George K. 2,973,840.
Wells, Richard H. 2,973,994.

Westinghouse Electric Corp.: *See*—
Husby, Donald E. 2,974,219.
Lackey, Robert S., and Meess. 2,973,627.

Wetzler, Justin J., to The Englander Co., Inc. Mattress structure. 2,973,526, 3–7–61, Cl. 5—345.

Wheeler, C. H., Mfg. Co.: *See*—
Thomas, Louis G. L. 2,973,716.

Whitcomb, Charles D.: *See*—
Carroll, John L., and Whitcomb. 2,973,578.

Whitehouse, Glenroy D., and J. O. Cooke, to English Steel Corp. Ltd. Automatic couplers for rail vehicles. 2,973,873, 3–7–61, Cl. 213—166.

Whitehouse Reinforced Plastics Co.: *See*—
Ladewig, Roland E. 2,973,738.

Whitehurst, Brooks M.: *See*—
Horton, John P., and Whitehurst. 2,974,016.

Whitney, William G., to McGraw-Edison Co. Transversal-phonographic machines. 2,973,965, 3–7–61, Cl. 274—4.

Wibert, Egon, and R. Hartwimmer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Catalyst of heavy metal compounds and polysiloxane and use thereof in olefin polymerization. 2,974,133, 3–7–61, Cl. 260—94.9.

Wiele, Robert F., to Lockheed Aircraft Corp. Aerodynamically automatic airfoil slat mechanism. 2,973,925, 3–7–61, Cl. 244—42.

Wiener, Jerome B., to The Magnavox Co. Card processing system. 2,974,307, 3–7–61, Cl. 340—172.5.

Wiesner, Max: *See*—
Schmidt, Hans R., and Wiesner. 2,974,229.

Wight, Carlyle G.: *See*—
Fleck, Raymond N., and Wight. 2,974,179.

Wilburn, Julian E., to Western Electric Co., Inc. Method of and apparatus for coiling filamentary materials. 2,973,912, 3–7–61, Cl. 242—25.

Wilkinson Sword Ltd.: *See*—
Bennett, Arthur J., and Thuriby. 2,974,314.

Willens, Daniel: *See*—
Kimball, John G., Willens, Oswalt, and O'Neill. 2,973,894.

Williams, Earl P.: *See*—
Mayhew, Raymond L., and Williams. 2,974,084.

Williams, Forrest V., R. A. Ruehrwein, and T. Moeller to Monsanto Chemical Co. Process for the production of boron phosphide. 2,974,064, 3–7–61, Cl. 117—106.

Williams, John H., to Oak Mfg. Co. Push rod mechanism. 2,973,663, 3–7–61, Cl. 74—483.

Williams, John H., to Oak Mfg. Co. Push rod mechanism. 2,973,664, 3–7–61, Cl. 74—483.

Williams, John H., to Oak Mfg. Co. Index mechanism. 2,973,667, 3–7–61, Cl. 74—565.

Williams, Virgil C., to Projex Engineering Corp. Hydrate forming saline water conversion process. 2,974,102, 3–7–61, Cl. 210—59.

Willis, William, P. J. C. Gough, and B. V. Davis, to Bristol Siddeley Engines Ltd. Welding machine. 2,974,218, 3–7–61, Cl. 219—125.

Wilson, Harold S., to The Bendix Corp. Combined automatic adjustor and retraction means. 2,973,837, 3–7–61, Cl. 188—73.

Wilson, Lewis P., and R. L. Turner, deceased (by D. H. Turner, executrix), to Olin Mathieson Chemical Corp. Manufacture of iron shot. 2,974,031, 3–7–61, Cl. 75—.5.

Windbichler, Victor, and H. F. Gobel, to Kalle Aktiengesellschaft. Process and compositions for enzymatic desizing and bleaching of textiles. 2,974,001, 3–7–61, Cl. 8—108.

Wing, Willis G.: *See*—
Smith, Harry J., and Wing. 2,973,647.

Winslow Mfg. Co.: *See*—
Price, Leo. 2,973,582.

Wisconsin Alumni Research Foundation: *See*—
Neeman, Moshe. 2,974,083.

Wishart, James S.: *See*—
Grimes, William W., Mills, and Wishart. 2,973,645.

Witham, Robert E., to Fox Products Co. Watering valve with spring operated latch. 2,973,775, 3–7–61, Cl. 137—408.

Wolf, Philip C., to General Electric Co. Cooling structure. 2,973,937, 3–7–61, Cl. 253—39.15.

Wolff, Oswald: *See*—
Jacobi, Bernhard, and Wolff. 2,974,132.

Worth, Maurice W.: *See*—
Mays, Samuel R., and Worth. 2,973,784.

Worthington Corp.: *See*—
Ewing, R. Ines. 2,973,654.

Wright, Charles E.: *See*—
Kennon, John B. 2,974,278.

Wright, Esmond P. G., to International Standard Electric Corp. Accounting systems. 2,973,900, 3–7–61, Cl. 235—153.

Wright, Esmond P. G., and V. J. Terry, to International Standard Electric Corp. Synchronising arrangement for a regenerative telegraphic repeater utilising signal transitions. 2,974,197, 3–7–61, Cl. 178—70.

Wright, James R.: *See*—
Mertens, Edward W., and Wright. 2,974,107.

Wukowitz, Edward. Holder for different layers of cake. 2,973,871, 3–7–61, Cl. 211—134.

Wyeth, Nathaniel C.: *See*—
Downing, Richard M., Staats, and Wyeth. 2,973,552.

Wyman, Edwin T. Tire valve. 2,973,795, 3–7–61, Cl. 152—427.

Yamura, Teiji: *See*—
Yamura, Tsuneharu, and Fujio. 2,974,193.

Yamura, Tsuneharu, and B. Fujio, to T. Yamura. Telegraphic apparatus. 2,974,193, 3–7–61, Cl. 178—25.

Yaremchuk, Bernie V.: *See*—
Yaremchuk, John and B. V. 2,973,615.

Yaremchuk, John and B. V. Lawn mower with weed sprayer. 2,973,615, 3–7–61, Cl. 56—25.4.

Yoder Co., The: *See*—
Bognar, Charles J. 2,973,662.

Youngbeck, Karl W., C. R. Goerg, and D. K. Schuette, to Globe-Union Inc. Miniature variable resistance device. 2,974,299, 3–7–61, Cl. 338—163.

Yu, Richard T.: *See*—
Paulding, Herbert L., and Yu. 2,973,897.

Zavody V.I. Lenina Plzen, narodni podnik: *See*—
Havelka, Karel, Koran, Vanicek, and Ziegler. 2,974,239.

Zawadski, Antoni. Fishing rod holder. 2,973,929, 3–7–61, Cl. 248—39.

Zedler, Richard E.: *See*—
Auxier, John A., Hurst, and Zedler. 2,974,248.

Zeigler, Edgar L., and P. P. Tseng, to Sperry Rand Corp. Structure and method for mounting a vertical gimbal. 2,973,640, 3–7–61, Cl. 74—5.

Zellner, Floyd L., and H. F. Green. Automatic controls for dirt moving machines. 2,973,593, 3–7–61, Cl. 37—144.

Zenith Radio Corp.: *See*—
Cotsworth, Albert, III, and Stroh. 2,974,191.
Morris, George V. 2,974,305.

Ziegler, Harry L.: *See*—
Smith, Earl R., and Ziegler. 2,974,077.

Ziegler, Miloslav: *See*—
Havelka, Karel, Koran, Vanicek, and Ziegler. 2,974,239.

Zimmermann, Frederick N. and W. E., to March Mfg. Co. Electrically operated display fountain. 2,973,904, 3–7–61, Cl. 239—23.

Zimmermann, Rolf: *See*—
Barteis, Ernst A., Brähler, Reese, and Zimmermann. 2,974,085.

Zimmermann, Willy E.: *See*—
Zimmermann, Frederick N. and W. E. 2,973,904.

Zion, Moses: *See*—
Digirolamo, John V. M., and Zion. 2,973,604.

Zito, Ralph, to American Machine & Foundry Co. Impact indicating system. 2,973,964, 3–7–61, Cl. 273—102.2.

CLASSIFICATION OF PATENTS

ISSUED MARCH 7, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 3: 2,973,519
47: 2,973,520
2— 2.1: 2,973,521
8: 2,973,522
46: 2,973,523
4— 187: 2,973,434
5— 181: 2,973,535
345: 2,973,526
7— 15: 2,973,527
8—94.23: 2,974,000
106: 2,974,001
123: 2,974,002
128: 2,974,003
10— 101: 2,973,528
12— 142: 2,973,529
2,973,530
2,973,531
15— 21: 2,973,532
2,973,533
74: 2,973,534
78: 2,973,535
93: 2,973,536
104.3: 2,973,537
179: 2,973,539
229: 2,973,540
250.15: 2,973,541
250.23: 2,973,542
312: 2,973,543
340: 2,973,544
607: 2,973,538
16— 42: 2,973,545
43: 2,973,546
129: 2,973,547
17— 2: 2,973,548
18— 2: 2,973,549
8: 2,973,550
12: 2,973,551
13: 2,973,552
17: 2,973,553
19: 2,973,554
20: 2,973,555
30: 2,973,556
34: 2,973,557
54: 2,974,004
2,974,005
56: 2,973,558
19— 50: 2,973,559
112: 2,973,560
20— 16: 2,973,561
22— 36: 2,973,562
113: 2,973,563
200: 2,973,564
23— 14.5: 2,974,006
21: 2,974,007
51: 2,974,008
87: 2,974,009
106: 2,974,010
183: 2,974,011
2,974,012
191: 2,973,013
202: 2,974,014
204: 2,974,015
223: 2,974,016
253: 2,974,017
2,974,018
256: 2,974,019
298: 2,974,020
24— 73: 2,973,565
116: 2,973,566
25— 131: 2,973,567
132: 2,973,568
29— 25.3: 2,973,569
182.5: 2,973,570
194: 2,973,571
203: 2,973,572
209: 2,973,573
30— 43: 2,973,574
68: 2,973,575
92: 2,973,576
272: 2,973,577
356: 2,973,578
33— 1: 2,973,579
125: 2,973,580
174: 2,973,581
2,973,582
178: 2,973,583
194: 2,973,584
212: 2,973,585
35— 8: 2,973,586
10.4: 2,973,587
35: 2,973,588
36— 3.5: 2,973,589
72: 2,973,590
37— 41: 2,973,591
144: 2,973,592
2,973,593
38— 17: 2,973,594
39— 74: 2,973,595
40— 2.2: 2,973,596
21: 2,973,597
37: 2,973,598
41— 42: 2,974,021
43— 17: 2,973,599
44— 56: 2,974,022
62: 2,974,023
2,974,024
2,974,025
45— 28: 2,973,600
2,973,601
60.1: 2,973,602
80: 2,973,603
46— 40: 2,973,604
47— 61: P.P.2,032
51— 118: 2,973,605
163: 2,973,606
52— .5: 2,974,026
2,974,027
2: 2,974,029
53— 54: 2,973,607
88: 2,973,608
112: 2,973,609
188: 2,973,610
206: 2,973,611
304: 2,973,612
56— 25.4: 2,973,613
2,973,614
2,973,615
256: 2,973,616
57— 58.2: Re.24,945
86: 2,973,617
58— 116: 2,973,619
140: 2,973,618
60— 23: 2,973,620
35.6: 2,973,621
39.51: 2,973,622
2,973,623
59.65: 2,973,624
62: 2,973,625
84: 2,973,626
62— 3: 2,973,627
94: 2,973,628
41: 2,973,629
139: 2,973,630
246: 2,973,631
496: 2,973,632
64— 11: 2,973,633
67— 7.1: 2,973,634
68— 5: 2,973,635
17: 2,973,636
53: 2,973,637
71— 3: 2,974,030
73— 35: 2,973,638
84: 2,973,639
134: 2,973,640
141: 2,973,641
170: 2,973,642
179: 2,973,643
308.3: 2,973,644
424: 2,973,645
427: 2,973,646
497: 2,973,647
74— 1: 2,973,648
5: 2,973,649
5.41: 2,973,651
5.6: 2,973,650
54: 2,973,652
117: 2,973,653
230.01: 2,973,654
230.17: 2,973,655
2,973,656
348: 2,973,657
368: 2,973,658
405: 2,973,659
424.5: 2,973,660
471: 2,973,661
472: 2,973,662
483: 2,973,663
2,973,664
531: 2,973,665
2,973,666
74— 565: 2,973,667
688: 2,973,668
752: 2,973,669
2,973,670
796: 2,973,671
813: 2,973,672
75— .5: 2,974,031
10: 2,974,032
2,974,033
20: 2,974,034
123: 2,974,035
171: 2,974,036
2,974,037
2,974,038
201: 2,974,039
202: 2,974,040
208: 2,974,041
77— 7: 2,973,673
63: 2,973,674
81— 17: 2,973,675
82.4: 2,973,676
71: 2,973,677
83— 98: 2,973,678
605: 2,973,679
84— 1.14: 2,973,680
1.25: 2,973,681
312: 2,973,682
88— 1: 2,973,683
14: 2,973,684
2,973,685
2,973,686
2,973,687
24: 2,973,688
28: 2,973,689
43: 2,973,690
89— 1.7: 2,973,691
33: 2,973,692
169: 2,973,693
198: 2,973,694
90— 13.5: 2,973,695
15: 2,973,696
93— 8: 2,973,697
96.01: 2,973,698
95— 10: 2,973,699
44: 2,973,700
53.6: 2,973,701
96— 49: 2,974,042
98— 1.5: 2,973,702
40: 2,973,703
42: 2,973,704
99— 4: 2,974,043
2,974,044
116: 2,974,045
162: 2,974,046
174: 2,974,047
234: 2,973,705
101— 11: 2,973,706
66: 2,973,707
95: 2,973,708
257: 2,973,709
415.1: 2,973,710
102— 42: 2,973,711
53: 2,973,712
70: 2,973,713
103— 5: 2,973,714
44: 2,973,715
114: 2,973,716
152: 2,973,717
202: 2,973,718
104— 12: 2,973,719
20: 2,973,720
172: 2,973,721
105— 171: 2,973,722
178: 2,973,723
269: 2,973,724
106— 38.5: 2,974,048
2,974,049
2,974,050
48: 2,974,051
52: 2,974,052
167: 2,974,053
288: 2,974,054
107— 1: 2,973,725
109— 34: 2,973,726
110— 28: 2,973,727
111— 6: 2,973,728
7: 2,973,729
112— 162: 2,973,730
2,973,731
168: 2,973,732
112— 226: 2,973,733
235: 2,973,734
113— 48: 2,973,735
116: 2,973,736
114— 98: 2,973,737
115— 41: 2,973,738
116— 137: 2,973,739
117— 4: 2,974,055
5: 2,974,056
12: 2,974,057
15: 2,974,058
21: 2,974,059
2,974,060
62: 2,974,061
76: 2,974,062
2,974,063
106: 2,974,064
119.8: 2,974,065
139.5: 2,974,066
118— 303: 2,973,740
119— 22: 2,973,741
48: 2,973,742
73: 2,973,743
121— 38: 2,973,744
42: 2,973,745
46.5: 2,973,746
2,973,747
48: 2,973,748
122— 22: 2,973,749
479: 2,973,750
123— 30: 2,973,751
80: 2,973,752
90: 2,973,753
179: 2,973,754
125— 11: 2,973,755
126— 266: 2,973,756
127— 37: 2,974,087
67: 2,974,088
71: 2,974,089
128— 80: 2,973,757
272: 2,973,758
283: 2,973,759
287: 2,973,760
346: 2,973,761
399: 2,973,762
476: 2,973,763
2,973,764
541: 2,973,765
131— 235: 2,973,766
132— 84: 2,973,767
133— 8: 2,973,768
134— 1: 2,974,070
21: 2,974,071
58: 2,973,769
122: 2,973,770
137— 57: 2,973,771
62: 2,973,772
209: 2,973,773
382: 2,973,774
408: 2,973,775
467: 2,973,776
2,973,777
501: 2,973,778
512.1: 2,973,779
517: 2,973,780
553: 2,973,781
627.5: 2,973,782
138— 55: 2,973,783
139— 39: 2,973,784
46: 2,973,785
92: 2,973,786
140— 71.5: 2,973,787
92.94: 2,973,788
143— 36: 2,973,789
144— 281: 2,973,790
288: 2,973,791
303: 2,973,792
327: 2,973,793
148— 1.5: 2,974,072
2,974,073
2,974,074
5.3: 2,974,075
12.7: 2,974,076
150— 52: 2,973,794
152— 427: 2,973,795
153— 4: 2,973,796
154— 1: 2,973,797
1.6: 2,973,798
2.7: 2,974,077
184— 14: 2,973,799
17: 2,973,800
42: 2,973,801
42.1: 2,973,802
43: 2,974,078
2,974,079
129: 2,974,080
155— 124: 2,973,803
147: 2,973,804
179: 2,973,805
182: 2,973,806
194: 2,973,807
158— 1: 2,973,808
160— 206: 2,973,809
162— 33: 2,974,081
164— 111: 2,973,810
166— 4: 2,973,811
11: 2,973,812
2,973,813
228: 2,973,814
167— 22: 2,974,082
30: 2,974,083
33: 2,974,084
2,974,085
48: 2,974,086
53.1: 2,974,087
74: 2,974,088
90: 2,974,089
170–160.25: 2,973,815
171— 58: 2,973,816
172— 239: 2,973,817
456: 2,973,818
600: 2,973,819
174— 55: 2,974,183
40: 2,974,184
51: 2,974,185
159: 2,974,186
175— 306: 2,973,820
2,973,821
178— 3: 2,974,187
5: 2,974,188
5.4: 2,974,189
7.1: 2,974,190
7.3: 2,974,191
7.8: 2,974,192
25: 2,974,193
27: 2,974,194
43.5: 2,974,195
50: 2,974,196
70: 2,974,197
179— 1: 2,974,198
5.3: 2,974,199
17: 2,974,200
22: 2,974,201
100.41: 2,974,202
110: 2,974,203
115.5: 2,974,204
180— 9.5: 2,973,822
11: 2,973,823
181— 31: 2,973,824
43: 2,973,825
182— 91: 2,973,826
183— 2.5: 2,973,827
4: 2,973,828
17: 2,973,829
45: 2,973,830
51: 2,973,831
71: 2,973,832
2,973,833
120: 2,973,834
187— 9: 2,973,835
188— 72: 2,973,836
73: 2,973,837
82.2: 2,973,838
112: 2,973,839
196: 2,973,840
2,973,841
251: 2,973,842
264: 2,973,843
191— 25: 2,973,205
192— 3: 2,973,844
4: 2,973,845
22: 2,973,846
45: 2,973,847
50: 2,973,848
67: 2,973,849
84: 2,973,850
2,973,851
150: 2,973,852
197— 5.6: 2,973,853
198— 152: 2,973,854
213: 2,973,855
219: 2,973,856
200— 81.9: 2,974,206
90: 2,974,207
131: 2,974,208
139: 2,974,209
142: 2,974,210
152: 2,974,211
166: 2,974,212
182: 2,974,213
234: 2,974,214
654: 2,973,575
658: 2,973,576
730: 2,973,577
219— 7.5: 2,974,213
43: 2,974,214
68: 2,974,215
69: 2,974,216
101: 2,974,217
125: 2,974,218
220— 20.5: 2,973,879
39: 2,973,880
60: 2,973,881
228: 2,973,882
222— 94: 2,973,883
177: 2,973,884
399: 2,973,885
556: 2,973,886
223— 88: 2,973,887
224— 9: 2,973,888
45: 2,973,889
225— 43: 2,973,890
89: 2,973,891
226— 130: 2,973,955
184: 2,973,892
196: 2,973,957
229— 34: Re.24,946
40: 2,973,893
230— 127: 2,973,894
235: 2,973,895
233— 19: 2,973,896
234— 3: 2,973,897
125: 2,973,810
235— 61: 2,973,898
92: 2,973,899
158: 2,973,900
160: 2,973,901
178: 2,973,902
236— 42: 2,973,903
238— 23: 2,973,904
123: 2,973,905
197: 2,973,906
261: 2,973,907
240— 25: 2,974,219
128: 2,974,220
241— 33: 2,973,908
186: 2,973,909
287: 2,973,910
242— 1: 2,973,911

343—	25:	2,973,912	282—	313:	2,974,108	260—	286:	2,974,143	267—	30:	2,973,951
	55.14:	2,973,913		448:	2,974,110		287:	2,974,144			2,973,952
	88:	2,973,914		456:	2,974,111		289:	2,974,145		63:	2,973,953
	77.2:	2,973,915	283—	39.15:	2,973,937		294.7:	2,974,146		65:	2,973,954
	84.2:	2,973,916			2,973,938		340.3:	2,974,147			2,973,955
		2,973,917	284—	97:	2,973,939		340.5:	2,974,148	269—	123:	2,973,956
	99:	2,973,918		124.2:	2,973,940		340.6:	2,974,149	271—	18:	2,973,959
	128:	2,973,919		186:	2,973,941		348.8:	2,974,150		74:	2,973,960
	130.2:	2,973,920		186:	2,973,942		997.4:	2,974,151	272—	30:	2,973,961
244—	12:	2,973,921	285—	21:	2,973,943		400:	2,974,152		67:	2,973,962
	15:	2,973,922	287—	248:	2,973,944		401:	2,974,153	273—	43:	2,973,963
	17.11:	2,973,923	289—	9:	2,973,945			2,974,154		102.2:	2,973,964
	17.25:	2,973,924		111:	2,973,946		405.5:	2,974,155	274—	4:	2,973,965
	42:	2,973,925	290—	22:	2,974,112		429:	2,974,156		10:	2,973,966
	77:	2,973,926		28.5:	2,974,113		445.8:	2,974,157		11:	2,973,967
		2,973,927		29.6:	2,974,114		461:	2,974,158	280—	104:	2,973,968
	152:	2,973,928		32.4:	2,974,115			2,974,159		124:	2,973,969
248—	39:	2,973,929		40:	2,974,116		465:	2,974,160		461:	2,973,970
	40:	2,973,930		41.5:	2,974,117		491:	2,974,161		478:	2,973,971
	120:	2,973,931		45.4:	2,974,118		515:	2,974,162	285—	7:	2,973,972
	125:	2,973,932		45.5:	2,974,119		544:	2,974,163		8:	2,973,973
	166:	2,973,933		45.8:	2,974,120		548:	2,974,164			2,973,974
	366:	2,973,934		47:	2,974,121		551:	2,974,165		149:	2,973,975
250—	6:	2,974,221			2,974,122		553:	2,974,166		197:	2,973,976
		2,974,222		63:	2,974,123		559:	2,974,167		337:	2,973,977
	30:	2,974,223		77.5:	2,974,124		570:	2,974,168	286—	26:	2,973,978
		2,974,224		80.6:	2,974,125		576:	2,974,169	287—82.05:		2,973,979
		2,974,225		80.7:	2,974,126		587:	2,974,170		87:	2,973,980
	43.5:	2,974,226		85.3:	2,974,127		591:	2,974,171		101:	2,973,981
		2,974,227			2,974,128		592:	2,974,172		114:	2,973,982
	66:	2,974,228		92.6:	2,974,129		604:	2,974,173	288—	16:	2,973,983
	69:	2,974,229		94.7:	2,974,130		631:	2,974,174	289—	31:	2,974,234
	83.3:	2,974,230		94.9:	2,974,131		632:	2,974,175		40:	2,974,235
		2,974,231			2,974,132		666:	2,974,176	292—	182:	2,973,984
	83.6:	2,974,232			2,974,133			2,974,177		304:	2,973,985
	213:	2,974,233		209:	2,974,134		674:	2,974,178		228:	2,973,986
261—	30:	2,973,935		223:	2,974,135		676:	2,974,179		281:	2,973,987
	205:	2,973,936		230.1:	2,974,136		679:	2,974,180	294—	15:	2,973,988
262—	40:	2,974,103		230.55:	2,974,138		683.42:	2,974,182		31.2:	2,973,989
	62.5:	2,974,104		230.7:	2,974,137		683.7:	2,974,181	296—	137:	2,973,990
	300:	2,974,105		243:	2,974,139	261—	23:	2,973,947			2,973,991
	311.5:	2,974,106		244:	2,974,140	262—	1:	2,973,948	301—	37:	2,973,992
		2,974,107		249.9:	2,974,141		9:	2,973,949	302—	59:	2,973,993
	313:	2,974,108		265:	2,974,142		20:	2,973,950	303—	24:	2,973,994

305—	13:	2,973,995	324—	29:	2,974,276						
307—	88.5:	2,974,236		43:	2,974,277						
		2,974,237		53:	2,974,278						
		2,974,238		62:	2,974,279						
308—	4:	2,973,996		68:	2,974,280						
	35.2:	2,973,997		77:	2,974,281						
310—	61:	2,974,239		99:	2,974,282						
	87:	2,974,240		144:	2,974,283						
	348:	2,974,241		150:	2,974,284						
	395:	2,974,242	329—	91:	2,974,285						
312—	333:	2,973,998		116:	2,974,286						
313—	46:	2,974,243	330—	138:	2,974,287						
	65:	2,974,244		10:	2,974,288						
	71:	2,974,245		69:	2,974,289						
	84:	2,974,246		70:	2,974,290						
	93:	2,974,247	331—	78:	2,974,291						
		2,974,248		145:	2,974,292						
	113:	2,974,249		149:	2,974,293						
	331:	2,974,250	332—	16:	2,974,294						
	345:	2,974,251		58:	2,974,295						
315—	3:	2,974,252	333—	72:	2,974,296						
	5.19:	2,974,253		98:	2,974,297						
	10:	2,974,254	338—	160:	2,974,298						
	52:	2,974,255		169:	2,974,299						
	160:	2,974,256		170:	2,974,300						
316—	29:	2,974,257	339—	14:	2,974,301						
	101:	2,974,258		278:	2,974,302						
	119:	2,974,259	340—	18:	2,974,303						
	137:	2,974,260		104:	2,974,304						
	149:	2,974,261		147:	2,974,305						
	334:	2,974,262		173.5:	2,974,306						
		2,974,263			2,974,307						
318—	30:	2,974,264		174:	2,974,308						
	132:	2,974,265			2,974,309						
	158:	2,974,266			2,974,310						
	224:	2,974,267			2,974,311						
	349:	2,974,268		176.1:	2,974,312						
323—	9:	2,974,269		183:	2,974,313						
	22:	2,974,270		227:	2,974,314						
	66:	2,974,271		347:	2,974,315						
	89:	2,974,272			2,974,316						
324—	1:	2,974,273	343—	7.7:	2,974,317						
	16:	2,974,274		105:	2,974,318						
	20:	2,974,275	346—	82:	2,975,099						

Classification of Designs

D 4—	3:	189,838	D14—	6:	189,844	D34—	5:	189,850	D38—	3:	189,856
D 7—	5:	189,839	D15—	3:	189,845			189,851	D48—	4:	189,857
D 9—	2:	189,840	D16—	2:	189,846			189,852		20:	189,858
		189,841	D18—	3:	189,847			189,853			189,859
D13—	1:	189,842	D22—	3:	189,848			189,854			189,860
D14—	3:	189,843	D26—	13:	189,849		15:	189,855			

D54—	6:	189,861	D81—	23:	189,865
D56—	1:	189,862	D86—	5:	189,866
D64—	11:	189,863			189,867
D67—	4:	189,864	D87—	5:	189,868
D72—	1:	189,837	D90—	20:	189,869

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

March 7, 1961 Volume 764 Number 1

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Holiday Mobile Homes, Murray, Utah, Reg. No. 677,952, Canc. No. 7593.

Rapidata Corporation, New York, N.Y., Reg. No. 414,600, Canc. No. 7603.

Parfait, Incorporated, Chicago, Ill., Reg. No. 438,499, Canc. No. 7606.

Old Reliable Peanut Company, Incorporated, Suffolk, Va., Reg. No. 440,169, Canc. No. 7611.

The Citizens' Wholesale Supply Co., Columbus, Ohio, Reg. No. 167,681, Canc. No. 7612.

Rex W. Wadman, New York, N.Y., Reg. No. 428,813, Canc. No. 7621.

ARTHUR W. CROCKER,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 130,384 (DIXIE), Individual Drinking Cup Co., Inc., Drinking cups, cartons made of paper, cardboard, etc.; **Reg. No. 590,404**, same, Dixie Cup Company, Cups, cartons, and similar packaging containers, lids and covers therefor, etc., filed Jan. 12, 1961, D.C. Mass. (Boston), Doc. 61/41–W, *American Can Company* v. *Van Brode Milling Co., Inc.*

Reg. No. 155,689 (FORMICA), The Formica Insulation Company, Electric insulating compound; **Reg. No. 421,496**, same, Laminated sheets of wood, fabric or paper impregnated with synthetic resin and consolidated under heat and pressure, filed July 20, 1960, D.C.N.J. (Newark), Doc. 643/60, *Formica Corporation* v. *Hodor, Inc. et al.* Consent judgment; injunction granted Jan. 11, 1961.

Reg. No. 282,358 (ARPEGE), Lanvin Parfums, Inc., Perfume extract; **Reg. No. 313,722** (MY SIN), same, Perfumes, toilet water, face powder, talcum powder, sachet, lipsticks and rouge; **Reg. No. 516,100** (EAU DE LANVIN), same, Toilet water and cologne; **Reg. No. 536,672** (LANVIN), same, Perfumes and toilet water, filed March 4, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c346, *Lanvin Parfums, Inc.* v. *Allied Drug Company.* Defendants enjoined (notice Jan. 12, 1961.)

Reg. No. 313,722. (See Reg. No. 282,358.)

Reg. No. 332,733 (DONNATAL), A. H. Robins Company, Inc., Medicinal preparation used in the treatment of gastro-intestinal disturbances, filed Dec. 5, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 28/933, *A. H. Robins Company, Inc.* v. *David Rosen et al.*

Reg. No. 347,661 (VIRGINIA GENTLEMAN), A. S. Bowman, Distilled alcoholic liquors, filed Jan. 25, 1961, D.C. Md. (Baltimore), Doc. 12/800, *A. Smith Bowman Distillery, Inc.* v. *Montebello Liquors, Inc.*

Reg. No. 421,496. (See No. 155,689).

Reg. No. 495,471 (EMBRACEABLE), Benrus Watch Company, Inc., Watches and attached bracelets sold as a unit, filed Jan. 26, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c140, *Benrus Watch Co., Inc.* v. *Winkler Watch Company.*

CONDITION OF TRADEMARK APPLICATIONS AS OF JANUARY 31, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,236
Date of oldest new application	July 8, 1960
Date of oldest amended application	July 15, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-8-60	8-3-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-20-60	7-18-60
Renewals (All Classes)	1-5-61	-------
Sec. 12 (c) Publications (All Classes)	1-3-61	-------

Applications filed during the month of January 1961—1735

Registrations Issued ---------- 354—No. 711,971 to No. 712,324
Renewals Issued ---------- 62

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PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Reg. No. 610,169. (See Reg. No. 282,358.)

Reg. No. 621,777 (SPINNAKER), The New England Knitting Company, Woven and knitted outerwear, filed Jan. 12, 1961, D.C., S.D.N.Y., Doc. 61/134, *Valentine & Company, Inc. et al. v. Winsted Hosiery Company et al.*

Reg. No. 666,672. (See Reg. No. 282,358.)

Reg. No. 661,430 (BIG BOY AND DESIGN), Robert C. Wian Enterprises, Inc., Hamburger sandwiches; Reg. No. 574,742 (BIG BOY), same, filed Jan. 19, 1961, D.C., E.D. Ky. (London), Doc. 1100, *Frisch's Restaurants, Inc. et al. v. Oscar Hibbard.*

Reg. No. 574,742. (See Reg. No. 661,430.)

Reg. No. 676,088 (ED-U-CARDS AND DESIGN), I. Brammer, Card games for children; Reg. No. 706,305, same Ed-U-Cards Mfg. Corp., Equipment sold as a unit for playing card, board, and similar type educational and parlor games, filed Jan. 26, 1961, D.C., S.D.N.Y., Doc. 61/306, *Ed-U-Cards Mfg. Corp. v. Polk's Model Craft Hobbies, Inc.*

Reg. No. 669,464. (See Reg. No. 120,204.)

Reg. No. 669,337 (REPRESENTATION OF A BOTTLE), Societe Anonyme de la Benedictine Distillerie de la Liqueur de l'Ancienne Abbaye de Fecamp, Alcoholic cordials, filed Dec. 10, 1958, D.C., S.D.N.Y., Doc. 140/338, *Societe Anonyme de la Liqueur de l'Ancienne Abbaye de Fecamp et ano. v. James M. McCunn & Co., Inc.* Consent judgment; injunction granted Jan. 11, 1961.

Reg. No. 665,869 (INSTANT), Camp Chemical Company, Inc., Chemical compound used as a drain pipe cleaner, filed Oct. 20, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1646, *Camp Chemical Company, Inc. v. Boyer Chemical Company.* Consent judgment; defendant enjoined Jan. 17, 1961.

Reg. No. 666,715 (ORIGINAL CRISPY PIZZA AND DESIGN), Original Crispy Pizza Crust Co., Inc., Frozen ingredients for pizza—namely, crust, prepared sauce and cheese, packaged as a unit, filed Dec. 30, 1960, D.C., E.D. Va. (Norfolk), Doc. 3421, *Origene Pizza Crust Company, Inc. v. R & S Pizza Crust Company.*

Reg. No. 706,305. (See Reg. No. 676,088.)

Erratum

In the OFFICIAL GAZETTE, issue of Jan. 10, 1961, vol. 762, p. TM 47, under the heading "Trademark Suits," last two lines, for "(CAMPUS), V. Weiss, doing business as Master Products Company, Stencils;" read (*MISS PAT–CALIFORNIA AND DESIGN*), *Miss Pat & Co., Children's and women's blouses and skirts.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

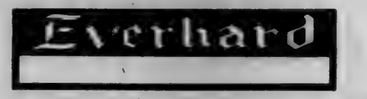
Class 1—Raw or Partly Prepared Materials

SN 83,205. The Glidden Company, Cleveland, Ohio. Filed Oct. 15, 1959.



The words "Quality Products" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 134,658, 705,452, and others.
For Gum Resins, Ester Gums, Metal Resinates, Rosin, Cordage Tar and Pine Pitch.
First use in about 1949 on rosin.

SN 84,526. Floyd C. Everhard, Pharr, Tex. Filed Nov. 3, 1959.



For Citrus Fruit Trees—Namely, Navel Orange Trees.
First use Mar. 1, 1953.

SN 86,233. Albert Trostel & Sons Company, Milwaukee, Wis. Filed Nov. 27, 1959.

FLITE BOOT

Applicant disclaims "Boot" apart from the mark as shown.
For Leather.
First use Feb. 7, 1955.

SN 91,917. Colonial Nurseries, Berkeley Heights, N.J. Filed Mar. 1, 1960.



For Shrubs and General Nursery Stock—Namely, Rose Bushes.
First use Feb. 1, 1959.

SN 92,106. National Distillers and Chemical Corporation, New York, N.Y. Filed Mar. 3, 1960.

MICROTHENE

For Finely Divided Solid Polyolefins.
First use Feb. 9, 1960.

SN 93,493. The Bowater Paper Company, Inc., New York, N.Y. Filed Mar. 23, 1960.



For Sulphate Woodpulp.
First use Dec. 19, 1959.

SN 94,003. Kaw Valley Seed Company, Hutchinson, Kans. Filed Mar. 30, 1960.



For Hybrid Grain Sorghum Seed and Forage Sorghum Seed.
First use on or about Jan. 1, 1960.

SN 95,900. Elm Coated Fabrics Co. Inc., New York, N.Y. Filed Apr. 28, 1960.

TALOVIN

For Synthetic Plastics in the Form of Sheet Materials and in the Form of Coated Fabrics, Said Plastic Being Sold in Rolls.
First use Mar. 15, 1960.

SN 97,542. Celanese Corporation of America, New York, N.Y. Filed May 20, 1960.

CELAWEB

For Synthetic Fibrous Material.
First use May 12, 1960.

SN 99,321. W. H. French, Topeka, Kans. Filed June 20, 1960.

TERRACE

For Packaged Grass Plugs.
First use Apr. 27, 1960.

SN 100,424. Carb-Con Corporation, Greensburg, Pa. Filed July 7, 1960.

CARB-CON

For Raw or Partly Prepared Materials Including Carburizing Agents Such as Coke Containing Graphite To Enhance Carbon Pick-Up in Steel.
First use Oct. 23, 1959.

SN 101,005. Isocyanate Products, Inc., New Castle, Del. Filed July 18, 1960.

CASTOMER

For Polyurethane Resins.
First use June 13, 1960.

SN 102,818. American Viscose Corporation, Philadelphia, Pa. Filed Aug. 17, 1960.

AVISCO

Owner of Reg. Nos. 378,479, 631,527, and others.
For Molding and Coating Compositions, Comprising Synthetic Resins or Plastics in Liquid, Powdered, Granular or Pelletized Form.
First use July 22, 1960.

SN 103,399. Emerson & Cuming, Inc., Canton, Mass. Filed Aug. 25, 1960.

ECCOSIL

Owner of Reg. Nos. 641,209, 675,806, and 698,770.
For Pourable Plastic Compositions Containing Silicone Rubber.
First use July 18, 1960.

SN 104,155. Fiberfil, Inc., Warsaw, Ind. Filed Sept. 9, 1960.

NYLAFIL

For Reinforced Synthetic Injection-Molding Compounds in Pellet or Granular Form.
First use Aug. 31, 1959.

SN 104,200. Tamms Industries Co., Chicago, Ill. Filed Sept. 9, 1960.

TAMASTONE

For Compound Used in Making Foundry Molds.
First use Jan. 2, 1946.

SN 104,313. Rayonier Incorporated, New York, N.Y. Filed Sept. 12, 1960.

FLORANIER

Owner of Reg. Nos. 634,492 and 694,398.
For Wood Pulp.
First use Aug. 18, 1960.

SN 104,405. Tuflite Plastics, Incorporated, Ballston Spa, N.Y. Filed Sept. 13, 1960.

PROPOLITE

For Expanded Polystyrene in Cellular Form.
First use June 10, 1960.

SN 104,434. Columbus Coated Fabrics Corporation, Columbus, Ohio. Filed Sept. 14, 1960.

COL-O-CLEAR

Owner of Reg. Nos. 282,480, 664,572, and others.
For Flexible Transparent Vinyl Plastic Film Sold by the Roll and Intended To Be Used in Fabricating Various Types of Protective Covers.
First use Oct. 18, 1956.

SN 104,549. Rayonier Incorporated, New York, N.Y. Filed Sept. 15, 1960.

ULTRANIER

Owner of Reg. Nos. 634,492 and 694,398.
For Cellulose Pulp.
First use June 23, 1960.

SN 104,573. Arcadia Furs, Inc., New York, N.Y. Filed Sept. 16, 1960.

RAINBOW

For Fur Skins—Namely, Mutation Mink Skins.
First use May 2, 1960.

SN 104,755. Rohm & Haas Company, Philadelphia, Pa. Filed Sept. 19, 1960.

TUFFAK

For Plastic Sheets.
First use on or about Sept. 1, 1960.

Class 4—Abrasives and Polishing Materials

SN 106,272. Louis Newman, d.b.a. Podiatry Laboratories, New York, N.Y. Filed Oct. 12, 1960.

BABY-WITE

For White Shoe Polish.
First use Mar. 6, 1959.

Class 5—Adhesives

SN 94,273. Devon Tape Corp., Mount Vernon, N.Y. Filed Apr. 4, 1960.

DEVON

Owner of Reg. No. 632,475.
For Pressure-Sensitive Tape.
First use Mar. 15, 1957.

SN 96,022. Mo Och Domsjö Aktiebolag, Ornskoldsvik, Sweden. Filed Apr. 28, 1960.

MODOCORE

Owner of Swedish Reg. Nos. 75,677, dated Mar. 19, 1954, and 82,316, dated Mar. 29, 1957; and U.S. Reg. No. 576,218.
For Preparations for Binding Foundry Cores and Molds; Adhesives for Foundry Cores and Foundry Molds.

SN 102,447. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Aug. 11, 1960.

PLEXITRON

Owner of Reg. Nos. 546,851 and 622,561.
For Polyvinyl Adhesive Cement.
First use May 12, 1958.

Class 6—Chemicals and Chemical Compositions

SN 53,216. Wasco Engineering Corporation, New York, N.Y. Filed June 9, 1958.

WASCO

Owner of Reg. No. 570,801.
For Industrial Chemicals for Air Conditioners and Fuel Oils Which Treat the Same for Sludge and Dirt in Water and Oil.
First use on or about May 3, 1933.

SN 79,822. Vulcan Laboratories, Pontiac, Mich. Filed Aug. 18, 1959.

VULCAN

The horisontal lines in the drawing are part of the trademark and not color lining.
For Chemical Preparations for Use in Treating Water in Boilers and Cooling Towers and Combustion Catalysts.
First use July 1, 1953.

SN 83,296. The Glidden Company, Cleveland, Ohio. Filed Oct. 15, 1959.

QUALITY Glidden PRODUCTS

The words "Quality Products" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 134,658, 705,452, and others.
For Copper Brazing Paste for Brazing Metal Parts, Fungicides, Gum Turpentine, Menthene, Myrcene, Dipentene, Terpineol, Nopol, Paracymene, Allo-Ocimene, Pinene, Menthol, Solvents, Rosin Oils, Wetting Agents, Antiskinning Agents, Metal Oxides, Metal Salts, Wood Turpentine, Camphene, Anethole, Methyl Chavicol, Beta-Caryophyllene.
First use March 1948 on metal oxides.

SN 88,110. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 28, 1959.

DIAPER DEOTEX

Applicant makes no claim for the word "Diaper" apart from the mark as shown. Owner of Reg. No. 672,363.
For Preparation for Use as a Bactericide and/or Bacteriostat on Diapers.
First use Sept. 29, 1959.

SN 89,181. Mariyn Chemical Company, Inc., Lakeview, Ohio. Filed Jan. 18, 1960.

SOF-T-SEPTIC

Owner of Reg. No. 684,974.
For Fabric Softener in Paste Form Having Bacteria-Growth-Retarding Properties.
First use Nov. 20, 1951.

SN 93,977. Armour and Company, Chicago, Ill. Filed Mar. 30, 1960.

ENZAR

Owner of Reg. No. 593,217.
For Pancreatic Enzyme Products for Industrial and Manufacturing Use.
First use Feb. 8, 1960.

SN 95,106. Mud Control Laboratories, Inc., Oklahoma City, Okla. Filed Apr. 14, 1960.

CONTROLFOAM

Owner of Reg. Nos. 637,880, 640,859, and others.
For Oil Well Drilling Fluid Additives—Namely, a Detergent Which Acts as a Defoaming Agent.
First use on or about Sept. 20, 1954.

SN 99,491. Cabot Corporation, Boston, Mass., by merger from Godfrey L. Cabot, Inc., Boston, Mass. Filed June 22, 1960.

REGAL

Owner of Reg. No. 665,583.
For Carbon Black.
First use July 8, 1957.

SN 100,252. Heyden Newport Chemical Corporation, New York, N.Y. Filed July 5, 1960.

SAND PLUS

For Chemical Composition Adapted for Many Uses in the Industrial Fields, More Particularly as an Additive to Resin-Bonded Foundry Sand Mixtures, Plastics, Rubber, Crayons, Pencil Leads, Concrete, Cement and Stucco Washes and for Various Products in Powdered Metallurgy, and as a Lubricant for Use in the Drawing of Wire and Other Drawn Products.
First use May 20, 1960.

SN 101,823. Spencer Chemical Company, Kansas City, Mo. Filed Aug. 1, 1960.

POLY-EM

Owner of Reg. Nos. 694,972, 694,411, and 600,221.
For Polymeric Emulsions.
First use June 17, 1960.

SN 101,830. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Aug. 1, 1960.

BUTYL KAMATE

The word "Butyl" is disclaimed apart from the mark as shown. Owner of Reg. No. 624,726.
For Rubber Accelerator.
First use June 14, 1960.

SN 102,611. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Aug. 15, 1960.

CELLZYME

For Cellulolytic Enzyme Preparation Used in Manufacturing and Processing Purposes.
First use July 15, 1960.

Class 10—Fertilizers

SN 90,010. Commercial Solvents Corporation, New York, N.Y. Filed Feb. 1, 1960.

DRY DIXSOL

Owner of Reg. No. 580,237.
For Nitrogen Solutions Used as or in the Production of Soil Fertilizers.
First use Sept. 30, 1959.

Class 12 — Construction Materials

SN 89,047. Basic Incorporated, Cleveland, Ohio. Filed Jan. 15, 1960.

SHOVELPATCH

Owner of Reg. Nos. 398,468 and 505,024.
For Refractory Preparations for Furnace Linings.
First use Nov. 23, 1959.

SN 89,877. Smith & Kanzler Corp., Linden, N.J. Filed Jan. 28, 1960.

SprayCraft

For Non-Combustible Thermal and Acoustical Insulating Fibre for Decorative and Industrial Applications, as Well as for Fireproofing of Structural Steel Framing.
First use November 1954.

SN 90,362. The F. C. Russell Company, Columbiana, Ohio. Filed Feb. 4, 1960.

LIFESAV'R

For Prime Doors, Combination Screen and Storm Doors, Prime Windows and Combination Screen and Storm Windows.
First use Jan. 14, 1960.

SN 90,768. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Feb. 11, 1960.

FANTASY

For Decorative Tileboard.
First use Jan. 17, 1959.

SN 90,770. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Feb. 11, 1960.

QUI-LITE

For Acoustical Tileboard.
First use Jan. 17, 1959.

SN 91,534. The General Crushed Stone Co., Easton, Pa. Filed Feb. 24, 1960.

KOVER-SEAL

For Pre-Mixed Bituminous Concrete Material.
First use Feb. 10, 1960.

SN 93,274. Chemo Products, Inc., West Warwick, R.I. Filed Mar. 21, 1960.

FLUOPAK

Owner of Reg. Nos. 76,648 and 694,248.
For Tapes and Packings for Use in the Insulation of Mechanical Unions in Fluid Handling Systems To Prevent Fluid Leakage at Said Unions.
First use on or about Feb. 12, 1960.

SN 93,581. Aluminum Company of America, Pittsburgh, Pa. Filed Mar. 24, 1960.

SOL-DEC

For Metal Screens for Indoor or Outdoor Use as: Coverings for Building Walls, Ceilings, and Facades; Curtain Walls; Decorative Screens; Vision Screens; and Barriers.
First use Oct. 5, 1959.

SN 93,900. American Can Company, New York, N.Y., assignee of The Allison Lumber Company, Inc., Bellamy, Ala. Filed Mar. 29, 1960.

SPA Allison

For Lumber.
First use on or about Sept. 1, 1958.

SN 93,947. Reynolds Aluminum Supply Company, Atlanta, Ga. Filed Mar. 29, 1960.

EVERWEAR

Owner of Reg. Nos. 370,379, 554,479, and others.
For Metal Roofing.
First use Jan. 2, 1919.

SN 97,574. Reynolds Aluminum Supply Company, Atlanta, Ga. Filed May 20, 1960.

EVERWEAR

Owner of Reg. Nos. 370,379, 554,479, and others.
For Metal Siding.
First use Apr. 28, 1960.

SN 98,182. Vulcan Materials Company, d.b.a. Birmingham Slag Division, Mountain Brook, Ala. Filed May 31, 1960.

ENSLAG-COLMIX

Owner of Reg. No. 624,304.
For Premixed Concrete Containing Iron Blast Furnace Slag and Controlled Amounts of Asphalt Cement, Together With a Special Liquefier.
First use May 17, 1960.

SN 104,238. Curtis Companies Incorporated, Clinton, Iowa. Filed Sept. 12, 1960.

STYLETITE

For Windows and Hardware Therefor.
First use Apr. 14, 1960.

SN 105,126. American Cement Corporation, d.b.a. Riverside Cement Company, Los Angeles, Calif. Filed Sept. 26, 1960.

RIVERSIDE

For Portland Cement.
First use January 1910.

SN 105,202. Pittsburgh Corning Corporation, Pittsburgh, Pa. Filed Sept. 26, 1960.

GEOCOUSTIC

For Acoustical Slabs.
First use Mar. 1, 1960.

SN 105,237. Walside, Inc., Des Moines, Iowa. Filed Sept. 26, 1960.

WalSIDE

For Aluminum Siding for Buildings.
First use about Aug. 1, 1952.

SN 105,487. Armstrong Cork Company, Lancaster, Pa. Filed Sept. 30, 1960.

TEMTEX

For Hard Pressed Fiberboard.
First use Sept. 5, 1960.

SN 105,580. Tucker Aluminum Products, Inc., Hialeah, Fla. Filed Sept. 30, 1960.

Patio-Master

For Sliding Glass Doors.
First use Sept. 19, 1960.

SN 105,647. Keystone Steel & Wire Company, Peoria, Ill. Filed Oct. 3, 1960.

KEYLATH

For Paper Backed Mesh Lathing.
First use July 1, 1960.

SN 105,764. The Ruberoid Co., New York, N.Y. Filed Oct. 4, 1960.

CALSILITE-HI

Owner of Reg. No. 401,046.
For Thermal Insulation Material.
First use Aug. 24, 1960.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 82,916. Power Strapping Systems Limited, Saltley, Birmingham, England. Filed Oct. 8, 1959.

RIBBOSTRAP

Owner of British Reg. No. B.777,013, dated Apr. 29, 1958.
For Metal Strip for Use in Binding Packages.

SN 97,164. American Viscose Corporation, Philadelphia, Pa. Filed May 16, 1960.

AVISTRAP

For Strapping Seals (Band Ties).
First use May 2, 1960.

Class 14 — Metals and Metal Castings and Forgings

SN 78,703. Great Lakes Steel Corporation, Ecorse, Mich. Filed July 30, 1959.

GLX

For High Tensile Steels.
First use Feb. 18, 1959.

Class 15 — Oils and Greases

SN 77,470. Röhm & Haas G.m.b.H., Darmstadt, Germany. Filed July 10, 1959.

VISCOPLEX

Owner of German Reg. No. 720,808, dated Dec. 22, 1958.
For Chemical Preparations for Use as Additives or Ingredients in Mineral Oils, Motor Fuels, Lubricants, Technical Oils and Fats, Heating Fuels.

SN 86,092. The Pure Oil Company, Chicago, Ill. Filed Dec. 9, 1959.

HIGH HP

For Lubricating Oils and Greases.
First use on or about Apr. 15, 1954.

SN 93,700. Muench-Kreuser Candle Co., Inc., Syracuse, N.Y. Filed Mar. 25, 1960.

WINDSOR

For Candles.
First use prior to Dec. 31, 1926.

SN 105,021. Royal Candle Company, Jersey City, N.J. Filed Sept. 22, 1960.

SEQUA-LITE

For Candles.
First use July 10, 1958.

SN 105,022. Royal Candle Company, Jersey City, N.J. Filed Sept. 22, 1960.

FROSTY LIGHT

For Candles.
First use Jan. 8, 1960.

SN 106,202. Humble Oil & Refining Company, Houston, Tex. Filed Oct. 11, 1960.

FLEXON

Owner of Reg. No. 380,861.
For Industrial Oils.
First use Sept. 23, 1960.

Class 16—Protective and Decorative Coatings

SN 92,552. Shawinigan Resins Corporation, Springfield, Mass. Filed Mar. 10, 1960.

FORMETIC

For Liquid Coating Compositions.
First use Feb. 23, 1960.

SN 93,213. Silcos Products, Inc., New York, N.Y. Filed Mar. 18, 1960.

AQUA-DRI

For Cement Paint.
First use Jan. 31, 1960.

SN 93,892. Ray A. Westmyer, d.b.a. Rayco Pool Plastics, Encino, Calif. Filed Mar. 28, 1960.

Rayco

For Plastic Coating for Swimming Pools.
First use Mar. 11, 1960.

SN 94,452. Amchem Products, Inc., Ambler, Pa. Filed Apr. 6, 1960.

ALODIZED

Owner of Reg. No. 420,005.
For Corrosion Resistant Finish Applied to Metal Surfaces.
First use Oct. 22, 1947.

SN 97,443. Avco Corporation, Wilmington, Mass. Filed May 19, 1960.

AVCOAT

For Protective and/or Decorative Epoxy Coating.
First use May 7, 1960.

SN 102,154. Velsicol Chemical Corporation, Chicago, Ill. Filed Aug. 5, 1960.

STYVEL

For Resin Emulsions for Coatings and Impregnants.
First use July 21, 1960.

SN 102,422. L. M. Scofield Company, Huntington Park, Calif. Filed Aug. 10, 1960.

COLORCURE

Owner of Reg. No. 384,395.
For Protective Surface Coating.
First use Oct. 16, 1939.

SN 102,486. Linseed Oil Products Corporation, Santa Ana, Calif. Filed Aug. 11, 1960.

BEHR-LAC

Owner of Reg. No. 622,021.
For Liquid Coating Composition Finish for Wood Panelling, Furniture and All Interior Woodwork.
First use Apr. 16, 1957.

Class 18—Medicines and Pharmaceutical Preparations

SN 81,460. Certified Grocers of California, Ltd., Los Angeles, Calif. Filed Sept. 16, 1959.

Royal Health

The word "Health" is disclaimed apart from the mark as shown.
For Food Supplement Consisting of Vitamins and Minerals.
First use June 20, 1959.

SN 91,715. Summers Laboratories, Inc., Fort Washington, Pa. Filed Feb. 26, 1960.

OPTAIS

For Ophthalmic Anti-Inflammatory Steriod Preparations.
First use Jan. 19, 1960.

SN 93,337. George Kendall Noah, d.b.a. Noah's Health Food and Sales and as Noah's Natural Foods, College Place, Wash. Filed Mar. 21, 1960.

NOAH'S

For Medicinal Preparations—Namely, Vitamins, Minerals, Brewer's Yeast, Alfalfa Tablets, Chlorophyll Preparations, Cod Liver Oil, Kelp, Lecithin, Papaya Laxatives, Beef Liver Preparations and Wheat Germ Oil.
First use Nov. 15, 1955.

SN 93,385. Travenol Laboratories, Inc., Morton Grove, Ill. Filed Mar. 21, 1960.

TRAVAGENE

For Arginene Glutamate.
First use Feb. 23, 1960.

SN 94,555. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Apr. 7, 1960.

CHOLESTROID

For Sodium D-Thyroxine.
First use Mar. 17, 1960.

SN 100,457. Le Mur Laboratories, Inc., New York, N.Y. Filed July 7, 1960.

BLEM-AID

For Medicated Skin Cream for the Treatment of Acne Pimples.
First use June 21, 1960.

SN 100,880. Frank Bickenheuser, d.b.a. The Progonasyl Company, Tulsa, Okla. Filed July 15, 1960.

PRO-NASYL

For Medicinal Preparation for the Treatment of Congestion and Inflammation of the Mucous Membranes of the Nose and Nasal Passages.
First use June 22, 1960.

SN 103,262. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Aug. 23, 1960.

SEPTOBERON

Owner of German Reg. No. 690,480, dated May 8, 1956.
For Drug Against Bacterial Infections.

SN 103,263. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Aug. 23, 1960.

PLUROPON

Owner of German Reg. No. 218,104, dated June 12, 1917.
For Analgesic.

SN 103,265. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Aug. 23, 1960.

ADURNON

Owner of German Reg. No. 692,973, dated July 20, 1956.
For Chemotherapeutic or Antibiotic Against Infectious Diseases.

SN 103,530. Bristol-Myers Company, New York, N.Y. Filed Aug. 29, 1960.

QUINOCYCLINE

For Antibiotic Chemotherapeutic Product, Not Including Hormones.
First use July 27, 1960.

SN 103,801. The Pillsbury Company, Minneapolis, Minn. Filed Sept. 1, 1960.



The drawing is lined for blue.
For Veterinary Pharmaceuticals.
First use May 27, 1960.

SN 104,580. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 16, 1960.

HYPERCONTRAL

Owner of German Reg. No. 715,910, dated July 18, 1958.
For Preparations for Hyperacidity.

SN 104,889. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 21, 1960.

PRELUMAT

Owner of German Reg. No. 735,209, dated Mar. 31, 1960.
For Pharmaceutical Preparation Containing a Stimulant and/or an Appetite-Controlling Agent.

SN 105,182. The S. E. Massengill Company, Bristol, Tenn. Filed Sept. 26, 1960.

SORBRON

For Veterinary Injectable Iron.
First use Sept. 20, 1960.

SN 105,192. Nelson-Boyer Company, Inc., Glendale, Calif. Filed Sept. 26, 1960.

CIRCU-SOL

For Pharmaceutical Preparation for Intramuscular Injection, Useful in the Treatment of Angina Pectoris, Intermittent Claudication, Thrombo-Angiitis, Renal and Ureteral Colic, Spastic Ureteritis, Biliary Colic, Dysmenorrhea and Paralytic Ileus.
First use October 1954.

SN 106,799. Fleming and Company, Pharmaceuticals, St. Louis, Mo. Filed Oct. 20, 1960.

IMPREGON

For Disinfectant and Ointment for the Prevention and Treatment of Diaper Rash.
First use July 1, 1960.

SN 106,838. The Purdue Frederick Company, New York, N.Y. Filed Oct. 20, 1960.

SENNTAB

For Preparation for the Treatment of Constipation.
First use Oct. 10, 1960.

SN 106,947. M. R. Thompson, Inc., Cranford, N.J. Filed Oct. 21, 1960.

THERANUTRITIVE-MRT

For Nutritional Supplement Consisting Essentially of Vitamins.
First use Apr. 1, 1952.

SN 106,951. M. R. Thompson, Inc., Cranford, N.J. Filed Oct. 21, 1960.

'MARGONOVINE'-MRT

For Nutritional Supplement Consisting Essentially of Vitamins.
First use May 1, 1958.

SN 106,952. M. R. Thompson, Inc., Cranford, N.J. Filed Oct. 21, 1960.

'MARTUSSIN'-MRT

For Medicinal Preparation for Relief of Coughs.
First use Sept. 23, 1952.

SN 106,702. Merck & Co., Inc., Rahway, N.J. Filed Nov. 18, 1960.

STRIACHOL

Owner of Reg. Nos. 691,180 and 691,181.
For Medicinal Preparation for Use in the Treatment of Peptic Ulcer.
First use Nov. 5, 1960.

SN 108,956. Dome Chemicals, Inc., New York, N.Y. Filed Nov. 23, 1960.

ANA-DOME

Owner of Reg. Nos. 383,764, 676,456, and others.
For Preparation for Use in Treatment of Skin Diseases and Irritation, and Tissue Therapy.
First use Apr. 1, 1958.

SN 108,958. Dome Chemicals, Inc., New York, N.Y. Filed Nov. 23, 1960.

VI-DOM-A-C

Owner of Reg. No. 568,798.
For Therapeutic Vitamin Preparation.
First use Oct. 5, 1959.

SN 108,960. Dome Chemicals, Inc., New York, N.Y. Filed Nov. 23, 1960.

DOMOLENE H-C

Owner of Reg. No. 387,772.
For Topical Preparation for Use in Skin Irritations and Disease.
First use on or before Sept. 30, 1960.

SN 108,961. Dome Chemicals, Inc., New York, N.Y. Filed Nov. 23, 1960.

SOYALOID

For Dermatological Preparation for Treatment of Skin Irritations and Diseases.
First use June 1, 1957.

SN 108,962. Dome Chemicals, Inc., New York, N.Y. Filed Nov. 23, 1960.

STAN-A-DOME

Owner of Reg. Nos. 383,764, 676,456, and others.
For Topical Preparation for Use in Treatment of Skin Diseases and Irritation, and Tissue Therapy.
First use May 1, 1958.

SN 109,294. Barry Laboratories, Inc., Detroit, Mich. Filed Nov. 30, 1960.

BARTHRO

For Pharmaceutical Drugs for Treatment of Arthritis.
First use Sept. 15, 1960.

SN 109,444. U.S. Vitamin & Pharmaceutical Corporation, New York, N.Y. Filed Dec. 1, 1960.

HALDINONE

For Pharmaceutical Preparation for Oral Use To Increase Prothrombin Time and To Control Blood Clotting.
First use Nov. 17, 1960.

Class 19—Vehicles

SN 85,458. Auto Union G.m.b.H., Ingolstadt (Danube), Germany. Filed Nov. 17, 1959.

HORCH

The word "Horch" means "hark!" when translated into English. Owner of German Reg. No. 121,898, dated Sept. 24, 1909.
For Automobiles, Including Motor Cars for Personal Use and Trucks, and Structural Parts Thereof, Including Automobile Heaters, Ventilators, and Coolers.

SN 89,340. Deutsche Fibrit Gesellschaft Ebers & Dr. Muller m.b.H., Krefeld, Germany. Filed Jan. 20, 1960.

FIBRIT

Owner of German Reg. No. 735,882, dated Apr. 25, 1960.
For Parts of and Accessories for Automobiles—Namely, Inner Roof Linings, Door Coverings, Door Post Coverings, Weather Stripping, Instrument Panels, Protective Pads for Instrument Panels, Mountings for Instruments in the Instrument Panels, Tubular Enclosures for the Steering Column, Glove Compartments and Lids Therefor, Fenders, Hub Caps, Covering Hoods for Structural Parts, Partitions for the Car Body and Trunk, Spare Wheel Covers, Hat Shelves, Shaped Parts for Passenger Sections of Airplanes—Namely, Seats, Air Ducts for Heating and Ventilation Systems in Automobiles, Air Ducts for Windshield Defrosters.

SN 92,044. Regie Nationale des Usines Renault, Billancourt (Seine), France. Filed Nov. 30, 1960.



The word "France" is disclaimed apart from the mark as shown. Owner of French Reg. No. 481,757, dated July 10, 1959 (Seine); Natl. Inst. No. 131,858; and U.S. Reg. Nos. 235,066 and 240,774.
For Automobiles and Trucks Including Bodies and Structural Parts.
First use Feb. 11, 1957; in commerce Feb. 11, 1957.

SN 95,600. Holsclaw Bros., Inc., Evansville, Ind. Filed Apr. 22, 1960.

BOAT CORRAL

The word "Boat" is disclaimed apart from the mark.
For Attachments for Boat Carrying Trailers—Namely, Boat Alignment Guides.
First use Apr. 22, 1959.

SN 103,087. Berg Manufacturing & Sales Co., Inc., Chicago, Ill. Filed Aug. 22, 1960.

PIGGY MECH

For Brake-Operating Units for Use With Truck Vehicles.
First use June 8, 1960.

SN 105,969. Lonergan Corporation, Elkhart, Ind. Filed Oct. 7, 1960.

ATLAS

For House Trailers and Mobile Homes.
First use July 1, 1958.

SN 106,147. Seafoam Plastics Corporation, West Bend, Wis. Filed Oct. 10, 1960.

SEAFOAM

For Boats.
First use June 27, 1960.

SN 106,177. Astec Boat Corporation, Hialeah, Fla. Filed Oct. 11, 1960.



For Boats.
First use Nov. 21, 1958.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 89,338. Deutsche Fibrit Gesellschaft Ebers & Dr. Müller m.b.H., Krefeld, Germany. Filed Jan. 20, 1960.

FIBRIT

Owner of German Reg. No. 735,882, dated Apr. 25, 1960.
For Sound Ducts for Loudspeakers and Front Frames for Television Sets Surrounding the Picture Screen, Housings and Rear Walls for Radio and Television Sets, Housings for Loudspeakers.

SN 92,553. Shawinigan Resins Corporation, Springfield, Mass. Filed Mar. 10, 1960.

FORMETIC

For Electrically Insulating Compositions, Including Wire Enamels and Varnishes.
First use Feb. 23, 1960.

SN 100,418. Barfield & Co., Inc., Chicago, Ill. Filed July 7, 1960.

SUPERMITE

For Storage Battery Chargers.
First use Dec. 1, 1958.

SN 100,566. Allied Stores Corporation, New York, N.Y. Filed July 11, 1960.

Avia

Owner of Reg. No. 697,123.
For Radio Receiving Sets, Television Receiving Sets, Phonographs, and/or Any Combination Thereof.
First use Aug. 9, 1937, on radio receiving sets.

SN 100,615. Lake Manufacturing Company, Oakland, Calif. Filed July 11, 1960.

LAKE

For Bells, Buzzers and Audible Signal Devices.
First use at least as early as Oct. 7, 1925.

SN 100,651. Swimquip, Inc., El Monte, Calif. Filed July 11, 1960.

CYCLOVAC

For Underwater Vacuum Cleaning Apparatus.
First use Apr. 4, 1960.

SN 100,678. Allied Allergri Machine Co., Inc., Nutley, N.J. Filed July 12, 1960.

CU-THRU

For Printed Circuit Boards.
First use May 19, 1960.

SN 100,769. The Emerson Electric Manufacturing Company, St. Louis, Mo. Filed July 18, 1960.

CORE-COTE

For Electric Motors Having Plastic Coated Stator Slots.
First use May 19, 1960.

SN 101,745. Certified Electric Corporation, Clarendon, Pa. Filed Aug. 1, 1960.

CANDLE-GLO

For Fluorescent Lamps.
First use July 11, 1960.

SN 104,665. AMP Incorporated, Harrisburg, Pa. Filed Sept. 19, 1960.

AMPEEZ

Owner of Reg. Nos. 405,714, 702,856, and others.
For Electrical Connectors.
First use Sept. 9, 1960.

SN 104,895. The Crescent Company, Inc., Pawtucket, R.I. Filed Sept. 21, 1960.



For Insulated Wire and Cable.
First use on or about Sept. 1, 1960.

SN 104,945. Premier Industrial Corporation, Cleveland, Ohio. Filed Sept. 21, 1960.

GSP

For Electrical Supplies—Namely, Terminals, Connectors, Contacts, Switches, Condensers, Fuses and Conductor Wire.
First use June 22, 1960.

SN 105,000. The Hoover Company, North Canton, Ohio. Filed Sept. 22, 1960.



Owner of Reg. Nos. 165,890, 668,176, and others.
For Electrical Appliances Including: Floor Washers and Shampoo-Polishers, the Latter Comprising a Combination Carpet Shampooer, Floor Waxer and Polisher, and Parts Therefor.
First use Aug. 18, 1959, for floor washers.

SN 105,001. The Hoover Company, North Canton, Ohio. Filed Sept. 22, 1960.

HOOVER

Owner of Reg. Nos. 165,890, 668,176, and others.
For Electrical Appliances Including: Floor Washers and Shampoo-Polishers, the Latter Comprising a Combination Carpet Shampooer, Floor Waxer and Polisher, and Parts Therefor.
First use Aug. 18, 1950, for floor washers.

SN 105,328. American Electronics, Inc., Los Angeles, Calif. Filed Sept. 28, 1960.

AMPLISOLVER

For Rotary Transformers.
First use July 25, 1960.

SN 105,588. Airstream, Inc., Jackson Center, Ohio. Filed Oct. 3, 1960.

BAT-PAK

For Electric Storage Batteries and Electrical Control and Switch Systems and Parts for Storage Batteries.
First use Sept. 28, 1960.

SN 105,685. Solar Light Manufacturing Co., Chicago, Ill. Filed Oct. 3, 1960.

GALAXY

For Fluorescent Lighting Fixtures for Offices, Factories, and Schools.
First use Jan. 6, 1960.

SN 109,457. Carl Zeiss-Stiftung, d.b.a. Carl Zeiss, Heidenheim (Brenz), Wurttemberg, Germany. Filed Sept. 26, 1960.

BETATOOL

Priority claimed under Sec. 44(d) on German application filed Mar. 26, 1960; Reg. No. 738,641, dated July 26, 1960.
For Physical and Electrotechnical Apparatuses and Instruments, in Particular Cathode Ray Apparatuses and Vacuum Pumps as Well as Parts Thereof, High Voltage Units, Electric Spark Generators as Well as Parts Thereof for Spectrum Analysis, Electron Beam Welding-, Milling-, and Boring-Machines.

Class 22—Games, Toys, and Sporting Goods

SN 58,054. Sherman Manufacturing Co., Linden, N.J. Filed Aug. 28, 1958.

BALI-HOOP

For Plastic Toy Hoops.
First use Aug. 8, 1958.

SN 78,581. Duane M. Seifres, d.b.a. Bud's Live Bait, Indianapolis, Ind. Filed July 28, 1959.

Bud's Best

Applicant disclaims the word "Best" apart from the mark as shown.
For Canned Live Bait for Fishing.
First use Feb. 25, 1957.

SN 85,165. George A. Shurtleff, Albuquerque, N. Mex. Filed Nov. 12, 1959.



For Ornamental Pillow-Type Toy for Use in Games, Pillow Fights, and Similar Play Activities.
First use Sept. 14, 1959.

SN 88,057. Link Research Corporation, Beverly Hills, Calif. Filed Dec. 28, 1959.

MOON-NIKS

For Stuffed Animal.
First use Dec. 8, 1959.

SN 89,914. James Heddon's Sons, Dowagiac, Mich. Filed Jan. 29, 1960.

GOLD BAND

For Artificial Fish Lures.
First use Jan. 4, 1960.

SN 98,698. Aurora Plastics Corporation, West Hempstead, N.Y. Filed June 9, 1960.

BLOOP!

For Flying Toy in the Form of a Rocket Propelled by Air Pressure.
First use Feb. 5, 1960.

SN 100,756. C. T. Bruell, Inc., Akron, Ohio. Filed July 13, 1960.



No exclusive claim is made with respect to the word "Deluxe" other than in connection with its use in this mark. The drawing is lined for the colors yellow and green.
For Fishing Tackle and Accessories—Namely, Rods, Reels, Lines, Minnow Buckets, Poppers, Fish Strings, Artificial Bait Lure and Flies and Miscellaneous Fishing Accessories.
First use Mar. 1, 1952.

SN 101,163. Roger Eddy, Newington, Conn. Filed July 20, 1960.



No claim is made to the word "Ballpoint" apart from the mark as shown.
For Spinning Top.
First use June 17, 1960.

SN 101,392. Hasenfeld Bros., Inc., Central Falls, R.I. Filed July 25, 1960.

SQUARE-IT

For Equipment Sold as a Unit for Playing a Board Game.
First use on or about July 7, 1960.

SN 101,498. Instant Bait Corporation, Mattapan, Mass. Filed July 26, 1960.

INSTANT BAIT

No claim of exclusive right is made to "Bait" as used on a fishing lure.
For Combination Dry Fish Bait and Lure.
First use Dec. 5, 1959.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 82,702. Omark Industries, Inc., Portland, Oreg. Filed Oct. 5, 1959.

MICRO-MANUFACTURE

For Saw Chain.
First use Aug. 26, 1950.

SN 82,915. Power Strapping Systems Limited, Saltley, Birmingham, England. Filed Oct. 8, 1959.

RIBBOSTRAP

Owner of British Reg. No. B.777,014, dated Apr. 29, 1958.
For Power-Operated and Hand-Operated Machines for Binding Packages.

SN 89,683. Hyster Company, Portland, Oreg. Filed Jan. 26, 1960.



For Materials Handling Equipment Such as Industrial Lift Trucks, Mobile Cranes, Straddle Carriers; Construction Equipment Such as Tamping Rollers, Earth Compaction Rollers, Aggregate Crushing Rollers, Excavators and Backhoe Attachments for Tractors; Logging Equipment Such as Winches and Yarders for Mounting on Tractors; and Hauling Equipment Such as Flat Bed Trailers.
First use June 1959.

SN 92,997. Niedecker-Verschlusstechnik GmbH, Frankfurt am Main Rodelheim, Germany. Filed Mar. 16, 1960.

POLY-CLIPER

Owner of German Reg. No. 725,427, dated May 29, 1959.
For Packaging and Fastening Devices—Namely, Stapling Devices, Tongs, Devices for the Setting of Locking Clamps, Lead Sealing Pliers and Devices for Applying Sealing Plugs.

SN 92,998. Niedecker-Verschlusstechnik GmbH., Frankfurt am Main Rodelheim, Germany. Filed Mar. 16, 1960.

POLY-CLIP

Owner of German Reg. No. 736,537, dated July 1, 1959.
For Packaging and Fastening Devices—Namely, Stapling Devices, Tongs, Lead Sealing Pliers and Lead Sealing Devices.

SN 92,999. Niedecker-Verschlusstechnik GmbH, Frankfurt am Main Rodelheim, Germany. Filed Mar. 16, 1960.

CLIPERFIX

Owner of German Reg. No. 725,428, dated May 29, 1959.
For Packaging and Fastening Devices—Namely, Stapling Devices, Tongs, Devices for the Setting of Locking Clamps, and Lead Seals and Lead Sealing Pliers.

SN 93,031. Washington Iron Works, Seattle, Wash. Filed Mar. 16, 1960.



Owner of Reg. Nos. 178,239, 390,807, and 534,177.
For Marine and Stationary Diesel Engines, Logging Machinery—Namely, Yarders, Skidders, Loaders, Fairleaders, Block Equipment, and Carriages, Mining Machinery—Namely, Mine Hoists, Gold Dredges, and Tramway Mechanism, Contractor's Machinery—Namely, Diesel, Gas and Steam Hoists, Derricks and Derrick Irons, Blocks and Sheaves, Cranes—Namely, Portal Type Revolving Gantry Cranes, Barge Cranes and Level Luffing Cranes, Hydraulic Presses—Namely, Presses for Hardboard, Particle Board, Plywood and Pulp Industries, and Hardboard, Particle Board, and Plywood Machinery—Namely, Press Equipment, Automatic Loaders and Unloaders, Caul Handling Systems and Complete Dry Process Board Forming Equipment.
First use in or about 1920.

SN 95,894. H & M Associates, New York, N.Y. Filed Apr. 27, 1960.

VAPKOOL

For Pneumatic System, Whereby a Coolant Vapor or Mist Is Produced Under Pressure and Delivered Into the Cutting Area of Tools and Machinery Used in the Cutting and Machining of Metal for the Purpose of Removing the Heat Generated in the Process of Such Cutting or Machining.
First use Oct. 1, 1957.

SN 96,708. Cyril Frank Kemp, Dorrington, Queensland, Australia. Filed May 9, 1960.

KEMPEE

Owner of Australian Reg. No. 133,280, dated Aug. 13, 1957.
For Combination Tube Jointer.

SN 99,060. Outdoor Recreation Inc., Milwaukee, Wis. Filed June 15, 1960.

SMO-KEE

For Thermal Aerosol Fogger.
First use April 1958.

SN 102,155. Wolverine Engraving Company, Tekonsha, Mich. Filed Aug. 5, 1960.

SLEDGE-GRIP

For Steel Stamps.
First use Mar. 11, 1958.

SN 102,469. Fulghum Industries, Wadley, Ga. Filed Aug. 11, 1960.

For Wood Chipping and Debarking Equipment.
First use March 1957.

SN 102,510. Royal McBee Corporation, Port Chester, N.Y. Filed Aug. 11, 1960.

CENTURY

For Typewriters and Parts Thereof.
First use July 25, 1960.

SN 103,065. The Union Fork and Hoe Company, Columbus, Ohio. Filed Aug. 19, 1960.

RAZOR-LITE

Owner of Reg. No. 354,050.
For Hand-Operated Shovels and Spades.
First use July 19, 1960.

SN 105,340. The Consolidated Mining and Smelting Company of Canada Limited, Trail, British Columbia, Canada. Filed Sept. 28, 1960.

COMINCO

Owner of Canadian Reg. No. 119,140, dated Aug. 12, 1960; and U.S. Reg. Nos. 545,491, 645,961, and 646,129.
For Fertilizer Applicators and Parts Thereof.

SN 105,343. D. & S. Engineering Co. of Florida, Ormond Beach, Fla. Filed Sept. 28, 1960.

DASECO

For Parts for Textile Machinery, Such as Aluminum Harness Sheaves, Aluminum Dobby Sheaves, Aluminum Ship Roll Blocks, Aluminum Harness Roll Blocks, Aluminum Starting Rod Bearings, and Bolsters.
First use in 1954.

SN 105,385. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wursburg, Germany. Filed Sept. 28, 1960.

HYDROPLATE

Owner of German Reg. No. 714,262, dated May 27, 1958.
For Automatic Casting Machines for Casting Printing Plates for Rotary Printing Presses, and Parts Therefor.

SN 105,387. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wursburg, Germany. Filed Sept. 28, 1960.

CONDOR

Owner of German Reg. No. 705,659, dated Aug. 21, 1957.
For Printing Presses, Particularly Sheetfed Flatbed Letter Presses.

SN 106,852. The Bendix Corporation, Detroit, Mich. Filed Oct. 6, 1960.

POSITORK

For Starter Drives for Internal Combustion Engines, and Parts Thereof.
First use on or about Nov. 13, 1956.

SN 105,854. The Bendix Corporation, Detroit, Mich. Filed Oct. 6, 1960.

FOLO THRU

For Starter Drives for Internal Combustion Engines, and Parts Thereof.
First use in or about June 1961.

SN 105,900. Ideal Industries, Inc., Bessemer City, N.C. Filed Oct. 6, 1960.

FEATHERTOUCH

For Fiber Attenuating Devices.
First use in or about May 1954.

Class 24—Laundry Appliances and Machines

SN 95,349. A.E.I.-Hotpoint Limited, London, England. Filed Apr. 19, 1960.

SUPERMATIC

Owner of British Reg. No. 783,722, dated Nov. 7, 1958.
For Washing and Drying Machines.

Class 26—Measuring and Scientific Appliances

SN 61,108. Columbus Verlag Paul Oestergaard KG., Berlin-Lichterfelde and Beutelsbach, near Stuttgart, Germany. Filed Oct. 22, 1958.

DUO GLOBE

The word "Globe" is disclaimed apart from the mark as shown. Owner of German Reg. No. 658,716, dated June 11, 1954.
For Terrestrial and Celestial Globes.

SN 67,772. Electro-Voice, Incorporated, Buchanan, Mich. Filed Feb. 16, 1959.

ELECTRO-TAC

For Tachometer for Motors Employing Ignition Systems—Namely, Automobiles, Outboard and Inboard Motors for Boats.
First use Sept. 10, 1957.

SN 89,029. Spectrol Electronics Corporation, San Gabriel, Calif. Filed Jan. 14, 1960.

MULTIDIAL

For Control Knob for Adjusting and Indicating the Position of a Shaft on Electrical and Electronic Apparatus Such as Tuning Condensers, Coils, Capacitors, Potentiometers, and the Like.
First use on or about Sept. 4, 1958.

SN 90,016. W. H. Curtin & Company, Houston, Tex. Filed Feb. 1, 1960.

For Petroleum Gaging and Testing Equipment, Including Centrifuges and Parts Therefor, Oil Thieves and Other Oil Samplers, Gager's Tapes, Thermometers, Hydrometers and Glassware Employed in Measuring and Testing Petroleum Samples.
First use Jan. 10, 1955.

SN 91,529. Diffraction Products, Inc., Maywood, Ill. Filed Feb. 24, 1960.

For Diffraction Gratings and Replicas Thereof, Optical Interferometer, Precision Ruling Engines for Ruling Optical Gratings, and Appliances Therefor.
First use Mar. 3, 1958.

SN 94,523. Tektronix, Inc., Portland, Oreg. Filed Apr. 6, 1960.

TEKAMERA

For Photographic Cameras, Accessories Therefor and Components and Parts Thereof.
First use Mar. 21, 1960.

SN 94,574. Eastman Kodak Company, Rochester, N.Y. Filed Apr. 7, 1960.

FLASHMITE

For Photographic Cameras and Photographic Outfits, Each of Which Includes a Camera and Accessories Therefor.
First use Mar. 25, 1960.

SN 94,774. Kalvar Corporation, New Orleans, La. Filed Apr. 11, 1960.

For Photographic Films of the Light Scattering-Dry Heat Developable Type and for Photographic Equipment for Exposure and Development of Said Films.
First use July 1, 1959, on photographic films.

SN 95,992. Federal Manufacturing & Engineering Corporation, Garden City, N.Y. Filed Apr. 28, 1960.

Owner of Reg. Nos. 576,256, 535,974, and others.
For Photographic Equipment—Namely, Photographic Enlargers, and Accessories for Photographic Enlargers, Particularly Dustless Negative Plates, Cold Light Assemblies, Enlarging Lenses and Counterbalances and for Magnetic Sound Adapters for Motion Picture Projectors.
First use Apr. 15, 1960.

SN 96,050. C. P. Goerz American Optical Company, Inwood, N.Y. Filed Apr. 28, 1960.

APOGOR

For Photographic Lenses for Motion Picture Cameras.
First use 1941.

SN 102,430. Southern Oxygen Company, Bladensburg, Md. Filed Aug. 10, 1960.

Owner of Reg. Nos. 508,425 and 531,963.
For Goggles, Spectacles, and Welder's Hand Shields and Helmets Having Glass Eye Shields.
First use Oct. 10, 1952.

SN 103,334. General Precision, Inc., Glendale, Calif. Filed Aug. 24, 1960.

LIBRATROL

Owner of Reg. Nos. 372,767, 643,924, and others.
For General Purpose Computers Employed in Industrial Processing Systems.
First use November 1959.

SN 103,728. Kinemotive Corporation, Huntington Station, N.Y. Filed Aug. 31, 1960.

ULTRAFORM BELLOWS

Applicant disclaims the word "Bellows" apart from the mark as shown.
For Metal Bellows Components for Instruments and Devices Used for the Measurement and Recording of Physical Phenomena Such as Volume Variation, Force and Balance Displacement, Thermal Expansion and Vibration.
First use May 10, 1960.

SN 103,796. Kontur Kontact Lens Company, Inc., Richmond, Calif. Filed Sept. 1, 1960.

OPTI-CAP

For Contact Lenses.
First use Aug. 24, 1960.

SN 103,860. Kling Photo Corp., New York, N.Y. Filed Sept. 2, 1960.

BALDAMATIC

Owner of Reg. No. 328,056.
For Cameras.
First use in August 1959.

SN 104,191. R & F Products, Inc., Denver, Colo. Filed Sept. 9, 1960.

R & F

For Cases for Containing and Treating Contact Lenses.
First use on or about Jan. 16, 1960.

SN 104,350. General Aniline & Film Corporation, New York, N.Y. Filed Aug. 10, 1960.

ANSCOLITE

Owner of Reg. Nos. 249,170, 701,349, and others.
For Photographic Apparatus, Particularly Photographic Flash Units.
First use July 27, 1960.

SN 104,633. Monroe Calculating Machine Company, Orange, N.J. Filed Sept. 16, 1960.

Auto Punch

For Record Material Upon Which Information Is Recorded by, and for Use in, Data Processing Equipment; Specifically Perforated Tape Containing Information in the Form of Coded Arrangements of Perforations, and Blank Tape Adapted To Be so Perforated.
First use not later than March 1954.

SN 104,710. General Aniline & Film Corporation, New York, N.Y. Filed Sept. 19, 1960.

PROJECTO-SCREEN

For Projection Screens.
First use Aug. 25, 1960.

SN 105,116. Van Dusen & Co., Inc., Waysata, Minn. Filed Sept. 23, 1960.

PRO-MET'R

For Protein Metering Devices.
First use July 1, 1960.

SN 105,220. Sprague Electric Company, North Adams, Mass. Filed Sept. 26, 1960.

LOGILINE

For Electronic Digital Computer Equipment.
First use Mar. 21, 1960.

SN 105,309. Andrew F. Schott, Brookfield, Wis. Filed Sept. 27, 1960.

RADIXAID

For Abacus With Variably Arranged Counters.
First use Feb. 12, 1960.

SN 105,310. Andrew F. Schott, Brookfield, Wis. Filed Sept. 27, 1960.

GEOMETRAID

For Student's Kit, Including Flat and Three Dimensional Geometric Figures and a Set of Measuring Instruments for Use in Mathematical and Educational Exercises.
First use June 13, 1960.

SN 105,381. Retron Controls Corporation, Woodstock, N.Y. Filed Sept. 28, 1960.

WHIRL-FLO

For Flowmeters and Parts Thereof.
First use on or about June 2, 1960.

SN 105,435. General Aniline & Film Corporation, New York, N.Y. Filed Sept. 29, 1960.

DURA-D

For X-Ray Intensifying Screens.
First use Aug. 25, 1960.

SN 105,436. General Aniline & Film Corporation, New York, N.Y. Filed Sept. 29, 1960.

DURA-SPEED

For X-Ray Intensifying Screens.
First use Aug. 25, 1960.

SN 105,507. EAM, Inc., Skippack, Pa. Filed Sept. 30, 1960.

SWING-CHEK

For Gear Testers.
First use Sept. 8, 1960.

SN 105,548. Reed Research, Inc., Washington, D.C. Filed Sept. 30, 1960.

DIOTRON

For Power Level Meters and True R.M.S. Voltmeters.
First use Aug. 5, 1949.

SN 105,962. Cormac Chemical Corporation, New York, N.Y. Filed Oct. 7, 1960.

UNITANK

For Photographic Processing Tanks.
First use Mar. 17, 1960.

SN 106,087. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Oct. 10, 1960.

MINISLIDE

For Slide Rule Calculator for Rate and Administration of Parenteral Fluids.
First use Sept. 25, 1960.

SN 106,153. Sylvania Electric Products, Inc., New York, N.Y. Filed Oct. 10, 1960.

WABASH

For Photoflash Lamps.
First use Jan. 2, 1936.

SN 106,358. W. F. Stanley & Company Limited, London, England. Filed Oct. 13, 1960.

ALLBRIT

Owner of British Reg. Nos. 684,688 and 639,697, dated Jan. 31, 1945 and Aug. 31, 1945, respectively.
For Drafting Machines and Planimeters.

Class 29—Brooms, Brushes, and Dusters

SN 79,138. Bissell, Inc., Grand Rapids, Mich. Filed Aug. 7, 1959.

SPONGE MASTER MOP

Applicant disclaims the words "Sponge" and "Mop" apart from the mark shown.
For Mops and Wax Applicators.
First use on or about June 19, 1959.

Class 30—Crockery, Earthenware, and Porcelain

SN 76,878. La Jefatura Nacional de la Obra Sindical de Artesania de la Delegacion Nacional de Sindicatos, Madrid, Spain. Filed July 1, 1959.



Owner of Spanish Reg. No. 296,581, dated Nov. 29, 1956.
For Crockery, Earthenware, and Porcelain—Namely, Jugs, Urns, Jars, Ornamental Statues, Dinner Sets, Tea Services, Ornamental Plates; Pottery Such as Earthen Pitchers, Cooking Pots, Saucepans, Flowerpots, and Every Auxiliary Kitchen Vessel; and Ornamental Wares—Namely, Urns, Enamelled Crockery, and Glazed Plates With or Without Embossment.

Class 31—Filters and Refrigerators

SN 81,751. Pharmacia Laboratories, Inc., New York, N.Y. Filed Sept. 21, 1959.

SEPHADEX

For High Molecular Weight Substance for the Purification of Chemical Substances.
First use Aug. 28, 1959.

SN 100,926. Permanent Filter Corporation, Los Angeles, Calif. Filed July 15, 1960.

PERMA-RAY

Owner of Reg. Nos. 672,492, 678,877, and 698,977.
For Electronic Filters.
First use June 20, 1960.

Class 32—Furniture and Upholstery

SN 103,202. Sealy, Incorporated, Chicago, Ill. Filed Aug. 22, 1960.

CONFORM-A-COIL

Owner of Reg. Nos. 694,241 and 706,651.
For Mattresses and Box Springs.
First use July 14, 1960.

SN 104,182. Nova Products Corp., Brooklyn, N.Y. Filed Sept. 9, 1960.

TILTO

For Adjustable Stool and Leg Rest Capable of Use With a Chair.
First use June 20, 1960.

SN 105,069. Endicott Church Furniture, Inc., Warsaw, Ind. Filed Sept. 23, 1960.

SUNDAY-BEST

For Furniture—Namely, Educational Furniture, Such as Desks, Seats and Chairs, Social Furniture Such as Banquet Tables and Folding Chairs.
First use Aug. 17, 1960.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 74,652. Desomatic Products, Inc., Falls Church, Va. Filed May 28, 1959.

ANDERS

For Dehumidification Apparatus and Component Parts Thereof, for Conditioning Gases Such as Air at Normal or High Pressures, Including Compressed Gas Dehydrators, Valves, Fans, Blowers, Pumps, Pipes and Ducts.
First use December 1948.

SN 89,339. Deutsche Fibrit Gesellschaft Ebers & Df. Muller m.b.H., Krefeld, Germany. Filed Jan. 20, 1960.

FIBRIT

Owner of German Reg. No. 735,882, dated Apr. 25, 1960.
For Air Ducts for Air Conditioning Installations.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 106,187. C. R. Daniels, Inc., Daniels, Md. Filed Oct. 11, 1960.

TOUGHCO

For Woven Belting.
First use July 1, 1960.

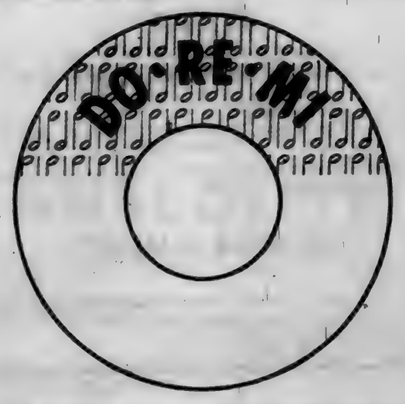
Class 36—Musical Instruments and Supplies

SN 84,761. M. Hohner Inc., New York, N.Y. Filed Nov. 6, 1959.

PICCOLA

For Accordions.
First use Oct. 28, 1959.

SN 94,526. U.S. Recording Enterprises, Inc., Hackensack, N.J. Filed Apr. 6, 1960.



For Mechanically Reproduced Phonograph Records.
First use Sept. 8, 1958.

Class 37 — Paper and Stationery

SN 56,563. Mail-Well Envelope Company, Portland, Oreg. Filed Aug. 4, 1958.

"RETURNELOPE"

For Envelopes.
First use May 7, 1947.

SN 67,539. Clark R. Gilbert, d.b.a. Gilbert Press, Benton, Kans. Filed Feb. 11, 1959.

STREAMLINED

For Forms, Record Books, and Accounting Sheets.
First use in or about January 1943.

SN 70,302. Frederick Klein, New York, N.Y. Filed Mar. 26, 1959.

STAMPLER

For Machine for Feeding Stamps to an Envelope and Affixing the Same Thereto.
First use in June 1958.

SN 89,864. Oxford Filing Supply Co., Inc., Garden City, N.Y. Filed Jan. 28, 1960.



For Filing Folders, Index Cards, Guide Cards, Flat and Expanding Envelopes, Labels, Folders and Accessories and Brief Covers.
First use January 1956.

SN 90,046. Friedrich Erfurt & Sohn, Schweim, Dahlhausen, Germany. Filed Feb. 1, 1960.

RAUWEX

Owner of German Reg. No. 513,123, dated June 19, 1939.
For Paper, Paste Board, Card Board, and Wallpaper.

SN 90,739. George K. Birge Co., Inc., Buffalo, N.Y. Filed Feb. 11, 1960.



The drawing is in part lined to indicate a tonal gradation or shading effect.
For Wall Paper.
First use on or about Jan. 20, 1960.

SN 90,754. J. C. Hall Company, Pawtucket, R.I. Filed Feb. 11, 1960.

Hallmark

For Blank Checks Issued in Single and Book Form.
First use Apr. 17, 1933.

SN 96,433. Calwis Company, Green Bay, Wis. Filed June 6, 1960.

TWINWIPES

For Windshield Towels.
First use Oct. 15, 1958.

SN 101,850. Champion Paper Specialties, Inc., Hamilton, Ohio. Filed Aug. 2, 1960.

LEXICOPY

For Paper Stock for Electrostatic Reproduction Purposes.
First use at least as early as June 25, 1960.

SN 103,472. Mutual Engineering & Mfg. Co., Los Angeles, Calif. Filed Aug. 30, 1960.

RAY-RITE

For Illuminated Clipboards.
First use 1938.

SN 103,794. Katz Drug Company, Kansas City, Mo. Filed Sept. 1, 1960.

Eugenia

For Facial Tissues.
First use at least as early as April 1934.

SN 104,029. Hamilton Paper Company, Miquon, Pa. Filed Sept. 7, 1960.

RITE-COPY

For Printing Paper.
First use June 29, 1960.

SN 104,062. Bourges Color Corporation, New York, N.Y. Filed Sept. 8, 1960.

LET-O-PRESS

For Artists' Lettered Sheets.
First use Aug. 26, 1959.

SN 104,445. Fisher Pen Company, Forest Park, Ill. Filed Sept. 14, 1960.

FREEDOM

For Pens and Attachment-Clips for Pens.
First use on or about Mar. 31, 1954.

Class 38 — Prints and Publications

SN 78,678. Be Be R. Bailey, Wheaton, Md. Filed July 30, 1959.

WHEATON NEWS

For Newspaper.
First use May 7, 1959.

SN 99,538. Purchasing Files, Inc., Chicago, Ill. Filed June 22, 1960.

THE HOSPITAL PURCHASING FILE

For Periodical Publication.
First use Oct. 1, 1945.

SN 99,922. The Dow Chemical Company, Midland, Mich. Filed June 29, 1960.

DOWELL XTRA

Owner of Reg. Nos. 516,220, 542,155, and others.
For House Organ.
First use November 1948.

SN 100,150. Proven Promotions, Hartsdale, N.Y. Filed July 1, 1960.

BUMPERNIKS

For Paper Stickers With Various Printed Slogans Which Can Be Affixed to Automotive Vehicles Such as the Bumpers of Automobiles.
First use May 27, 1960.

SN 100,362. The Hall Syndicate, Inc., New York, N.Y. Filed July 6, 1960.

WORD WIT

For Printed Cartoon Puzzles.
First use May 30, 1960.

SN 100,670. World Vision, Inc., Pasadena, Calif. Filed July 11, 1960.

WORLD VISION MAGAZINE

Applicant disclaims the word "Magazine" apart from the words "World Vision."
For Monthly Magazines.
First use in June 1957.

SN 100,680. American Can Company, New York, N.Y. Filed July 12, 1960.

HI-FI

Owner of Reg. No. 675,775.
For Printed Advertising Matter.
First use Nov. 29, 1958.

SN 100,950. United Printers and Publishers (Incorporated), Dedham, Mass. Filed July 15, 1960.



For Greeting Cards, Valentines, Printed Folders and Printed Pamphlets.
First use Apr. 1, 1959.

SN 102,293. American Society of Ichthyologists and Herpetologists, Philadelphia, Pa. Filed Aug. 9, 1960.

Copeia

For Quarterly Publication.
First use Dec. 27, 1913.

SN 102,320. The Industrial Publishing Corporation, Cleveland, Ohio. Filed Aug. 9, 1960.

HYDRAULICS & PNEUMATICS

Owner of Reg. Nos. 512,966, 630,023, and 680,916.
For Publication Published Monthly or From Time to Time, the Subject Matter of Which Is Directed to Hydraulics and Pneumatics.
First use on or about June 2, 1960.

SN 102,381. Faville-Le Vally Corporation, Chicago, Ill. Filed Aug. 10, 1960.

MARINERS MART

For Periodically Published, Classified Advertising Paper, Covering Used and New Boats, Marine Supplies and Services in the Midwest Boating Areas.
First use Apr. 7, 1960.

Class 39 — Clothing

SN 69,954. Creative Shoes Limited, Montreal, Quebec, Canada. Filed Mar. 20, 1959.

ALPINE

For Women's Winter Boots.
First use October 1945.

SN 71,052. Talbott Knitting Mills, Inc., New York, N.Y. Filed Apr. 7, 1959.

HERITAGE EDITION BY TALBOTT

Owner of Reg. No. 607,773.
For Men's Sweaters and Knit Shirts and Women's Sweaters and Skirts.
First use Feb. 25, 1959.

SN 80,129. Sondra Manufacturing Co. Inc., New York, N.Y. Filed Aug. 24, 1959.

Dreamies
FOR PLEASANT DREAMS

Owner of Reg. No. 396,280.
For Sleeping Wear.
First use 1938.

SN 61,463. Consolidated Merchants Syndicate, Inc., New York, N.Y. Filed Sept. 16, 1959. COLLECTIVE MARK.

GRAMERCY

For Hosiery.
First use in February 1958.

SN 82,400. Danskin Inc., New York, N.Y. Filed Sept. 30, 1959.

DANSOFT

Owner of Reg. Nos. 584,683, 620,914, and 623,525.
For Tights.
First use Sept. 15, 1959.

SN 82,504. Carl Freudenberg Kommanditgesellschaft auf Aktien, Weinheim an der Bergstrasse, Germany. Filed Oct. 1, 1959.

PLAZA-CALF

Owner of German Reg. No. 724,360, dated Apr. 27, 1959.
For Shoe Uppers.

SN 82,711. Rose Marie Reid, Los Angeles, Calif. Filed Oct. 5, 1959.

THE SWIMSUIT ALWAYS AHEAD OF THE SWIM

For Swim Suits.
First use August 1958.

SN 86,196. Prom Teen Fashions, Inc., New York, N.Y. Filed Nov. 27, 1959.

PROM TEEN

For Children's Dresses.
First use Oct. 21, 1959.

SN 89,817. Trimfoot Company, Farmington, Me. Filed Jan. 27, 1960.

Wee Kids
A REAL TREAT FOR TINY FEET

Owner of Reg. No. 373,532.
For Children's Shoes.
First use Mar. 1, 1947; on or about Mar. 3, 1939, as to "Wee Kids" in a different display.

SN 90,604. H. Daroff & Sons, Inc., Philadelphia, Pa. Filed Feb. 15, 1960.

Kamera

Owner of Reg. No. 374,393.
For Men's and Young Men's Suits.
First use on or about Jan. 15, 1960.

SN 93,178. Harry & Dan Grossman Furs, Inc., New York, N.Y. Filed Mar. 18, 1960.

DESIGNED BY DANIEL

The words "Designed by" are disclaimed apart from the mark. "Daniel" is the name by which designer Dan Grossman is known, and his consent is of record.
For Furs—Namely, Capes, Stoles, Jackets, Coats, Finished Fur Collars and Scarfs.
First use Mar. 10, 1960.

SN 96,564. Fred Altschuler-Picard, d.b.a. Fred A. Picard, Sun Valley, Idaho. Filed June 7, 1960.

PICARD

For Men's and Women's Gym Suits, Women's and Girls' Dresses and Hats; Ladies' Underwear—Namely, Slips, Chemises, Brassieres, Nightgowns, Pajamas; Men's, Women's, and Children's Jackets, Blouses, Ski Suits, Skating Suits, and Sport Suits; Men's, Women's and Children's Dress Shoes, Ski Shoes and Boots, Slippers, Belts for Outer Wear, Scarfs, Neckties, Gloves Made of Leather, Fabric and Leather and Fabric Gloves.
First use in 1888.

SN 99,335. Lady Marlene Brassiere Corp., New York, N.Y. Filed June 20, 1960.

GAY PAREE

For Girdles.
First use June 2, 1960.

SN 99,640. Merit Clothing Company, Mayfield, Ky. Filed June 24, 1960.

MERIT

Owner of Reg. No. 524,439.
For Men's Suits and Overcoats.
First use 1905.

SN 99,941. Maidenform, Inc., New York, N.Y., by change of name from Maiden Form Brassiere Company, Inc., New York, N.Y. Filed June 29, 1960.

REVEUSE

The English equivalent for "Reveuse" is "dreaming."
For Foundation Garments—Namely, Brassieres.
First use June 9, 1960.

SN 100,490. Empire Imports, Inc., New York, N.Y. Filed July 7, 1960.

CONTESSA VISCONTE

For Knitwear for Women and Young Women—Namely, Knit Dresses, Skirts, Jackets, Blouses, Suits and Ensembles.
First use June 1, 1960.

SN 100,810. Natalie Simonoff, d.b.a. Naymor, Long Beach, N.Y. Filed July 13, 1960.

Sabalé.

For Women's Apparel—Namely, Slips, Petticoats, Panties, Nightgowns, Robes, Lingerie, Hostess Robes, Pyjamas, Brassieres, Girdles, Slippers, Dresses, Bathing Suits, and Corsets.
First use May 11, 1960.

SN 101,260. The H. W. Gossard Co., Chicago, Ill. Filed July 21, 1960.

PANCAKE

For Girdles and Panty Girdles.
First use July 1, 1960.

SN 101,751. Commonwealth Shoe & Leather Co., Inc., d.b.a. London Character Shoes, Whitman, Mass. Filed Aug. 1, 1960.

London Character
"bantam weight"

Owner of Reg. Nos. 126,518, 584,910, and others.
For Shoes for Men and Young Men.
First use Nov. 20, 1954; in 1907 as to "London"; May 24, 1919, as to "London Character"; Apr. 28, 1934, as to "Bantam Weight"; Mar. 21, 1948, as to the "Lion Design."

SN 101,935. Durlacher & Co., Inc., New York, N.Y. Filed Aug. 3, 1960.

RAINCHASER

For Ladies' Waterproof Head Covering in the Nature of a Kerchief.
First use Jan. 14, 1960.

SN 101,936. Durlacher & Co., Inc., New York, N.Y. Filed Aug. 3, 1960.

WINDCHASER

For Ladies' Head Covering in the Nature of a Kerchief.
First use Jan. 14, 1960.

SN 102,848. International Shoe Company, St. Louis, Mo. Filed Aug. 17, 1960.

Fabiănos

For Women's Dress and Sport Casual Shoes.
First use Aug. 5, 1960.

SN 103,094. Capital Shirt Corp., New York, N.Y. Filed Aug. 22, 1960.

Seabrooke

For Men's and Boys' Dress and Sport Shirts.
First use July 15, 1960.

SN 103,139. Freeman Shoe Corporation, Beloit, Wis. Filed Aug. 22, 1960.

SURFSIDER

For Men's and Boys' Shoes.
First use Aug. 9, 1960.

SN 103,145. The H. W. Gossard Co., Chicago, Ill. Filed Aug. 22, 1960.

Hi-Top

Owner of Reg. No. 386,891.
For Corsets, Girdles and Combination Corsets and Brassieres.
First use Feb. 26, 1940.

SN 103,156. F. Jacobson & Sons, Inc., New York, N.Y. Filed Aug. 22, 1960.

OXLITE

For Men's Shirts.
First use October 1958.

SN 103,327. Cuddle-Teen Frocks, Inc., New York, N.Y. Filed Aug. 24, 1960.

WILLOW GIRL

For Girls' Dresses.
First use July 8, 1960.

SN 103,347. Maidenform, Inc., New York, N.Y. Filed Aug. 24, 1960.

SEA DREAM

For Swim Suits.
First use Aug. 12, 1960.

SN 103,450. Glamorise Foundations, Inc., New York, N.Y. Filed Aug. 26, 1960.

SYM-BELLE

For Girdles, Corsets, Corselets and Brassieres.
First use November 1937.

SN 103,468. McGregor-Doniger Inc., New York, N.Y. Filed Aug. 26, 1960.

RFD 1

For Jackets, Coats, Slacks, Shirts, Vests, and Sweaters.
First use July 11, 1960.

SN 103,509. Aldens, Inc., Chicago, Ill. Filed Aug. 29, 1960. Owner of Reg. Nos. 406,733, 616,599, and others.

ALDENS JUNIORETTES

For Pre-Teen Girls' Shoes.
First use July 1, 1960.

SN 103,548. Country Tweeds Incorporated, New York, N.Y. Filed Aug. 29, 1960.

POINT COUNTER POINT

For Misses', Women's, and Junior Coats.
First use June 14, 1960.

SN 103,567. Hickey-Freeman Company, Rochester, N.Y. Filed Aug. 29, 1960.

CUSTOMIZED

Owner of Reg. No. 296,444.
For Men's Apparel—Namely, Men's and Boys' Formal, Informal, and Sports Suits, Trousers, Jackets, and Vests; Overcoats, Top Coats, and Rain Coats.
First use in or about April 1920.

SN 103,579. Liberty Trouser Company, Birmingham, Ala. Filed Aug. 29, 1960.

ID

For Men's and Boys' Trousers.
First use Aug. 18, 1960.

SN 103,595. Pendleton Woolen Mills, Portland, Oreg. Filed Aug. 29, 1960.

SIR PENDLETON

Owner of Reg. No. 508,995.
For Men's Shirts and Lounging Robes.
First use Apr. 3, 1956.

SN 104,027. Foster-Hochberg Manufacturing Co., Inc., Seattle, Wash. Filed Sept. 7, 1960.

Camée

For Sweaters.
First use on or about June 1, 1960.

SN 106,377. The Alligator Company, St. Louis, Mo. Filed Oct. 14, 1960.

COACHER

Owner of Reg. Nos. 346,241 and 346,414.
For Raincoats, Water Repellent Coats, Topcoats, Coats With Zip-In Warmers.
First use Dec. 29, 1936.

SN 106,422. The La Resista Corset Company, Bridgeport, Conn. Filed Oct. 14, 1960.

"JUST BETWEEN YOU AND YOUR DRESS"

For Brassieres, Girdles, Corsellettes and Foundation Garments.
First use on about Nov. 20, 1939.

SN 106,491. Genesco Inc., Nashville, Tenn. Filed Oct. 17, 1960.

MAGIC-RIM

For Boots, Shoes and Slippers of Leathers, Rubber, Fabric, of a Combination of Those Materials, for Men, Women, and Children.
First use July 26, 1960.

SN 106,842. Ross of Florida, Inc., Lakeland, Fla. Filed Oct. 20, 1960.

Ross of FLORIDA

For Brassieres and Girdles.
First use in August 1959.

SN 106,843. Ross of Florida, Inc., Lakeland, Fla. Filed Oct. 20, 1960.

DELORES by Ross

For Brassieres and Girdles.
First use July 19, 1956.

SN 107,142. Peter Pan Foundations, Inc., New York, N.Y. Filed Oct. 25, 1960.

For Brassieres, Girdles, Panty Girdles, and Garter Belts.
First use Sept. 1, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 81,355. United Elastic Corporation, Easthampton, Mass. Filed Sept. 14, 1959.

STRETCH-TEX

Owner of Reg. No. 583,106.
For Wide Woven Elastic Fabrics and Raschel Knit Elastic Fabrics.
First use July 25, 1939.

SN 85,076. Appleton Woolen Mills, Appleton, Wis. Filed Nov. 12, 1959.

AP-PLEX

For Papermakers' Felts.
First use Nov. 2, 1959.

SN 92,520. Alamac Sales Corporation, New York, N.Y. Filed Mar. 10, 1960.

THALMATTE

For Knitted Fabrics of Combination of Synthetic and Wool Fibers; and Knitted Fabrics of Combination of Synthetic Fibers and Cotton.
First use Jan. 15, 1960.

SN 100,956. Webco Mills, Inc., Burlington, N.C. Filed July 15, 1960.

SATINTRIQUE

For Nylon Tricot Fabric Used for Making Lingerie, Dresses, Blouses, and the Like.
First use June 15, 1960.

SN 103,580. Mayflower Worsted Company, Kingston, Mass. Filed Aug. 29, 1960.

WESSEX WORSTEDS

Without waiving its common law rights and for purposes of registration only, applicant makes no claim to the word "Worsteds" apart from the mark as shown.
For Apparel Fabrics Made Wholly or in Substantial Part of Worsted for Men's and Women's Wear.
First use Mar. 23, 1960.

SN 104,322. Shulman Fabrics, Inc., Paterson, N.J. Filed Sept. 12, 1960.

SILKRON

For Curtains and Draperies of Silk and Synthetic Fibres.
First use Mar. 24, 1960.

SN 106,323. Goodall Sanford Incorporated, Wilmington, Del. Filed Oct. 13, 1960.

PALMA WEAVE

Applicant disclaims the exclusive right to the use of the word "Weave" separate and apart from the mark as shown.
Owner of Reg. Nos. 97,416, 614,524, and others.
For Textile Piece Goods Suitable for Use in the Manufacture and Sale of Suits, Coats, Slacks, Shorts and Other Apparel Items.
First use Aug. 29, 1958.

SN 106,385. Cannon Mills Company, Kannapolis, N.C. Filed Oct. 14, 1960.

EZY-MATIC

Owner of Reg. No. 638,103.
For Sheets.
First use May 21, 1954.

SN 106,390. Collins & Aikman Corporation, New York, N.Y. Filed Oct. 14, 1960.

SAVOIR FAIRE

For Pile Fabrics for Wearing Apparel.
First use Sept. 14, 1960.

SN 106,880. Beacon Manufacturing Company, Swannanoa, N.C. Filed Oct. 21, 1960.

FOUR POSTER

For Blankets.
First use Sept. 23, 1960.

SN 107,164. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Oct. 25, 1960.

"THE ROOM OF TOMORROW . . . TODAY"

For Piece Goods of Silk, Synthetic Fibers, and/or Combinations Thereof, Adapted for Use as Upholstery and Drapery Fabrics.
First use on or about Sept. 28, 1960.

Class 43—Thread and Yarn

SN 81,650. Toyo Rayon Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Sept. 18, 1959.

TORAY

Owner of Japanese Reg. No. 515,859, dated Mar. 14, 1958.
For Silk Yarn, Artificial Silk Yarn, and Gold and Silver Threads.

SN 104,059. Aluminum Yarn Corporation, New York, N.Y. Filed Sept. 8, 1960.

ALUMET

For Metallic Yarns.
First use Dec. 1, 1958.

Class 44—Dental, Medical, and Surgical Appliances

SN 73,080. Diagnostic Associates, Inc., Walnut Creek, Calif. Filed May 7, 1959.

CULPAK-KIT

For Sterile Packages for the Reception and Transportation of Bacteria for Bacteriological Study.
First use in January 1959.

SN 104,225. Brunswick Corporation, Chicago, Ill. Filed Sept. 12, 1960.

ARGYLE

For Medical-Surgical Tubes and Catheters, Cannulae, Tubing Connectors, and Tube Adapter Caps.
First use June 30, 1960.

Class 45—Soft Drinks and Carbonated Waters

SN 97,527. Ernest Tangeri, d.b.a. Best Brand Beverage Co., Fords, N.J. Filed May 19, 1960.

Briar's Bark Brewed Birch Beer

No claim is made to the working "Bark Brewed Birch Beer" apart from the mark.
For Birch Beer.
First use on or about June 1, 1957.

SN 100,190. The Shasta Water Company, San Francisco, Calif. Filed July 1, 1960.

SHASTA SHASTA

Owner of Reg. Nos. 74,564, 675,052, and others.
For Soft Drinks.
First use May 16, 1960; in 1889 as to "Shasta."

SN 100,223. Certified Grocers of California, Ltd., d.b.a. Certified Grocers of California, Los Angeles, Calif. Filed July 5, 1960.

SPRINGFIELD

Owner of Reg. No. 634,226.
For Frozen Concentrate for Lemonade.
First use July 20, 1959.

Class 46—Foods and Ingredients of Foods

SN 54,025. Dunkin' Donuts of America, Inc., Quincy, Mass. Filed June 23, 1958.



No claim of exclusive right is made to "Donuts" as used for doughnuts and doughnut flour. Owner of Reg. No. 692,491.
For Doughnuts and Doughnut Flour, Pastry Fillings and Toppings, Flavoring Extracts, Shortenings and Coffee.
First use during July 1954 on doughnuts and pastry fillings; during May 1952 as to "Dunkin' Donuts" on doughnuts.

SN 54,425. Pacific Hawaiian Products Company, Fullerton, Calif. Filed June 27, 1958.

Hawaiian golden punch

The word "Punch" is disclaimed. Owner of Reg. No. 600,083.
For Canned Fruit Juice Beverage in the Nature of a Non-Alcoholic Maltless Soft Drink.
First use Aug. 14, 1957.

SN 70,147. Haribo Lakritzen Hans Riegel Ohg, Bonn (Rhine), Germany. Filed Mar. 24, 1959.

Haribo

For Candy.
First use February 1952; in commerce February 1952.

SN 75,861. The House of Bauer, Lincoln, Nebr. Filed June 16, 1959.

VERY PERSONALLY YOURS

For Candy.
First use during December 1958.

SN 80,368. The Sugardale Provision Company, Canton, Ohio. Filed Aug. 27, 1959.

BEEFIES

For Wieners.
First use on or about Jan. 7, 1954.
Subj. to Intf. with Reg. No. 679,744.

SN 84,574. Toffenetti Restaurant Company, Inc., Chicago, Ill. Filed Nov. 3, 1959.

TOFFENETTI RESTAURANTS

Applicant disclaims exclusive rights in the word "Restaurants."
For Coffee.
First use 1939.

SN 86,526. Tulkoff's Horseradish Products Co., Baltimore, Md. Filed Dec. 2, 1959.

T TULKOFF'S

The drawing is lined for the color red but no claim to color is made. Owner of Reg. No. 416,047.
For Prepared Horseradish and Cocktail Sauce.
First use Nov. 20, 1958.

SN 88,415. National Starch and Chemical Corporation, New York, N.Y. Filed Jan. 4, 1960.

PURITY

Owner of Reg. No. 382,198.
For Food Starches.
First use Dec. 15, 1938.

SN 88,866. T. Marsetti Company, Columbus, Ohio. Filed Jan. 12, 1960.

season-aid

For Food-Seasoning in Dry, Powdered Form Consisting of a Mixture of Various Condiments and Spices.
First use Nov. 2, 1959.

SN 89,332. Continental Coffee Company, Chicago, Ill. Filed Jan. 20, 1960.

STA-FRESH

Owner of Reg. No. 587,453.
For Anti-Oxidants for Foods.
First use on or about Sept. 19, 1952.

SN 89,542. Armour and Company, Chicago, Ill. Filed Jan. 25, 1960.

SUPR-COTE

For Coating Fat Made From Hardened Vegetable Oils.
First use Dec. 15, 1959.

SN 90,551. National Tea Co., d.b.a. National Food Stores, Chicago, Ill. Filed Feb. 8, 1960.

SO FRESH

Owner of Reg. No. 606,231.
For Prepared and Fresh Frozen Ocean Perch, Sole Fillets, Flounder Fillets, Ocean Catfish, Fish Sticks, Cod Fillets, Haddock Fillets, Sea Scallops, Dressed Whiting.
First use Oct. 15, 1958.

SN 91,451. Frank Ryser Co., Chicago, Ill. Filed Feb. 23, 1960.



The drawing is lined for red, green, and gold, but the colors so named, except red, are not essential features of the mark. Applicant disclaims the work "Cheese" apart from the mark as shown. Owner of Reg. No. 406,647.
For Cheese.
First use August 1948.

SN 91,912. Blue Goose, Inc., Fullerton, Calif. Filed Mar. 1, 1960.

BLUE GOOSE

The drawing is lined for blue. Owner of Reg. Nos. 212,033, 643,357, and others.
For Fresh Fruits, Vegetables, Dates, Grapes, Melons, Tomatoes, Avocados; Canned Fruits and Vegetables; Frozen Fruits, Citrus Juice, Vegetables, Berries, and French Fry Potatoes.
First use at least as early as May 29, 1918.

SN 97,355. Wood & Selick Coconut Co., Inc., New York, N.Y. Filed May 17, 1960.

TROPICAL

Owner of Reg. No. 639,784.
For Sweetened Desiccated Coconut.
First use Dec. 31, 1938.

SN 99,704. Anheuser-Busch, Incorporated, St. Louis, Mo. June 27, 1960.

BUD-SWEET

Owner of Reg. Nos. 180,378, 588,034, and others.
For Corn Syrup for Food Purposes.
First use Aug. 13, 1956.

SN 100,012. Colonial Stores Incorporated, d.b.a. Albers Super Markets, Atlanta, Ga. Filed June 30, 1960.

ALBERLY

Owner of Reg. No. 587,263.
For Bread and Ice Cream.
First use May 1937.

SN 100,320. Vegetable Oil Products Company, Inc., Wilmington, Calif. Filed July 5, 1960.

VO-PUFF

For Puff Paste Shortening Prepared From Animal and Vegetable Fats.
First use May 15, 1960.

SN 100,587. Dunlap's Incorporated, Plymouth, Ind. Filed July 11, 1960.

ORANGE SEAL

The word "Orange" is disclaimed apart from the mark as shown.
For Packaged Orange Juice, Either Fresh or Reconstituted.
First use Mar. 26, 1960.

SN 100,878. Bayou Industries Inc., d.b.a. Feed Ingredients Co., Arabi, La. Filed July 15, 1960.

COLYATE

For Animal Feed Supplement.
First use July 6, 1960.

SN 101,009. Kilburn Packing Corporation, Dinuba, Calif. Filed July 18, 1960.

CALIENTE

The English translation of "Caliente" is "Warm" or "Fiery."
For Fresh Deciduous Fruits and Fresh Grapes.
First use at least as early as the year 1936.

SN 101,777. G. P. Gundlach & Company, Cincinnati, Ohio. Filed Aug. 1, 1960.

PERTO

For Protein Modified Fluid Milk.
First use May 5, 1960.

SN 102,194. Central Soya Company, Inc., Fort Wayne, Ind. Filed Aug. 8, 1960.

FARRO-AID

For Hog Feed.
First use July 3, 1960.

SN 102,220. Dye Candy Company, St. Louis, Mo. Filed Aug. 8, 1960.

Dye's Yummy Taffy

No claim of exclusive right is made to the word "Taffy" as the name of the goods.
For Candy.
First use Apr. 28, 1960.

SN 102,232. Green Bay Food Company, Green Bay, Wis. Filed Aug. 8, 1960.

LAKE CITY

For Pickles, Sweet Pickled Beets, Sweet Relishes, Pickled Onions, Piccalilli, Chow Chow.
First use Jan. 1, 1923.

SN 102,269. Slayman Fruit Company, Lindsay, Calif. Filed Aug. 8, 1960.

Mr. Fresh

For Fresh Fruits.
First use June 8, 1960.

SN 104,203. Toshi F. Tsukuno, d.b.a. Tees Produce, Chula Vista, Calif. Filed Sept. 9, 1960.

TTT

For Fresh Vegetables.
First use June 6, 1960.

SN 104,394. Krause Milling Company, Milwaukee, Wis. Filed Sept. 13, 1960.

AQUATEX

For Bleached-Gelatinized Wheat Flour for Food Use.
First use Jan. 16, 1946.

SN 104,686. George Brothers, Sultana, Calif. Filed Sept. 9, 1960.

THREE G's

For Fresh Deciduous Fruits and Fresh Grapes.
First use June 13, 1959, on fresh deciduous fruits.

SN 104,687. George Brothers, Sultana, Calif. Filed Sept. 19, 1960.

Buy George!

For Fresh Deciduous Fruits and Fresh Grapes.
First use July 7, 1959, on fresh grapes.

Class 47 — Wines

SN 102,385. Gibson Wine Co., Cincinnati, Ohio. Filed Aug. 10, 1960.

WHITE PHEASANT

For Wines.
First use Mar. 3, 1937.

Class 49 — Distilled Alcoholic Liquors

SN 94,423. Schenley Distillers, Inc., New York, N.Y. Filed Apr. 5, 1960.

MR. VIRGINIA

For Gin.
First use Feb. 29, 1960.

Class 50 — Merchandise Not Otherwise Classified

SN 76,223. Betty Kennedy, d.b.a. Sevilla Company, Cleveland, Ohio. Filed June 22, 1959.

KUFF-RITE

For Trousers Hangers and Combination Trousers and Coat Hangers.
First use Feb. 5, 1959.

SN 91,529. Nolkane, Inc., Mamaroneck, N.Y. Filed Feb. 24, 1960.

PASS-I-FIER

For Signaling Device Attachable to Motor Vehicles Capable of Communicating a Courtesy or Exasperation Message to Other Drivers.
First use Jan. 28, 1960.

SN 101,972. Peerless Maid Plastics, Inc., Farmington, Minn. Filed Aug. 3, 1960.

Kinder Mat

The work "Mat" is hereby disclaimed apart from the mark as shown.
Sanitary Rest Mats Made Especially for Small Children.
First use July 26, 1954.

SN 103,837. Continental Can Company, Inc., New York, N.Y. Filed Sept. 2, 1960.

SMARTOP

For Container Closures.
First use July 7, 1960.

SN 105,080. Igelstroem-Oberlin, Inc., Massillon, Ohio. Filed Sept. 23, 1960.

SOLINITE

For Non-Electric Signs.
First use Apr. 2, 1939.

SN 105,136. Bradshaw Manufacturing Company, Inc., Canton, Ga. Filed Sept. 26, 1960.

BRAMCO

For Gas Brooders, Poultry Waterers, Feeders, Hen Nests, Hog Feeders, Coal and Electric Brooders, Water Fount Base.
First use Sept. 4, 1958.

SN 105,576. Superior Plastics Inc., Chicago, Ill. Filed Sept. 30, 1960.

The Thinking Matter

For Plastic Models of the Human Brain.
First use Sept. 21, 1960.

SN 105,602. Union Novelty Company, Inc., New York, N.Y. Filed Oct. 3, 1960.

CAPRI

For Artificial Flowers, Artificial Fruits, Artificial Trees, Artificial Plants, Artificial Foliages, Artificial Wreaths, Artificial Festoons and Christmas Ornaments.
First use September 1957.

Class 51 — Cosmetics and Toilet Preparations

SN 67,318. Helene Curtis Industries, Inc., Chicago, Ill. Filed Feb. 9, 1959.

INVITATION

For Cold Wave Lotion.
First use on or about Nov. 13, 1958.

SN 100,374. Lehn & Fink Products Corporation, Bloomfield, N.J. Filed July 6, 1960.

BEAUTI-LASH

Owner of Reg. No. 692,194.
For Mascara.
First use about Aug. 18, 1958.

Class 52 — Detergents and Soaps

SN 74,901. Hans Schwarzkopf, Hamburg-Altona, Germany. Filed June 1, 1959.

IGOFLEUR

Priority claimed under Sec. 44(d) on German application filed Dec. 5, 1958; Reg. No. 728,938 dated Sept. 11, 1959. Owner of U.S. Reg. Nos. 639,826 and 699,541.
For Color Shampoo.

SN 82,888. Ernest W. Ekstrand, Washington, D.C. Filed Oct. 8, 1959.

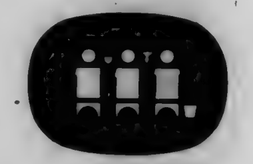
HANZON

For Waterless Hand Cleansing Cream.
First use August 1956.

SERVICE MARKS

Class 100 — Miscellaneous

SN 86,330. Sani-Care Building Service of America, Glendale, Calif. Filed Nov. 30, 1959.



For Janitorial and Maintenance Service.
First use November 1958.

SN 96,430. Shirt Valet—The National Shirt Rental Plan, Inc., New York, N.Y. Filed May 4, 1960.

SHIRT VALET

The word "Shirt" is disclaimed apart from the mark as shown. Owner of Reg. No. 702,701.
For Rental of Shirts.
First use Mar. 1, 1958.

SN 98,715. Mediclean, Inc., Los Angeles, Calif. Filed June 9, 1960.

MEDICLEAN

Owner of Reg. No. 704,830.
For Cleaning, Deodorizing, Disinfecting, and Maintenance of Sanitary Conditions in Public Restrooms, Hospitals, Sanitariums, and the Like.
First use on or before Mar. 23, 1959.

Class 101 — Advertising and Business

SN 85,442. Vance, Sanders & Company, Inc., Boston, Mass. Filed Nov. 16, 1959.

YOUR KEY TO BUILDING AN ESTATE

For Providing for Regular Purchases of Securities by Investors by Means of a Deposit System Installed in Banking Institutions.
First use Jan. 6, 1953.

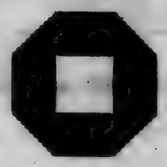
SN 92,501. Snelling and Snelling, Inc., Philadelphia, Pa. Filed Mar. 9, 1960.



For Executive-Administrative Personnel Placement Service.
First use June 1, 1951.

Class 102 — Insurance and Financial

SN 104,229. The Chase Manhattan Bank, New York, N.Y. Filed Sept. 12, 1960.



For Banking Services—Namely, Financing, Credit and Loan Services, Compound Interest Accounts, Checking Accounts, Special Checking Accounts, Foreign Exchange, Letters of Credit and Travelers' Checks, Commercial Savings and Trust Department Services.
First use Sept. 7, 1960.

Class 103 — Construction and Repair

SN 80,062. Craftmark Industries, Inc., Mission, Kans. Filed Aug. 24, 1959.



For Construction of Homes to the Order of Others.
First use Jan. 3, 1959.

SN 97,618. E. L. Bruce Company, Memphis, Tenn. Filed S.R. May 23, 1960; Am. P.R. Jan. 16, 1961.

Termites? Call
Terminix!

No claim is made to exclusive right to use the word "Termites" apart from the mark as shown. Owner of Reg. Nos. 290,733, 635,715, and 671,638.
For Termite Control Services.
First use July 7, 1953.

Class 105 — Transportation and Storage

SN 103,875. Rent-A-Car Services Corporation, Chicago, Ill. Filed Sept. 2, 1960.

BUDGET RENT-A-CAR

Applicant disclaims the words "Rent-A-Car" apart from the mark as shown.
For Rental and Leasing of Motor Vehicles.
First use not later than July 14, 1960.

Class 106 — Material Treatment

SN 95,538. Allied Textile Printers, Inc., Paterson, N.J. Filed Apr. 22, 1960.

AQUALLIED

For Imparting a Water Resistant Finish to Textile Fabrics of Others.
First use October 1956.

SN 95,539. Allied Textile Printers, Inc., Paterson, N.J. Filed Apr. 22, 1960.

PERM-ALLIED

For Imparting a Permanent Crease Resistant Finish to Textile Fabrics of Others.
First use June 1956.

SN 95,540. Allied Textile Printers, Inc., Paterson, N.J. Filed Apr. 22, 1960.

RESISTAL

For Imparting a Water and Spot Stain Resistant Finish to Silk Fabrics of Others.
First use October 1957.

SN 95,541. Allied Textile Printers, Inc., Paterson, N.J. Filed Apr. 22, 1960.



For Imparting a Washable Finish to Textile Fabrics of Others.
First use March 1957.

SN 98,132. Photographers Portrait Service, Inc., Boston, Mass. Filed May 31, 1960.



For Developing Films and Plates, Making Proofs, Retouching Negatives, Making Copies, and Doing Art Work for Professional Photographers.
First use Aug. 22, 1956.

CERTIFICATION MARKS

Class A — Goods

SN 99,175. Steel Door Institute, Cleveland, Ohio. Filed June 16, 1960.



The drawing is lined for the colors yellow, and silver. The mark certifies that the goods meet all requirements of the applicable commercial standards issued by the U.S. Department of Commerce and are manufactured by a member of the Steel Door Institute.
For Steel Doors and Frames.
First use Oct. 1, 1959.

SN 99,570. The Canadian Gas Association, Toronto, Ontario, Canada. Filed June 23, 1960.



The right to the exclusive use of all the reading matter, the representation of a flame and the representation of the map of Canada, is disclaimed apart from the mark. The mark certifies that the goods have been manufactured according to standards of material, made of manufacture, quality and efficiency of the goods prescribed by the applicant. Owner of Canadian Reg. No. 113,566, dated Mar. 20, 1959.
For Goods.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

711,971. MOPLEN. Montecatini, Societa Generale per l'Industria Mineraria e Chimica. CONSOLIDATED CERTIFICATE. SN 38,937, pub. 9–23–58, filed 10–15–57, Cl. 1; SN 54,074, pub. 11–15–60, filed 6–23–58, Cl. 2; SN 54,079, pub. 11–8–60, filed 6–23–58, Cl. 3; SN 54,078, pub. 8–30–60, filed 6–23–58, Cl. 5; SN 38,555, pub. 8–26–58, filed 10–8–57, Cl. 6; SN 54,070, pub. 12–6–60, filed 6–23–58, Cl. 7; SN 54,064, pub. 12–6–60, filed 6–23–58, Cl. 12; SN 54,063, pub. 11–15–60, filed 6–23–58, Cl. 13; SN 54,080, pub. 11–29–60, filed 6–23–58, Cl. 22; SN 54,066, pub. 11–15–60, filed 6–23–58, Cl. 23; SN. 54,068, pub. 11–15–60, filed 6–23–58, Cl. 26; SN 54,072, pub. 11–8–60, filed 6–23–58, Cl. 29; SN 54,067, pub. 1–12–60, filed 6–23–58, Cl. 32; SN 54,065, pub. 11–15–60, filed 6–23–58, Cl. 34; SN 54,069, pub. 11–15–60, filed 6–23–58, Cl. 35; SN 54,073, pub. 11–15–60, filed 6–23–58, Cl. 36; SN 54,076, pub. 11–15–60, filed 6–23–58, Cl. 37; SN 54,075, pub. 12–20–60, filed 6–23–58, Cl. 39; SN 54,071, pub. 11–22–60, filed 6–23–58, Cl. 40; SN 54,077, pub. 11–15–60, filed 6–23–58, Cl. 42; SN 54,081, pub. 11–15–60, filed 6–23–58, Cl. 43.

711,972. HITCO. H. I. Thompson Fiber Glass Co. SN 84,780. Pub. 12–20–60. Filed 12–22–58.

711,973. BLACAR AND DESIGN. Cary Chemicals, Inc. SN 79,141. Pub. 12–20–60. Filed 8–7–59.

711,974. CARY CHEMICALS INC. AND DESIGN. Cary Chemicals, Inc. SN 79,142. Pub. 12–20–60. Filed 8–7–59.

711,975. BRINKMAN'S FLOWERS AND DESIGN. Esther Brinkman and Doris Castagno, co-executors of the estate of Herman H. Brinkman, deceased, d.b.a. Brinkman's Flowers. SN 82,078. Pub. 12–20–60. Filed 9–25–59.

711,976. ARIGAL. Ciba Limited. SN 83,056. Pub. 12–20–60. Filed 10–12–59.

711,977. GENEPOXY. General Mills, Inc. SN 95,995. Pub. 12–20–60. Filed 4–28–60.

Class 2—Receptacles

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

711,978. S AND DESIGN. Sherman Paper Products Corporation. SN 73,987. Pub. 12–20–60. Filed 5–18–59.

711,979 PELRAP AND DESIGN. Pelican Bag Company, Inc. SN 84,797. Pub. 12–20–60. Filed 11–6–59.

711,980. ROLLARAMA. Lyric Industries, Inc. SN 85,019. Pub. 12–20–60. Filed 11–10–59.

711,981. KORDITE. National Distillers and Chemical Corporation, by merger from Kordite Corporation. SN 86,969. Pub. 12–20–60. Filed 12–9–59.

711,982. DB AND DESIGN. Dairypak Butler, Inc. SN 95,697. Pub. 12–20–60. Filed 4–25–60.

711,983. FINE OAK. Gulf States Paper Corporation. SN 100,512. Pub. 12–20–60. Filed 7–8–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

Class 4—Abrasives and Polishing Materials

711,984. TRAZON. Oakite Products, Inc. SN 96,615. Pub. 12–20–60. Filed 5–6–60.

Class 5—Adhesives

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

711,985. CHASEPRIME. Chase and Sons, Inc. SN 86,932. Pub. 12–20–60. Filed 12–9–59.

Class 6—Chemicals and Chemical Compositions

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

711,986. UNIVERSAL AIR CONDITIONING TREATMENT. Universal Refining Products Company, Inc. SN 75,950. Pub. 12–20–60. Filed 6–17–59.

711,987. MCTMP. Celanese Corporation of America. SN 79,473. Pub. 12–20–60. Filed 8–13–59.

711,988. OXOID. Oxo Limited. SN 80,577. Pub. 12–20–60. Filed 8–31–59.

711,989. AVANT GARDE. Firmenich, Incorporated. SN 80,654. Pub. 12–20–60. Filed 9–1–59.

711,990. TRIZMA. Sigma Chemical Company. SN 83,566. Pub. 12–20–60. Filed 10–19–59.

711,991. UROGRAPH. Warner-Lambert Pharmaceutical Company. SN 86,908. Pub. 12–13–60. Filed 12–8–59.

711,992. BAYTEX. Farbenfabriken Bayer Aktiengesellschaft. SN 88,372. Pub. 12–20–60. Filed 1–4–60.

711,993. MICROTRAPS. W. R. Grace & Co. SN 89,847. Pub. 12–20–60. Filed 1–28–60.

711,994. THERM-X. Therm-X Chemical and Oil Corp. SN 91,565. Pub. 12–20–60. Filed 2–24–60.

711,995. SOLV. Lien Chemical Company. SN 94,318. Pub. 12–20–60. Filed 4–4–60.

711,996. HYDEAL. Universal Oil Products Company. SN 96,039. Pub. 12–20–60. Filed 5–27–60.

711,997. SWOOP. The H. Talbot Company. SN 99,377. Pub. 12–20–60. Filed 6–20–60.

711,998. KLERZYME. Baxter Laboratories, Inc. SN 99,908. Pub. 12–20–60. Filed 6–29–60.

711,999. RAMP. General Aniline & Film Corporation. SN 100,018. Pub. 12–20–60. Filed 6–30–60.

712,000. AMBERLYST. Rohm & Haas Company. SN 100,644. Pub. 12–20–60. Filed 7–11–60.

Class 7—Cordage

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

Class 12—Construction Materials

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,001. ATLAS AND DESIGN OF KEYSTONE. Atlas Plywood Corporation. SN 699,277. Pub. 12–20–60. Filed 12–2–55.

712,002. COUSTIC-AIRE. Johns-Manville Fiber Glass Inc., assignee of L.O.F Glass Fibers Company. SN 35,278. Pub. 12–20–60. Filed 8–9–57.

712,003. TRIM-STEEL. Farwest Steel, Incorporated. SN 70,053. Pub. 12–20–60. Filed 3–23–59.

712,004. SPARTAN. Industrial Corporation of America. SN 74,582. Pub. 12–20–60. Filed 5–27–59.

712,005. SPANCLAD. Reliance Windows Limited. SN 75,029. Pub. 12–20–60. Filed 6–3–59.

712,006. PLASTIWALL. Plastiwall, Inc. SN 79,512. Pub. 12–20–60. Filed 8–13–59.

712,007. SYMBOLIC M. Herman Miller, Inc., by change of name from Herman Miller Furniture Company. SN 81,300. Pub. 12–20–60. Filed 9–14–59.

712,008. KORDITE. National Distillers and Chemical Corporation, by merger from Kordite Corporation. SN 86,972. Pub. 12–20–60. Filed 12–9–59.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,009. DIMOND WIRES AND DESIGN. Neumeyer & Dimond, Inc. SN 84,158. Pub. 11–1–60. Filed 10–28–59.

712,010. STRIP-LOCK. Long-Lok Corporation. SN 96,057. Pub. 12–20–60. Filed 4–28–60.

712,011. FEED-O-MATIC. The Perolin Company, Inc. SN 99,002. Pub. 12–20–60. Filed 6–14–60.

712,012. WELCAT. Yardley Plastics Company. SN 99,182. Pub. 12–20–60. Filed 6–16–60.

712,013. CPV. Combination Pump Valve Company. SN 99,296. Pub. 12–20–60. Filed 6–20–60.

Class 14—Metals and Metal Castings and Forgings

712,014. LED. Led Ballast, Inc. SN 68,216. Pub. 12–20–60. Filed 2–24–59.

712,015. CERALLOY 400. Ronson Metals Corporation, by change of name from New Process Metals, Inc. SN 77,462. Pub. 12–20–60. Filed 7–10–59.

712,016. ELECTRANODES. The Anaconda American Brass Company, by change of name from The American Brass Company. SN 95,543. Pub. 12–20–60. Filed 4–22–60.

Class 15—Oils and Greases

712,017. FF. Food Fair Stores, Inc. SN 84,135. Pub. 12–20–60. Filed 10–28–59.

712,018. MASCO. General Dynamics Corporation. SN 103,557. Pub. 12–20–60. Filed 8–29–60.

Class 18—Medicines and Pharmaceutical Preparations

712,019. "PHANTOM MEAL." Gary-Howe Corp. SN 58,145. Pub. 12–20–60. Filed 6–9–58.

712,020. KISSINGEN SILVER TABLETS AND DESIGN. Dr. Ernst Kraft, vorm. Boxberger's Hofapotheke. SN 60,042. Pub. 12–20–60. Filed 10–3–58.

712,021. KODRINE. Ormont Drug & Chemical Company, Inc. SN 69,277. Pub. 12–20–60. Filed 3–10–59.

712,022. TWILL. The Twill Company. SN 73,164. Pub. 12–20–60. Filed 5–7–59.

712,023. FOR THEIR CARE USE MERCURY MEDICATIONS AND DESIGN. Loran E. Gorrell, d.b.a. Mercury Pharmacal Co. SN 73,232. Pub. 12–20–60. Filed 5–8–59.

712,024. DORSVANE. Etablissements Clin-Byla. SN 86,844. Pub. 12–20–60. Filed 12–4–59.

712,025. SHOWLASS. Spencer Kellogg and Sons, Inc. SN 86,844. Pub. 12–20–60. Filed 12–7–59.

712,026. PIMAFUCINE. Koninklijke Nederlandsche Gisten Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries. SN 88,672. Pub. 12–20–60. Filed 1–8–60.

712,027. A.P.H. 17. Albert Pinder, d.b.a. A.P.H. Skin Tonic Co. SN 90,943. Pub. 12–20–60. Filed 2–15–60.

712,028. CILOPEN. Diamond Laboratories, assignee of Iowa Cooperative Association, d.b.a. Diamond Laboratories. SN 91,693. Pub. 12–20–60. Filed 2–26–60.

712,029. C-ROLA. The Acerola Corporation. SN 92,351. Pub. 12–20–60. Filed 3–8–60.

712,030. A-CERO. The Acerola Corporation. SN 92,352. Pub. 12–20–60. Filed 3–8–60.

712,031. CEROLA. The Acerola Corporation. SN 92,354. Pub. 12–20–60. Filed 3–8–60.

712,032. DI-PED. Direct Laboratories, Inc. SN 92,448. Pub. 12–20–60. Filed 3–9–60.

712,033. TRI-SPAN. Walker Laboratories, Inc. SN 93,029. Pub. 9–27–60. Filed 3–16–60.

712,034. MUCOTUSSIN. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories. SN 93,165. Pub. 10–4–60. Filed 3–18–60.

712,035. TETRICORT. Aktiebolaget Bofors. SN 94,933. Pub. 12–20–60. Filed 4–13–60.

712,036. PARADE. Hunt Oil Company. SN 95,066. Pub. 12–20–60. Filed 4–14–60.

712,037. NESTABS. George P. Georges, d.b.a. The Fielding Company. SN 97,201. Pub. 10–4–60. Filed 5–16–60.

712,038. TRULASE. Smith, Miller & Patch, Inc. SN 97,420. Pub. 10–4–60. Filed 5–18–60.

712,039. DECHOLIN-BB. Ames Company, Inc. SN 96,050. Pub. 12–20–60. Filed 5–31–60.

712,040. 'FERROGLYCIN'. M. R. Thompson, Inc. SN 101,348. Pub. 12–20–60. Filed 7–22–60.

712,041. 'SOPENA'. M. R. Thompson, Inc. SN 101,351. Pub. 12–20–60. Filed 7–22–60.

712,042. 'RAUWISTAN'. M. R. Thompson, Inc. SN 101,354. Pub. 12–20–60. Filed 7–22–60.

712,043. PLAQUENIL. Sterling Drug Inc. SN 102,438. Pub. 12–20–60. Filed 8–10–60.

712,044. SLIM-AROMA. Slim-Aroma, Inc. SN 103,206. Pub. 12–20–60. Filed 8–22–60.

712,045. HALSION. Allan Drug Corporation. SN 103,245. Pub. 12–20–60. Filed 8–23–60.

712,046. ANGINESE. Chas. Pfizer & Co., Inc. SN 103,477. Pub. 12–20–60. Filed 8–26–60.

712,047. BRASS COMPOUND. Arturo Besanilla Brass, d.b.a. Laboratorios Imperiales. SN 104,140. Pub. 12–20–60. Filed 9–9–60.

712,048. VIB-VAC. Baldwin Laboratories, Inc. SN 104,419. Pub. 12–20–60. Filed 9–14–60.

712,049. TOXORB. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories. SN 104,515. Pub. 12–20–60. Filed 9–15–60.

712,050. POLIORAL. Merck & Co., Inc. SN 104,621. Pub. 12–20–60. Filed 9–16–60.

712,051. LERIMATE. Merck & Co., Inc. SN 104,622. Pub. 12–20–60. Filed 9–16–60.

712,052. TYOTOTIC. Merck & Co., Inc. SN 104,624. Pub. 12–20–60. Filed 9–16–60.

712,053. PORTASAL. Merck & Co., Inc. SN 104,628. Pub. 12–20–60. Filed 9–16–60.

Class 19—Vehicles

712,054. GAZELLE. Singer Motors Limited. SN 73,745. Pub. 12–20–60. Filed 5–14–59.

712,055. MINUTEMAN. M-H Equipment Co., Inc. SN 87,443. Pub. 12–20–60. Filed 12–16–59.

712,056. LILAC AND JAPANESE LETTERS. Marusho Jidosha Seizo Kabushiki-kaisha (Marusho Motorcycle Industrial Company Limited). SN 88,328. Pub. 12–20–60. Filed 12–31–59.

712,057. ALL VUE. Ideal Rubber Products Co., Inc. SN 91,387. Pub. 12–20–60. Filed 2–23–60.

712,058. DART KART BY RUPP AND DESIGN. The Rupp Manufacturing Co., assignee of Herbert E. Rupp, II, d.b.a. The Rupp Manufacturing Company. SN 91,558. Pub. 12–20–60. Filed 2–24–60.

712,059. TROJAN. Trojan Boat Co. SN 99,972. Pub. 12–20–60. Filed 6–29–60.

712,060. ALPINE. Sunbeam-Talbot Limited. SN 101,134. Pub. 12–20–60. Filed 7–19–60.

Class 20 — Linoleum and Oiled Cloth

712,061. SARACEN. Congoleum-Nairn Inc. SN 101,666. Pub. 12–20–60. Filed 7–29–60.

712,062. PARFAIT. Congoleum-Nairn Inc. SN 101,667. Pub. 12–20–60. Filed 7–29–60.

Class 21 — Electrical Apparatus, Machines, and Supplies

712,063. COMET. Louis Donald Cinci, d.b.a. Ace Electric Company. SN 84,730. Pub. 12–20–60. Filed 11–6–59.

712,064. VARIODE. Robert Bosch Gesellschaft mit beschrankter Haftung. SN 87,006. Pub. 12–20–60. Filed 9–11–59.

712,065. THE CROWN JEWELS OF IGNITION. F. & B. Mfg. Co. SN 88,150. Pub. 12–20–60. Filed 12–29–59.

712,066. MULLARD. Mullard Limited. SN 89,304. Pub. 12–20–60. Filed 1–20–60.

712,067. MAGIC MEMORY AND DESIGN. The Soundscriber Corporation. SN 89,940. Pub. 12–20–60. Filed 1–29–60.

712,068. XL BUSTRIBUTION. I-T-E Circuit Breaker Company. SN 90,425. Pub. 12–20–60. Filed 2–5–60.

712,069. POLYSEP. National Lead Company. SN 92,177. Pub. 12–20–60. Filed 3–4–60.

712,070. PYROTEX. Raybestos-Manhattan, Inc. SN 93,633. Pub. 12–20–60. Filed 3–24–60.

712,071. RENAULT FRANCE. Regie Nationale des Usines Renault. SN 94,188. Pub. 12–20–60. Filed 4–1–60.

712,072. EAST COIL. Hays Manufacturing Company. SN 94,989. Pub. 12–20–60. Filed 4–13–60.

712,073. COLONIAL PREMIER. Colonial-Premier Company. SN 95,480. Pub. 12–20–60. Filed 4–21–60.

712,074. MULTI-MILE. Dayco Corporation. SN 96,318. Pub. 12–20–60. Filed 5–3–60.

712,075. CYCLOSWITCH. Sigma Instruments, Inc. SN 99,666. Pub. 12–20–60. Filed 6–24–60.

Class 22 — Games, Toys, and Sporting Goods

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,076. FASHIONED BY BECKY-KAY. Elsie K. Heppler. SN 88,915. Pub. 12–20–60. Filed 1–13–60.

712,077. PORTA BOW AND DESIGN. L & L Industries, Inc. SN 95,738. Pub. 12–20–60. Filed 4–25–60.

712,078. PIRATE POLO AND DESIGN. Don Dickerman. SN 96,837. Pub. 12–20–60. Filed 5–11–60.

712,079. GAME OF LIFE. Milton Bradley Company. SN 96,933. Pub. 12–20–60. Filed 5–12–60.

712,080. BACKYARD GOLFER. Trade Manufacturing Co. SN 97,143. Pub. 12–20–60. Filed 5–13–60.

712,081. DART. Midwest Industries, Inc. SN 98,507. Pub. 12–20–60. Filed 6–6–60.

712,082. MASTERBOARD. J. E. Metcalfe, d.b.a. Masterboard Company. SN 99,716. Pub. 12–20–60. Filed 6–9–60.

712,083. VAPOUR TRAILS. The Mettoy Company Limited. SN 99,400. Pub. 12–20–60. Filed 6–6–60.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,084. TRAYVAC AND DESIGN. H-P Products, Inc. SN 83,994. Pub. 12–20–60. Filed 12–10–58.

712,085. CATALINA. Bruel Company. SN 80,165. Pub. 12–20–60. Filed 8–25–59.

712,086. MAXIMIZER AND DESIGN. The Garrett Corporation. SN 91,370. Pub. 12–20–60. Filed 2–23–60.

712,087. RENAULT FRANCE AND DESIGN. Regie Nationale des Usines Renault. SN 94,187. Pub. 12–20–60. Filed 4–1–60.

712,088. PIN POINT. The Karl Klefer Machine Company. SN 95,178. Pub. 12–20–60. Filed 4–15–60.

712,089. PASSAP-DUOMATIC. Luchsinger's Handelsgesellschaft, Amsterdam, Filiale Zürich. SN 96,863. Pub. 12–20–60. Filed 5–11–60.

712,090. STA-KEEN. Samuel J. Popeil. SN 99,238. Pub. 12–20–60. Filed 6–17–60.

712,091. GARANT. Hauni-Werke Korber & Co. K.G. SN 99,394. Pub. 12–20–60. Filed 5–23–60.

712,092. G. Hauni-Werke Korber & Co. K.G. SN 99,395. Pub. 12–20–60. Filed 5–23–60.

Class 24 — Laundry Appliances and Machines

712,093. VALIANT. Morris Struhl, Inc. SN 85,416. Pub. 12–20–60. Filed 11–16–59.

712,094. KORDITE. National Distillers and Chemical Corporation, by merger from Kordite Corporation. SN 86,971. Pub. 12–20–60. Filed 12–9–59.

Class 25 — Locks and Safes

712,095. UNITED SAF-CAP. The United Seal Company. SN 95,021. Pub. 12–20–60. Filed 4–13–60.

Class 26 — Measuring and Scientific Appliances

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,096. CHECK SPOT. Joseph Schulein. SN 89,994. Pub. 12–20–60. Filed 11–1–57.

712,097. SKYDROP. Charles William Davis, d.b.a. Krank-N-Roll Mfg. SN 67,591. Pub. 12–20–60. Filed 2–12–59.

712,098. NDP AND DESIGN. National Data Processing Corporation. SN 66,786. Pub. 12–20–60. Filed 2–16–59.

712,099. MIRAR. Meopta, Narodni Podnik. SN 75,429. Pub. 12–20–60. Filed 6–9–59.

712,100. CHROMATO-VUE. Ultra-Violet Products, Inc. SN 77,176. Pub. 12–20–60. Filed 7–6–59.

712,101. RANDEX. Sperry Rand Corporation. SN 79,527. Pub. 12–20–60. Filed 8–13–59.

712,102. SLIDESTRIP. Carolina Biological Supply Company. SN 87,544. Pub. 12–20–60. Filed 12–18–59.

712,103. HELLMA. Hellma G.m.b.H., Glastechnische Werkstatten. SN 89,159. Pub. 12–20–60. Filed 1–18–60.

712,104. EYE-TRONIC. Mansfield Industries, Inc. SN 89,779. Pub. 12–20–60. Filed 1–27–60.

712,105. MIGHTY-MITE. Mechanical Industries Production Company. SN 90,085. Pub. 12–20–60. Filed 2–1–60.

712,106. L AND TRIPLE CIRCLE DESIGN. E. Leybold's Nachfolger. SN 91,396. Pub. 12–20–60. Filed 2–23–60.

712,107. TRIDAR. Compagnie Francaise Thomson-Houston. SN 91,725. Pub. 12–20–60. Filed 2–9–60.

712,108. PH COLEMAN AND DESIGN. Coleman Instruments, Inc. SN 92,713. Pub. 12–20–60. Filed 3–14–60.

712,109. LUMENTA. Agfa Aktiengesellschaft. SN 93,401. Pub. 12–20–60. Filed 3–22–60.

712,110. ANALAB. Analab Instrument Corporation. SN 94,874. Pub. 12–20–60. Filed 4–12–60.

712,111. BIOPTOGRAM. Walter M. Lewis. SN 96,108. Pub. 12–20–60. Filed 5–31–60.

712,112. FLASH-X. Educational Developmental Laboratories, Inc. SN 98,275. Pub. 12–20–60. Filed 6–2–60.

712,113. OXFORD. Burke & James, Inc. SN 98,771. Pub. 12–20–60. Filed 6–10–60.

712,114. SCATE. General Dynamics Corporation. SN 99,208. Pub. 12–20–60. Filed 6–17–60.

712,115. LIGHTOMATIC. Camera Specialty Company, Inc. SN 100,008. Pub. 12–20–60. Filed 6–30–60.

712,116. SHADO-SPECTOR. Precision-Cosmet Company, Inc. SN 100,929. Pub. 12–20–60. Filed 7–15–60.

712,117. TRAVELER. The Electric Storage Battery Company. SN 100,984. Pub. 12–20–60. Filed 7–18–60.

712,118. POWERTROL. The Powers Regulator Company. SN 101,124. Pub. 12–20–60. Filed 7–19–60.

712,119. HPI AND DESIGN. Hudson Photographic Industries, Inc. SN 101,176. Pub. 12–20–60. Filed 7–20–60.

712,120. ASTRONAUT. Baskon Corporation. SN 101,373. Pub. 12–20–60. Filed 7–25–60.

712,121. KERNAR. Kern & Co. Ltd. SN 101,449. Pub. 12–20–60. Filed 7–25–60.

712,122. KERNON. Kern & Co. Ltd. SN 101,450. Pub. 12–20–60. Filed 7–25–60.

712,123. DYNATEST. Compudyne Corporation. SN 101,664. Pub. 12–20–60. Filed 7–29–60.

712,124. AGFACOLOR-MATOR. Agfa Aktiengesellschaft. SN 101,993. Pub. 12–20–60. Filed 8–4–60.

712,125. NATARIX. Agfa Aktiengesellschaft. SN 101,994. Pub. 12–20–60. Filed 8–4–60.

712,126. DELAVAN. Delavan Manufacturing Company. SN 102,622. Pub. 12–20–60. Filed 8–15–60.

Class 28 — Jewelry and Precious-Metal Ware

712,127. KEY AND DESIGN. Anson Incorporated. SN 85,706. Pub. 12–20–60. Filed 11–20–59.

712,128. DECURTIS DESIGNED ETC. AND DESIGN. Curtis Jewelry Manufacturing Company, Inc. SN 92,726. Pub. 12–20–60. Filed 3–14–60.

Class 29 — Brooms, Brushes, and Dusters

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,129. CAR MASTER. Bissell, Inc. SN 81,674. Pub. 12–20–60. Filed 9–21–59.

712,130. BENTZINGER BROS. B.B.B. AND DESIGN. Bentzinger Bros., Inc. SN 97,962. Pub. 12–20–60. Filed 5–27–60.

Class 32 — Furniture and Upholstery

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,131. STA-SAF. Waukegan Baby Seat Co. SN 87,994. Pub. 12–20–60. Filed 12–24–59.

712,132. EYE DESIGN. Norman Industries, Inc. SN 95,846. Pub. 12–20–60. Filed 4–26–60.

712,133. AMERICAN SEATING. American Seating Company. SN 99,269. Pub. 12–20–60. Filed 6–20–60.

712,134. MONEY SAVER. Security First Bank & Trust Co. SN 99,664. Pub. 12–20–60. Filed 6–24–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,135. FEASTMASTER. Superior Fireplace Company. SN 76,348. Pub. 12–20–60. Filed 6–23–59.

712,136. BLOWTHERM AND DESIGN. Gianni Peghin, d.b.a. Blow-Therm. SN 77,387. Pub. 12–20–60. Filed 7–9–59.

712,137. BACOPAK. The Bastian-Blessing Company. SN 81,965. Pub. 12–20–60. Filed 9–24–59.

712,138. HY-LO. Scheu Products Company. SN 82,924. Pub. 12–20–60. Filed 10–8–59.

712,139. FLAME AND BURNER DESIGN. Samuel Stamping & Enameling Company. SN 83,401. Pub. 12–20–60. Filed 10–16–59.

712,140. PNEUMAVALVE. Connor Engineering Corporation. SN 85,826. Pub. 12–20–60. Filed 11–23–59.

712,141. MANUVALVE. Connor Engineering Corporation. SN 85,827. Pub. 12–20–60. Filed 11–23–59.

712,142. TRULIRADIANT. Sullivan Valve & Engineering Company. SN 86,365. Pub. 12–20–60. Filed 11–30–59.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

Class 36 — Musical Instruments and Supplies

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,143. REPRESENTATION OF A MAN AND WOMAN AND DESIGN. Bulova Watch Company, Inc. SN 87,187. Pub. 12–20–60. Filed 12–14–59.

712,144. EXECUTIVE SECRETARY. The Soundscriber Corporation. SN 89,952. Pub. 12–20–60. Filed 1–29–60.

712,145. TRANSFLYWEIGHT. Amplifier Corporation of America. SN 96,051. Pub. 12–20–60. Filed 5–31–60.

Class 37 — Paper and Stationery

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,146. DUO-SCRIBE. Mastercraft Pen Company, Inc. SN 62,095. Pub. 12–20–60. Filed 11–7–58.

712,147. KLEER-OFF. A. Lapgnickel, Inc. SN 69,820. Pub. 12–20–60. Filed 8–18–59.

712,148. HI-FI. Weber Costello Co. SN 77,180. Pub. 12–20–60. Filed 7–6–59.

712,149. JACK BUILT. Albin Enterprises, Inc., d.b.a. Jack Built Manufacturing Co. SN 83,432. Pub. 12–20–60. Filed 10–19–59.

712,150. S AND DESIGN. Sherman Paper Products Corporation. SN 92,121. Pub. 12–20–60. Filed 3–3–60.

712,151. COMMONWEALTH CEDAR. Commonwealth Cedar Company, Inc. SN 96,482. Pub. 12–20–60. Filed 5–5–60.

712,152. MICR-SET AND DESIGN. St. Regis Paper Company. SN 97,249. Pub. 12–20–60. Filed 5–16–60.

712,153. MERLIN. The Champion Paper and Fibre Company. SN 101,746. Pub. 12–20–60. Filed 8–1–60.

Class 38 — Prints and Publications

712,154. FIRSTAMERICA. Firstamerica Corporation, assignee of Transamerica Corporation. SN 40,893. Pub. 12–20–60. Filed 11–18–57.

712,155. PRIZEWORDS. NEA Service, Inc. SN 65,579. Pub. 12–20–60. Filed 1–9–59.

712,156. DOLLARWORDS. NEA Service, Inc. SN 65,580. Pub. 12–20–60. Filed 1–9–59.

712,157. PICTORIAL NEWS OF THE DAY. Pictorial News Inc. SN 71,509. Pub. 12–20–60. Filed 4–14–59.

712,158. BROADCAST ENGINEERING. Technical Publications Incorporated, assignee of Donald E. Mehl, d.b.a. Broadcast Engineering. SN 72,336. Pub. 12–20–60. Filed 4–27–59.

712,159. NATIONAL. National Council Books, Inc. SN 74,780. Pub. 12–20–60. Filed 5–29–59.

712,160. WAR GAMES. Edward V. Le Blanc. SN 82,242. Pub. 12–20–60. Filed 9–28–59.

712,161. G GRADUS BLATTER AND DESIGN. VEB Verlag der Kunst. SN 87,991. Pub. 12–20–60. Filed 12–24–59.

712,162. DMD AND DESIGN. VEB Verlag der Kunst. SN 87,992. Pub. 12–20–60. Filed 12–24–59.

712,163. AMERICAN HERITAGE JUNIOR LIBRARY AND DESIGN. American Heritage Publishing Co., Inc. SN 88,287. Pub. 12–20–60. Filed 12–31–59.

712,164. ANALOG ASTOUNDING SCIENCE FACT & FICTION. Street & Smith Publications, Inc. SN 94,848. Pub. 12–20–60. Filed 4–11–60.

712,165. VISION 2. Pennsylvania Glass Sand Corporation. SN 96,254. Pub. 11–1–60. Filed 5–2–60.

712,166. STEVENGRAPH AND DESIGN. Label Weave Inc. SN 97,313. Pub. 12–20–60. Filed 5–17–60.

712,167. M MILLER GREETINGS AND DESIGN. Miller Art Company, Inc. SN 97,319. Pub. 12–20–60. Filed 5–17–60.

712,168. GENCO. William W. Hastie, d.b.a. General Painting Co. SN 97,654. Pub. 12–20–60. Filed 5–23–60.

712,169. THE CONSTRUCTOR THE MANAGEMENT MAGAZINE ETC. The Constructor, Inc. SN 97,909. Pub. 12–20–60. Filed 5–23–60.

712,170. DN DIGEST AND DESIGN. Diamond National Corporation. SN 98,065. Pub. 12–20–60. Filed 5–31–60.

712,171. SYNDICATION DIGEST ETC. AND DESIGN. Syndication Digest, Inc. SN 98,244. Pub. 12–20–60. Filed 6–1–60.

712,172. M. & T. SPECTATOR. The M & T Company. SN 98,297. Pub. 12–20–60. Filed 6–2–60.

712,173. AFRICA TODAY. American Committee on Africa, Inc. SN 98,327. Pub. 12–20–60. Filed 6–3–60.

712,174. FERTILAY. Mid-South Chemical Corporation. SN 98,506. Pub. 12–20–60. Filed 6–6–60.

712,175. SPORTS ALMANAC. Official Films, Inc. SN 99,262. Pub. 12–20–60. Filed 5–19–60.

Class 39 — Clothing

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,176. MONARCH AND DESIGN. Monarch Garment Corp. SN 64,084. Pub. 12–20–60. Filed 12–11–58.

712,177. REPRESENTATION OF GROTESQUE FIGURE. Capezio, Inc. SN 70,039. Pub. 12–20–60. Filed 3–23–59.

712,178. CUSCINO BY LIFE STRIDE AND DESIGN. Brown Shoe Company, Inc. SN 77,508. Pub. 12–20–60. Filed 7–13–59.

712,179. TOMORROW. The Warner Brothers Company. SN 88,193. Pub. 12–20–60. Filed 12–29–59.

712,180. PUPPETEERS. Shoe Corporation of America. SN 89,522. Pub. 12–20–60. Filed 1–22–60.

712,181. JO-O-KAY. John H. Simpler, d.b.a. Corral Sportswear Co. SN 89,523. Pub. 12–20–60. Filed 1–22–60.

712,182. LORI-LYNN. Washington Manufacturing Company, Inc., d.b.a. Washington Mfg. Company, Old Kentucky Mfg. Company, Gold Star Company, and Lori-Lynn Company. SN 93,643. Pub. 12–20–60. Filed 3–24–60.

712,183. KAYFAIR. Osgood and Sons Inc. SN 95,007. Pub. 12–20–60. Filed 4–13–60.

712,184. CHANLYN. Cooperative Marketing, Inc. SN 95,252. Pub. 12–20–60. Filed 4–18–60.

712,185. SMART ALEX. Alexander Manufacturing Company of Grapeland. SN 95,407. Pub. 12–20–60. Filed 4–20–60.

712,186. ARISTOCRAFT. Superior Petticoat Co., Inc. SN 96,437. Pub. 12–20–60. Filed 5–4–60.

712,187. TRICOLINE AND DESIGN. Whitworth & Mitchell Limited. SN 96,648. Pub. 12–20–60. Filed 5–6–60.

712,188. GOODWILL. Salem Shoe Manufacturing Company. SN 96,743. Pub. 12–6–60. Filed 5–9–60.

712,189. BLENRON. Palm Beach Company. SN 96,674. Pub. 12–20–60. Filed 6–8–60.

Class 40 — Fancy Goods, Furnishings, and Notions

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,190. NYMPH. Beacon Manufacturing Company. SN 67,661. Pub. 12–20–60. Filed 2–13–59.

712,191. PIXIE. Beacon Manufacturing Company. SN 67,662. Pub. 12–13–60. Filed 2–13–59.

712,192. ELEGANTE. Allen Knitting Mills, Inc. SN 71,931. Pub. 6–21–60. Filed 4–21–59.

712,193. VYCRON AND DESIGN. North American Rayon Corporation. SN 72,520. Pub. 12–20–60. Filed 4–29–59.

712,194. ETON. Beacon Manufacturing Company. SN 85,279. Pub. 12–20–60. Filed 11–16–59.

712,195. FAWN. Beacon Manufacturing Company. SN 85,280. Pub. 12–20–60. Filed 11–16–59.

712,196. U.S. ROYAL. United States Rubber Company. SN 92,408. Pub. 12–20–60. Filed 3–8–60.

712,197. FULTON AND DESIGN. Fulton Industries, Inc., by change of name from Fulton Cotton Mills, Inc. SN 96,408. Pub. 12–20–60. Filed 5–4–60.

712,198. MAGEE ETC. AND DESIGN. The Magee Carpet Company. SN 96,451. Pub. 12–20–60. Filed 4–19–60.

712,199. "DELMAR." Lincoln Stores, Inc. SN 100,527. Pub. 12–20–60. Filed 7–8–60.

712,200. KINGSTREE. Deering Milliken, Inc. SN 101,312. Pub. 12–20–60. Filed 7–22–60.

Class 43 — Thread and Yarn

711,971. CONSOLIDATED CERTIFICATE. See Class 1.

712,201. DYNATEX. Kahn & Feldman Inc. SN 73,700. Pub. 12–20–60. Filed 5–14–59.

Class 44 — Dental, Medical, and Surgical Appliances

712,202. WAECO AND DESIGN. Western Anaesthesia Equipment Co., Inc. SN 81,783. Pub. 12–20–60. Filed 5–21–59.

712,203. TP AND DESIGN. T-P Laboratories, Inc. SN 92,327. Pub. 12–20–60. Filed 3–7–60.

712,204. REPRESENTATION OF AN ELASTIC WEBBING SUPPORT IN A RECTANGLE. The Kendall Company. SN 100,614. Pub. 12–20–60. Filed 7–11–60.

Class 46 — Foods and Ingredients of Foods

712,205. DESIGN OF JAPANESE CHARACTERS. Yamasa Shoyu Kabushiki Kaisha, d.b.a. Yamasa Shoyu Co., Ltd. SN 23,766. Pub. 12–20–60. Filed 2–4–57.

712,206. ALL-IN-ONE. Poppers Supply Company, Inc. of Philadelphia. SN 39,090. Pub. 12–20–60. Filed 10–17–57.

712,207. DORANN PIZZA FOURS. Dorann Foods Inc., by merger from Dorann Foods, Inc. SN 45,378. Pub. 5–10–60. Filed 2–6–58.

712,208. SUNCO-PROTEIN. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker. SN 68,790. Pub. 12–20–60. Filed 3–3–59.

712,209. EPESA AND DESIGN. Elaboraciones Pesqueras del Cantabrico, S.A. SN 72,818. Pub. 12–20–60. Filed 5–4–59.

712,210. PORK MAKER. Southern States Cooperative, Incorporated. SN 74,342. Pub. 12–20–60. Filed 5–22–59.

712,211. DRI-COTE. Joe Lowe Corporation. SN 74,757. Pub. 12–20–60. Filed 5–29–59.

712,212. CHEESE MAGIC. Armour and Company. SN 81,669. Pub. 12–20–60. Filed 9–21–59.

712,213. MAGIKIST AND DESIGN. Magikist Service Corporation. SN 81,718. Pub. 12–20–60. Filed 9–21–59.

712,214. GAY NINETIES. Atlas Biscuit Corp. SN 82,756. Pub. 12–20–60. Filed 10–6–59.

712,215. DAVID HARUM. Lexington Mill & Elevator Company. SN 86,164. Pub. 12–20–60. Filed 11–27–59.

712,216. IT'S TWISTED AND DESIGN. American Bakers Cooperative, Inc. SN 87,173. COLLECTIVE MARK. Pub. 12–20–60. Filed 12–14–59.

712,217. LEONETTA. Angelo Merlino & Sons. SN 90,431. Pub. 12–20–60. Filed 2–5–60.

712,218. WINNER. J. Allen Smith & Co. Inc. SN 91,125. Pub. 12–20–60. Filed 2–17–60.

712,219. PRINK. Foods Plus, Inc. SN 91,935. Pub. 12–20–60. Filed 3–1–60.

712,220. LOIS RAE'S. Green Bay Food Company. SN 93,798. Pub. 12–20–60. Filed 3–28–60.

712,221. FLAVOR-LOK. Flavor-Lok Corporation. SN 93,993. Pub. 12–20–60. Filed 3–30–60.

712,222. RINGO. Butterfield Foods, Inc. SN 96,475. Pub. 12–20–60. Filed 5–5–60.

712,223. HOT CAKE. D. D. Carney & Son Candy Co., Inc. SN 96,477. Pub. 12–20–60. Filed 5–5–60.

712,224. ACTION. Athinson Milling Company. SN 98,330. Pub. 12–20–60. Filed 6–3–60.

712,225. NESTLE'S KEEN. The Nestlé Company, Inc. SN 100,923. Pub. 12–20–60. Filed 7–15–60.

712,226. FISHER'S. Fisher Flouring Mills Company. SN 100,987. Pub. 12–20–60. Filed 7–18–60.

712,227. MRS. FILBERT'S CORNUCOPIA. J. H. Filbert, Inc. SN 101,838. Pub. 12–20–60. Filed 7–15–60.

712,228. CORNUCOPIA. J. H. Filbert, Inc. SN 101,839. Pub. 12–20–60. Filed 7–15–60.

712,229. HERALD. J. H. Filbert, Inc. SN 101,840. Pub. 12–20–60. Filed 7–15–60.

712,230. MRS. FILBERT'S HERALD. J. H. Filbert, Inc. SN 101,841. Pub. 12–20–60. Filed 7–15–60.

Class 47 — Wines

712,231. CIMAMORI. Società a Responsabilità Limitata, Cimamori, Roma. SN 92,656. Pub. 12–20–60. Filed 3–11–60.

712,232. CHARLES LEFRANC. Almaden Santa Clara Vineyards, d.b.a. Charles Lefranc Vineyards. SN 95,863. Pub. 12–20–60. Filed 4–27–60.

712,233. CHEROKEE. E. & J. Gallo Winery. SN 99,053. Pub. 12–20–60. Filed 6–15–60.

Class 48 — Malt Beverages and Liquors

712,234. FOX HEAD AND DESIGN. Fox Head Brewing Company. SN 95,994. Pub. 12–20–60. Filed 4–28–60.

Class 49 — Distilled Alcoholic Liquors

712,235. HORSE COUNTRY. Medley Distilling Company. SN 99,847. Pub. 12–20–60. Filed 6–20–60.

Class 50 — Merchandise Not Otherwise Classified

712,236. P–38 DACRO. Crown Cork & Seal Company, Inc. SN 57,463. Pub. 12–20–60. Filed 8–19–58.

712,237. LOWELL'S. Bert Lowell, d.b.a. Lowell Products. SN 77,677. Pub. 12–20–60. Filed 7–14–59.

712,238. SPIN A SALE. Floyd E. Brewster, Jr. SN 87,629. Pub. 12–20–60. Filed 12–21–59.

712,239. QUIK-PLATES. W. H. Brady Co. SN 88,360. Pub. 12–20–60. Filed 1–4–60.

712,240. IDEAL. The Pyramid Rubber Company. SN 93,353. Pub. 12–20–60. Filed 3–21–60.

712,241. GUARDIAN. Phoenix Closet Accessories, Inc. SN 93,945. Pub. 12–20–60. Filed 3–29–60.

712,242. FULTON AND DESIGN. Fulton Industries, Inc., by change of name from Fulton Cotton Mills, Inc. SN 96,407. Pub. 12–20–60. Filed 5–4–60.

712,243. BIRGODA. Remco, Inc. SN 98,146. Pub. 12–20–60. Filed 5–31–60.

712,244. KA-DEE. Alton Box Board Company. SN 96,669. Pub. 12–20–60. Filed 6–9–60.

Class 51 — Cosmetics and Toilet Preparations

712,245. BALLET FRAGRANCE TRIO. Dilloff, Inc. SN 59,814. Pub. 12–20–60. Filed 9–30–58.

712,246. TOP SECRET. Albin Enterprises, Inc. SN 77,050. Pub. 10–4–60. Filed 7–6–59.

712,247. "HYDRAMNIOTIQUE." Société Anonyme Laboratoires du Dr. N. G. Payot. SN 78,078. Pub. 12–20–60. Filed 7–20–59.

712,248. AMNIODERM. Société Anonyme Laboratoires du Dr. N. G. Payot. SN 78,079. Pub. 12–20–60. Filed 7–20–59.

712,249. PETALFAIR. Ware Torrey Budlong, d.b.a. Petalfair Products. SN 79,757. Pub. 12–20–60. Filed 8–18–59.

712,250. TAN-GUARD. J. I. Holcomb Manufacturing Company, Inc. SN 80,427. Pub. 12–20–60. Filed 8–28–59.

712,251. HUSLIN DUST. Hester F. Cummings, d.b.a. Pedro Perfume Co. SN 81,386. Pub. 12–20–60. Filed 9–15–59.

712,252. BUFFO-DENT. John R. Foster, Jr., d.b.a. Buffodent Company. SN 82,658. Pub. 12–20–60. Filed 10–5–59.

712,253. PAS DE DEUX. John Robert Powers Products Co. Inc. SN 82,785. Pub. 12–20–60. Filed 10–6–59.

712,254. POND'S ETC. AND DESIGN. Chesebrough-Pond's Inc. SN 84,962. Pub. 12–20–60. Filed 11–10–59.

712,255. DATE-LINE. The Mennen Company. SN 86,171. Pub. 12–20–60. Filed 11–27–59.

712,256. TARANTELLE. Miahati, Inc., d.b.a. Miahati. SN 94,503. Pub. 12–20–60. Filed 4–6–60.

712,257. SOFTIQUE. Miahatt, Inc. SN 96,239. Pub. 12-20-60. Filed 5-2-60.

712,258. SHIP 'N SHORE. Countess Maritza Cosmetic Co., Inc. SN 96,572. Pub. 12-20-60. Filed 5-6-60.

712,259. FUTURESQ. The Mennen Company. SN 96,869. Pub. 12-20-60. Filed 5-11-60.

712,260. TRES JOLIE. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics. SN 96,965. Pub. 12-20-60. Filed 5-12-60.

712,261. INGENUE. Suie Incorporated. SN 97,261. Pub. 12-20-60. Filed 5-16-60.

712,262. ESPACE. Cheramy, Inc. SN 97,289. Pub. 12-20-60. Filed 5-17-60.

712,263. BUTTONS AND BOWS. Avon Products, Inc. SN 97,978. Pub. 12-20-60. Filed 5-27-60.

712,264. BARBASOL. The Barbasol Company. SN 100,491. Pub. 12-20-60. Filed 7-8-60.

712,265. HOGAR. Hogar, Inc. SN 101,174. Pub. 12-20-60. Filed 7-20-60.

712,266. DATHOL. Richard Hudnut. SN 101,493. Pub. 12-20-60. Filed 7-26-60.

Class 52 — Detergents and Soaps

712,267. JINGO. Soap Specialties, Inc. SN 57,020. Pub. 12-20-60. Filed 8-11-58.

712,268. PEACHES 'N CREME. Helene Curtis Industries, Inc. SN 81,547. Pub. 12-20-60. Filed 9-17-59.

712,269. BOWENITE. Bowen Processing Company, Inc. SN 94,388. Pub. 12-20-60. Filed 4-5-60.

712,270. SANI-DRAIN. American Home Products Corporation, d.b.a. Boyle-Midway. SN 94,452. Pub. 12-20-60. Filed 4-6-60.

712,271. SALONT. Gus Glatser, d.b.a. Hamilton Laboratories. SN 94,664. Pub. 12-20-60. Filed 4-8-60.

712,272. TETLES. Lester Laboratories, Inc. SN 96,802. Pub. 12-20-60. Filed 5-10-60.

712,273. SKLEEN. Vestal Laboratories, Inc. SN 98,952. Pub. 12-20-60. Filed 6-13-60.

712,274. CRYSTAL-NU. Leon Chemical Industries, Inc. SN 99,338. Pub. 12-20-60. Filed 6-20-60.

Service Marks

Class 100 — Miscellaneous

712,275. ECURIE' EUROPA AND DESIGN. Gordon Holley. SN 62,182. Pub. 12-20-60. Filed 11-10-58.

712,276. WILBERT FUNERAL SERVICE ETC. AND DESIGN. Wilbert Funeral Home, Inc. and Wilbert Service, Inc. (joint owners). SN 62,645. Pub. 12-20-60. Filed 11-17-58.

712,277. PACKAGING IS A SCIENCE AND DESIGN. Allied Commodities Company. SN 70,024. Pub. 12-20-60. Filed 3-23-59.

712,278. CONGRESS INN. Congress of Motor Hotels. SN 88,024. COLLECTIVE MARK. Pub. 12-20-60. Filed 12-28-59.

712,279. DEL WEBB'S SKYWAY HOUSE ETC. AND DESIGN. Del E. Webb Motor Hotel Co. SN 93,109. Pub. 12-20-60. Filed 3-17-60.

Class 101 — Advertising and Business

712,280. STORK PLAN. Stork Plan, Inc. SN 45,626. Pub. 12-20-60. Filed 2-10-58.

712,281. FARM BETTER ELECTRICALLY AND DESIGN. Edison Electric Institute. SN 68,634. Pub. 12-20-60. Filed 2-18-58.

712,282. NEW HAMPTON GENERAL STORE AND DESIGN. The Original New Hampton General Store, Bazaar and Emporium. SN 81,499. Pub. 12-20-60. Filed 9-16-59.

712,283. POWERS BEAUTIQUE. John Robert Powers Products Co., Inc. SN 83,312. Pub. 12-20-60. Filed 10-15-59.

712,284. "RED" SCISSORS. Premium Associates, Inc. SN 84,167. Pub. 12-20-60. Filed 10-28-59.

712,285. Y.E.S. Sertoma International. SN 92,815. Pub. 12-20-60. Filed 3-14-60.

Class 102 — Insurance and Financial

712,286. BADGER MUTUAL INSURANCE COMPANY AND DESIGN. Badger Mutual Insurance Company. SN 77,968. Pub. 12-20-60. Filed 7-20-59.

712,287. C-T-P AND DESIGN. Convention Travelers Protection, Inc. SN 87,037. Pub. 12-20-60. Filed 12-10-59.

712,288. CAL FED MAIL-SAVER. California Federal Savings and Loan Association. SN 91,756. Pub. 12-20-60. Filed 2-29-60.

712,289. REPRESENTATION OF A LION'S HEAD. The Dreyfus Fund Incorporated. SN 94,277. Pub. 12-20-60. Filed 4-4-60.

Class 103 — Construction and Repair

712,290. RADIO SHACK. Radio Shack Corporation. SN 42,058. Pub. 12-20-60. Filed 12-9-57.

712,291. QUELCOR. Quelcor, Inc. SN 77,849. Pub. 12-20-60. Filed 7-16-59.

712,292. DESIGN OF GROTESQUE HUMAN. Standard Pipe & Supply Co. SN 80,929. Pub. 12-20-60. Filed 9-4-59.

712,293. STAN. Standard Pipe & Supply Co. SN 80,930. Pub. 12-20-60. Filed 9-4-59.

712,294. FREDERIC AND DESIGN. Frederic Co., Inc. SN 92,609. Pub. 12-20-60. Filed 3-11-60.

712,295. I AND DESIGN. Interstate Equipment Corporation. SN 94,588. Pub. 12-20-60. Filed 4-7-60.

Class 105 — Transportation and Storage

712,296. FIVE STAR LUXURY SERVICE. Transcontinental Bus System, Inc. SN 56,509. Pub. 12-20-60. Filed 5-1-58.

712,297. WORLD-WIDE NATIONAL VAN LINES, INC. AND DESIGN. National Van Lines, Inc. SN 88,072. Pub. 12-20-60. Filed 12-28-59.

Class 106 — Material Treatment

712,298. REPRESENTATION OF THE WORLD AND TEST TUBE DESIGN. General Magnaplate Corp. SN 91,782. Pub. 12-20-60. Filed 2-29-60.

712,299. SERVICE-QUALITY-ACCURACY AND DESIGN. Julius H. Reimer, d.b.a. Prescription Optical Supply. SN 92,401. Pub. 12-20-60. Filed 3-8-60.

Class 107 — Education and Entertainment

712,300. CHICAGO SYMPHONY ORCHESTRA. The Orchestral Association. SN 49,771. Pub. 12-20-60. Filed 4-16-56.

712,301. SUPERTURF LAWN CLUB. Mock Seed Company. SN 72,136. Pub. 12-20-60. Filed 4-23-59.

712,302. SINCLAIR AND DESIGN. Sinclair Refining Company. SN 76,522. Pub. 12-20-60. Filed 6-25-59.

712,303. U.S. LADY ON THE AIR. Pat Gates and Roxanne McQuarrie. SN 90,746. Pub. 12-20-60. Filed 2-11-60.

712,304. AT RANDOM. Columbia Broadcasting System, Inc. SN 93,664. Pub. 12-20-60. Filed 3-25-60.

Collective Membership Marks

Class 200

712,305. AMERICAN SOCIETY OF MEDICAL TECHNOLOGISTS AND DESIGN. American Society of Medical Technologists. SN 95,472. Pub. 12-20-60. Filed 4-21-60.

712,306. NATIONAL SKI PATROL. National Ski Patrol System, Inc. SN 98,722. Pub. 12-20-60. Filed 6-6-60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 6 — Chemicals and Chemical Compositions

712,307. Beacon Chemical Co., Inc., New York, N.Y. SN 52,554. Filed P.R. 5-29-58; Am. S.R. 12-2-60.

KANT KURL

For Chemical Preparation Used as a Preventive of Raveling, Curling or Warping of Textile Fabrics and as a Backing Agent for Textile Fabrics.
First use Apr. 8, 1956.

Class 12 — Construction Materials

712,308. Blue Ridge Talc Company, Inc., Henry, Va. SN 81,804. Filed P.R. 9-22-59; Am. S.R. 1-9-61.

SURE STOP

For Caulking and Sealing Composition Encased in a Cartridge Having a Special Flow Regulating Plunger.
First use Aug. 4, 1959.

712,309. Air Master Corporation, Philadelphia, Pa. SN 91,219. Filed P.R. 2-19-60; Am. S.R. 12-28-60.

WEDGE LOK

For Storm Windows—Double Hung Type.
First use Nov. 1, 1959.

Class 18 — Medicines and Pharmaceutical Preparations

712,310. Mid-West Blood Bank and Plasma Center, Inc., Kansas City, Mo. SN 67,879. Filed P.R. 2-17-59; Am. S.R. 1-9-61.

MID-WEST



For Human Blood, Human Blood Products—Namely, Typing Serums and Plasma and Human Blood Derivatives.
First use during July 1955.

712,311. Norex Laboratories, Inc., New York, N.Y. SN 91,108. Filed P.R. 2-17-60; Am. S.R. 1-9-61.

DIZOLV

For Antacid-Fortified Analgesic.
First use Dec. 29, 1959.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

712,312. Hayakawa Electric Co. Ltd., Abeno, Osaka, Japan. SN 69,418. Filed P.R. 3-12-59; Am. S.R. 10-8-59.

Sharp

For Electric Shavers.
First use Jan. 17, 1931; in commerce Jan. 17, 1931.

Class 37 — Paper and Stationery

712,313. Malanco, Inc., Blue Island, Ill. SN 74,318. Filed P.R. 5-22-59; Am. S.R. 1-9-61.

PAR-SEL-RAP

For Single Face Corrugated Paper for Wrapping.
First use Apr. 30, 1959.

Class 46 — Foods and Ingredients of Foods

712,314. Sodus Fruit Farm, Inc., Sodus, N.Y. SN 79,435. Filed P.R. 8-12-59; Am. S.R. 1-10-61.

SODUS
FRUIT FARM

For Canned Frozen Cherries.
First use in the year 1940.

712,315. American Breddo Corp., New York, N.Y. SN 83,436. Filed P.R. 10-19-59; Am. S.R. 12-9-60.

STA-KLEER

For Stabilizer for Icings Applied to Baked Sweet Goods.
First use Sept. 22, 1959.

712,316. J. Paul Hannan, d.b.a. J. P. Hannan, Yonkers, N.Y. SN 87,947. Filed P.R. 12-24-59; Am. S.R. 12-27-60.

WHOLIME

For Lime Juice.
First use Dec. 17, 1959.

Class 49—Distilled Alcoholic Liquors

712,317. Galsworthy, Inc., Newark, N.J. SN 88,228. Filed P.R. 12-30-59; Am. S.R. 1-10-61.

ABERDEEN

For Scotch Whisky.
First use Dec. 21, 1959.

712,318. Arrow Liqueurs Corporation, Detroit, Mich. SN 88,723. Filed P.R. 1-11-60; Am. S.R. 1-9-61.



The mark consists of the conformation of the bottle, and the design thereon, used as a container for applicant's goods.
For Vodka.
First use Sept. 25, 1959.

Class 50—Merchandise Not Otherwise Classified

712,319. Dynetics, Inc., Erie, Pa. SN 82,851. Filed P.R. 3-9-60; Am. S.R. 1-10-61.

FLEX-STAND

For Parking Meter Supports.
First use Oct. 23, 1959.

Class 52—Detergents and Soaps

712,320. The Drackett Company, Cincinnati, Ohio. SN 80,905. Filed P.R. 10-20-58; Am. S.R. 1-11-61.



The mark consists of the conformation of the bottle used as a container for applicant's goods.
For Liquid Cleaner for Glass and Vitreous Surfaces.
First use December 1954.

712,321. The Procter & Gamble Company, Cincinnati, Ohio. SN 73,820. Filed P.R. 5-15-59; Am. S.R. 1-13-61.

GERM-FITE

For Combination of Cleaning and Germ Combating Ingredients for Use in All-Purpose Cleaner.
First use Mar. 10, 1959.

712,322. Aerosol Corporation of America, Wellesley Hills, Mass. SN 87,841. Filed P.R. 12-23-59; Am. S.R. 12-19-60.

SPOT-OFF

For Clothing Spot Remover in Pressurized Containers.
First use Dec. 8, 1959.

Service Marks

Class 105—Transportation and Storage

712,323. Merlite Corporation, d.b.a. Parr Tours, Miami Beach, Fla. SN 80,252. Filed P.R. 8-26-59; Am. S.R. 6-15-60.

TRAVEL-AS-YOU-LIKE-IT

For Tour and Travel Agency Services.
First use in March 1959.

712,324. Pacific Air Lines, Inc., San Francisco, Calif. SN 87,981. Filed P.R. 12-24-59; Am. S.R. 1-3-61.

ABOVE ALL FLY PACIFIC AIR LINES

For Air Transportation.
First use Mar. 1, 1956; Apr. 26, 1958, as to "Above All-Fly."

TRADEMARK REGISTRATIONS RENEWED

138,630. VICTORY AND DESIGN. Cl. 30. 1-4-21.
138,726. NOYO. Cl. 12. 1-4-21.
139,428. IDEAL. Cl. 29. 2-1-21.
139,867. KAR-NU. Cl. 16. 2-22-21.
139,917. W. F. YOUNG P.D.F. Cl. 18. 2-22-21.
140,122. SAN FELIPE. Cl. 46. 3-8-21.
141,080. RELIANCE. Cl. 43. 4-12-21.
141,220. PINE TREE AND DESIGN. Cl. 16. 4-12-21.

141,496. BRILLO. Cl. 4. 4-28-21.
141,499. SUPREME. Cl. 4. 4-26-21.
142,109. SALIPYRIN. Cl. 18. 5-3-21.
142,424. PENN'S NATURAL LEAF. Cl. 17. 5-17-21.
143,001. FALPACO AND DESIGN. Cl. 37. 6-7-21.
381,516. LONESS. Cl. 46. 9-24-40.
381,724. AIR FLOW. Cl. 36. 10-1-40.
383,254. BUTCHER'S-FRIEND. Cl. 46. 11-26-40.
383,730. THRIFTY-PACK. Cl. 39. 12-24-40.
383,821. FREE LAND. Cl. 39. 12-24-40.
383,956. HYDRAWLIK. Cl. 37. 12-31-40.
384,130. LOOK WHERE YOU'RE GOING! Cl. 38. 1-7-41.
384,152. FUNNY BUSINESS. Cl. 38. 1-7-41.
384,180. GEORG JENSEN WITHIN AN OVAL. Cl. 28. 1-7-41.
384,230. PAPAYA. Cl. 42. 1-7-41.
384,244. KOOL-AID. Cl. 45. 1-7-41.
384,314. TRU ART. Cl. 37. 1-14-41.
384,327. FLEX-O-TIMER. Cl. 21. 1-14-41.
384,355. KOOL-AID. Cl. 46. 1-14-41.
384,392. FLEXALYN. Cl. 1. 1-21-41.
384,605. GYNESTROL. Cl. 18. 1-21-41.
384,662. FEATHER-REP. Cl. 42. 1-28-41.
384,742. PLASTI-GLAZE. Cl. 12. 2-4-41.
384,940. PRECISION. Cl. 37. 2-11-41.
384,984. CASCO. Cl. 50. 2-11-41.
385,145. SYNTH-O-SAVER. Cl. 23. 2-18-41.
385,146. DETREX DRY CLEANER. Cl. 23. 2-18-41.
385,496. SLACK COOLERS. Cl. 39. 3-4-41.
385,591. TWINKLE. Cl. 39. 3-11-41.
385,876. RIVERBREEZE. Cl. 42. 3-18-41.
385,933. GREAT SCOT. Cl. 39. 3-25-41.
386,259. A WORD ABOUT BEAUTY. Cl. 38. 4-1-41.
386,334. AURIDIN. Cl. 18. 4-1-41.
386,850. SIMPLICATOR. Cl. 26. 4-22-41.
387,397. HI-ALTITUDE. Cl. 46. 5-13-41.
387,422. EPINEPHRICAINE. Cl. 18. 5-13-41.
387,424. SYLATE. Cl. 18. 5-13-41.
387,505. ALL-IN-ONE. Cl. 11. 5-20-41.
387,506. BALANCED. Cl. 11. 5-20-41.
387,507. BULLET. Cl. 11. 5-20-41.
387,571. ROCCAL. Cl. 18. 5-20-41.
387,650. FLEXCO. Cl. 23. 5-27-41.
387,689. DUPLI-COLOR. Cl. 16. 5-27-41.
387,936. TROPIC SWEET. Cl. 46. 6-10-41.
388,047. POLAROID. Cl. 2. 6-10-41.
388,057. REPRESENTATION OF MULE'S HEAD. Cl. 39. 6-10-41.
388,212. SIL KEE LOX. Cl. 11. 6-17-41.
388,218. FLEXCO. Cl. 13. 6-17-41.
388,230. VITA-MINT. Cl. 46. 6-17-41.
388,251. POLAROID. Cl. 33. 6-17-41.
388,308. COV-O-RITE. Cl. 8. 6-17-41.
388,326. BUTTERSCOTCH. Cl. 51. 6-17-41.
388,327. LOLLIPOP. Cl. 51. 6-17-41.
388,387. NYLENE. Cl. 16. 6-24-41.

TRADEMARK REGISTRATIONS CANCELED

Section 8

98,807. NATURA. Cl. 18. 8-4-14.
153,901. WELBRONCO. Cl. 14. 8-28-22.
309,972. MASQUERADE. Cl. 51. 2-6-34.
320,263. REPRESENTATION OF BOTTLE WITH DESIGN. Cl. 49. 12-18-34.
331,227. BLUE TRIANGLE. Cl. 46. 12-31-35.
331,665. DUROBAR. Cl. 21. 1-14-36.
436,202. MAN ON HORSE. Cl. 42. 1-27-48.

The following registrations issued Jan. 18, 1955

600,865. ONYX SILVER FOX. Cl. 1.
600,866. PALLADIUM PLATINUM FOX. Cl. 1.
600,867. ROYAL CANADIAN FOX. Cl. 1.
600,870. A SHE-SHE ORIGINAL. Cl. 3.
600,877. STORM-MASTER. Cl. 8.
600,880. THE CATALYTER AND DESIGN. Cl. 8.
600,890. RIB-TEX. Cl. 12.
600,891. CONTINENTAL CORK TILE AND DESIGN. Cl. 12.
600,892. BALASTREAT. Cl. 12.
600,893. TRUSTONE. Cl. 12.
600,906. DUC GEORGE. Cl. 17.
600,909. ACIDOFORM. Cl. 18.
600,911. SOREXIN. Cl. 18.
600,915. PENASOID. Cl. 18.
600,922. HURRICAN BUMPERS AND DESIGN. Cl. 19.
600,923. LIDO WIRE WHEELERS. Cl. 19.
600,928. VINYL CRAFT IN TRIANGLE DESIGN. Cl. 20.
600,929. ODORGUART. Cl. 21.
600,932. MASTER MARINER. Cl. 21.
600,935. BOWSTRING. Cl. 21.
600,937. JEWEL QUEEN. Cl. 21.
600,939. FENTUBE. Cl. 21.
600,948. HOMICIDE. Cl. 22.
600,949. TRI-CHE. Cl. 22.
600,955. POWERITE. Cl. 22.
600,958. DOTSY. Cl. 22.
600,959. TAFFY. Cl. 22.
600,960. MR. PINHEAD. Cl. 22.
600,961. BELLE TINKER. Cl. 22.
600,962. MRS. PINHEAD. Cl. 22.
600,967. HOLD-A-MINIT. Cl. 23.
600,968. ASPIRFIL. Cl. 23.
600,969. SAWMOBILE CORINTH AND DESIGN. Cl. 23.
600,970. A AUTO-MET. Cl. 23.
600,971. CAWI-SPIRAL. Cl. 23.
600,978. IDAR. Cl. 23.
600,981. BOWER ROLLER BEARINGS FEDERAL MOGUL AND DESIGN. Cl. 23.
600,982. WANDELUX. Cl. 23.
600,986. SNAPPERIZER. Cl. 23.
600,989. JIFFY STRUDELBOARD. Cl. 23.
600,990. BUMBLE BEE AND DESIGN. Cl. 23.
600,994. GIROVINYLE. Cl. 23.
600,998. STERIFOG. Cl. 23.
601,001. TURNABOUT. Cl. 23.
601,004. GLASS-MATE. Cl. 23.
601,006. RIDE-MOBILE. Cl. 23.
601,010. IMA-CUTTER. Cl. 23.
601,020. BALI. Cl. 23.
601,025. SNACK-TOTER. Cl. 31.
601,026. ECON-O-PACK. Cl. 31.
601,029. PENTHOUSE. Cl. 32.
601,034. FABRIC FLEX AND DESIGN. Cl. 32.
601,037. SLIDE-O-NETTE. Cl. 32.
601,045. COOL-ETTE. Cl. 34.
601,048. VELVET TOUCH. Cl. 36.
601,052. NATIONAL DETROIT AND DESIGN. Cl. 38.
601,054. LIGHTSCOPE. Cl. 38.
601,058. TEXTILE HALL OF FAME. Cl. 38.
601,063. THE CHILDREN'S HOUR. Cl. 38.
601,066. PINKY TWINX. Cl. 38.
601,067. WARNERGRAM. Cl. 38.
601,074. LONG JOHN. Cl. 38.
601,075. NEW LOOK. Cl. 38.
601,078. WASHINGTON INSIDE OUT. Cl. 38.
601,079. SPUR LINE. Cl. 38.
601,081. PARKS & RECREATION. Cl. 38.
601,082. P.P. AND DESIGN. Cl. 38.
601,083. TOURNAMENT. Cl. 39.
601,084. ANTONIO MANELLI. Cl. 39.
601,086. RENART LANA LAM AND DESIGN. Cl. 39.
601,089. RAPHAEL. Cl. 42.
601,095. GROW-'EM ETC. AND DESIGN. Cl. 46.
601,099. FAMOUS FOOD OF VIRGINIA FFV AND DESIGN. Cl. 46.
601,112. COMMON WEALTH. Cl. 46.
601,113. FIRESIDE AND DESIGN. Cl. 46.
601,118. SAN-I-SUDS. Cl. 52.
601,122. SILVER SHINE AND DESIGN. Cl. 52.
601,124. FENOM. Cl. 52.
601,138. TA CO AND DESIGN. Cl. 100.
601,140. DRUGCASTING. Cl. 101.

601,147. SCREW-BALL THREADLOC. Cl. 13.
601,150. HELFLY. Cl. 22.
601,151. LYNX CHAIN AND DESIGN. Cl. 23.
601,152. GAUTHIER WITHIN DESIGN. Cl. 22.
601,154. DEHEATER. Cl. 31.
601,155. SANTA CLAUS' TOY NEWS. Cl. 38.
601,158. ANDREAE FABRICS. Cl. 42.
601,160. CAPE COD BLUE. Cl. 46.

Section 15

398,978. TONI'S SIGNPAINT SPECIAL AND DESIGN. Cl. 16. 3-10-42.
413,864. PENNY SAVER. Cl. 46. 5-22-45.
420,529. SKY CRAFT AND DESIGN. Cl. 19. 4-16-46.
420,716. MANORCRAFT. Cl. 39. 4-30-46.
429,064. VENUS. Cl. 28. 4-19-47.
569,606. VANGUARD. Cl. 26. 11-11-58.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials

379,629. July 16, 1940. The Dobeckmun Company, Cleveland, Ohio. Pub. by The Dow Chemical Company, Midland, Mich.

"ZIP-TAPE"

For Printed or Unprinted Tape Made From Single Ply or Laminated Sheeting To Form Tear Strip.

Class 2—Receptacles

143,162. May 24, 1921. Sanitary Receiver Company, Inc., Dunkirk, N.Y. Pub. by Bennett Manufacturing Company, Inc., Alden, N.Y.

SANI-CAN

For Metal Cans or Receptacles for Waste Material, Such as Waste From Kitchens, Dining Rooms, Surgical and Dental Work.

384,921. Feb. 11, 1941. F. H. Hill Company, Inc., Cleveland, Ohio. Pub. by registrant.

CRYPT-SEAL

For Burial Caskets.

Class 6—Chemicals and Chemical Compositions

341,986. Dec. 29, 1936. Standard Naphthalene Products Corporation, Kearny, N.J. Pub. by Standard Naphthalene Products Corporation, South Kearny, N.J.



For Moth Preventatives.

383,256. Nov. 26, 1940. Floridin Company, Tallahassee, Fla. Pub. by registrant.

Super-Sorb

For Magnesium Silicate Having Various Industrial Uses.

Class 15—Oils and Greases

291,502. Feb. 9, 1932. Spur Distributing Co. Inc., Nashville, Tenn. Pub. by Spur Oil Company, Nashville, Tenn.



For Gasoline and Lubricating Oils.

Class 17—Tobacco Products

326,775. Aug. 6, 1935. Brown & Williamson Tobacco Corporation, Louisville, Ky. Pub. by registrant.

KENTUCKY KINGS

For Cigarettes.

384,091. Jan. 7, 1941. John Chapman (Proprietary) Limited, d.b.a. Orient Magaliesberg Tobacco Co., Johannesburg, Transvaal, Union of South Africa. Pub. by John Chapman Limited, Johannesburg, Union of South Africa.



The words "Trade Mark," "Mixture," "A Product Of The," and "P.O. Box 2859—Johannesburg South-Africa" are disclaimed.

For Smoking Tobacco.

Class 18—Medicines and Pharmaceutical Preparations

160,980. Oct. 31, 1922. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

CAPSOLIN

For Counterirritants.

166,830. May 29, 1933. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

Alophen

For Laxatives and Cathartics.

305,545. Aug. 22, 1933. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

PHEMEROL

For Antiseptic and Germicide.

379,451. July 9, 1940. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

APOIDINA

For Chorionic Gonadotropin.

400,401. Mar. 9, 1943. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

MYCOZOL

For Preparations Used in Treatment of Fungus and Other Infections.

412,399. Mar. 6, 1945. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

LIVIBRON

For Preparation Containing Liver Extract, Vitamin B and Iron Used as a Hematinic and Tonic.

415,663. Aug. 14, 1945. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

CARBRITAL

For Hypnotic and Sedative Preparation.

Class 29—Brooms, Brushes, and Dusters

142,614. May 17, 1921. Massasoit Manufacturing Company, Fall River, Mass. Pub. by Massasoit Company, Laurelton, N.J.

DANDY

For Mops.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

18,673. Dec. 2, 1890. New York Belting and Packing Company, New York, N.Y. Pub. by United States Rubber Company, New York, N.Y.



For Rubber Hose, Belting, Packing, and Mechanical Rubber Goods.

19,078. Feb. 24, 1891. Revere Rubber Company, Boston, Mass. Pub. by United States Rubber Company, New York, N.Y.



For Hose, Belting, and Packing for Machinery.

137,625. Nov. 30, 1920. E. F. Houghton & Co., Philadelphia, Pa. Pub. by registrant.

VIMOAK

For Leather Belting.

141,005. Apr. 26, 1921. Massasoit Manufacturing Company, Fall River, Mass. Pub. by Massasoit Company, Laurelton, N.J.

BALTIC

For Wicking Used for Packing Purposes, Sometimes Called Wick Packing, Manufactured in Balls and not in the Piece.

Class 37—Paper and Stationery

387,161. May 6, 1941. John A. Manning Paper Company, Inc., Troy, N.Y. Pub. by registrant.

TROYA

For Tissue Paper, Saturating Paper, and Vellum Paper.

423,554. Sept. 3, 1946. Thomas J. Williams, d.b.a. Personal Stationery Co., Camden, N.Y. Pub. by Williams Stationery Company, Inc., Camden, N.Y.

KADET

For Personalized Mailing Cards and for Stationery—Namely, Note Heads, Letter Heads and Envelopes.

Class 38—Prints and Publications

56,444. Aug. 14, 1906. The W. F. T. Bushnell Company, Aberdeen, S. Dak. Pub. by The Dakota Farmer Company, Aberdeen, S. Dak.

THE DAKOTA FARMER

For Magazine or Periodical.

Class 39—Clothing

384,311. Jan. 14, 1941. White Castle System, Inc., Columbus, Ohio. Pub. by Paperlynes Company, Columbus, Ohio.



For Headgear for Restaurant Employees.

384,483. Jan. 21, 1941. Schwartz & Benjamin, Inc., New York, N.Y. Pub. by The Muskin Shoe Company, Baltimore, Md.

JAMBOREE
THE GOOD-TIME SHOE

The word "Shoes" is disclaimed.
For Ladies' Shoes Made of Leather.

386,826. Apr. 22, 1941. The H. A. Seinsheimer Company, Cincinnati, Ohio. Pub. by registrant.



For Men's Clothing—Namely, Suits, Overcoats, Top Coats, and Trousers.

435,257. Dec. 16, 1947. Gotham Knitting Mills, Inc., New York, N.Y. Pub. by registrant.

Miss Gotham

For Knitted Sweaters.

Class 44—Dental, Medical, and Surgical Appliances

410,383. Nov. 21, 1944. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

OXYCEL

For Absorbable Cellulose Surgical Dressing.

Class 46—Foods and Ingredients of Foods

139,029. Jan. 18, 1921. Roblin-Demerath Co., Rochester, N.Y. Pub. by Luden's Inc., Reading, Pa.



For Canned Peas, Canned Raspberries, Jelly, Jams, Shelled and Unshelled Almonds, Salted Peanuts, Popcorn, Chewing Gum, and Candy, Including Lemon Drops, Marshmallows, Caramels, Chocolates and Kisses.

Class 48—Malt Beverages and Liquors

384,216. Jan. 7, 1941. The Geo. Wiedemann Brewing Co., Inc., Newport, Ky. Pub. by The Geo. Wiedemann Brewing Co., Newport, Ky.





For Beer.

384,217. Jan. 7, 1941. The Geo. Wiedemann Brewing Co., Inc., Newport, Ky. Pub. by The Geo. Wiedemann Brewing Co., Newport, Ky.





For Beer.

Class 51—Cosmetics and Toilet Preparations

141,450. Apr. 19, 1921. Tyson & Co., Paris, Tenn. Pub. by Tyson & Company, Inc., Paris, Tenn.

La Dainty

For Pomade, Bleaching Cream, Face Powder, Compact Face Powder, Compact Rouge, Lip Rouge, Talcum Powder and Cold Cream.

382,742. Nov. 12, 1940. Saville Perfumery Ltd., Watford, England. Pub. by registrant.

SEVENTH HEAVEN

For Perfumery, Face Creams, Toilet Powders, Lipsticks, Dentifrices, Hair Lotions and Essential Oils.

Class 52—Detergents and Soaps

137,849. Dec. 7, 1920. The Procter & Gamble Company, Cincinnati, Ohio. Pub. by registrant.

IVORY FLAKES

For Soap Flakes.

INDEX OF REGISTRANTS

MARCH 7, 1961

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

A.P.H. Skin Tonic Co.: *See*—
Pinder, Albert.
Ace Electric Co.: *See*—
Cinci, Louis D.
Acerola Corp., The, Toa Baja, Puerto Rico. 712,029–31, pub. 12–20–60. Cl. 18.
Admiral Novelty Publishing Co., Chicago, Ill. 601,074–5, canc. Cl. 38.
Aerosol Corp. of America, Wellesley Hills, Mass. 712,322. Cl. 52.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 712,109, pub. 12–20–60. Cl. 24.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 712,124–5, pub. 12–20–60. Cl. 26.
Air Master Corp., Philadelphia, Pa. 712,309. Cl. 12.
Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. 712,206, pub. 12–20–60. Cl. 44.
Aktiebolaget Bofors, Bofors, Sweden. 712,095, pub. 12–20–60. Cl. 18.
Alamo Fruit & Vegetable Co., Inc.: *See*—
Connell, J. C.
Alba Pharmaceutical Co., Inc., to Sterling Drug Inc., New York, N.Y. 387,571, ren. 2–7–61. Cl. 18.
Albin Enterprises, Inc., Burbank, Calif. 712,246, pub. 10–4–60. Cl. 51.
Albin Enterprises, Inc., d.b.a. Jack Built Mfg. Co., Burbank, Calif. 712,149, pub. 12–20–60. Cl. 37.
Alexander Mfg. Co. of Grapeland, Grapeland, Tex. 712,185, pub. 12–20–60. Cl. 39.
Allan Drug Corp., Beverly Hills, Calif. 712,045, pub. 12–20–60. Cl. 18.
Allen Knitting Mills, Inc., New York, N.Y. 712,192, pub. 6–21–60. Cl. 42.
Allied Commodities Co., Minneapolis, Minn. 712,277, pub. 12–20–60. Cl. 100.
Almaden Santa Clara Vineyards, d.b.a. Charles Lefranc Vineyards, San Francisco, Calif. 712,232, pub. 12–20–60. Cl. 47.
Alton Box Board Co., Alton, Ill. 712,244, pub. 12–20–60. Cl. 50.
American Bakers Cooperative, Inc., Ithaca, N.Y. 712,216, pub. 12–20–60. Cl. 46.
American Brass Co., The: *See*—
Anaconda American Brass Co., The.
American Breddo Corp., New York, N.Y. 712,315. Cl. 46.
American Committee on Africa, Inc., New York, N.Y. 712,173, pub. 12–20–60. Cl. 38.
American Heritage Publishing Co., Inc., New York, N.Y. 712,163, pub. 12–20–60. Cl. 38.
American Home Products Corp., d.b.a. Boyle-Midway, New York, N.Y. 712,270, pub. 12–20–60. Cl. 52.
American Seating Co., Grand Rapids, Mich. 712,183, pub. 12–20–60. Cl. 32.
American Society of Medical Technologists, Houston, Tex. 712,305, pub. 12–20–60. Cl. 200.
American Tobacco Co., The, New York, to Taylor Brothers, Inc., Winston-Salem, N.C. 142,424, ren. 2–7–61. Cl. 17.
Amos Co., Inc., Elkhart, Ind. 712,039, pub. 12–20–60. Cl. 18.
Amplifier Corp. of America, New York, N.Y. 712,145, pub. 12–20–60. Cl. 36.
Anaconda American Brass Co., The, by change of name from The American Brass Co., Waterbury, Conn. 712,016, pub. 12–20–60. Cl. 14.
Analab Instrument Corp., Cedar Grove, N.J. 712,110, pub. 12–20–60. Cl. 26.
Anson Inc., Providence, R.I. 712,127, pub. 12–20–60. Cl. 28.
Armour and Co., Chicago, Ill. 712,212, pub. 12–20–60. Cl. 46.
Arranbee Doll Co., Inc., New York, N.Y. 600,959, canc. Cl. 22.
Arrow Liqueurs Corp., Detroit, Mich. 712,318. Cl. 49.
Associated Press, The, New York, N.Y. 601,078–9, canc. Cl. 38.
Atkin, William, Co., Inc., New York, N.Y. 385,933, ren. 2–7–61. Cl. 39.
Atkinson Milling Co., Minneapolis, Minn. 712,224, pub. 12–20–60. Cl. 46.
Atlas Biscuit Corp., New York, N.Y. 712,214, pub. 12–20–60. Cl. 46.
Atlas Plywood Corp., Boston, Mass. 712,001, pub. 12–20–60. Cl. 12.
Automatic Methods Inc., Newark, N.J. 600,970, canc. Cl. 23.
Avon Products, Inc., New York, N.Y. 712,263, pub. 12–20–60. Cl. 51.
B & C Shoe Co., Manchester, N.H. 601,064, canc. Cl. 39.
Badger Mutual Insurance Co., Milwaukee, Wis. 712,236, pub. 12–20–60. Cl. 102.
Baird, John G., d.b.a. The Lightscope Co. (Great Britain), Manchester, England. 601,064, canc. Cl. 38.
Baldwin Laboratories, Inc., Omaha, Nebr. 712,045, pub. 12–20–60. Cl. 18.
Banning Canning Co., Banning, Calif. 601,112, canc. Cl. 46.
Barbasol Co., The, Indianapolis, Ind. 712,264, pub. 12–20–60. Cl. 51.
Barbour Flax Spinning Co., Paterson, N.J., to The Linen Thread Co., Inc., New York, N.Y. 141,060, ren. 2–7–61. Cl. 43.
Bartlay, Ltd., New York, N.Y. 601,069, canc. Cl. 42.
Baskos Corp., Santa Monica, Calif. 712,130, pub. 12–20–60. Cl. 26.
Bastian-Blessing Co., The, Chicago, Ill. 712,137, pub. 12–20–60. Cl. 34.
Baxter Laboratories, Inc., Morton Grove, Ill. 711,986, pub. 12–20–60. Cl. 6.
Beacon Chemical Co., Inc., New York, N.Y. 712,307. Cl. 6.
Beacon Mfg. Co., Swannanoa, N.C. 712,190–1, pub. 12–20–60. Cl. 42.
Beacon Mfg. Co., Swannanoa, N.C. 712,194–5, pub. 12–20–60. Cl. 42.
Belcher (Radio Services) Ltd., Slough, England. 600,935, canc. Cl. 21.
Bennett Mfg. Co., Inc.: *See*—
Sanitary Receiver Co., Inc.
Bentzinger Bros., Inc., St. Louis, Mo. 712,180, pub. 12–20–60. Cl. 29.
Bissell, Inc., Grand Rapids, Mich. 712,129, pub. 12–20–60. Cl. 29.
Blow-Therm: *See*—
Peghin, Gianni.
Blue Ridge Talc Co., Inc., Henry, Va. 712,308. Cl. 12.
Bosch, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 712,064, pub. 12–20–60. Cl. 21.
Bowen Processing Co., Inc., Largo, Fla. 712,269, pub. 12–20–60. Cl. 52.
Bowers Lighter Co., Kalamazoo, Mich. 600,877, canc. Cl. 8.
Boyle-Midway: *See*—
American Home Products Corp.
Bradley, Milton, Co., Springfield, Mass. 384,314, ren. 2–7–61. Cl. 21.
Bradley, Milton, Co., Springfield, Mass. 712,079, pub. 12–20–60. Cl. 22.
Brady, W. H., Co., Milwaukee, Wis. 712,239, pub. 12–20–60. Cl. 50.
Brass, Arturo B., d.b.a. Laboratorios Imperiales, Mexico City, Mex. 712,047, pub. 12–20–60. Cl. 18.
Breneman, Chas. W., Co., The, Cincinnati, Ohio. 436,202, canc. Cl. 42.
Brewster, Floyd E., Jr., New York, N.Y. 712,238, pub. 12–20–60. Cl. 50.
Brillo Mfg. Co., Inc., Brooklyn, N.Y. 141,498–9, ren. 2–7–61. Cl. 4.
Brill-Sloane Co., Philadelphia, Pa. 600,920, canc. Cl. 21.
Brinkman, Esther, and D. Castagno, co-executors of the estate of Herman H. Brinkman, deceased, d.b.a. Brinkman's Flowers, Pittsburg, Kans. 711,975, pub. 12–20–60. Cl. 1.
Brinkman, Herman H.: *See*—
Brinkman, Esther.
Brinkman's Flowers: *See*—
Brinkman, Esther.
Brown, George A., d.b.a. Hydrawilt Co., Roselle, N.J. 383,956, ren. 2–7–61. Cl. 37.
Brown Shoe Co., Inc., St. Louis, Mo. 712,178, pub. 12–20–60. Cl. 39.
Brown & Williamson Tobacco Corp., Louisville, Ky. 326,775, 12(c) pub. 2–7–61. Cl. 17.
Brusi Co., Los Angeles, Calif. 712,085, pub. 12–20–60. Cl. 23.
Budlong, Ware T., d.b.a. Petalfair Products, Rye, N.Y. 712,240, pub. 12–20–60. Cl. 51.
Buffodent Co.: *See*—
Foster, John R., Jr.
Bulova Watch Co., Inc., Flushing, N.Y. 712,143, pub. 12–20–60. Cl. 36.
Burke Golf Equipment Corp., Newark, Ohio. 600,955, canc. Cl. 22.
Burke & James, Inc., Chicago, Ill. 712,113, pub. 12–20–60. Cl. 26.
Bushnell, W. F. T., Co., The, by The Dakota Farmer Co., Aberdeen, S. Dak. 55,444, 12(c) pub. 2–7–61. Cl. 38.
Butterfield Foods, Inc., Muncie, Ind. 712,222, pub. 12–20–60. Cl. 46.
California Federal Savings and Loan Assn., Los Angeles, Calif. 712,288, pub. 12–20–60. Cl. 102.
Camera Specialty Co., Inc., Bronxville, N.Y. 712,115, pub. 12–20–60. Cl. 26.
Canadian National Silver Fox Breeders Assn., Summerside, Prince Edward Island, Canada. 600,865–7, canc. Cl. 1.
Capezio, Inc., New York, N.Y. 712,177, pub. 12–20–60. Cl. 39.
Carlisle Mfg. Co., Inc., Newark, N.J. 601,025, canc. Cl. 31.
Carney, D. D., & Son Candy Co., Inc., Huntington, W. Va. 712,223, pub. 12–20–60. Cl. 46.
Carolina Biological Supply Co., Elon College, N.C. 712,103, pub. 12–20–60. Cl. 26.
Cary Chemicals, Inc., New Brunswick, N.J. 711,973–4, pub. 12–20–60. Cl. 1.
Casco Products Corp., Bridgeport, Conn. 384,084, ren. 2–7–61. Cl. 50.
Castagno, Doris: *See*—
Brinkman, Esther, and Castagno.
Celanese Corp. of America, New York, N.Y. 711,987, pub. 12–20–60. Cl. 6.
Champion Paper and Fibre Co., The, Hamilton, Ohio. 712,153, pub. 12–20–60. Cl. 37.

Chapman, John, (Proprietary) Ltd., d.b.a. Orient Magaliesberg Tobacco Co., by John Chapman Ltd., Johannesburg, Union of South Africa. 384,091, 12(c) pub. 3–7–61. Cl. 17.

Chapman Mfg. Co., Inc., Corvallis, Oreg. 600,890, canc. Cl. 12.

Chase and Sons, Inc., North Quincy, Mass. 711,985, pub. 12–20–60. Cl. 5.

Cheramy, Inc., New York, N.Y. 712,262, pub. 12–20–60. Cl. 51.

Chesebrough-Pond's Inc., New York, N.Y. 712,254, pub. 12–20–60. Cl. 51.

Ciba, Ltd., Basel, Switzerland. 711,976, pub. 12–20–60. Cl. 1.

Ciuci, Louis D., d.b.a. Ace Electric Co., Clarksburg, W. Va. 712,063, pub. 12–20–60. Cl. 21.

Clean Publications Co., Inc., New York, N.Y. 601,063, canc. Cl. 38.

Cohn-Hall-Marx Co., to United Merchants and Manufacturers, Inc., New York, N.Y. 384,230, ren. 3–7–61. Cl. 42.

Cohn-Hall-Marx Co., to United Merchants and Manufacturers, Inc., New York, N.Y. 384,662, ren. 3–7–61. Cl. 42.

Coleman Instruments, Inc., Maywood, Ill. 712,108, pub. 12–20–60. Cl. 26.

Colonial-Premier Co., Chicago, Ill. 712,073, pub. 12–20–60. Cl. 21.

Colorado Milling & Elevator Co., The, Denver, Colo. 387,397, ren. 3–7–61. Cl. 46.

Columbia Broadcasting System, Inc., New York, N.Y. 712,304, pub. 12–20–60. Cl. 107.

Combination Pump Valve Co., Philadelphia, Pa. 712,013, pub. 12–20–60. Cl. 13.

Commonwealth Cedar Co., Inc., Shelbyville, Tenn. 712,151, pub. 12–20–60. Cl. 37.

Compagnie Francaise Thomson-Houston, Paris, France. 712,107, pub. 12–20–60. Cl. 26.

Compudyne Corp., Hatboro, Pa. 712,123, pub. 12–20–60. Cl. 26.

Condon, Carr D., to Martin V. Todd, Des Moines, Iowa. 383,254, ren. 3–7–61. Cl. 46.

Congoleum-Nairn Inc., Kearny, N.J. 712,061–2, pub. 12–20–60. Cl. 20.

Congress of Motor Hotels, Santa Monica, Calif. 712,278, pub. 12–20–60. Cl. 100.

Connell, J. C., d.b.a. Rio Grande Citrus Distributors, to Alamo Fruit & Vegetable Co., Inc., Alamo, Tex. 387,936, ren. 3–7–61. Cl. 46.

Connor Engineering Corp., Danbury, Conn. 712,140–1, pub. 12–20–60. Cl. 34.

Consolidated Flour Mills Co., The, Wichita, Kans. 601,113, canc. Cl. 46.

Constructor, Inc., The, Washington, D.C. 712,169, pub. 12–20–60. Cl. 38.

Continentale D'Applications Techniques, Suresnes, Seine, France. 600,968, canc. Cl. 23.

Convention Travelers Protection, Inc., New York, N.Y. 712,287, pub. 12–20–60. Cl. 102.

Cool-ette, Inc., Detroit, Mich. 601,045, canc. Cl. 34.

Cooperative Marketing, Inc., Beverly Hills, Calif. 712,184, pub. 12–20–60. Cl. 39.

Corinth Machinery Co., Corinth, Miss. 600,969, canc. Cl. 23.

Corral Sportswear Co.: *See*—
Simpler, John H.

Costello, Weber, Co., Chicago Heights, Ill. 712,148, pub. 12–20–60. Cl. 37.

Countess Maritza Cosmetic Co., Inc., New York, N.Y. 712,258, pub. 12–20–60. Cl. 51.

Crown Cork & Seal Co., Inc., Philadelphia, Pa. 712,236, pub. 12–20–60. Cl. 50.

Cummings, Hester F., d.b.a. Pedro Perfume Co., Arlington, Tex. 712,251, pub. 12–20–60. Cl. 51.

Curtis, Helene Industries, Inc., Chicago, Ill. 712,268, pub. 12–20–60. Cl. 52.

Curtis Jewelry Mfg. Co., Inc., Providence, R.I. 712,128, pub. 12–20–60. Cl. 28.

Dairypak Butler, Inc., Cleveland, Ohio. 711,982. Cl. 2.

Dakota Farmer Co., The: *See*—
Bushnell, W. F. T., Co., The.

Dan River Mills, Inc.: *See*—
Riverside & Dan River Cotton Mills, Inc.

Davidson Corp.: *See*—
Davidson Mfg. Corp.

Davidson Mfg. Corp., Chicago, Ill., to Davidson Corp., Brooklyn, N.Y. 388,308, ren. 3–7–61. Cl. 6.

Davis, Charles W., d.b.a. Krank-N-Roll Mfg., Lakewood, Ohio. 712,097, pub. 12–20–60. Cl. 26.

Dayco Corp., Dayton, Ohio. 712,074, pub. 12–20–60. Cl. 21.

Deering Milliken, Inc., New York, N.Y. 712,200, pub. 12–20–60. Cl. 42.

Delavan Mfg. Co., West Des Moines, Iowa. 712,126, pub. 12–20–60. Cl. 26.

Denby, Phillip L., Carlinville, Ill. 600,922, canc. Cl. 19.

Denver Chemical Mfg. Co., The, d.b.a. Wampole Laboratories, Stamford, Conn. 712,034, pub. 10–4–60. Cl. 18.

Denver Chemical Mfg. Co., The, d.b.a. Wampole Laboratories, Stamford, Conn. 712,049, pub. 12–20–60. Cl. 18.

Depew, K. A., Materials Co.: *See*—
Depew, Kenneth A.

Depew, Kenneth A., d.b.a. K. A. Depew Materials Co., Mt. Dora, Fla. 600,889, canc. Cl. 12.

Detrex Chemical Industries, Inc.: *See*—
Detroit Rex Products Co.

Detroit Rex Products Co., to Detrex Chemical Industries, Inc., Detroit, Mich. 385,148–9, ren. 3–7–61. Cl. 23.

Diamond Laboratories, from Iowa Cooperative Association, d.b.a. Diamond Laboratories, Des Moines, Iowa. 712,028, pub. 12–20–60. Cl. 18.

Diamond National Corp., New York, N.Y. 712,170, pub. 12–20–60. Cl. 38.

Dickerman, Don, Palm Bay, Fla. 712,078, pub. 12–20–60. Cl. 22.

Dilloff, Inc., New York, N.Y. 712,245, pub. 12–20–60. Cl. 51.

Direct Laboratories, Inc., Buffalo, N.Y. 712,032, pub. 12–20–60. Cl. 18.

Distributor Advertising Promotions, Inc., Philadelphia, Pa. 601,155, canc. Cl. 38.

Dobeckmun Co., The, Cleveland, Ohio, by The Dow Chemical Co., Midland, Mich. 379,629, 12(c) pub. 3–7–61. Cl. 1.

Dohe Chemical Corp., The, New York, N.Y. 386,384, ren. 3–7–61. Cl. 18.

Donath, Henry D., d.b.a. Rose Mary Dolls Mfg. Co., New York, N.Y. 600,960, canc. Cl. 22.

Donath, Henry D., d.b.a. Rose Mary Dolls Mfg. Co., New York, N.Y. 600,962, canc. Cl. 22.

Donley Tool Co., Boise, Idaho. 601,151, canc. Cl. 23.

Dorann Foods Inc., by merger from Dorann Foods, Inc., Rye, N.Y. 712,207, pub. 5–10–60. Cl. 46.

Dow Chemical Co.: *See*—
Dobeckmun Co., The.

Drackett Co., The, Cincinnati, Ohio. 712,320. Cl. 52.

Dreyfus Fund Inc., The, New York, N.Y. 712,289, pub. 12–20–60. Cl. 102.

Druggasting: *See*—
Strouse, Ben, and Murdock.

Dupli-Color Products Co., to Dupli-Color Products Co., Inc., Chicago, Ill. 387,689, ren. 3–7–61. Cl. 16.

Dupli-Color Products Co., Inc.: *See*—
Dupli-Color Products Co.

Dynetics, Inc., Erie, Pa. 712,319. Cl. 50.

Economy Filter Cartridge Co., Cleveland, Ohio. 601,026, canc. Cl. 31.

Edison Electric Institute, New York, N.Y. 712,281, pub. 12–20–60. Cl. 101.

Educational Developmental Laboratories, Inc., Huntington, N.Y. 712,112, pub. 12–20–60. Cl. 26.

Elaboraciones Pesqueras del Cantabrico, S.A., Bilbao, Spain. 712,209, pub. 12–20–60. Cl. 46.

Electric Storage Battery Co., The, Philadelphia, Pa. 712,117, pub. 12–20–60. Cl. 26.

Etablissements Clin-Byla, Paris, France. 712,024, pub. 12–20–60. Cl. 18.

Excel Diamond Co., New York, N.Y. 429,064, canc. Cl. 28.

F. & B. Mfg. Co., Chicago, Ill. 712,065, pub. 12–20–60. Cl. 21.

Fabric Flex Co., Pasadena, Calif. 601,034, canc. Cl. 32.

Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 711,992, pub. 12–20–60. Cl. 6.

Faluiah Paper Co., Fitchburg, Mass. 143,601, ren. 3–7–61. Cl. 37.

Farr Tours: *See*—
Merilic Corp.

Farwest Steel, Inc., Spokane, Wash. 712,003, pub. 12–20–60. Cl. 12.

Federal-Mogul Corp., Detroit, Mich. 600,981, canc. Cl. 23.

Fenton, Charles F., d.b.a. Fenton Co., New York, N.Y. 600,939, canc. Cl. 21.

Fenton Co.: *See*—
Fenton, Charles F.

Fielding Co., The: *See*—
Georges, George P.

Filbert, J. H., Inc., Baltimore, Md. 712,227–30, pub. 12–20–60. Cl. 46.

Filice & Perrelli Canning Co., Gilroy, to Filice & Perrelli Co., Richmond, Calif. 140,122, ren. 3–7–61. Cl. 46.

Finch & McCullough: *See*—
McCullough, William L.

Firma Palmoxinfabriken E. Hentschel, Goteborg, Sweden. 601,124, canc. Cl. 52.

Firmenich, Inc., New York, N.Y. 711,989, pub. 12–20–60. Cl. 6.

Firstamerica Corp., from Transamerica Corp., San Francisco, Calif. 712,154, pub. 12–20–60. Cl. 38.

Fisher Flouring Mills Co., Seattle, Wash. 712,226, pub. 12–20–60. Cl. 46.

Flavor-Lok Corp., Claymont, Del. 712,221, pub. 12–20–60. Cl. 46.

Flexible Steel Lacing Co., Chicago, Ill. 387,650, ren. 3–7–61. Cl. 23.

Flexible Steel Lacing Co., Chicago, Ill. 388,218, ren. 3–7–61. Cl. 13.

Floridin Co., Tallahassee, Fla. 383,256, 12(c) pub. 3–7–61. Cl. 6.

Food Fair Stores, Inc., Philadelphia, Pa. 712,017, pub. 12–20–60. Cl. 15.

Foods Plus, Inc., New York, N.Y. 712,219, pub. 12–20–60. Cl. 46.

Foster, John R., Jr., d.b.a. Buffodent Co., Tacoma, Wash. 712,252, pub. 12–20–60. Cl. 51.

Fox Head Brewing Co., Waukesha, Wis. 712,234, pub. 12–20–60. Cl. 45.

Frederic Co., Inc., St. Louis, Mo. 712,294, pub. 12–20–60. Cl. 103.

Freeland Mfg. Co., Freeland, Pa. 383,821, ren. 3–7–61. Cl. 39.

Freeman, Eugene J., Van Nuys, Calif. 600,967, canc. Cl. 23.

Fulton Cotton Mills, Inc.: *See*—
Fulton Industries, Inc.

Fulton Industries, Inc., by change of name from Fulton Cotton Mills, Inc., Atlanta, Ga. 712,197, pub. 12–20–60. Cl. 42.

Fulton Industries, Inc., by change of name from Fulton Cotton Mills, Inc., Atlanta, Ga. 712,242, pub. 12–20–60. Cl. 50.

Galsworthy, Inc., Newark, N.J. 712,317. Cl. 49.

Gallo, E. & J., Winery, Modesto, Calif. 712,233, pub. 12–20–60. Cl. 47.

Garrett Corp., The, Los Angeles, Calif. 712,066, pub. 12–20–60. Cl. 23.

Gary-Howe Corp., New York, N.Y. 712,019, pub. 12–20–60. Cl. 18.

Gates, Pat., and R. McQuarrie, Falls Church, Va. 712,302, pub. 12–20–60. Cl. 107.

Gauthier, Alfred, G.m.b.H., Calmbach/enz, Germany. 601,152, canc. Cl. 23.

General Aniline & Film Corp., New York, N.Y. 711,999, pub. 12–20–60. Cl. 6.

General Dynamics Corp., Chicago, Ill. 712,018, pub. 12–20–60. Cl. 15.

General Dynamics Corp., Rochester, N.Y. 712,114, pub. 12–20–60. Cl. 26.

General Foods Corp.: *See*—
Perkins Products Co.

General Magnaplate Corp., Belleville, N.J. 712,298, pub. 12–20–60. Cl. 106.

General Mills, Inc., Minneapolis, Minn. 711,977, pub. 12–20–60. Cl. 1.

General Painting Co.: *See*—
Hastie, William W.

Georges, George P., d.b.a. The Fielding Co., Webster Groves, Mo. 712,037, pub. 10–4–60. Cl. 18.

Gerts, Joe, Los Angeles, Calif. 600,891, canc. Cl. 12.

Gladstone, William D., 601,048, canc. Cl. 36.

Glass-Mate Products Co., Brooklyn, N.Y. 601,004, canc. Cl. 23.

Glatzer, Gus, d.b.a. Hamilton Laboratories, Brooklyn, N.Y. 712,271, pub. 12–20–60. Cl. 52.

Gold Star Co.: *See*—
Washington Mfg. Co., Inc.

Gorrell, Loran E., d.b.a. Mercury Pharmacal Co., El Paso, Tex. 712,023, pub. 12–20–60. Cl. 18.

Gotham Knitting Mills, Inc., New York, N.Y. 435,257, 12(c) pub. 3–7–61. Cl. 39.

Grace, W. R., & Co., New York, N.Y. 711,993, pub. 12–20–60. Cl. 6.

Great Grimsby Coal, Salt and Tanning Co., Ltd., Great Grimsby, England. 138,630, ren. 3–7–61. Cl. 39.

Green Bay Food Co., Green Bay, Wis. 712,220, pub. 12–20–60. Cl. 46.

Gulf States Paper Corp., Tuscaloosa, Ala. 711,983, pub. 12–20–60. Cl. 2.

Gum Products, Inc.: *See*—
Pine Bros., Inc.

H-P Products, Inc., Louisville, Ohio. 712,084, pub. 12–20–60. Cl. 23.

Hainke, Paul, Mower Corp., Inc., Hutchinson, Kans. 601,006, canc. Cl. 23.

Haman, J. P.: *See*—
Haman, J. Paul.

Haman, J. Paul, d.b.a. J. P. Haman, Yonkers, N.Y. 712,316. Cl. 46.

Hamilton Laboratories: *See*—
Glatzer, Gus.

Hammond, Elmer J., San Diego, Calif. 601,150, canc. Cl. 22.

Harwood Brothers, Inc., Richmond, Va. 600,928, canc. Cl. 20.

Hastie, William W., d.b.a. General Painting Co., San Francisco, Calif. 712,168, pub. 12–20–60. Cl. 38.

Hattie of Hollywood, Los Angeles, Calif. 601,066, canc. Cl. 39.

Haunl-Werke Korber & Co. K.G., Hamburg, Bergedorf, Germany. 712,091–2, pub. 12–20–60. Cl. 23.

Hayakawa Electric Co. Ltd., Abeno, Osaka, Japan. 712,312. Cl. 21.

Hays Mfg. Co., Erie, Pa. 712,072, pub. 12–20–60. Cl. 21.

Helima G.m.b.H., Glastechnische Werkstatten, Mullheim, Baden, Germany. 712,103, pub. 12–20–60. Cl. 26.

Heppler, Elsie K., Stevensville, Mich. 712,076, pub. 12–20–60. Cl. 22.

Hercules Powder Co., Wilmington, Del. 384,592, ren. 3–7–61. Cl. 1.

Heyden Newport Chemical Corp.: *See*—
Nuodex Products Co., Inc.

Hill, F. H., Co., Inc., Cleveland, Ohio. 384,921, 12(c) pub. 3–7–61. Cl. 2.

Hine, George A., also d.b.a. George Hine Products Co., Venice, Calif. 600,948, canc. Cl. 22.

Hine, George, Products Co.: *See*—
Hine, George A.

Hogar, Inc., Atlantic City, N.J. 712,265, pub. 12–20–60. Cl. 51.

Holcomb, J. L., Mfg. Co., Inc., Indianapolis, Ind. 712,250, pub. 12–20–60. Cl. 51.

Holley, Gordon, Northport, N.Y. 712,275, pub. 12–20–60. Cl. 100.

Houghton, E. F., & Co., Philadelphia, Pa. 137,625, 12(c) pub. 3–7–61. Cl. 35.

Hudnut, Richard, Morris Plains, N.J. 712,266, pub. 12–20–60. Cl. 51.

Hudson American Corp., New York, N.Y. 600,932, canc. Cl. 21.

Hudson Photographic Industries, Inc., Irvington-on-Hudson, N.Y. 712,119, pub. 12–20–60. Cl. 26.

Hunt Oil Co., Dallas, Tex. 712,036, pub. 12–20–60. Cl. 18.

Hydrawlik Co.: *See*—
Brown, George A.

I-T-E Circuit Breaker Co., Philadelphia, Pa. 712,068, pub. 12–20–60. Cl. 21.

Ideal Rubber Products Co., Inc., Brooklyn, N.Y. 712,057, pub. 12–20–60. Cl. 19.

Ideal Toy Corp., Hollis, N.Y. 600,958, canc. Cl. 22.

Ima Mfg. Co.: *See*—
McVeigh & Co., Inc.

Industrial Corp. of America, Quakertown, Pa. 712,004, pub. 12–20–60. Cl. 12.

Intercraft Corp., Washington, D.C. 600,880, canc. Cl. 8.

International Stock Food Corp., Delhi, N.Y. 601,095, canc. Cl. 46.

Interstate Equipment Corp., Elizabeth, N.J. 712,295, pub. 12–20–60. Cl. 103.

Invincible Tool Co., Inc., Pittsburgh, Pa. 601,147, canc. Cl. 13.

Iowa Cooperative Association: *See*—
Diamond Laboratories.

Irwill Knitwear Corp., New York, N.Y. 601,083, canc. Cl. 39.

Jack Built Mfg. Co.: *See*—
Albin Enterprises, Inc.

Jensen, Georg, Inc., New York, N.Y. 384,180, ren. 3–7–61. Cl. 28.

Johns-Manville Fiber Glass Inc., Cleveland, Ohio, from L.O.F Glass Fibers Co., Toledo, Ohio. 712,002, pub. 12–20–60. Cl. 12.

Johnson, S. C., & Son: *See*—
Perryman, I. P.

Jones, E. D., & Sons Co., Pittsfield, Mass. 600,978, canc. Cl. 23.

Kahn & Feldman Inc., New York, N.Y. 712,201, pub. 12–20–60. Cl. 43.

Kee Lox Mfg. Co., Rochester, N.Y. 387,505–7, ren. 3–7–61. Cl. 11.

Kee Lox Mfg. Co., Rochester, N.Y. 388,212, ren. 3–7–61. Cl. 11.

Kelly, J. Robert, Urbana, Ill. 600,949, canc. Cl. 22.

Kendall Co., The, Boston, Mass. 712,204, pub. 12–20–60. Cl. 44.

Kern & Co. Ltd., Aarau, Switzerland. 712,121–2, pub. 12–20–60. Cl. 26.

Kiefer, Karl, Machine Co., The, Cincinnati, Ohio. 712,088, pub. 12–20–60. Cl. 23.

Kogos, Frederick, d.b.a. Frederick Kogos Publishing Co., New York, N.Y. 601,058, canc. Cl. 38.

Kogos, Frederick, Publishing Co.: *See*—
Kogos, Frederick.

Koninklijke Nederlandsche Gist- en Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries, Wateringseweg Delft, Netherlands. 712,026, pub. 12–20–60. Cl. 18.

Kopelman, Nita J., New York, N.Y. 600,870, canc. Cl. 3.

Kordite Corp.: *See*—
National Distillers and Chemical Corp.

Kraft, Dr. Ernst, vorm. Boxberger's Hofapotheke, Bad Kissingen, Germany. 712,020, pub. 12–20–60. Cl. 18.

Krank-N-Roll: *See*—
Davis, Charles W.

Kurt Orban Co., Inc., New York, N.Y. 600,971, canc. Cl. 23.

L & L Industries, Inc., Phoenix, Ariz. 712,077, pub. 12–20–60. Cl. 22.

L. O. F Glass Fibers Co.: *See*—
Johns-Manville Fiber Glass Inc.

Label Weave Inc., New York, N.Y. 712,106, pub. 12–20–60. Cl. 38.

Laboratories Imperiales: *See*—
Brass, Arturo B.

Langnickel, A., Inc., New York, N.Y. 712,147, pub. 12–20–60. Cl. 37.

Le Blanc, Edward V., Somerville, Mass. 712,100, pub. 12–20–60. Cl. 38.

Led Ballast, Inc., Boulder, Colo. 712,014, pub. 12–20–60. Cl. 14.

Lefranc, Charles: *See*—
Almaden Santa Clara Vineyards.

Lehn & Fink Products Corp., d.b.a. Tussy Cosmetics, Bloomfield, N.J. 712,260, pub. 12–20–60. Cl. 51.

Leon Chemical Industries, Inc., Grand Rapids, Mich. 712,274, pub. 12–20–60. Cl. 52.

Lester Laboratories, Inc., Atlanta, Ga. 712,272, pub. 12–20–60. Cl. 52.

Lewis, Walter M., Chicago, Ill. 712,111, pub. 12–30–60. Cl. 26.

Lexington Mill & Elevator Co., Lexington, Nebr. 712,215, pub. 12–20–60. Cl. 46.

Leybold's, E., Nachfolger, Koln-Bayenthal, Germany. 712,106, pub. 12–20–60. Cl. 26.

Lien Chemical Co., Franklin Park, Ill. 711,995, pub. 12–20–60. Cl. 6.

Lightacope Co., The: *See*—
Baird, John Q.

Lincoln Stores, Inc., Quincy, Mass. 712,199, pub. 12–20–60. Cl. 42.

Linen Thread Co., Inc., The: *See*—
Barbour Flax Spinning Co.

Long-Lok Corp., Santa Monica, Calif. 712,010, pub. 12–20–60. Cl. 13.

Lori-Lynn Co.: *See*—
Washington Mfg. Co., Inc.

Lowe, Joe, Corp., New York, N.Y. 712,211, pub. 12–20–60. Cl. 46.

Lowell, Bert, d.b.a. Lowell Products, Los Angeles, Calif. 712,237, pub. 12–20–60. Cl. 50.

Lowell Products: *See*—
Lowell, Bert.

Luchsinger's Handelsgesellschaft, Amsterdam, Zurich, Switzerland. 712,089, pub. 12–20–60. Cl. 23.

Luden's Inc.: *See*—
Roblin-Demerath Co.

Lyric Industries, Inc., New York, N.Y. 711,980, pub. 12–20–60. Cl. 2.

M-H Equipment Co., Inc., Dallas, Tex. 712,055, pub. 12–20–60. Cl. 19.

M & T Co., The, Philadelphia, Pa. 712,172, pub. 12–20–60. Cl. 38.

Magee Carpet Co., The, Bloomsburg, Pa. 712,198, pub. 12–20–60. Cl. 42.

Magikist Service Corp., Chicago, Ill. 712,213, pub. 12–20–60. Cl. 46.

Malanco, Inc., Blue Island, Ill. 712,313. Cl. 37.

Manning, John A., Paper Co., Inc., Troy, N.Y. 387,161, 12(c) pub. 3–7–61. Cl. 37.

Mansfield Industries, Inc., Chicago, Ill. 712,104, pub. 12–20–60. Cl. 26.

Marley Co., The, Kansas City, Mo. 601,154, canc. Cl. 31.

Marusho Jidosha Seiso Kabushiki-Kaisha (Marusho Motorcycle Industrial Co. Ltd.), Chuo-ku, Tokyo, Japan. 712,056, pub. 12–20–60. Cl. 19.

Massasoit Co.: *See*—
Massasoit Mfg. Co.
Massasoit Mfg. Co., Fall River, Mass., by Massasoit Co., Laureiton, N.J. 141,605, 12(c) pub. 3–7–61. Cl. 35.
Massasoit Mfg. Co., Fall River, Mass., by Massasoit Co., Laureiton, N.J. 142,614, 12(c) pub. 3–7–61. Cl. 29.
Masterboard Co.: *See*—
Metcalfe, J. E.
Mastercraft Pen Co., Inc., Pacific Grove, Calif. 712,148, pub. 12–20–60. Cl. 37.
Maxim, Ernest L., Middleboro, Mass. 601,160, canc. Cl. 46.
McCullough, William L., d.b.a. Finch & McCullough, Aurora, Ill. 601,081, canc. Cl. 38.
McLean County Canning Co., Le Roy, Ill. 413,934, canc. Cl. 46.
McVeigh & Co., Inc., d.b.a. Ima Mfg. Co., Kansas City, Mo. 601,010, canc. Cl. 23.
Mechanical Industries Production Co, Akron, Ohio. 712,105, pub. 12–20–60. Cl. 26.
Medley Distilling Co., Owensboro, Ky. 712,235, pub. 12–20–60. Cl. 49.
Mehl, Donald E.: *See*—
Technical Publications Inc.
Mennen Co., The, Morris Township, N.J. 712,255, pub. 12–20–60. Cl. 51.
Mennen Co., The, Morris Township, N.J. 712,259, pub. 12–20–60. Cl. 51.
Meopta, Narodni Podnik, Prerov, Czechoslovakia. 712,099, pub. 12–20–60. Cl. 26.
Merck & Co., Inc., Rahway, N.J. 712,050-3, pub. 12–20–60. Cl. 18.
Mercury Pharmacal Co.: *See*—
Gorrell, Loran E.
Merlino, Angelo, & Sons, Seattle, Wash. 712,217, pub. 12–20–60. Cl. 46.
Merlitz Corp., d.b.a. Parr Tours, Miami Beach, Fla. 712,322, Cl. 105.
Metcalfe, J. E., d.b.a Masterboard Co, Fayetteville, Ark. 712,082, pub. 12–20–60. Cl. 22.
Mettoy Co. Ltd., The, Northampton, England. 712,083, pub. 12–20–60. Cl. 22.
Miahati: *See*—
Miahati, Inc.
Miahati, Inc., d.b.a. Miahati, New York, N.Y. 712,256, pub. 12–20–60. Cl. 51.
Miahati, Inc., New York, N.Y. 712,257, pub. 12–20–60. Cl. 51.
Mid-South Chemical Corp., Memphis, Tenn. 712,174, pub. 12–20–60. Cl. 38.
Mid-West Blood Bank and Plasma Center, Inc., Kansas City, Mo. 712,310. Cl. 18.
Midwest Industries, Inc., Willard, Ohio. 712,081, pub. 12–20–60. Cl. 22.
Miller Art Co., Inc., Brooklyn, N.Y. 712,167, pub. 12–20–60. Cl. 38.
Miller, Herman, Furniture Co.: *See*—
Miller, Herman, Inc.
Miller, Herman, Inc., by change of name from Herman Miller Furniture Co., Zeeland, Mich. 712,007, pub. 12–20–60. Cl. 12.
Mock Seed Co., Pittsburgh, Pa. 712,301, pub. 12–20–60. Cl. 107.
Monarch Garment Corp., New York, N.Y. 712,176, pub. 12–20–60. Cl. 39.
Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy. 711,971, pub. 9–23–60. (Consolidated certificate. Classes 1, 2, 3, 5, 6, 7, 12, 13, 22, 23, 28, 29, 32, 34, 36, 37, 39, 40, 42, and 45.)
Moran Shoe Co., to Moran Shoe Co., Carlyle, Ill. 385,591, ren. 3–7–61. Cl. 39.
Mullard Ltd., London, England. 712,066, pub. 12–20–60. Cl. 21.
Murdock, William D.: *See*—
Strouse, Ben, and Murdock.
Muskin Shoe Co., The: *See*—
Schwartz & Benjamin, Inc.
NEA Service, Inc., Cleveland, Ohio. 712,155–6, pub. 12–20–60. Cl. 38.
NEA Service, Inc., to Newspaper Enterprise Association, Inc., Cleveland, Ohio. 384,152, ren. 3–7–61. Cl. 38.
Naamloze Vennootschap "Due George Sigarenfabrieken" Voorheen Gebr. Baselmans, Zeelst, Netherlands. 600,906, canc. Cl. 17.
National Council Books, Inc., Philadelphia, Pa. 712,159, pub. 12–20–60. Cl. 38.
National Data Processing Corp., Dallas, Tex. 712,098, pub. 12–20–60. Cl. 26.
National Detroit Publishers, Inc., Detroit, Mich. 601,052, canc. Cl. 38.
National Distillers and Chemical Corp., New York, N.Y., by merger from Kordite Corp., Macedon, N.Y. 712,008, pub. 12–20–60. Cl. 12.
National Distillers and Chemical Corp., New York, N.Y., by merger from Kordite Corp., Macedon, N.Y. 712,094, pub. 12–20–60. Cl. 24.
National Distillers and Chemical Corp., New York, N.Y., by merger from Kordite Corp., Macedon, N.Y. 711,981, pub. 12–20–60. Cl. 2.
National Electric Screen Co., Chicago, Ill. 331,665, canc. Cl. 21.
National Lead Co., New York, N.Y. 712,049, pub. 12–20–60. Cl. 21.
National Ski Patrol System, Inc., Denver, Colo. 712,306, pub. 12–20–60. Cl. 200.
National Van Lines, Inc., Broadview, Ill. 712,297, pub. 12–20–60. Cl. 105.
Nestle Co., Inc., The, White Plains, N.Y. 712,225, pub. 12–20–60. Cl. 46.
Neumeyer & Dimond, Inc., New York, N.Y. 712,009, pub. 11–1–60. Cl. 13.
New Process Metals, Inc.: *See*—
Ronson Metals Corp.
New York Belting and Packing Co., by United States Rubber Co., New York, N.Y. 184,673, 11(c) pub. 3–7–61. Cl. 35.
Newspaper Enterprise Association, Inc.: *See*—
NEA Service, Inc.
Niemoeller, Ernest H., St. Louis, Mo. 96,807, canc. Cl. 18.
Norex Laboratories, Inc., New York, N.Y. 712,311. Cl. 18.
Norman Industries, Inc., Chicago, Ill. 712,132, pub. 12–20–60. Cl. 32.
North American Rayon Corp., New York, N.Y. 712,193, pub. 12–20–60. Cl. 42.
Northam Warren Corp., Stamford, Conn. 388,826–7, ren. 3–7–61. Cl. 51.
Nucodex Products Co., Inc., Elizabeth, N.J., to Heyden Newport Chemical Corp., New York, N.Y. 356,850, ren. 3–7–61. Cl. 26.
Oakite Products, Inc., New York, N.Y. 711,994, pub. 12–20–60. Cl. 4.
Official Films, Inc., New York, N.Y. 712,175, pub. 12–20–60. Cl. 38.
Old Kentucky Mfg. Co.: *See*—
Washington Mfg. Co., Inc.
Orchestral Association, The, Chicago, Ill. 712,300, pub. 12–20–60. Cl. 107.
Orient Magallesberg Tobacco Co.: *See*—
Chapman, John, (Proprietary) Ltd.
Original New Hampton General Store, Bazaar and Emporium, The, Lebanon Township, N.J. 712,282, pub. 12–20–60. Cl. 101.
Ormont Drug & Chemical Co., Inc., Long Island City, N.Y. 712,021, pub. 12–20–60. Cl. 18.
Osgood and Sons Inc., Decatur, Ill. 712,183, pub. 12–20–60. Cl. 39.
Oxo Ltd., London, England. 711,988, pub. 12–20–60. Cl. 6.
Pacific Air Lines, Inc., San Francisco, Calif. 712,324. Cl. 105.
Pageant Press, Inc., New York, N.Y. 601,062, canc. Cl. 38.
Palm Beach Co., New York, N.Y. 712,189, pub. 12–20–60. Cl. 39.
Paperlynen Co.: *See*—
White Castle System, Inc.
Parke, Davis & Co., Detroit, Mich. 160,939, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 168,830, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 305,845, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 379,431, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 400,401, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 410,383, 12(c) pub. 3–7–61. Cl. 44.
Parke, Davis & Co., Detroit, Mich. 412,399, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 415,663, 12(c) pub. 3–7–61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 600,915, canc. Cl. 18.
Pedro Perfume Co.: *See*—
Cummings, Hester F.
Peghin, Gianni, d.b.a. Blow-Therm, Padua, Italy. 712,136, pub. 12–20–60. Cl. 34.
Pelican Bag Co., Inc., Crowley, La. 711,979, pub. 12–20–60. Cl. 2.
Penick, S. B., & Co., New York, N.Y. 384,605, ren. 3–7–61. Cl. 18.
Pennsylvania Glass Sand Corp., New York, N.Y. 712,165, pub. 11–1–60. Cl. 32.
Perkins Products Co., Chicago, Ill., to General Foods Corp., White Plains, N.Y. 384,244, ren. 3–7–61. Cl. 45.
Perkins Products Co., Chicago, Ill., to General Foods Corp., White Plains, N.Y. 384,366, ren. 3–7–61. Cl. 46.
Perolin Co., Inc., The, New York, N.Y. 712,011, pub. 12–20–60. Cl. 13.
Perryman, I. P., Memphis, Tenn., to S. C. Johnson & Son, Inc., Racine, Wis. 139,667, ren. 3–7–61. Cl. 16.
Personal Stationery Co.: *See*—
Williams, Thomas J.
Petalfair Products: *See*—
Budlong, Ware T.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 712,046, pub. 12–20–60. Cl. 18.
Phoenix Closet Accessories, Inc., Newark, N.J. 712,241, pub. 12–20–60. Cl. 50.
Pictorial News Inc., Eastchester, N.Y. 712,157, pub. 12–20–60. Cl. 38.
Pinder, Albert, d.b.a. A. P. H. Skin Tonic Co., St. Catharines, Ontario, Canada. 712,027, pub. 12–20–60. Cl. 18.
Pine Bros., Inc., Philadelphia, Pa., to Gum Products, Inc., East Boston, Mass. 385,230, ren. 3–7–61. Cl. 46.
Plastic Products Co., Detroit, Mich. 384,742, ren. 3–7–61. Cl. 12.
Plastiwall, Inc., Fort Wayne, Ind. 712,006, pub. 12–20–60. Cl. 12.
Polaroid Corp., Cambridge, Mass. 388,047, ren. 3–7–61. Cl. 2.
Polaroid Corp., Cambridge, Mass. 388,251, ren. 3–7–61. Cl. 35.
Popell, Samuel J., Chicago, Ill. 712,090, pub. 12–20–60. Cl. 23.
Poppers Supply Co., Inc. of Philadelphia, Philadelphia, Pa. 712,206, pub. 12–20–60. Cl. 46.
Powers, John Robert, Products Co. Inc., New York, N.Y. 712,253, pub. 12–20–60. Cl. 51.
Powers, John Robert, Products Co. Inc., New York, N.Y. 712,283, pub. 12–20–60. Cl. 101.
Powers Regulator Co., The, Skokie, Ill. 712,116, pub. 12–20–60. Cl. 26.
Precision-Cosmet Co., Inc., Minneapolis, Minn. 712,116, pub. 12–20–60. Cl. 26.
Premier-Hall Mfg. Co., Inc., Chicago, Ill. 301,037, canc. Cl. 32.

Premium Associates, Inc., Newark, N.J. 712,284, pub. 12–20–60. Cl. 101.
Prescription Optical Supply: *See*—
Reimer, Julius H.
Procter and Gamble Co., The, Cincinnati, Ohio. 137,849, 12(c) pub. 3–7–61. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 712,321. Cl. 52.
Pyramid Rubber Co., The, Ravenna, Ohio. 712,240, pub. 12–20–60. Cl. 50.
Quelcor, Inc., Chester, Pa. 712,291, pub. 12–20–60. Cl. 103.
Radio Shack Corp., Boston, Mass. 712,290, pub. 12–20–60. Cl. 103.
Raybestos-Manhattan, Inc., Manheim, Pa. 712,070, pub. 12–20–60. Cl. 21.
Regie Nationale des Usines Renault, Billancourt (Seine), France. 712,071, pub. 12–20–60. Cl. 21.
Regie Nationale des Usines Renault, Billancourt (Seine), France, 712,067, pub. 12–20–60. Cl. 23.
Reimer, Julius H., d.b.a. Prescription Optical Supply, St. Cloud, Minn. 712,299, pub. 12–20–60. Cl. 106.
Reliance Windows Ltd., Chester, England. 712,005, pub. 12–20–60. Cl. 12.
Remco, Inc., Chicago, Ill. 712,243, pub. 12–20–60. Cl. 50.
Renart Sportswear Corp., New York, N.Y. 601,086, canc. Cl. 39.
Revere Rubber Co., Boston, Mass., by United States Rubber Co., New York, N.Y. 19,078, 12(c) pub. 3–7–61. Cl. 35.
Richter, F. Ad.: *See*—
Riedel & Co., Inc.
Riedel & Co., Inc., New York, to F. Ad. Richter & Co. Inc., Staten Island, N.Y. 142,109, ren. 3–7–61. Cl. 18.
Rio Grande Citrus Distributors: *See*—
Connell, J. C.
Riverside & Dan River Cotton Mills, Inc., Danville, Va. and New York, N.Y., to Dan River Mills, Inc., Danville, Va. 385,876, ren. 3–7–61. Cl. 42.
Robinson & Golluber, Inc.: *See*—
Robinson & Golluber.
Robinson & Golluber to Robinson & Golluber, Inc., New York, N.Y. 383,730, ren. 3–7–61. Cl. 20.
Roblin-Demerath Co., Rochester, N.Y., by Luden's Inc., Reading, Pa. 139,029, 12(c) pub. 3–7–61. Cl. 46.
Rock Road Construction Co., Chicago, Ill. 600,892, canc. Cl. 12.
Rohm & Haas Co., Philadelphia, Pa. 712,000, pub. 12–20–60. Cl. 6.
Romal Electric Products Co., Inc., New York, N.Y. 669,606, canc. Cl. 26.
Ronson Metals Corp., by change of name from New Process Metals, Inc., Newark, N.J. 712,015, pub. 12–20–60. Cl. 14.
Rose Mary Dolls Mfg. Co.: *See*—
Donath, Henry D.
Rowe, C. L., Corp., Rutherford, N.J. 388,397, ren. 3–7–61. Cl. 16.
Royal Netherlands Distilleries: *See*—
Koninklijke Nederlandsche Gist- en Spiritusfabriek N.V., Dutch Co.
Rupp, Herbert E., II: *See*—
Rupp Mfg. Co., The.
Rupp Mfg. Co., The, from H. E. Rupp, II, d.b.a. The Rupp Mfg. Co., Mansfield, Ohio. 712,058, pub. 12–20–60. Cl. 19.
St. Regis Paper Co., New York, N.Y. 712,152, pub. 12–20–60. Cl. 37.
Salem Shoe Mfg. Co., Salem, Mass. 712,188, pub. 12–6–60. Cl. 39.
Samuel Stamping & Enameling Co., Chattanooga, Tenn. 712,139, pub. 12–20–60. Cl. 34.
Sanitary Receiver Co., Inc., Dunkirk, N.Y., by Bennett Mfg. Co., Inc., Alden, N.Y. 143,162, 12(c) pub. 3–7–61. Cl. 2.
Saville Perfumery Ltd., Watford, England. 382,742, 12(c) pub. 3–7–61. Cl. 51.
Scheu Products Co., Upland, Calif. 712,138, pub. 12–20–60. Cl. 34.
Schulein, Joseph, Corvallis, Oreg. 712,096, pub. 12–20–60. Cl. 26.
Schwartz & Benjamin, Inc., New York, N.Y., by The Muskin Shoe Co., Baltimore, Md. 384,493, 12(c) pub. 3–7–61. Cl. 39.
Sealy, Thomas, New York, N.Y., to Stallworth Pine Products Co. Inc., Mobile, Ala. 141,220, ren. 3–7–61. Cl. 16.
Security First Bank & Trust Co., Grand Haven, Mich. 712,134, pub. 12–20–60. Cl. 32.
Seifert, E. M., Jr., Inc., Los Angeles, Calif. 331,227, canc. Cl. 46.
Seiler's, Inc.: *See*—
Vogt, F. G., & Sons, Inc.
Seinsheimer, H. A., Co., The, Cincinnati, Ohio. 385,498, ren. 3–7–61. Cl. 39.
Seinsheimer, H. A., Co., The, Cincinnati, Ohio. 388,826, 12(c) pub. 3–7–61. Cl. 39.
Sertoma International, Kansas City, Mo. 712,285, pub. 12–20–60. Cl. 101.
Sherman Paper Products Corp., Newton, Mass. 712,150, pub. 12–20–60. Cl. 37.
Sherman Paper Products Corp., Newton, Mass. 711,978, pub. 12–20–60. Cl. 2.
Shoe Corp. of America, Columbus, Ohio. 712,180, pub. 12–20–60. Cl. 39.
Sickenberger, Anthony P., Birmingham, Mich. 393,976, canc. Cl. 16.
Sigma Chemical Co., St. Louis, Mo. 711,990, pub. 12–20–60. Cl. 6.
Sigma Instruments, Inc., South Braintree, Mass. 712,075, pub. 12–20–60. Cl. 21.
Silver Shine, Inc., St. Paul, Minn. 601,122, canc. Cl. 52.
Simpler, John H., d.b.a. Corral Sportswear Co., Ardmore, Okla. 712,181, pub. 12–20–60. Cl. 39.
Sinclair Refining Co., New York, N.Y. 712,302, pub. 12–20–60. Cl. 107.
Singer Motors Ltd., London, England. 712,054, pub. 12–20–60. Cl. 19.
Skylark Mfg. Co., Inc., Los Angeles, Calif. 420,838, canc. Cl. 19.
Slim-Aroma, Inc., Flushing, N.Y. 712,044, pub. 12–20–60. Cl. 18.
Smith, J. Allen, & Co. Inc., Knoxville, Tenn. 712,218, pub. 12–20–60. Cl. 46.
Smith, Lillian M., Cleveland, Ohio. 600,989, canc. Cl. 22.
Smith, Malcolm E., Jr., d.b.a. Turner-Smith Drug Co., New York, N.Y. 600,911, canc. Cl. 18.
Smith, Miller & Patch, Inc., New York, N.Y. 712,038, pub. 10–4–60. Cl. 18.
Smith-Reiser Co., Inc., Lynwood, Calif. 600,990, canc. Cl. 23.
Soap Specialties, Inc., Philadelphia, Pa. 712,267, pub. 12–20–60. Cl. 52.
Societe Anonyme Laboratoires du Dr. N. G. Payot, Bois-Colombes, Seine, France. 712,247–8, pub. 12–20–60. Cl. 51.
Societa a Responsabilita Limitata, Cinamori, Roma, Rome, Italy. 712,231, pub. 12–20–60. Cl. 47.
Societe a Responsabilite Limitee J. F. Bas et Compagnie, The, Paris, France. 600,994, canc. Cl. 23.
Sodus Fruit Farm, Inc., Sodus, N.Y. 712,314. Cl. 46.
Soundscriber Corp., The, North Haven, Conn. 712,067, pub. 12–20–60. Cl. 21.
Soundscriber Corp., The, North Haven, Conn. 712,144, pub. 12–20–60. Cl. 36.
Southern Biscuit Co.: *See*—
Weston Biscuit Co. Inc.
Southern Saw Works, Inc., East Point, Ga. 600,986, canc. Cl. 23.
Southern States Cooperative, Inc., Richmond, Va. 712,210, pub. 12–20–60. Cl. 46.
Spalding, A. G., & Bros. Inc., Chicopee, Mass. 600,961, canc. Cl. 22.
Spencer Kellogg and Sons, Inc., Buffalo, N.Y. 712,025, pub. 12–20–60. Cl. 18.
Sperry Rand Corp., New York, N.Y. 712,101, pub. 12–20–60. Cl. 26.
Spur Distributing Co. Inc., by Spur Oil Co., Nashville, Tenn. 291,502, 12(c) pub. 3–7–61. Cl. 15.
Spur Oil Co.: *See*—
Spur Distributing Co. Inc.
Stallworth Pine Products Co. Inc.: *See*—
Sealy, Thomas.
Standard Naphthalene Products Corp., Kearny, N.J., by Standard Naphthalene Products Corp., South Kearny, N.J. 341,996, 12(c) pub. 3–7–61. Cl. 6.
Standard Pipe & Supply Co., Dallas, Tex. 712,292–3, pub. 12–20–60. Cl. 103.
Steiner American Corp.: *See*—
Steiner Sales Co.
Steiner Sales Co., to Steiner American Corp., Chicago, Ill. 384,946, ren. 3–7–61. Cl. 37.
Sterling Drug Inc.: *See*—
Alba Pharmaceutical Co., Inc.
Sterling Drug Inc., New York, N.Y. 712,043, pub. 12–20–60. Cl. 18.
Stork Plan, Inc., South Boston, Mass. 712,280, pub. 12–20–60. Cl. 101.
Stratford Furniture Corp., Chicago, Ill. 601,029, canc. Cl. 32.
Street & Smith Publications, Inc., New York, N.Y. 384,130, ren. 3–7–61. Cl. 38.
Street & Smith Publications, Inc., New York, N.Y. 386,259, ren. 3–7–61. Cl. 38.
Street & Smith Publications, Inc., New York, N.Y. 712,164, pub. 12–20–60. Cl. 38.
Strouse, Ben, and William D. Murdock, d.b.a. Drugcasting, Washington, D.C. 601,140, canc. Cl. 101.
Struhl, Morris, Inc., New York, N.Y. 712,093, pub. 12–20–60. Cl. 24.
Sule Inc., Seattle, Wash. 712,261, pub. 12–20–60. Cl. 51.
Sullivan Valve & Engineering Co., Butte, Mont. 712,142, pub. 12–20–60. Cl. 34.
Sunbeam-Talbot Ltd., Ryton-on-Dunsmore, Coventry, England. 712,060, pub. 12–20–60. Cl. 19.
Superior Fireplace Co., Baltimore, Md. 712,135, pub. 12–20–60. Cl. 34.
Superior Petticoat Co., Inc., New York, N.Y. 712,186, pub. 12–20–60. Cl. 39.
Syndication Digest, Inc., Long Island City, N.Y. 712,171, pub. 12–20–60. Cl. 38.
T-P Laboratories, Inc., La Porte, Ind. 712,203, pub. 12–20–60. Cl. 44.
Talbot, H., Co., The, Cincinnati, Ohio. 711,997, pub. 12–20–60. Cl. 6.
Taylor Brothers, Inc.: *See*—
American Tobacco Co., The.
Taylor Instrument Companies, Rochester, N.Y. 384,327, ren. 3–7–61. Cl. 21.
Technical Publications Inc., from D. E. Mehl, d.b.a. Broadcast Engineering, Kansas City, Mo. 712,158, pub. 12–20–60. Cl. 38.
Therm-X Chemical and Oil Corp., Westbury, N.Y. 711,996, pub. 12–20–60. Cl. 6.
Thieblot Aircraft Co., Inc., Bethesda, Md. 601,138, canc. Cl. 100.
Thompson, M. R., Inc., New York, N.Y. 712,040–2, pub. 12–20–60. Cl. 18.
Thompson, H. I., Fiber Glass Co., Los Angeles, Calif. 711,972, pub. 12–20–60. Cl. 1.
Todd, Martin V.: *See*—
Condon, Carr D.
Trade Mfg. Co., Chicago, Ill. 712,080, pub. 12–20–60. Cl. 22.
Transamerica Corp.: *See*—
Firstamerica Corp.
Transcoatimental Bus System, Inc., Dallas, Tex. 712,296, pub. 12–20–60. Cl. 105.

Trojan Boat Co., Lancaster, Pa. 712,059, pub. 12–20–60. Cl. 19.
Turner-Smith Drug Co.: *See*—
Smith, Malcolm E., Jr.
Tussy Cosmetics: *See*—
Lehn & Fink Products Corp.
Twill Co., The, Benton Harbor, Mich. 712,022, pub. 12–20–60. Cl. 18.
Tyson & Co., by Tyson & Co., Inc., Paris, Tenn. 141,460, 12(c) pub. 3–7–61. Cl. 51.
Ultra-Violet Products, Inc., San Gabriel, Calif. 712,100, pub. 12–20–60. Cl. 20.
Union Lumber Co., San Francisco, Calif. 138,726, ren. 3–7–61. Cl. 12.
United Device Corp., Great Neck, N.Y. 601,001, canc. Cl. 23.
United Merchants and Manufacturers, Inc.: *See*—
Cohn-Hall-Marx Co.
United Seal Co., The, Columbus, Ohio. 712,095, pub. 12–20–60. Cl. 25.
United States Appliance Corp., Menomonie, Wis. 600,937, canc. Cl. 21.
United States Rubber Co.: *See*—
New York Belting and Packing Co.
United States Rubber Co., New York, N.Y. 712,196, pub. 12–20–60. Cl. 42.
Universal Fountain Brush Co.: *See*—
Wright, Ida C.
Universal Oil Products Co., Des Plaines, Ill. 711,996, pub. 12–20–60. Cl. 6.
Universal Refining Products Co., Inc., New York, N.Y. 711,986, pub. 12–20–60. Cl. 6.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 387,422, ren. 3–7–61. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 387,424, ren. 3–7–61. Cl. 18.
VEB Verlag der Kunst, Dresden, Germany. 712,161–2, pub. 12–20–60. Cl. 38.
Van Auken, Inc., Detroit, Mich. 600,923, canc. Cl. 19.
Varley, James, & Sons, Inc., St. Louis, Mo. 601,118, canc. Cl. 52.
Vestal Laboratories, Inc., St. Louis, Mo. 712,273, pub. 12–20–60. Cl. 52.
Vieter, Bernard, New York, N.Y. 420,716, canc. Cl. 39.
Vogt, F. G., & Sons, Inc., to Seller's, Inc., Philadelphia, Pa. 381,516, ren. 3–7–61. Cl. 46.
Walker, Hiram, & Sons, Inc., Peoria, Ill. 320,263, canc. Cl. 49.
Walker Laboratories, Inc., Mount Vernon, N.Y. 712,033, pub. 9–27–60. Cl. 18.
Wallace, R., & Sons Mfg. Co., Wallingford, Conn. 601,020, canc. Cl. 23.
Wampole Laboratories: *See*—
Denver Chemical Mfg. Co., The.
Warner Brothers Co., The, Bridgeport, Conn. 601,067, canc. Cl. 39.
Warner Brothers Co., The, Bridgeport, Conn. 712,179, pub. 12–20–60. Cl. 39.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 711,991, pub. 12–13–60. Cl. 6.
Washington Mfg. Co.: *See*—
Washington Mfg. Co., Inc.
Washington Mfg. Co., Inc., d.b.a. Washington Mfg. Co., Old Kentucky Mfg. Co., Gold Star Co. and Lori-Lynn Co., Nashville, Tenn. 712,182, pub. 12–20–60. Cl. 39.
Waukegan Baby Seat Co., Waukegan, Ill. 712,131, pub. 12–20–60. Cl. 32.
Webb, Del E., Motor Hotel Co., Phoenix, Ariz. 712,279, pub. 12–20–60. Cl. 100.
Wellman Bronze Co., The, Cleveland, Ohio. 153,901, canc. Cl. 14.
Wells Lamont Corp.: *See*—
Wells Lamont Smith Corp.
Wells Lamont Smith Corp., to Wells Lamont Corp., Chicago, Ill. 388,057, ren. 3–7–61. Cl. 39.
Western Anaesthesia Equipment Co., Inc., Redwood City, Calif. 712,202, pub. 12–20–60. Cl. 44.
Weston Biscuit Co. Inc., d.b.a. Southern Biscuit Co., Passaic, N.J. 601,099, canc. Cl. 46.
White Castle System, Inc., by Paperlynen Co., Columbus, Ohio. 384,311, 12(c) pub. 3–7–61. Cl. 39.
White Laboratories, Inc., Kenilworth, N.J. 600,909, canc. Cl. 18.
Whitworth & Mitchell Ltd., Radcliffe, Manchester, England. 712,187, pub. 12–20–60. Cl. 39.
Wiedemann, Geo., Brewing Co., Inc., The, by The Geo. Wiedemann Brewing Co., Newport, Ky. 384,216–7, 12(c) pub. 3–7–61. Cl. 48.
Wiedemann, Geo., Brewing Co., The: *See*—
Wiedemann, Geo., Brewing Co., Inc., The.
Wilbert Funeral Home, Inc., and Wilbert Service, Inc., Plaquemine, La. 712,276, pub. 12–20–60. Cl. 100.
Wilbert Service, Inc.: *See*—
Wilbert Funeral Home, Inc.
Williams, Thomas J., d.b.a. Personal Stationery Co., by Williams Stationery Co., Inc., Camden, N.Y. 423,554, 12(c) pub. 3–7–61. Cl. 37.
Williams Stationery Co., Inc.: *See*—
Williams, Thomas J.
Wis-Products, Inc., Goshen, N.Y. 600,998, canc. Cl. 23.
Wolf & Dessauer Co., Fort Wayne, Ind. 600,982, canc. Cl. 23.
Wright, Donald C.: *See*—
Wright, Ida C.
Wright, Ida C., Summit, N.J., to D. C. Wright, d.b.a. Universal Fountain Brush Co., St. Petersburg, Fla. 139,438, ren. 3–7–61. Cl. 29.
Yale Woolen Mills, Yale, Mich. 601,158, canc. Cl. 42.
Yamasa Shoyu Co., Ltd.: *See*—
Yamasa Shoyu Kabushiki Kaisha.
Yamasa Shoyu Kabushiki Kaisha, d.b.a. Yamasa Shoyu Co., Ltd., Choshi-shi, Chiba-ken, Japan. 712,205, pub. 12–20–60. Cl. 46.
Yardley Plastics Co., Columbus, Ohio. 712,012, pub. 12–20–60. Cl. 13.
York Band Instrument Co., Grand Rapids, Mich. 381,724, ren. 3–7–61. Cl. 36.
Young, W. F., Inc., Springfield, Mass. 139,917, ren. 3–7–61. Cl. 18.
Younghusband, James L., Chicago, Ill. 309,972, canc. Cl. 51.

U.S. GOVERNMENT PRINTING OFFICE: 0——1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

March 14, 1961 Volume 764 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of January 1961

Examiner affirmed	154
Examiner affirmed in part	39
Examiner reversed	53
Total	246

Patents Available for Licensing or Sale

2,837,376. Dust Caps for Roller Skate Wheels. Alexander Bruno, New York, N.Y. Correspondence to: Frank Ledermann, 154 Nassau St., New York 38, N.Y.

2,951,530. Luggage Table. Adolph S. Amiotte, Box 66, Hillman, Mich.

2,954,796. Safety Tire Air Gauge. Anthony J. Marshall, 251 N. 1st St., P.O. Box 459, Livermore, Calif.

2,956,994. Method of Polymerizing Ethylene. Karl Peterlein, Gladbeck, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,958,250. Musical Instrument Tuning Apparatus. Horst Albin Poehler, 400 3rd Ave., Eau Gallie, Fla.

2,968,080. Jig for a Potter's Wheel. Henry Threlfall, 3235 N. Carlisle St., Philadelphia, Pa.

General Electric Company is prepared to grant non-exclusive licenses under the following 12 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: General Electric Company, Flight Propulsion Division, Cincinnati 15, Ohio, Attention: Patent Counsel.

2,929,208. Propellant Injection Head for Jet Propulsion System.

Applications for license under the following patent may be addressed to: General Electric Company, Atomic Power Equipment Department, 2151 S. 1st St., San Jose, Calif., Attention: Patent Counsel.

2,948,516. Heat Exchange System With Intermediate Heat Conductive Fluids.

Applications for license under the following 5 patents may be addressed to: General Electric Company, Transformer Division, 100 Woodlawn Ave., Pittsfield, Mass., Attention: Patent Counsel.

2,943,134. Gas Insulated Transformer.

2,947,065. Method of Making a Joint in a Wound Magnetic Core.

2,947,958. High Voltage Current Transformer.

2,958,023. Electrical Capacitor and Terminal Arrangement Therefor.

2,958,059. Tap or Lead for Foil Wound Electrical Apparatus and Method of Making Same.

Applications for license under the following 5 patents may be addressed to: General Electric Company, Component Products Division, 1635 Broadway, Fort Wayne, Ind., Attention: Patent Counsel.

2,942,314. Double-Ended Cord Holder.

2,945,205. Electrical Terminal and Terminal Board Assembly.

2,947,968. Electrical Termination.

2,953,736. Static Magnetic Frequency Multiplier.

2,958,908. Method for Determining the End Play of a Rotatable Shaft.

New Applications Received During January 1961

Patents	6,370
Designs	369
Plant Patents	5
Reissues	29
Total	6,773

Issue

Patents	1,105	No. 2,974,319 to No. 2,975,423, incl.
Designs	34	No. 189,870 to No. 189,903, incl.
Plant Patents	2	No. 2,033 to No. 2,034, incl.
Reissues	1	No. 24,947
Total	1,142	

CONDITION OF PATENT APPLICATIONS AS OF JANUARY 31, 1961

Total number of pending applications (excluding Designs)	190,233
Total number of pending Design applications	5,565
Total number of applications awaiting action (excluding Designs)	86,571
Total number of Design applications awaiting action	1,561
Date of oldest new application	September 2, 1959
Date of oldest amended application	September 1, 1959

M. C. ROSS, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 21, 23, 45, 48, 50, 52, 59, 60, 62, 64.
(II) EVANS, N. E., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 20, 27, 41, 42, 44, 49, 51, 54, 65.
(III) YUNG KWAI, D., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 31, 36, 37, 38, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES	7, 11, 17, 27, 34, 35, 39, 53, 63.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 9, 33, 33,33, 35, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 8, 10, 18, 22, 23, 32, 55, 57.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE	3, 15, 19, 24, 30, 31, 43, 56, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	7-15-60	7-7-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	7-15-60	6-29-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	5-20-60	5-13-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	4-29-60	4-29-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Commutators; Fences; Gates; Music; Signals and Indicators; Acoustics	1-5-60	1-4-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	3-31-60	4-13-60
7. (IV) ANDERSON, E. G., Optics	3-29-60	4-11-60
8. (V) BEHRM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	7-7-60	7-5-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	6-6-60	6-15-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	6-14-60	6-7-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clinching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	5-5-60	4-11-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	5-5-60	5-5-60
13. (III) BRALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	5-14-60	4-11-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	4-4-60	3-3-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	3-4-60	3-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	12-16-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	5-5-60	5-4-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	5-5-60	5-1-60
19. (VII) PATRICK, F. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-19-60	5-9-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protectors; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	5-5-60	5-5-60
21. (III) MADER, R. C., Textiles	5-25-60	5-26-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	6-6-60	6-25-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	9-9-59	9-1-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	6-9-60	5-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	4-4-60	4-4-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	4-7-60	3-3-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	6-13-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-11-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	5-5-60	5-5-60
30. (VII) O'LEARY, R. A., Conveyorizers; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	7-25-60	7-15-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	6-6-60	6-6-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	6-6-60	5-25-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-4-60	3-1-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	4-6-60	4-15-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	5-5-60	5-17-60
36. (V) EVANS, R. L., Measuring and Testing (part)	4-15-60	3-28-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	3-21-60	3-17-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthracene, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	3-21-60	3-17-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-20-60	5-13-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	7-1-60	7-15-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	3-1-60	1-15-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	4-29-60	5-5-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	5-5-60	5-5-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-16-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Brakeworks	6-15-60	6-6-60
46. (I) WILES, W. G. (CAMPBELL, E. L., acting), Actinide Series (e.g., Plutonium) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	3-25-60	3-5-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	7-6-60	7-15-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-24-60	3-21-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-5-60	4-11-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	3-4-60	3-14-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-1-60	4-4-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	7-11-60	7-1-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	7-19-60	7-11-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-12-60	5-1-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	5-5-60	5-5-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-16-60	5-5-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	4-4-60	4-5-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufacture; Selective Cutting	5-5-60	5-5-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	3-4-60	12-28-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5-1-60	5-19-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	5-26-60	5-27-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	5-1-60	5-1-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-29-60	3-10-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	4-1-60	3-4-60
65. (II) SAX, E. J., Wave Guides; Electric Motors; Conductors; Insulators; Amplifiers	5-16-60	5-26-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	1-4-60	1-4-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	5-31-60	5-5-60
81. (III) MONCURE, J. A., Industrial Arts	11-7-60	11-15-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	11-15-60	11-21-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	6-27-60	6-30-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	8-30-60	9-26-60
93. WAHL, R. A., Wire Working	9-7-59	9-29-60
94. BERLOWITZ, W., Gas Separation	7-5-60	7-25-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-1-60	6-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes—Butadiene	5-11-60	5-26-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during March 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (54 Stat. 216 as amended by 66 Stat. 221) and those which may have expired earlier due to shortened terms under the provisions of Public Law 593. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1959*.

Patents	Numbers 2,942,227 to 2,943,540, inclusive
Plant Patents	Numbers 189 to 691, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

EX PARTE STEINER

Appeal No. 224-17. Decided April 30, 1960

1. CLAIM—COMBINATION—AGGREGATIVE—PROLIX.

Held that "While it is true that the claims do contain details of construction of the basic elements of the combination beyond those necessary for the recited combination proper, * * *, we do not subscribe to the view that such additional limitations which make the claims more specific than might be necessary render the claims improper, per se, as aggregative and/or prolix" and that "In our opinion, it is sufficient for a proper combination that the specific devices of the combination, irrespective of their details, cooperate to produce a unitary result * * *."

2. PATENTABILITY—COMBINATION—IMPROVEMENT ON AN ELEMENT OF A COMBINATION.

"It is well settled that improvements in the details of one or more elements of a combination shown to be old in the prior art do not necessarily produce a new and patentable combination."

3. SAME—PARTICULAR SUBJECT MATTER—SPEED INDICATING DEVICE.

Certain claims to a speed indicating device *Held* unpatentable over the cited prior art.

APPEAL from the Examiner. Serial No. 599,759.

AFFIRMED.

McMorrow, Berman and Davidson for appellant.

Before DRACOPOULOS and BREWBINK, *Examiners-in-Chief*, and BERLOWITZ, *Acting Examiner-in-Chief*.

DRACOPOULOS, *Examiner-in-Chief:*

This is an appeal from the final rejection of claims 3, 4 and 5. Subsequent to the appeal an amendment was entered cancelling claim 5, and the appeal as to this claim will accordingly be dismissed. No claim has been allowed.

The more specific claim, claim 4, reads as follows:

4. A speed indicating device comprising the combination with a visual indicator including a housing adapted to be mounted upon the exterior of a vehicle top, said housing having spaced front and rear walls with a plurality of spaced partitions positioned between said front and rear walls and subdividing the space between said front and rear walls into a plurality of compartments, the portions of said front and rear walls of each compartment being provided with a speed indicating numeral of the same designation, and a lamp bulb in each of said compartments, of a vehicle speedometer head having a forward side and a speedometer shaft projecting from the forward side, a hollow housing having a rear wall secured to said forward side of the speedometer head, a sidewall, and a bottom wall, said housing having an open forward side, and said speedometer shaft projecting forwardly from said head through said rear wall and into the interior of said housing, an internal flange in said housing extending around said sidewall and said bottom wall and spaced forwardly from said rear wall, a dial plate in said housing and bearing against the forward side of said flange, said dial plate having an opening therein, an insulated speedometer needle secured on said speedometer shaft and positioned between said dial plate and the open side of the housing, said needle having thereon a contactor facing said dial plate, a dielectric plate mounted on the housing between said rear wall and the dial plate, an arc of contact segments on said dielectric plate projecting forwardly through the opening in the dial plate and positioned in the path of movement of said needle contactor, each contact segment being electrically connected to one of said lamp bulbs, a ring engaged in the open side of the housing and holding said dial plate in place, said needle having a conductor strip on the side thereof remote from the dial plate connected to said contactor, and a conductor brush mounted on said dial plate beneath the speedometer shaft and bearing against said conductor strip.

The references relied upon are:

Moore et al., 2,128,841, August 30, 1938.
Crofoot et al., 2,251,623, August 5, 1941.
Addorisio, 2,452,844, October 26, 1948.

The asserted invention relates to a visual indicator mounted upon the exterior of a vehicle and controlled by the speedometer pointer of the vehicle for indicating the speed thereof to persons outside the vehicle. The indicator comprises a plurality of numerals representing different speeds and a plurality of lamps for respectively illuminating said numerals in response to the position of the pointer along the speedometer dial, as depicted in Figures 2 and 6 of the application drawings. A detailed description of the pertinent parts of the disclosed apparatus is set forth on pages 3 and 4 of appellant's brief.

All three references disclose visual speed indicating means in the form of a bank of electric lamps located exteriorly of a vehicle and means for energizing said lamps successively in response to the speed of the vehicle. In Addorisio the lamps (16) are located at the back (15) of the vehicle and are seen only from the rear, while in Crofoot et al. and Moore et al. they are positioned at the top of the vehicle and apparently visible from both the front and the rear of the vehicle, as in appellant's case. In Crofoot et al. the lamps are mounted in individual compartments in a housing having spaced front and rear walls, as clearly shown in Figures 1, 2 and 3 thereof.

Addorisio, the principal reference in the rejection of the claims, as succinctly described on page 2 of the Examiner's answer:

". . . discloses a vehicle speed indicating device comprising in combination a speedometer 12 including a series of speedometer switches consisting of a series of contacts and a speedometer pointer 26 which when engaged with said contacts completes an electrical circuit to an externally mounted visual indicator 16. The device also includes control panels 13 and 14 which may be manually conditioned by the vehicle operator and a passenger; an alarm 620 is connected in circuitry with said control panels to produce an audible signal when a preset speed is exceeded. The speed responsive speedometer pointer 26 is electrically conductive and when engaged with one of contact points 17—25, a closed circuit through one of lamps 31, 35 or 38—44 is completed to indicate the vehicle's speed. The bank of signal lamps 16 may be provided with numerical indicia to show corresponding speeds, and are shown disposed on the back of the vehicle."

The claims on appeal stand rejected (1) as being aggregative of specific features, it being the Examiner's position that there is no patentable cooperation between the specific switching arrangement and the specific visual indicator, on the basis that each would function in the same manner in the presence of a substitute for the other, as in the substitution of physically separated visual indicators for appellant's housing-type indicator;

(2) as being prolix for containing long recitations of so many detailed elements which obscure the alleged invention, thus falling within the holding in *Ex parte Iagan*, 1911 C.D. 10, 162 O.G. 528;

(3) as being unpatentable over Addorisio in view of Moore et al. or Crofoot et al. As to this ground, it is the Examiner's position, as stated on page 5 of his answer, that:

"To utilize a speedometer head having an insulated speedometer needle with a contact thereon as a substitute for an electrically conductive speedometer needle to perform a switching function is a matter of design and not invention. No new or unexpected results are obtained by this substitution. In the Addorisio disclosure as well as applicant's device, an electrical circuit is closed when the speedometer needle reaches a given position. Whether this circuit is closed due to a direct engagement between spaced contacts and the needle per se or contacts on the needle is of no patentable moment. The remaining elements in applicant's structure merely relate to design and not invention. Since only one lamp is energized at a given time in the Addorisio disclosure it is apparent that each section in indicator 16 is separated from sections adjacent thereto. The structure of the lamp circuitry is identical to applicant's; a lamp is energized when the speedometer needle reaches a given position thereby closing the circuit. Utilizing a visual indicator having forward and rear indicating means is shown by Moore et al. and Crofoot et al. to be old in the art and substituting this forward and rear design on a vehicle roof fails to require the use of inventive faculty."

Appellant submits that all the given rejections are without merit.

With respect to the aggregation and prolixity rejections, he insists that the claims set forth only the minimum or basic elements which go to make up a novel visual indicator and a novel speedometer head construction in cooperative relation to produce the unitary result of indicating the vehicle speed.

As to the art rejection, appellant relies for patentability over Addorisio on the differences in the specific structure of the visual indicator and the speedometer head, and contends that the proposed substitution of the visual indicator of either of the secondary references would require an unwarranted material rearrangement of the Addorisio structure, as well as the indicator of either secondary reference, to produce appellant's structure.

We do not share with the Examiner's views as to either of the first two stated grounds of rejection. [1] While it is true that the claims do contain details of construction of the basic elements of the combination beyond those necessary for the recited combination proper, as will be discussed below, we do not subscribe to the view that such additional limitations which make the claims more specific than might be necessary render the claims improper, per se, as aggregative and/or prolix. In our opinion, it is sufficient for a proper combination that the specific devices of the combination, irrespective of their details, cooperate to produce a unitary result, and it cannot be denied that the claimed combination will give the speed indication of a vehicle, the objective desired. *In re Williams et al.*, 1933 C.D. 82 (at 88), 426 O.G. 785, 62 F.2d 86. These grounds of rejection are therefore not sustained.

We agree with the Examiner, however, that the claims do not define patentably over the references. Addorisio clearly discloses the essential combination of elements defined in the claims at bar to visually indicate the speed of a vehicle to persons outside the vehicle, namely, a bank of electric lamps mounted exteriorly of the vehicle and a switch arrangement including the speedometer needle to energize the lamps respectively according to the position of said needle. We agree with the Examiner that differences in the specific switch and/or indicating means utilized by appellant over those of Addorisio do not result in any new or unobvious cooperation between the basic elements of the combination. The lamps will still indicate different speeds and the switching means will still energize the lamp corresponding to the speed indicated by the speedometer needle.

[2] It is well settled that improvements in the details of one or more elements of a combination shown to be old in the prior art do not necessarily produce a new and patentable combination. *In re Lundberg et al.*, 44 CCPA 909, 1957 C.D. 289 (at 299), 720 O.G. 5, 244 F.2d 543, 113 USPQ 530; *In re Vawter*, 1932 C.D. 392, 421 O.G. 857, 57 F.2d 365; *In re Harris*, 27 CCPA 757, 1940 C.D. 95 (at 97), 510 O.G. 776, 107 F.2d 623. As expressed by the Court of Customs and Patent Appeals in the Vawter case, and repeated in the Harris decision:

"A combination to be patentable as such must disclose a novelty of cooperation between its elements which produces a new result and amounts to invention, and the mere fact that some elements are themselves novel and possibly patentable as individual elements does not render the combination containing them patentable in the absence of such novel cooperative relation in the combination itself."

We are not convinced that such novelty of cooperation is present in the herein claimed combination.

We repeat that in both secondary references the plural lamp indicators are located at the top of the vehicle and are visible from both the front and the rear thereof. In view thereof, it would be obvious to the routineer to transfer the indicator (16) of Addorisio from the rear to the top and make it visible from both sides.

As noted by the Examiner, the lamps of Addorisio must be separated from each other as to confine the light to the particular numerical indicia showing the corresponding speed (column 3, lines 41 to 44 of Addorisio). But, in any event, we consider such separation to involve an obvious expedient, especially in view of Crofoot et al. who disclose partition (66) separating the lamps.

For the preceding reasons the rejection of the claims as unpatentable over the references is sustained.

The appeal is dismissed in respect to claim 5.

[3] The decision of the Examiner is affirmed.

AFFIRMED.

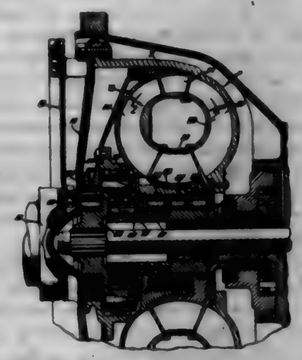
REISSUES

MARCH 14, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,947
HYDROKINETIC TORQUE CONVERTER AND GEARING
Oliver K. Kelley, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original No. 2,782,659, dated Feb. 26, 1957, Ser. No. 294,291, June 18, 1952. Application for reissue May 29, 1958, Ser. No. 738,904
17 Claims. (Cl. 74—677)

10. In a power transmission mechanism; a plurality of relatively rotatable bladed annular members defining a toroidal fluid circuit and comprising a pump member, first and second turbine members and a reaction member in a series relation in said fluid circuit with said reaction member inhibited against reverse rotation; rotatable power input means connected with said pump member; a rotatable output shaft; a planetary gear set comprising a ring gear connected with said first turbine member, a sun gear inhibited against reverse rotation and planet pinion means disposed between and having meshed engagement with said ring and sun gears; rotatable carrier means supporting said pinion means and having a direct-drive connection with said output shaft; and a one-way clutch automatically effective as a direct forward drive connection between said second turbine member and said output shaft; said one-way clutch being also automatically



effective to release the connection of said second turbine member with said output shaft for relatively free reverse rotation of said second turbine member.

PLANT PATENTS

GRANTED MARCH 14, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,833
CHRYSANTHEMUM PLANT
Orville O. Dunham, Niles, Mich., assignor to George J. Ball Inc., West Chicago, Ill., a corporation
Filed Oct. 28, 1959, Ser. No. 849,431
1 Claim. (Cl. 47—60)

A new and distinct variety of chrysanthemum plant substantially as herein described, characterized as to novelty by the deep reddish purple to strong reddish purple color and very large size of its blooms, the very double arrangement of its petals, its better form and habit, the shiny green foliage with pointed lobes, and the early, continuous and long blooming period.

2,834
DIANTHUS PLANT
John A. Yeudall, Beaumont, Calif., assignor to Jacob Mittleider, Loma Linda, Calif.
Filed Jan. 18, 1960, Ser. No. 3,216
1 Claim. (Cl. 47—60)

A new and distinct variety of dianthus plant, substantially as shown and described herein, characterized particularly by its floriferous blooming habit, low-growing, compact, densely turfted plant form, usually not exceeding three to five inches in height, and bearing many very double flowers of magenta color ranging from light to medium, depending upon the prevailing temperatures, said flowers having a spicy, carnation-like fragrance that is somewhat similar to Dianthus Old Spice (Plant Patent No. 499).

PATENTS

GRANTED MARCH 14, 1961

GENERAL AND MECHANICAL

2,974,319
ARCHER'S TAB
Jack K. Wilson, 2511 N. Delaware St.; Norman E. Wilson, 2503 N. Delaware St.; and Robert S. Wilson, 2463 N. Delaware St., all of Springfield, Mo.
Filed Sept. 27, 1957, Ser. No. 686,772
3 Claims. (Cl. 2—21)



1. An archer's tab comprising a flat rectangular sheet of limited flexibility, said sheet having parallel upper and lower edges, and leading and trailing edges, said sheet being limited in length to extend along only a major portion of the inner sides of an archer's fingers, said sheet having an outer side to engage such fingers and an inner side, a vertically elongated, relatively narrow guard and reinforcing strip secured on the inner side of the body at a location intermediate the ends of the body, said strip dividing said body into forward and rear sections, said forward section terminating in said leading edge, said leading edge being substantially straight and disposed at right angles to said upper and lower edges, a lower horizontal slit formed in said forward section and opening to said leading edge, an upper slit formed in said forward section and opening to said leading edge, and finger receiving means on said rear section.

2,974,320
INVERTIBLE COLLAR CONSTRUCTION
George A. Miller, Norwalk, Conn., assignor to Dietz & Company, Inc., Norwalk, Conn., a corporation of Connecticut
Filed June 2, 1959, Ser. No. 817,644
1 Claim. (Cl. 2—98)



In an invertible collar construction including a jacket element and a shawl collar element, said jacket element having first and second interconnectable front panel members and a rear panel interconnected at side edges thereof with said first and second front panel members, the improvement comprising: each of said front panel members having a finished free edge, the upper portions of which extend upwardly to form with a portion of said back panel member a continuous neck opening, said collar element having an outer edge and an inner edge, said inner and outer edges each converging to a point at each end thereof, said inner edge having a radius of curvature less than that of said neck opening when said inner edge and said neck opening are disposed in planar condition, means interconnecting said collar element within said neck opening along a line on the inner surface of said jacket spaced below said finished edge, in such manner that the center of curvature of said inner edge of said collar lies within said rear panel member when said collar is in planar condition, whereby said collar element may be selectively folded inwardly of said finished edge to lie smoothly upon the inner surface of said jacket, and outwardly folded to lie upon an outer surface of said front and rear panel members when said jacket is worn.

2,974,321
COLLAPSIBLE TRAVEL COMMODE
Ludovit Salka, Newtown, Conn.
(P.O. Box 314, Glenbrook, Conn.)
Filed Nov. 20, 1958, Ser. No. 775,162
9 Claims. (Cl. 4—134)



1. A collapsible travel commode comprising a flat seat member having a seat opening; a container having a mouth portion commensurate in size with the said seat opening; means for detachably securing the mouth portion of the container to the seat member about the opening thereof, to hang pendent therefrom; side and rear supports connected respectively to the side and rear edges of said seat member and arranged to extend downward therefrom for supporting the member in a raised plane; a base engaged with said supports, said base having portions constituting the bottom and sides of a carrying case and said rear support being adapted to constitute the top of said case, said side supports and seat member being movable with respect to each other and to said rear support, and being arranged for disposition within the case when the rear support is in position closing the top of the case.

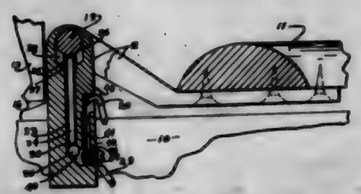
2,974,322
PORTABLE BATH MAT
Naomi E. Norris, 3111 20th St. N., Apt. C111, Arlington 1, Va.
Filed Aug. 10, 1959, Ser. No. 832,825
4 Claims. (Cl. 4—185)



1. A portable bath mat comprising a shallow open top container, a door hingedly secured to said container for closing the open top thereof, a sponge rubber cushion positioned in said container and having a generally rectangular depressed central portion, a waterproof flexible plastic panel covering the upper surfaces of said cushion with the peripheral edges of said plastic panel sealed to

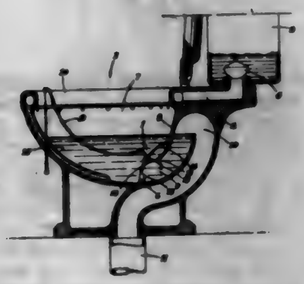
said container, a sponge rubber cushion seated in the recessed central portion of said first named cushion, a waterproof flexible plastic cover encompassing said last named cushion in sealed relation thereto, means on said last named cushion for releasably securing an infant thereto during bathing, and said container includes a bottom wall, a pair of upstanding spaced parallel side walls secured to opposite edges of said bottom wall, a pair of spaced parallel upstanding end walls secured to opposite end edges of said bottom wall, said end walls and said side walls being integrally connecting at their abutting edges, an inwardly reverted peripheral lip formed continuously on said side walls and said end walls along the edge thereof opposite said bottom wall, said lip providing the sealing means for the peripheral edge of said plastic panel with the peripheral edge of said plastic panel engaging under said lip.

2,974,323
TOILET VENTILATOR AND AIR STERILIZER AND PURIFIER
Earl L. Nofsinger, 715 N. C St., Wellington, Kans.
Filed Sept. 30, 1957, Ser. No. 687,297
1 Claim. (Cl. 4—213)



A ventilating and deodorizing device of the kind described; said device having a housing element, said housing element having partition walls therein dividing the housing into first, second and third compartments and passage means at the top of said walls for admitting the passage of air from the said second compartment into the first and third compartments; said second compartment having an air intake at the bottom thereof; said air intake comprising a nozzle element outwardly extending therefrom and being thin enough to pass under hinge portions of a toilet seat and receive air from within the toilet bowl; said first and third compartments having openings therein for discharging air therefrom; said second compartment having a plurality of ozonizing electrical tubes therein; an electrical motor and combination suction and blower; said motor and suction and blower element being located within the second said compartment and being adapted to draw air in through said nozzle and dispense the air outwardly and against said ozonizing electrical tubes therein and into, through and out of the said first and third compartments; an electrical circuit for the operation of said ozonizing tubes and motor and switch means for making and breaking said circuit; said electric switch means being operable from vertical movements of a part of the toilet seat hinge, said vertical movement being effected by weight imposed on the said toilet seat, said operating means for the electric switch being embodied in a leg support element of the said toilet seat hinge, said toilet seat hinge having a hinge pin, one end of said hinge pin being movable vertically in a slot in the upper end of the hinge supporting leg therefor, the last said hinge supporting leg having a vertical and longitudinal bore therein and pin means longitudinally movable in said bore, one end of said pin being against the said pin and spring means in said bore for raising the said pin in the bore and the end of the hinge pin resting thereon, said hinge support leg having a laterally and downwardly sloping bore connecting between the lower end of the first said bore and to the exterior of the said hinge support leg, ball means movable in the said laterally exteading bore; an electric switch structure being carried at the outer end of said laterally extending bore and being operable to make and break the electric circuit for operating the device by movements of the said ball means, the lower end of said pin in the said vertical bore being in engagement with the said ball means for imparting movement of the ball means to operate said electrical movement of the ball means to operate said electrical switch means.

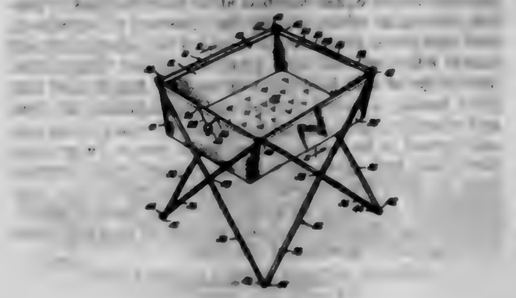
2,974,324
STRAINER UNIT FOR TOILETS
Charles Lundelius, 7609 Twin Oaks Ave., Citrus Heights, Calif.
Filed Apr. 16, 1959, Ser. No. 806,913
4 Claims. (Cl. 4—257)



1. A strainer unit for a toilet, such toilet including a bowl having a bottom and an upstanding wall thereabout, and the bowl having a waste outlet opening the upper edge of which is in said wall above the bottom; the strainer unit comprising an endless rigid frame shaped to fit in the bowl in a plane transversely parallel to the outlet opening and to then engage said bowl bottom and the upstanding wall in clearance relation to and about the opening, a large-mesh screen secured to and surrounded by the frame, and means on the unit adapted to engage the bowl in releasable holding relation to retain the frame in place; said means comprising a spring finger secured to and projecting from the unit intermediate the upper and lower edges thereof and adapted to extend through the outlet opening and frictionally engage the bowl wall within and at the upper edge of said opening.

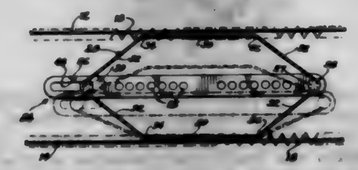
2,974,325
CONVERTIBLE BED
Roberto Mango, Largo Ferrantino 1, Naples, Italy
Filed Mar. 10, 1958, Ser. No. 734,810
(Filed under Rule 47(b) and 35 U.S.C. 118)
5 Claims. (Cl. 5—98)

1. A bed adapted to be used as either a crib or an auto bed comprising: a rectangular basket constructed of a nonrigid material having a bottom surface and side walls upstanding therefrom; a support frame having a plurality of pairs of bars, each of said pairs of bars being pivotally attached together intermediate their ends, each of said pairs of bars being associated with one of said side walls when said basket member is supported by said support frame, and pin means for securing the upper and lower ends of said pairs of said bars to like ends of adjacent pairs of bars, and means at said upper ends for detachably securing said basket member to said support frame; a rectangular substantially rigid floor member holding said sides in spread position, said floor member having recesses at its corners; and rod members subtantially the same height as said side walls, said rod members being held at their lower ends by said recesses, said rod members having means at their upper ends for attachment to



said side walls, said rod members supporting said side walls when said basket is detached from said support frame.

2,974,326
SPRING INSERT FOR SPRING ASSEMBLIES
George W. Ross, Brighton, Mass., assignor to The United States Bedding Company, St. Paul, Minn., a corporation of Minnesota
Filed May 26, 1958, Ser. No. 737,667
7 Claims. (Cl. 5—255)



1. A device of the class described comprising in combination a comparatively rigid support bar and a resilient wire bent to form a substantially closed loop, said loop including opposed load-engaging portions and connecting portions all in a common plane, said load-engaging portions disposed in spaced relation to said support bar, means for providing spaced spring connections between said connecting portions of said closed loop and spaced points on said support bar, said means including a single-headed stem rigidly secured to the support bar with the head portion in spaced relation thereto, a portion of said resilient wire wound around the stem portion forming a first resilient coil spring, a double-headed stem, another portion of said resilient wire bent around said double-headed stem to form a second resilient coil spring, an elongated guide slot formed in said support bar, said slot disposed in a plane which is substantially parallel to the plane of the closed loop, said double-headed stem perpendicular to and extending through said elongated guide slot with one of the head portions and an end of the second coil spring slidably engaging opposed sides of the support bar and movable therealong so that when such a load is applied to the device the spacing between the first and second coil springs will change producing tension in them and causing said device to resist said load, whereby the device will be comparatively resilient to forces engaging said load-engaging portions which are at least parallel to the plane of the closed loop and comparatively rigid to forces engaging said device which are substantially perpendicular to the plane of the closed loop.

2,974,327
ATTACHMENT BRACKET MEANS FOR ATTACHING BED SPRING MEANS TO A HEADBOARD AND A FOOTBOARD TO FORM A BED
Robert R. Vail, Altadena, Calif., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Mar. 30, 1959, Ser. No. 802,946
2 Claims. (Cl. 5—288)



1. Attachment bracket means for attaching to a vertically directed headboard and a vertically directed footboard opposite side corners of bed spring means, comprising: bed spring means consisting of a substantially rectangular frame of substantially L-shaped crote-sectional configuration having substantially vertical downwardly directed first flange means and substantially horizontal inwardly directed second flange means, and being provided with and interconnected by a plurality of reticulated intersecting interconnected resilient mattress supporting members; a vertically directed headboard; a vertically directed footboard; four longitudinal upwardly open vertical flange-receiving members of U-shaped cross-sectional configuration, each removably receiving downwardly therein a different side corner portion of said substantially vertical downwardly directed flange means of said frame of said bed spring means, whereby to effectively longitudinally support said frame along the length thereof at four corner locations, each of said flange-receiving members being provided at the bottom thereof with upwardly and inwardly directed controllably adjustable and lockable fastening clamp means having an inwardly and upwardly displaced horizontal flange-engaging portion adapted to tightly engage the top of a corresponding corner portion of said substantially horizontal inwardly directed second flange means of said bed spring means for tightly drawing together said vertical flange-receiving member and the bed spring frame at each of the four corner portions thereof, each of said controllably adjustable and lockable fastening clamp means including an apertured downwardly and inwardly projecting portion formed out of the bottom of the flange-receiving member, and further including upwardly and inwardly directed threaded fastener means adjustably connected to said horizontal flange-engaging portion, similar ends of two of said vertical flange-receiving members, each being provided with a transversely directed fastening plate and fastening means carried thereby effectively fastening same to said vertically directed headboard at opposite sides thereof, and similar ends of the remaining two of said vertical flange-receiving members each being provided with a transversely directed fastening plate and fastening means carried thereby effectively fastening same to said vertically directed footboard at opposite sides thereof, thereby effectively mounting said bed spring means between said headboard and said footboard.

2,974,328
BEDDING SUPPORT
Robert E. Hebberd, 76 N. Gaston Ave., Somerville, N.J.
Filed Jan. 21, 1959, Ser. No. 788,098
2 Claims. (Cl. 5—319)

1. A bedding support comprising:
a continuous, generally rectangular, foldable web defining a base,

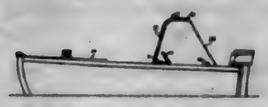
a first arcuate support member attached at its ends to corners of the web on one side thereof,

a second arcuate support member attached at its ends to corners of the web on the other side thereof,



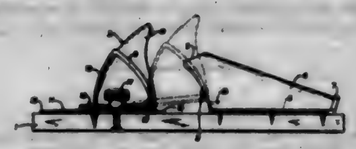
the first and second support members pivotally attached together intermediate their ends whereby they may pivot to engage each other along their entire length and to separate their respective ends thereby extending the web to form a self-supporting base.

2,974,329
COMBINATION WINDSHIELD AND SPRAY CURTAIN
Richard W. Welch, R.D. 4, Moorheadville Road, North East, Pa.
Filed Mar. 2, 1959, Ser. No. 796,318
1 Claim. (Cl. 9—1)



In combination, a spray curtain and a windshield and a boat having seats, said windshield comprising a sheet of material made of two parts overlapping at the center and sealed along two spaced lines to provide a support receiving opening, the edges spaced from said spaced lines and parallel to said lines being turned back on themselves and sealed along a line generally parallel to said lines to provide support receiving openings, three elongated, generally L-shaped supports disposed in said openings, said supports being supported on the front end of said boat ahead of the seats and extending upwardly, then bent and extending rearwardly to overlie the front part of said boat, means for attaching said supports to said boat, said means comprising a hollow cylindrical member for receiving one end of each said support, a laterally extending pin in each said cylindrical member, a slot in the end of each said support receiving said pin, and a flat flange member attached to one end of each said cylindrical member, said flange members having holes therein for attaching them to said boat, said flange members being disposed in a plane at less than a right angle to the axes of said elongated supports.

2,974,330
BINDING FOR WATER SKIS
Anthony M. Kluge, 63—24 78th St., Rego Park, N.Y.
Filed July 21, 1959, Ser. No. 828,516
7 Claims. (Cl. 9—310)



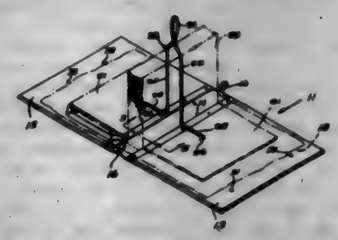
1. A water ski consisting of a ski board and a binder to be mounted on said ski board, said binding comprising an elastic, flexible vamp member, clamping means securing the lateral edges of said vamp member to said ski board, a counter member, a heel plate having two fork-like front portions, means securing the lateral sides of said counter member to said heel plate, and the latter having parallel lateral edges widened at its front portion to provide abutment means during the rearward movement of said heel plate, guide means disposed at each side of said lateral edges of said heel plate for guided longitudinal movement of said heel plate on said ski board, said heel plate having a raised portion starting adjacent its front and extending spaced apart from said ski board to the rear end thereof in its inoperative position, means for pressing down said heel plate at a predetermined point intermediate its ends for frictional engagement of the rear portion of said heel plate with said ski board, thereby providing a wedge effect by the front portion of said heel plate in the operative position of the latter.

2,974,331
SWIM FLOAT
Melvin W. Dias, Honolulu, Hawaii (4045 Hewitt Drive, Norfolk 3, Va.)
Filed Dec. 19, 1958, Ser. No. 781,349
3 Claims. (Cl. 9—347)



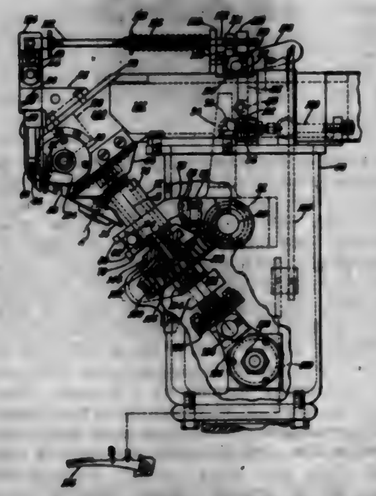
1. A swim float comprising a closed rectangular frame, a plurality of floats attached within the frame, at least one of said floats being a rotatable element and journaled within said frame, and a windlass attached to the frame in juxtaposition with one of the floats which is a rotatable element in such a manner that friction coupling is provided between said float and said windlass.

2,974,332
APPARATUS FOR APPLYING COVERS TO BOOKS
Albert L. Saunders, 155 Dryden Drive, San Antonio, Tex.
Filed Nov. 3, 1957, Ser. No. 695,451
1 Claim. (Cl. 11—4)



A device for supporting a book to be covered on a horizontal sheet of covering material for shaping the sheet to define a book cover comprising a pair of side-by-side horizontal, coplanar rigid plate members movable relative to each other, respective rigid blade-like strips secured to the adjacent margins of the plate members and projecting towards each other beyond the edges of the plate members, said plate members being adapted to support the sheet of covering material with an open book vertically disposed thereon and to receive the book back therebetween with the covering material and book back depressed below said blade-like strips, and respective coiled springs yieldably connecting the adjacent edges of said plate members at their respective opposite end portions and being formed and arranged to urge the plate members horizontally inwardly towards each other and to cause said blade-like strip to exert clamping force horizontally and inwardly on the book back and the depressed portion of the covering material located between said blade-like strips.

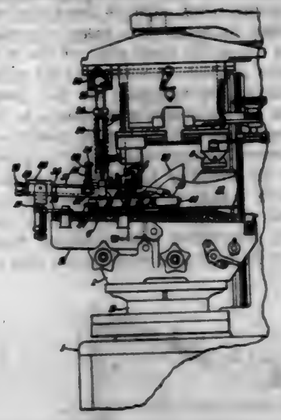
2,974,333
INSEAM TRIMMING MACHINES
Herman A. Imhof, Hamilton, and Joseph C. Cantley, Beverly, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Mar. 14, 1958, Ser. No. 721,586
5 Claims. (Cl. 12—4.4)



1. In an inseam trimming machine the combination with a feed member constructed and arranged to engage the outer portion of the inseam substance and a work supporting member constructed and arranged to engage the upper attaching surface of the welt, a rotary cutter comprising a plurality of chopping blades constructed and arranged to cooperate with an edge formed on the feed member to trim the inseam, means for rotating the cutter in a counterclockwise direction measured in the direction of feed, the work supporting member cooperating with the feed member to grip the welt between them, said supporting member being located at a point displaced from the point of cut measured in the direction of feed whereby said chopping blades impart a torque to said shoe about said displaced point as a fulcrum.

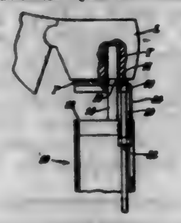
2,974,334
WELT HOLD-DOWNS FOR SHOE ATTACHING MACHINES
Theodore P. Courchene, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Original application Nov. 7, 1957, Ser. No. 695,056. Divided and this application Mar. 9, 1959, Ser. No. 798,275
3 Claims. (Cl. 12—33.4)

1. A hold-down for supporting the projecting marginal portion of a shoe against pressure exerted along its bottom surface comprising an elongated solid rubber-like member shaped to engage the projecting marginal portion and the bulging upper of the shoe and provided with a concave surface fitting the bulging shoe upper above a crease formed by the projecting marginal portion and the upper, in combination with an elongated



articulated frame arranged in reinforcing engagement with the elongated member, at least one serially arranged part of which frame is yieldingly mounted for pivotal movement as its only means of support on another part of the articulated frame.

2,974,335
LAST JACKS
Stanley Ernest Frampton, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Feb. 19, 1959, Ser. No. 794,421
Claims priority, application Great Britain Mar. 4, 1958
7 Claims. (Cl. 12—126)

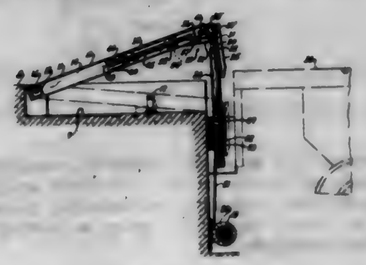


1. A jack for a last comprising a jack pin adapted to be received in the socket of a last on the jack, a platform for supporting the last by engagement with the top of its heel part, said pin and platform being movable relatively to each other axially of said pin in opposite last assembling and ejecting movements, and means carried by said platform for gripping the last at the same point throughout said movements and cooperating with said pin to hold the last against said platform.

2,974,336
ADJUSTABLE DOCKBOARD
Garrett P. Kelley, Milwaukee, Wis., assignor to Kelley Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed May 9, 1960, Ser. No. 26,989
10 Claims. (Cl. 14—71)

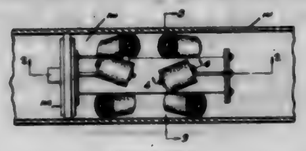
1. An adjustable dockboard comprising: a ramp member having front and rear edges; means hingedly mounting the ramp member at its rear edge for up and down swinging movement about a horizontal axis; means biasing the ramp member upwardly; releasable holding means

acting in opposition to the biasing means to restrain the same from raising the ramp member; manually operable means to release the holding means and permit the biasing means to raise the ramp member; a lip member hinged to the front edge of the ramp member and swingable about its hinge axis from a pendant position hanging down from the front edge of the ramp member to an operative position at which the lip member is elevated and forms an extension of the ramp member; said members having cooperating means to preclude upward swinging movement of the lip member relative to the ramp member beyond said operative position; means to swing the lip member toward its operative position; releasable latch means to support the lip member in a predetermined raised position, short of its operative position without interfering with swinging motion of the lip member to its operative position, so that upon lower-



ing of the ramp member from a raised position while the lip member is supported by the latch means and a carrier is in place in front of the dockboard, the lip member comes to rest upon the floor of the carrier and is thereby swung to its operative position bridging the gap between the carrier floor and the ramp member, said latch means comprising a part movably mounted on one of said members and an abutment on the other of said members with which said part is engageable; and means operable in consequence of movement of the lip member with respect to the ramp member as the lip member comes to rest upon the carrier floor during lowering of the ramp member, to effect movement of said part away from said abutment, so that when the carrier moves away the lip member automatically drops to its pendant position hanging from the front edge of the ramp member.

2,974,337
PISTON-TYPE CLEANER FOR PIPE LINES
Alvin C. White, 3517 NE. 21st Ave., Amarillo, Tex.
Filed July 21, 1958, Ser. No. 749,704
2 Claims. (Cl. 15—104.06)



1. A pipe line cleaner comprising a piston engageable at its periphery with the interior of a pipe to be cleaned in close fitting relationship with a resilient sealing member carried by said piston forming a seal between the pipe and the periphery of said piston and brush means connected to the rear of the piston, said brush means comprising a plurality of separate cylindrical brushes engageable with the entire inner periphery of the pipe when the piston is forced through the pipe by the application of fluid pressure, said cylindrical brushes being supported by elements extending radially from a brush means supporting member connected to the rear of the piston and extending axially to the rear thereof, said supporting member consisting of a flexible and resilient tube capable of bending and twisting movement, and each of said brush supporting elements including a shaft rotatably supporting a brush with the axis thereof disposed at a small acute angle to the axis of the piston.

2,974,338
BRUSHES
David C. Roth, 403 Reisterstown Road, Pikesville, Md., and Karl H. Florenz, Mount Wilson, Md.
Filed Sept. 11, 1956, Ser. No. 609,236
2 Claims. (Cl. 15—160)



1. A brush arrangement, comprising, structure defining a substantially rectangular planar base, and at least four parallel rows of bristle tufts arranged on said base, each row of bristle tufts consisting of plurality of parallel spaced tufts, said bristle tufts being arranged at acute angles to planes which are parallel to planes which contain the longitudinal and transverse axes of said base and which are also perpendicular to the plane of said base, said rows of bristle tufts also being arranged so that in each grouping of four rows of bristle tufts, the tufts of one outer row of said four rows of bristle tufts being arranged substantially parallel to a diagonal plane perpendicular to said base with the tufts of the adjacent row also being parallel to said diagonal plane but extending in the opposite direction, the other two rows of said four rows of bristle tufts being similarly arranged with respect to a second opposite diagonal plane perpendicular to the base, with the ends of said bristle tufts being located in substantially the same plane, whereby the rows of bristle tufts will alternately gouge and sweep the fraterail being brushed, irrespective of the direction of movement of said brush arrangement.

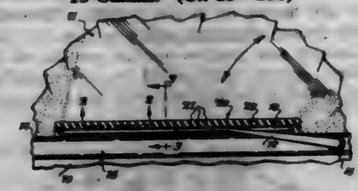
2,974,339
DUST MOP
Kurt R. Keydel, Detroit, Mich., assignor to Key Products Company, Detroit, Mich., a partnership of Michigan
Filed Apr. 25, 1958, Ser. No. 730,950
7 Claims. (Cl. 15—229)



5. A mop head comprising a plurality of strips of paper, means for fastening said strips in a bundle intermediate the ends of said strips, a porous member held in position in said bundle by said latter means and engaging at least some of said strips, said porous member being impregnated with an anastatic liquid, whereby said liquid is dissipated by capillary action throughout the strips of

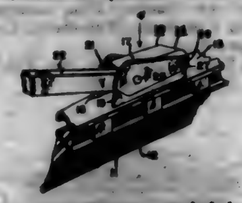
paper as required without deterioration because of exposure to air and said liquid tends to collect and retain dust and dirt at said porous member.

2,974,340
CLEANER FOR WINDSHIELD WIPERS
John F. Kopczynski, 1671 Sweeney St., North Tonawanda, N.Y.
Filed June 17, 1959, Ser. No. 820,960
15 Claims. (Cl. 15—250)



9. In a windshield construction of the type having a transparent panel, a support for said panel, a wiper arm carried by said support for movement back and forth over an exposed face area of said panel, and a wiper blade carried by said arm and having a free, flexible elastic wiper edge pressed by said arm against said area and wiping a part of said exposed panel face, the combination therewith of a thin, flat, elongated, narrow member secured flat against said exposed panel face in the path of possible movement of said wiper edge, the outer face of said member over which said wiper edge can move having a plurality of spaced narrow ribs which flex the wiper edge as the latter moves thereover to dislodge ice and snow that may adhere to the wiper edge, wherein said ribs extend generally crosswise of the length of said member and said wiper edge extends in a direction generally lengthwise of the member as it moves thereover.

2,974,341
CONNECTOR FOR WINDSHIELD WIPER BLADE
John G. Hart, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 24, 1956, Ser. No. 611,466
8 Claims. (Cl. 15—250.32)

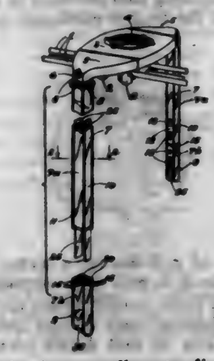


3. A support, a connector carried by said support, said connector including an inverted channel member having spaced side walls with aligned slots therein, said slots having closed ends, a yoke member pivotally connected to an entering part for said channel member, and a pin pivotally connecting said yoke member to said entering part and adapted for reception in the slots of said channel member, said yoke member being engageable with said channel member to detachably secure the entering part therein.

2,974,343
APPARATUS FOR REMOVING LINT FROM TEXTILE MACHINES
Charles L. Fell, Rocky River, Ohio, assignor to The American MonoRail Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 28, 1957, Ser. No. 636,615
9 Claims. (Cl. 15—312)

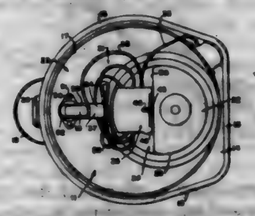
1. In apparatus to travel horizontally over textile machines for removing lint therefrom, a horizontal fan hous-

ing having an air intake opening in its top and air outlet conduits on opposite sides thereof, said conduits extending out horizontally from the housing and then downwardly, hollow tubes composed of material relatively flexible and bendable as compared with the material of said conduits and having open upper ends surrounding



and secured to the downwardly extending portions of said conduits, each tube having pockets in its fore and aft sides, air outlet openings in one side, and a closed bottom end, and flat stays in said pockets and bendable in the direction of travel of the tube but substantially non-bendable at right angles to said direction of travel.

2,974,343
SUCTION CLEANER CORD STORAGE MEANS
Arthur W. Seyfried, Racine, Wis., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Sept. 25, 1959, Ser. No. 842,430
7 Claims. (Cl. 15—323)

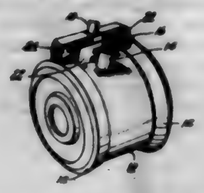


1. A suction cleaner having a housing including a bottom, means on the housing supporting the cleaner for storage with the bottom in substantially vertical position, a recess in the external side of the bottom, an exhaust opening in said recessed portion of the bottom, a plate hingedly connected at one edge to the bottom and overlying said exhaust opening in spaced relation thereto, means yieldingly urging said hinged plate toward the recess, a rigid plate mounted on the bottom at a distance from said hinged plate having a free end extending toward but spaced from the hinged plate, and an electrical cord connected to the housing adapted when looped back and forth to be passed between the said rigid and hinged plates into the recess and to be retained therein by contact with said plates.

2,974,344
PUSHING OR PULLING ARRANGEMENT FOR A MOBILE VACUUM CLEANER
Warren N. Kennitz, Willoughby, Ohio, assignor to General Electric Company, a corporation of New York
Filed July 19, 1957, Ser. No. 673,051
1 Claim. (Cl. 15—327)

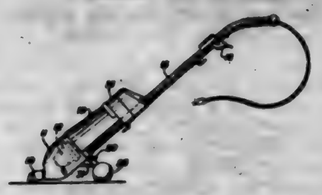
A vacuum cleaner comprising a cylindrical casing, a pair of wheels mounted on said casing, a suction hose

including a flexible section and a rigid wand section, said flexible section being connected to said casing, a floor cleaning tool connected to the end of said wand section, said tool having an elongated nozzle portion extending transversely with respect to said wand, a flat plate secured to said casing and extending radially outwardly therefrom, a pair of latching bars mounted in end-to-end relation on said plate for limited movement along a line par-



allel to the axis of said casing, a spring positioned between said bars so as to bias them outwardly toward the side edges of said plate, handle means for retracting said bars against the biasing force of said spring, and a pair of spaced abutments on said nozzle portion spaced laterally from the end of said wand and positioned so as to be engageable with said bars, whereby said cleaning tool may be releasably secured to said plate so as to form a rigid connection between said wand and said casing.

2,974,345
COLLAPSIBLE SUPPORT FOR AN AMBULATORY APPLIANCE
Don C. Krasnow, Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed Aug. 8, 1958, Ser. No. 754,033
6 Claims. (Cl. 15—328)



1. In an ambulatory appliance of the type to be propelled along a surface, comprising a body, a motor for the appliance mounted on said body, a frame pivotally mounted on said body for movement between collapsed and projected positions relative to said body, said frame adapted to receive an operator applied force to move said frame to its said projected position, wheel means on said frame for supporting the appliance on a surface along which the appliance is propelled when said frame is in its projected position, a switch mounted on said body and in circuit with said motor, and switch operating means movable by said frame to close said switch upon movement of said frame beyond said projected position.

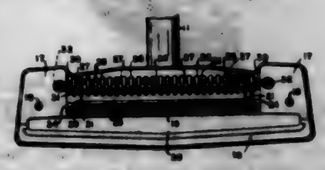
2,974,346
NOZZLE AND FILTERING DEVICE FOR VACUUM CLEANERS
Paul T. Hahn, Harrisburg, Pa., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Original application Nov. 21, 1955, Ser. No. 547,970. Divided and this application Oct. 7, 1959, Ser. No. 844,934
1 Claim. (Cl. 15—344)

In a hand held vacuum cleaner: an elongated, hollow housing providing a handle for the cleaner of a size to be easily held in one hand, said housing being open at its front; means in the housing, spaced behind its front end, for drawing air into the front of the housing; a disposable filter comprising a normally flat sheet of filtering material extending across the front of the housing and having its marginal edge portion overlying the exterior surface of the housing, at the front thereof, all around the housing; a grid in front of the filter having a rim portion which telescopes only a short distance into the front end of the housing to confine a portion of the filter against the inner surface of the housing wall at the front thereof, said grid also having on its rim portion a circumferential rearwardly facing abutment which opposes the front edge of the housing and confines another portion of the filter thereagainst, said grid also having circumferentially spaced elongated fingers projecting inwardly and rearwardly from



its rim portion into the front of the housing, said fingers being substantially thin and having convex outer edges facing but receding rearwardly from the surrounding housing wall to hold the filter shaped into a shallow forwardly opening bag having a flat bottom substantially smaller in area than the interior of the housing and an outwardly and forwardly curving side wall embracing said fingers; a suction nozzle telescoped over the front end portion of the housing to cooperate therewith in confining the marginal edge portion of the filter, said nozzle having circumferentially spaced rearwardly facing abutment means in its interior which engage the front edge of the rim portion of the grid and cooperate with the front edge of the housing in confining the grid against axial displacement; and means readily removably securing the nozzle to the housing.

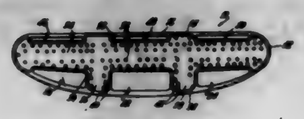
2,974,347
SUCTION CLEANER NOZZLE
Arthur W. Seyfried, Racine, Wis., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Sept. 8, 1959, Ser. No. 838,462
5 Claims. (Cl. 15—356)



1. A suction cleaner nozzle comprising a nozzle housing provided at its bottom with an elongated air intake opening, a roller shaft fixedly mounted in the housing parallel to the intake opening, a plurality of rollers loosely mounted on the shaft in nozzle supporting position across the path over which the intake opening passes when the nozzle is moved over a surface, said rollers being rotated independently of each other by contact with the surface to be cleaned, the side surfaces of each roller being slightly spaced from the sides of adjacent rollers, an axially curved hollow tubular member rotatably mounted at one end in the rear of the nozzle housing in communication with the interior of the nozzle, and an axially straight hollow tubular handle connected to the other end of the curved member, said rollers biasing the nozzle to move in the direction of rotation of the rollers

at right angle to the shaft when moving force is applied to the handle, rotating of the handle about its axis causing turning of the nozzle, the combined biasing influence of the rollers and moving force applied to the handle in the direction of its axis when the nozzle has been turned by rotation of the handle causing the nozzle to travel in a path extending from the nozzle between the direction of said applied force and a direction at right angles to the roller shaft and producing sidewise pressure exerted by the rollers against the nap of the surface on which the nozzle travels.

2,974,348
VACUUM CLEANER NOZZLE
Hans Wenzel, Wildbergerhütte, near Koln, Germany
Filed Feb. 16, 1955, Ser. No. 488,449
Claims priority, application Germany Feb. 26, 1954
1 Claim. (Cl. 15—399)



A nozzle for a vacuum cleaner device comprising a body with a working face having a forward leading edge, said body having a plurality of aligned elongated suction channels therein positioned in spaced apart relation to each other defining webs therebetween and extending through said working face and located rearwardly of said forward leading edge of said body, said webs having recesses therein, said body having a groove therein, a main bristle unit received in said groove and including bristle tufts located forwardly of said suction channels and extending transversely to the direction of normal movement of said body, auxiliary tufts of bristles located rearwardly of and contiguous to said forwardly located tufts of bristles and in said recesses in said webs between said suction channels, said auxiliary tufts of bristles being of substantially the same length as that of said forwardly located tufts of bristles to provide effective guidance for said nozzle when same is moved over a surface to be cleaned and preventing canting while offering simultaneously a substantially unobstructed suction effect through said suction channels, said working face being provided with a group of suction openings adjacent said leading edge, said suction openings being relatively elongated to form slits and disposed in forward to rearward alignment with said suction channels of relatively large area, at least one of said slits being arranged transversely to the forward direction of movement of said body.

2,974,349
LIQUID WAX APPLICATOR
Roland A. Casale, 19 Primrose St., White Plains, N.Y.
Filed May 15, 1956, Ser. No. 584,968
5 Claims. (Cl. 15—569)



1. A device for applying liquid wax to a work surface comprising a reservoir for the liquid having a base plate with a plurality of holes therein, a plurality of valve members for opening and closing the holes, means for controlling the valve members adapted to permit a portion of the valve members to wobble and change position relative to the wall of the hole when the valve is open and the device is pushed back and forth across a work surface, said valve control means including a valve control plate and camming mechanism adapted to raise and lower the plate to open and close the valves, the valve members being mounted in the valve control plate and each having a stem mounted on the bottom thereof which projects down through the holes to a point below the level of the base plate where the stem may contact the work surface, a textile boot mounted on the device which covers the base plate and valve stems, said stems being made of a flexible material so that the stem will work back and forth and cause the valve member to wobble when the valves are open and the device is pushed back and forth across a work surface.

2,974,350
DAUBER
Gilbert Schwartzman, Scarsdale, N.Y., assignor to Gildematic Corporation, Yonkers, N.Y.
Filed July 10, 1958, Ser. No. 747,714
2 Claims. (Cl. 15—569)

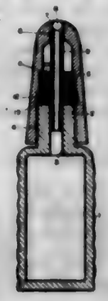


1. A dauber comprising a fluid container having a neck terminating in an open end, a retainer ring having a projecting portion fitted in said neck, said retainer ring having an inner peripheral flange, said peripheral flange defining an aperture, a porus resilient cover secured to said ring, a valve seat fitted in said ring, said valve seat being supported on said flange, said valve seat having a tapered opening, and a tapered valve member movable with respect to said valve seat and extending into said tapered opening for normally closing said tapered opening, said valve member extending into said aperture, said cover being normally spaced from said valve member, said valve member controller flow of fluid from said container to said cover, said cover being depressable into engagement with said valve member to move said valve member relative to said valve seat into said aperture to position said valve in an open position, said valve member including a plurality of annularly spaced legs fixed thereto and extending beyond said valve seat and through said aperture in the opposite direction from said cover, said projecting portion having a rim on the end thereof opposite to said retaining ring, said rim embracing said legs.

2,974,351
BALL APPLICATOR ATTACHMENT FOR BOTTLES
Alex Knudsen, Ruschlikon, Switzerland, assignor to Flortham S.A., Monte Carlo, Monaco, a corporation of Monaco
Filed Mar. 11, 1958, Ser. No. 720,743
Claims priority, application Switzerland Nov. 16, 1957
4 Claims. (Cl. 15—572)

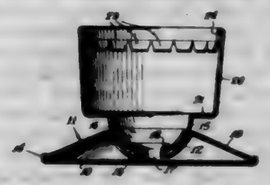
1. A dispenser for a container having an externally threaded neck portion and comprising, in combination, a hollow cap member having internal threads at one end thereof adapted to engage the threads of the neck portion and having at its other free end a passage terminating in a constricted outlet portion; a tube member having at one end thereof a tubular end portion adapted to fluid-tight engage the inner surface of the neck portion, and

having at the other end thereof another tubular end portion located in and slidable in said passage of said cap member and fluid-tight sealing said passage to prevent communication between said passage and the interior of said cap member; and a ball located in said passage intermediate the end of said other tubular end portion and said constricted outlet portion and being retained in said passage by said constricted outlet portion, said ball having a portion projecting from said constricted



outlet portion, said constricted outlet portion pressing said ball against said other tubular end portion for closing the same so that no liquid can pass from the container into said passage, while upon loosening of said cap member said ball is movable away from said other tubular end portion to permit passage of the liquid through said constricted outlet portion and turning of said ball in said passage for dispensing of the liquid while being in rolling contact with a surface to be coated with a liquid.

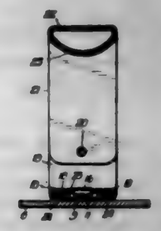
2,974,353
FURNITURE GLIDER
Harry A. Lockwood, Bridgeport, Conn.
(% Drisko Inc., 132 S. Main St., South Norwalk, Conn.)
Filed Aug. 9, 1955, Ser. No. 527,380
7 Claims. (Cl. 16—42)



1. A furniture glider comprising a substantially flat base for engagement with the floor; means on said base, providing a socket open from above; a hollow ball-like member disposed in said socket and cooperable therewith to provide for limited universal angular movement of said member; ball-like means rigid and immovable on and with respect to said base, extending into, engaging the inside of, and retaining said ball-like member in the socket at all times without appreciable looseness regardless of the position of the base with respect to said ball-like member and without impeding said limited universal movement; and means on said ball-like member, engageable with a furniture leg for securing the member thereto to support the said base in operative position.

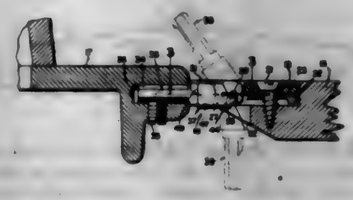
2,974,353
DETACHABLE HANDLE
Joseph A. Mazierka, Chicago, Ill.
(7706 Oketo Ave., Niles, Ill.)
Filed Apr. 9, 1959, Ser. No. 805,315
1 Claim. (Cl. 16—114)

In combination with a wall, an elongated base member having a bottom fixedly secured to said wall and in abutting relation therewith, a pair of parallel divergent rails extending from said bottom and in spaced relation with said wall, a handle, including a horizontal bar, a pair of parallel converging members depending from the margins of said horizontal bar, said converging members being adapted to engage said rails in an overlapping relation when the former are brought in an end to end relation with said rails for permitting longitudinal shifting of said converging members with relation to said rails for thereby interengaging said handle with said rails in a transverse relation therewith, said divergent rails being spaced from said wall a distance substantially equal to the thickness of said converging members so as to frictionally resist longitudinal movement of the converging members relative to said rails once they have been interengaged, a pair of transverse slots in said bottom defining a narrow transverse strip therebetween, an oblong, resilient latch member having one of its ends longitudinally bent into a U-shaped cradle, said U-shaped cradle engaging said



transverse strip so that one leg portion extends upwardly through one of said transverse slots and said other leg portion extends upwardly through said other transverse slot and the bight portion underlies said transverse strip to securely hold said latch member to the wall intermediately of said rails, and an inverted U-shaped latch formed adjacent the opposite end of said latch member, due to the inherently resilient nature of said latch member, said inverted U-shaped latch being capable of normally flexing away from the wall, said horizontal bar intermediately of said converging members being provided with a slot therethrough into which said inverted U-shaped latch being capable of springing when said horizontal bar has been fully shifted in a longitudinally coincidental relation with said rails for thereby preventing shifting of said handle in either direction with relation to said rails for thereby interlocking said handle with the wall, said inverted U-shaped latch being capable of being depressed out of said slot for freeing said handle from its interlocked relation with the wall.

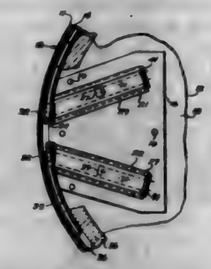
2,974,354
SEWING MACHINE HINGES WITH RELEASABLE LATCHES
Anthony J. Matuzas, Union, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Oct. 2, 1958, Ser. No. 764,969
2 Claims. (Cl. 16—175)



1. A hinge device especially adapted for mounting a sewing machine in a sewing machine cabinet, said hinge

device comprising a first leaf in the form of a cylindrical disc, a pintle on said first leaf, a second leaf in the form of an elongated member having a cylindrical end adapted to be secured to the sewing machine, and having a depression, a hook on said second leaf, a latch slidably mounted on the end of said second leaf remote from said cylindrical end, a helical spring positioned in the depression in said second leaf and said helical spring biasing said latch toward said hook, a tongue formed on said latch, said tongue having a flat edge for holding said hook to said pintle, and said tongue having a curved edge for moving said latch against the bias of said spring when said hook is pressed toward said pintle.

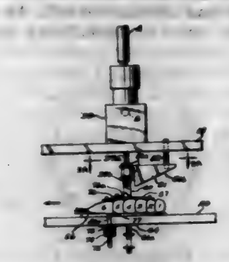
2,974,355
LIGHTING FIXTURE HINGE
Lester L. Dvorak, Westlake, Ohio, assignor to The Art Metal Company, Cleveland, Ohio, a corporation of Ohio
Original application Feb. 17, 1958, Ser. No. 715,549, now Patent No. 2,938,112, dated May 24, 1960. Divided and this application Feb. 9, 1959, Ser. No. 792,170
1 Claim. (Cl. 16—179)



Hingeable support means for swingably attaching two relatively movable structures to each other, said support means comprising a plate rigidly mounted on one of said structures, a pair of channel members attached to said plate and extending therealong in diverging spaced relation from one side of said one structure, a slide member slidably supported in each of said channel members and movable longitudinally therealong to a pivotal position adjacent said one side of said one structure, pivotal means attached to each of said slide members, a flexible metallic retaining member having opposite end portions secured to said pivotal means defining a continuous flexible loop extending therebetween, said flexible loop extending completely around the other of said structures and movable into resilient engagement with the same in response to a movement of said slide members to said pivotal position and swingable about said pivotal means in said latter position to swing said other structure relative to one structure.

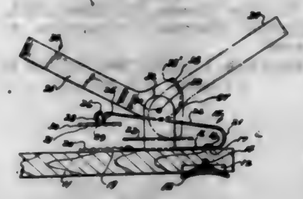
2,974,356
CLAMP FOR FANTAIL SHRIMP DEVEINING AND DESHELLING APPARATUS
Louis L. Cerny, Cleveland, Ohio, assignor to The Alpha Shrimp Machine Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 4, 1957, Ser. No. 663,381
4 Claims. (Cl. 17—2)

1. A clamp for processing fantail shrimp comprising two elongated jaws having means mounting them for relative approach and separation movement to receive the body of a shrimp between them with the shrimp body extending along the elongated direction of the jaws, and a bar on each jaw extending into the clamp opening crosswise of said elongated direction, said bars being approximately opposite each other, whereby when a raw shrimp is placed between said jaws with a shell knuckle



between said bars, closing said jaws will cause said bars to crack said knuckle.

2,974,357
FISH HOLDING CLAMP
Harry Berg, 16156 Santa Rosa, Detroit 21, Mich.
Filed Sept. 14, 1959, Ser. No. 839,842
4 Claims. (Cl. 17—8)

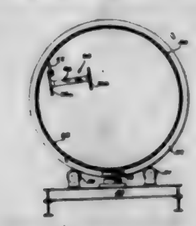


1. A fish holding clamp comprising, a horizontally disposed support adapted to receive a fish, an elongated flexible base strip centrally positioned adjacent one end of said support and fixedly secured thereto, a fixed gripping plate on the support upon one end of said strip extending transversely thereof, an intermediate portion of said strip being reverse curved and inclined upwardly in opposition to said base strip defining a yieldable arm having a free end, a transverse movable gripping plate upon the free end of said arm, juxtaposed over and normally spaced from said fixed gripping plate, a pair of upright supports joined to intermediate side portions of said base strip and arranged on opposite sides of said arm and projecting thereabove, an elongated upwardly inclined handle overlying said arm, and cam means upon one end of said handle adjacent said supports, pivotally mounted thereon retainingly engaging said arm intermediate its ends and adapted on rotary movement to compressively cam said arm and adjacent gripping plate towards the fixed gripping plate for securing the tail of said fish therebetween, hinge means on the free end of said arm, and a transverse pin loosely journaled on said hinge means and secured to said movable gripping plate.

2,974,358
CUTTER MEANS FOR BALLING DRUM
Elmo R. Makela, Ely, Minn., assignor to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota
Filed Feb. 26, 1958, Ser. No. 717,619
3 Claims. (Cl. 18—1)

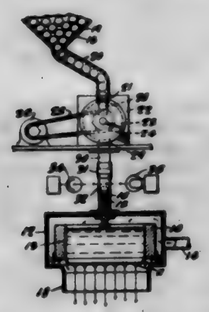
1. In an open-ended, rotatable, cylindrical balling drum wherein relatively adhesive comminuted material is charged into a charging end of the drum, and is discharged from a discharging end of the drum, and wherein a layer of said material adheres to the inner surface of the drum, means for uniformly controlling the thickness of said adhering layer comprising an elongated member extending through said drum parallel to the drum axis, means for reciprocating said member endwise parallel

to and adjacent to an inner surface of the drum, and a plurality of cutter elements fixed on said member and extending towards and contactable with the inner surface of said layer, said cutter elements being disposed to ex-



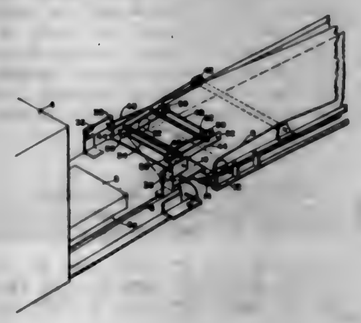
tend upwardly from said reciprocating member at an angle to the horizontal greater than the critical angle of slip of said comminuted material.

2,974,359
PRESSURIZED SYSTEM FOR PRODUCING FIBERS
Walter G. Van Der Hoven, Providence, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Feb. 15, 1955, Ser. No. 488,370
1 Claim. (Cl. 18—2.5)



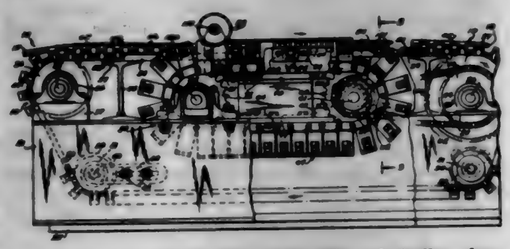
In combination in a pressurized staple fiber-forming unit to and from which material is arranged to be continuously supplied and removed respectively, a housing sealed against the outer atmosphere, means for supplying gas to said housing under pressure, said housing having an outlet in the bottom thereof from which the gas is emitted at high velocity, a melting container in said housing for melting down heat-softenable fiberizable material, a molten material supply feeder in the bottom of said container disposed above the outlet in said housing and through which the material from said feeder is arranged to be attenuated by the gas passing through the opening, means for introducing material to be melted to said container comprising a pressure-retaining material supply means adapted to supplying material to be melted to said container at a uniform rate from outside said housing, transparent channel means between said material supply means and said container through which the material to be melted is fed, said channel means being arranged so that the material fed therethrough is stacked on the molten material in said container and to a level within said channel, and photocell means associated with said transparent channel means for detection of a predetermined level of material stacked therein above said container, said photocell means being electrically interconnected with said supply means to stop the feeding of material to said channel when the level of material in said channel reaches said predetermined level and to restart such introduction when the material level falls below said predetermined level.

2,974,360
SLAB MOLDING MACHINE
John C. Giles, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed June 7, 1957, Ser. No. 664,344
3 Claims. (Cl. 18—4)



1. In combination with a machine for molding slabs of wax: a first continuous conveyor means at the discharge end of said machine; a plate of metallic heat-conducting material at the discharge edge of said conveyor means and aligned therewith; a heating means for heating said plate; a second continuous conveyor means at the discharge edge of the plate and aligned therewith; and a set of belts drivingly connected to the second conveyor means and positioned above the plate adapted to move molded slabs of wax from said first conveyor means across said plate to said second conveyor means.

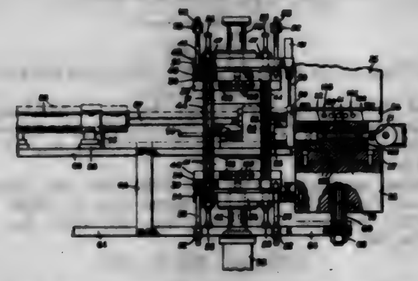
2,974,361
APPARATUS FOR SHAPING PLASTIC ARTICLES
Ferdinand Gercke, Morris Plains, and Robert L. Hubbard, Florham Park, N.J., and Carmine Ferrara, Landisville, Pa., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
Original application Oct. 14, 1955, Ser. No. 540,433, now Patent No. 2,829,756, dated Apr. 8, 1958. Divided and this application Oct. 21, 1957, Ser. No. 691,446
16 Claims. (Cl. 18—4)



1. Apparatus for forming a plurality of similar elongated cylindrical articles from a cylindrical rod of moldable plastic material which comprises a plurality of aligned spaced interconnected means for supporting and feeding the travelling rod in a generaly straight path in the direction of its length, means for driving the above means, a plurality of equally spaced interconnected means each lying between successive rod supporting and feeding means for transversely cutting the rod, means for moving said last named means in synchronism with the rod supporting and feeding means along a path generally parallel to the path of feeding of the rod, means progressively to advance the cutting means in their travel traversely toward the rod, and means associated with each cutting

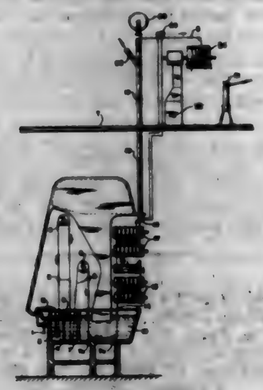
means to mold the nose of each article and the confronting tail of the next adjacent article during the lateral advance of the cutting means.

2,974,362
APPARATUS FOR MOLDING HOLLOW ARTICLES OF PLASTIC
Edward R. Knowles, Fairfield, Conn., assignor to The Specialty Papers Company, Dayton, Ohio, a corporation of Ohio
Filed Dec. 20, 1956, Ser. No. 629,542
6 Claims. (Cl. 18—5)



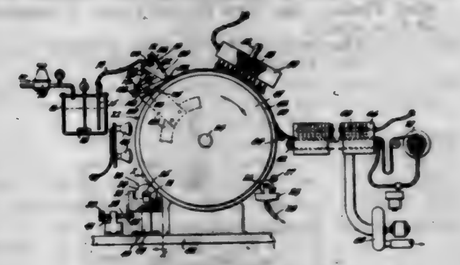
1. An injection molding machine for molding and blowing hollow articles and comprising supports for a set of cooperating parison molds, supports for a set of cooperating parison molds, supports for a set of cooperating finishing molds, a core having a longitudinally extending valve controlled bore, a core supporting frame, a core carrier slidably mounted on said frame to move said core from an end position between the molds of one of said mold sets to another end position between the molds of the other of said mold sets, means for effecting mold opening and closing movement between the molds of said parison mold set, means for effecting mold opening and closing movement between the molds of said finishing mold set, means for moving said supporting frame along with said core carrier in a plane normal to the plane of sliding movement of said core carrier, in one direction to disengage said core from and in the other direction to re-engage said core with said set of parison molds when said parison molds are in separated condition.

2,974,363
METHOD OF AND APPARATUS FOR THE CONTINUOUS PRODUCTION OF SYNTHETIC FIBERS
Hans Meyer, Rua Coronel Melo 996, Sao Paulo, Brazil
Filed July 2, 1954, Ser. No. 441,245
5 Claims. (Cl. 18—8)



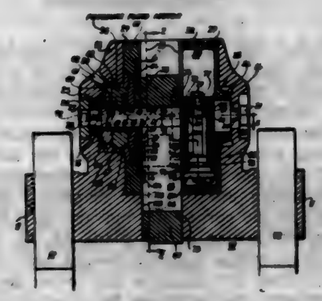
4. In an apparatus for manufacturing artificial fibers comprising acid baths, a spinnerette, means for drawing a filament through said baths, means mounted at an elevation above the acid baths for washing said filament with liquid and means positioned above said washing means for drying said filament; the improvement comprising an air conditioning tube extending vertically above said drying means, means positioned above said tube and responsive to the breakage of a filament and means operatively connected to said breakage responsive means for introducing an upwardly-moving stream of air into said tube for carrying a filament upwardly through said tube when said breakage responsive means detects the breakage of said filament.

2,974,364
PROCESS AND APPARATUS FOR OBTAINING SMOOTH SURFACES ON FILMS
Robert L. Lambert, Emporium, and William R. McKelvan, Crosby, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 30, 1958, Ser. No. 783,787
8 Claims. (Cl. 18—16)



1. The method of forming a film with smooth upper and lower surfaces comprising flowing a suspension of solids within a binder dissolved in a volatile liquid onto a support, preliminarily driving off some of the volatile liquid while the film is on said support to partially set the same, removing the film from off the support and while removing the partially set film sliding a planar surface against the under surface of the film to impart thereto a smooth undersurface, and further drying the film.

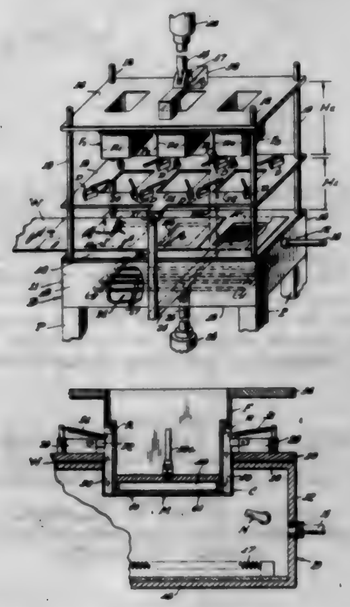
2,974,365
REVOLVING LAST CARRIER HEAD FOR FOOTWEAR VULCANIZING MACHINES
Gonzalo Medinaceli Cayuela, 13 Paseje Gayola, Barcelona, Spain
Filed Oct. 14, 1957, Ser. No. 689,948
Claims priority, application Spain Oct. 22, 1956
8 Claims. (Cl. 18—17)



1. A revolving last carrier head for fixed attachment to a footwear vulcanizing machine, comprising a body having two spaced projections thereon, an axle fixed to

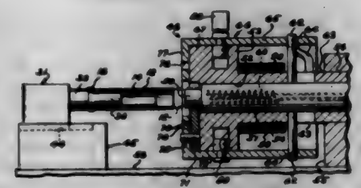
said projections and extending between them, a revolving body rotatably mounted on said axle and constituted by two cylindrical pieces abutting each other, the abutting faces of said cylindrical pieces each having at least one groove therein, the grooves being opposed and defining at least one slideway, said body having an extension of said slideway therein extending toward the vulcanizing position of said machine, a slide for carrying a last slidably mounted in said slideway, one of said cylindrical pieces having a recess therein elongated in the direction of said slideway, hydraulic means therein connected to said slide for reciprocating said slide along said slideway, the other of said cylindrical pieces having a recess therein, hydraulic means in said recess connected to said revolving body for rotating said revolving body through a predetermined angle, and hydraulic locking means in said body for locking said slide in position with said slide in the extension of said slideway.

2,974,366
METHOD AND MACHINE FOR FORMING ARTICLES FROM PLASTIC SHEET MATERIAL
Douglas B. Bauman, New Haven, Conn., assignor to Applied Plastics, Inc., New Haven, Conn., a corporation of Connecticut
Filed Nov. 8, 1957, Ser. No. 695,335
12 Claims. (Cl. 18—19)



1. Apparatus for forming plastic containers from thermoplastic sheet material, comprising in combination a base member having a polygonal opening, means for marginally clamping said sheet material over the opening, a heater for heating the area of the sheet covering said opening, a corner forming device for each corner portion of said opening having a corner forming die member extending inwardly and diagonally of the included angle of the corner and movable in a plane substantially perpendicular to the plane of the sheet material, actuating means movable toward and away from said base member for engaging the corner forming die members between said actuating means and said clamping means and substantially simultaneously moving said die members for engaging the sheet material at points spaced inwardly from the edge of said opening and simultaneously distending the sheet transversely of the plane of the opening and in a direction parallel to the plane of the opening for forming the polygonal corner portions of the container to provide a preliminary shape thereof, said corner forming devices being mounted on one of said means, and mechanical forming means complementary to said corner forming die members applicable internally of the container for finish forming the preliminary shape, by forming the bottom and the side walls of the container so that the corner forming die members together with the complementary forming means define the shape of the container.

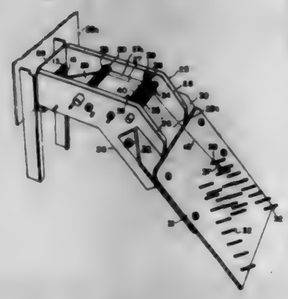
2,974,367
APPARATUS FOR MAKING SPLICING-SLEEVE ASSEMBLIES
Fred W. Doering, Cicero, and James C. Morison, La Grange, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Original application Sept. 29, 1954, Ser. No. 459,829, now Patent No. 2,864,159, dated Dec. 16, 1958. Divided and this application Apr. 23, 1958, Ser. No. 736,944
2 Claims. (Cl. 18—19)



1. In an apparatus for sealing the end of a thermoplastic tubular member of a composite article, a base, means on said base for supporting the article for movement along a horizontal axis and for stopping it in a predetermined position to locate the end of the tubular member in a closing station, a rod telescopingly engageable with one end of the tubular member, a plurality of closing jaws, a support on said base having a longitudinally disposed bore for supporting said rod for movement along said axis and having radially disposed guideways for supporting said jaws for movement toward and away from said axis at said closing station, an actuating member having a hollow cylindrical portion provided with a first cam for imparting longitudinal movement to said rod along said axis and having an end wall provided with second cams for actuating said jaws, means for mounting said actuating member on said support for oscillatory movement about said axis and against movement in an axial direction, means for oscillating said actuating member, and means for heating said closing jaws and said rod, said actuating member being movable in one direction to effect the movement of the rod to said closing station into telescoping engagement with said end of the tubular member to heat it and to effect the movement of the forming jaws from the axis and being movable in the other direction to effect the movement of the rod from said end of the tubular member and the movement of the forming jaws into engagement with said end to press together and seal the end portion of said tubular member.

2,974,368
METHOD AND APPARATUS FOR THE FABRICATION OF ELECTROSTATIC RECORDING HEADS
Cecil R. Joyce, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 12, 1956, Ser. No. 609,431
4 Claims. (Cl. 18—36)

1. A method of forming an electrostatic printing head, comprising: providing a mold formed by separable members including, a bottom and side walls; bridging said side walls in one end of the mold with a first rigid member; bridging said side walls intermediate the ends of said mold with a second rigid member formed of dielectric material; providing a dam at said one end of said mold between said members; providing an opening in said dam through which wires may be passed; sealing said opening with a body of relatively viscous self-supporting substance; attaching one end of each of a plurality of fine conductive wires sequentially and in spaced alignment across a mold member damming the other end of said mold and at a level below a plane across the top surface of said first and second rigid members; stringing



said wires in spaced alignment upwardly across and in contact with the top surface of said second rigid member, through said opening in said dam and through said viscous self-supporting substance, over and in contact with the upper surface of said first rigid member while maintaining said wires under tension by their other ends; pouring thermosetting insulating material into said mold intermittently in layers to successive levels until the wires are covered, allowing each pouring to partially set and to cool before pouring the succeeding layer, thus to form the printing head; separating said mold from said head, retaining said second rigid member as an integral part of said head; and finally cutting off said other ends of said wires.

2,974,369
METHOD OF MAKING DISPLAY AMPLIFIER
Richard K. Orthuber, Fort Wayne, and Cyril L. Day, Huntington, Ind., assignors to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed June 17, 1953, Ser. No. 362,201
4 Claims. (Cl. 18—47.5)



1. The method of making a sheet-like photoconductive member by the use of an electrostatic field applied between two electrodes comprising the steps of applying a uniform film of sticky substance to a surface disposed between said electrodes, introducing a quantity of elongated radiation-sensitive cadmium sulphide crystals of predetermined size into the space between said electrodes, applying said electrostatic field between said electrodes for aligning said particles in a direction substantially normal to the plane of said film and for causing said crystals to embed in said film, spacing said crystals apart prior to embedding in said film and thereafter securing said crystals in position by means of a binder of insulating material.

2,974,370
COPIES AND METHOD FOR MAKING THE SAME
William G. Baird, Jr., Winchester, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Jan. 14, 1959, Ser. No. 786,875
20 Claims. (Cl. 18—47.5)

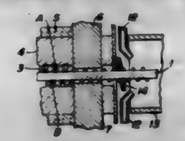


1. A method comprising simultaneously applying indicia to an original sheet and a second sheet indicia on second sheet being copies of those on the original sheet and resulting from the step of applying said indicia to said original sheet, said second sheet being made of a shrinkable plastic, and thereafter shrinking said second sheet to preserve the indicia in reduced size.

2,974,371
METHOD OF EXTRUDING MATERIAL WHICH IS ADVERSELY AFFECTED BY HEAT
Edgar N. Meakin, 372 Roblar Ave., Hillsborough, Calif.
No Drawing. Filed May 31, 1955, Ser. No. 512,299
6 Claims. (Cl. 18—55)

1. The method of extruding material which is adversely affected by heat, comprising precooling such material to a temperature sufficient to maintain the same within a safe temperature range during extrusion thereof, and then extruding the said material while in such precooled condition.

2,974,372
SPIRAL SLIDE-FASTENER ELEMENTS
Tadao Yoshida, 339/2 Suwadacho, Ichikawa-shi, Chiba-ken, Japan
Filed July 23, 1959, Ser. No. 829,086
Claims priority, application Japan Oct. 8, 1958
1 Claim. (Cl. 18—56)

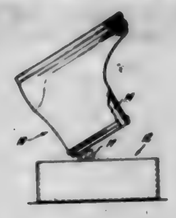


A method of continuously manufacturing helical slide-fastener elements comprising helically winding a wire around a flat mandrel while said mandrel is being rotated, advancing the wire into one pitch of a helical groove and stopping the rotation of said mandrel, withdrawing said mandrel while preventing rotation thereof, the coiled wire being left in said groove, heating said wire into a moldable state, die-forming a projection on said coil at one side thereof after said coil is driven out from said helical groove by a subsequent rotational advance of said mandrel, and cooling the wire for fixing its shape.

2,974,373
HOLLOW MOLDED PLASTIC ARTICLES AND METHOD OF FORMING THE SAME
David D. M. Streed, South Bend, and Eugene A. Luxenberger, Mishawaka, Ind., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 17, 1952, Ser. No. 315,274
13 Claims. (Cl. 18—59)

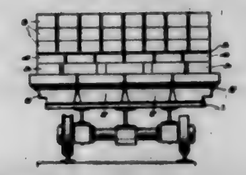
13. The method of making an article having a resinous outer wall and an integral resinous cellular interior,

which comprises providing a hollow metal mold having a mold cavity, coating the inner walls of the mold with a plastisol and heating this coating to gel the same and form the outer wall of said article, covering this gelled



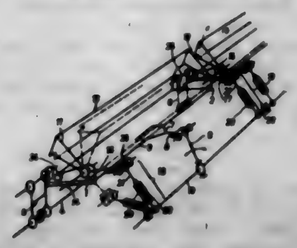
plastisol coating of the mold with a plastisol containing a blowing agent, and then heating the mold sufficiently to blow the second plastisol layer and form a cellular interior and also fuse the outer wall and interior and bond them together.

2,974,374
METHOD OF FORMING A REFRACTORY SETTING
Carl A. Tate, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 29, 1954, Ser. No. 440,844
1 Claim. (Cl. 18—60)



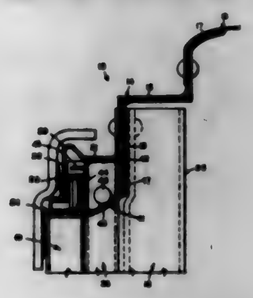
The method of forming on a refractory hearth a rigid flat monolithic setting for ceramic ware to be fired, comprising mixing granular refractory material with a cold-setting bond, applying a layer of the mixture to the entire hearth, levelling off the layer, and then sprinkling the layer with water, whereby the layer will set and become hard.

2,974,375
SUPPORT SYSTEM FOR THE NIPPER PLATES IN COMBING MACHINES
Werner Naegeli, Winterthur, Switzerland, assignor to Joh. Jacob Rieter & Co., Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed May 28, 1958, Ser. No. 738,526
Claims priority, application Switzerland June 1, 1957
8 Claims. (Cl. 19—116)



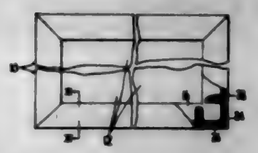
1. In a combing machine of the swinging nipper type, a bottom nipper plate having a forward marginal portion and a rear marginal portion, a cheek element connected to each end of said nipper plate and being substantially coextensive with the width of the nipper plate, a swingable support means pivoted to each of said cheek elements adjacent to said forward marginal portion, a bracket connected to said rear marginal portion, and a swingable support means pivoted to said bracket.

2,974,376
DOOR HEADER ARRANGEMENT FOR BOX CARS
William R. Shever, Hammond, and Charles R. Radey, Michigan City, Ind., assignors to Pullman Incorporated, a corporation of Delaware
Filed Apr. 17, 1959, Ser. No. 807,861
10 Claims. (Cl. 20—22)



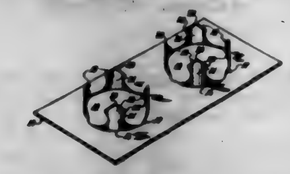
1. In a freight vehicle having a wall including a door opening and a sliding door adapted for covering and uncovering said door opening, a header secured to said wall of said vehicle at the top of said door opening, said header having an outwardly directed web extending to an upstanding flange in proximate relationship to the inner face of said door adjacent the top edge, said upstanding flange being spaced outwardly from said wall of said vehicle in parallel vertical relationship thereto, and a flange secured to said upstanding flange adjacent its top portion terminating in an outwardly extending direction and overlying the top edge of said door.

2,974,377
POLYBUTENE SEALING COMPOUND FOR GLAZING PURPOSES
Gerald E. Kunkle, New Kensington, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Mar. 10, 1959, Ser. No. 798,524
10 Claims. (Cl. 20—56.9)



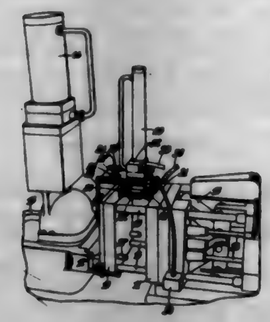
1. A multiple glazed unit comprising a plurality of glass sheets, a spacer element separating the glass sheets at their marginal edge surfaces, said spacer element having flat surfaces in juxtaposition with the opposing marginal edge surfaces of the glass sheets, a thin film of a moisture and vapor impervious, pressure-sensitive, adhesive material having a minimum thickness of 0.001 inch between and adhering to the flat, juxtaposed surfaces of the spacer element and the glass sheets, said adhesive material consisting essentially of a vulcanized mixture of a polymer of a monoolefin containing four carbon atoms and having a molecular weight of between 300 and 15,000 and a copolymer of a monoolefin containing four carbon atoms and a diolefin containing four to six carbon atoms, said copolymer containing 70 to 99.5 parts by weight of the monoolefin and 30 to 0.5 part by weight of the diolefin and having a molecular weight between 25,000 and 100,000, the polymer being present in an amount equal to 45 to 210 parts by weight to 100 parts by weight of the copolymer, said mixture being vulcanized by para-dinitrosobenzene in the absence of a sulphur-containing compound, and a channel member of U-shaped cross-section affixed around the edges of the glass sheets so as to hold the glass sheets against the adhesive material and the adhesive material against the spacer element, under 10 to 50 pounds per square inch pressure.

2,974,378
METAL FASTENER
Julius Lidsky, Miami Beach, Fla., assignor to Rosel Corporation, a corporation of Florida
Filed Jan. 3, 1957, Ser. No. 632,349
1 Claim. (Cl. 20—92)



A fastening plate, for wooden truss structures, comprising a metal sheet, strip or plate having plural spaced fastening areas formed therein and each including a plurality of prongs integral with said sheet and projecting substantially perpendicularly from a surface thereof, the prongs of each fastening area being uniformly positioned around the circumference of a circle embracing an opening in the sheet; at least a portion of the periphery of said opening being coincident with a corresponding portion of the circumference of said circle; the bases of the prongs forming parts of the circumference of said circle; each of said prongs having a pointed extremity formed by diverging outer edges terminating at relatively sharp barb-forming junctions with relatively inwardly converging portions of side edges of a narrower intermediate section, the side edges including portions merging smoothly with the circumference of said circle; said prongs having a transversely arcuate cross-section.

2,974,379
DIE CASTING MACHINES
Aubrey Robert Mills, London, England, assignor to Die Casting Machine Tools Limited, London, England, a British company
Filed July 26, 1957, Ser. No. 674,501
Claims priority, application Great Britain July 27, 1956
1 Claim. (Cl. 22—67)

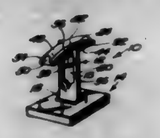


A die casting machine comprising in combination, a pair of dies having substantially parallel vertical surfaces and movable horizontally toward each other, to form a mold, and away from each other for removal of a casting; a brush holder supported on said machine above said dies for substantially vertical linear reciprocation between the separated dies; a pair of brushes mounted on said holder in back to back relation and each projecting toward the surface of one of said dies for conjoint cleaning of both die surfaces by reciprocation of said brush holder; a fluid pressure actuator connected to said brush holder for power operation of the latter; control means for said actuator, including a control element in the path of retracting movement of one die operable, when actuated, to condition said control means to energize said actuator to move said brush holder downwardly between said die surfaces; and a second control element operable by said actuator at the limit of such downward movement to condition said control means to energize said actuator to move said brush holder upwardly; said machine including interlocking means preventing closure of said dies before said brush holder is retracted.

2,974,380
ALUMINUM CASTING PROCESS
Walter E. Jominy, Detroit, and John H. Olson and Robert B. Boswell, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
No Drawing. Original application Mar. 23, 1953, Ser. No. 344,190, now Patent No. 2,881,491, dated Apr. 14, 1959. Divided and this application Dec. 9, 1957, Ser. No. 701,340
6 Claims. (Cl. 22—204)

3. The process of producing a duplex metal structure comprising a cylindrical heat hardened ferrous metal body and a supporting cast aluminum body having an alloy bond therewith, comprising immersing said ferrous body in a bath of fluent molten flux having a temperature between 1250° F. and 1450° F. and consisting essentially of cryolite and chlorides, maintaining said body in said bath for a time interval sufficient to provide said body when withdrawn therefrom with a continuous layer of said fluent flux on the portion of said ferrous body where it is to be bonded with said aluminum, withdrawing said ferrous body from the flux bath, positioning the flux layered ferrous body in a mold providing a cavity adjacent said ferrous body shaped to form said aluminum body, pouring molten aluminum at a temperature between 1325° F. and 1425° F. into said cavity while said flux of said flux layer is still fluent, to form said aluminum body, said molten aluminum displacing said fluent flux ahead of it in the cavity and forming when set a ferro aluminum alloy bond with said ferrous body, directing a ring of air water vapor against the surface of said ferrous body opposite the poured aluminum during pouring thereof and moving said ring of vapor through the area of contact of said molten aluminum and substantially in step with said pouring.

2,974,381
CUFF LINK ACTION
Charles J. Obst, Barrington, R.I., assignor to Joseph J. Vastano, Providence, R.I.
Filed July 19, 1956, Ser. No. 598,434
7 Claims. (Cl. 24—57)



1. A cuff link action comprising a shank having at one end thereof a cross bar of non-circular cross-section

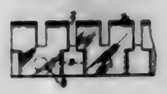
and at its other end being adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and comprising a shell and a spring plate receiving said cross bar therebetween, means joining end portions of said shell and spring plate so that an intermediate portion of said spring plate is free to flex upon pivoting of said assembly relative to said cross bar to resiliently, releasably hold the assembly in relation to the cross bar, said shell having side walls and an outer wall of a selected thickness, said side walls having aligned openings freely rotatably receiving said cross bar therethrough, and at least one wall portion of said shell being offset so as to extend along a portion of the length of said cross bar to provide a bearing surface for said cross bar of greater extent than the thickness of said walls.

2,974,381
SEPARATING END CONNECTION FOR SLIDE FASTENERS
Alfred E. Carlile, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania
Filed Oct. 16, 1958, Ser. No. 767,670
5 Claims. (Cl. 24—205.11)



1. In a separating end connection for slide fasteners having interengaging means arranged along the opposed edges of a pair of stringers, a pin-like member attached to the end of one of said stringers along the edges thereof, a box-like retainer attached to the end of the other of said stringers comprising two members hingedly connected together on an axis extending longitudinally thereof, each of said members having an outwardly extending wall portion spaced one from the other so as to provide a channel therebetween normally retaining said pin-like member against lateral displacement from said channel, a spring arranged between both members and biased to urge said members to normally closed and operative position, an inwardly extending flange arranged on the outer edge of each of said wall portions in opposed relation, means carried by at least one of said members for moving the same relative to the other so as to facilitate lateral separation of the pin-like member from the retainer and movement of the pin-like member outwardly between said opposed flanges of said wall portions, and a projection arranged on the inner side of the wall portion of at least one of the hinged members which extends into the channel and which is adapted to co-operate with an indentation in said pin-like member to position and hold said pin-like member normally in said channel.

2,974,383
CLIPS OR TAGS AND DRAUGHT-EXCLUDING STRIPS, BEADINGS, MOULDINGS OR THE LIKE FOR USE THEREWITH
Thomas John Robert Bright, The Lodge, Leek Wootton, Warwick, England
Filed Oct. 29, 1956, Ser. No. 618,847
3 Claims. (Cl. 24—259)



1. A device of the type used to attach lengths of sealing material to a flange comprising an elongated, continuous channel shaped clip of resilient material having two opposed limbs and a bend, said clip having a plurality of longitudinally spaced slots each extending transversely of the clip for over half of its transverse expanse, said slots alternately originating at the edge of opposite limbs of the clip and having a widened portion adjacent the longitudinal edge at which each slot originates, and said limbs have tangs bent therefrom to define the origin of said slots, said tangs lying in a plane normal to the face of the flange upon which said clips are to be mounted and normal to the longitudinal axis of said clip.

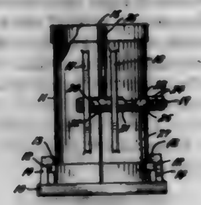
2,974,384
METHOD AND APPARATUS FOR BALLING CLAY PUG
Ernest G. Alcott, Glen Burnie, Md., assignor to General Electric Company, a corporation of New York
Filed June 6, 1957, Ser. No. 663,929
4 Claims. (Cl. 25—54)



1. An apparatus for balling a generally cylindrical blank of moist clay preparatory to shaping of the same into a high voltage suspension insulator shape, said apparatus comprising a hollow forming element which has an interior surface which is generally conically shaped, the apex end of said conically shaped surface being rounded and having a small clay escape aperture, the other end of said hollow forming element having a large clay entrance opening, a substantially flat pedestal surface having an area approximately coextensive with said large clay entrance opening, means for causing relative closing motion at high pressure between said pedestal surface and said hollow forming element whereby a generally cylindrical blank of moist clay placed on said pedestal surface is forced into said forming element through said entrance opening against said rounded apex end under high pressure to increase the density of and upset said clay toward said rounded apex end by high internal pressure clay flow through said aperture, the ratio of the size of said escape aperture to the size of said entrance opening being of the order of 1 to 172, and means associated with said hollow forming element for releasing the upset clay therefrom when said pedestal surface and said hollow forming element are moved apart.

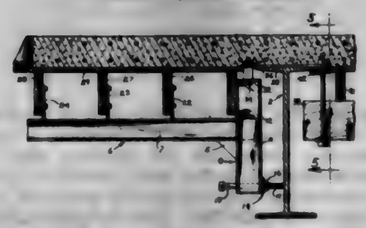
2,974,385
MOLDS FOR CONCRETE TEST SAMPLES
Arthur E. Leisenring, 1735 Blake St., Denver 2, Colo.
Filed Aug. 31, 1959, Ser. No. 837,268
2 Claims. (Cl. 25—118)

1. Means for opening and closing a longitudinal split in one side of a cylinder comprising: a vertical flange formed on and projecting from said cylinder at each side of and parallel to said split; a bolt passing horizontally through both flanges; a fixed beveled cam surrounding said bolt adjacent one flange; a rotatably beveled cam surrounding said bolt adjacent the other flange, said cams being positioned between said flanges and having their beveled faces facing each other so that



rotation of said rotatable cam will urge said flanges apart to open said split; means for rotating said rotatable cam; and means for forcing said flanges toward each other to close said split when desired.

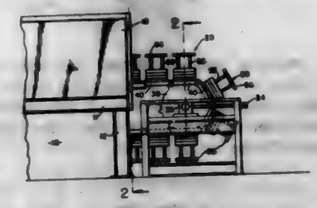
2,974,386
OUTRIGGER SUPPORT FOR CONCRETE FORM
Raymond A. Frost, Cranbald, Ohio, assignor to Ben Rudick & Son, Inc., Youngstown, Ohio, a corporation of Ohio
Filed July 15, 1959, Ser. No. 827,227
7 Claims. (Cl. 25—131.5)



1. In combination, a horizontally extending main I-beam having a vertical web and top and bottom flanges, and an outrigger device for supporting concrete forms removably mounted on said I-beam, said device comprising a main horizontal beam extending substantially perpendicularly to said I-beam, a three-point support member rigidly fixed to the end of said main beam nearest the I-beam, means for removably fastening two points of said support member to the top flange of the I-beam near an outer edge thereof, said two points being higher than said main horizontal beam and horizontally spaced by a substantial distance from each other, said support member having a third support point adjacent one side of said vertical web below said beam, and a single screw means for adjusting the distance of said third support point from said web to thereby adjust the level of said main beam.

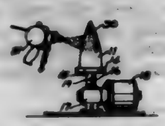
2,974,387
TUNNEL KILN AND CONTINUOUS CONVEYOR SYSTEM
David E. Tomkins, New Castle, Pa., assignor to Shenango China, Inc., New Castle, Pa., a corporation of Pennsylvania
Filed Apr. 21, 1958, Ser. No. 729,778
10 Claims. (Cl. 25—142)

10. In apparatus for firing ceramic articles, a kiln in the form of a straight tunnel, a slot along the bottom of the tunnel, an endless train of tunnel cars, means guiding said cars for movement in upright position along said slot and in inverted position along a return reach immediately below said slot, said guiding means including an upper railway under said slot and a lower railway below said upper railway, sprockets aligned with the rails of the railways at each end thereof and extending between the levels of said upper and lower railways respectively, and chains linking said cars, extending along said rails and engaged with said sprockets, said cars each having a base portion comprising a deck lined on its upper side with ceramic material, said deck having a metal lower side, metal sleeves extending upwardly from said lower side to said ceramic upper side, said deck extending across said slot when the car is in said slot, kiln furniture on each car projecting upwardly into said tunnel when the car is in said slot, the furniture comprising a plurality of ceramic hollow columns received within said metal sleeves and end-abutted against said metal lower side and extending upwardly through said ceramic upper side of said base, a ceramic platform at the top of the



columns, the platform having sockets to loosely receive the columns, tie rods extending through the columns and engaged with the platform, the lower ends of the tie rods extending through the metal lower side of the base portion of their associated car, spring means urging the lower ends of said rods downwardly from said metal lower side for maintaining said rods under spring-loaded tension, whereby rod tension is relatively low when said cars are upright and at elevated temperatures within said tunnel and relatively high only when said cars are inverted outside said tunnel and high impact loads are avoided during car inversion.

2,974,388
PROCESS OF MAKING CERAMIC SHELLS
Neil N. Ault, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Jan. 30, 1958, Ser. No. 712,144
8 Claims. (Cl. 25—156)

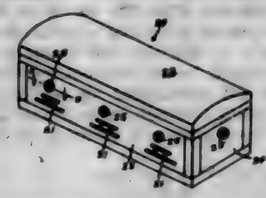


1. Process of making ceramic products of wall thickness less than 1/10 of the maximum surface dimension which comprises heat-spraying a fusible ceramic material to develop a relatively hard, stable, relatively strong coating, onto a form that is rigid but capable of being eliminated to leave a unitary ceramic, then eliminating material of the form that is adjacent to the ceramic material, and thereafter firing the formed ceramic material under conditions of time and temperature as measured by a pyrometric cone in the range from cone 12 to cone 42, the firing cone being selected to mature the composition and the shape being fired to a strong hard condition of the product without deleterious slumping or swelling, to meet a desired condition of use with less than 10 linear percent of shrinkage occurring during firing.

2,974,389
METAL CASKET AND VAULT PROTECTION DEVICE
Joseph F. Tatum, 2600 Mimosa Lane, Hattiesburg, Miss.
Filed Apr. 15, 1958, Ser. No. 728,661
1 Claim. (Cl. 27—1)

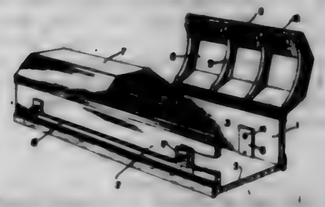
In combination, a metallic burial container, a plurality of sacrifical metal blocks, a neoprene gasket interposed

between each of said blocks and said container, and metallic means securing said blocks to said container with said gasket spacing said container and said blocks apart, the entire surface of each block except that adjacent said gasket being exposed to the surrounding media, said



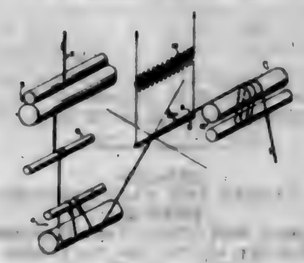
means for securing said container and said blocks together including a plurality of threaded studs welded to said container, and said blocks each having a threaded bore engaged over said threaded studs, the outer surface of each block being ornamented.

2,974,390
BURIAL CASKETS
Sydney Nelson, 763 Vaughan Road, Toronto 10, Ontario, Canada
Filed Feb. 26, 1959, Ser. No. 795,866
5 Claims. (Cl. 27—7)



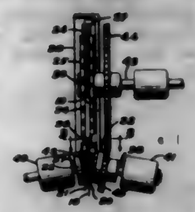
1. A burial casket embodying essentially walls, lid and floor wherein at least said walls and lid are formed of non-interconnecting cellular polystyrene sheet plastic, internal transverse ribs of the same material spanning said lid, longitudinal L-shaped strengthening members secured to the free edges of said walls, and longitudinally extending strengthening members secured to said walls at the junctions thereof with said floor, said last mentioned strengthening members also serving to elevate said floor.

2,974,391
PROCESS AND APPARATUS FOR MAKING CRIMPED FILAMENTS
Raymond Holden Speakman and Roderick Bruce Macleod, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Nov. 30, 1956, Ser. No. 625,291
Claims priority, application Great Britain Nov. 30, 1955
12 Claims. (Cl. 28—1)



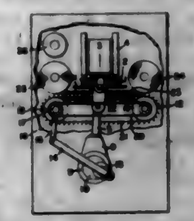
11. An apparatus for forming potentially crimped filaments for synthetic linear polymer filaments which comprises in combination means for feeding and forwarding filaments under tension, said means comprising feed and draw rolls to draw the filaments at least three times their length as spun, with snubbing means for localizing the draw point, a smooth narrow surface maintained in contact with said filament at a fixed distance between said feeding and winding means, and means for maintaining the temperature of said narrow surface above the melting temperature of the filament to be treated, said smooth narrow heated surface being located to bring about a change in direction of the filament path sufficient only to maintain contact between the filaments and the narrow surface and less than 45°.

2,974,392
APPARATUS FOR CRIMPING YARN
Robert W. Thimble, Pensacola, Fla., assignor to The Chemstrand Corporation, Decatur, Ala., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,746
11 Claims. (Cl. 28—1)



1. Apparatus for treating textile yarn to modify the texture thereof comprising, in combination, a pair of rotary members whose axes are angularly offset from each other at an angle so that during rotation the members are most closely adjacent at one point and spaced farthest apart at a point 180° from the point of closest proximity, means for rotatably supporting said members, means for rotating said members in unison, a plurality of pins circumferentially spaced on the periphery of each rotary member, said pins being interdigitatably arranged to overlap successively at a point to receive advancing yarn therebetween and to move apart progressively during rotation of said members whereby successive portions of said yarn are pulled laterally of the path of yarn travel alternatively in one direction and then in the opposite direction into a tortuous form by the movement apart of said pins, means for transferring said tortuously formed yarn to and for moving same through a storage area, and means for removing said yarn from said storage area.

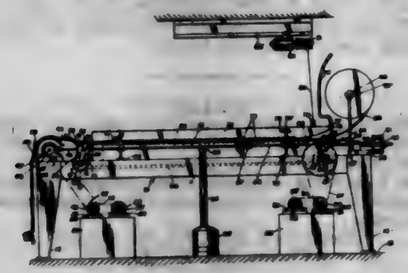
2,974,393
APPARATUS FOR NEEDLE PUNCHING SHEET MATERIALS
Joseph L. Hollowell, Cornwall on the Hudson, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 8, 1959, Ser. No. 786,667
3 Claims. (Cl. 28—4)



1. In a needle loom for punching sheet materials which loom comprises a plurality of closely spaced needles and

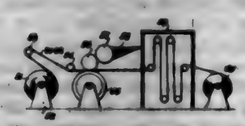
means to move said needles into and out of said sheet materials, the improvement which comprises an endless flexible carrier belt and means to draw said belt through said loom, said belt bearing a plurality of closely spaced, resilient, rod-like elements positioned to bear said sheet materials through said loom and to support said sheet materials as said needles pass therethrough, the upper major portion of said rod-like elements projecting upwardly and backwardly toward the feed side of said loom at an angle of about 20 to 80° with the plane of said sheet materials and the lower minor portion of said rod-like elements projecting upwardly and forwardly at an angle of about 20 to 90° with the plane of said sheet materials.

2,974,394
MACHINE FOR PROCESSING FIBROUS MATERIALS
Richard R. Walton, 10 West Hill Place, Boston, Mass.
Filed Nov. 22, 1957, Ser. No. 698,150
14 Claims. (Cl. 28—14)



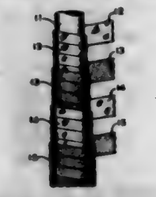
1. A fabric processing machine, comprising a belt upon which the fabric may be carried, means for driving said belt, a platen located above the belt and having an irregular surface for contacting the fabric, a fluid chamber located below the belt in such relation thereto that fluid in said chamber may apply pressure to the underside of the belt to press the fabric on the top thereof against said platen, means for introducing fluid into the chamber to apply such pressure, means for vibrating the belt as it travels beneath the platen, and means for applying a liquid to the fabric so that it is in moist condition while being pressed and vibrated against said platen.

2,974,395
PROCESS OF DYEING COMBINATION DRAPERY-LINING FABRICS AND PRODUCT
Marvin R. Haskel, Scarsdale, N.Y., assignor to United Merchants and Manufacturers, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 8, 1955, Ser. No. 500,238
6 Claims. (Cl. 28—74)



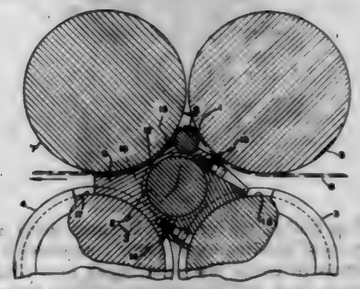
2. Method of making double cloth drapery fabric comprising the steps of locally printing a resist on one of the two cloths making up the double cloth, while preventing any penetration of the resist into the second of the double cloths, and subsequently locally applying a color printing paste to the second cloth while preventing penetration of the resist printed first cloth by the color printing paste, the locally color printed portions of the second cloth being in registration with the locally resist printed portions of the first cloth.

2,974,396
ELECTRICAL CAPACITORS
William M. Allison, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Jan. 18, 1957, Ser. No. 635,815
5 Claims. (Cl. 29—25.42)



1. A process for producing a capacitor which process comprises the step of flattening a group of correspondingly helically elongated electrically conductive and non-conductive layers including two conductive layers separated from each other by a non-conductive layer and overlapping each other along substantially the entire helix, providing a terminal in contact with each of the two conductive layers, and rolling the flattened group into a compact winding.

2,974,397
ROLL SUPPORTING MEANS
John C. Bongiovanni, University Heights, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 26, 1958, Ser. No. 724,018
11 Claims. (Cl. 29—81)



1. In a roll assembly for processing continuously traveling metal strip and the like comprising an elongated small diameter work roll, a first back-up roll therefor offset in the direction of travel of such strip, and two larger back-up rolls cradling said first back-up roll; all three of said back-up rolls having circumferential grooves therein in the same radial plane, a shoe fitting in such groove in said first back-up roll and completely encircling the same, portions of said shoe fitting substantial arcuate portions of such grooves in said larger back-up rolls effective to prevent rotation of said shoe about the axis of said first back-up roll, and a groove in the outer surface of said shoe receiving and fitting said small diameter work roll to brace the latter.

2,974,398
CUTTER FOR SPIRAL BEVEL AND HYPOID GEARS
Gilmore M. Spear, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Jan. 29, 1958, Ser. No. 711,913
3 Claims. (Cl. 29—105)

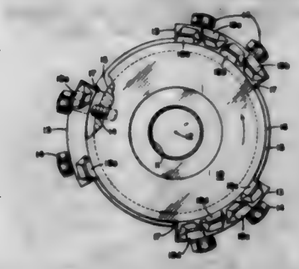
1. A face mill cutter for rough cutting none-generated spiral bevel or hypoid gears of tapering tooth depth,

said cutter comprising blades collectively presenting side cutting edges for cutting one side of the teeth and other side cutting edges for cutting the opposite side of the teeth, each such edge having substantially straight and adjacent distal and proximal sections of different pressure angle, the distal section of each such edge corresponding



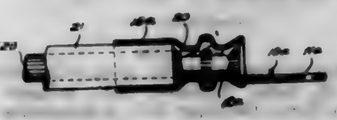
in length to the depth of the tooth at its small end on the related tooth side, each of the first-mentioned edges having the pressure angle of the proximal section thereof larger than that of its distal section and each of said other edges having the pressure angle of the proximal section thereof smaller than that of the distal section thereof.

2,974,399
CUTTER FOR GEARS OF TAPERING TOOTH DEPTH
Charles B. King, Brighton, and Gilmore M. Spear, Rochester, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Mar. 27, 1958, Ser. No. 724,421
10 Claims. (Cl. 29—105)



1. A face mill cutter for non-generated spiral bevel or hypoid gears of tapering tooth depth, comprising a plurality of groups of cutter blades arranged in a circle on a rotary cutter head with the cutting portions thereof projecting from the head in an approximately axial direction, each such group of blades presenting at least one inside and one outside cutting edge, the blades of each group lying along a different helix coaxial of the cutter and the several helices all being substantially identical and being equally spaced from each other about the cutter axis.

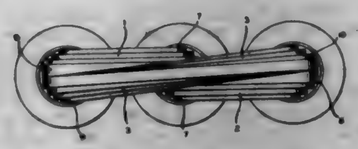
2,974,400
METHOD OF MAKING AN INSULATED ELECTRICAL CONNECTOR
Frank J. Sows, Cranford, N.J.
Filed Mar. 11, 1952, Ser. No. 275,883
12 Claims. (Cl. 29—155.55)



1. The method of making an insulated electrical connection which comprises forming a tube of a tough, flexible insulating vinyl plastic, inserting a malleable metal contact portion of an electrical connector into said tube and shrinking the plastic so that it engages the inserted portion of the connector with constrictive force, and compressing together in a limited area said contact portion of the connector and an electrical conductor within said tube, with extrusion of metal from the area of compression.

4. The method of making an insulating electrical connector having a malleable soft metal ferrule insulated with a plastic insulating material of the type which is tough in its resistance to deformation and yet substantially plastic so as to evenly transmit therethrough to the metal ferrule localized pressure of crimping dies, with flow of metal from under the crimping dies, but avoid such excessive flow in itself as would expose the metal ferrule during crimping and thus impair the insulating function, which comprises forming from a composition of said plastic with excess plasticizer of said plastic a tubular piece of lesser internal diameter than the external diameter of said ferrule, expanding the tubular piece, assembling the tubular piece over the ferrule, thereafter removing part of the plasticizer from the outer surface of said piece while its inner surface is pressed against the ferrule, and thereby increasing the tendency of the tubular piece tightly to grip the ferrule.

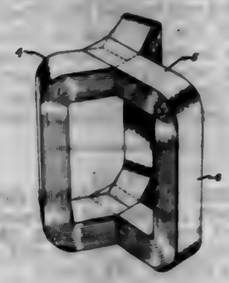
2,974,401
THREE-PHASE CORE FOR ELECTRICAL TRANSFORMERS AND METHOD OF MANUFACTURING THE SAME
Martin I. Zwelling, Zanesville, Ohio, assignor to McGraw Electric Company, Milwaukee, Wis., a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,725
4 Claims. (Cl. 29—155.57)



1. In a method of making a three-phase transformer core comprising three core sections each having a window therein, the steps including, the fabrication of two substantially identical core sections by winding in substantially rectangular contour a series of magnetic ribbon of progressively wider and then progressively narrower widths successively with one edge of the ribbon in a plane normal to the axis of the core window and the other edge in stepped relation, the fabrication of a third core section having a window therein by winding, in substantially rectangular contour a series of magnetic ribbon of progressively wider and then of progressively narrower widths successively in a skewed path peripherally of the window of the third core section with one edge of the ribbon in one leg portion in a plane radially of the core window and the other edge of the ribbon in another leg portion in a plane radially of the core window, said third core section having two internal dimensions in mutually perpendicular directions, the internal dimension in one direction being substantially equal to the external dimension of either of said two core sections and the internal dimension in the other direction being substantially equal to the sum of the internal dimensions of said two core sections plus the width of one leg of one of said two core sections, annealing the three core sections to relieve the ribbon of stress and set them in the form defined by the winding steps, and assembling the three core sections with the planar ribbon edges of one leg portion of each contacting the planar ribbon edges of a leg portion of another core section and the planar ribbon edges of the other leg portion of each contacting the planar ribbon

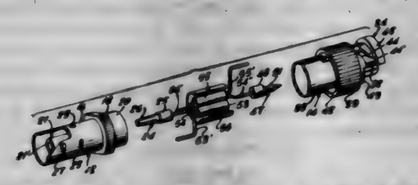
edges of the leg portion of still another core section, the contact between the leg portions being in a plane coinciding with the aforesaid planes.

2,974,402
Y-SHAPED MAGNETIC CORE
William C. Hurt, Jr., Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 6, 1958, Ser. No. 772,369
5 Claims. (Cl. 29—155.57)



1. A method of making a curved Y-shaped core, said method comprising cutting two strip wound annealed core loops into half sections, reversing one half section of one core loop relative to its other half section, and assembling said relatively reversed half sections with a half section of the other core loop into said Y-shaped core, in said one core loop cutting the successive layers at each end thereof with the cut extending from alternate ends of a plane bisecting said loop and having such alternate ends on opposite sides of said loop in parallel directions at an angle of 30 degrees from said plane, cutting off the acute angled corners of the cut ends of said layers which lie beyond said plane with the cuts extending from the ends of said plane at an angle of 60 degrees from said plane, and in said other core loop cutting the successive layers at each end thereof parallel to and equidistantly from alternate sides of its bisecting plane.

2,974,403
ATTENUATOR METHODS
Martin Dolin, Glen Oaks, Aldo M. Scandurra, New York, and Nicholas M. Poulos, Great Neck, N.Y., assignors to Applied Research Inc., Flushing, N.Y., a corporation of New York
Original application Nov. 15, 1954, Ser. No. 468,818. Divided and this application Dec. 16, 1958, Ser. No. 782,250
1 Claim. (Cl. 29—155.63)



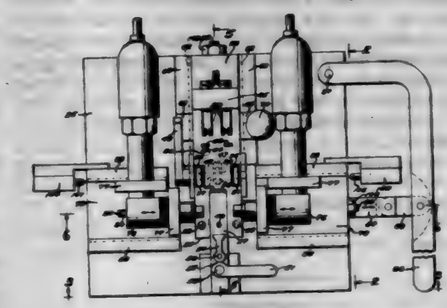
The method of treating and calibrating a molded carbon resistor comprising the steps of subjecting said resistor to at least two successive heating cycles with the resistor being heated to approximately 100° C. for a period of at least 10 minutes during each cycle, calibrating the resistor by removing a portion of the body thereof, coating the calibrated resistor with an insulating material and then subjecting the calibrated and coated resistor to at least one reheat cycle of approximately 100° C. for about 10 minutes.

2,974,404
HEAT EXCHANGER MATRIX
Michael Hunsaik, Jr., Inkster, and Niranjan M. Parikh, Ann Arbor, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 2, 1956, Ser. No. 575,666
8 Claims. (Cl. 29—157.3)



1. The process of fabricating a thermal regenerative apparatus comprising assembling a plurality of chemically clean, ceramic, cylindrical tubes within a retaining member, thoroughly wetting the assemblage with a liquid containing a metal selected from the group consisting of gold, silver, and copper, and sintering the assemblage at a temperature below the softening point of the ceramic but sufficiently high to cause an ionic exchange to occur between the metal and the ceramic surface, to produce a uniform coating of metal on the tubes, and to sinter the tubes together.

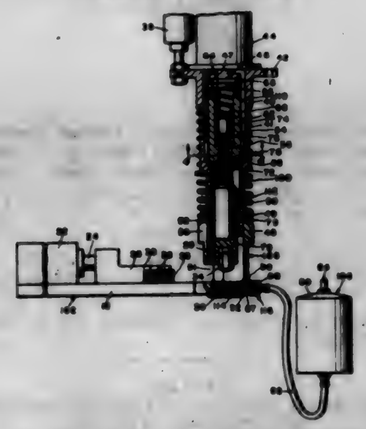
2,974,405
ADJUSTABLE APPARATUS FOR HOLDING AND ASSEMBLING ARTICLES
George R. Machlan, North Riverside, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 25, 1958, Ser. No. 763,338
9 Claims. (Cl. 29—203)



1. An apparatus for holding and assembling articles which comprises, a base, a movable bifurcated slide member mounted to said base and having aligning and stop means for positioning a first article thereon, said slide having a first clamping means movable to retain the first article on the slide member, a stationary platform mounted on said base between the furcations of the slide member and having stop means for engaging and positioning a second article thereon interleaved with the first article, a second clamping means on said platform movable to retain the second article on the platform, means for actuating the first and second clamping means, means for moving the slide member to and from the platform to adjust the articles in a predetermined longitudinal relationship, a pair of assembling devices mounted on said base and on opposite sides of said slide and platform and movable on said base into position to assemble the clamped interleaved articles, means for moving a first of the assembling devices toward the clamped articles, and a linkage spanning the slide and platform intercon-

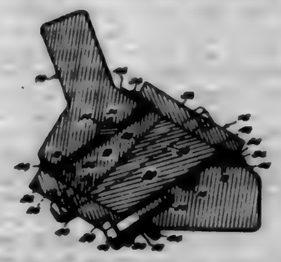
necting said assembling devices for simultaneously moving the other assembling device toward the clamped interleaved articles.

2,974,406
PIPE PLUG FEEDER AND COMPOUND APPLICATOR
John B. Wheeling, Owego, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 11, 1957, Ser. No. 645,189
4 Claims. (Cl. 29—211)



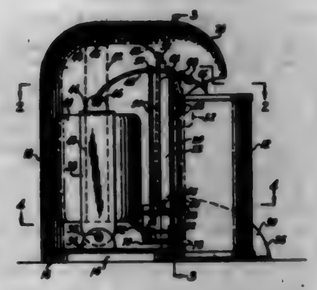
1. In a machine for screwing threaded plugs in a work piece, the combination of a screwing mechanism for screwing plugs in a work piece including a rotary and reciprocatory spindle, said spindle provided with a head adapted to engage and rotate the plug, a plug feeder positioned at an end of the screwing mechanism adapted to feed plugs one at a time at predetermined intervals in the screwing mechanism in a position to be engaged by said spindle head, a plug supplier for supplying plugs to the plug feeder and cooperating therewith to permit the plug supplier to feed plugs one at a time to the plug feeder, a compound supplying device for supplying compound to the screwing mechanism including a compound applicator connected to the screwing mechanism, said compound applicator adapted to be actuated by said plugs to apply compound to the threads of the plugs before said plugs are screwed in the work piece, and means for supplying compound to said compound applicator.

2,974,407
METHOD OF VISION BLOCK INSTALLATION
Irwin R. Barr, Kingsville, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 15, 1957, Ser. No. 646,506
2 Claims. (Cl. 29—428)



1. The method of providing in armor plate a shear resistant vision block port with finely finished surfaces comprising the steps of: forming an armor plate casting with an unfinished surface opening therethrough and with an internal recessed annular groove extending from and in communication with said opening, inserting in said opening a core defining therethrough a space including said groove in communication therewith and having a preselected physical contour with finely finished surfaces corresponding to the geometric configuration of a block to be secured in said port, supporting a bezel by said inserted core in said opening at one end thereof, sealing said opening with access to the space defined by said opening and said inserted core, introducing molten thermosetting resin into said space including said groove, setting said resin in situ, and removing said core after setting said resin, whereby said block port is shear resistant and is provided with finely finished internal surfaces adapted to receive a preselected vision block.

2,974,408
ELECTRICAL CAN OPENING DEVICE
William P. Frank and Richard W. Frank, both of 2114 2nd Ave. N., Great Falls, Mont.
Filed May 26, 1959, Ser. No. 815,483
6 Claims. (Cl. 30—4)

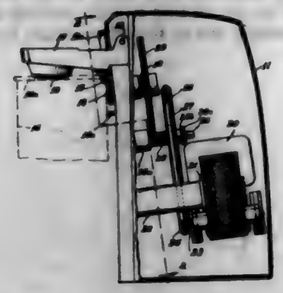


1. An electrical can opening device comprising a housing, a solenoid supporting means pivotally mounted in said housing, a solenoid mounted on said supporting means, a solenoid plunger vertically movable in said solenoid, said plunger being pivotally connected at one end to one end of a rocker arm, said rocker arm being hinged intermediate its length on said housing and having a knife portion extending outwardly of said housing over a can holding means, said can holding means being connected to said housing and being constructed and arranged to hold a can in a position wherein said knife portion is insertable downwardly thereinto upon rocking motion of said rocker arm, means in said housing actuatable by the insertion of a can into position in said can holding means to energize said solenoid, and means operatively connected to said rocker arm to push the can inserted in said can holding means away from said solenoid energizing position to deenergize said solenoid upon rocking movement of said rocker arm and withdraw said knife portion from said can.

2,974,409
DRIVE MEANS FOR ELECTRIC CAN OPENERS AND THE LIKE
Alvin Ghisoni, South Beloit, Ill., assignor to Burgess Vibrocrafters, Inc., Grayslake, Ill., a corporation of Delaware
Filed Sept. 21, 1959, Ser. No. 841,684
2 Claims. (Cl. 30—4)

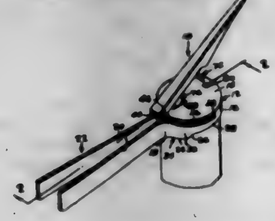
1. In a can opener having a housing including a vertically extending main frame, a can cutting blade secured to said frame, a motor mounted in said housing, a first pulley attached to the shaft of said motor, a can turning

wheel mounted adjacent said blade outwardly of said housing and operable at low speed and high torque, a second pulley positively engaged with said can turning wheel, said first and second pulleys being within said housing, and a flexible belt entrained on said first and second pulleys, the improvement wherein said motor is a high speed shaded pole type motor having a low start-



ing torque, said belt is longitudinally resilient for permitting said motor to start up without slippage between said first pulley and said belt at a low torque due to the initial clutching action produced by the stretching of said belt upon the starting of the rotation of said first pulley by said motor, and said motor and pulleys are supported upon said main frame in generally vertical alignment.

2,974,410
COMBINATION CAN HOLDER AND PUNCH
Tomitaro T. Sano, Reedley, Calif.
(P.O. Box 641, Parlier, Calif.)
Filed May 29, 1959, Ser. No. 816,835
4 Claims. (Cl. 30—4.1)



1. A combination can holder and punch comprising a cap to be engaged over the end of a can, said cap having a top wall, opposed flexible arcuate clamping jaws on said cap to grip opposite sides of a can, spaced handle bars on and extending radially outwardly from said jaws, a punch lever pivoted at one end on said cap, there being an opening in said cap top wall, and punch means on said lever to pass through the opening as the lever is depressed from an elevated position to a depressed position to punch the top of a can, said punch lever being longitudinally aligned with said handle bars and pivoted on the cap at a point adjacent to the handle bars and extending in a direction away from the handle bars.

2,974,411
PEELER FOR CITRUS FRUIT
John Thomas Little, 1307 Ranger Road, National City, Calif.
Filed Dec. 4, 1959, Ser. No. 857,415
2 Claims. (Cl. 30—24)

1. A tool adapted to peel the rind from a citrus fruit comprising: a long handle having a deep vertical opening in its upper end; a rigid round wire having a diameter greater than .090 inch, the lower end of said wire being bent over substantially 180 degrees to form short and long vertical limbs which extend into said central opening and have a tight fit with the marginal wall thereof, said long vertical limb extending a substantial distance above



said handle to provide a rind peeler, the tip portion of said peeler being curved lengthwise to a radius much greater than the diameter of said wire and the extreme end of said tip being rounded off to a radius equal to substantially one half the diameter of said wire.

2,974,412
ATTACHMENT FOR HAIR CLIPPERS
Earl W. Clark, Box 943, Stuart, Fla.
Filed Aug. 21, 1959, Ser. No. 835,206
7 Claims. (Cl. 30—201)

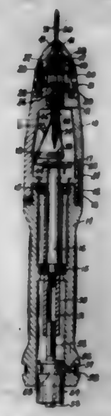


1. In an attachment for conventional hair clippers, wherein the stationary blade is held in place on the clipper housing by screws, and wherein an adjustable comb member, independent of the cutting blades of said clippers, is used to aid in controlling the length at which the hair is cut, the combination of, a support for said comb member and said support being located back of the cutting edges of said blades and attached to the back of said stationary blade by said screws, the cutting edges of said blades being the front, and said support having comb member supporting and clamping surfaces spaced apart as measured on a line perpendicular to the line of cut of blades, a comb member clamping device carried by said support and located between said spaced-apart supporting and clamping surfaces, a comb member having a forward portion and a back portion, said forward portion comprising a plurality of comb teeth and said back portion adapted to rest on and be clamped to said spaced-apart supporting and clamping surfaces by said clamping device, a longitudinal slot substantially parallel in direction to the said comb teeth and located in the back portion of said comb member, said slot cooperating with said clamping device.

2,974,413
FLAYING IMPLEMENT
Newton Halsted Williams, Newtown, Conn., assignor to Richard W. Logan, Madison, Conn.
Filed Oct. 28, 1958, Ser. No. 770,177
7 Claims. (Cl. 30—319)

1. A flaying tool having a frame, a pair of superposed disklike blades oscillatably mounted in the frame upon a common pivot, said blades having peripheral cooperating teeth, a pair of actuating members each pivoted on said pivot, means connecting each of the actuating members to one of the blades at a plurality of points eccentric to its pivot means to oscillate said actuating members to

effect oscillation of the blades in opposite directions, and said blades being of circular shape and the teeth extending over substantially the entire circumference thereof,



whereby the blades are adjustable relatively to said actuating members to permit use of a different portion of said teeth.

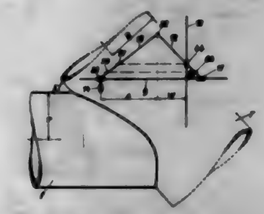
2,974,414
CUTTING TOOL
Hoyt W. Bowman, Jr., Maplewood, Mo., assignor to James R. Kearney Corporation, St. Louis, Mo., a corporation of Delaware
Filed Mar. 23, 1960, Ser. No. 17,144
4 Claims. (Cl. 30—272)



1. A cutting die for removing compression connectors from a wire, comprising a body adapted to be attached to a compression tool, a pair of cutting blades mounted to project from said body, the surfaces of said blades facing each other being parallel and separated by a distance substantially equal to the diameter of said wire, and guide means mounted adjacent the ends of said cutting blades and extending farther away from said body in the direction of cutting than said cutting blades for aligning said wire with said cutting blades.

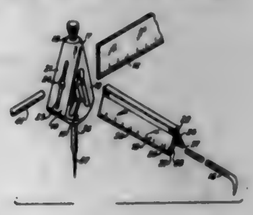
2,974,415
TOOL GUIDING DEVICE FOR GUIDING A TOOL ALONG THE CURVES OF INTERSECTION OF TWO INTERSECTING CYLINDRICAL TUBES
Walter Werner, Mulheim (Ruhr), Germany, assignor of one-third to Willi Muller and one-third to Josef Muller, both of Opladen, near Koln, Germany
Filed Aug. 24, 1953, Ser. No. 375,920
In Germany Apr. 14, 1949
Public Law 619, Aug. 23, 1954
Patent expires Apr. 14, 1969
17 Claims. (Cl. 33—21)

1. In a device of the type described, in combination, first straight guiding means; second straight guiding means extending transverse to said first straight guiding means; first lever means mounted at one end thereof turnably and slidably on said first straight guiding means, said first lever means being mounted at a point between its ends turnably and slidably on said second straight guiding means; a second lever means pivotally connected at one end thereof to the other end of said first lever means and turnably mounted at a point spaced from said one end thereof on one of said straight guiding means; drive means for turning one of said lever means about its point



of mounting on that one of said first and second straight guiding means to which both said first and second lever means are attached; an operating member connected to one of said lever means, and being guided for rectilinear movement; and supporting means for supporting an object to be operated on by said operating member for movement in a direction transverse to the rectilinear movement of said operating member, said supporting means being connected to and moved by said drive means in synchronism with said one of said lever means.

2,974,416
TRAMMEL SCALE AND LAYOUT TOOL
Paul G. Zercher, 306 N. Pleasant Ave., Ridgewood, N.J.
Filed July 2, 1959, Ser. No. 824,639
7 Claims. (Cl. 33—37)



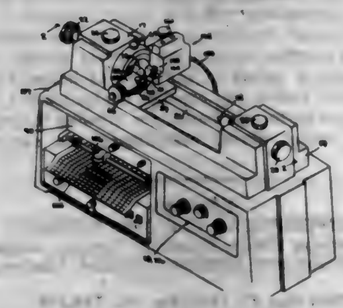
4. A trammel scale and layout combination tool comprising a pair of trammel attachment members, an elongated integrally formed angular scale having downwardly-divergent side scale walls, a coextensive head portion of substantially square cross-section and a coextensive base portion formed with a longitudinal central end-to-end recess of arcuate cross-sectional shape, each of said trammel attachment members having a central horizontally extending through opening for slidingly receiving said angular scale, means for securing said angular scale in adjusted position with respect to each of said attachment members, said opening in each of said trammel members comprising an upwardly-projecting attachment member portion of inverted V-shape adapted to fit into the central groove of said angular scale, a through vertical slot in each of said trammel attachment members extending horizontally and perpendicular with respect to said horizontally extending angular scale receiving openings, and a flat scale slidably receivable, selectively in said slot, said angular scale securing means being operative to secure said flat scale in selectively adjusted position with respect to said trammel attachment members.

2,974,417
PRECISION MEASURING INSTRUMENT
John P. Prince, 233 Wilmore Place, Syracuse, N.Y., assignor of fifty percent to Joseph J. Prince, Jr., Syracuse, N. Y.
Filed Sept. 27, 1957, Ser. No. 686,793
6 Claims. (Cl. 33—174)



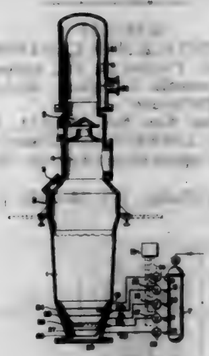
4. A direct reading toolmaker's square comprising an upstanding cylindrical body the surface elements of which are parallel to one another and to the longitudinal axis of the body, the base of said body being obliquely disposed with respect to the longitudinal axis of the body, said body having on the cylindrical surface thereof permanently inscribed markings forming a series of arcuate graduation lines for direct measurement of deviations from an exact right angular relation when the body is rotated with its obliquely disposed base on a perfectly flat reference surface and its cylindrical surface contiguous with a shorter work piece being tested for perpendicularlity with respect to the reference surface, said arcuate graduation lines being arranged on said body so that in any one of the lines every point on the line measures the same amount of deviation from the perpendicular and whereby if each point on the line were projected vertically to the plane of the base the locus of the projected points would be an arc concentric with the base, said arcuate graduation lines permitting a direct reading to be taken on said body when a surface element thereof makes lines contact with said work piece.

2,974,418
HELIX TESTER
Glen H. Stimson, Greenfield, Mass., assignor to United-Greenfield Corporation, a corporation of Delaware
Filed June 12, 1958, Ser. No. 741,585
12 Claims. (Cl. 33—199)



3. Apparatus for testing the helical surfaces of the external thread of a cylindrical gage comprising means for mounting a gage about its central axis in a fixed axial position, a feeler probe engaging the helical surfaces of the thread and shifting axially on deviation from a true helix, mounting means supporting said feeler probe in contact with the helical surfaces and moving said probe axially relative to a gage in an axially fixed position, a driving probe securely fastened to said mounting means to engage the thread of a gage in a set relation with said feeler probe and to move said feeler probe and said mounting means axially along a gage in a fixed axial position on rotation of a gage so that said feeler probe engages the length of the thread and moves from the set relation on deviation of the thread from the true helix.

2,974,419
METHOD OF AND APPARATUS FOR DRYING SOLID PARTICLES
Hans Hauk, Rolf Streeck, Helmut Bayer, and Luitfried Belik, all of Frankfurt am Main, Germany, assignors to Farbwerk Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
Filed Mar. 19, 1957, Ser. No. 647,160
Claims priority, application Germany Mar. 24, 1956
6 Claims. (Cl. 34—10)

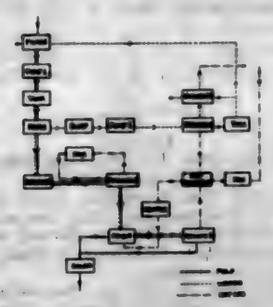


1. A process for the drying of solid particles by contacting gaseous substances with a layer of said particles, said layer being limited at its sides and bottom, which comprises introducing the gaseous substances into the lower part of said layer in a periodically interrupted stream by substantially instantaneously increasing the flow rate of said gaseous substances into said layer from a minimum flow rate to a maximum flow rate at which said layer of particles becomes inflated to the point of fluidization and the pressure of said gaseous substances is increased by 300 mm. of Hg to 800 mm. of Hg, maintaining said maximum flow rate into said layer for a period between about 0.3 second to about 3 seconds, then substantially instantaneously reducing the flow rate of gaseous substances into said layer to said minimum flow rate at which said layer of particles is deflated to a height substantially that before inflation of said layer, and maintaining said minimum flow rate into said layer for a period between about 0.7 second to about 6 minutes.

2,974,420
PREPARATION OF WOOD PULP
Christopher F. Kearton, John H. Givens, and Fred C. Aldred, all of Coventry, England, assignors to Courtaulds Limited, a British company, London, England
Filed Aug. 27, 1957, Ser. No. 680,459
Claims priority, application Great Britain Oct. 2, 1956
3 Claims. (Cl. 34—10)

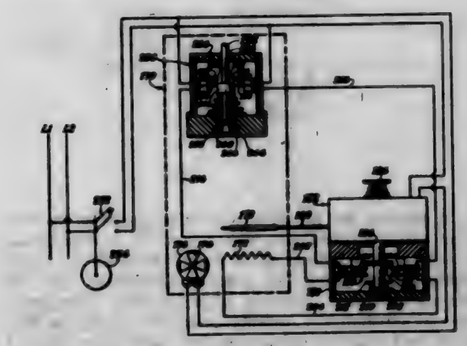
1. A process for drying particles of wood pulp containing from about 15 to about 75% water on the weight of dry pulp which comprises feeding said pulp to a fluidized bed of pulp and supplying hot air to said bed at a velocity of between about 1 and about 2 ft./sec. and at

a pressure which fluctuates at a frequency on the order of 4 cycles/sec. and sufficiently to cause the particles of



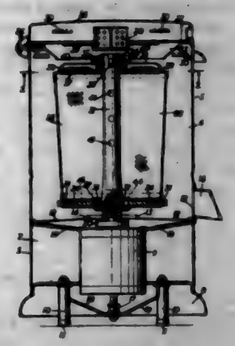
pulp to vibrate, thus preventing coalescence of said particles.

2,974,421
CONTROL DEVICE FOR CLOTHES DRIER
Charles K. Strobel, Pittsburgh, Pa., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Original application Ser. No. 453,633, Sept. 1, 1954, now Patent No. 2,859,025, dated Nov. 4, 1958. Divided and this application Apr. 9, 1958, Ser. No. 727,493
1 Claim. (Cl. 34—45)



In a control device for clothes drying apparatus having electrically operated heating means and electrically operated fan means, the combination comprising an electric circuit for said heating means, a parallel electric circuit for said fan means, a thermally operated safety switch in said heating means circuit adapted to be operated in response to a predetermined excessive temperature in said apparatus for opening said heating means circuit, first and second switches connected in parallel in said fan means circuit and being movable between open and closed positions for controlling said fan means, switching means in said heating means circuit movable between open and closed positions for controlling said heating means, a control plunger operable for moving said switch means and said first switch to their respective closed positions whereby said heating means and said fan means are energized, latch means for retaining said plunger in its operative position, said latch means including a pivoted arm normally biased into engagement with said plunger, thermally responsive means operative in response to temperature variations in said apparatus, a spring biased actuating rod cooperating with said thermally responsive means to be reciprocated in response to said temperature variations, and a pair of spaced discs fixed on said rod for movement therewith, one of said discs closing said first switch whereby said fan means remains energized at a predetermined elevated temperature, the other of said discs moving said pivoted arm out of engagement with said plunger whereby said plunger is released to an inoperative position to permit opening of said switching means and deenergization of said heating means at a second predetermined elevated temperature, the said one disc being movable in an opposite direction in response to a decrease in temperature from said second predetermined elevated temperature and causing opening of said second switch whereby said fan means is deenergized at a predetermined reduced temperature.

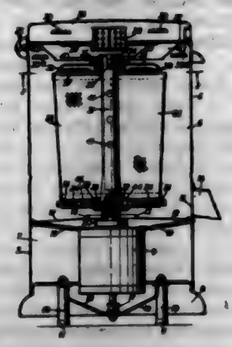
2,974,422
CENTRIFUGAL CLOTHES DRIERS
Vernon Harrison Hobbs, Exmouth, England, assignor to Thermair Domestic Appliances Limited, London, England
Filed May 27, 1958, Ser. No. 738,237
2 Claims. (Cl. 34—58)



1. A centrifugal clothes drier, comprising a casing, a power unit located in said casing, a perforated basket for rotation axially located in said casing and coupled to said power unit, a lid pivoted to said casing, an electric heater positioned in said casing lid, air inlets located in said lid, a rod axially mounted in and rotatable with said perforated basket, a removable closure member to said perforated basket for coupling to said rod, an impeller embodied in said closure member for drawing an air current through the air inlets in the casing lid past the electric heater, a cover member for the closure member located in spaced relationship with the closure member for the perforated basket to form a guard for the impeller in said closure member, an inlet in said cover member forming the guard to permit of the entry of heated air into the perforated basket and expeller blades located at the bottom of the perforated basket for drawing through the perforated basket during centrifuging the current of heated air.

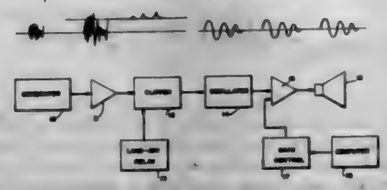
2,974,423
CENTRIFUGAL CLOTHES DRIERS
Vernon Harrison Hobbs, Exmouth, England, assignor to Thermair Domestic Appliances Limited, London, England
Filed May 27, 1958, Ser. No. 736,238
4 Claims. (Cl. 34—58)

1. A centrifugal clothes drier, comprising a casing, a perforated basket rotatably mounted about a vertical axis in said casing for holding the clothes to be dried, a power unit resiliently mounted within said casing in driving connection with said basket for spinning the basket, a central supporting member axially disposed within the perforated basket and in driving connection therewith, a closure member for said perforated basket removably mounted on said supporting member and rotatable therewith and a relatively massive member secured to the closure member, said relatively massive



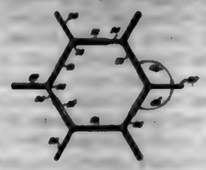
member being dynamically balanced about the axis of rotation of the perforated basket for stabilizing the rotation of the perforated basket when spun.

2,974,424
SOUND SIMULATOR CIRCUIT
Perry M. Roberts, West Hyattsville, Md., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Jan. 10, 1958, Ser. No. 708,231
8 Claims. (Cl. 35—12)



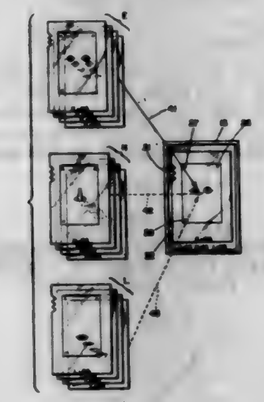
1. In an aircraft trainer a system for simulating to a student the sound made by an empty tanker plane when leaving the ground or landing comprising an oscillator circuit to generate a damped wave frequency in the low audio range, a noise generator connected to said oscillator to trigger the same, means to vary the frequency of occurrence of pulses from said generator to the oscillator, said last recited means including circuit interrupter means responsive to the status of the simulated flight to disable the same when the plane is airborne, and an output circuit connected to said oscillator and having means to control the amplitude of the output volume as a function of simulated flight velocity.

2,974,425
MOLECULE DEMONSTRATOR FOR STEREOCHEMISTRY
André Dreiding, Bogierenstrasse 2, Kusnacht, Zurich, Switzerland
Filed Mar. 5, 1959, Ser. No. 797,360
2 Claims. (Cl. 35—18)



1. A molecule demonstrator for use in stereochemistry; comprising at least two molecule presenting models, each provided with a support forming nucleus representing a respective atom and further provided with lengthy single connector means extending at predetermined angles to each other from and anchored on said support, said single connector means of each model including tubular members and rod-shaped members, at least predetermined ones of said connector means terminating in free ends, the free ends of said rod-shaped members of one of said models being telescopically engageable with corresponding free ends of said tubular members of another of said models so that said one model may be utilized to create with said other model a model assembly, thereby to exhibit a molecular element different from that of either of said two models, each of said tubular members being provided with a respective limit stop determining a distance characteristic of a bond so that, upon engagement of said rod-shaped members of said one model with corresponding tubular members of said other model, composite connector means are obtained, whose depth of interengagement determines a length for each composite connector means, which is greater than that of each of said single connector means.

2,974,426
METHOD AND APPARATUS FOR MAKING IDENTIFICATIONS
Hugh C. McDonald, Santa Monica, Calif., assignor, by mesne assignments, to Townsend Company, New Brighton, Pa.
Filed Sept. 23, 1957, Ser. No. 685,497
6 Claims. (Cl. 35—26)



5. An apparatus for constructing a facial likeness of an individual, comprising: a plurality of groups of transparent foils, each group relating to a separate feature of the human face and containing a set of foils illustrating said feature in various different shapes and expressions, each foil in each set of said groups including reference points which are common to each feature in said different shapes and expressions in said set so that consistent positioning of the various features relative to each other when foils from different groups are placed in overlying relationship is realized, each transparent foil also including an individual code symbol, whereby overlaying of various foils from said groups illustrating features in accordance with a description of a person's face to be identified provides a composite facial expression bearing a likeness to said person's face, the successive designation of each code symbol on the various foils constituting an overall identifying code for said particular composite facial expression.

2,974,427
SHOE CONSTRUCTION COMPRISING AN INTEGRAL UPPER AND INSOLE
William C. Wolff, 5 Ladue Ridge Road, St. Louis 17, Mo.
Filed Aug. 1, 1958, Ser. No. 752,588
1 Claim. (Cl. 36—11)



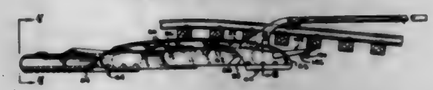
A shoe comprising a unitary piece of shoe material to which a sole is attached wherein the unitary piece of shoe material includes a central section for defining an inner sole side extension contiguous with and bent upward from the inner sole for defining the side walls of the vamp, a forward portion contiguous with and extending upwardly from the front part of the central section to form the toe of the shoe and being bent across the shoe to form the top of the cap, the forward portion having side edges and a top edge, the forward part of the top edges of the side extensions being joined to the side edges of the forward portion, a rear extension contiguous with and bent upward from the inner sole for defining the back wall of the heel, the side extensions each having a rear edge and the rear extension having side edges stitched to the rear edges of the side extensions, an upper margin of the top of the side extensions rearward of the part joined to the side edges of the forward portion being folded over and attached to the adjacent part of the side extensions to form a top line binding, tabs contiguous with the forward part of the upper margins extending over and attached to the aforementioned forward part of the side extensions, the rear extension having a part at its top wider than the distance between the side edges of the rear extension and folded over and attached to both the adjacent part of the rear extension and the adjacent parts of the side extensions.

2,974,428
HAND SCRAPER
Maurice Krasner, 315 Spruce St., Glenview, Ill.
Filed July 17, 1958, Ser. No. 749,108
4 Claims. (Cl. 37—53)



1. A hand scraper comprising in combination a support, said support comprising laterally spaced apart and interconnected side frame members each of which is in the form of a right triangular section comprising a vertically disposed portion, a horizontally disposed portion interconnected at its rearward end portion to the lower end portion of the vertically disposed portion and a hypotenuse portion interconnected intermediate its ends to the upper end portion of the vertically disposed portion and at its lower end to the forward end of the horizontally disposed portion with portions of the hypotenuse extending rearwardly beyond the rearwardly disposed portion to form handles for manual operation of the scraper, a pair of longitudinally spaced apart axles extending crosswise of the horizontally disposed portion in parallel relation and attached thereto and wheels mounted on the ends of the axles for free rotational movement to permit the support to be rolled over the surface upon which it rests with the frame maintained at a predetermined spaced relationship above said surface, a substantially planar rectangularly shaped blade dimensioned to have a width greater than the width of the support and having a substantially flat body portion and an arcuately bent portion in one of its longitudinal end portions to form a shovel portion contiguous with and extending outwardly from the body portion, and means removably mounting the blade onto the support with the body portion resting upon the lower edge portion of the hypotenuse and in parallel relation therewith for support of the blade substantially throughout the major length thereof and with a lower edge portion of the blade extending forwardly beyond the lower edge of the hypotenuse and below the forward edge of the horizontally disposed portion to a level corresponding to the bottom of the wheels to maintain the forward edge portion of the blade in juxtaposed position with the supporting surface and in substantially parallel relation therewith.

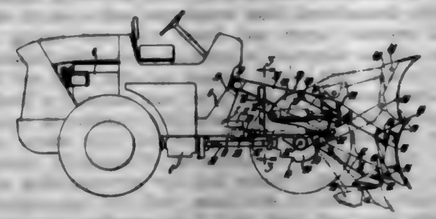
2,974,429
MACHINE FOR REMOVING THE BALLAST FROM BENEATH RAILWAY TRACK SLEEPERS
Jack C. Stein, 408½ E. Broadway, Missoula, Mont.
Filed Mar. 14, 1958, Ser. No. 721,574
7 Claims. (Cl. 37—104)



1. A machine for removing ballast from a railroad track bed, said machine comprising a substantially open rectangular frame including a pair of elongated substantially upright side frame members, a plurality of longitudinally spaced cross-braces extending transversely between said side frame members and having their respective ends fixedly secured to the adjacent one of said side frame members, a plurality of reinforcing struts and trusses rigidly secured to said side frame members and to said cross-braces, a plurality of arcuately shaped downwardly extending brackets secured to said side frame members, said trusses and struts, a plurality of arcuately shaped plows, means detachably connecting said plows to said arcuate brackets, a ground engaging skid for each of said side frame members, a slide fixedly secured to the upper ends of each of said side frame members, and draw bar means fixedly connected to said side frame members for connection with a source of locomotive power.

2,974,430
STEERABLE MATERIAL HANDLING DEVICE
Ralph J. Bernotas, South Euclid, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 8, 1957, Ser. No. 651,518
14 Claims. (Cl. 37—144)

1. A material handling vehicle comprising, a first frame section, a second frame section, means interconnecting said frame sections for relative pivotal movement therebetween, said means including a pivotal connection between the adjacent ends of said frame sections, a rigid link having one end pivotally connected to one frame section at a point spaced horizontally from the connection of the latter to said other frame section, the other end of said link being connected to said other frame section, the pivotal connections between said frame sections and between said one frame section and said rigid link establishing a horizontally extending axis of relative frame oscillation, an implement adjusting means mounted on said link, an implement carried by said adjusting



means, and means for stabilizing said link and implement as said frame sections oscillate relative to each other, said stabilizing means including a pivotal connection between said rigid link and one of the frame sections.

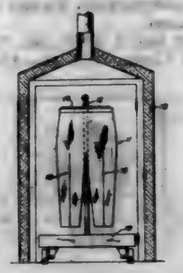
2,974,431
IRONING BOARD
Tony Ribando, 5727 W. Park Ave., St. Louis 10, Mo.
Filed June 11, 1956, Ser. No. 590,504
3 Claims. (Cl. 38—121)



1. An ironing board construction comprising, in combination, an elongated horizontal platform and foldable means for supporting said platform, said latter means comprising a pair of elongated struts connected centrally of their respective lengths for pivotal movement relative to each other, means connecting one end of each of said struts to said platform, said latter means including a track member secured longitudinally of the platform and retaining a sliding element secured to the end of one of said struts for slidably connecting said one strut to said platform, said track member having a central web portion secured underneath said platform, said web portion being flanked by offsetting flanges terminating in a pair of opposed channel portions in downwardly offset relation to said central web portion, said sliding element having opposite rod-like ends extending transversely beyond its associated strut for sliding engagement with said opposed channels, and a pair of aligned apertures in the aforesaid offsetting flanges for accommodating said rod-like ends of the sliding element when the foldable supporting means is fully folded.

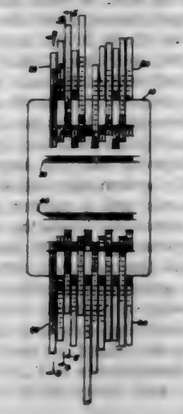
2,974,432
PRESS-FREE CREASE RETAINED GARMENTS AND METHOD OF MANUFACTURE THEREOF
William K. Warnock, Kentfield, and Frank G. Hubener, San Carlos, Calif., assignors to Koret of California, San Francisco, Calif., a corporation of California
Filed Feb. 20, 1956, Ser. No. 566,748
4 Claims. (Cl. 38—144)

1. In a process of manufacturing garments unrestricted as to style, size, design and type wherein a garment fabric is impregnated with an aqueous solution of a polymerizable resin and the fabric partially dried at a temperature below the polymerization temperature of the resin so as to maintain the contained resin in an unpolymerized state and approximately 2% to 8% of moisture is retained in the fabric, the steps of cutting said fabric containing the resin in an unpolymerized state to the size, shape and style of desired garments, sewing said fabric to provide desired garment seams, finishing the cut and sewn fabric to completed garments of desired styles and designs, thereafter imparting a crease in each of the completed garments at random locations



therein consistent with the designs and styles of the completed garments, and thereafter curing the impregnated, partially dried completed garments to insolubilize the contained resin in situ so that the completed garments are press-free and the imparted creases therein are unaffected after repeated washings of the garments.

2,974,433
CHANGEABLE INDICIA DISPLAY DEVICE
Dennis P. Litzinger, 2800 W. Grand Blvd., Detroit, Mich.
Filed July 14, 1958, Ser. No. 748,441
2 Claims. (Cl. 40—64)



1. A changeable indicia display device comprising a holder of flat sheet material; said holder being formed with a pair of spaced groups of slits for receiving a plurality of indicia-carrying strips, each of said groups comprising a pair of inner elongated slits forming a pair of spaced windows in the space between the groups of slits, a plurality of shorter slits extending parallel to but in staggered relationship with respect to said inner elongated slits, and an outer elongated slit on the side of each group of slits opposite to the windows and coextensive with the windows; and a plurality of strips formed of flat sheet material, each of said strips carrying a plurality of indicia for display through the windows of the holder, said strips passing through the pair of inner elongated slits and one of said shorter slits in each group and movable therethrough for selectively displaying the indicia carried thereby through one or both of said windows to form various combinations of indicia, the extremities of alternate strips passing through at least one of the

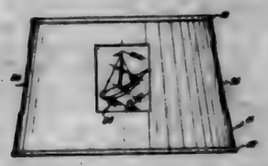
outer elongated slits to separate alternate extremities, by disposing same on opposite sides of the holder, for ease in manipulation.

2,974,434
GREETING CARD
Dora Sue Gibson, Kansas City, Kans., assignor to Hallmark Cards, Incorporated, Kansas City, Mo., a corporation of Missouri
Filed Jan. 4, 1960, Ser. No. 136
1 Claim. (Cl. 40—124.1)



A greeting card comprising, a base member having a pair of flat members rotatable about an axis at their contiguous hingedly associated inner edges, said flat base members having inner surfaces facing one another when said flat base members are rotated to fold one on the other, background characterization on said inner surfaces of said flat base members adjacent said inner edges, and an expansible ornament comprising a plurality of overlying thin sheets each joined to adjacent sheets by a plurality of spaced parallel adhesive strips with the adhesive strips joining one sheet to one adjacent sheet alternating with the strips joining said one sheet to the other adjacent sheet so as to form a honeycomb structure with openings therein extending parallel to said adhesive strips when said sheets are urged toward separation, the first and last of said plurality of sheets being respectively adhesively secured to said inner surfaces of said flat base members symmetrically about said hinge axis with an inner edge of said expansible ornament adjacent said hinge axis and said spaced adhesive strips being positioned substantially longitudinally of said hinge axis, said expansible ornament when collapsed between said flat base members having an upper edge and a bottom edge and an outer edge spaced from said hinge axis and a cut-out portion forming a cavity extending outwardly from the inner edge of said ornament and terminating adjacent inwardly of and substantially parallel to the outermost adhesive strips joining the sheets of said ornament whereby rotation of said flat base members toward a coplanar position expands said ornament about said hinge axis and the outer portion of said ornament presents spaced bar members with elongate upright openings therebetween and said background characterization within said cavity being visible through said upright openings.

2,974,435
LAMP SHADE
Edward E. Eschenroeder, Milwaukee, Wis. (3958 McKay Creek Drive, Largo, Fla.)
Filed Mar. 21, 1958, Ser. No. 722,999
5 Claims. (Cl. 40—131)



1. A lamp shade for use in a lamp structure having a base member, and upstanding lamp shade mounting post member supported by said base member and projecting upwardly therefrom and a light source supported at the upper end of said base member, said lamp shade being adapted for interchangeable image display and comprising: a continuous downwardly and outwardly tapered endless unapertured inner translucent wall open at only axial opposite upper and lower ends and having an inner surface disposed in exposed surrounding relationship to said light source, means including rigid rod-like members mounted on said inner wall adapted to fixedly support said inner wall to said post member in spaced apart surrounding relationship to said light source and said post member, a continuous substantially opaque outer wall having a shape and size corresponding substantially to that of said inner wall and telescopically slidable over said inner wall in surrounding snug interfitting relation therewith and supported only by surface abutment with said inner wall, said inner wall being nested within said outer wall thereby providing for unobstructed separation of said outer wall from said inner wall, said outer wall having at least one visually unobstructed window therethrough exposing a portion of the outer surface of said inner wall and having an area that is substantially less than the peripheral area of said outer wall, an image carrier sheet removably mounted on one of the adjacent surfaces of said walls and covering the portion of said inner wall exposed to said window in image display aligned relation to said outer wall window, said image carrier being slightly larger than said window such that the marginal edges of said carrier are disposed and concealed between the adjacent surfaces of said walls.

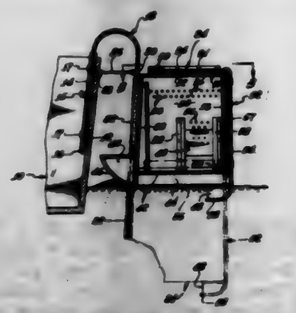
2,974,436
LIVE BAIT HOLDER AND ELASTIC HARNESS
William R. Gourley, Annsin Union, Wanaque, N.Y.
Filed Nov. 29, 1957, Ser. No. 699,726
3 Claims. (Cl. 43—44.4)



1. For use by a fisherman, a live bait harnessing and holding device comprising a bait holder having fish hook means and constructed from wire and also having a pair of longitudinally spaced V-shaped bait cradling saddles, one saddle being located at the front end of the holder and the other saddle at the rear end portion of said holder, each saddle having a pair of substantially rigid upwardly and outwardly diverging arms providing a V-shaped cradle between themselves, the upper ends of the arms being spaced apart to permit a portion of a bait to be seated in the saddle or moved bodily therefrom with expediency, one arm of the front saddle having a terminal eye and the companion arm of said saddle having a terminal hook, said arms being inclined rearwardly toward the fish hook means, the arms of the rear saddle being inclined forwardly and having terminal hooks, and an elastic bait embracing and harnessing band one end of which is fastened to said terminal eye and the other portions of the band being releasably connectible with the respective hooks on the arms of the saddles which are provided with said terminal hooks.

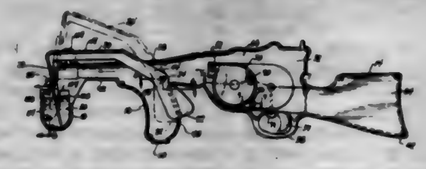
2,974,437
BAIT TANK
Robert H. Studler, 2531 Foothill Blvd., La Crescenta, Calif.
Filed Feb. 10, 1958, Ser. No. 714,537
7 Claims. (Cl. 43—58)

1. A bait tank comprising a container having water level control perforations in the walls thereof, means for releasably attaching said container to the exterior of a boat and including means guiding said container to slide up and down thereon as the elevation of said bait tank changes relative to water surface exteriorly of said tank, hydroplane surface means on said container effective to



elevate said bait tank to reduce the drag on the boat when said boat is propelled forwardly, and means to circulate water into the tank for overflow through said perforations when the tank is hydroplaning and supported in an elevated position with its water level substantially above the surrounding water level.

2,974,438
BUBBLE GUN
Richard Hopkins, Fairview, Pa., assignor to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 27, 1959, Ser. No. 809,040
11 Claims. (Cl. 46—8)



1. A bubble gun comprising a gun body simulating a barrel having a muzzle, a stock, and a forward grip beneath the forward part of the barrel, a container for bubble liquid beneath the muzzle, a lever having a forward part overlying the barrel and a rear part passing downwardly through the barrel and said forward grip, a pivot for said lever, a bubble ring fixed on the forward end of the lever ahead of the muzzle, the rear part of said lever projecting at least partially from the grip when the forward part is down and said rear part being movable into the grip to raise the forward part when the grip is squeezed by one hand, the proportioning of the parts being such that the bubble ring is moved between a down position immersed in the container and an up position in front of the muzzle, a rotatable blower means to blow air through the barrel of the gun, and means so located as to be operable by the other hand to cause operation of said blower.

2,974,439
BOUNDING PLAY HOOP
Thomas L. Fawick, Statler Hotel, Cleveland, Ohio
Filed Dec. 23, 1958, Ser. No. 782,481
12 Claims. (Cl. 46—114)

1. A play hoop assembly comprising a permanently shaped hoop having outside and inside peripheries and adapted for rotation with one of said peripheries engaging a support, and, mounted on said hoop, a sounding device and actuating means therefor, said actuating means comprising a contact member normally projecting beyond said periphery of the hoop and movable in relation thereto



by engagement with said support in the rotation of the hoop.

2,974,440
ACTION CLOWN
Alvetta Clark, 1524 Marion St., North Little Rock, Ark.
Filed July 9, 1958, Ser. No. 747,471
2 Claims. (Cl. 46—118)

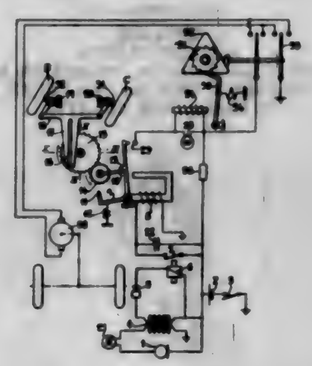


1. An action clown which may be affixed in a stationary manner to some flat stationary support comprising, in combination, a hollow one piece body member, a pair of arms, a pair of substantially rigid legs formed integral at one end of said main body member, a head formed integral at the opposite end of said main body member, said legs having feet shaped flexible suction cups formed integral with the lower extremities thereof constituting surface attaching means, the upper portion of said hollow body member having openings at opposite sides thereof, the upper extremities of each of said arms having extensions with free ends projecting at right angles therefrom, each of said projections rotatably received within one of said openings of said hollow body member, a single coil tension spring secured to and extending between the free ends of said extensions, manually operable link means within the stomach portion of said hollow body member for selectively effecting pivotal movement of said arms by applying pressure manually to the stomach portion of said hollow body member, said link means consisting of a pair of crank arms each integrally connected at one end thereof with the free end of one of said arm extensions, a push rod pivotally connected at the opposite ends of each of said crank arms and retractably supported by blocks located within the stomach portion of said main body member, the lower ends of said push rods being bent outwardly and extending through said blocks terminating with integral buttons thereon, whereby manual pressure applied upon said stomach portion of said main body effects movement of said buttons and said push rods and pivotal movement of said arms associated therewith.

2,974,441
SYSTEM FOR THE REMOTE CONTROL OF TOYS
Helmut Denner, Weiherweg 1063, Buchs, Aargau, Switzerland
Filed Mar. 1, 1957, Ser. No. 643,365
Claims priority, application Germany Apr. 12, 1956
11 Claims. (Cl. 46—244)

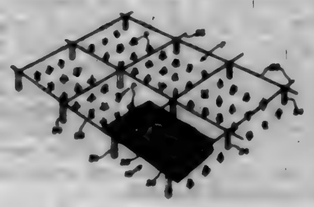
1. A system for the remote control of at least two different movements in toys, including, in combination,

at least two different means for effecting at least two different movements, an impulse receiving means adapted to control an electric current, electric circuit means in which said impulse receiving means is interposed for controlling said circuit means, a first solenoid interposed in said circuit means, a switch lever forming the armature of said first solenoid, a rotating means operatively connected with and adapted to actuate one of said different means, said switch lever including means adapted to engage and to stop said rotating means when said first solenoid is de-energized and to permit rotation of said rotating means when said first solenoid is ener-



gized, said switch lever including means adapted to engage and to stop said rotating means when said first solenoid is energized and to permit rotation of said rotating means when said first solenoid is de-energized, an electric circuit, a switch interposed in said circuit and connected with and actuated by said switch lever, a second solenoid interposed in said electric circuit and controlled by said switch, retarding means interposed in said electric circuit for retarding the energization of said second solenoid relatively to the time needed for energizing said first solenoid, and means associated with said second solenoid and operatively connected with another of said different means for controlling the latter.

2,974,443
SHADE CLOTH
Lee B. Wemeldorf, Dallas, Ga., assignor to Whitfield Spinning Company, Dallas, Ga., a corporation of Georgia
Filed Jan. 13, 1959, Ser. No. 786,484
3 Claims. (Cl. 47—26)



1. A shade cloth comprising an interwoven fabric having lateral and longitudinal reinforced portions, pin receiving areas defined by the intersections of said reinforced portions, the longitudinal reinforced portions closest to the selvage edge being spaced therefrom a smaller distance than the spacing between other longitudinal reinforced portions to provide a longitudinal pinning guide to prevent off-bias pinning of the fabric to a support.

2,974,444
ADJUSTABLE DISPLAY AND FLOWER HOLDER
Ralph G. Beagle, 91 N. Beacon Place, Pasadena, Calif.
Filed Jan. 13, 1958, Ser. No. 708,573
3 Claims. (Cl. 47—41)



1. An adjustable display holder, for a fibrous plant having a relatively heavy trunk and a longitudinal bore extending through the trunk at a lower end thereof, comprising: a base of relatively heavy material having a substantial thickness and an upper surface; an elongated, malleable stem on said base, extending upwardly from said upper surface, and dimensioned to detachably, internally fit in the bore of the trunk, said stem being bendable so as to angularly posture the plant relative to said base, including protrusion means on said stem, spaced intermediate of the outer end thereof and said base and internally engageable with the bore of the plant trunk for yieldably securing said trunk on said stem means.

2,974,444
INDUCED MALE STERILITY IN TOMATOES
Channing B. Lyon, Abington, and Dougal Harold McRae, Hatboro, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Jan. 28, 1959, Ser. No. 789,511
4 Claims. (Cl. 47—58)

1. The process of producing hybrid tomato seed which comprises treating one variety of tomato plant prior to the opening of the flower buds with a compound selected from the group consisting of 2,3-dichloroisobutyric acid and the water-soluble salts thereof, said compound being applied at a rate and at a concentration in a diluent medium below the rate and concentration which causes serious injury to the plant under the conditions existing at the time of application, continuing the growth of the thus treated plants, developing male sterile flowers thereon, causing the flower of said treated plant to be fertilized by pollen from a different variety of tomato plant, continuing the growth of these plants bearing the so-fertilized flowers to maturity, and separately collecting the seed of said mature fruit.

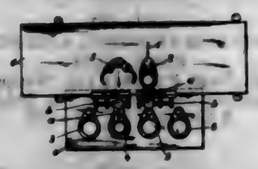
2,974,445
TREE KILLING INSTRUMENT
Kenneth N. Vann, P.O. Box 396, Waycross, Ga.
Filed June 22, 1959, Ser. No. 821,815
6 Claims. (Cl. 47—57.5)

1. A tree killing instrument comprising the combination of a hollow handle, said hollow handle having a filler opening at one end thereof, a closure for said filler opening, means separably securing said closure to said handle, said hollow handle defining a liquid substance retaining chamber, a cylinder at the lower end of said hollow handle, a plunger reciprocatively operable in said cylinder, said plunger having a head, said head constituting means by which to seal the lower end of said chamber, said plunger having a passageway with an inlet port spaced from said head and an outlet port at the lower end thereof, said inlet port being in said cylinder and isolated from said chamber when said plunger is in a rest position, said inlet port being registered with said chamber when said plunger is moved inwardly of said chamber thereby registering said passageway with said chamber, a blade, means at the lower end of said plunger for supporting said blade, said passageway having an outlet port laterally spaced from the front face of said blade so that the liquid flowing



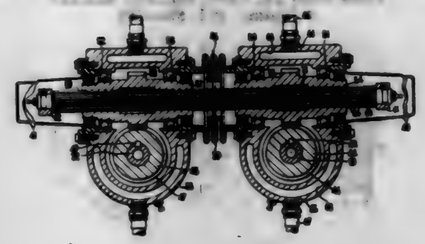
through said passageway is discharged through said outlet port of said passageway above said front face of said blade so that said blade functions as a guide for the liquid substance as it is discharged through said outlet port.

2,974,446
APPARATUS FOR THE PRODUCTION OF HOLLOW GLASS VESSELS
Günter Pöting, Erkrath, near Duesseldorf, Germany, assignor to Ingenieurbüro Walter Pöting K.-G., Duesseldorf, Germany
Filed June 8, 1957, Ser. No. 663,697
Claims priority, application Germany June 7, 1956
2 Claims. (Cl. 49—9)



1. In a system for the production of hollow glass vessels, particularly bottles, including a charging station, gathering molds adapted to receive liquid glass from said charging station for preforming the blanks, a transfer gripper for each gathering mold, and finishing molds adapted to receive preformed blanks by way of said grippers from said gathering molds to be cooled and set therein, the arrangement comprising a pair of gathering molds and a pair of finishing molds for each gathering mold associated in first and second groups, each defined by a gathering mold and two finishing molds, said gathering molds being mounted for movement relative to said charging station, adjacent finishing molds being disposed at equal distances from each other and adjacent gathering molds being spaced from each other by the same equal distances as said finishing molds, means supporting said gathering molds for shifting as a unit relative to said charging station, and means supporting said finishing molds in alignment with said for shifting as a unit relative to said gathering molds in a manner that one of the gathering molds of said first group when filled is disposed adjacent one of the pair of associated molds and adapted to release the blank for transfer thereto.

2,974,447
FRONT ROLL DRIVE FOR WINDOW GLASS DRAWING APPARATUS
Fred C. Tasher, Henryetta, Okla., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Apr. 24, 1958, Ser. No. 734,699
3 Claims. (Cl. 49—17)



1. In an apparatus for drawing sheet glass from a molten bath substantially along a predetermined vertical plane and including an upright supporting structure, a series of pairs of drawing rolls normally arranged successively in substantial alignment, at least one pair of rolls including a normally stationary roll and a movable roll each rotatably supported by a shaft, means for supporting the shaft of said movable roll for arcuate movement to and from said stationary roll, means for connecting said stationary roll and said movable roll for rotation at the same speed regardless of their relative positions and allowing a change in spacing of said pair of rolls while both are being rotated, said last-named means including a gear mounted on one end of each shaft of said rolls, a pair of gears, each one of said pair meshing with one of the gears on the end of said shafts, and a rotatable shaft upon which said pair of gears is axially slidable and to which said pair of gears is drivingly connected for concurrent rotation, said rotatable shaft being of sufficient length to allow sliding of said pair of gears during said change in spacing of said pair of rolls, and means to rotatably drive one roll of each pair.

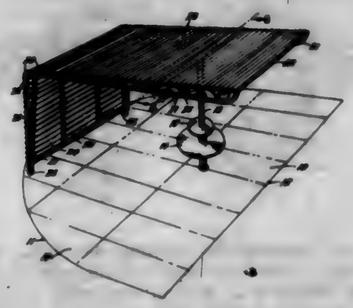
2,974,448
FLASHING CONSTRUCTION
Morley M. Weis, 1412 N. Laurel Ave., Los Angeles, Calif.
Filed Jan. 6, 1953, Ser. No. 707,344
4 Claims. (Cl. 50—49)



1. A reglet and flashing for protection of joints in structures, which comprises a longitudinally extending reglet forming a channel having a base and two side flanges, a removable substantially U-shaped spring member positioned in said channel under compression with the ends of the legs of said member located adjacent the base of said channel, a flashing, one edge of said flashing being positioned between one leg of said member and one side flange of said channel and engaged between said leg and said one side flange of said reglet, and

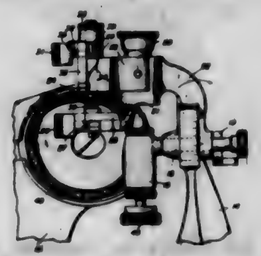
means positioned on said flashing for retaining said one edge of said flashing in said position between said one leg and said one side flange.

2,974,449
REVOLVING PATIO AWNINGS
Gurney B. Looper, Sr., 2722 W. 2nd Ave., Denver, Colo.
Filed Mar. 16, 1959, Ser. No. 799,155
1 Claim. (Cl. 50—69)



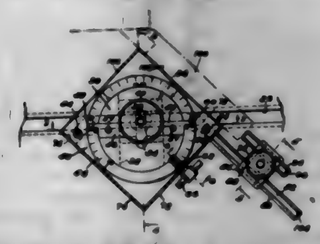
A patio awning comprising: a fixed vertical pivot post having one end thereof embedded in the ground, a horizontal cross-member pivotally supported at its mid-point upon said post and free to rotate in a horizontal plane upon and about the axis of said post, a generally horizontal roof supporting frame mounted on each end of said cross-member at right angles thereto and extending on both sides of said cross-member, a generally vertical supporting member extending downwardly from each of two adjacent ends of said roof supporting frames, a generally rectangular roof portion supported by and extending between said roof supporting frames, a wind-break portion extending between said vertical supporting members and connected to said roof portion, and wheels carried by the lower ends of said vertical supporting members so that they may be moved circumferentially about said post throughout a complete circle.

2,974,450
TWIST DRILL SHARPENING MACHINE AND METHOD
Clarence H. McVey, Lacona, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts
Filed Dec. 20, 1956, Ser. No. 629,644
3 Claims. (Cl. 51—219)



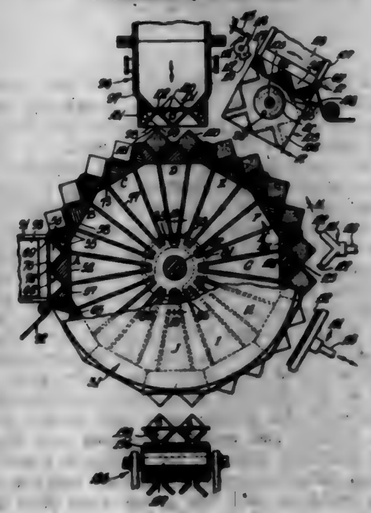
1. A method of operating a twist drill sharpening machine having a grinding wheel, a chuck for holding the drill and a stop to bring the cutting edges of the drill in position for grinding new lips in proper relation to the chisel line, comprising the steps of placing the drill to be ground in the chuck, pushing the drill into the chuck with a gauge by a notch therein preset in depth according to the diameter of the drill, locking the drill in the chuck with a projection determined by the notch, adjusting the stop radially and angularly of the axis of the drill according to a chart according to the diameter of the drill, turning the drill till one of its cutting edges makes point contact with the stop, locking the drill against rotation and thereafter grinding new lips on the drill, whereby the lips will be at preset angular relation to the chisel line on the drill.

2,974,451
GRINDING MACHINE ACCESSORY
William Bader, Robert W. Berry, Jr., and Fred Karl Beyer, Ferndale, Mich., assignors to Wesson Company, Ferndale, Mich., a corporation of Michigan
Filed Mar. 28, 1958, Ser. No. 724,703
3 Claims. (Cl. 51—239)



1. An article for locating work on a moving table of a machine which comprises, a center pivot disc adapted to be locked to a table, a guide block rotatably mounted on said disc supported by said table, means on said disc overlying said block to prevent axial dislodgement of said block from said disc, and serving to cooperate with locating indicia on said block, and means on said block for positioning a tool relative to one side of said block, said means consisting of a projection from one portion of said block having means to engage a portion of a tool not in contact with said block.

2,974,452
METHOD FOR FORMING AND FILLING PACKAGES
Clarence W. Vogt, P.O. Box 232, Westport, Conn.
Filed July 23, 1956, Ser. No. 599,632
5 Claims. (Cl. 53—24)



2. The method of packaging form retaining still moldable material which comprises exerting gas pressure against a charge of such material to fill a trough-like base member so that the material being packaged protrudes outwardly from the mouth of the trough within the boundaries of such mouth and is compacted both in the trough and the extending portion, positioning a trough-like cover member, having a cavity coextensive with the protruding portion of the material to be packaged, over such material so that the peripheries of the mouths of the base and the cover are in engagement and sealing together such peripheries by exerting pressure thereagainst.

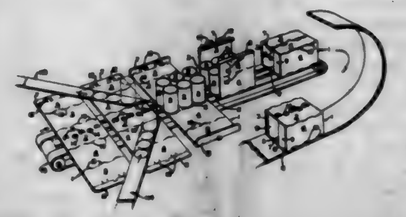
2,974,453
METHOD OF PRESSURE FILLING AEROSOL CONTAINERS
Philip Meshberg, 290 Euclid St., Fairfield, Conn.
Filed Dec. 15, 1958, Ser. No. 780,477
5 Claims. (Cl. 53—39)



1. The method of pressure filling an aerosol container having a metering valve means embodying a two-part stem and a measuring housing having a seal cooperating with a valving portion adjacent the inner end of a first part of said stem to form a normally open inner valve means for controlling passage of the aerosol from the container to the housing and a second seal against which the other end of said first part of the stem is normally urged by urging means to form a normally closed outer valve means for controlling passage of the aerosol from the housing during the dispensing thereof through dispensing passages in said other part of the stem when secured to said first part; the steps of assembling the housing having the two seals and cooperating first part of the stem with the container, applying the nozzle of a pressure filling means to said first part of the stem, depressing said first part of the stem against the urging means to a position wherein the seal at the top thereof is broken and the seal at the bottom is not closed, feeding an aerosol under pressure through said nozzle and past said seals into the container to fill the container, and thereafter assembling the other part of the valve stem with the first part to operate the valve means to dispense measured amounts of aerosol from the container.

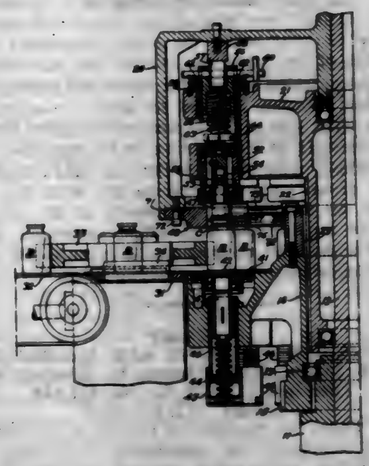
2,974,454
CAN PACKAGING APPARATUS AND METHOD
Noble André, San Francisco, Wolfgang B. Fahrenbach, Oakland, and John J. Tyll, San Francisco, Calif., assignors to Andre-Matic Machinery Company
Filed Mar. 22, 1956, Ser. No. 573,196
8 Claims. (Cl. 53—32)

6. The method of packaging a group of cylindrical cans disposed upright in side by side relation in a pair of parallel rows of equal length comprising the steps of: moving said rows longitudinally thereof in one direction with said cans in upright condition, associating and moving with said rows an elongated strip-like carton blank with the central portion of said blank flat and in engagement with one of the ends of the cans of said rows and extending transversely of said rows, folding the intermediate portions of said blank that adjoin said central portion to overlie the oppositely outwardly facing sides of said rows, folding each of the end portions of said blank to overlie the opposite ends of the cans of one of said rows, at the same time projecting parts of the peripheral ends of said cans through apertures in said blank, separating said opposite ends of the cans of one row from the other, inserting integral flap means of an end section of said blank between said rows while so separated, moving said opposite ends of the cans of said rows into tight engagement with the oppositely outwardly facing surfaces of said flap means, and while holding



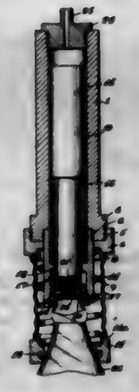
said cans in said engagement and said blank tightly wrapped around said cans with said end portions aligned engaging integral interlocking parts of said end portions by moving said interlocking parts toward said cans, engagement of said interlocking parts thereafter maintaining said blank tightly wrapped around said cans with said peripheral ends so projecting and with said end portions so aligned.

2,974,455
APPLYING CAPS TO BOTTLES
Jacob Rava, Phoenixville, Pa., assignor to The West Company, Phoenixville, Pa., a corporation of Pennsylvania
Filed July 7, 1959, Ser. No. 825,478
10 Claims. (Cl. 53—42)



8. The method of applying cylindrical caps to bottles having an outstanding finish about the upper portion of its neck, comprising the steps of positioning a cap on the bottle with its cylindrical wall surrounding and depending below said finish, rolling said cap and bottle along a sealing rail projecting under said finish to form a flange underlying said finish, and progressively depressing said cap and bottle relative to said sealing rail to diminish the clearance between the upper surface of said sealing rail and the under-surface of said finish to a point where said clearance is equal to the thickness of the flange formed by said sealing rail, whereby said flange clinches said cap under the finish of the bottle.

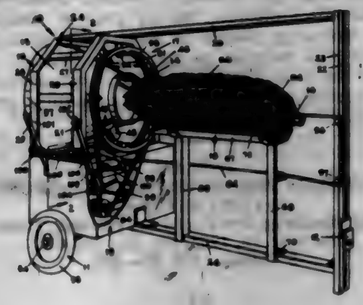
2,974,456
STOPPERING MACHINE
Federico A. Parodi, Montevideo, Uruguay, assignor to Stabil Internacional S.A., Montevideo, Uruguay, a corporation of Uruguay
Filed May 2, 1958, Ser. No. 732,579
11 Claims. (Cl. 53—48)



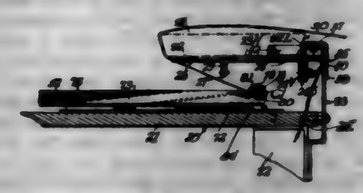
1. A device for stoppering containers with crown caps under vacuum, which comprises a hollow rigid cylinder vertically mounted, closed in its upper portion and which terminates in its lower portion in a die for sealing a crown cap on the mouth of a container, a retractable, yieldable, hollow cylinder, the upper edge thereof being fixed to the rigid cylinder by means of a vacuum tight connection, the lower edge of said second cylinder being normally disposed below the plane determined by the lower face of the crown cap-cylinder die, an elastic rubber gasket provided in the inner lower end portion of the retractable cylinder, adapted to form a vacuum tight chamber when said gasket is pressurized against the outer part of the neck of the container to be stoppered, a slidably mounted bar provided within the rigid cylinder, for exerting pressure upon the crown cap when the crown cap rests on the edge of the mouth of the container, means for limiting the longitudinal movement of said bar and a duct for connecting the inner cavity of the retractable cylinder with a vacuum pump.

2,974,457
MACHINE FOR BUNDLING AND BALING TREES
James B. Saxton, 413 N. Monroe St., Bloomfield, Mich.
Filed June 22, 1959, Ser. No. 822,010
8 Claims. (Cl. 53—124)

3. An improved machine for binding a cut Christmas type tree comprising the combination of a frame structure; a hollow compression member mounted in fixed position on the frame structure and defining a space therewithin of smaller size than the diameter of the tree to be bound; a baling unit including an axially rotatable annular carriage member carried on the frame structure adjacent to one end of the compression member; transfer means for advancing the tree in a trunk end first position along a path extending from the other end toward the mentioned one end of the compression member and through the hollow interiors of the compression and carriage members; a twine dispenser mounted for rotation with the carriage member and carrying a supply of twines; means for rotating the carriage member in overrunning relationship to the mentioned one end of the compression member as the tree is transferred therethrough to thereby helically wrap twine around the tree directly as it emerges from the compression member; and guide means disposed within the compression member adjacent to the path of movement of a tree therethrough and arranged to intercept and glide between the boughs of the tree as it is conducted through the compression and carriage members.



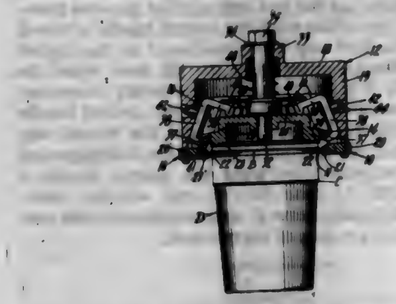
2,974,458
WRAPPING APPARATUS AND METHOD
Louis R. Muskat, Glenview, King L. Klopfenstein, Prospect Heights, and John E. Kleboe, Chicago, Ill., assignors to Triangle Package Machinery Company, Chicago, Ill., a corporation of Illinois
Filed June 29, 1959, Ser. No. 823,570
12 Claims. (Cl. 53—206)



1. Apparatus for wrapping an article in a rectangular wrapping sheet, said apparatus comprising in combination carriage-supporting structure, means for supporting an article to be wrapped in a generally horizontal plane spaced above said carriage-supporting structure, carriage means mounted on said supporting structure in a plane below and for guided rectilinear movement toward and away from said article-supporting means, tray means for holding a stack of rectangular wrapper sheets, coacting means on said tray and carriage for detachably mounting said tray in a predetermined position on said carriage in a plane below the article-supporting means and with the forward corner of the stack of sheets pointing toward a location over which said article-supporting means is positioned, and means on said carriage for engagement with at least the forward corner of the uppermost sheet of the stack for resisting movement of such sheet rearwardly of the stack.

2,974,459
LID CAPPING DEVICE
Alfred William Kinney, Washington, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 9, 1959, Ser. No. 819,837
6 Claims. (Cl. 53—342)

1. A capping device for securing a lid to a paper container having a peripheral bead surrounding its open end by crimping the marginal edge of said lid around said bead, said device comprising housing means having a side wall with a plurality of vertically elongated apertures therein, lid retaining means secured to said housing means, lid curling means mounted within said housing for engaging the peripheral margin of said lid and curling it around said container bead, connecting means joining said curling means and housing means for reciprocating movement relative to one another, jaw means pivotally connected to said housing means to engage said lid margin after its engagement by said lid curling



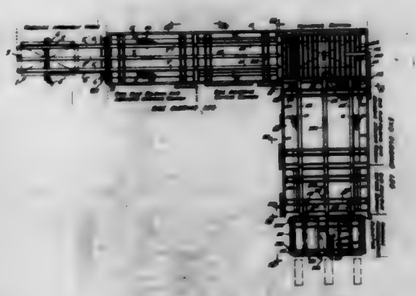
means to crimp said margin under said bead, said jaw means being in engagement with said lid curling means and being actuated by the reciprocating motion of said curling means and housing means relative to one another, and a pin integral with each of said jaw means loosely mounted within each of said apertures whereby said lid curling means, said connecting means and said jaw means reciprocate together relative to said housing to compensate automatically for excessive capping pressure and prevent crushing of said container during a capping operation.

2,974,460
METHOD OF AND APPARATUS FOR SEALING THE LAYERS OF THE SEALING BANDS OF CARTONS
Erhardt Walther and Werner Dannaig, Forchheim, Upper Franconia, Germany, assignors to Regnitz Konstruktionsgesellschaft m.b.H., Forchheim, Upper Franconia, Germany
Filed July 15, 1957, Ser. No. 673,554
Claims priority, application Germany Dec. 8, 1952
2 Claims. (Cl. 53—373)



1. Apparatus for sealing the layers of the sealing bands of containers in which the said sealing bands have portions made up of varying numbers of layers coated with a thin layer of thermoplastic material, comprising a heating station for heating the prefolded sealing band and simultaneously pressing its layers into parallel relation, said heating station comprising at least one pair of parallel rigid heating elements; a pressing and sealing station for repeatedly applying pressure to a narrow zone of the sealing band, to provide a positive seal between the surfaces of any two adjacent sealing band layers, regardless of variations in the number of layers present in the sealing band or differences of sealing band total thickness and angular extension of the folding edges of the edge bands within the sealing band with respect to the sealing band, and thus prevent relative displacement of the layers within the sealed zone; said pressing and sealing station comprising pairs of cooperating rollers arranged at opposite sides of the sealing band, one of said elements being spring biased against the other and the peripheral surface edges of both elements being preferably narrow to effect sealing along said narrow zone; a progressive bending station for bending the sealing band in stages toward an adjacent container wall with said sealing band being bent along a non-sealed zone farther remote from the body of the container than the sealed zone, said progressive bending station comprising pairs of cooperating rollers having conical surfaces and being arranged at opposite sides of the path of the sealing band, the angle of inclination of the conical surfaces of subsequent pairs of rollers being progressively increased, and the peripheral surface of the lower rollers having a cylindrical portion the width of which is at least substantially equal to the width of the actually sealed zone; and a final folding station for folding the sealing band against said adjacent wall preferably along a line farther remote from the container than said sealed zone, said folding station comprising two rollers one of which folds the sealing band against the adjacent wall while the other counteracts the force exerted by said first roller on the container in a direction perpendicular to the path of the container.

2,974,461
CARTON PACKAGING MACHINE FOR SHEETS
Ray C. Demler, Tacoma, Wash., assignor to International Packaging Corporation, Tacoma, Wash., a corporation of Washington
Filed Oct. 7, 1957, Ser. No. 688,645
9 Claims. (Cl. 53—388)

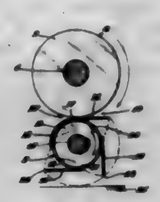


1. In a carton-packaging machine, deenergizable conveying means for conveying a package including spaced parallel carton members having cooperating edge flaps folded into overlapping relationship with thermosetting adhesive therebetween, heated clamping plate means engageable with the outer one of such overlapping flaps while said conveying means are deenergized, for setting the adhesive between such overlapping flaps, and clamping plate moving means connected to said heated clamping plate means and movable after said conveying means are deenergized to move said heated clamping plate means into engagement with such flaps and movable to retract said heated clamping plate means from engagement with such flaps prior to reenergization of said conveying means.

2,974,462
HAY GATHERING AND CONDITIONING ROLLS
Sherman C. Heth, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 31, 1958, Ser. No. 725,401
6 Claims. (Cl. 56—1)

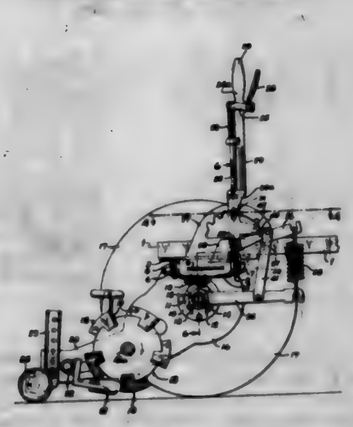
1. In a hay crushing device, an ambulatory structure, a pair of crushing rolls disposed in superposed relation-

ship transverse to the direction of movement, each roll comprising a body engaged with the body of the other roll and developing a forwardly open bite therewith and a rear discharge, one of the rolls comprising a plurality of outwardly extending flexible members tangentially attached along one longitudinal edge of the body of said one roll, said members projecting a substantial distance



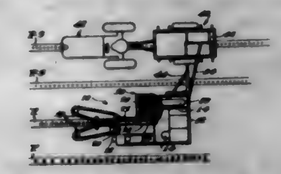
outwardly of the body and deflectable laterally against the other roll when passing between said rolls and providing a hay crushing surface against the other roll and swingable into extended position when exiting from between the rolls for discharging material therefrom, said members extending the length of the rolls, said paddles describing arcs which intersect the periphery of the other roll.

2,974,463
GRASS MOWING UNIT
Evan T. Lewis, 400 N. 8th St., Stroudsburg, Pa.
Filed May 11, 1959, Ser. No. 812,530
4 Claims. (Cl. 56—7)



1. A grass cutting machine comprising a frame for pulling and carrying a reel unit, a reel unit pivotally mounted on the frame and adapted to be raised and lowered from mowing position pressed against the ground to taxiing position away from the ground, and means connected to said frame for raising and lowering said reel unit to a mowing position and a taxiing position, said raising and lowering means comprising, an arm extending forwardly of said reel unit and means supported by said frame connecting the rear end of said arm and said reel unit whereby pivotal movement of said arm causes pivotal movement of said reel unit in the same direction, a depression lever and a lift lever pivotally mounted on lever supporting means supported by said frame with the free ends of said levers extending forwardly for movement relative to each other, a tension spring between and connecting the free end of said depression lever and the free end of said arm, a compression link between and connecting the free end of said lift lever and said arm, a control handle pivotally mounted on said level supporting means to extend upwardly therefrom adjacent the depression lever and lift lever and having a first stop and a second stop making up a pair of two stops spaced from one another on the forward side of the pivot point about which the control handle pivots, the first stop being positioned on the control handle to engage the upper side of the lift lever to move the lift lever and the compression link and the arm to raise the reel unit connected therewith to taxiing position when the control handle is moved forwardly, the second stop being positioned on the control handle to engage the under side of the depression lever to move said depression lever and load the tension spring to move the arm and the reel unit adapted to move therewith to mowing position when the control handle is moved rearwardly, the first stop being positioned on the control handle for disengagement from the lift lever when the control handle is moved rearwardly whereby movement of the lift lever is unencumbered by the control handle during lowering of the reel unit, and the second stop being positioned on the control handle for disengagement from the depression lever when the control handle is moved forwardly to raise the reel unit whereby movement of the depression lever is unencumbered by the control handle during raising of the reel unit.

2,974,464
CANE COMBINE
Samuel A. Thornton, Jeanerette, La., assignor to Samuel A. Thornton, Jr., Alexandria, La.
Filed Dec. 16, 1957, Ser. No. 702,996
7 Claims. (Cl. 56—17)

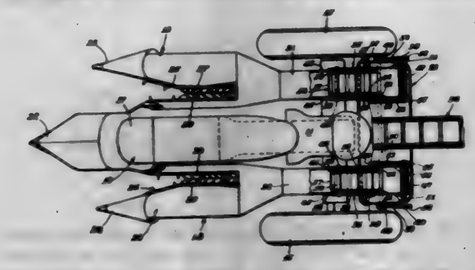


1. A cane combine comprising, in combination, a frame having a rearwardly disposed transverse base portion for straddling a cane row, cane stalk conveying means mounted on said frame and extending longitudinally rearward of said frame substantially centrally thereof from forwardly of the frame to approximately the forward edge of said base, a stalk receiving receptacle mounted on said frame forwardly of and adjacent one end of the base, said receptacle being mounted with one edge portion thereof below and parallel to the rearward end portion of said conveying means and the remainder thereof extending laterally away from said conveying means, and severing means mounted on said frame beneath said receptacle and including a cutting edge located substantially at the intersection of said conveying means and said receptacle.

2,974,465
CORN PICKER
Kenneth T. Snow, Wheaton, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 18, 1958, Ser. No. 781,286
3 Claims. (Cl. 56—18)

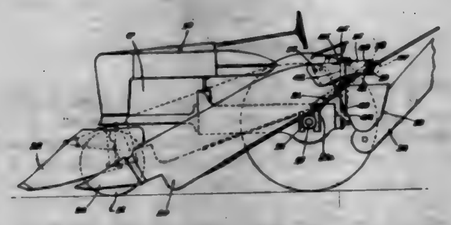
1. In a corn picker of the type having a vertically adjustable corn picking unit, means to snap ears of corn from corn stalks in said corn picking unit, and a stationary ear corn receiving hopper disposed rearwardly of said corn picking unit, comprising a tubular housing, means fixedly mounting said tubular housing on said ear corn receiving hopper, said tubular housing having conveyor

means for moving corn material therethrough, said tubular housing having an opening adjacent the rear thereof directly over the ear corn receiving hopper, and articulated joint means interposed between the forward end of the stationary tubular housing and the vertically adjustable corn picking unit whereby the discharge end of the tubular housing remains in fixed position over said



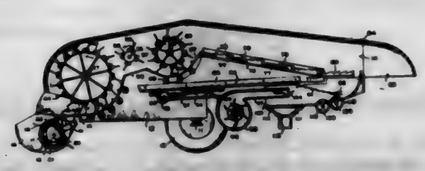
ear corn receiving hopper, the articulated joint means including an arcuate elongated slot in the side of said vertically adjustable corn picking unit and a fixed stub shaft in the forward end of the tubular housing whereby the shaft projects into the arcuate slot and the corn picking unit may be vertically adjusted without separating from the tubular housing within the limits of the stub shaft within the arcuate slot.

2,974,466
CORN PICKER
Benjamin M. Hyman, East Moline, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 18, 1958, Ser. No. 781,287
3 Claims. (Cl. 56—18)



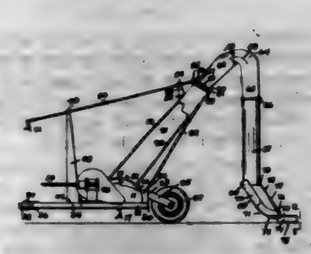
1. In a corn harvester comprising a frame supporting structure, wheels carrying said frame supporting structure, a corn picking unit having an intake end and a discharge end, said corn picking unit hingedly mounted adjacent its discharge end on said frame supporting structure, a corn receiving hopper affixed to said frame supporting structure and disposed rearwardly of the discharge end of said corn picking unit, a generally horizontally disposed tubular housing member hingedly attached at one end to said corn picking unit adjacent the discharge end thereof and arranged to receive crop material from said corn picking unit, said tubular housing member having its other end disposed over said corn receiving hopper for discharging corn therein, said tubular housing member arranged to guide corn from the picking unit to said hopper, and a link pivotally joined at one end to said tubular housing member intermediate its ends and at its other end pivotally joined to said frame supporting structure whereby the position of the discharging end of said tubular housing member over said hopper remains substantially unchanged vertically during adjustable swinging movement of said corn picking unit about its hinge mounting.

2,974,467
PICKUP AND THRESHING UNIT FOR PEANUT COMBINE
William Redden Long, Tarboro, N.C., assignor to Long Manufacturing Company, Tarboro, N.C.
Filed June 12, 1958, Ser. No. 741,665
5 Claims. (Cl. 56—19)



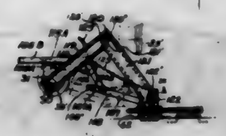
1. In a peanut combine relatively large threshing cylinder means having spring fingers for engaging the peanut vines, a pickup slightly ahead of and below said threshing cylinder means, said pickup being located near the earth and having fingers for engaging the peanut vines and for conveying them into contact with said threshing cylinder means, a breastplate located rearwardly of said pickup and beneath and in operative relation to said threshing cylinder means, said breastplate having openings therein and a series of spring fingers extending through said openings upwardly into the path of movement of the vines and operating in conjunction with the spring fingers on said threshing cylinder means for detaching the peanuts from the vines, the size elevation and relational arrangement of the pickup and the threshing cylinder means permitting the combine to be made of relatively low overall height.

2,974,468
AERATING WINDROW ATTACHMENT FOR HAY CHOPPERS
Vernon J. Lundell, Cherokee, Iowa
Filed May 22, 1957, Ser. No. 660,893
2 Claims. (Cl. 56—24)



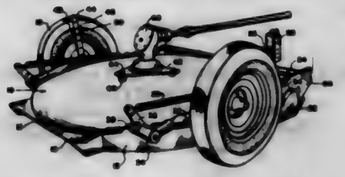
1. A crop handling machine comprising a semi-cylindrical casing having its concavity facing downwardly and disposed transversely of the line of travel, a framework to which said casing is secured, a rotating chopping and gathering structure journalled in said casing and substantially coaxial therewith for chopping and gathering standing crops, and including a plurality of radially positioned hammers, an upwardly and rearwardly inclined chute communicating through the top of said casing, a further chute communicating with said upwardly extending chute, said further chute being positioned substantially vertically whereby a chopped crop delivered by said crop handling machine will pass downwardly to provide windrows, means connected to and for rotating said further chute whereby said windrows can be selectively directed laterally with respect to said chute, a still further chute pivotally secured to said further chute, a core-forming member attached to said still further chute, said core-forming member being hollow to provide means whereby material passing about said core-forming member will provide a hollow air core in said windrows.

2,974,469
MOWER WITH EXTENSIBLE MOUNTING FRAME AND POWER TRANSMITTING MEANS
Alexander Smith, P.O. Box 1460, and Burton D. Boggs, Jr., 2429 Laurel Ave., both of Sanford, Fla.
Filed Jan. 14, 1957, Ser. No. 633,971
11 Claims. (Cl. 56—25.4)



1. A mower comprising a mobile frame, driving means on said frame, a laterally extending cutter bar located adjacent said frame, an adjustable and extensible mounting frame interconnecting said mobile frame and said cutter bar, power transmitting means on said cutter bar, and independent extensible elbow drive means interconnecting said power transmitting means and said driving means.

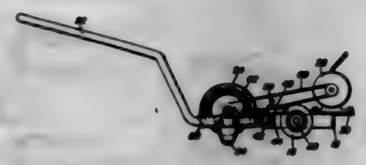
2,974,470
ROTARY CUTTER WITH FLUID TRANSMISSION
Carroll J. Lucia, Green Bay, Wis., and Gayus U. Ray and Ira Maxon, Detroit, Mich., assignors to Dura Corporation, a corporation of Michigan
Filed Sept. 29, 1958, Ser. No. 763,853
7 Claims. (Cl. 56—25.4)



1. In a rotary cutter having a body structure including a deck member, an angle drive power transmission including upper and lower housing members, an output shaft rotatably mounted in the lower housing by a plurality of concentrically disposed, axially spaced bearings, an intermediate shaft rotatably mounted in the upper housing by a plurality of concentrically disposed, axially spaced bearings, a fluid torque transmitting coupling drivingly interconnecting said intermediate shaft and said output shaft, said fluid coupling including a fluid impeller carried by said intermediate shaft and a fluid runner carried by said output shaft, said fluid impeller being provided with fluid directing vanes inclined such that their free edges lead with respect to normal rotation thereof, an input shaft rotatably mounted in the upper housing, and gearing interconnecting said input shaft and said intermediate shaft.

2,974,471
LAWN EDGER
Harry R. Murphy, 705 Doris Circle, Montgomery, Ala.
Filed Jan. 6, 1959, Ser. No. 785,202
5 Claims. (Cl. 56—25.4)

1. A novel construction in lawn edgers comprising a base frame, a pair of ground wheels rotatably supported from said base frame, a handle connected to said base frame for facilitating the manual motivation of said base frame on said ground wheels, a power source carried by said base frame, a cylindrically constructed wire brush, a rotatable drive spindle terminally supporting said wire brush, and means connecting said power source to said drive spindle, an arm, swivel means on said base frame supporting said arm to allow said arm to be locked in angularly adjustable position relative to said base frame, said drive spindle terminally rotatably supported by said arm, said swivel means including a block, a cylindrical projection on said block extending perpendicularly thereto, said base frame defining an aperture, said aperture receiving said projection whereby said projection may turn in said aperture to swivel said block relative to said base frame, means carried by said projection for locking said projection in said aperture to prevent said projection from turning therein, said block including a bore, said bore slidably receiving said arm, said arm supporting a brush frame, said brush frame extending around said cylindrical brush, a pair of cutting blades, said blades adjustably depending from said brush frame with said brush therebetween.



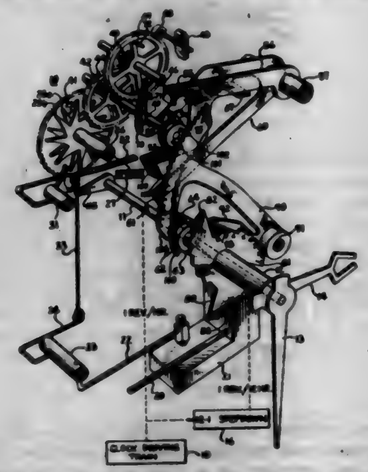
2,974,472
TRACTOR MOUNTED VEGETATION DISINTEGRATOR
Dave F. Gebhart, 334 Chamberlain Ave., Auburn, Calif.
Filed May 1, 1957, Ser. No. 656,741
4 Claims. (Cl. 56—504)



1. In a ground clearing device of the class wherein a prime mover is associated with and imparts ground-traversing movement to a housing having an open front and bottom, with said bottom supported adjacent to the ground and carrying parallel fork members, the combination with said housing of a drum, means for rotatably mounting the drum in said housing and means for imparting rotation to said drum, a series of cutting blades carried on and in axially spaced relation with respect to and circumferentially of said drum and offstanding radially from the periphery thereof, said cutting blades each having a root portion and base portion secured to the drum, and a cutting edge terminating at said root portion and also extending diagonally of said base portion, the axial spacing of said blades being such that upon rotation of said drum the cutting edges of the several blades will traverse intersecting paths.

2,974,473
SHIP'S BELL CLOCK
Richard Kramer, Thomaston, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 24, 1959, Ser. No. 808,608
10 Claims. (Cl. 58—9)

9. In a ship's bell clock the combination comprising a clock driving train, a bell mechanism including a star wheel having paired bell-actuating points so arranged that upon continuous slow speed advancement thereof the bell is rung in pairs of closely spaced impulses, counting means actuated by said clock train on the hour and on the half hour for advancing the star wheel through such an angle as will count off individual impulses in accordance with a ship's bell striking cycle with the first point of the terminal pair of points on the star wheel sounding the terminal stroke at the half hour position of the clock train, means actuated by the clock train during the central portion of the interval between the half hour position and the hour position for advancing the star wheel through a step of idle movement beyond the unused point of the terminal pair thereby to bring the succeeding pair of points into a position of readiness to produce paired striking when the clock train subsequently reaches the hour position, and means for silencing the bell during the central portion of the said interval and during the time that the star wheel is advanced through said step of idle movement.

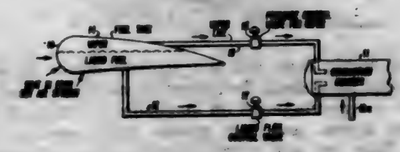


2,974,474
LUMINOUS WATCH
Josef Wegner, Zurich, Switzerland, assignor to Globo Investment Trust, Schaan, Liechtenstein
Filed Mar. 31, 1958, Ser. No. 725,488
Claims priority, application Switzerland Mar. 30, 1957
6 Claims. (Cl. 58—59)



1. In a watch, in combination, a hollow outer unit including a watchcase, crystal and cover; an inner unit including an insulating member, a watch movement and dial, said inner unit being received in and carried by said outer unit when the watch is assembled; and electrical circuit means carried in part by said outer unit and in part by said inner unit and including a lamp for illuminating the dial, a source of electricity, a manually operable switch, and electrical conductors interconnecting said lamp, source and switch and providing between them an electrical circuit which is closed when said switch is closed, so as to energize said lamp upon closing of said switch, said electrical circuit means including a number of exposed electrically conductive portions carried by said inner unit and an equal number of exposed electrically conductive portions carried by said outer unit, all of said electrically conductive exposed portions forming parts of said conductors, and said exposed portions of said inner unit respectively contacting said exposed portions of said outer unit, when said inner unit is assembled within said outer unit, and providing continuity of said circuit between said units exclusively by engagement between said exposed portions of said units, said exposed electrically conductive portions of said inner unit being spaced from and out of electrical conductivity with said exposed electrically conductive portions of said outer unit when said inner unit is disassembled from said outer unit.

2,974,475
METHOD FOR OPERATING A ROCKET MOTOR OR THE LIKE
John J. Kolfenbach, North Plainfield, and John P. Longwell, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 6, 1955, Ser. No. 499,583
10 Claims. (Cl. 60—35.4)



1. A process for operating an engine utilizing a hydrocarbon fuel and wherein surface heating occurs, comprising the steps of passing a hydrocarbon fuel consisting essentially of a principal amount of a hydrocarbon selected from the group consisting of dicyclopentadiene, methyl dicyclopentadiene, dimethyl dicyclopentadiene, a butadiene dimer, and a butadiene-isoprene codimer capable of conversion to a conjugated diolefin by the absorption of heat in heat exchange relation to the surface being heated, depolymerizing said hydrocarbon by the absorption of sufficient heat from said surface to form a conjugated diolefin, and subsequently burning said conjugated diolefin in said engine.

2,974,476
ROCKET WITH GASEOUS EFFLUENT GUIDE
Homer M. Fox, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 5, 1953, Ser. No. 329,537
5 Claims. (Cl. 60—35.6)

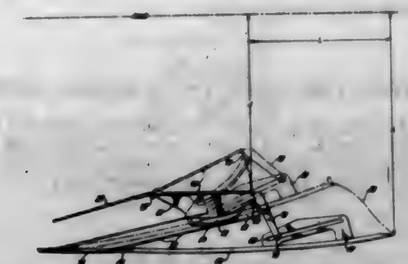


5. A rocket comprising an elongated outer shell, closed at one end and open at the other end; a solid propellant closely encompassed by the walls and closed end of said shell, said propellant being hollowed from its end adjacent the open end of said shell; and a gaseous effluent guide, formed of a slowly combustible material selected from the group consisting of hard carbon and aluminum, positioned in the open end portion of said shell and against the end of said propellant, said guide having a first opening therethrough corresponding to the opening in said propellant.

2,974,477
VARIABLE JET NOZZLE AND SHROUD
William F. Egbert, Brownsburg, and Theodore O. Wiese, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 29, 1953, Ser. No. 334,836
5 Claims. (Cl. 60—35.6)

1. A combination fluid nozzle and shroud construction comprising a plurality of nozzle flaps, support means

having a direct pivot connection with said nozzle flaps adjacent their upstream ends to provide a nozzle outlet of variable area, a plurality of shroud flaps spaced from and about said nozzle flaps, longitudinally shiftable actuator means having a direct pivot connection with said shroud flaps adjacent their upstream ends to provide a shroud outlet of variable area, cam means interconnecting said nozzle flaps and said actuator means to swing said nozzle flaps about their pivot connection to vary the area of said nozzle outlet on longitudinal shifting of said actuator means, and cam means interconnecting said shroud flaps and said nozzle flaps to swing said shroud flaps about their pivot connection to vary the area of said shroud outlet with area variations of said nozzle outlet.



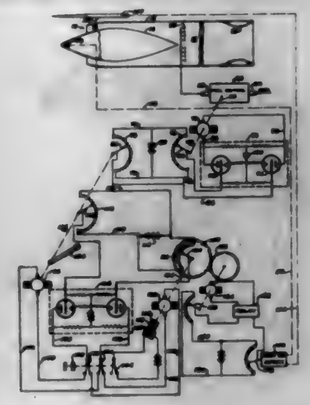
2,974,478
FLUID FLOW ENERGY TRANSFORMER
Donald H. Sweet, 1033 Hinman Ave., Evanston, Ill., and James H. Monti, Birmingham, Ala.; said Monti assignor to said Sweet
Filed Apr. 30, 1954, Ser. No. 426,700
8 Claims. (Cl. 60—35.6)



1. Jet thrust means comprising, in combination: tubular shell walls defining: an open front end; an open axial throat extending back from said front end and having an intermediate waist of minimum diameter; an annular plenum chamber encircling said waist; said plenum chamber having an annular front inlet and a rearwardly directed annular outlet from said plenum chamber into said waist; and means for burning fuel in said plenum chamber, whereby said outlet delivers an annular flame into said waist encircling the stream coming through said waist.

2,974,479
MANUAL OR AIR SPEED FUEL CONTROL FOR A JET ENGINE
Howard D. Hoffman, Fair Lawn, and Harry L. Richardson, River Edge, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed July 1, 1954, Ser. No. 440,778
9 Claims. (Cl. 60—35.6)

1. A control system for an aircraft jet engine having means operable to regulate its thrust output; said system comprising a first member movable for effecting operation of an aircraft jet engine thrust regulating means; first motor means operable for moving said first member; a second movable member; second motor means operable for moving said second member; a third member automatically movable upon changes in flight speed; means operative in response to deviation of said first, second and third members from a predetermined relationship; and means selectively operable for operatively connecting said responsive means to either of said first and second motor means such that upon deviation of said members



from said relation and when connected to said second motor means said responsive means is operative to move said second member in a direction for restoring said relation and when connected to said first motor means said responsive means is operative to move said first member in a direction for restoring said relation and for automatically regulating the engine thrust.

2,974,496
BALANCED EXHAUST NOZZLE
Alexander Kurti, Wethersfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 4, 1957, Ser. No. 700,723
4 Claims. (Cl. 60—35.6)



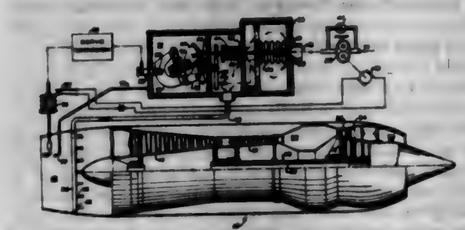
1. A variable area exhaust nozzle defining an exhaust outlet which is substantially circular about an axis and comprising a plurality of flaps equally spaced circumferentially about said axis and pivotally hinged to a flap actuator which is translatable along said axis to cause simultaneous translation of said flaps along said axis, a plurality of stationary rollers positioned circumferentially about said axis, said flaps having cam surfaces contacting said rollers so that said flaps are caused to pivot inwardly and outwardly with respect to said axis to vary the area of said exhaust outlet due to the combined action of the translation of said flap actuator and the cam-roller coaction, said cam being so contoured that the flap aerodynamic gas loads vector and the cam and roller reaction vectors intersect at a common point and form a closed force vector triangle with a flap hinge vector which is radial solely.

2,974,481
JET PIPE EJECTOR NOZZLES
Thomas William Smith, Ashton, Preston, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Apr. 24, 1958, Ser. No. 730,562
Claims priority, application Great Britain May 21, 1957
3 Claims. (Cl. 60—35.6)



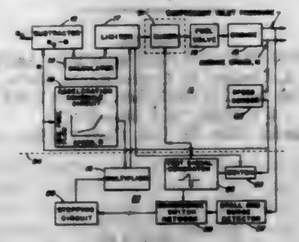
1. A jet pipe ejector nozzle arrangement comprising in combination: an inner jet pipe, a convergent primary jet nozzle attached to the rear end of said inner jet pipe, an aircraft skin portion surrounding and spaced from said inner jet pipe forming an annular duct, means for blowing secondary air through said annular duct, a retractable shroud tube slidably mounted co-axially within and closely adjacent to said skin portion, and forward and aft pedal segments hinged to one another and to said shroud tube respectively, said shroud tube and petals having a retracted position for low pressure ratio conditions of said nozzle arrangement wherein said shroud tube is retracted within said skin portion and issues upstream of said primary jet nozzle and said petal segments hug said shroud tube from inside, and an expanded position for high pressure ratio conditions wherein said shroud tube projects with its trailing edge beyond the trailing edge of said convergent primary jet nozzle and said petal segments are erected inwardly of said shroud tube so as to form a convergent-divergent ejector nozzle, the convergent portion of said ejector nozzle surrounding said convergent primary jet nozzle, and the divergent portion of said ejector nozzle flaring out behind said primary jet nozzle.

2,974,482
COOLANT INJECTION SYSTEM FOR ENGINES
George S. Kelley, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Apr. 25, 1955, Ser. No. 503,471
3 Claims. (Cl. 60—39.3)



1. In a gas turbine engine having an air compressor and an air inlet passageway for supplying air to said compressor; in combination therewith means responsive to the temperature of the air within said inlet passageway upstream of said compressor; means controlled by said responsive means and operable for initiating the introduction of a liquid coolant into said passageway upstream of said compressor only when the air temperature within said inlet exceeds a predetermined value; and means for measuring the rate of mass air flow through said inlet and including means responsive to said air flow measurement for controlling the rate of said coolant introduction so that at air inlet temperatures above said predetermined value an increase in said air flow rate by itself results in an increase in the rate of said coolant introduction.

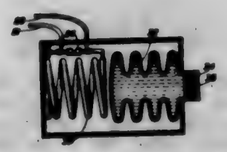
2,974,483
ACCELERATION CONTROL FOR GAS TURBINE ENGINES WITH COMPRESSOR SURGE LIMITING
John C. Sanders, 2580 Derbyshire Road, Cleveland Heights, Ohio
Filed Sept. 28, 1956, Ser. No. 612,900
1 Claim. (Cl. 60—39.28)
(Granted under Title 35, U.S. Code (1952), sec. 266)



An acceleration control system for obtaining maximum acceleration from a gas turbine engine upon demand, said system comprising: a speed sensor connected to produce a speed signal that is the function of the speed of said engine; a fuel valve for controlling the flow of fuel to said engine; command signal means responsive to said speed signal and a command speed signal for producing a fuel valve control signal for controlling said fuel valve to change the fuel flow to said engine to cause the engine speed to correspond to said command signal; an acceleration schedule circuit responsive to said speed signal for producing a fuel flow signal at each speed of said engine; signal modifying means having a first input terminal and a second input terminal for producing an output signal that is a function of the signal fed to said second input terminal as modified by a signal on said first input terminal; a lead for connecting the output of said acceleration schedule circuit to said second input terminal of said signal modifying means; a limiter that is fed by the outputs of said command signal means and said signal modifying means for providing a limited output of said command signal means by the output of said signal modifying means; a mixer having a first input terminal and a second input terminal for producing a mixed output signal of the signals fed to said first input terminal and said second input terminal; means for connecting the limited output of said command signal to said first input terminal of said mixer; a lead for connecting said mixer output to said fuel valve; a switch responsive to the output signal from said limiter for producing an output trigger pulse when said limiter is limiting the signal from said command signal means; a test signal generator having a first output terminal and a second output terminal and responsive to said trigger pulse from said switch for producing a four-valued step function on said first output terminal comprising four consecutive steps having, respectively, a first positive value, a second positive value greater than said first positive value, a third negative value, and a zero value, and for producing a two-valued signal on said second output terminal having one value during said second positive value of said four-valued function and having another value at all other times; a lead for connecting said first output terminal of said test signal generator to said second input terminal of said mixer; a stall and surge detector connected to said engine for producing an output signal only when said engine is in a stall or surge condition; and means fed by said two-valued signal from said test signal generator and the output of said stall and surge detector for feeding a signal to said first input terminal of said signal modifying means for causing the signal fed to said limiter from said signal modifying means to raise the limited

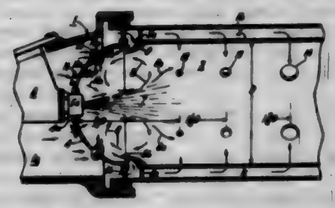
fuel flow value when there is no signal from said stall and surge detector for either value of said two-valued signal from said test signal generator, for lowering the fuel flow limited signal when there is a signal from said stall and surge detector for said another value of said two-valued signal from said test signal generator, and for producing no change in the limited fuel flow signal for all other combinations of signals from said test signal generator and said stall and surge detector.

2,974,484
IGNITION SYSTEM FOR ROCKET MOTORS
Robert A. Cooley, 17 Green Acres, Rolla, Mo.
Filed Jan. 23, 1952, Ser. No. 267,901
6 Claims. (Cl. 60—39.47)
(Granted under Title 35, U.S. Code (1952), sec. 266)



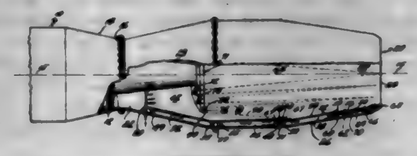
2. In an igniter, an outer shell, a collapsible container mounted within said shell and having an opening to the outside of said shell, a releasable plug effective to seal said opening in said container at pressures below a predetermined level, a reactive fluid confined in said container, a normally compressed spring mounted within said outer shell and effective when released from compression to collapse said container whereby said plug is forced from the opening in said container and said fluid is ejected outside of said outer shell, a fusible link effective to maintain said spring in compression, and connecting means effective to connect a source of electrical current across said link.

2,974,485
COMBUSTOR FOR FLUID FUELS
Richard B. Schiefer, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 2, 1958, Ser. No. 739,411
4 Claims. (Cl. 60—39.65)



1. In a fluid fuel combustor having a generally cylindrical liner forming the side walls of an elongated combustion space with an open discharge end, an end closure member defining the fuel inlet end of the combustion space, and walls surrounding and spaced from the liner to form passages for supplying combustion air uniformly under pressure to the combustion space, the combination of fuel injection means disposed to spray fuel particles into the primary mixing and ignition zone adjacent the end closure with a high velocity spray pattern in the form of a cone having a vertex angle not exceeding about 60° and with its axis generally coincident with the axis of the liner, primary nozzle means comprising directed jet-forming air metering means disposed on the wall of said end closure forming varying angles of incidence with the liner axis and disposed to receive air from said supply passages and to project strong primary jets of air into said mixing zone in a direction generally tangent to a double-opposed-toroidal flow path created by said primary jets and substantially filling the primary mixing zone adjacent the end closure member, said toroidal flow being also generally tangent to and in the same general direction as said conical fuel spray pattern whereby the velocity energy of the fuel spray augments the toreforming action of said primary nozzle means, and secondary nozzle means in the liner wall for injecting additional secondary air to support the combustion process in a secondary zone downstream from the primary mixing zone, said secondary nozzle means being disposed at a transverse plane located a distance at least equal to ¾ of the liner diameter D downstream from the fuel nozzle means, said secondary nozzle means producing jets of a size and direction to insure good mixing of secondary air with the burning fuel in said secondary zone but substantially without tending to quench the flame in the primary mixing and ignition zone and substantially without impinging upon said double-opposed-toroidal flow in the primary mixing zone.

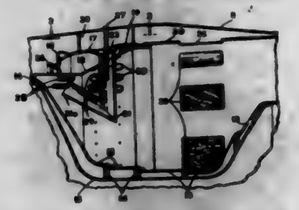
2,974,486
AFTERBURNER MIXTURE AND FLAME CONTROL BAFFLE
Alfred E. Edwards, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 27, 1958, Ser. No. 724,477
6 Claims. (Cl. 60—39.66)



1. A jet engine having an axis and an outer case of circular cross section through which heated and compressed gases are passed and further having an inner body of circular cross section but of less diameter than said outer case and being concentric about said axis and projecting rearwardly from said engine beyond said outer case, an afterburner having an outer duct of circular cross section attached to said engine outer case to receive engine exhaust gases therefrom and to coact with said inner body to define a total gas flow passage which is annular for the length of said inner body and of circular cross section downstream thereof, a baffle of circular cross section positioned between said inner body and said outer duct and being of selected diameter to define a mixing region of given size with said inner body and to further define a cooling gas passage within said total gas flow passage and of given size with said outer duct so that both said mixing region and said cooling gas passage receive a selected quantity of fuel free gas from said engine during normal engine operation, said baffle extending a predetermined distance downstream within said outer duct and terminating in an after end which defines with said outer duct an admission area for cooling gas from said cooling gas passage to the remainder of said total gas flow passage downstream of said baffle, means to inject atomized fuel into said mixing region in predetermined quantities to form an unburned, subetantially stoichiometric fuel-air mixture flowing through said mixing region with said given quantity of gas received by said mixing region from said engine so that said baffle forms an interface between an unburned stoichiometric fuel-air mixture zone and said fuel free cooling gas, at least one flameholder ring located downstream of said fuel injection means and positioned to intercept said unburned stoichiometric fuel-air mixture

flow and establish a relatively stagnant flow region capable of supporting combustion and further positioned a predetermined distance from said baffle after end so that when combustion occurs downstream of said flameholder said flameholder establishes a combustion wave which defines a second interface between the heated and burned gases downstream thereof resulting from combustion of said fuel-air mixture and the said unburned stoichiometric fuel-air mixture upstream thereof, means to position said flameholder ring a predetermined distance upstream of said baffle after end so that said second interface intercepts said first interface immediately adjacent said baffle after end so that said cooling gas from said cooling gas passage mixes solely with said heated and burned gases resulting from combustion of said fuel-air mixture and not with a fuel-air mixture.

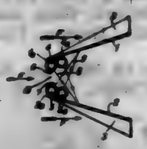
2,974,487
COMBUSTION SYSTEM FOR A GAS TURBINE ENGINE
Morris A. Stokes and Ernest C. Parnell, Coventry, England, assignors, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Sept. 30, 1958, Ser. No. 764,426
Claims priority, application Great Britain Oct. 19, 1957
5 Claims. (Cl. 60—39.71)



1. A combustion system, for a gas turbine engine, including a casing, a flame chamber within and spaced from said casing forming an annulus between them, said flame chamber having a closed upstream end, a manifold in said annulus said manifold having a closed downstream end, said manifold having its inner wall provided by an upstream wall portion of said flame chamber, said casing adapted to receive the output air from a compressor of the engine, said manifold having an open upstream end to receive a portion of said compressor output air, means for supplying fuel to said open upstream end of said manifold to mix with the compressor output air therein, the mixture of said supplies of air and fuel to said manifold being for main combustion purposes, and means for delivering a pilot supply of air and fuel in the upstream direction to said closed upstream end of said flame chamber for providing recirculating pilot combustion within the latter, said inner wall of said manifold having ports in a position upstream of the pilot air and fuel delivery means, said closed downstream end of said manifold causing main combustion air and fuel mixture after entering said manifold to be diverted laterally through said ports into said flame chamber for admixture with combustion gases in the zone of said pilot combustion.

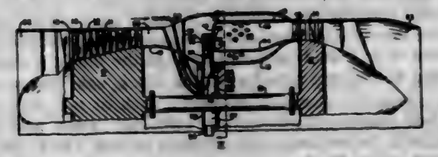
2,974,488
COMBUSTION DEVICES FOR CONTINUOUS-FLOW INTERNAL COMBUSTION MACHINES
Gerhard Eggers and Günther Ernst, Daimmarie-les-Lys, Roger Fernad, Epinay-sur-Orge, and Raoul Henri Dumez, Montrouge, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Nov. 22, 1957, Ser. No. 698,078
Claims priority, application France Nov. 27, 1956
9 Claims. (Cl. 60—39.72)

1. In a combustion chamber designed to operate with a high-velocity air stream, a combined burner and flameholder device comprising a generally V-shaped section body having a relatively narrow upstream end and diverging walls bounding a diffuser-like inner space within said combustion chamber, passage means at said end for the admission of a fraction of said stream in said space, an obstacle projecting from said walls into said space in the vicinity of said end whereby a turbulent zone is formed along said walls downstream of said obstacle, and liquid



fuel injecting means positioned in the vicinity of said end and pointing in a direction which is substantially inclined with respect to the main flow direction of air through said space and which intersects said walls downstream of said obstacle, whereby liquid fuel jets issuing from said fuel injecting means impinge on said walls in said turbulent zone so that the fuel jets wet said walls downstream of said obstacle.

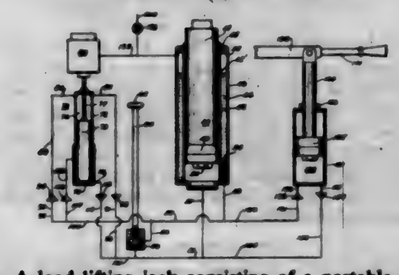
2,974,489
INTERNAL COMBUSTION ENGINE APPARATUS
Paul C. Holden, Minden, Kans., and William A. English, Lees Summit, Mo., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed July 3, 1957, Ser. No. 670,844
1 Claim. (Cl. 60—39.74)



In an internal combustion engine, wall structure defining an annular fuel combustion chamber and having spaced portions defining an annular opening for permitting injection of liquid into said combustion chamber, a liquid injection rotor structure for injecting liquid solely by centrifugal force in atomized form into said combustion chamber through said annular opening, a conduit for delivering liquid to said rotor structure, said rotor structure being rotatable relative to said conduit and said fuel combustion chamber, said rotor structure having a drum defining an open-ended liquid collecting chamber concentrically disposed relative to the rotational axis of said rotor structure, said conduit having an outlet opening disposed in said collecting chamber, a tubular arm having an elongated passageway communicating with said liquid collecting chamber and extending outwardly therefrom in radial direction, said tubular arm having a liquid injection orifice communicating at a right angle with the radially outer portion of said passageway and disposed in rotary alignment with said annular opening in the combustion chamber, a freely movable piston valve member cooperatively associated with said orifice for modifying the effective area of said orifice, a tubular wall member carried by said arm and defining a radially extending bore for slidably supporting said piston member, said piston member dividing said bore into first and second chambers, said first chamber communicating with said passageway and said second chamber communicating with the atmosphere externally of said rotor structure, and said piston member being subject solely to the opposing forces of centrifugal force induced therein in one direction and the centrifugal force induced in the column of liquid in

said passageway in the opposite direction to modify the area of said orifice, said piston having a mass of lower value than a mass of liquid equal to the volume of said passageway, and being effective to maintain the height of the column of liquid to a value less than the length of said passageway.

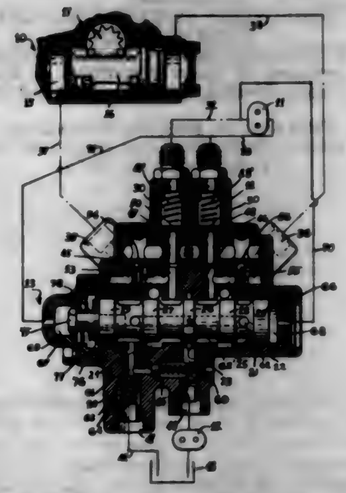
2,974,490
BUMPER JACK AND FLUID SYSTEM
Ion V. E. Hott, Dayton, Ohio, assignor to The Joyce-Cridland Company, Dayton, Ohio, a corporation of Ohio
Filed Jan. 18, 1955, Ser. No. 482,596
2 Claims. (Cl. 60—52)



1. A load lifting jack consisting of a portable base; a block attached to the base and having a plurality of valve controlled fluid intake and discharge passages therein; a cylinder attached to the block and communicating with one of the fluid discharge passages therein, said cylinder containing a piston having a rod extending from the cylinder and adapted to engage and lift the load; a tubular member surrounding the cylinder and secured to the block, said tubular member forming an annular space about the cylinder providing a fluid reservoir in communication with a fluid intake passage in the block; a double acting fluid pump attached to the block, said pump having oppositely disposed chambers, each of the chambers of said pump communicating with said intake and said discharge valve controlled passages of said block; an air motor adapted to be connected to a source of air pressure for rendering said motor active, said motor being operatively connected with the fluid pump for actuating it; means connecting the air pressure line to the motor with the reservoir above the level of the fluid therein, said air pressure in the reservoir being operative to force fluid from the reservoir into the said cylinder for moving the piston rod into engagement with the load and into the displacement chamber of the pump for supercharging said chamber, and a manually operative fluid pump having a fluid displacement chamber with communicating valved fluid discharge and fluid intake passages, each of which communictes respectively with the cylinder and the reservoir and with corresponding valved passages leading to the respective displacement chambers of the power actuated pump, the fluid pressure upon the reservoir, the motor driven pump and the manually driven pump being adapted to operate simultaneously to raise the lift.

2,974,491
SERVO SYSTEM
Ernest W. Carmody and Le Roy A. Dettlof, Lafayette, Ind., assignors to Ross Gear and Tool Company, Inc., Lafayette, Ind., a corporation of Indiana
Filed Apr. 4, 1960, Ser. No. 19,693
8 Claims. (Cl. 60—52)

1. In a hydraulic servo system having a reversible hydraulic motor, a power driven pump, a reversible control pump, and a control valve for controlling the flow of liquid between said pumps and said motor, said valve having a housing provided with first and second motor ports connected to the motor, first and second control ports connected to said control pump, a pressure port receiving liquid discharged from said power-driven pump, and a return port, said valve also having a valve member movable in opposite directions from a neutral position to control the interconnection of said ports, said valve member when in neutral position serving to interconnect said first and second control ports respectively with said first and second motor ports and to block communication of the motor ports and control ports with said pressure and return ports whereby to permit the control pump to operate the motor, means responsive to the pressure differential resulting from operation of said control pump for urging said movable valve member from neutral position, resilient centering means opposing displacement of said valve member from neutral position, said centering means being preloaded to maintain the valve member in neutral position until said pressure differential reaches or exceeds a predetermined value, said

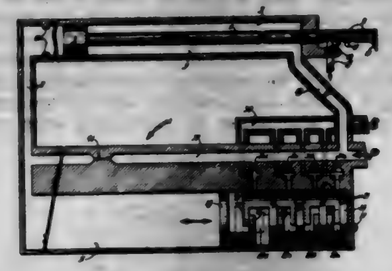


valve member when in displaced position interconnecting said ports to provide between said pressure and relief ports a fluid circuit including the control pump and the motor whereby liquid displaced in operation of the motor will pass through the control pump, said valve including passage-defining means including a restricted orifice for conveying liquid to and from each of said motor ports, said body having first and second bypass passages for conveying pressure liquid entering said pressure port to said first and second motor ports respectively, each of said bypass passages including a restricted orifice and a check valve opening toward the associated motor port, and normally closed valve means for controlling flow of pressure liquid through each of said bypasses, each of said valve means being responsive to the pressure drop across the orifice in the associated passage-defining means to open its associated bypass when liquid flows through such orifice to the associated control port.

2,974,492
POSITIONING DEVICE
Paul A. Gilovich, Santa Clara County, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 14, 1958, Ser. No. 748,213
11 Claims. (Cl. 60—54.5)

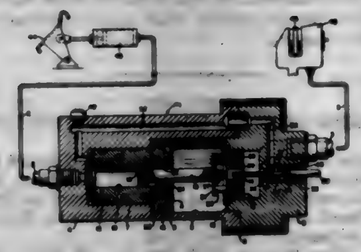
1. In an expansible chamber containing a noncompressible fluid, a pair of movable members defining variable limits of said chamber, means for moving one said member for transmitting said motion through said fluid to move the other said member proportionately, means for locking said members after each successive

movement, and means including a fluid pressure source and an orifice into said chamber for maintaining the



volume of said fluid constant in said chamber whereby leakage of said fluid past said members is compensated.

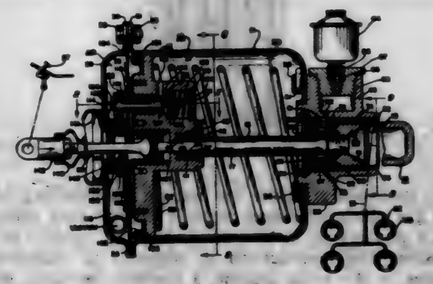
2,974,493
DISPLACEMENT SAVER
Jesse G. Hawley, Penn Yan, N.Y., assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Aug. 13, 1959, Ser. No. 833,527
4 Claims. (Cl. 60—54.5)



1. In a hydraulic brake system a displacement saver including a first small diameter hydraulic cylinder having a piston, a second hydraulic cylinder having a piston about twice the area of the first piston, mechanical means interconnecting the first and second pistons, fluid supply means connected to the first hydraulic cylinder to move approximately twice as much fluid under half as much pressure out of the second cylinder, conduit means connected to the output of the second cylinder and adapted to connect to a brake, valve means associated with the output of the fluid from the second cylinder and normally open, piston means controlled by the pressure in the first cylinder for closing the valve means in the second cylinder output, a pressure bypass about said first and second pistons and said normally open valve means from the back side of the first piston to the conduit means, a spring-pressure-seated valve normally closing the bypass, and means for opening the spring-pressure-seated valve upon the closing of the normally open valve means to directly connect the fluid supply means through the bypass to the conduit means adapted to be connected to the brake.

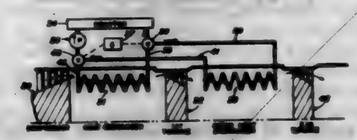
2,974,494
BRAKE POWER BOOSTER
Richard C. Rike, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application July 9, 1953, Ser. No. 366,891, now Patent No. 2,837,848, dated May 24, 1959. Divided and this application Sept. 8, 1958, Ser. No. 759,476
6 Claims. (Cl. 60—54.6)

1. In an automotive brake operating mechanism, a pressure differential operated motor including a cylinder and a power piston therein, a master cylinder, piston means extending from said power piston into said master cylinder for effecting compression of liquid in said master cylinder, a seal means between said piston means and said master cylinder comprising, a housing member in said cylinder and removable from said cylinder, said housing having a transverse wall with a concentric opening for receiving said piston means, a first resilient seal between said piston means and said housing member seated on said transverse wall, a removable rigid wall positioned transversely



of said housing and through which said piston means extends forwardly into said master cylinder, a spacing sleeve between said first seal and said removable wall and engaging each, a second resilient seal between said piston means and said housing and engaging said removable wall, and a rigid bearing member positioned forwardly of said second seal relative to the interior of the cylinder and engaging the second seal and engaging said piston means to retain said second seal in position in said housing against said wall and provide a bearing means for said piston means.

2,974,495
HEAT EXCHANGER ARRANGEMENT FOR MAXIMUM UTILIZATION OF REACTOR POWER FOR ALL ALTITUDE CONDITIONS
Robert W. Pleass, Rockville, Md., and Carmine A. De Crescente, Levittown, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 8, 1958, Ser. No. 754,115
5 Claims. (Cl. 60—39)
(Granted under Title 35, U.S. Code (1952), sec. 266)



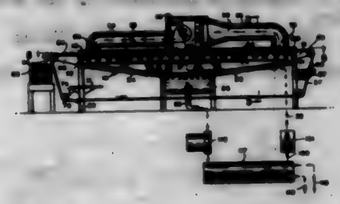
1. In a reactor-engine combination for aircraft nuclear propulsion; a reactor, a turbine, first circuit means connected to said reactor and located in the path of motive fluid directed toward said turbine for the purpose of heating said motive fluid prior to passing into said turbine, said first circuit means circulating molten metal carried from and returned to said reactor, said circuit means connected to said first circuit means and located in the path of the motive fluid efflux from said turbine for the purpose of heating said motive fluid efflux, said first and second circuit means being connected in parallel and means common to both circuit means for initiating and varying the flow of said molten metal to said second circuit means by by-passing said first circuit means whereby said reactor may develop full rated power at all altitudes without exceeding the temperature limitation of the system.

2,974,496
LOW-TEMPERATURE FLUID CONTAINER
Alexis Pastuhov, Harvard, and George Y. Robinson, Jr., West Acton, Mass., assignors, by mesne assignments, to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas
Filed Feb. 10, 1958, Ser. No. 714,130
5 Claims. (Cl. 62—45)



1. In a tank structure for housing a low-boiling liquefied gas which sometimes partially fills the tank comprising a housing of metal walls which are subject to expansions and contractions in response to temperature change in the walls thereof, a thermal insulating material of low heat conductivity about the outer walls of the tank to minimize heat leaks, a low-boiling liquefied gas housed within the tank subdividing the housing into an upper vapor column and a lower liquid column, and a plurality of elongate elements of good heat conductivity extending vertically in closely spaced apart relation through the vapor column formed above the liquefied gas in the tank with the lower end portion extending into the liquid column to achieve substantial equalization of temperature through the vapor column and between the liquid column and the vapor column.

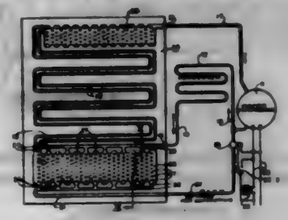
2,974,497
APPARATUS AND METHOD OF RAPID FREEZING
Walter H. Carpenter and Billy D. Hiles, Tampa, Fla., assignors to Process Equipment Company, Incorporated, Tampa, Fla., a firm
Filed July 16, 1956, Ser. No. 598,186
13 Claims. (Cl. 62—63)



8. A method of freezing comestibles for the purpose of preserving such comestibles comprising placing the comestibles on one surface of a traveling flexible solid metal belt, cooling the other surface of said metal belt with a liquid at a temperature of 40° F. below zero, simultaneously applying a high velocity current of air at substantially the same temperature as said liquid and directing such stream of air in a direction opposite to the movement of the comestibles.

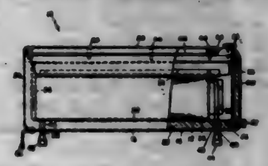
2,974,498
REFRIGERATION APPARATUS
Herbert A. Ehrenfreund, Longmeadow, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 4, 1957, Ser. No. 682,826
4 Claims. (Cl. 62—156)

1. The combination with a refrigerating circuit comprising a compressor, a condenser, a flow impeding device and an evaporator having an inlet and an outlet, of an accumulator in said circuit at the inlet of said evaporator, said accumulator being adapted to collect a part of the liquid refrigerant conveyed to said evaporator, and means for bypassing the flow impeding device of said circuit and for conveying warm refrigerant gas to said evaporator to effect defrosting of the evaporator, said bypassing means including a conduit communicating with the lowermost portion of said accumulator for discharging warm refri-



gerant gas into the said portion of the accumulator, said accumulator being characterized by having its horizontal cross-sectional area divided into a plurality of upwardly extending, restricted flow passages which promote the entrainment of liquid refrigerant in the warm gas discharged into the accumulator, whereby the liquid refrigerant collected in said accumulator is carried from the accumulator and into the evaporator when said bypassing means is rendered effective.

2,974,499
REFRIGERATOR OR COOLING DEVICES FOR FLUIDS
Angelo S. Sfiastra, Massapequa Park, Edward J. Dziedzula, North Massapequa, and Ralph R. Pecoraro, West Islip, N.Y., assignors to Ref Manufacturing Corporation, Mineola, N.Y., a corporation of New York
Filed May 21, 1958, Ser. No. 736,869
3 Claims. (Cl. 62—386)



2. A fluid cooling device comprising inner and outer nested shell members, means between said shells to insulate the same, a fluid tank in said inner shell, a refrigerant-receiving tray in said inner shell extending across the top of said tank, a fluid inlet connected with the lowermost portion of said tank, a fluid outlet connected with said tank to exhaust fluid from the topmost portion thereof, openings defined in said shells through which said fluid inlet and outlet respectively may extend, said openings being greater in size than the respective fluid inlet and outlet extending therethrough whereby the cooling gases produced by a refrigerant received in said tray may escape to cool the fluid inlet and outlet, and a door hingedly movable to permit access to said tray.

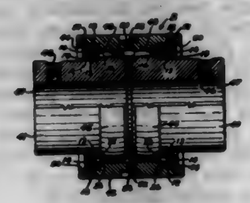
2,974,500
AIR CONDITIONING APPARATUS
Carl E. Sholtes, Springfield, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1958, Ser. No. 770,161
4 Claims. (Cl. 62—428)

1. In a dehumidifier, an outer casing having an air inlet and an air outlet, said air inlet being located in a wall of the casing other than the bottom wall and being open and unrestricted for the free passage of air therethrough, said inlet comprising at least one opening that is sufficiently large to permit the hand of an adult person to pass therethrough, a propeller fan disposed within said casing behind said inlet, a refrigerant condenser disposed within said casing in the path of air issuing



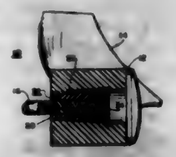
from said fan, and a refrigerant evaporator mounted on the outer surface of the wall of said casing in which said air inlet is located, said evaporator comprising two serially connected spiral coils of refrigerant tubing arranged in spaced, face-to-face relation and disposed across said inlet opening, the construction and arrangement being such that said evaporator guards said fan against accidental contact by the user.

2,974,501
SEALING RINGS
Samuel S. Kaufman, Paramus, and James A. Vargas, Union City, N.J., assignors to Sier-Bath Gear & Pump Co., Inc., North Bergen, N.J., a corporation of New Jersey
Filed Nov. 9, 1959, Ser. No. 851,744
9 Claims. (Cl. 64—9)



1. As an article of manufacture, a flexible sealing ring having a body portion including an outer ring-like body portion of substantial transverse area, an inner ring-like body portion of substantial transverse area, and an intermediate body portion of substantially less transverse area than either of said inner and outer ring-like body portions interconnecting said outer and inner ring-like body portions; each of said body portions having a common planar base face with said inner and outer ring-like body portions having a second face spaced from and parallel to said base face; said inner and outer ring-like body portions being spaced from each other adjacent said intermediate body portion and defining a groove in said body portion, with said intermediate body portion forming a pivotal interconnection for flexing of said outer and inner ring-like body portions thereabout; a reinforcing ring mounted upon said second face of said outer ring-like body portion, adjacent said groove; and a reinforcing ring mounted upon said second face of said inner ring-like body portion, adjacent said groove.

2,974,502
RESILIENT MOUNTING OF FAN ON SHAFT
Remington S. Radcliffe, Springfield, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 9, 1959, Ser. No. 825,971
5 Claims. (Cl. 64—11)



4. A resilient bushing for establishing a driving connection between a rigid shaft and a hub having a generally tubular bore extending along the rotational axis thereof, said hub being molded by the injection of molding material axially into a central region thereof; said bushing comprising a tubular member which, in an axial direction, is shorter than said hub and is convergingly tapered from one end to the other on its outer surface, said other end of said member being flush with the corresponding end of said hub, and a rigid metallic disc secured to said member for closing said one end of said member and extending radially outwardly beyond adjacent internal surface portions of said hub.

2,974,503
TORQUE LIMITING DEVICE
Alan R. Newton, 23 Bayliss St., New Bedford, Mass.
Filed Feb. 21, 1958, Ser. No. 716,760
4 Claims. (Cl. 64—30)

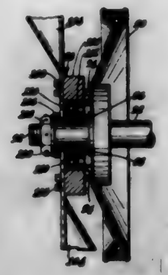


1. A torque limiting device comprising a pair of relatively movable elements having opposed inner complementary surfaces, a major portion of the areas of said surfaces being in frictional contact, a coupling adjustably threaded on an exterior portion of one element with a part opposite the outer side of the other element, a compression spring situated between the part of the coupling opposite the outer side of said other element and said other element, said coupling being adjustable on one element relative to the other to change the compression of the spring, an anti-friction bearing plate disposed between the end of the spring and said other element, said anti-friction plate and said one element having interengaged means which causes the anti-friction plate to turn with said one element relative to the other element, means for drivably connecting the one element to a driven element, and means carried by said other element to which a tool may be connected.

2,974,504
AUTOMATIC FAN CONTROL
Alexander Johnson, 2 Hutchinson Court, Great Neck, N.Y.
Filed Apr. 21, 1958, Ser. No. 729,951
6 Claims. (Cl. 64—30)

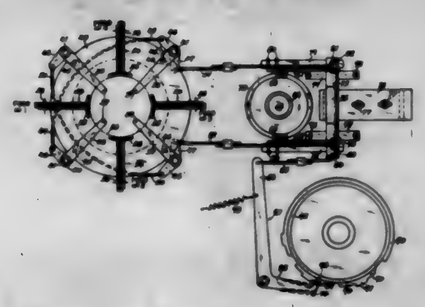
5. A coupling for automatically controlling the speed of an engine fan comprising a rotatable shaft, means to rotate said shaft, a roller bearing assembly having at

least one conical inner member and at least one conical outer member, said inner member mounted on said shaft and rotatable with said shaft and being free to move axially on said shaft, and said outer member being free to move radially outwardly, a plurality of rollers interposed between said inner member and said outer member



to provide rotation of said outer member by said inner member, a fan attached to said outer member and a nut threaded on said shaft and forced axially against said inner member so as to induce a frictional force between the inner member, through said rollers, to the outer member.

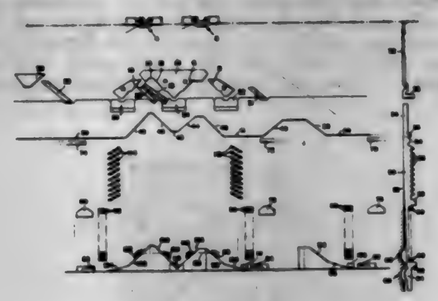
2,974,505
FOUR YARN OVERPLAID KNITTING MACHINE
Nathan Levin, 722 Edgewood Ave., Trenton 8, N.J.
Filed Dec. 9, 1957, Ser. No. 701,459
24 Claims. (Cl. 66—43)



1. A circular knitting machine having a single feed, generally radially extending body yarn fingers at said feed vertically movable to raised non-feeding and to lowered feeding positions, an additional yarn finger disposed so as to be generally horizontally movable to non-feeding and to feeding positions at said feed, the feeding position of said additional finger transversely underlying said body yarn fingers in their raised non-feeding positions while the non-feeding position of said additional finger is such as to permit said body yarn fingers to be in their lowered feeding positions.

2,974,506
KNITTING METHOD AND MACHINE
Robert H. Lawson, Pawtucket, R.I., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts
Filed June 3, 1957, Ser. No. 663,852
24 Claims. (Cl. 66—51)

18. A knitting method for producing multiple feed reciprocatory knitting of a narrowed and widened pouch on a circular knitting machine comprising producing during each reciprocation of an active group of needles tucking by at least one leading needle of said active group without clearing said leading needle during said reciprocation, and causing the taking and knitting of a plurality



of yarns by following needles of said active group during said reciprocation.

2,974,507
STOCKING
Walter J. Foster, Millers Creek, N.C., assignor to Lenoir Hosiery Mills, Inc., Lenoir, N.C., a corporation of North Carolina
Filed Apr. 21, 1958, Ser. No. 729,915
6 Claims. (Cl. 66—182)



1. In a circular knit seamless stocking having a leg, a foot and heel and toe pockets knit of a body yarn and a suture extending beneath the stocking and connecting the lower portion of said foot with the lower portion of said toe pocket, the combination therewith of a reinforcing yarn knit in plated relationship with the body yarn continuously throughout the lower portion of said toe pocket and said foot to form a coextensive cradle sole and cradle toe extending throughout the lower portions of said foot and said toe pocket, and said reinforcing yarn being knit with the body yarn in the lower portions only of said toe pocket and said foot.

2,974,508
KNIT FABRIC
Twala Westmoreland, Mount Airy, N.C., assignor of one-half to Fred Folger, Jr., Mount Airy, N.C.
Filed May 9, 1958, Ser. No. 734,146
2 Claims. (Cl. 66—194)



1. A knitted ornamental fabric comprising, a knit base fabric having a plurality of tuft-like yarn clusters arranged

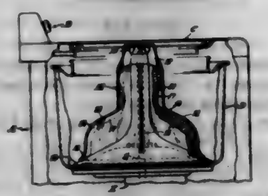
thereon in accordance with a predetermined design, said tuft-like yarn clusters each consisting of a plurality of bundles of yarn knit at their ends into the base fabric in similar selected spaced wales of successive courses so that the bundles are attached to the base fabric and the yarns of the bundles are constricted at the points of attachment, with the bundles of yarn floated over the intervening wales of the base fabric free of constriction between the points of attachment, and the yarn of the base fabric and the tuft-like clusters is nylon stretch yarn.

2,974,509
CANDLE
Alndor J. Penke, Hudson Township, La Porte County, Ind. (R.R. 2, New Carlisle, Ind.)
Filed Aug. 27, 1958, Ser. No. 757,588
2 Claims. (Cl. 67—22.5)



1. An artistic flower candle comprising a tubular wax core closed at its lower end and open at its upper end, a corolla of translucent wax petals having radially inner and axially lower ends fused to the core along the length thereof in surrounding relationship thereto, a candle in said core in spaced relationship thereto and having a lower melting point than said core, said candle having a metal base embedded in the bottom thereof, a wire containing wick having one end locked in said base and extending from the base axially through the candle beyond the opposite end thereof, the bottom of the candle being spaced above the bottom of the core to provide a wax receiving pocket wherein molten wax from the burning candle will solidify to lock the base to the core and hold the wick in upright position away from the petals, said core retaining molten candle wax therein and said radially inner and axially lower ends of the petals having softening points to cause the petals to droop as the candle in the core burns downwardly thereby simulating the opening of a flower in a progressive unfolding petal action.

2,974,510
GENTLE ACTION AGITATOR
Andrew H. Gerhardt, Herrin, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Mar. 8, 1956, Ser. No. 570,335. Divided and this application Jan. 14, 1960, Ser. No. 7,505
4 Claims. (Cl. 68—4)



1. In a clothes washing machine, a receptacle adapted to contain wash water and clothes, an oscillatable agitator in said receptacle and having a plurality of radially extending blades for creating a considerable agitation of the clothes and the water, means for substantially reducing the action of the agitator comprising an imperforate casing detachably mounted on said agitator and completely enclosing the blades of said agitator, said casing being substantially smooth over its entire periphery and having hollow portions projecting outwardly thereof with marginal portions of the radially extending blades being received within said hollow portions for providing a driving connection between the agitator and the casing.

2,974,511
GENTLE ACTION AGITATOR
Andrew H. Gerhardt, Herrin, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Mar. 8, 1956, Ser. No. 570,335, now Patent No. 2,927,449, dated Mar. 8, 1960. Divided and this application Jan. 15, 1960, Ser. No. 7,506
4 Claims. (Cl. 68—4)

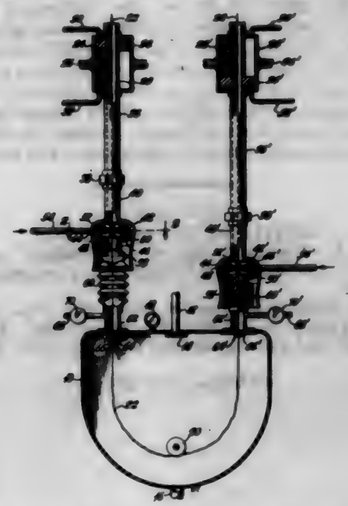


1. In a clothes washing machine, a receptacle adapted to contain wash water and clothes; an agitator in said receptacle and oscillatable about a vertical axis, said agitator having spaced upper and lower sets of radially extending blades, the blades of the lower set being substantially larger than the blades of the upper set for creating a considerably greater agitation of the clothes and the water than the blades of the upper set; and means for substantially reducing the action of the agitator comprising an imperforate annular casing detachably mounted on said agitator and completely enclosing the blades of the lower set, said casing being substantially smooth over its entire periphery and having hollow portions projecting outwardly thereof with marginal portions of the radially extending blades of the lower set being received within said hollow portions whereby the radially extending blades of the lower set are enclosed and the blades of the upper set are only exposed and cooperate with said casing portions for washing action, and a driving connection is made between the agitator and the casing.

2,974,512
TEXTILE TREATING APPARATUS
Ernest P. Carter, Decatur, Ala., assignor to The Chemstrand Corporation, Decatur, Ala., a corporation of Delaware
Filed Mar. 29, 1960, Ser. No. 18,343
18 Claims. (Cl. 68—5)

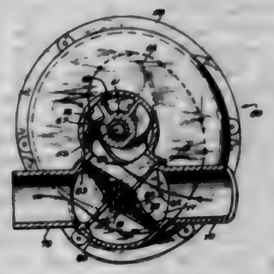
1. An apparatus for annealing continous tow of filamentary material comprising an annealing chamber having extensible tow ingress and egress ends, means to introduce steam into said chamber, tow advancing means adjacent to the tow ingress and egress ends, said means being movable from a normal tow release position to a gripping position, means to reciprocate said advancing means, means to actuate one of said advancing means to gripping position in its movement toward said chamber and means

to actuate the other of said advancing means to gripping position in its movement away from said chamber, and



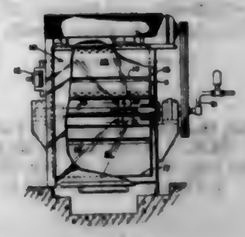
means to prevent the escape of steam along the tow path when the advancing means are in tow release position.

2,974,513
LAUNDRY MACHINE UTILIZING A PUMP WITH FLOW REVERSING MEANS
Jack F. Clearman, St. Joseph, Mich., assignor, by mesne assignments, to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Sept. 14, 1955, Ser. No. 534,195
11 Claims. (Cl. 68—12)



2. A pump comprising a pump housing providing a volute pumping chamber, a centrifugal impeller rotatable in said volute pumping chamber, a hollow boss on said housing formed adjacent to said volute pumping chamber and having formed therein a generally figure 8-shaped recess, one lobe of said recess lying adjacent the axis of rotation of said impeller and providing an annular inlet recess for said pumping chamber, the other lobe of said recess lying adjacent the outermost peripheral portion of said volute pumping chamber and providing an outlet recess for said pumping chamber, first and second conduit means extending from opposite sides of said outlet recess, a butterfly valve in said outlet recess, and shoulder means on opposite sides of said outlet recess engaging the edges of said butterfly valve to selectively pair said conduit means with said inlet recess and said outlet recess thereby to selectively reverse the flow of the pump without changing the direction of rotation of the pump impeller.

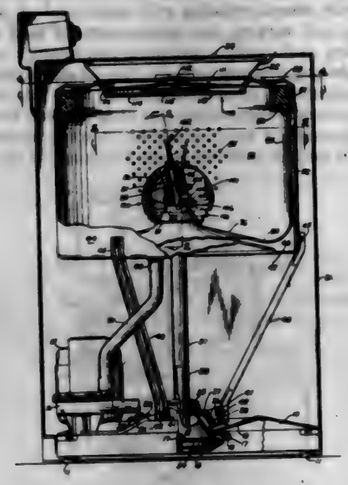
2,974,514
LAUNDRY MACHINE
Benjamin Alvin Bass and John E. Krynski, East Moline, Ill., assignors to American Machine and Metals, Inc., East Moline, Ill., a corporation of Delaware
Filed Mar. 3, 1958, Ser. No. 718,677
1 Claim. (Cl. 68—58)



In a washer extractor, the combination comprising a rotary drum mounted on a substantially horizontal axis, arcuate partition means having apertures therethrough within said drum dividing the same into three compartments having the same volume, said partition means being connected to the interior periphery of said drum along circumferentially spaced longitudinal lines thereon, said compartments having a cross-sectional shape defined by the common area between two intersecting circles so that an arcuately shaped generally triangular central portion is formed by said partition means, horizontally extending ribs on said partition means intermediate the center of said drum and the interior periphery thereof, each of said ribs in the respective compartment being spaced from the interior periphery of the drum the same distance as the other rib, only two of said ribs on said partition means extending into each of said compartments, the ribs extending into each of the compartments being spaced the same distance from said interior periphery as the ribs in the other compartments, and one horizontally extending inwardly directed rib in each compartment on the interior periphery of said drum approximately centered on the portion of said interior periphery within the respective compartment, each compartment thus having only three inwardly directed horizontally extending ribs therein forming, in cross-section, an imaginary isoceles triangle defined by imaginary lines connecting the innermost points of these ribs, in which each of said ribs acts as an apex of said imaginary triangle, a hollow trunnion passing through and supporting said drum for rotation therewith, said trunnion passing through said arcuately shaped generally triangular central portion, a plurality of spaced angled bores extending from the hollow interior of said trunnion to the exterior surface thereof, means for introducing fluid into the hollow interior of said trunnion, so that the fluid is dispersed from said trunnion, through said partition means and into the interior of each compartment in accordance with a predetermined spray pattern.

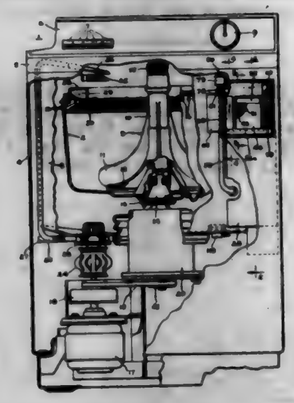
2,974,515
WOBBLE AGITATOR
Thomas R. Smith and Charles W. Burkland, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Feb. 4, 1957, Ser. No. 638,126
8 Claims. (Cl. 68—131)

8. In a washing machine provided with a clothes receptacle, a wobble agitation assembly comprising, a truncated sphere base portion, agitator means mounted on said base portion, means restraining said base portion against rotation relative to said clothes receptacle, a flexible element connected between said base portion and said clothes receptacle, and means for wobbling said base



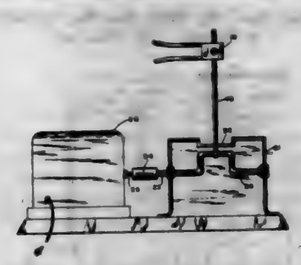
portion about a point defining the center of a sphere capable of being circumscribed about said base portion.

2,974,516
TREATING AGENT DISPENSER SYSTEM FOR WASHING MACHINES
Donald R. Finley and Wallace H. Henshaw, Jr., Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed July 27, 1959, Ser. No. 829,685
9 Claims. (Cl. 68—207)



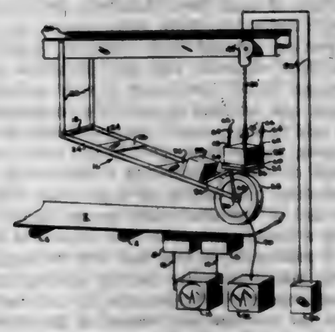
9. In a clothes washing machine, a basket member for receiving clothes to be washed, an outer liquid receptacle surrounding said basket member, means providing for passage of liquid from said basket member to said liquid receptacle, a recirculation system for recirculating liquid from said liquid receptacle back into the top of said basket member, a storage container for a liquid clothes treating agent, a dispensing container for the agent positioned higher than said storage container, pumping means in said storage container, first conduit means connecting the outlet of said pumping means to said dispensing container, second conduit means extending down from said dispensing container adjacent the bottom thereof and communicating with said recirculation system so that liquid passing down through said second conduit means is carried by said recirculation system into said basket, and normally closed valve means positioned to control the flow through said second conduit means from said dispensing container.

2,974,517
COMBINATION LOCK OPENER
Isaac Jacobs, 97 Falmouth Ave., East Paterson, N.J.
Filed Apr. 21, 1958, Ser. No. 729,663
9 Claims. (Cl. 70—442)



1. A combination lock opener comprising a crank, a means to support the crank for rotation, a means connected to the crank for rotatably driving the crank, a flexible connecting rod pivotally attached at one end to the crank for rapid reciprocation of the connecting rod, a gripping means attached to the other end of the connecting rod, the gripping means engageable with the combination knob of a combination lock.

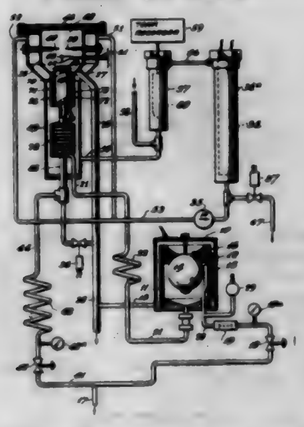
2,974,518
METHOD AND APPARATUS OF CALIBRATING A BELT CONVEYER SCALE
Sam A. Jones, Pittsburgh, Pa., assignor to Consolidation Coal Company, a corporation of Pennsylvania
Filed Oct. 18, 1957, Ser. No. 691,024
7 Claims. (Cl. 73—1)



1. A device for intermittent calibration of a weighing scale for a moving conveyer belt comprising a freely rotatable cylinder positioned above said conveyer belt and having a rotational axis transverse to the longitudinal axis of said conveyer belt, means to support said cylinder above said belt, a weight positioned above said freely rotatable cylinder, suspension means connecting said freely rotatable cylinder and said weight to an overhead support member, means for adjusting said suspension means whereby said freely rotatable cylinder may be brought to bear upon said conveyer belt at a point directly above said weighing scale, means for further adjusting said suspension means whereby said weight may be brought to bear upon said freely rotatable cylinder, means for measuring the rotational rate of said cylinder while in contact with said conveyer belt, integrating means for multiplying said rotational rate by the effective

weight bearing upon said conveyer belt, and means for registering the integrated value for comparison with the corresponding registered value of said weighing scale.

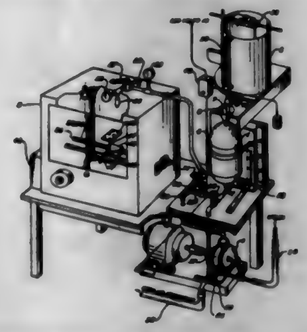
2,974,519
LABORATORY FLASH POINT TESTER
Joseph C. Rhodes, Park Forest, and John P. Segars, Crete, Ill., and Anthony V. Lacko, Gary, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Nov. 30, 1956, Ser. No. 625,472
3 Claims. (Cl. 73—36)



1. In an apparatus for rapidly determining the flash point of batch samples, the improvement which comprises a flash chamber of low heat capacity, a sample inlet in a lower portion of said flash chamber, an overflow outlet conduit means from an intermediate portion of said flash chamber, means for supplying combustion air to said flash chamber, vapor vent means from an upper portion of said flash chamber, preheater means for a sample under test, drain valve means connected to a lower portion of said flash chamber, jacket means about said flash chamber and said preheater means, a heat exchange liquid circulating system including said jacket means and adapted to raise the temperature of a sample in said flash chamber, ignition means within said flash chamber, means responsive to the occurrence of a flash in said chamber comprising a differential thermocouple including one couple of high mass and one of low mass and a sensitive relay means, control means actuated by a signal from said flash responsive means to introduce a cooling liquid into said heat exchange system and to open said drain valve thereby cooling and draining the flash chamber in preparation for another sample, and means for continuously recording the temperature of the circulating liquid, the peak temperature of the circulating heat exchange liquid recorded in each test being a measure of the flash point of the sample under test.

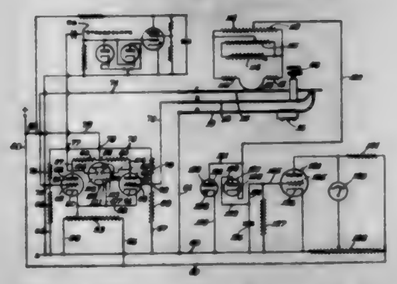
2,974,520
DETERGOMETER
William B. Lane, Los Gatos, Sanford Bauer, San Francisco, Lloyd J. Graham, Berkeley, Rose K. Fuller, Campbell, James L. Mackin, Mountain View, John R. Lal, San Francisco, Paul E. Zigman, San Mateo, and Wesley E. Shelberg, Piedmont, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 7, 1957, Ser. No. 676,996
1 Claim. (Cl. 73—63)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A detergometer for scientifically testing the effectiveness of various detergents comprising a detergent solution, a mixing system including a bell ended tank for holding a solution charge and provided with a two way connection at the bottom of said bell and control means for selectively communicating with steam and air sources for mixing and varying the temperature of said charge and draining said tank, a pressure temperature control system including a pump and by pass re-circulating system for selectively mixing air, steam and the solution charge in correct proportions and at a selected temperature and pressure, a spray chamber, a spray nozzle and a horizontal sample platform housed within said chamber,



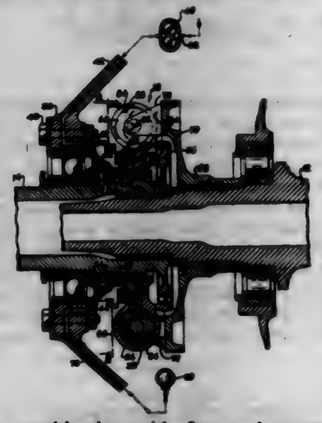
said spray nozzle connected to said control system and positoned for directing the spray solution stream vertically downward and normal to said horizontal sample platform, said platform being mounted on a vertical shaft and rotatively supported in the follower of a traverse motion, whereby the platform face is reciprocated across said spray stream, a pinion keyed to said vertical shaft and in driving contact with a rack mounted parallel with said traverse for rotating said platform as it reciprocates across said spray stream, and means for regulating the rate of travel and rotation of said sample platform.

2,974,521
VIBRATION MEASURING APPARATUS
Clyde H. Phelps, Springfield, Ill., assignor to Vincent J. Getzendanner, Springfield, Ill.
Filed June 27, 1956, Ser. No. 594,217
12 Claims. (Cl. 73—70.2)



5. A vibration responsive balance testing indicator comprising a first vibration responsive spring connected to electrical ground potential and a second spring, each of parallel flexure type, having a laterally turned end with said ends in proximate relation spaced by an air gap, a third parallel flexure type spring contacting said laterally turned ends of said first and second springs and bridging the gap between said ends when said first spring is in neutral position, said third spring being separated from contact with said second spring by cooperation of the laterally turned end of said first spring therewith upon flexure of said first spring in one direction, flexure of said first spring to neutral position in the opposite direction permitting contact of said third spring with said second spring while said first spring is in contact with said third spring, further flexure of said first spring in said opposite direction separating said first spring from said third spring while permitting said third spring to remain in contact with said second spring, a circuit including a stroboscope, tube means having its output connected to said circuit including a stroboscope, said tube means having a grid in circuit with said third spring for controlling said stroboscope, and separate tube means including a tube having a grid in circuit with said second spring for indicating when said first spring is in neutral position.

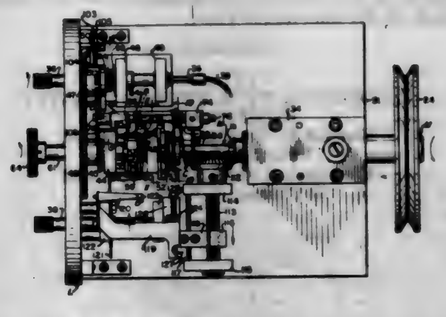
2,974,522
DIRECT DRIVE TORQUEMETER
Max Bentele, Ridgewood, and Hans D. Deline, Montclair, N.J., and Cranston W. Folley, Kennebunk, Maine, assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 11, 1959, Ser. No. 792,554
10 Claims. (Cl. 73—136)



1. In a combination with first and second co-axial shafts; a plurality of circumferentially-spaced piston and cylinder assemblies rotatable with and coupling said shafts together for torque transmission at 1:1 speed ratio; each said assembly comprising a cylinder element and a relatively slidable piston element with one of said elements being connected to one of said shafts and the other of said elements having only a push connection with the other of said shafts so that the force between said other shaft and push-connected element is proportional to the transmitted torque; means for supplying a liquid pressure between said elements of each assembly for transmitting said torque, each said assembly being disposed so that its axis is inclined to a radius from the axis of said shafts and passing through the center of gravity of its said push-connected element so that during rotation of said shafts the component, along the assembly axis, of the centrifugal force on said push-connetced element is substantially equal and opposite to the force exerted on said push-connected element, along its assembly axis, by that portion of the pressure of said liquid resulting from the centrifugal forces on said liquid.

2,974,523
DEPTH AND OPERATION RECORDER FOR EARTH BORE DRILLING RIGS
Arthur Z. Bender, Compton, Calif., assignor, by mesne assignments, to Star Recorder Corporation, Denver, Colo., a corporation of Colorado
Filed Nov. 12, 1953, Ser. No. 391,645
3 Claims. (Cl. 73—151.5)

1. A recorder for an earth bore drilling apparatus having a drill stem, said recorder comprising a recording chart sheet and time means for moving the sheet at a predetermined rate in one direction of travel, a rotatably mounted main drive member for the recorder adapted to be rotated in one direction representing downward vertical movement of the drill stem or the other direction in accordance with upward vertical movement of the drill stem, an element for marking the chart sheet as it moves, means including a driven shaft operable when drilling is occurring for so moving the marking element relatively to the sheet that it can establish on the sheet indicia separate from any line established by movement of the sheet, said marking element being moved to produce said indicia upon a predetermined downward vertical movement of the drill stem, clutch means for coupling the main drive member with the driven shaft, said clutch means comprising a first and second ratchet wheel fixed to said drive member and a manually operated second shaft supported for rotation and inward and outward reciprocal movement, said clutch being engaged upon rotation and inward reciprocation of said second shaft, a sleeve slidably movable inwardly and outwardly on said

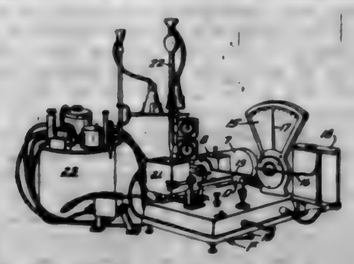


driven shaft having a grooved ring adjacent one end thereof and a cross member at the other end for engaging the first ratchet wheel, a clutch actuating yoke movable inwardly and outwardly and having means for engaging the grooved ring, a clutch actuating arm pivoted on said second shaft and connected to said yoke, a third shaft having pivotally mounted thereon a crank arm normally biased to engage said second ratchet wheel, a yoke cooperating arm secured to said third shaft having means normally in engagement with said yoke when said clutch is engaged, said clutch being engaged as long as said main drive member rotates in the one direction, spring means for urging the sleeve outwardly, said clutch being automatically disengaged upon the main drive member moving in the other direction, said second ratchet wheel upon movement of the main drive member in the other direction causing pivoting of said crank arm and in turn said third shaft whereby the yoke cooperating arm and yoke will be disengaged and said spring means will shift outwardly said sleeve, yoke and cross arm to disengage the cross arm from the first ratchet wheel.

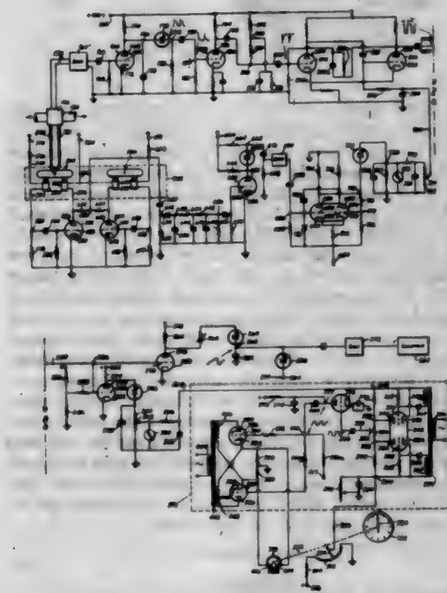
2,974,524
METHODS AND APPARATUS FOR TESTING CONSISTENCY
Stephen Joseph Louks, Jr., Minneapolis, Minn., assignor to The Pillsbury Company, a corporation of Delaware
Filed Nov. 23, 1956, Ser. No. 623,911
9 Claims. (Cl. 73—169)

1. The method of reducing the time required to determine the peak time in testing and recording the consistency of flour consisting in, placing a sample of the flour within a mixing bowl having a rotary mixing element therewithin, rotating the mixing element at 110 r.p.m. while adding sufficient water to said sample to cause it to reach its maximum consistency, and producing upon a time-torque chart operated at about a speed

of 2 centimeters per minute, an erroneous indication of the torque resistance exerted by the flour and water mixture upon the mixing element, said indication on the chart erroneously indicating 500 meter-grams-torque being exerted by the flour and water mixture when actually approximately 620 meter-grams-torque are being exerted thereby and erroneously indicating all other torques proportionately, whereby a curve which is comparable to the well known Brabender curve will be produced on the time-torque chart.

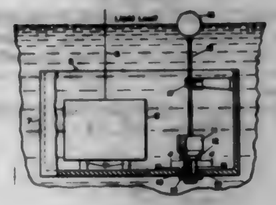


2,974,525
FLOWMETER WITH SPECIFIC GRAVITY COMPENSATOR
Howard W. Cole, Jr., 12 Vale Drive, Mountain Lakes, N.J.
Filed Sept. 8, 1953, Ser. No. 378,760
10 Claims. (Cl. 73—231)



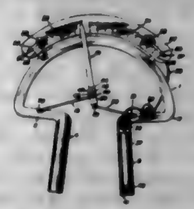
1. Apparatus for measuring fluid flow in gravimetric units, comprising rotary means in a conduit containing a flowing fluid, whereby said rotary means is rotated by said fluid at a rate related to the volumetric rate of flow of said fluid, electromagnetic means actuated by said rotary means for generating a series of electrical pulses repeated at a frequency related to said volumetric rate of flow, means actuated by said pulses for generating a series of square pulses of constant amplitude and at said repetition rate, means for sensing the specific gravity of said fluid, said square pulse generator including means responsive to said specific-gravity-sensing means, for varying the duration of said individual square pulses, whereby to produce square pulses having a repetition rate related to said rate of flow and a duration related to said specific gravity, and integrating means responsive to said square pulses for indicating said rate of flow in gravimetric units.

2,974,526
COMPENSATING CAPACITOR FOR LIQUID LEVEL MEASUREMENT
Julius Lerner, Drexel Hill, and Henry L. Bachofer, Newtown Square, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Feb. 11, 1959, Ser. No. 792,532
6 Claims. (Cl. 73—304)



4. A capacitive-type liquid level measurement system for vessels comprising a measuring probe and a compensating capacitor both located in the vessel with said capacitor positioned near the bottom of said vessel and below the bottom of said probe, means connecting both said probe and said capacitor into a common indicating circuit, a liquid-tight open topped trough surrounding said capacitor, the bottom wall of said trough having an aperture therein but being otherwise imperforate; and means actuated by the liquid in said vessel for sealing said aperture when the liquid in said vessel drops to a predetermined level above the top of said trough.

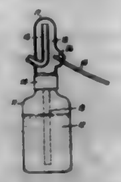
2,974,527
GYMNASTIC IMPLEMENT
Erwin Lindfoust, Mornano, Italy
(5 bis Blvd. de Suisse, Monte Carlo, Monaco)
Filed May 7, 1956, Ser. No. 583,236
Claims priority, application France May 14, 1956
3 Claims. (Cl. 73—381)



1. A gymnastic implement provided with an indicating device comprising an elastic resilient arc shaped member, spaced prolongations upon the ends of said arc shaped member extending away from the convex side of said member which when moved toward or away from one another will cause deformations in said arc shaped member, a scale dial secured to said arc shaped member having a plurality of scales thereon for measuring different values of the deformations in said arc shaped member, an index finger cooperating with said scales, a first lever pivoted upon said member adjacent one of said prolongations and pivotally secured to said index finger, a second lever pivotally secured to said index finger at a point spaced from the pivot point of said first lever to said index finger, said second lever being fixed to said arc shaped member at a point adjacent the other prolongation and said index finger having a plurality of holes

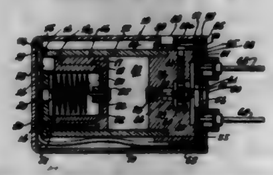
therein in which the end of one of said levers is selectively releasably pivoted to modify the leverage between said levers and said index finger.

2,974,528
PIPETTE
Manuel C. Sanz, Rte. de Ferney, Versoix, Switzerland
Filed Apr. 11, 1957, Ser. No. 652,265
9 Claims. (Cl. 73—425.4)



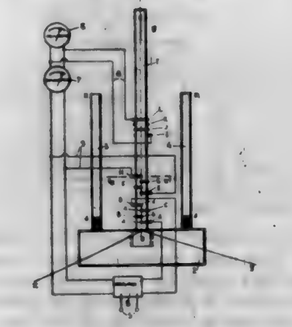
1. A pipette for the delivery of measured volumes of liquid comprising means forming a chamber, the upper end of said chamber being normally open to the surrounding air but adapted to be selectively closed therefrom, a capillary tube of predetermined length and cross-sectional area whereby in its full state it will retain a predetermined volume of liquid between moniscuses formed at its two extremities, said capillary tube having one end communicating with said chamber above the bottom thereof, a reservoir serving to retain said liquid, communication means for delivering said liquid between said reservoir and said chamber in both directions, and means for selectively applying pressure at said reservoir whereby upon a first application of pressure said chamber may be filled above said one end of the capillary tube with liquid and with the upper end of said chamber closed, said capillary tube may be filled with the liquid in the chamber upon a subsequent release of said pressure and opening the upper end of said chamber to the surrounding air, a portion of the liquid may return to the reservoir to lower the level in said chamber below said end of the tube and upon a second application of pressure with the upper end of said chamber closed, the fluid in said capillary tube may be expelled.

2,974,529
ACCELERATION INTEGRATOR
Leo J. Brueggeman, West Covina, Calif., and Donald H. Fischer, Phoenix, and John J. Bondra, Scottsdale, Ariz., and Richard M. Cauzoneri, Arcadia, Calif., assignors to Gianninl Controls Corporation, a corporation of New York
Filed June 27, 1958, Ser. No. 745,144
3 Claims. (Cl. 73—503)



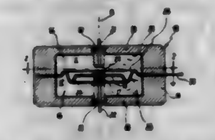
3. An acceleration integrator comprising structure forming a cylinder closed at one end, piston means movable within the cylinder in response to axial acceleration thereof, and fluid means limiting the rate of piston movement and comprising a fluid contained within the cylinder, structure forming a fluid passageway between the portions of the cylinder on opposite sides of the piston, means forming in said passageway a flow limiting orifice of temperature dependent size, first adjusting means actuable to vary continuously the size of the orifice, and second adjusting means actuable to vary continuously the rate at which the size of the orifice changes with temperature.

2,974,530
ANGULAR VELOCITY METER
Jean Jaouen, Neuilly-sur-Seine, France, assignor to Bronzavia, Courbevoie, France, a company of France
Filed May 22, 1958, Ser. No. 737,122
Claims priority, application France May 24, 1957
11 Claims. (Cl. 73—505)



7. In a device for measuring the angular velocity of a moving structure, in combination, at least one elongated isotropic vibratory element made of magnetostrictive material, said element having nodal points in a flexional mode of vibration thereof; carrying means engaging said element at said nodal points for supporting said element from said structure while permitting said flexional vibration thereof in any axial plane thereof; means for creating a permanent polarizing magnetic field longitudinally of said element; input winding means carried by said element for imparting thereto flexional vibration through magnetostriction in interaction with said polarizing field in a predetermined axial plane thereof; a source of alternating potential connected to said input winding means for causing vibration of said element; output winding means carried by said element and operative in an axial plane displaced from the operative plane of said input winding means; and indicating means connected to said output winding means responsive to alternating voltages induced therein by said vibration of said element whereby said indicating means will respond to the angular velocity of said structure.

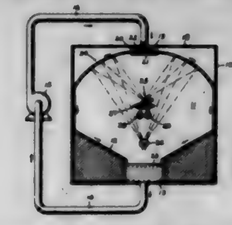
2,974,531
ACCELEROMETER
Sumner Ackerman, East Walpole, Mass., assignor to Instrument Development Laboratories, Inc., Attleboro, Mass., a corporation of New York
Filed Aug. 1, 1957, Ser. No. 675,604
4 Claims. (Cl. 73—516)



1. A linear low frequency accelerometer comprising a cylindrical casing, electrodes mounted on opposite sides of said casing along the axis thereof, an electrolytic fluid within said casing, a diaphragm, a third electrode suspended in said fluid by said diaphragm along the axis of said casing and between said oppositely mounted elec-

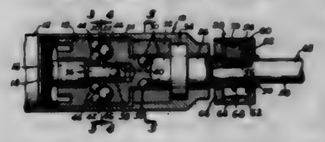
trodes, openings in said diaphragm to permit laminar flow of said fluid in said casing, said third electrode having a mass only slightly greater than the mass of fluid it displaces whereby it is substantially buoyantly suspended, and circuit means connected to said electrodes.

2,974,531
ACCELEROMETER
Charles E. Goshen, 7106 Brookville Road, Chevy Chase, Md., and Joseph Lyman, Northport, N.Y.
Filed Sept. 6, 1957, Ser. No. 682,329
14 Claims. (Cl. 73—516)



1. In accelerometer apparatus, the combination of a source of fluid under pressure, nozzle means connected to receive fluid from the source and arranged to form in space a fluid body composed of unsupported fluid particles and having a surface of reference shape under reference conditions, and means responsive to change of shape of said surface.

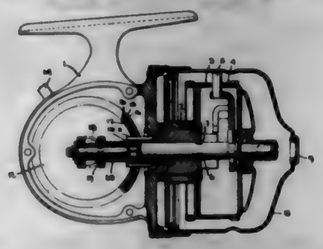
2,974,533
DRILL HAMMER
Max J. Demo, Santa Monica, Calif., assignor to Joseph Morris, doing business as De Mor Engineering Co., Santa Monica, Calif.
Filed Jan. 31, 1955, Ser. No. 485,805
10 Claims. (Cl. 74—22)



1. In a device for simultaneously reciprocating and continuously rotating a tool, the combination of: a housing; a stationary cam member carried by said housing; a movable cam member carried by said housing and adapted to have the tool connected thereto, said movable cam member being rotatable and reciprocable relative to said stationary cam member; means for rotating said movable cam member; at least one pair of radially spaced balls carried by one of said cam members and spaced from the axis of rotation of said movable cam member; and at least one single ball carried by the other of said cam members and engageable with the balls of said pair to move said movable cam member axially periodically in response to rotation thereof, said single ball being spaced from the axis of rotation of said movable cam member a distance equal to the spacing of the midpoint of said ball pair therefrom.

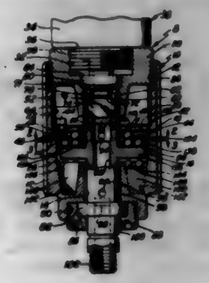
2,974,534
FISHING REEL AND GEARING
Earle D. Clickner, Kalamazoo, Mich., assignor to Shakespeare Company, Kalamazoo, Mich., a corporation of Michigan
Filed Nov. 27, 1957, Ser. No. 699,241
5 Claims. (Cl. 74—22)

3. A right angle drive including intermeshing gears comprising a crown gear having a plurality of peripherally disposed teeth extending laterally from the face of said crown gear, each tooth having line contact faces on opposite sides thereof all of said line contact faces extending substantially perpendicular to the face of said gear and disposed at a circle concentric with the axis of said gear and, each contact line face comprising the line of meeting of substantially plane surfaces diverging from said line contact faces, thereby providing clearance



at both sides of said circle for the teeth of a spur gear in mesh with the teeth of said crown gear to limit contact between the faces of the teeth of said spur gear and the teeth of said crown gear to the line contact faces, and a spur gear disposed on an axis at right angles to the axis of said crown gear with the teeth of said spur gear in mesh with the teeth of said crown gear and in contact only with said line contact faces of said crown gear.

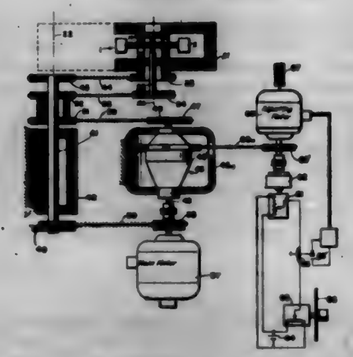
2,974,535
MECHANICAL HAMMER
Joseph Morris, 111 Marquez Place, Pacific Palisades, Calif.
Filed Sept. 8, 1958, Ser. No. 759,716
11 Claims. (Cl. 74—22)



1. In a rotary hammer, the combination of: a housing providing an axis; a stationary cam member in and carried by said housing and having a cam surface which extends generally transversely of said axis, said cam surface of said stationary cam member being provided with circumferentially spaced cavities therein having substantially flat bottom walls and having side walls substantially perpendicular to said bottom walls thereof; a shaft in said housing and extending axially through said stationary cam member, said shaft being rotatable about and reciprocable along said axis; a movable cam member in said housing and fixed on said shaft, said movable cam member having a cam surface which extends generally transversely of said axis and which faces said cam surface of said stationary cam member, said cam surface of said movable cam member being provided with circumferentially spaced cavities therein having substantially flat bottom walls and having side walls substantially perpendicular to said bottom walls thereof; and rotatable cam elements of circular cross section respectively disposed in and projecting from said cavities in said cam surfaces

of said stationary and movable cam members, said rotatable cam elements in said cavities in said cam surface of said movable cam member being engageable with said rotatable cam elements in said cavities in said cam surface of said stationary cam member so as to produce axial movement of said movable cam member and said shaft in response to rotation thereof, said stationary and movable cam members being provided with projections which extend inwardly of said cavities at the open ends thereof to retain said rotatable cam elements in said cavities, the distances between said bottom walls of said cavities and said inwardly extending projections being greater than the corresponding dimensions of said rotatable cam elements and the transverse dimensions of said cavities being greater than the corresponding dimensions of said rotatable cam elements so that said rotatable cam elements fit loosely in said cavities.

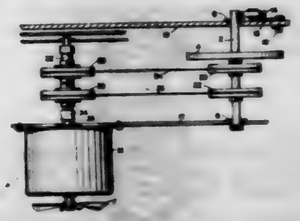
2,974,536
ADJUSTABLE-WHILE-RUNNING OSCILLATOR
Alexander J. Yorgiadis, 412 Wolcott St., Auburndale, Mass., assignor, by mesne assignments, to Alexander J. Yorgiadis, Auburndale, and Ali Umit Kutsay, Wayland, Mass.
Filed Mar. 5, 1959, Ser. No. 797,453
15 Claims. (Cl. 74—61)



1. An oscillator apparatus comprising, in combination, a housing, means for supporting said housing for rotation about an axis, driving means to rotate said housing about said axis, a force producing eccentric mass supported by said housing for rotation therewith, means for linearly moving said mass in a direction substantially at right angles to said axis to adjust the eccentricity of the mass and thereby vary the force produced thereby during rotation of the housing, said linearly moving means including a pair of parallel screws, nuts for said screws supported in said housing, and means cooperative with said driving means for effecting relative rotation between the screws and nuts to linearly adjust said mass during said rotation of said housing and mass.

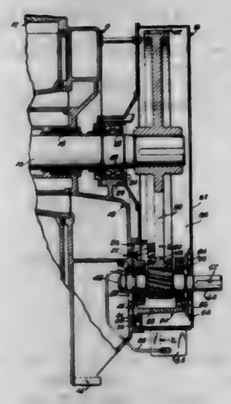
2,974,537
TAPE TRANSPORT MECHANISM
David L. Wheeler, Rockport, Mass.
(35 Library St., Georgetown, Mass.)
Filed May 22, 1959, Ser. No. 815,135
10 Claims. (Cl. 74—220)

6. Apparatus comprising a hollow shaft having two axially spaced openings in its side wall, a pair of pulleys rotatably mounted on said shaft, means locating said pulleys in radial alignment with said openings, each pulley having a screw thread on its interior edge, first means within said shaft movable through one of said openings to engage and lock with the screw thread on one of said pulleys, and second means within said shaft movable



through the other of said openings to engage and lock with the screw thread on the other of said pulleys.

2,974,538
POWER DRIVE CONSTRUCTION
Irving C. Jennings, South Norwalk, Conn.
Filed Feb. 28, 1958, Ser. No. 718,199
16 Claims. (Cl. 74—421)

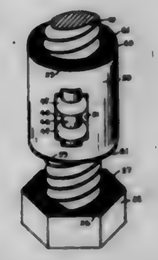


9. An end cover for a slow speed apparatus such as a pump or the like, having a bearing support portion formed on the cover to support the shaft of the apparatus, and a driving pinion mounting portion machined directly on said cover precisely at right angles to said bearing support portion at a location on said cover at one side of said bearing of support portion to permit mounting of a driving pinion bracket thereon, a driving pinion bracket having spaced bearings, a driving pinion support on said bearings, and means to support said driving pinion bracket on the mounting portion of said cover in a location to drive a gear affixed to the shaft by the apparatus.

2,974,539
MOTION-TRANSMITTING DEVICE
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Mar. 14, 1958, Ser. No. 721,460
5 Claims. (Cl. 74—424.8)

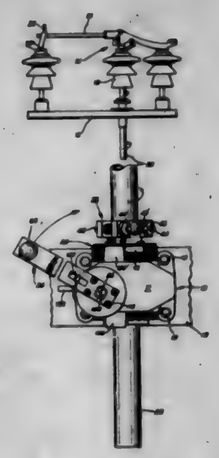
1. A load-bearing assembly comprising a rotatably mounted screw member, a nut member operatively engaged with said screw member for movement axially thereof, said nut member having a first portion secured against rotation and a second portion rotatable with respect to said first rotatably fixed portion, stop means fixed on said screw member and having a flat face adapted to abut said second rotatable portion of said nut

member, and friction-producing means on one of the abuttable faces of said stop means and said second rotat-



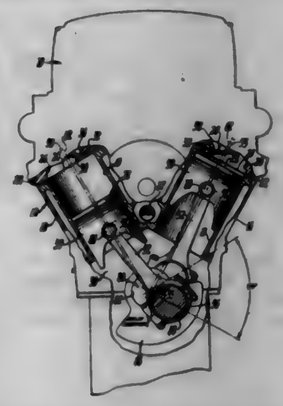
able portion of said nut member for stopping rotation of said second rotatable portion of said nut member.

2,974,540
SWITCH OPERATING MEANS
Ronald J. Bertling, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Sept. 23, 1959, Ser. No. 841,844
8 Claims. (Cl. 74—425)



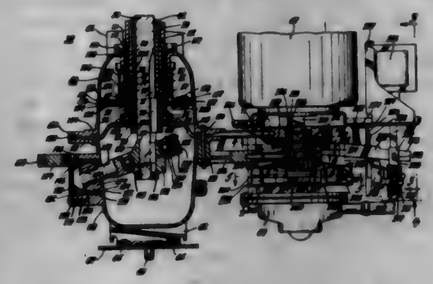
1. An operating mechanism for an electric switch provided with an actuating shaft, said operating mechanism having a housing and driving means rotatably mounted therein, stop means rigidly secured to said housing, said driving means having a first indexing means, a first stop ring having second and third indexing means and a radially extending stop portion, a second stop ring having a radially extending stop portion and a fourth indexing means, said first and second indexing means and said third and fourth indexing means being releasably engageable to position, each of said stop rings in one of a plurality of positions relative to said stop means so that said rings and said stop portions are rotatable with said driving means, said stop means lying in the path of said stop portions so that the angle that said driving means is free to rotate in either direction is limited to a prescribed value predetermined by the angular positions of said stop rings.

2,974,541
OFFSET PISTON-PIN BALANCING ARRANGEMENT FOR ENGINES
John Deiss, Davisburg, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 7, 1954, Ser. No. 454,570
12 Claims. (Cl. 74—579)



12. An engine having at least one cylinder, a piston reciprocably disposed in said cylinder, a rotating crankshaft, a wrist pin in said piston, a connecting rod having a reciprocating end attached to said wrist pin and a rotating end attached to said crankshaft, the axis of said wrist pin being substantially parallel to the axis of said crankshaft and reciprocating in a plane outside of the axis of rotation of said crankshaft, the effective reciprocating center of mass of said piston and connecting rod assembly being disposed to move along a line which is within a plane containing the axis of rotation of said crankshaft.

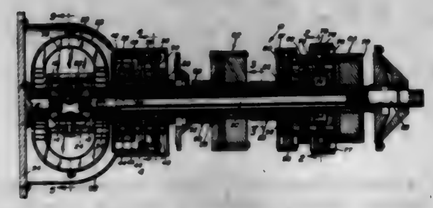
2,974,542
MULTIPLE SPEED TRANSMISSION
Kenneth O. Sisson, Dayton, and Daniel J. Barbulesco, West Carrollton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 23, 1958, Ser. No. 738,330
9 Claims. (Cl. 74—665)



1. In combination, first and second shaft means concentrically arranged, one of said shaft means being solid, said shaft means having an upper and lower end, an enclosing housing completely enclosing the lower end of said shaft means, the upper end of said shaft means protruding out of said housing, means preventing relative rotation of said first and second shaft means, said housing including a stationary portion enclosing said shaft means and a rotatable portion rotatable with respect to the stationary portion, said housing being provided with a substantially sealed joint between the two portions,

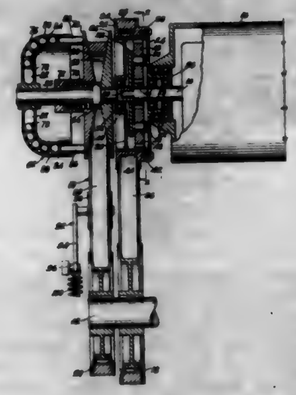
both of said shaft means being rotatably mounted with respect to both of said portions of said housing, means connecting and disconnecting said first shaft means alternately to said stationary portion and to said rotatable portion, reciprocating means located entirely within said rotatable portion and connecting said rotatable portion and said second shaft means, first and second driven pulleys on said rotatable portion; and means for rotating said rotatable portion in opposite directions relative to the stationary portion, said rotating means including a prime mover and first and second driving pulleys relatively rotatably carried on said prime mover in respective coplanar driving relationship to said first and second driven pulleys; and a shiftable clutch axially movably mounted between said first and second driving pulleys and rotatable with said prime mover; said shiftable clutch having a first driving pulley frictional engaging surface and a second driving pulley engaging dogged surface and means for selectively engaging said frictional and dogged surfaces with said first or second driving pulley respectively for directly driving said driving pulley at substantially the same speed as said prime mover, and a slip clutch including a support plate shock resistively connected to said second driving pulley for rotation therewith, a plurality of spring biased, centrifugally actuated brake shoes circumferentially and pivotally arranged on said plate, and a drum embraced by said brake shoes and connected to said prime mover for rotation therewith, and means for overriding said selectively engaging means whereby said second driving pulley is slippingly rotated by said drum.

2,974,543
HYDROGEAR TRANSMISSION DEVICE
George L. Garrison, 119 Stuyvesant Ave., Kearny, N.J., assignor of fifty percent to Loretta C. Garrison, Kearny, N.J.
Filed May 1, 1957, Ser. No. 656,265
4 Claims. (Cl. 74—677)



1. A transmission device comprising, a differential unit including operatively interengaged input element, output element and control element, a first planetary control unit including five operatively interengaged members, a first of said members being drivingly connected to the input element of the differential unit, a second of said members being connected to the control element, hydraulic drive means drivingly connecting said control element to the third and fourth of said members, the fifth of said members being an output member of the first planetary control unit and including first and second rigidly interconnected planet carriers and first and second planet gears carried thereby, the first planet gear drivingly interconnecting the second and fourth member, the second planet gear drivingly interconnecting the first and third member, a second planetary control unit including three operatively interengaged elements, a first of said elements including a planet carrier being drivingly connected to said output member of the first planetary unit and first and second rigidly interconnected planet gears on the carrier, a second of said elements being connected to said first member of the first planetary unit and drivingly connected with the first of said planet gears of the second planetary unit, the third of said elements of the second planetary unit being connected to said output element of the differential unit and drivingly connected with the second of said planet gears of the second planetary unit to thereby provide a variable speed ratio between the input element and output element of the differential unit which is a function of slippage in the hydraulic drive means and load torque on the output element.

2,974,544
AUTOMATIC SPEED REGULATOR
Charles H. Miner, 581 S. Downing St., Denver, Colo., assignor of one-fourth to Edwin L. Spangler, Jr., Denver, Colo.
Filed Dec. 5, 1958, Ser. No. 778,388
10 Claims. (Cl. 74—689)

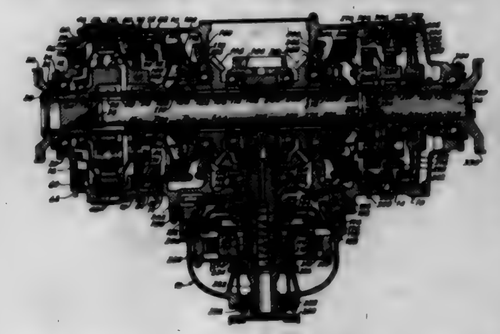


1. In combination, a first variable speed shaft, a second shaft journalled for rotation in spaced substantially parallel relation to the first shaft, a third shaft journalled for rotation relative to the second shaft in substantially coaxial relation thereto, means operatively interconnecting the first and second shafts comprising a V-belt and first and second V-belt pulleys, at least one of said first and second V-belt pulleys being of the self-adjusting variable pitch type and directly responsive to changes in speed of the first shaft, means operatively interconnecting the third shaft with the first and second shafts comprising a belt, a third pulley and a three element transmission, said third pulley being mounted on the first shaft, the first element of said transmission being mounted on the third shaft for rotation therewith, the second element of said transmission depending from the second shaft for rotation therewith and being operatively connected to said first element, and the third element of said transmission being operatively connected to said second element and to said third pulley by means of said belt for rotation therewith.

2,974,545
MULTIPLE SPEED TRANSMISSION
Edward R. Davies, Oak Park, and Glenn L. Bowen and Robert W. Lemon, Detroit, Mich., assignors to Jered Industries, Inc., Hazel Park, Mich., a corporation of Michigan
Filed Dec. 10, 1953, Ser. No. 397,297
30 Claims. (Cl. 74—720.5)

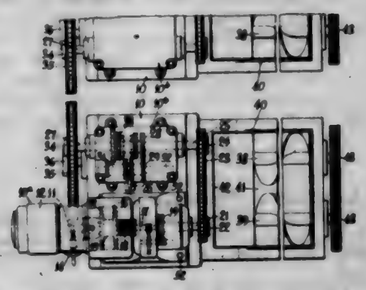
1. In a power transmission, a power output shaft, a planetary gear unit comprising a ring gear member, planet gears and a sun gear member mutually interengaged and coaxially disposed about an axis transverse to the axis of said output shaft, a first carrier member for carrying said planet gears, one member of said planetary gear unit being adapted to be driven by a source of input power and another member thereof being adapted to be

braked, a plurality of compounded planetary units having the component elements thereof coaxially disposed about said output shaft, said compounded planetary units each comprising a sun gear member and a ring gear member with planet gears engaged therebetween each compounded planetary unit having a carrier member for carrying the planet gears thereof, a first pair of said compounded planetary units having the sun gear members thereof connected to a common shaft means, a second pair of said compounded planetary units having the sun gear members thereof connected to said power output shaft, drive means interconnecting a portion of said first



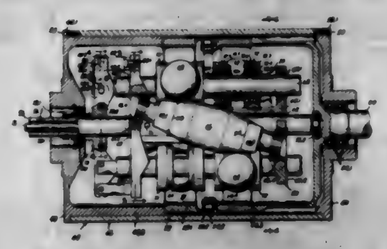
named planetary gear unit with said shaft means and with a member of one unit of said second pair of said compounded planetary units, one member of each unit of said second pair of units being connected together and one member of each unit of said first pair of units being connected together, the carrier member of one unit of said first pair of compounded planetary units being drivably connected to said output shaft, means for selectively clutching together and braking other members of said compounded planetary units in sequence to progressively obtain varying torque multiplication ratios between a power input source and said output shaft.

2,974,546
CONSTANT REDUCED SPEED DRIVE UNIT
George W. Rangert, West Falls, N.Y., assignor to Root Neal and Company, Buffalo, N.Y., a corporation of New York
Filed Oct. 14, 1959, Ser. No. 846,429
2 Claims. (Cl. 74—745)



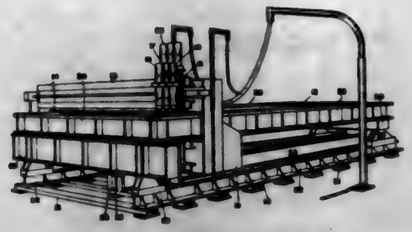
1. A compact unitary drive mechanism adaptable to drive at selected constant speeds any one of a number of material feeding mechanisms of an apparatus for proportioning and mixing a number of different materials to provide a desired blend of said materials, comprising a base plate directly securable upon any one of the material feeding mechanisms, a first selectively variably speed reducing drive mechanism driven by a constant speed motor, said first drive mechanism being directly secured upon one end portion of the base plate and including speed reducing drive means selectively operable to drive an output shaft at selected reduced speeds, a second selectively variable speed reducing mechanism directly secured upon the opposite end portion of the base plate, said second mechanism including a plurality of pairs of selectively engageable and disengageable companion gears, a single manually operable means for engaging and disengaging said gears, a single input shaft and a single output shaft, selected chain and sprocket means operably connecting the output shaft of the first mechanism to the input shaft of the second mechanism and selected chain and sprocket means operably connecting the output shaft of the second mechanism to the material feeding mechanism, thereby to further increase the range of constant reduced speeds obtainable from the drive unit, whereby upon operably connecting suitably selected chain and sprocket means between the first and second mechanisms and between the second mechanism and the material feeding mechanism, selecting the speed of the first mechanism and operably connecting a selected pair of the companion gears by operating the single manually operable means the drive unit may be operated to drive the material feeding mechanism at a selected constant reduced speed.

2,974,547
SPEED CHANGE MECHANISM
Joseph Thomas Egan, 47 Chestnut St., Marblehead, Mass.
Filed Mar. 3, 1960, Ser. No. 12,553
15 Claims. (Cl. 74—796)



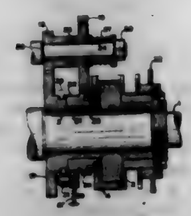
10. A variable speed transmission comprising a rotatably mounted driving member, a reaction member, a rotatably mounted driven member, each of said reaction and driven members having an inwardly facing cylindrical surface concentric with the driving member for defining an annular path therebetween, a plurality of balls in rolling frictional engagement with each of said reaction and driven member surfaces, a corresponding number of rollable elements drivably mounted on said driving member for movement through said path and mounted for rotation on internal axes inclined to said driving member axis, each of said rollable elements having a pair of conical surfaces adapted to move through a plane parallel to the driving member axis as said elements are moved through said path and are rotated on said internal axes, each conical surface of each rollable element being in rolling frictional engagement with balls engaging said reaction and driven member surfaces respectively, a corresponding number of pairs of conical elements drivably mounted on said driving member for movement through said path, each of said pairs of conical elements being in rolling frictional engagements with a ball for holding said balls therebetween in said frictional engagements, and means for moving said first-named rollable elements along said driving member axis to select the diameters of said conical surfaces thereof engaged by said balls.

2,974,548
AUTOMATIC DRILLING MACHINE
John S. Miller, Youngstown, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio, a corporation of Ohio
Filed Dec. 9, 1958, Ser. No. 779,224
20 Claims. (Cl. 77—5)



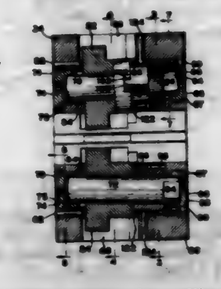
1. A machine tool of the type adapted to complete machining operations on large area workpieces comprising a supporting base, a workpiece receiving table, means supporting said workpiece supporting table in vertically spaced relation with respect to said supporting base, a tool gantry, said tool gantry having a large rectangular opening therein for receiving said workpiece receiving table, a tool unit mounted on said tool gantry, means for movably mounting said tool gantry from said supporting base whereby relative movement between said workpiece receiving table and said tool gantry is afforded, and said tool gantry mounting back-up means engaging and extending across said workpiece supporting table to support the same against deflection adjacent said tool unit.

2,974,549
ROLLING MECHANISMS
Ernst Fritz Wilhelm Moeltzner, Berlin-Charlottenburg, and Johann Hübl, Berlin-Halensee, Germany, assignors, by mesne assignments, to Landis Machine Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed June 17, 1953, Ser. No. 362,321
Claims priority, application Germany June 27, 1952
2 Claims. (Cl. 80—6)



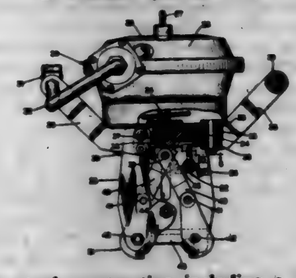
1. Means for transferring work pieces successively to a forming position between opposed rotatable forming rolls, comprising; a transfer cylinder surrounding one of said rolls, said cylinder having peripherally arranged carriers for said work pieces; means for locking said transfer cylinder against rotation to hold one of said carriers at said forming position; means for periodically rendering said locking means ineffective to permit rotation of said transfer cylinder; a first gear driven with said one of said rolls, a second gear rotatable with said transfer cylinder, said second gear being smaller than said first gear, a third gear smaller than said first gear and in engagement therewith, a fourth gear larger than said second gear and in engagement therewith, means drivingly connecting said third and fourth gears whereby when said locking means is rendered ineffective, to drive said transfer cylinder at a speed greater than the speed of said one of said rolls.

2,974,550
THREAD ROLLING APPARATUS
Glenn S. Eigenbrode, Waynesboro, Pa., assignor to Landis Machine Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1956, Ser. No. 573,126
2 Claims. (Cl. 80—6)



1. A thread rolling device for rolling tapered threads on a tapered work piece comprising a pair of jaws pivotally mounted in a frame each of said jaws, having a pair of co-axial bores, the common axis of which is parallel with the work blank axis, said bores opening through the walls of a recess, said walls being normal to the axis of said bores, a bushing in each bore in each jaw, the bushings in each jaw having coaxial openings, the common axis of which is inclined with respect to the work blank axis at the angle of taper of the work blank, shafts mounted in each of said bushings and extending across said recesses, cylindrical rolls having peripheral thread forming serrations mounted on the respective shafts in said recesses and having end surfaces normal to the axis of said shaft, and wear plates positioned between one end surface of each of said rolls and the adjacent wall of said recess, the surface of said wear plate contacting the end of the roll being normal to the roll shaft axis.

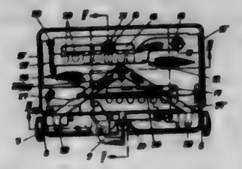
2,974,551
STRAP SEALING DEVICE WITH FULL STROKE COMPELLING MEANS
Sanford E. Powell, Warren, Ohio, assignor to Sharon Steel Corporation, Sharon, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1959, Ser. No. 795,812
12 Claims. (Cl. 81—9.1)



1. Sealing tool construction including a main frame member, sealing jaws operably connected to the main frame member and selectively movable through a closing stroke to a closed position and through an opening stroke to an open position, operating means operably connected to the main frame member and sealing jaws selectively actionable for moving the sealing jaws through the closing and opening strokes, rack means having at least two spaced teeth projecting therefrom operably connected to one of the operating means and main frame member, pawl means operably connected to the other of the operating means and main frame member and being engageable with the rack means teeth, the rack and pawl means re-

sisting reverse movement of the sealing jaws when the pawl means is engaged with the rack means teeth during the sealing jaw closing stroke, reversing means including a projection member on the rack means automatically engageable with the pawl means through said projection member for placing the pawl means in position to engage the rack means teeth during the sealing jaw closing stroke, and said rack means reversing means being automatically engageable with the pawl means through the same projection member for placing the pawl means in a position completely disengaged from the rack means teeth during the sealing jaw opening stroke.

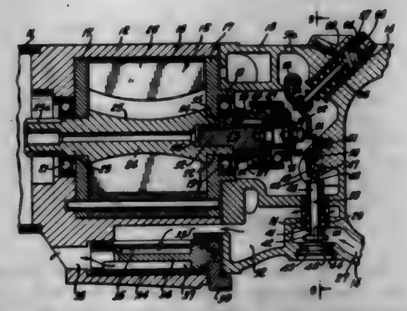
2,974,552
DEVICE FOR AFFIXING LEADS TO A FISHING LINE
Pierre M. Jaccard, Cuillairy-Ste-Croix, Switzerland
Filed Sept. 3, 1958, Ser. No. 758,842
Claims priority, application Switzerland Feb. 12, 1958
6 Claims. (Cl. 81—15)



1. A device for affixing lead sinkers to a fishing line, comprising a parallelpiped-shaped case having an opening therein, a lead sinker-fastening device having normally closed jaws positioned in said casing opening, a loader provided with several parallel channels each for different calibres slotted lead sinkers, means operated by said loader for opening said jaws sufficiently to permit a lead sinkers to pass between said jaws, each load channel having a longitudinal rib engaging the slots in the lead sinkers for guiding lead sinkers, said loader being movably mounted on the outside of said case for being moved lengthwise in relation to said case in order that each of said channels can be presented in turn opposite said jaws, and transversely of said case in order that the outlet of the selected channel can be brought to the height of said jaws, means for limiting the transverse movement of said loader in accordance with the calibre of the lead sinkers contained in the selected channel, an adjustable buffer element located at the back on the side of said jaws opposite to said channels, means for automatically positioning said buffer regulated by said loader in accordance with the calibre of the lead sinkers, a movable guide which in its working position is located on the rib extension of the selected channel for receiving lead sinkers passing between said jaws which lead sinkers slide on said guide until it comes to rest against said buffer element, and resilient means for moving said jaws upon the release of said loader for gripping the lead sinkers against said buffer permitting the guide to be moved aside and a fishing line to be placed in the slot in the lead sinkers which can be pressed together by manual operation of the fastening device.

2,974,553
TORQUE CONTROL MEANS FOR IMPACT WRENCHES
George Donowick, Utica, N.Y., assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed May 21, 1957, Ser. No. 660,697
17 Claims. (Cl. 81—52.3)

1. A power operated machine comprising a rotatable shaft subject to deceleration upon sudden increase in resistance to rotation, a flywheel driver, transmission means between the shaft and flywheel driver, and control means responsive to a predetermined deceleration of the shaft for automatically limiting the application of torque to the shaft, said control means including a flywheel arranged for forward rotation with the flywheel driver and



for continued forward rotation ahead of the flywheel driver upon sudden deceleration of the latter, characterized in that said transmission means includes a lost motion connection, whereby to delay operation of said control means and thus make the latter unresponsive to deceleration of extremely short duration.

2,974,554
METHOD OF AND APPARATUS FOR CUTTING STAPLE LENGTHS OF CABLES OF ARTIFICIAL THREADS
Max-Otto Schlitzmann and Alfred Ehmel, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Jan. 3, 1955, Ser. No. 479,373
Claims priority, application Germany Jan. 2, 1954
5 Claims. (Cl. 83—22)

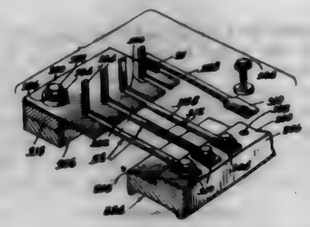


1. In the method of cutting staple lengths of artificial tows, in which the moving tow is cut against a support surface moved in the same direction therewith, the improvement which comprises passing the tow in substantially completely wet condition along a freely depending loop path between a guiding and supporting surface and a feeding surface, thence passing the tow over said feeding surface and downwardly therefrom in a substantially vertical direction in freely suspended condition to the point of cutting with said tow engaging said guiding and feeding surfaces under pressure due solely to the weight of said tow.

2,974,555
ELECTRONIC PIANO
Clifford W. Anderson, De Kalb, Ill., assignor to The Rudolph Wurlitzer Company, North Tonawanda, N.Y., a corporation of Ohio
Filed Mar. 18, 1955, Ser. No. 495,113
6 Claims. (Cl. 84—1.14)

1. An electronic musical instrument comprising a common reed support, a plurality of reeds with bases fixed on said common support and with vibratile tongues projecting in the same direction therefrom in side-by-side substantially coplanar parallelism from said support, a

plurality of hammers respectively percussively engageable with the tongues of said reeds respectively to set said reed tongues in decadent free vibration, a plurality of manually engageable keys respectively operatively connected to said hammers for selectively moving said hammers into such percussive engagement with said reed tongues, a sheet metal pickup member of flat uniform thickness comb-like configuration having a plurality of parallel teeth and an intermediate plurality of slots each opening at one end, means mounting said pickup member in opposition to said reeds substantially in a common plane therewith with the reeds projecting into the slots between the teeth, the teeth on opposite sides of a reed extending substantially the same distance therealong, there being at least one reed tongue in each slot, and each reed being closely adjacent a pickup tooth along a longitudinal



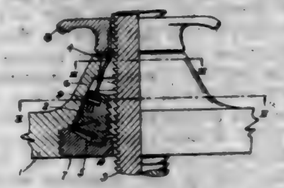
edge of said reed, said pickup teeth terminating at free ends short of the reed bases, the hammers respectively percussively engaging the reed tongues between the reed bases and the free ends of the adjacent pickup teeth, said reeds and said pickup member comprising electrostatic tone generating means, means establishing an electrical potential between said reeds and said pickup member, electric oscillations being generated in accordance with the change in capacity between said reeds and said pickup member resulting from free decadent vibration of said reeds relative to said pickup member, electronic amplifying means connected to said reeds and said pickup member for amplifying the oscillations generated by the decadent free vibration of said reed tongues, and electroacoustic translating means connected to said amplifying means for converting the amplified oscillations into audible tones.

2,974,556
END-REST FOOT-ASSEMBLY FOR VIOLONCELLOS, BASS VIOLS AND THE LIKE
Thomas L. Fawick, Cleveland, Ohio, assignor to Fawick Flexi-Grip Co., Akron, Ohio, a corporation of Ohio
Filed Jan. 30, 1958, Ser. No. 712,151
7 Claims. (Cl. 84—280)



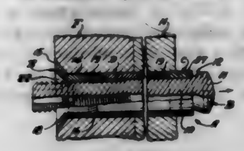
1. An end-rest assembly for a musical instrument as a violoncello, bass viol or the like comprising an end-rest rod, a unitary block body structure having a rubber, floor-engaging lower end of large cross-sectional extent for effective floor gripping action, said unitary body structure having a resilient rubber upper end portion with a top opening therein, and a rigid reinforcement member seated in said rubber upper end portion of said unitary body structure and having an opening therein which is accessible from above said top opening in said upper end portion and removably receiving one end of said end-rest rod, the rubber of said upper end portion resiliently engaging beneath said reinforcement member entirely around the latter to distribute the weight on said reinforcement member over a substantial area of the rubber in said upper end portion, the rubber of said upper end portion also overlying the upper side of said reinforcement member around said opening therein to retain said reinforcement member in said upper end portion of the unitary body structure and means on said rod spaced from said end adjustably supporting said instrument.

2,974,557
EXPANSION NUT ASSEMBLY
Frank Alastowicz, 2007 Harvey Road, Wilmington 3, Del.
Filed July 2, 1959, Ser. No. 824,592
6 Claims. (Cl. 85—33)



1. In an improved expansion nut assembly comprising a threaded screw, a threaded sectorially split nut with conical outer surface, a housing for said screw and said threaded nut with conical interior surface, an annular spring support for flat springs attached to each sector, an annular disc spring capable of assuming two equilibrium positions, and an annular retaining plug the combination of common means for laterally engaging the inner radius of said disc spring with said nut to provide both lateral guidance and longitudinal positioning of said nut, common means for retaining said disc spring in said housing, for stopping excess longitudinal motion of said nut, and for guiding said screw, means for actuating said disc spring between said two equilibrium positions, and means for preventing said nut from rotating in said housing.

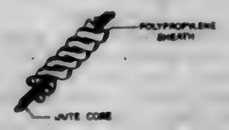
2,974,558
BLIND FASTENER PROVIDED WITH MANDREL NUT LOCKING MEANS
Frederick G. Hodell, Gates Mills, Ohio, assignor to The National Screw & Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed June 11, 1957, Ser. No. 665,039
2 Claims. (Cl. 85—40)



1. In a blind fastener for securing together a plurality of contiguous structures having a circular aperture therethrough: a nut comprising a tubular-like portion, a frusto-conically shaped portion at one end of said tubular-like portion decreasing in diameter in the direction away from said tubular-like portion, a head at the other end of said tubular-like portion, said head of said nut having a driving connection, said tubular-like portion of said nut having a length such that said frusto-conically shaped portion will not project through said structures when said nut is assembled with said structure with the side of said

head adjacent to said tubular-like portion in engagement with said structures at one of their exposed sides and said tubular-like portion positioned in said aperture; a headed screw threaded into said nut from said frusto-conically shaped portion and having a driving connection at its end opposite to its head, said head of said screw having a diameter substantially equal to the minimum outside diameter of said tubular-like portion of said nut and adapted to be located at one exposed side of said structures when said nut and screw are assembled with said structures with said side of said head of said nut adjacent to said tubular-like portion in engagement with said structures at their other exposed side and said tubular-like portion located in said aperture; sleeve means on said screw intermediate said frusto-conically shaped portion of said nut and said head of said screw, said sleeve means having an outside diameter substantially equal to the minimum outside diameter of said tubular-like portion of said nut, a frusto-conical recess in the end thereof adjacent to said nut coacting with said frusto-conically shaped portion of said nut when said fastener is driven, and a length such that a portion thereof projects from said structures at one of their exposed sides when said nut, screw and sleeve means are assembled with said structures with said side of said head of said nut adjacent to said tubular-like portion in engagement with said structures at the other of their exposed sides; and means for outwardly deforming said portion of said sleeve means at one exposed side of said structures when said nut, screw and sleeve means are assembled with said structures with said face of said head of said nut adjacent to said tubular-like body in engagement with said structures at the other of their exposed sides and said tubular-like portion and said frusto-conically shaped portion positioned in said aperture into a blind head at said one exposed side of said structures upon relative rotation between said nut and said screw.

2,974,559
COMPOSITE ROPES, CORDS AND THE LIKE
Ettore Cozzi, Milan, Italy, assignor to Montecatini-Societa Generale per Fiadustria Minerarie e Chimiche, Milan, Italy
Filed July 25, 1958, Ser. No. 750,885
Claims priority, application Italy July 29, 1957
13 Claims. (Cl. 87—1)



1. As a new article of manufacture, a composite fibrous structure consisting essentially of a core made of jute fibers and a yarn of a substantially isotactic polypropylene having a crystallinity of at least 70%, plaited on the core and forming an adhering, continuous sheath on the core.

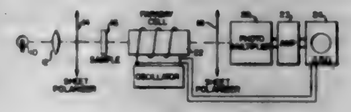
2,974,560
PHOTOGRAPHIC VIEW-FINDER
Friedrich Papke, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed Jan. 16, 1958, Ser. No. 709,364
Claims priority, application Germany Jan. 30, 1957
5 Claims. (Cl. 88—1.5)

1. A photographic finder based on the Albada-principle, comprising an image field frame apearing in the finder image and a partially permeable spherical concave mirror, through which the eye of an operator observes the object to be sighted, and which images a frame arranged near the focal plane of said mirror and illuminated by light incident from the object side and passing through said mirror, at about infinity; a first lens, a second lens spaced from said first lens, and a light-permeable block arranged between said first lens and said second lens; said mirror being arranged between said first lens and said block and the frame being carried by



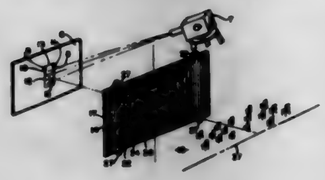
a plane surface of said second lens adjacent said block; the parts of the finder being assembled to form a unit with said lenses and block being laterally symmetrical about a geometrical axis, the axis of said frame being arranged asymmetrically relative to said geometrical axis of the finder with the axis of the concave mirror passing through the center of the frame in order to receive light primarily from the upper portions of the image field.

2,974,561
POLARIMETER
Arthur C. Hardy, Wellesley, Paul J. Fopiano, Cambridge, and Milton B. Trageser, Waltham, Mass., assignors to Research Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 284,972, Apr. 24, 1952. This application Dec. 20, 1956, Ser. No. 630,433
9 Claims. (Cl. 88—14)



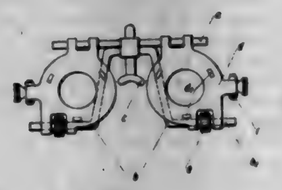
1. In a polarimeter which includes a light source, means for polarizing the light from said source, and an analyzer having an axis of polarization, the improvement that comprises means for accurately determining a position for said analyzer such that the average value of the direction of the plane of polarization of light incident thereon is at right angles to said analyzer axis comprising, in combination, a Faraday cell interposed between said polarizing means and said analyzer, means providing a first periodically oscillating electrical signal to energize said Faraday cell and thereby periodically vary the plane of polarization of light falling on said analyzer, photoelectric means for generating a second electrical signal, said photoelectric means being located such that said photoelectric means are responsive to the periodically varying light passed by said analyzer, means for measuring the amplitude and relative phase of an electrical signal supplied thereto, means applying said first electrical signal to said measuring means, and means applying said second electrical signal to said measuring means whereby the amplitude of the first harmonic content of said second electrical signal and the relative phase of said first and second electrical signal may be measured and means for adjusting the angle between the direction of the plane of polarization of light incident on said analyzer and said analyzer axis such that said first harmonic signal is a minimum.

2,974,562
STEREOSCOPIC VISUALIZERS
Louis Rosenbloom, 71 Seneca St., Geneva, N.Y.
Filed July 9, 1954, Ser. No. 442,262
1 Claim. (Cl. 88—16.6)



A stereoscopic visualizer system comprising a non depolarizing screen, means for directly and substantially simultaneously projecting a pair of images upon said screen comprising a superimposed stereoscopic pair, said means projecting one image by light polarized at right angles to the other image; a viewing area located forward of said screen having an outer boundary spaced from said screen a substantial distance and extending generally parallel with said screen, a grid located in a plane midway between said outer boundary and said screen and arranged transversely between said area and said screen and defining an inner boundary for said viewing area, said grid being composed of repeating series of three narrow parallel panels all lying in the plane of the grid, each of a width of 1¼ to 1½ inches and of the same height as the grid, each of said series of panels consisting from left to right of an opaque, a transparent light polarizing panel oriented to transmit light only from the left hand image of said pair, and a transparent light polarizing panel at right angles to the other transparent panel to transmit light only from the right hand image of the pair, and means for rapidly oscillating said grid crosswise of said panels through a distance at least the width of two panels.

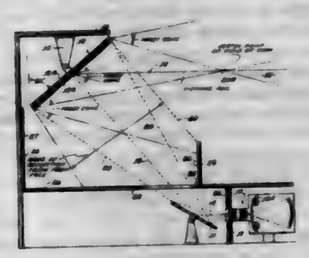
2,974,563
SPECTACLE FRAME
Cyril Wenk, 2 Estonska, Prague 13, Czechoslovakia
Filed Sept. 9, 1957, Ser. No. 682,972
Claims priority, application Czechoslovakia Sept. 13, 1956
5 Claims. (Cl. 88—20)



1. A trial frame for fitting lenses, comprising, in combination, an upper guide member including a guide bar; means for supporting said upper guide member above the optical axis of the eyes of a patient to be fitted with lenses; a lower guide member having two straight guide bar portions located below said upper guide member and extending below the optical axis of the eyes of the patient, and a holding means extending between the inner ends of said guide bar portions and a central region of the upper guide member and being connected to the latter so as to leave the outer ends of said guide bar portions and said guide bar free and unengaged; a pair of lens holders located between said guide members and having each an upper edge portion and a lower edge portion and at least one bearing bore formed on each of said edge portions for slidably receiving said guide bar of said upper guide member and said bar portions of said lower guide member, respectively, so as to be slidably supported on the same; adjusting means connected to said lens holders and to one of said guide members and being operable for moving said lens holders along said upper and lower guide members; and a temple connected to each of said lens holders for movement therewith along said guide members.

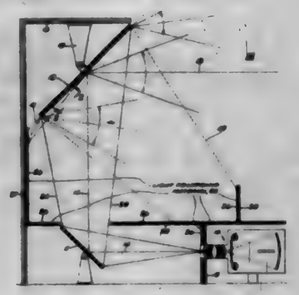
5. A trial frame for fitting lenses, comprising, in combination, an upper guide member including a guide bar; means for supporting said upper guide member above the eyes of a patient to be fitted with lenses; a lower guide member having two straight guide end bar portions located below said upper guide member and extending below the optical axis of the eyes of the patient, and a holding means between said guide members connected to said upper guide member; a pair of lens holders located between said guide members, each having an upper edge portion and a lower edge portion, and two spaced bearing bores formed on each of said portions for slidably receiving said upper guide bar and said bar portions of said lower guide member, respectively, so as to be slidably supported on the same; one temple mounted on each of said lense holders for turning movement thereon; and a pair of adjusting means each adjusting means being connected to one of said lens holders and to the lower guide members and being operable independently of the other adjusting means for moving each of said lens holders independently of the other lens holder along said upper and lower guide members.

2,974,564
PROJECTION SYSTEMS
Wendell S. Miller, 1341 Comstock Ave., Los Angeles, Calif.
Filed July 23, 1956, Ser. No. 599,376
10 Claims. (Cl. 88—24)



1. In a projection system of the character described, a screen having a multiplicity of specular reflectors thereon, a light projector having its principal beam inclined with respect to the general plane of said screen, the principal axis of the viewing field being also inclined with respect to the general plane of the screen and also with respect to the axis of said principal beam, an area through which said beam is projected being enclosed within light absorbing material, said elements being so shaped that the only ambient light falling on the screen and thence reflected into the viewing field must come from the aforesaid light absorbing material, so that, in the absence of light from said projector, said screen appears dark to a viewer in said viewing field, a transparent substantially smooth coating over said elements, said screen being inclined with respect to said principal beam such that light impinging and reflected from said coating is reflected in a region outside of said viewing field, said region comprising a light trap.

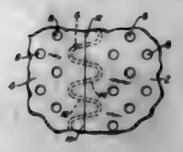
2,974,565
PROJECTION SYSTEM USING SCREEN WITH FACETS
Wendell S. Miller, 1341 Comstock Ave., Los Angeles 21, Calif.
Continuation of application Ser. No. 485,987, Feb. 3, 1955. This application May 12, 1958, Ser. No. 734,656
12 Claims. (Cl. 88—24)



1. In a system of the character described, a screen comprising a plurality of reflecting elements, a viewing field which is subjected to ambient light adjacent said screen with the principal viewing axis of said viewing field being inclined with respect to the general plane of of said screen, beam projecting means for projecting a light beam in focus on said screen with the axis of said beam inclined with respect to said plane and also with respect to said viewing axis, said light beam passing through an area which is exclusive of said viewing field, said elements being so shaped that light only from said area and none else is reflected into said viewing field and such that said ambient light is reflected by said elements exclusively into said area, each of said elements being subjectable to substantially parallel rays and reflecting the light therefrom throughout said viewing field with substantially uniform intensity throughout the viewing field, and means in said area for preventing light other than that from the projector from entering the viewing field, so that said screen, in the absence of said light beam and in the presence of said ambient light, appears dark to a viewer in said viewing field, said light reflecting elements each providing a substantially uniform distribution of effective reflecting tangent surfaces which are uniform with respect to angle throughout a predetermined solid angular range such that from each point in the viewing field, a ray directed to the screen and reflected from any of such elemental reflecting surfaces shall then pass through the light obstructing area.

2,974,566
MULTI-SECTION MOTION PICTURE PROJECTION SCREEN
Albert B. Hurley, Huntington, N.Y.; Sarah F. Hurley, administratrix of said Albert B. Hurley, deceased, assignor to Hurley Screen Company, Inc., Corona, N.Y., a corporation of New York
Filed Nov. 15, 1957, Ser. No. 696,874
21 Claims. (Cl. 88—28.9)

1. A motion picture projection screen comprising a pair of light-reflective sheets of heat-softenable material arranged substantially in line with one another with opposing edges thereof closely adjacent one another and having substantially aligned faces, and a filamentary element of comparatively high tensile strength embedded in said faces of said sheets, said sheets being hardened therearound to thereby secure said element to said sheets, said hardened sheet portions constituting substantially the sole means securing said element to said sheets, said element extending from one sheet to the other between said edges, said element having a thickness approximately half the thickness of said sheets and extending continuously in zig-zag manner from one sheet to the other,



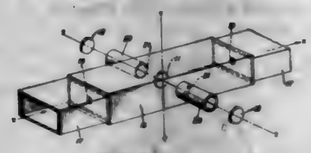
said element serving to retain said sheets in arranged position, said sheets having a thickness on the order of .02 inch, and having soft and readily pressure-deformed lenticular protrusions on the faces thereof opposite said faces in which said element is embedded.

2,974,567
OPHTHALMIC MOUNTINGS
Norman S. Di Lorenzo, Southbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Dec. 8, 1958, Ser. No. 778,860
4 Claims. (Cl. 88—41)



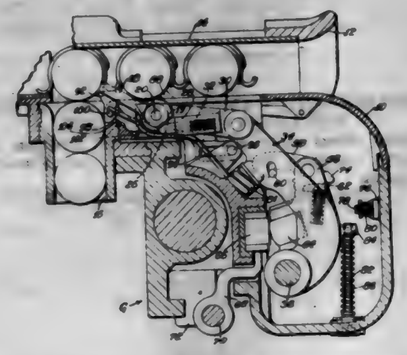
1. A supporting structure for the lenses of an ophthalmic mounting comprising a pair of lens rims each having a divided section in the upper portion thereof, tubular lugs attached to the rims adjacent the ends of said divided sections, said lugs and rims, adjacent the line of attachment, having channels along the opposite sides thereof, means for connecting said lugs for retaining lenses in said rim members when positioned therein, a bridge having end portions connected to said rims adjacent the nasal sides thereof and having attachment means adjacent said end portions, relatively long outwardly and rearwardly extending temple endpieces each having an edge portion adjacent their inner ends secured to the upper outer surface of said rims adjacent the respective temporal sides thereof, said endpieces being initially formed of relatively flat material and being shaped to extend upwardly relative to said rims, and detachable members adapted to be secured in partially encircling relation with each of the rims, said detachable members each having a slot with a portion thereof shaped to receive a respective inner portion of said upwardly extending endpieces and each having an outer rearwardly directed end portion extending through the rear surface of said members and through which the outer end portions of the endpieces extend, said members adjacent their nasal ends each having attachment means adapted to be connected with a respective attachment means of the bridge, said members each further having a recess in the underside thereof intermediate the slot and the nasal end thereof, and a U-shaped clamp secured in each of said recesses adapted to be positioned in straddling clamped relation with the lugs and having portions adjacent the free ends thereof extending into the channels and being adapted to function cooperatively with said attachment means and the portions of the endpieces extending in said slots for detachably retaining said members in aligned connected relation with the supporting structure.

2,974,568
LIGHT MODULATOR
Joseph F. Dillon, Jr., Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 15, 1957, Ser. No. 640,481
8 Claims. (Cl. 88—61)



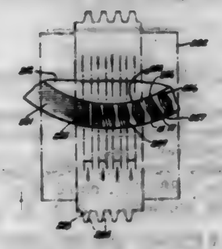
7. In combination, a microwave cavity, a light transmitting medium of a material selected from the group consisting of yttrium-iron garnet and rare earth-iron garnets positioned within said cavity, means providing polarized light for transmission through the medium, means for analyzing the light transmitted through the medium, and means supplying microwave energy to the cavity for providing a varying magnetic field in the medium along the path of light transmission for varying correspondingly the amount of Faraday rotation experienced by the light in its passage through the medium, further characterized in that the transmitting medium is magnetically biased near ferromagnetic resonance at a resonant frequency of the cavity.

2,974,569
AMMUNITION FEED MECHANISM
Garrett P. S. Cross, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Sept. 2, 1947, Ser. No. 771,677
1 Claim. (Cl. 89—33)



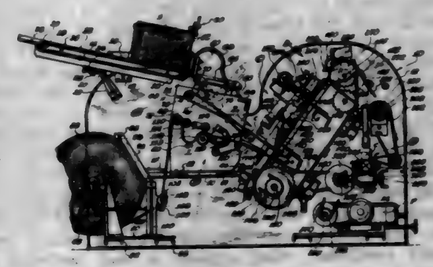
In an ammunition feed mechanism adapted to be mounted on an automatic gun to feed cartridges from a linked belt to the ammunition feedway of the gun, a feeder mouth mounted in the ammunition feedway, a pusher movable between a retracted position and the feeder mouth to bring successive cartridges into a position above the feeder mouth, a movable link support for engaging the link of the cartridge positioned above the feeder mouth, a slot in the link support, a fulcrum pin engaging in the slot and permitting longitudinal and swinging movements of the link support, a lost motion connection between the pusher and the link support for effecting movement of said support with the pusher, a cam for guiding the link support during movement with the pusher, and a spring for maintaining the link support in engagement with the cam.

2,974,570
METHOD OF MAKING GEARING
Earle D. Clickner, Kalamazoo, Mich., assignor to Shakespeare Company, Kalamazoo, Mich., a corporation of Michigan
Original application Nov. 27, 1957, Ser. No. 699,241. Divided and this application Apr. 8, 1959, Ser. No. 804,929
6 Claims. (Cl. 90—9)



1. The method of producing a crown gear having peripheral teeth of generally diamond shape as viewed in plan with the lateral vertices of said teeth lying in a common circle concentric with the axis of said gear comprising cutting a groove in a gear blank having a raised circular rib projecting from the face thereof and concentric with the axis of said blank, said cut going through said raised rib and being parallel to the radius thereof but spaced to one side thereof, thus forming one side of the diamond on one tooth, said side lying inside said circle and another side of a diamond on an adjacent tooth, said side lying outside said circle, forming the interdental space by cutting an identical groove radially through said rib and completing said gear by cutting an identical groove in said blank through said rib on the opposite side of said radius parallel and spaced therefrom and thus forming two additional sides of the diamond form of adjacent teeth one side lying inside and the other outside said circle.

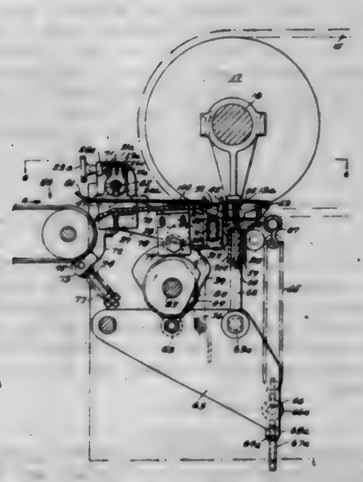
2,974,571
CARTON FORMING AND LINING MACHINE
Robert F. Windstrup, Joseph Boehler, and Walter Schneider, Chicago, Ill., assignors to Peters Machinery Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 9, 1956, Ser. No. 576,954
6 Claims. (Cl. 93—36.01)



1. An automatic carton forming and lining machine, comprising feeder means operative to deliver a carton blank to a predetermined rest position, liner feeder means operative to deliver a liner sheet to a predetermined rest position below the carton blank, conveyor means providing a continuous, straight linear carton forming run extending from a lower position immediately adjacent said

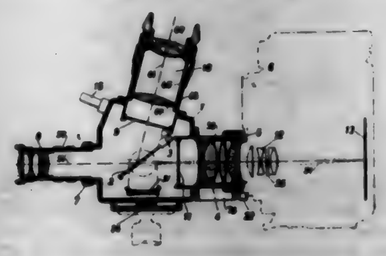
carton blank and liner sheet rest positions to an upper position above and forwardly thereof, said forming run being steeply upwardly and forwardly inclined along its entire length, a forming block carried by said conveyor and adapted to engage first the liner sheet and then the carton blank and carry them simultaneously in engaged relation upwardly through the forming run, and folding and forming means along said forming run operative to effect a downward folding of the carton into a final form having a separable folded liner therewithin.

2,974,572
CUTTING AND CREASING PRESS WITH MOVABLE STOPS
Albert F. Shields, Forest Hills, N.Y., assignor to S & S Corrugated Paper Machinery Co., Inc., Brooklyn, N.Y., a corporation of New York
Original application June 15, 1954, Ser. No. 436,937, now Patent No. 2,905,067, dated Sept. 22, 1959. Divided and this application Aug. 4, 1958, Ser. No. 753,163
24 Claims. (Cl. 93—58.3)



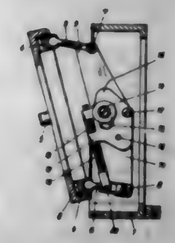
8. A cutting and creasing press for sheet material, said press comprising a pressure member adapted to raise a sheet against a die, a gripping means for engaging the leading edge of a sheet prior to its entry into the press, driving means for transporting the sheet in a first direction through the press from a rear end to a front end thereof; said driving means being continuously connected to said gripping means; said gripping means remaining continuously in engagement with the leading edge of the sheet during the transport of the sheet through said press; a sheet receiving station positioned rearwardly of said rear end and a cutting station positioned in the region of said front end; said driving means being operatively connected to said gripping means to successively stop said gripping means at said receiving and said cutting stations; said gripping means being rigidly positioned when stopped at said receiving station; a movable stop means at said receiving station; indexing means carried by said stop means engageable with indexing means carried by said gripping means whereby said stop means is movable to a first precise predetermined position with respect to said gripping means after said gripping means has been stopped at said receiving station; said stop means being moved to said first precise predetermined position while said gripping means is maintained in a fixed position.

2,974,573
SUPPLEMENTARY OPTICAL SYSTEM FOR PHOTOGRAPHIC CAMERAS
Werner Fasch, Braunschweig, Germany, assignor to Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate, Braunschweig, Germany, a German firm
Filed May 8, 1957, Ser. No. 657,957
Claims priority, application Germany May 12, 1956
15 Claims. (Cl. 95—42)



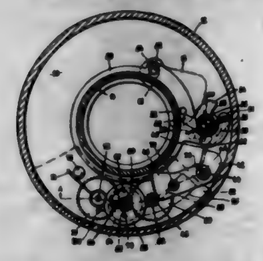
1. A supplementary optical device to enable the use of interchangeable lenses with a photographic camera having a lens not intended for interchangeability, said device comprising a housing for mounting in front of the lens of the camera with which the device is to be used, a first objective lens interchangeably mounted near the front of said housing for axial focusing movement relative thereto, said first objective lens focusing an image of an external object at an intermediate image plane within said housing, a second objective lens mounted between said intermediate image plane and the lens of the camera and serving, in conjunction with the lens of the camera, to project an image from said intermediate image plane to a film plane within the camera, a finder eyepiece assembly located between said first and second objective lenses and offset laterally from an optical axis passing through said first and second objective lenses, and mirror means located between said first objective lens and said intermediate image plane for deflecting light from said optical axis to said eyepiece assembly.

2,974,574
PHOTOGRAPHIC CAMERAS WITH ADJUSTABLE EMULSION CARRIER GUIDE
Siegfried Böhm and Günter Heumann, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden
Filed Sept. 19, 1957, Ser. No. 684,879
8 Claims. (Cl. 95—50)



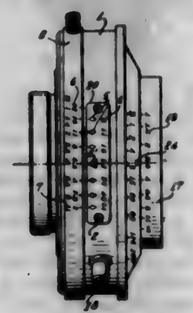
1. In a photographic camera having a casing, an adjustable emulsion carrier guide, comprising in combination, a carrier member, two support members pivotally supported about a common support by the casing of said cameras, two connecting members, each of said connecting members being swivelably connected to said carrier member and journalled on one of said two support members, each of said two support members including a slot spaced from said common support, and a clamping member extending through said slot of each support member and being adapted to clampingly hold said two support members.

2,974,575
GEAR ESCAPEMENT FOR A PHOTOGRAPHIC SHUTTER
Franz Singer, Munich, Germany, assignor to Compur-Werk Friedrich Deckel OHG, Munich, Germany, a German firm
Filed Nov. 19, 1959, Ser. No. 854,086
Claims priority, application Germany Nov. 25, 1958
5 Claims. (Cl. 95—63)



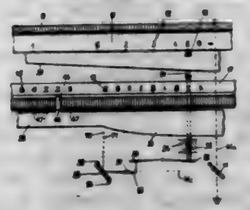
1. A photographic objective shutter comprising a plurality of shutter blades, means including a rotatable blade ring for pivotally mounting said shutter blades, a rotatable master member for engaging said blade ring to move said shutter blades to an open position and thereafter to return them to a closed position, gear retarding mechanism for delaying the rotation of said master member between the opening and closing of said shutter blades, and means for adjusting the delaying effect of said retarding mechanism, said retarding mechanism including a chain of gears, a flywheel connected for rotation with said chain of gears, and at least one additional mass coupled to said flywheel to be carried along thereby after a short initial movement in a running down direction of said retarding mechanism, said additional mass comprising a disk mounted for rotation coaxially with said flywheel, a circumferentially extending lost motion pin and slot connection between said disk and flywheel, and spring means for urging said disk to a rest position with respect to said flywheel.

2,974,576
ARRANGEMENT FOR THE SETTING OF THE APERTURE OF A LENS OF A CAMERA
Werner Hahn, Dresden, Germany, assignor to VEB Kamera- und Kinowerke Dresden
Filed June 19, 1956, Ser. No. 592,345
Claims priority, application Germany Oct. 11, 1955
6 Claims. (Cl. 95—64)



1. A setting device for setting the diaphragm of a photographic camera lens having diaphragm setting means movable with respect to diaphragm support means for controlling the aperture of said lens; said device comprising first scale means longitudinally calibrated in units of distance for indicating thereon the distance value between the object to be photographed and a source of light; and second scale means longitudinally calibrated in units of flash bulb guide number values, one of said scale means being fixedly attached on said diaphragm support means, and the other one of said scale means being operatively connected to said diaphragm setting means for coordinated longitudinal movement with the latter parallel to and adjacent said one scale means, wherein juxtaposition of calibrations on said scale means is used to define the position of the diaphragm setting means, both of said scale means being calibrated logarithmically in values of logarithms to the same base, said values increasing along said first and second scale means in the same direction, the base of said logarithms being determined in such a manner, that the quotient of every distance value on said first scale means divided into the adjacent guide number value on said second scale means is the aperture value of said diaphragm setting in predeterminated units, said quotient being contant for any setting of said diaphragm setting means relative to said diaphragm support means.

2,974,577
PHOTOGRAPHIC CAMERA SETTING MECHANISM
Paul Fahlenberg, Baierbrunn, near Munich, Germany, assignor, by mesne assignments, to Compur-Werk Friedrich Deckel OHG, Munich, Germany, a firm
Filed Apr. 16, 1957, Ser. No. 653,155
Claims priority, application Germany Apr. 28, 1956
2 Claims. (Cl. 95—64)

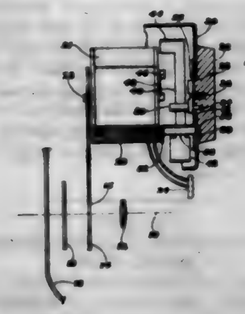


1. A photographic camera adapted for taking flash photographs and having an optical axis, said camera comprising a diaphragm aperture adjusting ring mounted for rotary adjustment about the optical axis, a cam ring also mounted for rotation about the optical axis, means for coupling said cam ring to said aperture adjusting ring in any selected one of a series of relative positions, a flash guide number scale on one of said rings for indicating the relative positions of said two rings with respect to each other, said cam ring having a non-linear cam, a single distance measuring device including a member movable in accordance with variations in distance from the camera to an object being photographed, and a cam follower engaging said cam and operatively connected to said movable member to move said member in accordance with movements of said cam as imparted to it by adjustments of said aperture adjusting ring.

2,974,578
MANUAL ADJUSTMENT OF AUTOMATIC EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERAS
Otto Wittel, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 29, 1959, Ser. No. 809,633
4 Claims. (Cl. 95—64)

1. In a photographic camera having means for focusing an image of a viewed scene onto a photosensitive sur-

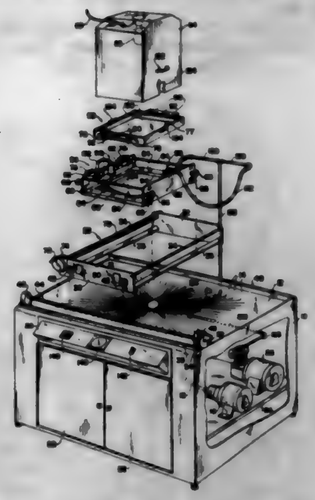
face; an exposure meter having a photocell disposed for illumination by light from said scene and having a pivoted coil energized by said photocell for movement within a predetermined effective angular range as a function of the brightness of said scene; a diaphragm mechanism coupled to said coil and adjusted by movement of said coil for automatically regulating the admission of scene light to said photosensitive surface as a function of said brightness; and means for manually adjusting said diaphragm mechanism, comprising: a first abutment member connected to said coil and having a range of movement corresponding to the angular range of said coil; second and third abutment members in bracketing relation to said first abutment member and normally lying outside the range of the first abutment member; a manually



movable control device normally occupying a first position; means operated by said control device, in response to initial movement of the latter away from said first position, for moving at least one of said second and third abutment members toward the other for causing a clamping engagement of said second and third abutment members with said first abutment member; and means operated by said control device, in response to additional movement of the latter away from said first position, for moving both of said second and third abutment members in one direction, thereby to move said first abutment member and said coil in said one direction for adjusting said diaphragm mechanism as a function of the position of said control device while said coil remains energized by said photocell.

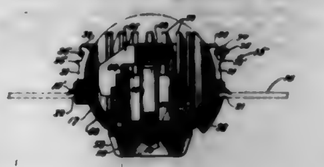
2,974,579
STEP AND REPEAT MACHINE
David Echelson, Windsor, and Ralph H. Bugbee, Meriden, Conn., assignors to Mercury Precision Equipment Co., Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Sept. 9, 1958, Ser. No. 759,939
8 Claims. (Cl. 95—73)

1. A machine for reproducing an image successively on different portions of a sheet of photographic film comprising in combination, a table having a flat upwardly exposed surface for supporting a sheet of unexposed film, a carriage supported over the table for longitudinal movement in a plane parallel to the table, means supported on the carriage for lateral movement in a plane parallel to the table, image carrying means supported on said laterally movable means for movement normal to the table, spring biased means for holding said image carrying means in spaced relationship with said table and a sheet of film thereon, fluid actuated plunger means for urging said image carrying means downwardly toward said table and film in opposition to said spring biased means, fluid passage means connecting said plunger means with a source of fluid under pressure, an electrically operable valve connected in said fluid passage means between said plunger means and said source of pressurized fluid for controlling the operation of said plunger means, a shielded electric lamp associated with said image carrying means and operable when energized to expose the portion of a film sheet disposed beneath said image carrying means, and switch means connected with a source of electrical power and connected in circuit with said valve and lamp, said switch means being adapted to be closed manually to operate said valve to cause said plunger means to



move the image carrying means downwardly toward a sheet of unexposed film on the table and to energize said lamp and said switch means being further adapted to open automatically a selected period of time after being manually closed whereby to de-energize said lamp and to operate said valve to cause said plunger means to move upwardly so that said image carrying means is moved upwardly by said spring biased means.

2,974,580
ADJUSTABLE AIR OUTLET
Edward C. Zimmerman and Peter Aleksa, Chicago, Ill., assignors to Patent License Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 17, 1958, Ser. No. 721,807
12 Claims. (Cl. 98—40)



1. An adjustable air outlet comprising a spherical housing having a passageway therethrough, a ring-like member having an opening therethrough with arcuate surfaces mounting said housing for universal movement, a nozzle having a tubular portion mounted in said passageway and an annular portion of larger diameter extending outwardly of said housing, shoulder-like means forming a part of said annular portion and engaging said housing adjacent the outer edge of said passageway, a valve member in said housing and having an annular portion co-axial with the tubular portion of said nozzle, the co-axial annular and tubular portions being telescoped and provided with interengaged cooperating threads formed therein, means in said passageway for preventing

rotation of said valve member, said nozzle having a valve seat therein, said valve member including a stud-like valve element extending into the tubular portion of said nozzle for engagement with said valve seat, the shoulder-like means of said nozzle having a lug-like means projecting therefrom, a projection carried by said housing externally thereof for engagement by said lug-like means for limiting the rotation of said nozzle and preventing separation of said threads, and spring means in said housing acting between said housing and said valve member to hold said nozzle in said passageway whereby when said valve member and nozzle are depressed against the action of said spring means said lug-like means will be disengaged from said projection and permit further rotation of said nozzle so as to disengage the threads of said valve member and nozzle.

2,974,581
LOUVER DEVICE
Adam D. Goetti, Phoenix, Ariz., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Feb. 24, 1959, Ser. No. 795,190
4 Claims. (Cl. 98—40)



1. In a louver device the combination of: a first slat; a second slat intersecting said first slat at an angle thereto; each of said slats having a pivot portion disposed on an axis longitudinally of the respective slat; each slat having an opening therethrough adjacent its respective pivot portion; and bearing means having first and second pairs of opposed spaced fingers; said pivot portions of said first slat engaged between said first pair of spaced fingers, said pivot portion of said second slat engaged between said second pair of spaced fingers, said first pair of spaced fingers extending in an opposite direction from said second pair of spaced fingers, said fingers of said first and second pairs movable into and out of said openings in said first and second slats adjacent their respective pivot portions when said slats are pivoted about the axes of said pivot portions.

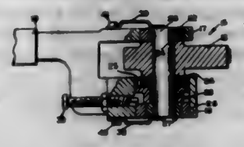
2,974,582
REEL DAMPER CONTROL
Henry M. Rybold and Oswald J. Wiggins, La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Feb. 12, 1958, Ser. No. 714,918
5 Claims. (Cl. 98—106)

1. The combination of a pivoted damper for a radiator and damper control means for raising and lowering said pivoted damper, said control means comprising support means adapted to be secured to a radiator casing, a damper knob rotatably connected to said support means, means operably associated with said damper knob to urge said damper knob into frictional engagement with said support means, said damper knob having a surface bearing on said support means, said surface having a spiral groove therein, said spiral groove having an arc length greater than 360°, said support means having an elongated slot therein with the major axis of the slot being in a plane normal to the axis of said damper knob, a flexible connecting means connecting said damper to said damper knob, and a rotating means located in said spiral groove and in said elongated



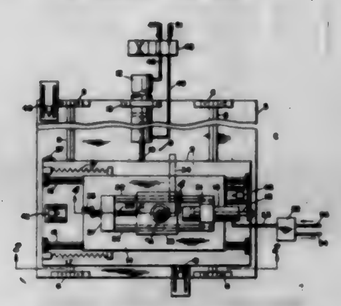
slot whereby said rotating means will move in a plane normal to the axis of said damper knob when said damper knob is rotated through an angle greater than 360° to raise or lower said damper.

2,974,583
ROTARY MARKING TOOL
Jerome Friedman, 36 Eastwood Lane, Valley Stream, N.Y.
Filed July 20, 1959, Ser. No. 828,368
14 Claims. (Cl. 101—28)



1. In a marking tool of the character described, a U-shaped member, a shaft positioned through one of the arms of said U-member, in rotatable and sliable relation therewith, a hollow shaft element positioned through the second arm of said U-member only in rotatable relation therewith; said second arm having an interior space about said hollow shaft element, a spring formed with at least one turn and having two ends, a first wheel carried on said hollow shaft element within said space; said first wheel and one end of said spring being secured to the hollow shaft element; the other end of said spring being anchored to the U-member; said shaft extending through said hollow shaft element and fitting therein, a marking wheel having marking elements along its periphery and a region of said marking wheel immediately after the end of the last marking character thereon being of reduced radius; said marking wheel being carried on said shaft between the arms of said U-member; said hollow shaft element and said marking wheel each having a keyway, key means along the shaft engaging said marking wheel and the hollow shaft element in their said keyways whereby on rotation of said shaft, said hollow shaft element and the marking wheel will rotate therewith; means on the U-member releasably holding said shaft against sliding movement and upon release of its hold, said shaft being manually slidable out of said U-member, the marking wheel on the hollow shaft element, a spring-loaded element movably mounted on the U-member and extending into said space in such member normally bearing against said first wheel and acting to hold it against rotary movement in a predetermined direction; said spring-loaded element when shifted away from said first wheel, releasing such wheel for rotation in said predetermined direction; said spring associated with the hollow shaft element being stressed upon rotation of the marking wheel in a direction opposite to said predetermined direction.

2,974,534
DECORATING APPARATUS FOR HOLLOW CERAMIC WARE
William E. Cope, Beloit, Ohio, and David E. Tomkins, New Castle, Pa., assignors, by direct and mesne assignments, to Shenango China, Inc., New Castle, Pa., a corporation of Pennsylvania
Filed Sept. 2, 1959, Ser. No. 837,625
10 Claims. (Cl. 101—39)



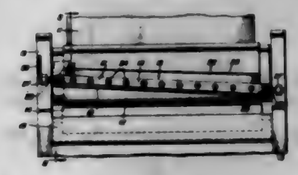
1. In an apparatus for decorating articles comprising an elongated stamping means, a first guide means extending parallel to the length of said stamping means, table means mounted for reciprocation along said first guide means, second guide means mounted on said table means and extending in a direction perpendicular to said first guide means and to the length of said stamping means, a platform mounted for reciprocation along said second guide means toward and away from said stamping means, a rotatable article holder means connecting said article holder to said platform so that movement of said article holder and platform toward said stamping means will press an article held by said article holder against said stamping means, first drive means for reciprocating said table means whereby an article held by said article holder against said stamping means will be rolled along said stamping means from a first position to a second position, biasing means connected to said platform for urging said platform and article holder toward a third position where an article on said article holder is spaced from said stamping means, second drive means connected to said table and platform for driving said platform and article holder from said third position to place an article on said article holder against said stamping means, said second drive means permitting controlled return movement of said article holder to the third position under the influence of said biasing means, and means for controlling operation of the first and second drive means whereby said article holder is moved in a substantially triangular path between said first, second and third positions.

2,974,585
DUPLICATING
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Company, Inc., Glen Cove, N.Y., a corporation of New York
Filed July 7, 1958, Ser. No. 746,964
5 Claims. (Cl. 101—149.4)



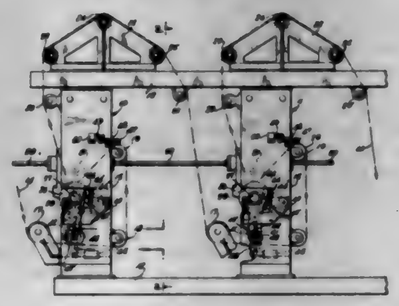
1. A composite assembly of pressure-responsive sheet elements for tracing an image from an original sheet bearing said image, comprising a flexible master sheet and a flexible transfer sheet having a latent image forming coating which is transferable to the master sheet upon typing impact and inscribing pressure, said master sheet and transfer sheet and said coating being transpicuous when in surface contact with each other with the transfer sheet and the master sheet superposed whereby in addition to typed images formed thereon an image may be formed on the master sheet by tracing over an image on the original sheet visible through said master sheet, said transfer sheet and the transfer coating thereon.

2,974,586
DOCTOR BLADE AND DOCTOR BLADE SHEAR FOR TEXTILE PRINTING MACHINE
Forest Wethero Hunt, 430 E. Black St., Rock Hill, S.C.
Filed Apr. 19, 1960, Ser. No. 23,225
4 Claims. (Cl. 101—157)



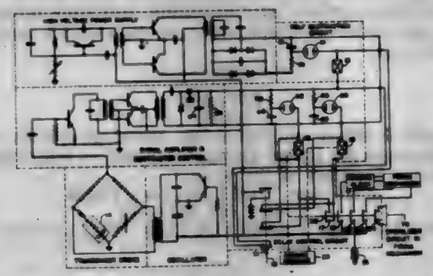
4. In a fabric printing machine, an engraved roll to supply coloring material to the fabric, and a spirally twisted elongated doctor blade mounted adjacent the engraved roll and having a spirally twisted sharp edge to engage the periphery of the engraved roll with uniform incidence along the entire length of the doctor blade.

2,974,587
SPLICE TRIP FOR GRAVURE PRESS
Fulton H. MacArthur, 9 Rudd Court, Glen Ridge, N.J.
Filed July 5, 1957, Ser. No. 670,257
3 Claims. (Cl. 101—184)



1. In a web-fed printing machine, a plurality of like printing units, a frame means for said units and for holding said units in fixed relation with each other, a pressure roll and a printing cylinder for each unit, web-feeding and guide means for passing an elongated spliced endless web through said first unit and between the pressure roll and printing cylinder thereof and thence between the pressure roll and printing cylinder of the next succeeding unit, said web-feeding means conducting said web around a portion of the periphery of the pressure roll in each of said units, whereby said web is not conducted around any portion of the printing cylinder in any of said units, said pressure rolls being journalled on fixed axes and the guide means between said units being fixed, whereby the length of said web between pressure rolls of adjacent units may remain a constant, means movably positioning the printing-cylinder axes for each of said units in the direction toward and away from contact with said web at the adjacent pressure roll, common drive means for all printing cylinders and including at each unit meshing gears driving the printing cylinder associated therewith, and positioning means associated with each unit and responsive to detected thickness of web material entering each said unit for automatically positioning the associated printing cylinder in pressure-relieving relation with said web upon encountering an abnormally thick portion of the web, the extent of displacement to effect pressure relief being less than sufficient to disengage the meshing gears of said drive means.

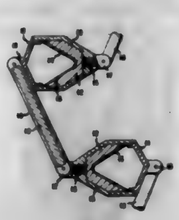
2,974,588
SHALLOW WATER MINE AND ARMING MEANS THEREFOR
Gordon L. Fogal and Thomas W. Kennedy, Wayne, Pa., and Kenneth J. Meese, Kensington, and Philip A. Trout, Mount Airy, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 2, 1953, Ser. No. 739,442
7 Claims. (Cl. 102—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An arming and self destruction circuit for a shallow water mine adapted to be laid by an aircraft in flight, comprising a source of electrical energy, means operable as the mine falls away from the aircraft for connecting the circuit to said source of energy, an oscillator, means operatively connecting said oscillator to a normally balanced Wheatstone bridge, a barium titanate transducer arranged in one of the arms of said bridge for destroying the balance thereof as the transducer becomes wet and thereby providing a bridge output signal, means for rectifying and amplifying said signal, a condenser connected to be charged by said rectified and amplified signal, a first diode, means operatively connecting said diode to the condenser whereby the diode is triggered when the charge on the condenser has reached a predetermined value, a primer connected to the diode for operation by the charge of the condenser as the diode is fired, and a normally locked arming member carrying a length of explosive train and movable from an initial safe position to an armed position, said primer being adapted to unlock said arming member as the primer operates.

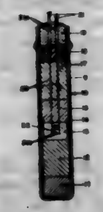
2,974,589
JET PERFORATORS
Paul John Bryan, Philadelphia, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 3, 1957, Ser. No. 663,285
2 Claims. (Cl. 102—20)

1. An assembly for perforating oil wells comprising a plurality of perforating units and a tubular connector joining said units, each of said units comprising a charge of a high-density detonating explosive having a conical concavity at one end lined with a conforming metal liner, a pressure-resistant case body completely surrounding said charge, a pressure-resistant case cover sealed to said case body at the concavity-containing end of said charge in such a manner as to provide an unobstructed chamber at said concavity-containing end and as to form a liquid-impervious container, an external pivot element on said case cover in axial alignment with said conical concavity, and an external pivot element on said case body in axial alignment with said conical concavity, said tubular connector being provided with an external pivot element at



each end and containing a continuous train of a high-velocity detonating explosive extending substantially the entire length of said connector between said pivot elements on said connector, one end of said connector being pivotly secured to the external pivot element on the case cover of one of said units and the other end of said connector being pivotly secured to the external pivot element on the case body of another of said units.

2,974,590
STATIC RESISTANT ELECTRIC INITIATOR
Edward L. Ramer, Hockessin, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 2, 1957, Ser. No. 687,717
10 Claims. (Cl. 102—28)

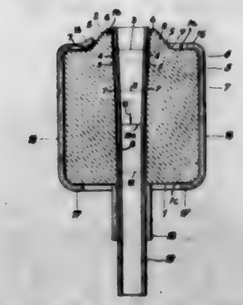


1. A static resistant initiator comprising in combination an elongated metallic shell, closed at one end; an electrically conductive body, within said shell, spaced from the closed end thereof transverse to the shell axis and in contact along at least a portion of its periphery with the inner wall of said shell; a pair of electric conductor wires extending into said shell through the end thereof opposite the said closed end and through the said conductive body and terminating intermediate said conductive body and the said closed end of the shell; a bridge wire, within said shell, intermediate said conductive body and said closed end, and connecting the terminal ends of said pair of conductor wires; an ignition composition, within said shell, intermediate said conductive body and said closed end and in direct contact with said bridge wire; a layer of a dielectric material along, and completely around, the entire length of each said conductor wire within the said conductive body in direct contact with said wire and with said conductive body; the said dielectric layer being characterized by a minimum thickness of 0.0001 inch and by a thickness along at least a portion of each said length of conductive wire not greater than 0.005 inch; a dielectric body within said shell transversely disposed across a portion thereof intermediate said conductive body and the end of said shell opposite said closed end, and said dielectric body closing said shell.

2,974,591
ELECTRIC FUSES FOR DETONATORS AND THE LIKE

Horst Pasternack, Essen, Germany, assignor to Firma Westig-Chemie Aktiengesellschaft, Essen, Germany

Filed Apr. 4, 1958, Ser. No. 726,501
Claims priority, application Germany Apr. 4, 1957
8 Claims. (Cl. 102—28)

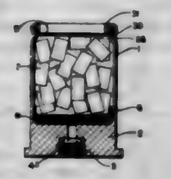


1. In an electrical detonator fuse, in combination, a substantially cylindrical body of insulating material having a transverse end face; an axial protuberance on said end face, said protuberance having an inclined side portion defining a predetermined acute angle of inclination with said transverse end face, said body being formed with an axial bore terminating in an opening in said protuberance; an inner tubular electrode extending through and fitted to said bore; a film of metallic material on said protuberance and extending on said body of insulating material at least partly into said bore for contact with said tubular electrode; and an outer electrode member secured to said body adjacent the circumference of said transverse end face and extending therefrom in a radially inward and axially outward direction toward said inclined side portion of said protuberance, said outer electrode member ending in pointed contactors contacting said film of metallic material on said protuberance.

2,974,592
CARTRIDGE

Charles O. Williams, Alton, Victor W. Drexelius, Edwardsville, and Robert D. Smith, Alton, Ill., assignors to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia

Filed Mar. 15, 1956, Ser. No. 572,177
6 Claims. (Cl. 102—39)

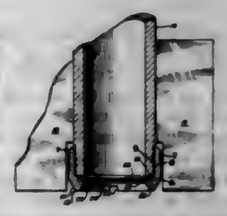


1. A cartridge comprising a rupturable metal case having a closed end with an annular flange adjacent thereto and a side wall thinner than said closed end to adapt said case to rupture in a portion of said side wall to vent said cartridge at a pressure level; a cup-shaped partition wad spaced from and adjacent said end within the case and having a skirt-like flange fitting said side wall; a main fuel charge on one side of the wad; a smaller charge of kindling composition packed to substantially complete immobility in the space on the side of the wad adjacent the thicker closed end of the cartridge case and forming a layer coextensive with the wad; an electrically fired primer centrally located in the closed end of the cartridge and communicating with said fuel, said primer comprising a metal cylinder having a partially closed end, an internal flange integral with the cylinder at said end and defining a central opening, a contact button within the cylinder, a dielectric material between said button and the inner wall of said cylinder, a priming composition within a second smaller cylinder snugly fitting in the first said cylinder and separated from said button with a layer of dielectric material, a resistance wire embedded in the priming composition and in electrical contact with said button and said cylinders; and at the opposite end of the case an end closure comprising a cup-shaped wad having a body portion of a diameter substantially equivalent to the inside diameter of the cartridge case and an outwardly extending skirt-like flange, an annular indentation in said cartridge case wall forming a protuberance within the cartridge case, the base portion of the last said wad resting on the protuberance and having a layer of sealing resin therebetween, the end of said cartridge case being folded over said flange of said closure wad and pressing the wad against the protuberance, and a layer of sealing resin lying between the end of the cartridge case and the exposed surface of the wad.

2,974,593
SEAL

Forrest G. Bitner and Harry Silk, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 7, 1952, Ser. No. 319,438
1 Claim. (Cl. 102—49)
(Granted under Title 35, U.S. Code (1952), sec. 266)



In a charge projectile having a longitudinal cylindrical tail tube adapted to be seated in telescopic relationship upon a cylindrically shaped spigot and fired therefrom, the tail tube having an externally threaded portion at the after end thereof and a plurality of fins circumferentially spaced around and secured to the after end portion of the tube, each of the fins being longitudinally slotted along their inner sides adjacent the threaded portion of the tail tube to permit access to the threaded portion, a quick connectable seal assembly appendage for providing a closure of the space between the adjacent axial surfaces of the spigot and the tail tube comprising, a stepped internally threaded ring member adapted to be threaded onto the threaded portion of the tail tube within the space provided by the slotted portions of the fins, said ring member having a first internal continuous annular shoulder adapted to abut against a first portion of the end of the tail tube when the ring member is in threaded position thereon, a second internal continuous annular shoulder formed in the ring member, said second annular shoulder being longitudinally spaced from said first shoulder to form an annular groove between said second shoulder and a second portion of the end of the tail tube when said ring member is in threaded position; an O-ring formed of deformable material and seated firmly against the base of the groove when the ring is in threaded position and having an internal diameter less than the diameter of the spigot, the inner edge surface of the second shoulder being machined to close tolerance and describing an aperture corresponding to the cross-sectional dimension of the spigot, and said ring member being chamfered radially outwardly from the after extremity of the inner edge surface of the second shoulder to facilitate positioning of the tail tube of the projectile over the spigot during assembly.

2,974,594
SPACE VEHICLE ATTITUDE CONTROL SYSTEM

Josef Boehm, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 14, 1958, Ser. No. 755,116
13 Claims. (Cl. 102—50)
(Granted under Title 35, U.S. Code (1952), sec. 266)



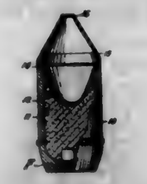
1. In a space vehicle for use outside the earth's atmosphere, having a nose portion and an after portion: four sets of attitude-correcting gaseous reaction motors, mounted on the outer periphery of said after portion, each set comprising a pair of juxtaposed, oppositely directed nozzles having a common axis that is tangent to a circle centered at the longitudinal axis of the vehicle, the four centers of said common axes being equally spaced about said circle, whereby the discharge of gas in the same direction from two parallel nozzles turns said vehicle about its pitch axis, the discharge of gas in the same direction from two other parallel nozzles turns the vehicle about its roll axis, and the discharge of gas in opposite directions thru parallel nozzles rolls the vehicle about said longitudinal axis; a valve for controlling the supply of gaseous motive fluid to each of said reaction motors; means for supplying gaseous motive fluid to said valves; actuating means for opening or closing said valves; each of said reaction motors comprising a nozzle having a throat and an outlet for the ejection of fluid from said vehicle; each of said valves comprising an element that is constructed and arranged relative to its associated nozzle to coact therewith for supplying to said outlet an amount of said motive fluid that increases with increase in the extent of opening of said valve by said actuating means; attitude sensing means for supplying a signal on deviation of the space vehicle from any of the desired attitudes relative to said axes; and means for connecting said sensing means with said actuating means, whereby when a signal results from a deviation of the vehicle relative to one of said axes a pair of said actuating means and their associated reaction motors are set in operation, to correct the vehicle's attitude.

2,974,595
PROJECTILE

Henry-Hans Mohaupt, Fort Worth, Tex., assignor, by mesne assignments, to Welex, Inc., Fort Worth, Tex., a corporation of Delaware

Continuation of application Ser. No. 463,677, Oct. 28, 1942. This application Sept. 11, 1947, Ser. No. 773,375
7 Claims. (Cl. 102—56)

1. A collapsible projectile for employment in front of an explosive charge which has a surface cavity therein for receiving the projectile and by which charge an external collapsing pressure is exerted upon the outside of the projectile to cause it to be propelled forwardly and also to be reduced in cross-sectional area, comprising a metal structure having a convex outer surface presented against the explosive charge and a concave inner surface positioned in the direction in which the projectile is to be propelled, said surfaces being essentially symmetrical about an axis extending forwardly from the bottom of the cavity and giving the projectile the general form of a hollow cone having an apex half-angle of substantially

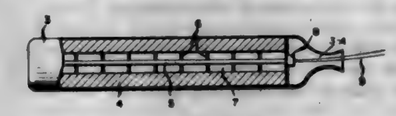


22 degrees, with its minimum wall thickness adjacent the axis and having an increasing wall thickness toward the free edge, whereby the collapsing effect of the explosion gases upon the units of area of the external surface is relatively decreased in the direction from the apex toward the free edge, the apex half-angle of the conical form and the thickness of the parts of the projectile being constructed and arranged to prevent extroversion under the effect of the pressure of the explosive charge.

2,974,596
PROPELLANT GRAIN IGNITER

Robert Charles Allen, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 14, 1957, Ser. No. 665,697
1 Claim. (Cl. 102—70)



A combination of an elongated propellant grain having a cavity extending substantially the length of said grain and disposed within and extending essentially the length of said cavity an igniter adapter to effect ignition of the entire exposed surface of said grain in said cavity with extreme rapidity, which igniter comprises a continuous column consisting essentially of a mixture of a crystalline high-explosive compound, an oxidant, and a fuel confined in a metal sheath at a distribution of 2 to 20 grains of said mixture per foot of length of said sheath, said high-explosive compound being present in an amount of about 1 to 16 grains per foot of length of said sheath and comprising 15–80% of said mixture.

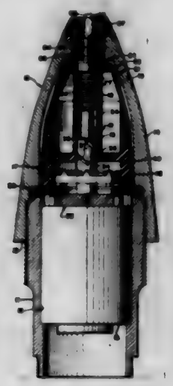
2,974,597
MECHANICAL SWITCH AND HERMETICALLY SEALING MEANS FOR AN ELECTRIC TIME FUZE

Charles O. Hesson, College Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 1, 1952, Ser. No. 302,283
3 Claims. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

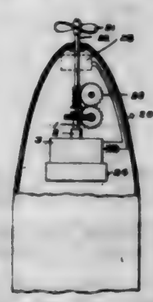
3. In a switch mechanism for completing a plurality of electric fuze circuits in successive order, the combination of a fuze casing, a sleeve rotatably supported within said casing and having a spiral groove formed therein, a plurality of mutually spaced fixed contact elements disposed within and secured to said casing, a plurality

of mutually spaced contact members secured to said sleeve and moved into engagement with said fixed contact elements successively as the sleeve is moved a predetermined amount thereby to complete said circuits in successive order, an element disposed within said sleeve and movable longitudinally in response to a predetermined pressure applied thereto, an expansible bellows in engagement with said movable element and expanded in response to a predetermined force applied thereto for moving the element, a pin carried by said element and disposed within said spiral groove for rotating the sleeve



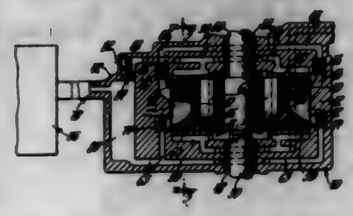
as the element is moved longitudinally a predetermined amount, actuating means in engagement with said bellows for applying said force to the bellows, a pair of initially retracted spring fingers on said actuating means for locking said sleeve against further rotation when the actuating means is moved an amount sufficient to cause release and movement of the fingers into locking engagement with said switch device, and a sealing gasket including said bellows for hermetically sealing said casing whereby the sleeve may be moved repeatedly by said bellows without breaking said seal.

2,974,598
SELF DESTRUCTION SWITCH
William B. McLean, Washington, D.C., assignor to the United States of America as represented by the Secretary of War
Filed Feb. 3, 1947, Ser. No. 726,195
4 Claims. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



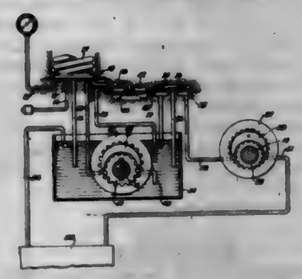
1. Firing means for fuzed explosive projectiles comprising a drive shaft, a detonator holder, a detonator normally held in said holder in an unarmed position, electrical circuit means for firing said detonator, means actuated by said drive shaft for moving said detonator holder to an armed position, a fixed annular gear, an idler gear meshing with said annular gear, a gear mounted on said shaft and meshing with said idler gear to rotate said idler gear within said annular gear into position to actuate said electrical circuit means to fire said detonator after a predetermined number of revolutions of said drive shaft.

2,974,599
PUMP
John Dolza, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 26, 1956, Ser. No. 561,519
1 Claim. (Cl. 103—5)



A fuel pump adapted to receive fuel under pressure from fuel feeding means connected to a source of fuel having a high vapor pressure, comprising a housing having an inlet adapted to receive said fuel from said fuel feeding means, a separating chamber supplied by said fuel inlet, a fuel branch and a spill fuel branch leading from and connected in parallel with said separating chamber, at least one pumping cell in said housing fed from said fuel branch, a check valve disposed in said spill fuel branch and loaded so as to prevent said fuel feeding means from overriding said pumping cell, a cooling jacket disposed about and in heat exchanging relation with said pumping cell, said cooling jacket being connected to said spill fuel branch downstream of said check valve and having an outlet adapted to return said spill fuel to said source, whereby said spill fuel in passing through said check valve into said cooling jacket is subjected to a reduction in pressure which causes said spill fuel to vaporize and thereby cool said pumping cell.

2,974,600
PUMPING SYSTEM
Charles H. Rystrom, 325 Linden St., Winnetka, Ill.
Filed Apr. 18, 1956, Ser. No. 579,117
8 Claims. (Cl. 103—11)



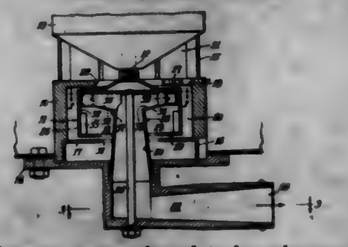
1. A pumping system comprising a first pressure responsive valve, a spring acting on one side of the valve urging it to closed position, means to supply fluid under pressure to the other side of the valve to urge the valve open, means defining a restricted relief passage communicating with said means to pass a predetermined volume of fluid, the valve being opened by fluid pressure when the volume delivered thereto by said means exceeds said predetermined volume, a pressure responsive outlet valve, a spring urging the outlet valve closed, a discharge connection to the outlet valve, means to supply fluid under pressure to the outlet valve to act on the outlet valve in a direction to open it, a second pressure responsive valve, a relief connection from the outlet valve leading to the second pressure responsive valve and closed when the second pressure responsive valve is closed and open when the second pressure responsive valve is open to bypass fluid tending to open the outlet valve, and means connecting the second pressure responsive valve to said other side of the first named valve to close the second pressure responsive valve when the volume delivered to said other side of the first named valve exceeds said predetermined volume.

2,974,601
FREE PISTON FLUID PUMPS
Joseph Zahuty, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 15, 1958, Ser. No. 767,314
2 Claims. (Cl. 103—52)



1. A pump comprising a fixed casing defining a pumping chamber, a reciprocable free piston in said pumping chamber and defining a power cylinder, stop means on each end of said free piston, a power piston in said power cylinder and fixed relative to said casing, conduit means connected to said power piston from the exterior of said pumping chamber and slidably engaged with said free piston, ports in said fixed piston and communicating with opposite end zones of said power cylinder, valve means controlling said ports, said conduit means being adapted to supply and exhaust power fluid alternately from said end zones by way of said valved ports, mechanism on said fixed piston and free of said fixed pumping chamber casing for automatically tripping said valve means to effect power actuation of said free piston, the said tripping mechanism including a reciprocable rod with a quick action over-center spring arrangement, and a valve plate pivoted in said fixed power piston and adapted to open and close said ports upon contact of said stop means with said reciprocable rod.

2,974,602
FUEL BOOSTER PUMP
Thomas Lock, Parma, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 27, 1955, Ser. No. 484,511
1 Claim. (Cl. 103—113)



A fuel booster pump adapted to be submerged in a fuel tank comprising a hollow cylindrical housing defining a pumping chamber, said housing being provided with central apertures formed in the ends thereof to provide inlet and outlet means communicating with the interior of said fuel tank, a cylindrical impeller having a plurality of radial vanes secured to the inner wall thereof rotatably mounted within said housing for forming a rotating annulus of fuel therein, said impeller being provided with central apertures concentric with the apertures formed in said housing, drive means for rotating said impeller to centrifuge dense fuel outwardly from its center and less dense fuel inwardly toward its center and thence out the passages defined by the aforementioned central apertures, and means positioned within said central apertures and coaxial therewith for collecting the dense fuel and conducting it to an outlet, said collecting means including radial pick-up arms disposed within said impeller and having the extremities thereof positioned adjacent the interior wall of said impeller.

2,974,603
VANED ROTARY PUMPS AND MOTORS
Andrew Fraser, 27 The Vale, London W. 3, England
Filed June 25, 1958, Ser. No. 744,567
Claims priority, application Great Britain June 25, 1957
10 Claims. (Cl. 103—121)

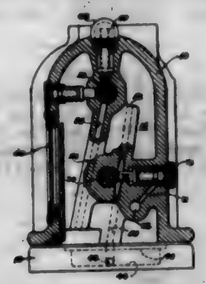


1. A rotary device suitable for use as a pump or motor, said device comprising a hollow stator member and a rotor member rotatably mounted with small clearance between internal opposing side surfaces of the stator member, said rotor and stator members having opposing peripheral surfaces one of which is circular and the other of which has a non-circular curvilinear profile in a plane perpendicular to the rotational axis of the rotor member, said peripheral surfaces cooperating with the internal side surfaces of the stator member to form an annular series of liquid chambers, said member with the circular peripheral surface having at least one slot opening through said circular peripheral surface and having high and low pressure conduits associated with each slot, and a vane slidably mounted in each slot, said high and low pressure conduits communicating with said chambers on opposite sides of each vane, and each vane being arranged to engage the non-circular peripheral surface and thereby sweep said chambers and displace liquid therefrom upon rotation of the rotor, wherein each vane comprises a sandwich of two vane parts and a layer of resilient material disposed between the two vane parts and bonded thereto, the said layer of resilient material being in shear when the vane is mounted in position in the device and urging the vane parts in opposite directions to provide sealing contact between each vane part and at least one of said surfaces.

2,974,604
PUMP
Bernard N. Pierce, West Hartford, Conn., assignor to The Morrow Machine Company, Hartford, Conn., a corporation of Connecticut
Original application Nov. 21, 1951, Ser. No. 257,620, now Patent No. 2,879,733, dated Mar. 31, 1959. Divided and this application Aug. 18, 1958, Ser. No. 755,551
1 Claim. (Cl. 103—123)

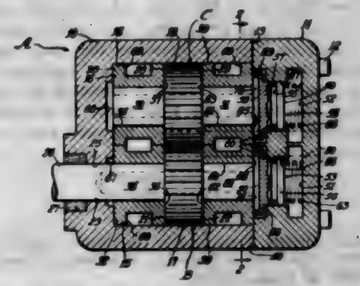
A pump comprising a frame having a first bore therein and a second bore intersecting and extending radially

from one side of said first bore, said second bore having a reduced diameter section extending from its intersection with said first bore to an enlarged diameter section spaced from said first bore, a shaft rotatably journaled in said first bore, a plunger slideably supported in the reduced diameter section of said second bore and having a flat inner end engaging said shaft along a line parallel to the axis of said shaft, the circumferential portion of said shaft engaged by the inner end of said plunger during rotation of said shaft having a depressed eccentric portion adapted to receive the inner end of said plunger, said depressed eccentric portion extending only partially around the circumference of said shaft, means in the end of said enlarged diameter section remote from said



reduced diameter section slideably supporting said plunger adjacent its other end, means engaged between said means in said enlarged diameter section and said plunger biasing said plunger against said shaft, an inlet duct in said frame intersecting said first bore and said second bore at one side of the line of engagement between said inner end of said plunger and said shaft, an outlet duct intersecting said first bore and said second bore on the opposite side of said line of engagement, means for rotating said shaft to successively advance said depressed portion past said outlet duct, said plunger and said inlet duct, and means defining a vent communicating with said enlarged diameter section for venting said enlarged diameter section and for returning leakage fluid to said inlet duct.

2,974,605
PRESSURE LOADED HYDRAULIC APPARATUS
John F. Murray, Northfield, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 12, 1959, Ser. No. 792,749
7 Claims. (Cl. 103—126)



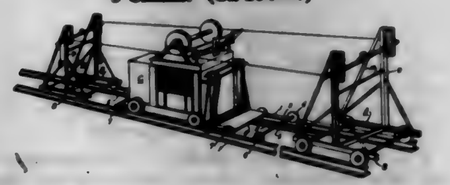
1. In a hydraulic apparatus, the combination comprising: a housing; means defining a pumping chamber in said housing; means defining an inlet and an outlet in said housing, said inlet leading to and said outlet leading from said pumping chamber; rotatable pumping means disposed in said pumping chamber for drawing fluid from said inlet, pressurizing the fluid and forcing it out said outlet under pressure; said pumping means being provided with axially extending journals; axially movable bushing means carried by said housing for rotatably supporting said journals and adapted to be axially moved along said journals into sealing engagement with said rotatable pumping means; said bushing means being of lesser axial length than said journals; axially movable closed piston means carried by said housing, said piston means having front face means; means defining annular abutment means projecting from said front face means, said abutment means being adapted to eccentrically engage said bushing means and overlaying without contacting said journals and being disposed closer to said outlet than to said inlet; and means for forcing said piston means against said bushing means whereby said bushing means is axially moved into said sealing engagement with said rotatable pumping means.

2,974,606
CRANES
Karl Macrander, Wilhelmshaven, Germany, assignor to Alweg-Forschung Gesellschaft mit beschränkter Haftung, Koln, Germany, a corporation of Germany
Filed Mar. 11, 1957, Ser. No. 645,643
5 Claims. (Cl. 104—2)



1. A crane for use in positioning prefabricated track beam sections on the tops of spaced pylons to form an extension of an existing elevated trackway, said trackway having top and side surfaces comprising, at least two trucks constructed to ride on said trackway, said trucks having a rigid frame assembly, load carrying wheels and side guide wheels mounted on said frame assembly and constructed to ride along said top and side surfaces of said beam, respectively, an intermediate support assembly, means mounting said intermediate support assembly on said frame assembly for pivotal movement about a vertical axis, an upper crane assembly, a crab for lifting and carrying said prefabricated track beam sections, means mounting said crab on said upper crane assembly for movement therealong, means supporting said upper crane assembly on said intermediate support assembly for tilting movement about a substantially horizontal axis extending longitudinally of the track beam, and means operatively connected to said upper crane assembly and said intermediate support assembly for moving said upper crane assembly about its tilting axis.

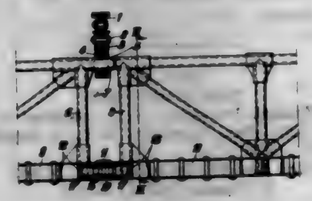
2,974,607
TRACK SURFACING ASSEMBLY AND METHOD
Henry H. Talboys, Milwaukee, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 13, 1957, Ser. No. 703,235
5 Claims. (Cl. 104—7)



1. In a track surfacing mechanism, an assembly of spaced carriages constructed to be moved along the rails

of a track, means on the carriages for establishing a generally horizontal longitudinal plane of reference above and generally parallel to the rails and extending laterally across the rails, a jack in the assembly for independently lifting the rails at any designated location in accordance with the distance of the rails from the plane of reference, and a sensing mechanism at the jack for directly detecting the distance between either rail and the plane of reference to establish the amount of independent lift.

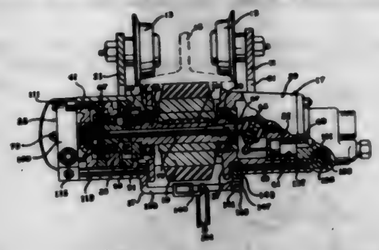
2,974,608
SUSPENSION RAILWAY
Wilhelm Grube, Ringstrasse 44, Wolfenbuttel, Germany
Filed Mar. 19, 1957, Ser. No. 647,060
2 Claims. (Cl. 104—95)



1. A suspension railway comprising in combination, at least two rail tracks consisting of a plurality of rail sections which are mounted in pairs parallel to each other in a horizontal and spaced relation, means for supporting said rail sections freely pivotable against each other above the ground, said means comprising a plurality of supporting members extending substantially in a vertical direction, each of which supports at its lower end one end of one of said pairs of rail sections; joints for securing said supporting members, said joints comprising horizontal extensions secured to the upper ends of adjacent supporting members, one of said horizontal extensions having a substantially pear-shaped end, the other of said horizontal extensions having a tubular end portion for receiving slidably and pivotably the substantially pear-shaped end of the one horizontal extensions, to allow for flexibility about a vertical axis passing through the joint; means for allowing rotation of said horizontal extension about a longitudinal axis, comprising, a bearing member having an inner spherical aperture, a bushing slidably mounted on said tubular end of said other horizontal extension and having a substantially spherical outer surface received in the spherical aperture of said bearing member; the adjacent ends of each of said rail sections being formed with hollow portions and spaced in longitudinal direction, means for joining the ends of said rail sections, said joining means comprising connecting members having spherical end portions received in said hollow portions of the adjacent rail ends, to allow flexibility about a vertical axis passing through the joint, and spring means enclosing said connecting members, said spring means having ends abutting against the respective end of the adjacent rail sections.

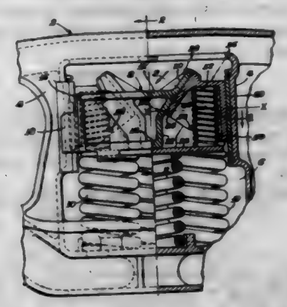
2,974,609
BEAM MOUNTED TRACTOR
John H. Bent, Fullerton, and Richard H. Olsson, La Puente, Calif., assignors to Gardner-Denver Company, a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,368
3 Claims. (Cl. 105—153)

1. A tractor adapted for movement along a beam comprising: a housing having a center portion and two end portions; a reversible motor, including a shaft, mounted in one of said housing end portions; a drive shaft and a hollow driven shaft coaxially and rotatably mounted in the other housing end portion; planetary reduction gear means connecting said drive shaft and said driven shaft; said drive shaft and said driven shaft traversing said housing center portion; and said drive shaft being detachably coupled to said motor shaft; a traction wheel nonrotatably mounted on said driven shaft within said housing center portion; a trolley comprising a pair of frame members secured together in spaced relationship; flanged wheels rotatably mounted on said frame members for engaging the upper faces of a beam flange; means for adjusting the spaced relationship of said frame mem-



bers to accommodate said trolley to beams of different width; said housing being pivotally attached to one end of said trolley; adjustable resilient means for detachably securing said housing to the other end of said trolley to engage said traction wheel with the lower face of a beam and control the load on said traction wheel; said other housing end portion being detachably secured to said housing center portion; and said adjustable resilient means being detachable and said other housing end portion, with said drive shaft and said driven shaft, being detachable to facilitate the replacement of said traction wheel.

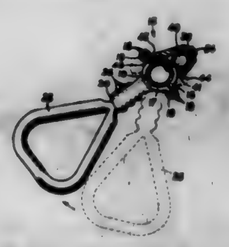
2,974,610
SNUBBED BOLSTER TRUCK
Frank P. Quinn, Deerfield, and Donald M. Young, Chicago, Ill., assignors to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Oct. 23, 1958, Ser. No. 769,259
12 Claims. (Cl. 105—197)



7. A railway car truck having a side frame with spaced columns defining therebetween a bolster opening, spring means disposed in said bolster opening and being supported by said frame, a spring plate on said spring means, a bolster disposed in said opening and engaging said plate, said bolster having spaced top and bottom walls, a web connecting said walls and having a plurality of segments converging and mateably joining with each other forming a pocket therebetween, said segments being inclined acutely with the vertical and extending upwardly and outwardly from the longitudinal center plane of said bolster and being above and below said top wall, friction shoe means disposed in said pocket and being in complementary engagement with said segments, said shoe means having a friction

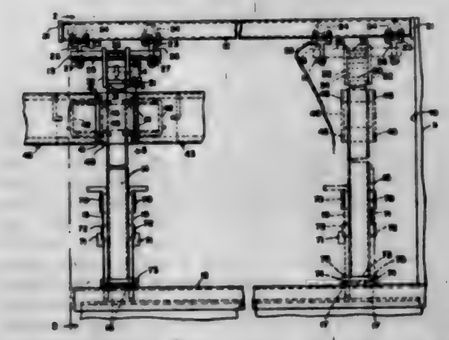
surface for sliding engagement with said column, other spring means disposed between and abutting said shoe means and said spring plate for urging said shoe means into said engagements.

2,974,611
HAND HOLDS
Russell L. Tangeman, Dayton, Ohio, assignor to Mak-Dayton, Inc., Dayton, Ohio, a corporation of Ohio
Filed Mar. 13, 1958, Ser. No. 721,161
4 Claims. (Cl. 105—354)



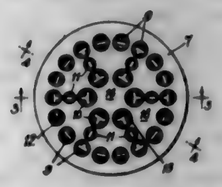
1. A hand hold for attachment to a longitudinally extending cylindrical support tube to provide a grip for persons standing in conveyances such as subway cars and the like, comprising two-part bearing means shaped for interconnection to enclose a portion of the support tube and having cylindrically curved inner surface portions adapted to form a pivotal mounting on the support tube, a handle secured to one of said bearings parts and extending therefrom for gripping by the user, a housing adapted for attachment to the support tube in overlying relation with the other of said bearing parts and including end portions radially overlapping said part to limit movement of said bearing means axially of the support tube, said housing also including portions immediate the ends thereof which form stops for engagement by cooperating portions of said bearing means to define respectively a stored limit position and an operative limit position for said handle, and a spring mounted within said housing and attached at one end to said bearing means and at the other end to said housing to urge said handle toward said stored position.

2,974,612
SHIFTABLE POST STRUCTURE
Gerald D. Stough, Detroit, Mich., assignor to Whitehead & Kales Company, River Rouge, Mich., a corporation of Michigan
Filed Feb. 17, 1958, Ser. No. 715,710
12 Claims. (Cl. 105—369)



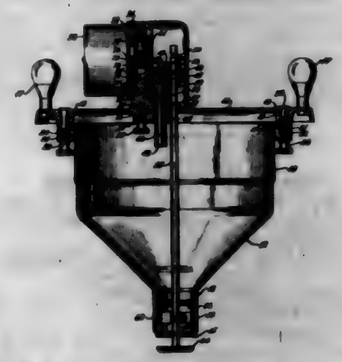
1. In a transport vehicle having a substantially horizontal floor, an upright doorway above said floor, a horizontally extending header at the upper side of said doorway, and a horizontally extending track extending lengthwise of and carried by said header; a horizontally shiftable upright rigid post within and having a height less than the height of said doorway, a trolley hanger above said post and comprising two horizontally spaced upright brackets, and a horizontally extending cylindrical member bridging the space between said upright brackets, each of said brackets being provided with roller means supported by and movable along said track and having downwardly extending means rigidly secured to and supporting said horizontally extending cylindrical member, and means pivotally suspending said post from said horizontally extending cylindrical member, including upright rigid means rigidly secured to said post at the upper end thereof and rotatably sleeved upon said horizontally extending cylindrical member between said downwardly extending means.

2,974,613
MACARONI DIE
Ralph A. Maldari, Brooklyn, N.Y., assignor to D. Maldari and Sons, Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 25, 1960, Ser. No. 24,540
3 Claims. (Cl. 107—14)



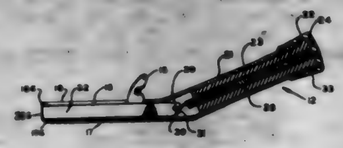
1. Macaroni die comprising an integral one-piece die body having concentrically related inner and outer continuous circular annular slots connected by radial slots, said inner and outer circular slots and connecting radial slots extending upward from the lower end into the mid-portion of the die body and supply passages extending from the top of the die body down into the mid-portion of the die body into communication with said circular and radially extending slots.

2,974,614
HOPPER AND CONTROL DISCHARGE
Porter A. Buck, Rte. 1, Box 394, Maitland, Fla., and Richard G. Crist, 815 Madison Blvd., Orlando, Fla.
Filed May 7, 1959, Ser. No. 811,595
8 Claims. (Cl. 107—14)



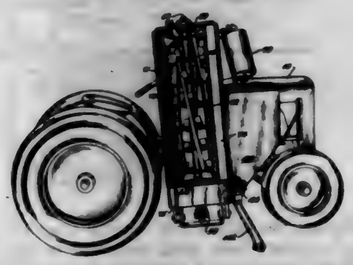
1. In a doughnut making machine, a hopper having a discharge spout, a cutter movable in and to a position beyond the spout, a plunger movable in and to a position within the hopper and out of the spout, a stem supporting the cutter, stop means for limiting the motion of the stem and cutter in each direction, means to reciprocate the stem, said means including a drive member, a header driven thereby through a fixed distance in each direction greater than the displacement of the stem, as limited by the stop member, releasable drive connections between the header and the stem comprising a pair of spaced connections on one and a resilient connection engaging means in the other, and rigid means interconnecting the header and the plunger.

2,974,615
SCOOP AND DISPENSER FOR FORMING AND DISPENSING A TRIANGULARLY-SHAPED QUANTITY OF MATERIAL
Glenn H. Richardson, 7305 Winnetka, Minneapolis, Minn.
Filed Mar. 14, 1960, Ser. No. 14,662
1 Claim. (Cl. 107—48)



A frozen food scoop and dispenser for forming and dispensing a substantially triangularly-shaped serving of frozen food material suitable for placing on a sector-shaped piece of pie to produce pie a la mode, comprising: a forwardly open hollow scoop portion consisting of a triangular substantially flat lower wall member, a triangular substantially flat upper wall member spaced above said lower wall member a predetermined distance, and substantially rectangular side wall members vertically interconnecting outer edges of said lower and upper wall members, said lower and upper triangular wall members each terminating at the front thereof in a transverse sharpened triangle-base edge, and each of said side wall members terminating at the front thereof in a sharpened vertical edge interconnecting said sharpened triangle-base edges of said lower and upper wall members, with said side wall members converging toward the rear end of said hollow scoop portion; the rear end of said hollow scoop portion being provided with a hollow substantially cylindrical handle portion extending rearwardly and upwardly therefrom into a conveniently accessible manually graspable position above the plane of the hollow scoop portion, said hollow cylindrical handle portion having an insert member forwardly inserted therethrough and provided with an enlarged shoulder abutting the end of said handle portion whereby to prevent further forward movement of said insert member and being provided with covering cap means covering the rear end of said insert member and said handle portion; said hollow scoop portion being provided with manually controllably operable dispenser means comprising substantially V-shaped forwardly open blade means having forward laterally spaced sharpened edges and rear ends integrally interconnected to form a rear apex, said blade means being forwardly and rearwardly slidably mounted within the similarly-shaped hollow scoop portion and being provided with exteriorly accessible actuating means for slidably moving said blade means forwardly out of the forward open end of said scoop and rearwardly back into nested relationship therein immediately inside of and against said side wall members, said exteriorly accessible actuating means comprising an actuating handle projecting upwardly through longitudinal slot means provided in said top wall member of said hollow scoop portion; and biasing spring means normally spring-biasing said dispenser means into fully retracted position within the hollow scoop portion, said biasing spring means comprising a longitudinal tension spring having one end connected to the rear apex of said blade means and having the other end fixedly connected with respect to the outer end of said handle insert member immediately under said covering cap means.

2,974,616
MOWER, CULTIVATOR AND FERTILIZER DISTRIBUTOR
Albert C. Pawela, P.O. Box 1029, Eustis, Fla., assignor of one-half to Dillard Tractor Company, Inc., Eustis, Fla.
Filed Oct. 2, 1959, Ser. No. 843,962
8 Claims. (Cl. 111—11)

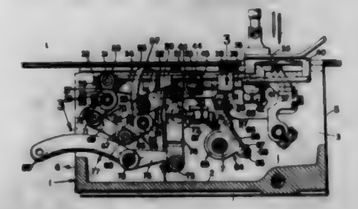


1. The combination of a wheel equipped tractor having a power takeoff and movable lift arms, a cultivator unit including a hood provided with end walls, means for mounting said cultivator unit on said tractor, said cultivator unit comprising shaft means rotatably mounted on said hood end walls, drive means operatively connecting said shaft means to said power takeoff for driving said shaft means in a direction reverse to the direction of rotation of the tractor wheels and at a relatively low speed, mounting members secured in axially spaced relation along said shaft means, earth cutting blade members fastened to said mounting members and arranged in spiral relation along said shaft means to effect a gradual engagement with the earth, a shear bar, means mounting said shear bar on said hood at substantially the elevation of said shaft means and in fixed cooperative relation to the cutting edges of said earth cutting blade members to effect cutting of vegetation, weed cutter bar means fixedly mounted on said hood end walls disposed in cooperative relation with adjacent endmost earth cutting blade members on said shaft means to prevent the wrapping of weeds around the ends thereof, and means connecting said movable lift arms to said cultivator unit mounting means for raising or lowering the same.

2,974,617
FEEDING MECHANISMS FOR SEWING MACHINES
Hans Hecklander, Warren Township, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Original application Sept. 14, 1956, Ser. No. 609,836. Divided and this application Nov. 1, 1957, Ser. No. 693,927
5 Claims. (Cl. 112—209)

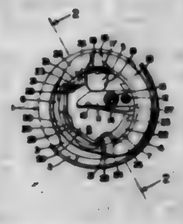
1. Differential feeding mechanism for a sewing machine having a bed and a rotary feed shaft journaled in said bed, said mechanism comprising a feed advance rock shaft journaled in said bed parallel to said feed shaft, operative connections for imparting oscillation to said feed advance rock shaft upon rotation of said feed shaft, an upstanding crank arm secured to said feed advance rock shaft, a horizontally disposed main feed bar pivot-

ally connected to the free end of said crank arm, operative connections for imparting feed lift motions to said main feed bar upon rotation of said feed shaft, a differential feed bar carried by said main feed bar for axial sliding motion in the direction of feed, a pivot shaft mounted in said bed parallel to said feed advance rock shaft and disposed below the level thereof, an upstanding lever arm extending from said pivot shaft, operative connections for imparting oscillation to said lever arm upon oscillation of said feed advance rock shaft, a drive link connected to said differential feed bar and to said lever arm for imparting feed advance motions to said differential feed bar upon oscillation of said lever arm, and means for adjusting the connection of said drive link to said lever arm radially of said pivot shaft to vary the feed advance motion imparted to said differential feed bar.



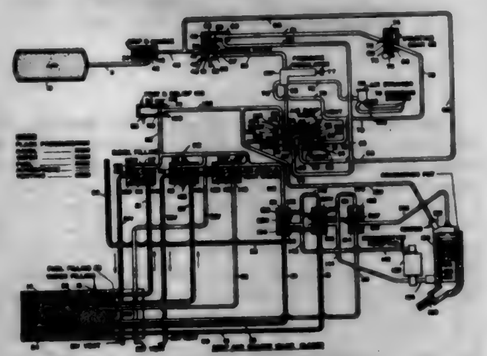
4. Feeding mechanism for sewing machines having a bed and a rotary feed shaft journaled in said bed, said mechanism comprising a horizontally arranged feed bar overhanging said feed shaft and disposed at a right angle to said feed shaft, a feed dog, means for mounting said feed dog upon the end of said feed bar for unitary movement with said feed bar, operative connections between said feed shaft and said feed bar to impart feed advance motions to said feed bar upon rotation of said feed shaft, and a feed lift mechanism comprising an eccentric mounted upon said feed shaft below said feed bar, a block having a strap portion surrounding said eccentric and having a groove in the face thereof, said groove having opposed side walls in a plane normal to the axis of said feed shaft, an arm seated in said groove and having a longitudinally elongated slot, threaded fastening means extending through said slot and threaded into said block for adjustably securing said arm to said block, and means for pivotally connecting the free end of said arm to said feed bar for imparting feed lift motions to said feed bar upon rotation of said feed shaft and for providing for adjustment of the height of said feed dog.

2,974,618
THREAD CARRIERS FOR SEWING MACHINE LOOP TAKERS
Ludwig J. Kuhar, Clark, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Sept. 12, 1958, Ser. No. 760,796
2 Claims. (Cl. 112—231)



1. In a rotary hook for a sewing machine, a thread case carrier having a cylindrical side wall, a thread case adapted to be removably mounted in said thread case carrier and having a top wall and a cylindrical side wall defining a thread mass receiving cavity, and latch means for releasably securing said thread case in said thread case carrier comprising a bail having laterally extending ends, means for mounting said bail on the top wall of said thread case for swinging movement about said ends and for endwise movement of said ends, said bail being resilient and biased to spread said ends for projecting the same beyond the periphery of said thread case, the side wall of said thread case carrier having means to receive the ends of said bail, and means for retracting the ends of said bail to within the periphery of said thread case when said bail is swung about said ends from a position against said top wall to a position substantially normal to said top wall.

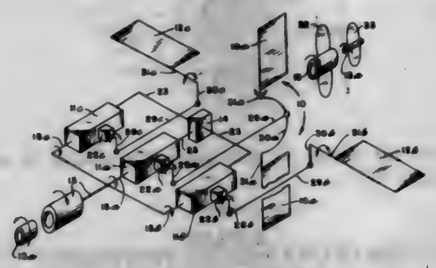
2,974,619
FLUID CONTROL SYSTEM FOR TORPEDOES
Walter M. Bombl, John E. Phillips, and Clement H. Watson, Newport, R.I., assignors to the United States of America as represented by the Secretary of the Navy
Filed Jan. 13, 1950, Ser. No. 138,480
18 Claims. (Cl. 114—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A fluid controlling system for torpedoes comprising a stored source of high pressure fluid, a regulator for reducing the fluid pressure, means to start the high pressure fluid through the regulator; individual liquid receptacles containing different comburent liquids and means to apply reduced pressure fluid from the regulator to expel the liquids from their receptacles; a combustion pot; individual supply lines for transmitting the liquids from the receptacles to the pot to produce a combustible mixture; and individual fluid-pressure operated valves in said supply lines connected in series, the first valve of said series being connected for operation by pressure fluid from said regulator, and each succeeding valve of said series being connected for operation by pressure liquid from the next preceding valve of said series.

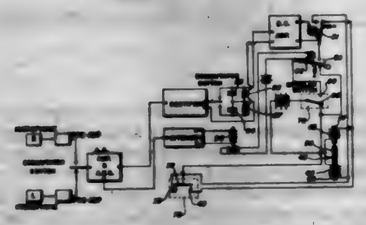
2,974,620
TRIAXIAL CONTROL SYSTEM
Franklin S. Malick, Milwaukee, Wis., and Thomas A. Daly, Swarthmore, and John C. Voorhees, Sharon, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 15, 1953, Ser. No. 368,082
1 Claim. (Cl. 114—23)

In combination with a torpedo, a rudder pivotally carried by the torpedo adapted to control the direction of the torpedo in its azimuthal plane of movement, a pair of elevators pivotally carried by the torpedo adapted to control the direction of the torpedo in its elevational plane of movement, an actuator for swinging the rudder about its pivotal axis, separate actuators for swinging each of the elevators about their pivotal axes in the same or opposite angular directions, a torpedo propeller shaft, said actuators being of the type each having a constantly rotating power input shaft and an output shaft adapted to be selectively rotated in either or opposite directions in



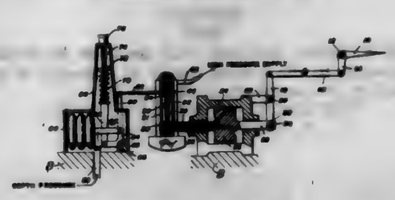
response to operation of magnetic clutch means, the input shafts being disposed for rotation about angularly spaced axes substantially parallel to the axis of rotation of the propeller shaft, a drive pulley affixed to the propeller shaft, a driven pulley for rotating each input shaft, and a belt trained about the drive and driven pulleys.

2,974,621
TORPEDO STEERING MECHANISM
Charles H. Tindal, State College, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 8, 1947, Ser. No. 746,805
3 Claims. (Cl. 114—24)



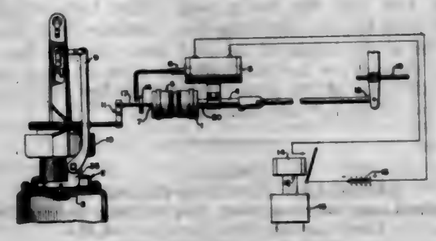
1. In combination with a propulsive torpedo: torpedo steering means including a pair of opposed solenoids and an energizing source for producing a torpedo turn in a direction corresponding to selective energization of said solenoids; a course gyroscope and switches selectively actuated thereby in accordance with deviation of the torpedo from a predetermined course; first and second switch means; electro-acoustic means, including a pair of hydrophones for sensing acoustic target signals, and operating said first switch means from a first condition to a second condition in accordance with the direction, relative to torpedo heading, of the target which gives rise to said acoustic target signals; said electro-acoustic means further operating said second switch means from a first condition to a second condition in response to sensing an acoustic target signal exceeding a predetermined threshold amplitude; an enabler switch; initial run control means for operating said enabler switch from a first condition to a second condition after expiration of a predetermined torpedo run interval; said enabler switch in its first condition connecting the energizing source and solenoids of said steering means in circuit with said gyro-actuated switches for exclusive control thereby until expiration of said predetermined interval; said enabler switch in its second condition connecting the solenoids through said second switch means in the first condition thereof, before operation of said second switch means in response to an acoustic target signal exceeding said threshold amplitude, to continue control of said torpedo steering means by said gyro-actuated switches until operation of said second switch means to its second condition; and means for thereafter holding said second switch means in its second condition, said second switch means then connecting the solenoids in circuit with the first switch means for exclusive control thereby to effect torpedo steering in accordance with operation of said first switch means to its first and second conditions by said electro-acoustic means.

2,974,622
TORPEDO DEPTH CONTROL
Horace E. Karig, Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 30, 1948, Ser. No. 36,171
7 Claims. (Cl. 114—25)



1. In depth control apparatus for a torpedo, a variable spring biased hydrostatic pressure device actuated by depth pressure and including a movable member; cylinder and piston means for actuating an elevator rudder; a fluid pressure supply; a chamber having ports and passages leading therefrom to the cylinder ends, said chamber being secured to and movable with said piston; a pendulum movable with said chamber and mounted to swing fore and aft of the torpedo, and a jet tube pivoted in the chamber and connected for swinging movement with the pendulum, means transmitting motion between said movable member and said pendulum and jet tube, said jet tube acting to direct fluid pressure into said ports and to exhaust from said cylinder into the chamber depending upon the direction the pendulum is swung or is moved by said member.

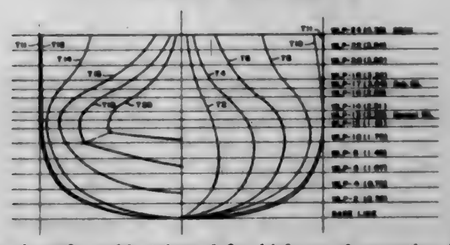
2,974,623
TORPEDO DEPTH STEERING ENGINE CONTROL
Harvey Brooks, Schenectady, N.Y., and Jack W. Ballou, Wilmington, Del., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 17, 1951, Ser. No. 242,400
7 Claims. (Cl. 114—25)



1. A valve operating device for an air depth engine of an underwater vehicle depth rudder steering system comprising, a pendulum and hydro-diaphragm means of a type in which each is respectively constructed and arranged to exercise a modifying effect on the action of the other with respect to concerted movement of the valve thereby, connecting means operatively correlating

pendulum and hydro-diaphragm means movement to produce actuation of the valve, and up-rudder electrical control means comprising a solenoid having an armature disposed for movement therein, and valve actuating means carried by said armature and operatively engageable with the valve to provide movement thereof only in a predetermined direction with a force capable of rendering the pendulum and hydro-diaphragm means subsequently ineffective for down rudder control and means responsive upon reception of a predetermined signal inherently emitted by a target for operating the valve by said solenoid means, said up-rudder control means including means for mounting said solenoid means on the piston of the engine for movement therewith in a manner for releasing operative control of said valve by said solenoid with discontinuance of said predetermined signal and effective only for producing maximum up-rudder movement.

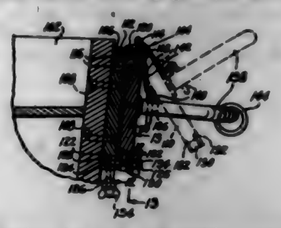
2,974,624
SHIP
Edward V. Lewis, Hoboken, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 11, 1959, Ser. No. 798,795
5 Claims. (Cl. 114—56)



1. A surface ship adapted for high speed operation in rough seas while traveling in a semi-submerged condition, comprising a hull having a normal operation water line substantially midway of the height thereof, said hull having a midship portion with substantially straight sides above said water line, the portion of said hull forward of said midship portion having a deck having a lesser area than the area of a plane through said water line, the portion of said hull forward of said midship portion being longer than the portion of said hull aft of said midship portion, said forward and said aft portions having tumble home lines, the forward portion comprising about 48.2 percent of the ship's length, and the midship portion about 13.3 percent of the ship's length, said forward portion converging to the bow stem, and said rearward portion converging to a knuckle line at the stern, the bottom, exterior of said hull being outwardly curved from said water line to its keel, said ship having peak ballast tanks adapted when filled to place the water line a distance about three-fourths of the height of the hull above its base line, a plane through the last said waterline being of lesser area than the area of the plane through the first said water line, but of greater area than said deck.

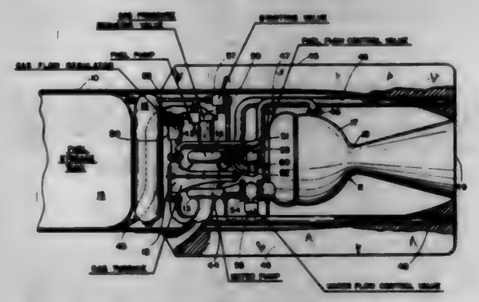
2,974,625
OUTBOARD TOW AND CRASH BAR
Charles Lang, 24th and Blvd., Box 85, Ship Bottom, N.J.
Filed May 28, 1958, Ser. No. 738,674
7 Claims. (Cl. 114—235)

7. A tow and crash bar device comprising an elongated base plate, a swing plate hinged at one edge to a corresponding edge of said base plate, mating slots at the opposite edges of each plate, a bolt pivoted in each slot of said base plate and swingable into and out of the corresponding slot in the swing plate, a nut adjustably positioned on each bolt exteriorly of the corresponding slot in the swing plate, a retaining means adjacent each end of said swing plate, and a concavely



curved bar having its ends releasably secured to said retaining means.

2,974,626
APPARATUS FOR JET PROPULSION THROUGH WATER
Fritz Zwicky, Pasadena, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 13, 1948, Ser. No. 8,843
10 Claims. (Cl. 115—13)

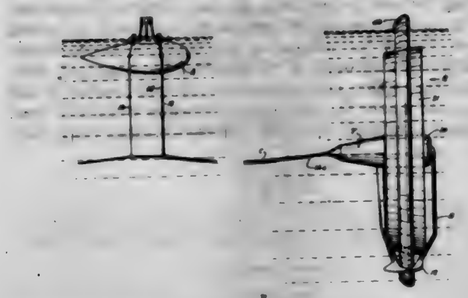


5. In a jet propulsion system for propelling water craft, the combination comprising a nacelle having within its interior a reaction chamber provided with an exhaust nozzle leading rearwardly from the chamber to the water, a propellant injector and a water injector leading into the chamber, a gas turbine having a shaft, a propellant pump and a water pump coupled to the shaft, a source of liquid propellant supply, a first conduit means leading from a source of liquid propellant supply to the intake of the propellant pump, a second conduit means from the outlet of the pump to the propellant injector, said nacelle having a water inlet opening, a third conduit means from the nacelle water inlet opening to the water pump and a fourth conduit means from the outlet of the water pump to the water injector, and a gas conduit communicating from the chamber to the turbine for driving the turbine.

2,974,627
LOW-SPEED MARINE PROPULSION UNIT
William Whipple, Jr., Dallas, Tex.
(Cedar Swamp Road, Glen Head, N.Y.)
Filed Apr. 7, 1959, Ser. No. 804,996
18 Claims. (Cl. 115—28)

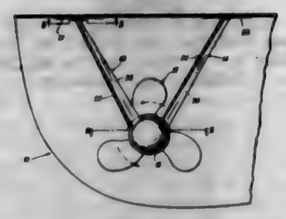
6. A marine propulsion unit comprising a stator and means associated with said stator for resisting rotary movements thereof about a given axis, a propeller mounted on said stator for rotation about said given axis, said propeller having a plurality of blades disposed for pitch changing movement about axes extending generally radially to said given axis, drive means carried by said propulsion unit in driving relation with said propeller for rotating the propeller about said given axis, a control element carried by said stator and means individually associated with each of the said blades, said means being

in operative controlled engagement with said control means for individually varying the pitch of each said



blade to an extent dependent with its rotational position about said given axis.

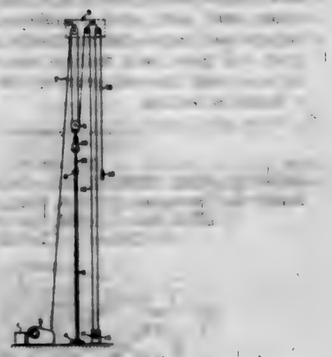
2,974,628
TWISTED STRUT CONSTRUCTION FOR MARINE BEARING WITH FORWARDLY MOUNTED PROPELLER
Robert W. Erlbacher, 920 N. Fountain, Cape Girardeau, Mo.
Filed Oct. 20, 1958, Ser. No. 768,185
6 Claims. (Cl. 115—34)



1. A propeller support for marine vessels comprising a bearing having means thereon for supporting a propeller and support means connecting the bearing to the bottom of a vessel in spaced relation thereto, said support means comprising a connecting member extending from the bearing to a connection with the vessel, said member having an elongated cross section with the longitudinal axis thereof being inclined to the axis of the propeller and substantially normal to the propeller blade in the region adjacent the connection of said member to the bearing.

2,974,629
ALARM FOR DETECTION OF PRESSURE SURGES IN A BOREHOLE
James A. Richard, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Dec. 10, 1958, Ser. No. 779,337
4 Claims. (Cl. 116—74)

1. Apparatus for sounding a warning when either the velocity, acceleration, or deceleration of a well pipe lowered through a borehole exceeds predetermined limits, comprising: means for vertically manipulating the well pipe including a travelling block adapted to be connected to the well pipe and a rope and pulley system connected to said travelling block; a wheel and an axle therefor connected to the rope and pulley system so that the velocity of rotation of said wheel and axle is a direct function of the linear velocity of said travelling block; a small, heavy mass; flexible connecting means connecting said mass to said wheel for rotation therewith, including a flexible rod connected to said mass, slidably extending through said axle of said wheel, and spring means connecting said mass to said wheel to hold said mass at a given distance from said axle when said wheel is at rest and to position said mass at radial distances from the axis of rotation of said wheel varying with the angular velocity of said wheel; said flexible connecting means being further adapted to move said mass circumferentially on said wheel in accordance with the acceleration and deceleration of said wheel; first and second means positioned on each side of the reference position of the mass in the plane of rotation thereof adapted to initiate an aural signal responsive to movement of said mass through given distances in either direction from the normal position thereof; and third means positioned a given distance from said axle of said wheel adapted to initiate an aural signal when stricken by said mass upon radial movement of said mass to said given distance from said axle upon increase in the angular velocity of said wheel to a given angular velocity.



2,974,630
DOOR-KNOCKER
Rudolph A. Bloomquist, 263 Southbridge St., Auburn, Mass.
Filed Dec. 28, 1959, Ser. No. 862,182
1 Claim. (Cl. 116—148)



A door knocker comprising an elongated base plate having a generally rectangular portion extending from one end and terminating at the opposite end in a generally circular portion, the major part of said rectangular portion and said circular portion being dished forwardly to provide a marginal flange and a rearwardly opening recess having a generally rectangular portion communicating with a generally circular portion, a knocker member simulating a bird and having a head, beak and tail portion, means between said head and tail portions pivotally mounting said member on said plate for movement of said beak into and out of engagement with the rectangular portion of said plate, resilient means for urging said beak into engagement with said plate, said plate having an aperture communicating with the circular portion of said recess between said pivotal mounting

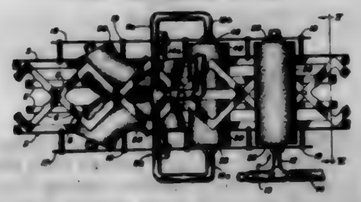
means and said beak, an actuating disk rotatably mounted in the circular portion of said recess, an arcuate series of protuberances on said disk in alignment with said aperture, a leg on said knocker member extending through said aperture and terminating in the path of movement of said protuberances, said circular portion having a slot communicating with the circular portion of said recess and a handle on said disk extending through said slot, whereby upon operation of said handle to rotate said disk, said protuberances will successively engage said leg to intermittently move said beak away from said plate, said resilient means intermittently moving said beak into engagement with said plate to provide a knocking action.

2,974,631

DEVICE FOR DEWAXING CARTON CONVEYORS

Harry G. Thompson, 2011 S. Ionia, Grand Rapids, Mich.

Filed June 2, 1958, Ser. No. 739,369
4 Claims. (Cl. 118—70)



1. In an apparatus for applying wax to articles, which has a continuous conveyor characterized by a plurality of articulated flat links arranged in a pair of spaced parallel planes, said apparatus comprising article depositing means for depositing articles to be waxed on said conveyor, wax applying means for applying wax to said articles on said conveyor and waxed article removal means for removing waxed articles from said conveyor with intermittent surges of compressed air from a member thereof, the improvement residing in: means in combination with said conveyor between said waxed article removal means and said unwaxed article depositing means for preventing accumulation of wax on said conveyor links, said means comprising: brush means in scraping contact with said links, said brush means having a hollow core with spaced apertures therein; reservoir means for a liquid parting agent for wax type materials; and conduit means for delivering metered quantities of said parting agent from said reservoir means to said brush means, said conduit means having a portion thereof disposed in said hollow core, said portion comprising spaced apertures corresponding to said apertures in said core, said conduit means being connected to said member of said waxed article removal means so as to produce intermittent surges of compressed air in said conduit means whereby said surges of compressed air force said parting agent through said conduit means.

2,974,632

APPARATUS FOR DEVELOPING ELECTROSTATIC IMAGE

John C. Westervelt and James N. Hilderbrand, Tulsa, Okla., assignors to Century Geophysical Corporation, Tulsa, Okla., a corporation of Delaware

Filed Apr. 23, 1958, Ser. No. 730,460
7 Claims. (Cl. 118—637)

1. Apparatus for developing a visual image from a latent electrophotographic image on an elongated sensitized sheet by distributing toner powder thereover in a density pattern corresponding to the charge distribution in said image, comprising a toner source consisting of a cake of finely divided dark-hued thermoplastic powder pressed into a body having structural integrity but capable of releasing said powder from its surface in small quantities upon being abraded, a first cylindrical brush having abrasive properties, a second cylindrical brush having a surface formed of very soft fibers such as animal down, means for advancing the sheet to be developed progressively through a pre-selected development zone, means supporting said toner cake and said brushes in said zone, and means for rotating said brushes while said sheet is being advanced, said cake and said brushes being positioned with said first brush bearing against and abrading said toner cake as said first brush rotates and also bearing against said second brush, and with said second brush also bearing against said sheet as said second brush rotates, wiping the image-carrying surface of said sheet progressively as said sheet advances through said zone, whereby toner powder is continuously removed from said cake by said first brush, transferred to said second brush, and by said second brush transferred to the surface of said sheet.

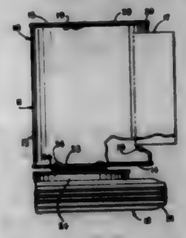


2,974,633

PORTABLE STOCK FEEDER

Howell Edison Whidden, 504 S. 58th St., Tampa 5, Fla.

Filed Apr. 9, 1959, Ser. No. 805,261
1 Claim. (Cl. 119—51)



A portable stock feeder for quadruped animals comprising a cylindrical drum having a circular bottom wall, a side wall, and an opening in the side wall, two parallel vanes integral with said side wall, and extending outwardly from each vertical edge of said opening, each of said vanes extending the height of said opening and having a width equal to half the width of the opening, a spindle, means mounting said spindle eccentrically on said circular bottom wall, on the side of the center of said bottom wall opposite the opening, a circular base adapted to rest on the ground and be separable therefrom, means mounting said spindle concentrically on said base, and means operatively associated with said spindle enabling rotation of said drum with respect to said base.

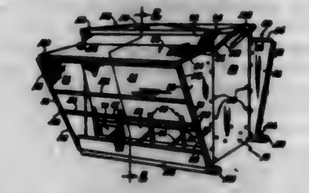
2,974,634

ANIMAL FEEDER

Edgar E. Williams, 612 S. 6th St., and Lester E. Lohman, 11 Wilmer Drive, both of Quincy, Ill.

Filed Oct. 8, 1957, Ser. No. 690,508
12 Claims. (Cl. 119—52)

1. A sheet metal animal feeder having an open front for access of animals to a feed trough, comprising: a base portion including said feed trough; a canopy member over said feed trough; side walls secured between said canopy member and said base portion, the front edge of each of said side walls extending generally upward from a point adjacent the front edge of said feed trough and having a lateral extension to provide a pair of spaced flat surfaces; and at least one horizontal guard bar removably



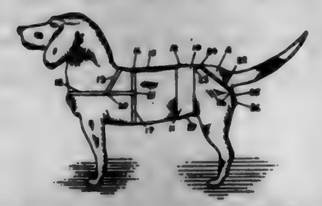
secured to said flat surfaces to permit animals of a selected size to feed while excluding others.

2,974,635

ANTI-BREEDING DEVICE

William A. McDowell, Waterford, Pa.
(2815 N. 52nd St., Phoenix, Ariz.)

Filed Aug. 4, 1958, Ser. No. 752,792
4 Claims. (Cl. 119—143)



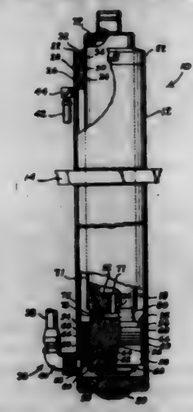
1. A dog harness, said harness comprising a body encircling girdle portion and a protector portion attached thereto, said protector portion being adapted to overlie the generative organs of a female dog, said protector portion being generally concave and overlying said generative organs and to receive said organs and terminating outwardly in an elongated, relatively narrow slot communicating through said protector portion, said protector portion having an outwardly extending flange portion attached thereto and surrounding said slot.

2,974,636

SINGLE-ACTING RAM WITH FLUID RELIEF MEANS

Stanley E. Farmer, Portland, Oreg., assignor to Cascade Manufacturing Co., Portland, Oreg., a corporation of Oregon

Filed May 19, 1960, Ser. No. 28,646
9 Claims. (Cl. 121—38)



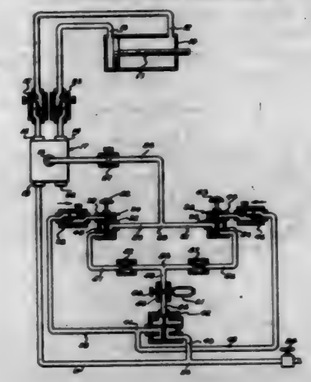
1. In a single-acting fluid-pressure-operated ram having a cylinder, and a piston and piston rod mounted within the cylinder, said piston having a pressure side that fluid under pressure acts upon with the piston moving in a powered stroke in one direction within said cylinder and an exhaust side opposite said pressure side, the combination of means for introducing fluid under pressure into said cylinder against the pressure side of said piston, and means for bleeding fluid from the cylinder on the exhaust side of said piston, the latter means comprising a chamber formed within said piston rod, and passage means formed in the piston rod connecting the interior of the cylinder only on said exhaust side of said piston with said chamber.

2,974,637

PNEUMATIC TWO-HAND CONTROL FOR POWER MACHINERY

Ralph A. Holmes and Harold R. Wilson, Indianapolis, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 30, 1957, Ser. No. 706,178
3 Claims. (Cl. 121—38)



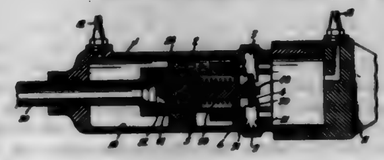
1. A two-hand control system for a machine, which comprises a pair of hand operated valves each having an inlet and a pair of outlets, a first conduit having branches running to two of said outlets associated with separate valves, a second conduit having branches running to the other two outlets, a master valve connected to said first conduit and adapted to be operated by the simultaneous application of pneumatic pressure pulses of predetermined magnitude, a bleeder valve connected to said second conduit, a three-way pressure valve connected to said bleeder valve, and means within said three-way pressure valve and actuated by either the sequential operation or the operation of only one of said hand-operated valves for interrupting the application of pneumatic pressure pulses to said master valve.

2,974,638

MIDSTROKE LOCKING DEVICES

Richard A. Chace, Bellevue, Wash., assignor, by mesne assignments, to Western Hydraulic & Service Company, Inc., Gardena, Calif., a corporation of California

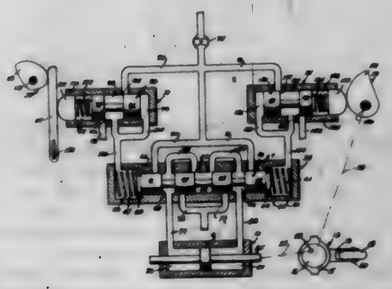
Filed Mar. 3, 1959, Ser. No. 796,833
8 Claims. (Cl. 121—40)



1. A midstroke locking device comprising a cylinder ported at its opposite ends for admission of pressure fluid

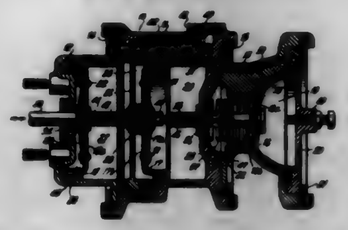
to either end, and relief at the opposite end, an assembly including a piston axially slidable within said cylinder under the influence of pressure applied to one or the other of its faces, and a piston rod projecting from one end of the cylinder, said assembly having a through axial bore communicating at its opposite ends with the respective ends of the cylinder, a plunger received in and closing said bore, and movable axially therein in a first sense under the influence of pressure within a first end of the cylinder, spring means to return said plunger, upon relief of such pressure, in the opposite, second sense, passage means affording communication between the second end of the cylinder and a face of the plunger to move the latter also in the first sense, in opposition to said spring means, under the influence of pressure within the second end of the cylinder, and complemental fixed and movable locking elements carried by the cylinder and by the piston assembly, respectively, and disengageable by pressure-induced movement of the plunger, but interengageable when brought into registry by the axial movement of the piston to a midstroke position, said spring means and plunger being operatively connected to the movable piston-carried locking element to urge the latter into locking position only in the absence of pressure applied to the plunger from either end of the cylinder.

2,974,639
HYDRAULIC BRIDGE SERVO CONTROL SYSTEM
Bernard E. O'Connor, Los Angeles, Calif., and Gordon E. Whelpley, Corning, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 3, 1956, Ser. No. 613,669
2 Claims. (Cl. 121—41)



1. A hydraulic control system comprising a hydraulic circuit for circulating a liquid medium including an input hydraulic conduit having first and second flow restriction means in series and an output hydraulic conduit having first and second flow restriction means in series therein, means for delivering a liquid medium under pressure to said input and output hydraulic conduits in parallel, balance valve means having respective balance chambers referenced to said inlet and outlet hydraulic conduits at respective reference chambers intermediate the first and second flow restriction means therein, means for controlling the liquid pressure in said input hydraulic conduit between the first and second flow restriction means therein in accordance with an input variable, means for controlling the liquid pressure in said output hydraulic conduit between said first and second flow restriction means therein in accordance with an output variable, means comprising said balance valve means for controlling said output variable in accordance with the liquid pressure differential between said balance chambers and in a direction to tend to equalize the pressures in said balance chambers, means whereby said valve member causes the supply of liquid pressure to one hydraulic working chamber when the valve member is shifted in one direction and to the opposite hydraulic working chamber when the valve member is shifted in the opposite direction, and said first and second flow restriction means of said input hydraulic conduit and of said output hydraulic conduit each comprising respective first and second variable orifice valve means, and means rigidly coupling said first and second variable orifice valve means upstream and downstream of the reference chamber of said input hydraulic circuit and upstream and downstream of the reference chamber of said output hydraulic circuit for conjoint movement to continuously vary the hydraulic pressure in said reference chambers in accordance with the input variable and in accordance with the output variable, respectively, there being a plurality of positions of said first and second variable orifice valve means of said input hydraulic conduit and of said output hydraulic conduit where the first and second variable orifice valve means are both open to liquid flow therethrough.

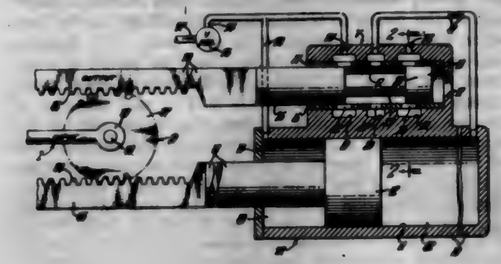
2,974,640
PRESSURE CONTROLLED ACTUATOR
Torsten Lindbom, Blue Point, and Walter H. Rucks, Islip, N.Y., assignors to Fairchild Engine and Airplane Corporation, Hagerstown, Md., a corporation of Maryland
Filed Nov. 21, 1957, Ser. No. 697,887
11 Claims. (Cl. 121—41)



1. A pressure controlled actuator including a control mechanism and a servient mechanism, the control mechanism comprising a displaceable control element, the position of which is influenced by a control pressure, and the servient mechanism comprising a displaceable servient element relatively movable with respect to the control element, actuator means connected to the servient element, means defining a pressure chamber in communication with said control pressure, the pressure within said chamber influencing the position of said servient element, means defining a bleed passage through one of said elements for exhausting the fluid from the chamber which influences the position of the servient element, variable valve means determining the rate of bleed of said fluid from said chamber, said valve means being controlled by the relative positions of said servient and control elements, and means in communication with the control pressure for influencing the position of the control element.

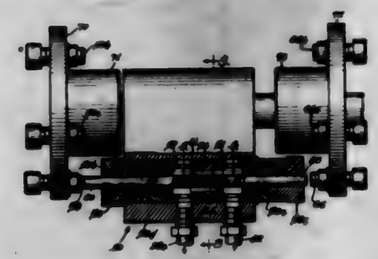
2,974,641
HYDRAULIC DIFFERENTIATOR
Arthur E. Brown and Fremont T. Ogawa, Milwaukee, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 16, 1959, Ser. No. 799,792
5 Claims. (Cl. 121—41)

5. A hydraulic differentiator comprising, in combination, a cylinder, a piston reciprocable therein, a stem fixed to the piston extending through one end of the cylinder, the cross-sectional area of the stem being half that of the piston, a servo valve including a body fixed relative to the cylinder and a spool reciprocable in the body, the body defining an inlet port, a discharge port, and an outlet port intermediate the other two said ports, the spool including lands disposed to vary progressively the areas of the inlet and discharge ports linearly and in opposite sense, means for supplying fluid under controlled pressure, conduits connecting the supplying means to the inlet port and to the stem end of the cylinder, a conduit connecting the outlet port to the other end of the



cylinder, the discharge port being vented, an input member, differential means connecting the input member to the piston stem and the valve spool such that movement of the input member equals a constant times movement of the stem plus a constant times movement of the spool, and an output member connected to and moving with the valve spool.

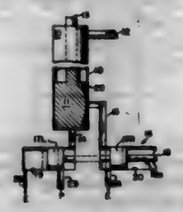
2,974,642
CONTROL VALVE
George M. Stafford, Chicago, Ill., assignor to Acme Industrial Company, Chicago, Ill., a corporation of Illinois
Filed June 4, 1959, Ser. No. 818,110
11 Claims. (Cl. 121—45)



1. A rate control valve comprising, in combination, a casing having first and second chambers defined therein and connected by a passageway, a plunger having a land surface mating with and slidable in said passageway, first and second depressions formed in the surface of said land and being of graduated configuration in respectively opposite directions, first and second stop means for limiting the movement of said plunger in opposite directions, whereby the restrictions to flow of fluid in opposite directions between said chambers are determined respectively by said first and second stop means.

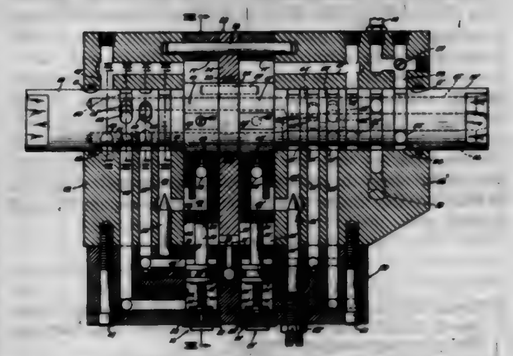
2,974,643
FAST ACTING FLUID ACTUATOR
Philip C. Gilliam and Stanton K. Mess, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 12, 1959, Ser. No. 799,623
10 Claims. (Cl. 121—46.5)

9. A fluid actuator comprising a cylinder, a piston movable within said cylinder between a first and second position therein, means for applying a bias force to said piston tending to maintain said piston at said first position, a fluid inlet in said cylinder, a fluid outlet in said cylinder, means for supplying fluid under pressure to said inlet, means for exhausting fluid from said outlet, coupling means interposed between said fluid supply means and said inlet and between said fluid exhaust means and said outlet, said coupling means being operable in a first condition to couple said inlet to said fluid supply means while decoupling said outlet from said fluid exhaust means and operable in a second condition to reverse said first condition, said outlet being further positioned with respect to said cylinder and said piston so as to be maintained temporarily closed by the side of



said piston when said piston is located at said first position to prevent fluid from passing directly from said inlet to said outlet before said coupling means has substantially fully closed said outlet as said first condition commences to rapidly accelerate said piston from said first position to said second position and as said second condition commences to rapidly reduce the fluid pressure within said cylinder to permit said bias force to rapidly accelerate said piston from said second position to said first position.

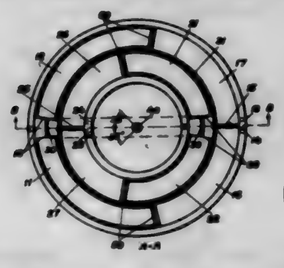
2,974,644
FLUID MOTOR
Michael J. Celovsky, Detroit, Mich., assignor to Industrial Tool Engineering Company, Detroit, Mich., a corporation of Michigan
Filed May 16, 1957, Ser. No. 659,536
7 Claims. (Cl. 121—75)



2. In a fluid motor, juxtaposed motor blocks having axially aligned shaft bores, a plurality of fluid impeller chambers between said blocks and into which fluid under pressure is forced, a driven shaft extending through said block bores and having rotors on said shaft one in each chamber, each rotor having a vane extending radially therefrom with its free end bearing against the wall of the chamber, the vane of one rotor being in predetermined trailing relation to that of the other, a dividing blade projecting radially into each chamber and against which the associated vane is adapted to force fluid, and means for projecting each blade into and out of its chamber in a predetermined relation to the impelling action of the associated vane in said chamber and so that as one blade is being retracted out of its dividing posi-

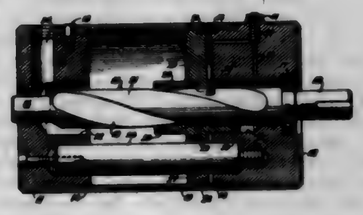
tion to permit passage of the associated vane thereby, the other blade is projected into dividing position, said shaft being thus subjected to a substantially continuous rotary action by the action of the fluid against the vanes on said rotors, said shaft also including longitudinally extending fluid inlet and fluid outlet passages and said blocks each having on opposite sides of said chambers ports adapted to communicate with said passages in a predetermined pattern and passageways in said block leading from said ports to said chambers and to said blade projecting means whereby fluid is delivered to and withdrawn from said chambers and from said means in predetermined manner and so that the shaft impelling action of one rotor and vane will overlap that of the other.

2,974,645
HYDRAULIC SERVO-MOTORS
Sune Wik, Vasterns, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasterns, Sweden, a corporation of Sweden
Filed Oct. 9, 1958, Ser. No. 766,287
Claims priority, application Sweden Oct. 15, 1957
5 Claims. (Cl. 121—38)



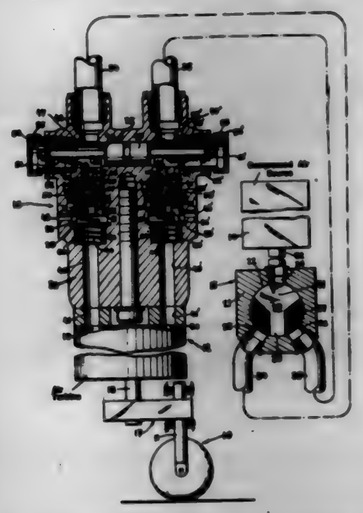
1. A hydraulic steering apparatus for a ship's rudder shaft, comprising two annular cylinders having a rectangular cross-section, the said cylinders being concentrically disposed in the same plane and on a common axis co-axial with that of the rudder shaft, each of said cylinders having a radially disposed partition and on either side of said partition having connections in the cylinder-wall for a pressure medium, the said cylinders having a covering means, semi-annular pistons circularly movable in said cylinders, a tiller connected to said rudder shaft and extending diametrically across said shaft and above said covering means, and the said tiller having downwardly projecting ends, the said ends passing through apertures in the covering means of said cylinders to engage the said pistons.

2,974,646
ROTARY ACTUATOR
J Carter Miller, Munster, and Robert W. Lamman, Hammond, Ind., assignors to Carter Controls, Inc., Lansing, Ill., a corporation of Illinois
Filed Nov. 2, 1959, Ser. No. 850,456
5 Claims. (Cl. 121—119)



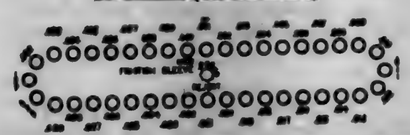
5. A rotary actuator comprising a cylindrical housing, a shaft extending axially and rotatably through the housing and having within the housing substantially flat spirally twisted sides joined by arcuately curved sides, a piston slidable in the housing and having a central opening fitting over the shaft and complementary thereto, means to hold the piston against turning in the housing whereby it will turn the shaft as it slides in the housing, the housing being formed adjacent to at least one end with a reduced diameter axially extending bore, an extension on the adjacent side of the piston to fit slidably and sealingly in the bore when the piston is adjacent to said end of the housing and to move out of the bore when the piston is away from said end of the housing, fluid inlet and outlet ports at the ends of the housing, the port at said one end of the housing communicating with the outer end of the bore and having a fluid connection to the adjacent end of the housing interior, a check valve in the connection opening toward the housing interior, and a second restricted connection between said port and the housing interior.

2,974,647
FLUID CONTROL SYSTEM
Thomas P. Carey, Belleville, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Jan. 29, 1959, Ser. No. 789,974
6 Claims. (Cl. 121—157)



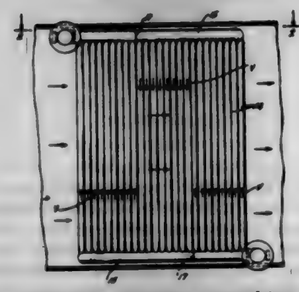
2. In a vehicle steering system, the combination of a steering gear mechanism including a rotatable shaft; a reversible pneumatic fluid driven motor of the air turbine type through which the fluid passes including a rotatable shaft for driving said first mentioned shaft and having a pair of ports each adapted for alternative use as an inlet and an outlet depending upon the direction in which the motor is to be rotated; means for supplying fluid medium under pressure; a control valve having an inlet connected to said supply means and having a pair of outlets; a pair of conduit means connecting said outlets and said ports for selectively directing the fluid medium to one of said ports; a pressure operated valve in each of said conduit means constructed and arranged to vent said port when said conduit means is not pressurized and to place said port in communication with said control valve when said conduit means is pressurized; a second valve in each of said conduit means; and piston means connected to said second valves having opposed piston surfaces each in communication with one of said conduit means constructed and arranged to open said second valve in one of said conduit means for venting said conduit means when the other of said conduit means is pressurized.

2,974,648
VARIATION ARRANGEMENT
Kenneth C. Alward, Mewaunee, Ill.
Filed Apr. 13, 1953, Ser. No. 348,532
10 Claims. (Cl. 121—194)



2. In a machine having split bearings in combination with journals of a crankshaft, the said journals being dimensioned in minute sequential steps with uniform differences in diameters, which said difference is arbitrarily selectable as the estimated and foreboding amount of wear which will accrue.

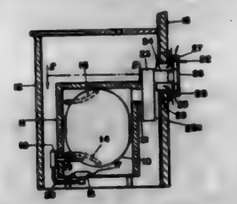
2,974,649
HEAT EXCHANGER
Giovanni Rossi, Via delle Stazione 65, Valle Lomellina, Italy
Filed June 20, 1951, Ser. No. 232,586
Claims priority, application Italy June 21, 1950
2 Claims. (Cl. 122—235)



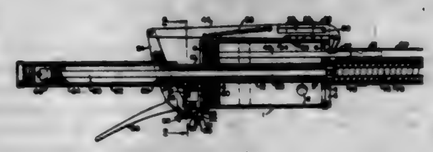
1. Heat exchanger apparatus comprising, in combination, a pair of spaced wall portions located opposite each other and adapted to guide a first fluid along a predetermined path extending from one end of said wall portions to an opposite end of said wall portions along the space therebetween, each of said wall portions comprising a plurality of tubes which engage each other along the length thereof and extend in a direction normal to said predetermined path so as to present to said first fluid a corrugated surface whose corrugations are normal to said path, whereby a turbulence is produced in said first fluid by said wall portions to enhance the heat transfer between said first fluid and a second fluid in said tubes of said wall portions, said wall portions gradually approaching each other from said one end thereof to said opposite end thereof along said predetermined path so that the space between said wall portions decreases, whereby the speed of flow of said first fluid is increased along said path to enhance the heat exchange with said second fluid as the temperature of said first fluid decreases.

2,974,650
WATER HEATER WITH SIDE WALL VENTING MEANS
Alan B. McCorquodale, 907 7th St., Orange, Tex.
Filed June 9, 1959, Ser. No. 819,035
4 Claims. (Cl. 122—494)

1. In combination, a gas water heater comprising a tank adapted to hold a body of water and a burner adjacent the bottom thereof, a jacket around the tank spaced therefrom and having a side opening adjacent the top and a bottom opening for admission of air to the burner, said jacket being adapted to be positioned in a cabinet having a wall with an opening above said opening, flue gas venting means providing a channel for flow from said opening upwardly to and outwardly through the wall opening, said venting means having an open ended extension extending downwardly from the side opening and having spaced apart baffles beyond the wall opening for diverting the flow of flue gas in directions parallel to said wall, a pair of baffles extending transversely between said spaced apart baffles and positioned, respectively, above and below the flue gas venting path, and flanged conduit means adapted to fit within the wall opening and forming with said venting means an inlet path for fresh air.

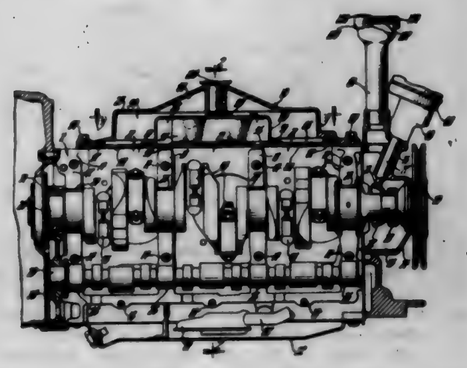


2,974,651
IMPACT TOOL
Carleton S. Mardon, Boston, and William J. J. Gordon, Cambridge, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 19, 1957, Ser. No. 641,190
7 Claims. (Cl. 123—7)



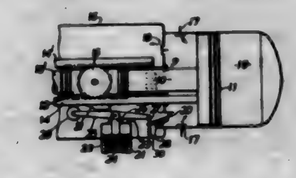
1. An impact tool for delivering impacts each of which is separately manually initiated, said tool comprising a cylinder, a piston member in said cylinder and movable in said cylinder, said piston member having a rest position at one end of said cylinder, manually controlled means including a movable member movable from a first position to a second position for moving said piston member away from said rest position to an intermediate position in said cylinder to provide an explosion chamber between said one end and said piston member, means for forming an explosive charge admixed with air in said chamber, ignition means actuated by movement of one of said members when said piston member reaches said intermediate position for causing explosion of said charge to thereby cause further movement of said piston member away from said rest position to produce an impact, means returning said movable member from said second position to said first position, an exhaust port in said one end of said cylinder, said exhaust port being open when said movable member is in said first position and being closed when said movable member is moved from said first position toward said second position, an operating instrumentality operated by said further movement of said piston member, and means for returning said piston member to said rest position and for holding said piston member in said rest position until again moved away from said rest position under manual control by said manual controlled means.

2,974,652
VENTING SYSTEMS FOR INTERNAL COMBUSTION ENGINES
Robert P. Benzinger, Clawson, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 842,416
5 Claims. (Cl. 123—41.86)



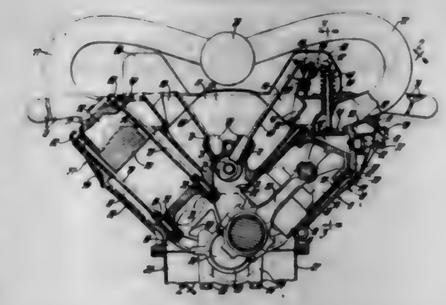
1. A venting system for an internal combustion engine having inner compartments subject to the collection of vaporous substances and comprising, a crankcase having an open top and having cylinders opening inwardly from the sides thereof, said cylinders having reciprocating pistons and valves adapted to leak said substances into said crankcase, said cylinders being air cooled cylinders and said crankcase being an aluminum or other highly heat conductive metal crankcase, said air cooled cylinders being adapted to heat rapidly after starting said engine and said crankcase being adapted rapidly to conduct heat from said cylinders and to heat rapidly and to avoid condensing said vapors when said engine is started, a cover for said open top of said crankcase, an outlet formed in said cover and leading from said crankcase and adapted to exhaust said vaporous substances from said crankcase to the atmosphere, oil separating means formed in said cover and adapted to separate oil from said vaporous substances and to return said oil to said crankcase, inlet means communicating with said crankcase and adapted to be employed in filling said crankcase with oil, a removable cap for closing said inlet means, and sealing means in said cap and substantially sealing said cap against the flow of air inwardly or the flow of said vaporous substances outwardly of said inlet means.

2,974,653
INTERNAL-COMBUSTION-OPERATED, FREE-PISTON GAS-GENERATORS
Evelyn Stewart Lansdowne Beale, Weybridge, England, assignor to Alan Muntz & Company Limited, Hounslow, Middlesex, England
Filed July 31, 1957, Ser. No. 675,330
5 Claims. (Cl. 123—46)



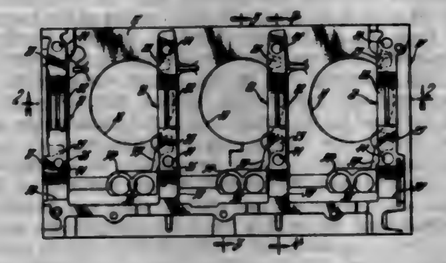
1. In an internal-combustion-operated, free piston, gas-generator comprising an engine cylinder, an engine piston working in said cylinder, a compressor cylinder, a compressor piston coupled to said engine piston and working in said compressor cylinder, a scavenge air reservoir, a port controlled by said engine piston coupling said reservoir to said engine cylinder, a duct coupling said reservoir directly with said compressor cylinder, and a control valve opening said duct at low power levels and closing said duct at higher power levels, the improvement comprising means responsive to the pressure in said scavenge air reservoir falling below a predetermined value to operate said valve to open said duct.

2,974,654
ALUMINUM DIE CAST ENGINE
Christiaan H. Bouvy, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application May 14, 1958, Ser. No. 735,232. Divided and this application July 1, 1959, Ser. No. 824,270
1 Claim. (Cl. 123—65)



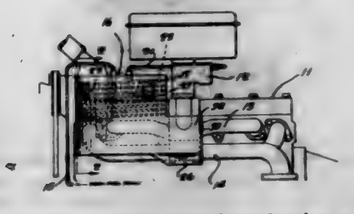
An internal combustion engine comprising an engine frame supporting a crankshaft and having angularly disposed rows of cylinders receiving pistons connected to said crankshaft, said frame being formed between said rows of cylinders to provide a gallery receiving the camshaft and push rods employed in operating said engine, a pair of angularly disposed heads secured to said frame and closing the outer ends of said cylinders in said rows, said gallery comprising a trough of V-section between said heads and cylinders, inlet and exhaust passages formed in said heads and communicating with combustion chambers for said cylinders, said inlet and exhaust passages being aligned in each of said heads and opening outwardly through said heads in said row of cylinders, said heads and said frame across said engine and across said gallery being formed to provide a plane surface extending throughout substantially the length and width of the upper part of said engine, valves for said inlet and exhaust passages, said valves having stems mounted in said heads and projecting outwardly of said heads through said plane surface and between the outer ends of said passages, the ends of said passages being outside of said plane surface, valve actuating means supported by said engine frame and engaging said valve stems, a camshaft for said engine rotatably mounted in said gallery at the juncture of said rows of cylinders, push rods extending lengthwise of said cylinders and heads and disposed between said camshaft and said valve actuating means and extending through said juncture, and a single cover for said engine and extending across said plane surface and enclosing said valve stems and said valve actuating means and said push rods and said camshaft within said gallery and the space above and between said heads and between said ends of said passages.

2,974,655
FRAME ASSEMBLY FOR INTERNAL COMBUSTION ENGINES
Adelbert E. Kelbe, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 17, 1959, Ser. No. 840,589
1 Claim. (Cl. 123—90)



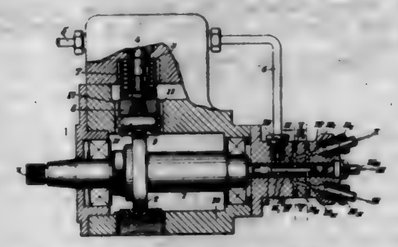
A frame assembly for an internal combustion engine and comprising a pair of crankcase members each having a row of oppositely disposed bearing supports formed in adjacent surfaces thereof, said bearing supports being formed with arcuate middle parts with straight and oppositely disposed ends at the extremities of said middle parts, said crankcase members being adapted to be secured together to provide a crankcase for said engine with said oppositely disposed bearing supports engaging one another at said ends to provide bearings for the crankshaft of said engine, said crankcase members also being formed to provide oppositely disposed sidewalls having rows of cylinder openings therein, said cylinder openings in one of said sidewalls being offset lengthwise of said engine from said cylinder openings in the other of said sidewalls, said cylinder openings in said rows being arranged in similarly offset pairs of cylinder openings on opposite sides of said crankcase, said offset cylinder openings in each of said pairs being disposed between adjacent pairs of said bearings in said crankcase, said crankcase members also being formed to provide bosses opposite said cylinder openings and having valve lifter receiving openings therein extending substantially in parallel relation to the axis of said cylinder openings, said crankcase members also being formed to provide parallel piers extending between said sidewalls of said crankcase and said ends of said bearing supports, said piers being spaced from said middle parts by said ends, said piers being arranged in pairs of piers for each of said bearing supports and with said pairs of piers for the bearing supports in one of said crankcase members being aligned with the pairs of piers for said bearing supports in the other of said crankcase members and with said pairs of piers for each of said bearing supports being disposed symmetrically with respect to each of said bearing supports and in planes normally intersecting the axis of said crankshaft midway between the ends of said bearings, said crankcase members between said piers in each pair and between said bearing supports and said sidewalls being formed to provide openings extending across said middle parts and terminating opposite said ends, said openings providing thermal and stress insulating means between said sidewalls and said bearing supports for preventing axial distortion of said bearing supports and injury to and excessive wear on the bearings supporting said crankshaft for said engine, said piers and said bearing supports and said bosses beyond said ends of said openings being reinforced by web means extending between said piers and said bearing supports and said bosses, said web means being formed to provide spaced and obliquely disposed brace means extending between said piers and said bearing support ends and said bosses, and means compressing said piers and securing said crankcase members together.

2,974,656
FUEL-PREHEATING DEVICE FOR INTERNAL COMBUSTION ENGINES
Joseph T. Germain, 16766 Brookpost St., Covina, Calif.
Filed Oct. 9, 1959, Ser. No. 845,504
3 Claims. (Cl. 123—122)



1. In combination, an internal combustion engine having a vertical heated wall portion, a housing member, bracket means connecting said housing member to said vertical heated wall portion, a heat exchanger vertically disposed in said housing, said heat exchanger comprising a coiled conduit formed with a plurality of horizontally elongated substantially horizontal turns disposed one above the other, and means clampingly securing said turns to said housing member adjacent said vertical heated wall portion, said conduit being connected between the fuel line and the intake manifold of the engine, whereby to preheat the fuel supplied to the intake manifold.

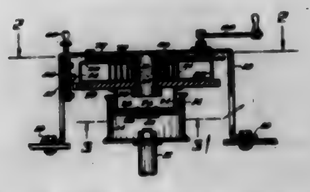
2,974,657
FUEL INJECTION DEVICE FOR A MULTICYLINDER INTERNAL COMBUSTION ENGINE
Pierre Etienne Besniers, 55 Blvd. Commandant Charcot, Neuilly-sur-Seine, France
Filed Dec. 1, 1959, Ser. No. 856,587
4 Claims. (Cl. 123—139)



1. In combination, an internal combustion engine and a fuel pump for feeding fuel to said engine, said engine including an even number of cylinders forming at least one pair, a piston mounted to reciprocate in each of said cylinders respectively, an engine shaft operatively connected with said cylinders so that, for said pair of cylinders, ignition in one of the two cylinders thereof coincides at least approximately with exhaust from the other, said fuel pump including a single pump cylinder, a single pump piston mounted to cooperate with said pump cylinder, a pump shaft operatively connected with said engine shaft for driving said pump piston in synchronism with said engine and delivery means starting from said pump cylinder, and distributing valve means for connecting said delivery means with said engine cylinders so that, during every delivery stroke of said pump piston, said delivery means are connected simultaneously with both of the engine cylinders of said pair just before ignition is to take place in one of said two cylinders and approximately at the time of exhaust in the other, whereby a

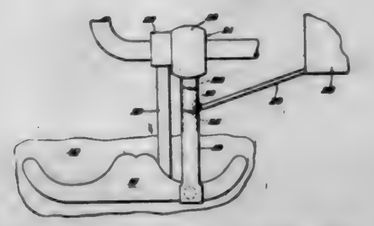
pre-injection is thus produced in the second of said two cylinders whereas the fuel injected simultaneously in the other of said two cylinders constitutes the main fuel injection.

2,974,658
STARTING MECHANISM FOR AN INTERNAL COMBUSTION ENGINE
Robert B. Russell, 248 Park St., Newton, Mass.
Filed Oct. 23, 1958, Ser. No. 769,269
1 Claim. (Cl. 123—179)



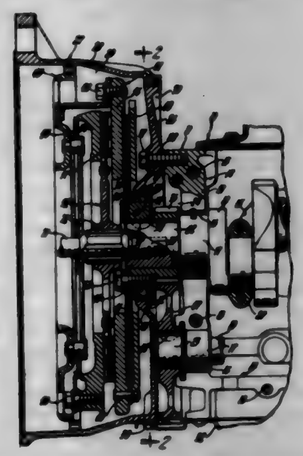
A starter for internal combustion engines comprising an outer casing, flanges on said outer casing in such position that said outer casing can be bolted to the internal combustion engine to be started, central tube mounted inside said outer casing, spring drum mounted on said outer casing, spring inside said spring drum with one end of said spring connected to said spring drum, drive dish mounted to rotate about said central tube below said spring drum with the other end of said spring attached thereto, and centrifugal force clutch mounted below said drive disk co-axial with said central tube and in such position that when said drive disk achieves sufficient rotary motion, said clutch will grip the inner surface of a drum connected to the crankshaft of said internal combustion engine and will cause said crankshaft to rotate with said drive disk.

2,974,659
ARRANGEMENT FOR COLD STARTING DIESEL ENGINES
Milo R. Wilson, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 30, 1957, Ser. No. 687,237
2 Claims. (Cl. 123—180)



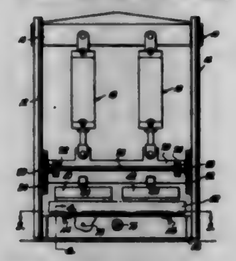
2. A compression-ignition multi-cylinder engine adapted for cold starting, comprising combustion chambers in the head ends of the engine cylinders and each chamber having an inlet port and an exhaust port, a crankshaft, pistons operably connected with the crankshaft and reciprocative in the cylinders to reach top-dead-center while approaching the head ends of the cylinders attendant to compressing gas in the combustion chambers, an intake manifold having an air inlet and an air intake passage with branch passages leading respectively to the combustion chamber inlet ports, exhaust valves for the exhaust ports, inlet valves for the inlet ports, fuel injecting nozzles respectively communicating with the combustion chambers and for injecting fuel delivered thereto into such chambers, a governor-controlled fuel-injection pump communicating with the nozzles to deliver fuel thereto in quantities controlled by engine speed under influence of control setting of the pump, the pump being settable for low-speed no-load operation of the engine and alternatively for higher speed and loaded operation of the engine, valve operating means for opening and closing said valves and operable while each piston crosses top-dead-center to hold the exhaust valve and the inlet valve associated therewith concurrently open for substantially 105° of crankshaft rotation to incur surging of hot burned gas from the combustion chambers into the manifold branch passages, means for introducing into the manifold air inlet a starting fuel having greater susceptibility to low-temperature compression ignition than the regular fuel delivered by the pump, means for cranking the engine, and air flow control means settable in an air flow throttling condition to limit the quantity of air entering the manifold inlet during cranking and warm-up of the engine and then settable into a substantially non-throttling condition, and the starting fuel introducing means being operable to introduce such starting fuel into the air intake passage during engine cranking and to terminate such introduction of starting fuel at the end of cranking while engine warm-up occurs during low speed no-load operation of the engine by means of fuel delivered by the pump.

2,974,660
FRAME ASSEMBLY FOR INTERNAL COMBUSTION ENGINES
Adelbert E. Kolbe, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 17, 1959, Ser. No. 840,590
5 Claims. (Cl. 123—195)



1. A frame assembly for an internal combustion engine and comprising a crankcase having bearing means formed therein, a crankshaft and a camshaft disposed in said crankcase and having journal means formed thereon, said crankshaft and said camshaft having end members projecting beyond said crankcase, means securing said bearing means on said journal means for rotatably supporting said crankshaft and said camshaft in said crankcase, a housing member formed to provide a pair of cavities and an opening connecting said cavities, means removably securing and sealing said housing member to said crankcase with said end members of said crankshaft and said camshaft disposed in one of said cavities with said crankshaft end member in alignment with said opening, flywheel and clutch means disposed in the other of said cavities, means removably securing said flywheel and clutch means to said crankshaft end member within said opening, and sealing means disposed in said opening and engaging and sealing said crankshaft end member relative to said housing member, said sealing means being unitary and continuous throughout the peripheral extent thereof and being secured within said opening, and means within said one of said cavities and associated with said end members for driving said camshaft end member from said crankshaft end member, said driving means being disposed on said end members by axial movement relative to said end members, said flywheel and clutch means and said housing member and said sealing means being disposed on said crankcase by axial movement relative to said crankshaft end member and by securing said securing means for said housing member and said securing means for said flywheel and clutch means.

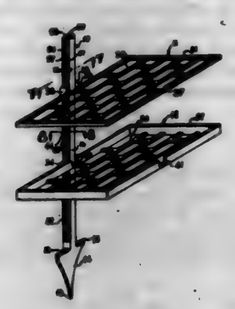
2,974,661
PRESSURE EQUALIZING ASSEMBLY FOR STONE BREAKING PRESSES
George A. Mayer, Miami, Okla., assignor to Miami Stone, Inc., Miami, Okla., a corporation of Oklahoma
Filed Feb. 3, 1958, Ser. No. 712,735
2 Claims. (Cl. 125—23)



1. In a block breaker, a pressure equalizing assembly comprising a base; a primary frame carried by the base for rocking movement with respect thereto; a plurality of secondary frames carried by a primary frame for rocking movement with respect thereto, the axes of rocking movement of said secondary frames being substantially parallel with the axis of rocking movement of said primary frame; a block support carried by each secondary frame for vertical reciprocation relative to and including a plurality of horizontally spaced bars parallel with the axes of rocking movement of said primary and secondary frames; and means for supporting said block supports, said means including arms carried by said secondary frames and spring means interposed between said arms and said block supports.

2,974,662
ADJUSTABLE GRILL
Joseph B. Forrest, 305 N. Poplar St., Charlotte, N.C.
Filed Mar. 8, 1956, Ser. No. 570,254
4 Claims. (Cl. 126—30)

4. A grill comprising an upright shaft having front and rear elongated surfaces and being provided with a longitudinal trackway in one side thereof, a grid carried by the shaft in substantially perpendicular relationship with respect thereto when in operative position, said grid comprising a frame having a lug straddling the trackway in said shaft, means extending inwardly from said lug into the trackway for pivotally mounting and slidably guiding said grid, said frame having a first notch provided in the medial portion of the side adjacent said lug, the oppositely disposed side of said frame having a second notch provided in a medial portion thereof in alinement with the first notch, said notches having respective widths slightly greater than the distance between the sides of said shaft, and said grid being movable upwardly along one of the front and rear surfaces of the shaft to the top thereof and pivotable into inoperative folded position in engagement



with the other of said front and rear surfaces, said notches receiving spaced portions of said shaft therein to afford a parrallel relationship between said grid and said shaft.

2,974,663
VENTILATING HOOD STRUCTURES
Reuben J. Humbert, Box 563, Coos Bay, Oreg.
Filed Jan. 31, 1958, Ser. No. 712,484
2 Claims. (Cl. 126—299)



1. A suction ventilating device comprising a hood, a vertical suction pipe having an open upper end, said hood comprising a first section and a second section, said sections being substantially coextensive, said first section having imperforate top, bottom and rear walls and a perforate front wall, said bottom wall having a suction opening with which said open upper end of the suction pipe is in communication, said second section having imperforate top, bottom, and rear walls and a perforate front wall, a first hinge means hinging the bottom wall of the first section to the upper end of the suction pipe, a second hinge means connecting the top wall of the first section to the bottom wall of the second section for hinging the second section toward the first section so as to register the perforated front wall of the second section with the perforated front wall of the first section, and conduit means providing communication between said sections.

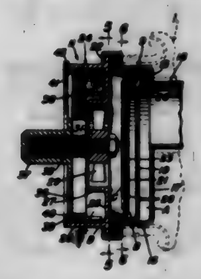
2,974,664
ROLLER VIBRATING DEVICE
Samuel L. McNair, 733 Bedford St., Whitman, Mass.
Filed Aug. 7, 1957, Ser. No. 676,849
3 Claims. (Cl. 128—57)



2. A roller vibrating device comprising a base, an outer cover connected to said base embodying two sides and having an opening therein, a motor supported by said

base, a vibrant armature connected to, and a portion of which is spaced from, said motor, a U-shaped mounting embodying an intermediate portion attached to said armature spaced portion and embodying two sides directly opposite said cover sides, supporting means mounted in said mounting sides, and a roller rotatably mounted on said supporting means and extending into said opening.

2,974,665
GAS MASK SPEECH TRANSMISSION
Armand V. Motsinger, Rte. 2, Aberdeen, Md.
Filed Feb. 12, 1954, Ser. No. 410,056
14 Claims. (Cl. 128—141)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A resonating chamber for a voice-transmitting means for gas masks comprising a cup-shaped housing having a central opening in the base thereof, a spider in said opening, a central support carried by said spider, a plate within said housing substantially parallel to and spaced from the base thereof, and having its periphery spaced from the cylindrical wall of said housing, means connecting the said central support with the central portion of said plate and thereby supporting said plate.

2,974,666
RECTAL APPLICATOR
Niki E. Coumbis, 144—59 76th St., Flushing, N.Y., and André V. Musachy, 155 E. 181st St., Bronx, N.Y.
Filed June 4, 1959, Ser. No. 818,287
2 Claims. (Cl. 128—271)



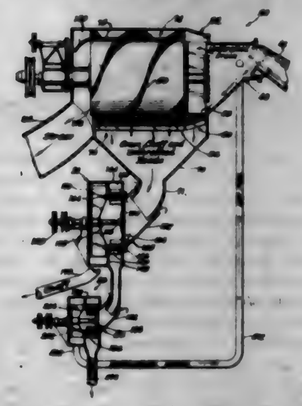
2. An applicator for use in the anal region of a wearer to alleviate the discomfort of hemorrhoids, comprising a hollow expandable plug insertable into the rectum of the wearer, said plug portion being flexible, and adapted to be filled with a medicament, said plug having a multiplicity of small openings to permit the oozing therethrough of a medicament from the interior to the exterior thereof, a body pad portion integral with the plug adapted to extend around the external portion of the anal region of the wearer, said body portion having a profile conforming with the anal area of the wearer, opposed means on the outside of said pad portion, extending on sides equi-distant from the center of the plug, and means permitting fastening of the applicator to the body of the wearer without slipping thereof, plug tapering toward the pad and having a constricted opening to permit the insertion of a supply of a medicament thereinto.

2,974,667
FIGURE MOLDING AND CONSTRICTING WOMAN'S GARMENT
Sydne Cousins, Westport, Conn.
(345 W. 58th St., New York 19, N.Y.)
Filed June 12, 1958, Ser. No. 741,613
5 Claims. (Cl. 128—547)



1. A figure molding and constricting woman's garment comprising a girdle portion having front, side and rear panels adapted to encircle a wearer's torso at least over the abdomen, hips and buttocks, said garment including a rear portion comprising a central inelastic panel secured at its side edges to the side panels and extending generally from the top of said garment and terminating at a point near the lower edge of the garment, a first bottom rear elastic panel secured along its top edge to the bottom edge of said central panel, the side edge of said first bottom rear panel being secured to a vertical edge of each side panel, a second bottom rear elastic panel secured along its top edge to the bottom edge of said central panel, the side edges of said second bottom rear panel being secured to the vertical edges of the side panels, the bottom edges of said first and second bottom rear panels sloping centrally upwardly and in angular relationship to each other and being secured along their end edges to the side panels, said bottom panels being in overlapping relationship, the bottom edges thereof crossing one another substantially on the vertical center line of the rear of said garment, said bottom elastic panels being outherwise independent of each other, said first and second bottom rear panels extending substantially below and underlying the buttocks of a wearer.

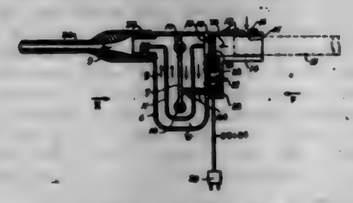
2,974,668
CENTRIFUGAL TYPE THRESHER
Homer D. Witzel, Bettendorf, Iowa, assignor to Harvestaire, Inc., San Francisco, Calif., a corporation of California
Filed Dec. 10, 1957, Ser. No. 701,753
11 Claims. (Cl. 130—27)



7. In a threshing machine, the combination comprising a generally tubular foraminous member, a threshing fan

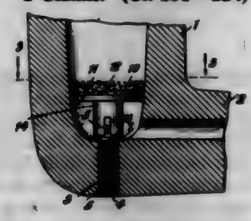
positioned within said member, means for rotating said fan, a drum within said member at the rear end of said fan, means for rotating said drum, means for feeding unthreshed grain into the front end of said fan, said fan being effective to thresh said grain and throw grain kernels outwardly through said member by centrifugal action while blowing the straw rearwardly between said drum and said member, a plurality of sweeping elements mounted on said drum in spiral flights for propelling the straw rearwardly along said member away from said fan, said sweeping elements projecting into closely adjacent relation to said member for sweeping the straw around the inside of said member so as to throw grain kernels outwardly through said member by centrifugal action, said sweeping elements comprising a plurality of spring wire fingers mounted on said drum in substantially continuous spiral flights with a soft resilient strip mounted on said drum in front of each of said flights, a casing around said member for receiving and carrying away the grain kernels, and discharge means at the rear end of said casing for receiving and discharging the straw from the rear end of said drum.

2,974,669
COMBINATION CIGARETTE HOLDER, LIGHTER, AND SMOKE PURIFIER, FILTER, AND COOLER
Robert Ellis, New York, N.Y.
(5085 Saratoga Ave., San Diego 7, Calif.)
Filed Oct. 28, 1958, Ser. No. 770,163
8 Claims. (Cl. 131—172)



1. A tobacco smoking device comprising a mouth-piece on one end thereof, means for holding burning tobacco on the other end thereof, means defining a confined smoke passage leading from said burning tobacco to said mouth-piece, an electric heating element located within said confined smoke passage, a source of electrical energy connected to said electric heating element, and means adapted to conduct the tobacco smoke emanating from said burning tobacco to be drawn through said passage contiguous to said electric heating element to "after burn" the said tobacco smoke before said smoke enters the said mouth-piece.

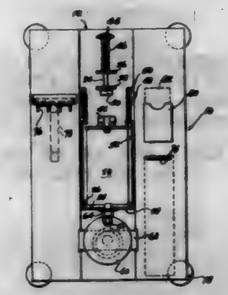
2,974,670
SMOKING PIPES
Frederick August Fassbender, Irvington, N.J., assignor to S. M. Frank & Co., Inc., New York, N.Y., a corporation of New York
Filed Apr. 30, 1959, Ser. No. 809,990
2 Claims. (Cl. 131—224)



2. A pipe having a bowl, the bowl having a centrally-located sleeve extending through its bottom and present-

ing a tubular part within the bowl and projecting above the bottom of the bowl, said tubular part being formed with a circumferential bead, a grate in the form of a perforated disk fitted within the bowl, said disk having a projecting split tube portion provided with an internal groove adapted for a snap engagement with the bead when the tube portion is fitted over the tubular part of the sleeve, to thereby detachably secure the grate to the sleeve, said disk being thickened at the juncture thereof with said projecting tube and having a conical recess in the thickened portion, said conical recess having its apex at the center of the disk, said conical recess being a linear extension of the hollow portion of said tube, at the upper end thereof, the disk fitting across and closing the end of the sleeve, said conical recess being adapted to receive and guide an elongated pointed tool inserted through the sleeve toward the center of the disk to break the snap connection between the split tube portion of the disk and the tubular part of the sleeve.

2,974,671
SHAVING APPURTENANCE SUPPORTING DEVICE
Dean L. Lewis, Bonnie City, La.
(508 W. 6th St., North Platte, Nebr.)
Filed Sept. 4, 1959, Ser. No. 838,309
5 Claims. (Cl. 132—80)

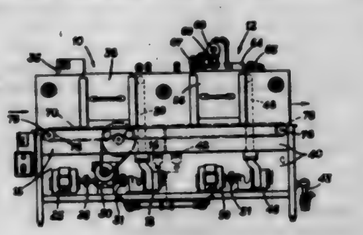


1. A device for supporting shaving appurtenances upon a wall surface comprising an upstanding backing plate, means on the rear face of said plate for detachably securing the plate to a wall surface, a ledge projecting from the front face of said plate and connected to said plate for upward and downward movement, a container filled with shaving cream mounted upon said ledge for movement with the latter, a dispensing spout in communication with the interior of said container, a normally closed valve operatively connecting the interior of said container to said spout and depressible to an open position, and a valve actuating element positioned above and in spaced alignment with respect to said valve and supported upon the front face of said plate for movement into and out of engagement with said valve, said valve actuating element being operable into engagement with said valve when said ledge is in the upward movement position.

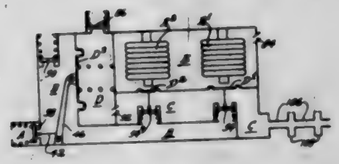
2,974,672
WASHING MACHINE
Gerald B. Fox, Troy, Ohio, assignor to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed July 6, 1956, Ser. No. 596,260
5 Claims. (Cl. 134—72)

1. In a dishwashing machine of the character described having a chain type conveyor for moving articles to be cleansed through the machine, said conveyor including a continuous loop of chain supported longitudinally of the

machine by idler sprockets dividing said chain loop into leading and return flights, a drive sprocket meshing with said return flight, means for rotating said drive sprocket in one direction only to move said chain loop along its own length, guide sprockets aligned with opposite edges of said drive sprocket for guiding said return chain flight into mesh with said drive sprocket, and a carrier supporting said guide sprockets, said carrier being mounted for rotational movement about the rotational axis of said drive sprocket to position said guide sprockets on opposite sides of said return chain flight for guiding said return flight into mesh with opposite edges of said drive sprocket for reversing the direction of movement of said chain and said conveyor.

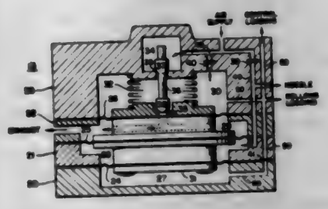


2,974,673
ALTITUDE COMPENSATED CONTINUOUS FLOW OXYGEN REGULATOR
Ralph L. Culbertson, Bryan, Ohio, assignor to The Aro Equipment Corporation, Bryan, Ohio, a corporation of Ohio
Filed June 9, 1958, Ser. No. 740,667
9 Claims. (Cl. 137—64)



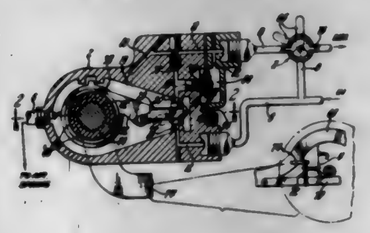
1. An altitude compensated continuous flow oxygen regulator having a first stage chamber, an outlet chamber, a first stage back pressure chamber, a first stage metering valve between a supply of oxygen and said first stage chamber, a diaphragm between said first stage chamber and said first stage back pressure chamber, and operatively connected to said first stage metering valve to control the same, a plurality of second stage metering valves between said first stage chamber and said outlet chamber, a plurality of diaphragms between said outlet chamber and atmosphere, an aneroid for each of said second stage metering valves to open the same upon increase in altitude, each of said aneroids actuating its respective second stage metering valve through one of said plurality of diaphragms and the area ratios of said plurality of diaphragms to said aneroids being different whereby one of said second stage metering valve-aneroid combinations opens during low altitudes to provide a substantially flat performance curve and another of said second stage metering valve-aneroid combinations takes over and opens during higher altitudes to provide a substantially steeper performance curve, and a feed back connection between said outlet chamber and said first stage back pressure chamber to impose the outlet pressure on that side of said first stage diaphragm which tends to open said first stage metering valve as the pressure in said feed back connection increases.

2,974,674
BOOSTER RELAY FOR PNEUMATIC CONTROL SYSTEMS
Bruce H. Baldridge, Euclid, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed Apr. 12, 1957, Ser. No. 652,477
11 Claims. (Cl. 137—85)



1. In a fluid pressure control system, a booster relay for a nozzle and vane control couple, comprising, a first chamber having a first pressure sensitive movable wall, a combined supply and waste valve for admitting pressure to and exhausting pressure from said chamber mechanically positioned by said movable wall, a second chamber having a second pressure sensitive movable wall mechanically linked to the first pressure sensitive movable wall to oppose the first movable wall in positioning said supply and waste valve, a restricted connection between a source of pressure fluid and said second chamber, a connection between said second chamber and the control couple, a third chamber between the first and second chambers having as opposite sides the pressure sensitive movable walls of the first and second chambers, a passage controlled by the combined supply and waste valve connecting the first and third chambers, an exhaust passage from the third chamber to the atmosphere, a fourth chamber having a pressure sensitive movable wall in common with the second chamber mechanically linked to the first and second movable walls and a restricted connection between the first and fourth chambers.

2,974,675
DUAL HEIGHT LEVELING VALVE FOR AIR SUSPENSION
Casimer J. Cislo, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 28, 1958, Ser. No. 751,277
11 Claims. (Cl. 137—87)



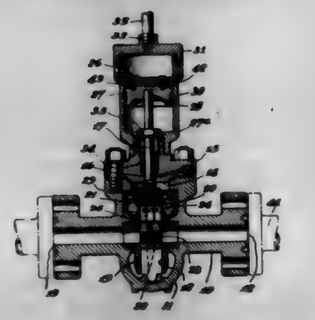
1. A dual height leveling valve comprising a housing having a main cavity, an intake passage and an exhaust passage opening into said cavity, closure means for said passages, a shaft rotatably mounted in said housing, an actuating arm rotatable with said shaft to displace said intake and exhaust closures respectively upon movement of said shaft in opposite directions from a predetermined neutral position, and means axially movable in said shaft for altering the angular relation of said arm with respect to said shaft.

2,974,676
HOSE AND CONDUIT SYSTEM
George A. Hagelthorn, 348 Ronelyn Drive, West Palm Beach, Fla.
Filed Feb. 17, 1959, Ser. No. 793,907
3 Claims. (Cl. 137—343)



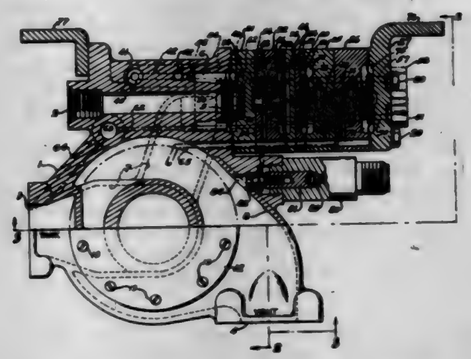
1. A novel system for controlling the conveyance of a discharge point of a hose wherein the hose is maintained in a safe orderly fashion comprising a conduit having a rectangular cross-section, a hose carrier in said conduit including a base member, a pair of legs projecting laterally from said base member and slidably engaged in said conduit, a hose guide in said conduit movable with respect thereto, means connecting said hose guide to said hose carrier for relating their respective movements, said means including a cable control system, said cable control system including a first pulley, a second pulley, a third pulley, said first pulley secured to said hose guide, said second pulley secured to said conduit, said third pulley secured to said conduit, a cable secured at one end to said conduit, said cable passing around said first, second and third pulleys respectively, said cable secured at a second end to said hose carrier, a hose inlet supported by said conduit, a fixed length of hose in said conduit, said hose fixed at one end to said hose inlet, said hose fixed at a second end to said hose carrier, said hose guide including a pulley, said hose being looped around said pulley, guide rollers supported in said conduit adjacent said hose guide pulley for maintaining said hose on said hose guide pulley, rotatable wheels carried by said hose carrier and engaged with said conduit for facilitating movement of said hose carrier.

2,974,677
HYDRAULIC OPERATOR FAIL-SAFE SURFACE VALVE
Paul J. Nafho, Houston, Tex., assignor to Pan American Petroleum Corporation, a corporation of Delaware
Filed June 29, 1956, Ser. No. 594,940
3 Claims. (Cl. 137—456)



1. A safety valve for use upstream from a pressure-reducing choke on a high-pressure flow line comprising a valve body, a flow channel extending through said body having opposed spaced seats intermediate its ends, a gate member within said body having a blind and a flow port and comprising two opposed spaced-apart plates cooperating respectively with said seats to control flow of fluid through said channel, spring means interposed between said plates and urging said plates into engagement with their respective seats, said gate member being adapted to move relative to said body so that said blind and said flow port can be selectively disposed in said flow channel, an opening in said body substantially at right angles to said flow channel, a stem connected to said gate member adjacent said flow port and on the common axis of said flow port and said blind and extending through said opening, pressure-seal means in said opening around said stem, the upstream plate of said gate member responding to the flow-channel pressure to move axially of its seat against said spring means, whereby the pressure fluid in said channel enters said valve body and acts on said stem to urge said gate member to the completely closed position, means including a piston forming an enclosed pressure chamber on said body, said piston being connected to the end of said stem opposite said gate member so that the pressure in said pressure chamber acting on said piston to open said valve opposes the pressure in said flow channel acting on said stem to close said valve, said pressure-chamber pressure and said flow-channel pressure supplying substantially the only forces for moving said gate member, and conduit means hydraulically connecting said flow channel downstream from said gate member to said pressure chamber so that the reduced pressure downstream from said valve holds said valve open except upon a substantial decrease of said reduced downstream pressure, whereby upon a substantial further reduction of pressure in said flow channel downstream from said gate member said valve is automatically closed.

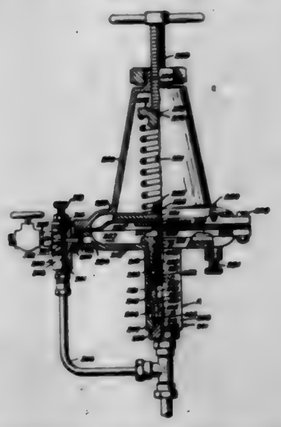
2,974,678
FUEL TANK AIR SUPPLY AND RELIEF VALVE
John G. Russell, Mayfield Heights, Ohio, assignor to Parker Hannifin Corporation, a corporation of Ohio
Filed June 17, 1955, Ser. No. 516,160
11 Claims. (Cl. 137—489)



1. A valve assembly compriaing a valve casing formed with inlet, outlet, and vent ports, a main valve member movably supported in said casing to open and close fluid communication between said inlet and outlet ports, a relief valve member movably supported in said casing to open and close fluid communication between said outlet and vent ports, and pilot valve members in said casing respectively operative to permit opening of said main valve member when the fluid pressure in said outlet port is less than a predetermined value and to permit opening of said relief valve member when the fluid pressure in said outlet port is greater than a predetermined value, said casing defining with the side of said main valve member that is opposite to the side exposed to fluid under pressure in said inlet port a chamber that has fluid communication with said inlet port, and said casing defining with the side of said relief valve member that is opposite to the side exposed to fluid under pressure in said outlet port another chamber that has fluid com-

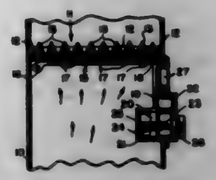
munication with said outlet port, said pilot valve members being effective to vent such chambers whereby fluid under pressure in said inlet port opens said main valve member and fluid under pressure in said outlet port opens said relief valve member.

2,974,679
QUICK ACTING VALVE
John K. Heller, 271 La Questa Way, Woodside, Calif.
Original application Sept. 21, 1953, Ser. No. 381,241, now Patent No. 2,918,080, dated Dec. 22, 1959. Divided and this application Apr. 24, 1959, Ser. No. 816,148
7 Claims. (Cl. 137—498)



1. A diaphragm-controlled, pilot-actuated, quick-opening and quick-closing valve for fluids in which the fluid's pressure is utilized to accelerate the opening and closing of the valve, including in combination: a diaphragm housing; a diaphragm dividing said housing into first and second chambers; a generally tubular valve housing secured to said diaphragm housing and having an axial passage therethrough extending from said first chamber at one end to an outlet opening at its other end with a smooth-bored valve cylinder therebetween and a generally conical valve seat adjacent said outlet opening, said housing having generally radial inlet means adjacent said valve seat; an outlet conduit connected to said outlet opening and to said first diaphragm chamber; a plug member closing said housing at its end adjacent said diaphragm and having an axial guide passage therethrough; a main valve member slidable axially in said housing axial passage toward and away from said valve seat, said member having a solid end nose portion adapted to close against said seat and a hollow piston portion slidable in said cylinder, said piston having a larger exterior diameter than said nose with a shoulder where they join so that the pressure of said fluid at the inlet against said shoulder tends to move said valve away from said outlet opening and hold it away, said hollow piston portion having an axial passage extending in from its outer end, said passage having a restricted portion between said outer end and a wider chamber portion; means for conducting fluid at all times from said inlet into said cylinder between the outer end of said piston and said plug, the pressure of the fluid therein against the outer end portions of said piston tending to close said valve member against said seat; a hollow pilot valve member having a solid stem portion secured to said diaphragm for movement therewith and a tubular stem portion extending through said plug axial guide passage with an enlarged end portion normally adapted to seal against said restricted piston passage, the passage through said pilot valve member leading from said wider chamber in said main valve into said first chamber; and means in said second chamber for biasing said diaphragm; whereby when pressure in said first diaphragm chamber drops, said pilot valve is moved toward said valve seat, and its enlarged end portion moves into said wider chamber, thereby losing contact with said main valve member and permitting the flow of fluid from said cylinder into said wider chamber, then through said pilot valve to said first diaphragm chamber, causing a reduction of pressure in the passage area lying between said plug and said main valve member, thereby enabling the undiminished pressure tending to urge said main valve away from its seat to overcome the diminished force in the opposite direction and open said main valve, the movement of said valve away from its seat widening the passage between said main valve and said pilot valve thereby further increasing the pressure difference and accelerating the opening of said main valve, and whereby when the pressure in said first diaphragm chamber rises said pilot valve is moved in the opposite direction, restricting the flow of fluid out from the space between said piston and said plug, thereby building up pressure that tends to move said main valve toward its seat, this movement causing further restriction and further increase in the pressure tending to close said valve and thereby accelerating the closure of said valve.

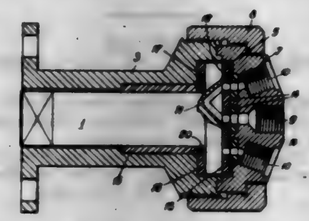
2,974,680
VALVE
Joseph W. Kreuttner, North Tarrytown, N.Y., assignor, by mesne assignments, to Beemsod-Stacey Corporation, a corporation of Ohio
Filed Feb. 5, 1959, Ser. No. 791,435
15 Claims. (Cl. 137—595)



1. In a system including duct means through which fluid is adapted to flow, a fluid flow regulator including a frame member stationarily mounted within said duct means; spaced louvers mounted on said frame member; a second frame member movably mounted within said duct means; louvers mounted on said second frame member in spaced staggered relation to the louvers on said stationary frame member and adapted to intermesh with corresponding louvers on said stationary frame member; and means for moving said second frame member toward and from said stationary frame member along a path that renders said intermeshing louvers progressively variably effective.

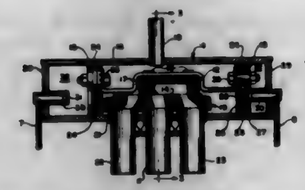
2,974,681
ROTARY FLUID DISTRIBUTOR VALVES
George Whitehurst, 37 Merton Road, Harrow, England
Filed July 15, 1957, Ser. No. 671,823
Claims priority, application Great Britain July 18, 1956
1 Claim. (Cl. 137—624.13)

A rotary fluid distributor valve comprising a housing, a rotor rotatably disposed in said housing, a distributor head, means adjustably securing said distributor head to said housing, said distributor head having an inlet port therein and a plurality of outlet ports therein, a substantially non-metallic relatively rigid thrust pad fixedly secured within said housing between said rotor and said distributor head, recesses in said distributor head, resilient washers in said recesses, said washers extending beyond said distributor head and engaging said thrust pad, a duct in said rotor, and apertures in said thrust pad and



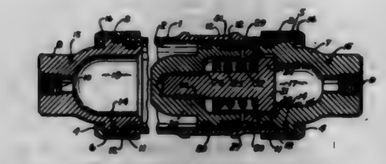
said washers for alignment with said inlet port and said duct and for selective alignment with said outlet ports for successively communicating said inlet port with said outlet ports upon rotation of said rotor.

2,974,682
REVERSING VALVE FOR HEAT PUMPS
Allen Trask, Utica, N.Y., assignor to International Heater Company, Utica, N.Y., a corporation of New York
Filed June 11, 1959, Ser. No. 819,651
4 Claims. (Cl. 137—625.33)



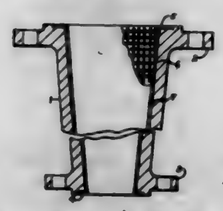
1. A refrigerant flow reversing valve for use in a refrigeration system comprising a cylindrical housing, a valve seat unit inside said housing having three ports and three individually associated annular collars in communication with respective ones of said ports, a reversing valve connecting tube ending inside each of said collars, said annular collars extending through the wall of said housing and being attached thereto and to said connecting tubes with solder, a D valve slide seating on said valve seat unit and arranged to selectively connect each outside port with the center port, and piston means operable by the pressures within said cylindrical housing for selectively positioning said D valve slide.

2,974,683
ACCUMULATOR AND PISTON THEREFOR
Paul H. Kabelin, El Cajon, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 7, 1958, Ser. No. 713,832
3 Claims. (Cl. 138—31)



1. A hydropneumatic accumulator comprising a cylinder having ported end caps through which liquid is adapted to flow into and from one end of said cylinder and through which the other end of said cylinder is adapted to be charged with gas under pressure; a piston having one end axially slidable in said cylinder responsive to differences in the liquid and gas pressures acting on opposite sides thereof; a resiliently deformable packing ring carried by said piston intermediate the ends thereof to make sliding sealed engagement with the bore of said cylinder and to coact with such one end of said piston to position said piston coaxially in said cylinder; a packing follower carried by said piston for axial sliding movement thereon toward one side of said packing ring and constituting, at the end thereof remote from such one end of said piston, the other end of said piston axially slidable in said cylinder; a spring disposed concentrically within said piston, said packing ring, and said packing follower and having one end bearing on a fixed shoulder formed on said piston adjacent such other end thereof; and a spring follower axially slidable in said piston and disposed concentrically within said piston, said packing ring, and said packing follower; said followers being formed with abutting surfaces adjacent such other end of said piston and the other end of said spring bearing on said spring follower whereby the expansive force of said spring is transmitted from said spring follower to said packing follower whereby the latter is moved toward said packing ring to exert axial force thereon tending to radially expand said packing ring to hold it in fluid-tight sealing engagement with the bore of said cylinder, one of said followers having a shoulder which is in close proximity to the fixed shoulder of said piston and which is adapted to abut the latter shoulder to limit to small amount the degree of movement of said packing follower in a direction away from said packing ring.

2,974,684
REINFORCED MOLDED CONE
Marvin E. Glasven and Maurice D. Woodruff, Springfield, Ohio, assignors to The Bauer Bros. Company, Springfield, Ohio, a corporation of Ohio
Filed Nov. 25, 1955, Ser. No. 548,921
2 Claims. (Cl. 138—64)

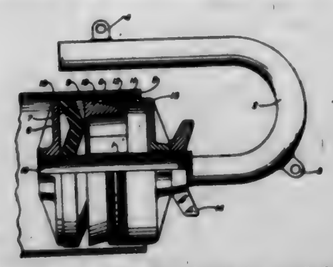


1. A centrifugal cleaner unit comprising a hollow conical metal base member, said member having open ends, flanges connected to said member adjacent said ends and extending radially outwardly, a smaller cone shaped element of open work metal welded in co-extensive abutting relation to the inner surface of said hollow base member, and a liner of corrosive and abrasive resistant plastic bonded in contacting relation to said inner surface of said base member, said liner covering said open work metal element and further bonding said open work metal element to said inner surface of said conical base member.

2,974,685
PIPE PLUG
Burton Ver Nooy, Tulsa, Okla., assignor to T. D. Williamson, Inc., Tulsa, Okla.
Filed Aug. 23, 1957, Ser. No. 679,594
9 Claims. (Cl. 138—90)

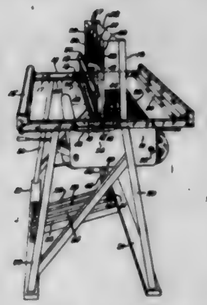
1. A pipe plug, comprising a shaft adapted to be inserted into the end of a pipe, a first flange fixed to the shaft, a second flange carried by the shaft for free reciprocation longitudinally thereof, a seal ring of resilient material having a substantially chevron-shaped radial cross-section when unstressed and surrounding the shaft intermediate the flanges with its inner and outer edges

pointing toward the inserted end of the shaft, means for moving the flanges relatively toward one another to bend the seal ring into a shape in which its outer edge extends radially outwardly into engagement with the pipe to form



a fluid barrier between the shaft and pipe and then confine the seal ring between the flanges, and means for locking one of the flanges against longitudinal movement with respect to the pipe, whereby fluid pressure within the pipe is effective across the barrier.

2,974,686
LOOMS
Herman C. Frentzel, 4363 N. Wildwood Ave., Milwaukee, Wis.
Filed July 8, 1958, Ser. No. 747,131
6 Claims. (Cl. 139—29)



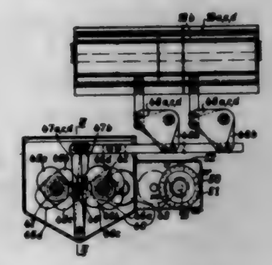
1. In a loom having a heddle frame with a heddle movably mounted therein and a beater mounting frame at right angles to the heddle frame, a beater, and guided cable means connecting the beater with the beater mounting frame for reciprocatably movably mounting said beater in said beater frame for movements in a path perpendicular to the plane of the heddle.

2,974,687
DENT FOR LOOM REEDS
George A. McFetters, Greensboro, N.C., assignor to Greensboro Loom Reed Company, Inc., Greensboro, N.C., a corporation of North Carolina
Filed Aug. 10, 1959, Ser. No. 832,832
5 Claims. (Cl. 139—192)



1. An improved reed for a loom having a plurality of spaced apart metal dents between which warp threads are adapted to pass, the improvement comprising each dent having a macroscopically rough metallic surface provided with a non-specular, smoothly abraded, matte finish.

2,974,688
METHOD AND MEANS FOR STOPPING A WEAVING MACHINE
Erwin Pfarrwaller, Winterthur, Switzerland, assignor to Sulzer Frères, Société Anonyme, Winterthur, Switzerland, a corporation of Switzerland
Filed Sept. 14, 1955, Ser. No. 534,342
Claims priority, application Switzerland Oct. 2, 1954
1 Claim. (Cl. 139—353)

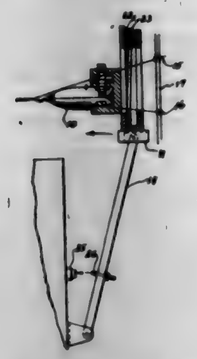


In a weaving machine for producing a fabric whose pattern is different from the pattern characterized by 1:1 whereby certain warp threads change shed while other warp threads do not change shed: a main drive shaft, a shedding mechanism operatively connected to said main drive shaft and including control means effecting movement of the warp threads which do not change shed to a position between their extreme end positions at open shed and closed shed position and back to the previous extreme position during periods of time when the warp threads which do change shed move from one to the other of their extreme end positions at open shed, a lay operatively connected to said main drive shaft and being between a retracted position and beat-up position during said periods of time, and an apparatus for stopping the weaving machine including first means responsive to and actuated by an irregularity in the warp, second means responsive to and actuated at a predetermined angular position of said main drive shaft during said periods of time, and means for stopping the weaving machine upon coaction of said first and said second means, said second means including a cam rotating synchronously with the main shaft of the weaving machine, said stopping means including a lever provided with a cam follower roller engaged by said cam, a stopping shaft, an arm on said stopping shaft, a displaceable tappet abutting against said arm, a pawl pivoted to said tappet, and pawl actuating means for moving said pawl into a position in which it can be abutted by said lever, said pawl actuating means being operatively connected to said first means for moving said pawl into the position in which it can be abutted by said lever for displacing said tappet by said lever when the main shaft of the weaving machine is in the predetermined angular position and after occurrence of an irregularity in the warp.

2,974,689
LOOM STOP MOTION
William Harries, Kennett, Pa.
Filed Mar. 31, 1959, Ser. No. 803,187
3 Claims. (Cl. 139—370)

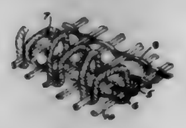
1. A stop mechanism for looms using a reciprocating shuttle carrying a filling thread and a movable reed for warp threads, a batten mounting both the reed and the shuttle, an electrical contact between the reed and the batten, a spring urging the reed forwardly to close said

contact, said reed normally being held out of contact by the pressure of the material being woven, but closing the



contact when the shuttle thread is broken or exhausted and the pressure exerted on the reed released.

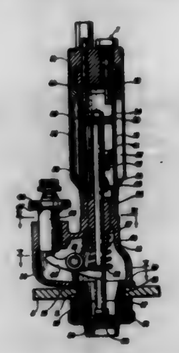
2,974,690
LOOP PILE FABRIC
Orrin J. Park and Basil U. Cotner, Bloomsburg, Pa., assignors to The Magee Carpet Company, Bloomsburg, Pa., a corporation of Pennsylvania
Filed June 26, 1957, Ser. No. 668,100
3 Claims. (Cl. 139—403)



1. A loop pile fabric comprising spaced sets of ground warps interwoven with weft shots, pile warp yarns in the spaces between the sets of ground warps, said pile warp yarns being formed of twist ply-yarn with alternate yarns twisted in a reverse direction, each pile warp yarn passing under a weft shot and extending weftwise over a plurality of sets of ground warps in one direction, under a weft shot and then back over the same sets of ground warps in the opposite direction forming weftwise rows of pile loops disposed in different angular relation to each other.

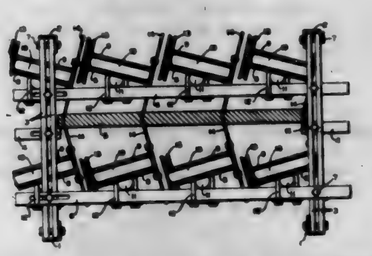
2,974,691
SYRUPING APPARATUS FOR USE IN THE CANNING OF FRUIT AND VEGETABLES
David William Bingham, 32 Edro Ave., Brighton, Victoria, Australia
Filed Apr. 28, 1959, Ser. No. 809,399
9 Claims. (Cl. 141—142)

2. Apparatus of the kind indicated comprising a main syrup supply bowl mounted upon a stationary supporting frame and adapted for rotary movement in relation to said frame, a series of circumferentially spaced filler heads mounted within said bowl so as to be partly immersed in the contents thereof, said bowl having a series of holes in its bottom with part of each filler head projecting through one of said holes, each filler head having a hollow body provided with an upstanding cylinder and an inlet port fitted with a syrup inlet valve, a spring influenced liquid discharge valve located beneath said cylinder and having a valve seating adapted to be engaged by a can to be filled, spring influenced air and vacuum valves mounted upon said cylinder, means associated with said discharge valve for automatically opening and closing said air and vacuum valves during opening and closing movements of the discharge valve, means for automatically opening and closing said syrup inlet valve as a result of relative rotary movement between its filler head and said supporting frame, said syrup inlet valve being operatively connected with said discharge valve in such a manner that when the syrup inlet valve is open the main discharge valve is closed and vice versa for the purpose specified, said cylinder being surrounded by an outer casing forming an annular separating chamber around said cylinder which is provided with an inlet port near the bottom of the separating chamber which port is inclined transversely so as to impart a swirling motion



to air and syrup entering said chamber when the latter is subjected to the influence of a vacuum, an outlet port being formed through the cylinder wall near the upper end of the separating chamber so as to permit air passing through the chamber to re-enter the cylinder and escape through said vacuum valve, said outlet port being inclined downwardly and transversely so as to impart a swirling motion to the air re-entering the cylinder which is provided at an intermediate point in its length with a transfer port adapted to be opened and closed during reciprocatory movements in the main discharge valve for the purpose specified.

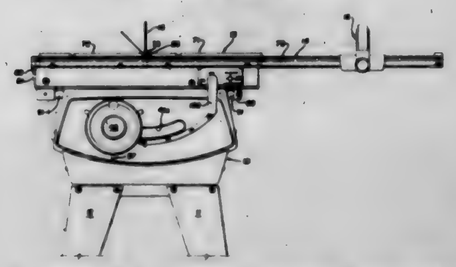
2,974,692
SAW AND METHOD FOR TONGUE AND GROOVE JOINTS
Adolf Bolenbach, 12630 Gail Ave., Sunnyvale, Calif.
Filed May 19, 1958, Ser. No. 736,396
3 Claims. (Cl. 143—38)



3. A table gang saw comprising a frame of angle iron corner uprights, horizontal angle irons connected to their tops and horizontal angle irons attached to them below the working table, having on the left and the right side a pair of spaced upright bars or double bars connected to the upper and lower horizontal angle irons, each upright bar having a short vertical slot at a distance above and below the table to which two spaced horizontal bars above and below the table are attached firmly but vertically movable; a series of small circular saws above the table and below the table each saw a complete saw

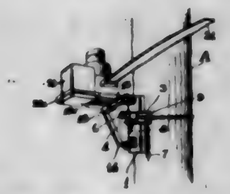
unit having a bearing support plate, a bearing and a short arbor therein with a pulley attached to one end and a saw blade to the other end and rotatable at a right angle between its shelf bars on which the rounded or octagonal ends of the bearing support plate rest fastened with suitable means firmly but movably to any desired spacing thereon and pivotably tiltable to any desired angular position of the saws to saw the upper obtuse angle cuts of any desired degree, including an obtuse angle tongue and groove whose upper cut or leg may be a near vertical or a vertical cut in grooving half inch boards or sheets of plywood for flooring but the upward cut from below retains its obtuse angle position and all the saws of the lower series being spaceable and pivotably tiltable as stated above.

2,974,693
SLIDING TABLE SAW
Hans Goldschmidt, Atherton, and John W. Edgemond, Jr., Los Altos, Calif., assignors, by mesne assignments, to Yuba Consolidated Industries, Inc., San Francisco, Calif., a corporation of Delaware
Filed May 22, 1958, Ser. No. 737,087
3 Claims. (Cl. 143—52)



1. In a sliding table saw construction comprising a fixed base supporting a motor driven saw including a motor, a saw blade, and a switch for controlling said motor, a workpiece supporting table, slidable longitudinally with respect to said base and to said saw blade, a shaft journalled to said table and rotatable between two positions, the said switch having a passageway therethrough to accommodate said shaft and the actuating mechanism of said switch being responsive to rotation of said shaft, and a lock on said base having a passageway therein to accommodate said shaft, the actuating mechanism of said lock being responsive to rotation of said shaft whereby rotation of said shaft actuates both said actuating mechanism to open or close the circuit controlled by said switch and to unlock or lock said table with respect to said base.

2,974,694
COMBINATION SAW HOLDER AND GUIDE
Alvin J. Mattila, 2 Beaver St., San Francisco, Calif., and John E. Shapansky, 1412 Sweetwood Drive, Daly City, Calif.
Filed July 3, 1959, Ser. No. 824,891
2 Claims. (Cl. 143—68)



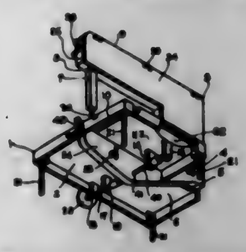
1. In a combination saw holder and guide, an elongated supporting member adapted to be secured in a substantially vertical position against the side of a pole, upper and lower spaced brackets secured to the supporting member, a structurally rigid arm mounted at one end on the upper bracket for swinging movement in a substantially horizontal plane, an inclined brace member pivotally mounted at its lower end on the lower bracket and secured at its upper end to the other end of the arm, an adjustable member slidably mounted on the arm, and a saw mechanism includes a saw blade and means for actuating the blade carried by the slidable member.

2,974,695
SAW WITH TEETH HAVING WEAR-RESISTANT FACING PLATES
John W. Pfeffer, N. 2818 Hamilton, Spokane, Wash., assignor of one-half to A. W. Pfeffer, Spokane, Wash.
Filed Jan. 6, 1958, Ser. No. 707,274
1 Claim. (Cl. 143—133)



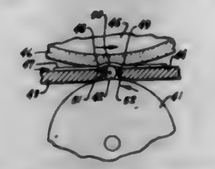
A saw comprising blade means having opposite planar side faces and a series of teeth integral with said blade means and having sides coplanar with the opposite sides of said blade means, respectively, each tooth having a leading edge and a trailing edge meeting the leading edge, said blade means and said teeth being of substantially uniform thickness, and preformed, wear-resistant facing plates of material much harder than said blade means, each of said facing plates having a leading edge for cutting and a trailing edge meeting the leading edge at a tip, each such facing plate being bonded to a side of a tooth in the plane of the corresponding side of said blade means with its leading edge substantially in registry with the leading edge of such tooth and with the junction of the leading edge and trailing edge of such tooth projecting substantially as far as the tip of said facing plate, and each such facing plate projecting laterally beyond the side of said blade means and tapering from the facing plate tip toward the root of its tooth to provide set for the saw tooth.

2,974,696
COMBINATION WOODWORKING MACHINE
John D. Dorsey, 1751 N. Fountain, Wichita, Kans., and Ronald D. Nicholas, 857 Calle Romano, Tucson, Ariz.
Filed Apr. 8, 1959, Ser. No. 805,806
9 Claims. (Cl. 144—1)



1. A combination woodworking machine comprising a worktable, said worktable including a plurality of hinged sections normally in coplanar relation for use during certain operations, one of said hinged sections being movable to a vertical position in respect to the worktable for use as a vertical band saw frame and a band saw blade carried by the last mentioned hinged section.

2,974,697
METHOD AND APPARATUS FOR MAKING A VENEER PRODUCT
Armin Elmendorf and Henry F. Hershey, Palo Alto, Calif., assignors to Elmendorf Research, Inc., Palo Alto, Calif., a corporation of California
Filed Jan. 10, 1958, Ser. No. 708,245
5 Claims. (Cl. 144—328)



1. A method of distending veneer and making it pliable including the steps of feeding the veneer in a direction perpendicular to the grain into a clamping zone, clamping the veneer between an unyielding surface and a moving yielding surface, then bending the veneer by progressively increasing the compression of the yielding surface as the veneer advances until a point of maximum compression is reached, then progressively releasing the compression while bending the veneer in the reversed direction, then bending the veneer in the same direction as the first bending while progressively clamping the veneer between said moving yielding surface and a second unyielding surface, thereby increasing the width of the veneer at least 2 percent.

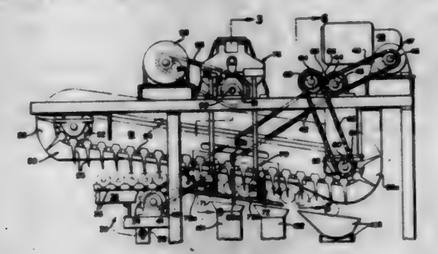
2,974,698
HACK SAW
Harold Drew, 1066 Stratford Lane, Bloomfield Hills, Mich.
Filed Sept. 7, 1956, Ser. No. 608,592
2 Claims. (Cl. 145—33)



1. A tool frame including two generally U-shaped longitudinally extending parallel frame members secured together in spaced relation, spacers secured therebetween, and blade mounting elements attached to the legs of said U-shaped member to secure a blade in said frame, said spaced parallel frame members defining a vertical sight whereby the blade may be aligned on a workpiece.

2,974,699
ONION TOPPER AND SLICER
Lester A. Boles and Harry C. Lundgren, Vacaville, and David M. Daniel, Berkeley, Calif., assignors to Basic Vegetable Products, Inc., San Francisco, Calif., a corporation of California
Filed Mar. 5, 1958, Ser. No. 719,251
3 Claims. (Cl. 146—83)

1. In an onion handling machine, feed conveyer means adapted to move onions in a predetermined spaced relation and in a horizontal plane, an impaling mechanism comprising a plurality of impaling knives, reciprocating adjustable severing knives, means to move the impaling knives in a vertical plane to impale onions and in a horizontal plane to advance them into engagement with the severing knives, said severing knives operating on the advancing onions to sever unwanted roots and crowns therefrom, resilient means for wiping the roots and crowns from impaled portions of said onion, additional knife means for severing and removing slices from said impaled portions, and cam means extending in a vertical



plane and adapted to engage the remaining impaled portions of the onions to remove the same from said impaling knives.

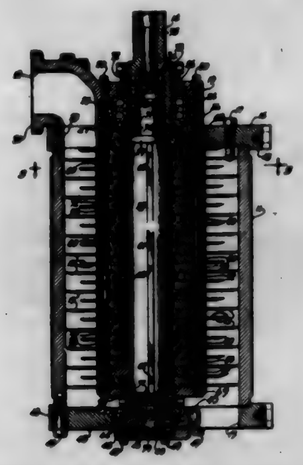
2,974,700
FEEDING AND CUTTING MEATS
Cecil Anthony Waters, Manhattan, Mont., assignor, by decree of distribution, to Lola Waters
Filed Apr. 1, 1957, Ser. No. 649,904
5 Claims. (Cl. 146—123)

1. Means to feed meat pieces from a hopper to a meat cutter, said means comprising a horizontal cylindrical shell with one end open and a smaller circular opening in its other end offset from the axis of the shell laterally and downwardly, a releasable door closing said open end, a feed opening on top of the shell to the interior of the shell, a downwardly directed tapering outlet throat in the bottom of the shell substantially opposite the feed opening, the throat terminating in a tube of less than half the diameter of the shell, a cylindrical rotor in the shell concentric with the said smaller circular opening and covering it, said rotor having a diametric slot therein open at its end next to said door and extending to the other end of the shell, and a compressor blade slidable in said slot crosswise of the rotor, the compressor blade extending the length of the shell interior.

2,974,701
CONTINUOUS CHOPPER
Augustus H. Eberman, Madison, Wis., assignor to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation
Filed Dec. 10, 1957, Ser. No. 701,815
4 Claims. (Cl. 146—192)

1. A continuous chopper for use in high speed comminution of meat, said chopper comprising a vertically positioned cylindrical housing provided with opposite end closure means, the upper end closure means including an inlet opening positioned to deliver meat downwardly into said housing along the inner surface thereof, the bottom end closure means including an outlet opening in communication with said housing to receive meat from the

inner surface thereof for discharge from said chopper, a rotatable shaft in said housing extending centrally and axially downwardly therethrough, blade member mounting means on said shaft and keyed thereto for rotation therewith, said blade member mounting means being in the form of annular rings provided with a plurality of blade members removably mounted therebetween independent of said shaft to define a plurality of separate axially spaced circumferential series of blade members extending downwardly through said housing, each of said



blade members being provided with a convex cutting edge extending into close proximity and in slight clearance with the inner surface of said housing, said inner surface being smooth for unimpeded flow of centrifugally accumulated meat downwardly therealong through said housing as aided by gravity, the blade members of adjacent series being circumferentially staggered relative to one another for continuous high speed comminution of meat along said inner surface during downward flow of said meat through said housing.

2,974,782
QUIVER FOR ARCHERY
Floyd Graham, 846 N. Monroe St., Stockton, Calif.
Filed Apr. 25, 1960, Ser. No. 24,526
4 Claims. (Cl. 150—1.5)



2. An arrow quiver consisting of a longitudinal four-sided box including a longitudinal open front side, lateral sides, and a back side, said back side and lateral sides increasing in width from the bottom toward the top, thus forming a frustrum shaped box, a longitudinal bracket having rectangular-shaped notches at intervals along the inwardly disposed edge is secured to the inside and at the top of one of said sides, a plurality of longitudinal arrow shaft receivers are secured to said bracket and are pivotally mounted in said notches, a plurality of releasable spring catches and abutments are secured to and inside the opposite side wall, said abutments having rectangular shaped notches, corresponding in number to said receivers, allowing spring catches to protrude into said notches whereby releasably holding said receivers in horizontal position, said receivers having circular shaped notches at intervals along the outwardly disposed surface edge for receiving arrow shafts below its feathering whereby the feathering will be spaced from contact with other arrow feathering and sides and the back of said box, said notches are overlaid with a spring clip releasable to constrain the arrow shafts in said notches, a stepped bottom member secured to the inside and at the opposite end of said box having steps corresponding in number to and substantially vertically aligned with said receivers, said steps having bores at intervals along the horizontal surfaces for receiving arrowheads therein whereby the arrowheads will be spaced from contact with other arrowheads and the inside surfaces of said box.

2,974,783
PLASTIC ANCHOR MEMBER HAVING A TRANSVERSE SCREW RECEIVING BORE
George M. Rapata, Park Ridge, Ill., assignor to Illinois Tool Works, Chicago, Ill., a corporation of Illinois
Filed Nov. 29, 1956, Ser. No. 625,008
2 Claims. (Cl. 151—41.75)



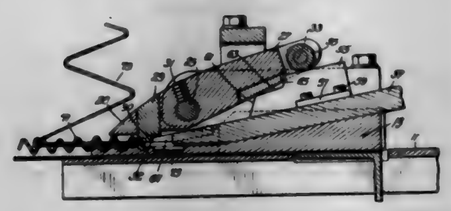
1. A one-piece molded plastic anchor member adapted to be applied to an apertured workpiece for receiving a rotary threaded member having helical thread convolutions thereon, comprising an attachment section including means engageable with one side of a workpiece, and a generally axially extending body section of polygonal transverse cross section insertable through a complementary workpiece aperture and engageable with edges of the workpiece aperture for insuring predetermined orientation of the anchor member with respect to the workpiece, said body section including shoulder means on a first pair of opposite sides thereof for engaging a workpiece oppositely from said attachment section when the anchor member is applied to the workpiece, means providing an unthreaded bore in said body section disposed transversely of a common axis of the body section and the attachment section for receiving a threaded member and supporting the threaded member at one side of and generally parallel to a workpiece, said bore means extending between a second pair of opposite sides of said body section between said first pair of sides and said shoulder means and also being spaced from said attachment section axially of the body section at least as much as said shoulder means for facilitating collapsing of the shoulder means toward each other during application of the anchor member to a workpiece and subsequent expansion of the shoulder means into engagement with the workpiece during application of the threaded member to the bore means, said body section having a wall thickness around and radially of said bore means substantially greater than the depth of the helical thread convolutions on said threaded member so that full depth threads may be formed in said body section during insertion of the threaded member into said unthreaded bore means, said body section having a substantial transverse thickness between said second pair of opposite sides for simultaneously threadedly engaging a plurality of the helical thread convolutions of the threaded member when the threaded member is fully applied to the bore means, and said body section including means providing a slot disposed parallel to a longitudinal axis of said bore means and extending between said second opposite sides of said body section and from an entering end of said body section through said bore means and toward said attachment section for further facilitating collapsing and subsequent expansion of said shoulder means, said slot being narrow so that the only access to said bore means for insertion of the threaded member is through one of the ends of the bore means.

2,974,784
CUTTING AND FORMING DIE
Lawrence M. Rheingold, Brooklyn, and Milton Berlin, Forest Hills, N.Y., assignors to Templet Industries Incorporated, Brooklyn, N.Y., a corporation of New York
Filed Sept. 14, 1955, Ser. No. 534,231
5 Claims. (Cl. 153—2)



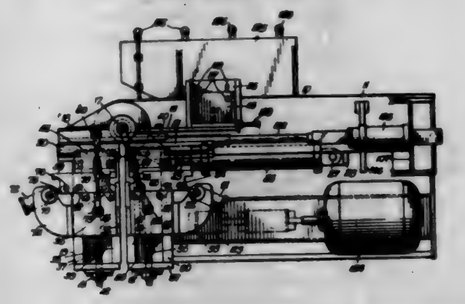
1. In a die set for blanking and shaping sheet metal: a male die member and a female die member adapted to be mounted in alignment for movement toward and away from one another, said female die member constituting a base block having an opening therein of predetermined contour, die blade means continuously extending around and in contact with the edge of said opening so as to define a closed hollow shape including a longitudinal edge portion protruding beyond said base block in a direction toward said male die member, the inner face of the die blade being generated by a straight line extending parallel to the direction of relative movement of said die members and running to the edge of the die blade and forming an angle with said edge, an inner block located within the die blade means and clamping said die blade means between said inner die block and said base block, said male die member comprising a punch extending toward said female die member and having a plan contour complementary to and in registry with the plan contour of the shape defined by the die blade means, said punch member having an externally convex non-planarly contoured surface facing toward the female die member for bending sheet metal operated upon by the die set.

2,974,785
HELICAL CUTTING APPARATUS
John W. Kozak, Kenosha, Wis., assignor to Frank L. Wells Company, Kenosha, Wis., a corporation of Wisconsin
Filed June 19, 1956, Ser. No. 592,302
5 Claims. (Cl. 153—2)



1. Apparatus for cutting and forming the ends of helicals comprising a base member, a movable member pivotally supported on the base member, means for swinging said movable member about its pivot to move an end portion thereof toward and away from the base, a cutting blade carried by said end portion of the movable member and extending toward the base, a linearly movable member movable between the base and the pivoted movable member, a second cutting blade carried by said linearly movable member and coacting with the blade carried by the pivoted movable member for severing the end of a helical, and a cam carried by the linearly movable member and coacting with the pivoted movable member to swing said end portion toward the base member to clamp the end turns of a helical between said end portion and the base.

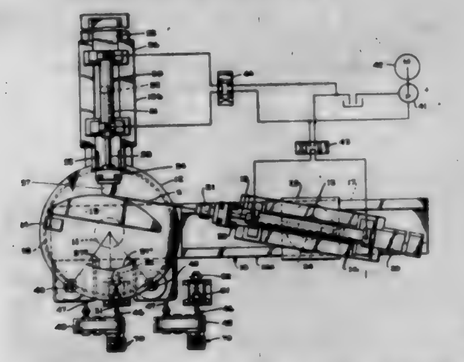
2,974,786
ROTARY BENDING MACHINE HAVING HYDRAULIC MEANS FOR HOLDING MOVABLE PRESSURE DIE AGAINST STOCK
Edward J. De Witt, Winnetka, Ill., assignor to Wallace Supplies Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 26, 1957, Ser. No. 642,494
11 Claims. (Cl. 153—40)



1. A rotary bending machine having a main supporting frame, a bending form mounted on said main frame for rotation about a vertical axis, means on said main frame connected to said bending form for rotating the same, a clamping die, a supporting frame for said clamping die connected to said bending form for rotation therewith about said vertical axis and extending laterally of said axis, pressure applying mechanism connected to the top of said clamping die supporting frame and to said clamping die, said pressure applying mechanism and said clamping die being mounted for movement in a horizontal plane to bring said clamping die into clamping engagement with a work piece positioned against said bending form, a pressure die having a work face for engaging the trailing portion of said work piece which extends adjacent the clamping die, a support for said pressure die on said main frame which extends laterally of the bending form adjacent said vertical axis, and for pressure applying mechanism connected to said support and said pressure die which pressure applying mechanism comprises a block member mounted on said support for horizontal adjustment toward and from said work piece in a direction normal to the long axis of the work piece, a pressure applying member mounted on said support between said block member and said pressure die, means connecting said pressure applying member and said pressure die for relative horizontal movement in a direction parallel to the long axis of the work piece which connecting means includes bearing rollers and a cooperating bearing guide forming a free sliding and rolling connection between said pressure die and said pressure applying member, means connecting said block member and said pressure applying member which limits the movement of said pressure applying member to a direction inclined relative to the longitudinal axis of the work piece when force is applied in the horizontal plane of said pressure applying member, and means connected to said pressure applying member for applying thereto

a constant force directed toward the leading portion of the work piece so as to urge said pressure die into engaging relation with the trailing portion of the work piece and to hold the same against the work piece with lateral pressure being exerted uniformly throughout the work engaging face of the pressure die during the bending operation.

2,974,707
TABLE DRIVE FOR ROTARY METAL FORMING MACHINES
George H. Perkins, Euclid, Ohio, assignor to The Cyril Bath Company, Solon, Ohio, a corporation of Ohio
Filed Feb. 10, 1959, Ser. No. 792,304
3 Claims. (Cl. 153—40)



1. In a stretch forming machine, a frame, a turntable mounted on the frame for rotation about an upright axis and adapted to support a side face die, means rotatable with the table and adapted for clamping one end of the stock for holding the clamped end in fixed position relative to the die, a stretch forming assemblage on the frame and connectable to the opposite end of the stock for applying yieldable stretch forming tension thereto, driving means connected to the table, said driving means including a rotatable power transmission shaft drivingly connected to the table and operative, when rotatably driven in one direction, to drive the table in a stretching direction for stretching the stock, a one-way braking device including one member connected to the shaft for rotation by, and in fixed relation to, the shaft, a braking member, means interposed between the members and rendered operative by slight initial rotation of said one member by the shaft, when the shaft is rotated in a direction opposite to said one direction by rotation of the table opposite to the stretching direction, for locking the members together to prevent rotation of the table opposite to the stretching direction, and rendered operative by rotation of said one member by the shaft, when the shaft is rotated in said one direction, for releasing said one member for rotation relative to the braking member so that the shaft can rotate unrestrained and drive the table in said stretching direction.

2,974,708
METHOD AND APPARATUS FOR STRETCH FORMING METAL STOCK
George H. Perkins, Euclid, Ohio, assignor to The Cyril Bath Company, Solon, Ohio, a corporation of Ohio
Filed Aug. 18, 1959, Ser. No. 834,545
8 Claims. (Cl. 153—40)

1. In a stretch forming machine, a rotatable table adapted to support, for rotation therewith, both a side face die and means for connecting one end of a length of stock in fixed position relative to the die, a hydraulic stretch forming assemblage, a stretch forming head carried by the assemblage and adapted for connection to the other end of the length of stock for tensioning the stock endwise by the assemblage as the stock is wrapped onto the die by rotation of the table, a variable speed hydraulic drive drivingly connected to the table for rotating the table, said hydraulic drive being variable in speed for varying the table speed by minute increments in a speed range from substantially zero table speed upwardly throughout the entire range of tension applied to the stock, speed control means for varying the speed of the hydraulic drive throughout said speed range and set-

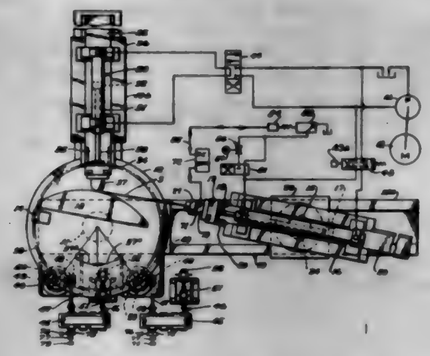
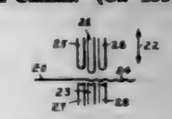


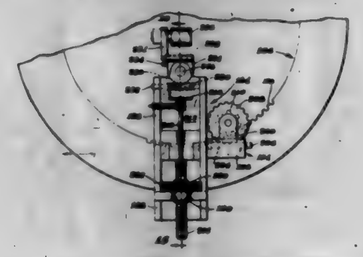
table initially to cause very slight table creepage, pressure supply means for supplying controlled hydraulic pressure fluid to the assemblage for yieldably urging the head thereby in a direction away from the table for tensioning the stock, pressure control means for varying said pressure supplied to the assemblage, locking means for initially constraining the head from movement toward the table during initial creepage of the table, means to release the locking means and render the assemblage operable by said hydraulic pressure to maintain predetermined forming tension on the stock while the table is constrained from reverse rotation by the hydraulic drive.

2,974,709
PROCESS FOR THE MANUFACTURE OF EMBOSSED SCREENS
Edgar Gretener, Zurich, Switzerland, assignor to Dr. Edgar Gretener A.G., Zurich, Switzerland
Filed Apr. 8, 1955, Ser. No. 500,257
Claims priority, application Switzerland Apr. 9, 1954
2 Claims. (Cl. 153—48)



1. The method of manufacturing embossed strips of metal foil of the type forming a projection screen when placed in side-by-side relationship, said foil having a high reflective surface embossed throughout by specular elements having a size which is less than the resolving power of the eye of the spectator and which are arranged in side-by-side relation, said method comprising the steps of forming, by means of sequential stamping operations of the same stamping die, not more than a few rows of said specular elements extending across the entire width of said metal foil strip at each stamping operation, and advancing said metal strip relative to said stamping die between successive stamping operations of said die such that a row of said specular elements formed by one stamping operation lies immediately adjacent a row formed by the preceding stamping operation, the distance between successive strokes of said stamping die as measured in a lengthwise direction of said strip being less than the resolving power of the eye of the spectator whereby minor irregularities which may occur within the embossing attributable to inherent complementary irregularities in the die create no apparent irregularities in brightness of the projection screen.

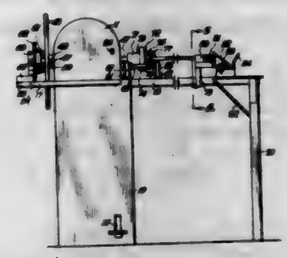
2,974,710
METAL WORKING DEVICE
Karl F. Braeuninger, Ferguson, Mo., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 10, 1958, Ser. No. 714,184
2 Claims. (Cl. 153—54)



1. A metal working device comprising a plurality of pinch roll assemblies, a section straightening assembly and a contour correcting assembly, each of said assemblies being disposed along and around a common center line in working relationship with respect thereto, one of said pinch roll assemblies preceding and following each of said other assemblies, said straightening assembly comprising a plurality of tool retaining rings, each of the rings being axially aligned with respect to the others and secured to a ring mounting structure, the ring mounting structure of each of the rings being slidably coupled to a common base member, each tool retaining ring being axially movable with respect to each other tool retaining ring and to the pinch roll assembly and contour correcting assembly, each tool retaining ring having a tool holder coupled thereto, said tool holders including a circumferential movement mechanism and means for moving said tool holder towards and away from said center line; said contour correcting assembly comprising a plurality of annular tool holding rings each perpendicularly disposed with respect to said center line in spaced apart side by side relationship with respect to each other, each of the tool holding rings having a mounting member which is secured to a common base member, each tool holding ring having at least one tool holder secured thereto and each tool holder having means for moving a tool held thereby in at least three distinct manners of movement.

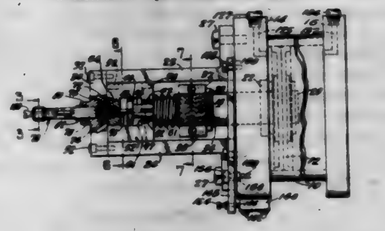
2,974,711
IRON WORKING MACHINES
Robert A. Foust, 5208 Argentine, Kansas City, Kans.
Filed Oct. 14, 1957, Ser. No. 689,842
2 Claims. (Cl. 153—78)

1. An iron working device comprising a frame, a power source mounted on said frame operable to drive a primary drive shaft, means resiliently and rotatably mounting said primary drive shaft on said frame, a secondary drive shaft, means mounting said secondary drive shaft rotatably on the frame in substantially horizontal position, an iron working jig fixed to said secondary drive shaft and rotatable therewith, a speed reduction linkage continuously directly connected to said second drive shaft, the means mounting the first drive shaft on the frame normally resiliently positioning said first drive shaft relative to said linkage and frame in a first upper position, a drive connection between said first drive shaft and said linkage which is inoperable when the first drive shaft is in said first upper position, foot-operated means connected to said resilient mounting means to permit movement



of the mounting means and the first drive shaft to a second lower position wherein the drive connection is operable, the speed reduction linkage being of substantially greater total mass than that of the secondary drive shaft and the jig thereon.

2,974,712
HOSE COUPLING AND METHOD AND APPARATUS FOR PRODUCING SAME
Richard D. Frye, Erie, Mich., and Gorman C. Bard, Toledo, Ohio, assignors to Neo Products Corporation, Erie, Mich., a corporation of Michigan
Filed Sept. 17, 1956, Ser. No. 610,183
4 Claims. (Cl. 153—80.5)

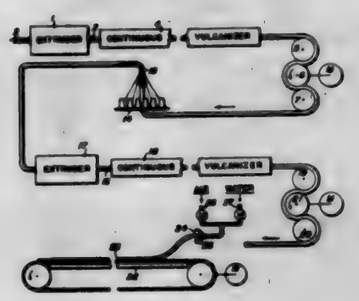


1. Apparatus for securing hose ends to hose fittings, in combination, a cylinder, a fluid pressure actuated piston reciprocable in the cylinder, a piston rod connected to the piston and having a threaded portion, an adjustable first abutment mounted on the threaded portion of the rod, a frame associated with the cylinder including spaced parallel ways, a crosshead slidably mounted by the ways and having a passage formed therein, said crosshead being arranged for slidable movement relative to said piston rod, means actuated by the piston rod including a second abutment extending into the passage for limiting relative movement of the crosshead, spring means normally biasing said crosshead in a direction away from the piston rod, an expandible mandrel carried by the crosshead and normally in unexpanded condition adapted to receive a tubular element of the hose fitting to be expanded in a hose, a ram within the mandrel connected with the second abutment and arranged to be reciprocated by the piston rod, said ram having a portion adapted to expand the mandrel by movement of the ram relative to the mandrel, the parts being arranged whereby initial movement of the piston by fluid pressure moves the second abutment into engagement with the crosshead to expand the mandrel by the ram and further movement of the piston draws the expanded mandrel through the tubular element to progressively expand the element substantially throughout its length, and electrically actuated valve means for controlling the delivery of fluid under pressure into the cylinder.

2,974,713
METHOD OF CONTINUOUSLY PRODUCING REINFORCED HOSE

Julius C. Hydrick, Jr., Riverton, N.J., assignor to H. K. Porter Company Inc., Pittsburgh, Pa., a corporation of Delaware

Filed June 10, 1957, Ser. No. 664,690
1 Claim. (Cl. 154—9)



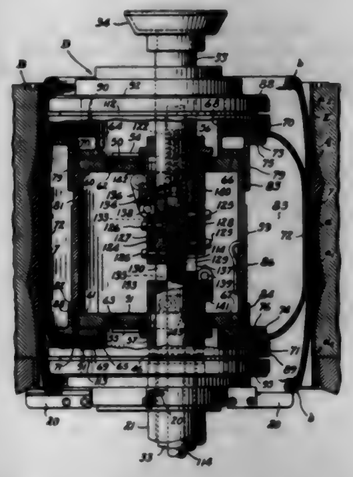
The method of continuously producing tubular material of indefinite length which comprises the steps of successively drawing through an annular orifice a plurality of flexible removable cylindrical mandrels of definite length connected end-to-end while extruding thereon a continuous elastomeric covering, progressively applying over said covering a tubular textile reinforcement before the trailing end of each mandrel clears the orifice, coupling to said end the leading end of the succeeding mandrel, severing the extruded covering and surrounding reinforcement adjacent a coupling between two mandrels while substantially simultaneously therewith severing the connection between said mandrels, ejecting the leading one from its covering and surrounding reinforcement and returning it for connection to another mandrel preparatory to repassage through the orifice.

2,974,714
METHOD AND APPARATUS FOR APPLYING AN UNCURED RUBBER COVERING TO A TIRE CARCASS

Herman T. Kraft, Akron, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Oct. 9, 1958, Ser. No. 766,245
15 Claims. (Cl. 154—9)

1. The herein described method of extracting a tread forming covering band of uncured rubber that is of substantially internally cylindrical form from the interior of a tubular mold member having an interior circumferential recess that conforms to the tread portion of said band and applying said band to a rubber and fabric tire carcass which comprises supporting said tire carcass in a position surrounding an elongated pressure applying member having a rigid body portion and an elastic radially expansible peripheral wall, axially alining the body portion of said pressure applying member with a tubular mold member having a covering band therein and moving said pressure applying member and tire carcass axially into a position within said mold member, applying fluid pressure to said expansible wall to expand the same into engagement with said tire carcass and to expand said carcass into engagement with said covering band to adhere said band to said tire carcass, moving the body portion of said pressure applying member laterally to position its axis parallel to and spaced from the axis of said mold member, imparting an orbital movement to the axis of said pressure applying member about the axis of said mold member while gradually relieving the expanding pressure on the tire carcass to permit contraction of said elastic wall and to apply radial forces to said band progressively about its circumference to relieve adhesion between said band and said mold member, returning the body portion of said pressure applying member to a position coaxial with said mold member, and withdrawing said tire carcass and adhered covering band axially from said mold member.



5. Apparatus for extracting a substantially internally cylindrical covering band of uncured rubber from the interior of a tubular mold member and applying the same to the exterior of a substantially cylindrical rubber and fabric tire carcass comprising an axially elongated pressure applying member having a rigid body portion and a flexible elastic and radially expansible peripheral wall, means for supporting a tire carcass in a position surrounding said peripheral wall, means for supporting the body portion of said pressure applying member and said tubular mold member in axial alinement and for relative axial movement to permit movement of said pressure applying member with a tire carcass into said tubular mold member, means for applying fluid under pressure to said expansible wall to expand the same against the interior of said tire carcass and to expand the tire carcass against the interior of said covering band and for controlling the release of pressure, means for shifting the body portion of said pressure applying member laterally to a position where its axis is spaced from the axis of said mold member, and means for moving the axis of the body portion of said pressure applying member orbitally about the axis of said tubular member while expanding fluid pressure is maintained on said elastic peripheral wall.

2,974,715
METHOD AND DEVICE FOR REPAIRING TIRES IN GENERAL

Affonso Pereira Soares and Mario Lucci, both of Rua Prates 956, Sao Paulo, Brazil

Filed Nov. 14, 1957, Ser. No. 696,403
1 Claim. (Cl. 154—14)

A method of repairing a punctured tire with the aid of a resilient patch having an enlarged head and an elongated stem from whose free extremity there projects a rigid, rough-surfaced pin with a pointed end, comprising the steps of introducing said pointed end into the puncture from inside the tire, cleaning the puncture by repeatedly moving said rough-surfaced pin back and forth therein, coating said stem with an adhesive, further inserting said patch along with said adhesive into said puncture by gripping said pin from without and pulling

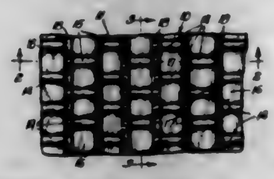


until said head strikes the inner tire surface, and cutting off the outwardly projecting part of said stem.

2,974,716
CORRUGATED PACKAGING MATERIAL

Charles Albert Fourness, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed June 25, 1957, Ser. No. 667,852
10 Claims. (Cl. 154—31)



1. An apparatus for making corrugated laminated paper comprising at least one pair of rolls for gathering a first ply of said paper, each of said pair of gathering rolls having one roll provided with a plurality of spaced annular flanges, and a second roll provided with spaced annular grooves complementary with said flanges, a pair of forming rolls for corrugating said first ply, said forming rolls comprising a plurality of regularly spaced annular disks, each of said disks having a series of alternating teeth and indentations on its outer periphery, the disks of one of said forming rolls intermeshing with the disks of the other said forming roll, roll means for selectively coating an adhesive on a second ply of said paper, and further roll means co-operating with one of said forming rolls for bringing said first and second plies in touching relationship whereby said first and second plies are secured together by said adhesive.

2,974,717
HEAT SEALING TOOL

John A. Lindsay, 1919 W. Pleasant Valley Road, Parma, Ohio

Filed June 21, 1960, Ser. No. 37,635
8 Claims. (Cl. 154—42)

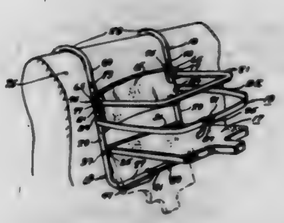


1. A heat sealing tool for fusibly bonding overlapping end portions of heat-fusible thermoplastic tape comprising a pair of parallel spaced planular clamping jaw members positioned for aligned movement flatwise toward and away from each other from releasing to clamping positions and arranged for receiving, in overlapping face-to-face relation therebetween, the tape end portions to be joined when the jaws are in clamping position, clamping means for moving said jaw members toward and away from each other into and out of clamping position, each of said jaw members having a plurality of apertures, the apertures of one jaw member being aligned with the apertures of the other jaw member when the jaw members are in said clamping position, tape retaining means on one of said jaw members and adapted for connection detachably to one end portion of the tape for retaining the connected tape end portion in fixed position relative to said one of the jaw members so that the tape can be grasped in spaced relation to said tape end portion and manually tensioned endwise and laid flatwise on the clamping face of said one jaw member when the jaw members are in released position and retained thereon during movement of the jaw members to clamping position, a heating member including an elongated body having a plurality of parallel depending heat conducting pins insertable concurrently through the aligned apertures, respectively, of the jaw members in piercing relation to the tape end portions clamped between the jaw members, and heating means for heating said pins to a predetermined temperature required for heat fusing the tape together at the edges of the apertures formed by the pins in the overlapped end portions when the heated pins are passed through said aligned apertures.

2,974,718
INFANT'S CAR SEAT

Parker V. Lawrence, Chicago, Ill., and Alfred O. Seifert, Kenosha, Wis., assignors to Simmons Company, New York, N.Y., a corporation of Delaware

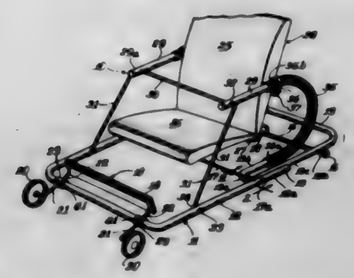
Filed June 6, 1960, Ser. No. 34,882
1 Claim. (Cl. 155—11)



A car seat for infants which is foldable to a generally flat storage position and which permits confinement of a child in either a seated or standing position, said car seat comprising a frame adapted to rest against the upwardly and rearwardly inclined front surface of the back rest of a vehicle seat, said frame being generally of U-shape and including a pair of laterally spaced apart generally upright legs and a cross bar interconnecting the lower ends of said upright legs, a pair of hangers adapted for engagement over the top surface of the back rest of the vehicle seat to support said car seat, means for interconnecting said hangers to the upper ends of said upright legs for free swiveling of said hangers relative to said frame between a vehicle seat engaging position and a storage position generally parallel with said frame, and, at the same time, for preventing disconnection of said hangers from said upright legs, each of said interconnecting means comprising a post projecting from either one of said hanger and said upright leg, and a portion of the other of said hanger and said upright leg in telescopic engagement with said post, said posts and said telescopically engaged por-

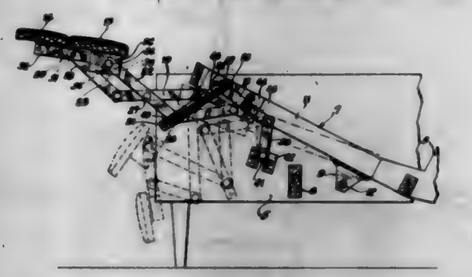
tions each having interfitting projections preventing axial displacement of said portions relative to said posts without interfering with the free swiveling of said hangers relative to said frame, a seat hingedly carried by said frame above said cross bar for swinging movement upwardly and downwardly relative to a forwardly extending, generally horizontal seat forming position, a rigid link interconnecting said seat and said cross bar to support said seat in the seat forming position, said seat having on its undersurface a forwardly extending support with a guideway therein having an entrance adjacent its rearward end, said link having at one end a pivotal collection with said cross bar and having its other end passable through said entrance and into slidably engagement with said guideway, whereby said seat is supported in seat forming position when the other end of said link is in abutting engagement with the forward end of said guideway, and said link being disengageable from said guideway to permit independent disposition of said seat and said link in a storage position disposed in generally parallel relation to the front surface of the vehicle seat when said seat is swung upwardly to permit outward passage of the other end of said link from said guideway through said entrance, a U-shaped guard rail swingable between a forwardly extending position relative to said frame in spaced above relation to said seat and a storage position in general parallelism to said frame, and cradle brackets pivotally interconnecting said upright legs with the ends of said guard rail, each of said brackets having one portion in fixed supporting engagement with the undersurface of an end part of said guard rail and a pair of arms extending from said one portion in straddling relation to said guard rail end part to a pivotal interconnection with one of said legs, said one portion of said brackets having an edge which engages the adjacent upright leg to determine the angular relation of said guard rail to said frame when said guard rail is in the forwardly extending position.

2,974,719
ROCKER SUPPORT DEVICE
Howard McClellan, 4250 N. Sacramento, Chicago 18, Ill.
Filed Sept. 17, 1959, Ser. No. 840,645
13 Claims. (Cl. 155—17)



1. A foldable rocking support, comprising: a body supporting member; rocker arm means pivotally connected to said member and adapted to support a portion thereof; spring means under continuous downward tension when in operable position and including longitudinally bent coils adapted to support another portion of said member; and a collapsible frame having said rigid means and said spring means connected thereto, said frame being adapted to support said member in a rocking position and to be folded under the action of said spring means with said member attached into a substantially flat storage position, and a lock mounted on said frame to hold said spring means under continuous tension.

2,974,720
RECLINING CHAIR WITH FOLD-UNDER EXTENDABLE LEG REST
Erwin Jelinek, Naperville, Ill., assignor to Krochler Mfg. Co., Naperville, Ill., a corporation of Illinois
Filed Oct. 19, 1959, Ser. No. 847,300
7 Claims. (Cl. 155—106)



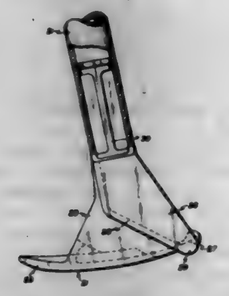
1. An article of repose for supporting the body of a person comprising a support, a unit including a back rest and seat rigid with each other, said unit being rockably mounted on said support, a first link pivoted to said seat, a second link pivoted to said seat, a two-part leg rest, a third link pivoted at spaced points thereof to said first link, said second link and the first part of said leg rest, said third link and said second link crossing each other at the pivotal connection connecting the same with each other, a lever pivotally connected to said third link and said first leg rest part at the pivotal connection connecting the same with each other, a fourth link pivoted at spaced points thereof to said second link and to said lever intermediate its ends, the second part of said leg rest carried on said lever, a control member pivotally mounted on said support, a first connecting link pivoted intermediate its ends to said seat and connected at one end to said control member, a second connecting link pivotally connected at one end to the other end of first connecting link, the other end of said second connecting link being connected to said first and third links at the pivotal connection connecting the same with each other.

2,974,721
FASTENING FOR INHERENTLY SLIPPERY FABRIC ON TUBULAR METAL FURNITURE
Morton I. Thomas, R.D. 2, Box 182H, Monroe, N.Y.
Filed June 17, 1959, Ser. No. 821,058
1 Claim. (Cl. 155—187)



Fastening for securing inherently slippery fabric on tubular frame furniture comprising in combination with a tubular frame member having a slot in the wall of the same, a fastener plate of rigid thin sheet material transversely curved to the approximate curvature of said tubular frame member and having elongated side edges substantially equal in extent to the width of the fabric to be secured to the frame member, fabric material of a slippery character extending over the outer convex face of said plate and looped over the outer edge of said plate and extended over the inner concave face of the plate beyond the inner edge of the plate, said plate being disposed over the slotted wall portion of said tubular member with that portion of the fabric extending over the inner face of the plate disposed between said plate and the wall of the member, said outer edge of the plate being smooth and continuous and forming a snubbing edge for the fabric looped over the same and said inner edge of the plate being toothed and directed by the transverse curvature of the plate toward that portion of the fabric extended beyond said edge and disposed between said toothed edge and the wall of the frame member in back of the same and whereby said toothed edge constitutes a holding edge gripping the snubbed inner portion of the fabric against the wall of the tubular frame member and a slanted prong on the inner concave face of the plate extending through the inner layer of the fabric and projecting on an incline through and engaging the edge of said slot in the frame member at an angle drawing the plate and the fabric snubbed and held thereby into solidly gripped engagement with the frame member.

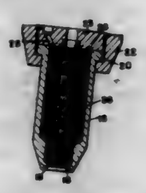
2,974,722
TIRE MOUNTING TOOL
Harry G. Twiford, 777 S. Adams St., Denver 9, Colo.
Original application Nov. 15, 1956, Ser. No. 622,383, now Patent No. 2,925,857, dated Feb. 23, 1960. Divided and this application May 15, 1959, Ser. No. 813,446
4 Claims. (Cl. 157—1.22)



1. A new article of manufacture for placing a tire bead over a drop center wheel rim without contacting the same during mounting operation, comprising a substantially thin planar body arranged to slidably seat on and cover a minor portion of a wheel rim and having an integral curved portion extending laterally from one side of said planar body in position to hook over a rim, a portion projecting from said curved portion beyond said body including a pointed portion arranged to ride below a rim, a lateral upstanding wall portion diagonally projecting from the other side of said planar body and extending to an edge of said planar body, said upstanding wall arranged to guide a tire bead onto said curved portion, the end of said curved portion opposite said pointed portion terminating below and rearwardly of said upstanding wall so as to place a bead in the drop center of a held wheel, and means for mounting a manipulating member on said body for rotating the same around a rim.

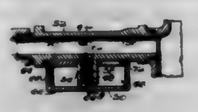
2,974,723
EVAPORATING NOZZLE FOR A LIQUID FUEL BURNING TORCH
Roswell W. Blanchard, Fitchburg, Mass., assignor to Worcester Taper Pin Co., Worcester, Mass., a corporation of Massachusetts
Filed Dec. 27, 1955, Ser. No. 555,508
8 Claims. (Cl. 158—27.4)

1. Apparatus for spraying a liquid in substantially gaseous form comprising a shell-like nozzle tip having separated entrance and exit orifices, a source of liquid and gas under pressure, means conducting the liquid and gas to the nozzle tip through the entrance orifice, and a finely divided porous material substantially filling the



nozzle tip, the porous material being composed of a plurality of relatively small metallic sintered ball-like elements.

2,974,724
AIR BLEED VALVE
Alexander Levin, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 2, 1959, Ser. No. 784,827
5 Claims. (Cl. 158—36.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An air bleed valve for a liquid conveying line comprising means defining a valve chamber adapted to be connected in said line and having a by-pass outlet, a valve seat in said valve chamber, a valve to engage said seat and thereby control communication through said by-pass outlet without impeding flow in said line, valve operating means including a generally cup-shaped member located at a position to be manipulated manually for opening and closing said valve and to catch liquid escaping from said by-pass outlet when said valve is open and cooperating structure on the means defining said valve chamber and said cup-shaped member for closing the latter against access to the interior thereof when the said cup-shaped member is moved into valve-closing position and to open the said cup-shaped member for access to the interior thereof when said cup-shaped member is moved into valve-opening position.

2,974,725
PROCESS AND APPARATUS FOR CONTINUOUSLY OBTAINING DRY MATERIALS
Reinhard Samesreuther, Eckard Samesreuther, and Werner Strittmatter, Postfach, Betzdach, Hessen, and Rudolf Schneider, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Apr. 4, 1958, Ser. No. 726,406
Claims priority, application Germany May 4, 1954
3 Claims. (Cl. 159—6)

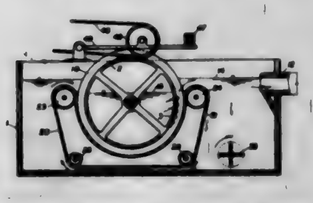
1. A device for obtaining material in the form of finely divided particles and free of liquid from a liquid composition formed of an admixture of said material and a liquid, which comprises a vertically extending cylindrical walled vessel including an inner surface, an upper portion and a lower portion, a feed inlet communicating with said upper portion, feed-distributing means disposed in said upper portion for distributing liquid composition introduced into said vessel through said feed inlet in layer form on the inner surface thereof within said upper portion, said feed-distributing means comprising a ring including a side wall, an upper edge and a lower edge, said side wall curving inwardly from the ring upper

and lower edges forming a trough along said side wall, a rotatably mounted shaft coaxially positioned in said vessel, said ring being coaxially mounted on said shaft for rotation therewith, said feed inlet being positioned to direct liquid compositions into said trough, at least three radially extending arms disposed at spaced intervals along said shaft and fixedly secured thereto, a wiper inclined at an angle to the radius having an upper edge and a lower edge, disposed between each two adjacent radially extending arms, each wiper being freely pivotally mounted



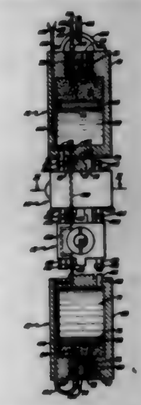
on its two adjacent radially extending arms, whereby upon rotation of said shaft the wipers press against liquid composition flowing downwardly over said inner surface from said upper portion spreading the liquid composition in thin layers over the inner surface, the wipers being proportioned so that the wiping pressure of each wiper is less than the wiping pressure of the next succeeding wiper in the direction of flow, and means for heating the walls of said vessel, whereby liquid can be evaporated from liquid composition flowing down said inner surface, leaving said material free of liquid.

2,974,726
CYLINDER MACHINE FOR FORMING A WEB IN PAPER MAKING
Rinku Okawa and Riichiro Okawa, both of 939 Zushi, Zushi-shi, Kanagawa-ken, Japan
Filed Apr. 15, 1958, Ser. No. 728,599
2 Claims. (Cl. 162—328)



1. A cylinder mold paper making machine comprising, a rotatably driven hollow cylinder mold having a pervious, fine mesh wire screen surface arranged for the formation thereon of a paper web deposited from an aqueous suspension of paper pulp stock, means for removing water from the mold interior, said mold having radial flanges at opposite ends thereof of equal diameter, an endless, impervious traveling belt having a run disposed for traveling beneath the mold against the peripheral surfaces of said flanges defining an arcuate space between the belt and the screen shaped substantially as a half-cylinder, rotatable guide means holding said run in position beneath the mold frictionally engaging said peripheral surfaces of the flanges and spanning the flanges defining said arcuate space thereby to cause the impervious traveling belt to travel with the driven mold in a common direction at a speed substantially equal to the peripheral speed of the mold, means for moving an aqueous suspension of paper pulp stock into said space in the direction of rotation of the mold, and means for removing the paper web formed on the periphery of the screen from the mold outside of said space.

2,974,727
WELL PERFORATING APPARATUS
Robert J. Goodwin, Oakmont, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 31, 1957, Ser. No. 706,498
8 Claims. (Cl. 166—55.5)



1. Hydraulic apparatus comprising driving and retracting heads; each of said heads comprising a housing defining a closed cylindrical chamber having first and second ends and having an opening therein closed with pressure relief means, a piston in said chambers, said chambers being adapted to contain a charge intermediate the first end thereof and the piston; a working head comprising a housing defining a closed cylindrical chamber having first and second ends, the first end of which is provided with an opening therethrough of lesser transverse cross section than that of the chamber, a piston in said chamber within said working head, a cylindrical projection secured to the piston, said projection slidably and sealingly extending into said opening when the piston is positioned adjacent the second end of the chamber, work engaging means carried by the end of the projection remote from the piston; means affording fluid communication between the first end of the chamber of the working head and the second end of the chamber of the retracting head, means affording fluid communication between the second end of the chamber of the working head and the second end of the chamber of the driving head; said last two named means, the portions of the chambers of the driving and retracting heads intermediate their second ends and the pistons therein, and the chamber of the working head being adapted to confine a fluid working medium that is separated into two distinct portions by the piston in the working head; and means for selectively igniting the charges in the driving and retracting heads.

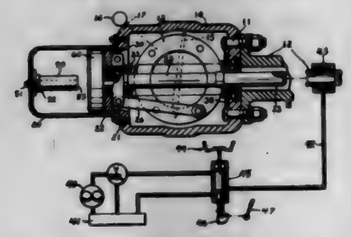
2,974,728
FAN CONSTRUCTION
Chester F. Culp, Marshalltown, Iowa, assignor to Lennox Industries, Inc., a corporation of Iowa
Filed Oct. 21, 1957, Ser. No. 691,428
3 Claims. (Cl. 170—159)

1. A fan construction comprising a center hub having a longitudinal axis of rotation and a plurality of peripherally spaced blades extending radially outwardly from said hub, each of said blades being characterized by the center of gravity points of successively radially outward sections, taken in planes parallel to the hub axis of rotation and at right angles to a radial reference plane, from root to tip lying in a common radial plane but in successively forwardly disposed transverse planes relative to



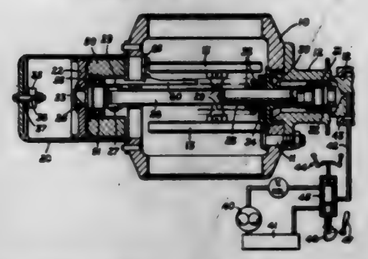
the direction of discharge flow, and said sections of each blade being further characterized by a forward rake at the leading edge for effecting convergent discharge flow toward a forward point on the projected hub axis.

2,974,729
CONTROLLABLE PITCH PROPELLER
Walter B. Voisard, Dayton, Ohio, assignor to McCauley Industrial Corporation, Dayton, Ohio, a corporation of New York
Filed July 30, 1958, Ser. No. 751,912
11 Claims. (Cl. 170—160.32)



1. In a control system for the blades of an adjustable pitch propeller having a drive engine, the combination of a rotary hub structure including adjustable supporting means for said blades, a hydraulic motor within said hub structure including a stationary cylinder and a movable piston, means connecting said piston with said supporting means to decrease the pitch of said blades in response to movement of said piston outwardly of said cylinder and to increase said blade pitch to feathered position in response to movement of said piston inwardly of said cylinder, a control spring arranged to bias said piston inwardly of said cylinder, means including a line connected with said cylinder for supplying hydraulic pressure fluid to said cylinder to move said piston against said control spring, selectively operable valve means in said line for relieving said pressure fluid supply, a stop mechanism for selectively blocking increase in the pitch of said blades beyond a predetermined low pitch including a latching member supported on said hub structure for movement relative thereto between a release position offering no resistance to the movement of said piston and a latching position blocking said piston from movement inwardly of said cylinder beyond an intermediate position corresponding to said predetermined low blade pitch, means connected between said latching member and said hub structure for biasing said latching member to said latching position to block inward movement of said piston beyond said intermediate position when said drive engine is shut off while said pressure fluid is being supplied to said cylinder, inertia means mounted on said hub structure for movement relative thereto in response to deceleration of said hub structure, and means connecting said latching member with said inertia means for causing said latching member to move against said biasing means to said release position in response to said movement of said inertia means to provide for feathering of said propeller when said pressure fluid supply is relieved by operation of said valve means.

2,974,730
CONTROLLABLE PITCH PROPELLER
Walter B. Voisard, Dayton, Ohio, assignor to McCauley Industrial Corporation, Dayton, Ohio, a corporation of New York
Filed July 17, 1959, Ser. No. 827,963
2 Claims. (Cl. 170—160.32)

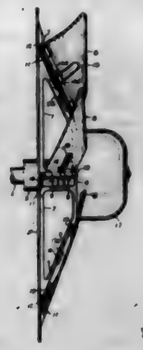


1. In a control system for the blades of an adjustable pitch propeller having a drive engine, the combination of a rotary hub structure including adjustable supporting means for said blades, a hydraulic cylinder mounted on said hub structure coaxially with the rotary axis thereof, a piston reciprocable in said cylinder and having a piston rod extending coaxially therefrom within said hub structure, means connecting said piston with said supporting means to decrease the pitch of said blades in response to movement of said piston outwardly of said cylinder and to increase said blade pitch to feathered position in response to movement of said piston inwardly of said cylinder, a control spring arranged to bias said piston inwardly of said cylinder, means including a line connected with said cylinder for supplying hydraulic pressure fluid to said cylinder to move said piston against said control spring, selectively operable valve means in said line for relieving said pressure fluid supply, a flywheel mounted for rotational movement on said piston rod, a bar extending from said flywheel parallel with said piston rod, a latch member carried by said hub structure and having a slot therein receiving said bar therethrough to establish first and second limit positions for said rotational movement of said flywheel, means connected between said flywheel and said piston rod for biasing said flywheel oppositely to the direction of rotation of said hub structure to said first limit position, a shoulder on said bar arranged for latching engagement with said latch member in said first limit position of said flywheel to block said piston from movement inwardly of said cylinder beyond an intermediate position corresponding to a predetermined intermediate blade pitch position, said shoulder being arranged to clear said latch member in said second limit position of said flywheel, and said flywheel and said biasing means being proportioned to provide for rotational movement of said flywheel against said biasing means to said second limit position in response to deceleration of said hub structure to provide for feathering of said propeller when said pressure fluid supply is relieved by operation of said valve means.

2,974,731
COMBINED IMPELLER AND CLOSURE
Emil A. Mader, Seguin, Tex., assignor to John Spargo, Detroit, Mich.
Filed June 2, 1958, Ser. No. 739,230
1 Claim. (Cl. 170—160.51)

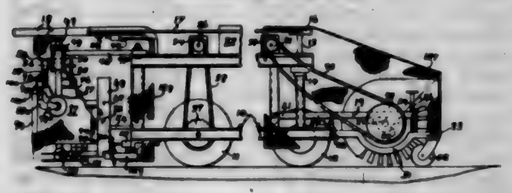
An impeller comprising an approximately conical rotary carrier formed of sheet material and having a plu-

rality of circumferentially spaced fluid flow openings and formed with substantially imperforate portions between such openings, a plurality of blades forming closures for the openings, hinge pins pivoting the blades on said imperforate portions on axes intersecting the axis of carrier rotation and conforming to the conical inclination of the carrier, whereby the blades tend to centrifugally swing about the hinge pins responsive to carrier rotation to establish a fluid-impelling position of the blades, a spring installed on each pin and forming a pair of coils



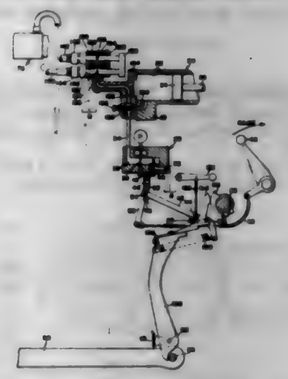
spaced apart longitudinally of such pin and forming between such coils a U-shaped arm urging the corresponding blade to its closure position, and forming a pair of arms spaced apart by the coils and applying thrust to an adjoined one of said imperforate portions, and hinge barrels respectively receiving the respective pins, each such barrel comprising sections fixed on the corresponding blade and sections fixed on said imperforate portions, one of the last mentioned sections of each barrel being interposed between said coils of the corresponding spring.

2,974,732
ROW CULTIVATOR
Frank A. Critz, West Point, Miss.
Filed Apr. 7, 1958, Ser. No. 726,811
4 Claims. (Cl. 172—6)



1. In a cultivator for a row of plants, a translatable frame for moving longitudinally alongside a row of plants, a cutter frame mounted for transverse adjustment on said translatable frame, means holding said cutter frame at selected positions relative to said translatable frame, a ground engaging rotatable cutter mounted on a horizontal axis and carried by said cutter frame and having blades extending generally transversely of the row of plants, a control member mounted for pivotal movement on said cutter frame and disposed to engage the plants being cultivated when said cutter approaches the plants, a fluid pressure actuated cylinder connected to said cutter frame, valve means introducing fluid under pressure adjacent opposite ends of said cylinder to move said cutter frame toward and away from the plants, means supplying fluid under pressure to said valve means, means to rotate said cutter, a first switch connected to said control member and actuated when the control member is engaged by the plants and pivoted in one direction, a second switch connected to said control member and actuated when the control member disengages the plants and is pivoted in the opposite direction, and valve actuating means connected to said switches and actuating said valve means whereby the cutter frame moves away from said plants upon actuating said first switch and moves toward said plants upon actuating said second switch.

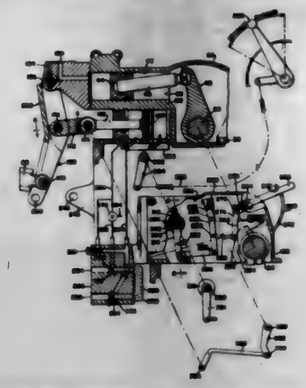
2,974,733
HYDRAULIC POWER LIFT AND HITCH SYSTEM FOR TRACTOR AND IMPLEMENT
Edward H. Fletcher, Cedar Falls, Iowa, assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Feb. 18, 1957, Ser. No. 640,713
21 Claims. (Cl. 172—7)



1. In a tractor and implement arrangement in which the implement has an adjustable part subject to variations in draft load, the tractor has a hydraulic power system including a transverse rockshaft, a tractor mounted hydraulic motor connected to the rockshaft, a fluid pressure source and a control valve for said motor, and the tractor and implement are connected by means operative to signal draft load changes to said valve for supplying and exhausting said motor, the improvement comprising: a remote hydraulic motor on the implement and connected to and for adjusting said implement part; a coupling receiver on the tractor having a fluid outlet connected to the control valve in parallel with the tractor-mounted motor; an external fluid line connected at one end to the remote motor; coupling means on the other end of said line and receivable by said receiver; coupling valve means for selectively opening and closing said fluid outlet; and normally open selector valve means on the tractor and operative between the control valve and the tractor-mounted motor to cut off said tractor-mounted motor whereby the coupled remote motor is under control of the control valve when the coupling valve means is open.

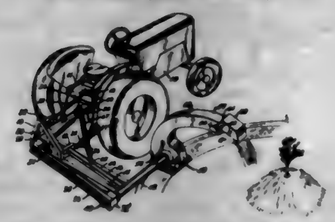
2,974,734
IMPLEMENT CONTROL SYSTEM
Harold K. Kienzle, Waterloo, Iowa, assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed July 8, 1957, Ser. No. 670,420
27 Claims. (Cl. 172—9)

1. In a tractor-implement outfit in which the implement is connected to the tractor for vertical movement and also for fore-and-aft tilting relative to the tractor as the tractor pitches on uneven terrain, the improvement comprising: a power-operated lift member mounted on the tractor for movement selectively in opposite directions; force-transmitting means interconnecting the implement and member for moving the implement vertically by power-operated movement of said member and for causing movement of said member by vertical movement of the implement when the tractor pitches relative to the implement; power-operated tilt means including a hydraulic actuator disposed fore-and-and-aft and rigidly mounted on the tractor independently of the implement and having a fore-and-aft piston rod projecting toward



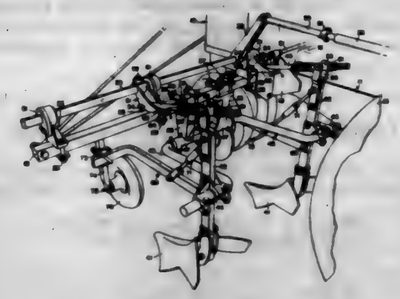
the implement; means connecting the piston rod to the implement for causing fore-and-aft tilting of the implement by operation of said actuator; valve means for activating and deactivating said actuator; and means interconnecting the valve means and the lift member for operating the valve means to cause activation of the actuator to correctively tilt the implement in response to movement of the lift member by vertical movement of the implement when the tractor pitches as aforesaid.

2,974,735
EARTH BANKING APPARATUS
Alexander Smith and Burton D. Bagga, Jr., Sanford, Fla., assignors to B & S Manufacturing Co., Sanford, Fla., a corporation of Florida
Filed Jan. 27, 1960, Ser. No. 5,061
6 Claims. (Cl. 172—108)



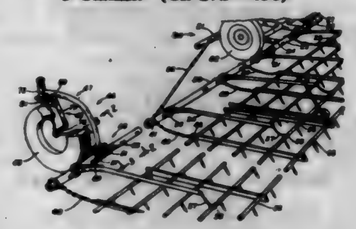
1. A steerable tractor having a small turning radius, a power takeoff and at least one support wheel having a wheel axis extending transversely to the direction of travel, a bank forming implement, support means carried by said tractor mounting said bank forming implement laterally of said tractor and substantially in transverse alignment with said wheel axis, said bank forming implement being comprised of a longitudinally extending rotatable shaft, means drivingly connecting said shaft to said power takeoff, at least one earth engaging scoop mounted on said shaft for rotation therewith for cutting and projecting earth, and earth transmitting and deflecting means mounted on said implement for directing the projected earth laterally outwardly from said tractor and implement substantially in transverse alignment with said wheel axis whereby said tractor may encircle a particular spot and form a bank within said small turning radius of the tractor.

2,974,736
FRONT MOUNTED BEDDER
Walter H. Silver and Robert E. Cox, Moline, Ill., assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Sept. 11, 1956, Ser. No. 609,197
3 Claims. (Cl. 172—298)



1. In an agricultural implement, a mobile support, a laterally outwardly extending draft bar carried by said mobile support, a generally vertical standard, ground-working tool means connected with the lower end of said standard, upper and lower link means connected at their rear ends with said standard, means connecting the forward end of the lower link means with said draft bar, a member rockably mounted on said draft bar for movement about a transverse axis and having a depending portion, means pivotally connecting the forward end of the upper link means with said depending portion, means limiting the rocking movement of said rockably mounted member in a direction corresponding to the forward movement of said upper link, means adjustably disposing said motion limiting means in different positions of adjustment, to thereby vary the forwardly tilted position of said standard, the fore-and-aft extending part of said depending arm being normally spaced from said upper link in at least certain of said positions, and raising means connected with said rockably mounted member to rock the latter in the generally opposite direction and acting first to tilt the upper end of said standard rearwardly and then to raise said upper link so as to raise said standard.

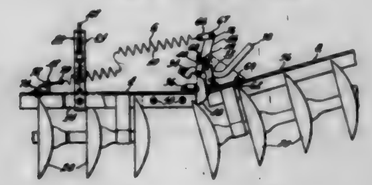
2,974,737
FARM IMPLEMENT CASTER WHEEL
Paul A. Dingoech, Storm Lake, Iowa, assignor to Noble Manufacturing Company, Sac City, Iowa, a corporation of Iowa
Filed Jan. 3, 1958, Ser. No. 707,054
3 Claims. (Cl. 172—456)



1. In a ground working implement having a center drawbar carried above the ground and having further an extension drawbar connected to the center drawbar, the drawbars being rotatable so as to lift said implement off the ground; a caster wheel assembly for maintaining the extension drawbar in axial alignment with the center drawbar comprising, bearing means mounted for relative movement on the extension drawbar and including a stop

member, clamping means mounted on the extension drawbar for movement therewith and including a stop element, means for releasably locking said bearing means and said clamping means together, and frame and spindle means secured to said bearing means and including an oscillatable ground engaging wheel, said stop element, upon rotation of the drawbars during which said locking means is released, is adapted to contact and forcibly rotate said stop member, whereby to maintain the extension drawbar and the center drawbar aligned when the implement is on level ground.

2,974,738
LOCKING AND BALANCING FOLDING IMPLEMENT FRAME
Maynard E. Walberg, West Salem, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 22, 1958, Ser. No. 768,998
8 Claims. (Cl. 172—568)



8. In a folding agricultural implement frame, the combination comprising: first and second sections pivotally connected and relatively movable between an open position and a folded position; an arm; means fixedly connecting said arm to said second section, the free end of said arm being positioned on one side of said pivotal connection of said first and second sections when said sections are in said open position; said second section positioning said free end of said arm on the other side of said pivotal connection when said sections are in said folded position; elongated resilient means; said resilient means having a longitudinal axis, the displacement of said resilient means being along its longitudinal axis; means connecting said resilient means to said first section; means connecting said resilient means to said free end of said arm, said free end of said arm, when moving from one side to the other side of said pivotal connection, moving said axis of said resilient means past a position where said axis of said resilient means extends normal to the axis of said pivotal connection; said resilient means urging said sections toward said open position when said sections are in said folded position, and toward said folded position when said sections are in said open position; and, said second section being provided with locking means that cooperates with said first section to maintain said second section in open position against the urging of said resilient means.

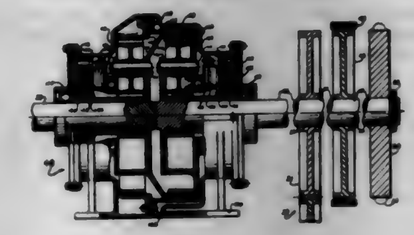
2,974,739
CORE ORIENTING APPARATUS
Charles A. Dean, 11019 S. Hoover St., Los Angeles, Calif., assignor by decree of distribution to Geraldine C. Dean
Filed Mar. 31, 1958, Ser. No. 725,164
13 Claims. (Cl. 175—3)

1. In a rotatable earth core drill having a bit head, means to orient an earth sample of the bore bottom beneath the drill, comprising a vertically disposed cylindrical tube of insertable-retractable wire-line type having a grab head and means to support the tube above the bit head of the drill, a gun supported in the lower part of the tube in a direction to discharge a missile down from the tube into the floor of the bore, means to fire the gun, means to operate the firing means comprising means to sense the bore floor, said sensing means being actuated by proximity to the floor to operate said firing means, a compartment in the tube to house a recording survey instrument, and means to obtain predetermined alignment between the gun and the survey instrument comprising means to



engage the survey instrument in the compartment in fixed circumferential orientation with respect to the tube, and means to engage the gun in fixed circumferential orientation with respect to the tube.

2,974,740
TRACKED VEHICLE
Marsden Ware, Birmingham, and Douglas Hugheon, Royal Oak, Mich., assignors to Studebaker-Packard Corporation, South Bend, Ind., a corporation of Michigan
Filed Feb. 28, 1957, Ser. No. 641,378
7 Claims. (Cl. 180—6.48)

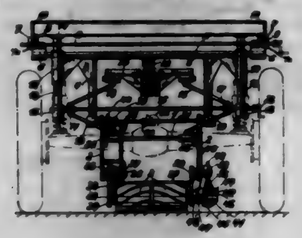


1. In a track laying vehicle having two independent drive axles, separate power means engaging each of said drive axles, a steering regenerator coupling said drive axles, said regenerator comprising two planetary gear sets, one of said sets being associated with each of said axles, each of said axles being secured to the planet carrier of its associated gear set and to the ring gear of the other planetary gear set, brake means to independently secure the sun gear of each of said units against rotation.

2,974,741
DEVICE FOR INCREASING THE SAFETY OF MOTOR VEHICLES DRIVING ON WET OR SNOW- OR ICE-COVERED ROADWAYS
Franz Witzmann, Oberstleinergasse 7, Vienna, Austria
Filed Oct. 22, 1958, Ser. No. 769,015
Claims priority, application Austria Oct. 24, 1957
8 Claims. (Cl. 180—15)

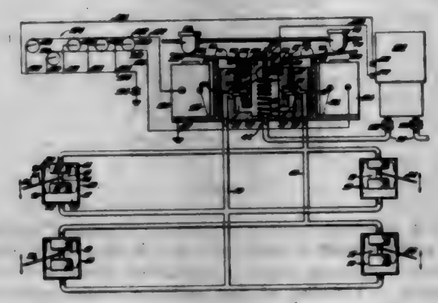
1. Auxiliary traction device for vehicles comprising, in combination, first supporting means adapted to be movably mounted on a vehicle; second supporting means

movably mounted on said first supporting means; traction roller means turnably mounted on said second supporting means; moving means for moving said first supporting means to a position in which said traction roller means are adapted to engage the ground; drive means at least partly mounted on said second supporting means for driving said traction roller means; operating means



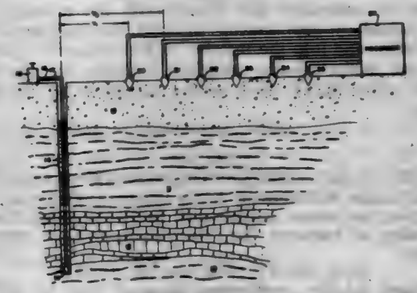
for moving said second supporting means with said traction roller means relative to said first supporting means so that said traction roller means are pressed against the ground or raised; and operator influenced coupling means for connecting said operating means to said drive means so that said second supporting means are operated from said drive means.

2,974,742
MOTOR VEHICLE DOOR LOCK SYSTEM
Hugh I. Tyler, Jeannette, Pa., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Apr. 24, 1959, Ser. No. 808,769
2 Claims. (Cl. 180—82)



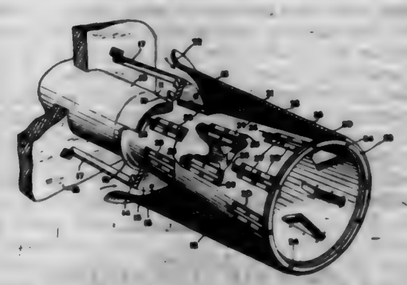
1. A door lock system comprising a plurality of pressure responsive vacuum operated door lock actuators being adapted for moving locking means between locked and unlocked operating positions, a control valve mechanism having a chamber therein and being adapted for selectively actuating said actuators, conduit means operatively connecting said control valve mechanism to said plurality of actuators, a first source of vacuum connected to said chamber, a plurality of electromagnetic means, a lever means operatively associated with each of said electromagnetic means and being adapted for actuation by said electromagnetic means, a plurality of valve members positioned between said chamber and said conduit means each being adapted for movement by one of said lever means to control pressure between said chamber and said conduit, a source of electrical energy, a plurality of switch means for selectively connecting said electromagnetic means to said electrical source, an auxiliary electrically energized vacuum pump means operatively connected intermediate said vacuum source and said chamber, a contact located on each lever means and being adapted to engage stationary contacts upon energization of said electromagnetic means, and a third contact operatively movable in response to the pressure in said chamber and operatively connecting said vacuum pump in series circuit to said electrical energy source upon reduction of the vacuum within said chamber below a predetermined pressure, whereby said vacuum is increased so that said actuators are retained in one or the other predetermined actuated condition.

2,974,743
METHOD OF SEISMIC PROSPECTING
Robert B. Rice, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 15, 1953, Ser. No. 380,328
6 Claims. (Cl. 181—.5)



4. A method of positioning an explosive charge for seismic prospecting in areas which are characterized by a bed of material in the earth positioned at or near the surface of the earth, which bed transmits seismic vibrations at velocities greater than the velocities of transmission in the material below said bed, which comprises drilling a shot hole to a depth below the lower surface of said bed approximately equal to one-fourth wave length of the highest frequency of seismic vibration of interest, said wave length being determined in accordance with the velocity of seismic waves in the material in which said charge is positioned, and positioning an explosive charge in the bottom of said shot hole.

2,974,744
SILENCER
John H. T. Wade, Willowdale, Ontario, Canada, assignor to Orenda Engines Limited, Malton Village, Ontario, Canada, a corporation
Filed May 12, 1958, Ser. No. 734,654
8 Claims. (Cl. 181—43)



1. A silencer for attenuating the noise of a high velocity stream of primary gas issuing from a nozzle, the silencer comprising a diffuser tube arranged to be operatively positioned relatively to the nozzle so that the nozzle and the tube have a common longitudinal axis, the nozzle directing the gas stream from one end of the tube

towards the other end thereof, the tube increasing in cross-sectional area from said one end towards said other end and the cross-sectional area of the one end of the tube being greater than the discharge area of the nozzle, the wall of the tube having a series of apertures, the apertures and the one end of the tube being open, during operation of the silencer, to a source of secondary gas at a static pressure higher than the static pressure of the primary gas after it has entered the diffuser tube, a plurality of baffles, one associated with each aperture and projecting from the wall of the tube into the path of the stream of primary gas, each baffle constituting a duct having an inlet in a plane parallel to the wall of the tube and in registry with one of the apertures in the said wall and an outlet in a plane generally transverse to the axis of the tube and lying substantially along a radius of the tube, the difference between said static pressures inducing a flow of secondary gas to mix with the primary gas, the secondary gas flowing through the apertures and the baffles and into the interior of the stream of primary gas, the baffles causing sufficient blockage for the tube to be substantially filled during operation by the flow of gas.

2,974,745

SOUND-DEADENING AIR-INTAKE DEVICES

Svend Helge Kristiansen, Little Nestved, Denmark, assignor, by mesne assignments, to Hi-Press Air Conditioning of America, Inc., New York, N.Y., a corporation

Filed Jan. 14, 1954, Ser. No. 403,996
Claims priority, application Denmark Jan. 15, 1953
7 Claims. (Cl. 181—53)



1. A sound-damping muffler comprising an enclosure including substantially parallel side walls and inlet and outlet means disposed near opposite ends of the side walls, respectively, to permit air to flow through the enclosure from one end to the other, and a plurality of baffles of triangular cross-section disposed in spaced relation on the inside surfaces of the parallel side walls and extending across the walls transversely to the direction of air flow, the baffles being located in staggered relation on the two walls and being spaced along each wall by planar wall portions to provide an undulating path for the air composed of short path segments intersecting at angles of at least 45° and directed alternately at angles to and parallel to the side walls.

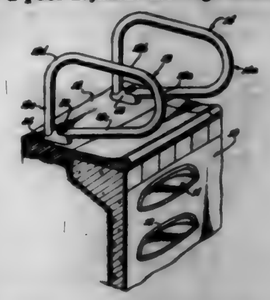
2,974,746

GRAB RAIL CONSTRUCTION

William O. Baker, West Covina, Calif., assignor to Swimquip, Inc., El Monte, Calif., a corporation of California

Filed Nov. 10, 1958, Ser. No. 773,074
6 Claims. (Cl. 182—93)

1. A grab rail structure for a swimming pool or the like, comprising, in combination: a looped grab element having one end extending transversely of the other end thereof, said other end having a portion extending beyond said one end; and a mounting means for both said ends including an anchor portion adapted to be affixed to the decking of a pool adjacent the edge thereof, said mounting means having a socket formed therein axially receiving said extending portion of said other end, and said mounting means further including a seat portion in the upper surface thereof transversely receiving said one end with said other end axially mounted in said socket, and means for securing said one end to said mounting means.

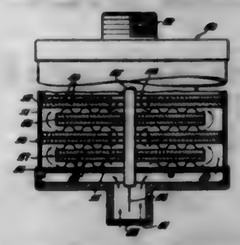


2,974,747

ELECTRIC PRECIPITATORS

John E. Coolidge, Jr., Arlington Heights, Ill., and Lincoln T. Work, Maplewood, N.J., assignors to Borg-Warner Corporation, a corporation of Illinois

Filed Mar. 20, 1956, Ser. No. 572,662
2 Claims. (Cl. 183—4.3)



1. A gas mask canister comprising a housing, an inlet for contaminated air; an outlet for purified air; a longitudinal conducting member positioned centrally of said housing; a plurality of first collector plates connected to and supported at spaced intervals on said longitudinal member and extending toward the sides of said housing with an opening between each plate and the side of the housing to provide an air path; and a plurality of second collector plates interleaved between said first collector plates connected to and supported at spaced intervals on said housing and provided with openings surrounding said longitudinal member to provide an air path, said collector plates having gas adsorbing surfaces, all of said first collector plates adapted to be connected to one pole of a source of power and all of said second collector plates being adapted to be connected to the other pole of a said source of power.

2,974,748

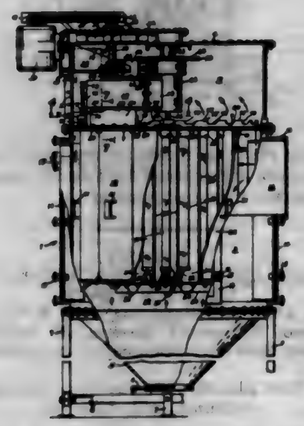
AIR FILTER

Arden E. Swanson, Minneapolis, Minn., assignor to The Day Company, Minneapolis, Minn., a corporation of Minnesota

Filed Dec. 16, 1959, Ser. No. 860,021
6 Claims. (Cl. 183—57)

1. In an air filtering apparatus, casing structure defining a separating chamber and a filtered air chamber

and at least two spaced apart outlet passage means connecting said chambers, each of said outlet passage means being equipped with air filter means, said casing structure having an inlet passage to said separating chamber adapted to be connected to a source of dust laden air to be cleaned and a discharge passage from said filtered air chamber, air compressor apparatus comprising a blower for supplying air under pressure greater than the pressure of said dust laden air during normal flow of said dust laden air through said filter means and outwardly through said outlet passage means, said blower receiving air from said filtered air chamber, delivery conduit means including a quick opening valve and operatively coupled to said blower, said conduit means being mounted in said filtered air chamber for movements to selectively connect the delivery ends thereof to each of said outlet passages at the output sides of their respective filter means, means for imparting said movements to the conduit means and valve, and means for suddenly opening said valve when the same is moved into register with one of said outlet passage means, whereby to produce a reverse blast of air into said separating chamber through said one of the outlet passage means and its respective filter means to dislodge accumulated dust from said filter means, and for closing said valve as the conduit means and valve are moved away from register with said one of the outlet passage means.



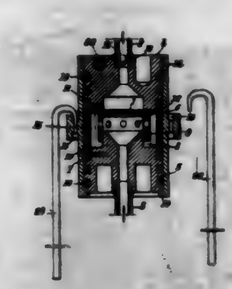
2,974,749

DEVICES FOR HOLDING FILTERS INTENDED TO STOP PARTICLES IN SUSPENSION IN GASEOUS STREAMS

René Pierre Francois Dongay, Vanves, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a state administration of France

Filed Mar. 5, 1958, Ser. No. 719,305
Claims priority, application France Mar. 6, 1957
3 Claims. (Cl. 183—62)

1. A device for holding a filter intended to stop particles in suspension in a gaseous stream, which device comprises, in combination, two tubular sockets adapted to be fixed in gas-tight fashion on the respective ends of two portions of the circuit through which said gaseous stream is flowing, each of said sockets being provided with a central passage forming an extension of the circuit portion on which said socket is fixed, said central passage forming an orifice in the face of said last mentioned socket located opposite the other of said sockets, the respective outer side walls of said two sockets being located in a common cylindrical surface, means for rigidly assembling said two sockets together in line with each other, said means being provided with at least one aperture sufficient to permit passage of a filter therethrough in a direction transverse to the common axis of said sockets, means operable from a distance on at least one of said sockets for removably fixing a filter on said orifice of one of said sockets so as tightly to apply the periphery of said filter against the edge of said orifice, a cylindrical sleeve fitting in gas-tight fashion on the outer side walls of both of said sockets and slidable longitudinally therealong, whereby said sleeve can occupy either a position in which it surrounds both of said sockets or a position in which it surrounds only one of said sockets, and means operative from a distance for sliding said sleeve with respect to said sockets.

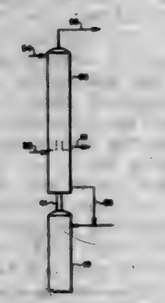


2,974,750

DISTILLATION AND ABSORPTION PROCESS

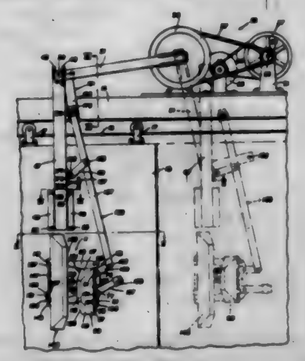
William B. Retallick, 128 Williams Ave., Canonsburg, Pa.

Filed Feb. 13, 1958, Ser. No. 715,670
2 Claims. (Cl. 183—115)



1. The method of reabsorbing selectively the vapors of absorber medium from the vapors of the absorbate in the steam-vapor mixture from a still for stripping said absorbate from said absorber medium while simultaneously concentrating at least a part of the higher boiling components of said absorbate as a side stream in admixture with absorber medium, but substantially free of the lower boiling components of said absorbate, comprising passing said steam-vapor mixture through a reabsorber, delivering absorber medium at a temperature below that of said entering steam-vapor mixture into the top of said reabsorber, removing cooled steam-vapor mixture, substantially free of absorber medium vapor, from the top of said reabsorber, removing at least a part of the absorber medium, in admixture with at least a part of the higher boiling components of said absorbate from said reabsorber at a point intermediate its height, and removing the remaining absorber medium from the bottom of said reabsorber at a temperature approaching that of said entering steam-vapor mixture.

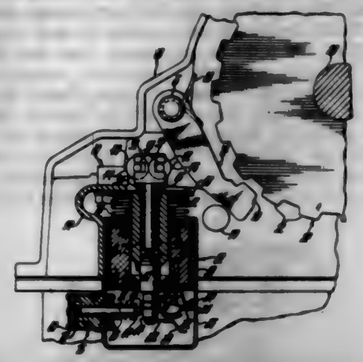
2,974,751
DOOR CLUTCH MECHANISM
Gilbert T. Adams, Memphis, Tenn., assignor to Dover Corporation, Washington, D.C., a corporation of the District of Columbia
Filed July 17, 1959, Ser. No. 827,925
8 Claims. (Cl. 187—52)



5. In an elevator system of the type provided with a door operating mechanism having an actuating arm swingably driven for opening and closing the elevator car door and provided with a door clutch mechanism having a pair of clutch shoes adapted to engage a projection, means for moving one of said pair of clutch shoes from a normally spaced position relative to the other shoe towards said other shoe and into engagement with said projection, said means comprising means movably mounting said one of said shoes relative to said other shoe, gravity actuated motion transmission means connected to said mounting means for moving said mounting means to carry said one of said shoes towards said other shoe and into engagement with said projection when said motion transmission means is unsupported, said motion transmission means being substantially completely gravity actuated when unsupported, hanger means carried by said actuating arm and swingable therewith for normally engaging and supporting said motion transmission means when said actuating arm is in a position to close said door to retain said one of said shoes in said normally spaced position, said hanger means being arranged to swing out of supporting engagement with said motion transmission means when said actuating arm is moved towards a position to open said door thereby permitting said one shoe to move towards said other shoe and into engagement with said projection.

2,974,752
POSITIVE PARKING BRAKE
Harold L. Howard, Lansing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 3, 1957, Ser. No. 681,495
10 Claims. (Cl. 188—69)

1. In a brake mechanism, the combination of a rotatable member, a locking member connected to the rotatable member, a locking element pivotally mounted for movement into engagement with the locking member to prevent rotation of the rotatable member, the locking element including a cam surface thereon, a guide surface spaced from the locking element cam surface, an actuator for the pawl including a first roller engageable with the guide surface and a second roller engageable with the pawl cam surface, and electrical means for moving the actuator with the rollers along the guide and cam surfaces to a position in which the axes of the rollers establish a line substantially tangent to the locking element cam surface and the guide surface so as to resist movement of the locking element away from the locking



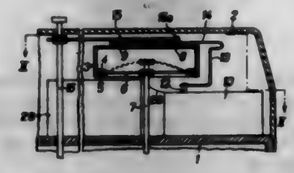
member, the electrical means having yieldable and positive connections for moving the actuator respectively to said position and from said position.

2,974,753
BRAKE AND ACTUATING MEANS FOR TRACTOR WINCH
George S. Allis, Sr., Flossmoor, John K. Liu, Chicago, and Vernon E. Rezabek, Berwyn, Ill., assignors to International Harvester Company, a corporation of New Jersey
Filed Jan. 30, 1956, Ser. No. 562,201
4 Claims. (Cl. 188—72)



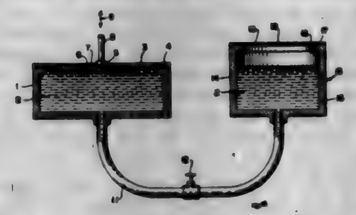
1. A disk brake assembly including means for utilizing the frictional drag between said disks for energizing and restoring said assembly comprising, a first rotatable annular member, a second rotatable and axially movable annular member concentrically positioned with respect to and disposed about the periphery of said first annular member, a first disk set splined to the periphery of said first annular member, a second disk set splined on the inner periphery of said second annular member, said disks of said first set being alternately stacked with respect to said second set, a pressure reaction member adjacent one side of said disk sets, a pressure plate on said second annular member adjacent the opposite side of said disk sets, said pressure plate being adapted to press said disks of said sets against said pressure reaction member when said second annular member is moved axially toward said reaction member, means for moving said second annular member axially toward said reaction member responsive to the frictional drag between said disks when said annular members are rotated in one direction, and for axially moving said second annular member away from said pressure reaction member responsive to the frictional drag between said disks when said annular members are rotated in the other direction, said means including a socket disposed in a peripheral surface of said second rotatable annular member, a ball disposed in said socket, and a stationary member on said assembly having a groove disposed at an angle relative to the axis of said second rotatable annular member, said ball being positioned to track within said groove.

2,974,754
DASHPOT FOR CAMERA SHUTTER
Franz Landbrecht, Munich, Germany, assignor to Agfa Aktiengesellschaft, Munich, Germany
Filed Apr. 18, 1957, Ser. No. 653,619
Claims priority, application Germany Apr. 27, 1956
6 Claims. (Cl. 188—95)



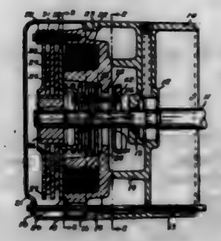
1. In a photoelectric exposure control assembly for a camera, in combination, fluid pressure means for regulating the speed of movement of a device to be controlled, said fluid pressure means including a valve plate formed with a passage means through which fluid of the fluid pressure means flows; a closure plate parallel to and spaced slightly from said valve plate; galvanometer means operatively connected to said closure plate for moving the same to an overlapping relationship with respect to said passage means; and mechanical means engaging one of said plates for positively moving said one plate toward and into engagement with the other of said plates for locating said plates with respect to each other in a position where said passage means is closed by said closure plate to an extent determined by the overlapping relationship to which said closure plate is moved by said galvanometer means with respect to said passage means.

2,974,755
DAMPENING APPARATUS
Konrad H. Stokes, Ambler, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,452
3 Claims. (Cl. 188—100)



1. An ambient temperature and barometric pressure compensated enclosed dash pot to dampen out unwanted vibrations in an object to which the dash pot is connected, comprising a link connected at one end to said object and at its other end to a diaphragm forming an upper flexible wall of a first cylindrical chamber, a second chamber positioned adjacent said first chamber, a conduit containing an adjustably fixed restriction connecting the inner bottom portion of said first chamber with the inner bottom portion of said second chamber, said first and second chambers and said conduit being operably positioned so that a dampening liquid contained therein will normally completely fill said first chamber and said pipe and partially fill said second chamber, said second chamber containing an upper wall portion through which air on same may be transmitted therethrough but through which said liquid cannot penetrate and said upper wall portion of said second chamber is comprised of a thin piece of leather bonded to the top peripheral surface of thin piece of polytetrafluoroethylene.

2,974,756
AUTOMATIC RESET BRAKE RELEASE
Eldron G. Roehm, Dayton, Ohio, assignor to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 3, 1958, Ser. No. 718,688
4 Claims. (Cl. 188—171)

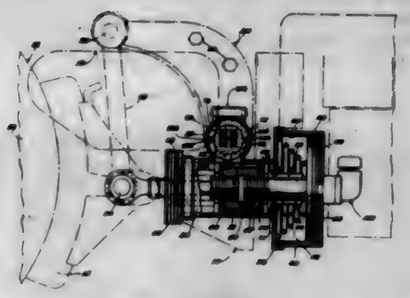


1. In an electric motor, a housing, a shaft rotatably mounted in said housing, an electrically energizable coil surrounding said shaft, brake means to inhibit rotation of said shaft, including an armature plate on one side of said coil movable toward said coil in response to the energizing thereof to release said brake means, spring means stressed by motion of said armature plate toward said coil and returning said plate in the opposite direction upon de-energizing of said coil, a release plate on the opposite side of said coil in parallel relation to said armature plate, rods interconnecting said armature plate, and said release plate extending longitudinally of and through said coil, said rods being connected at their one ends to said armature plate for unison reciprocating motion and at their other ends to said release plate for unison motion in one direction only, means accessible from outside said housing to move said release plate in said one direction only and spring means different from the first recited spring means urging said release plate in the opposite direction and stressed by operation of said means outside housing to move said release plate in said one direction.

2,974,757
SELF-CONTAINED BRAKE ARRANGEMENT
Walter R. Polanin, Chicago, Ill., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Apr. 23, 1958, Ser. No. 730,353
1 Claim. (Cl. 188—203)

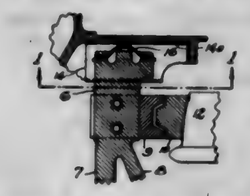
A self-contained brake arrangement for application as a unitary mechanism to a vehicle having a frame and a supporting wheel and axle assembly, comprising in combination: a brake support detachably mountable on the vehicle frame; friction means carried by the support for engagement with said assembly; and a combination fluid actuated power cylinder and automatic slack adjuster device demountably attachable to said brake support; said device including a unitary housing, a pair of axially aligned rods having at adjacent ends threaded portions disposed within the housing, the opposite ends of the rods being connected to a fluid actuated piston in the housing and to the friction means, respectively, a collar threadably engaging the threaded portions of the respective rods, and ratchet means in the housing operable

to rotate the collar responsive to a predetermined movement of the piston and thereby change the distance be-



tween the rods to take up slack caused by wear of the friction means.

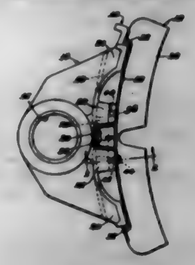
2,974,758
RAILWAY TRUCK BRAKE STRUCTURE
Herbert W. Ekholm, Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 22, 1957, Ser. No. 698,177
3 Claims. (Cl. 188—233.3)



1. In a railway truck brake assembly having a brake beam supported on the truck framing, the combination therewith comprising a pair of brake beam guide recesses slidably receiving the brake beam end portions, spring means freely movable within the end portion of said brake beam, and receiving means at the end portion for confining the movement of said spring means within selected limits, said spring means having a curved center portion and reverse curved end portions, said receiving means including a pair of passages shaped to accommodate freely said spring means, each of said passages extending from a respective side of said brake beam to the adjacent end thereof, said reverse curved portions disposed within said passages and said curved outer portion disposed over a portion of the end surface of said brake beam such that said spring means will flex substantially equally in opposite directions upon contact with said guide recess in response to transverse movement of said brake beam and return said brake beam to a centered position, said spring means being easily and readily removable when the brake beam has been withdrawn from the guide recess.

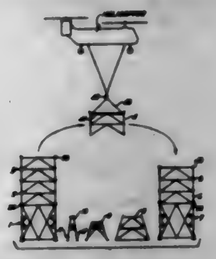
2,974,759
BRAKE HEAD AND SHOE ASSEMBLY
Carl E. Tack, Chicago, and Fred E. Bachman, Granite City, Ill., assignors to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Oct. 22, 1956, Ser. No. 617,308
3 Claims. (Cl. 188—243)

1. In a set of detachably interconnectable mateable brake head and brake shoe members, one of which has standard lug means protruding therefrom receivable within complementary standard recess means of the other to afford interlocking engagement to prevent relative vertical movement therebetween, interfitting means located on the recess means and on the lug means of said mateable members for ensuring that the mateable members are connectable only with each other or with like corresponding members, said interfitting means comprising auxiliary complementary mateable projection means and aperture



means presented by the lug and recess means of said mateable members for interlocking engagement with each other which interlocking engagement is in addition to the interlocking engagement afforded by said lug means and said recess means.

2,974,760
OIL WELL DERRICK FOR USE WITH HELICOPTER
Homer J. Woolslayer, Calvin L. Turner, and Cecil Jenkins, Tulsa, Okla., assignors to Lee C. Moore Corporation, a corporation of Pennsylvania
Filed Feb. 21, 1958, Ser. No. 716,722
6 Claims. (Cl. 189—11)



1. An oil well derrick adapted to be transported in sections by helicopter and assembled by it, the derrick comprising a plurality of superimposed prefabricated straight sections having vertical sides, the bottom section having a side provided with a drill pipe access opening, the top and bottom straight sections being substantially identical and interchangeable and the intermediate sections having a different construction than said top and bottom sections and being interchangeable with one another only, and means detachably connecting all of said sections together, whereby the top straight section can be removed and used at a new location as a bottom section on which the remaining sections can be set by helicopter as fast as they are removed from the derrick being disassembled until the original bottom section becomes the top straight section in the new derrick.

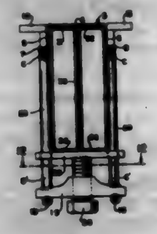
2,974,761
ELECTRICAL COMPONENT WITH IMPROVED METAL-TO-GLASS END SEALING MECHANISM
Mihai D. Patrichi, Chatsworth, Calif., assignor to Networks Electronic Corporation, Van Nuys, Calif., a corporation of California
Filed June 4, 1958, Ser. No. 739,932
7 Claims. (Cl. 189—36.5)

1. An hermetically sealed moisture and shock resistant electrical component of small dimensions and of high electrical and mechanical requirements, comprising: a cylindrical tubular barrel of high temperature hard glass, a header comprising a plug of high temperature glass having a cylindrical periphery and a substantially rigid mounting ring of metal having a co-efficient of expansion matched to that of said barrel and of said plug, said mounting ring being of L-section, including a cylindrical collar of greater diameter than its axial length, fitted within an end portion of said barrel in concentric relation thereto and a flange extending radially outwardly from the outer end of said collar; nd a conductor terminal extending through and sealed in said plug, said plug being sealed within said collar; and a joint of laminated structure



and of thin cylindrical sleeve form, interposed between and united to the periphery of said collar and the inner surface of said barrel, said collar and joint solidly interposed between said plug and barrel, said joint further including an integral flat radial ring portion extending outwardly from the cylindrical portion thereof and solidly interposed between and united to the end surface of said barrel and to the back surface of said radial flange, said joint being of laminated structure including a film of noble metal fused on the end of said barrel, a coating of copper on said noble metal film, a surface of noble metal on said mounting ring, and a layer of solder interposed between and bonded to said noble metal surface and to said coating of copper.

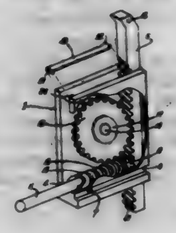
2,974,762
GIRDER UNITS
Emil Maurits Hunsebeck, Achenbachstr. 5, Duesseldorf, Germany
Filed Dec. 2, 1958, Ser. No. 777,634
Claims priority, application Germany Sept. 23, 1952
14 Claims. (Cl. 189—37)



8. A temporary support for concrete construction comprising an outer girder having upright lattice trusses with vertical end stays, an inner girder comprising a web and chord longitudinally slidable in said outer girder, bridge means rigidly connecting said end stays, plates retained on and displaceable along said end stays, and screws threaded through said bridges and bearing on said plates for supporting said inner girder.

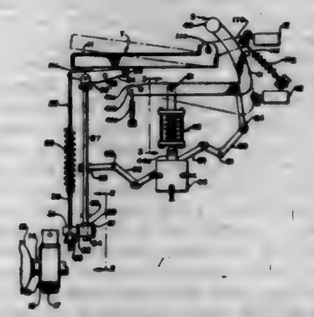
2,974,763
PIVOTED VENT TYPE WINDOW AND OPERATING MECHANISM THEREFOR
Sam H. Vancammen, 700 Jeronimo Drive, Coral Gables, Fla.
Filed July 20, 1955, Ser. No. 523,330
13 Claims. (Cl. 189—62)

1. An operating mechanism for swinging vent type windows having hollow framing defining a window opening and providing respective vertically extending oppositely facing grooves formed by respective vertical planar side frame walls lying between spaced parallel right angularly related groove side walls and a frame housed actuating linkage comprising a housing structurally distinct from said framing in the form of a hollow body having a planar side wall dimensioned longitudinally to fit against one of said vertical planar side frame walls of the hollow framing, vertical planar surfaces adjacent its opposite ends extending perpendicular to said planar side wall to define therewith a key interfitting between said spaced parallel groove side walls to prevent relative rotation therebetween and having at least one closed horizontally



extending edge; a worm pinion shaft paralleling the side walls of said housing journalled between said housing side walls against relative axial movement along the closed edge of said housing with one end projecting beyond one end of said housing; worm gear means journalled for rotation on an axis perpendicular to and spanning the space between said side walls and meshingly engaging said worm pinion shaft on the side thereof remote from said closed housing edge; and motion translating means operatively engaging said worm gear means and adapted to translate rotational movement of said worm gear into linear movement for shifting said actuating linkage to open and close said swinging vents.

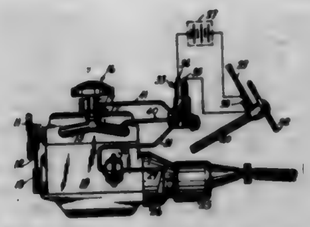
2,974,764
INDUSTRIAL TRUCK BRAKING SYSTEM
William J. Lesky, Chicago, Ill., and John A. Draxler, Berea, Ohio, assignors to The Elwell-Parker Electric Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 1, 1958, Ser. No. 725,705
7 Claims. (Cl. 192—2)



1. In an industrial truck having an electrical vehicular propulsion motor, drive torque transmitting means between motor rotor and vehicle wheels, and propulsion motor electrical controls for operator selection of vehicle drive direction and speed, a braking system comprising: a mechanical parking brake biased to engaged condition; a dead-man control member connected to the brake for disengaging said brake when an operator is in vehicle driving position; service brakes applying braking force at the vehicle wheels and a service brake pedal for operator control thereof; a movable control element con-

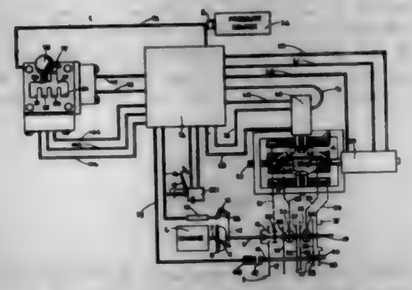
trolling progressive application of the service brakes over a certain range of limited motion thereof; a resilient linkage between said pedal and movable element whereby the pedal advances said movable element through its limited range of motion and thereafter over-rides the said element; means connecting said pedal to said mechanical brake adapted to engage the brake by over-riding pedal motion; an electro-dynamic motor braking circuit; and electro-dynamic brake control means including switch means triggered by brake applying motion of said service brake pedal effective simultaneously to cut off electrical power to said motor and to close said circuit for dynamic braking.

2,974,765
AUTOMOTIVE CLUTCH CONTROL SYSTEM
Franz Josef von Bomhard, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed Feb. 5, 1959, Ser. No. 791,482
Claims priority, application Germany Feb. 6, 1958
5 Claims. (Cl. 192—3.5)



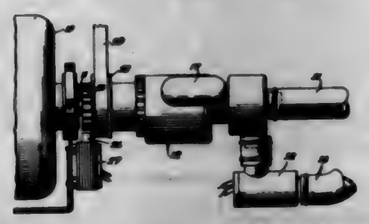
1. An automotive clutch control system, comprising suction actuable servomotor means connected for disengaging said clutch when it would otherwise be engaged; an internal combustion engine in driving connection with said clutch, said engine including an intake manifold for delivering an air-fuel mixture to said engine; a transmission driven by said engine through said clutch; gear shifting means for selecting a desired gear ratio within said transmission; a solenoid valve having a suction chamber, a servomotor chamber and an atmospheric pressure chamber; an energizing circuit for said solenoid valve, said energizing circuit including switch means actuated by said gear shifting means for energizing said circuit during the changing of gear ratios in said transmission; a first suction line connecting said suction chamber to said intake manifold; a second suction line connecting said servomotor chamber to said servomotor means; means defining a metering orifice through which said atmospheric pressure chamber communicates with the atmosphere; a valve member actuable upon energization of said energizing circuit which transfers said servomotor chamber from communication with said atmospheric pressure chamber into communication with said suction chamber, said valve member restoring the original communications along said chambers immediately upon deenergization of said energizing circuit; a pressure regulating valve by-passing said metering orifice; and means responsive to the flow rate of said air-fuel mixture into said intake manifold connected to reduce the pressure differential required for operation of said pressure regulating valve, said pressure regulating valve permitting a partial restoration of atmospheric pressure in said atmospheric pressure chamber in accordance with said pressure differential immediately upon deenergization of said energizing circuit followed by full restoration of atmospheric pressure at a rate determined by said metering orifice.

2,974,766
AUTOMOTIVE DEVICE
Charles M. Perkins, Oshtemo Township, Kalamazoo County, and Thomas V. McNamara, Cooper Township, Kalamazoo County, Mich., assignors to Fuller Manufacturing Company, a corporation of Delaware
Filed Aug. 24, 1959, Ser. No. 835,748
22 Claims. (Cl. 192—3.5)



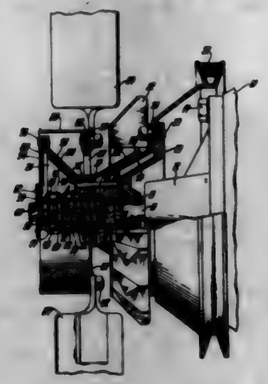
1. Control apparatus operable by fluid pressure for automatically effecting the shifting of a transmission driven by a power source, said transmission having a plurality of shift rods, a countershaft and a countershaft brake associated therewith, comprising in combination: shift effecting means responsive to application of fluid pressure thereto for moving a selected shift rod axially a predetermined direction and distance; shift rod selection means responsive to the application of fluid pressure thereto for connecting said shift effecting means to a selected shift rod; a first pressure fluid actuated system for controlling application of fluid pressure to said selection means; a second pressure fluid actuated system for controlling the energization and de-energization of said shift effecting means; manually operable selector means arranged to move in one direction to actuate said first system and further arranged for movement in another direction to actuate said second system, said last-named direction being at a substantial angle to said first-named direction, said second system including means for moving said shift effecting means to neutral position, for activating the countershaft brake while same is in neutral position during an upshift of the transmission and then for continuing movement of the shift effecting means into a shifted position.

2,974,767
COMBINED PUMP AND TORQUE TRANSMITTING COUPLING
Bertram A. Fulton, 247 Scott St., Glen Ellyn, Ill.
Filed May 26, 1958, Ser. No. 737,838
2 Claims. (Cl. 192—12)



1. A combined pump and torque transmitting coupling comprising a driving shaft, a pump rotor on the shaft, a hollow housing enclosing the rotor and at least a portion of whose inner wall is eccentric relative to the shaft axis, outwardly extending vanes on the rotor slidably engaging the inner wall of the housing, the housing being formed with spaced inlet and outlet ports between which fluid is circulated upon rotation of the rotor in the housing, an unrestricted supply conduit communicating with the inlet port to supply fluid thereto, a discharge conduit connected to the outlet port to conduct fluid therefrom to a desired point of use, means mounting the rotor for rotation coaxially with the shaft, releasable brake means to hold the housing against rotation for a pumping operation, control means for the brake means to control engagement and release thereof, drive means on the housing formed for connection to a load to be driven, and a valve controlling the outlet port to create torque between the rotor and housing when the valve is closed, the vanes on the rotor being flexible to bend as the rotor turns in the casing and to yield in response to a predetermined high pressure at the outlet port.

2,974,768
VARIABLE SPEED FAN DRIVES
Gilbert K. Hause, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 15, 1958, Ser. No. 767,474
13 Claims. (Cl. 192—82)



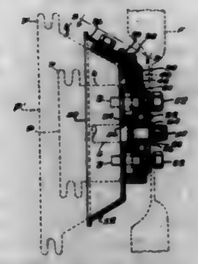
1. A fan drive comprising a pair of diverging driving cones, one of said cones being fixed against axial motion and including a hollow hub, the other of said cones being axially slidable on said hub, means arranged to hold said cones in non-rotative relation with respect to each other, a thermostatic motor fixed to said hub and having a power actuated member, means for transmitting force from said power actuated member to said axially movable drive cone including multiple springs, said power actuated member being effective initially to apply force to one only of said multiple springs and subsequently to apply force to all of said multiple springs, and a driven annular fan support having a pair of diverging conical surfaces engaging said drive cones.

2,974,769
VEHICLE TRANSMISSION SYSTEMS
Cyril Henderson, New Malden, England, assignor to Smiths America Corporation, Washington, D.C.
Filed July 15, 1957, Ser. No. 671,836
Claims priority, application Great Britain July 13, 1956
3 Claims. (Cl. 192—103)



1. In a vehicle having an engine and driving wheels, a transmission system comprising a clutch through which torque is transmitted from the engine to the driving wheels, control means for the clutch controlling the engagement of the clutch, the said means having a first condition in which the clutch may be fully engaged and a second condition in which the clutch may be only partially engaged, first and second acceleration-responsive devices situated on the vehicle and each responsive to acceleration in a fixed direction, the fixed directions of the devices being horizontal with respect to the vehicle and at equal acute angles to one side and the other of the forward direction thereof, means operatively connecting the devices to the control means to place them in said second condition if the forward acceleration of both of the devices in their respective fixed directions falls below a predetermined low value and otherwise to place them in said first condition.

2,974,770
MOTOR VEHICLE FAN CLUTCH ASSEMBLY
Frank F. Branch and Harmon L. Shaw, Charlotte, N.C., assignors to Product Development & Sales Co., a corporation of North Carolina
Filed May 27, 1957, Ser. No. 661,878
1 Claim. (Cl. 192—104)



A fan clutch assembly comprising, for combination with a motor vehicle radiator cooling fan normally mounted adjacent the extending end of a stub shaft at the side face of a driving pulley hub portion carried on said stub shaft with a pulley flange offset thereon from the extending end of said stub shaft and connected to rotate said fan at a speed determined by the operating speed of the motor of said vehicle, a carrier member mountable sidewise on said pulley hub portion in place of said fan, said carrier member being flanged peripherally for nesting concentrically over said pulley hub portion and being formed with a central cylindrical stem portion at which said carrier member is aligned axially with said stub shaft when mounted on said pulley hub portion, a hub member rotatably mountable on said carrier member stem portion at the side of said carrier member opposite said pulley hub portion and coaxially with respect to said stub shaft adjacent the extending end thereof, said hub member being formed in correspondence with the side face of said driving pulley hub portion to have said pulley mounted fan fixed interchangeably thereon and being fitted centrally with a bearing unit for mounting on said carrier member stem portion, the extending end of said stem portion being shouldered to a reduced diameter and threaded for engaging a threaded fastening means to secure said bearing unit in place thereon, said fastening means including a washer element having an opposing face bottoming at said stem portion shoulder and extending annularly for clamping said bearing unit in place, and said washer element being formed sufficiently flexible to insure bottoming of said opposing face on said stem portion while clamping said bearing unit, and a plurality of actuator blocks mounted on said carrier member in peripheral relation with respect to said hub member for selective engagement therewith, the side face of said carrier member adjacent said hub member being

formed with radial slideways for carrying said actuator blocks and the peripheral flange of said carrier member being fitted for supporting bias means at the outer ends of said radial slideways for biasing said actuator blocks normally to slide inward and engage said hub member and thereby cause rotation of said fan from said driving pulley, and said actuator blocks having sufficient mass for overcoming said bias by centrifugal force so as to slide outward and thereby disengage said hub member to disconnect said fan from said driving pulley at high operating speeds of said motor.

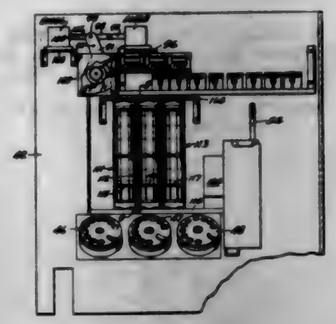
2,974,771
ADJUSTABLE LENGTH FRICTION UNIT ASSEMBLY FOR BRAKE OR CLUTCH STRUCTURES
David N. Goldberg, 1510 Main St., Wheeling, W. Va.
Filed Sept. 25, 1957, Ser. No. 686,225
13 Claims. (Cl. 192—107)



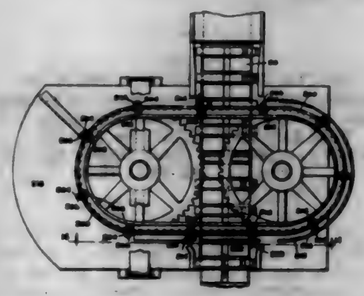
1. In a friction unit assembly for a brake or clutch structure, at least two arcuate elements disposed in longitudinal end to end alignment and movable as a unit toward engagement with a drum surface upon operating force being applied to said assembly, each of said elements having one arcuately curved face thereof adapted to receive friction material with the arcuately curved surface of one element forming a continuation of the arc of curvature of the arcuately curved surface of the other element to provide an essentially unobstructed friction material receiving surface on said assembly in the form of a partial cylinder, means providing slidably engaging complementary arcuate guide surfaces on said elements opposite the friction material receiving faces thereof, abutment means on one of said elements providing oppositely directed abutment surfaces extending generally away from the friction material receiving faces of said elements, and means on the other of said elements adjustably engageable with said abutment surfaces, said last named means being operable to effect selective movement of said abutment means relative to said other of said elements to adjust the spatial relationship between said elements.

2,974,772
VARIABLE STAMP VENDING AND MONEY CHANGING MACHINE
Kenneth C. Zeigle and James C. Vance, Minneapolis, Paul J. Nieland, South St. Paul, and Wilbern M. Bloomquist, Minneapolis, Minn., assignors to Electric Vendors, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 13, 1956, Ser. No. 565,021
6 Claims. (Cl. 194—2)

1. In a coin-operated vending machine, the combination with a credit mechanism and a dispensing mechanism, of apparatus for subtracting credit from the credit mechanism in response to the operation of the dispensing mechanism thereof, said apparatus comprising a frame, a driving element shiftably mounted on said frame and operating the credit mechanism for subtracting credit therefrom in proportion to the magnitude of movement of said driving element, driving means carried by said frame and connected in driving relation with said driving element for moving the same, said driving means also being responsive to operation of the dispensing mechanism to be operated thereby when an article is vended, a stop arm secured to said driving element to be shifted thereby, control means for limiting the movement of said stop arm and of said driving element, said control means including a guide member fixed to said frame adjacent said stop arm and having an elongated opening therein positioned for receiving said stop arm therein when the same is shifted, said guide member having a plurality of apertures therein intersecting said opening and being spaced from each other in the direction of movement of said stop arm, a plurality of abutment pins each being removably carried in a respective aperture in said guide member and being movable to other of said apertures, one of said abutment pins being stationary and the other of said abutment pins being disposed between said stationary pin and said stop arm and also being retractible out of said opening and out of obstructing relation relative to the movement of said stop arm, a plurality of solenoids on the frame and each having an armature with means for mounting a respective retractible abutment pin at any of a plurality of positions along said guide for shifting the pin in a certain aperture and into and out of the opening at a desired position to limit movement of the stop arm, and each of said solenoids being connected with said dispensing mechanism to be selectively operated thereby when an article of a particular variety is vended for shifting the corresponding abutment pin to said guide member opening and into obstructing relation relative to the movement of said stop arm, whereby when the selling price of articles is changed, said abutment pins may be shifted to change the amount of credit subtracted when an article is vended.



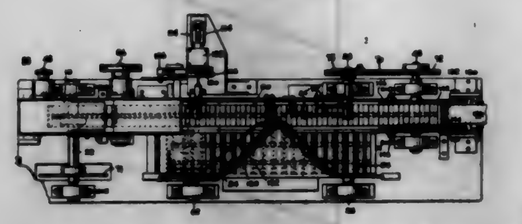
2,974,773
SPRING PIN WOODS FEEDER
Gerald L. Vaughan and Bernard M. Drury, Dixfield, Maine, assignors to Diamond National Corporation, a corporation of Delaware
Filed July 14, 1958, Ser. No. 748,392
6 Claims. (Cl. 198—33)



1. An apparatus for orienting wood members for spring-type clothespins comprising a horizontally moving

main conveyor means including means for receiving the wood members, an auxiliary conveyor means extending in a horizontal path at right angles to the path of said main conveyor means, said auxiliary conveyor means including oppositely disposed runs which each respectively cross the path of said main conveyor means, means for transferring wood members having improper end orientation onto said auxiliary conveyor means as it crosses the path of said main conveyor means on one of its runs, and means for transferring wood members from said auxiliary conveyor means back to said main conveyor means as the other run of said auxiliary conveyor means crosses said main conveyor means, said auxiliary conveyor means moving wood members carried thereby through a path of 180 degrees to reverse the end orientation of said wood members.

2,974,774
ORIENTING APPARATUS FOR CLOTHESPIN WOOD MEMBER
Meredith R. Stuart, Mechanic Falls, Maine, assignor to Diamond National Corporation, a corporation of Delaware
Filed Sept. 17, 1959, Ser. No. 840,720
7 Claims. (Cl. 198—33)



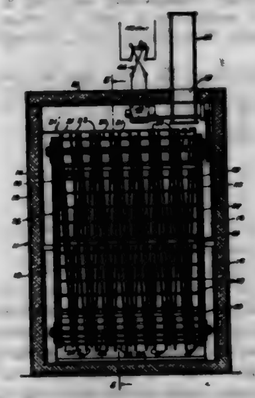
1. An apparatus for properly orienting stick-like members having a wrong end orientation comprising a main conveyor means moving in a horizontal plane and including means for receiving said members, an auxiliary conveyor means extending alongside said main conveyor means, means for transferring members having improper end orientation onto said auxiliary conveyor means, and means acting on said auxiliary conveyor means and effective to move said auxiliary conveyor means from a horizontal to at least a vertical position whereby members carried by said auxiliary conveyor means are dropped back onto said main conveyor means with proper end orientation.

2,974,775
CAN RUNWAY
Frank J. Stacey, Lyndhurst, and Charles M. Schulz, Demont, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 30, 1957, Ser. No. 693,472
6 Claims. (Cl. 198—41)



1. In a can runway system, an inlet runway, a pair of outlet runways comprising a main outlet runway aligned with said inlet runway and an auxiliary outlet runway offset from said inlet runway, a divider unit connected with said runways, said unit having a gap between said inlet runway and said main outlet runway and having a steep sloping bottom wall connecting said inlet runway with said auxiliary outlet runway, a magnetic transfer device disposed above the gap in said divider unit, said transfer device comprising electromagnet means having a series of adjacently disposed magnetic fields of progressively increasing intensity for attracting and accelerating said cans along said transfer device across said gap from said inlet runway into said main outlet runway, and a control device located in said main outlet runway and connected with said electromagnet means and operable by cans backed up in said main outlet runway for deenergizing said magnet means to release cans therefrom into said auxiliary outlet runway.

2,974,776
PACKAGE DISTRIBUTING EQUIPMENT
Isaac H. Polk, San Jose, and John C. Koch, Campbell, Calif., assignors, by direct and mesne assignments, to John Drum, Morris Lowenthal, and Harold A. Kuhn
Filed June 1, 1954, Ser. No. 433,443
2 Claims. (Cl. 198—46)

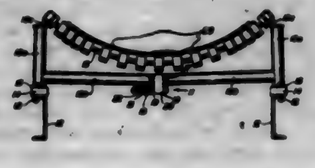


1. In an insulated enclosure except for an inlet in the top thereof and an outlet adjacent to the top thereof, means for feeding a plurality of individual packages successively into said enclosure through said inlet, and mechanism confined within said enclosure for moving the packages from one end of said enclosure for discharge through said outlet; said mechanism comprising an irregular helix consisting of a plurality of flights for receiving the packages and defining a path through which the packages move, an upper shaft, a lower shaft, pairs of sprocket gears on said upper and lower shafts adjacent opposite ends thereof, chains trained around an upper and a lower sprocket gear of each of said pairs of sprocket gears, cross-bars secured to said chains in spaced relationship and within said helix, means for rotating said upper and lower shafts in unison to move said bars whereby the individual packages are lowered and conveyed and lifted into, through and from said helix for discharge from said outlet.

2,974,777
IMPACT BRACKET FOR BELT-TROUGHING IDLER
Donald G. Marsh, Ely, Nev., assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Apr. 27, 1959, Ser. No. 809,122
6 Claims. (Cl. 198—192)

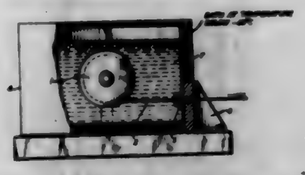
1. An impact bracket for a belt-troughing idler, comprising a pair of rigid bracket sections, each made up of a rigid leg member having idler engaging means at its upper end and flexible mounting means at its lower end, and a rigid, cantilever arm extending rigidly from said leg member, the said bracket sections being oppositely disposed, with their cantilever arms extending toward

and facing each other; fastening means articulatively interconnecting the mutually opposite ends of said cantilever arms; resilient cushioning means interposed between



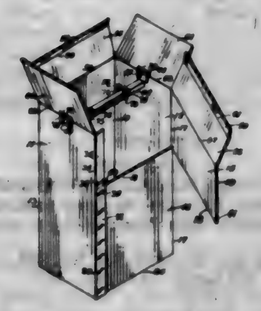
said mutually opposite ends of the cantilever arms; and resilient means operative upon said mutually opposite ends, for firmly but yieldably holding the bracket under normal loads.

2,974,778
LOW TEMPERATURE DRAWING OF METAL WIRES
William C. Ellis, Maplewood, and Earl S. Greiner, Short Hills, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 12, 1951, Ser. No. 246,389
10 Claims. (Cl. 205—21)



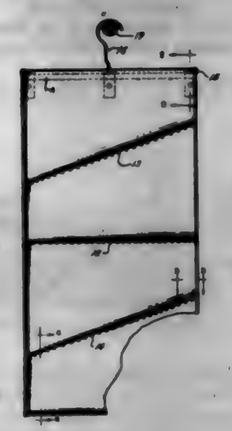
4. The process which comprises drawing a metal wire through a plurality of drawing dies having successively smaller openings, while maintaining the temperature of the wire below —60° C. at the point of drawing, until the cross-sectional area of the wire has been reduced by at least 20 percent, the metal of which said wire is formed being one which has a close-packed atomic structure, which has a recrystallization temperature of at least 75° C., and the primary constituent of which is an elemental metal having a close-packed atomic structure.

2,974,779
WARDROBE
Samuel P. Belsinger, 840 W. Pace Ferry Road NW., Atlanta 5, Ga.
Filed Apr. 29, 1957, Ser. No. 655,818
22 Claims. (Cl. 206—7)



1. A wardrobe including a divided front formed of a front hinged access panel and a front fixed panel, with a dividing cut therebetween, a rear panel, a side panel formed integral with said rear panel and both of said front panels, a second side panel formed integral with said rear panel and parallel to the first mentioned side panel, a divided securing flange formed on one edge of said second mentioned side panel, said flange having a portion adapted to be folded under the access panel and a portion adapted to be folded over said fixed front panel, there being provided a division cut between said portions vertically spaced from the division between said front panels whereby a tab is formed adapted to overlie a portion of the edge of said access panel, and means for permanently securing that portion of the front flange overlying the fixed front panel in fixed relation to said front panel.

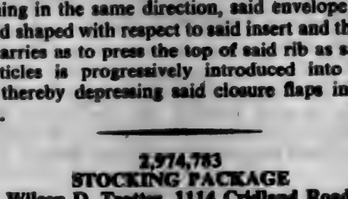
2,974,780
PETTICOAT AND SLIP CUDDLER
Dorris E. O'Donovan, 853 Portola Drive, Monterey, Calif.
Filed Mar. 10, 1959, Ser. No. 798,392
1 Claim. (Cl. 206—7)



In a slip and petticoat container, the combination which comprises an elongated rectangular-shaped sheet of transparent material, providing a front wall, a complementary sheet of transparent material providing a rear wall, said sheets of material being secured together on a line extended transversely across the container and positioned midway between the ends thereof, means securing the sheets of material together on diagonal lines positioned between the line midway between the ends of the container and the ends of the container dividing the container into a plurality of pockets, the ends of the pockets being larger at one side of the container than the ends at the opposite side, whereby small ends of slips and petticoats are inserted in small ends of the pockets and large ends of the slips and petticoats are inserted in the large ends of the pockets, a garment hanger having a hook thereon mounted in the upper end of the container, and separable fasteners mounted on the edges of the sheets of material and providing closures for the pockets therein.

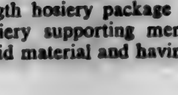
2,974,781
SERVICE KITS
Karl L. Zimmerman, Philadelphia, Pa., assignor to Woodward Wanger Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 1, 1958, Ser. No. 745,966
3 Claims. (Cl. 206—16)

1. A plumber's service kit comprising: a casing having a flat bottom member and four sides extending upwardly therefrom together with a cover removably mounted on the sides; a plurality of pegs connected with and extending upwardly from said bottom member, the pegs being of substantially the same height; a tray including a bottom having on the underside thereof a sheet of resilient material; and means connected with said sides and supporting the tray in the casing with the resilient material engaging the tops of said pegs, the pegs being for use in



holding apertured items in stacked fashion and the engagement between said resilient material and said tops being for use in preventing unintentional dislodgment of such items.

2,974,782
SPECIAL PACKAGES FOR TOY BALLOONS AND LIKE ARTICLES
Edgar Hiram Walters, 80 Samaritan Ave., Ashland, Ohio
Filed Nov. 2, 1959, Ser. No. 850,305
5 Claims. (Cl. 206—45.33)



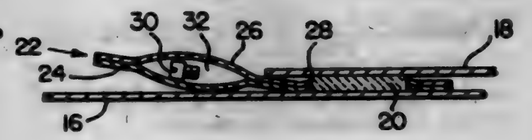
5. Special display package for toy balloons and like articles comprising in combination a tubular envelope and an insert therefor slidably introduceable through an open end of said envelope and constituting a carrier for said articles, said insert comprising a member of sheet material having inherent resiliency and shape sustaining stiffness and being folded along parallel lines to form an upstanding rib with flat top, depthwise extending sides, and base flaps in a common plane extending outwardly from the lower edges of said rib, said rib being characterized by the absence of transverse articulations below the plane of its top whereby said insert is substantially rigid longitudinally, said rib being formed with a series of pairs of registering openings in its opposite sides adjacent the top, the latter being formed with upwardly opening integrally hinged closure flaps cut out from said top forming slots joining said registering openings and all opening in the same direction, said envelope being so sized and shaped with respect to said insert and the articles that it carries as to press the top of said rib as said insert with articles is progressively introduced into said envelope, thereby depressing said closure flaps into closed position.

2,974,783
STOCKING PACKAGE
Wilson D. Trotter, 1114 Cridland Road, Greensboro, N.C.
Filed Mar. 21, 1958, Ser. No. 722,990
3 Claims. (Cl. 206—46)



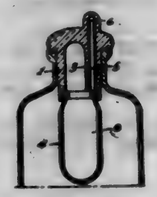
1. A knee-length hosiery package comprising a panel display and hosiery supporting member, said member being of semi-rigid material and having integrally formed thereon in spaced relation to each other a pair of tabs hingedly connected to lie in parallel planes, a pair of knee-length hose having elastic garter bands, each of said hose garter bands being supported on the tabs on opposite sides of the member with one of the tabs lying contiguous with the other tab, said hose being folded over the member and substantially within the area of the member, and an envelope enclosing said member and hose.

2,974,784
PACKAGING MEANS FOR ARTICLES
Edward C. Britt, Newark, N.Y., assignor to Rexpak Corporation, Rochester, N.Y.
Filed Mar. 1, 1960, Ser. No. 12,177
4 Claims. (Cl. 206—47)



1. In a packaging device for separately enclosing relatively large and small parts of an article, the combination with an envelope for holding said large parts having a closure flap and a spot of adhesive for securing said flap to the envelope back to close the same, of an enclosure for said small parts having a portion thereof formed with an opening therethrough adapted to extend around said spot of adhesive with said portion secured between said envelope flap and back and with the remaining portion of said enclosure exposed to view on the outside of the back of said envelope.

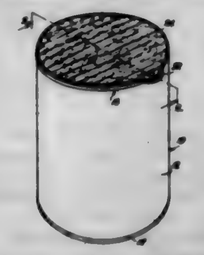
2,974,785
CONTAINER FOR THE SEPARATE STORAGE AND EXTEMPORANEOUS MIXING OF CONSTITUENTS IN INJECTABLE SOLUTION
Henri Griffon, 5 Square de Port-Royal, Paris, France
Filed July 8, 1957, Ser. No. 670,434
Claims priority, application France July 6, 1956
7 Claims. (Cl. 206—47)



1. A container arrangement comprising, in combination, an inner container having upper and lower portions interconnected only by frictional engagement with each other so that said inner container can be opened by pushing said lower portion thereof downwardly away from said upper portion thereof, said upper portion of said inner container having an open top end portion and including a removable stopper made of a flexible

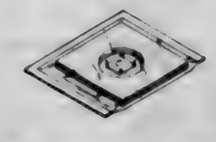
material and closing said top end portion; an outer container closed by said upper portion of said inner container, said lower portion of said inner container communicating with the interior of said outer container; and pushing means located in said upper portion of said inner container, engaging a part of said lower portion of said inner container, and having a top end portion located at said flexible stopper, so that when the operator presses downwardly on said stopper, the downward movement will be transmitted by said pushing means to said part of said lower portion of said inner container to separate the latter from said upper portion of said inner container, so that said lower portion of said inner container will fall into said outer container while the latter remains closed by said upper portion of said inner container, whereby different ingredients in said inner and outer containers will contact each other only when said pushing means is actuated by the operator to separate said lower portion of said inner container from said upper portion thereof.

2,974,786
COMBINED CLOSURE AND SCOURING PAD FOR CONTAINERS
Forrest P. Griffeth and Lena Griffeth, both of 1510 Greeley Ave., Kansas City, Kans.
Filed Apr. 25, 1958, Ser. No. 731,043
4 Claims. (Cl. 206—47)



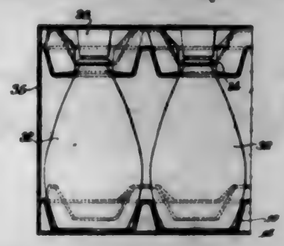
1. In a package, a cylindrical container open at one end thereof and adapted to receive a quantity of a dispensable substance; a lid closing said open end and including a circular plate having a peripheral channel segment extending laterally from said plate to define a depressed area in the lid, said channel segment receiving the edge of said container defining said open end thereof said plate having a plurality of openings therein for permitting controllable dispensing of said substance from the container; and a circular, externally disposed, relatively thin, wear resistant, highly absorbent scouring pad coextensive with said depressed area removably mounted within said depressed area in overlying, closing relationship to said openings.

2,974,787
SINGLE USE, PREPACKAGED VACCINATOR
Murray Sam Cooper, Dumont, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed May 10, 1960, Ser. No. 28,109
2 Claims. (Cl. 206—63.2)



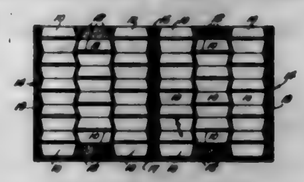
1. A single use, prepackaged vaccinator comprising: an injector plate having pointed, penetrating prongs, a penetrable plastic bubble enclosing said plate, a biological liquid in said bubble with said injector plate, a backing strip to which the bubble is attached, an absorbent material surrounding the plastic bubble, and also attached to the backing strip, at least one apertured spacer surrounding the plastic bubble, and a sterile enclosure in which the bubble, backing strip, absorbent material and spacer are sterilely protected from external contamination and from which the bubble and its contents may be sterilely removed.

2,974,788
MOLDED PULP PACKING FOR BOTTLES
Gerald L. Robbins, East Vassalboro, Maine, assignor to Keyes Fibre Company, Portland, Maine, a corporation of Maine
Filed Sept. 25, 1957, Ser. No. 686,247
4 Claims. (Cl. 206—65)



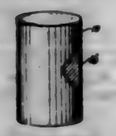
1. A package comprising a packing case and a layer of bottles in said case, said layer comprising a bottom packing tray defined by a peripheral rim, a plurality of pockets in said tray, said pockets each having a bottom wall and inclined side walls and being arranged in parallel rows and in parallel columns transverse to said rows, each of said pockets being separated from the pockets adjacent thereto by ribs and said ribs being separated from each other by hollow posts extending to a height above the height of said ribs and of said peripheral rim, and an opening in the center of the bottom wall of each of said pockets, a bottle positioned in each of said pockets with the bottom portion of each of said bottles snugly engaged within the corresponding pocket while the major portion of the bottle extends upwardly therefrom, and a second packing tray, substantially identical in construction to said first described packing tray, positioned at the upper portion of said layer with the neck of each of said bottles extending through the opening in a corresponding pocket.

2,974,789
EGG CASE PACKING
Richard F. Reifers, Chicago, Ill., assignor to Diamond National Corporation, a corporation of Delaware
Filed Dec. 4, 1957, Ser. No. 700,671
3 Claims. (Cl. 206—65)



1. In an egg case package, including a rectangular exterior case, and a plurality of egg cartons having a capacity of one dozen eggs each packed therein, each of said cartons having a trapezoidal upper portion provided with upwardly converging inclined side walls and having a similar trapezoidal lower portion provided with corresponding downwardly converging inclined side walls, the improvement comprising a symmetrical staggered stacking arrangement of said cartons superposed in a plurality of adjacent vertical stacks staggered in height wherein adjacent stacks differ in height by an amount equivalent to about half the height of one carton at both the top and the bottom of the stacks, and said cartons being in mutual engagement and having their inclined side walls adjacent and parallel to the oppositely inclined side walls of laterally adjacent cartons, whereby the available packing space in the case is efficiently occupied and the cartons brace themselves against lateral shifting.

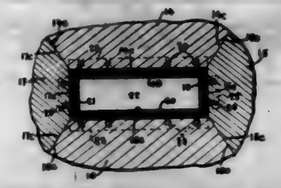
2,974,790
CROSS-EXTRUSION PROCESS
John F. Murphy, Snyder, N.Y., and Walter Stulen, North Caldwell, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,340
1 Claim. (Cl. 207—2)



Apparatus for the extrusion of metals comprising: a stationary billet container having a cylindrical cavity therethrough for accommodating a previously prepared metal billet, said container having an opening through the wall thereof near one of said container's ends; an extrusion die seated and held in said opening, the inner end surface of side die being of cylindrical contour which mates with and forms a continuation of said wall, said end surface being of rough cast finish tending to restrain the lubricant employed, and said die having an extrusion orifice therethrough which latter opens through the central part of said end surface; an ejector member having a head portion and a press seating portion, said head portion having a convex end joining an outer cylindrical surface which latter is a sliding fit within said cavity, said seating portion, when seated, holding said convex portion below said die but still closing the lower end of said cavity; means for moving said ejector member in a direction up and along the axis of said cavity to eject an extrusion remnant therefrom; an extrusion ram which is a sliding fit in said cavity, said ram having a convex end similar to and opposed to the convex end on said ejector; means to move said ram back and forth along said axis; whereby, when said ram compresses a billet against said ejector, said billet will extrude through said orifice, and the convex ends of said ejector and said ram, as well as the general orientation of the billet with respect to said orifice, will tend to cause less anisotropy in the product than that caused in and by heretofore conventional extrusion presses.

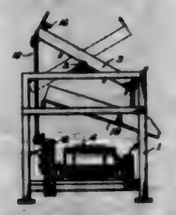
2,974,791
EXTRUSION PRESS CONTAINER
Robert Max Ludwig Elkan, Bournemouth West, England, assignor to The Loewy Engineering Company Limited, Bournemouth, England, a corporation of Great Britain
Filed Oct. 9, 1957, Ser. No. 689,194
Claims priority, application Great Britain Oct. 9, 1956
2 Claims. (Cl. 207—15)

1. A billet container for an extrusion press comprising: an outer casing with a cylindrical cavity therethrough, a cylindrical liner assembled within said cavity, two pairs of inserts positioned in said liner, said inserts each having an arcuate outer surface fitting against the inside bore of said liner, two obliquely disposed flat, side surfaces, and a flat inner surface, each insert of one pair of said inserts being at each of its obliquely disposed sides in abutting contact with the obliquely disposed side of one of the inserts of the other pairs of inserts, and the flat inner surfaces of all of said inserts cooperating with each other to define a first rectangular cavity separated from said liner at all four sides by said inserts, said inserts meeting at the corners of said rectangular cavity, whereby corner stresses in said rectangular cavity are relieved, and two pairs of flat rectangular plates secured in said first rectangular cavity to line and cover the same



thus forming an innermost second rectangular cavity for the reception of a billet, two of said plates being opposed to one another and each being in abutting contact with three of said inserts, the other two of said plates being opposed to one another and each being in abutting contact with only one of said inserts, each of said plates being in abutting contact with two of the other plates, whereby said second rectangular cavity will, under extrusion pressure, be sealed from the oblique junctions of said inserts.

2,974,792
WASHER SORTING MACHINE
Richard Jacob, 3818 Bates St., Pittsburgh, Pa., assignor of fifty percent to George Gould, Pittsburgh, Allegheny County, Pa.
Filed June 17, 1957, Ser. No. 666,176
3 Claims. (Cl. 209—90)

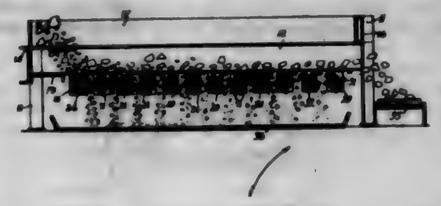


1. A machine for sorting washers or other objects of predetermined thickness, comprising a tray for receiving such objects, pivotal means having a horizontal axis for pivotally mounting said tray, means for effecting oscillation of said tray in a vertical plane about said pivotal mounting, said tray including a bottom wall formed of a pair of vertically spaced grids of rectangular cross-section, each comprising horizontally spaced straight bars having flat surfaces, the bars of the upper grid of said pair overlying the spaces between the bars of the lower grid and being in a horizontal plane vertically spaced from that of the lower bars so that objects can slide between and parallel to said grids as the result of said oscillation of the tray, whereby only objects which can fit in the space between the upper and lower grids will fall through the spaces of the lower grid.

2,974,793
ROTARY SIZING MECHANISM
Robert S. Kuntz, Nashwauk, Minn., assignor to The M. A. Hanna Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 29, 1957, Ser. No. 680,964
13 Claims. (Cl. 209—106)

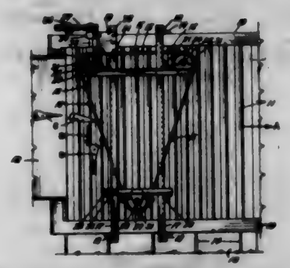
5. Apparatus for separating a mixture of differently sized particles including substantially parallel rotor mem-

bers arranged in substantially side-by-side relation to form a sizing bed and define a general path of travel for the mixture transversely of their longitudinal axes, striking vanes on each rotor member extending angularly to a longitudinal axis of the rotor, means to rotate the rotor members to strike said vanes against the mixture and



urge the larger of said particles at a greater rate along said path of travel than the smaller of said particles to effect a separation therebetween, and means to collect between adjacent rotor members the particles having insufficient mass to be urged to a succeeding rotor member along said path of travel.

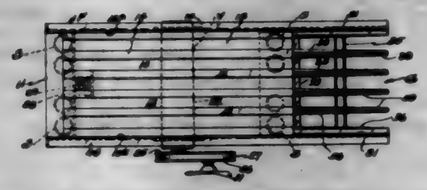
2,974,794
ARTICLE SIZERS
Lyle L. Fry, Gering, Nebr., assignor to Lockwood Graders Inc., Gering, Nebr., a corporation of Nebraska
Filed Mar. 2, 1959, Ser. No. 796,323
3 Claims. (Cl. 209—106)



1. The combination with a sizer having spaced, horizontal, sizing rollers traveling horizontally at right angles to their lengths, of an endless sweep chain positioned across said sizer above said rollers; sweeping elements mounted on said chain and extending downwardly toward said rollers; and means for driving said chain to cause said sweeping elements to move longitudinally of said traveling sizing rollers to sweep elongated articles into parallel relation with said rollers, said sweep chain being positioned diagonally of the path of travel of said rollers and the means for driving being synchronized with the traveling movement of said rollers so that the sweeping elements will travel with said rollers as they move longitudinally thereof.

2,974,795
GRIZZLY FEEDERS
George W. Behnke and Russell G. Westcott, Durand, Mich., assignors to Simplicity Engineering Company, Durand, Mich., a corporation of Michigan
Filed July 3, 1958, Ser. No. 746,444
5 Claims. (Cl. 209—247)

1. A vibratory grizzly feeder mechanism comprising, a vibrating main frame, a feeder apron spanning said frame, transversely spaced, longitudinally extending wear bars provided on said apron with the faces of the bars spaced above the face of the apron, side members forming a part of said frame, side plates secured to said side members and extending a predetermined distance beyond the end of the apron, a quickly detachable grizzly unit formed with side plates detachably secured to the inner face of the side members, a plurality of spaced apart wear bars in said grizzly, each bar being longitudinally



tapered to form elongated, longitudinally disposed, tapered spaces therebetween, and a cross member having an upper face with generally sloping portions spanning the outer end of said grizzly section and secured to said wear bar and side plates.

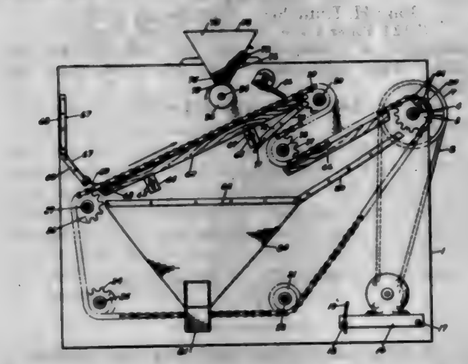
2,974,796
CENTRIFUGAL-TYPE PULP SEPARATOR
Johannes Jung, Miltenberg (Main), Germany
Filed Sept. 4, 1957, Ser. No. 682,050
5 Claims. (Cl. 209—284)



1. A centrifugal-type pulp separator comprising a housing having an inner wall, a stationary screen drum disposed in said housing spaced apart a predetermined distance from said inner wall and having its axis disposed horizontally, a horizontal shaft axially disposed rotatably in said housing, a plurality of impeller blades keyed to said shaft, a feed pipe disposed adjacent one end of said screen drum and feeding material tangentially directly to the inner face of said screen drum in the direction of rotation of said impeller blades, said screen drum in conjunction with said impeller blades operating as separating means for said pulp, said material emerging from said screen drum from the opposite end thereof, said feed pipe comprising two substantially contric pipe members, the outer diameter of said feed pipe corresponding with the inner diameter of said screen drum and the inner diameter of said feed pipe being slightly smaller than the outer diameter of said impeller blades, said feed pipe being disposed completely outside said housing and having a spiral intermediate wall extending over the entire length of said feed pipe.

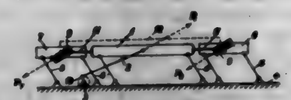
2,974,797
GRAIN CLASSIFIER
Charles E. Blackman, Waterman, Ill., assignor to De Kalb Agricultural Association, Inc., De Kalb, Ill., a corporation of Delaware
Filed Aug. 30, 1957, Ser. No. 681,205
9 Claims. (Cl. 209—367)

1. In a classifier, a support, a feed member positioned to deliver material to be classified, a receiver positioned to receive classified material, an endless raddle positioned for movement between said feed member and said receiver, said raddle comprising an endless chain having longitudinally spaced, laterally disposed members, the spacing between said members constituting the sizing element of said raddle, said raddle including a first classifying run extending across substantially the entire extent of said receiver, a first limited return run, a second classifying run extending through the remainder of the distance across said receiver beneath said first classifying run and extending outwardly past the edge of the receiver, and a final return run extending to the beginning of the first classifying run, said first classifying run being positioned



to deliver any material remaining upon said raddle at the end of said first classifying run to said second classifying run.

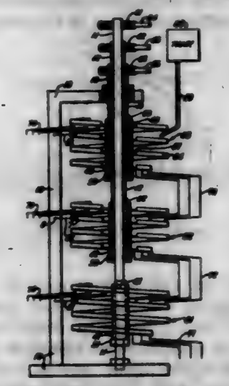
2,974,798
VIBRATING SYSTEM
Jaroslav Růžička, 74 Krizikova, Prague-Karlin, Czechoslovakia
Filed Oct. 28, 1955, Ser. No. 543,550
Claims priority, application Czechoslovakia Nov. 9, 1954
4 Claims. (Cl. 209—365)



1. A vibrating system comprising at least three aligned masses, a fixed base, substantially parallel elongated support members pivotally connected at their opposite ends to said base and each of said masses to support the latter for oscillation independently of each other about neutral positions wherein the related support members incline substantially from the vertical, drive means carried by said base and directly connected to only one of said masses to forcibly oscillate said one mass with an amplitude that is positively determined by said drive means, said support members and drive means constituting the sole connections between said masses and said fixed base, elastic elements transmitting oscillations from said one mass to the others of said masses and having stiffnesses causing the oscillation of adjacent masses in opposed phase relation so that the adjacent masses move in opposite directions, said elastic elements exerting forces, when deformed, which act along lines passing through the centers of gravity of the related masses oscillated thereby and extending substantially perpendicular to the support members for said related masses, the sum of the products of the values of said masses and of the amplitudes of oscillation thereof being zero and the sum of the moments of the oscillating masses with respect to any point also being zero so that the system is fully balanced at all amplitudes of oscillation.

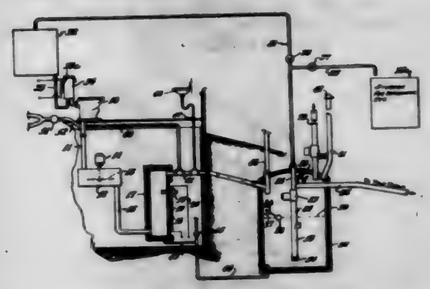
2,974,799
OSCILLATING HELICOIDAL SEPARATING DEVICE
Thomas J. Gray, Alfred, N.Y., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 8, 1958, Ser. No. 747,248
11 Claims. (Cl. 209—434)

10. An oscillating helicoidal separating device which comprises a series of superimposed non-rotating helicoidal surfaces, means for oscillating each of said helicoidal surfaces independently at different amplitudes and at different frequencies from the other helicoidal surfaces, means for supplying unseparated material to the uppermost of the several helicoidal surfaces, means for conveying separated



material from the lower extremity of each helicoid except the lowermost to any selected portion of the next lower helicoid, and means for discharging separated material from the lower extremity of the lowermost helicoid.

2,974,800
SYSTEM FOR HANDLING WASTE MATERIALS
Herbert J. Fleischmann, 503 E. Washington St., St. Louis, Mich.
Filed Jan. 30, 1957, Ser. No. 637,317
11 Claims. (Cl. 210—114)



7. In a closed circuit aqueous home sewage treating and digesting unit the combination including: organic refuse gathering conduits; a comminuting means for mincing solid refuse through which the refuse from said conduits is passed; a heated chamber having a hold-over capacity limited to the household demand receiving refuse from said comminuting means; an overflow from said heated chamber; a second chamber receiving overflow from said first chamber; means for recirculating material from said second chamber to flush said refuse gathering conduits; a by-pass gathering excess material from said second chamber above the demands of the system; and venting means from said chambers and conduits relieving collected gases.

2,974,881
BALANCING MEANS FOR ROTATABLE CYLINDERS
Charles Bernstein, 20 93rd St., Brooklyn, N.Y.
Filed June 25, 1957, Ser. No. 667,779
6 Claims. (Cl. 210—144)

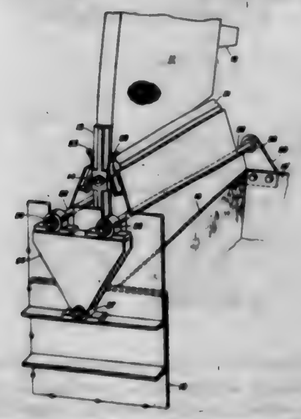
1. In a cleaning machine comprising a rotatable hollow cylinder divided by a solid longitudinal partition into

two semi-cylindrical pockets, the provision of a single counterbalancing tank formed on said cylinder, said tank being disposed adjacent to a corner edge of one of said pockets, means to render said cylinder freely swingable about its axis of cylindrical configuration whereby the cylinder will assume an angular position depending upon the different weights of clothing in the respective pockets



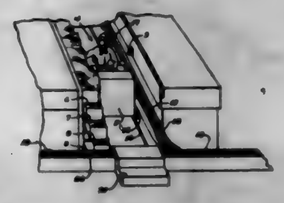
so that the other of said pockets may be initially filled with a greater weight of clothing than said one pocket, means to rotate said cylinder at centrifugal extraction speeds, and means responsive to vibration caused by said greater weight to inject liquid into said tank while said cylinder is rotating, said tank terminating short of the other pocket.

2,974,802
DISCHARGE BLADES FOR ROTARY FILTERS
Charles R. Morehouse, Alameda, and Julian B. Booth, Jr., Castro Valley, Calif., assignors to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,257
6 Claims. (Cl. 210—396)



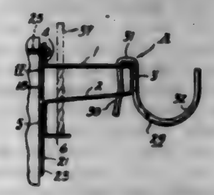
1. A cake discharge blade construction for a rotary filter disc in disc type filters, comprising a pair of cake discharge blades located opposite each other and resiliently urged against respective sides of said filter disc rotatable about a horizontal axis, each said blade having an inner end adjacent the axis of rotation of the disc and an outer end adjacent to the periphery of the disc; bearing means for mounting said blades each tiltable about a tilting axis to allow the blades to accommodate irregularities of the disc, comprising rear bearing means at the inner end of each blade adapted to allow for angular displacement of the respective tilting axis, outer bearing means at the outer end of each blade also adapted to allow for angular displacement of the tilting axis; a common upright supporting structure for both said outer bearing means; and foot bearing means for movably supporting said common structure adapted to allow for angular displacement thereof about a tilting axis substantially coextensive with the tilting axis of the blades.

2,974,803
FILING SYSTEMS AND CONSTRUCTIONS THEREFOR
John H. Humphrey, Cucamonga, Calif. (7521 Piper Lane, Los Angeles 45, Calif.)
Continuation of application Ser. No. 406,843, Jan. 28, 1954. This application Feb. 25, 1958, Ser. No. 722,682
14 Claims. (Cl. 211—10)



11. In filing construction employing open shelves, a support, a plurality of horizontally extending vertically spaced shelves, each of said shelves above the bottom shelf of said plurality being offset backwardly with respect to the shelf below it, each of said shelves being provided with a vertically extending back wall joined to said shelves along a line and each of said shelves having portions extending backwardly beyond said back wall, separator members in the form of substantially rectangular flat plates mounted on said shelves and extending in substantially upright relation with respect thereto, each of said separator plates being formed with a tip thereon extending backwardly and downwardly with respect to the rear corner thereof, said back wall adjacent its joinder with said shelf and said backwardly extension of said shelf being formed with aligned recesses therethrough and said tips being seated in said recesses, the seating of the tips for each shelf being in back of the back wall of the shelf beneath it, whereby all of the shelves are free of any obstructions.

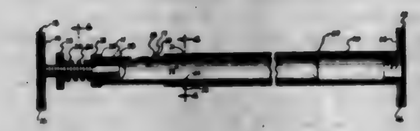
2,974,804
TOOL HOLDER
Rudolph J. Maro, % Parkes Hardware, 14307 Parkes Ave., Cleveland, Ohio
Filed July 12, 1957, Ser. No. 671,491
7 Claims. (Cl. 211—69)



1. A tool support for pliers, drills, chisels, wrenches, screw drivers, putty knives, hammers, and other hand tools, comprising a one-piece rectangular metal sheet formed to provide an upper vertical flange adapted for mounting on a vertical wall, an upper flat supporting wall extending horizontally outwardly from the bottom end of said flange, an intermediate wall extending downwardly from the outer end of said upper wall, a lower flat supporting wall extending horizontally inwardly from the bottom end of said intermediate wall, a lower vertical flange extending downwardly from the inner end of said lower supporting wall and located in the same vertical plane as said upper flange, said lower flange having an outwardly projecting horizontal end portion providing a short ledge below said lower supporting wall, a series of small circular holes arranged in rows in said upper and lower supporting walls directly above said

ledge, each of the holes in the upper supporting wall being vertically aligned with one of the holes in the lower supporting wall, said metal sheet being formed throughout its length with a series of regularly spaced parallel slots of the same size extending between said upper and lower supporting walls perpendicular to the side edges of the metal sheet, each of said slots having enlarged circular end portions in said supporting walls and a straight intermediate portion with a uniform width less than the diameter of said circular portions, the circular portions of the slots in the upper supporting wall being vertically aligned with the circular portions of the slots in the lower supporting wall, and a separate spacer rod adapted for spacing said upper flange of said tool support from said vertical wall to provide thereby a narrow tool-receiving clearway extending substantially the full length and width of each flange.

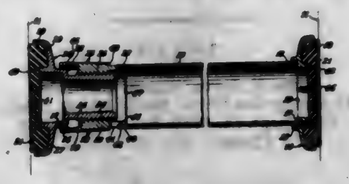
2,974,805
HANGER ROD
John B. Brosseau, Oak Park, Ill., assignor, by mesne assignments, to Jeb-Rod Corporation, Forest Park, Ill., a corporation of New Mexico
Filed Oct. 16, 1958, Ser. No. 767,709
1 Claim. (Cl. 211—105.5)



An extensible hanger rod comprising, in combination, a pair of elongated tubular members assembled in telescoping relation, said members being relatively movable endwise to adjust the effective length of the rod, cooperating latch elements on said members operative to retain them in adjusted positions, a support shoe mounted on the outer end of one member presenting a substantial contact area transverse to the axis of the rod for frictional engagement with an upright surface, a cap fitted on the outer end of the other tubular member, said cap having a central aperture, an elongated element slidable in said aperture, said element having an enlarged head disposed within the tubular member, a support shoe mounted on the projecting end of said element presenting a substantial contact area transverse to the axis of the rod for frictional engagement with an upright surface spaced from said first mentioned surface, a nut threaded on said element between said cap and said support shoe, a relatively weak compression spring interposed between said cap and the head of said element operative to hold the element and its contact shoe in position while the rod is being installed between said two upright surfaces, and a relatively strong compression spring interposed between said cap and said nut yieldably urging said element and said shoe in a direction to increase the spacing between the shoes and thereby maintain the shoes in friction clamping engagement with the upright surfaces between which the rod is installed, said nut being operable to adjust the tension of said strong spring to press the shoe against said surfaces with sufficient force to maintain the rod in position while supporting a substantial load.

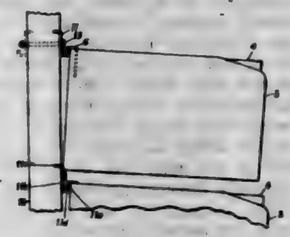
2,974,906
SHOWER ROD HOLDER
Benjamin Seewack, 1257 E. 11th St., Los Angeles 23, Calif.
Filed June 27, 1957, Ser. No. 668,550
1 Claim. (Cl. 211—123)

An adjustable rod holder for supporting a rigid rod between two walls comprising a tubular rod, a socket means for supporting one end of the rod, said socket means having an inwardly facing recess adapted to receive said rod end and having an outwardly facing recess, a resilient gripping means residing in said outwardly facing recess for frictionally gripping a wall, adjustable bracket means for supporting the other end of the rod and comprising a stud member having a cylindrical portion, said cylindrical portion having threads on its outer surface, a hollow rotatable fitting having screw threads on its inner surface cooperating with the threads



on the stud, the said stud member having an enlarged outer end for frictionally engaging a wall, said enlarged outer end being spaced from the threaded portion to provide an unthreaded portion therebetween, said rotatable fitting having a portion forming a skirt having a greater internal diameter than the threaded portion thereof to extend over the unthreaded portion of the stud member, said rotatable fitting having a plurality of concentric outer surfaces, having different diameters for receiving and holding the ends of tubular rods of different diameters.

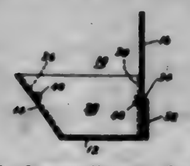
2,974,907
SUSPENSION FILING RACK
Werner H. Fürrer, Knonaeht, Zurich, Switzerland, assignor to Rud. Fürrer Söhne A.G., Zurich, Switzerland, a company of Switzerland
Filed Oct. 30, 1956, Ser. No. 619,194
Claims priority, application Switzerland Feb. 29, 1956
1 Claim. (Cl. 211—126)



A suspension filing rack comprising at least one vertical rail, at least one upper horizontal rail, securing means securing said upper horizontal rail to said vertical rail, another lower horizontal rail secured to said vertical rail below said upper horizontal rail, each of said horizontal rails being substantially Z-shaped in cross section and having a top edge portion, a channel-shaped lower edge portion and an intermediate longitudinal portion which rests against said vertical rail, said top edge portion extending substantially perpendicularly to said longitudinal portion and in opposite direction to said lower edge portion, said top edge portion being provided with recesses therein, said vertical rail being received in said recesses to brace said frame structure, said other lower horizontal rail also being provided with a recess for receiving said vertical rail, said lower edge portion of said upper horizontal rail and said other lower horizontal rail comprising a bent front portion and a flange portion between said front portion and said longitudinal portion, said flange portion extending substantially parallel to said top edge portion and said front portion extending substan-

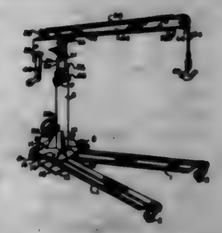
tially parallel to said longitudinal portion, a file case provided with a suspension member extending beyond said file case at one end and rearwardly therebeyond and engaging said channel-shaped lower edge portion of said upper horizontal rail, said other lower horizontal rail being positioned below said upper horizontal rail at a distance in relation to the overall height of said file case so that a lower portion of said file case engages the intermediate longitudinal portion of said other lower horizontal rail and said file case is secured to said suspension filing rack at a minimum distance from said vertical rail.

2,974,808
BINS
James E. Joyce, Kansas City, Mo.
(47 Springview Drive, Battle Creek, Mich.)
Filed Sept. 14, 1959, Ser. No. 839,685
9 Claims. (Cl. 211—126)



1. A storage bin for small parts that can be used by itself or that can be stacked with similar bins in vertical array and that has a generally flat, horizontally-directed bottom, a vertically-directed rear wall, a forwardly and upwardly inclined front wall, end walls closing the ends of said bin, said rear wall projecting upwardly above the level of said front wall, said front wall having a plurality of upwardly and forwardly inclined grooves at the inner face thereof, said rear wall having a plurality of upwardly directed grooves at the inner face thereof, said upwardly and forwardly inclined grooves at the inner face of said front wall being in register with the upwardly-directed grooves at the inner face of said rear wall, a plurality of partitions that have front and rear edges that are dimensioned to fit within said upwardly and forwardly inclined grooves at said inner face of said front wall and within said upwardly-directed grooves at said inner face of said rear wall, respectively, said partitions and said end walls having similar trapezoidal configurations, said partitions having offsets in the front or rear edges thereof that require bending of said edges as said edges are set within said upwardly and forwardly inclined grooves at the inner face of said front wall or within said upwardly directed grooves at the inner face of said rear wall, respectively, said partitions and said end walls having the bottoms thereof immediately adjacent said bottom of said bin and having the tops thereof at the level of the top of said front wall of said bin, said partitions being selectively disposable within said upwardly and forwardly inclined grooves and said upwardly-directed grooves at the inner face of said front wall and at the inner face of said rear wall, respectively, or being selectively disposable in abutting engagement within said bin adjacent one of said end walls, a spacer that is secured to the rear face of said rear wall adjacent the lower edge of said rear wall, a vertically-directed plate that is secured to said spacer and that depends downwardly from said spacer, said spacer holding said plate parallel to but spaced rearwardly from said rear wall to define a slot, said slot being dimensioned to telescope over and snugly fit the upper edge of the rear wall of a similar bin and thereby hold said bins stacked in vertical array, and a base that has a generally flat horizontally-directed portion that can underlie and project forwardly beyond said bottom of said bin and that has a vertically-directed slot-engaging portion that can telescope into said slot.

2,974,809
FLOOR CRANES
Elmer V. Sellers, 325 W. Mississippi St., and Clarence W. Bennett, both of Floydada, Tex.; said Bennett assignor to said Sellers
Filed Aug. 14, 1958, Ser. No. 753,695
1 Claim. (Cl. 212—34)



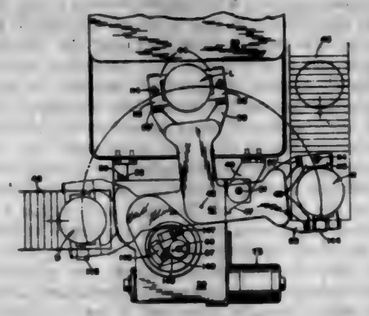
A floor crane comprising a pair of horizontally disposed, outwardly extending base members, an upright cylindrical, tubular standard secured to said base members, an upright, cylindrical, slidable member telescoped in said upright, cylindrical, tubular standard and adapted to be coaxial therewith and selectively movable longitudinally with respect thereto and selectively rotatable with respect to said upright, cylindrical, tubular standard, an outstanding beam mounted on and secured to said upright, cylindrical, slidable member and extending laterally outward therefrom and lying in a vertical plane passing between said base members, a hoist drum mounted on said slidable member near the upper end thereof, a sheave member mounted on each end of said beam, a cable passing outward from said hoist drum and over said sheaves on said beam, said cable having an end thereof extending downward from one of said sheaves on said beam for receiving a load, said upright, cylindrical, slidable member having a longitudinal, radial rib on the face thereof immediately below said outstanding beam, which rib is secured to said upright, cylindrical, slidable member within said upright, cylindrical, tubular standard, said upright tubular standard having a pair of rollers mounted thereon near the top thereof, one of said rollers of said pair of rollers being one each side of said rib and being in rolling engagement with said upright, cylindrical, slidable member on each side of said rib to limit the arcuate travel of said outstanding beam between vertical planes of said pair of beams forming said base, and a further roller secured to said upright, cylindrical, slidable member on the opposite side thereof from said rib to be in rolling contact with the inner face of said upright, tubular standard.

2,974,810
SHOCK ABSORBING DEVICE
John A. Szczepanik, Brooklyn, N.Y., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed July 16, 1957, Ser. No. 672,301
9 Claims. (Cl. 213—73)



1. In a draft and buffing gear arrangement for a railway car, an outwardly open housing secured centrally to the car at each end thereof, guide means formed on each housing, an impact transmitting member mounted in each of said housings for longitudinal sliding movement along the associated guide means, stop means formed on each of said housings and impact members, said stop means being positioned for engagement to limit relative longitudinal sliding movement of said impact members within said housings, a rear draft lug slidably mounted within each of said impact members adjacent the inner end thereof, a draft and buffing gear assembly mounted within each of said impact members outwardly of and bearing on said rear draft lugs at opposite ends of the car, and means connecting said rear draft lugs for transmitting buffing forces from one gear assembly to the other.

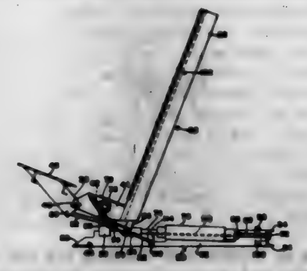
2,974,811
WORK HANDLING MECHANISM
Earl D. Dammert, Webster, and Myron F. De Wolf, Penfield, N.Y., assignors to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Sept. 20, 1957, Ser. No. 685,266
13 Claims. (Cl. 214—1)



1. A work handling mechanism comprising a support, a transfer member mounted on the support for angular oscillation and for reciprocation along the axis of oscillation, work engaging jaws on the transfer member and actuating means therefor including a first gear element movable on the support and a mating gear rotatable on but axially immovable relative to the transfer member, means for oscillating the transfer member including a second gear element movable on the support and a mating gear axially movable on but non-rotatable relative to the transfer member, said gears having clutch teeth for holding them against relative rotation and spring means for urging relative axial motion of them to maintain engagement of said clutch teeth, said gear elements respectively meshing with said gears in opposite terminal positions of reciprocation of the transfer member, a rack fixed on the support for meshing with the gear that is non-rotatable relative to transfer member when the last-mentioned gear is out of mesh with said second gear element, and a stop on the support for arresting the axial motion of the last-mentioned gear, to thereby effect disengagement of said clutch teeth, when the gear rotatable on the transfer member is brought into mesh with said first gear element at the end of one stroke of reciprocation of the transfer member.

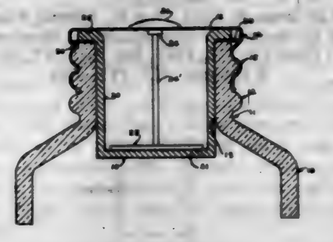
2,974,812
LOAD-HANDLING APPARATUS FOR BUILDING BLOCKS AND THE LIKE
Cecil W. Bopp, Waterloo, Iowa, assignor to Bopp Mfg., Inc., Waterloo, Iowa, a corporation of Iowa
Filed Aug. 21, 1958, Ser. No. 756,433
14 Claims. (Cl. 214—6)

7. Apparatus for use in the palleting of apertured building blocks and the like, comprising: a base having a pivot on a horizontal axis; an L-shaped block-receiving rack having first and second angularly related legs and mounted on said pivot generally at the junction of said legs for rocking of said rack downwardly from a block-receiving loading position in which the first leg extends generally upwardly and the second leg extends normal to said first leg to an unloading position in which said first leg is generally horizontal and said second leg extends upwardly whereby blocks received by the rack in the loading position thereof have their apertures disposed



generally vertically and are turned during descent of the rack to its unloading position so that said apertures are horizontal; and said second leg including a first part rigid with the rack and projecting generally normal thereto and a second part normally serving as an extension of said first part but movable relative to said first part to a retracted position to enable shortening of the height of said second leg in the unloading position of said rack.

2,974,813
SAFETY MEDICAL CONTAINER TOP
Edward F. Gray, 3939 White Bear Ave., White Bear Lake 10, Minn., assignor of one-half to Alton V. Oberholtzer, White Bear Lake, Minn.
Filed Dec. 23, 1957, Ser. No. 704,496
8 Claims. (Cl. 215—9)



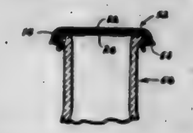
1. In combination, a medicine container having an aperture and a safety closure cap therefor requiring at least two simultaneously applied cooperative physical finger movements at substantially right angles to each other for removal and replacement relative to said container aperture, said closure cap comprising in combination a circular shell having a top portion and an integral depending side wall portion extending about the periphery of said top portion and encircling and engaging the container wall forming said aperture, holding means on said side wall for encircling and locking engagement about the exterior wall of said container, a flexible friction element normally tightly engaging against the interior of the container wall forming said aperture and a finger pressure operable rod unit for releasing said flexible friction means from its normally tight engagement against the interior of the container wall, whereby there is required a downward finger pressure on said rod unit simultaneously with a substantially right angular finger force to turn and release the said integral depending wall of said circular shell.

2,974,814
INSULATED BOTTLE HANDLING COVER
Dee Dee Parsons and Cora E. Parsons, both of Ewing, Nebr.
Filed Sept. 24, 1958, Ser. No. 763,129
4 Claims. (Cl. 215—13)



1. For use in holding and handling hot and cold containers, bottles and cans, a coaster embodying a one-piece jacket providing a receiver for a readily insertable and removable container, said jacket having a bottom, an upstanding body portion embodying a rear wall and diametrically opposite complemental side walls, said side walls having vertical edges spaced apart and defining a pair of readily openable and closable flaps and a slot between said edges, said receiver also embodying an upstanding front wall of tongue-like construction and of a height equal to the height of the body portion, said tongue being joined only at its lower end to the bottom and being free of connection with said flaps and said flaps overlapping the exterior marginal surfaces of the tongue, and a readily accessible, applicable, and removable fastener separably joining the flaps together.

2,974,815
INNER CONTAINER CAP WITH POURING OUTLET
Anthony F. Driscoll, 6528 78th St., Middle Village, N.Y., assignor of one-half to Jean Manbach, Stamford, Conn.
Filed Oct. 22, 1956, Ser. No. 617,298
3 Claims. (Cl. 215—38)



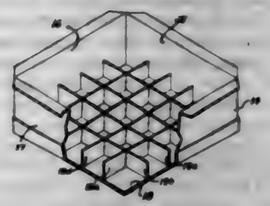
1. A combined tamper-proof and replaceable assembly for a container that has a neck surrounding an outlet opening at one end of the container, a lip at the upper end of the neck having an outside surface that extends downwardly and then inwardly to the diameter of the neck below said lip, a closure comprising an inner cap with an imperforate top wall that extend across the top of the lip and closes the opening, and that extends downwardly around the outside of and under the lip, the downwardly extending portion of the inner cap having tabs at its lower edge angularly spaced from one another, said tabs having their junctures with the rest of the inner cap above the region where the lip of the container turns inward and being made of hard material whereby bending up of any of the tabs will break them before transmitting sufficient force to remove said inner cap, weakened punch-out areas in the top surface of the inner cap for breaking the seal provided by the inner cap, said punch-out areas being of substantially less total areas than the top of the inner cap, an outer cap having an inside diameter greater than the outside diameter of the bottom portion of the inner cap and movable downwardly freely over the inner cap, and detachable means for holding the outer cap on the container.

2,974,816
CLOSING AND SEALING BOTTLES AND OTHER RECEPTACLES
Ralph Ewart Ford, Bedford, England, assignor to Fords (Flushbury) Limited, Bedford, England, and L. C. Snelling (London) Limited, Alperton, England, both British companies
Filed July 1, 1957, Ser. No. 669,804
Claims priority, application Great Britain July 10, 1956
8 Claims. (Cl. 215—40)



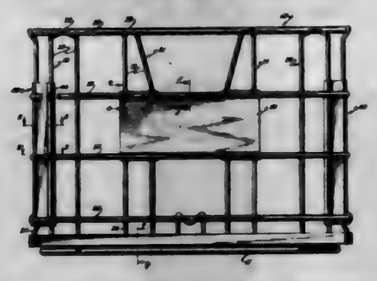
1. In combination, a receptacle having a rim flange to which is sealed a crown cap made of deformable material with a top disc portion extending over the mouth of the receptacle and a corrugated skirt extending downwardly from the top portion and inwardly beneath the rim flange to secure the cap on the bottle, the bottom of the skirt beneath the rim flange being spaced from the receptacle so that its peripheral edge can be engaged by a conventional crown cap opener when the cap is to be removed, and a resilient sealing compound which is adhesively secured to the interior of the skirt and forms a sealing ring therearound at a zone which extends at least partially below the underside of the rim flange, said ring of sealing compound completely closing the spaces formed by the internal radial channels of the corrugations and the rim flange at said zone and being compressed and forming a gas-tight seal between the inwardly extending part of the corrugated skirt and the underside of the rim flange.

2,974,817
PACKING DIVIDERS
Donald D. Simpson, Des Peres, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Aug. 1, 1958, Ser. No. 752,586
3 Claims. (Cl. 217—31)



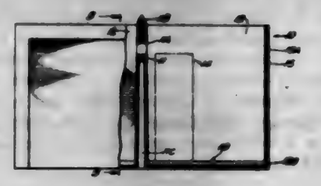
1. Divider unit construction for shipping cartons comprising a plurality each of first, second, and third types of divider strips, each of said strips having a first set of transverse slits extending part way therethrough from one of its longitudinal edges, each of said second-type strips having a single, terminal slit extending oppositely of its first set of slits and each of said third-type strips having a transverse slit in each end portion extending oppositely of its first set of slits, one of said first-type strips serving as a first marginal member of the unit with its slits disposed upwardly and others of said first strips being inverted and serving as parallel, intermediate dividers, two of said second-type strips serving as successive second and third marginal members of the unit with their first set of slits, opening upwardly, said second marginal member having its terminal slit interlocked with an end slit of said first marginal member and said third marginal member having its terminal slit interlocked with an upwardly opening end slit of said second marginal member remote from said first marginal member, one of said third-type strips forming a fourth marginal member completing the periphery of the unit with its first set of slits opening upwardly and its terminal slits interlocked, respectively, with upwardly-opening end slits of said first and third marginal members remote from said second marginal member, others of said third-type strips forming intermediate, transverse dividers with their first set of slits opening upwardly and interlocked with corresponding downwardly-opening slits of said previously-mentioned parallel intermediate dividers and with their terminal slits interlocking with corresponding upwardly opening slits in said first and third marginal members.

2,974,818
MILK CRATE
Houston Rehrig, 3730 E. 26th St., Los Angeles 23, Calif.
Filed May 13, 1958, Ser. No. 734,964
2 Claims. (Cl. 220—19)



1. A crate comprising a rectangular bottom member, side walls comprising vertical rod-like members secured to the bottom member, a corner guard comprising a body of sheet material having at each side a vertically extending groove for receiving and overlying each vertical rod-like member adjacent a corner of the bottom member, said sheet material having an opening extending across each of said grooves, a horizontal rod-like member on the side of the sheet material opposite to the vertical rod-like members, and means directly connecting the vertical and horizontal members through said openings.

2,974,819
CENTER TOP STACKING CASE
John B. Melville, 20301 S. Western Ave., Torrance, Calif.
Filed Jan. 16, 1956, Ser. No. 559,409
1 Claim. (Cl. 220—20)



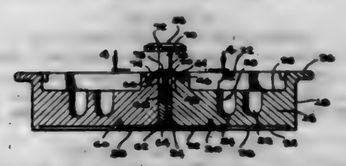
A stackable carrying case for articles, comprising: a generally rectangular open-top molded unitary container having a bottom wall provided with a continuous peripheral outer surface portion defining a single plane and continuous side walls, the upper edges of which form a continuous peripheral surface which defines a second plane parallel to said first plane, said upper edges of said side walls providing a sliding support for the bottom wall of a similar case resting thereon; and a partition extending between opposed side walls and dividing said container into compartments, said partition being secured at its lower edge to said bottom wall and having a portion of its upper edge projecting as an abutment above the plane defined by said upper edges of said side walls, the ends of said abutment terminating a substantial distance inwardly of the outer faces of said opposed side walls, said abutment extending only a very short height above the confines of the container and constituting the only portion of said unitary container extending above said second plane, said partition having a downwardly-opening elongated aperture in its lower edge, said aperture terminating inwardly of the outer faces of said opposed side walls to snugly receive the entire projecting abutment of a similar case resting thereon in stacked relation, whereby the upper stacked similar case cannot be displaced from the lower case by movement in a single plane in any direction but that by slight tilting of the upper case, the upper case is readily slid over the lower case in either a longitudinal or a lateral direction.

2,974,826
ATTACHMENT FOR DINNER PLATES
Carl F. Romei, 336 Randall St., Eugene, Oreg.
Filed Sept. 22, 1959, Ser. No. 841,596
1 Claim. (Cl. 220—22)



A dinner plate attachment comprising an elongated relatively thin upright strip of material, a suction cup for securing said strip of material in transversely extending relation on the upper surface of a dinner plate, and means connecting said suction cup to said strip of material, said last-mentioned means comprising an elongated threaded bolt fixedly secured to said suction cup and extending upwardly therefrom, a downwardly flared boss integral with said strip of material and having a threaded aperture therein in which said bolt engages, said strip of material having its bottom edge engaging the upper surface of the dinner plate, and being of a transverse wedge shaped form with the thickest portion uppermost and generally parallel to the lower edge, said lower edge including an offset portion adjacent one end extending upwardly to a height to accommodate said suction cup with the remainder of the lower edge in engagement with the dinner plate.

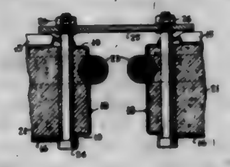
2,974,831
SEGMENTAL ASH TRAY
Ebenezer N. Lamont, P.O. Box 125, Benoni, Union of South Africa, assignor of one-half to Lyle M. Flaskerud, Livermore, Calif.
Filed June 10, 1958, Ser. No. 741,108
1 Claim. (Cl. 220—23.4)



In a demountable tray assembly which includes a plurality of sector-shaped tray elements having upper and lower sides, and means for releasably securing said tray elements into a circular arrangement, that improvement in said means which comprises: a flat, generally discoidal

main base portion; an annular, upstanding flange projecting from the periphery of the main base portion for engagement with the tray elements; the tray elements each having a curved channel formed in the lower side thereof of at least the depth of the flange, said curved channels forming, collectively, a circular channel when the tray elements are located in said circular arrangement, and the circular channel being adapted to receive the flange therein so that the main base portion and the lower sides of the tray elements are disposed in a substantially common plane against a supporting surface, a substantially cylindrical axle member extending upwardly from the center of said main base portion; a lock screw threadedly received in the distal outer end of the axle member, a downwardly cupped hub carried by the lock screw intermediate its ends; the tray elements each having an arcuate groove formed in their upper sides, the arcuate grooves being defined by an outer upright side wall and an inner arcuate wall which is adapted for nesting engagement in the cupped hub; and actuating means on the lock screw for moving the hub from locking engagement with the arcuate grooves to an open location wherein the tray elements may be selectively dismounted for individual use.

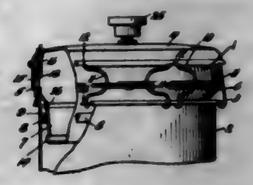
2,974,822
FLOAT FOR COVERING STORAGE BASINS
John O. Trimble, Havertown, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 1, 1958, Ser. No. 725,718
5 Claims. (Cl. 220—26)



1. A segmental float covering for a body of liquid, comprising a plurality of polygonal rectilinear-sided float units having adjacently positioned sides and meeting at a plurality of corner junctions in a symmetrical arrangement over the total area which is covered, each float unit being formed of vertically spaced bottom and top sheets connected on all sides by side walls, a light sheet-backing rigidifying buoyant liquid-excluding material filling the interior of said float units, the corners of said float units being truncated to leave free spaces at the junctions, a cover plate spaced above the float units over each open junction space, means loosely securing said cover plate to all of the float units at a junction to hold the units together, the sides of adjacent float units being spaced apart, and longitudinal strips disposed in the space between said sides, said strips being vertically narrow and in a single band to allow tilting movement between the sides of the float units.

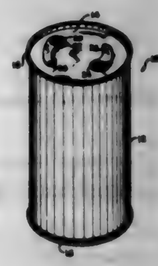
2,974,823
PRESSURE STEAM COOKERS
David Levin, 308 Lucerne Mansions, De Villiers St., Johannesburg, Union of South Africa
Filed Feb. 24, 1958, Ser. No. 717,154
Claims priority, application Union of South Africa Mar. 1, 1957
4 Claims. (Cl. 220—44)

1. A cover for a cylindrical cooking pot having an outwardly projecting rim, said cover comprising a top, a truncated inverted conical skirt projecting downwardly from said top and shaped to fit within the pot, an annular resilient seal on said skirt, extensible hasps attached to said top and shaped detachably to engage the rim of the pot, and a pressure relief valve in said cover comprising a ring-like sleeve, a slotted spring loaded piston valve slidably mounted in said sleeve, a guide in said cover and a pin slidable therein, said pin being positioned to



engage said rim and to make contact with said spring loaded piston valve whereby said valve is opened to relieve the pressure in said pot when the pressure causes said hasps to extend.

2,974,824
PUNCHED CAN
Etsuo Maesho, Box 746, Ewa, Hawaii
Filed May 4, 1959, Ser. No. 810,612
1 Claim. (Cl. 220—53)



A beverage can comprising, in combination, an elongated walled receptacle having end walls at each extremity, at least one of said end walls having outlet means for emptying the contents from the interior thereof, frangible closure means detachably closing said outlet means, said elongated walled receptacle comprising a substantially cylindrical side wall, a substantially flat end wall closing each opposite extremity thereof, and said outlet means comprising at least one substantially circular opening in one of said end walls spaced radially inwardly from said side wall, wherein said closure means comprises a substantially cup shaped closure having a cylindrical sidewall and a closure wall at one end, and a radially outwardly extending flange integral with the opposite end of said cup shaped closure member overlying said end wall, and solder interposed between said flange and said end wall detachably securing said closure member within said outlet means, wherein said flange comprises a radially outwardly tapered extension, said solder tapering toward a point in a direction toward the outermost extremity of said extension, and a crease line extending through said flange and said closure side and end wall in a direction transversely of the longitudinal axis of said flange extension.

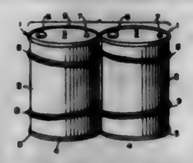
2,974,825
CONTAINER
Bruce Ross, Scarsdale, N.Y., assignor to J.E. Plastics Manufacturing Corp., Yonkers, N.Y., a corporation of New York
Filed Feb. 24, 1959, Ser. No. 795,169
1 Claim. (Cl. 220—69)

A closed end structure for a tubular cylindrically shaped container comprising a tubular wall of thin, flexible plastic material with an inner bead of hollow cross section stiffly resiliently deformable in cross section, said bead having a wall thickness exteremely small in comparison with the diameter of the bead and extending completely around the tubular member to define an opening through the end of the container, said bead curving gradually inward from the tubular wall to form a circumferential radially extending end wall and then curving axially inwardly to form a circumferential axial inner wall defining the minimum diameter of the opening and then curving toward the tubular wall to form an outwardly extending member having a radial width substantially greater than the thickness of the bead wall, a relatively rigid end cover carried and retained by said inner bead, said cover comprising a circular plate having an inner planar surface and an outer planar surface substantially throughout its outer face and an integral solid substantially rigid, locking flange on said inner surface, said flange being spaced inwardly from the periphery of the plate and having an inner side and an outer side with an outwardly facing wall and a wall facing said inner planar surface to form an outwardly facing



rigid-walled groove with said inner planar surface for retaining said bead in a circular cross section for a substantial portion of its inwardly extending length and having an inwardly tapering frusto-conical centering surface terminating at the free edge of the flange, the smallest planar cross-sectional diameter of said groove corresponding to the smallest planar cross-sectional diameter of said beaded opening defined by said axial inner wall of said container wherein the cover may be forcibly snapped into closed operative position, the resilient bead expanding into said groove with said circumferential radially extending end wall of said bead engaging said plate and the circumferential axial inner wall engaging said outwardly facing wall, said facing wall rigid in relation to said flange and plate and extending generally radially and spaced from the inner planar surface a distance corresponding approximately to the diameter of the bead and contacting the outwardly extending member of the bead at least a radial distance to press the outwardly extending member of the bead into a tighter configuration on the application of an extracting longitudinal force to interlock the end piece and the container wall firmly together.

2,974,826
CONTAINER CONSTRUCTION
Edward Martin, Chicago, Ill., assignor to Central Farm Equipment Company, Chicago, Ill., a partnership
Filed May 28, 1953, Ser. No. 738,426
5 Claims. (Cl. 220—72)



1. In a container embodying a substantially cylindrical-shaped body portion, two uniplanar rolling hoops extending around the periphery of said body portion in spaced relation to each other, the planes of said hoops being disposed at an acute angle to each other and diverging outwardly in opposite directions from the plane bisecting said acute angle, said last mentioned plane being perpendicular to the longitudinal axis of said body portion.

2,974,827
BOTTLE CARRIERS
David Levkoff, 8 Linford Road, Great Neck, N.Y., assignor of one-fourth to Evelyn S. Levkoff, one-fourth to Henry S. Levkoff, and one-fourth to Edith L. Sennet, all of Great Neck, N.Y.
Filed Aug. 23, 1957, Ser. No. 679,827
1 Claim. (Cl. 220—113)

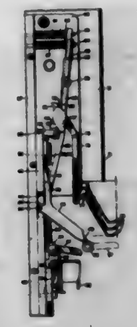


In a blank for forming a partitioned bottle carrier, a sheet member provided with a pair of spaced, transversely-extending score lines defining an area between them for a side wall of the carton, said area being provided at a lower end with a scored flap extension constituting a bottom closure flap for the carton, said area being provided near an opposite edge with a hand-hole and provided with a plurality of spaced slits, one of which extends from one of the transverse score lines to a point substantially at the center of said area, a second of the score lines having a second slit extending from it to the center of said area, the last of the slits being centrally positioned between the two first-mentioned slits and having its ends terminating short of the transverse score lines, a wing extending from one of the score lines and being transversely scored to divide it into a central partition member and an end wall section, the central partition member being provided with a hand-hole near one edge and being notched at its opposite edge and having a slot extending from the notch to a point near the hand-hole, a gummed area extending from the end of the slot to the adjacent edge of the central panel, an angularly slotted fastening strip at one end of the central partition member, a second side wall extending from the second score line, said second side wall having a hand-hole near its upper edge and a narrow flap above the hand-hole for downward fold to provide reinforcement above the hand-hole, said second side wall being slitted in the manner of the first side wall and being provided at its lower end with a scored flap extension forming a bottom closure flap for the carton, the second side wall having an extension foldable to form an end wall, and a handle reinforcing strip extending from one end of the second side wall and shaped to clear the hand-holes when it is folded to overlie the second side wall.

2,974,828
VERTICAL CHUTE DISPENSER
Russell E. Matteson, Morris, Ill., assignor to Diamond National Corporation, a corporation of Delaware
Filed Apr. 16, 1958, Ser. No. 728,987
8 Claims. (Cl. 221—221)

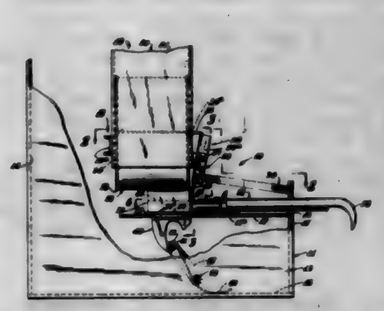
6. A dispenser for vertically stacked egg cartons and the like comprising vertically disposed storage chute means from which cartons will be vertically dispensed in a predetermined vertical path of travel, opposed dispenser mechanisms at lower portions of said chute means, said dispenser mechanisms comprising a slide supported for vertical displacement, a separator journaled on said slide and including a lower portion normally biased into the path of descent of articles being dispensed and displaceable therefrom, a support comprising a vertically disposed lever intermediately pivoted on said chute and including a lower article support portion normally biased out of the path of descent of the articles being dispensed and displaceable therebeneath, a pin lever intermediately pivoted on said chute and including a lower inwardly extending pin normally biased into the path

of descent of said articles and penetrable therethrough and displaceable out of said path of descent, cam bar means including a portion engageable with the lever of said support for affording movement therewith in one direction, means on the upper portion of said slide for



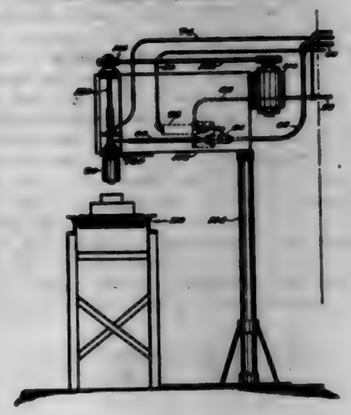
engaging said cam bar and for coordinating movement thereof with said support and pin lever, and an operating handle connected to said slide for displacing said slide vertically and including a portion for retaining the lower article support portion of said support inwardly for receiving a dispensed article thereon.

2,974,829
DISPENSING MACHINES FOR CANS AND OTHER CYLINDRICALLY SHAPED PACKAGES
Louis Steiner, 812 E. Park St., Long Beach, N.Y.
Filed Apr. 8, 1958, Ser. No. 727,166
4 Claims. (Cl. 221—251)



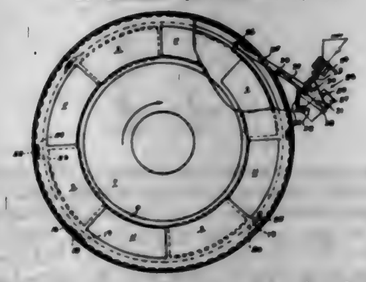
8. In combination, a casing having a bottom wall, side walls, and a rear wall, a front wall and a shelf extending rearwardly from the front wall and terminating short of rear wall, a vertical chute supported in the casing and above the shelf, a platform slidable on the shelf from beneath said chute, forwardly thereof, a pull handle connected to said platform, a rocker mounted for pivotal movement on a horizontal axis in front of said chute and located above the handle, said rocker having at its upper end, a pair of fingers extending rearwardly on opposite sides of the middle of the chute, said platform having a lug, a bar fixed to said rocker and engaging in back of the lug, spring pull means connected to the lower end of the rocker, tending to move the fingers on the rocker rearwardly into the chute, said platform, when it is beneath the chute, having its lug engaging the bar to swing the rocker against the pull of the spring, for keeping said fingers out of said chute.

2,974,830
MIXING DEVICE
Ralph Stedman Hood, Marblehead, Mass., assignor to Davidson Rubber Company, Charlestown, Mass., a corporation of Massachusetts
Filed Dec. 17, 1958, Ser. No. 781,067
16 Claims. (Cl. 222—135)



1. A device for measuring, feeding, mixing and intermittently dispensing predetermined quantities of a plurality of liquids comprising; a base element; a plurality of cylinders, one for each liquid to be mixed; a like plurality of pistons movable within said cylinders; means pivotally connected to said base element and operatively connected to said pistons for moving said pistons simultaneously a predetermined distance with said cylinders, said means including a lever arm and said pistons being adjustably connected to said lever arm; a plurality of reservoirs containing said liquids, one for each of said liquids; a plurality of first connecting means for said liquids, one connecting each said reservoir with one said cylinder; a mixing chamber; a plurality of second connecting means for said liquids, one connecting each said cylinder with said mixing chamber; and valve means operatively associated with said cylinders for causing flow of said liquid only into said cylinders from said reservoirs when motion of said pistons creates a pressure in said cylinders lower than the pressure in said reservoirs and only into said mixing chamber when motion of said pistons into said cylinders creates a pressure in said cylinders greater than the pressure in said mixing chamber.

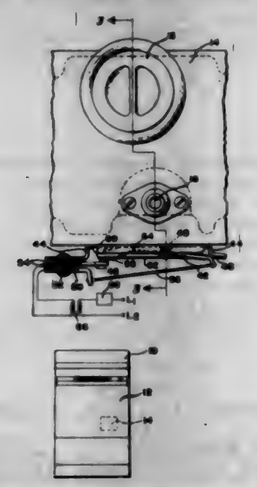
2,974,831
DOOR CONTROL MECHANISM
Lawrence E. Skeen, Springfield, Ohio, assignor to The Bauer Brothers Company, Springfield, Ohio, a corporation of Ohio
Filed Feb. 11, 1959, Ser. No. 792,648
13 Claims. (Cl. 222—171)



1. Closure apparatus for a revolving housing including a shell for fixed relation to the revolving housing

to form an extension thereof, a second shell contained in bearing relation to said first shell, circumferentially aligned openings in said shells of a similar nature, means containing said second shell for conjoint movement with said first shell and means for interrupting the movement of said second shell for predetermined intervals to automatically and selectively provide alignment of said openings or to relatively displace and thereby close said openings.

2,974,832
LIQUID DETERGENT DISPENSER FOR WASHING APPARATUS
Byron L. Bracken, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 6, 1956, Ser. No. 620,633
3 Claims. (Cl. 222—173)



1. A liquid detergent dispenser comprising, a receptacle having a storage chamber for said liquid detergent and a dispensing chamber, a check valve interposed between said storage chamber and dispensing chamber, a flexible diaphragm piston reciprocable within said dispensing chamber, an outlet passage connected with said dispensing chamber, a second check valve in said outlet passage, a diaphragm actuator abutting said flexible diaphragm for reciprocating the same, resilient means for moving said actuator in one direction, a single, straight metal wire connected between a fixed point and said actuator for holding said actuator against movement by said resilient means, said wire elongating upon heating to permit said resilient means to move said actuator to charge said dispensing chamber with liquid detergent from said storage chamber and contracting upon cooling to move said actuator against the bias of said resilient means to pump said liquid detergent from said dispensing chamber, and circuit means including a switch actuated by said wire for periodically passing an electrical current through said wire to periodically heat the same.

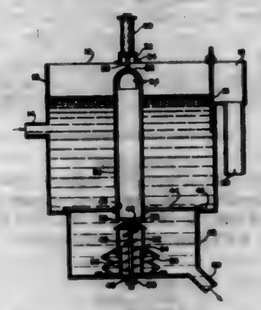
2,974,833
SELF-SEALING CONTAINER
Charles W. Heppenstall, Box 2325 Delray Beach, Fla.
Filed Jan. 6, 1958, Ser. No. 707,275
1 Claim. (Cl. 222—190)

A dispenser comprising a container, a cap for said container having a central dispensing aperture therein, an internal embossed portion surrounding the aperture in said cap, a valve seat having a central aperture, an intermediate circular shoulder portion and a peripheral flange, a ball valve normally seated over the central aperture in said valve seat, a hygroscopic element having a bore therethrough, said hygroscopic element being seated on the circular shoulder portion of said valve seat, the peripheral flange on said valve seat resting on the upper edge of said container, interengaging threads on said container and cap for forcing said hygroscopic element against said internal embossed portion of said cap in sealing engagement therewith, the circular shoulder por-



tion of the valve seat being in sealing engagement with the hygroscopic element and aligning the bore in the hygroscopic element with the central aperture in the cap, the bore in the hygroscopic element being of smaller diameter than the aperture in the cap, the cap and container being sealed by the engagement of the hygroscopic element and the embossed portion of the cap surrounding the aperture and by the engagement of the peripheral flange on the valve seat between the container and cap.

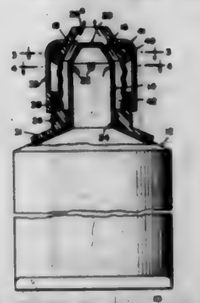
2,974,834
STOCK METER
James E. Foote, Westport, and Carl A. Snow, Stamford, Conn., assignors to Diamond National Corporation, a corporation of Delaware
Filed Sept. 15, 1959, Ser. No. 840,854
8 Claims. (Cl. 222—356)



1. A stock meter, comprising a reservoir adapted to contain liquid stock, means for maintaining the stock at a predetermined level within the reservoir, a tubular measuring receptacle mounted movably within the reservoir and having normally open upper and lower ends, means for vertically reciprocating the receptacle alternately between an emerged position in which its open upper end is elevated above the level of the liquid stock in the reservoir and a submerged position in which said end is lowered below the level of the stock, a discharge chamber mounted below the receptacle for receiving the liquid stock therefrom, a valve cooperating with the open lower end of the receptacle for closing said end when the receptacle is in its submerged position and opening said end when the receptacle is in its emerged position, and a flexible partition secured to both the receptacle and the reservior and extending between the reservoir and the discharge cham-

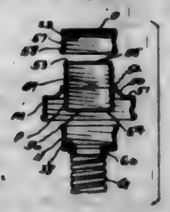
ber, said partition flexing during reciprocation of the receptacle and to maintain a liquid tight seal between the reservoir and the discharge chamber.

2,974,835
SELF-SEALING RECEPTACLE CLOSURE
Milton B. Herbrick, P.O. Box 486, Sterling, Colo.
Filed Feb. 12, 1959, Ser. No. 792,747
5 Claims. (Cl. 222—507)



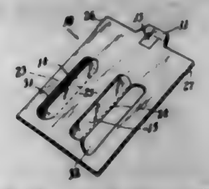
1. A sealing cap for attachment to a tubular discharge neck of a dispensing receptacle wherein said neck is closed across the outer end and has a laterally directed outlet located inwardly from said end, said cap comprising an elastic sleeve encasing the neck, means sealingly coupling an end portion of the sleeve to the inner end portion of the neck, a tapered outlet nozzle carried by the other end of the sleeve for sealing seating engagement upon the outer end of the neck at a position axially outwardly of said lateral outlet, a sleeve nut encasing the elastic sleeve for effecting elastic elongation of the sleeve for the unseating of said outlet nozzle from the outer end of the neck, means for coupling the inner end portion of the sleeve nut with the inner end portion of the neck whereby selective axial in-and-out movement may be imparted to the sleeve nut by its rotation, the sleeve nut at its outer end encircling the outlet nozzle, means forming a swivel coupling between the outlet nozzle and the said outer end of the sleeve nut, and means operating coincidentally with said sleeve elongation for separating the sleeve through a portion of its length from and radially with respect to the nozzle to form an annular chamber for receiving material from said laterally directed outlet.

2,974,836
GASOLINE AND OIL CONTAINERS
Gerald B. Gersten, 968 Kent Ave., Brooklyn 5, N.Y.
Filed Jan. 2, 1958, Ser. No. 706,664
4 Claims. (Cl. 222—539)



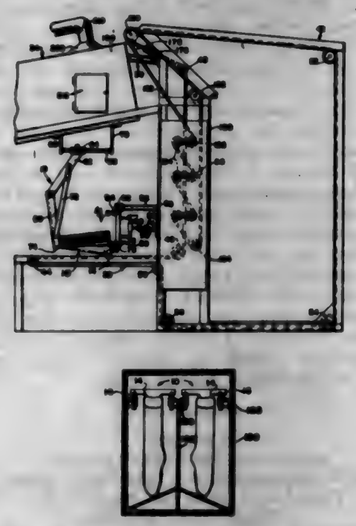
1. A liquid storage and dispensing container having a threaded outwardly projecting threaded spout opening having an outer edge bead and serving for filling and dispensation of liquid, said threaded opening having a cap, said cap having a downwardly projecting threaded cylindrical skirt with a beaded lower edge, said threaded skirt being screwed upon and over said threaded outwardly projecting spout opening, said spout also having a central upwardly projecting and converging frustro-conical tubular portion and said cap having a central double ended threaded sleeve projecting through the base of said cap and a reversible flexible pouring spout to be alternatively connected to the opposite ends of said threaded sleeve of said cap when inverted and received within the container, the threaded end cup of said pouring spout being adapted for connecting said spout to either end of said double ended sleeve.

2,974,837
SHIRT REINFORCING MEMBER
Floyd O. Boehmer, Kitchener, Ontario, Canada, assignor to A. & C. Boehmer Limited, Kitchener, Ontario, Canada
Filed Nov. 23, 1959, Ser. No. 854,835
9 Claims. (Cl. 223—71)



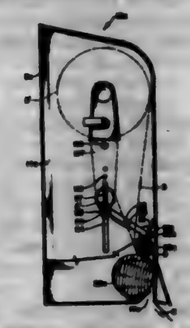
1. A shirt reinforcing member comprising a sheet having an upper collar engaging edge portion, side edges and a bottom edge, a pair of spaced integral elongated flap portions arranged substantially perpendicularly to the collar engaging edge portion and inwardly of the side edges, the flap portions having a separation throughout their longitudinal extent equal to at least the transverse extent of one of said flap portions, and said flap portions each having a hinge formation along their adjacent longitudinal edges.

2,974,838
SOCK PRINTING MACHINE, METHOD, AND ARTICLE
Lee R. Parham, Franklinville, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Dec. 27, 1956, Ser. No. 630,795
29 Claims. (Cl. 223—76)



1. In apparatus for forming dyed designs on tubular-fabricated textile articles mounted on flat inserts of the type having a central article receiving portion and transverse handling portions extending outwardly on opposite sides thereof, the combination comprising: means for conveying a series of insert-mounted tubular-fabricated textile articles along a predetermined path, said conveying means including transversely spaced portions, each of said transversely spaced portions including means for engaging one of the opposite ends of the transverse handling portion of the inserts, a plurality of rolls along said path between said spaced conveying means portions for printing a dye in design form on said articles, means along said path for drying the printed design on the articles, means along said path for steam aging the dried printed design on the articles, means along said path for washing the steam aged articles, and means along said path for drying the washed articles.

2,974,839
DISPENSERS FOR PAPER TOWELING
George X. Batlas, 21—47 35th St., Astoria, N.Y., and Stephen Baranski, 31 Norfolk St., New York, N.Y.
Filed July 16, 1958, Ser. No. 748,965
19 Claims. (Cl. 225—12)



1. A dispenser for continuous sheet material comprising a cabinet having a discharge slot, means within said cabinet for supporting two sources of sheet material, two rollers in rolling contact with each other in said cabinet and between which the sheet material from one of said sources initially passes prior to projecting from the cabinet through said discharge slot so that said two rollers are rotated in response to the withdrawal of the sheet material from the cabinet, a third roller mounted for movement toward and away from one of said two rollers, and means for displacing said third roller relative to said one roller, said displacing means being operative to hold said third roller spaced substantially from said one roller so long as a predetermined amount of sheet material remain in said one source so that the sheet material from the other source can then remain immobile between said one roller and said third roller, and to move said third roller against said one roller when the sheet material in said one source decreases beyond said predetermined amount so that the sheet material from the other source is then frictionally engaged by said one roller and said third rollers and thereby fed between said two rollers with the sheet material from said one source to project the sheet material from said other source through said discharge slot for withdrawal from the cabinet.

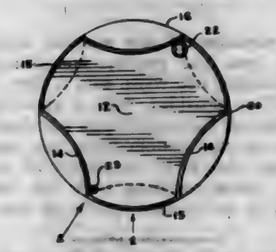
2,974,840
MOTION PICTURE PROJECTOR
Rudolf Kuhnert and Horst Stubenke, Dresden, Germany, assignors to VEB Kamera- und Kinowerke Dresden
Filed Oct. 24, 1957, Ser. No. 692,179
Claims priority, application Germany Dec. 28, 1956
1 Claim. (Cl. 226—49)

A motion picture projector including picture projecting means, means for driving a film strip through said picture projecting means including at least one oscillating actuating gripper, selecting means enabling the operator to determine the direction of film strip movement caused by said drive means, positioning means to maintain the film strip in correct alignment with the optical axis of said picture projecting means when the direction of movement of the film strip is caused to reverse by operation of the selecting means, said positioning



means including means for adjusting the position of the supporting axis of the actuating gripper, a control arm selecting the direction of movement of the drive means and connecting means coupling the control arm and the adjusting means whereby upon selection of the direction of movement of the film strip, the position of the supporting axis of the actuating gripper will be determined.

2,974,841
SHIPPING CONTAINER
Oscar J. van Leer, Barrington, Ill., assignor to Grotnes Machine Works, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 28, 1959, Ser. No. 807,435
Claims priority, application Netherlands Aug. 26, 1958
6 Claims. (Cl. 229—1.5)



1. A shipping container having end walls and a generally cylindrical side wall capable of nesting side-by-side with similar containers without loss of space in between, the side wall being characterized by the fact that in at least four transverse sections substantially equidistant from one another the wall forms a hexagon consisting of convex arcs centered on the container axis alternating with concave arcs of substantially the same radius of curvature, at least two of the cross sections being twisted through an angle of 60° and with a smooth transition of the wall between alined sides of adjacent hexagons.

2,974,842
EGG CARTON
Richard F. Rellers, Westport, Conn., assignor to Diamond National Corporation, a corporation of Delaware
Filed May 13, 1958, Ser. No. 734,949
11 Claims. (Cl. 229—1.5)



1. In a carton, a bottom having upstanding walls and a cover therefor having downwardly extending inward-

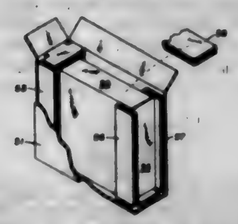
ly-deflectable walls, said bottom and cover having contacting faces on generally horizontally extending marginal peripheral flanges providing a force transmitting path from said cover to said bottom, book means on the peripheral flanges at opposite sides thereof to secure said cover to said bottom, said hook means comprising a projection extending from and normal to the face of one flange, said projection having a slot opening toward the interior of said carton from an inner face thereof, said slot portion having an upper edge line in the plane of the contacting face of said one flange and having a width to receive said other flange therein, said other flange having a portion forming a hole therein through which said projection is removably received, said slot portion lockingly engaging over an inner marginal edge portion of said hole and being further urged into such engagement by the application of lateral pressure on the inwardly-deflectable walls of said cover adjacent said one flange.

2,974,843
FOOD CONTAINER
Richard F. Reifers and Roger Wells, Stamford, Conn., assignors to Diamond National Corporation, a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,495
18 Claims. (Cl. 229—2.5)



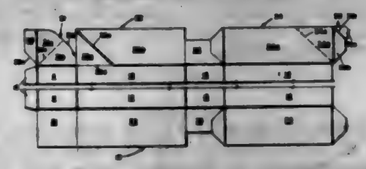
1. A food container of pulp material adapted for the packaging of meat and poultry, comprising a bottom wall and upstanding side walls, said bottom wall having an upper surface provided with a plurality of cylindrical cups therein, said cups being distributed over the entire surface of said bottom wall, said cups being of such shape and size as to be capable of mechanically trapping any juices resulting from the food product stored therein by the surface tension of said juices.

2,974,844
PACKAGING SUPPORT
Don R. Lane, Dallas, Tex., assignor to Lane Container Company, Dallas, Tex., a corporation of Texas
Filed Feb. 15, 1960, Ser. No. 8,830
10 Claims. (Cl. 229—14)



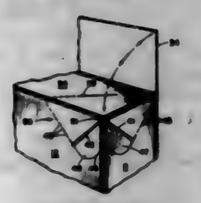
1. A shipping pad comprising a flat rectangular corrugated sheet with flaps extending the full length of edges thereof and hingedly depending from such edges, multilayer corrugated pad elements secured to flaps hinged to adjacent sides of said sheet, one of said pad elements corresponding in length with its associated flap and aligned therewith along the free edge thereof but overlapping a predetermined distance the juncture between said sheet and said associated flap, the other of said pad elements being aligned with its associated flap along the free edge thereof and extending beyond each end of its associated flap and beyond the juncture of said sheet and its associated flap by distances of the order of the combined thicknesses of said pad element and said sheet.

2,974,845
CARTON HAVING FOUR SPOUT WITH RECLOSURE
Glenn E. Struble, Hamilton, Ohio, assignor to Diamond National Corporation, a corporation of Delaware
Filed May 19, 1959, Ser. No. 814,294
4 Claims. (Cl. 229—17)



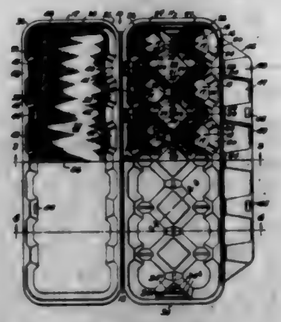
1. In a carton having a bellows type reclosable pour spout, an end wall and a pair of opposed side walls, a bellows flap having one edge thereof integral with the top margin of said end wall and foldably joined thereto about a fold line at the top of said end wall, said bellows flap extending into said carton and being reversely folded about a fold line extending diagonally from a corner of said carton, a securing flap integral with said bellows flap and reversely folded with respect thereto about a fold line overlying said first mentioned fold line, a first top flap integral with one said side wall and secured to the upper surface of said securing flap, a second top flap integral with the other side wall and secured to the upper surface of said first top flap, said first and second top flaps each having a score therein extending diagonally from said corner of the carton, the scores in said first and second top flaps being vertically juxtaposed, said securing flap having a free edge opposite said third mentioned fold line between said third fold line and a plane extending through said vertically juxtaposed scores, said second top flap and other side wall including a perforated linear portion extending therebetween from one end of said diagonal scores in said top flaps to the intersection between said end wall and said other side wall, said first top flap including an ear foldably connected transversely to one end thereof and removably secured in juxtaposition on the outside of said end wall.

2,974,846
CARTON WITH RECLOSING FOUR SPOUT
Glenn E. Struble, Hamilton, Ohio, assignor to Diamond National Corporation, a corporation of Delaware
Filed May 19, 1959, Ser. No. 814,292
12 Claims. (Cl. 229—17)



7. A carton having a reclosable pour spout comprising an end wall and a side wall; a first top flap integral with said side wall and a second top flap integral with said end wall, said side wall, end wall and top meeting at a triplanar juncture, a line of perforations in said side wall extending diagonally from a point on the upper margin thereof removed from said juncture towards but short of the corner between said side and end walls, a line of perforations in said end wall extending diagonally from a point on the upper margins thereof removed from said juncture towards but short of said corner, a cut in said end and side wall connecting the lower ends of said lines of perforations, a diagonal score in each of said side and end walls extending from said juncture to said cut, a score in said first top flap extending between said points on the upper margins of said side and end walls, said second top flap having a free edge underlying said score in said first top flap, whereby to define a triplanar corner closure lid section, and a pair of throat panels within said carton, one adjacent each said end and side panels and positioned to be exposed upon movement of said corner closure lid section as a unit on said score in said first top panel.

2,974,847
PACKAGES OR CARTONS FOR EGGS AND OTHER FRAGILE ARTICLES
Basil Albert Hurn, Norwich, and Gerald Arthur Rudd, Carton, near Lowestoft, England, assignors to Diamond National Corporation, a corporation of Delaware
Filed Sept. 17, 1958, Ser. No. 761,571
Claims priority, application Great Britain Oct. 24, 1957
7 Claims. (Cl. 229—2.5)



1. A molded pulp egg carton for holding eggs of a predetermined range of sizes out of contact with a cell bottom, said carton comprising a multi-cell tray portion and a lid having a top and an underside for engaging the upper end portions of eggs contained within the cells of said tray, said cells including a transverse bottom and upwardly diverging side walls, the side walls of each cell of said tray being so steeply inclined to the vertical and so closely spaced to each other so as to support each egg above and out of contact with the cell bottom and with the very top portion of the egg in contact with the underside of said lid so that all eggs of a given range of sizes are engaged at four points out of contact with said transverse cell bottom, one of said four points coinciding with the top of the egg, and the underside of said lid, three of said four points being relatively high on the inner side of said side walls substantially above said transverse cell bottom, said lid being further characterized in that it has a major flat area for contacting the top of each egg and a raised rim along each of two sides thereof.

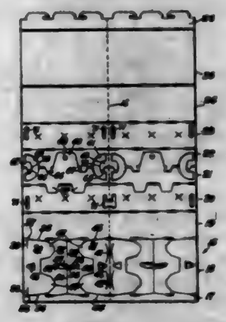
2,974,848
CARTON
Francis W. Fielding, New Orleans, La., assignor to Longfield Brothers Inc., New Orleans, La., a corporation of Louisiana
Filed Feb. 1, 1960, Ser. No. 3,936
6 Claims. (Cl. 229—27)

1. A carton for holding articles of different sizes comprising a generally rectangular sleeve having foldably connected top, bottom and side walls, a cross partition extending between the side walls intermediate the top and bottom walls, the cross partition extending only partially across the width of the sleeve at one end thereof to receive an article between the bottom wall and cross partition, the sleeve receiving a second article



longer than the first named article between the bottom and top walls of the sleeve at one end of the cross partition, and flaps foldably connected to the top and bottom walls, the cross partition and at least one of the side walls to hold articles in the sleeve.

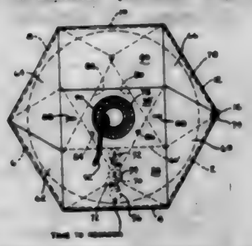
2,974,849
HAND SET-UP CARTON
Vernon E. Swanson, Chicago, Ill., assignor to Diamond National Corporation, a corporation of Delaware
Filed Mar. 24, 1959, Ser. No. 801,542
14 Claims. (Cl. 229—28)



1. A blank for a paperboard egg carton comprising in order, a glue flap, a cross partition panel, a front wall panel, a bottom panel, a pair of longitudinal partition panels, a second bottom panel, a back wall panel, a cover panel and a tuck flap, all separated by fold lines, said cross partition panel having at least one unit of cross partitions comprising two full depth cross partitions having two shallow depth cross partitions therebetween, one of said full depth partitions being severed from the glue flap and the front wall panel by cuts extending from a point spaced a short distance inwardly from a lateral margin of said unit, a score line extending from each said point substantially transversely of said full depth cross partition approximately one-sixth of the width of said full depth cross partition, the other of said full depth partitions having a lateral margin thereof comprising a pair of spaced arcuate cuts, each full depth partition having a triangular aperture in the upper part thereof and a pair of spaced extending lugs, said shallow cross partitions each having a lateral margin extending transversely of said cross partition panel and an angled slot having one leg thereof substantially perpendicular and interrupting said lateral margin, said leg of one said shallow partition being off center with respect to said one shallow cross partition and having a margin of said

leg approximately in the center of said shallow partition, the other of said shallow cross partitions having a transversely extending ear at said shallow partition transverse margin extending towards said glue flap, said pair of longitudinal partition panels having at least one unit therein comprising a generally C-shaped opening adjacent each end thereof, said C-shaped openings each facing outwardly of said unit and each having a tab centrally thereof, each said tab having a cut extending from a margin to the fold line between said longitudinal partition panels, a pair of inwardly sloping noses cut from a first longitudinal partition panel and integral with a second such panel and a relatively larger hump cut from the second panel and integral with the first such panel and lying in said unit between said noses, said tabs being in alignment with said triangular apertures and said hump being in alignment with said angled slots and having a hole therethrough in alignment with said ear, said bottom panels each having a transverse slot therein adjacent the lateral sides of said unit, and one of said bottom panels having a foot cut therefrom and integral with the adjacent longitudinal partition panel.

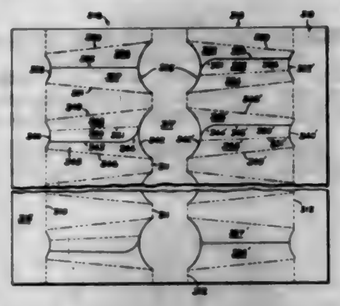
2,974,850
COMBINED SHIPPING CONTAINER AND DISPENSING RECEPTACLE
Louis Mayer, Jackson Heights, N.Y., assignor, by mesne assignments, to Owens Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed May 10, 1954, Ser. No. 428,551
3 Claims. (Cl. 229—37)



1. A combined shipping container and dispensing receptacle comprising a plurality of side walls, means connected to said side walls for covering the bottom of said container, and flaps secured to the upper edges of said side walls and extending substantially perpendicular thereto, two opposing flaps having lengths greater than half the distance between the side walls to which they are respectively attached so as to overlap one another when folded perpendicular to their respective side walls, said last mentioned flaps having scorelines in their portions adapted to overlap which circumscribe areas adapted to be punched out from said flaps, said flaps being adapted to be secured together in overlapping condition with their respective punch-out areas at least partially in registration, the other flaps closing the remainder of the top of said container, when folded perpendicular to their respective side walls, adapted to be positioned under and in engagement with said two opposing flaps, and having size and shape such as, when thus folded, to leave open the space beneath the registering portions of said punch-out areas, said flaps collectively defining a flat cover completely closing the top of said container.

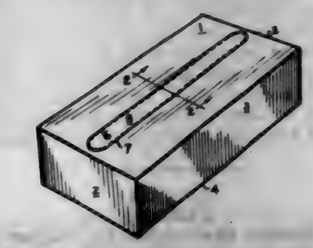
2,974,851
CARTONS
Glenn E. Struble, Hamilton, Ohio, assignor to Diamond National Corporation, a corporation of Delaware
Filed Dec. 2, 1957, Ser. No. 700,884
4 Claims. (Cl. 229—40)

1. A blank for forming a tubular carton to display fragile articles in a row with portions protruding from the carton, comprising a generally rectangular sheet of foldable material including upper and lower edges and opposed side edges, four parallel transverse score lines extending between said opposed side edges and defining between the upper and lower edges a top, first side, bottom, second side, and glue-flap panel in the order set forth, transverse cut lines extending in the direction of and along said four parallel score lines, said cut lines being disposed in opposed pairs at opposed marginal portions of the first and second side panels, longitudinally disposed cut lines in said side panels and extending diagonally between and intersecting each pair of said opposed transverse cut lines, pairs of transversely spaced and longitudinally extending score lines extending from terminal ends of said opposed pairs of transverse cut



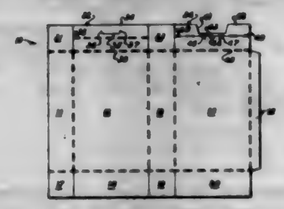
lines, said opposed pairs of transverse cut lines, diagonal cut lines, and pairs of transversely spaced score lines defining longitudinally extending adjacent pairs of foldable flaps, said diagonal cut lines in the side panels being off-set with respect to each other and said adjacent flaps of a pair in each of said side panels including one flap having a larger area than the other and generally tapering from end to end, the flap in one of said side panels having the larger area being disposed in opposed relation to the flap having a lesser area in the other side panel whereby in an erected blank forming the container, the lesser area flap will be overlapped by a larger area flap when said overlapping flaps are disposed transversely of said top and bottom panels and inwardly of said side panels.

2,974,852
DISPENSING CARTON
William S. Haas, Appleton, and Morris W. Kuchenbecker, Neenah, Wis., assignors, by mesne assignments, to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 24, 1957, Ser. No. 667,540
2 Claims. (Cl. 229—51)



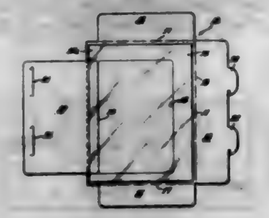
1. Means for providing through the wall of a paperboard carton an access opening to the interior thereof comprising a closed line of perforations defining and bounding a wall portion and providing a line of weakness along which said portion is separable from adjacent wall portions to provide said opening, said perforations being impressed into the wall from the exterior of the carton, and a continuous closed cut score in said adjacent wall portions outwardly of said perforations and immediately adjacent the line of perforations and impressed into said wall portion from the exterior of the carton and extending only partially through said portions, said cut score defining a removable wall portion and serving to prevent stripping of the exterior surface of the carton beyond the boundary presented thereby upon rupture of the carton along said perforations.

2,974,853
EASILY OPENED AND RECLOSED CARTON
Glenn E. Struble, Hamilton, Ohio, assignor to Diamond National Corporation, a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,790
8 Claims. (Cl. 229—51)



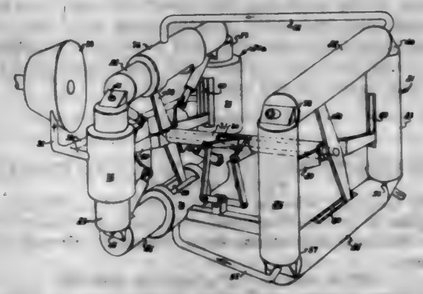
1. A readily opened and reclosable sealed end carton comprising a bottom, ends, sides and a top, said top comprising a first flap connected to one side and extending substantially to the other side of the carton, a second flap connected to said other side of said carton and having a first part extending toward said one side and a second part connected thereto by a pair of spaced and aligned lines of perforations, said line of perforations extending substantially parallel to the carton sides, said second part being between the first part of said second flap and the part of said first flap adjacent the free edge thereof, means adhesively securing said second part and said first flap, an indentation in the central region of the free edge of said second part, a slit extending between and aligned with the said lines of perforations, a pair of slits in said first part of said second flap extending from the ends of said first mentioned slit towards said other side to thereby define a tab in said first part of said second flap, and a slit in said first flap in registry with the indentation in said second part of said second flap and the tab in said second flap.

2,974,854
RECLOSABLE CARTON
Marion F. Moore, Downers Grove, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 17, 1957, Ser. No. 665,944
1 Claim. (Cl. 229—37)



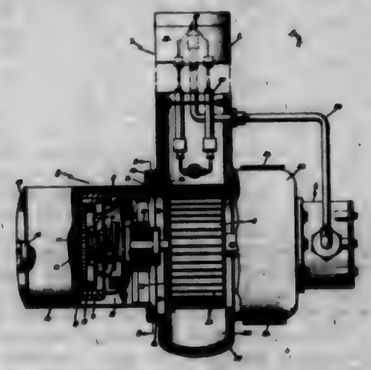
A recloasable, no-depth carton formed from a single blank of foldable paperboard cut and creased to provide a rectangular front wall panel, a rectangular back wall panel cut from the front wall panel along three sides to form a window opening, the back wall panel having its attached edge hingedly connected to the front wall panel along a fold line spaced from and generally parallel to one edge of the front wall, the outer free edge of the back wall panel being spaced from the other edge of the front wall, the material between such back wall free edge and the adjacent outer edge of the front wall panel constituting a "bottom strip" for the carton, a bottom edge closure flap hinged to the outer edge of the bottom strip, a side edge closure flap hinged at each of the sides of the front wall panel and each having a length in a direction normal to its hinge line such that, when infolded, a portion of its edge will be in overlapping relation to a side edge of the back wall panel, and each side edge closure flap having an extent parallel to its hinge line comparable to but not greater than the space between the back wall panel hinge line, if extended, and the bottom edge closure flap hinge line, whereby, when the side flaps are folded against the front wall panel, the back wall panel and bottom edge closure flap may thereafter be folded to lie against a portion of the outer surfaces of the side closure flaps, the bottom edge closure flap being of an extent sufficient to overlap a portion of the outer free edge of the back wall panel, means for releasably securing the back wall panel and bottom edge closure flap together, and a transparent, flexible sheet secured to the front panel over the window opening on the surface of the front panel which the back panel faces when in closed position, such transparent sheet having an extended edge portion folded to lie against the adjoining portion of the transparent sheet when the carton is closed and such edge portion being secured to the inside surface of the back wall panel along its hinge connection with the front wall panel.

2,974,855
SQUARE FREE PISTON ENGINE
Berry W. Foster, 25788 E. Manning Ave., Orange Cove, Calif.
Filed Sept. 23, 1957, Ser. No. 685,641
7 Claims. (Cl. 230—56)



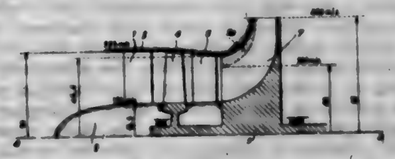
1. A free-piston engine, comprising four cylinders arranged as the sides of a parallelogram and connected at the corners thereof by combustion chambers; air intake and air exhaust passages leading to the cylinders; free-piston means in said cylinders for alternately compressing air toward each end of the cylinders; a pair of levers pivoted at the center of the parallelogram and connected at their outer ends to the piston means of parallel cylinders; a rocking shaft connected to each said lever and synchronized 180° out of phase, so that the piston means closest to each combustion chamber move symmetrically toward each other and away from each other to produce rocking shaft power, said levers and rocking shafts following said free-piston means with free oscillations whose amplitude varies with the engine gas pressure; and fuel injectors at said combustion chambers actuated when the associated piston means are closest thereto.

2,974,856
FLUID FUEL BURNER ASSEMBLY
Richard E. Seely, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Oct. 31, 1956, Ser. No. 619,590
5 Claims. (Cl. 230—117)



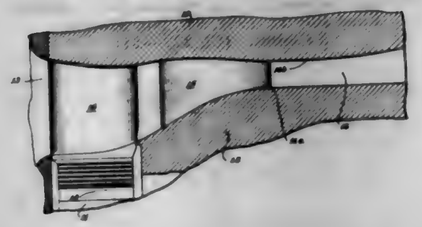
1. In a fluid fuel burner, a housing forming a motor cavity and a fan cavity with an opening formed therebetween, an electric motor mounted in said motor cavity, said motor comprising a stator and rotor, a fan arranged in said fan cavity for feeding fluid to a fuel burner, means connecting said rotor to drive said fan, said fan including a radially extending disc of heat conducting material positioned adjacent said opening to define one end of said motor cavity and a plurality of fluid moving blades located adjacent the side of said disc remote from said motor cavity, said disc having at least one radially extending projection formed on its side facing said motor, said fan cavity having at least one fluid outlet passage in communication with the periphery of said blades and leading to the fuel burner and further having at least one fluid inlet passage, and said housing totally enclosing said motor and said fan except for said inlet and outlet passages with said disc being in free communication with said motor for transferring heat away from said motor and said motor cavity to cool said motor during operation thereof.

2,974,857
AIR COMPRESSOR WITH AXIAL AND RADIAL-FLOW STAGES
Pierre Georges Schwaar, Dammarie-les-Lys, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a French company
Filed June 4, 1957, Ser. No. 663,485
Claims priority, application France June 11, 1956
1 Claim. (Cl. 230—119)



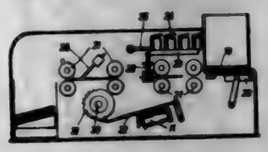
A multi-stage air compressor comprising, in succession along the air flow path, axial flow rotor blades, a stator ring of guide vanes, and a radial-flow stage with an axially directed intake end, said axial flow rotor blades having differing aerofoil shapes at different radial levels thereof, the aerofoil shapes at the root and tip of said blades being respectively consistent with subsonic and supersonic relative flow conditions, said blades having in addition a spanwise twist consistent with an increasing pressure ratio from root to tip, said stator ring of guide vanes having differing aerofoil shapes at different radial levels thereof, the trailing-edge angle of said vanes being substantially zero at the inner portion thereof and having a positive value at the outer portion thereof.

2,974,858
HIGH PRESSURE RATIO AXIAL FLOW SUPERSONIC COMPRESSOR
John K. Koffel, Cleveland Heights, Ohio, and Charles A. Lindley, Sierra Madre, Calif., assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Dec. 29, 1955, Ser. No. 556,337
7 Claims. (Cl. 230—120)



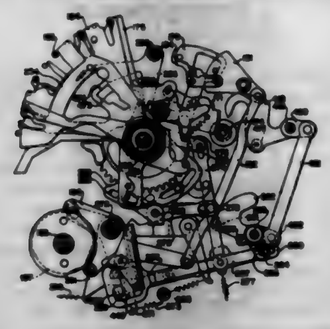
1. In combination in a supersonic compressor, a rotor having a peripheral surface spaced from an annular internally facing casing surface by a plurality of radially extending rotor blades and a stator comprising an annular passage coaxial with said rotor and having a plurality of radially extending stator blades therein, first means directing inlet fluid to said rotor blading at a velocity relative thereto above Mach 1, said rotor blades having a turn in excess of approximatley 10° along their axial length and a degree of fluid channel area expansion in the downstream direction less than 3%, whereby fluid entering said rotor leaves said rotor traveling at a velocity relative to said stator above a velocity of Mach 1 and having a vectorial movement in the same direction as the rotation of said rotor, said stator having a blade inlet relative velocity above Mach 1 and said stator blades likewise having a turn in excess of approximately 10° along their axial lengths whereby the fluid leaving said rotor blades is turned to the axial direction by flow between adjacent blades, second means associated with said stator for diffusing the fluid flow between the blades thereof to a velocity of Mach 1 and third means associated with said stator for subsequently simultaneously substantially turning and diffusing said flow subsonically without introducing flow separation.

2,974,859
RECORD TAPE CONTROLLED PUNCHED CARD MACHINES
Michael Maul, Hindenburgstrasse 68, Schwabach, near Nurnberg, Germany
Filed May 1, 1957, Ser. No. 656,294
Claims priority, application Germany June 1, 1956
6 Claims. (Cl. 234—34)



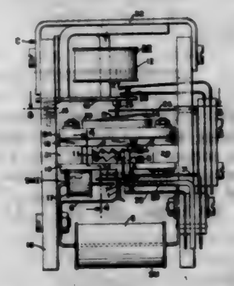
6. In a record tape controlled machine, means operating upon record cards under the control of said record tape, a tape section being associated to each record card and wherein tape sections and associated record cards are automatically fed one by one through the machine, tape and card having characters represented by index marks thereon, each character being represented in a record column comprising a plurality of index mark positions, analyzer means for the tape section, means operating upon the card and cooperating with said analyzer means, means for feeding the card in longitudinal direction of the record columns past a row of said operating means arranged transverse of the feeding direction and having an operating means including a single punch and an associated selector magnet, and a verifier analyzer for each perforation column, said operating means of a column being common to all hole positions of the column so that the card is passing the row of operating means with all record columns simultaneously but hole position row by hole position row, means for analyzing the record tape section repeatedly in longitudinal direction of the tape in successive analyzing cycles while the record tape section is kept stationary, the record tape containing the record columns perpendicular to the longitudinal direction of the record tape so that the rows of like index mark positions for adjacent record columns are arranged in said section in longitudinal direction of the record tape and that accordingly a column by column analysis is effected in each analyzing cycle, the index mark positions of at least one row of index positions being analyzed one by one, a separate analyzing cycle for the record tape section being effected for each row of hole positions of the card and synchronously with the successive presentation of the rows of hole positions of the card at the operating means, and means for controlling in each analyzing cycle always through the same record columns of the tape section the operating means for the same record columns of the card through the analyzing device for the record tape.

2,974,860
BALANCE TOTALIZER CONTROL MEANS FOR CASH REGISTERS AND ACCOUNTING MACHINES
Frank R. Werner, John M. Jackson, and Robert F. Wooster, Dayton, Kenneth C. Flint, West Carrollton, and Charles W. Topper, Centerville, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Mar. 9, 1956, Ser. No. 570,442
6 Claims. (Cl. 235—7)



5. In a machine of the class described, constructed and arranged to perform multiple-item transactions, including both positive and negative amount items, and a final net total operation, the combination of a balance totalizer including a plus side to accumulate positive items, a minus side to accumulate negative items, and means interconnecting the two sides to cause each additive entry on one side to effect a corresponding subtraction from the other side; means to determine the amounts to be entered into the plus side or the minus side of said totalizer; a plurality of control keys for initiating positive and negative itemizing operations; a total key for initiating a total-taking operation; a totalizer shifting detent positioned in operative relation to said total key for coaction therewith to select the proper side of the balance totalizer in a total-taking operation; a control detent shiftable between a first position and a second position in which it is positioned in the path of movement of the total key to be shifted by depression of the total key to shift the totalizer shifting detent to cause the totalizer shifting detent to select the minus side of the balance totalizer upon depression of the total key; means on the totalizer shifting detent to cause said totalizer shifting detent to select the plus side of the balance totalizer upon depression of the total key when the control detent is in its first position; and means responsive to an overdraft of the balance totalizer for shifting the control detent from one of said positions to the other.

2,974,861
ACCUMULATOR AND COUNTER MECHANISM
Walter Scheerer, Sindelfingen, Germany, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 20, 1958, Ser. No. 775,292
5 Claims. (Cl. 235—92)

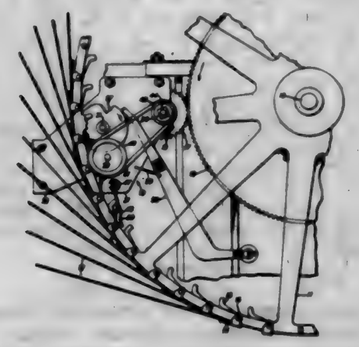


1. In a step-by-step accumulating mechanism, an elongated rotary axially reciprocable member, detent means projecting radially on one side of said member, means for journalling said member, said means having a plurality of oppositely disposed ratchet teeth adapted to be alternately engaged by said detent means at the opposite ends of its reciprocation for imparting step-by-step rotary motion to the member, electromagnetic actuating means for moving said member in one direction, yieldable means for returning said member to an initial position, an emitter having relatively movable contact means actuated by said member, and means including biasing means and additional electromagnetic means selectively operable to restrain said biasing means for actuating said contact means to effect separation thereof during rotation of the member. .

2,974,862
DIFFERENTIAL COUNTER
Robert N. Eichorn, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 14, 1957, Ser. No. 678,184
6 Claims. (Cl. 235—98)

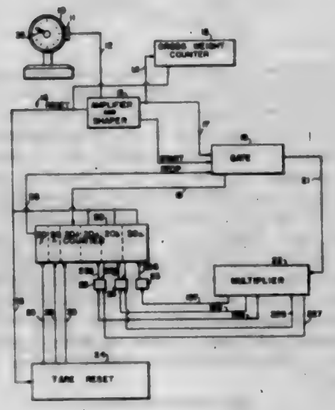
1. A differenial mechanism comprising an escapement mechanism including an escape wheel and an escape latch for controlling step by step movement of said escape wheel, continuously running driving means frictionally urging said escape wheel for movement, a differential mechanism having first and second input drives and an output drive equal to the relative difference in motion between the first and second input drives, means con-

necting said continuously running driving means to the first input drive of said differential mechanism, means connecting said escape wheel to the second input drive, and means for controlling said escape latch to permit controlled intermittent operation of said second input drive



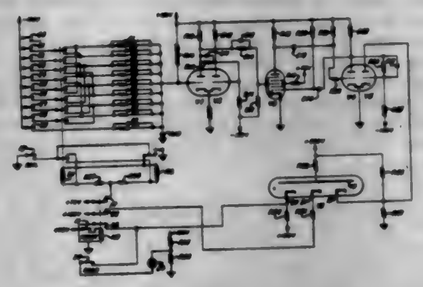
to vary the operation of said output drive, said last named means including a camming means operated by said continuously running driving means for restoring said escape latch each time it effects a operation of said second input drive.

2,974,863
ELECTRONIC TARE SUBTRACTING COUNTER
Roger B. Williams, Jr., and Robert E. Bell, Toledo, Ohio, assignors, by mesne assignments, to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 31, 1957, Ser. No. 693,580
6 Claims. (Cl. 235—151)



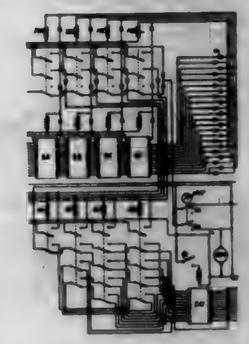
1. In a system of the class described, in combination, a source of electrical pulses providing a series of pulses equal in number of the sum of a known number and an unknown number, a counter, means for presetting the counter to the complement of the known number, a multiplier for producing a selected number of pulses for each received pulse, means connecting the multiplier to the counter, and a gating circuit, said gating circuit being connected to direct pulses from said source to said counter until said counter reaches capacity and then to direct pulses to said multiplier, whereby the final count in said counter corresponds to the unknown number of pulses as multiplied by the multiplier.

2,974,864
ERROR DETECTING DEVICE
David W. Kean, Sunnyvale, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 8, 1954, Ser. No. 411,197
6 Claims. (Cl. 235—153)



4. A device for indicating if data is entered into a machine correctly, comprising an input switching means, a normally inoperative pulse generator arranged to produce pulses at a predetermined frequency when operative, means responsive to the input switching means for rendering said generator operative for a period of time corresponding to the identity of the entered data, said means being alternately responsive to the input switching means for successive entry of similar data to render said generator operative for a second period of time, means for determining the sum of the pulses generated in response to entered data, and means for indicating a lack of correspondence between said sum and a fixed quantity associated with the entered data, whereby such an indication denotes that the data was entered incorrectly.

2,974,865
CHECK SYMBOL COMPUTERS
Theodorus Reumerman, 12 Zandvoortselaan, Zandvoort, Netherlands, and Willem H. T. Helmig, 9 Van Slingelandtlaan, Leiden, Netherlands
Filed Dec. 18, 1957, Ser. No. 783,531
7 Claims. (Cl. 235—153)



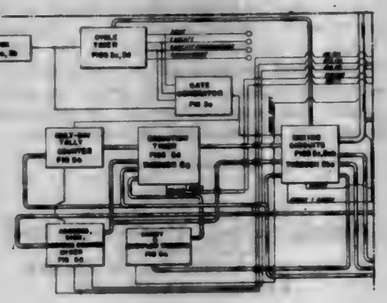
1. In combination, an input unit comprising common symbol entering means for the digits of a number and for a check symbol that may accompany a number, a switch unit connected with said symbol entering means, consisting of a plurality of switches and adapted to compute from the value a_i of a symbol entered through said symbol entering means a new check value

$$p_i = R_N(10p_{i-1} + t.a_i)$$

wherein t is a constant factor, p_{i-1} is the check value

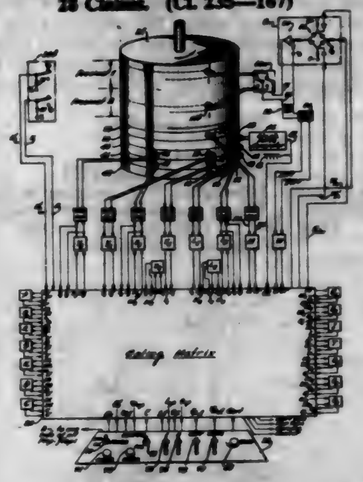
previously computed by said switch unit, N is a fixed key value, and R_N is an operator denoting that the remainder on division by N should be taken, a main register registering the new check value p_i and supplying the same to said switch unit before the next symbol is entered, an auxiliary register, switching means providing for two alternate modes of operation of said auxiliary register, such that the value registered in said auxiliary register is equal to the value registered in said main register for one position of said switching means, and that the value of the last symbol that has been entered is registered in said auxiliary register for the other position of said switching means, a calculating unit comprising means for computing from the check values of a plurality of numbers of the check value of the result of an arithmetical operation applied to the said numbers, means for transmitting the value registered in said auxiliary register to said calculating unit, and means operative in said last-mentioned position of said switching means for preventing the transmission of the value registered in said auxiliary register if the value registered in said main register is unequal to zero.

2,974,866
ELECTRONIC DATA PROCESSING MACHINE
Jerrier A. Haddad, Binghamton, Richard K. Richards, Poughkeepsie, Nathaniel Rochester, Wappinger Falls, and Harold D. Ross, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 30, 1954, Ser. No. 419,642
12 Claims. (Cl. 235—157)



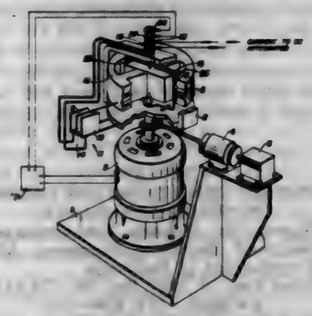
1. In an electronic data processing machine, including means to produce a transfer on zero operation comprising, in combination, an addressable memory including read-in means for storing a program of instructions at selectable addresses therein and read-out means for reading out instructions therefrom, an instruction register, an instruction counter, means for normally stepping said counter, means controlled by said counter for normally selecting sequentially numbered addresses in said memory, an accumulator register, an adder, means for transferring the manifestation of said transfer on zero instruction including an address portion from said memory to said instruction register, means effective upon ascertainment that said instruction is transfer on zero for initiating a test of said accumulator register for a zero standing therein comprising means complementing the holding of said accumulator register and feeding it to said adder and inserting a unit value, in the lowest order of said adder, and means effective upon carry from the highest order of said adder, indicative of a previous 0, standing in said accumulator register to transfer the address part of said instruction stored in said instruction register to said instruction counter, whereby the normal sequence of instruction selection, is altered accordingly.

2,974,867
ELECTRONIC DIGITAL COMPUTER
Floyd G. Steele, La Jolla, Calif., assignor to Digital Control Systems, Inc., La Jolla, Calif.
Filed Oct. 25, 1956, Ser. No. 618,232
28 Claims. (Cl. 235—167)



1. An electronic digital computer comprising: a cyclically operable main memory channel for storing a plurality of serially arranged blocks of information signals therein, each block comprising a plurality of serially arranged words of information signals corresponding respectively to said blocks, one of said words for each of said blocks each word comprising a plurality of serially arranged binary information signals, each block having a binary signal t_b positioned in a selected one of its words to identify as a successor block the block corresponding to the selected word; a cyclically operable intermediate memory channel for storing at least two blocks of information; first means for copying a predetermined block from said main memory channel into said intermediate memory channel; second means for reading the signals stored in said intermediate memory channel and responsive to the t_b signal occuring in a word of the predetermined block for copying the corresponding successor block from said main memory channel into said intermediate memory channel.

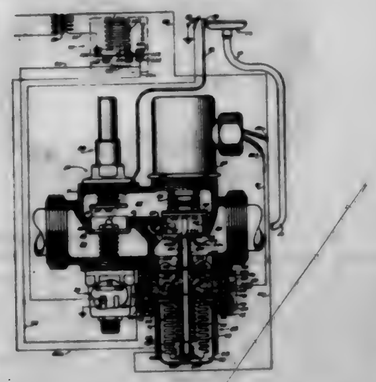
2,974,868
DIRECT CURRENT DOUBLE INTEGRATOR
Shirley F. Eyestone, Inglewood, Calif., assignor to North American Aviation, Inc.
Filed Nov. 1, 1948, Ser. No. 57,815
13 Claims. (Cl. 235—183)



1. Computing means comprising a reference frame, a first and second mass independently rotatable about a

common axis on said reference frame, means for producing a differential torque between said masses which is proportional to any function to be integrated, means for applying to said second mass a torque sufficient to cause said second mass to remain angularly undisplaced from said first mass, means for measuring the angular velocity and displacement of said two masses with respect to said reference frame to thereby measure the first and second integrals, respectively, of the function to be integrated.

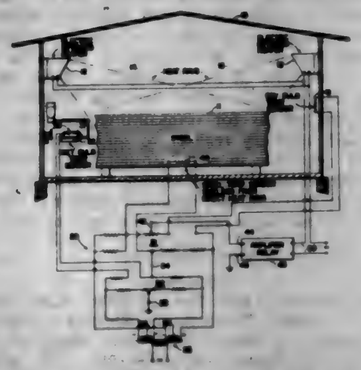
2,974,869
CONTROL APPARATUS
Charles E. Hotzy, Milwaukee, Wis., assignor to Bass Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 17, 1955, Ser. No. 547,463
10 Claims. (Cl. 236—1)



2. In apparatus for controlling the flow of fluid fuel, a flow controlling member in the path of the fluid flow having an electroresponsive actuator operable in a plurality of levels of energization to position said flow controlling member in a plurality of controlling positions, temperature responsive circuit controlling means in circuit with a source of electrical energy and with said electroresponsive actuator means, electroresponsive temperature anticipating means for said circuit controlling means in circuit with said circuit controlling means and said actuating means, said circuit controlling means having a first position at a predetermined temperature wherein it connects said actuating means in circuit with said source directly to afford one level of energization of said actuating means, said circuit controlling means having a second position at a second predetermined temperature lower than said first temperature wherein said actuating means is connected in circuit with said source through said anticipation means to thereby simultaneously afford energization of said anticipation means and energization of said actuating means at a second level, and said circuit controlling means also having a third position at a third predetermined temperature higher than said first temperature wherein the circuit between said source and said actuator means is open to thereby deenergize said actuator means.

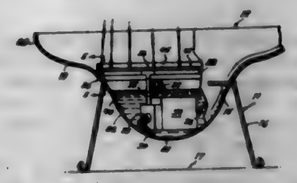
2,974,870
ATMOSPHERIC CONDENSATION PREVENTION CONTROL APPARATUS
Johnston Thomas Pitts, Houston, Tex., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 15, 1957, Ser. No. 678,274
3 Claims. (Cl. 236—44)

1. In a control system for controlling an infrared heat source in a steel storage warehouse to maintain the temperature of the steel high enough to prevent condensation of moisture thereon, a network circuit made up of two bridge circuits each having a source of power and an output circuit, a first temperature responsive element responsive to the wet bulb temperature in the warehouse, means connecting said first element as one leg of a first of said bridge circuits, a second temperature responsive element responsive to the stored steel temperature, a third temperature responsive element responsive to the dry bulb temperature in the warehouse, means connecting said second and third elements in opposite



legs of said second bridge circuit, said first element having the opposite effect upon the output of said first bridge as either said second or said third elements have on the output of said second bridge, amplifier relay means, means connecting the output of said bridges in series to the input of said amplifier means, means connecting said relay means in controlling relation to the heat source whereby the steel temperature is maintained at a dry bulb temperature above the dew point temperature so that moisture does not condense on the stored steel and the heating load is maintained at a minimum.

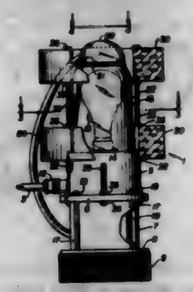
2,974,871
DISPLAY FOUNTAIN
Benjamin Naythons, 111 Grasmere Road, Bala-Cynwyd, Pa.
Filed Apr. 8, 1959, Ser. No. 804,964
2 Claims. (Cl. 239—17)



1. A display fountain comprising a support pedestal, a basin carried by said pedestal and having a depressed portion for collecting liquid, a generally circular endless fluid conduit in said basin extending about said depressed portion and having circumferentially spaced upwardly opening discharge orifices, a diametrally extending fluid conduit having its ends connected to opposed regions of said circular conduit, a pump in said depressed portion below said circular conduit, fluid-communication means connected between said pump and a medial region of said diametral conduit for pumping liquid from said depressed portion to said fluid conduits for discharge therefrom at substantially equal pressure thereabout, said support pedestal being generally circular in configuration and circumscribing an opening receiving said depressed basin portion, said basin portion being of generally circular

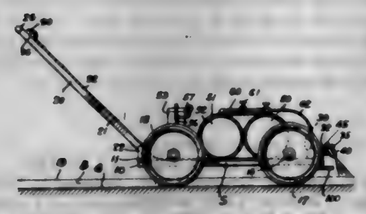
horizontal cross section at all points, said depressed basin portion defining on its underside a convex protuberance depending through said pedestal opening and conformably seated in bearing engagement on the pedestal portion bounding said opening, the weight of liquid in said depressed portion tending to level said basin even when said pedestal is out of level, a reticulated cover extending across the upper region of said depending portion within said circular conduit and over said diametral conduit, and a skirt depending from the periphery of said cover into seating engagement with said basin, said skirt being provided with a pair of downwardly opening cutouts respectively receiving opposite end portions of said diametral conduit.

2,974,872
ILLUMINATED FOUNTAIN
James P. Rodman, 1125 Fernwood Ave., Alliance, Ohio
Filed Dec. 19, 1958, Ser. No. 781,563
1 Claim. (Cl. 239—20)



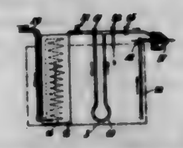
The combination of a housing, an electric light bulb attached to the housing, a transparent globe over the light bulb with the bottom of the globe in water-tight contact with the housing, a transparent spray head with spray openings therein which spray head has an open base sealed in water-tight contact with the surface of the globe, springs anchored to the housing which hold the spray head to the globe, a water feed line opening into the spray head near its base, and a pump in the housing connected with said feed line.

2,974,873
COATING APPLYING MACHINE
Walter B. Joslyn, 2105 S. Hill St., and John F. Williams, 163 N. Edgemont St., both of Los Angeles, Calif.
Filed May 3, 1960, Ser. No. 26,580
1 Claim. (Cl. 239—121)



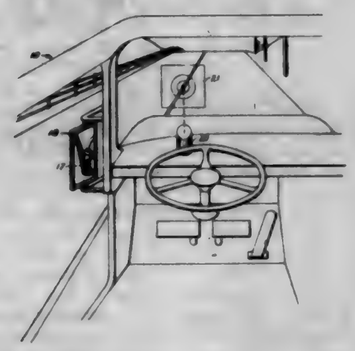
A coating applying machine comprising: a support composed of a rectangular frame and a platform spanning the frame; a handle projecting upwardly and forwardly from one end of the support; front and rear brackets secured to the sides of the frame; front and rear wheels mounted on the respective brackets and adapted to roll in the gutters of a bowling alley with the support clearing the bed of the alley; a motor-compressor unit including an air tank on the platform providing a supply of air at a predetermined pressure; a shellac reservoir on the platform connected to the tank so as to be placed under pressure thereby; a shellac manifold on the platform connected to said reservoir to receive shellac therefrom; spray nozzles connected to said manifold and spaced apart across the width of said support so as to downwardly discharge sprays of shellac adapted to collectively coat the entire width of the alley bed; valves between said manifold and nozzles controlling the discharge of shellac from the latter and having operating stems; levers secured to said stems; an operating rod connected to said levers to operate said valves in unison; a pneumatic cylinder and piston unit, the piston of which is operatively connected to said rod to actuate same and open or close said valves according as said piston is moved in one direction or the other; means for admitting air under pressure from said tank to said cylinder to actuate said piston in one direction or the other including a manually operable control valve on the handle and conduits connecting the valve with the air tank and the valve with said cylinder; driving mechanism on the support operatively connected to one of said wheels and adapted to move the support at a predetermined speed along the length of the bed as the latter is being sprayed by said nozzles; a drip pan; rollers carried by said pan and rolling on said frame to mount the pan for movement to occupy one position wherein the pan clears the sprays from said nozzles, and another position wherein the pan will be disposed beneath the nozzles to catch shellac dripping from same when said valves are closed; and means operatively connected to said pan and manually operable from a location on said handle to move said pan to one position or the other.

2,974,874
GUN FOR PROJECTING PLASTIC PRODUCTS
Pierre Raymond, Grenoble, France, assignor to Protectal, Paris, France, a company
Filed Oct. 19, 1955, Ser. No. 541,507
Claims priority, application France Oct. 22, 1954
9 Claims. (Cl. 239—139)



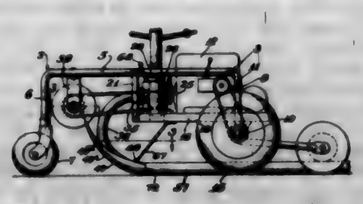
1. In a sprayer, in combination, wall means defining a hollow elongated enclosure having opposite closed ends and respectively formed adjacent said ends with an inlet leading into and an outlet leading out of said enclosure; a container adapted to contain material to be sprayed, said container being substantially larger than and containing said enclosure with the material in the container contacting the exterior surface of said wall means; fluid supply means communicating with said inlet nad supplying a fluid to said enclosure in direct contact with said wall means, the fluid flowing through the interior of said enclosure from said inlet to said outlet thereof; heating means located in said enclosure for heating the fluid flowing therethrough so that heat will be transferred from the heated fluid through said wall means to the interior of the container to heat material in the latter; nozzle means communicating with said outlet so that the heated fluid flows from said outlet through said nozzle means; and conduit means leading from the interior of the container to said nozzle means for directing material from the interior of the container to said nozzle means to be sprayed from the latter with the heated fluid.

2,974,873
ROAD STRIPING MACHINE WITH OPTICAL SIGHT
Carl F. Brown, Jr., Huntingdon, Pa., assignor to Wald Industries, Inc., Huntingdon, Pa., a corporation of Pennsylvania
Filed Mar. 6, 1959, Ser. No. 797,754
1 Claim. (Cl. 239—150)



An apparatus for spraying a paint stripe on a roadway comprising a steerable vehicle, said vehicle having a driver's station, a windshield mounted forward of said driver's station, paint striping means operatively associated with and mounted on said vehicle for spraying the paint stripe on the roadway, said paint striping means including a paint spray emitting means mounted on the left side of said vehicle in a downwardly pointing position so as to spray in a stream having an axis in a vertical plane passing through the stripe on the roadway, and an optical sighting device wholly and vertically mounted in the space between said driver's station and said windshield, said optical sighting device comprising an inclined polarized semi-mirror, a lens, a reticle, and a light source mounted in cooperative relationship one beneath the other, said semi-mirror appearing to project an image of said reticle on the road so that the eyes of the driver located at said station and the center of the roadway a predetermined distance ahead of said vehicle and said reticle can be lined up in a plane inclined from the horizontal when said spray emitting means is positioned over the stripe on the roadway, said paint spray emitting means being to the left and below the driver station, said optical sighting device being in front of and generally below the level of the eyes of the driver at the drive station.

2,974,876
PORTABLE IRRIGATION APPARATUS
Russell R. Poynor, Geneva, Ray I. Throckmorton, Jr., Clarendon Hills, and George Shute, Naperville, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 22, 1958, Ser. No. 730,137
2 Claims. (Cl. 239—183)



1. In an irrigation apparatus, an ambulatory support, a ribbon of material stowed on a part of the support and having a free end and means thereon providing a water inlet, said ribbon having lateral edges with means interlocking with each other, said ribbon with said means interlocked being of tubular shape for conducting water, operating means on the support spaced from said part and operatively associated with said interlocking means for operating the same to interlock said interlocking means pursuant to removal of the ribbon from the part and disengaging the interlocking means attendant to stowing said ribbon on the part, said ribbon having a trough-shaped portion between said part and said operating means, and water distributing means on the support having an intake projecting into said trough-shaped portion and including a sprinkler head and pump means therefor for discharging the water on surrounding terrain.

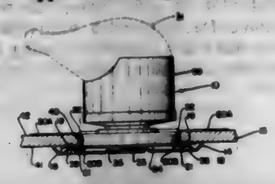
2,974,877
SHOWER HEADS
John O. Hruby, Jr., Burbank, Calif., assignor, by mesne assignments, to Rain Jet Corporation, Burbank, Calif., a corporation
Filed Oct. 13, 1958, Ser. No. 766,802
8 Claims. (Cl. 239—237)



1. In a shower head of the class wherein a hollow shower head body having a fluid inlet end and an outer end is connected at its inlet end to a swivel joint, the joint being adapted to be connected on the end of a fluid supply pipe and having a passageway extending therethrough for flow of fluid from the pipe through the joint and into the body, the combination with said body of an elongate tubular stem, the body having an annular shoulder defining an outer end opening, the internal surface of said shoulder being of concave spherical contour, the stem extending into the body opening and having an inner end portion disposed in the body and an outer end portion disposed beyond the body opening, the stem being rotatable on its long axis in said body opening, the stem having an inlet opening formed in said inner end portion, stop means on the stem having a surface of convex spherical contour abutting the internal surface of said shoulder for maintaining the stem against outward removal through said body opening and preventing the leakage of water through said body opening, means in the body and operatively associated with the stem for actuation by flow of fluid in the body to impart rotation to the stem on its axis, and the outer end of the stem having an outlet orifice formed therein directed generally axially from the outer end of the stem, said orifice being directed off center from the axis of the stem.

2,974,878
SPRAY UNIT INSTALLATION
James F. Norling, Denver, Colo., assignor to Red Comet, Inc., Littleton, Colo., a corporation of Colorado
Filed Dec. 7, 1959, Ser. No. 857,619
5 Claims. (Cl. 239—282)

1. A mounting bracket for installation of a spray unit and the like in a wall wherein an opening is provided in the wall for extension of the spray unit, said bracket being sized for extension into the opening and the spray unit being sized for extension through the opening for connection in inner concentric relation to the bracket, said bracket including a support having a flange extending outwardly therefrom to seat against one side of the wall portion surrounding the opening, and a series of fingers on said support each finger including a portion



extending rearwardly through the opening for engagement with the side of the wall opposite said flange to hold said bracket in the wall portion.

2,974,879
POCKET-ATOMIZER
Wilhelm Ruths and Hans Rauchmann, Stolberg, Rhineland, Germany, assignors to Lingner-Werke G.m.b.H., Duesseldorf, Germany, a corporation
Filed Mar. 30, 1959, Ser. No. 802,907
Claims priority, application Germany Jan. 17, 1959
3 Claims. (Cl. 239—337)



1. A pocket atomizer comprising a casing including a liquid reservoir and a pump chamber, a piston movable within said chamber between a first position of maximum volume and a second position of minimum volume of said chamber, resilient means to normally urge said piston towards said first position an air passage terminating in a spray opening and connecting said chamber with the outside atmosphere, a discharge nozzle connected to said reservoir and terminating in said passage substantially transversely thereto, whereby to withdraw liquid from said reservoir by the airstream passing through said passage upon displacement of said piston within said chamber, said piston being composed of a pair of concentric inner and outer hollow cylindrical members each provided with a venting opening in the cylindrical wall thereof, to provide a pair of separate communicating inner cylindrical and outer annular spaces with said inner space forming a passageway connected to said pump chamber, and a check valve mounted within said passageway, to block communication of said chamber with the outside atmosphere, excepting through said passage, upon displacement of said piston towards said second position and to connect said chamber with the outside atmosphere upon displacement of said piston towards said first position, respectively.

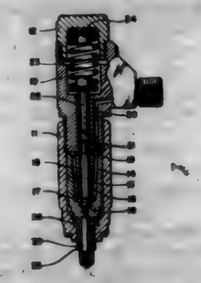
2,974,880
AEROSOL SPRAY HEAD
James U. Stewart, Whittier, and Rex C. Cooprider, Downey, Calif., assignors to The Drackett Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 15, 1955, Ser. No. 546,990
4 Claims. (Cl. 239—493)

4. A spray head comprising a casing of integral construction formed with a cylindrical bore blind at one end and opening through the casing at its other end, said casing having a discharge orifice therein communicating axially with the blind end of said bore, and an inlet communicating with said bore intermediate its ends, a plug frictionally fixed in and sealing the open end of said bore,



a fluid distributing and swirling member integral with said plug extending axially into and snugly received in the blind end of said bore adjacent said orifice, said member being formed with a groove cooperating with the wall of said bore to define a passage establishing communication between said inlet and said orifice.

2,974,881
FUEL INJECTION NOZZLE
Louis J. Garday, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 30, 1955, Ser. No. 537,451
6 Claims. (Cl. 239—533)

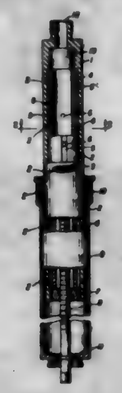


1. In a liquid spray nozzle, a shell having a longitudinal counterbore therein and a core means in said shell, said core means and shell cooperating to form an annular flow chamber, a turbulence chamber at and extending transversely entirely across the inner end portion of the counterbore, and at least one spiral passage connecting said annular flow chamber to said turbulence chamber, said shell having a discharge orifice in the end thereof communicating with the turbulence chamber adjacent the longitudinal axis thereof, the axis of said orifice extending at an angle to the longitudinal axis of said counterbore and at approximately a right angle to the surface of the wall of said turbulence chamber at the inner end of said orifice.

2,974,882
COMBINED NOZZLE
Bohuslav Liston, Prague, Czechoslovakia, assignor to Vyzkumny a zkusebni letecky ustav, Prague, Czechoslovakia
Filed Jan. 15, 1958, Ser. No. 709,183
Claims priority, application Czechoslovakia Jan. 26, 1957
3 Claims. (Cl. 239—563)

1. A nozzle for atomizing liquid substances comprising a tubular body having longitudinally arranged rows of crescent-shaped slots extending inwardly from the outer surface of the body in planes perpendicular to the longitudinal axis of said body and intersecting the inner surface of the latter to define rectangular openings therein, a tubular bushing fitting closely in said body and having longitudinally extending grooves in its outer surface which

are circumferentially located to extend across the rectangular openings defined by the longitudinally arranged rows of slots so that said slots and grooves cooperate to define the dimensions of nozzle orifices in the circumferential and axial directions, respectively, of said body and bushing, said bushing further having radial holes opening from the interior of the bushing into said grooves



at locations along the latter which are spaced in the axial direction of said bushing from the rectangular openings at the inner surface of the body intersected by the related grooves, and means defining an inlet for the liquid substance to be atomized opening into said interior of the bushing so that the liquid substance passes radially through said holes and then axially along said grooves prior to issuing radially through said nozzle orifices.

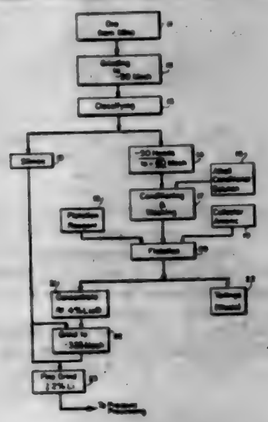
2,974,883
PROCESS FOR PULVERIZING THERMOPLASTIC MATERIAL
Thomas Engel, Offenbach am Main, Germany, assignor, by mesne assignments, to Vasco Industries Corp., New York, N.Y., a corporation of New York
Filed Oct. 5, 1955, Ser. No. 538,648
10 Claims. (Cl. 241—17)



1. A process for pulverizing a normally solid synthetic polymeric thermoplastic material that softens in a range of elevated temperatures substantially above normal temperature, which comprises milling coarse granules of said material against one side of a rasping sieve maintained at a temperature within but at the lower side of said softening range, thereby comminuting said material by rasping it at the openings of said sieve, and discharging comminuted particles of said material through said openings to the opposite side of said sieve to obtain the material in the form of a freely flowable powder.

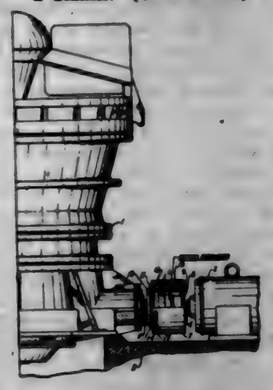
2,974,884
BENEFICIATION OF LITHIUM ORES
Emmett J. Martin, Lincolnton, N.C., and Percy E. Landolt, White Plains, N.Y., assignors to Basic Atomics Incorporated, New York, N.Y., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,640
1 Claim. (Cl. 241—20)

The improved process of grinding lithium-alumina-silica type minerals to a fine particle size of less than 40 microns preparatory to treating the ore, without decrepitating the same, comprising interrupting the grinding operation when the bulk of the ore particles have a mesh size of about −50 to +60, sizing the resultant ore to provide a slime fraction and a head fraction of about −50 to +60 mesh size, flotation treating said head fraction to provide a concentration of lithium-containing



mineral comprising about 450–600 lbs./ton of the original mineral, thereafter mixing and continuing the grinding of the concentrated lithium-containing fraction and the slimes until the particle size is no more than 40 microns and treating the ground mixture having a particle size of 40 microns or less with sulfuric acid at a temperature of 250–400° C. and at pressure of 50–2000 p.s.i. to change the lithium content thereof to lithium sulfate.

2,974,885
METHOD OF STARTING CRUSHERS
Heinrich Mölling, Deichstrasse 25, Krefeld-Uerdingen, Germany
Filed Oct. 20, 1958, Ser. No. 768,190
2 Claims. (Cl. 241—30)



1. A method of emptying a gyratory crusher which has stalled in a load condition utilizing its normal source of driving power, said source having a power output shaft constructed and arranged to provide rotary impetus to the crusher, said method including the steps of bringing the normal power source of the crusher up to substantially normal operating speed while disengaged from the crusher, selectively coupling a mass to the output shaft of the normal source of power to thereby increase the starting torque available to the crusher, generating a temporarily increased starting torque by increasing the speed of the shaft and coupled mass to at least a normal operating speed, applying the temporarily increased starting torque to the crusher to thereby overcome the stalling forces in the crusher, operating the crusher for a time sufficient to clear the crusher of any contained material, shutting down the crusher after the contained material has cleared the crusher, and disengaging the coupled mass to thereby enable the crusher to resume normal operation under a normal starting torque.

2,974,886
APPARATUS FOR THE SHATTERING OF SOLID PARTICLES
Theodore Nagel, 76 Remsen St., Brooklyn, N.Y.
Filed Jan. 8, 1959, Ser. No. 785,681
4 Claims. (Cl. 241—39)



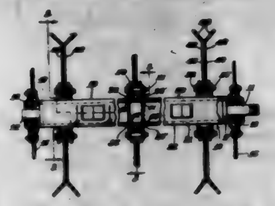
1. Apparatus for shattering particles of solid materials, said apparatus comprising, in combination, a shattering chamber; a pair of horizontally disposed, elongated accelerating conduits for the charge of particles, said conduits being axially aligned and extending in opposed directions into said chamber and terminating in spaced relation therein, whereby particles discharging from one conduit will meet and impact the particles discharging from the other conduit; a nozzle adjacent the feed end of each of said conduits and axially aligned with the conduits for supplying a flat gaseous stream under pressure to each of said conduits, said nozzles and conduits being rectangular in cross-section, with their wide faces lying in a horizontal plane; and gravity means for depositing the particles upon the wide face of each of said gaseous streams for the conveyance of the particles to and through said conduits, said nozzles and conduits being so relatively proportioned that the particles as they are being conveyed through the conduits by the said gaseous streams are accelerated sufficiently to be discharged from each conduit at a velocity of not substantially less than 35% of the discharge velocity of the gaseous conveying streams.

2,974,887
SALT SHAKER AND PEPPER MILL
Edward M. Grandinetti, 7859 Via Amorita, Downey, Calif.
Filed Jan. 25, 1960, Ser. No. 4,528
1 Claim. (Cl. 241—101)



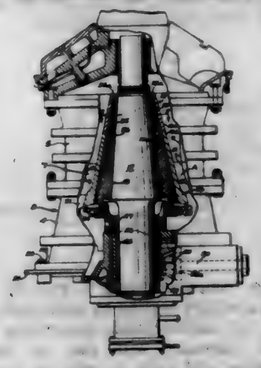
A combined salt shaker and pepper mill grinder comprising: a first, salt dispensing, section; a second, pepper dispensing section; said sections being mounted together for relative rotation; a centrally located shaft disposed partially in each section; a grinder disposed adjacent the open end of said second section including a stator fixedly mounted therein and a rotor carried by said shaft; a coil spring mounted on said shaft and biasing said rotor towards said stator; adjusting means for selectively positioning said rotor on said shaft with respect to said stator; and means sealing off said first from said second sections; said shaft being mounted to rotate with said first section to turn said rotor and activate said grinder on relative rotation of said two sections; said second section having a hole therein and a ring rotatably mounted thereon and having a like hole therein adapted to align with said first hole in one position of said ring to permit loading of said second section with peppercorns to be ground.

2,974,888
FLAIL TYPE CHOPPER ROTOR
Charles V. Everett, Warrenville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 27, 1958, Ser. No. 744,961
5 Claims. (Cl. 241—191)



1. A chopper comprising a center axial support member including a pair of transaxially opposed wall portions, with pairs of aligned radial openings therethrough, a pair of mounting straps extending through respective pairs of openings and spaced axially of said member, means on the straps and said member releasably interlocking the straps against movement radially of said member, knife elements interposed between said straps, and means interconnecting the knife elements with the straps and drawing them together against an intervening axial portion of said member therebetween.

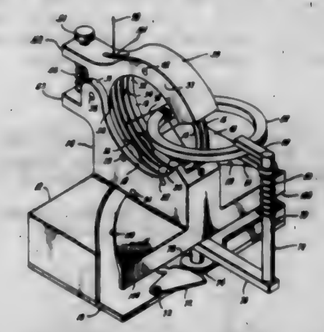
2,974,889
RELIEF INSERTS FOR METALLIC LINING
Raymond W. Anderson and Clarence F. Kennard, Babbitt, Minn., assignors to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota
Filed May 7, 1959, Ser. No. 811,716
10 Claims. (Cl. 241—295)



1. In a gyratory crusher, a crushing cone, a central member on which said cone is supported, and a metal-

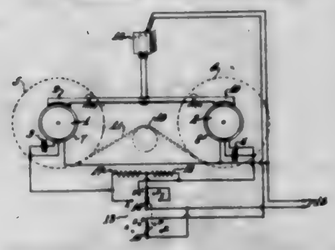
lic low-melting-point liner between said cone and said central member, said liner having integrally cast therein a plurality of relief members adapted to yield under external pressure and permit axial displacement of said cone.

2,974,894
CORE WINDING APPARATUS
Billy Eugene Davis, 7119 Langdon St., Houston 36, Tex.
Filed Sept. 13, 1956, Ser. No. 609,616
5 Claims. (Cl. 242—4)



1. Core winding apparatus, comprising circular bobbin means including a pair of circular bobbin rings disposed flushly side-by-side in touching relation completely thereabout but movable apart at any point by an elongate strand drawn longitudinally of the length of the strand therebetween, means yieldingly biasing said bobbin rings together flushly side-by-side, means for rotating said bobbin rings simultaneously about their axes while so biased, means for holding a core through the center openings of said bobbin rings of said bobbin means, and means including a strand source for feeding an elongate strand onto the exterior periphery of said bobbin means, said strand, when drawn between said bobbin rings and fixed relative the core, being drawn continuously longitudinally from said exterior periphery of said bobbin means between said rings to be wound about said core as said bobbin rings are simultaneously rotated by said rotating means.

2,974,891
TAPE RECORDER
Frederick D. Waldhauer, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 1, 1955, Ser. No. 544,105
5 Claims. (Cl. 242—55.12)



1. In a tape recorder having a pair of reels and a tape recording medium carried by said reels and reelable therebetween, the combination comprising controllable driving means connected with each of said reels for selectively driving said reels to take up said tape, controllable braking means associated with both of said reels operable for stopping all operation of said reels, and selectively operable control means connected to said driving means and to said braking means for operating said driving means to simultaneously drive both of said reels to take up said tape, thereby maintaining tension in said tape, and for concurrently operating said braking means to stop simultaneously all operation of both of said reels while tension is maintained in said tape whereby any inequality between said reels in the braking action of said braking means will not cause slackening of said tape.

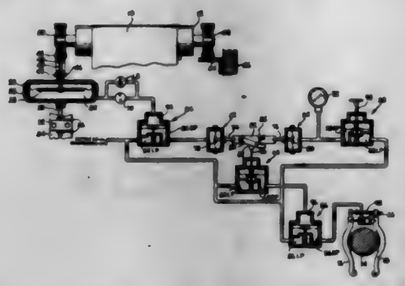
2,974,892
REEL FOR MAGNETOPHONE BANDS
Giovanni Geloso, Viale Brenta 29, Milan, Italy
Filed Feb. 4, 1957, Ser. No. 637,925
Claims priority, application Italy Apr. 20, 1956
4 Claims. (Cl. 242—71.8)



1. A reel construction formed from plastic material, comprising, in combination, a pair of substantially identical reel members each having a disc-shaped portion and a hollow hub portion projecting centrally from one face of said disc-shaped portion, the inner diameter of said hub portion of one of said members being substantially equal to the outer diameter of said hub portion of the other of said members, each of said hub portions being formed with a radial slit and a gap located diametrically opposite the slit, each of said hub portions having two radially inwardly extending projections, one on each side of the slit and forming between themselves an opening which is a radial extension of the slit, the gap formed in the hub portion of one reel member receiving the two inwardly extending projections of the other reel member so as to align said reel members with each other, each of said disc-shaped portions being formed with a substantially V-shaped cutout extending from the periphery of said disc toward said slit, said V-shaped cutout being symmetrically arranged with respect to said slit and communicating therewith, said hub portions being telescopically located one within the other, and said hub portions being fixed in telescoped condition to one another, whereby said slit of each of said hub portions is aligned with said gap of the other of said hub portions and said cutouts in said disc-shaped portions are diametrically opposed.

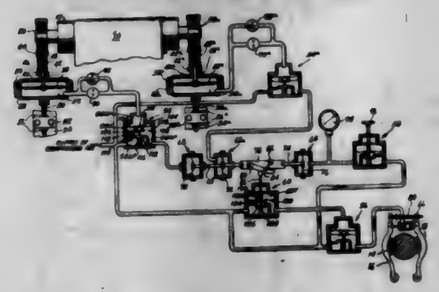
2,974,893
APPARATUS FOR CONTROLLING TENSION IN A RUNNING WEB
Charles Aaron, West Caldwell, N.J., assignor to Cameron Machine Company, Brooklyn, N.Y., a corporation of New York
Filed Nov. 19, 1956, Ser. No. 622,999
2 Claims. (Cl. 242—75.43)

1. In running-web, tension-controlling apparatus having an elongate guide member against which a running web presses when the web is under tension and which guide member is movable in response to variations in the pressure of the web thereagainst, a fluid-pressure-operated brake mechanism adapted to vary the tension in a running web, and a fluid-pressure circuit adapted to supply fluid under pressure to said brake mechanism to control the operation of the latter; means for controlling the fluid pressure in said circuit, comprising mounting means, pivotally supporting one end of said guide member, a fluid-pressure cylinder having a diaphragm therein, a stem connected between the other end of said guide member and said diaphragm to actuate the latter in response to movement of the guide member's said other end, a fluid-pressure-responsive control valve connected in controlling relation to said circuit, and a substantially closed body of



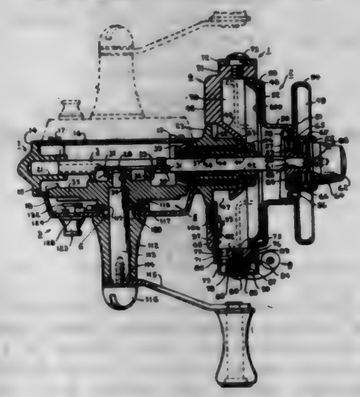
liquid under pressure applied directly against both said diaphragm and said control valve to control operation of the latter in response to minute movements of said guide member resulting from variations in the web tension and thereby control the operation of the brake mechanism to compensate substantially for said tension variations.

2,974,894
APPARATUS FOR COUNTERACTING TENSION VARIATIONS LOCALIZED TOWARD EITHER SIDE OF A RUNNING WEB
Charles Aaron, West Caldwell, N.J., assignor to Cameron Machine Company, Dover, N.J., a corporation of New York
Filed June 12, 1958, Ser. No. 741,537
2 Claims. (Cl. 242—75.43)



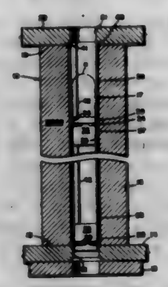
1. A running-web, tension-controlling apparatus comprising an elongate guide member against which a running web presses when the web is under tension and which guide member is similarly and independently supported movably at its opposite ends to enable it to move at either of said ends in response to pressure of the web thereagainst, a pay-out roll from which the web passes to said guide member, a fluid-pressure-operated brake mechanism coacting with said pay-out roll to control the issuance of the web from said roll and thereby vary the tension in the running web, a fluid-pressure circuit adapted to supply fluid under pressure to said brake mechanism to control the operation of the latter, and means, including a fluid-pressure-responsive control valve mechanism in controlling relation to said circuit, for controlling the fluid pressure in said circuit and brake mechanism and including, also, separate, similar hydraulic means coacting separately with opposite ends of said guide member for controlling the operation of said control valve mechanism; each of said hydraulic means comprising a substantially closed body of liquid under pressure applied both against a related end of said guide member and against said control valve mechanism, and adapted thereby to control the operation of said valve mechanism and said brake mechanism in response to minute movements of said guide member, at either end thereof, resulting from variations in the web tension.

2,974,895
SPINNING REEL
Morris E. Wood, Bronson, Mich., assignor to Higbie Manufacturing Company, Rochester, Mich., a corporation of Michigan
Filed Jan. 5, 1955, Ser. No. 480,016
9 Claims. (Cl. 242—84.21)



3. A spool comprising a rear part provided with an aperture and a hollow immovable enlargement having an end wall provided with an opening axially spaced from the aperture, a nut disposed against removal in the opening for attaching the spool to a threaded portion of a shaft when the latter is inserted into said aperture, a first friction element disposed in the enlargement and against one side of the rear part and a second friction element bearing against the opposite side of the rear part, a member disposed in the enlargement and adapted for connection with the shaft, and a spring arranged in the enlargement between the member and nut to cause the elements to forcibly engage the rear part.

2,974,896
SPOOL
John B. Hawley, 1903 Sunset Drive, Greensboro, N.C.
Filed Mar. 15, 1957, Ser. No. 646,346
2 Claims. (Cl. 242—118.4)



1. A bobbin of the character described comprising a solid wooden barrel having a longitudinal axial core

for receiving a spindle therein, apertured heads mounted on the barrel ends in registry with said core, an articulated tubular reinforcing core and bearing assembly including a first reinforcing tubular member reaching axially from adjacent to one end of said barrel to a length intermediate the length of the barrel, a spindle-receiving cylindrical sleeve bearing insertable into and concentric with said member adjacent to said end, said sleeve bearing having a circumferential shoulder thereon for resisting axial displacement, a second spindle sleeve bearing in axial spaced relation to said first bearing and intermediate the barrel length and cylindrically insertable into and extending for a short axial length of the other end of said first reinforcing tubular member, and a second tubular reinforcing member in abutting juxtaposition to said second sleeve bearing and said first reinforcing member, said second tubular member reaching to at least the other end of the barrel.

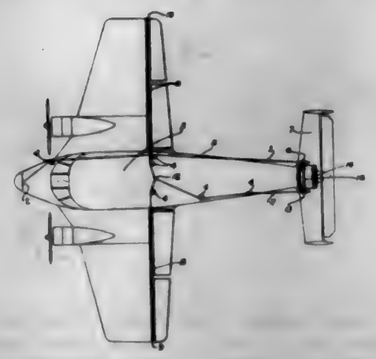
2,974,897
STRAND TENSION DEVICE
Robert L. Carroll, 408 McIver St., Greenville, S.C.
Filed June 22, 1959, Ser. No. 821,762
3 Claims. (Cl. 242—154)



1. A strand tension device including a gate and a series of ceramic strand-engaging fingers, each finger having a strand-engaging recess defined by a convex surface terminating at its ends in convex shoulders and a downwardly inclined outer surface at its outer end terminating in bifurcated portions, each ceramic finger having a channel on its under side, said channel extending along the underside of the finger and thence upwardly at a right angle and a metal finger support for each finger carried by the gate and including a horizontal portion extending endwise through said channel, a right-angle portion extending upwardly of the ceramic finger, and a downwardly inclined portion extending thence through the downwardly inclined forward portion of the finger between said bifurcated portions and outwardly beyond the ceramic finger, cement attaching means between the ceramic fingers and metal finger supports, and an operating bar spaced from the outer end of the ceramic fingers and to which said finger supports are fixedly attached, the operating bar being connected fixedly to all the finger supports on a gate.

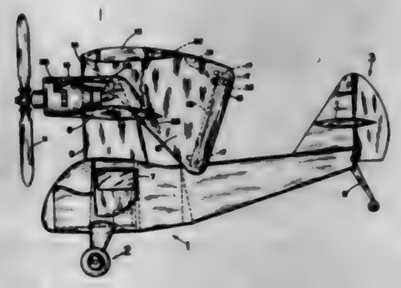
2,974,898
QUICK RELEASE MECHANISM
Harry T. Stevinson and Douglas A. Baker, Ottawa, Ontario, Canada, assignors to National Research Council, Ottawa, Ontario, Canada, a body corporate of Canada
Filed Aug. 12, 1957, Ser. No. 677,580
5 Claims. (Cl. 244—1)

4. In combination; an aircraft having two spaced apart relatively fixed portions, a first said portion being adjacent a first extremity of said aircraft and a second said portion being adjacent a second extremity of said aircraft; a body separable from said aircraft; a body retaining member mounted on said aircraft; means for maintaining said retaining member in tension to hold said body in fixed relationship to said aircraft; an elongated member having two ends, elongated resilient means having two ends, a first end of said resilient means being connected to a first end of said member, cutting means for cutting said retaining member, said cutting means being operatively associated with and acted upon by said resilient means and movable between an inoperative and a cutting position, said resilient means urging said cutting means to said cutting position, said inoperative position being such that said cutting means is out of cutting engagement with said retaining member and said cutting position being such that said cutting means is at least momentarily in cutting engagement with said retaining member, and means including fixing



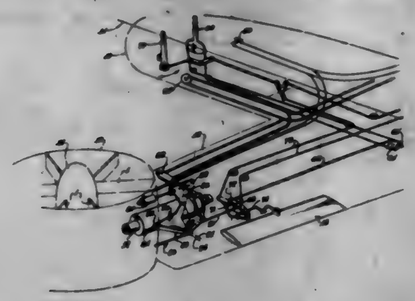
means securing the second end of said member to said first portion of said aircraft and the second end of said resilient means to said second portion of said aircraft for normally maintaining said resilient means highly stressed and holding said cutting means in said inoperative position against the action of said resilient means.

2,974,899
SINGLE PROPELLER CONVERTIBLE VTOL AIRCRAFT
Harlan D. Fowler, Longmont, Colo.
(P.O. Box 304, Burlingame, Calif.)
Filed Jan. 9, 1958, Ser. No. 707,880
7 Claims. (Cl. 244—12)



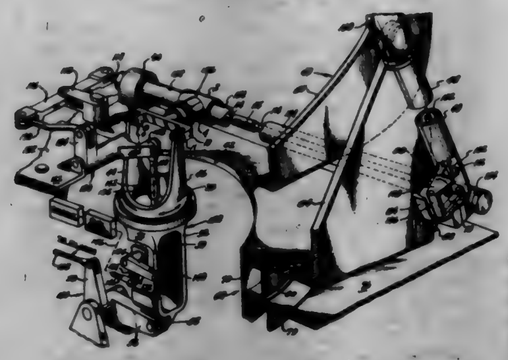
1. In a single propeller convertible airplane, at least one airfoil mounted for conventional flight, means supported by said airfoil for selectively deflecting the propeller slipstream from a generally horizontal to a generally vertical downwardly direction, means inclusive of an air compressor associated with the engine of said airplane and arranged for mixing with engine exhaust for producing a high velocity stream of gas, duct means mounted internally of the airfoil and extending from the airplane engine to each tip of the airfoil, and vertically directed, opposed gas discharge means mounted adjacent each airfoil tip directed in opposed, generally vertical directions and perpendicularly to the roll axis of the airplane to substantially counteract the torque of the airplane engine.

2,974,900
AIRCRAFT FLIGHT CONTROL SYSTEM
Charles W. Morris, Los Angeles, and Arthur R. Bocklagen, San Pedro, Calif., assignors to Denk Aircraft Co., Inc., Torrance, Calif., a corporation of California
Filed Mar. 11, 1959, Ser. No. 798,779
12 Claims. (Cl. 244—12)



1. In an aircraft carrying a pair of open-ended thrust-generating units in laterally spaced relation on opposite sides of the longitudinal axis of the aircraft, said units being mounted for controllable partial rotation about an axis transverse to said longitudinal axis to deliver thrust without impingement upon the aircraft in all angular positions of the units between horizontal and vertical, the provision of: a plurality of radially arranged pivotally mounted vanes in the inlet portion of each of said units; a vane actuating means for each of said units; a control and selectively operable energizing means to actuate the vane actuating means and impart homologous movement to vanes in said units; a control and selectively operable energizing means to actuate the vane actuating means to impart complementary movement to vanes in one unit with respect to vanes in the other unit; and means responsive to change in angular position of said units to render said last named energizing means ineffective when the thrust axis of said units is substantially horizontal.

2,974,901
AIRCRAFT CONTROL LINKAGE
Frederick C. Bourer, Hamden, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 19, 1959, Ser. No. 794,377
11 Claims. (Cl. 244—17.11)



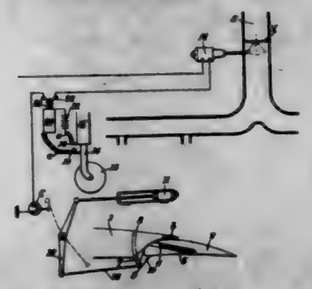
1. In a helicopter having rotor blades mounted thereon for pitch changing movement, an engine for driving said blades, a fuel control connected to said engine, an operator's seat having a hollow supporting member, an operator's control stick mounted on said seat for pivotal movement, said operator's control stick also having a separately moveable portion, means passing through said hollow member operatively connecting said stick and said blades so that pivotal movement of said control stick adjusts the pitch of said blades, and second means passing through said hollow member operatively connecting said stick to said fuel control so that actuation of said moveable portion of said control stick actuates said fuel control.

2,974,902
POWER PLANT FOR HELICOPTER
Harry N. Schofer, 8809 Woodland Drive, Silver Spring, Md.
Filed July 6, 1959, Ser. No. 825,115
19 Claims. (Cl. 244—17.19)



1. A power plant, comprising: a rotor having an axis of rotation; reaction propulsion means carried by said rotor to revolve with the rotor, said reaction propulsion means mounted for rotation about an axis parallel with and offset relative to the rotor axis, said propulsion means having a thrust axis normal to its rotational axis to produce rotation of the rotor; and means connected to the reaction propulsion means restraining it against rotation about its axis while revolving about the rotor axis, whereby the thrust axis points in the same direction.

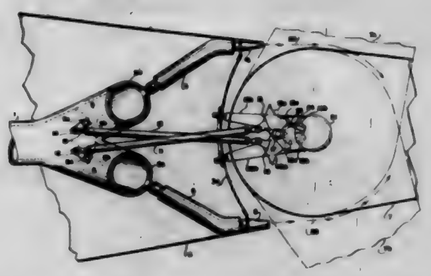
2,974,903
AIRCRAFT HAVING WINGS PROVIDED WITH FLAPS AND GAS BLOWING MEANS
Jean Chomarat, Paris, France, assignor to Societe de Brevets H.D., Paris, France, a society of France
Filed June 2, 1958, Ser. No. 739,136
Claims priority, application France June 4, 1957
4 Claims. (Cl. 244—42)



4. In an aircraft, in combination, a wing, at least one flap adapted to cooperate with said wing, means for movably connecting said flap with said wing to permit of lowering said flap, said means being arranged to close a slot between said wing and said flap when the flap is in line with the wing, to open said slot for intermediate angles of rotation of the flap and to reclose the slot, when the flap comes into its position corresponding to its maximum angle of rotation, means for blowing gas along the upper face of said flap, control means for operating said connecting means and means operatively connected with said control means for operating said gas

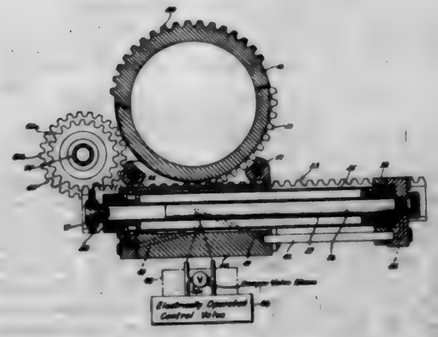
blowing means in response to the lowering of said flap into said maximum angle of rotation of said flap with respect to said wing.

2,974,904
CONTROL MEANS FOR A BLOWING AIRFLOW OVER A CONTROL SURFACE
Peter Goodwin Fielding, Claremont, Calif., and Wilfred Charles James Garrard, Marietta, and James Monroe Norman, Atlanta, Ga., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 15, 1958, Ser. No. 780,284
5 Claims. (Cl. 244—42)



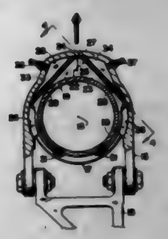
1. Means for increasing effectiveness of a movable control surface extending longitudinally adjacent the trailing edge of a fixed aerodynamic airfoil and pivotally deflectable relative to the airfoil comprising, a pressurized air discharge means in the airfoil for discharging blowing airflow over either side of said control surface, valve means in said air discharge means controlling when a blowing airflow is directed to a side of the control surface, and means controlling said valve means, said control means responsive to deflections of the control surface in both directions from a neutral position to effect upon deflection a blowing airflow over the side of the deflected control surface opposite the direction of deflection, said control means further responsive to return of the control surface to neutral position for stopping the airflow.

2,974,905
LINEAR TYPE SHIMMY AND STEER DAMPER
Rollin D. Ramsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Dec. 10, 1956, Ser. No. 627,199
11 Claims. (Cl. 244—50)



1. In combination for controlling rotary movement of a member, rotary motion transmission means rigidly coupled to said member for movement therewith, rectilinear motion transmission means disposed for direct engagement with said rotary transmission means over a predetermined range of rotary movement of said rotary transmission means, detent means for defining limit positions of said rectilinear motion transmission means at the end of its range of engagement with said rotary motion transmission means, and means for shifting said rectilinear motion transmitting means independently of the rotary motion transmission means outside of said range.

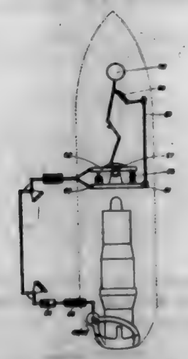
2,974,906
ROTARY STEERING MOTOR
Louis C. Hrusch, Cleveland, Ohio, assignor to Cleveland Pneumatic Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 29, 1959, Ser. No. 789,980
6 Claims. (Cl. 244—50)



6. An aircraft landing gear comprising a cylinder adapted to be mounted on the frame of an aircraft, a piston telescoping into said cylinder for axial and rotation movement relative thereto, a ground engaging wheel journalled on said piston, a steering motor including a housing assembly supported by said cylinder for rotation relative thereto a vane assembly mounted around said cylinder, said vane assembly including a pair of opposing vane elements, first means connecting said elements on one side of said cylinder, second means connecting each element to the side of said cylinder of opposite said first means, said housing including an innerwall having a pair of similar cylindrical first surfaces and a cylindrical second surface between said first surfaces, the radius of said first surfaces being different than the radius of said second surface, opposed walls radially extending relative to the axis of said cylinder connecting the ends of said surfaces, a continuous seal mounted on each element spaced from said cylinder providing sealing engagement with said second surface, one of said first surfaces and said radially extending walls cooperating with said housing and associated vane element to define a chamber the volume of which is changed by relative rotation between said assemblies, a port communicating with each cylinder adapted to admit fluid under pressure thereinto to produce said relative rotation, and torque means preventing relative rotation between said housing assembly and piston.

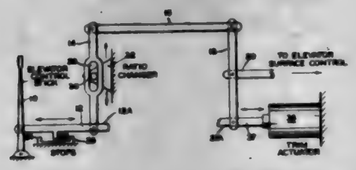
2,974,907
APPARATUS FOR THE STABILISATION AND CONTROL IN VERTICAL FLIGHT OF AN AIRCRAFT
Gerhard Eggers and Günther Ernst, Dammarie-les-Lys, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a French company
Filed Apr. 9, 1958, Ser. No. 727,363
Claims priority, application France Apr. 15, 1957
8 Claims. (Cl. 244—52)

1. In a vertical take-off and landing aircraft powered by a turbo-jet engine and steered by controllable jet operating means generating reaction control torques on said aircraft, a vertical attitude stabilizing and control device comprising a pilot's control and a transmission between said pilot's control and said torque generating means, which transmission includes a movable member controlling said torque generating means, a return spring urg-



ing said movable member into a neutral position wherein no torque is generated, and a dashpot operatively associated in series with said spring for damping and slowing down the return action thereof.

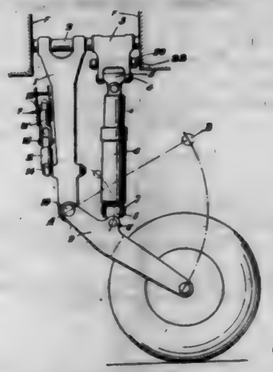
2,974,908
CLOSED LOOP RATIO CHANGER AND AUTOMATIC TRIM COMPUTER MEANS FOR CONTROLLING THE POSITION OF AN AIRCRAFT CONTROL SURFACE
Walter A. Platt, Paterson, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 3, 1957, Ser. No. 650,535
8 Claims. (Cl. 244—77)



4. A control system for an elevator surface of an aircraft; comprising a control means, means operated thereby for positioning the elevator surface, actuator means for trimming the position of the elevator surface, accelerometer means responsive to change in the condition of acceleration of the aircraft for controlling said trim actuator means so as to position the elevator surface in a sense to restore the aircraft to a predetermined condition of acceleration, signal generator means operatively controlled by said actuator means, adjustably positioned means for changing the ratio of movement of the elevator surface to that of the control means, means responsive to prevailing atmospheric conditions in flight of the aircraft, actuator means for adjustably positioning said ratio changing means, and means operatively connecting said signal generator means and said atmospheric condition responsive means so as to jointly control the last-mentioned actuator means.

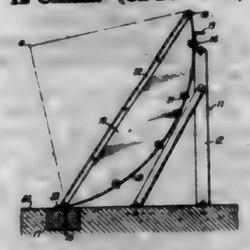
2,974,909
RETRACTABLE LANDING GEAR FOR AIRCRAFT
Jack Perdue, Great Sankey, Warrington, England, assignor to Electro-Hydraulics Limited, Warrington, England, a company of Great Britain
Filed Oct. 26, 1956, Ser. No. 618,579
Claims priority, application Great Britain Nov. 29, 1955
3 Claims. (Cl. 244—102)

1. In retractable aircraft landing gear of the levered suspension type, a fixed pivot member; an undercarriage strut mounted to rock on said pivot member; an undercarriage beam; means pivotally connecting said beam to said strut to rock relatively to said strut about an axis normal to the axis of said fixed pivot member; a ground engaging member on said beam; a shock absorber pivotally connected to said beam; a retraction lever mounted to rock about the axis of said fixed pivot member; means pivotally connecting said shock absorber to said retraction lever at a second pivot axis offset from the axis of said fixed pivot member, said second pivot axis being swingable arcuately about the axis of said fixed pivot member when said retraction lever is rocked about the axis of said fixed pivot member; operating means for rocking said strut about the axis of said fixed pivot member in one direction from a lowered and extended position in which said strut extends downwardly from said fixed



pivot member to a retracted position in which said strut extends more nearly horizontally; and means connected to said retraction lever and to said strut and being operable by rocking of said strut from its lowered position to its retracted position for rocking said retraction lever in the opposite direction about the axis of said fixed pivot member whereby to transmit force through said shock absorber to rock said beam about the axis of its pivotal connection to said strut from an extended position with respect to said strut to a retracted position with respect thereto, the rocking of said beam about its pivotal connection to said strut being in a plane normal to the plane in which said strut rocks about said fixed pivot member, and the distance between said fixed pivot member and the connection of said ground engaging member with said beam being greater in the extended position of said strut than in the retracted position thereof.

2,974,910
BLAST FENCE
Bernard Stanley Lynn, 19451 Black Road, Los Gatos, Calif.
Filed June 24, 1957, Ser. No. 667,445
12 Claims. (Cl. 244—114)



1. In a blast fence adapted to be installed on a ground area to receive and deflect the blast from an aircraft

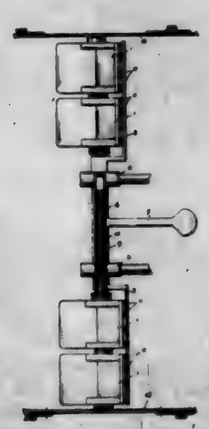
power unit of the jet type, means forming a substantially continuous and impervious blast deflecting surface, said surface having at its bottom a horizontal leading edge and at its top an upper horizontal edge at a substantial elevation, said surface in vertical section being uniformly curved whereby a jet blast directed against the surface is deflected upwardly for final discharge from the upper edge.

2,974,911

PLATFORM SUPPORTING THE SEATS IN AN AIRCRAFT COMBINED WITH MEANS FOR EJECTING THE SEATS FROM THE AIRCRAFT IN CASE OF DISASTER

Ricardo Dusmani, Argentina Ave. 340, Rosario, Santa Fe, Argentina

Filed Nov. 3, 1958, Ser. No. 771,273
6 Claims. (Cl. 244—122)



1. In an aircraft having door openings at the side thereof arranged for emergency ejection, the combination of aircraft cabin means; cylinder means mounted in said aircraft cabin means for pivotal movement over 360°, said cylinder means extending in a horizontal plane when the aircraft is on the ground; piston rod means removably mounted in said cylinder means for axial movement therein but constrained against pivotal movement relative thereto so as to pivot with said cylinder means; seat means secured to said piston rod means arranged for a normal position; and counterweight means secured to said cylinder means permanently pivoting said cylinder means into a position wherein said seat means occupy said normal position, whereby on application of a force onto said piston rod means in an axial direction, the same will be ejected from said cylinder means to be forced through a door opening of the aircraft, to eject said seat means from said cabin means.

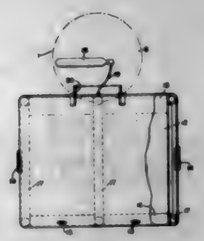
2,974,912

SHOCK ABSORBER

Raymond J. Namsick, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 26, 1958, Ser. No. 763,618
14 Claims. (Cl. 244—138)

1. A decelerator bag for ground recovery of airborne equipment comprising, in combination, a flexible inflatable substantially cylindrical container normally restrained in a collapsed condition against said equipment; inlet means in the wall thereof to inflate said container upon the release thereof; expansible flexible means arranged in the marginal portions of said container and normally in a contracted condition, said means distending substantially to define the inflated shape of said container and expand it to substantially full volume upon release of said container; means to distend said expansible means upon release of said container; and variable



orifice means mounted in each end of said container to provide controlled deflation of said container upon occurrence of an impact thereto.

2,974,913

PILOT CHUTE WITH AUXILIARY DEPLOYMENT CANOPY

Augustus John Steinthal, New York, N.Y., assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York

Filed June 24, 1958, Ser. No. 744,290
2 Claims. (Cl. 244—145)



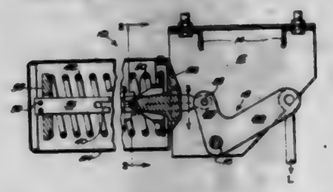
1. A pilot chute comprising a main canopy formed of a plurality of fabric panels joined along their side edges and terminating at the apex of said canopy in an opening, a weighted cap attached to said canopy and closing said opening to facilitate ejection of said chute from a container, shroud lines secured to the skirt of said canopy at the joint between adjacent panels and terminating in bridle attachment means, reinforcing tapes extending between adjacent panels across the joint at the skirt, a fabric cone extending between said attachment means and said canopy and secured to said canopy surrounding said opening, a plurality of radially disposed generally triangular fabric vanes secured along their inner edges to said cone and along their outer edges to said shroud lines, the upper edges of said vanes being spaced below said canopy when inflated and an auxiliary canopy comprising a plurality of auxiliary fabric panels less than one-half the length of the panels of said main canopy, said auxiliary panels being disposed over the panels of said main canopy and secured to said main canopy along the joints between the panels of said main canopy, said auxiliary panels terminating at said opening and reinforcing tapes extending between adjacent auxiliary panels across the joint at the skirt of said auxiliary canopy whereby upon partial ejection of said chute from a container said auxiliary canopy will inflate to pull the remainder of said chute from said container thereby accelerating pilot chute deployment.

2,974,914

SPRING HANGER

Philip C. Sherburne, Rumford, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Filed Mar. 9, 1959, Ser. No. 798,053
4 Claims. (Cl. 248—54)



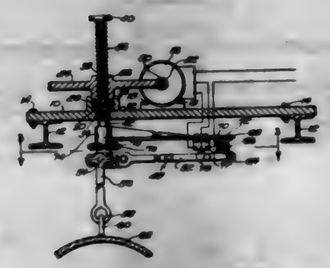
1. A spring hanger including a frame having first and second portions, a lever pivoted to said first frame portion, a link secured at one end to the lever and fixed at its other end to a spring plate, a pivot on said second frame portion slidably and pivotally carrying the link, a second spring plate pivotally carried by the said pivot, a coil spring between the plates, said first frame portion being located exterior of said spring, said second frame portion extending into the interior of said spring from one end thereof, the said pivot being located between the plates, the said pivot being located between the ends of the spring and surrounded by the coils thereof.

2,974,915

MOTOR DRIVEN CONSTANT SUPPORT HANGERS

Alfred Zallinger, Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Filed Feb. 25, 1958, Ser. No. 717,486
3 Claims. (Cl. 248—58)



1. A constant support pipe hanger for exerting a predetermined weight-supporting force on a pipe which is moved through a limited range of movement with respect to fixed structure in a vertical first direction by thermal expansion and contraction forces, said pipe hanger comprising a frame adapted to be secured to said fixed structure, a motor, a jack driven by said motor having a first portion mounted on said frame and having a second portion engaged with said first portion and movable with respect thereto for varying the position of said second jack portion with respect to said frame, a lever pivotally connected to said second jack portion for rotation about a pivot, said lever having first and second points thereon spaced from said pivot and forming therewith first and second lever arms, respectively, means for securing said frame to said fixed structure, a pipe supporting member connected to said first lever point, means for connecting said pipe supporting member to said pipe, said first lever arm extending at an angle to said vertical direction when said frame is secured to said fixed structure and said pipe supporting member is connected to said pipe, whereby the weight of said pipe together with any of said vertical forces produces a turning moment on said lever about said pivot, a spring connected between a third point on said movable second jack portion and said second lever point and exerting a spring force substantially along the line defined by said second and third points, said line being at a substantial angle to said second lever arm and in a direction which causes said spring force to produce an opposite turning moment on said lever about said pivot, said spring having its deflection and force increased with rotation of the lever caused by downward movement of the pipe, said lever having a rotative equilibrium position in which the spring force moment equals the pipe weight moment and being rotated from said equilibrium position by said vertical forces exerted on the pipe, and a motor switch mounted on said second jack portion and engaging said lever at a fourth point thereon substantially farther from said pivot than the length of said first lever arm, said motor switch being actuated by said rotation of said lever from said equilibrium position, said second lever arm having a substantially greater length than said first lever arm, and said spring force for said equilibrium lever position being substantially less than said pipe weight.

2,974,916

FLEXIBLE RETAINER

Shirrell C. Richey, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 18, 1958, Ser. No. 749,349
2 Claims. (Cl. 248—71)



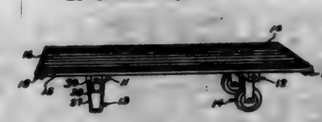
1. A flexible retainer having a longitudinally extending body having at least one aperture formed in one end thereof and a transversely extending lug integrally formed therewith adjacent the end thereof opposite said apertured end, said lug having a body section of equal or smaller size than said aperture and a plurality of axially spaced annular barbs formed thereon larger than said aperture and spaced from said retainer body, said lug further having a hollow recess formed therein and extending through said barbs to permit limited resilient radial collapsing of said lug, said retainer being attached by said lug to a support structure and to an article to be supported by said lug and said body aperture.

2,974,917

PALLET

John W. Kappes, 243 Kenwood, Dayton, Ohio

Filed Sept. 30, 1958, Ser. No. 764,356
10 Claims. (Cl. 248—120)



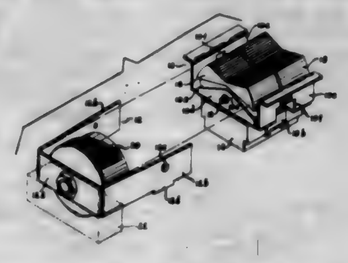
1. A pallet, including a bed portion, batten means fastened to the underside of said bed portion, said batten means having a longitudinal planar slot which intermediate the ends of the batten means is formed with a vertically enlarged portion, and a removable support including a retainer plate mounted in and removed from said batten means by way of said slot and received in said enlarged portion with freedom of motion above and below the plane of said slot.

2,974,918
UNIVERSAL BRACKET SUPPORT
Ernest C. H. Voigtlaender, Box 323, Laurel Drive, Highlands, N.J.
Filed July 3, 1957, Ser. No. 669,800
10 Claims. (Cl. 248—201)



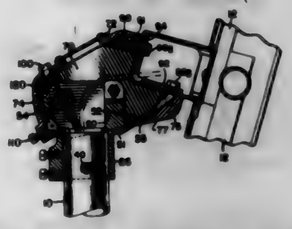
1. A pair of universal bracket supports adapted for speedily mounting pairs of hanging brackets of various types for respective hangings across a wall area, the hanging brackets each having at least two spaced mounting apertures, the bracket supports being adapted to be attached to the two upper corners of a wall area, said bracket supports each comprising a box-like frame with a face plate mountable parallel to the wall area and having openings composed of a plurality of parallel spaced slots and a plurality of apertures interspread among the slots, the width of the face plate slots and apertures being comparable in size to that of the hanging bracket apertures whereby a plurality of pairs of hanging brackets are simultaneously securable to said face plates in normal vertical array with bolts through the bracket apertures and the face plate openings and a mounting plate securable to each of the said wall area corners and interlockable with each said box-like frame to thereby removably mount said frames on the wall area.

2,974,919
AUXILIARY MOUNTING MEANS FOR USE WITH ELECTRIC SWITCHES
Harry W. Brown, Mukwonago, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 29, 1958, Ser. No. 758,124
1 Claim. (Cl. 248—223)



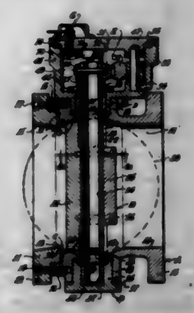
In combination a channel shaped switch mounting frame having an intermediate portion for attachment to a switch base and spaced parallel portions extending perpendicularly of said intermediate portion, a substantially U-shaped support bracket for an electrical device having resilient leg portions which are self-biased outwardly and engage with the inner walls of said parallel portions of said frame, said frame having oppositely disposed apertures each of which in part extends through said intermediate portion and in part extends through a leg portion, and said legs of said bracket each having a projection interfitting with the first mentioned portion of an adjacent one of said apertures and each having another projection interfitting in the last mentioned portion of that aperture.

2,974,920
ILLUMINATOR BRACKET
Joseph H. Spaulding, 4814 S. Roeburn Drive, Cincinnati 23, Ohio
Filed July 15, 1958, Ser. No. 748,758
5 Claims. (Cl. 248—291)



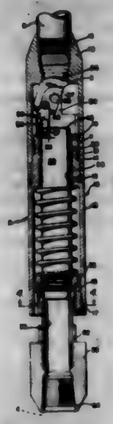
1. A bracket for adjustably mounting an illuminator upon a support, said bracket comprising two parts having a superposed relation, the lower part embodying an open-top body having a back wall, spaced side walls, an upright front wall and means for securing the body upon a support, the upper part having an open bottom body including a back wall, space side walls and a top wall, said lower part body having the top portion extending into the open bottom of the upper part, a pivot means between the adjacent side walls of the two parts, the axis of said pivot passing through the said upright front wall of the lower part, the side walls of the upper part projecting beyond the said upright front wall, an illuminator mounting means extending across and secured to forward edges of said projecting walls at a location forwardly of said upright front wall, and a thrust imparting means connecting the top wall of the upper part with the lower part at a location between the back wall and said upright front wall of the lower part for effecting oscillation of the upper part on said axis.

2,974,921
PRESSURIZED POWER ACTUATED BUTTERFLY VALVE
Siegfried Kaswan, Sunland, Calif., assignor to Actuation Research Corporation, Glendale, Calif., a corporation of California
Filed Feb. 9, 1959, Ser. No. 791,927
16 Claims. (Cl. 251—58)



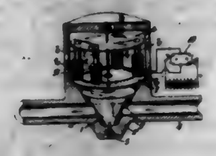
1. In a butterfly valve: a tubular valve housing defining a flow passage having a valve seat throat therein; a butterfly; bearings in which said butterfly is mounted in said housing adjacent said valve seat throat for rotation on a fixed axis; an actuator powered by dry gas under pressure; means for transmitting movement thereof to rotate said butterfly; means providing substantially fluid-tight enclosures for said transmitting means and for said bearings; and means providing for leakage of said dry gas by the transmitting means to said bearings, whereby said enclosures are pressurized by said dry gas leaking from said actuator so as to prevent entry of moisture into said enclosures.

2,974,922
TUBING CONTROL VALVE APPARATUS
Julius D. Kolibaba, Anaheim, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 30, 1957, Ser. No. 687,136
18 Claims. (Cl. 251—77)



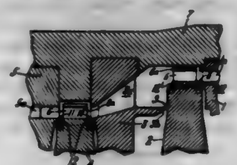
6. In valve apparatus: an outer member; an inner member telescoped within said outer member and rotatable relative thereto; one of said members having a passage surrounded by a valve seat; supporting means rotatable relative to said one member; means limiting longitudinal movement of said supporting means relative to said one member; a valve head pivotally carried by said supporting means and engageable with said valve seat; and means interconnecting the other of said members and valve head to effect rotation of said head about its pivot axis with respect to said seat in response to relative telescopic movement between said members to slide said head along said seat and open and close said passage.

2,974,923
EQUIPMENT FOR DISTRIBUTING FLUID AND VALVE FOR OPERATING THE SAME
Jean Faure Hermann, 68 Rue de l'Est, Boulogne-sur-Seine, France
Filed Dec. 16, 1958, Ser. No. 780,768
Claims priority, application France Dec. 26, 1957
4 Claims. (Cl. 251—137)



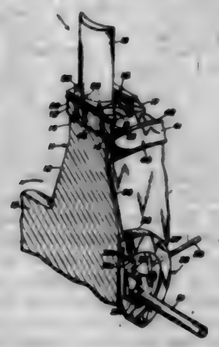
1. An electrically operated valve having an open and a closed position comprising a valve body, a conduit in said body for the flow of fluid through said body, a valve seat defined across said conduit, a rotary plug adapted to fit said valve seat and interrupt said conduit, said valve plug being mounted for rotation about an axis normal to said conduit and for linear movement along said axis, said rotary plug being traversed by a passage normal to said axis of rotation and congruent with said conduit in said open position and normal to said conduit in said closed position, permanent magnet means mounted to rotate and move linearly with said rotary plug, said permanent magnet means axially spaced from said rotary plug and conduit and symmetrically arranged around and parallel to said axis of rotation with adjoining poles having opposite polarity extending toward said rotary plug, electromagnet means having permeable magnetic cores mounted stationary in said valve body intermediate said rotary plug and said permanent magnet means and extending toward and parallel to said permanent magnet means, means for energizing the electromagnet means with alternately opposite polarities similar to the polarities of the opposed permanent magnet means for repelling said permanent magnet means and thereby raising said rotary plug linearly from its seat, the adjoining permanent magnet means of opposite polarity being attracted by the adjacent opposite polarities of the opposed electromagnet means to rotate to align said adjacent poles, thereby rotating said rotary plug and passage to open position, and said opposite poles of said electromagnet means attracting said permanent magnet means linearly to reseat said rotary plug in its valve seat in said open position, means for deenergizing said electromagnet means to leave the permeable magnetic cores attracted by said permanent magnet means thereby holding said rotary plug firmly seated in said valve seat after said deenergization, and means for reversing the polarities of said electromagnets to rotate said rotary plug in the reverse direction in a similar manner back to the closed valve position.

2,974,924
TURBINE BUCKET RETAINING MEANS AND SEALING ASSEMBLY
Andrew W. Rankin, Schenectady, Everett E. Zwicky, Jr., Latham, and Arthur W. Wheeler, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 5, 1956, Ser. No. 626,417
4 Claims. (Cl. 253—39)



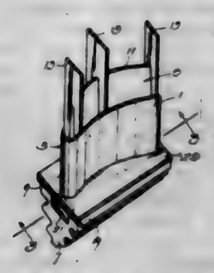
1. In a turbomachine having a casing containing a rotor with at least one wheel rim portion and at least one diaphragm supported in the casing adjacent the wheel rim portion and axially spaced therefrom to form a substantial clearance space therewith, the combination of a wheel rim portion defining a circumferential row of axially extending chevron-shaped grooves, a plurality of buckets each having a base portion of substantially the configuration of said grooves, cooperating key means interengaging between the bucket and wheel rim portions, said key means constituting the sole means to prevent radial displacement of the buckets, and at least one segmented ring member separably connected to the wheel rim at one side of said buckets, the connection of said ring member to said rim including means to removably key each of the segments of said ring member against radial movement relative to said rim, said segmented ring having a first annular portion abutting the exterior ends of said cooperating key means to prevent relative axial displacement thereof and a second annular portion projecting from the wheel rim towards the adjacent diaphragm to restrict leakage of fluid through said clearance space.

2,974,925
EXTERNAL LIQUID-SPRAY COOLING OF TURBINE BLADES
John C. Freche, Fairview Park, and Roy A. McKinnon and John M. Branchwitz, Cleveland, Ohio, assignors, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Feb. 11, 1957, Ser. No. 639,589
7 Claims. (Cl. 253—39.15)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a gas turbine having a shaft, a hub on said shaft having a rim; blades having blade roots mounted on said rim; cooling apparatus for said blades comprising means for providing a temporary receptacle for coolant adjacent and attached to the hub near the hub axis, said receptacle being in the form of an annular gutter having a closed radially outer side and an open inner side; coolant supply ducts in the blade root on the convex side only of each blade; radial injection orifices for each of said ducts; connection means between said receptacle and said radial ducts; said connection means terminating in and penetrating said closed outer gutter; means for supplying coolant to said receptacle, said supply means comprising a stationary manifold chamber concentrically positioned within the area determined by the open inner side of said gutter, means for supplying coolant to said chamber, and at least one nozzle mounted on said chamber, said nozzle having an outlet directed toward the inner open side of said gutter, whereby on turbine rotation coolant is forced by centrifugal force through said ducts into contact with said blade.

2,974,926
STRUT SUPPORTED COOLED TURBINE BLADE
William F. Thompson, Jr., Pittsburgh, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 8, 1959, Ser. No. 805,107
1 Claim. (Cl. 253—39.15)



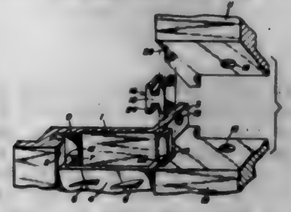
A strut supported turbine blade assembly comprising a tapered root member serrated along its opened lower surfaces for engagement in the core of the turbine, said root member having upwardly extending edges whereby a ledge is formed about the periphery of the upper surface thereof, said root member also having a channel formed through a portion of the ledge; a sturdily constructed strut which is secured to the upper surface of the root member along a longitudinal portion thereof and extends upwardly therefrom; a plurality of fins secured substantially at right angles to the strut at spaced points therealong; a thin sheet metal casing which surrounds the strut and the fins and which is secured to said fins at isolated points, said casing having a flanged lower surface which is secured to the root ledge to form a plenum chamber therebetween; and means for conducting a cooling medium through the channel in the root member into said plenum chamber and upwardly between the strut and casing.

2,974,927
SUPERSONIC FLUID MACHINE
Elmer G. Johnson, 54 N. Grand Ave., Fairborn, Ohio
Filed Sept. 27, 1955, Ser. No. 537,076
7 Claims. (Cl. 253—69)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A supersonic axial flow compressor having a casing forming a flow boundary for radially confining the flow of a gaseous medium therethrough, a bladed rotor rotatable in said casing with the blades thereof having a running clearance with the interior wall of the casing, said casing having an inlet opening at one end thereof and a discharge opening at the other end thereof, the blading on said rotor comprising at least one supersonic stage with the space between the blades defining fluid flow passages with the width of the passages being less than the chord length of the blades and communicating with said casing inlet and outlet, the radial dimensions of the flow passages being of substantially constant radial dimensions from the passage entrance to the passage exit, the supersonic blades being inclined to the plane of rotation and having sharp entrance edges with pressure and suction faces on opposite sides thereof intersecting only at the entrance edges and the blade thickness increasing in the axial direction from the entrance edges to a maximum thickness at the trailing edge so as to produce continuous convergence of the flow passages from entrance to the exit thereof with flow separation and corresponding large wakes in the flow aft of the blades.

2,974,928
STATOR RING LOCKING KEY
Oscar E. Ridley, North Wilmington, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 16, 1959, Ser. No. 847,038
1 Claim. (Cl. 253—78)



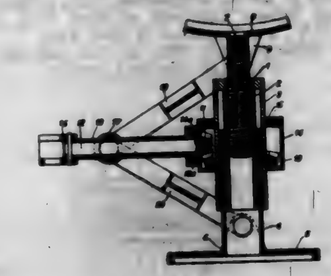
An elastic fluid turbine engine comprising an annular solid housing, an annular half split housing being divided into a first half split housing and a second half split housing and being located to the rear of and adjacent said solid housing, a stator ring disposed in said solid housing having first and second outwardly extending peripheral flanges forming its sides, the rear face of the first flange being substantially radially aligned with the junction of the solid housing and the split housing said junction formed by the rear face of the solid housing and the front face of the split housing, said solid housing having an inwardly extending peripheral flange, the rear face of said latter flange having an arcuate groove, the second flange of said stator ring having a forward extending arcuate lip for mating relationship with said arcuate groove, said stator ring being divided into first stator half ring and second stator half ring segments the mutual abutting ends of the stator half rings being longitudinally aligned with the split in said split housing, at least one of the stator half rings having a cutout through its first peripheral flange a predetermined distance from said mutual abutting ends of the stator half rings, the front face of at least one of the half split housings having a recess extending a predetermined distance from the split in said split housing, an H-shaped key having first and second parallel flat members and having a third member integral with and perpendicular to said first and second flat members so that said first and second flat members are spaced to receive therebetween the first flange of said stator ring, the second flat member being adjacent the front face of said first flange and the first flat member being adjacent the rear face of said first flange, said third member of said key adapted to mate with the cutout in said first flange of said stator half ring and said rear second member of said key adapted to mate with the recess in said half split housing so that torque tending to rotate the stator ring within the solid housing is restrained by the bearing of one face of the cutout in said stator half ring on the third member of said key, said third member being held stationary by the bearing of the first flat member of said key on said split housing.

2,974,929
PANEL LIFTING DEVICE
Klus K. Day, 800 W. 8th St., Clarendon, Tex.
Filed Oct. 23, 1956, Ser. No. 617,757
7 Claims. (Cl. 254—4)



1. A lift for panels and other articles comprising a base, a vertically movable platform disposed above said base for lifting and lowering articles supported thereon, telescoping vertically extensible stabilizers connected at their ends to said base and platform and limiting the latter to guided rectilinear vertical movement relative to said base, said stabilizers having stop means therein limiting movement of said platform from said base, lifting means connected to said platform and base and operable to effect movement of said platform from said base and to enable gravity to move said platform toward said base, said lifting means including a set of upper arms each pivoted to said platform and a set of lower arms each pivoted to said base, said sets of upper and lower arms being pivotally connected in pairs with each pair consisting of an upper arm and a lower arm having their adjacent ends pivotally connected and their non-adjacent ends pivoted to said platform and base in vertical alignment, a support mounted on said base, a winch mounted on said support, a flexible member connected to said winch and to all of the pivotal connections of said adjacent ends of said pairs of arms for positively moving said pivotal connections of all of said pairs of arms towards vertical alignment with the respective pivotal connection of said arms with said platform and base.

2,974,930
LIFTING JACK
Hans Kersen, Engehaldenstrasse 69, Berne, Switzerland
Filed June 12, 1959, Ser. No. 820,029
Claims priority, application Switzerland June 16, 1958
3 Claims. (Cl. 254—102)



2. A lifting jack comprising in combination: a first end member including a threaded part, a second end member including a threaded part, an intermediary member including an outer tubular part and an inner tubular part rigidly connected to each other and coaxial with the threaded parts of the first and second end members, the inner tubular part having two oppositely-handed, equally pitched threads, one provided at its inside being screwably engaged with the threaded part of said first end member and the other provided at its outside being screwably engaged with the threaded part of the second end member, a first gear secured to the outer tubular member, an actuating shaft extending in a plane perpendicular to the common axis of said first and second end members, a second gear rigidly connected to said actuating shaft and meshing with said first gear, a bearing assembly rotatably but axially fixedly mounted on the outer tubular part, a block mounted on the bearing assembly for sliding motion parallelly with the axis of rotation of said actuating shaft, and two links of equal length which are pivotally connected at one of their ends with said block and at their other end with respective ones of said end members.

2,974,931
LOAD HOLDER
Roy C. Reel, 814 Escambia Drive, and Lester Lewis Towell, 1801 French Ave., both of Sanford, Fla.
Filed May 23, 1957, Ser. No. 662,131
1 Claim. (Cl. 254—106)

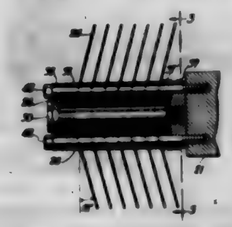
A load holder comprising two sleeves each flattened at one end, a pair of resilient friction pads, one for each flattened end of the sleeves, each pad having a pair of ears embracing its associated flattened end of the sleeve with a pivot passing through the ears and the flattened end to allow the pad to assume a wide range of angular positions, a smooth surfaced shaft secured within one of said sleeves and extending beyond the unflattened end of the sleeve, a force multiplying means gripping said

shaft and movable therealong, said shaft having a free end extending through the force multiplying means, the second sleeve telescoping said extending free end and in



abutting relationship with the force multiplying means, whereby the holder may be placed in a wide range of angular positions relative to two opposing surfaces and can apply opposing forces to said surfaces.

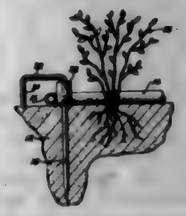
2,974,932
CONDUIT THREADER
Constantine P. Xenis, Douglaston, N.Y., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York
Filed June 26, 1958, Ser. No. 744,860
9 Claims. (Cl. 254—134.5)



1. Apparatus for traveling through pipes and the like comprising: a brush device constituted by an elongated core and a plurality of bristles extending outwardly therefrom in circumferential array and being tilted relatively to the longitudinal axis of such core when inserted into a pipe, said core including a layer of resilient rubber-like material supported by a rigid central support, said bristles being embedded in said layer; and means for causing said device to quiver laterally of its longitudinal axis to advance the apparatus in the pipe, said bristles being of metal and being of dimensions and of metal characteristics selected to make same stiff to such an extent that together with the selected resilience of said rubber-like material there is substantially imperceptible bowing of the bristles when so inserted in a pipe the inner diameter of which bears relation of the outer diameter of said brush device as defined hereinafter, the outer diameter of said brush device being of the order of about 4% to 25% larger than the inner diameter of such pipe in which it is to operate, and the bristle tilt relative to a plane normal to the longitudinal axis of the apparatus being not greater than about 25° to 40° when inserted in such a pipe.

2,974,933
GARDEN HOSE GUARD
Jean M. Belanger, 3891 Bishop, Detroit, Mich.
Filed Feb. 24, 1959, Ser. No. 795,239
1 Claim. (Cl. 254—190)

A guide for controlling the direction of the line of movement along the ground of a flexible elongated member comprising a shank adapted to be inserted in the ground, an inverted U-shaped upper guide portion having a pair of spaced parallel legs and an integral cross member, one of said legs being integral with and forming a continuation of said shank, said legs being substantially equal in length, a cylindrical roller journalled on said one leg, and means for retaining said roller in position and for preventing axial movement of the same along said shank, said U-shaped upper portion being adapted



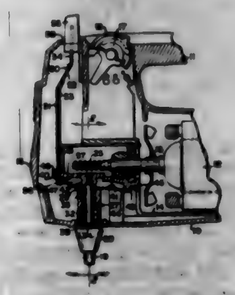
to straddle said flexible member thereby permitting the latter to ride on said roller when the same is dragged along the ground, said cross members being disposed above said flexible member when the latter is trained between said legs.

2,974,934
SAFETY APPARATUS FOR HIGHWAYS
Andrew J. White, Lee, N.H.
(Newmarket P.O., South Lee, N.H.)
Filed Nov. 2, 1959, Ser. No. 850,255
11 Claims. (Cl. 256—13.1)



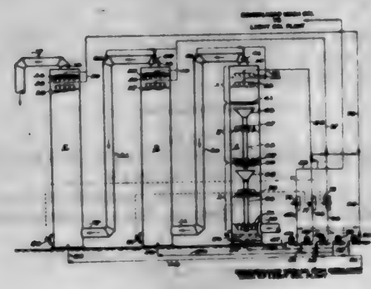
1. Safety apparatus for highways comprising supporting means, a plurality of guard rails movably attached to, and extending diagonally from, said supporting means in overlapping relationship, resilient means between and in association with said supporting means and said guard rails and adapted to yield and permit said guard rails to move inwardly towards said supporting means when force is applied thereto, said guard rails normally being spaced laterally from each other.

2,974,935
EJECTOR FOR DISCONNECTING TOOL SHAFTS FROM MOTOR DRIVEN POWER UNIT
Charles L. Sunder, Racine, Wis., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Mar. 20, 1959, Ser. No. 800,764
3 Claims. (Cl. 259—1)



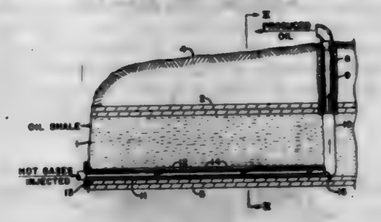
1. In a motor driven power unit having a housing provided with a handle and a top wall slotted forwardly of the handle, a bottom wall having an opening therein, a motor frame member between the top and bottom walls, a pair of drive spindles and a tool shaft detachably connected to each of said drive spindles, ejector mechanism comprising an ejecting projection fixed on each tool shaft, an ejector member located above said bottom wall opening in direct alignment with the opening and having its lower end always in the opening, and having means for bearing on said ejecting projections, means yieldingly mounting the ejector member in the housing between said drive spindles, a lever having a generally horizontal bearing portion between its ends bearing on top of the ejector member between said drive spindles, said drive spindles being located in the housing adjacent the ejector member and beneath the lever, said lever having a free end, its opposite end engaging the motor frame member to pivot about a horizontal axis when the free end is depressed, a vertically disposed push bar in the housing, and a knob fixed to the upper end of the push bar projecting above the housing through the slotted top wall, the lower end of the push bar bearing on the free end of the lever, depression of the knob and push bar producing pivotal movement of said lever and downward pressure of said bearing portion of the lever on top of the ejector member to move said member through said bottom wall opening into contact with the ejecting projections on said tool shafts.

2,974,936
ABSORPTION APPARATUS
Joseph van Ackeren and Edward J. Helm, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed May 22, 1957, Ser. No. 660,791
2 Claims. (Cl. 261—115)



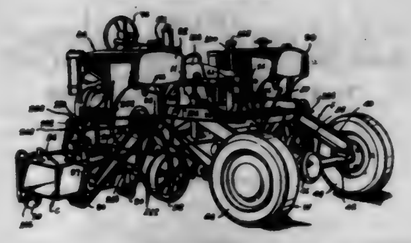
1. Apparatus for absorbing the light oil vapors of coke oven gas into an absorbent oil, comprising a tower, means for flowing gas upwardly through said tower, an uppermost spray unit constructed and arranged to spray absorbent oil downwardly in the tower, means for initially introducing said absorbent oil into said tower at said uppermost spray unit, further spray units positioned along the height of said tower and arranged as pairs of spray units spaced apart longitudinally of said tower for spraying liquid in opposed directions upwardly and downwardly, directing means, positioned under said uppermost unit and intermediate said pairs of spray units, operative by gravity and constructed and arranged to direct absorbent oil downwardly within the tower to the immediate sub-adjacent spray unit, said spray units being constructed and arranged to receive absorbent oil only from above-positioned directing means, said directing means including catch means, ring shaped means spaced above said catch means for guiding the film of liquid which flows from the walls of the tower to said catch means and its associated pair of spray units so as to provide a gravity pressure which is the sole means of causing said liquid to spray from the last-mentioned pair of spray units.

2,974,937
PETROLEUM RECOVERY FROM CARBONACEOUS FORMATIONS
Other M. Kiel, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Nov. 3, 1958, Ser. No. 771,435
2 Claims. (Cl. 262—3)



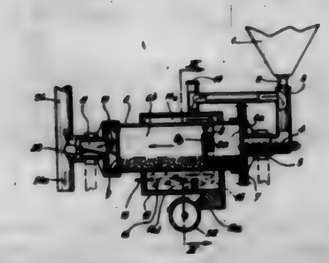
1. A method for producing oil from a stratum of oil shale comprising driving a drift along the lower portion of the stratum and placing a perforated conduit therein which is capped at its inner end, said drift terminating at a substantially vertical hole drilled from the ground surface, passing hot gases through the conduit toward said borehole at a temperature above 600° F. to vaporize at least a portion of the oil within the shale whereby stoping of the stratum occurs, and recovering oil from said borehole.

2,974,938
PAVEMENT CUTTING APPARATUS
William H. Lewis, Arcadia, Calif., assignor, by mesne assignments, to Joint Saw Company, Arcadia, Calif., a corporation of California
Original application Apr. 17, 1953, Ser. No. 349,418, now Patent No. 2,782,017, dated Feb. 19, 1957. Divided and this application Oct. 1, 1956, Ser. No. 613,319
13 Claims. (Cl. 262—20)



1. Cutting apparatus for forming a plurality of longitudinally spaced transversely extending kerfs in an elongate strip of pavement, comprising: a frame; main wheels supporting said frame for longitudinal movement relative to said strip, said wheels normally being engaged with said pavement; carriage means mounted by said frame; a plurality of aligned, transversely spaced cutter discs mounted by said carriage means, said discs being normally maintained out of engagement with said pavement; auxiliary wheels mounted by said carriage means permitting it to be moved transversely relative to said strip, said auxiliary wheels normally being disposed above said pavement; means for effecting relative vertical separation of said frame and said carriage means in order that said carriage wheels and said cutter discs may be brought into engagement with said pavement and said main wheels will be lifted off said pavement; and, means for moving said carriage means transversely relative to said strip whereby said cutter means may cut a transversely extending kerf in said strip.

2,974,939
METHOD OF AND APPARATUS FOR THE PRODUCTION OF GYPSUM PLASTER
Philippe Landrieu, Martigues, France, assignor to Societe des Gypses et Platres de France, Marseille, Bouches-du-Rhone, France, a company of France
Filed Dec. 22, 1958, Ser. No. 782,117
Claims priority, application France Jan. 3, 1958
6 Claims. (Cl. 263—33)



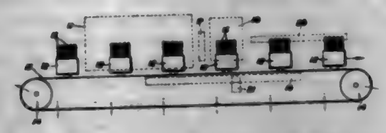
1. In apparatus for concurrently grinding and dehydrating a hydrated raw material in lump form, in combination, a rotatable container, aligned axial inlet and outlet apertures in opposite ends of the container for feeding said raw material thereinto and discharging product material therefrom respectively, at least one charge of loose grinding elements in the container, an enclosure surrounding the container, means for providing a gaseous heating medium in the enclosure for circulation around the container, means for feeding at least a portion of said medium from said enclosure into said inlet for delivery through the container together with said material, perforate means in the peripheral wall of the container for diverting a fraction of said material from the container into said enclosure for exposure to high-temperature conditions therein, and means for discharging said exposed fraction of said materials from said enclosure.

2,974,940
SCALE AND ADAPTOR THEREFOR
James Richard Hankins, 2965 Cleveland Ave., Columbus 24, Ohio
Filed Apr. 8, 1959, Ser. No. 804,936
2 Claims. (Cl. 265—73)



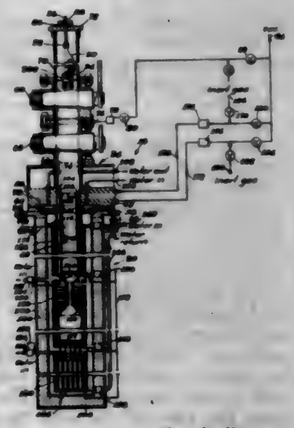
1. A scale assembly comprising a base member, a member vertically and resiliently displaceable on said base member and having a flat surface for supporting articles to be weighed, first means for detachably engaging the displaceable member and transferring substantially vertical forces thereto, a cradle adapted for accommodating articles to be weighed, and second means on said cradle for detachable connection to the first means with the cradle superposed over said surface whereby said surface and cradle may be selectively employed for weighing operations; said first and second means each including a plate one of which is flanged for slidably accommodating the other, one of the plates having a slot and the other including a yieldable lug for engaging the slot and locking said plates together.

2,974,941
MANUFACTURE OF METAL ARTICLES
Alan Cyril Hobdell, 88 Henley Ave., Norton, Sheffield 8, England
Filed Aug. 1, 1958, Ser. No. 752,648
Claims priority, application Great Britain Aug. 2, 1957
14 Claims. (Cl. 266—4)



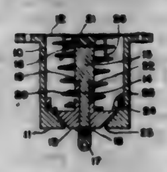
1. Apparatus for an automatic hardening treatment of articles, comprising a conveyor to which is secured at least one holder designed to carry a plurality of articles, the articles being received by the holder before treatment and being removed from the holder only after treatment, a plurality of treatment stations, the conveyor conveying the holder along a predetermined path to said treatment stations in succession, means for driving the conveyor intermittently so that each holder in turn is halted at each successive station for a predetermined period, at least one of the treatment stations being provided with heating means arranged to heat the articles carried by the holder when halted at that treatment station, and a subsequent treatment station being provided with cooled clamping means arranged to cool, and to apply clamping pressure individually to, the articles carried by the holder when halted at that treatment station, the clamping means including a fixed common clamping member, and, for each article in the holder, a cooperating movable clamping member, each movable clamping member being so arranged that light clamping pressure is first applied to the relevant article to allow that movable clamping member to tend to conform to the shape of that article, before full clamping pressure is applied to that article.

2,974,942
MEANS FOR PROCESSING NUCLEAR REACTOR FUEL ELEMENTS
Robert J. Teitel, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 7, 1959, Ser. No. 832,341
5 Claims. (Cl. 266—9)



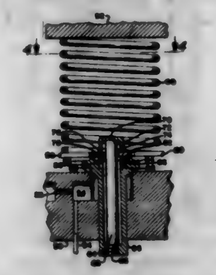
1. Apparatus for pyrometallurgically processing nuclear fuel elements comprising, in a shielded housing, an air cooling chamber, hoisting means for drawing to and lowering from said chamber a fuel element to be processed, pyrometallurgical apparatus comprising an upper section and a lower section, means for moving said lower section with respect to said upper section, said upper section comprising a header, said header having an upper end, a lower bearing surface and an axial bore, means for cooling said bearing surface, separate gas passage means adjacent to said upper end and adjacent to said bearing surface, a hollow tubular structure, said tubular structure having an upper end and an open end aligned with the axial bore of the header and sealed to the header, said tubular structure having a first valve disposed adjacent to said header and a second valve disposed between the first valve and said upper end of the tubular structure, each of said valves being adapted to completely close the hollow part of said structure, gas passage means communicating with the hollow part of said structure between said first and second valves, closure means for the upper end of said tubular structure, said closure means having a centrally disposed bore extending therethrough, said bore being surrounded at one end by a packing gland, a rod-like probe extending through said centrally disposed bore and packing gland, said lower section comprising an elongated hollow chamber having thermally insulated liquid impervious side walls and bottom and an outwardly extending flange having a sealing surface at the upper part thereof, the hollow chamber being substantially larger in transverse cross section than the axial bore of the header, said hollow chamber having disposed therein three heating and cooling coils, the coils being spaced apart in end to end relationship within the chamber, a multiple section treating chamber, said treating chamber having a crucible receiving upper part having a flanged upper end adapted to be sealed against said header, an intermediate part and a lower part composed of a plurality of tubelets each communicating with the intermediate part, each of the parts of the treating chamber being aligned in side by side relationship with and surrounded by one of said heating and cooling coils, a crucible having an open upper end, side walls and a porous bottom, said crucible being telescoped into the upper part of the treating chamber and having its upper end sealed to said header between the gas passage means thereof, means for changing the temperature of said heating and cooling coils in a predetermined manner, and means for controlling the rate and direction in which gas is drawn through each of said gas passages.

2,974,943
SHOCK MOUNT
Vernon G. Ames, Langhorne, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 17, 1960, Ser. No. 9,401
7 Claims. (Cl. 267—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



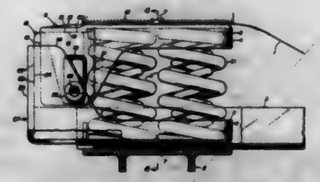
1. In a shock absorbing connection capable of absorbing shocks above safe predetermined value comprising preloaded springs, a preloading in either spring being overcome before any relative movement of component parts is experienced, the combination therewith of the improvement for absorbing a shock in any direction above some value with reduced danger of damage to whatever is carried by said connection, said improvement including a casing in which are said preloaded springs, a thrust rod within said casing, said casing having a front wall provided with a perforation therein, a conical member in said perforation with the walls of said perforation tapered according to the taper of said conical member and said perforation walls being lined with friction reducing material, seats for said springs on said casing, said thrust rod, and said conical member whereby any lateral component of thrust will be absorbed by at least one of said springs when in excess of said value and will cause said conical member to move up an incline formed by the walls of said perforation.

2,974,944
TEMPERATURE RESPONSIVE SPRING RATE COMPENSATING DEVICE
Leslie S. Terp, Scottsdale, Ariz.
Filed Dec. 4, 1957, Ser. No. 700,588
9 Claims. (Cl. 267—1)



1. In a temperature responsive spring rate compensating device, the combination of: first and second members formed of materials having different coefficients of expansion, one end of said first member being fixed to one end of said second member; lever means pivotally engaged by the opposite end of said first member; fulcrum means carried by the corresponding end of said second member, said fulcrum means having a pivotal engagement with said lever means and spring means engaged by said lever means on the opposite side of said fulcrum means from the engagement of said lever means and said first member; said lever means being provided to amplify relative movement of said members and transmit such movement to said spring.

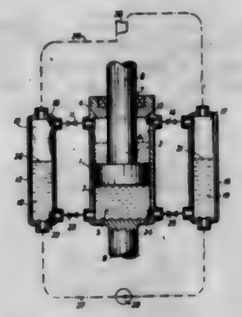
2,974,945
PACKAGE SPRING GROUP
Glenn F. Couch, Bergen, N.Y., assignor to Symington Wayne Corporation, a corporation of Maryland
Filed May 28, 1957, Ser. No. 662,164
5 Claims. (Cl. 267—9)



1. In a package spring group, the combination with vertically spaced top and bottom spring plate members and interposed supporting springs, of a friction surface carried by one of said members, a plurality of friction surfaces carried by said other member and substantially normal to each other and to said first-named friction surface, a friction shoe carrying a multiplicity of friction

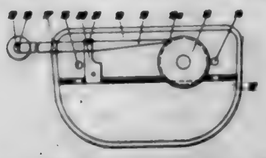
faces disposed substantially normal to each other and each frictionally engageable with one of said friction surfaces, and resilient means acting in a direction inclined relative to and urging said several friction faces in different angularly related directions each into engagement with the related friction surface for frictionally resisting relative movement of said spring plates.

2,974,946
PNEUMATIC SPRING STRUCTURES
Franz Emil Tuczek, Forster Str. 38, Eitorf, Sieg, Germany
Filed Jan. 17, 1957, Ser. No. 634,696
7 Claims. (Cl. 267—64)



1. A pneumatic spring structure for use on vehicles comprising a gas cushion, a volume of oil co-operating with said gas cushion, a lower pressure container having a gas space communicating with said gas cushion, a volume of oil in said lower pressure container, a higher pressure container having a gas space communicating with said gas cushion, a volume of oil in said higher pressure container, connections between the volume of oil in said containers with the volume of oil co-operating with the gas cushion, means for regulating the flow of gas between said cushion and said containers, means for regulating the flow of oil between the oil co-operating with the gas cushion and that in the containers, a compressor connecting the gas space of said lower pressure container with the gas space of said higher pressure container, and an oil pump connecting the oil in said lower pressure container with the oil in said higher pressure container.

2,974,947
ADJUSTABLE STOP GUIDE FOR HOLE PUNCH
Karl Ziegler, Bonn, Germany, assignor to F. Soennecken, Bonn, Germany
Filed Nov. 29, 1956, Ser. No. 625,884
6 Claims. (Cl. 269—170)



1. In a hole punch of the type having a hollow base presenting a flat horizontally disposed top and generally vertical side walls and an aperture proximate said flat top, adjustable stop guide means for correctly positioning papers to be perforated thereon, said guide means extending from one side of said base to leave the other side unobstructed and including a resilient measuring tape mounted in said base for sliding movement through said aperture and a stop member mounted at one end of said tape externally of said base, said one end of said tape being disposed in operative condition with its flat surfaces horizontally generally in alignment with the top of said base and the other end of said tape being disposed with said flat surfaces substantially vertically in said base.

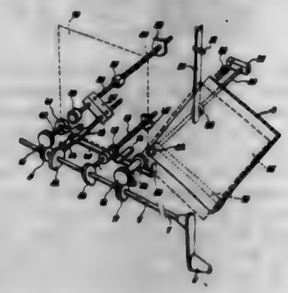
2,974,948
AUTOMATIC BY-PASS CONTROL
Clifton S. Malott, Jr., Silverton, Ohio, assignor, by mesne assignments, to McGraw-Edison Company, a corporation of Delaware
Filed Jan. 28, 1959, Ser. No. 789,659
28 Claims. (Cl. 270—81)



1. In apparatus of the type described for performing an operation on a moving article as it passes an operating zone, automatic control means for the selection of articles for an operation, and the rejection of other articles, dependent on article width, including conveying means for advancing the articles in a path of travel past said operating zone, a by-pass member in said path upstream from said operating zone and disposed to intercept and guide the leading edge of the moving article, and adapted, when moved in a first, operating direction, to guide the article through said operating zone and, when moved in a second, by-pass direction, to cause the article to by-pass said operating zone, said conveying means including a pair of lanes lying side by side, each lane adapted to carry an article not exceeding in width the width of the lane, and both lanes being adapted to cooperate in carrying any article having an overlap on each lane, a sensing zone on said path of travel upstream from said by-pass member, a motor means effective on said by-pass means whereby to move it in one said direction or the other, and sensing means between the two said lanes in said sensing zone and adapted to be intercepted by the leading portion of any article overlying a portion of each said lane, said motor means being operatively responsive to such interception whereby to move said by-pass means in said first direction, said sensing zone being disposed so closely adjacent to said by-pass member that the control of normally-spaced articles following each other in immediate sequence is effected without mutual interference.

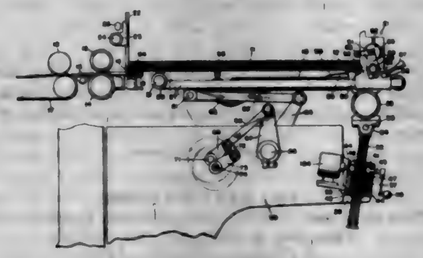
2,974,949
DEVICES FOR SEPARATING CUT FILMS FROM A STACK
Rudolf Zogmann, Delft, Netherlands, assignor to N.V. Optische Industrie De Ould Delft, Delft, Netherlands
Filed July 28, 1959, Ser. No. 829,997
Claims priority, application Netherlands Aug. 19, 1958
5 Claims. (Cl. 271—18)

1. In a device having means for holding collectively a stack of uniformly cut pieces of film, means for sequentially moving the film, piece by piece, from one end of the stack, to an operative position and then to a restacked collective position, said moving means comprising a film separating member mounted for rotation about an axis perpendicular to said stack and having a free end defining a contact surface positioned opposite a corner of the foremost film piece in the stack, said contact surface having a high coefficient of friction; a first biasing means for biasing the stack toward the contact surface to engage the foremost piece of film with said contact surface; means for rotating the separating member about said longitudinal axis and thereby rotating the foremost piece of film in its own plane to the operative position; a first reciprocal means, responsive to said rotating means, for retracting said stack from contact with the contacting surface between preselected points in each revolution of said rotating means to release each foremost film piece in said operative position; an element similar to said separating member and having a similar contact surface, said element mounted for rotation, and rotated by said rotating means, and having said contact surface positioned opposite a second corner of each piece of film successively in the operative position; a second biasing means, opposing said element, for biasing said second corner of each said film piece into contact with the contact surface of said element, and, when rotated



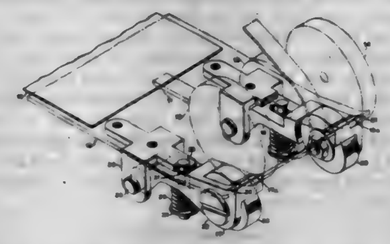
by said rotating means, causing the rotation in the same plane of each said film piece in the operative position to the retracted collective position; a second reciprocal means responsive to said rotating means for retracting said second biasing means between preselected points in each revolution of said rotating means, the preselected points of said first and second biasing members being selected to alternately cause the gripping and releasing of said separate corners of each film piece respectively, and, in opposite sequence, between their respective biasing means and the respective rotatable opposing stack separating member and the similar element, the gripping and releasing at one said corner corresponding to the releasing and gripping at other said corner, thereby rotating in turn each film piece successively and in the same plane from the stack of films to an operative position to a restacked collective position.

2,974,950
SHEET FEEDING MECHANISM
Bruno B. Pasquinelli, Evergreen Park, and Henri E. Peyrebrune, River Forest, Ill., assignors to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed July 1, 1959, Ser. No. 824,402
12 Claims. (Cl. 271—44)



3. In a bottom sheet feeder having a reciprocating carriage for advancing each succeeding bottom sheet from beneath a stack of warped sheets the combination comprising, a frame member, a track assembly mounted on said frame member for guiding said carriage in a path substantially normal to the radius of curvature of the sheets at the rear edge thereof, means pivotally mounting said track assembly at the front end thereof, adjustable supporting means connected between the frame member and the rear end of said track assembly, and manually operable means for varying the effective length of said supporting means to thereby rock said assembly about its pivot axis relative to the radius of curvature of the sheets to thereby maintain the said normal relationship between the path of said carriage and the rear edge of said sheets.

2,974,951
CARD TRANSPORT
Lawrence A. Wilson, Apalachin, and Wendell J. Wheeler, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1956, Ser. No. 631,660
2 Claims. (Cl. 271—31)

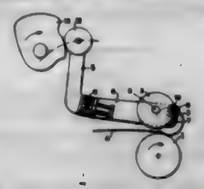


1. In a card transport, a planar guide formed with a curved lip thereon for supporting cards fed to said transport, a first roll mounted for rotation about a fixed axis and having its peripheral edge in close proximity to said guide, a pivot block fixed in relation to the underside of said guide, a member pivoted in said block, said member having a curved end portion whose radius of curvature is substantially equal to the radius of curvature of said first roll, an opening formed in said member, spring means secured to said member and biasing said member toward said guide, a follower roll mounted for rotation on said member and extending through said opening to contact said first roll at a point above the surface of said guide, the periphery of said first roll and said curved end portion being spaced apart less than the thickness of a card to be transported whereby said curved end portion and said first roll will determine the tangential direction of a card emerging from between said first roll and said follower roll and positively contact said emerging card for a distance equal to the peripheral extent of said curved end portion.

2,974,952
REGISTERING MECHANISM FOR THE ACCURATE FEED OF SHEETS OF PAPER TO A PRINTING DEVICE, PARTICULARLY TO DUPLICATING MACHINES
Karl Gustav Zeuthen, Gentofte, Denmark, assignor to Zeuthen & Aagaard A/S, Copenhagen, Denmark
Filed June 10, 1957, Ser. No. 664,618
Claims priority, application Netherlands June 19, 1956
4 Claims. (Cl. 271—53)

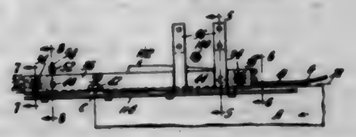
1. A registering mechanism for the accurate feeding of sheets of paper to a printing device, comprising at least one paper feed roll rotatable intermittently in opposite directions about a fixed axis and arranged for performing a feed motion synchronized with the motion of the printing device; a lever, means pivotally mount-

ing said lever for movement towards and away from said paper feed roll and in a plane generally normal to said axis, a pair of idler backpressure rolls carried by said lever and spaced longitudinally thereof, said back pressure rolls including a feed-registering roll and a feed backpressure roll, said feed-registering roll being disposed in advance of said feed backpressure roll in the direction of paper feed, means carried by said lever normally mounting said feed-registering roll in a position closer to said feed roll for engagement with said feed roll in advance of contact of said feed backpressure roll with said feed roll and for movement relative to said



lever away from said feed roll whereby said feed-registering roll and said feed backpressure roll may simultaneously engage said feed roll to feed a sheet of paper when said feed roll rotates, and means for pivoting said lever in timed relation with the rotation of said feed roll to first engage said feed-registering roll with said feed roll when said feed roll is stopped for cooperation with said feed roll to form a paper sheet stop and then to engage said feed backpressure roll with a sheet of paper stopped by said feed registering roll and clamp the sheet of paper against said feed roll for feeding the sheet of paper when said feed roll rotates.

2,974,953
GAUGING MECHANISM
Daniel Bernard Kaschner, Sr., Lombard, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 17, 1960, Ser. No. 9,251
10 Claims. (Cl. 271—59)



1. A sheet gauging mechanism, comprising in combination, a feed table, means for feeding a sheet along said feed stable, a side gauge fixedly mounted on one side of said feed table, shifting means for moving said sheet laterally of said feed table to bring it into engagement with said side gauge, and deflector means disposed ahead of and adjacent to said side gauge, said deflector means being movable to a position inwardly of said side gauge to deflect said sheet inwardly of said side gauge to thereby guide its adjacent front corner past said side gauge without striking against the same, said deflector means being movable outwardly after said adjacent sheet corner has passed said side gauge to enable said shifting means to move said sheet into contact with said side gauge.

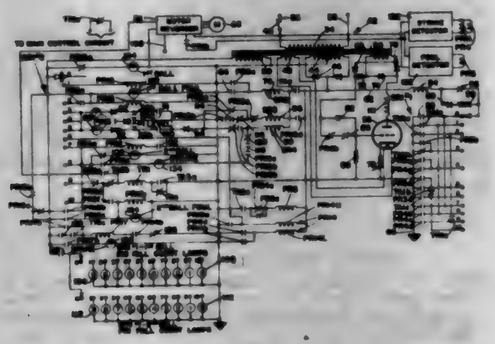
2,974,954
MISSILE PROJECTOR
James E. Martin, 415 Lyle Ave., East Point, Ga.
Filed July 10, 1959, Ser. No. 826,380
8 Claims. (Cl. 272—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A missile projector comprising a container including opaque side and end walls and a top wall, a partition depending from said top wall and dividing said container into two compartments, said partition being formed with a restricted opening therethrough, a portion of said top wall above one of said compartments being substantially transparent to expose such compartment to view, the portion of said top wall above the other compartment being opaque, said opaque portion of said top wall comprising a lid hingedly connected to said container for swinging movement from a closed position through substantially 180° to an open position, spring means operatively connected to said lid and urging the same to said



open position, means releasably holding said lid in said closed position, a missile in said compartment of said container which lies below said lid, an appendage on said missile simulating the appendage of a living creature, said appendage having a terminal portion normally extending through said opening in said partition into said compartment below said transparent top wall portion, means readily releasably connecting said missile to said lid inwardly of said last named compartment, and said last named means being formed to release said missile for aerial flight as said lid reaches said open position.

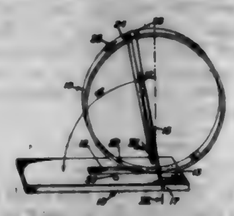
2,974,955
CONTROL MECHANISM FOR BOWLING PIN SPOTTING MACHINE
Richard D. Walsh, Shelby, Ohio, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 7, 1958, Ser. No. 719,823
30 Claims. (Cl. 273—43)



1. In combination with a bowling pin spotting machine, signalling mechanism for indicating the actual, numerical pinfall totals each time a ball is rolled, and totalizing means associated with said machine for totalizing the numerical pinfall and operative in response to the number of fallen pins after each ball of a discrete playing frame is rolled for selectively energizing said signalling mechanism to indicate said total pinfall of said frame only.

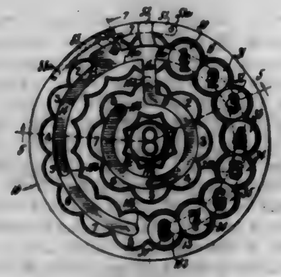
2,974,956
TOY RETURN HOOP
Alfred G. Zuber, 1309 Hollyrood Road, Sandusky, Ohio
Filed Jan. 2, 1959, Ser. No. 784,574
2 Claims. (Cl. 273—129)

1. A device for projecting a hoop with a reverse rotation to cause its return comprising a launching pad having relatively smooth top and bottom surfaces, said pad having a groove formed in a portion of the top surface and extending inwardly from one end thereof along the longitudinal axis of the pad, the bottom portion of said groove being disposed below and in spaced parallel relation to said top surface, said pad having a kerf provided on each side thereof adjacent the end having the groove therein with said kerfs being in aligned relation with one another, an elastic band secured in said kerfs and encircling said pad, a hoop having a smooth outer surface positioned in said groove, said hoop being of substantially the same width as said groove, said elastic band being



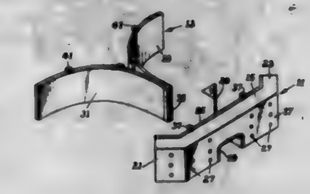
stretched to engage the upper surface of said hoop when said hoop is positioned in the inner end portion of said groove, said elastic band being under tension when stretched to engage the upper portion of said hoop and moving said hoop in said groove to a position adjacent the end of said pad to retain said hoop in launching position whereby said hoop is launched from said groove when said elastic band and the portion of the hoop engaged thereby are moved towards the inner end portion of said groove to cause said hoop to spin in a direction reverse to its direction of movement and return to its point of launching.

2,974,957
CIRCULAR PUZZLE GAME
Irving Hartley Steinhardt, 245 E. 11th St., New York, N.Y.
Filed May 28, 1957, Ser. No. 662,172
2 Claims. (Cl. 273—132)



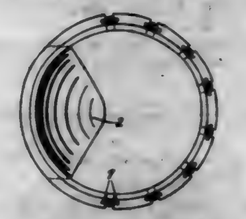
1. A game comprising a game board formed with a plurality of passage means respectively having entrance ends communicating with each other at a given part of said board, said board having upper and lower layers and an intermediate layer located therebetween, said upper layer being formed with a cutout extending from the periphery of said upper layer to said part of said board so that game pieces may be moved through said cutout to or from said part of said board, a gate member turnably connected to at least one of said layers and having a portion located in and substantially filling said cutout when said gate member is in a closed position, said gate member being turnable to an open position where said portion of said gate member is located out of said cutout to give access through said cutout to said part of said game board, said gate member having a free end portion formed with a notch, a springy member fixed at one end to said board between said upper and lower layers thereof and having an opposite free end located in said notch for releasably maintaining said gate member in its closed position, and manually operable means for moving said gate member at least part of the way from its closed position toward its open position.

2,974,958
MINIATURE GOLF APPARATUS AND GAME
Thomas D. O'Herron, 70 Liberty St., Dansville, N.Y.
Filed May 22, 1959, Ser. No. 815,189
6 Claims. (Cl. 273—176)



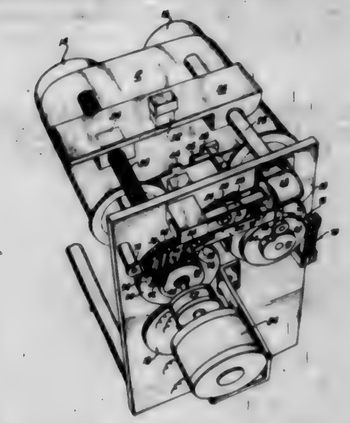
1. A miniature golf apparatus including a barrier unit and a deflector unit, said barrier unit comprising an upstanding elongated resilient block having a tunnel extending through the central lower portion thereof, said deflector unit comprising a pair of oppositely disposed rearwardly and outwardly curved deflector plates secured together at their front ends, said deflector unit being arranged behind said tunnel so that a ball hit through said tunnel is deflected to either side by said deflector plates, the ball being deflected by said resilient block when it strikes said barrier unit to either side of said tunnel.

2,974,959
PRACTICE GOLF PUTTING CUP
Chester A. Zlotnicki, 34 Pulaski St., Stamford, Conn.
Filed Nov. 20, 1959, Ser. No. 854,345
3 Claims. (Cl. 273—177)



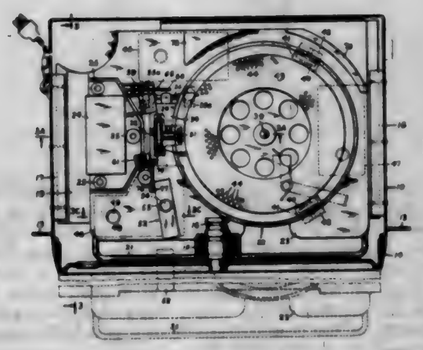
3. A practice putting cup comprising in combination a ring, a support for said ring maintaining it at a predetermined height, said ring being provided with an upper recessed portion and spaced pin carrying slots at right angles to the circumference of the ring, a plurality of pins journalled in said slots at a point below their tops, the spacing of the slots being sufficient to prevent jamming of the pins but less than a golf ball diameter, the upper recessed portion being spaced to encounter the tops of the pins and to thereby prevent them from swinging outwardly, the pin carrying slots being sufficiently narrow so that they constitute positive means for preventing sidewise movement of the pins.

2,974,960
APPARATUS FOR POSITIONING AND SCANNING A TRANSDUCER HEAD OVER A GROOVELESS RECORD
Arthur J. Hyatt, Fort Worth, Tex., assignor to Dictaphone Corporation, Bridgeport, Conn., a corporation of New York
Filed May 11, 1959, Ser. No. 812,454
7 Claims. (Cl. 274—4)



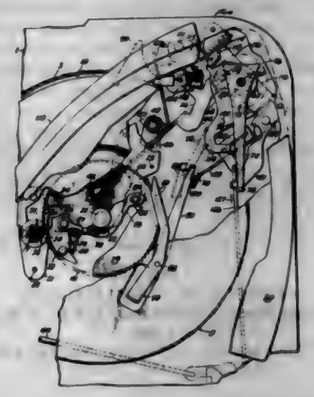
1. A synchronizing and safety system for a dictating machine comprising a drive mandrel which is adapted to drive an endless belt record by frictional engagement and at constant lineal speed, means to laterally scan a transducer head slowly across the record as it moves longitudinally past the head, synchronizing means acting at intervals to stop the lateral movement of said head while said record continues to rotate a short distance, and safety means responsive to the condition of said synchronizing means to prevent said synchronizing means from operating in the event said head is stopped for too long a time while the record moves longitudinally.

2,974,961
PHONOGRAPH REPRODUCER
Peter C. Goldmark, New York, N.Y., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Sept. 12, 1955, Ser. No. 533,615
4 Claims. (Cl. 274—9)



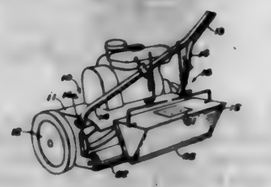
1. In phonograph reproducer apparatus for use on a movable vehicle, a phonograph support member, a turntable supported for rotary motion on the support member, a pickup arm supported on the support member at a location spaced from the axis of the turntable, the pickup arm being mounted for pivotal motion in a plane parallel to the turntable so that angular motion of the support member tends to turn the pickup arm with respect to the turntable, a base member mountable on the movable vehicle, and a plurality of resilient shock absorber means supporting the support member on the base member distributed unsymmetrically about the center of mass of the support member and arranged so that the center of support compliance afforded by the shock absorber means as defined by the point at which an applied force will cause all the shock absorber means to yield equally coincides with the center of mass distribution of the support member and phonograph apparatus mounted thereon, thereby preventing any angular motion of the support member with respect to the base member in response to linear accelerative forces in a plane parallel to the turntable.

2,974,962
AUTOMATIC INDEXING RECORD CHANGER
Colin B. Dale, Oak Park, Ill., assignor to Webcor, Inc., a corporation of Illinois
Filed July 29, 1954, Ser. No. 446,469
6 Claims. (Cl. 274—10)



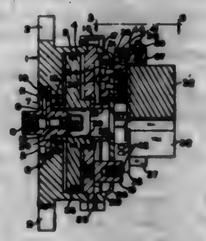
1. In a record changer for playing automatically intermixed records of different sizes in successive playing cycles and having a turntable, means supporting a stack of records above the turntable for dropping them one at a time onto the turntable between playing cycles and a tone arm mounted at one side of the turntable, the combination of cycling means for moving the tone arm inwardly towards the center of the turntable at the start of a record playing cycle and outwardly from under said supported stack of records at the end of a record playing cycle including a freely movable driven member actuating said tone arm, a frictional slip clutch and a drive member movable to carry said tone arm through said frictional clutch and driven member to its initial playing position over the smallest size record at the start of a record playing cycle; indexing means for limiting movement of said driven member during inward movement of said driven member and the tone arm including a freely rotatable support, a flag member carried by said support and disposed above the level of said turntable, and an element shifted by said support for engaging said driven member selectively at predetermined spaced points corresponding to the different sizes of records being dropped to obstruct inward movement of said driven member accordingly; means actuated by said cycling means to move said rotatable support to and fro and thereby to move the flag member into the path of a falling record of predetermined size with the tone arm moved to an outward position and to move the flag to a normal resting position away from the center of the turntable during the record playing cycle, said flag member when disposed in the path of a falling record being contacted by the falling record and being freely movable thereby outwardly until the record is cleared to carry said indexing means element to a corresponding point of obstruction for said driven member.

2,974,963
SPREADING ATTACHMENT FOR LAWN MOWERS
Charles F. McBride, 427 Mortimer St., Sturgis, Mich.
Filed Nov. 20, 1958, Ser. No. 775,181
7 Claims. (Cl. 275—2)



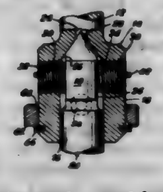
1. In a lawn mower the combination comprising a frame, wheels mounted on said frame for supporting said frame for movement along the ground, a handle pivoted to said frame and extending upwardly therefrom, the lower portion of said handle including a pair of spaced apart arms, a container for fertilizer and the like having discharge openings adjacent the lower end thereof, and means for pivotally supporting the opposite ends of said container one on each arm of said handle above the center of gravity of the container comprising, a first L-shaped member, a clamp for mounting one leg of said first L-shaped member on its respective arm on the handle, a second L-shaped member, a second clamp for mounting one leg of said second L-shaped member to the other leg of said first L-shaped member, a J-shaped member having a longer leg and a shorter leg, a third clamp for clamping the longer leg of said J-shaped member to the other leg of said second L-shaped member, said J-shaped member having its shorter leg extending parallel to the longer leg thereof, said container having openings therein adapted to be engaged by said shorter legs of said J-shaped members.

2,974,964
DIAPHRAGM CHUCK
Milton L. Benjamin, Shaker Heights, and Franklyn E. Winzen, Cleveland, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed Apr. 2, 1958, Ser. No. 725,899
6 Claims. (Cl. 279—4)



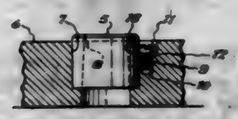
1. In a piston-actuated diaphragm chuck of the type comprising a mounting plate, a backup plate, and a diaphragm peripherally secured together, said mounting plate and said backup plate defining a cylindrical chamber therebetween for such piston, means forming a passage in said mounting plate through which fluid under pressure is conducted into such chamber to act on one side of such piston; a radially extending peripheral flange by which said diaphragm is secured to the peripheral portion of said backup plate and a laterally flexible center portion that is laterally offset from, and has a rounded, continuous junction with said flange, said piston having integral oppositely extending tubular portions that are axially slidable in central bores formed in the respective plates to seal such chamber from ingress of foreign matter, workpiece gripping jaws mounted on the center portion of said diaphragm for relative radial movement upon flexing of said center portion, and an actuator interposed between that one of the oppositely extending portions of said piston which is slidable in the central bore of said backup plate and the central portion of said diaphragm to transmit axial force from said piston to said diaphragm and thereby flex the latter as aforesaid.

2,974,965
TOOL HOLDER AND EXPENDABLE TOOL
Donald P. Welles, Jr., Rockford, Ill., assignor to Beely-Welles Corporation, South Beloit, Ill., a corporation of Illinois
Filed Mar. 21, 1958, Ser. No. 722,953
6 Claims. (Cl. 279—83)



1. In a combination tool, a tool holder having a shank with a socket at one end, a cutting tool having a shank portion seated in the socket, a driving element disposed radially in the socket of the tool holder, a driving flat on the shank portion of the cutting tool adapted to be engaged by the driving element so as to rotatively interlock the tool holder and cutting tool but at the same time providing free axial relative movement, an interlock between the socket and the shank of the cutting tool adapted to releasably interlock the tool holder and the cutting tool axially, manually operable means on the outside of the socket for actuating the interlock, and a retaining ring on the outside of the socket engaging and interlocking with the radially disposed driving element to prevent unauthorized movement thereof and defining an extreme position of adjustment of the manually operable means.

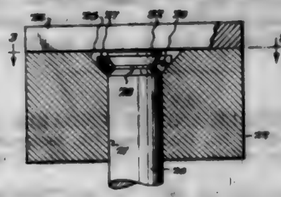
2,974,966
PUNCHING ELEMENT HOLDING AND REMOVING MEANS
Frederick W. Felmet, 540 Delaware Ave., Tonawanda, N.Y., assignor of one-half to Robert H. King, Pendleton, N.Y.
Filed July 20, 1959, Ser. No. 828,391
3 Claims. (Cl. 279—83)



1. Structure for securing and removing a cylindrical body in a retainer for said body having an aperture of

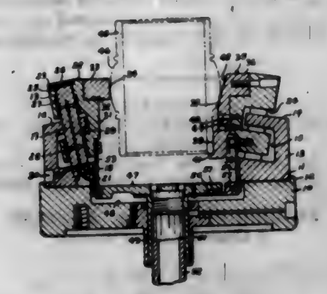
a shape corresponding to said body, said structure including a screw having a threaded shank and an outwardly extending head, said retainer having a threaded hole therein in such proximity to said aperture that a part of the head of said screw will extend into said aperture, said body having a recess in the side thereof into which said part of the head of said screw extends, said recess having upper and lower walls above and below said screw head with which said screw head is adapted to engage to move said body out of and into said aperture.

2,974,967
TOOL HOLDING MEANS
Frederick W. Felmet, 540 Delaware Ave., Tonawanda, N.Y., assignor of one-half to Robert H. King, Pendleton, N.Y.
Filed Jan. 23, 1959, Ser. No. 788,681
20 Claims. (Cl. 279—89)



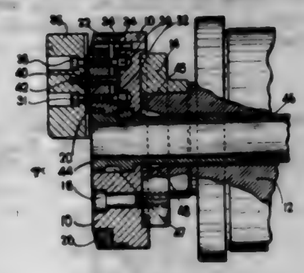
1. Tool-holding means for releasably retaining the shank of a tool in a bore of a tool-holding member, including an annular groove in said shank adjacent to the outer end thereof opposite to the work-penetrating end of the tool, an annular recess in said holding member and arranged about said groove in said shank when said tool is in operative relation to said holding member, and a locking member arranged in said recess and having a part extending into said groove in said tool shank for holding said shank against movement out of said bore in said holding member, and means operable at will by turning said tool and subjecting it to a pull in a direction away from said locking member for moving said locking member out of said groove in said shank and into said recess to permit said tool to be moved out of said bore.

2,974,968
WORK HOLDER
James O. Garrison, Dayton, Ohio, assignor to Garrison Machine Works, Inc., Dayton, Ohio, a corporation of Ohio
Filed Sept. 3, 1959, Ser. No. 837,978
14 Claims. (Cl. 279—106)



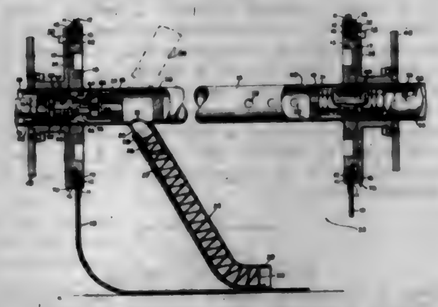
1. A work holder, including a mounting plate, a circular series of posts stationarily supported on said plate, said posts being mounted on end and projecting from said plate in relatively inclined relation, chuck jaws slidably mounted on said posts to move in relatively converging and diverging directions thereon, and means to slide said chuck jaws on said posts.

2,974,969
PRECISION POWER CHUCK
William J. Manchester, Rockfall, Conn., assignor to Power Grip, Incorporated, Rockfall, Conn., a corporation of Connecticut
Filed Jan. 18, 1960, Ser. No. 3,046
5 Claims. (Cl. 279—123)



1. A work clamping chuck comprising a chuck body, radially disposed master jaws thereon, resilient bars attached at their outer ends to said chuck body and at their intermediate ends to said master jaws respectively, means on said chuck body to laterally support and guide said jaws, and unitary means to actuate the inner ends of said jaws axially of said chuck between predetermined limits.

2,974,970
VEHICLE FOR TRANSPORTING AND STORING LIQUIDS
Jack L. Tuttle, Cuyahoga Falls, and William M. Phillips, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed May 29, 1957, Ser. No. 662,400
6 Claims. (Cl. 280—5)



1. A vehicle for transporting and storing fluid comprising in combination an axle assembly comprising a rigid elongated main axle having radially extending flanges at each end thereof, a flexible, inflatable, elongated body having sidewalls secured to said flanges to form a fluid-tight chamber, a normally closed first valve secured to said axle assembly through which fluid may be injected into said chamber, a normally closed second valve secured to said axle assembly and communicating with one end of a flexible tube located internally of said chamber, the other end of said flexible tube contacting the inner surface of said body so that air may be vented from said chamber through said flexible tube and second valve while liquid is being injected into said chamber, said valves being disposed inboard of the axially outer face of said flanges, a pair of conduits, each having one end terminating externally of the chamber, coupling means at the opposite ends of said conduits for respectively removably connecting one of said conduits to each of said valves, each of said conduits having means at the said opposite end thereof for opening the respective valve to which it is connected and holding said valves in open position when connected thereto.

2,974,971
PICK-UP DEVICE FOR HAULING LEAVES, ETC.
Herman H. Buck, 905 SW. 4th St., Grand Rapids, Minn.
Filed June 15, 1959, Ser. No. 820,545
2 Claims. (Cl. 280—19)



1. A pick-up device comprised by a bottom mat section, traction straps secured adjacent the side edges of the bottom mat section and extending beyond one end of same, a pull handle secured to the outer ends of the traction straps, flexible wings on the bottom mat section positioned outwardly of said traction straps and a flexible wing on the bottom mat section at the other end of same, and a pull strap secured freely in the outer edges of said side and end wings and adapted to be engaged over said pull handle to pull said side wings into vertical positions.

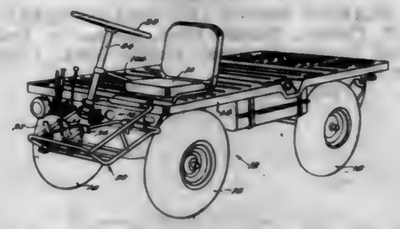
2,974,972
POSITIONING TRAILER
Theodore F. Hassell, Pasadena, Calif., assignor to Air Logistics Corporation, Pasadena, Calif., a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,721
26 Claims. (Cl. 280—43.23)



1. In a trailer having frame members, front and rear pairs of wheel-supported struts, and a load-carrying bed including load-supporting rails: the improvement which includes a pair of rail-supporting members extending transversely of said frame members; means rotatably supporting said rail-supporting members on said frame members; means mounting said rails on said rail-supporting members; and means joining said struts to said rail-supporting members.

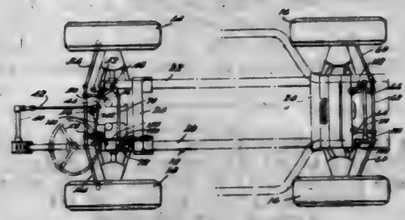
2,974,973
STEERING ASSEMBLY FOR AUTOMOTIVE VEHICLES
Earl M. Muhleck, Detroit, Mich., assignor, by mesne assignments, to Bank of America National Trust and Savings Association, a national banking association
Filed Feb. 21, 1958, Ser. No. 716,576
2 Claims. (Cl. 280—87)

1. In a vehicle having a frame and road wheels mounted on said frame for steerable movement relative thereto; a steering assembly comprising a gear housing, trunnions on said housing rotatably mounting the housing on said frame, a steering wheel mounted on the housing, a shaft arranged in a coaxial relation with the trunnions and connected to the steering wheel for rotation in response to rotation of the steering wheel, a position control plate secured to said shaft and provided with openings corresponding to a plurality of positions of said steering wheel fore and aft of the vehicle, a link member rotatably mounted on said shaft and connectible to said road wheels for steering the wheels in response to



movement of the link member, retractable pin means carried by said link member and movable into a selected one of said control plate openings for connecting the shaft to the link member, and brace means connected to and extending between said column and said frame for locking said steering wheel in said positions.

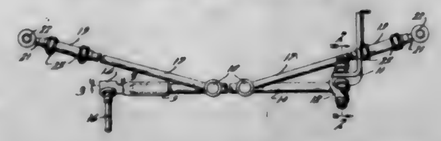
2,974,974
ASSEMBLY FOR STEERING TWO OR FOUR WHEELS
Clarence E. Merritt, Toledo, Ohio, assignor, by mesne assignments, to Bank of America National Trust and Savings Association
Filed Mar. 6, 1959, Ser. No. 797,686
4 Claims. (Cl. 280—91)



1. In a vehicle having front and rear wheels mounted for steering movement, a manually operable steering member, means including a plurality of link members connected to said steering member and said front wheels for turning said front wheels in response to operation of said steering member, a link mechanism operatively associated with said rear wheels and actuatable to provide steering movement thereof, and a main frame which includes a tubular member that extends fore and aft of the vehicle between the front and rear wheels; a transfer member rotatably supported in said frame tube, an actuator member adjacent said transfer member and connected to said link members for actuating movement in response to steering movement of said link members, means releasably connecting the front end of said transfer member to said actuator member for rotatable movement in response to operation of said steering member, means connecting the rear end of said transfer member to said link mechanism to provide for steering movement of said rear wheels in response to rotation of said transfer member, said releasable connecting means comprising a member shiftable between two positions, said shiftable member in one position operating to connect said transfer member to said actuator member so that steering movement of said front wheels causes concurrent steering movement of said rear wheels and in a second position operating to connect said transfer member to said frame tube so that said rear wheels are maintained in fixed positions, and means operable from a location adjacent said steering member for moving said shiftable means out of

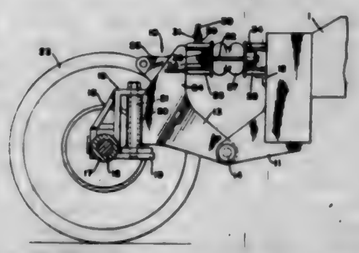
a connecting relation with said link members and said transfer member so that only said front wheels are steerable by said steering member.

2,974,975
BEARING JOINTS AND ROD ASSEMBLY
Paul P. Thomas, Detroit, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed May 9, 1956, Ser. No. 583,655
8 Claims. (Cl. 280—95)



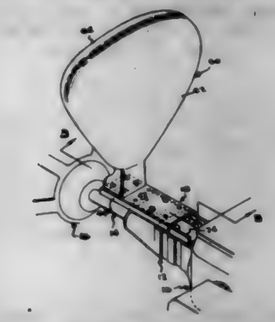
1. A steering assembly including, in combination, a transversely movable rod, a link suspending one end of said rod for swinging movement, a bracket for supporting said link, a pair of bearings one secured to the end of the rod the other to the bracket, a rotatable stud in each of said bearings, a low friction resin about said studs within said bearings, each of said studs being rigidly secured to an end of said link, a sleeve threaded on the opposite end of the rod, a socket in said sleeve, a ball supported in said socket for universal movement, a pair of laterally extending tie rods operated by said movable rod, and means for pivotally connecting the adjacent ends of the tie rods to the movable rod near the center thereof, said last-mentioned means including a stud projecting from the adjacent ends of each of said tie rods and connected to the movable rod, the outer ends of said tie rods being connectible to the operating portion of wheels to be steered.

2,974,976
AXLE LOAD DISTRIBUTING DEVICE FOR MOTOR CRANES AND LIKE MOBILE EQUIPMENT
Ralph G. Lyall, 3715 W. Monroe, Seattle, Wash.
Filed Dec. 12, 1957, Ser. No. 702,281
6 Claims. (Cl. 280—124)



1. An axle load distributing device for a motor crane and like equipment that has a frame supported on axles equipped with ground engaging wheels, comprising a bracket on the rear end of said frame, a wheel carrier having a ground-engaging wheel whose axis is rearward of said bracket, said carrier further having forwardly inclined and upwardly extending portions, a generally horizontally extending pin detachably connecting said forwardly inclined extending portion of said carrier to said bracket for swinging of said carrier about said pin, and a generally horizontally forwardly resiliently extensible head mounted on said upwardly extending portion of said carrier and disposed, when extended, to bear against the rear end of said frame at a region spaced above said bracket and to swing said carrier about said pin in a direction to move said wheel down to ground-engaging position.

2,974,977
ADJUSTABLE MOUNTING FOR TRACTOR FENDERS
Robert C. Herron, 6417 Xerxes Ave. S., Bloomington Prairie, Minn.
Filed Mar. 27, 1959, Ser. No. 802,342
1 Claim. (Cl. 280—152)

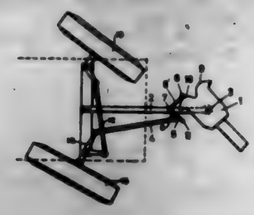


A mounting device for the rear fender of a tractor, said mounting device comprising a pair of substantially U-shaped channel members one being inverted and superimposed on the other, said channel members being reciprocable relative to each other in the direction of their respective longitudinal axes, the other of said channel members having a bight portion including a plurality of bolt holes extending transversely therethrough intermediate the remote ends thereof, a plurality of spacer collars aligned with said bolt holes, respectively, a bolt extending transversely through each of said bolt holes and its associated aligned spacer collar, each of said bolts being threadedly received within a rear axle housing of said tractor, the bight portion of said other channel member having a pair of bolt holes extending transversely therethrough on opposite sides, respectively, of said first bolt holes, said one channel member having a bight portion including a plurality of bolt holes extending transversely therethrough adjacent one of its respective ends, a tractor fender having a mounting platform at one of its respective ends, said platform being adapted to engage the bight portion of said one channel member adjacent said one end thereof, said platform having bolt holes extending transversely therethrough corresponding to the spacing between the bolt hole openings formed in said one end of the bight portion of said one channel member, bolts extending through said bolt holes formed in said platform and said bolt holes formed in said one end of the bight portion of said one channel member to fixedly secure said fender to said one channel member, a plurality of pairs of longitudinally spaced bolt holes extending transversely through the bight portion of said one channel member adjacent the other end thereof, said last named pairs of bolt holes being adapted for selective alignment with said first pairs of said bolt holes formed in the bight portion of said other channel member, and bolts extending through selected aligned pairs of said first and last named pairs of bolt holes to secure said one and said other channel members together in adjusted relation relative to each other.

2,974,978
STEERING MECHANISM FOR STEERING OF THE WHEELS OF A TRAILER COUPLED TO A TRACTOR VEHICLE
Ludvik Imchenn, Skiringssalsgate 21, Larvik, Norway
Filed Oct. 8, 1958, Ser. No. 766,977
Claims priority, application Norway Nov. 8, 1957
5 Claims. (Cl. 280—444)

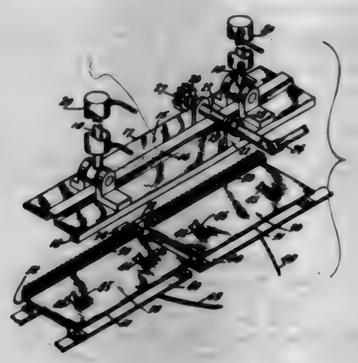
1. In a steering mechanism for steering the steerable wheels of a trailer drawn by a tractor vehicle in which

the steerable wheels of the trailer are provided with a steering linkage, the tractor vehicle is provided with a coupling member and the trailer is connected to the tractor vehicle by a draw bar pivoted to the coupling member, the improvement comprising a bell crank pivoted to the draw bar one arm of which extends laterally to one side of the draw bar, a steering rod connecting said arm with the steering linkage of the steerable wheels of the



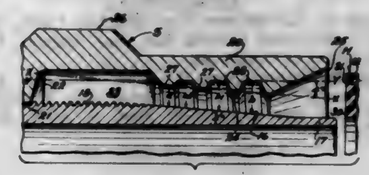
trailer, and cam means on the coupling member, the free end of the other arm of the bell crank extending from the pivot of the bell crank on the draw bar toward and engaging the cam means, the cam means having a contour for controlling the rocking of the bell crank to turn the steerable wheels of the trailer to follow a predetermined turning path as the tractor vehicle is turned and the angle of the draw bar is changed with respect to the vehicle.

2,974,979
TRACTOR HITCH
Harold P. Gray, 522 3rd St., Traverse City, Mich.
Filed Sept. 23, 1957, Ser. No. 685,721
9 Claims. (Cl. 280—469)



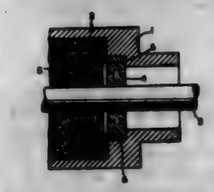
3. A tractor-implement hitch comprising a tractor-connected member, an implement-connected member, the said members being vertically registrable and having at opposite forward and rearward margins complementary channels and bearing portions interlockingly engaged in one relative direction of forward-rearward movement between said members and disengageable in an opposite relative direction of such movement, one of said members being provided with a channel disposed transversely respecting the said directions of movement and the other being provided with pawl means releasably engaged in the channel and opposing relative movement between the members in a disengaging direction while accommodating relative movement between the members transverse to said direction, and means for effecting such transverse relative movement between the members.

2,974,980
REUSABLE HOSE END COUPLING
Richard P. Boyle, Bedford, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 6, 1958, Ser. No. 765,378
2 Claims. (Cl. 285—247)



1. A hose end coupling comprising a socket having a wall for surrounding the hose end, a nipple, means to connect said socket and nipple together in telescoped relation, said nipple having an externally tapered portion lying within said socket wall for projecting into the hose end, said tapered nipple portion being of increasing diameter in a direction away from the free end of the nipple, said means to connect said socket and nipple being adjacent the largest diameter of the tapered nipple whereby the nipple is inserted within the hose and socket as assembled and said means to connect the socket and nipple includes means for locking the nipple within the socket and hose when assembled therewith, said socket wall having internal circumferential rib means overlying said tapered nipple portion, said rib means providing more than two axially spaced circumferential hose receiving pockets and more than two hose displacing crown zones, said socket and nipple adjacent the maximum diameter of the nipple forming a chamber for the end of the hose, said chamber having an outer wall spaced from the nipple a distance greater than the distance from the nipple to the crown zone adjacent the chamber, the root diameter of said rib means being constant along the wall to provide with the tapered nipple portion hose receiving pocket zones of progressively decreasing radial dimension in the direction away from the free end of the nipple, the walls of said hose receiving pocket zones sloping gradually toward each other, the crown zones of said rib means being radially equi-distant from the underlying tapered nipple portion.

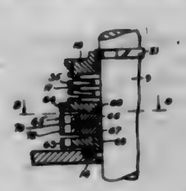
2,974,981
ARRESTER FOR IRON PARTICLES
Wilhelmus Lambertus Vervaat and Godfried Hendrik Waarle, both of Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 26, 1957, Ser. No. 668,152
Claims priority, application Netherlands July 14, 1956
1 Claim. (Cl. 286—1)



A closure device for iron particles in a magnetic drive construction comprising a drum having said iron particles therein, a shaft extending through a wall of said drum and rotatable relative to said wall, a first annular permanent magnet fixed to said wall, a second annular permanent magnet surrounding said shaft, said annular permanent magnets being spaced and positioned co-axially in side-by-

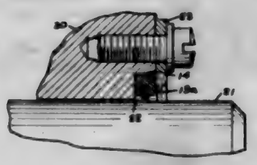
side relationship with identical poles thereof facing each other whereby any iron particles attempting to gain access to the space between the annular permanent magnets are repelled.

2,974,982
SEAL STRUCTURE FOR SUBMERSIBLE APPARATUS
Frederick O. Lasenberger, Los Angeles, Calif., assignor to U.S. Electrical Motors, Inc., Los Angeles, Calif., a corporation of California
Original application June 9, 1958, Ser. No. 167,107, now Patent No. 2,819,101, dated Jan. 7, 1958. Divided and this application Sept. 9, 1957, Ser. No. 682,757
5 Claims. (Cl. 286—10)



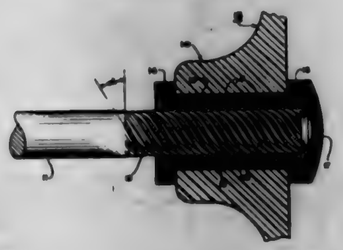
1. In a sealing structure cooperating with a shaft extending from a casing: a non-rotary sealing member surrounding the shaft; a rotary sealing member mounted on the shaft and spaced from the non-rotary member; and a freely rotatable intermediate sealing unit interposed between the sealing members, comprising a pair of substantially rigid rings respectively engaging the members, and a resilient ring between the rigid rings for preventing fluid flow between the rigid rings while permitting relative tilting movement between them; said sealing unit including a peripheral part located in spaced relationship between parts of the sealing members that are located about the areas thereof engaged by said rigid rings for access of fluid to which the casing is exposed, said parts having surfaces providing a fluid coupling for providing an intermediate speed of the sealing unit.

2,974,983
DEVICE FOR WIPING OR SCRAPING A WORKING MEMBER
Theodore F. W. Meyer, Delray Beach, Fla., assignor to Equi-Flex Products, Incorporated, Detroit, Mich., a corporation of Michigan
Filed Feb. 23, 1956, Ser. No. 567,215
11 Claims. (Cl. 286—12)



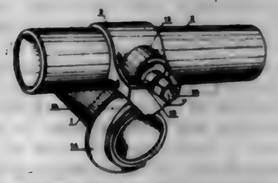
1. In combination with two working elements, one of which is in the form of a body and the other of which is in the form of a rod or shaft, a wiper or scraper for the rod or shaft comprising a length of elastic material fashioned into annular form with at least one complete convolution, said convolution lying in a plane substantially perpendicular to the rod or shaft axis, or elastomer body embracing the outer peripheral portions of said convolution, means providing a cavity in the body working element for receiving the elastomer body, the normal diameter of the convolution being different than the diameter of the rod or shaft whereby the same yieldably circumflex the rod or shaft to wipe or scrape it in its movements, and shoulder means positioned in proximity to but axially spaced from a side of said convolution and radially spaced from the elastomer body against which said convolution may abut when shifted incident to wiping and scraping forces.

2,974,984
COUPLING APPARATUS
Gustav H. Koch, Springfield, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 18, 1959, Ser. No. 814,080
2 Claims. (Cl. 287—53)



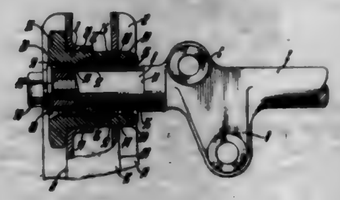
1. In a fan having a uni-directional motor, improved means for attaching a bladed hub to a motor driven shaft for rotation therewith about the axis of the shaft and for transmitting torque from the shaft to the hub, said attaching means comprising: helical threads formed in said shaft and defining a threaded portion, a cylindrical tubular sleeve of resilient material disposed between the shaft and the hub and having portions thereof compressed between the threaded shaft portion and the hub, said sleeve when compressed having inner surface portions diametrically sized smaller than the outermost portions of adjacent threads and larger than the innermost portions of adjacent threads, axially spaced flanges extending outwardly from said sleeve for retaining said hub in axial position with respect to said sleeve, said helical threads cooperating with the sleeve to bias said shaft in one axial direction with respect to said sleeve when said sleeve tends to revolve relative to said shaft opposite to the direction of shaft revolution, and a thrust-resisting member at one end of said sleeve for limiting movement of said shaft in said one axial direction with respect to said sleeve.

2,974,985
SCAFFOLDING COUPLING
Pieter Spreeuwenberg, Achterweg 88, Hoogvliet-Rotterdam, Netherlands
Filed Jan. 15, 1960, Ser. No. 2,641
Claims priority, application Netherlands Jan. 19, 1959
10 Claims. (Cl. 287—54)



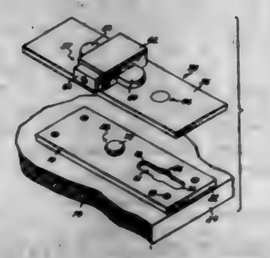
1. A scaffolding coupling comprising a first and a second part each having a surface for engaging a portion of the outer surface of a tubular building element forming an angle with one another, the first part having an opening for receiving an eye of the second part said second part being hook-shaped, the eccentrical portion of an eccentric member being arranged in said eye, said eccentric member being rotatably mounted with shaft portions in bearings of the first part.

2,974,986
BUSHING
Albert C. Hazard, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 18, 1956, Ser. No. 603,364
3 Claims. (Cl. 287—88)



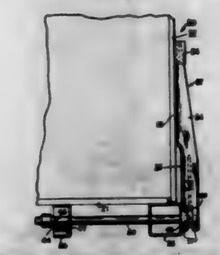
1. An anti-friction bushing comprising inner and outer tubular members arranged in concentric relation, the outer wall of said outer member carrying threads whereby such member may be secured to a support, the inner wall of said member having an annular semi-spherical groove therein, a circumferential rib formed integrally on the outer wall of said inner tubular member, a body of phenolic resin surrounding said inner tubular member and securely engaging said rib, said body providing bearing engagement with said semi-spherical groove, and a pair of flexible seals engaging said inner and outer members at opposite sides of said body of phenolic resin to form a lubricant cavity.

2,974,987
DEAD BOLT LOCK
Eugene O'Brien, 5567 Wheeler St., Philadelphia 43, Pa.
Filed Dec. 22, 1959, Ser. No. 861,330
11 Claims. (Cl. 292—148)



1. A dead bolt lock mechanism comprising an elongated plate adapted to be secured to a support, an elongated bolt, means interconnecting said bolt and plate whereby said bolt is slidable longitudinally on said plate from an extended position, in which an end portion of said bolt overhangs an end of said plate and is adapted to enter a keeper, to a retracted position in which said end portion of said bolt does not overhang said end of said plate, a key-operated padlock having a body and shackle, means fixedly retaining said shackle on said bolt in such a position that said body is movable transversely of said bolt whereby when said bolt is in a position of extension or retraction and said padlock is locked, said body acts on said bolt and plate interconnecting means to prevent movement of said bolt on said plate in said positions of extension or retraction.

2,974,988
SWIVEL BRACE UNIT FOR DOORS OF CARGO CONTAINERS AND OF TRAILER-TRUCK BODIES
Ricardo H. Vergara, Long Island City, N.Y., assignor to Ward La France Truck Corp., Elmira, N.Y., a corporation of New York
Filed Sept. 8, 1959, Ser. No. 838,686
3 Claims. (Cl. 292—257)



1. A door reinforcement device comprising, in combination, a pressure member, a shaft supporting said pressure member for selective movement into confronting relationship with the outside of a door, and mechanical advantage means for driving said pressure member axially into pressure abutment with the outside of the door to resist outward displacement thereof, and comprising bracket means slidably supporting said shaft for movement in a direction normal to the door being reinforced, and said pressure member having one end rotably carried upon said shaft for pivotal movement in a plane substantially parallel to the plane of the door being reinforced, said mechanical advantage means comprising a first cam carried by said bracket means, a second cam carried by said shaft in sliding engagement with said first cam, rotation of said shaft at said second cam relative to said first cam effecting longitudinal movement of said shaft and said pressure member, and manually operated means for rotating said shaft, said first cam rotatably receiving said shaft therethrough intermediate said second cam and said pressure member; said manually operated means comprising a lever secured at one end to said shaft and extending radially outwardly therefrom, said one end of said pressure member comprising a pair of bifurcated bearing portions defining a radially outwardly extending slot therebetween, and said one end of said lever comprising a bearing portion fixed to said shaft within said slot of said pressure member and between said bearing portions thereof.

2,974,989
AUTO TRUNK LID HOLDER
John Hilbers, 28013 Edmunton, St. Clair Shores, Mich.
Filed Feb. 24, 1959, Ser. No. 794,574
2 Claims. (Cl. 292—276)

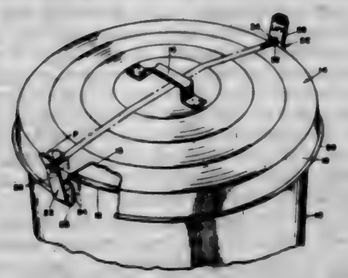
1. An auto trunk lid holder, comprising: a first elongated rod having the lower integral end extended outwardly at right angles therefrom; a first clamp; means for adjustably mounting said first clamp on the lower outwardly extended end of said first rod for movement about the longitudinal axis of said lower extended end and about an axis at right angles to said lower extended end; a bracket adjustably mounted on said first rod; said bracket including a pair of plates with arcuately formed end portions; the arcuately formed end portions on one end of said plates receiving said first rod for clamping engagement therewith; a second rod received in the arcuately formed end portions on the other end of said plates and having the upper integral end thereof extended outwardly at right angles therefrom; means for fixedly securing said plates in clamping engagement with said rods; a second clamp; and means for adjustably

mounting said second clamp on the outwardly extended upper end of said second rod for movement about the



longitudinal axis of said upper extended end and about an axis at right angles to said upper extended end.

2,974,990
LOCK FOR GARBAGE CAN LIDS
Lowell H. Mereness, Boise, Idaho, assignor to M & M Products Company, Incorporated, Boise, Idaho, a corporation of Idaho
Filed Jan. 29, 1959, Ser. No. 790,985
3 Claims. (Cl. 292—288)



1. The combination with a garbage can of the type having an outwardly rolled upper rim and a removable cover having a depending circumferential flange telescopically engaging over the upper edge portion of said can, a cover lock comprising a pair of diametrically opposed generally U-shaped latches each having spaced divergent elongated leaves defining a cleft into which said flange extends said leaves extending upwardly with one leaf disposed inwardly and one outwardly of said flange; and resilient means secured in tension to the outer leaves of said latches, said inner leaves being biased to an inwardly divergent position disposed under said can rim, whereby said lock is yieldable to outward radial pressures to shift said inner leaves to juxtaposition with said flange to permit removal of said cover.

2,974,991
SLIDE FASTENER OPERATING DEVICE
Isidore E. Gerrick, Mayflower Hotel, 61st St. and Central Park West, New York, N.Y.
Filed Aug. 27, 1957, Ser. No. 680,576
3 Claims. (Cl. 294—1)

1. In a slide fastener operating device of the type comprising an elongated draft member having a clip secured at one end thereof for releasable pull-engagement with the conventional slide pull tab of a slide fastener with a slot therethrough, spaced from the entire periphery of the pull tab; the combination in which the clip comprises a pair of coacting arm members, hinging means therefor extending transversely therebetween and spaced from the ends of said arms, spring means between the rear parts of said arm members, urging said rear parts outwardly about the hinging means, one of said arms having one end of the draft member connected to one end thereof, said arm having a guard sleeve rigidly affixed to the forward end portion thereof, said guard member being a generally rectangular sleeve, rigidly attached to the for-



ward end portion of the arm and encompassing the forward ends of both arms, and of height greater than the clip when open, the forward ends of said arms having inturned coacting holder means integral therewith and encompassed by said sleeve, said coacting holder means having two coacting elements, one with a small median tongue integral therewith to pass through the slot in the pull tab, the other with a notch to accommodate said tongue.

2,974,992
DOWEL AND METHOD OF INSERTING SAME
Thomas Geoffrey Oates, Worksop, England, assignor to Oates Limited, Worksop, England, a company of Great Britain and Northern Ireland
Filed Jan. 28, 1958, Ser. No. 711,658
Claims priority, application Great Britain Feb. 1, 1957
7 Claims. (Cl. 294—57)



1. A D-type handle for a spade, fork and similar tool, a socket in the basal end of the handle at the longitudinal axis thereof and a haft fitted to the handle, a spigot on said haft entered into said socket and a dowel passing through said basal part of the handle and said spigot in parallel with the broad exposed faces of the handle, said dowel comprising a pair of like dowel pieces having oblique meeting faces in close overlying engagement within the spigot and said dowel pieces being disposed at an angle to one another with their angle of inclination extending upwardly and inwardly of the handle said dowel pieces being joined to each other, to the spigot and the handles by adhesive.

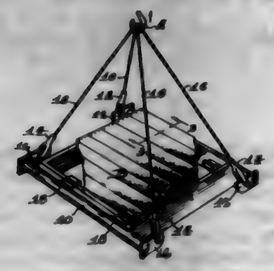
2,974,993
OBJECT ENGAGING DEVICE
Henry G. Dunivan, 3703 Glenhaven, Houston, Tex.
Filed Sept. 27, 1957, Ser. No. 686,730
6 Claims. (Cl. 294—61)



1. A device for engaging objects including a handle, a rod extending longitudinally therefrom, a support extending longitudinally of said rod, tines supported in said support and on each side of said rod, said tines being rotatable relative to said support and having ends spaced from said handle bent to engage objects, and the other end of said tines having cranks thereon, lever means mounted on said support and extending toward said han-

dle, means extending from said lever and engaging said crank ends, said last mentioned means including slots which are inclined relative to each other and in which are engaged said cranks, said slotted means being adapted to turn said cranks on said tines to rotate said tines about their longitudinal axis when said lever is depressed to move said bent ends of said tines relative to each other to engage objects thereon.

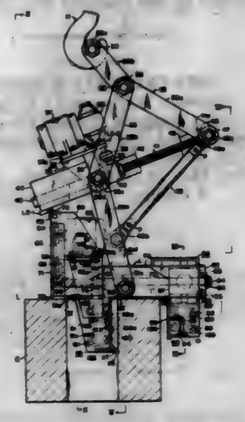
2,974,994
LIFTING BRIDLE CONSTRUCTION
Morty Goldsmith, Montreal, Quebec, Canada, assignor to Metro Engineering Company Ltd., Ville La Salle, Quebec, Canada
Filed Jan. 30, 1957, Ser. No. 637,226
12 Claims. (Cl. 294—74)



10. A lifting bridle adapted for use in combination with a rigid load supporting base having opposing frame members including spaced apart slots extending therethrough, comprising a pair of identical elongated spreader members of tubular formation, a pair of outwardly extending base engaging flat tongues fixedly secured in axial alignment on each of said spreader members, said tongues each having a free end terminating in an upward flange and being disposed on said spreader members in spaced apart relationship corresponding to the spacing of said recesses in said load supporting base frame members and having dimensions slightly less than the dimensions of said frame members' slots, a pair of connecting plates mounted on each of said spreader members, one at each end in offset relationship with said base engaging tongues, each of said connecting plates having a free end portion extending outwardly from said spreader members, a sling attaching member pivotally mounted to each of said connecting plates and flexible sling means connected between each pair of sling attaching members.

2,974,995
COIL TILTER
Robert J. Calhoun, Jr., Pittsburgh, Pa., assignor to American Forge and Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1958, Ser. No. 775,217
18 Claims. (Cl. 294—103)

17. In a coil tilter apparatus having a rotatable coil tong assembly pivotally suspended intermediate its ends from one end of a frame support, means for rotating said coil tong assembly comprising: toggle linkage forming a part of said frame support connected to a portion of said rotatable coil tong assembly spaced-apart from the pivotal suspension of said frame support; said frame support comprising a trunnion arm pivotally suspending said coil tong assembly from its lower end, a rocker arm pivotally mounted intermediate its ends on the upper end of said trunnion arm, a push rod pivotally connected at one end to and forming a toggle joint with one end of said rocker arm, and at its other end pivotally connected to said rotatable coil tong assembly about an axis which is parallel to and spaced-apart from the pivotal suspension of said coil tong assembly on said trunnion arm; platform means pivotally mounted on said frame support intermediate its ends, jack means mounted on said platform means, motor means on said platform means for activating said



jack means, and said jack means being connected to said toggle joint to activate said push rods and thereby rotate the rotatable coil tong assembly about its pivotal suspension and relative to said frame support.

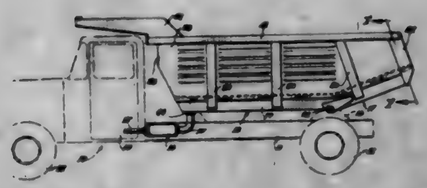
2,974,996
SIDE LOADING TRAILER
Leo L. Bitterman, 20 State St., Akron, N.Y., and Jay Rossman, Rapids, N.Y., said Rossman assignor to said Bitterman
Filed May 29, 1958, Ser. No. 738,835
6 Claims. (Cl. 296—24)



1. An elongated trailer body of substantially uniform rectangular cross section throughout its length and comprising a pair of longitudinally arranged bed members extending substantially the entire length of said body and a series of longitudinally spaced transverse bed members having their outer ends secured to said longitudinal bed members, a pair of end walls secured to and rising from the ends of said longitudinal bed members and enclosing the ends of said body, a series of longitudinally spaced upright members arranged on each side of the longitudinal vertical central plane of said body, the upright members in each series being inclined upwardly toward said plane and having their lower ends spaced from said plane and secured to said transverse bed members, a series of longitudinally spaced transverse roof members secured to the converging upper ends of said upright members, track means secured to and extending from each upper corner of one end wall to the corresponding upper corner of the other end wall and secured to the outer ends of said transverse roof members, a series of longitudinally spaced, diagonal struts arranged on each side of said plane, the struts in each series being inclined downwardly toward said plane and having their outer ends secured to the outer ends of said transverse roof members and said track means and their inner ends secured to said upright members at a point spaced below said transverse roof mem-

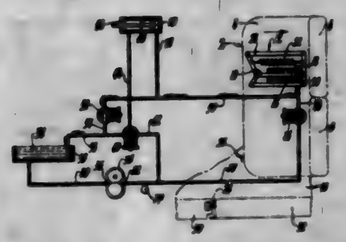
bers, and sliding door means supported by said track means for movement from engagement with one end wall to engagement with the other end wall, the door openings along the sides of the body thereby extending substantially from one end of the body to the other.

2,974,997
HEATED TRUCK BODY
Harold V. Parsley, Barrington, Richard E. Dreyer, Wheaton, and George A. Grant, Elmhurst, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed May 11, 1959, Ser. No. 812,518
9 Claims. (Cl. 296—38)



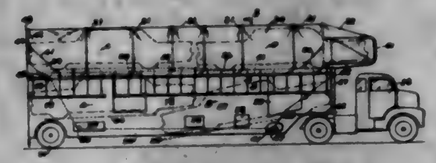
9. A vehicle body bottom comprised of two plies of sheet metal secured together, the upper ply being flat and along its opposed side margins being offset at an angle with respect to the other ply defining triangular manifolds therebetween, the lower ply having coplanar side and end margins, corrugations pressed downwardly from the plane of said lower ply extending normal to and terminating in open communication with said manifolds, said corrugations in cooperation with said upper ply forming conduits extending between said manifolds, means for admitting fluid to the front end of one of said manifolds, and means for exhausting fluid from the rear end of the other of said manifolds.

2,974,998
ADJUSTABLE EASY ENTRANCE SEAT FOR AUTOMOBILES
John Hlinka, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 22, 1955, Ser. No. 535,971
5 Claims. (Cl. 296—65)



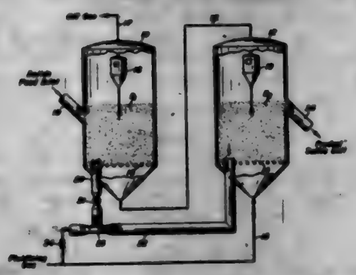
1. In a vehicle having a door mounted thereon for opening and closing movement and a seat structure mounted thereon for horizontal movement to a plurality of seat positions including a rearward limit position, the combination comprising, power operated means operatively connected to said seat structure for moving said structure relative to said vehicle to any one of said plurality of seat positions, manually operable control means for actuating said power operated means to move said seat structure to a selected any one of said plurality of seat positions, and control means responsive to opening and closing movement of said door for controlling said power operated means to sequentially move said seat structure from said selected any one of said plurality of seat positions to said rearward limit position upon opening movement of said door and to move said seat structure from said rearward limit position to said selected any one of said plurality of seat positions upon closing movement of said door to thereby facilitate passenger ingress and egress.

2,974,999
VEHICLE TRANSPORT TRAILER
Clarence C. Smart, Dearborn, Mich., assignor to Traffic Transport Engineering, Inc., Dearborn, Mich., a corporation of Michigan
Filed May 29, 1957, Ser. No. 662,374
18 Claims. (Cl. 296—185)



1. In a trailer for transporting vehicles having upper and lower vehicle suporting decks and means forming an enclosure for vehicles on the lower deck, a plurality of supports pivoted to longitudinally spaced points on the trailer, whereby said supports may be pivoted from a collapsed lowered position to an operative raised position projecting above the upper deck, the foremost of said supports being movable from a raised position rearwardly to a collapsed position, the rearmost of said supports being movable from a raised position forwardly to a collapsed position, and a flexible cover on said supports adapted to be raised and lowered thereby, said cover in the raised position of said supports forming an enclosure for vehicles and said upper deck.

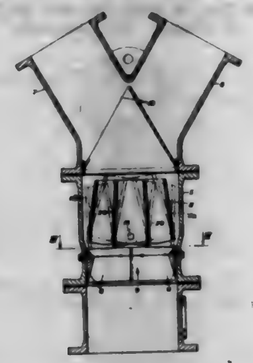
2,975,008
APPARATUS FOR TRANSFERRING FLUIDIZED SOLIDS
William L. Davis, Jr., Monroeville, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 12, 1959, Ser. No. 852,513
1 Claim. (Cl. 302—17)



In an installation which includes at least two vessels located side-by-side and substantially at the same elevation and adapted to house beds of fluidized solids, a gas inlet pipe connected to one of said vessels for introducing a fluidizing gas, piping for carrying off-gas from this vessel to the other vessel where it acts as fluidizing gas but at lower pressure than in the first vessel, means for feeding solids to the lower pressure vessel, and means for discharging solids from the higher pressure vessel, the combination therewith of an apparatus for transferring solids from the lower pressure vessel to the higher pressure vessel, said apparatus comprising a standpipe connected to the lower pressure vessel through which solids

discharge, a pneumatic conveyor pipe connected to said inlet and extending into the higher pressure vessel, a venturi throat in said conveyor pipe, said standpipe joining said conveyor pipe at said throat, and an adjustable valve in said conveyor pipe ahead of said throat for admitting a controlled portion of the gas from said inlet pipe into said conveyor pipe, whereby said throat decreases the pressure in said conveyor pipe to direct the gas and solids stream to the higher pressure vessel in preference to the lower pressure vessel.

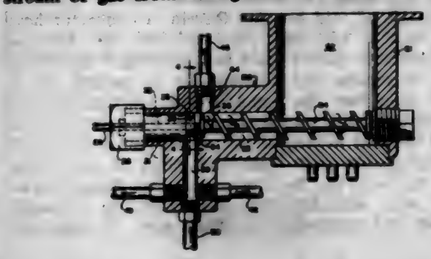
2,975,001
APPARATUS FOR THE DISTRIBUTION OF PULVERISED FUELS
Reginald Frank Davis, Littleover, England, assignor to International Combustion (Holdings) Limited, London, England, a British company
Filed Nov. 18, 1958, Ser. No. 774,559
Claims priority, application Great Britain Nov. 26, 1957
5 Claims. (Cl. 302—28)



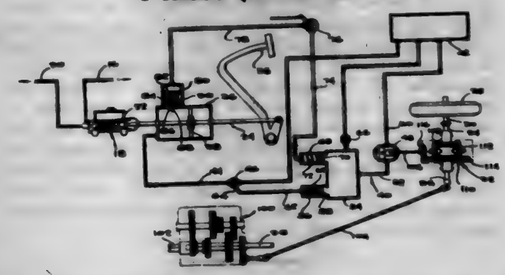
1. Apparatus for dividing a main stream of pulverulent material dispersed in a fluid medium between two branch streams comprising in combination a main ducting for containing the main stream, two branch pipes coupled to said main ducting for containing the branch streams, a fixed nozzle restriction located in and extending around the periphery of said main ducting, said fixed nozzle concentrating said main stream centrally in said main ducting, a tiltable nozzle disposed in and extending around the periphrey of said main ducting between said fixed nozzle and said branch pipes for receiving the concentrated main stream from said fixed nozzle and pivot means for said tiltable nozzle whereby the latter is tiltable in a plane containing both said branch pipes.

2,975,002
BLOW TORCH FEEDER CONTROL
Jesse B. Thomas, Henrico County, Va., and John P. Karpuk, Middlesex County, Mass., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 14, 1960, Ser. No. 14,659
2 Claims. (Cl. 302—50)

1. A metal powder and gas mixing apparatus for a blow torch comprising: a feed screw housing containing a feed screw chamber having laterally spaced inlet and outlet end sections separated by an intereonnecting mid-section; a hopper connected to said housing for supplying metal powder to the inlet end section of said chamber; a metal powder feed screw in said chamber for conveying metal powder from the inlet end section through the mid-section to the outlet end section, said feed screw having a drive shaft adjacent said outlet end section; a sleeve having a bore containing a portion of said drive shaft, said sleeve having a transversely extending arcuate groove in its outer periphery; means forming a gas inlet in said housing leading to said groove; means forming axial openings along said sleeve for conducting a stream of gas from said groove to said outlet end section where said gas stream picks up and suspends said metal powder; and an outlet from said outlet end section for discharging a stream of said powder-suspending gas from said screw chamber.



2,975,003
VEHICLE BRAKING SYSTEM
Bela I. Sander, 501 E. Daniel St., Champaign, Ill.
Filed Feb. 6, 1959, Ser. No. 791,741
3 Claims. (Cl. 303—21)



1. The combination with a vehicle frame including a drive shaft, and vehicle wheels to be braked drivingly connected to said drive shaft, of a reciprocatory actuating member operatively connected to said wheels for applying brake pressure to said wheels, a rotatable wheel rollably engaging a ground surface and carried by said frame, a differential assembly including a first output shaft operatively connected to said rotatable wheel, a second output shaft operatively connected to said drive shaft, and an input shaft, a piston connected to said actuating member for movement therewith, a fixed closed cylinder enclosing said piston, a reservoir filled with a hydraulic fluid, conduit means connecting said reservoir to one end of said cylinder, a normally open control valve in said conduit, and self-operating means operated by said rotatable wheel and including a pump operatively connected to said input shaft and having an inlet side connected to said reservoir and having an outlet side operatively connected to said valve, said means operating upon application of braking pressure to the vehicle wheels sufficient to lock the wheels against rotation to shift said valve to closed position and lock said piston against movement in one direction.

3,975,084
CONNECTION DEVICE
Albert Safanoff, Chicago, Ill., assignor to Gem Incorporated, Byhalia, Miss., a corporation of Mississippi
Filed Jan. 6, 1958, Ser. No. 707,320
1 Claim. (Cl. 306—19)

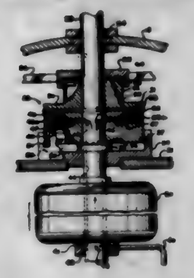
A unitary connecting device formed entirely of plastic material for joining a handle to a work member having a pivot bar, said device comprising a handle receiving mem-

ber having a substantially cylindrical opening therein defining a socket to receive an associated handle, a flexible neck formed integral with said handle receiving member and extending therefrom and in general alignment with the axis of said opening therein, a connector head formed integral with said neck and including first and second normally spaced apart jaws defining a split sleeve adapted to receive and substantially to encircle an associated pivot bar, the opposed outer surfaces of said jaws normally being spaced apart a distance less than the distance required to receive a pivot bar therebetween and being deformable away from each other to permit passage of the pivot bar therebetween, a lock flange formed integral with said first jaw and extending outwardly therefrom and adapted to be drawn over the outer sur-



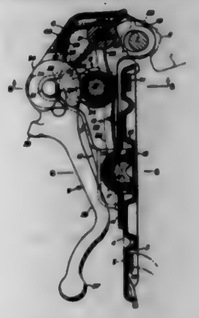
faces of said jaws, a second flange formed on the outer end of said lock flange and disposed at an acute angle therewith and extending toward said second jaw, a locking head formed integral with the free end of said second flange and being substantially triangular, in cross section and having locking surfaces disposed toward said lock flange, said second jaw having a groove therein adapted to receive said locking head, said groove defining a pair of retaining surfaces adapted to receive and hold the locking surfaces on said locking head to hold said lock flange in position drawn over the outer surfaces of said jaws to maintain said jaws in the closed position thereof to retain the pivot bar therebetween, and a guide surface formed on said second jaw disposed to guide said locking head into said groove.

2,975,005
HYDRAULIC THRUST BEARING
David C. Weber, 6731 6th Ave., Los Angeles, Calif.
Filed July 20, 1959, Ser. No. 828,234
5 Claims. (Cl. 308—9)



1. A hydraulic thrust bearing for supporting a submersible pump shaft, which bearing includes: a hermetically sealed housing fastened against rotation; bearing liquid and a reservoir for said fluid within said housing; a bearing support structure within said housing; a part of said submersible pump shaft extending into said housing through the central part of said bearing support structure, said shaft portion being tubular for at least part of its length to provide a longitudinal passage within its interior; a lower bearing cup supported in said bearing support structure, and opening upwardly, said lower bearing cup having its side walls pierced by openings in the form of slots extending from the upper edge of said cup walls to a point spaced above the bottom of the interior of said cup; an upper bearing cup supported by said bearing support structure and opening downwardly toward said lower bearing cup; a bearing rotor mounted on said hollow part of said pump shaft and having a relatively small cylindrical upper bearing piston closely received in said upper bearing cup, and a relatively large diameter lower bearing piston closely received in said lower bearing cup; conduit means providing communication between said internal longitudinal passage in said shaft, and the interior of said upper bearing cup; conduit means placing said shaft passage in communication with the interior of said lower bearing cup, pump means for pumping said bearing liquid into said shaft passage by the rotation of said shaft in either direction.

2,975,006
JOURNAL BOX LID
Donald G. Symer, Lancaster, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Feb. 20, 1959, Ser. No. 794,745
10 Claims. (Cl. 308—67)

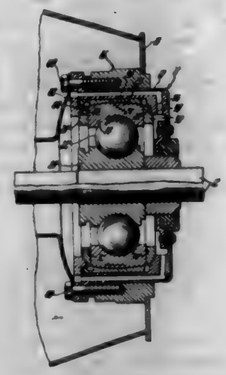


1. A journal box lid comprising a cover for closing an access opening in a journal box, a hood hingedly connectable to said journal box and connected for limited relative angling to said cover, spring means constantly reactable against said journal box and acting on said cover for yieldably resisting opening and closing of said lid, and releasable means actable on said spring means in the closed position of said lid for increasing the pressure on said spring means and therethrough the closing pressure on said cover.

2,975,007
SELF-ALIGNING BEARING MOUNTING
Vernon M. Zwicker, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 14, 1958, Ser. No. 774,630
5 Claims. (Cl. 308—194)

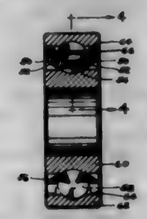
1. A self-aligning bearing of the type adapted to rotatably support a shaft member, said bearing comprising an inner race member fixed for rotation with said shaft member, an outer race, a plurality of bearing elements mounted between said inner and outer races to permit relative rotation therebetween, a member adapted to support said outer race, said support member and said outer raceway having coacting surfaces of spherical cross section permitting said outer race to rotate relative to said supporting member during deflection of said shaft, said outer race member including a pair of axially spaced side faces perpendicularly disposed to the rotative axis of said bearing, said support member including a pair of thrust surfaces disposed adjacent to the side faces of said outer race member and axially spaced therefrom, and a pair of thrust rings concentrically disposed with respect to said shaft and including a portion thereof

adapted to extend within the space between said outer race side faces and said support member thrust faces, said rings being in continuous engagement with said side faces and said thrust faces



being so formed that relative rotation of said outer raceway relative to said supporting member will displace said rings into eccentric thrust transmitting relationship with said shaft.

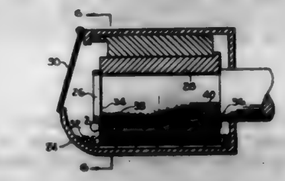
2,975,008
SEPARATORS
Bryce T. Raley, Bristol, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 711,869
9 Claims. (Cl. 308—201)



1. In a separator for guiding rolling elements between a pair of relatively rotatable race rings, an annular separator portion having a plurality of circumferentially spaced openings therethrough for receiving and guiding the rolling elements in race ring engagement, a radially outwardly extending projection at each end of the annular portion arranged to engage against one of said race rings, and a plurality of fastening members respectively secured at their ends to the projections and tensioned between said projections in spaced relation to said annular portion, said fastening members producing within said annular separator portion a predetermined radially inwardly directed stress which opposes deformation of the separator under influence of centrifugal forces of high speed rotation.

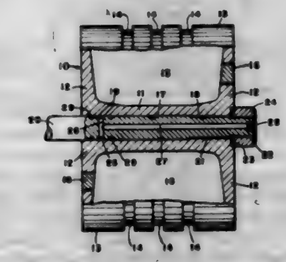
2,975,009
JOURNAL LUBRICATOR
Stanley G. Bair, % Security Railway Products, 120 S. La Salle St., Chicago, Ill.
Filed June 13, 1958, Ser. No. 741,889
4 Claims. (Cl. 308—243)

1. In a lubricated journal box containing a journal having a spaced collar and fillet and having substantially centrally positioned parallel ribs along the inside side wall surfaces thereof, the improvement comprising a rectangular flexible pad resistant to oil, said pad positioned below said journal and covering the greater portion of the bottom and side walls of said box between said ribs, a fabric casing having an exposed pile surface connected at spaced intervals to said pad and defining therewith at least one pocket extending substantially the length of said journal, a compressible and expandable core of resilient



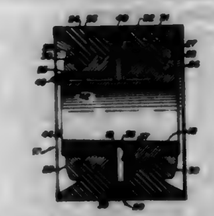
material confined in said pocket for pressing a substantial area of said pile surface against said journal, and means for compressing the portion of each end of said core adjacent said pad to cause the portion of each end of said core remote from said pad to extend laterally beyond said adjacent portion and firmly contact the collar and fillet of said journal.

2,975,010
HOLLOW PISTONS
Julius Nash, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 26, 1959, Ser. No. 836,217
4 Claims. (Cl. 309—4)



1. In combination, a hollow piston having a hub with a bore therethrough for receiving a rod, and a rod received in the bore and retained against movement relative to said piston, said hub having a vent passage connecting the chamber in the hollow piston and the bore, said rod having a passage communicating with the vent passage, and means adapted to seal the passage in said rod to close the chamber in said piston.

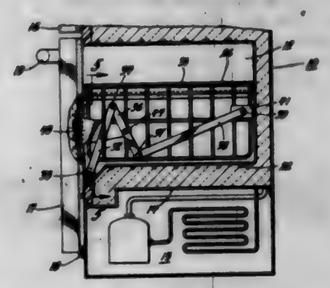
2,975,011
SLUSH PUMP PISTON
Julius S. Beck, 2785 Cherry Ave., Long Beach 6, Calif.
Filed Nov. 6, 1959, Ser. No. 851,392
5 Claims. (Cl. 309—4)



1. A piston comprising a tubular core, a ring around said core intermediate the ends thereof, said core having

a cylindrical surface therearound and on which said ring is detachably mounted, threaded leads around said core on opposite sides of said ring, cylindrical rubbers having internal threads threadedly engaged on said leads, the diameters of said rubbers being at least equal to the outside diameter of said ring, one of said threaded leads being threadedly mounted on said core adjacent said cylindrical surface on which said ring is mounted, and retainers demountably engaged on said core outwardly of said leads and engaging the inner surface portions of the outer ends of said rubbers.

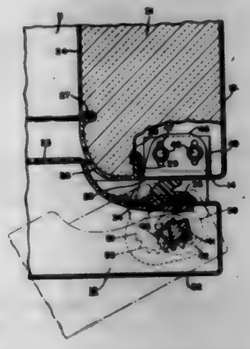
2,975,812
REFRIGERATING APPARATUS
Wesley F. Thall, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 12, 1959, Ser. No. 833,287
6 Claims. (Cl. 312—274)



4. In combination, a cabinet having a compartment therein provided with an opening, a door mounted on said cabinet for movement with respect thereto normally closing the compartment opening, a food support slidably supported within said compartment, means connecting said food support to said door for movement thereby part way out of said compartment through its opening upon moving the door open and back thereinto upon moving the door closed, said means comprising a linkage mechanism including a first link having its lower end pivotally secured to said cabinet adjacent the bottom front portion of said compartment, a second link, a third link having one end thereof pivotally secured to the rear portion of said food support above said lower end of said first link, the ends of said second link being pivotally attached to the end of said first and said third links opposite the ends thereof secured to said cabinet and said food support respectively, and means pivotally anchoring a portion of said second link intermediate its said ends to said door whereby movements of the door are converted by said linkage mechanism into forces acting on said food support to cause the sliding thereof.

2,975,813
REFRIGERATOR HINGE
James A. Wallace and Nevin D. Nolder, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,185
1 Claim. (Cl. 312—296)

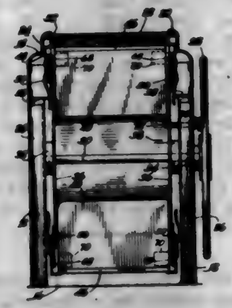
In combination, a refrigerator cabinet having a refrigerated food storage compartment therein provided with an access opening in a wall of said cabinet, a door normally closing the compartment opening, a resilient gasket carried by and extending around said door compressed between the door and said cabinet wall for air sealing the compartment opening, hinge means mounting an edge of said door upon said cabinet for swinging movement relative thereto, said hinge means comprising a bracket secured to the cabinet with a flat single thickness portion projecting outwardly from said cabinet wall and a hinge pin associated with said bracket projecting portion, said hinge pin including two integral parts in side by side relationship and concentric with one another, one part of said hinge pin being circular and the other part thereof being noncircular, said noncircular part of the hinge pin extending into the confine of said door and being rigidly secured thereto for preventing movement therebetween, said flat single thickness projecting portion of said bracket having an elongated aperture therein with the longitudinal center of the aperture extending at an acute angle with respect to said cabinet wall, the aperture in said bracket being throughout its entire length spaced outwardly from said cabinet wall, rack teeth formed in a wall of said aperture



and extending therealong, said circular part of said hinge pin being located within said elongated aperture in the same plane and flush with opposed surfaces of said single thickness projecting portion of said bracket to provide a pivot point for said door, gear teeth formed on said circular part of said hinge pin meshing with the rack teeth in said aperture wall, and the disposition of said geared circular part of said hinge pin within said elongated aperture serving without the aid of additional elements as the sole means of rendering said teeth effective automatically in response to swinging said door open for impelling said hinge pin lengthwise within the aperture to shift said pivot point outwardly away from said cabinet wall and transversely therealong for preventing wiping of said gasket thereagainst at least while the gasket is compressed.

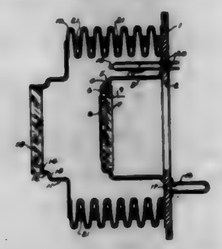
2,975,814
ROTARY FILE
Ernest A. Dahl, 8114 Lawndale Ave., Skokie, Ill.
Continuation of abandoned application Ser. No. 230,186, June 6, 1951. This application Dec. 24, 1954, Ser. No. 477,523
10 Claims. (Cl. 312—305)

1. A rotary file comprising a rotary carrier, means providing a plurality of compartments arranged about the periphery of said carrier and adapted to support a plurality of file elements such as file cards therein with said file elements each substantially in a plane substantially parallel to the axis of said carrier, stationary means defining a file transfer station with respect to said carrier, means rotatably supporting said carrier from said stationary means with said compartments successively positioned adjacent said file transfer station, means adapted to control said compartments for retaining file elements in said files as said carrier is rotated to move said compartments successively to and from said file transfer station, and magnetic means supported adjacent said compartments and adapted to induce magnetic poles in magnetically susceptible means included with file elements in said compartments to cause such file elements to fan out due to magnetic repulsion, said magnetic means being supported and positioned so as to be operative irrespec-



tive of and so as not to interfere with said control means, said magnetic means at said file transfer station being closer to said file elements than are said retaining means.

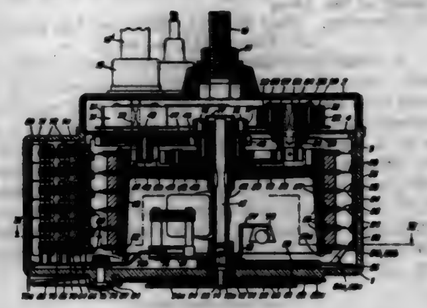
2,975,815
IMAGE CONVERTER AND METHOD AND APPARATUS FOR PRODUCING THE SAME
Dean W. Davis, Fort Wayne, Ind., assignor to International Telephone & Telegraph Corporation
Filed July 17, 1958, Ser. No. 749,241
15 Claims. (Cl. 316—19)



1. The method of fabricating an electron discharge device having an anode and a cathode which are positioned closely together comprising the steps of positioning an anode supporting element and a cathode supporting element a substantial distance apart, evacuating the space between said supporting elements, forming a photocathode on one of said supporting elements, next moving said elements toward each other while said space is evacuated until they are positioned in close proximity, securing said elements in said close proximity, and hermetically sealing the space between said elements.

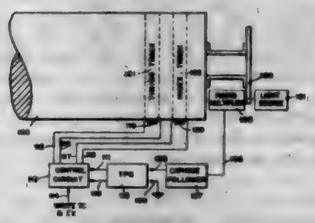
2,975,816
RECORDING APPARATUS PROVIDED WITH AUTOMATIC CANCELLATION
Max Amsler, Sandrainstrasse 3, Biel 7, Switzerland
Filed Dec. 3, 1958, Ser. No. 777,879
Claims priority, application Switzerland Dec. 10, 1957
17 Claims. (Cl. 346—18)

1. A recording apparatus with automatic cancelling, comprising a casing, a rotating member mounted within said casing, a plurality of ring discs secured to the circumferential surface of said rotating member and axially spaced from each other, each of said ring discs having a plurality of resiliently flexible tongues provided on the peripheral edge thereof, a stationary member provided on the interior surface of said casing and radially spaced from the peripheral edges of said flexible tongues, a plurality of circumferential ribs integrally provided on said stationary member and each having a circumferential interruption provided therein, so that each of said ribs extends along the path of said flexible tongues of a radially adjacent ring disc, a plurality of controlled members each pivotally mounted within said casing in the approximate vicinity of said circumferential interruption, so that each controlled member co-operates with said flexible tongues of an adjacent ring disc, each of said controlled members being selectively movable between a



first and a second end position, so that in said first end position each of said controlled members contacts said flexible tongues of said adjacent ring disc to deflect them as they pass said circumferential interruption to cause them to slide over one of said circumferential ribs until they again reach said circumferential interruption, and each of said controlled members in said second end position by-passing said flexible tongues of said adjacent ring disc when they travel past said circumferential interruption to permit them to move along beneath one of said circumferential ribs.

2,975,817
OPTICAL FREQUENCY GENERATOR FOR MAGNETIC TIMING AND INDEX TRACES
Herbert E. Conkey, Poughkeepsie, William L. Batcheler, Fishkill, and Donald B. Thompson, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 30, 1955, Ser. No. 497,848
13 Claims. (Cl. 346—74)



1. A system adapted to record a closed timing track on a continuous loop type of magnetic record member comprising means for generating a predetermined light pattern, means responsive to said light pattern for generating a corresponding potential varying in amplitude and waveform substantially in accordance with the variation of said light pattern, means for converting said potential to a succession of signals having a repetition rate determined by said potential a recording head positioned adjacent to said record member and means for energizing said recording head with said succession of signals for duration sufficient to complete said closed timing track as said record member rotates.

2,975,018
TREATMENT OF FEATHERS WITH WERNER-TYPE CHROMIUM COMPLEXES
Adolf Schubert, Chicago, Ill., George Cohen, Lawrence, Mass., Robert M. Delcamp, Cincinnati, Ohio, and Robert M. Leller, Clarendon Hills, Ill., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed May 26, 1959, Ser. No. 816,354
27 Claims. (Cl. 8—94.1)

1. A method of treating feathers to enhance their filling power, comprising placing said feathers in an acidic bath having a pH from about 1.2 to about 3.5 until equilibrium is substantially reached, then adding to said bath a solution of a Werner-type complex in which a trivalent nuclear chromium atom is coordinated with a carboxylic acido group having at least two carbon atoms, adjusting the pH of said bath to between about 3 and about 6, and keeping said fathers in said bath until their filling power is substantially increased; removing the feathers from said bath, and rinsing and drying them.

2,975,019
PRODUCING ALL SKIN VISCOSE RAYON
John A. Howsmon, Wilmington, Del., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 3, 1954, Ser. No. 466,672
12 Claims. (Cl. 18—54)

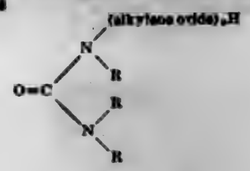
1. In a method of producing shaped bodies of regenerated cellulose consisting substantially entirely of skin, the step which comprises extruding viscose into an aqueous spinning bath in the presence of a modifying agent, the bath containing from about 10% to 25% sodium sulfate, from about 3% to 15% zinc sulfate and sulfuric acid, the percentage sulfuric acid content of the spinning bath exceeding the slubbing point but not exceeding about 1.35 times the percentage caustic soda content of the viscose, the modifying agent being selected from the group of lactam derivatives consisting of water-soluble N-omega-hydroxyalkyl poly(oxyalkylene)lactams and water-soluble N-omega-hydroxyalkyl poly(oxyalkylene) lower alkyl substituted lactams, the lactam containing from 3 to 6 carbon atoms in addition to the carbonyl carbon atom, the alkyl substituent containing not more than 6 carbon atoms, the hydroxyalkyl and oxyalkylene groups containing at least 2 carbon atoms and the derivatives containing between about 5 and 150 alkylene oxide units per molecule of the lactam, the modifying agent being present in an amount of from about 0.25% to about 4%, based on the weight of the cellulose in the viscose, when present in the viscose and of at least about 0.03%, based on the weight of the spinning bath, when present in the spinning bath.

2,975,020
PRODUCING ALL SKIN VISCOSE RAYON
Byron A. Thumm, Prospect Park, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 3, 1954, Ser. No. 466,677
8 Claims. (Cl. 18—54)

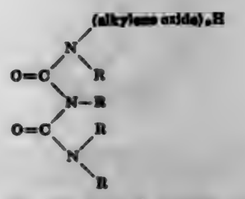
1. In a method of producing shaped bodies of regenerated cellulose consisting substantially entirely of skin, the step which comprises extruding viscose into an aqueous spinning bath in the presence of a water-soluble substance selected from the group consisting of water-soluble N,N-di(beta-hydroxyalkyl)anilines, water-soluble N-mono(omega-hydroxy polyoxyalkylene)anilines, water-soluble N,N-di(omega-hydroxy polyoxyalkylene)anilines and mixtures thereof, the hydroxyalkyl and the oxyalkylene groups containing at least 2 carbon atoms, the bath containing from about 10% to 25% sodium sulfate, from about 3% to 15% zinc sulfate and sulfuric acid, the percentage sulfuric acid content of the spinning bath exceeding the slubbing point but not exceeding about 1.35 times the percentage caustic soda content of the viscose, the water-soluble substance being present in an amount of from about 0.2% to about 4%, based upon the weight of the cellulose in the viscose, when present in the viscose and of at least about 0.05%, based upon the weight of the spinning bath, when present in the spinning bath.

2,975,021
METHOD OF PRODUCING VISCOSE RAYON
Wayne A. Sisson, Media, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 3, 1954, Ser. No. 466,679
12 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose consisting substantially entirely of skin, the step which comprises extruding viscose into an aqueous spinning bath in the presence of a substance selected from the group consisting of water-soluble compounds and mixtures of water-soluble compounds corresponding to the formulas



and

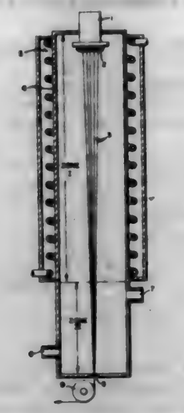


wherein R is selected from the group consisting of H and (alkylene oxide)$_n$H, n is from 1 to 100 and the total number of alkylene oxide units per molecule is between 1 and 100, the bath containing from about 10% to 25% sodium sulfate, from about 3% to 15% zinc sulfate and sulfuric acid, the sulfuric acid content of the spinning bath exceeding the slubbing point but not exceeding about 8%, the substance being present in an amount of from about 0.25% to about 4%, based upon the weight of the cellulose in the viscose, when present in the viscose and of at least about 0.05%, based upon the weight of the spinning bath, when present in the spinning bath.

2,975,022
PROCESS FOR PREPARING ACRYLONITRILE FIBERS
Robert D. Enler, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 20, 1958, Ser. No. 736,518
6 Claims. (Cl. 18—54)

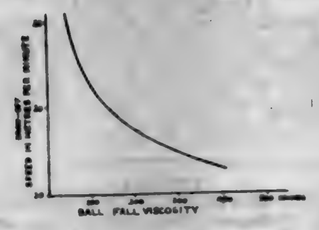
1. A process for preparing acrylonitrile filaments having a uniform, round cross-sectional shape which comprises extruding a solution containing a polymer comprised of at least 85% acrylonitrile and up to about 15% of an ethylenically unsaturated monomer copolymerizable

with acrylonitrile in dimethylformamide at a temperature from about 130° C. to about 145° C. through a spinneret into an atmosphere containing a substantially solvent-saturated static gaseous medium heated to a temperature



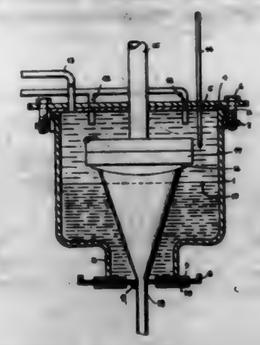
from about 165° C. to about 205° C., and thereafter passing said filaments through an atmosphere containing a substantially solvent-free gaseous medium heated to a temperature from about 50° C. to about 100° C. and withdrawing said filaments at a rate from about 275 to about 350 yards per minute.

2,975,023
PRODUCTION OF REGENERATED CELLULOSE FILAMENTS
Ernest Edward Tallis and David Nicholson Tyler, Coventry, England, assignors to Courtaulds Limited, London, England, a British company
Filed June 23, 1958, Ser. No. 743,720
Claims priority, application Great Britain June 28, 1957
11 Claims. (Cl. 18—54)



1. A process for producing regenerated cellulose filaments having a substantially circular or bean shaped cross-section and a substantially all skin structure comprising extruding viscose, the cellulose of said viscose having a degree of polymerisation of at least 400, at a temperature of 40° C. to 60° C. at a salt point between 6 and 15, and at an extrusion ratio of less than 1 into an aqueous coagulating bath containing sulphuric acid and zinc sulphate and sodium sulphate, in the presence of between 0.5 and 10 percent by weight of the weight of the cellulose of a polyethylene oxide of average molecular weight between 300 and 10,000 at a draw off speed not substantially greater than that defined by the curve shown in the figure accompanying this specification, and at a ball fall viscosity of between about 40 and about 400 seconds, the ball fall viscosity being defined as the number of seconds taken by a steel ball one eighth of an inch in diameter to fall through twenty centimetres of viscose at the extrusion temperature.

2,975,024
PRODUCTION OF ARTIFICIAL THREADS
Albert Walter Bennett, Coventry, England, assignor to Courtaulds Limited, London, England, a British company
Filed Jan. 21, 1959, Ser. No. 788,128
Claims priority, application Great Britain Feb. 18, 1958
3 Claims. (Cl. 18—54)



1. A process for the production of threads from polymeric materials selected from the group consisting of simple polymers of acrylonitrile and copolymers containing in the molecule at least 80 percent of acrylonitrile and up to 20 percent of at least one other unsaturated compound which is copolymerizable with acrylonitrile, which process comprises extruding downwardly said polymeric material dissolved in a concentrated solution of a salt selected from the group consisting of sodium thiocyanate, calcium thiocyanate, zinc chloride and lithium chloride, into a cocurrently moving stream of a coagulating solution, the rate of flow of said stream being adjusted to maintain a liquid-liquid interface in said stream between an upper liquid having a concentration of said salt not greater than about 2% and a lower liquid having a concentration of said salt of at least about 11%, and withdrawing freshly coagulated thread from the coagulating solution.

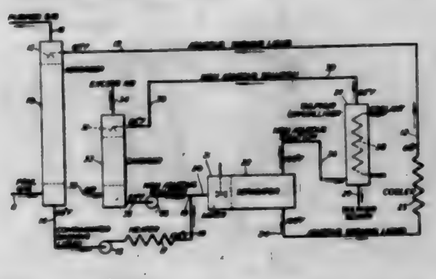
2,975,025
METHOD OF SELECTIVELY REMOVING OXIDES OF NITROGEN FROM OXYGEN-CONTAINING GASES
Johann G. E. Cohn, West Orange, Dunne R. Steele, Newark, and Holger C. Andersen, Morristown, N.J., assignors, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Nov. 5, 1957, Ser. No. 694,502
20 Claims. (Cl. 23—2)

1. A process for effecting selective reduction reactions of gases containing 1 to 22 percent oxygen, trace to 2 percent each of gases selected from the group consisting of NO and NO_2, and remainder inert, which comprises contacting in a reaction zone an admixture of the gases and ammonia at reaction temperature with a platinum group metal-containing catalyst whereby selective reduction of the oxides of nitrogen is effected.

2,975,026
REMOVING HYDROGEN SULPHIDE FROM GASES
John Eric Mills, Twickenham, England, assignor to The Gas Council, London, England, a British body corporate
Filed Nov. 17, 1958, Ser. No. 774,371
Claims priority, application Great Britain Nov. 18, 1957
9 Claims. (Cl. 23—3)

1. A process for removing hydrogen sulphide from a gas which comprises washing said gas with an aqueous

alkaline washing liquid which absorbs hydrogen sulphide from said gas, regenerating said aqueous washing liquid containing absorbed hydrogen sulphide by contacting same with a solution comprising a non-aqueous solvent immiscible with said aqueous washing liquid and having dissolved therein an organic substance selected from the group consisting of azine, thiazine, oxazine and triphenylmethane dyes and dye bases obtained by the neutralization of the reduction product of said dyes, whereby said hydrogen sulphide absorbed in said aqueous



washing liquid reacts with said organic substance to form a reduction product which remains in solution in said non-aqueous solvent, separating the non-aqueous solution consisting of said non-aqueous solvent containing said reduction product dissolved therein from said regenerated aqueous washing liquid, and regenerating said separated non-aqueous solution by contacting same with a gas selected from the group consisting of air and oxygen whereby said reduction product is oxidised back to said organic substance.

2,975,027

PREPARATION OF BOROHYDRIDES OF THE ALKALI METALS

Georg Wittig and Paul Hornberger, Tubingen, Germany, assignors to Heyl & Co. Chemischpharmaceutische Fabrik, Berlin-Steglitz, Germany

No Drawing. Filed Aug. 3, 1954, Ser. No. 447,667

Claims priority, application Germany Feb. 3, 1951

3 Claims. (Cl. 23—14)

1. A method of preparing lithium borohydride comprising combining in an autoclave a suspension of lithium hydride in an anhydrous ether and boron fluoride dissolved in an anhydrous ether to a mixture containing at least 4 moles of lithium hydride for each mole of boron fluoride, confining said mixture in said autoclave, allowing said lithium hydride and boron fluoride to react spontaneously within said mixture, retaining the heat developed by said reaction within said reaction mixture, heating said mixture by said developed heat to a temperature of about 90 to 140° C., subsequently supplying heat to complete the reaction at a temperature of about 100 to 140° C., and finally recovering lithium borohydride from the reaction mixture.

2,975,028

PHOSPHORUS COMPOUNDS AND PROCESS FOR MAKING

Gerhard Barth-Wehrenalp, Elkins Park, and Alexander Kowalski, Levittown, Pa., assignors to Pennsalt Chemicals Corporation, a corporation of Pennsylvania

No Drawing. Filed Feb. 15, 1956, Ser. No. 565,551

13 Claims. (Cl. 23—14)

1. A new composition of matter having the structural formula $PNX_2 \cdot 2PX_5$, in which X is a halogen.

3. A process for the production of $PNX_2 \cdot 2PX_5$, in which X is a halogen, comprising reacting a phosphorus pentahalide with an ammonium halide in the presence of a phosphorus oxyhalide.

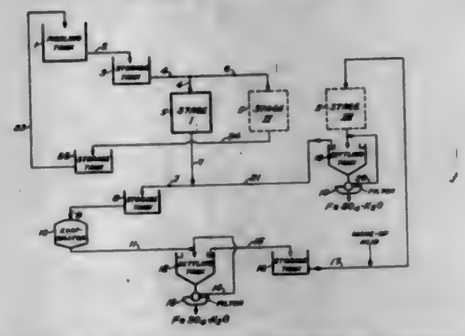
2,975,029

WASTE PICKLE LIQUOR RECOVERY PROCESS

James B. Horton, Allentown, and Earl J. Serfass, Bethlehem, Pa., assignors to Bethlehem Steel Company, a corporation of Pennsylvania

Filed Dec. 30, 1957, Ser. No. 705,927

7 Claims. (Cl. 23—172)



1. The method of reclaiming acid from an aqueous solution of a free mineral acid of the group consisting of sulfuric, phosphoric, nitric, hydrofluoric and hydrochloric and an iron salt which comprises bringing said solution into reactive contact with the hydrogen form of a cation exchange resin and thereby removing iron from solution in the form of an iron-bearing resin and forming additional free acid, then treating the iron-bearing resin with concentrated sulfuric acid having a strength ranging from 55% to 96%, and thereby regenerating said resin and precipitating ferrous sulfate, said concentrated acid having a specific gravity greater than the specific gravity of the regenerated resin and less than the specific gravity of the precipitated ferrous sulfate.

2,975,030

PREPARATION OF CYANAMIDE

William R. Rollingson, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 22, 1958, Ser. No. 762,257

5 Claims. (Cl. 23—190)

1. The process of preparing cyanamide which comprises heating together hydrogen cyanide and nitric oxide at elevated temperatures in contact with an inorganic material of high surface area chosen from the group consisting of alumina, silica gel, fuller's earth, kieselguhr, kaolin, celite and pumice.

2,975,031

PREPARATION OF CYANAMIDE

William R. Rollingson, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 6, 1958, Ser. No. 772,187

4 Claims. (Cl. 23—190)

1. The process of preparing cyanamide which comprises heating hydrogen cyanide in the presence of an inorganic material of high surface area chosen from the group consisting of alumina, silica gel, celite, kieselguhr, pumice, and fuller's earth to a temperature in the range from about 575° C. to about 1000° C.

2,975,032

PREPARATION OF CYANAMIDE

William R. Rollingson, Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 12, 1958, Ser. No. 773,144

12 Claims. (Cl. 23—190)

1. The process of preparing cyanamide which comprises heating together a mixture of aliphatic hydrocarbons having from 1 to 6 carbon atoms and ammonia in contact with an inorganic material of high surface area chosen from the group consisting of alumina, silica gel, fuller's earth, kieselguhr, pumice, celite, and kaolin at a temperature in the range from about 400° C. to about 800° C.

2,975,033

PROCESS FOR PREPARATION OF HYDROGEN PEROXIDE

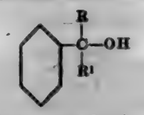
Gerhard Kibisch and Ekkehard Richter, Rheinfelden, Baden, and Albert Green, Frankfurt am Main, Germany, assignors to Food Machinery and Chemical Corporation

No Drawing. Filed Nov. 21, 1957, Ser. No. 697,784

Claims priority, application Germany Nov. 24, 1956

6 Claims. (Cl. 23—207)

6. In a process for producing hydrogen peroxide by the reduction of a working intermediate of the group consisting of the alkylanthraquinones, their tetrahydro derivatives and mixtures thereof dissolved in a working solvent mixture containing at least two solvent components, and the resulting anthrahydroquinone solution is oxidized to produce hydrogen peroxide and to reform the starting anthraquinone, the improvement comprising employing an aralkyl alcohol of the formula:



wherein R is an alkyl group having 1 to 3 carbons and R^1 is from the group consisting of hydrogen and alkyl groups having 1 to 3 carbons as a component of the working solvent mixture.

2,975,034

ELECTROLYSIS OF FUSED SALTS

Harry Rowland Leech and William Harold Wilson, Widnes, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 22, 1958, Ser. No. 736,970

Claims priority, application Great Britain May 31, 1957

6 Claims. (Cl. 23—215)

1. In a process for the electrolytic production of fluorine the step of removing hydrogen fluoride contaminant in fluorine which comprises bringing the contaminated fluorine into intimate contact with fluorosulphonic acid which absorbs the hydrogen fluoride and allows fluorine to pass through the acid with substantially no attack on the acid, then removing hydrogen fluoride from the fluorosulphonic acid and returning the fluorosulphonic acid absorbent to the absorption zone.

2,975,035

PROCESS FOR REMOVING OZONE FROM A GAS MIXTURE CONTAINING OZONE AND OXYGEN

Gerhard A. Cook, Clarence, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 19, 1956, Ser. No. 622,747

2 Claims. (Cl. 23—222)

1. A process for removing ozone from a gas mixture containing ozone and O_2 comprising flowing said gas mixture in intimate contact with a liquefied perhalogenated fluorine-containing methane selected from the group consisting of difluorochloromethane and trifluorochloromethane, whereby said ozone constituent is absorbed by said perhalogenated methane to form a stable homogeneous solution and separating the ozone depleted gas mixture from said perhalogenated methane; and simultaneously maintaining said solution at a temperature between −174° C. and −184° C. to keep the absorbed ozone in a liquid state and maintaining the ozone vapor pressure below about 75 mm. of mercury; and maintaining the ozone concentration of said homogenous solution below about 14 percent by weight.

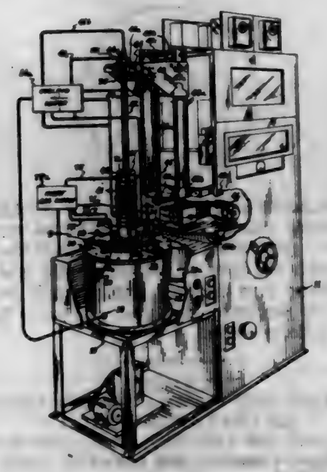
2,975,036

CRYSTAL PULLING APPARATUS

William Edwin Taylor and Ralph F. Rusi, Phoenix, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Oct. 5, 1956, Ser. No. 614,119

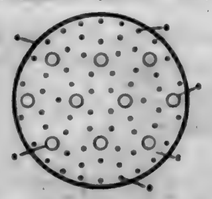
4 Claims. (Cl. 23—273)



4. Crystal pulling apparatus for producing elongated semiconductor crystals having limited resistivity variation from one end to the other, said apparatus including in combination, a furnace housing having an upper side with a port therein, a gasket surrounding said port, a cover extending over said port and having an opening therein aligned with said port, a valve plate slidable under said cover between a position in which said port is open and a position in which said plate is seated on said gasket and closes said port, quick-release clamping means including cam actuated plungers movable through said cover to engage said valve plate and force the same against said gasket, thereby providing a gas-tight seal for said port, quick-detachable connector means on the exterior of said cover surrounding said opening therein, a cylindrical tower having a coupling portion on the lower end thereof cooperable with said quick-detachable connector means to seal said tower in sealed relation with said cover, a vertical pull rod extending down through said tower and movable through said tower in and out of said furnace housing for alternately carrying a charge of semiconductor material to the interior of said housing and removing a semiconductor crystal from said housing into said cylindrical tower, said tower having means on the upper end thereof in sealed relation with said pull rod such that when said valve plate is positioned and clamped on said gasket said tower provides a gas-tight enclosure for receiving the charge of semiconductor material and the semiconductor crystal without exposing the interior of said furnace to the ambient atmosphere, said tower being slidable vertically along said pull rod to a raised position spaced from the upper side of said housing to afford access to the lower end of said pull rod, means for holding said tower in said raised position, a crucible positioned within said housing in alignment with said rod, means supporting said crucible including a plate contacting the bottom of said crucible for freezing semiconductor material which seeps through said crucible, a helical electrical resistance heat-

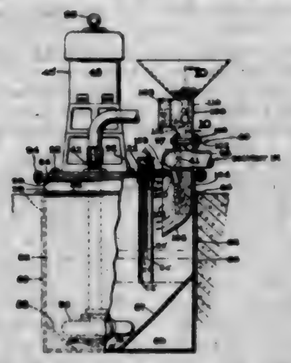
ing element surrounding said crucible and positioned to subject said crucible to the maximum heat provided by said heating element, and thermal shielding means for confining the heat supplied by said heating element within said furnace housing.

2,975,037
GRID DESIGN FOR FLUIDIZED BEDS
William C. Lahe, Tulsa, Okla., assignor to Pan American Petroleum Corporation, a corporation of Delaware
Filed May 18, 1955, Ser. No. 509,172
5 Claims. (Cl. 23—288)



1. A flat perforated grid for use in a reactor adapted for conducting reactions involving fluidized systems, the holes in said grid having a distribution such that the hole density within the outer 10 percent of said grid per unit area is greater than the hole area per unit area in the remaining 90 percent of said grid, said holes being substantially uniform in size.

2,975,038
METHOD OF AND APPARATUS FOR LIQUIFYING GRANULAR MATERIALS
Peter H. Lott, Salt Lake City, Utah, assignor to Utah-Idaho Sugar Company, Salt Lake City, Utah, a corporation of Utah
Filed Apr. 15, 1958, Ser. No. 728,636
14 Claims. (Cl. 23—309)



1. The method of liquefying a dry soluble granular material, which comprises simultaneously introducing a granular material such as sugar and a liquid solvent such as water in substantially jet-spray form into the upper portion of a closed mixing chamber while substantially excluding the admission of extraneous elements including free atmospheric air from said mixing chamber during the admission and mixing of the granular material and solvent, directing said granular material in one flow path and the solvent in the form of a plurality of jet streams which are alternately staggered with respect to each other and to a common horizontal axis into a separate flow path which acutely intersects the flow path of the granular material while freely falling within the upper portion of the mixing chamber to attain a substantially intimately mixed solution thereof, intercepting the intermixed flow beyond the point of initial contact of the granular material and solvent so as to abruptly change the direction of and break up the flow into a spray of reduced velocity to assure a substantially complete dissolution of the granular material in the solvent, thereafter collecting said solution in the lower portion of said mixing chamber, and discharging said solution from the mixing chamber.

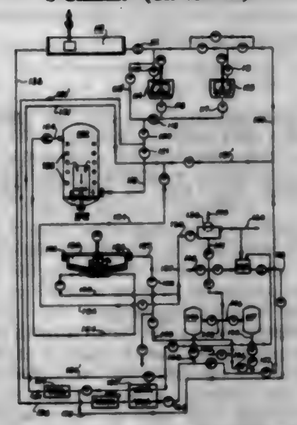
2,975,039
CHEMICAL COMPOSITION AND PROCESS FOR ALUMINUM ETCHING
Robert Houston Elliott, Jr., Oreland, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
No Drawing. Filed Nov. 2, 1955, Ser. No. 544,581
4 Claims. (Cl. 41—42)

1. The method of etching aluminum including aluminum base alloys involving relatively rapid solution of substantial quantities of said aluminum in a hot aqueous solution of an etching alkali, said method comprising treating the surface of said aluminum with an aqueous solution containing from 1 to 20% by weight of an etching alkali and containing at least one metal ion of the group consisting of hexavalent molybdenum, divalent nickel, divalent iron and trivalent iron at a temperature of from 120° to 212° F., said metal ion being present in an amount of at least 0.2% by weight based on the weight of said alkali.

2,975,040
CHEMICAL COMPOSITION AND PROCESS FOR ALUMINUM ETCHING
Robert Houston Elliott, Jr., Oreland, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
No Drawing. Filed Nov. 2, 1955, Ser. No. 544,583
5 Claims. (Cl. 41—42)

1. The method of etching aluminum alloys containing at least 0.1% copper involving relatively rapid dissolution of substantial quantities of said aluminum in a hot aqueous solution of an etching alkali, said method comprising treating the surface of said aluminum alloys with an aqueous solution of an etching alkali containing cobaltous ion at a temperature of at least 120° F., said cobaltous ion being present in an amount of at least 0.2% based on the alkali present.

2,975,041
METHOD FOR ETCHING ALUMINUM AND ALUMINUM ALLOY BODIES
Emmette R. Holman, Pasadena, Calif., assignor to Parex Corporation, Ltd., a corporation of California
Filed Aug. 6, 1956, Ser. No. 602,249
6 Claims. (Cl. 41—42)



1. A method of etching aluminum comprising, contacting aluminum with a solution containing free alkali metal hydroxide at a relatively high temperature to react the aluminum with said alkali metal hydroxide and form alkali metal aluminate in a first zone without producing any substantial amount of solid hydrated alumina therein, removing the resultant solution to a second zone, cooling said removed solution in said second zone in the presence of solid hydrated alumina to precipitate an additional quantity of solid hydrated alumina therefrom and increase the quantity of free alkali metal hydroxide therein, separating the precipitated hydrated alumina from the solution, and returning the solution to the first zone.

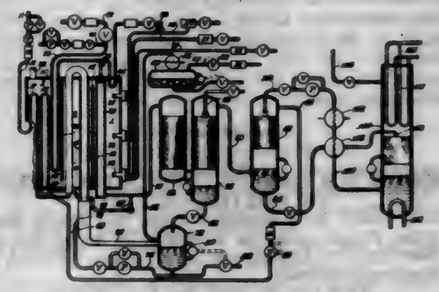
2,975,042
FUEL OIL COMPOSITIONS CONTAINING ANTIMICROBIAL AGENTS
Claude R. Summers, Jr., Havertown, Pa., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 29, 1955, Ser. No. 537,585
9 Claims. (Cl. 44—56)

1. A fuel oil composition comprising a major proportion of a distillate fuel oil in contact with an aqueous phase and tending to deposit gels that contain water, sulfur and copper, due to the presence in at least one of said oil and said aqueous phase of microorganisms that promote deposition of such gels, and a microbicidal amount of an anti-microbial agent that is effective to destroy said gel-promoting microorganisms.

2,975,043
TREATMENT OF DISTILLATE FUEL OILS WITH AQUEOUS ANTI-MICROBIAL AGENTS
Henry A. Ambrose, Penn Township, Allegheny County, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Dec. 30, 1955, Ser. No. 556,412
3 Claims. (Cl. 44—72)

1. A process for refining distillate fuel oil, comprising providing at least two fuel oil fractions boiling in the distillate fuel oil range, one of said fractions being inferior to the other in at least one characteristic that can be improved by aqueous refining, subjecting at least a portion of the inferior of said fuel oil fractions to an aqueous refining treatment comprising first, intimate contact thereof with a minor proportion of a liquid phase aqueous refining agent that is capable of improving the inferior characteristic of the inferior fuel oil fraction, separating the treated fuel oil fraction from the partially spent aqueous refining agent, and then water-washing the oil with wash-water to remove water-soluble substances from the treated oil, wherein the water used in at least one of said aqueous refining agent and said water-washing contains fuel oil gel deposit-forming microorganisms, and prior to said water-washing, incorporating in the wash-water, in microbicidal proportion, an oil-insoluble, anti-microbial agent that is effective to destroy said gel deposit-forming microorganisms under conditions of pH, temperature and nutrition favorable to their growth, and after separation of the washed, treated oil from wash-water, blending the washed, treated oil with the superior of said fuel oil fractions to form a blended distillate fuel oil that approximates the superior of said fractions with respect to said characteristic, and that has a reduced tendency to deposit gel due to gel deposit-forming microorganisms.

2,975,044
APPARATUS FOR PRESSURE HYDROGASIFICATION OF PETROLEUM HYDROCARBONS
Elmore S. Pettyjohn, Evanston, and Henry R. Linden, Franklin Park, Ill., assignors to Institute of Gas Technology, Chicago, Ill., a corporation of Illinois
Original application June 14, 1954, Ser. No. 436,406, now Patent No. 2,860,959, dated Nov. 18, 1958. Divided and this application Apr. 14, 1958, Ser. No. 728,211
1 Claim. (Cl. 48—93)



An apparatus for producing fuel gas which comprises a furnace divided by a first and a second spaced vertical bulkhead into a first, second and third zone, said first and second zones being interconnected by an opening through the first bulkhead near the top thereof and said second and third zones being interconnected by an opening through the second bulkhead near the bottom thereof, a single combustion gas discharge outlet near the top of said third zone, burners disposed within said first zone only and constituting the sole source of heat for said first, second and third zones, thereby supplying heat of progressively lower temperature downstream of said openings, a catalytic reactor within said first zone for generating hydrogen-rich gas, means for introducing a hydrocarbon feedstock into said catalytic reactor, means connecting with the discharge end of said catalytic reactor for removal of oxides of carbon from said hydrogen-rich gas, a hydrogasification-cracking reactor disposed in said second zone for converting hydrocarbons in the presence of hydrogen to a fuel gas, said hydrogasification cracking reactor constituting a U-shaped tube having a pair of legs terminating near the bottom of said second zone, heat exchange means for conducting said hydrogen-rich gas and a hydrocarbon feedstock through said third zone and thence to the end of one of said legs, and means for withdrawing fuel gas from the other of said legs.

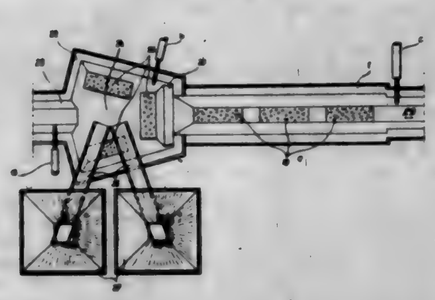
2,975,045
EXPLOSIVE COMPOSITIONS AND PROCESSES FOR PRODUCING EXPLOSIONS ON SURFACES
James W. Perry, 219 Langley Road, Newton Centre, Mass.; Joseph H. Fraser, R.D. 2, Havre de Grace, Md.; and William R. Johnson, 1305 14th St., Texas City, Tex.
No Drawing. Filed Oct. 31, 1947, Ser. No. 783,429
4 Claims. (Cl. 52—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A high explosive consisting essentially of a mixture of about one part by volume of an about 4 percent solution of a cellulose ether in a material selected from the group consisting of ethylene glycol, propylene glycol and aliphatic derivatives of ethylene glycol and propylene glycol, and about one and a half parts by volume of an aqueous solution of perchloric acid containing from about 70 to 72 percent of perchloric acid.

2,975,046
AMMONIUM NITRATE EXPLOSIVE COMPOSITION
Charles M. Cooley, Prairie Village, Kans., and Michael J. Parbonetz, Joplin, Mo., assignors to Spencer Chemical Company, Kansas City, Mo., a corporation of Missouri
No Drawing. Filed Feb. 2, 1959, Ser. No. 790,364
10 Claims. (Cl. 52—14)

1. An explosive non-cap sensitive composition detonatable with a blasting cap and detonating fuse and without requiring the use of a high explosive primer consisting essentially of ammonium nitrate and a member of the group consisting of the sulfonates of mono and di-methyl naphthalenes in an amount of 0.025% to 0.1% by weight of the ammonium nitrate, and a hydrocarbon oil that is liquid at room temperature and pressure uniformly distributed over and in the ammonium nitrate in an amount from about 4% up to about 8% by weight of the ammonium nitrate.

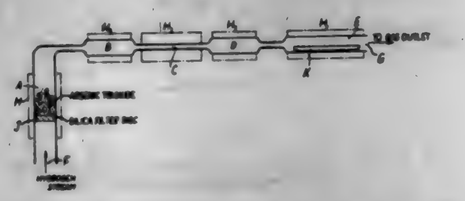
2,975,047
PROCESS FOR THE CONTINUOUS PRE-REFINING OF MOLTEN PIG IRON
Pierre Leroy, St. Germain-en-Laye, and Roger Simon, Paris, France, assignors to Institut de Recherches de la Sidérurgie, St. Germain-en-Laye, France, a French professional institution
Filed Oct. 28, 1958, Ser. No. 768,495
Claims priority, application France Nov. 7, 1956
16 Claims. (Cl. 75—59)



1. A continuous process for pre-refining molten pig iron containing silicon as an impurity which comprises the steps of passing a continuous stream of molten pig iron through a treatment zone, insufflating the stream of molten pig iron with a multitude of very minute and densely moving gas bubbles, oxidizing a major part of the silicon in the pig iron while it is insufflated, and adding at least one temperature modifying agent to the stream of molten pig iron to control the temperature of the pig iron to obtain and maintain a desired oxidation temperature while maintaining the temperature at a level at which the carbon and phosphorus content remains practically stationary.

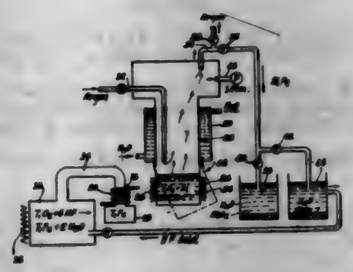
2,975,048
PURIFICATION OF SEMI-CONDUCTOR MATERIAL
George Richard Astell, Sale, and Tudor Wyndham Roberts, Rhymney, England, assignors to Metropolitan-Vickers Electrical Company Limited, London, England, a British company
Filed Nov. 25, 1958, Ser. No. 776,310
Claims priority, application Great Britain Nov. 27, 1957
2 Claims. (Cl. 75—84)

1. A process of preparing from arsenic containing a vaporisable impurity, arsenic in a state of purification suitable to enable it to serve as a component element of a semi-conductor alloy with a metal selected from the group consisting of gallium, indium, and aluminum, which process consists in the steps of oxidizing said arsenic and said impurity, heating said oxide of arsenic and entraining said oxides while heated in a stream of hydrogen, carrying said stream of hydrogen entraining said oxides into a reaction chamber heated to a temperature such that solely by reaction of said hydrogen with



said oxides reduction of arsenic takes place with separation of said vaporisable impurity therefrom, leading said stream into a condensing chamber in the interior of which said arsenic freed from said impurity is deposited without contact with atmospheric conditions, and causing said stream to flow from said condensing chamber with said impurity entrained therein.

2,975,049
METHOD FOR PRODUCING TITANIUM
Stanislaw T. Jaszinski and Joseph A. Slota, Camp Hill, Pa., assignors to Phoenix Steel Corporation, New York, N.Y.
Filed Jan. 5, 1956, Ser. No. 557,486
13 Claims. (Cl. 75—84.4)

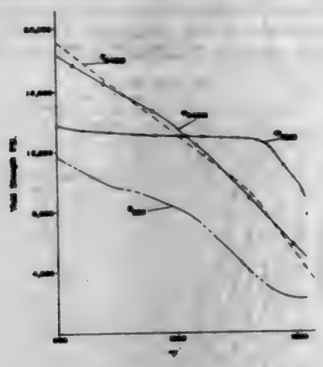


1. In the manufacture of titanium, the steps of reacting titanium tetrafluoride and silicon to form titanium as a powder and silicon tetrafluoride in accordance with the equation $TiF_4+Si \rightarrow Ti+SiF_4$ wherein the reaction is carried out under a pressure of at least about 1 atmosphere and at a temperature above about 500° F. but below 800° F. and wherein, for the production of a relatively pure titanium, the titanium tetrafluoride is present in an amount in excess of that required for reaction with the silicon, and removing the silicon tetrafluoride as a gas, leaving the titanium as a product.

2,975,050
ZIRCONIUM-ALUMINUM-NICKEL CATHODES
Andrey M. Bounds, Lavereck, and Richard L. Hoff, Norristown, Pa., assignors to Superior Tube Company, Norristown, Pa., a corporation of Pennsylvania
Filed June 4, 1957, Ser. No. 663,525
4 Claims. (Cl. 75—170)

1. A cathode structure of the indirectly-heated non-filamentary type including sleeves and cups characterized by high strength at cathode-operating temperatures, rapid activation, and good emission and sublimation

characteristics and composed of an alloy free of tungsten and containing zirconium in the range of 0.05% to 0.5%

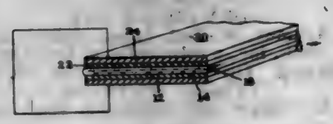


by weight, aluminum 0.005% to 0.2% by weight, and the remainder essentially nickel.

2,975,051
NICKEL BASE ALLOY
James E. Wilson, Loveland, and Eugene L. Dunn, Batavia, Ohio, assignors to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 29, 1959, Ser. No. 843,056
5 Claims. (Cl. 75—171)

1. A nickel base alloy suitable for casting comprising in percent by weight up to about 0.08 carbon, up to 6 iron, 0.05–0.10 boron, 14–16 chromium, 4.3–5.0 aluminum, 3.25–3.75 titanium, 3.5–4.0 molybdenum, 1.4–4.1 tungsten, up to 0.1 zirconium, with the balance essentially nickel and impurities.

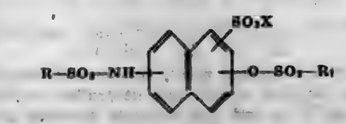
2,975,052
ELECTROSTATIC PRINTING
Richard A. Fotland, Lakewood, and Edward F. Mayer, Cleveland, Ohio, assignors, by mesne assignments, to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Mar. 19, 1956, Ser. No. 572,204
4 Claims. (Cl. 96—1)



1. In a method of forming a reproduction of an object which comprises (*a*) forming a temporary assembly comprising (1) an electrically conductive material on which there is supported a photoconductive insulating material; (2) a thin film of an insulating liquid of a high dielectric strength overlying said photoconductive insulating material and (3) a solid dielectric material overlying said liquid film and supporting a second layer of electrically conductive material wherein at least one of said photoconductive insulating material and said solid dielectric material bears a uniform electrostatic charge on its surface, prior to forming said temporary assembly; (*b*) establishing an electrical connection between said two electrically conductive materials and simultaneously therewith exposing said electrically charged photoconductive insulating material to a pattern of light and shadow to thereby form an electrostatic image on the opposed surfaces of both of said photoconductive insulating material and said solid dielectric material, and (*c*) thereafter removing the photoconductive insulating material and its support and the liquid dielectric material from the image bearing surface of the solid dielectric material and thereafter (*d*) developing said electrostatic image on said dielectric material into a visible image by applying thereto a dispersion of electrostatically attractable particles; the improvement which comprises: limiting the thickness of said liquid dielectric material to less than 100 microns and providing no external potential in the electrical circuit between said electrically conductive members, whereby the charge image is transferred through said dielectric liquid solely under the electrical influence of the potential difference created during the formation of the latent image in the photoconductive insulating material.

2,975,053
REPRODUCTION MATERIAL
Maximilian P. Schmidt and Oskar Süs, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 6, 1958, Ser. No. 765,340
20 Claims. (Cl. 96—33)

5. Light sensitive material comprising a base material coated with a layer comprising a water-soluble organic colloid and a compound having the formula



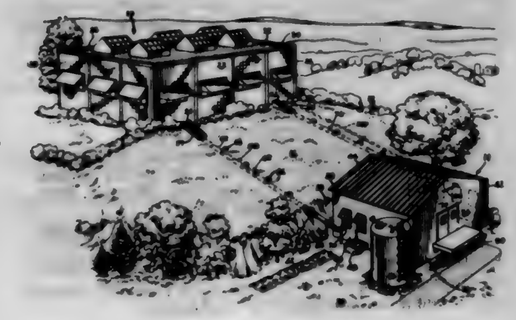
in which R and R_1 are quinone-(1,4)-diazide radicals, and X is selected from the group consisting of hydrogen and a metal cation.

2,975,054
WITHDRAWN

2,975,055
METHOD OF AND APPARATUS FOR HANDLING RAW MATERIALS IN THE PRODUCTION OF HYDROLYZED FEATHER MEAL AND OTHER POULTRY BY-PRODUCT MEAL
William D. Brown, Little Rock, Ark., and Tom W. Waller, Girard, Kans., assignors to El Dorado Poultry By-Products Company, Little Rock, Ark., a corporation of Arkansas
Filed July 30, 1958, Ser. No. 751,907
10 Claims. (Cl. 99—7)

1. In the simultaneous but separate production of feed ingredients from the rendering of chicken offal and chicken feathers respectively, both derived from a conventional chicken slaughtering plant during a given run, the method of separately supplying digesting apparatus at a rendering plant with separately available offal from the eviscerating room and feathers from the plucking room of such slaughtering plant, respectively, said method comprising continuously discharging chicken offal into an artificially created stream of fresh water issuing from the slaughtering plant and flowing to the rendering plant in sufficient quantity and with sufficient velocity to buoyantly transport said offal from the slaughtering plant to the rendering plant, continuously discharging the stream and its offal content into and through a first filtering screening bin to thus progressively fill the bin with the material solids while collecting the filtrate water in an

artificially created pool below the bin, continuously pumping the offal-contaminated water from said pool and returning the same to the slaughtering plant, creating a second artificial stream with the thus returned offal-contaminated water and causing the same to issue from the slaughtering plant and flow to the rendering plant at a predetermined velocity, continuously discharging chicken feathers into said second artificial stream of offal-contaminated water at the slaughtering plant at a rate commensurate with the velocity of said second stream so that said feathers will be buoyantly transported to the rendering plant, continuously discharging the second artificial stream and its feather content into and through a second and separate filtering screening bin to thus progressively fill said latter bin while causing the now offal-contaminated and feather-contaminated filtrate water to be discharged into said pool for admixture with the first offal-contaminated filtrate water issuing from the first filtering screening bin, and, periodically, and at will, selectively and independently conducting the collected filtered offal and the filtered feathers from the first and second filtering bins respectively when filled to the digesting apparatus.

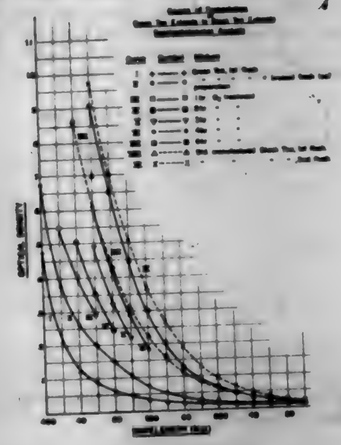


2,975,056
COFFEE FOAM REDUCTION
Eugene H. Lombardi, Port Chester, N.Y., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 28, 1958, Ser. No. 775,184
3 Claims. (Cl. 99—71)

1. A process for reducing foam from an aqueous coffee extract having a soluble solids concentration above 10% which comprises maintaining a body of said aqueous coffee extract, producing sonic vibrations in air above the surface of said body of extract, and directing said sonic vibrations toward the surface of said body of extract.

2,975,057
PROCESS FOR CONVERTING GREEN TEA EXTRACT
Edward Seltzer, West Englewood, Arthur J. Harriman, Glen Ridge, and Richard W. Henderson, Rahway, N.J., assignors to Thomas J. Lipton, Inc., Hoboken, N.J., a corporation of Delaware
Filed May 23, 1958, Ser. No. 737,269
8 Claims. (Cl. 99—77)

1. The process of converting green tea comprising adding an effective amount of an aqueous suspension of bruised fresh tea leaves, said leaves having their natural complement of enzymes in an active state, to an aqueous extract of green tea, allowing the mixture to react in the presence of oxygen at a temperature below that at which substantial inactivation of the natural tea enzymes occurs,



and thereafter heating the mixture to stop the reaction and stabilize the mixture against further change.

2,975,058
METHOD OF PRODUCING RICE FOODS
Augustine L. Colarusso, Boston, Mass., assignor to Van Brode Milling Co., Inc., Clinton, Mass., a corporation of Massachusetts
No Drawing. Filed Mar. 12, 1956, Ser. No. 570,682
1 Claim. (Cl. 99—81)

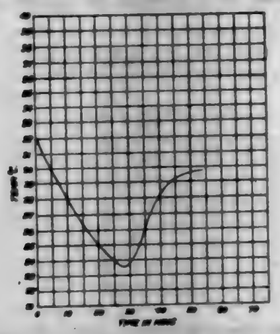
A method of making a ready-to-eat cereal food, comprising cooking rice in moisture, partially drying the cooked rice, compresing and deforming the cooked rice without, however, reducing the same to flakes, drying the deformed rice to a moisture content of between 5 and 14%, reducing the rice to coarse particles of approximately $^{80}/_{1000}$ of an inch in its three dimensions, and thereafter subjecting said particles to heat at a puffing temperature whereby they are expanded into spherical pellets.

2,975,059
DRY COOKIE MIX
John S. Andrews, St. Paul, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Jan. 28, 1955, Ser. No. 484,838
2 Claims. (Cl. 99—94)

1. A dry cookie mix comprising flour, shortening, sugar and discrete chocolate particles, the shortening being thoroughly smeared on the flour and the mix being impressed in the form of a solid block, the chocolate particles having a sugar coating which will not disintegrate in a batter prepared from said mix under the usual conditions employed for preparing a batter.

2,975,060
COCOA BUTTER SUBSTITUTES AND PRODUCTS CONTAINING THEM
Ronald Lobley Best, Bexley Heath, Antony Crossley, Springfield, and Stanley Paul, Preston, England, Hermann Pardun, Kleve, Germany, and Cornelis Johannes Soeters, Rotterdam, Netherlands, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Dec. 28, 1959, Ser. No. 464
12 Claims. (Cl. 99—118)

1. A fat composition consisting essentially of a fat selected from the group consisting of cocoa butter and a Borneo tallow type fat, in admixture with at least 5%, by weight of the mixture, of a palm oil fraction having an iodine value not exceeding 45, a dilatation at 20° C. of not less than 1000, and a softening point of from 30 to 45° C., the palm oil fraction, when in admixture with Borneo tallow type fat only, amounting to at least 25% by weight of the mixture, and the palm oil fraction, when both Borneo tallow type fat and cocoa butter are present, amounting to at least 25% by weight of the combined weight of the palm oil fraction and Borneo tallow type fat.



2,975,061
COCOA-BUTTER SUBSTITUTES AND COMPOSITIONS CONTAINING SAME
Cornelis Johannes Soeters, Rotterdam, Netherlands, Hermann Pardun, Kleve, Germany, and Antony Crossley, Wallasey, and Stanley Paul, Preston, Birkenhead, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Oct. 29, 1956, Ser. No. 618,681
Claims priority, application Great Britain Oct. 31, 1955
9 Claims. (Cl. 99—118)

3. A fat composition consisting essentially of a lard fraction having an iodine value within the range of 25 to 40, a softening point in the range of 35° to 45° C., and a dilatation at 20° C. of not less than 1200, and only one fat selected from the group consisting of cocoa-butter and a palm oil fraction having an iodine value not greater than 42, a softening point within the range of from about 30 to about 45° C., and a dilatation at 20° C. of not less than 1000, said cocoa-butter, when present in the composition, being at a level of from 70 to 95% by weight thereof, and said palm oil fraction, when present in the composition, being present at a level of about 25 to 60% by weight thereof.

2,975,062
COMPOSITIONS CONTAINING COCOA-BUTTER SUBSTITUTES
Cornelis Johannes Soeters, Rotterdam, Netherlands, Hermann Pardun, Kleve, Germany, and Antony Crossley, Wallasey, and Stanley Paul, Preston, Birkenhead, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Oct. 29, 1956, Ser. No. 618,682
Claims priority, application Great Britain Oct. 31, 1955
7 Claims. (Cl. 99—118)

1. A chocolate composition comprising decorticated cocoa bean, sugar and additional fat, the fat phase of the composition consisting essentially of cocoa-butter and a tallow fraction obtained from a tallow of the group consisting of mutton and beef tallow, said fraction having an iodine value within the range of 28 to 40, a softening point within the range of 30° to 45° C., and a dilatation at 20° C. of not less than 1200, the said tallow fraction being present at a level of from 5% to 30% by weight of the mixture of cocoa-butter and tallow fraction.

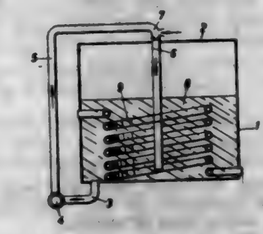
2,975,063
COCOA-BUTTER SUBSTITUTES, PROCESS OF PREPARING SAME, AND COMPOSITION CONTAINING SAID SUBSTITUTES
Stanley Paul, Preston, Birkenhead, and Antony Crossley, Bromborough, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Aug. 7, 1957, Ser. No. 676,710
Claims priority, application Great Britain Aug. 10, 1956
21 Claims. (Cl. 99—118)

1. A process for preparing a cocoa-butter substitute from palm oil which comprises partly hardening palm oil and fractionating the partly hardened palm oil to obtain a fraction having an iodine value not greater than 45, a dilatation at 20° C. of not less than 1000 and a dilatation at 35° C. of not greater than 600.

2,975,064
PRODUCT AND METHOD FOR IMPROVING FROZEN DESSERTS
Gerald D. Sperry, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware
No Drawing. Filed Nov. 13, 1959, Ser. No. 852,599
14 Claims. (Cl. 99—136)

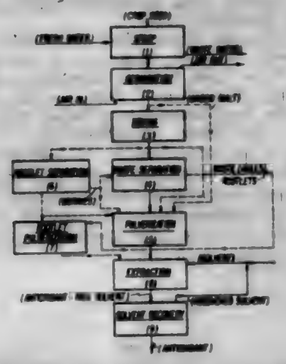
1. The method of producing a fat containing frozen dessert which comprises adding to the mix for said dessert a small amount of a carboxymethyl alginate having a viscosity of not less than 10,000 centipoises when the said alginate is dissolved in a 5% concentration in water the said amount being sufficient to stabilize the said dessert.

2,975,065
METHOD FOR THE AERATION AND AGITATION OF LIQUORS
John White, Edgbaston, Birmingham, England, assignor to Fardons' Vinegar Company Limited, Birmingham, England, a British company
Filed Feb. 20, 1959, Ser. No. 794,632
Claims priority, application Great Britain Feb. 22, 1958
7 Claims. (Cl. 99—147)



1. Process for the aeration and agitation of a liquor which comprises holding a body of said liquor, continuously withdrawing liquor from said body and causing said liquor withdrawn to flow downwardly whilst confining it, continuously feeding oxygen-containing gas into said liquor withdrawn whilst it is flowing downwardly, causing the liquor having oxygen-containing gas so dispersed therein to continue flowing downwardly in an elongated path whilst still confined and continuously returning the liquor into which said oxygen-containing gas has been fed to the lower part of said body of liquor.

2,975,066
ANTIOXIDANT AND PROCESS FOR PREPARING THE SAME
Dwight L. Baker, Milwaukee, Wis., and Wilmer B. Dochstader, Clinton, Iowa, assignors to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 31, 1958, Ser. No. 784,325
26 Claims. (Cl. 99—163)



1. A process which comprises subjecting seed to sprouting conditions, terminating growth in the early sprouting stage while drying the sprouted seed at a temperature not exceeding 200° F., subjecting any part of the sprouted seed other than the hull alone to solvent extraction with a solvent comprising a monohydroxy alcohol containing from 1 to 4 carbon atoms whereby antioxidant material is extracted from said part of the sprouted seed.

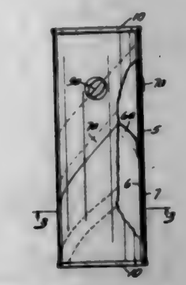
17. The antioxidant material for use in the inhibition of auto-oxidation of organic materials prepared in accordance with claim 1.

2,975,067
METHOD OF PRESERVING COMESTIBLES
Alexander Winterberg, 3 Ramat School, Haifa, Israel
No Drawing. Filed Feb. 1, 1957, Ser. No. 637,620
7 Claims. (Cl. 99—166)

1. A method of preserving comestibles, comprising the steps of preparing a viscous aqueous emulsion, in which the dispersed phase is a non-toxic carbon-chain polymerizable plastic, selected from the class consisting of polyvinyl acetate, vinyl acetate mixed with wax, vinylidene chloride, and vinylidene chloride mixed with vinyl chloride, admixing thereto pure sorbic acid in granular form and applying the emulsion to the comestibles to be protected, with original undissolved granules still present in the material in substantially undissolved condition.

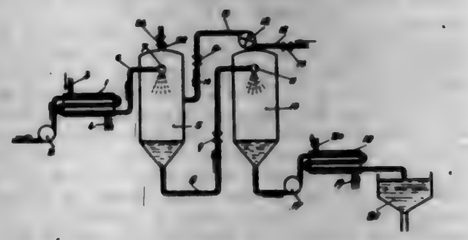
2,975,068
DOUGH PACKAGE
Wilbur G. Flenup, St. Louis, Mo., and John Erdle, Sr., Trenton, N.J., assignors to RC Can Company, St. Louis, Mo., a corporation of Missouri
Filed May 26, 1958, Ser. No. 737,946
6 Claims. (Cl. 99—172)

1. A dough package including a container with dough contained therein and constructed to permit said dough to be bodily removed therefrom, said container consisting essentially of a generally cylindrical fibrous body layer having linear means on the inside surface thereof for sealing the same against moisture and grease from the dough product, said body layer having a generally helical separation line extending substantially the full length of the container and pitched to extend around substantially the entire circumference thereof and being of sufficient strength to resist fracture except at said separation line, an outer reinforcing wrapper permanently superposed about said body to circumferentially reinforce the same and combine therewith to withstand the outward bursting pressure of the dough confined within said container, said wrapping overlapping said separation line and being constructed of a material to rupture substantially



simultaneously along the full length of said separation line upon manual impact at a predetermined localized area of the wrapper overlying said separation line, a pair of end closures respectively closing the ends of the container, and the dough in the container being bodily removable therefrom by twisting the ends of the container in opposite directions to unwrap the container from the dough and thereby expose the dough.

2,975,069
METHOD FOR PASTEURIZING OR STERILIZING LIQUID AND SEMI-LIQUID PRODUCTS
Pierre Robert Lagrilliere, 6 Rue Robin, Enghien-les-Bains, France
Filed June 15, 1956, Ser. No. 591,721
Claims priority, application France Sept. 29, 1955
23 Claims. (Cl. 99—216)



1. A continuous method for heat treating liquiform materials, which comprises introducing the liquiform material to be heat treated into a closed heat treating zone in a finely divided state, initially injecting priming live steam in said treating zone to heat the material to a desired treating temperature and then cutting off said steam when steady state operation is reached, introducing the so-treated product in liquid state to a closed expansion zone also in finely divided state, and therein cooling the product by expansion to a temperature intermediate between the initial temperature of the product and the desired heat treatment temperature and thereby creating vapors, withdrawing the cooled liquid product, conducting the vapors including all their inherent flavors from said expansion zone to a compressing zone for compressing said vapors to a pressure at least as high as that corresponding to the desired treating temperature, and in steady state operation injecting the vapors so compressed into said closed heat treating zone as the sole source of heat to produce the desired treatment of the material.

2,975,070
VITREOUS ENAMEL
Burton C. Bricker, Wilmington, Del., and Lewis C. Hoffman, Scotch Plains, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 11, 1958, Ser. No. 779,525
1 Claim. (Cl. 106—49)

A vitreous enamel frit, suitable for use as a protective coating on the surface of aluminum and aluminum-rich alloys, having a firing and maturing temperature below 1000° F., said frit consisting of the following, in mole percentages:

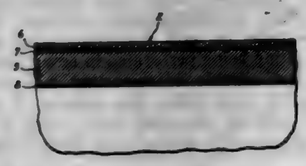
	Percent
PbO	6.2
SiO_2	36.3
TiO_2	19.5
Na_2O	23.4
Li_2O	5.6
K_2O	4.8
Sb_2O_3	0.6
B_2O_3	0.1
BaO	3.5

all of said oxides being melted into said enamel composition.

2,975,071
THICKENED COMPOSITIONS AND METHOD OF MAKING THE SAME
Thomas H. Ferrigno, Metuchen, N.J., assignor to Minerals & Chemicals Philipp Corporation, a corporation of Maryland
No Drawing. Filed Feb. 4, 1958, Ser. No. 713,698
6 Claims. (Cl. 106—260)

1. A method of forming a thixotropic composition which comprises mixing a liquid esterbody selected from the group consisting of a glycerol ester of an unsaturated long chain aliphatic monocarboxylic acid and an oil-modified alkyd resin, with from about 0.5 percent to 5.0 percent, based on the weight of said esterbody, of an arylene diisocyanate in the presence of particles of a hydrated siliceous material selected from the group consisting of hydrated calcium silicate, hydrated magnesium silicate, kieselguhr, kaolin clay, halloysite clay, montmorillonite clay and attapulgite clay, and aging said mixture at ambient temperature for a time sufficient to cause said mixture to form a thixotropic gel.

2,975,072
PROTECTIVE COATINGS FOR COMBUSTION ENGINE EXHAUST SYSTEMS
Eugene E. Bryant, Beachwood Village, and Carl J. Reiff, Rocky River, Ohio, assignors to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 9, 1958, Ser. No. 779,895
5 Claims. (Cl. 117—68)



5. A method of making a corrosion resistant metal article suitable for use in combustion engine exhaust systems comprising the steps of nickel plating by electroless means the exterior and interior of a relatively clean hollow ferrous metal article, applying a coating of unfused porcelain enamel containing an adherence promoting oxide on the exterior surface only of the plated metal article, and thereafter firing said article to form a fused porcelain enamel layer on the exterior of said metal article and form a uniform corrosion resistant nickel-oxide containing layer on the interior surface of said metal article which nickel-oxide containing layer is the oxidation product of said electroless nickel plating.

2,975,073
CORROSION RESISTANCE OF ELECTROLESS NICKEL PLATE
Herbert K. De Long and Donald E. Ritzema, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 6, 1958, Ser. No. 713,566
2 Claims. (Cl. 117—71)

1. The method of increasing the corrosion resistance of nickel plate chemically deposited from an aqueous solution containing nickel and hypophosphite ions at a pH of between 3.5 and 7 on a magnesium-base alloy article immersed therein which comprises thereafter immersing the thus nickel-plated metal magnesium-base alloy article in an aqueous solution having a pH between 0.5 and 5 and containing a chromium compound selected from the class consisting of chromic acid and sodium dichromate, said chromic acid being employed in an amount between 0.1 and 5 percent and said sodium dichromate between 5 and 15 percent by weight of the bath.

2,975,074
RESIN COATED PAPER
Austin L. Jankens, Bay City, and Fred D. Hoerger, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 14, 1957, Ser. No. 640,290
16 Claims. (Cl. 117—76)



1. As a composite structure, a resin coated paper product which comprises a paper base having a continuous intermediate substrate layer of a chlorinated polyethylene resin applied thereover, said chlorinated polyethylene resin in said intermediate layer having a combined chlorine content between about 25 and 50 percent by weight, based on the weight of the chlorinated resin, and a continuous tightly adhering superficial coating of a haloethylene polymer resin over the surface of said intermediate layer, said haloethylene polymer being comprised of a halogen of atomic number from 9 to 39 and selected from the group consisting of vinyl halide polymers that contain in the polymer molecule at least about 80 weight percent of a polymerized vinyl halide and vinylidene halide polymers that contain in the polymer molecule at least about 60 weight percent of polymerized vinylidene halide.

2,975,075
METHOD OF EVAPORATING METALS
Norman C. Beese, Verona, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 17, 1956, Ser. No. 566,313
16 Claims. (Cl. 117—107)



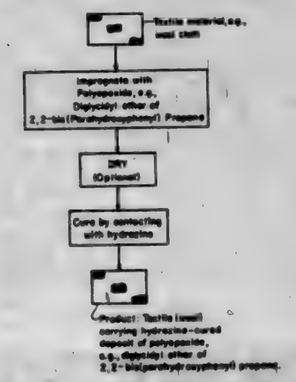
1. The method of producing coatings by evaporation of silver or gold from a filament selected from the group consisting of tungsten and molybdenum comprising applying to said filament a mixture comprising silicon powder dispersed in an organic binder, heating said ap-

plied filament in an evacuated atmosphere to volatilize said binder and to cause a coating of silicon to remain upon the surface of said filament, heating a metal selected from the group consisting of silver and gold on said coated filament in a high vacuum whereby said selected metal melts and wets said underlying coated filament and thereafter evaporates onto the surface being coated.

2,975,076
PREPARING GLASS COATING COMPOSITIONS
Arnold E. Saunders, Saxonburg, and William E. Wagner, Verona, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 12, 1957, Ser. No. 695,527
20 Claims. (Cl. 117—124)

11. A composition of matter suitable for use to form a film on heated glass surfaces consisting substantially of a slurry containing particles having an average size not in excess of 5 microns, said particles consisting essentially of a product formed by heating cobalt acetate and a monohydric aliphatic alcohol containing between 1 and 5 carbon atoms in a medium including 0 to 8 parts by weight of glacial acetic acid per 100 parts of medium and 0 to 10 parts by weight of an acetate taken from the group consisting of iron acetate and nickel acetate per 100 parts of cobalt acetate at a temperature between 100° F. and the boiling point of the alcohol for a time sufficient to produce a fine pink precipitate.

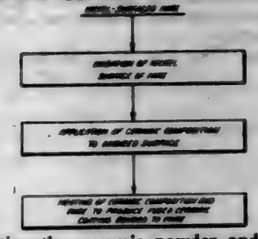
2,975,077
SHRINKPROOFING TEXTILES WITH POLYEPOXIDES AND HYDRAZINE
Thompson J. Cox, Albany, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
Filed July 31, 1959, Ser. No. 830,965
6 Claims. (Cl. 117—141)
(Granted under Title 35, U.S. Code (1952), sec. 266)



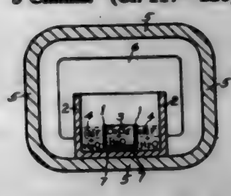
4. A shrink resistant textile of substantially unimpaired hand compriaing textile fibers carrying a hydrazine-cured deposit of a polyepoxide containing at least two epoxy groups per molecule, in an amount about from 0.5% to 10% of the weight of the textile.

2,975,078
CERAMIC COATED WIRE
George T. Rayfield, Altadena, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Oct. 21, 1957, Ser. No. 691,179
7 Claims. (Cl. 117—217)

1. The method of bonding a temperature-resistant pliant ceramic composition to an electrically-conductive wire having a nickel surface which method comprises heating the wire to oxidize the surface of the nickel to an oxide of nickel, applying to the wire a ceramic powder, and heating the ceramic powder and wire to produce a fused ceramic coating overlying the surface of the oxide of nickel and bonded to the wire.



2,975,079
IMPREGNATION OF CARBON PRODUCTS
Guy Ervin, Jr., and Herbert F. G. Ueltz, Shrewsbury, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 22, 1958, Ser. No. 762,433
5 Claims. (Cl. 117—228)



1. Process of impregnating porous carbon with insoluble salt consisting in applying simultaneously from two sides of said carbon a water solution of soluble fluoride of alkali metal on one side and a separate water solution of soluble halide of alkaline earth metal on the other side, causing said different solutions simultaneously to penetrate into the pores of said carbon and therein to precipitate insoluble alkaline earth metal fluoride.

2,975,080
PRODUCTION OF CONTROLLED P-N JUNCTIONS
Lorne D. Armstrong, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,874
11 Claims. (Cl. 148—1.5)

1. The method of fabricating a semiconductive device comprising the steps of converting a thin surface layer of a given conductivity type semiconductor wafer to the opposite conductivity type, removing predetermined portions of said converted layer, and heating said wafer so as to diffuse type-determining material from the remaining portions of said converted layer into said wafer, said heating being performed in an ambient including a substance capable of imparting said given conductivity type to said wafer, the amount of said substance which diffuses into said wafer being insufficient to alter the conductivity type of said surface layer.

2,975,081
COLORING OF ALUMINUM SURFACES
Ben H. Kirby, Jr., Lock Haven, Victor T. Humphreys, Jersey Shore, and Talfryn James, Lock Haven, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Apr. 16, 1959, Ser. No. 806,740
6 Claims. (Cl. 148—6.1)

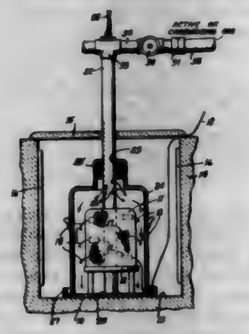
1. Method of coloring oxide-coated aluminum comprising applying a coloring solution of at least 0.01 per-

cent by weight of an organic water-insoluble colorant dissolved in a liquid substantially water-immiscible aromatic solvent having a boiling point of at least about 80° C. to aluminum having an artificially produced oxide coating thereon at a temperature between ambient temperature and the boiling point of said solvent.

2,975,082
METHOD OF PROVIDING FERROUS ARTICLES WITH PHOSPHATE COATINGS AND COMPOSITIONS THEREFOR
John A. Henricks, Logansport, Ind.
(742 N. Oak Park Ave., Oak Park, Ill.)
No Drawing. Filed Jan. 22, 1957, Ser. No. 635,130
2 Claims. (Cl. 148—6.15)

1. A phosphate coating bath make-up compound in powder form comprising 20 to 40 parts of zinc nitrate particles having a zinc oxide coating thereon, 2 to 20 parts of acid particles selected from a member of the group consisting of diglycolic acid and sulfamic acid with a coating of starch on its particles, 30 to 50 parts of mono-basic sodium phosphate, 10 to 30 parts of calcium chloride having a coating of calcium phosphate powder on its particles so that said composition can be mixed with water to make a non-sludging phosphate coating bath.

2,975,083
CARBURIZING PROCEDURE
William E. Engelhard, Apalachin, N.Y. (% Temperature Processing Co. Inc., 228 River Road, North Arlington, N.J.)
Filed Nov. 5, 1959, Ser. No. 851,066
1 Claim. (Cl. 148—16.5)



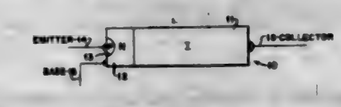
The method of treating steel parts to increase their surface carbon content to an accurately predetermined extent, comprising enclosing said parts while spaced from one another in a furnace, with heating means lining side walls thereof, while held in a perforated bell positioned above the bottom of said furnace, and in turn enclosed in an imperforate bell, the lower edge of which is supported adjacent the bottom of said furnace, indirectly heating said parts to a predetermined uniform temperature between 1350° and 2000° F. by operation of said furnace for about one hour, simultaneously directing a flow of pressurized gas, neutral to the initial carbon content of said parts, with a dew point not higher than —40° F., to inside the top portion of said imperforate bell, through said perforated bell, and under the bottom edge of said imperforate bell, whereby the original carbon content of the steel parts is not decreased, then while still maintaining said parts at said uniform temperature, substituting an active carburizing gas for said neutral gas for an accurately predetermined period of time of from one to ten minutes, to thereby case harden said parts to a desired extent between .0002" and .010" in depth and, after treatment in said carburizing gas, rapidly cooling said steel parts by immersion in a quenching liquid.

2,975,084
FLUX COMPOSITION FOR ALUMINUM CASTING PROCESS AND METHODS FOR CONTROLLING MOLTEN FLUX BATHS
Walter E. Jominy, Detroit, and John H. Olson and Robert B. Boswell, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
No Drawing. Original application Mar. 23, 1953, Ser. No. 344,190, now Patent No. 2,881,491, dated Apr. 14, 1959. Divided and this application Dec. 9, 1957, Ser. No. 701,357
14 Claims. (Cl. 148—26)

1. A fluent fused flux of the salt type for use in casting aluminum to ferrous bodies to effect an alloy bond therewith, said flux consisting of the following substances as essential constituents and in substantially the amounts given:

	Parts by weight
Sodium chloride	7 to 40
Potassium chloride	24 to 44
Natural Greenland cryolite	9 to 25
Zinc chloride	Up to 34

2,975,085
TRANSISTOR STRUCTURES AND METHODS OF MANUFACTURING SAME
Lloyd P. Hunter, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 29, 1955, Ser. No. 531,103
4 Claims. (Cl. 148—33)

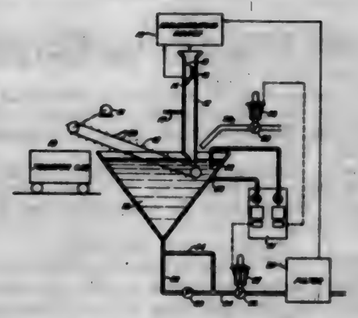


1. A transistor consisting of a body of semi-conductive material including a region of intrinsic material, a first region of extrinsic material of one type joined to said intrinsic region by a barrier junction, a second region of extrinsic material of the opposite type joined to said first extrinsic region by a second barrier junction, an ohmic connection to said intrinsic region to serve as a collector electrode, an ohmic connection to said first extrinsic region to serve as a base electrode, and an ohmic connection to said second extrinsic region to serve as an emitter electrode.

2,975,086
PROCESS FOR QUENCHING HOT IRON POWDER AGGLOMERATES
Jagdish C. Agarwal, Verona, Pa., and William L. Davis, Jr., Chicago, Ill., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 15, 1957, Ser. No. 696,751
2 Claims. (Cl. 148—134)

1. A method of cooling hot iron powder agglomerates from an initial temperature of at least 700° F. and preventing their reoxidation comprising continuously immersing newly formed agglomerates in a body of water, sensing the temperature of said body, adding cool water to said body in amounts governed by the temperature thus sensed to maintain said body at a temperature approaching the boiling point, sensing the level of water in said body, discharging a suspension of unagglomerated powder from the bottom of said body in amounts governed by the level thus sensed to maintain a predetermined level, continuously withdrawing said agglomerates

from the water after an immersion time of 3 to 120 seconds, employing sensible heat in the agglomerates to evaporate immediately all acquired moisture leaving the



agglomerates at a finishing temperature in the range of about 200° to 300° F., and thereafter cooling said agglomerates to ambient temperatures.

2,975,087
METHOD AND APPARATUS FOR MAKING SHIELDED WIRE
Russell S. Donald, Trumbull, Conn., assignor to Electrac, Inc., Boston, Mass., a corporation of Massachusetts
Filed Sept. 3, 1957, Ser. No. 681,661
3 Claims. (Cl. 154—2.25)



1. The method of shielding wire covered with insulation which comprises feeding the wire along a predetermined path past first and second locations, at said first location folding shielding ribbon around the wire to form a tube, between said locations applying heat to the edges of the ribbon to weld them together at a seam while shielding said insulation against the heat, and at said second location compressing the tube to smooth out the seam while protecting said insulation against pressure of the seam.

2. Apparatus for shielding wire covered with insulation which comprises means for feeding the wire along a predetermined path past first and second locations, means at said first location for folding shielding ribbon around the wire to form a tube, means between said locations for applying heat to the edges of the ribbon to weld them together at a seam, a shield to protect said insulation against the heat, at said second location means for compressing the tube to smooth out the seam and means for protecting said insulation against pressure of the seam, said shield comprises a tube extending from the second location back past the first location and said last means comprises an anvil anchored to the tube.

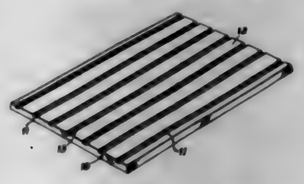
2,975,088
UNSUPPORTED SILICONE RUBBER ELECTRICAL INSULATION AND METHOD OF PREPARING SAME
Earl C. Rossman, Wauwatosa, and Russell C. Frank, Waukesha, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Feb. 29, 1956, Ser. No. 568,453
13 Claims. (Cl. 154—2.26)

1. The method of insulating an electric conductor, which method comprises: providing an unsupported tape of silicone rubber which has been subjected to a controlled preapplication curing that has progressed until the tape has the following two characteristics: (1) similarly cured external surfaces and (2) a stress strain curve of the tape at room temperature, persists at elevated temperatures with an upward slope from strain equals zero to strain equals 100 percent, but said tape has not yet progressed until the tape has acquired a characteristic



(3) that the tape will rupture if stretched 100 percent at room temperature and heated to at least 200° C., said tape being coated on at least one side with uncured silicone rubber; then before any additional curing is applied, wrapping said coated tape under tension around said conductor; and then subjecting said tape to a final cure prolonged at least until said final cure progresses to the point at which said tape unwrapped acquires said characteristic (3).

2,975,089
INDUSTRIAL MAT
Robert Hacking Hargreaves, Pyrford, near Woking, England, assignor to James Walker & Company Limited, Lion Works, Woking, Surrey, England
Filed Mar. 1, 1957, Ser. No. 643,340
Claims priority, application Great Britain Mar. 20, 1956
4 Claims. (Cl. 154—49)

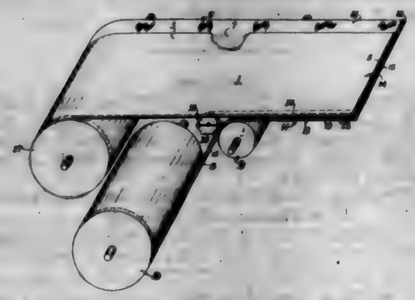


2. A resilient non-slip and oil-resistant industrial floor mat with deep parallel grooves having oppositely outwardly inclined sides defining an included angle of substantially 45 degrees comprising a wear-resistant body including 154 parts by weight of granulated cork, 100 parts by weight of synthetic rubber, 26.8 parts by weight of styrene reinforcing resin, 1.4 parts by weight of non-staining anti-oxidant, 2.5 parts by weight of hydrocarbon wax, 2.7 parts by weight of stearic acid, 3.8 parts by weight of sulphur, 6.7 parts by weight of zinc oxide and 2 parts by weight of accelerator bonded by heat and pressure, and the edges of the mat and the upper edges of the sides of the grooves having a greater density than the main body of the mat whereby to strengthen the resistance of the edges of the mat against wear.

2,975,090
WRAPPING
Henry Frederick Pelskamp, St. Louis, Mo., assignor to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri
Filed Apr. 16, 1956, Ser. No. 578,497
2 Claims. (Cl. 154—59)

1. Waterproof wrapping material adapted to be supplied in roll form comprising a first continuous web consisting of a layer of paper and a layer of cloth laminated by means of a waterproof laminant, a second continuous web consisting of a layer of paper and a layer of cloth laminated by means of a waterproof laminant, the cloth

layers of the two webs being of substantially equal width, the paper layer of one web having a width substantially equal to the width of the respective cloth layer and being substantially coextensive therewith, the paper layer of the other web being narrower than the respective cloth layer and having one edge located adjacent one edge of the respective cloth layer and its other edge spaced inward from the other edge of the respective cloth layer so that the latter projects beyond the paper of said other web at the other edge of the latter to provide a cloth flap, said



webs being superimposed flatwise one on the other coextensive with one another with one edge of the first web substantially in register with one edge of the second web and with the other edge of the first web substantially in register with the other edge of the second web and with their cloth layers in face-to-face engagement throughout the entire interfacial area of the cloth layers, said webs being secured together only along the margin thereof opposite the cloth flap by means of a stripe of waterproof adhesive extending along said margin between the cloth layers.

2,975,091
HEAT-RESISTANT ADHESIVE ARTICLE
Frederic S. Tobey, Sharon, Mass., assignor to W. H. Brady Co., Milwaukee, Wis., a corporation of Wisconsin
Filed July 21, 1955, Ser. No. 523,468
1 Claim. (Cl. 154—53.5)



A self-adhering pliant article to be attached to an object by being placed against the object and held in such position while subjected to elevated temperatures, which article comprises an elongated piece of pliable sheet material having a lengthwise dimension defining opposite ends whereby said pliable sheet material is adapted to be wrapped about an object; a heat activatable adhesive coated upon a surface of said pliable sheet material that is substantially non-tacky at normal room temperatures to present a face for the pliable sheet material that may be brought into engagement with a surface with which adhesion is to be made without adherence at the time of positioning, which adhesive will be rendered tacky upon subsequent heating to bond with such surface; an initial attachment tab of thin flexible material that is disposed at one end of said elongated sheet material in overlapping relation thereto with a portion extending beyond the elongated sheet material to form a short continuation thereof; and a coating of pressure sensitive adhesive on the side of said tab facing the elongated sheet material which adheres the tab to the elongated sheet material and which also covers the portion of the tab extending beyond the elongated sheet material to present an exposed tacky adhesive surface adjacent the heat activatable adhesive, which surface is an initial attachment surface for holding the article in position prior to a heating that causes said heat activatable adhesive to become tacky and to form a bond.

2,975,092
METHOD OF FORMING JOINTS
Francis W. Hagerty, 355 Atlantic Ave., Cohasset, Mass.
Filed Oct. 17, 1957, Ser. No. 690,777
7 Claims. (Cl. 154—116)

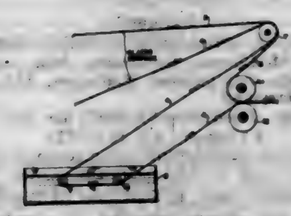


7. The method of forming a joint between angularly extended plate members which comprises providing a row of spaced registering bores throughout the length of said members adjacent the areas thereof where the joint is to be applied; placing the plate members at the selected angular position in contact with one another; extending staples through said bores; the diameter of each staple being smaller than that of each bore through which it is extended; filling the bores in said plate members with a plastic material; and applying retaining strips to said plate members throughout the length thereof to cover said bores; the plastic material in said bores forming a binder between said retaining strips.

2,975,093
METHOD OF LAMINATING CELLULOSE FILMS
Robert W. Park, Stafford County, Va., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Dec. 16, 1958, Ser. No. 780,670
10 Claims. (Cl. 154—136)

1. A process of preparing a laminated film comprising impregnating a plurality of wet gel single-ply films selected from the group consisting of films derived from regenerated cellulose and films derived from alkali-soluble cellulose ethers with a solution containing an amount of polyvinyl alcohol between about 0.1 and about 3% of said solution, bringing the impregnated films into intimate optical contact to produce a laminated wet gel film and drying said laminated film until the outer surfaces thereof are non-adhesive.

2,975,094
LAMINATED PAPER
William E. Anderson, Bloomsbury, N.J., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 18, 1957, Ser. No. 640,725
2 Claims. (Cl. 154—138)



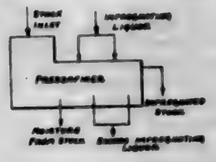
1. A moisture-proof packaging paper comprising a lamination of two sheets of unilaterally-unglazed sulphite-

bleached paper, a thin film of paraffin between said sheets and in contact with the glazed surfaces thereof, and a thin layer of paraffin covering one of the exposed, unglazed surfaces of the laminate, said paraffin having a melting point between 131° F. and 145° F.

2,975,095
REINFORCED RUBBER ARTICLES
Nelson C. Bletso, Kent, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed May 23, 1955, Ser. No. 510,506
4 Claims. (Cl. 154—140)

4. A rubber article reinforced with a cord bonded to the rubber by means of an adhesive coated on the cord and forming a barrier to the penetration of other solids to the surface of the cord, and deposited on the adhesive at the interface of the adhesive and the rubber and out of contact with the cord a bond preserving agent selected from at least one of the group consisting of urea, thiourea, ethylene thiourea, disalycylal propylene diamine, N,N'-aryl disubstituted p-phenylene diamines, N,N'-diphenyl-p-phenylene diamine, 2-mercaptobenzimidazole, o-o'-dihydroxy benzanilide, biuret, dithiobiuret, the resinous reaction product of aniline and formaldehyde, the reaction product of acrylonitrile and tetraethylene pentamine, and the reaction product of guaiacol, morpholine and formaldehyde.

2,975,096
IMPREGNATION OF WOOD CHIPS
Marvin E. Gisaven and Albert H. Adams, Springfield, Ohio, assignors to The Bauer Brothers Co., Springfield, Ohio, a corporation of Ohio
Filed Nov. 18, 1957, Ser. No. 697,133
12 Claims. (Cl. 162—18)



1. A method of impregnating cellular plant stock, including the steps of applying shearing forces to the plant stock to increase the amount of exposed surface thereof, subjecting the plant stock to progressively applied compression to exhaust the air therefrom and to express liquids therefrom, releasing the applied compressive forces suddenly from a maximum applied value, and immediately upon release of the compressive forces bathing the plant stock in an impregnating liquid.

2,975,097
TOPICAL ANALGESIC COMPOSITION
John Paul Modderno, Gambrills, Md., assignor to Modern-Lab, Incorporated, Baltimore, Md., a corporation of Maryland
No Drawing. Filed Nov. 13, 1957, Ser. No. 696,852
9 Claims. (Cl. 167—52)

1. A topical analgesic composition comprising a hydrophilic carrier and a therapeutically active ingredient formed essentially from at least one aminosalicylate selected from the group consisting of monoethylamine salicylate, diethylamine salicylate, and triethylamine salicylate, at least one alkyl ester of amino benzoic acid, and at least one antibacterial chlorinated phenol.

2,975,098
DIETHYL DITHIOLISOPHTHALATE PHARMACEUTICAL COMPOSITIONS
George William Driver and Norman Senior, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed June 4, 1957, Ser. No. 663,336
Claims priority, application Great Britain June 15, 1956
13 Claims. (Cl. 167—58)

12. A method for the systemic treatment of disease caused by mycobacterial infections which comprises administering by infrication into the skin an effective amount of diethyldithiolisophthalate.

2,975,099
POLYETHYLENE GLYCOL SUPPOSITORY BASES
Jere E. Goyan, Ann Arbor, and Milton Wruble, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed June 25, 1958, Ser. No. 744,345
6 Claims. (Cl. 167—64)

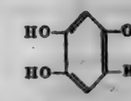
1. A pharmaceutical preparation suitable for shaping by extrusion-molding and comprising a polyethylene glycol of the formula $H(OCH_2CH_2)_nOH$ having a molecular weight of from about 4000 to about 6000; a liquid polyethylene glycol of the formula $H(OCH_2CH_2)_nOH$ having a molecular weight of from about 200 to about 600; a member selected from the group consisting of solid polyoxyethylene sorbitan monostearate and polyoxyethylene sorbitan tristearate; spermaceti; a member selected from the group consisting of an ethylene oxide-polypropylene glycol condensation product of the formula $HO(C_2H_4O)(C_3H_6O)(C_2H_4O)H$ with a polypropylene-base molecular weight of about 1750 and a total molecular weight of about 8750, polyoxyethylene palmitate and a solid polyoxyethylene stearate having a hydrophile-lypophile-balance value of from about 16 to about 18; and a non-toxic, substantially dry adjuvant mixture of which between about eighty and about ninety percent by weight is water-soluble.

2,975,100
E. HISTOLYTICA DIAGNOSTIC ANTIGEN AND PRODUCTION THEREOF
Jeanne C. Moss, Drexel Hill, Pa., assignor to Mobac Laboratories, Inc., Drexel Hill, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 1, 1954, Ser. No. 466,231
9 Claims. (Cl. 167—84.5)

1. The process of preparing an antigen for diagnosis of amebiasis by serological methods which comprises propagating *Endamoeba histolytica* in a liquid culture medium which is environmentally compatible to the growth of *Endamoeba histolytica*, said culture medium containing intestinal bacterial flora obtained from the intestinal tract of cold-blooded vertebrate animals and being substantially free of intestinal bacterial flora obtained from warm-blooded vertebrate animals to assure absence of anticomplementary and hemolytic factors, said culture medium additionally comprising water, a material selected from the group consisting of water-soluble extracts of vegetable and mammalian animal tissues, a source of available nitrogen and a source of available carbohydrate; physically separating intact motile *Endamoeba histolytica* from said liquid culture medium by collecting from culture supernatant the amoebae without rupture; physically rupturing the separated intact amoebae by application of physical force thereto sufficient to break the walls of the amoebae cells for release of contained antigen liquid; and recovering by physical separation the resulting antigen solution from the ruptured cells.

2,975,101
DYEING OF HAIR AND OTHER KERATINOUS MATERIALS
Roger Charle, Soisy-sous-Montmorency, and Gregoire Kalopissis and Giuliano Ghilardi, Paris, France, assignors to Societe Anonyme dite: Societe Monsavon-l'Oreal, Paris, France, a corporation of France
No Drawing. Filed Jan. 17, 1958, Ser. No. 709,479
Claims priority, application France Jan. 22, 1957
3 Claims. (Cl. 167—88)

1. A process for dyeing live human hair at room temperature which comprises applying thereto, a freshly prepared aqueous solution containing a triphenol of the general formula

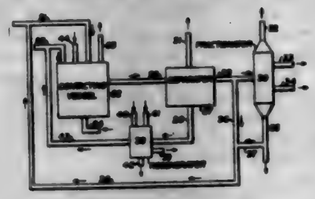


wherein R is selected from the group consisting of hydrogen, halogen, alkyl, alkoxy and hydroxyalkyl, said solution being adjusted to a pH value of at most 7 and containing an oxidizing agent selected from the group consisting of alkali metal and ammonium iodates, periodates and persulphates.

2,975,102
TRANSPARENT JELLY-TYPE TOOTH-PASTE
Teruo Matsumura, Tokyo, Koichiro Iwasaki, Tachikawa City, and Seiichi Okumura, Musashino City, Japan, assignors to Raion Hamigaki Kabushiki Kaisha (Lion Dentifrice Co., Ltd.), Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 26, 1957, Ser. No. 642,340
Claims priority, application Japan Mar. 1, 1956
8 Claims. (Cl. 167—93)

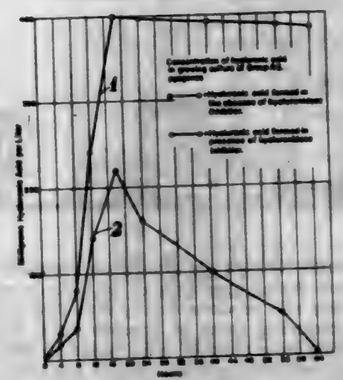
5. A transparent jelly-type tooth-paste comprising as binder an aqueous solution of alkali salts of polyacrylic acid resin, prepared by neutralizing polyacrylic acid resin with at least two alkalis selected from the group consisting of sodium hydroxide, potassium hydroxide, sodium carbonate, potassium carbonate, borax and triethanolamine, and the 2,4-monovalent salt of EDTA.

2,975,103
BACTERIOLOGICAL DESULFURIZATION OF PETROLEUM
Isidor Kirshenbaum, Union, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 6, 1956, Ser. No. 576,651
8 Claims. (Cl. 195—3)



1. In a process for desulfurizing hydrocarbons containing organic sulfur compounds, the steps including: contacting said hydrocarbons with an aqueous culture of aerobic bacteria adapted to convert organic sulfur compounds to inorganic sulfur compounds in the presence of oxygen, supplying an oxygen-containing gas to said hydrocarbons during the step of contacting with said bacteria, said contacting of the hydrocarbon with said aqueous culture of aerobic bacteria being carried out in the presence of a sulfur-containing surface-active agent which is consumed by said bacteria during said contacting, separating said aqueous culture from said hydrocarbons, contacting said aqueous culture with an electrolyte having an affinity for sulfate ions, whereby said aqueous culture is regenerated by removal of inorganic sulfur compounds therefrom, and contacting the regenerated aqueous culture with additional hydrocarbons containing organic sulfur compounds.

2,975,104
MEDIUM AND METHOD FOR PRODUCING AND ISOLATING HYALURONIC ACID
George H. Warren, Havertown, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed May 21, 1959, Ser. No. 814,753
5 Claims. (Cl. 195—28)



1. The method of producing hyaluronic acid from a culture of hyaluronic-acid-producing streptococci which comprises growing the streptococci in an aqueous medium free of hyaluronidase-sensitive polysaccharide material and containing only casein hydrolyzate, chemically well defined nutrients and a sulfated mucopolysaccharide which is non-toxic to the streptococci and is an inhibitor of hyaluronidase activity, said chemically well defined nutrients consisting of sodium, potassium, magnesium, phosphate and sulfate ions, calcium-d-pantothenate, pyridoxine, riboflavin and glucose, continuing the incubation at least to a point of maximum hyaluronic acid production, thereafter terminating the incubation, and recovering hyaluronic acid from the broth.

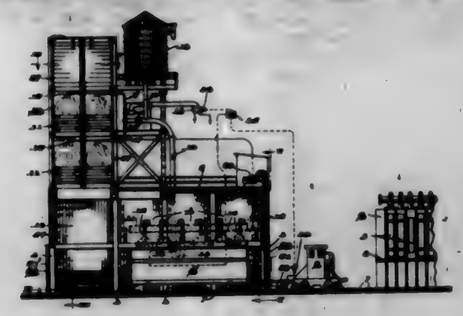
2,975,105
FERMENTATION PROCESS
Heing T. Huang, Fresh Meadows, N.Y., assignor to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 10, 1957, Ser. No. 701,728
6 Claims. (Cl. 195—47)

1. A process for the production of L-valine which process comprises cultivating under submerged, aerobic conditions at a pH of from about 6.0 to about 8.0 *E. coli*, ATCC 13,005 in an aqueous nutrient medium comprising a carbohydrate selected from the group consisting of sucrose, lactose, and mixtures thereof, a source of nitrogen, a source of magnesium, potassium, and trace metals in the presence of from about 0.1 to about 1 gram of L-threonine per liter of nutrient medium.

2,975,106
COKE QUENCHING STATIONS AND METHODS
Joseph Becker, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed June 4, 1956, Ser. No. 589,117
3 Claims. (Cl. 202—37)

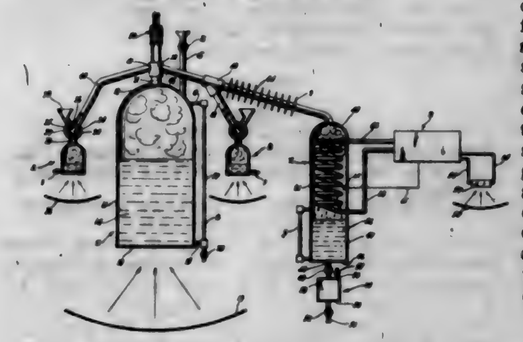
3. The method of removing through a tower products of a vaporous and solid nature that form and rise and flow

upwardly therethrough to the atmosphere by reason of spraying in a closed quenching chamber at a lower level than the tower and having a doorway through which a car of incandescent coke may travel into and out of said chamber for wet quenching of coke in a said car in said closed chamber a quantity of liquid of such volume to quench said coke that there is drainage of most of the sprayed liquid as unvaporized liquid from the coke for recycling for further spraying which method comprises: flowing said products and the heat thereof from the cham-



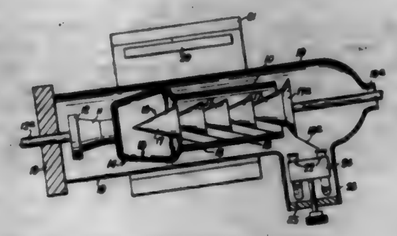
ber upwardly through the tower then outwardly into the atmosphere during quenching of the coke in said chamber; passing said products during such flow into contact with a descending spray of aqueous liquid and thereby precipitating objectionable solid products therefrom in said tower; and closing a door in said doorway during the descent of the quenching liquid spray onto the coke in the car in said chamber, to prevent the entrance through the doorway and upflow of large quantities of atmospheric air through said chamber and tower during the quenching of hot coke in a said car in said closed quenching chamber.

2,975,107
DISTILLATION APPARATUS
Elliott A. Friedman, 3077 Hull Ave., New York, N.Y.
Filed Dec. 6, 1957, Ser. No. 701,242
5 Claims. (Cl. 202—52)



1. In distillation apparatus, a relatively large main distillation chamber, a heating element operatively associated with said main distillation chamber, a plurality of relatively small auxiliary distillation chambers, a heating element operatively associated with each of said auxiliary chambers, whereby the contents of said auxiliary chambers are more quickly raised to vaporization temperature by a limited quantity of heat, conduits communicating directly between the upper regions of said auxiliary chambers and said main chamber, an outlet connected to each of said conduits in communication therewith, a three-way control valve in each of said conduits in communication with the respective outlet for selectively venting heated vapor from said auxiliary chambers, passing heated vapor from said auxiliary chambers to said main chamber for accelerating temperature rise in the latter, and closing said auxiliary chambers, a condensation chamber out of heat-exchanging relation with said main distillation chamber, a heat-energized refrigerating unit having a heat-exchange coil within said condensation chamber, a heating element for said refrigerating unit, and a conduit communicating between the upper regions of said condensation chamber and said main distillation chamber, for passing vapor from said main chamber to said condensation chamber for condensation thereof to lower pressure in said main chamber and lower the boiling point of the contents thereof.

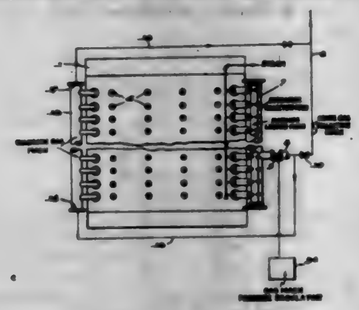
2,975,108
THIN FILM ROTATABLE FRACTIONATION APPARATUS
Peter Ridgway Watt, Crawley, England, assignor to Vitamins Limited, London, England, a British company
Filed Nov. 18, 1958, Ser. No. 774,640
Claims priority, application Great Britain Nov. 19, 1957
17 Claims. (Cl. 202—64)



17. A method of distillation, which comprises the steps of supplying distilland to a rotatable evaporator surface which is symmetrical about its axis of rotation, rotating the evaporator surface to cause distilland to spread thereon in the form of a film, heating the evaporator surface to effect vaporization of the distilland, condensing distillate upon a stationary condenser surface disposed within and surrounded by the evaporator surface, the condenser surface comprising at least two sections in the direction of rotation of the evaporator surface, cooling the condenser surface to facilitate condensation of distillate thereon, the axis of rotation of the evaporator surface being inclined to the horizontal sufficient to cause distillation residue to travel under gravity toward the lower end of the evaporator surface, and guiding distillate condensed upon a section of the condenser surface under gravity to the region of the evaporator surface adjacent the next higher section of the condenser surface, thereby evaporating distillate at least twice and causing it to travel toward the higher end of the evaporator surface.

2,975,109
APPARATUS FOR DRAWING OFF THE CHARGING GASES FROM COKING CHAMBERS
Paul van Acheren, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 14, 1959, Ser. No. 786,743
4 Claims. (Cl. 202—109)

1. Apparatus for drawing off the charging gases formed during the charging of horizontal coke ovens with coal, comprising: an hydraulic gas collecting main for offtake of the distillation gas arranged on the coke oven battery and a crude-gas collecting main communicating with and leading from the hydraulic gas collecting main, with a charging-gas main communicably connected at one end with a portion of the crude-gas collecting main at a first point remote from the hydraulic collecting main; and in which the other end of the charging-gas main is communicably connected by a connecting line with the crude-



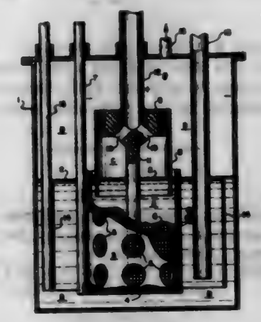
gas collecting main at a second point therein before the first point at which said one end of the charging main is connected thereto; and means are provided for effecting recirculation of distillation gas from said second point to, and through, the charging-gas main.

2,975,110
PROCESS FOR THE PRODUCTION OF ELECTRIC CONDUCTOR MATERIAL FROM COPPER HAVING HIGH CONDUCTIVITY
Carl Hermann Weeber, Schladern, and Hermann Schmeck, Bonn (Rhine), Germany, assignors to Elmore's Metall-Aktiengesellschaft, Schladern, Germany
No Drawing. Filed Aug. 11, 1958, Ser. No. 754,167
Claims priority, application Germany Aug. 12, 1957
2 Claims. (Cl. 204—9)

1. A process for the production of electric conductor elements having a conductivity of more than 60 Siemens units which comprises forming a thick-walled tube of compacted electrolytic copper by electrolytically depositing and compacting said copper on a cathode, cutting segments from said thick-walled tube, forming first solid rods from said segments, further electrolytically depositing and compacting copper on said first solid rods to form second solid rods of greater diameter, mechanically fabricating a portion of the said second solid rods into electrical conductor elements without melting said copper and reusing another portion of said second solid rods as a base for again electrolytically depositing and compacting said copper.

2,975,111
PRODUCTION OF TITANIUM
Lawrence J. Reimert, Schnecksville, and Erastus A. Fatzinger, Palmerton, Pa., assignors to The New Jersey Zinc Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 19, 1958, Ser. No. 722,408
5 Claims. (Cl. 204—64)

1. In the electrolysis between an anode and a cathode of a fused halide salt bath containing titanium trichloride and titanium dichloride wherein titanium tetrachloride is substantially continuously introduced into and assimilated by the bath and metallic titanium is deposited on the cathode immersed in the bath, the titanium tetrachloride being introduced into the portion of the bath in contact with the surface of the cathode distal with respect to the anode and the portion of the bath between the anode and the proximate cathode surface being substantially completely depleted of titanium ions so that the metallic titanium is deposited primarily on the aforesaid distal surface of the cathode, the anode and the deposition cathode being in direct fluid contact with one another through the medium of the bath therebetween, the improvement which comprises effecting circulation of the bath in contact with the distal surface of the deposition cathode so as to maintain substantially uniform concentrations of the titanium trichloride and titanium dichloride in all portions of the bath which are adjacent said distal surface and an auxiliary cathode also in contact with the bath, the auxiliary cathode being in direct communication with the deposition cathode through the medium of the bath therebetween, the cell atmosphere above the deposition cathode being in direct communication with the cell atmosphere above the auxiliary cathode, distributing the electrolyzing current between the deposition and auxiliary cathodes so as to maintain substantially different current densities thereat, the current density at the auxiliary cathode being such as to effect electrolytic reduction of titanium trichloride to titanium dichloride but insufficient to develop such polarization as to effect significant electrolytic reduction of titanium dichloride to metallic titanium, the resulting titanium dichloride being available substantially throughout the bath in contact with both cathodes for chemical reaction with the titanium tetrachloride introduced into the bath and present also in the atmosphere thereabove with resulting production in situ in the bath of the titanium trichloride which is electrolytically reduced to dichloride at the auxiliary cathode.



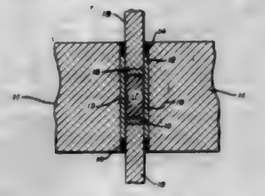
2,975,112
ELECTRODEPOSITION OF ZINC
Edward B. Saubestre, Elmhurst, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 4, 1955, Ser. No. 479,842
4 Claims. (Cl. 204—119)

1. A method of extracting zinc from baths containing zinc salts and germanium as an impurity including the steps of making said bath containing zinc salts and germanium the electrolyte in the presence of an insoluble anode and a cathode, raising the pH of said bath to within the range of 3.0 to 3.5 and thereafter maintaining the pH within said range, and electrowinning zinc at said cathode despite the germanium content of said bath.

2,975,113
METHOD OF FABRICATION OF AN IRRADIATION TRANSMUTATION CAPSULE
Carroll Maret Gordon, Danville, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 28, 1956, Ser. No. 624,950
13 Claims. (Cl. 204—154.2)

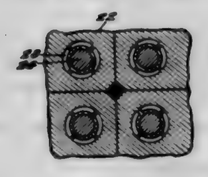
1. In a method for preparing an irradiation capsule, the steps comprising inserting an aluminum metal sleeve into a constraining die body, inserting an aluminum plug into one end of said sleeve, introducing a finely divided

homogeneous mixture of aluminum and a compound selected from the group consisting of the oxides, fluorides and mixtures thereof of a target element selected from the group consisting of lanthanides and actinides into said



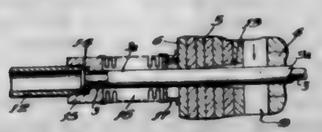
sleeve, inserting a plug of said metal into the other end of said sleeve, and then applying a high compressive force through said plugs to compact and plastically deform the assembly produced in the foregoing steps to form said capsule.

2,975,114
REACTOR
Samuel K. Allison, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 8, 1946, Ser. No. 668,145
3 Claims. (Cl. 204—193.2)



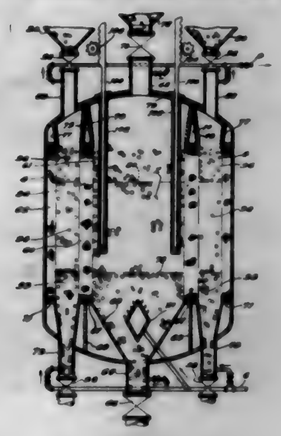
1. In a neutronic reactor, means for sustaining a nuclear fission chain reaction comprising a plurality of separable neutron moderator blocks, each formed of a solid material having a relatively small neutron-capture cross section and having a longitudinal hole and longitudinal coolant passages formed directly therein and arranged in a ring about the hole in closely spaced relation thereto, and a mass of thermal-neutron-fissionable material sealed in each moderator block in direct engagement with the hole.

2,975,115
BELLOWS SEAL ON REACTOR COOLANT TUBE
Eugene P. Wigner, Princeton, N.J., and Leo A. Ohlinger and Gale J. Young, Chicago, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed May 14, 1946, Ser. No. 669,526
1 Claim. (Cl. 204—193.2)



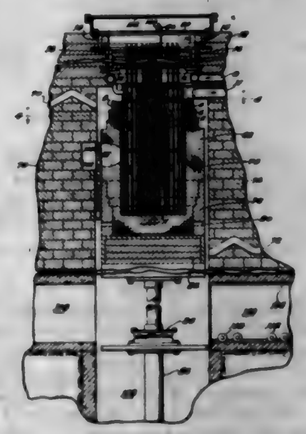
In a neutronic reactor, a reactor casing, a tube extending through a wall thereof and having an end spaced from the exterior of the casing, a tubular extension engaging said end of the tube, a nut clamping the tubular extension to said end of the tube, and an axially expansible and contractible imperforate sleeve surrounding the portion of the tube exterior of the casing and being sealed at one end to the nut and at the other end to the wall.

2,975,116
NEUTRONIC REACTOR
Farrington Daniels, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 8, 1946, Ser. No. 701,909
2 Claims. (Cl. 204—193.2)



1. A neutronic reactor comprising a central mass of reactive composition comprising discrete bodies of a refractory mixture of uranium oxide and beryllium oxide enriched in thermal neutron fissionable isotope, a layer of discrete bodies of beryllium oxide completely surrounding said central mass, a second layer of discrete bodies of thorium oxide disposed externally of the first-mentioned layer, said layers and said mass defining a composite mass having irregular and intercommunicating voids between said bodies, and a coolant in said voids.

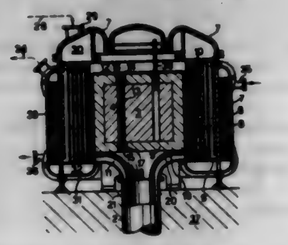
2,975,117
FAST NEUTRON REACTION SYSTEM
Walter H. Zinn, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 9, 1947, Ser. No. 721,108
3 Claims. (Cl. 204—193.2)



1. A fast neutron reactor capable of breeding, comprising an internal reactive portion comprising a quantity of equally spaced jacketed rods of a composition containing approximately 90% of thermally fissionable material with the balance of said internal reactive portion

substantially occupied by liquid metal coolant; an inner reflector surrounding said internal reactive portion, comprising jacketed rods of fertile material and a liquid metal coolant; a cup-shaped outer reflector partially enclosing said inner reflector comprising jacketed fertile material, said reactive zone and reflectors being substantially free of elements having atomic numbers lower than 11, control means comprising means for raising and lowering said outer reflector, whereby the fraction of neutrons reflected is varied, and a moderating reflector enveloping said outer reflector in close proximity thereto, along the movable boundary thereof.

2,975,118
NUCLEAR POWER PLANT
Richard Tognoni, Thalwil, Switzerland, assignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed Dec. 2, 1957, Ser. No. 700,221
Claims priority, application Switzerland Dec. 20, 1956
6 Claims. (Cl. 204—193.2)



1. In a thermal power plant of the type employing a gaseous working medium and including means for compressing the medium, a nuclear reactor encased in a biological shield and provided with a flow path for the medium in which the medium receives heat generated by nuclear reaction, and means for causing the medium to expand while doing work, the improvement which comprises a pressure-tight housing located within the shield and enclosing the reactor, the housing having a wall spaced from the reactor to define an intervening annular space; a heat exchange conduit passing through the annular space, this conduit and the space constituting the two flow paths of a heat exchanger; means defining an inlet passage opening into the annular space; means defining an outlet passage leading from the reactor flow path; a first conduit for leading gaseous working medium from the compressing means to the inlet passage; a second conduit for leading the gaseous working medium from the annular space to the reactor flow path; and a third conduit for leading the gaseous working medium from the outlet passage through the expanding means and then through the heat exchange conduit.

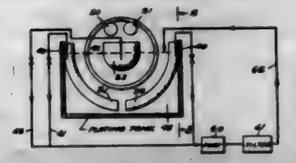
2,975,119
VERTICAL ROD DRIVE MECHANISM
Clarence D. Emmons, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 5, 1958, Ser. No. 778,549
6 Claims. (Cl. 204—193.2)

1. Apparatus for operating a vertically translatable object comprising a magnetizable piston attached to the upper end of the object, a vertical cylinder in which the piston and object move, means for moving the piston upwardly, an electromagnet forming the top of the cylinder, the upper end of the piston having a recess, a headed retaining member secured to the bottom of the recess and projecting beyond the upper end of the piston, a sealing disk mounted on the retaining member, a spring urging the disk against the head on the retaining member, the electromagnet having a central opening adapted to receive the retaining member when the piston is at the top of the cylinder, the sealing disk adapted to close the opening in the magnet when the head on the retaining member is



within said opening, a gas-tight tank communicating with the cylinder by means of said opening, a regulatable air supply connected to said tank, and a valve on said tank to controllably reduce gas pressure built up within the tank.

2,975,120
ELECTROPLATING APPARATUS
Herbert Kenmore, Jersey City, and Walter J. Manson, West Orange, N.J., assignors, by mesne assignments, to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed June 30, 1955, Ser. No. 519,184
1 Claim. (Cl. 204—207)

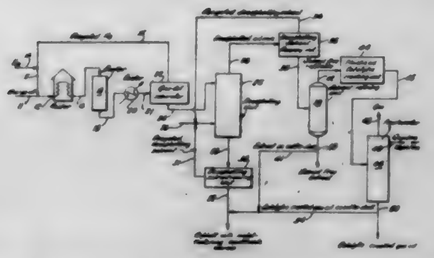


In an apparatus for electroplating metals, a bath structure, means for suspending and rotating a helically shaped wire so that at least the lower portion thereof is surrounded by said bath structure, at least one supporting means for holding soluble anode material positioned within said bath structure inside of the path of said helically shaped wire, at least one supporting structure for holding soluble anode material positioned within said bath structure on the outside of the path of said helically shaped wire, bags around said anode supporting structures, tube means having one open end thereof extending inside of the bags in the region of said anodes, means for withdrawing the plating solution from the regions of said anodes through said tubes, a filter device and means for forcing said solution as it comes from the region of said anodes through said filter and back into the bath at a region outside of the bags of the anodes.

2,975,121
PETROLEUM TREATING PROCESS
Thomas H. Whaley, Mount Vernon, N.Y., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1957, Ser. No. 702,331
7 Claims. (Cl. 208—251)

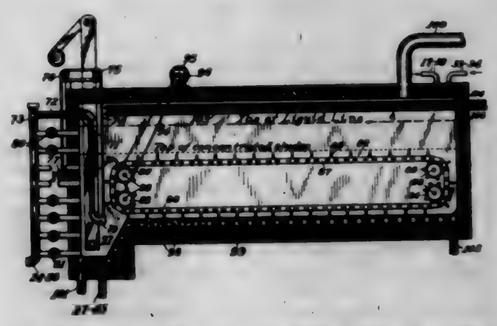
1. A method of treating an asphaltic petroleum fraction having metal-containing constituents therein which

comprises contacting said petroleum fraction with hydrogen under conditions such that hydrogen reacts with said petroleum fraction to produce an admixture comprising a liquid hydrogen-treated oil characterized by a reduced metal content and containing solid metal constituents suspended therein, subjecting said admixture to contact with a liquid normally gaseous hydrocarbon under deasphalting conditions of temperature and pressure to effect separation of asphaltic or similar high molecular



weight bituminous constituents from said treated oil together with said solid metal constituents and recovering from the aforesaid operation a liquid deasphalted oil mix comprising deasphalted treated oil having a reduced amount of said asphalt or bituminous and said metal containing constituents therein and a liquid asphalt mix comprising asphalt or said high molecular weight bituminous constituents admixed with said metal constituents.

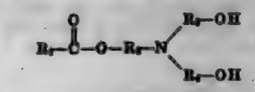
2,975,122
METHOD OF SEWAGE TREATMENT
John F. Laboon, 221 Buchanan Place, Pittsburgh, Pa.
Continuation of application Ser. No. 167,170, June 9, 1950. This application Dec. 13, 1956, Ser. No. 628,649
4 Claims. (Cl. 210—12)



1. The method herein described which comprises screening sewage, aerating the sewage and removing grit therefrom, comminuting the solids in the sewage, forming a sludge by the sedimentation of the comminuted solids in the sewage, removing supernatant liquid from the sedimentation sludge, maintaining a body of such sedimentation sludge at a bacterial gas-producing temperature of 20° C. to 55° C. and thereby effecting the flotation and concentration of such sludge, applying heat directly to the upper surface of the floating sludge to accelerate formation of a top crust on the surface of the floating sludge to retard the escape of included gases therefrom, separating the subnatant liquid from the flotation sludge concentrate, and thoroughly mixing the flotation sludge to provide a substantially uniform mixture of the solids and residual liquid therein for the further treatment or disposal thereof.

2,975,123
DEWATERING METAL ORE CONCENTRATES
Michael D. Head, Lively, Ontario, Canada, assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 14, 1958, Ser. No. 708,766
Claims priority, application Canada Nov. 4, 1957
10 Claims. (Cl. 210—43)

1. In a procedure for treating aqueous slurries of metal ore concentrates wherein there is established an aqueous slurry of metal ore concentrate which is subsequently subjected to a filtration operation to form a filter cake, the improved method of providing a filter cake which is friable and substantially free of surface moisture which comprises incorporating into said aqueous slurry a small but effective amount up to about 1% by weight of the solids of said slurry of a dewatering and conditioning agent consisting essentially of a tertiary amino alkyl ester of a fatty acid represented by the formula



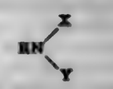
wherein R_1 represents the hydrocarbon chain of a fatty acid containing 11 to 17 carbon atoms and R_2, R_3 and R_4 represent a saturated hydrocarbon chain containing from 2 to 3 carbon atoms, to thereby form on filtration a filter cake of metal ore concentrate which has a substantially lower proportion of water, better handling characteristics and which is further characterized by friability and a surface substantially free of surface moisture as compared to the filter cake formed when no such ester is added.

2,975,124
FLOCCULATION OF FINE PARTICLES BY STARCH ETHERS
Carlyle G. Caldwell, North Plainfield, and Otto B. Wurzburg, Whitehouse Station, N.J., and Shiao-Chuan Sun, State College, Pa., assignors to National Starch and Chemical Corporation, a corporation of Delaware
No Drawing. Filed Aug. 22, 1957, Ser. No. 680,889
9 Claims. (Cl. 210—54)

1. In the method for separating finely divided solid substances from aqueous suspension by the addition of a flocculating agent to said suspension to accelerate the settling of said substances, the step which comprises using as such flocculating agent a substance selected from the class consisting of the water-dispersible tertiary amino alkyl ethers of starch and their water-dispersible quaternary derivatives.

2,975,125
INHIBITOR COMPOSITIONS
Albert J. Saukaitis, Wayne, George S. Gardner, Elkins Park, and Gregory L. Gibson, Jenkintown, Pa., assignors to Amchem Products, Inc., a corporation of Delaware
No Drawing. Filed Mar. 1, 1957, Ser. No. 643,251
4 Claims. (Cl. 252—8.55)

1. As an inhibitor, a composition consisting essentially of a mixture of one part of propargyl alcohol and from 0.5 to 3.0 parts of a compound represented by the formula



where R is a radical selected from the group consisting of abietyl, hydroabietyl and dehydroabietyl, Y is the group CH_2R', X is a radical selected from the group consisting of hydrogen and CH_2R', and R' represents alpha ketonyl groups.

2,975,126
PROCESS FOR FORMING A CHEMICAL PRODUCT FROM BARK
Lloyd E. Van Blaricom, Shelton, Wash., and George M. Tokos, Hayward, Calif., assignors to Rayonier Incorporated, Shelton, Wash., a corporation of Delaware
No Drawing. Filed Feb. 11, 1958, Ser. No. 714,479
12 Claims. (Cl. 252—8.5)

1. The process of forming a product of hemlock bark which comprises digesting the bark in an aqueous solution of a salt of sulfurous acid and a metal of the group consisting of sodium, potassium and ammonium, and reacting the resulting bark derivative with an aldehyde yielding compound of the group consisting of formaldehyde, acetaldehyde, glyoxal, furfural and hexamethylenetetramine, which aldehyde is equivalent to from 2% to 6% of formaldehyde based on the weight of the dry derivative at an elevated temperature.

2,975,127
METHOD OF CONVERTING AN AQUEOUS DRILLING FLUID TO A PACKER FLUID
Walter J. Weiss, Sugar Land, and Clarence O. Walker and John S. Brukner, Houston, Tex., assignors to Texaco Inc., a corporation of Delaware
No Drawing. Filed Dec. 6, 1957, Ser. No. 700,969
8 Claims. (Cl. 252—8.55)

1. In a drilling operation wherein an aqueous drilling mud which contains an aqueous phase saturated with respect to calcium hydroxide is employed during the drilling operation and wherein a portion of said aqueous drilling mud is left in the bore hole as a packer fluid, the improvement which comprises adding to said portion of said aqueous drilling mud a water soluble metal salt which reacts with the calcium hydroxide dissolved in said aqueous phase to form a substantially water insoluble corresponding metal hydroxide and wherein said metal salt also reacts with the calcium hydroxide dissolved in said aqueous phase to form a substantially water insoluble calcium compound comprising calcium and the anion component of said metal salt, said metal salt being added in an amount sufficient to precipitate substantially all of said calcium hydroxide in said portion of said drilling mud.

2,975,128
NYLON POLYTETRAFLUOROETHYLENE COMPOSITION AND ARTICLE
Louis L. Stott, Wyomissing, Pa., assignor to The Polymer Corporation, Reading, Pa., a corporation of Pennsylvania
Continuation of abandoned application Ser. No. 457,370, Sept. 21, 1954. This application Aug. 21, 1958, Ser. No. 756,749
9 Claims. (Cl. 252—12)

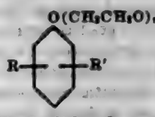
1. A composition consisting essentially of a mixture of finely divided linear polyamide and polytetrafluoroethylene, said linear polyamide being a polyamide which is soluble in phenol at room temperature and insoluble in ethylene glycol except at temperatures above about 140° C. and having an ultimate particle size of less than 40 microns, said polytetrafluoroethylene being present in a concentration of from 2 to 75 percent by weight of said mixture.

2,975,129
STABILIZED PETROLEUM OIL, GREASE AND WAX COMPOSITIONS CONTAINING DIBASIC LEAD PHOSPHITE
Jolly J. Taylor, 3342 Chapman St., Los Angeles, Calif.
No Drawing. Filed Feb. 20, 1957, Ser. No. 641,258
5 Claims. (Cl. 252—25)

1. A composition of matter consisting essentially of a substance of the group consisting of a petroleum oil fraction and a wax, said composition containing from 0.2 to 25% by weight of dibasic lead phosphite as stabilizer, based on said substance.

2,975,130
WATER-RESISTANT NON-SOAP GREASES CONTAINING ALKYL ARYL POLYETHER ALCOHOLS AND METHODS OF PREPARING THE SAME
Ralph A. Potter, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Mar. 11, 1957, Ser. No. 644,981
17 Claims. (Cl. 252—28)

1. A water-resistant grease consisting essentially of lubricating oil of the class consisting of mineral lubricating oil and synthetic ester lubricating oil prepared by reacting a dicarboxylic acid with a monohydric alcohol containing thickening proportions of a finely divided thickening agent of the class consisting of silica and alumina and a small amount of a compound having the formula



in which R is a radical of the class consisting of hydrogen and alkyl radicals, R' is an alkyl radical, the total carbon atom content of R and R' being 6 to 18 carbon atoms, and n is an integer of 2 to 8, said grease being heated to a temperature between about 250° F. and about 325° F., said small amount being an amount sufficient to impart water-resistance to said heated grease.

2,975,131
SILVER NON-CORROSIVE LUBRICANTS
James O. Clayton and Warren Lowe, Berkeley, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Apr. 9, 1956, Ser. No. 576,797
2 Claims. (Cl. 252—32.7)

1. A hydrocarbon lubricating oil composition consisting essentially of a major portion of an oil of lubricating viscosity, a zinc salt of a diester of dithiophosphoric acid containing a total of from 7 to 50 carbon atoms in the ester radicals, said zinc salt being present in said composition in an amount sufficient to inhibit oxidation of said lubricating oil and to render said composition corrosive to substantially pure silver; from about 0.1% to about 10%, by weight, of oil-soluble, alkaline earth metal sulfonate and an alkaline earth metal glycoxide, said glycoxide being sufficient in amount to inhibit corrosion of substantially pure silver by said composition, said zinc salt being the only essential sulfur-containing oxidation inhibitor present in said composition.

2,975,132
EMULSIFIABLE LUBRICANT COMPOSITIONS
Richard L. Ferm, El Cerrito, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 18, 1956, Ser. No. 591,793
2 Claims. (Cl. 252—33.3)

1. A stable water-in-oil emulsion lubricant consisting essentially of from about 30% to 98%, by weight, of a petroleum lubricating oil, from 2% to 60%, by weight, of water, from 4% to 8%, by weight, of a water-soluble calcium salt of an aliphatic monobasic acid containing from 1 to 4 carbon atoms, from 1.5% to 2.5% of an oil-soluble calcium petroleum sulfonate, and from 1.5% to 2.5% of an oil-soluble sulfurized calcium alkyl phenate, wherein the alkyl radical is derived from propylene polymers having an average of about 12 carbon atoms, and wherein the sulfonate-phenate mol ratio has a value from 0.75 to 1.25.

2,975,133

CORROSION-INHIBITING MINERAL OIL COMPOSITIONS

Ralph I. Gottshall, Roslyn, and Raymond T. Kern, Jr., Upper Merion Township, Montgomery County, Pa., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Apr. 21, 1955, Ser. No. 503,006, now Patent No. 2,902,499, dated Sept. 1, 1959. Divided and this application Dec. 12, 1958, Ser. No. 779,833

9 Claims. (Cl. 252—34)

1. A mineral oil composition comprising a major proportion of a mineral oil having incorporated therein a minor amount sufficient to impart corrosion inhibiting properties to the composition of a member selected from the group consisting of (I) acidic condensation products of (*a*) a dimeric acid derived from an ethenoic fatty acid that contains 2 to 3 ethylenic linkages and 6 to 22 carbon atoms per molecule, and (*b*) a member selected from the group consisting of maleic acid and maleic anhydride, where the mole ratio of (*a*) to (*b*) is 1:1 to 1:2 when the dimeric acid is derived from a dienoic acid and 1:1 to 1:3 when the dimeric acid is derived from a trienoic acid, and (II) organic derivatives of said acidic condensation products selected from the group consisting of amine salts and amides of aliphatic monoamines that contain 8 to 22 carbon atoms per molecule and whose substituents are hydrocarbon radicals, and esters of unsubstituted aliphatic monohydric alcohols that contain 8 to 22 carbon atoms per molecule.

2,975,134

ANTIWEAR LUBRICANTS CONTAINING BORON ESTERS

James F. Cook, Garden Grove, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Feb. 24, 1956, Ser. No. 567,464

10 Claims. (Cl. 252—40.7)

10. A lubricating grease which comprises lubricating oil, a sufficient amount of soap to impart a grease consistency thereto, and between about 1% and about 10% of an additive prepared by reacting under dehydrating conditions 1 mol of a dihydroxy organic compound containing from about 6 to about 30 carbon atoms per molecule in which the hydroxyl groups are attached to carbon atoms separated by at least 1 carbon atom and by not more than 2 carbon atoms with an amount of a boron compound selected from the class consisting of boric acid and boron oxide equivalent to 1 mol of boric acid, and reacting the resulting product under dehydrating conditions with a monohydroxy organic compound having 1 to 26 carbon atoms per molecule, until approximately 1 mol of water is produced for each mol of monohydroxy organic compound reacted.

2,975,135

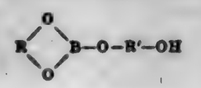
LUBRICATING OIL COMPOSITION CONTAINING 2:1 α-GLYCOL BORATE COMPOUNDS

Samuel M. Darling, Lyndhurst, and Chien-Wei Liao, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

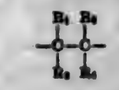
No Drawing. Filed Dec. 30, 1957, Ser. No. 705,762

4 Claims. (Cl. 252—49.6)

1. Petroleum lubricating oil having dissolved therein a moisture-stable organic boron compound having the formula:



where R and R′ are α-alkylene groups having from eight to twenty carbon atoms having the structure:



the free valences being attached to oxygen, and R_1, R_2, R_3 and R_4 being selected from the group consisting of hydrogen and alkyl, at least three of R_1, R_2, R_3 and R_4 being alkyl, and the remaining R being selected from the group consisting of hydrogen and alkyl, the amount of said compound based on the weight of the lubricating oil being equivalent to from 0.1 to 0.5% by weight of boron.

2,975,136

PROCESS FOR IMPROVING THE COLOR STABILITY OF HYDROCARBONS WITH HYDRAZINES

Charles L. Thomas, Swarthmore, Archibald F. Stuart, Media, and Habet M. Kheighatian, Springfield, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Jan. 17, 1956, Ser. No. 559,725

5 Claims. (Cl. 252—51.5)

1. Process for improving the color stability of hydrocarbon material which comprises contacting a normally liquid petroleum hydrocarbon fraction with a hydroxyalkyl hydrazine containing at least one hydrogen atom attached to a nitrogen atom in the molecule, thereby to react the hydroxyalkyl hydrazine with constituents of the hydrocarbon material which normally cause poor color stability, and separating the reaction products from the treated fraction.

2. Process according to claim 1 wherein the product of such contacting is distilled to obtain distillates having improved color stability.

3. Process according to claim 1 wherein the amount of said treating agent is within the approximate range from 0.005 to 0.5 weight percent based on said hydrocarbon fraction.

2,975,137

COMPRESSION REFRIGERATION WORKING FLUID

Archibald P. Stuart, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

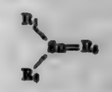
No Drawing. Filed Dec. 30, 1955, Ser. No. 556,448

10 Claims. (Cl. 252—68)

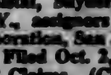
1. A compression refrigeration working fluid consisting essentially of a halogen-substituted hydrocarbon refrigerant, a lubricating amount of a mineral oil lubricant and a copper-plating inhibiting amount of an organo-tin compound having a structural formula selected from the group consisting of:



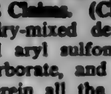
and



where: R_1 is a 1 to 20 carbon atom hydrocarbon radical selected from the group consisting of: alkyl, cycloalkyl, alkaryl and aryl radicals; R_2 is a radical selected from the group consisting of $—OR_1$ and



wherein R_1 is as defined above; R_3 and R_4 are radicals each selected from the group consisting of R_1, $—OR_1$ and



wherein R_1 is as defined above; and R_5 is a radical having 2 to 10 carbon atoms and is selected from the group consisting of hydrocarbondioxy and dicarboxylic acid radicals wherein the hydrocarbon portion is selected from the group consisting of aliphatic, alicyclic and aromatic portions.

2,975,138

HEAT TRANSFER FLUID

Bernard Thomas Dudley Sully, Ewell, England, assignor to A. Boake Roberts and Company Limited, London, England, a British company

No Drawing. Filed Nov. 26, 1954, Ser. No. 471,521

3 Claims. (Cl. 252—78)

1. In a process for transmitting heat by means of a heat transfer fluid, the step which comprises employing as the heat transfer fluid, a boric acid ester of a phenol selected from the group consisting of triphenyl, tritolyl and trixylenyl borates.

2,975,139

LAUNDERING METHOD AND COMPOSITION THEREFOR

Hugo J. Kaufmann and Alfred P. Mentecki, Buffalo, Samuel S. Naistat, Snyder, and Hugo J. Wehrfritz, Lancaster, N.Y., assignors to Food Machinery and Chemical Corporation, San Jose, Calif.

No Drawing. Filed Oct. 2, 1956, Ser. No. 613,385

2 Claims. (Cl. 252—99)

1. A stable dry-mixed detergent composition comprising, an alkyl aryl sulfonate synthetic detergent, a water-soluble perborate, and a water-soluble inorganic copper salt, wherein all the components of said composition are admixed and in intimate contact with each other, the perborate being present in an amount sufficient to produce an active oxygen content in the range of 0.8% to 2.4% by weight, and the inorganic copper salt being present in an amount sufficient to produce a copper content within the range of 0.04% to 0.4% by weight and being substantially free of surface coatings.

2,975,140

ORGANIC FINISH REMOVER AND METHOD

William L. Yaroch, deceased, late of South Dearborn, Mich., by Geraldine Yaroch, administratrix, Garden City, Mich., assignor to Klenz Chemicals, Inc., Dearborn, Mich., a corporation of Michigan

No Drawing. Original application July 27, 1954, Ser. No. 446,151. Divided and this application Nov. 29, 1957, Ser. No. 712,693

14 Claims. (Cl. 252—110)

5. A stripping solution for removing colored synthetic resin finishes which leave an adherent pigment deposit on a finished surface when treated with strong alkali materials, the solution consisting essentially of an aqueous solution of water, between about 3–50 percent by weight of an alkali metal hydroxide, between about 0.5–10 percent by weight of a material selected from the group consisting of alkali metal metasilicates and trialkali metal phosphates, between about 0.2–10 percent by weight of an alkali metal resinate and between about 0.3–10 percent by weight of a water soluble gluconate.

2,975,141

PREPARATION OF SULFO DETERGENTS

Vsevolod Bilnoff, Arnold, and George Brande, Riviera Beach, Md., assignors to American Alcolac Corporation, Baltimore, Md., a corporation of New York

No Drawing. Filed Feb. 21, 1957, Ser. No. 641,460

8 Claims. (Cl. 252—161)

1. The process of manufacturing detergents by neutralizing organic sulfoxy acids while avoiding decomposition which comprises forming a mixture of

(1) an organic sulfoxy acid selected from the group consisting of alkyl sulfuric acid esters having at least 8 carbon atoms in the alkyl group, and alkyl-aryl sulfonic acids;

(2) comminuted alkaline reacting material having a cation selected from the group consisting of ammonia, alkali metal, and alkaline earth metal; and

(3) pulverulent solid carbon dioxide and subjecting the mixture to mixing to neutralize the organic sulfoxy acid and form a dry, pulverulent detergent, the total amount of solid carbon dioxide introduced into the mixture during the process being sufficient to maintain the temperature of the mixture below and about 20° C. and thereby prevent hydrolysis and decomposition of the organic material.

2,975,142

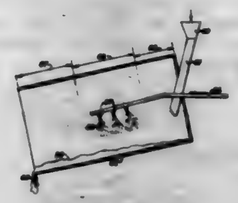
GRANULAR WATER-SOLUBLE PERBORATE-CONTAINING SALT MIXTURE

Joachim Schmidt and Werner Meinhold, Duesseldorf-Benrath, Germany, assignors to Henkel & Cie. G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany

Filed May 4, 1956, Ser. No. 582,885

Claims priority, application Germany June 11, 1955

11 Claims. (Cl. 252—186)

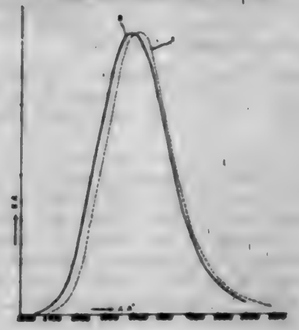


1. Process for the production of granular salt mixtures containing perborates, which comprises moving a finely divided, water-soluble perborate on a support surface for contact between the individual divided particles, while spraying the perborate with an aqueous solution of an inorganic salt capable of crystallizing with the binding of water of crystallization, said solution being unsaturated with respect to said inorganic salt at the temperature of operation, the contact of the perborate and aqueous salt solution being effected at a temperature allowing crystallization of the salt solution and agglomeration between individual divided perborate particles, said salt solution sprayed containing an amount of water not substantially in excess of the amount of water capable of being bound as water of crystallization by the salt mixture formed the quantity of solution which is sprayed onto the perborate to be granulated being in the range of 5–45% by weight based on the granulate to be produced, and recovering the granular agglomerated perborate particle salt mixture formed containing substantially all of the water sprayed as water of crystallization.

2,975,143
METHOD OF PRODUCING ULTRAVIOLET LUMINESCING SILICATES

Age Hylke Hoekstra, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 18, 1956, Ser. No. 610,697
Claims priority, application Netherlands Oct. 3, 1955
7 Claims. (Cl. 252—301.6)



1. An erythemal phosphor emitting ultraviolet radiation of a wave length of about 2900 A. to 3000 A. in response to ultraviolet radiation having a wave length of about 2537 A. and consisting essentially of a lead activated barium-magnesium-zinc silicate in which the elements satisfy the following atomic ratio conditions:

$$\frac{Ba}{Ba+Zn+Mg+Si}$$

lies between 0.05 and 0.25,

$$\frac{Zn+Mg}{Ba+Zn+Mg+Si}$$

lies between 0.15 and 0.45,

$$\frac{Zn}{Mg}$$

lies between 33 and 3,

$$\frac{Si}{Ba+Zn+Mg+Si}$$

lies between 0.40 and 0.80, and

$$\frac{Pb}{Ba+Zn+Mg+Si}$$

lies between 5×10^{-3} and 10^{-6}.

3. The method of producing an erythemal phosphor emitting ultraviolet radiation in a wave length of about 2900 A. to 3000 A. in response to ultraviolet radiation having a wave length of about 2537 A. comprising the steps, forming a mixture of barium, magnesium, zinc, silicon and lead compounds in proportions which upon heating forms a lead activated barium-magnesium zinc-silicate in which the elements satisfy the following atomic ratio conditions:

$$\frac{Ba}{Ba+Zn+Mg+Si}$$

lies between about 0.05 and 0.25,

$$\frac{Zn+Mg}{Ba+Zn+Mg+Si}$$

lies between about 0.15 and 0.45,

$$\frac{Zn}{Mg}$$

lies between about 33 and 3,

$$\frac{Si}{Ba+Zn+Mg+Si}$$

lies between about 0.40 and 0.80, and

$$\frac{Pb}{Ba+Zn+Mg+Si}$$

lies between about 5×10^{-3} and 10^{-6}.

and heating said mixture in a non-reducing atmosphere at a temperature between about 900° C. and 1100° C. for several hours.

2,975,144
CATALYST FOR PRODUCTION OF HYDROCYANIC ACID

Otto Gross, Wesmo-Eickel, and Heinz Berger, Herne, Germany, assignors to Bergwerksgesellschaft Hibernia Aktiengesellschaft, Wesmo-Eickel, Germany, a corporation of Germany

Filed Mar. 11, 1953, Ser. No. 341,485
Claims priority, application Germany Mar. 24, 1952
3 Claims. (Cl. 252—477)

1. A catalyst for the production of hydrocyanic acid by catalytic reaction, in the vapor phase, of ammonia, a hydrocarbon, and an oxygen containing gas, said catalyst being substantially composed of platinum metals and being used in the form of contact catalyst coils obtained by spirally winding nonperforated foils of platinum metals of which at least one is corrugated to form a catalyst coil, said foils having a thickness exceeding 0.02 mm. said catalyst consisting of several catalyst coils superimposed over each other.

2,975,145
SEMI-CONDUCTIVE CERAMIC COMPOSITION

Robert C. Harris, Unadilla, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

No Drawing. Filed Apr. 16, 1958, Ser. No. 728,893
7 Claims. (Cl. 252—521)

1. An electrically semi-conductive fired ceramic body formed from a mixture consisting essentially of the following components: Al_2O_3 about 72.0%, wollastonite about 8.0%, Cu_2O about 18.4%, and Fe_2O_3 about 1.6%, all percentages being by weight.

2,975,146
METHOD FOR PREPARING POLYURETHANE CELLULAR PRODUCTS

Thomas H. Rogers, Jr., and Donald W. Peabody, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 18, 1957, Ser. No. 640,621
2 Claims. (Cl. 260—2.5)

1. In the process of preparing polyurethane cellular compositions from a reaction mixture containing an organic polyisocyanate, water and an active-hydrogen-containing polymeric material having an average molecular weight of from 1000 to 5000 and selected from the group consisting of polyalkylene ether glycols, polyesters prepared from at least one glycol and at least one dicarboxylic acid and polyesteramides prepared from at least one glycol, at least one dicarboxylic acid and at least one amino compound selected from the group consisting of amino carboxylic acids, amino alcohols and diamines, said polyesters and polyesteramides having an acid number not greater than 5 and an hydroxyl number of from 20 to 110, the improvement which comprises conducting the cure of said reaction mixture in the presence of an activator selected from the group consisting of urea, thiourea and biuret, the amount of said activator being from 0.50 to 5.0 parts by weight per 100 parts by weight of said active-hydrogen-containing polymeric material, the amount of said polyisocyanate providing from 2 to 8 equivalents of isocyanate per mol of polymeric material.

2,975,147
COMPOSITION COMPRISING POLYESTER, PROTECTIVE COLLOID AND CLAY AND PAPER COATED THEREWITH

Corliss W. Abbott, Cranford, and Howard L. Freeman, Franklin Park, N.J., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed May 5, 1958, Ser. No. 732,811
9 Claims. (Cl. 260—7.5)

1. A water-reducible paper coating composition containing (I) from about 3 to about 30 parts by weight on the dry basis of a binder comprising (*a*) a polyester and (*b*) a protective colloid in an aqueous solution, the weight ratio of protective colloid to polyester being from about 100:1 to about 1:1, and (II) from about 70 parts to about 97 parts by weight of a kaolinitic clay, the total of (I) and (II) being 100 parts; said polyester being a polyester of a phthalic acid material selected from the group consisting of phthalic acid, isomers of phthalic acid, monochloro phthalic acid, dichloro phthalic acid, trichloro phthalic acid, tetrachloro phthalic acid, and alkyl substituted derivatives of phthalic acid, and anhydrides thereof; a C_2–C_8 glycol, and a C_3–C_{10} polyhydric alcohol containing at least three hydroxyl groups attached to different carbon atoms, said polyhydric alcohol being composed of only the elements carbon hydrogen and oxygen, the ratio of hydroxyl to carboxyl in said polyester being in the range of from about 0.9 to about 1.9 and the acid value thereof being in the range of from about 30 to about 85.

2,975,148
EPOXY-RESIN β-MONOALLYL ITACONATE-CONTAINING COMPOSITIONS, THEIR PREPARATION AND ARTICLES CONTAINING SAME

Russell A. Skiff, Whittier, Calif., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 28, 1958, Ser. No. 709,737
10 Claims. (Cl. 260—23)

7. A composition of matter comprising (1) a complex epoxide resin obtained by reacting a member of the group consisting of a polyhydric alcohol and a polyhydric phenol with an epihalohydrin, said epoxide resin having more than one epoxy group per molecule, (2) β-monoallyl itaconate, and (3) a plastisol comprising a finely divided halide resin selected from the class consisting of polyvinyl chloride, copolymers of vinyl chloride and vinyl acetate, and copolymers of vinyl chloride and vinylidine chloride dispersed in a liquid plasticizer for the halide resin.

2,975,149
NON-TERMINAL EPOXY RESINS

William S. Port, Norristown, Leonard L. Gels, Philadelphia, and Waldo C. Ault, Glenside, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

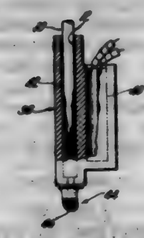
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,710
16 Claims. (Cl. 260—23)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for the preparation of an epoxy resin comprising heating a mixture containing a compound having at least one non-terminal epoxide group, a cyclic anhydride selected from the group consisting of a cyclic carboxylic anhydride and a lactone, and a tertiary amine selected from the group consisting of benzyldimethylamine, β-dimethylaminopropionitrile, and triamylamine, to effect polymerization, each of said compound and said cyclic anhydride being present in said mixture in an amount ranging from an equimolar equivalent to ±20% of an equimolar equivalent, said tertiary amine being present in said mixture in about from 0.1 to 4% by weight.

2,975,150
THERMOPLASTIC ADHESIVE COMPOSITIONS AND SUPPLY ARTICLES

Eric C. Johnson and Robert D. Clarke, Somerville, Mass., assignors to B.B. Chemical Co., Boston, Mass., a corporation of Massachusetts

Filed Jan. 14, 1959, Ser. No. 786,786
12 Claims. (Cl. 260—27)



1. As a new article of manufacture a solid rod of a resinous thermoplastic mixture of adhesive components heretofore considered incompatible with each other comprising a milky appearing dispersion of solid particles of one component distributed in a continuous solid phase of a second component, said mixture of components when at elevated temperature being a clear viscous liquid, the proportion of one component relative to the other being sufficiently high that on cooling it separates to develop said milky state in the solidified mixture, and said rod having a cross section of about ⅛" to about ¼" in thickness, and being sufficiently rigid to be fed longitudinally but adequately flexible to be coiled.

2,975,151
VULCANIZATION OF LATEX WITH ORGANIC HYDROPEROXIDE

Walter S. Ropp, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 27, 1956, Ser. No. 600,415
8 Claims. (Cl. 260—29.7)

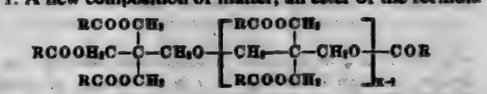
1. A process for vulcanizing a latex selected from the group consisting of latices of natural rubber and a synthetic rubbery copolymer of butadiene and acrylonitrile which consists essentialy of the steps of incorporating in the latex from 0.1 to 10%, based on the weight of rubber solids in said latex, of an organic hydroperoxide having an oxygen of the hydroperoxide group directly attached to a tertiary carbon atom and heating said latex to a temperature of 200–350° F. to effect vulcanization of rubbery particles in situ.

2,975,153
ESTERS OF PENTAERYTHRITOLS AND VINYL CHLORIDE RESIN COMPOSITION PLASTICIZED THEREWITH

Marvin J. Hurwitz, Elkins Park, Andrew M. Craig, Jr., Philadelphia, and Ellington M. Beavers, Elkins Park, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Apr. 9, 1957, Ser. No. 651,590
20 Claims. (Cl. 260—31.6)

1. A new composition of matter, an ester of the formula



wherein X equals 1 to 14 with an average value not exceeding 3 and RCO, the acyl group, is selected from the

group consisting of alkanoyl, aralkanoyl, aroyl, and alkaroyl, the ester being further defined in that, when its acid moiety is a single acyl group, the acyl group has a 5 to 7 carbon atom content and an H. Number of 8 to 16.5 and that, when the acid moiety of said ester is a mixture of acyl groups, the mixed acyl groups have an average carbon atom content of 5 to 7 and an average H. Number of 8 to 16.5, each acyl group of said mixed acyl groups having a carbon atom content of 2 to 18, and said ester being further defined by having a melting point not exceeding about 35° C.

13. A plasticized resinous composition comprising a polymer selected from the group consisting of homopolymers of vinyl chloride and copolymers of vinyl chloride with an ethylenically unsaturated monomer copolymerizable therewith, said copolymer containing at least about 80% by weight of vinyl chloride combined therewith and said plasticized resinous composition having incorporated therein about 5 to about 60% by weight of the plasticizing ester defined in claim 1.

2,975,153

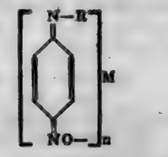
PROCESS FOR HEATING BUTYL RUBBER WITH METAL SALTS OF BENZOQUINONE IMINE OXIMES AND VULCANIZED PRODUCT THEREOF

Ching C. Tung, Kirkwood, Mo., and John J. D'Amico, Charleston, W. Va., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 14, 1958, Ser. No. 773,808

11 Claims. (Cl. 260—41.5)

1. The process which comprises heating a raw rubbery copolymer of at least 85% isobutylene and a minor amount of a conjugated diene hydrocarbon and 0.3 to 1.0% of a metal salt of a benzoquinone imino oxime of general formula



where R is selected from the group consisting of alkyl, phenyl and carboalkoxy alkyl, M is a salt forming group and *n* is the valence of M, the combination of temperature and time being substantially as severe as a combination of a temperature of 275° F. for a time of ten minutes whereby the torsional hysteresis of a vulcanizate obtained therefrom is lower than the torsional hysteresis of a vulcanizate prepared in identical manner from the same rubber and compounding and curing ingredients except that the aforesaid metal salt of the benzoquinone imine oxime is omitted.

2,975,154

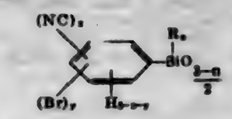
CYANOPHENYLSILOXANES

Enrico J. Pepe, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 17, 1958, Ser. No. 774,078

6 Claims. (Cl. 260—46.5)

1. A cyanophenylsiloxane containing at least one unit of the formula:



wherein R is a monovalent hydrocarbon radical, *n* is an integer of from 0 through 1, *x* is an integer of from 1 through 3, *y* is an integer of from 0 through 4 and the sum of *x*+*y* does not exceed 5.

2,975,155

RESIN-CURING AGENT SYSTEM

Nicholas J. Caproa, Neshaminy, and Burton E. Lederman, Conshohocken, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,888

7 Claims. (Cl. 260—47)

1. A composition comprising an epoxy ether resin having a 1,2-epoxy equivalency greater than 1 selected from the class consisting of polyglycidyl ethers of polyhydric phenols and polyhydric alcohols and a curing agent comprising a mixture of dimethylaminoethanol and diethylaminoethanol in which the weight ratio of dimethylaminoethanol : diethylaminoethanol is in the range of from 90:10 to 10:90.

2,975,156

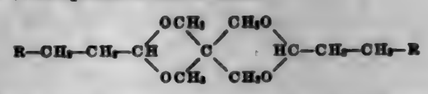
NOVEL MONOMERIC COMPOUNDS AND HOMOPOLYMERS AND INTERPOLYMERS THEREOF

Frank Fekete, Tonawanda, N.Y., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 21, 1956, Ser. No. 572,795

13 Claims. (Cl. 260—67)

1. A compound of the structure



wherein each R represents the radical derived by removing the carboxyl hydrogen atom from an aliphatic monoethylenically unsaturated monocarboxylic acid containing from 3 to 18 carbon atoms.

2,975,157

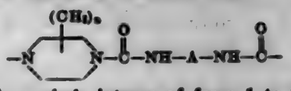
PRODUCTS FROM PIPERAZINE AND DISOCYANATES

Manfred Katz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

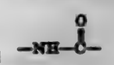
No Drawing. Filed July 25, 1957, Ser. No. 674,042

11 Claims. (Cl. 260—77.5)

1. A synthetic fiber-forming polyurea having a melting point of at least about 325° C. and consisting essentially of the recurring structural units



wherein *n* is a whole integer of from 1 to 2, inclusive, and A is a divalent hydrocarbon radical selected from the group consisting of a monocyclic and bicyclic aromatic radical of from 7 to 14 carbon atoms, inclusive, with the



groups being directly attached to an aromatic ring and the shortest chain between the



linkages being a chain of at least three carbon atoms of one ring.

2,975,158

HIGH FLUIDITY PROCESS FOR POLYMERIZING VINYLIDENE CYANIDE

Kenneth L. Sayre, Lorain, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 28, 1956, Ser. No. 629,445

6 Claims. (Cl. 260—78.5)

1. The method of preparing 1:1 alternating copolymers of 1,1-dicyanoethylene comprising mixing from 10 to 30% wt. of a monomeric material containing 1,1-dicyanoethylene and a molar excess of a comonomer, selected from the class consisting of monoolefinic monomers and diolefinic monomers copolymerizable with 1,1-dicyanoethylene, with an anhydrous, polar organic diluent medium containing as essential ingredients (1) a polar solvent selected from the class consisting of halogenated aromatic hydrocarbons, liquid carboxylic acids, and ethers, (2) an acidic electrolyte substance soluble in and ionizable in said diluent medium and selected from the class consisting of hydrochloric acid, hydrobromic acid, perchloric acid, chlorosulfonic acid, chloroacetic acids, sulfuryl halides and acid chlorides, said electrolyte being present in said medium throughout the polymerization in a proportion sufficient to impart thereto a conductivity above about 5×10^{-7} mho, and (3) a polymerization catalyst, and polymerizing said monomeric material in said medium at a temperature of from about 0° C. to about 75° C. while vigorously agitating the mixed materials, thereby to obtain a slurry of said copolymer having greater fluidity than that of a corresponding slurry obtained at lower conductivities.

2,975,159

RUBBER-LIKE INTERPOLYMERS OF ETHYLENE AND TWO OTHER MONOOLEFINS

Viktor Weinmayr, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 18, 1955, Ser. No. 529,360

5 Claims. (Cl. 260—80.5)

1. A rubber-like interpolymer comprising three different olefins as components of said polymer, one of said components being ethylene, the second component being an olefin of the class consisting of propylene and butene-1, which two components are contained in the interpolymer in a molar ratio of from 3:1 to 1:3, the third component being an olefin different from the first two and having the formula CH_2=CHR wherein R is an alkyl radical of from 2 to 8 carbon atoms, said third component being present in the interpolymer in an amount of from 2 to 20 mol percent of the interpolymer, said interpolymer having physical properties similar to those of uncured natural rubber and capable of being cured with dicumyl peroxide to give rubber-like interpolymers having excellent resistance to oxygen and ozone and good elastic and tensile strength.

2,975,160

PREPARATION OF COPOLYMERS IN THE PRESENCE OF AN ORGANO-LITHIUM CATALYST AND A SOLVENT MIXTURE COMPRISING A HYDROCARBON AND AN ETHER, THIOETHER OR AMINE

Robert P. Zelinski, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 23, 1958, Ser. No. 737,287

16 Claims. (Cl. 260—83.7)

1. A process for preparing copolymers which comprises contacting at least two monomeric materials selected from the group consisting of 1,3-butadiene, isoprene, piperylene, vinyl-substituted aromatic hydrocarbons, vinyl halides, vinylidene halides, esters of acrylic acid and esters of homologues of acrylic acid with at least 0.02 part by weight per 100 parts by weight of said monomeric materials of an organolithium compound corresponding to the formula $R(Li)_x$, wherein R is a hydrocarbon radical selected from the group consisting of aliphatic, cycloaliphatic and aromatic radicals and *x* is an integer from 1 to 4, inclusive, said contacting occurring at a temperature in the range of —20 to 150° C. and in the presence of a solvent mixture, which is liquid under conditions of the process, said mixture comprising (1) a hydrocarbon selected from the group consisting of aromatic, paraffinic and cycloparaffinic hydrocarbons, and (2) a polar compound selected from the group consisting of ethers, thioethers and tertiary amines, the amount of said polar compound in said mixture being in the range of 0.005 to 50 weight percent of the total mixture and recovering the rubbery copolymer so produced.

2,975,161

COPOLYMERS OF FLUORINATED ETHERS

John G. Abramo and Raymond H. Reinhard, Galveston, Tex., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 14, 1956, Ser. No. 628,216

5 Claims. (Cl. 260—85.5)

1. A copolymer of a mixture consisting of a fluorinated ether having the general formula

$$CH_2{=}CR{-}CH_2O{-}CF_2{-}CX_2H$$

wherein R is chosen from the group consisting of hydrogen and the methyl radical and X is chosen from the group consisting of fluorine, chlorine, and hydrogen and a compound selected from the group consisting of vinyl acetate, styrene, methyl methacrylate, and acrylonitrile.

2,975,162

PROCESS FOR THE PRODUCTION OF POLYMERIZATION PRODUCTS OF VINYL CHLORIDE

Arnd Iloff, Schkopau, uber Merseburg, Germany, assignor to VEB Chemische Werke Buna, Schkopau, Germany

No Drawing. Filed June 20, 1957, Ser. No. 667,035

Claims priority, application Germany Aug. 21, 1956

8 Claims. (Cl. 260—85.7)

1. The process for the production of polymerization products of vinyl chloride, wherein an aqueous suspension of monomeric vinyl chloride in the weight relationship of about 1:1 is polymerized in the temperature range of about 40–50° C. in the presence of about 0.1%–1% by weight based on the aqueous phase of the suspension, of a suspension stabilizer being the sodium salt of a mixed polymerization product of styrene and maleic acid anhydride and about 0.05 percent of acetyl cyclohexane sulfonyl peroxide calculated on the monomer.

2,975,163

FLUORINE CONTAINING ORGANIC COMPOUNDS AND PREPARATION THEREOF

Elizabeth S. Lo, Forda, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 29, 1956, Ser. No. 618,707

16 Claims. (Cl. 260—87.5)

4. An interpolymer of a 1,1-dihydroperfluoroalkyl perfluoroallyl ether, said alkyl group having between 2 and 12 carbon atoms, and at least one fluorine-containing olefin having not more than 12 carbon atoms and containing the group >C=CFX and X as well as all other carbon atom substituents in the molecule is selected from the group consisting of hydrogen, chlorine and fluorine.

2,975,164

NEW FLUORINE-CONTAINING POLYMERS AND PREPARATION THEREOF

George H. Crawford, White Bear Lake, Minn., and Elizabeth S. Lo, Princeton, N.J., assignors, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

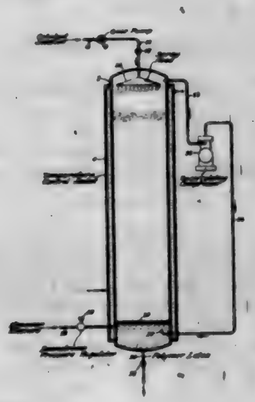
No Drawing. Continuation of abandoned application Ser. No. 523,634, July 21, 1955. This application Mar. 28, 1959, Ser. No. 800,651

9 Claims. (Cl. 260—87.5)

1. A novel elastomeric copolymer having a molecular weight in the range of from about 5,000 to about 100,000

of 1,1,2,2,-tetrafluoroethyl vinyl ether and a polymerizable halogen-containing diolefin selected from the group consisting of 1,1,2-trifluorobutadiene, 1,1,3-trifluorobutadiene and 2-trifluoromethyl butadiene.

2,975,165
POLYMERIZATION PROCESS AND APPARATUS FOR USE THEREIN
Archibald N. Bolstad, Maplewood, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 15, 1954, Ser. No. 475,385
7 Claims. (Cl. 260—87.7)



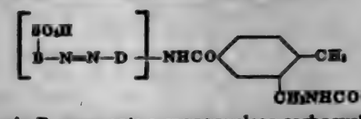
1. A copolymerization process comprising continuously charging a mixture of (1) an ethylenically unsaturated fluoroolefinic monomer having not more than about 8 carbon atoms and having at least one fluorine atom attached to a carbon atom of the ethylenically unsaturated monomer nucleus, and (2) a different ethylenically unsaturated copolymerizable monomer having not more than about 8 carbon atoms at the lower portion of a vertically elongated polymerization zone at a rate sufficient to maintain a constant pressure in the polymerization zone, maintaining said polymerization zone at a preselected temperature between about 0° C. and about 100° C., the pressure in the zone being below the saturation pressure of both monomers at said preselected temperature, introducing an aqueous catalyst solution into the upper portion of the polymerization zone, copolymerizing the monomers charged to said zone, and removing the copolymer product from the lower portion of the zone.

2,975,166
SODIUM-CATALYZED ETHYLENE POLYMERIZATION
Uno Kruse, East Orange, and Daniel F. Herman, Orange, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Apr. 28, 1959, Ser. No. 809,343
6 Claims. (Cl. 260—94.9)

1. A process for the polymerization of ethylene which comprises the steps of (1) treating ethylene with a catalyst system consisting essentially of $ZrCl_4$ and Grignard reagent thereby polymerizing said ethylene, (2) adding sodium to the polymerization reaction and, (3) polymerizing additional ethylene; said Grignard reagent being present in the ratio of from 1¼ to 3½ moles of the Grignard reagent for each mole of $ZrCl_4$, said sodium being present in the ratio of at least ½ mole of sodium for each mole of $ZrCl_4$.

2,975,167
MONOAZO DYESTUFFS
Hans Rudolf Schwander, Basel, Jean-Pierre Jung, Riehen, near Basel, and Peter Hindermann, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland
No Drawing. Filed Apr. 17, 1959, Ser. No. 806,999
Claims priority, application Switzerland Apr. 23, 1958
6 Claims. (Cl. 260—199)

1. The monoazo dyestuff of the formula:



wherein B represents a mononuclear carbocyclic aryl radical containing the sulpho group in o-position to the azo group, and D represents a naphtholic coupling component.

2,975,168
PROCESS OF PREPARATION OF A TRI-(HYDROXYETHYL) ETHER OF RUTIN
Jacques Favre, Nyon, Switzerland, assignor to Zyma S.A., Nyon, Switzerland, a corporation of Switzerland
No Drawing. Filed June 27, 1958, Ser. No. 744,920
Claims priority, application Switzerland July 4, 1957
9 Claims. (Cl. 260—210)

1. A method of producing a tri-(hydroxyethyl) ether of rutin which comprises reacting rutin at an elevated temperature with at least three molecular proportions of ethylene chlorohydrin in the presence of at least three molecular proportions of an alkali.

2,975,169
BLEACHING OF CELLULOSE PULP
William B. Cranford and Frederick W. Major, Hawkesbury, Ontario, Canada, assignors to Canadian International Paper Company, Montreal, Quebec, Canada, a corporation of Canada
No Drawing. Filed Aug. 22, 1957, Ser. No. 679,786
7 Claims. (Cl. 260—212)

1. In the bleaching of cellulose pulp, a process of lowering the viscosity of the cellulose pulp which includes chlorinating the pulp under acid conditions in the presence of a compound of vanadium.

2,975,170
PROCESS FOR MANUFACTURING TERPENELESS ESSENTIAL OILS
Aaron Brown Herrick, Cedar Grove, and James R. Trowbridge, Glen Rock, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 14, 1958, Ser. No. 735,213
7 Claims. (Cl. 260—236.6)

1. A process for removing terpenes from essential oils which comprises contacting an essential oil containing odoriferous compounds and terpenes with a solid absorbent material of high surface/volume ratio, which material has a greater affinity for the terpenes than for the odoriferous compounds, and recovering essential oil from which terpenes have been removed.

2,975,171
2-ACYL- AND 2-ALKYL-2 ACYL-4-PREGNENE 17α-OL-3,20-DIONES
George I. Poos, North Plainfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 16, 1955, Ser. No. 583,432
19 Claims. (Cl. 260—239.55)

1. 2-lower alkyl-2-lower aliphatic carboxylic acyl-20-ethylenedioxy-4-pregnene-17α,21-diol-3,11-dione.

4. 2-lower alkyl-2-lower aliphatic carboxylic acyl-20-ethylenedioxy-4-pregnene-11β,17α,21-triol-3-one.

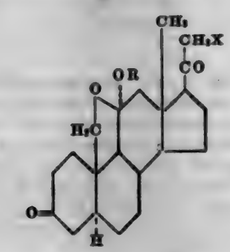
7. 2-lower alkyl-2-lower aliphatic carboxylic acyl-9α-fluoro 20-ethylenedioxy - 4 - pregnene-11β,17α,21-triol-3-one.

2,975,172
9α-HALO-11β,16α,17α-TRIHYDROXYPREGNENES AND INTERMEDIATES THEREFOR
Josef Fried, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Jan. 7, 1958, Ser. No. 707,463
6 Claims. (Cl. 260—239.55)

3. A steroid selected from the group consisting of 9β,11β-epoxy-16α,17α-dihydroxyprogesterone and 9β,11β-epoxy-$\Delta^{1,4}$-pregnadiene-16α,17α-diol-3,20-dione.

2,975,173
DERIVATIVES OF 11α-HYDROXY-11,19-EPOXYANDROSTANES
John S. Baran, Chicago, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Sept. 28, 1959, Ser. No. 842,565
8 Claims. (Cl. 260—239.55)

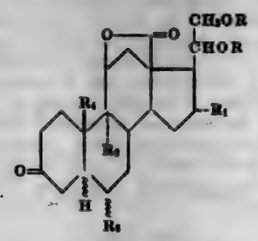
1. A compound of the structural formula



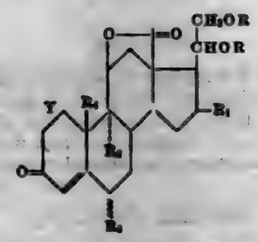
wherein R is a member of the class consisting of hydrogen and lower alkyl radicals and X is a member of the class consisting of hydrogen and the hydroxyl radical.

2,975,174
11,18-LACTONE STEROID COMPOUNDS
James F. Kerwin, Broomall, and Manfred E. Wolff, Elkins Park, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 22, 1960, Ser. No. 23,926
8 Claims. (Cl. 260—239.57)

1. A chemical compound selected from the group consisting of compounds having the following fundamental structures:



and



in which Y is a member selected from the group consisting of ethylene and vinylene; R is a member selected from the group consisting of hydrogen and lower alkanoyl having from 2 to 7 carbon atoms; R_3 is a member selected from the group consisting of hydrogen and methyl; R_2 is a member selected from the group consisting of hydrogen and fluoro; R_3 is a member selected from the group consisting of hydrogen, methyl and fluoro; R_4 is a member selected from the group consisting of methyl and, when Y is ethylene, hydrogen; and ⟊ is a configurational position selected from the group consisting of α and β.

2,975,175
PHENTHIAZINE DERIVATIVES
Robert Michel Jacob, Ablon-sur-Seine, and Jacques Georges Robert, Gentilly, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a French body corporate
No Drawing. Filed Dec. 20, 1957, Ser. No. 704,011
Claims priority, application France Dec. 27, 1956
3 Claims. (Cl. 260—243)

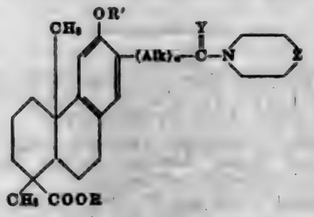
1. 3 - cyano - 10 - [3-(4-β-hydroxyethyl-1-piperazinyl)-propyl]phenthiazine.

2. 3 - cyano - 10 - [3-(4-β-acetoxyethyl-1-piperazinyl)-propyl]phenthiazine.

3. 3 - cyano - 10-[3-(4-hydroxyethoxyethyl-1-piperazinyl)propyl]phenthiazine.

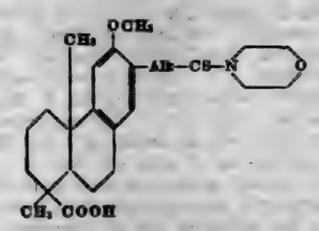
2,975,176
MORPHOLIDES AND THIAMORPHOLIDES OF 1,4a-DIMETHYL-1-CARBOXY - 6 - HYDROXY - 1,2,3,4, 4a,9,10,10a - OCTAHYDROPHENANTHRENE - 7-CARBOXYLIC ACIDS, 7-ALKANOIC ACIDS AND 7-ALKANETHIONIC ACIDS AND THEIR ETHERS AND ESTERS
Roy H. Bible, Jr., Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Aug. 28, 1959, Ser. No. 836,616
13 Claims. (Cl. 260—247.1)

1. A compound of the structural formula



wherein R and R' are members of the class consisting of hydrogen and lower alkyl radicals, *n* is an integer of the group consisting of 0 and 1, Alk is a lower alkylene radical, and Y and Z are members of the class consisting of oxygen and sulfur.

2. A compound of the structural formula



wherein Alk is a lower alkylene radical.

2,975,177
METHOD OF MAKING CYANURIC ACID AND INTERMEDIATE PRODUCT

Ludwig J. Christmann, Bronxville, N.Y., assignor to Carbogen Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 17, 1957, Ser. No. 703,263
8 Claims. (Cl. 260—248)

1. A method of making cyanuric acid which comprises introducing urea into a solvent which is the reaction product of at least 1 mol. of urea with an ether-alcohol having the formula:

$$H(CH_2)_m(OCH_2CH_2)_nOH$$

wherein m=1 to 6; n=1 to 17, ammonia being evolved; said solvent having a boiling point of at least 160° C. under the pressure of the system, heating to not over 350° C., whereby cyanuric acid is precipitated and ammonia is evolved.

2,975,178
PREPARATION OF TRICHLORO-CYANURIC ACID

Robert Hügel and Adolfo Pasetti, Milan, Italy, assignors to Montecatini-Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed Jan. 28, 1958, Ser. No. 711,571
Claims priority, application Italy Feb. 5, 1957
7 Claims. (Cl. 260—248)

1. The process of preparing trichloro-isocyanuric acid which comprises preparing a suspension of sodium bicarbonate in a saturated solution of said sodium bicarbonate, the suspension comprising an excess of sodium bicarbonate suspended in a saturated aqueous sodium bicarbonate solution, adjusting the temperature of said suspension to about 0° C., saturating said suspension with chlorine gas, adding an aqueous sodium cyanurate solution slowly to said suspension while stirring and maintaining the temperature of the reaction mixture between 0 and 5° C., continuing the introduction of chlorine gas while adding said sodium cyanurate solution, and separating, washing and drying the resulting precipitate, said sodium cyanurate solution being the reaction product in water of about 1 mol cyanuric acid and 3 mols sodium hydroxide.

2,975,179
PROCESS FOR THE PRODUCTION OF NUCLEARLY FLUORINATED PYRIDINES, QUINOLINES, ISOQUINOLINES, AND PYRIMIDINES

Alfons Dorlars, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 20, 1958, Ser. No. 756,080
Claims priority, application Germany Aug. 27, 1957
5 Claims. (Cl. 260—251)

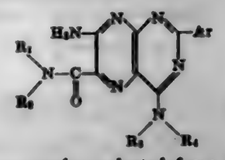
1. Process for the production of N-heterocyclic compounds fluorinated in the nitrogen-containing ring, said fluorine atoms occupying at least one of the α- and γ-positions relative to said nitrogen atom, which comprises heating an N-heterocyclic compound which is a member selected from the group consisting of 2-hydroxy-pyridine, 2-hydroxy-quinoline, 4-hydroxy-quinoline, 4-methyl-2-hydroxy-quinoline, 2,4-dihydroxy-quinoline, 2-methyl-4-hydroxy-quinoline, 1,3 - dihydroxy-iso-quinoline, 2-hydroxy-pyrimidine, 4-hydroxy-pyrimidine, 2 - hydroxy - 6-chloro-quinoline, 2-hydroxy - 6 - methoxy-quinoline and 2-hydroxy-pyridine with an amount of 2,4,6-trifluoro-1,3,5-triazine, representing at least one third of a mol per mol of each hydroxyl group to be replaced in said N-heterocyclic compound, at a temperature of from about 40 to 220° C., and recovering the corresponding nuclearly fluorinated N-teterocyclic compound formed by replacement of at least one of the hydroxyl groups with fluorine.

2,975,180
4,7-DIAMINO-2-ARYL-6-PTERIDINECARBOXAMIDES

Thomas S. Osdene, 11 S. Brandywine St., West Chester, Pa., and Edward C. Taylor, 288 Western Way, Princeton, N.J.

No Drawing. Filed May 12, 1959, Ser. No. 812,601
7 Claims. (Cl. 260—251.5)

1. A chemical compound having the following structural formula:



in which Ar is a member selected from the group consisting of



and thienyl; R_1 and R_2 are members selected from the group consisting of hydrogen, lower alkyl, ω-hydroxy-lower alkylene, ω-acetoxy-lower alkylene, ω-chloro-lower alkylene and ω-amino-lower alkylene; R_3 and R_4 are members selected from the group consisting of hydrogen and lower alkyl; and R_5 and R_6 are members selected from the group consisting of hydrogen halogen having an atomic weight of less than 80, lower alkyl, lower alkoxy, nitro, amino and hydroxy.

2,975,181
METHOD FOR THE PREPARATION OF PIPERAZINE SALTS

Joseph J. Scigliano and Edgar C. Britton, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 12, 1956, Ser. No. 570,683
13 Claims. (Cl. 260—268)

1. Method for the preparation of a salt product of (a) a polycarboxylic acid and (b) a piperazine compound from (c) a crude mixture in aqueous solution of said piperazine compound (b), which crude mixture is obtained from the direct cyclization of (d) an alkanolamine starting material corresponding to said piperazine compound (b), said alkanolamine material (d) containing half as many carbon atoms as said corresponding piperazine compound (b), which polycarboxylic acid (a) contains from 2 to 3 carboxyl groups and from 2 to 10 carbon atoms in its molecule and is selected from the group of so limited acids that consists of those from ($a1$) saturated hydrocarbon aliphatics, ($a2$) saturated hydroxylated hydrocarbon aliphatics containing from 1 to 2 hydroxy substituents and ($a3$) hydrocarbon aromatics and which piperazine compound (b) is of the general formula:

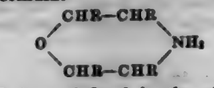


(I)

wherein each R is independently selected from the group consisting of hydrogen and alkyl radicals containing from 1 to 4 carbon atoms, said corresponding alkanolamine starting material (d) being selected from the group consisting of ($d1$) corresponding alkanolamines of the general structure:

$$HO—CHR—CHR—NH_2 \quad (II)$$

wherein each R is as defined in the above Formula I and ($d2$) hydrohalides of said corresponding alkanolamines of the Formula II containing half as many carbon atoms as said piperazine compound (b) of the Formula I, ($c2$) a hydrohalide of a corresponding alkanolamine of the Formula II containing half as many carbon atoms as said piperazine compound (b) of the Formula I, ($c3$) a dimer of the corresponding alkanolamine (d) of the Formula II that contains the same number of carbon atoms as said piperazine compound (b) of the Formula I, ($c4$) a morpholine compound containing the same number of carbon atoms as said piperazine compound (b) of the Formula I, which morpholine compound is of the general formula:



(III)

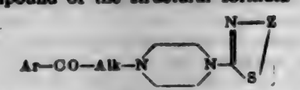
wherein each R is as defined in the above Formula I, said morpholine compound being obtained as a by-product of cyclization to said piperazine compound (b) of the Formula I of said corresponding alkanolamine (d) of the Formula II, ($c5$) ammonia and ($c6$) non-reactive mixtures thereof, which method comprises: (A) adding to said crude mixture (c) a quantity of said polycarboxylic acid (a) in an amount of at least about 0.6 stoichiometric equivalents of said polycarboxylic acid (a) for each equivalent of said piperazine compound (b) of the Formula I that is in said crude mixture (c) to provide a dissolved salt mixture (e) in an aqueous resulting solution (f) of said polycarboxylic acid (a) in said crude mixture (c); then (B) adding to said resulting solution (f) a second amount of an acid (g) that is stronger than said polycarboxylic acid (a), which stronger acid (g) is selected from the group consisting of ($g1$) hydrohalic acids and ($g2$) organic alkane monocarboxylic acids that contain from 1 to 6 carbon atoms in their molecules, said second amount of stronger acid (g) being a quantity that is at least a stoichiometric equivalent amount to the amount of said alkanolamine (d) of the Formula II which is present in said resulting solution (f); (C) physically insolubilizing said salt product (e) in said resulting solution (f) to precipitate said salt product (e) in solid form therein; and (D) subsequently physically isolating said salt product (e) in solid form.

2,975,182
1-(AROYLALKYL)-4-(HETEROCYCLYL) PIPERAZINES

Paul A. J. Janssen, Antwerpse Steenweg 16, Vosselaar, near Turnhout, Belgium

No Drawing. Filed Nov. 16, 1959, Ser. No. 853,020
6 Claims. (Cl. 260—268)

1. A compound of the structural formula



wherein Alk is a lower alkylene radical; Ar is a member of the class consisting of phenyl, tolyl, methoxyphenyl, halophenyl, and thienyl radicals; and Z is a member of the class consisting of —CH=CH—, —C(CH_3)=CH—, —N=CH—, and —N=C(CH_3)— radicals.

2,975,183
DIPROPIONYL, DIBUTYRYL, AND DIISOBUTYRYL DERIVATIVES OF CORYNANTHINE

Mario Reiser, Wiesbaden, Emil A. Eidebenz, Wiesbaden-Biebrich, and Heinz Georg von Schuh, Wiesbaden, Germany, assignors to Chemische Werke Albert, Wiesbaden-Biebrich, Germany, a corporation of Germany

No Drawing. Filed Oct. 13, 1958, Ser. No. 766,725
Claims priority, application Germany Oct. 17, 1957
6 Claims. (Cl. 260—287)

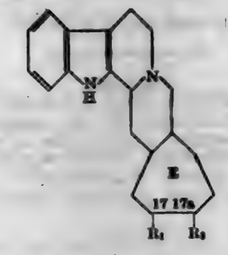
1. The O,N-diacyl derivative of a compound selected from the group consisting of corynanthine and corynanthine hydrochloride wherein each acyl radical is the same and is selected from the group consisting of CH_3CH_2CO—, $CH_3CH_2CH_2CO$— and $(CH_3)_2CHCO$—.

2,975,184
YOHIMBONE DERIVATIVES AND PROCESS THEREFOR

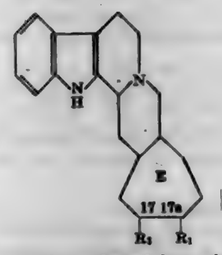
John Shavel, Jr., Mendham, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Mar. 31, 1959, Ser. No. 803,091
7 Claims. (Cl. 260—289)

1. A compound selected from the group consisting of those of the formula:



and



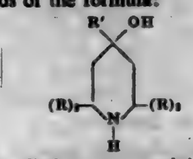
wherein R_1 is a member selected from the group consisting of hydrogen, keto, hydroxyl and —OR_3, R_3 being selected from the group consisting of lower alkyl sulfonyl, lower alkyl substituted benzene sulfonyl, the acyl radical of a lower alkyl carboxylic acid, benzoyl, and benzoyl substituted with 1 to 3 members selected from the group consisting of lower alkyl, halo, and lower alkoxy; and R_2 is a member selected from the group consisting of hydrogen, lower alkyl, phenyl subetituted lower alkyl, cycloalkyl and lower alkyl substituted cycloalkyl containing 5 to 6 carbon atoms in the cycloalkyl ring, phenyl, and substituted phenyl selected from the group consisting of 3,4-methylenedioxyphenyl and phenyl substituted with 1 to 3 radicals selected from the group consisting of lower alkyl, halo, and lower alkoxy, and pharmaceutically acceptable non-toxic acid addition and quaternary ammonium salts thereof.

2,975,185
PIPERIDINOL COMPOUNDS

Floyd E. Anderson, Morris Plains, and Jack Bobinski, Dover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed May 2, 1958, Ser. No. 732,418
8 Claims. (Cl. 260—294.7)

1. Compounds of the formula:



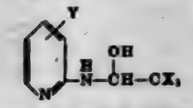
wherein R is an alkyl group containing one to three carbon atoms and R′ is a member of the group consisting of bicyclohexylyl and benzylphenyl.

2,975,186
CERTAIN HALOALKYLOLAMINO PYRIDINES

Russell M. Bimber, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Apr. 24, 1957, Ser. No. 654,672
10 Claims. (Cl. 260—296)

1. A 2 - (2,2,2 - trihalo - 1 - hydroxyethylamino)-pyridine of the formula:



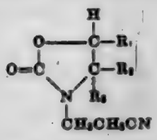
wherein Y is lower alkyl and X is halogen.

2,975,187
CYANOETHYLATED OXALACTAMS

John W. Lynn, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 17, 1959, Ser. No. 799,847
5 Claims. (Cl. 260—307)

3. The cyanoethylated oxalactams represented by the general formula



wherein R, R_1, R_2 and R_3 are radicals such that the cyanoethylated oxalactams are selected from the group consisting of

N-(2-cyanoethyl)-oxazolidinone-2,
N-(2-cyanoethyl)-4-methyloxazolidinone-2,
N-(2-cyanoethyl)-4-ethyl-5-cyclobutyloxazolidinone-2,
N-(2-cyanoethyl)4-allyl-5-ethyloxazolidinone-2,
N-(2-cyanoethyl)-4-propyl-5-phenyloxazolidinone-2,
N-(2-cyanoethyl)-4-tolyl-5-allyloxazolidinone-2,
N-(2-cyanoethyl)-4-phenylethyl-5-methyloxazolidinone-2,
N-(2-cyanoethyl)-4,5-dimethyloxazolidinone-2,
N-(2-cyanoethyl)-4,5-diallyl-4,5-dimethyloxazolidinone-2,
N-(2-cyanoethyl)-4-propyl-5-phenyloxazolidinone-2,
N-(2-cyanoethyl)-4-cyclobutyl-5-tolyloxazolidinone-2, and
N-(2-cyanoethyl) - 4,5 - ditolyl - 4,5 - dimethyloxazolidinone-2.

2,975,188
PROCESS FOR THE PRODUCTION OF SUBSTITUTED 5-AMINOPYRAZOLES

Heinrich Gold, Koln-Stammheim, and Peter Kurtz, Leverkusen-Bayerwerk, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 28, 1959, Ser. No. 789,588
Claims priority, application Germany Feb. 4, 1958
10 Claims. (Cl. 260—310)

1. Process for the production of substituted 5-aminopyrazoles which comprises reacting at a temperature within the range of from about 0 to about 100° C. one mol of a compound which is a member selected from the group consisting of 1-cyano-propadi-1,2-ene, 3-alkyl-1-cyano-propadi-1,2-ene, 3-alkanol-1-cyano-propadi-1,2-ene, 1-cyano-hexatri-1,2,5-ene, 1-cyano-heptatri-1,2,5-ene, and 2-cyano-butadi-2,3-ene with about 0.5 to about 1 mol of a compound having the following general formula:

$$R_1—NH—NH_2$$

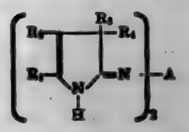
in which R_1 is a member selected from the group consisting of hydrogen, lower alkyl, lower cyanoalkyl, lower hydroxyalkyl, phenyl, hydroxyphenyl, cyanophenyl, carboxyphenyl, sulfonaphthyl, sulfophenyl, nitrophenyl, halogenophenyl, cyanohalogeno-alkyl, naphthyl, 2-benzthiazolyl and 4-hydrazino-2,2'-disulfostilbyl radicals, and recovering the substituted 5-aminopyrazole thus formed.

2,975,189
BIS-IMINOPYRROLINES

Newman M. Bortnick, Orchard, and Marion F. Fegley, Mount Clare, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,583
14 Claims. (Cl. 260—313)

1. A member from the group consisting of the compound whose principal tautomeric form is represented by the formula



and the pharmaceutically acceptable acid addition salts thereof, in which A represents a member of 4 to 24 carbon atoms from the group consisting of alkylene, cycloalkylene, phenylene, alkylene - phenylenealkylene, alkylenealkyl substituted phenylenealkylene, phenylenealkylene, alkylenecycloalkylenealkylene, bicycloalkylene, and an alkylene interrupted by at least one member of the class consisting of an amino group, an alkylamino group, an ether oxygen atom, and a thioether sulfur atom, provided that there are at least 2 carbon atoms between the members of said class, R_1 taken individually represents a member from the class consisting of alkyl, phenylalkyl, cycloalkyl, phenyl, naphthyl, and alkylphenyl groups of no more than 10 carbon atoms, R_2 taken individually represents a member from the class consisting of a hydrogen atom and an alkyl group of 1 to 4 carbon atoms, R_3 and R_4 taken individually represent members from the class consisting of alkyl, cycloalkyl, phenylalkyl, phenyl, naphthyl, and alkylphenyl groups of no more than 10 carbon atoms, R_1 and R_2 taken collectively with the carbon atoms to which they are joined form a member from the class consisting of a carbocyclic ring of 5 to 6 carbon atoms and one olefinic bond, and said ring having alkyl substituents consisting of a total of no more than 4 carbon atoms, R_2 and R_3 taken collectively with the carbon atoms to which they are joined from a member from the class consisting of a saturated carbocyclic ring of 5 to 6 carbon atoms and said ring having alkyl substituents consisting of a total of no more than 4 carbon atoms, and R_3 and R_4 taken collectively with the carbon atoms to which they are joined from a member from the class consisting of a saturated carbocyclic ring of 5 to 6 carbon atoms and said ring having alkyl substituents consisting of a total of no more than 4 carbon atoms.

2,975,190
SOLVENT RECOVERY

George Leathwhite Roberts, Jr., and Justin Alan McSheehy, Somerville, and Herbert Soffer, Fanwood, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed Dec. 28, 1956, Ser. No. 631,034
11 Claims. (Cl. 260—314.5)

1. A process for the recovery of a purified water-immiscible organic liquid selected from the group consisting of nitrobenzene and trichlorobenzene used in the synthesis of a metal phthalocyanine pigment which comprises treating a slurry of said metal phthalocyanine and said water-immiscible organic liquid with a surface active agent and water to form an emulsion, while introducing of hydrolytic agent selected from the group consisting of alkali metal bases and nitrogenous bases into the aqueous phase of the emulsion, contacting the emulsion with steam, steam distilling off the said organic liquid, condensing the distillate, stratifying the distillate and separating the layer of purified said organic liquid.

2,975,191
REDUCTION OF 1,3-DICARBALKOXY-PYRROLIDINE TO N-METHYL-3-PYRROLIDYLMETHYL ALCOHOL

Yao Hua Wu, Evansville, Ind., assignor to Mead Johnson & Company, Evansville, Ind., a corporation of Indiana

No Drawing. Filed May 6, 1959, Ser. No. 811,290
3 Claims. (Cl. 260—326.5)

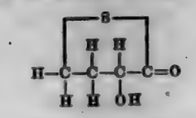
1. A process of preparing 1-methyl-3-pyrrolidylmethyl alcohol which comprises contacting 1,3-dicarbalkoxypyrrolidine with an alkali metal aluminum hydride in the presence of an organic solvent.

2,975,192
METHIONINE ANALOGUES

Robert J. Wineman, Concord, Mass., and Constantine E. Anagnostopoulos, St. Louis, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 9, 1959, Ser. No. 851,584
4 Claims. (Cl. 260—332.3)

1. A chemical compound having the formula:



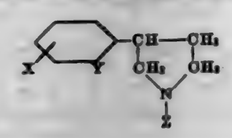
2. The method of preparing the thiolactone of alpha-hydroxy-gamma-mercapto butyric acid which comprises reacting hydrocyanic acid with beta-acetylthiopropionaldehyde in the presence of a basic amine catalyst, hydrolyzing the resulting cyanohydrin with sulfuric acid, heating the reaction mixture at a temperature between 80° and 110° C., cooling the reaction mixture to 20 to 35° C., extracting the reaction mixture with a water-immiscible organic solvent, separating the solvent layer, evaporating the solvent until a viscous residue remains, and distilling the resulting residue under reduced pressure.

2,975,193
ORGANIC AMINE COMPOUNDS AND METHOD OF OBTAINING THE SAME

John R. Dice, Grosse Pointe Woods, Mich., and Dolores V. Lopiekes, Bridgewater, Mass., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed June 18, 1959, Ser. No. 821,123
8 Claims. (Cl. 260—326.5)

1. A member of the class consisting of 3-phenyl pyrrolidines and acid salts thereof having in free base form the formula



wherein X is a member of the class consisting of hydrogen and chlorine atoms and alkoxy groups containing from one to five carbon atoms, Y is a member of the class consisting of chlorine and bromine atoms and alkyl and alkoxy and alkenyloxy and alkylmercapto groups containing from one to five carbon atoms, and Z is a member of the class of alkyl and hydroxylalkyl groups containing from two to six carbon atoms, X being substituted at one of the 3- and 5-positions of the phenyl ring and Y being limited to a member of the class consisting of alkoxy and alkenyloxy and alkylmercapto groups containing from one to five carbon atoms when Z represents an alkyl group.

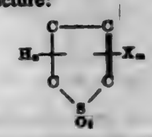
2. 3-(o-methoxyphenyl)-N-(5-hydroxypentyl)pyrrolidine.

2,975,194
POLYHALO-2,3-DIHYDROTHIOPHENE-1,1-DIOXIDES

Reynold A. Berkey, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed June 17, 1957, Ser. No. 666,252
5 Claims. (Cl. 260—332.1)

1. Polyhalo-2,3-dihydrothiophene-1,1-dioxides having the following structure:



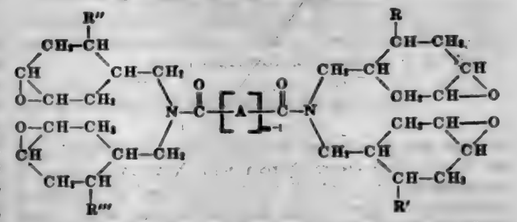
wherein X is halogen, *m* is a number from 3 to 6, inclusive, and *n* is a number equal to (6—*m*).

2,975,195
NEW HYDROAROMATIC DI- AND POLY-AMIDES

Hans Batzer, Arlesheim, and Erwin Niklas, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed July 22, 1959, Ser. No. 828,727
Claims priority, application Switzerland Aug. 5, 1958
2 Claims. (Cl. 260—348)

1. A compound of the general formula



in which R, R', R'' and R''' are members selected from the group consisting of a hydrogen atom and an unsubstituted lower alkyl radical of 1 to 4 carbon atoms, A represents an alkylene radical up to and including 8 carbon atoms, and *m* represents the whole number of at least one and at most two.

2,975,196
CHLORINATION OF NAPHTHOQUINONE

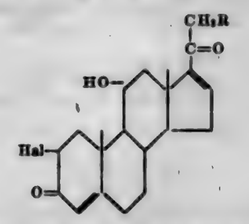
Bengt Tore Lennart Sjostrand, Goteborg, Sweden, assignor to Svenska Oljeslageri Aktiebolaget, Goteborg, Sweden

No Drawing. Filed Sept. 3, 1958, Ser. No. 758,669
Claims priority, application Sweden Sept. 11, 1957
10 Claims. (Cl. 260—396)

5. In a catalyzed chlorination process for the production of 2,3-dichloro-1,4-naphthoquinone from 1,4-naphthoquinone in two stages, the first stage comprising passing chlorine through a reaction medium containing the 1,4-naphthoquinone until the 1,4-naphthoquinone is substantially converted into naphthoquinone dichloride, the second stage comprising treating the naphthoquinone dichloride while contained in the reaction medium for dehydrochlorination to monochloro-naphthoquinone and further chlorination to 2,3-dichloro-1,4-naphthoquinone, the improvement of using as a catalyst hydrous $FeCl_3$ with an amount of water not less than that corresponding to 3 moles of water per mole of $FeCl_3$ present in the reaction medium, carrying out the first stage at a temperature below 45° C. and the second stage at a temperature above 60° C.

2,975,197
HALOGENATED PREGNADIENES
George R. Allen, Jr., Paramus, and Martin J. Weiss, Oradell, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed July 9, 1958, Ser. No. 747,330
6 Claims. (Cl. 260—397.45)

5. Compounds having the general formula:



in which R is selected from the group consisting of bromo, iodo and lower alkanoyloxy radicals and Hal is a halogen atom selected from the group consisting of bromine and iodine atoms.

2,975,198
LIPOIC ACID INTERMEDIATES
Lester J. Reed, Austin, Tex., assignor to Research Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed July 8, 1954, Ser. No. 442,419
1 Claim. (Cl. 260—399)

The method of making 6,8-dibenzylmercaptooctanoic acid which comprises heating a substance of the group consisting of acids of the formula

$$HalCH_2CH_2CHHal(CH_2)_4CO_2H$$

wherein Hal is selected from bromine and chlorine and the lower alkyl esters thereof with benzylmercaptan in the presence of an alkali metal compound of the group consisting of alkali metal hydroxides and alkali metal alcoholates.

2,975,199
OLEFIN SELF-ESTERIFICATION
Bernard S. Friedman, Chicago, and Sherwood M. Cotton, Harvey, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 2, 1959, Ser. No. 817,448
6 Claims. (Cl. 260—410.9)

1. A method for the production of self-esters which comprises reacting an unbranched monoolefin and carbon monoxide in the presence of an HF-water mixture containing at least about two moles of HF per mole of olefin and about 1 to 15% water at a temperature of about 10 to 200° F. and a pressure sufficient to maintain the liquid phase.

2,975,200
PREPARATION OF CUPROUS ALKYL MERCAPTIDES
Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 22, 1958, Ser. No. 736,965
15 Claims. (Cl. 260—438)

1. In the preparation of a cuprous alkyl mercaptide in which cuprous chloride and alkyl mercaptan are reacted, the improvement which comprises adding solid subdivided cuprous chloride to said alkyl mercaptan under substantially anhydrous conditions.

2,975,201
TRANSALCOHOLYSIS OF ALUMINUM ALKOXIDES
Frank H. Dickey, Long Beach, Calif., and Donald R. Napier and Warren W. Woods, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed May 13, 1959, Ser. No. 812,800
22 Claims. (Cl. 260—448)

1. In a process for the transalcoholysis of an aluminum alkoxide containing from 2 to 100 carbon atoms in each of the alkoxy groups, the improvement which comprises reacting said aluminum alkoxide with methyl alcohol, wherein the amount of said methyl alcohol is at least equal to the stoichiometric amount, in the presence of at least 56 moles of a solvent per mole of aluminum alkoxide, said solvent being selected from the group consisting of acetone, acetonitrile, and mixtures thereof, to form the corresponding alcohol and aluminum organic compound, removing said aluminum organic compound from the resulting mixture and then recovering the alcohol.

2,975,202
CYCLOSILOXANE POLYMERS
Robert Y. Mixer, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 31, 1955, Ser. No. 544,028
6 Claims. (Cl. 260—448.2)

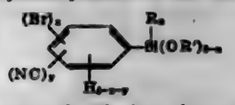
1. A polymeric substance selected from the group consisting of the compounds bis(ethylvinylsiloxane), bis(dimethylsiloxane) cyclic tetramer and ethylvinylsiloxane tris(dimethylsiloxane) cyclic tetramer, and mixtures of such compounds.

2,975,203
PHENYLVINYL-SUBSTITUTED CYCLIC SILOXANES
Donald L. Bailey, Snyder, and William T. Black, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 31, 1955, Ser. No. 544,030
4 Claims. (Cl. 260—448.2)

1. A polymeric substance selected from the group consisting of the compounds phenylvinylsiloxane bis(dimethylsiloxane) cyclic trimer, phenylvinylsiloxane tris(dimethylsiloxane) cyclic tetramer, and bis(phenylvinylsiloxane) bis(dimethylsiloxane) cyclic tetramer.

2,975,204
(CYANOPHENYL)ALKOXYSILANES
Enrico J. Pepe, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 17, 1958, Ser. No. 774,077
19 Claims. (Cl. 260—448.8)

1. Cyanophenylalkoxysilanes of the formula:



wherein R is a monovalent hydrocarbon radical, R' is an alkyl group, n is an integer of from 0 to 2, x is an integer having a value of from 0 to 4, y is an integer having a value of from 1 to 3 and the sum of $x+y$ not exceeding 5.

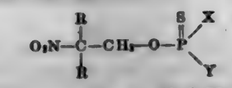
2,975,205
PROCESS FOR PREPARING COMPLEX METAL SALTS OF OXIDIZED PETROLEUM OILS
Stanley J. Lacki, Camden, N.J., assignor to Socony Mobil Oil Company Inc., a corporation of New York
No Drawing. Filed May 28, 1958, Ser. No. 738,288
11 Claims. (Cl. 260—452)

1. The process for preparing a complex metal salt of an oxidized petroleum oil which comprises (1) forming a mixture comprising (a) a petroleum oil having an average molecular weight of from about 300 to about 1000 and (b) from about 2% to about 25%, based on the weight of said oil, of a hydroxide of a metal of group II of the periodic table of the elements, (2) contacting said mixture with an oxidizing gas at a temperature of from about 250° F. to about 600° F., and for a time sufficient to effect oxidation of said oil and reaction of from about 5% to about 85% of said metal hydroxide with the oxidized oil, (3) providing a mixture comprising the oxidized oil-metal hydroxide reaction product produced in step 2, a metal hydroxide of a metal of group II of the periodic table of the elements, in an amount ranging from about 2% to about 25%, based upon the weight of said oil used in step 1 to prepare the amount of reaction product from step 2 which is used in step 3, and from about 2% to about 50% of water, based upon the weight of the mixture of the oxidized oil-metal hydroxide reaction product and metal hydroxide so provided, at a temperature below the boiling point of water, (4) substantially completely dehydrating the mixture formed in step 3 and (5) subjecting the dehydrated mixture from step 3 to filtration to separate the complex metal salt product.

2,975,206
WITHDRAWN

2,975,207
O-NITROALKYL PHOSPHOROAMIDOTHIOATES
Fred W. Ratlis, Memphis, Tenn., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 18, 1959, Ser. No. 860,310
4 Claims. (Cl. 260—461)

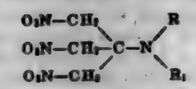
1. The O-nitroalkyl phosphoroamidothioates corresponding with the formula



wherein each R represents lower alkyl, X represents lower alkyl amino and Y represents a member of the group consisting of lower alkoxy and lower alkyl amino.

2,975,208
POLY-NITRATE ESTERS AND SALTS THEREOF
Gordon S. Myers, St. Laurent, Quebec, and Stanley O. Winthrop, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 18, 1959, Ser. No. 821,118
5 Claims. (Cl. 260—467)

1. A therapeutic compound selected from the group consisting of a 2-amino-2-nitroxymethyl-1,3-propanediol dinitrate and pharmacologically acceptable mineral acid-addition salts thereof, said amino compound having the general formula



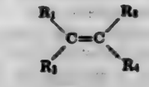
wherein R and R_1 each stands for a member of the group consisting of hydrogen and an alkyl of 1 to 12 carbon atoms.

2,975,209
PREPARATION OF DIALKYL ESTERS OF TEREPHTHALIC ACID
Jan A. Bos and Harm N. Mulder, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed Apr. 4, 1957, Ser. No. 650,548
1 Claim. (Cl. 260—475)

In a process for the production of dimethyl terephthalate from methanol and terephthalic acid in which process more than 2 mols of methanol are used per mol of terephthalic acid and in which process a suspension of solid terephthalic acid in liquid methanol in admixture with a liquid catalyst selected from the group consisting of sulfuric acid and monomethyl sulfate is continuously passed into a reaction zone heated to a temperature of at least 100° C., the improvement comprising employing an amount of catalyst not over 100% by weight of the terephthalic acid present in said suspension, passing said suspension into a first reaction zone, allowing said terephthalic acid to react with said methanol while maintaining turbulence in the mixture in the absence of a gaseous phase under a pressure sufficient to maintain said methanol in a liquid phase at a temperature of 100 to 200° C. to form the monomethyl ester of terephthalic acid as a constituent of an entirely liquid reaction mixture in said first zone, continuously passing said liquid reaction mixture into a second zone, allowing said liquid reaction mixture in the absence of a gaseous phase to further react to form the dimethyl ester of terephthalic acid in said second zone, subsequently discharging the reaction mixture from said second zone, cooling the discharged reaction mixture to a temperature below 100° C. and separating solid dimethyl terephthalic acid from the reaction product, said reaction being completed in not over ten minutes.

2,975,210
ESTERIFICATION PROCESS COMPRISING REACTING A MONO OLEFIN WITH AN ACID ESTER
Louis O. Raether, Webster Groves, and Harry R. Gamrath, St. Louis, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 14, 1958, Ser. No. 721,354
20 Claims. (Cl. 260—475)

1. The method comprising reacting a mono-olefin of the structure,



wherein R_1, R_2, R_3 and R_4 are selected from the group consisting of hydrogen and saturated aliphatic hydrocarbon radicals, at least one of R_1, R_2, R_3 and R_4 is hydrogen and the total number of carbon atoms of R_1, R_2, R_3 and R_4 is at least 3, with an acid ester of the structure,

$$(HOOC)_m—R—(COOCH_2R')_n$$

wherein R is a polyvalent hydrocarbon radical free from aliphatic carbon to carbon unsaturation, R' is a saturated aliphatic hydrocarbon radical containing at least 3 carbon atoms, m is a whole number from 1 to 5, n is a whole number from 1 to 5, and the sum of $m+n$ is from 2 to 6.

2,975,211
PRODUCTION OF TRICHLOROBENZOIC ACID
Theodore A. Girard, Wayne Township, Passaic County, N.J., assignor to Heyden Newport Chemical Corporation, a corporation of Delaware
No Drawing. Filed Mar. 21, 1955, Ser. No. 495,782
9 Claims. (Cl. 260—523)

1. In the process of producing 2,3,6-trichlorobenzoic acid, the steps comprising hydrolyzing 2,3,6-trichlorobenzyl chloride with sodium hydroxide while dissolved in a solvent and in the presence of water to produce a trichlorobenzyl hydrolysate, and treating the trichlorobenzyl hydrolysate with 60–85% nitric acid to form 2,3,6-trichlorobenzoic acid, the amount of nitric acid being at least as large as 6 moles of nitric acid per mole of hydrolysate calculated as trichlorobenzyl alcohol.

2,975,212
NEW SULFONYL-UREAS AND PROCESS FOR THEIR PREPARATION

Hans Wagner and Walter Aumüller, Frankfurt am Main, Heinrich Ruschig, Bad Soden (Taunus), and Gerhard Korger, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Hochst, Germany, a company of Germany

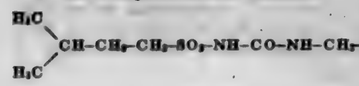
No Drawing. Filed May 1, 1957, Ser. No. 656,217
Claims priority, application Germany May 26, 1956
6 Claims. (Cl. 260—553)

1. A compound of the group consisting of sulfonyl ureas of the formula

$$R—SO_2—NH—CO—NH—R_1$$

wherein R is a member of the group consisting of alkyl, cycloalkyl and cycloalkylalkyl of 3 to 8 carbon atoms and R_1 is a member of the group consisting of straight chain alkoxyalkyl of up to 8 carbon atoms, straight chain alkylthioalkyl of up to 8 carbon atoms and tetrahydrofurfuryl and non-toxic basic salts thereof.

2. The compound of the formula



2,975,213
PRODUCTION OF DIALKYLIDENE-P-PHENYLENE-DIAMINES

Robert W. Layer, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed June 12, 1957, Ser. No. 665,113
3 Claims. (Cl. 260—566)

1. In the production of a N,N'-di-alkylidene-p-phenylenediamine in which the alkylidene group is selected from the class consisting of butylidene and octylidene radicals, the process which consists essentially in heating an admixture of p-phenylenediamine and a ketone selected from the class consisting of butanone and the octanones, at pressures ranging from a vacuum of around 50 mm. of mercury to substantially atmospheric pressure and at temperatures corresponding substantially to the boiling points of water at said pressures, removing from the reaction mixture the water of condensation as it is formed, continuing the heating until the reaction between the p-phenylenediamine and the ketone is from about 60% to 85% complete, then adding to the reaction mixture an aldehyde selected from the class consisting of butanal and octanal, continuing the heating and the removal of the water of condensation as it is formed, and recovering from the resulting admixture the N,N'-di-alkylidene-p-phenylenediamine.

2,975,214
PROCESS FOR THE MANUFACTURE OF PROTOCATECHUIC ALDEHYDE

Jonas Kamlet, New York, N.Y., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

No Drawing. Filed Mar. 5, 1959, Ser. No. 797,351
5 Claims. (Cl. 260—600)

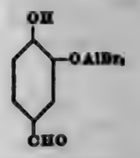
1. A process for the manufacture of protocatechuic aldehyde which comprises the steps of:

(*a*) reacting elemental aluminum with elemental bromine in the presence of a compound of general formula ArH to obtain a complex of general formula

$$Ar(Al_nBr_{3n-1})HBr$$

where Ar is the aryl portion of a member of the group consisting of benzene, toluene, meta-xylene, para-xylene, para-cymene, cumene, naphthalene, nitrobenzene, o-nitrotoluene, nitro-m-xylene, o-nitro-p-cymene, and *n* is an integer from one to five, at a temperature between 0° C. and 50° C.

(*b*) reacting 1.0 to 3.0 moles of said complex with *n* moles of vanillin at a temperature between 0° C. and 120° C. to form an intermediate product of formula:



(*c*) reacting said intermediate product with water and

(*d*) recovering protocatechuic aldehyde from the resultant reaction products.

2,975,215
PROCESS FOR THE PRODUCTION OF HIGHER BORON ALKYLS FROM BORON ALKYLS OF LOWER MOLECULAR WEIGHT

Karl Ziegler and Roland Köster, Mulheim-Ruhr, and Wolf-Rainer Kroll, Witten-Annen, Germany, assignors to Karl Ziegler, Mulheim-Ruhr, Germany

No Drawing. Filed Jan. 12, 1959, Ser. No. 786,832
Claims priority, application Germany Jan. 13, 1958
9 Claims. (Cl. 260—606.5)

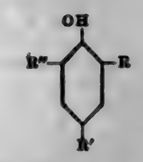
1. Process for the production of higher boron alkyls and derivatives thereof from boron alkyls of low molecular weight, which comprises reacting a boron alkyl with ethylene in the presence of a compound selected from the group consisting of aluminium trialkyls, aluminium dialkyl hydrides and aluminium hydride.

2,975,216
CATALYTIC ALKYLATION OF PHENOL

Ronald B. Specht, Kent, Ohio, assignor, by mesne assignments, to The Goodyear Tire & Rubber Company, a corporation of Ohio

No Drawing. Filed June 10, 1958, Ser. No. 741,007
4 Claims. (Cl. 260—624)

1. A method of preparing a mixture of alkyl phenols having the structural formula



wherein R is a radical selected from the group consisting of tertiary octyl, tertiary nonyl, tertiary butyl, and tertiary amyl radicals and R' is a radical selected from the group consisting of tertiary octyl and tertiary nonyl radicals and R'' is a radical selected from the group consisting of tertiary butyl and tertiary amyl radicals, which comprises first preparing a tertiary alkyl phenol containing 1 to 2 tertiary alkyl substituents selected from the group consisting of tertiary octyl and tertiary nonyl by alkylating one mol of phenol with at least one mol of at least one olefin selected from the group consisting of tertiary octenes and tertiary nonenes in the presence of from 0.5 to 10.0 percent by weight, based on the weight of reactants, of a catalyst comprised of a mixture of an acid-activated clay and sulfuric acid in a ratio of about 1 to 7 parts by weight of clay to 1 part by weight of acid at a temperature of 50° C. to 150° C. and then alkylating the alkylated product of the first step with at least one mol of at least one other olefin selected from the group consisting of isobutylene and tertiary amylenes in the presence of from 0.5 to 10.0 percent by weight, based on the weight of reactants, of a catalyst comprised of a mixture of an acid-activated clay and sulfuric acid in a ratio of about 1 to 7 parts by weight of acid at a temperature of 50° C. to 90° C., the total amount of olefin used being at least 3 mols per mol of phenol.

2,975,217
CATALYTIC ALKYLATION OF PHENOL

Ronald B. Specht, Kent, Ohio, assignor, by mesne assignments, to The Goodyear Tire & Rubber Company, a corporation of Ohio

No Drawing. Filed June 10, 1958, Ser. No. 741,019
2 Claims. (Cl. 260—624)

1. The method which comprises reacting phenol with from one to two moles of an olefin selected from the group consisting of tertiary octene and tertiary nonene in the presence of from 3 to 15 grams of acid-activated clay per mol of phenol at a temperature of from 50 to 150° C., adding from 0.1 to 1.0% by weight, based on the weight of the reactants, of sulfuric acid and further reacting the mixture with at least one mole of at least one other olefin selected from the group consisting of isobutylene and tertiary amylene at a temperature of from 50 to 90° C.

2,975,218
PRODUCTION OF DIALCOHOLS

Karl Büchner, Oberhausen-Sterkrade, and Otto Rosien, Oberhausen-Holten, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany

No Drawing. Filed Sept. 4, 1957, Ser. No. 681,905
Claims priority, application Germany Sept. 14, 1956
14 Claims. (Cl. 260—635)

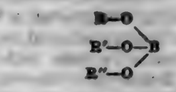
1. Process for the conversion of methylal-carboxylic acid into diols which comprises contacting a methylal-substituted mono-carboxylic fatty acid which has been obtained by subjecting an unsaturated fatty acid having from 18 to 22 carbon atoms in its molecule to the oxo synthesis and thereafter to a hydration treatment with water under pressure, with hydrogen in the presence of a nickel hydrogenation catalyst at a pressure between about 20 and 200 kg./sq. cm. at a temperature between about 200 and 220° C., removing the water which splits off and thereafter hydrogenating the ester formed in a second hydrogenation step by contacting with hydrogen at a temperature between about 280 and 300° C. and a pressure of about 300 kg./sq. cm. in the presence of a copper oxide, chromium oxide hydrogenation catalyst to thereby split the ester groups and form a diol.

2,975,219
STABILIZATION OF CHLORINATED HYDROCARBONS WITH BORATE ESTERS

Fred W. Starks, Kenmore, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 29, 1957, Ser. No. 699,485
7 Claims. (Cl. 260—652.5)

1. The method of stabilizing a chlorinated hydrocarbon selected from the group consisting of trichlorethylene and perchlorethylene which comprises dissolving therein 0.5–5% by weight of a borate ester of the formula



wherein R, R' and R'' are selected from the group consisting of lower alkyl radicals having 1 to 4 carbon atoms.

2,975,220
FLUORINATED ORGANIC COMPOUNDS

Murray Hauptschein, Glenside, and Milton Braid, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 13, 1958, Ser. No. 773,551
16 Claims. (Cl. 260—653.1)

1. Compounds of the general formula $R(CH_2CF_2)_nQ$ where Q is selected from the class consisting of halogen and hydrogen; where *n* is an integer, and where R is a halogenated radical having from 3 to 12 carbon atoms selected from the class consisting of $ACX_2—$,



and $ACX_2CHX—$ radicals, where X is selected from the class consisting of fluorine and chlorine, and A and B are alkyl radicals containing only elements selected from the class consisting of carbon, halogen and hydrogen.

2,975,221
POLYMERIZATION INHIBITOR

Marvin L. Owens, Jr., Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 17, 1959, Ser. No. 807,032
2 Claims. (Cl. 260—666.5)

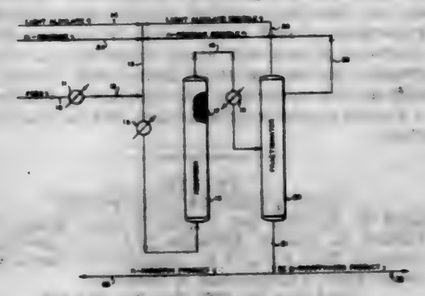
1. The method of preventing the polymerization of styrene which comprises incorporating therein an amount of tetracyanoethylene sufficient to inhibit polymerization.

2. A composition comprising styrene containing an amount of tetracyanoethylene sufficient to inhibit polymerization of said styrene.

2,975,222
DILUTION OF HIGH BOILING FEED IN ZEOLITIC MOLECULAR SIEVE

Robert A. Findlay, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 15, 1957, Ser. No. 678,311
13 Claims. (Cl. 260—676)



1. A method of removing straight-chain organic compounds from admixture with non-straight-chain organic compounds wherein said mixture has a dew point temperature above about 550° F., which comprises adding thereto a sufficient amount of a normally liquid, non-straight-chain organic compound having a dew point temperature below about 550° F. so that the resulting total mixture has a dew point temperature below about 550° F.; and contacting the resulting total vaporized mixture at a temperature below about 550° F. with a sufficient amount of a zeolitic molecular sieve to adsorb said straight-chain organic compound.

2,975,223

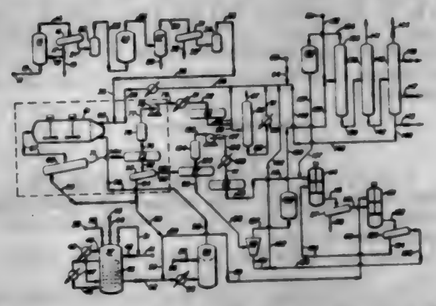
ALKYLATION PROCESS

Alan E. Roebuck, Dyer, Ind., and Bernard L. Evering, Chicago, and William W. Sanders, Crete, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 4, 1957, Ser. No. 700,602

2 Claims. (Cl. 260—683.53)

1. In an alkylation process wherein an isoparaffin and olefin are introduced into an alkylation reaction zone and therein intimately contacted in the liquid phase with an alkylation catalyst under alkylation reaction conditions thereby forming isoparaffin-olefin alkylation products, the improvement which comprises employing as the alkylation catalyst a liquid composition of aluminum chloride with dimethyl ether and diethyl ether, said catalyst containing a molar ratio of aluminum chloride to ether which is in excess of one, and the relative amounts of dimethyl ether to diethyl ether in the catalyst ranging between about 75% dimethyl ether and 25% diethyl



ether by volume to about 25% dimethyl ether and 75% diethyl ether by volume.

ELECTRICAL

2,975,224

METHOD AND APPARATUS FOR MELTING GLASS

Oscar G. Burch, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Continuation of application Ser. No. 459,588, Oct. 1, 1954. This application Feb. 27, 1959, Ser. No. 796,176

13 Claims. (Cl. 13—6)

1. The method of converting a mixture of basic glass making materials to a workable molten mass in a glass working tank having melting, fining and working areas which comprises the steps of initially feeding such a mixture to the melting portion of said tank, applying heat to said mixture during its progress through all said tank areas to form therefrom a molten mass of workable glass, said heat being applied to both exterior and interior portions of said mass during its progress through at least one of said tank areas, subjecting said mass to convection current agitation during said heating, and modifying and accelerating said agitation by introduction of a gaseous means beneath the area of admission of said mixture.

2,975,225

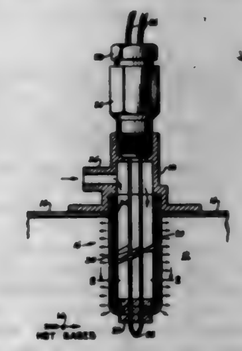
HIGH TEMPERATURE PROBE

Donald B. Barbieri and Eugene Becker, Bronx, N.Y., Thomas N. Dalton, Hillsdale, N.J., and Lawrence S. Galowin, Rego Park, N.Y., assignors to Curtiss-Wright Corporation, a corporation of Delaware

Filed May 24, 1957, Ser. No. 661,458

9 Claims. (Cl. 136—4)

1. A probe device for providing a signal of the temperature of a fluid; said device comprising an outer tubular sleeve exposed for contact with said fluid and having a multitude of small openings substantially uniformly distributed over its surface such that said sleeve is porous; support means connected to one end of said sleeve for supporting said device; a thermocouple junction secured to the other end of said sleeve for sensing the temperature of the fluid; electric wires connected to said thermocouple junction and disposed within and extending from said thermocouple junction to said supported end of the sleeve for transmitting a signal of said temperature; and passage means for supplying a cooling medium to said sleeve at its said supported end for flow of said cooling



medium outwardly through the pores of said sleeve into said fluid.

2,975,226

BATTERY HOLDER

Philip N. Lehr, Huntington, N.N.Y., assignor to Dictograph Products Inc., a corporation of Delaware

Filed Mar. 7, 1958, Ser. No. 719,960

7 Claims. (Cl. 136—173)



1. A battery holder device for an electrical assembly mounted within a casing, comprising a battery holder drawer for receiving a battery adapted to be selectively placed in electrical circuit relation with the electrical assembly and form a battery unit therewith, means for pivotally mounting said battery holder drawer about a fixed point within said casing to enable the battery holder drawer to assume at least three different selective positions relative to the casing, two of said positions being substantially within said casing, a third one of said positions being at least partially outside of said casing to facilitate replacement of said battery, selectively engageable locking means for maintaining said battery unit in a fixed one of said different selective positions within said casing wherein said battery is out of electrical circuit relation with the electrical assembly, an electrical contact segment mounted within said casing and selectively engaged by said battery when said battery unit is in another of said different positions within said casing to place the battery in electrical circuit relation with the electrical assembly, and second selectively engageable means for maintaining said battery unit in said another of said different positions.

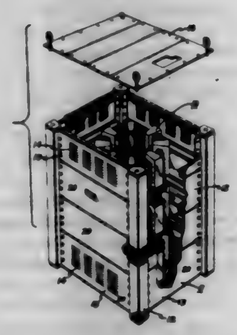
2,975,227

MEANS FOR ENCLOSING ELECTRICAL APPARATUS

Alfons M. Wister and Casimer J. Mikuszewski, Adams, Mass., assignors to General Electric Company, a corporation of New York

Filed Sept. 4, 1958, Ser. No. 759,002

3 Claims. (Cl. 174—52)



1. A panel for an enclosure for electrical apparatus comprising a metallic sheet of substantially uniform thickness having a rectangular central portion, a pair of opposite sides of said sheet having right angle bends defining an edge portion on each of said sides parallel to said central portion on the same side thereof and joined to said central portion by an intermediate portion perpendicular to said central portion, said edge portions extending in the same direction from said intermediate portions so that one edge portion overlaps said central portion and the other edge portion extends beyond said central portion, said one edge portion extending in a first plane and said other edge portion extending in a second plane, said second plane being spaced from said central portion by a greater distance than the distance between said central portion and said first plane, the relative difference between said greater distance and the last mentioned distance being more than the thickness of said metallic sheet, whereby when a plurality of such panels are aligned with their central portions in a given plane so that said other edge portion of one panel will overlap said one edge portion of an adjacent panel the other edge portion and the one edge portion of adjacent panels will be spaced apart a distance sufficient to provide an insulating air gap therebetween.

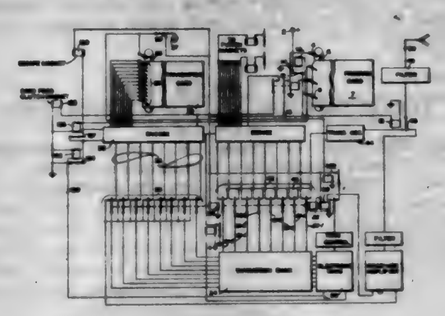
2,975,228

DATA TRANSMISSION SYSTEM

Charles R. Doty, Poughkeepsie, Roy J. Smith, Wappingers Falls, and Lawrence A. Tate and Vincent H. Cackowski, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 6, 1954, Ser. No. 460,662

17 Claims. (Cl. 178—3)



12. An apparatus for duplicating statistical cards comprising, a transmitting device having means for reading information in a record card one column at a time, a receiving device having means for punching a record card column by column in response to energization of its punch magnets, and a message transmission means interconnecting said transmitting and receiving devices to effect the duplication of the information contained in a record card located at said transmitting device into a second card located at said receiving device comprising, a plurality of transmitter switching devices, a timing means in said transmitting device, means operating in synchronism with said card reading means for effecting a single cycle operation of said timing means, said timing means sequentially conditioning said transmitter switching devices to complete circuits whereby data read from a record card is serially impressed as pulses on said transmission means, a plurality of switching devices in said receiving device, a timing means in said receiving device, and means responsive to an impulse over said transmission means for initiating a cycle of said timing means, said timing means sequentially conditioning said receiver switching devices to complete circuits whereby pulses received over said transmission means are available to selectively energize said punch magnets at said card punching means for duplicating column by column in said record card at said receiving device, the information contained in said record card at said transmitting device.

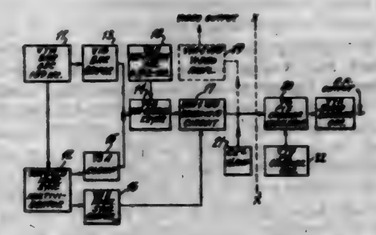
2,975,229

TELEVISION TEST APPARATUS

Steven Wlasuk, Brooklawn, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 30, 1954, Ser. No. 440,358

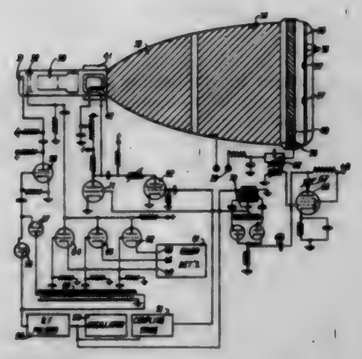
15 Claims. (Cl. 178—5.4)



15. The method of testing a color television receiver having color display means, color demodulator means

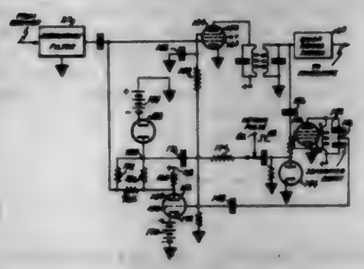
responsive to a phase modulated subcarrier wave to produce color signals for said display means, said color demodulator means having input means for said phase modulated subcarrier wave, said receiver having scanning means operative at a predetermined horizontal line frequency; comprising generating a signal of constant frequency $Y \pm nx$, where Y is the mean frequency of said subcarrier wave, n is an integer, and x is said horizontal line frequency, and applying said constant frequency signal to said demodulator input means to display a color spectrum.

2,975,230
COLOR TELEVISION BEAM REGISTRATION SYSTEM
Kurt Schlesinger, La Grange, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 21, 1955, Ser. No. 489,381
6 Claims. (Cl. 178—5.4)



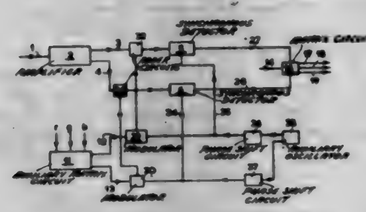
1. A system for displaying images in color including a tube having a viewing face and means within said tube for producing a beam of electrons which strikes said face, phosphor means including horizontal strip-like portions positioned on the inside of said face, a conductive sheet positioned on said phosphor means, said portions being arranged in groups with the portions in each group producing different predetermined colors, a grid structure deposited on said conductive sheet formed of material which produces more secondary emission than said conductive sheet, said grid structure including horizontal portions spaced between said groups of phosphor portions, a collector electrode adjacent said tube face for collecting secondary emission from said grid structure, means for deflecting said beam across said phosphor means producing horizontal deflection at a first frequency and vertical deflection at a second higher frequency providing oscillatory movement of said beam having an amplitude to sweep across a group of phosphor portions and the adjacent grid portions, gating means for applying signals to said beam producing means representing said predetermined colors in coincidence with movement of said beam across phosphor portions which produce the corresponding colors, said gating means including a portion applying reference signals to said beam producing means only at the times said beam impinges said horizontal grid portions when said beam is in proper registry therewith, and feedback means connected to said collector electrode and responsive to the secondary emission from said grid structure produced by said reference signals, said feedback means being coupled to said beam deflecting means to vary the vertical position of said beam with respect to said horizontal portions of said grid structure in accordance with the secondary emission therefrom.

2,975,231
DELAYED ACTION COLOR KILLER AND AUTOMATIC CHROMA CONTROL CIRCUIT
Roland N. Rhodes, Levittown, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,664
19 Claims. (Cl. 178—5.4)



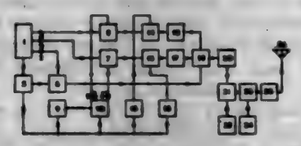
9. In a color television receiver for receiving and transducing standard radio broadcast television signals of both the monochrome and color types into visible color television images of the monochrome color type, said color type television signal being distinguished from said monochrome type television signals by the inclusion therein of a periodically recurrent burst component and a color information component, the combination of: receiving means for receiving and detecting said broadcast television signals to produce a video signal which during reception of a color type television signal includes a luminance, chrominance and burst component; a luminance channel means operatively coupled with said receiving means for processing both monochrome video signals and the luminance component of color type video signals; a chrominance channel means operatively coupled with said receiving means for processing the chrominance and burst components of color type video signals; means operatively coupled with said chrominance channel for separating said burst component from chrominance component signals after being processed through at least a portion of said chrominance channel means; a vacuum tube amplifier device having at least a first and second direct current voltage responsive gain control electrodes and at least a cathode electrode; means operatively including said amplifier device in said chrominance channel for controlling at least the gain of the said portion of said chrominance channel means; burst rectifying means operatively coupled with the output of said separating means for developing a first direct current control voltage representing the amplitude of received burst component; means operatively applying said first control voltage to said first electrode in automatic chroma control relation thereto; means responsive to said first control voltage and including threshold apparatus to develop a second control voltage only upon the condition of said first control voltage reaching a value corresponding to a discrete minimum amplitude of received burst component; means operatively coupling said second control voltage to said second control electrode in an electrical sense reducing the gain of said chrominance channel means to a value preventing useful color image reproduction by said receiver; a source of keying signal synchronously related to those time periods during which burst component is received during a color television transmission; a voltage responsive attenuating means operatively coupling said keying signal source with said second control electrode for conditionally applying keying signals thereto; and means operatively applying said second control voltage to said attenuating means to effectuate application of keying signals to said second control electrode during reception of signals having no burst component above said minimum amplitude.

2,975,232
CIRCUIT ARRANGEMENT FOR CORRECTING THE WHITE LEVEL IN A COLOR TELEVISION RECEIVER
Hendrik Breimer, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 18, 1958, Ser. No. 749,549
Claims priority, application Netherlands Aug. 24, 1957
10 Claims. (Cl. 178—5.4)



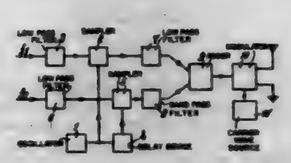
7. A system for correcting the white level in a color television receiver of the type adapted to receive a pair of complex color signals modulated on a subcarrier and having a relative phase shift of 90°, said system comprising synchronous detector means for detecting said color signals, first matrix means connected to the output circuits of said detector means to combine the outputs thereof for providing color output signals having a predetermined linear relationship with respect to said complex color signals, auxiliary matrix means, a source of information signals connected to the input circuit of said auxiliary matrix means to provide a pair of third output signals, means modulating auxiliary oscillations having a relative phase difference of 90° with said third output signals, and means separately combining the modulated oscillations with said complex color signals, said auxiliary matrix means proportioned to provide the same linear relationship between said third output signals and said information signals that exists between said complex color signals and said color output signals.

2,975,233
TRANSMISSION SYSTEM FOR TELEVISION SIGNALS
Kees Teer, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 27, 1956, Ser. No. 594,151
Claims priority, application Netherlands July 11, 1955
12 Claims. (Cl. 178—5.4)



1. A television system comprising a transmitter and a receiver, said transmitter comprising sources of at least two television signals, sources of at least two auxiliary carrier waves of different frequency, at least two channels each including means for modulating a separate one of said carrier waves with a different one of said television signals, means for producing synchronizing pulses having back porches which occur at periodic intervals, a source of a first constant-amplitude alternating reference signal, said first reference signal occurring during the occurrence of some of said back porches and having a first frequency corresponding substantially to the frequency of the auxiliary carrier associated with a first one of said channels, a source of a second constant-amplitude alternating reference signal, said second reference signal occurring during the occurrence of some of said back porches other than the back porches during which said first reference signal occurs and having a second frequency different from said first frequency corresponding substantially to the frequency of the auxiliary carrier associated with a second one of said channels, means for combining said modulated carrier waves and said first and second reference signals thereby to produce a resultant wave, means for transmitting said resultant wave to said receiver, said receiver comprising means for amplifying said modulated auxiliary carrier waves, means for detecting said auxiliary carrier waves thereby to recover said television signals, and an automatic gain control means for controlling the intensity of said recovered television signals in accordance with the respective amplitudes of said reference signals.

2,975,234
MULTIPLEX TRANSMISSION SYSTEM FOR TELEVISION SIGNALS
Louis Le Blan, Paris, France, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 9, 1955, Ser. No. 507,853
Claims priority, application France May 10, 1954
10 Claims. (Cl. 178—6)

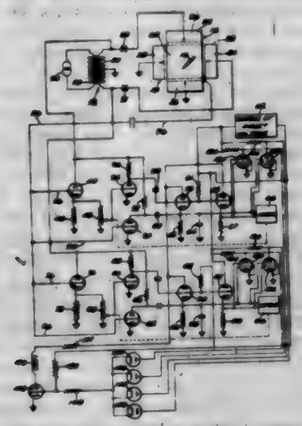


5. A transmitter for use in a multiplex transmission system for television video signals, comprising means for producing a first dotting signal having a constant repetition frequency, sampler means for dotting said video signals with said dotting signal, means for limiting the bandwidth of one of said dotted signals to a first frequency range lying substantially between zero and one-half of said repetition frequency, means for limiting the bandwidth of the other of said dotted signals to a second frequency range lying substantially between one-half of said repetition frequency and said repetition frequency, and means for combining the dotted signals thus limited in bandwidth.

2,975,235
TELESCRIBING APPARATUS
Richard G. Leitner, Los Angeles, and James A. Maine, Whittier, Calif., assignors to Telautograph Corporation, Los Angeles, Calif., a corporation of Virginia
Filed Oct. 17, 1955, Ser. No. 540,681
11 Claims. (Cl. 178—18)

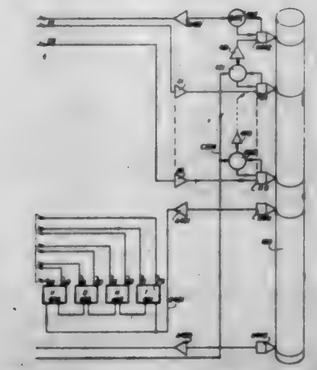
7. In combination with a stylus at a transmitting station, means for providing first signal indications representing displacements of the transmitting stylus, a stylus at a receiving station, means for providing displacements of the receiving stylus in accordance with the movements of the transmitting stylus, and means for record-

ing the disposition of the receiving stylus only when the disposition of the receiving stylus corresponds to the



disposition of the transmitting stylus within particular limits.

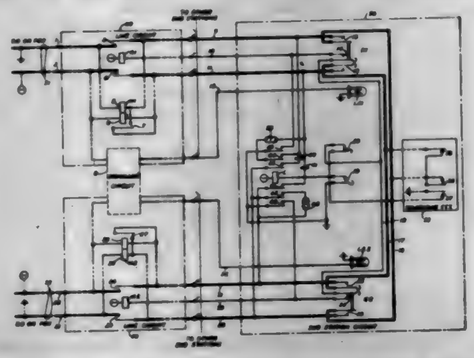
2,975,236
MAGNETIC DRUM STORAGE
Edward J. Glesmer and Imre Molnar, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed June 25, 1957, Ser. No. 667,788
7 Claims. (Cl. 179—18)



5. A telephone system comprising a multiple digit register, a plurality of digit initiating stations and a transmission network, said digit register comprising a magnetizable cylindrical surface rotating at a constant predetermined speed, each of said stations having allocated thereto a plurality of specific locations on said cylindrical surface, means at a first of said stations for sequentially initiating a series of digits, means in said register for causing each of said digits to be stored on a single separate rotation of said cylindrical surface, means responsive to a digit having been stored for transmitting each of said digits as a series of interrupted direct current pulses.

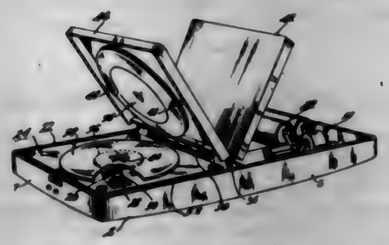
2,975,237
TELEPHONE CONFERENCE CIRCUIT
Henry H. Abbott, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 23, 1959, Ser. No. 861,542
9 Claims. (Cl. 179—99)

1. In a telephone system, a substation having a substation circuit, a first and a second line terminating at said substation, a first and a second key for connecting said respective first and second lines to said circuit, a primary and a secondary holding means individual to each of said lines and effective to place holding conditions thereon, means associated with each of said lines for controlling the primary holding means individual thereto, means at said substation for causing said latter



means to render effective the said primary holding means individual to a connected one of said lines, a conference key at said substation, and conference circuit means operable under the control of said conference key for interconnecting said first and second lines, for rendering effective said secondary holding means, and for causing said controlling means to render ineffective said primary holding means.

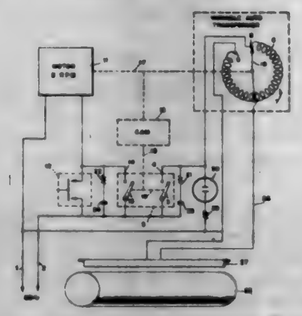
2,975,238
PORTABLE DISK-TYPE MAGNETIC RECORDING APPARATUS
Loren F. Jones, Philadelphia, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 30, 1954, Ser. No. 459,481
2 Claims. (Cl. 179—100.2)



1. A magnetic recording-reproducing apparatus for using magnetic disk records comprising a unitary housing member having a front wall, a back wall, end walls and side walls, said housing being divided into a first internal compartment and a second internal compartment, said front wall having an opening therein, an acoustic transducer mounted in said first compartment of said housing member behind said opening, an amplifier circuit, a battery for powering said amplifier circuit, said amplifier circuit and battery being mounted in said first compartment with said acoustic transducer, a panel in said second compartment disposed between said front and said back walls, means disposed on one side of said panel for receiving one of said disk records in parallel spaced relationship with said panel, a motor for driving said one disk record, said motor being disposed in said second compartment and mounted on said panel, a magnetic head, and a transducer arm having said magnetic head attached to one end thereof, said arm and head

being mounted in said housing on the opposite side of said panel, said panel having an opening therein immediately adjacent said record, said arm being pivotally mounted in said housing with said head projecting through said opening in position to cooperatively engage said one magnetic disk record, and a switch mounted in said housing and connectable to said transducer and to said amplifier circuit, said switch being operative to connect said acoustic transducer in the input of said amplifier circuit and to connect said magnetic head in the output of said amplifier circuit to condition said apparatus for recording, said switch being also operative to connect said acoustic transducer in the output of said amplifier circuit and to connect said magnetic head in the input of said amplifier circuit to condition said apparatus for reproducing, and said motor being conjointly operable with said switch to cause rotation of said one disk record when said switch is conditioned for either recording or for reproducing.

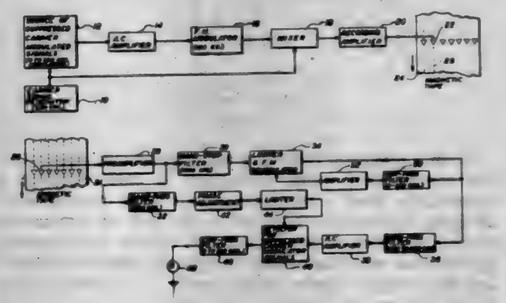
2,975,239
ELECTROMAGNETIC ERASER
Chauncey D. Jackson, Poughkeepsie, William L. Batchelor, Fishkill, and Donald B. Thompson, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1954, Ser. No. 477,553
17 Claims. (Cl. 179—100.2)



1. A system adapted to erase a magnetic record member of the continuous loop type while maintaining the normal rotational speed of said record member comprising a source of current, means for progressively diminishing said current, an erasing device coupled to said current source and positioned adjacent to said record member, said erasing device including means responsive to said current for producing progressively diminishing alternating flux patterns and means for providing multiple rotation of said record member through the influence of said progressively diminishing alternating flux patterns whereby each elemental area of said record member is subjected to successive magnetic field reversals of generally decreasing intensity until each of said elemental areas is magnetically neutralized.

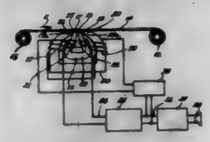
2,975,240
FLUTTER CORRECTING CIRCUIT FOR MAGNETIC PLAYBACK SYSTEM
Clifford E. Berry, Altadena, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed July 18, 1955, Ser. No. 522,696
8 Claims. (Cl. 179—100.2)

1. In apparatus for reproducing intelligence wherein a carrier reference signal and a suppressed-carrier signal which is modulated in accordance with the intelligence to be reproduced are recorded magnetically along the same channel of a recording medium, with at least the suppressed-carrier signal being recorded in the form of a frequency-modulated signal, and having playback apparatus including demodulating means for demodulating the frequency-modulated signals which are derived from the recording medium, the improvement which comprises frequency-responsive means including filters coupled to the output of the demodulating means for separating the suppressed-carrier signal from any noise signals



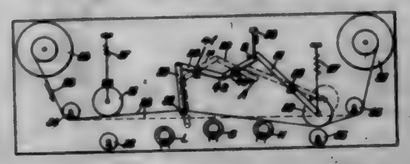
having frequencies in the range of normal rates of speed variation in the tape, and means coupled to the noise signal output of the frequency-responsive means for adjusting the magnitude of the signals which are provided by the demodulating means inversely with changes in the magitude of the signals which are provided by the frequency-responsive means to compensate for amplitude changes in the output of the demodulating means with changes in the speed of the recording medium.

2,975,241
MEANS FOR COUNTERACTING SHUNT RELUCTANCE OF A TRANSDUCER HEAD GAP
Marvin Camras, Glencoe, Ill., assignor to Armour Research Foundation of Illinois Institute of Technology, Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1956, Ser. No. 627,919
28 Claims. (Cl. 179—100.2)



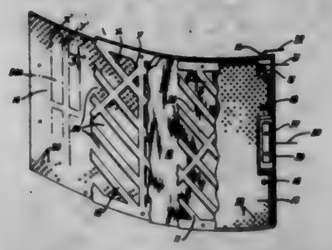
1. A magnetic transducing structure for cooperation with a magnetizable record medium to translate a signal of signal frequency between an electric and a magnetic form comprising a transducer head having a magnetic signal flux path for magnetic signal flux and having an electric signal current path for an electric signal operatively associated therewith, means for coupling the magnetic signal flux path of said head with the magnetizable record medium at a transducing region, means whereby said transducer head is operative to translate a signal between an electric form at said electric signal current path and a magnetic form at said magnetic signal flux path, and auxiliary means operatively associated with said transducer head for producing a signal frequency auxiliary magnetic field varying in accordance with said signal and impinging on said transducer head at a region separate from said transducing region to effectively alter the transducing characteristics of said head.

2,975,242
DRIVE MECHANISM FOR MAGNETIC RECORDING DECK
Georg Fischer and Hans-Georg Lange, Wedel, Holstein, and Werner Diese, Hamburg-Blankenese, Germany, assignors to Telefunken G.m.b.H., Berlin, Germany
Filed Dec. 8, 1958, Ser. No. 778,973
Claims priority, application Germany Dec. 18, 1957
5 Claims. (Cl. 179—100.2)



1. In a magnetic recording and reproducing apparatus, the combination which comprises: a deck carrying a reproducing head, a recording head and an erasing head, all lying substantially adjacent to the path of a magnetic carrier; a power driven capstan for driving the magnetic carrier past said heads; idler means for normally directing the magnetic carrier along a path out of contact with said heads and said capstan; and pressure means cooperating with the magnetic carrier and being positionable in an inoperative position wherein the magnetic carrier is out of contact with said heads and said capstan, at least one operative drive position wherein the magnetic carrier is in contact with at least said reproducing head and said capstan, and an intermediate position wherein the magnetic carrier is in contact at least with said reproducing head but out of contact with said capstan.

2,975,243
TRANSDUCERS
Albert J. Kotelly, Riverside, N.J., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 17, 1958, Ser. No. 709,690
8 Claims. (Cl. 179—111)



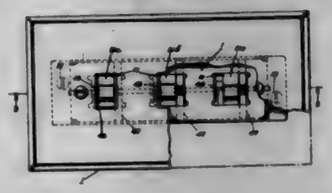
1. In an electro-acoustic transducer: a backing structure having a convex curved surface; spacer means curved along and spirally extended across said surface at distances from one another; and vibratory membrane means tensioned on said spacer means over said surface.

2,975,244
CARRIER FOR EAR LEVEL HEARING AID
Phillip N. Lehr, Huntington, N.Y., assignor to Dictograph Products, Inc., a corporation of Delaware
Filed Mar. 19, 1958, Ser. No. 722,695
4 Claims. (Cl. 179—156)

1. A hearing aid instrument carrier for supporting a hearing aid instrument adjacent to the back of the outer ear of the intended wearer and at ear level, said carrier having a main body portion with a recess therein for receiving said hearing aid instrument, the surfaces of said main body portion intended to lie contiguous with said head and ear of the intended wearer having a configuration conforming to the configuration of the portions of the wearer's head and ear with which they are to be contiguous, and an extending portion adapted to pass forwardly over the space between the outwardly protruding portion of the outer ear and the wearer's head and detachably engage a portion of the ear, said extending portion being comprised of a material having sufficient rigidity to maintain the hearing aid instrument in substantially fixed relation to the wearer's head notwithstanding movement of the wearer's head.

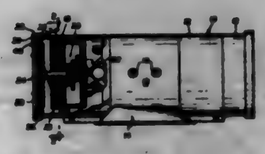


2,975,245
ROCKER-OPERATED SWITCH
Stewart A. Woodward, Stratford, Conn., assignor to General Electric Company, a corporation of New York
Filed Dec. 1, 1959, Ser. No. 856,565
6 Claims. (Cl. 200—5)



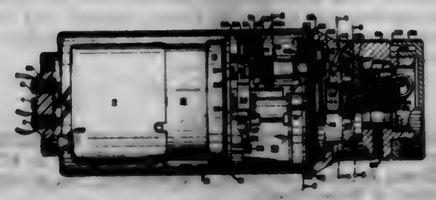
1. A rocker-operated electric switch comprising a multiple pushbutton type switch having a plurality of contacts, means including a plurality of parallel pushrods for operating said contacts, and an interlocking mechanism for preventing the simultaneous operation of any other pushrods when one pushrod is depressed; and means for operating said pushrods including a lateral extension formed on the outer end of each pushrod of at least one pair of adjacent pushrods, the extensions of said pair of pushrods extending in opposite directions and being coplanar when each pushrod of said pair is in its outermost position, and rocker means pivotally mounted above said extensions and engageable therewith for selectively depressing one or the other of the pushrods of said pair.

2,975,246
SWITCHING MECHANISMS
George J. Lynch, Bloomfield, and George Golick, Cedar Grove, N.J., assignors to Mycalex Electronics Corporation, Clifton, N.J., a corporation of New York
Filed Mar. 28, 1957, Ser. No. 649,159
12 Claims. (Cl. 200—24)



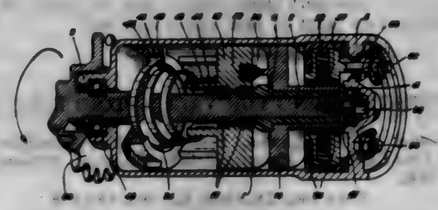
12. In an automatic switching mechanism, a slip ring having a front surface provided with a slot therein extending transversely thereof, said slot being of a predetermined width, and a brush engageable with said front surface of said slip ring and being movable relative thereto, the dimension of said brush in the direction of relative movement being about 1.85 times said predetermined width of said slot.

2,975,247
TIME DELAY RELAY
Bernard E. Fackler, Waterbury, and George B. Soden, Wolcott, Conn., assignors to Consolidated Electronics Industries Corp., Waterbury, Conn., a corporation of Delaware
Filed Apr. 27, 1955, Ser. No. 504,254
8 Claims. (Cl. 200—38)



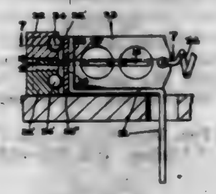
1. In a timing device, a single pole double throw switch comprising an insulating support, a fixed contact supported on said insulating support, two contacts on a common conductor supported on said insulating support, one of said contacts being arranged to cooperate with said fixed contact, said cooperating contacts constituting a first pair, a bell crank rotatably mounted on the insulating support, a movable contact mounted on one arm of the bell crank, the other arm of said bell crank providing an actuating lever, said movable contact being arranged to cooperate with the other of said two contacts on the common conductor, said cooperating contacts constituting a second pair, resilient means acting on the common conductor and urging one pair of contacts closed in such a way that rotation of the bell crank will exert an opposing pressure on the common conductor in contacting the second pair of contacts in order to close the normally open pair of contacts and to open the normally closed pair of contacts, and a rotatable actuator movable in timed relation into contact with said actuating lever, said actuating lever lying substantially directly in the path of movement of said rotatable actuator.

2,975,248
INERTIA RESPONSIVE SWITCH
Rene Lacles, Neuilly-sur-Seine, France
Filed Nov. 13, 1958, Ser. No. 773,717
Claims priority, application France July 21, 1958
12 Claims. (Cl. 200—61.46)



1. An inertia responsive apparatus comprising a casing, a shaft rotatable in the casing, an inertia responsive switch on and electrically connected with the shaft said switch including a member extending along but electrically isolated from said shaft, at least one brush radially disposed with respect to and frictionally and electrically engaging said member, a ball bearing on the casing and supporting the shaft for rotation, a terminal device on the casing coaxially disposed with respect to the shaft, and a spring-loaded plunger device in an end of the shaft and coaxial therewith for engaging the terminal device to provide an electrical circuit between the terminal device and switch.

2,975,249
SNAP-ACTION SWITCH
Lindsay C. Friend, Lutherville, Md., assignor to The Bendix Corporation, Towson, Md., a corporation of Delaware
Filed May 4, 1960, Ser. No. 26,749
8 Claims. (Cl. 200—67)



3. In a switch, a pair of spaced contacts, a switching member such as a switch blade having contact surfaces adapted to coact with said spaced contacts, means mounting said blade for limited pivotal movement about a fixed pivot point to alternate contact positions, a switch throw link and coacting spring member mounted to tilt bodily in a plane substantially parallel to the plane of movement of said blade, coacting friction surfaces carried by said blade and link, said spring member functioning to set up a frictional braking engagement between said surfaces to stabilize the blade, means for applying a tilting force on said link to tilt the latter, stop means so located that when the link and its spring have been tilted to a given throw angle the frictional brake is relieved, and a spring arranged to snap said blade to contact-engaging position when the blade is unbraked.

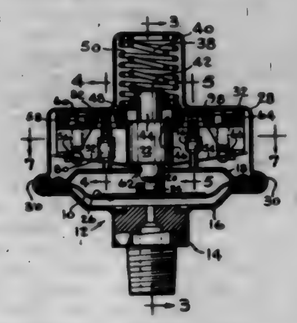
2,975,250
SWITCH
Jasper Long and Edward John Laete, Sturgis, Mich., assignors to Wade Electric Products Co., Sturgis, Mich., a corporation of Michigan
Filed June 3, 1957, Ser. No. 663,127
7 Claims. (Cl. 200—67)



1. In an electrical switch, an insulator housing having terminal receiving apertures therein, stationary metal contact means carried by the housing and including at least one spade terminal element which is snapped into and interlocked with one of said apertures and which projects upwardly within a cavity in the housing, pivot support means including pivot steps integrally formed at opposite side walls of the housing cavity, metal rocker contact means having laterally projecting wing portions supported on said pivot steps and pivotally movable in opposite directions within said cavity to make and break contact with said stationary contact means, toggle actuating means pivotally supported on the housing and having a

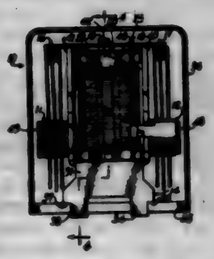
spring biased insulator plunger for pivoting the rocker contact means in said opposite directions, said one spade terminal element being insertable in said one aperture of the housing from the exterior of the housing after the rocker contact means is positioned on said pivot support means by the toggle actuating means to lift one of said wing portions above the pivot step associated therewith to pivotally support said one wing portion and remain in continuous electrical contact with said rocker contact means, the other wing portion remaining pivotally supported on the pivot step associated therewith.

2,975,251
PRESSURE SWITCH
Wilbert E. Beller, Park Ridge, and Edwin A. Ostrowski, Mount Prospect, Ill., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Feb. 20, 1958, Ser. No. 716,361
6 Claims. (Cl. 200—83)



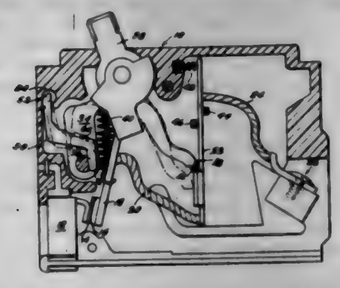
1. A pressure actuated switch mechanism comprising, a housing including a pressure chamber including a diaphragm, a plunger actuated by the diaphragm, a loading spring acting on the plunger to oppose the pressure, a second loading spring engageable with the plunger only after the plunger has moved a predetermined distance whereby further movement of the plunger requires a higher pressure in said chamber, and switch means actuated by the plunger, said switch means including switch actuating means receiving motion from the plunger, the actuating means having a lost motion connection to the plunger and including stop means effective to prevent continued motion of the actuating means when such continued motion would overload the switch means.

2,975,252
RELAY
Wilhelm Jeptner, Elgin, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 9, 1957, Ser. No. 677,275
7 Claims. (Cl. 200—93)



1. A polarized relay comprising a nonmagnetic, channel-shaped frame, first and second C-shaped heel pieces spatially arranged in side-by-side relationship within said frame, a permanent magnet interposed between said heel pieces for oppositely polarizing said heel pieces, a nonmagnetic armature and coil support member mounted by said heel pieces between respectively adjacent arms thereof, a coil mounted on and surrounding said support member, an armature pivotally supported intermediate the ends thereof in said support member, one end of said armature extending outwardly beyond the end of said support member, an apertured spring secured between the flanges of said frame, said one end of said armature extending loosely through the aperture in said spring for unrestricted movement by said spring, a nonconductive connector plate interconnected between said one end of said armature and a movable contact element, and a flat spring interposed between one flange of said housing and one of said pole pieces.

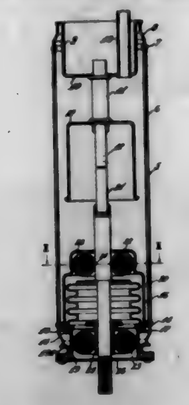
2,975,253
CONTACT ARM KICKER FOR CIRCUIT BREAKERS
Onyp Nizyiowycz, Philadelphia, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 21, 1958, Ser. No. 749,694
10 Claims. (Cl. 200—116)



1. In a molded case circuit breaker having a movable contact means and an operating mechanism therefor; a kicker member; said kicker member having a first end positioned adjacent a first portion of said movable contact means and a second end movable with respect to and positioned adjacent to a relatively stationary guide member to allow sliding motion between said kicker member and said stationary guide member; an intermediate point of said kicker member being carried by a movable portion of said operating mechanism, said first end of said kicker member being moved towards engagement with said movable contact means when said operating mechanism operates said movable contact means; the motion of said first end of said kicker member being controlled by said relatively stationary guide member and the motion of said intermediate point of said kicker member.

2,975,254
SPRING BEARING FOR VACUUMIZED ELECTRIC DEVICES
Samuel T. Yanagisawa, Westport, Conn., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 25, 1958, Ser. No. 744,478
13 Claims. (Cl. 200—144)

1. In a device embodying an envelope having a member extending through an opening in one end thereof, means for supporting said member for movement in directions inwardly and outwardly of said envelope comprising an annular retainer connected in a vacuum tight seal to said envelope around said member, a bellows connected by a vacuum tight seal to said retainer and connected by a vacuum tight seal to said member, and a roll spring mounted within said retainer in an encircling relation to said member and adapted to roll within and axial of said retainer upon movement of said member and to restrain said member from substantial lateral displacement.



2,975,255
VACUUM CIRCUIT INTERRUPTERS
James M. Lafferty, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 24, 1958, Ser. No. 750,614
6 Claims. (Cl. 200—144)



1. A vacuum alternating current circuit interrupter comprising; an evacuable envelope evacuated to a pressure lower than 10^{-4} mm. of mercury; a pair of electrical terminals adapted for connection in an alternating current circuit; a pair of electrodes located within said envelope, connected in circuit between said terminals and disposed in spaced-apart relationship during circuit interrupting operation to allow for the establishment of a circuit interrupting arc therebetween; each of said electrodes having a region on which the respective electrodes spots for a low current arc may be established, one of said electrode regions comprising an alloy selected from the group consisting of 10 to 35% by weight of bismuth the remainder being copper, 10 to 20% by weight of antimony the remainder being copper, 10 to 15% by weight antimony the remainder being silver and 10 to 20% by weight of bismuth the remainder being silver; said electrode regions being substantially free of all occluded and sorbed gases.

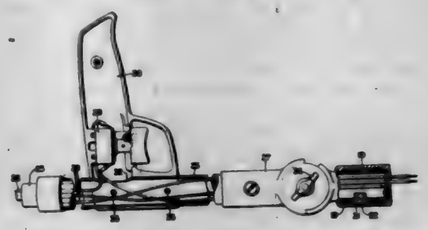
2,975,256
VACUUM TYPE CIRCUIT INTERRUPTER
Thomas H. Lee, Media, Pa., and James D. Cobine, Rexford, N.Y., assignors to General Electric Company, a corporation of New York
Filed July 24, 1958, Ser. No. 750,784
17 Claims. (Cl. 200—144)

1. An alternating current circuit interrupter of the vacuum-type comprising: an envelope evacuated to a pressure lower than 10^{-4} mm. of mercury; a pair of spaced apart terminals for connection to an alternating power circuit; a pair of electrodes located within said envelope, connected in circuit with said terminals, and disposed in spaced-apart relationship during a circuit-interrupting operation to allow for the establishment of a circuit-interrupting arc therebetween; each of said electrodes having a region on which the respective electrode spots for a low current arc are adapted to be maintained; each of said electrode regions being formed of a material having a vapor pressure less than 10^{-9} mm. of mercury at 500° K.; said material comprising a metal having a vapor pressure at least as great as that of tin at temperatures exceeding 2000° K.; said metal being present in sufficient quantity to hold the representative maximum current chopping level to no greater than 4 amperes when interrupting currents of less than 50 amperes peak value;



said electrode regions being free of sorbed gases and contaminants to such an extent that if placed in a vacuumized chamber a few litres in volume and then deeply eroded by repeated electric arcing the pressure level in said chamber a few cycles after arcing will remain at least as low as substantially its initial value, even in the absence of getters and pumps, and even if the initial pressure in the chamber is on the order of 10^{-6} mm. of mercury; said metal having a thermal conductivity substantially less than that of copper and silver if the metal is one having characteristic vapor pressures generally equalling or lower than those of silver for given temperatuers; and the chemical affinity of said material for oxygen being relatively low as compared to that of aluminum, magnesium, and calcium.

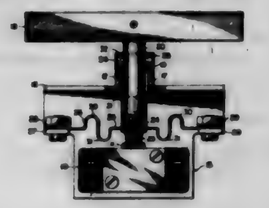
2,975,257
CONTROL HANDLE ASSEMBLY FOR LAWN TOOL
Reynold Happe, Princeton, and John P. Felix, South Bound Brook, N.J., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Oct. 16, 1958, Ser. No. 767,647
2 Claims. (Cl. 200—157)



1. A control handle for a portable electric tool adapted to be pushed over the ground, comprising a first elongated hollow handle portion secured at one end to said tool and formed at the other end with a strain relief bushing securing a power cord, electrical conductors traversing the interior of said hollow handle portion for connection between said power cord and said tool, a side aperture formed in said first handle portion, a second hollow handle portion forming a pistol grip secured at right angles to said first hollow handle portion to cover said side aperture, and a trigger switch contained within the

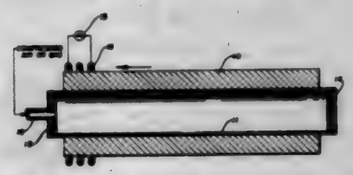
second handle portion and accessible from the interior of said first handle portion for electrical connection through said side aperture.

2,975,258
ACTUATING MECHANISM
William E. Higginbottom, West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 13, 1959, Ser. No. 786,622
10 Claims. (Cl. 200—172)



1. An actuating mechanism comprising: an elongated actuating shaft having one end by which it is actuated and an opposite end for actuating associated apparatus; and means mounting said shaft for reciprocal movements; said last means comprising a narrow fixed bearing embracing said shaft adjacent said one of its ends, an elongated flexible member secured transverse to the direction of movement of said shaft, and means connecting said opposite end of said shaft to said flexible member.

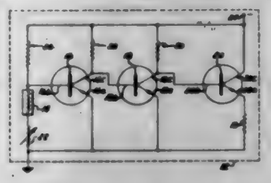
2,975,259
METHOD FOR BINDING LINERS TO TUBES
Harry B. Osborn, Jr., Cleveland, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 7, 1959, Ser. No. 785,447
3 Claims. (Cl. 219—9.5)



1. A method of bonding a non-ferrous liner to the inside of a steel tube which comprises the steps of inserting into a rigid steel tube a thin radially expandable liner which has a sliding fit therein, closing the ends of said liner in substantially fluid-tight fashion, and, with the liner slidably disposed in the tube and disconnected therefrom, introducing compressed fluid into the interior of the liner to expand the liner radially outward tightly against the inside of the tube, and moving the tube and liner lengthwise through an induction heater while maintaining fluid pressure inside the liner to hold the liner tightly against the inside of the tube as the tube and liner are heated progressively by the induction heater.

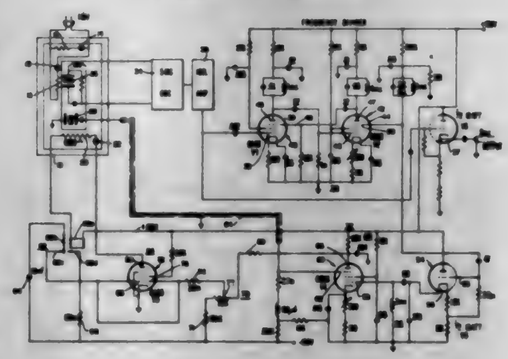
2,975,260
ELECTRICAL HEATER CONTROL CIRCUITS
Frank N. Carlson, Sierra Madre, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Apr. 14, 1958, Ser. No. 728,332
8 Claims. (Cl. 219—20)

1. In a heater control circuit for continuously maintaining the temperature of a body or chamber substantially at or above a predetermined temperature the combination which comprises a unit to be temperature controlled, an electrical heating element disposed in heat transfer relationship with said unit, means including a low power heat responsive element disposed in heat transfer relationship with said unit for providing an electrical control signal representative of the temperature of



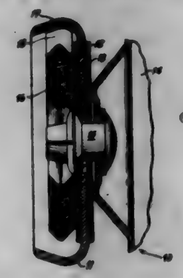
said unit, power transistor circuit means including input and output circuits therefor, means for directly connecting the heating element in series with the output circuit and means for directly applying the control signal to the input circuit whereby current through the heating element continually varies in accordance with said control signal to thereby regulate the temperature of the chamber at the predetermined temperature.

2,975,261
TEMPERATURE CONTROL SYSTEM
Harry J. Keen, Middletown, and Kay G. Sears, Keyport, N.J., assignors to Levelo Laboratories, Inc., Morganville, N.J., a corporation of New Jersey
Filed Sept. 11, 1958, Ser. No. 760,382
4 Claims. (Cl. 219—20)



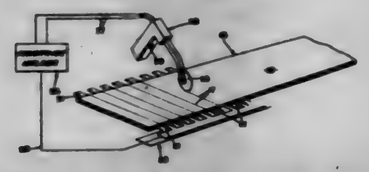
1. A constant temperature oven system comprising an oven, a coarse heating means associated with said oven, said coarse heating means including first and second coarse heating elements, a coarse-temperature-sensitive control means disposed in said chamber for controlling said coarse heating means, said coarse-temperature-sensitive control means including first and second coarse-temperature-sensitive control elements, said first coarse-temperature-sensitive control element deactivating said first coarse heating element at a first temperature, said second coarse-temperature-sensitive control element deactivating said second coarse heating element at a second and higher temperature, a first fine-temperature-sensitive control element operatively disposed with respect to said oven for generating a first signal having a first frequency related to the temperature of said oven, a second fine temperature sensitive control element operatively disposed with respect to said oven for generating a second signal having a second frequency related to the temperature of said oven, signal frequency comparison means responsive to said first and second fine temperature sensitive control elements for generating a third signal having an amplitude proportional to the difference in frequencies of said first and second signals, and a fine temperature heating means responsive to said signal frequency comparison means for generating heat at a rate proportional to the amplitude of said third signal, and means for deactivating said fine temperature heating means at a third higher temperature.

2,975,262
ELECTRICAL HEATING UNIT
Arthur W. Schnick, Meriden, Conn., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 16, 1953, Ser. No. 389,865
6 Claims. (Cl. 219—32)



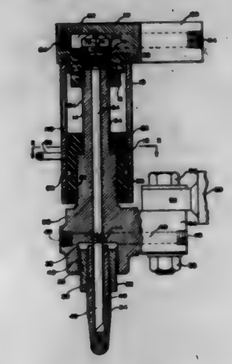
1. A cordless electric cigar lighter plug of the type adapted to be housed and heated in a socket and to be separated therefrom for use, a heating element comprising a spirally wound annulus of resistance ribbon of multiple reversed angular cross-section along at least a part of its length, successive courses of said spiral being substantially in contact each with the next whereby said annulus resists deformation in an axial direction, said courses being insulated from each other at their points of contact solely by an insulating oxide formed on the surface of said ribbon, terminals for said heating element, one of said terminals comprising a metallic carrier on said plug connected to the outer end of said heating element.

2,975,263
METHOD FOR PRODUCING HONEYCOMB STRUCTURES
Kenneth E. Green and Walter R. Hagan, Santa Ana, and George U. Barnes, Laguna Beach, Calif., assignors to John J. Foster Mfg. Co., Santa Ana, Calif., a corporation of California
Filed July 6, 1954, Ser. No. 441,306
4 Claims. (Cl. 219—83)



1. The method of making seam-welded honeycomb core comprising the steps of placing a section of corrugated metal foil on a set of spaced, substantially horizontally disposed fingers of electrically conductive material, so that the lower portions of the corrugations extend down between the fingers while the upper portions of the corrugations rest upon the fingers, placing a second set of fingers in the lower portions of said section, placing a second section of corrugated metal foil on said second set of fingers so that the lower portions of said second section are in alignment with and contacting the upper portions of the first-mentioned section, placing an electrode in at least one lower portion of said second section of foil at a location directly above at least one of the fingers of the first-mentioned set, moving said electrode along said lower portion substantially in alignment with the longitudinal axis of the respective finger of said first-mentioned set while passing electric current between said electrode and said finger through both sections of foil whereby to seam-weld abutting portions of said first and second sections together.

2,975,264
WELDING ORGANIZATION
Alfred Fetz, 18903 Barlow, Detroit 5, Mich.
Filed May 28, 1958, Ser. No. 738,354
39 Claims. (Cl. 219—89)

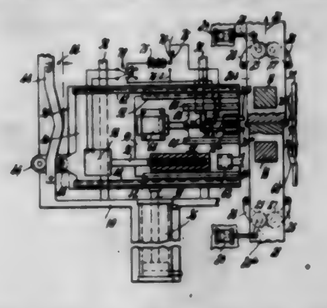


1. An electrical resistance welding gun comprising a cylinder, a piston movable in the cylinder in response to a pressure differential on opposite sides thereof, a rod connected with the piston and projecting axially out one end of the cylinder, a welding electrode operably connected with the outer end of the rod, said rod having an axial passageway therein, said electrode having a coolant passageway therein communicating at one end with the axial passageway in the rod and communicating at its other end with an external port in the gun, said axial passageway also communicating with the chamber at the rod end of the cylinder, means for connecting said chamber with a source of water under relatively low pressure and said external port with exhaust so that the liquid from said source is effective to normally retract the piston rod and to cool the electrode and means for connecting the chamber at the head end of the cylinder with a source of fluid at relatively high pressure.

2,975,265
EDGE TRIMMING WELDING MACHINE
Walter S. Kaiser, Wakefield, and Hermann W. Stieglitz, Marblehead, Mass., assignors to Seton Corporation, Providence, R.I., a corporation of Delaware
Filed May 3, 1960, Ser. No. 26,469
9 Claims. (Cl. 219—97)

9. Apparatus for flash butt welding the free ends of strip material of differing width including centering means for centering the strips to be welded relative to a common center line, clamp means for welding the strip ends, a pair of opposed slide means movable toward and away from said strip material, sensing means mounted on each of said slide means for sensing the maximum degree of offset discontinuity of each of the welded strip side edges, said sensing means having independent means for simultaneously sensing the strip edges at each side of said offset discontinuity, and means for retracting said sensing

means, cutting means mounted on each of said slide means for cutting the side edges at said offset smoothly to merge said edges, said cutting means being movable with its slide means to an initial position spaced from the material and then movable by means independent of said slide means in a curved path from said initial position toward and then away from the body of said material with the greatest degree of penetration of said cutting means



while moving along said path through said material being at the weld thereof, the initial position of said cutting means being established by said sensing means by arresting the advance of said slide means to provide a degree of penetration into the body of said strip material at least as great as the maximum offset thereof as sensed by the last one of said independent means to sense a strip edge.

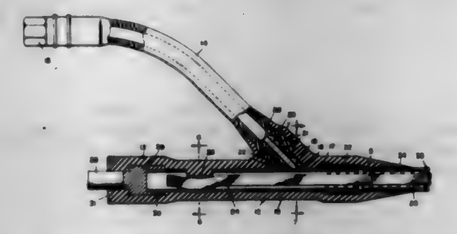
2,975,266
GAS SHIELDED ELECTRIC ARC WELDING
Carlos M. Heath and Arthur F. Axelson, Kenmore, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 30, 1958, Ser. No. 783,820
8 Claims. (Cl. 219—137)



1. Method of fusion welding metal foil which comprises solidly backing the foil to be welded with a sheet of metal of relatively high thermal conductivity which is pressed in surface-to-surface contact therewith by a sheet of silicone rubber that is, in turn, backed by a rigid backing member, striking a straight polarity-direct current welding arc between said foil and a non-consumable electrode in a selected shielding gas, fusing such foil at the zone to be weded with such gas shielded arc, permitting the so-fused metal to cool and solidify, and then separating the backing members including said sheets from the so-welded foil, leaving a gas-tight weld of vacuum quality.

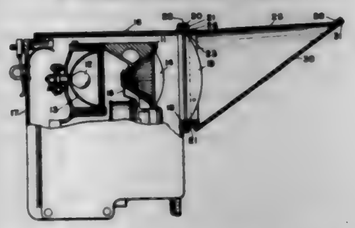
2,975,267
AIR COOLED WHIP AND ELECTRODE HOLDER FOR WELDERS
Robert A. Babcock, Abington, and Roger L. Putney, Rockland, Mass., assignors to J. B. Nottingham & Co., Inc., New York, N.Y., a corporation of New York
Filed Sept. 11, 1957, Ser. No. 683,271
8 Claims. (Cl. 219—138)

1. In combination with a welding electrode holder, a whip assembly for connecting the holder to a source of welding current, said whip including a current conducting cable connected at one end to the holder and having means at its opposite end for connection to a source of welding current, a protective, insulating sheath surrounding the length of said cable and having a greater internal diameter than the outer diameter of the cable to provide and air channel along the cable, and means for con-



necting the end of said whip remote from the holder and adjacent said opposite end of the cable to a source of air under pressure, so as to provide cooling of the cable throughout substantially its entire length and also to provide cooling of the holder.

2,975,268
LIGHT SIGNAL
Frank S. Craig, Chill, James Y. Howard, Spencerport, and Marcian A. Scheg, Rochester, N.Y., assignors to General Railway Signal Company, Rochester, N.Y.
Filed Nov. 29, 1957, Ser. No. 699,701
1 Claim. (Cl. 240—46.53)



The combination with a light signal having a circular outer lens, of a cylindrical flange secured to the signal and extending outwardly substantially normal to the periphery of the lens, a cylindrical hood secured at one end over the outer surface of said flange, said hood being formed of insulating material and having an inside diameter at one end slightly larger than the outside diameter of said flange whereby a breather space is provided about the periphery of said hood to equalize the air pressure within the hood, the other end of said hood being formed at an elevational angle extending away from the outer lens, said other end of said hood having an outward hood flange formed therein, a clear plastic lens cover enclosing said other end of said hood, and a removable plastic channel resiliently securing the periphery of said lens cover to the periphery of said hood flange.

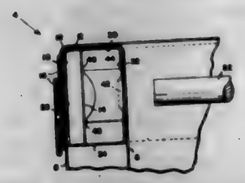
2,975,269
LAMP GUARD CONSTRUCTION
Joseph D. Kevorkian, 20 S. Union Ave., Lansdowne, Pa.
Filed Oct. 4, 1957, Ser. No. 688,324
5 Claims. (Cl. 240—102)

2. A lamp guard comprising complementary reflector and cage members each forming approximately one longitudinal half of the guard, said reflector and cage members being interconnected for swinging movement of said cage member upwardly in front of said reflector to an out-of-the-way position, the reflector including a collar arranged at the base thereof for being clamped to a lamp holder and having a pair of grooves extending transversely of and opening outwardly from said collar, and a pair of shoulders respectively associated with and extending along the proximate side walls of said grooves, the cage including a pair of wires respectively provided with opposite side lower terminal portions respectively



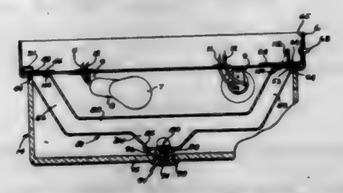
snugly nested within said grooves, each of said terminal wire portions being operatively disposed behind the associated arm of said shoulders, and being thereby held in the groove, whereby to releasably secure said cage member against swinging upwardly in the manner aforesaid.

2,975,270
LAMP SHADE
Leon Mayon, Philadelphia, Pa., assignor to W & M Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Original application May 23, 1956, Ser. No. 586,696, now Patent No. 2,900,865, dated Aug. 25, 1959. Divided and this application July 14, 1958, Ser. No. 748,484
3 Claims. (Cl. 240—106)



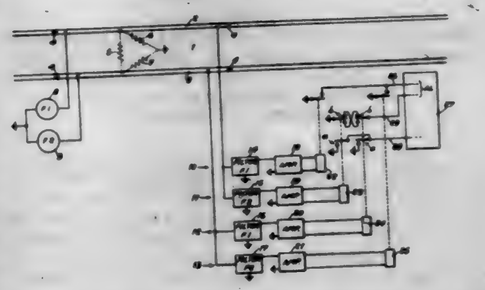
2. A lamp shade including a rigid frame, a covering material covering said frame, said frame including a substantially rigid ring, fastening means secured to said ring under said covering and a spider having arms extending through said covering, into said fastening means and secured thereby, each of said fastening means comprising a sheet of metal formed with areas thereof adapted to lie substantially parallel to opposite surfaces of said ring, one of said areas being formed to lie in flatwise engagement with the outer of said surfaces, the other of said areas being formed with flanges extending toward and provided with pointed projections for engagement with the inner of said surfaces thereby to space the last mentioned area therefrom, and said last mentioned area being provided with an opening for the reception of a spider arm and having flanges deformable towards the last mentioned surface adjacent to the opening adapted to be deformed by and to engage a spider arm extending through said opening for securing said spider arm in fixed relation with respect to said ring.

2,975,271
LIGHTING FIXTURE
Lester I. Dvorak, Westlake, Ohio, assignor to The Art Metal Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 17, 1958, Ser. No. 715,776
7 Claims. (Cl. 240—147)



1. In a lighting fixture or the like having a housing supporting an illuminating device and a bowl-like lens member for completely enclosing said device being effective to diffuse the light emanating therefrom, hingeable support means for swingably latchably attaching said lens member to said housing, comprising an elongated support bar having a base, a leg member integral with each end of said base, plate means formed integrally with the end of each of said leg members extending outwardly from said support bar in opposed substantially coplanar relation for engagement with peripherally spaced parts on the open end of said lens member, a flat crown portion formed centrally on said base in parallel spaced relation to said plate means for connection to said lens member at a point spaced from said open end, fastener means carried on said flat crown portion adapted to extend centrally through said lens member, lock means connecting to said fastener means and engaging with said lens member to force the latter into slight pressure engagement with the plate means on said support bar, hinge means on one of said leg members extending outwardly of the plate means associated therewith being hingeably connected to said housing and effective to pivotally attach said lens member to the latter, and latch means on the other of said leg members disposed in said housing and effective to releasably latchably attach said lens member to the latter.

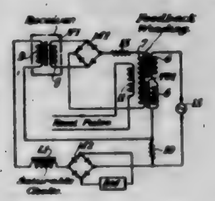
2,975,272
TRACK CIRCUIT
Robert C. Renick, Plainfield, N.J., and Claude J. Pasquier, Long Island City, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Apr. 2, 1957, Ser. No. 650,174
5 Claims. (Cl. 246—34)



1. A track circuit for detecting the presence of a train on a section of the track, wherein the two rails of one section are insulated from adjoining sections at each end thereof, comprising a unidirectional transmitter including a source of alternating current of a first frequency

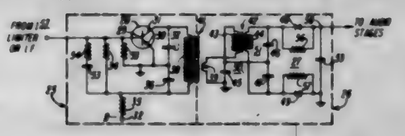
coupled between a first one of said rails and ground, a source of alternating current of a second frequency coupled between the second of said rails and ground, a first detector connected between said first rail and ground for receiving said second frequency and a second detector connected between said second rail and ground for receiving said first frequency, each of said detectors including a device having a threshold level of response, and means coupled to each of said detectors and responsive to the output current of either one of said detectors for registering an occupied condition for said track section.

2,975,273
INTERMITTENT INDUCTIVE TRAIN CONTROL SYSTEMS
Kenneth G. King and Arnold William Tucker, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England
Filed Mar. 22, 1957, Ser. No. 648,463
Claims priority, application Great Britain Apr. 4, 1956
11 Claims. (Cl. 246—63)



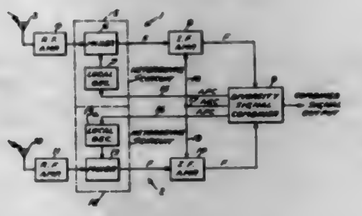
1. Vehicle carried apparatus for an intermittent inductive train control system comprising a saturable reactor provided with an alternating current winding and a feed-back winding, a source of alternating current energy, a load, means connecting the output from said source, said alternating current winding and said load in series, saturable means having input and output terminals, means connecting said input terminals across said load, a brake magnet connected in series with said input terminals, means connecting said output terminals across said feedback winding, said saturable means coupling a first or second magnitude of energy from said load to said feed-back winding according as said saturable means is unsaturated or saturated, said reactor controlling first or second levels of current flow through said load according as said saturable means couples first or second magnitudes of energy to said feed-back winding, and said brake magnet being energized or deenergized according as the current flow through said load is at said first or second levels, respectively.

2,975,274
FREQUENCY MODULATION RADIO RECEIVER
John F. Mitchell, Berkeley, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 21, 1960, Ser. No. 16,231
9 Claims. (Cl. 250—20)



1. In a frequency modulation communication system, the combination including, limiter means including a transistor having an output portion whose impedance value decreases substantially during limiting, a first resonant circuit connected to said output portion of said transistor and loaded by said transistor as the impedance value of said output portion decreases, a second resonant circuit including reactance means coupling said second resonant circuit to said first resonant circuit and effectively decoupling the same as said first resonant circuit is loaded by said transistor, a third resonant circuit, means coupling said third resonant circuit to said second resonant circuit to provides waves out of phase with each other in said third resonant circuit, and detector means connected to said third resonant circuit for providing demodulated signals and having an amplitude response varying substantially linearly with frequency change, said detector means being effectively isolated by said second resonant circuit from the loading effect of said transistor.

2,975,275
COMBINING SYSTEM FOR DIVERSITY COMMUNICATION SYSTEMS
Robert T. Adams, Short Hills, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 22, 1958, Ser. No. 737,172
12 Claims. (Cl. 250—20)

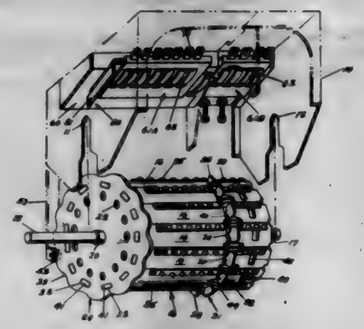


1. A signal combining system comprising a first source of signals, a second source of signals, a hybrid circuit comprising a first winding, means to couple the center of said first winding to a radio frequency reference potential, a second winding, means to couple one end of said second winding to one end of said first winding, a resistor having one end thereof coupled to the other end of said second winding, and means coupling the other end of said resistor to the other end of said first winding, means coupling said first source to said first winding, means coupling said second source to the junction of said second winding and said resistor, means coupled to said second winding to remove therefrom the combined signals of said first and second sources, means responsive to the voltage at each end of said first winding and the voltage of said second source to produce a control signal related to the phase difference between the signals of said first and second sources and means to couple said control signal to at least one of said first and second sources to maintain the signals of said first and second sources in a predetermined phase relationship for substantially in-phase combining in said hybrid circuit.

2,975,276
FREQUENCY SELECTOR
Edwin P. Thiss, Hollywood, Calif., assignor to Standard Coil Products Co., Inc., Los Angeles, Calif., a corporation of Illinois
Filed Apr. 18, 1955, Ser. No. 501,919
1 Claim. (Cl. 250—40)

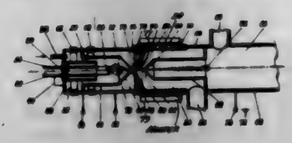
A frequency selector comprising a rotatable drum with two spaced supporting discs secured normal to a central shaft thereof, a plurality of tuning panels releasably secured solely by said two discs about their periphery and in alignment with said shaft, one of said discs having a plurality of circumferentially spaced indexing slots for engaging a corresponding end projection of individual

tuning panels, the other disc having an individual radial extension opposite each of said indexing slots, the radial extensions being of spring material and extending above the secured panels for manual engagement, a latch projecting outwardly from each of said radial extensions and arranged to press upon an edge surface flat of its corresponding tuning panel when the panel is positioned between the discs and thereby firmly lock the panel in position therebetween, each radial extension being manually displaceable sufficiently to disengage its projecting



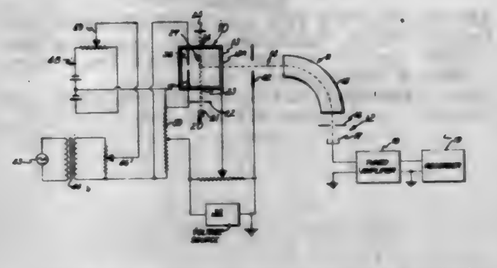
latch from the associated panel edge surface flat and thereby unlatch the panel, each of said tuning panels having an active section extending beyond said other disc that is of firm construction and self-supporting in its circuit engagements in conjunction with its associated main panel section latched between the discs, the main and extendings panel sections of each tuning panel being joined by two edge ribs defining an opening for entry of the associated radial disc extension and latch and between which its edge surface flat is positioned for coacting with the latch.

2,975,277
ION SOURCE
Manfred von Ardenne, Dresden-Weisser Hirsch, Germany, assignor to VEB Vakutronik Dresden, Dresden, Germany
Filed Jan. 24, 1956, Ser. No. 561,078
Claims priority, application Germany May 10, 1955
5 Claims. (Cl. 250—41.9)



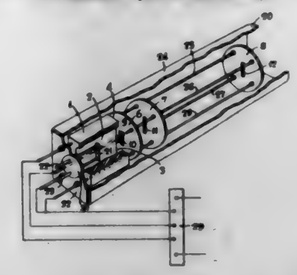
1. In a non-magnetic ion source, in combination: a vessel containing a gas having a low pressure, means including a cathode and an anode electrode for maintaining a plasma of a gas discharge in said low pressure gas in said vessel, an intermediate electrode arranged in said vessel, said intermediate electrode having an opening constricting the cross section of said plasma of said gas discharge maintained in said vessel, said anode electrode having an ion emitting opening, means for biasing said intermediate and anode electrodes so that they serve as anodes for said gas discharge, said constricting opening of said intermediate electrode being arranged directly and immediately in front of said ion emitting opening of said anode electrode so as to constrict said plasma in the vicinity of said ion emitting opening of said electrode and electrostatic means to remove ions from the space between said openings in a direction axial to the opening.

2,975,278
MASS SPECTROMETER
Wilson M. Brubaker, Arcadia, and Charles F. Robinson, Pasadena, Calif., assignors, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Aug. 12, 1957, Ser. No. 677,488
3 Claims. (Cl. 250—41.9)



1. A mass spectrometer ion source comprising an ionizing region, an apertured electrode disposed at one boundary of the region, first and second repeller electrodes disposed at the opposite boundary of the region, means for developing a molecular beam of ordered energy of material to be ionized means for directing the beam of molecules of ordered energy into the region between the apertured and repeller electrodes and transverse to the optic axis of the source, means for ionizing molecules in the beam of material within the region, means for applying a D.C. voltage offset between the two repellers to counteract at least in part the ordered energy of the ions formed in the beam of material and for focusing at least a part of said ions on the electrode aperture, means for varying the voltage offset between the repellers, means for superimposing an A.C. signal between the repeller electrodes to sweep the ion beam across the aperture, and means for varying the amplitude of the A.C. signal.

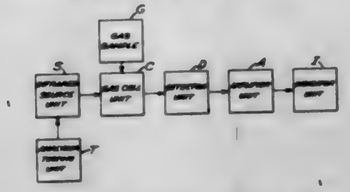
2,975,279
MASS SPECTROMETERS
Robert Derek Craig, Altrincham, England, assignor to Metropolitan-Vickers Electrical Company Limited, London, England, a British company
Filed June 22, 1959, Ser. No. 821,885
Claims priority, application Great Britain June 23, 1958
2 Claims. (Cl. 250—41.9)



1. An ion source for a mass spectrometer comprising a chamber, an ion formation region within said chamber from which ions are emitted in random directions, an electrically conducting end wall to said chamber, surfaces defining a first aperture in said end wall, a pair of electrically conducting deflecting plates extending in planes parallel to said end wall and spaced apart from each other and from said end wall, edges to said plates defining second and third apertures which are aligned with said first aperture, means for connecting said end wall and said deflecting plates respectively to suitable variable sources of electric potential so that said ions

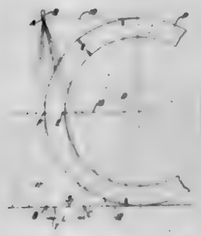
are formed into a beam and are accelerated along an axis through the three apertures, and so that said end wall and said deflecting plates constitute an electrostatic lens which forms an image of said ion formation region of a variable size and in a plane extending transversely to said axis.

2,975,280
APPARATUS FOR THE ANALYSIS OF MIXTURES
James L. Waters, Framingham, Mass., assignor to Mine Safety Appliance Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 21, 1957, Ser. No. 647,705
2 Claims. (Cl. 250—43.5)



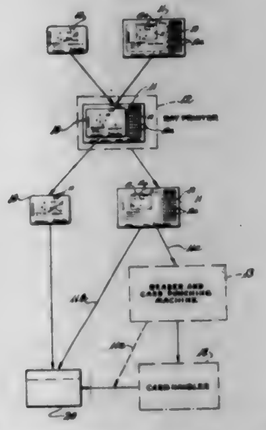
1. In an infrared analyzer for the analysis of fluids and of the type having at least two sources of infrared radiation, a cell means for containing an analysis fluid, a means for measuring radiation, and a means for indicating the measured radiation; that method of testing the operational efficiency of said analyzer after it has been once calibrated with a known fluid sample, comprising the steps of (*a*) varying the voltage to one of said sources while the analyzer is still calibrated to obtain a change in indicator reading due to the voltage variation alone, (*b*) subsequently repeating step (*a*) when the operational efficiency is not known and comparing the resulting change in indicator reading with that obtained in step (*a*) whereby if the readings are the same the instrument is still operable and properly calibrated.

2,975,281
METHOD AND APPARATUS FOR MEASURING WALL THICKNESS
Orlan G. Williams, 1086 Michigan Ave., San Jose, Calif.
Substituted for abandoned application Ser. No. 765,446, Aug. 1, 1947. This application May 28, 1956, Ser. No. 589,359
4 Claims. (Cl. 250—65)



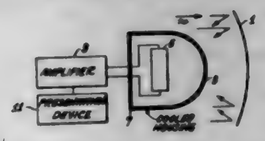
3. Apparatus for photographing a pipe wall by passage of radiation through said wall from a source located outside the pipe to a film also outside of the pipe, said apparatus comprising a sensitive film and a source of radiation capable of passing through the pipe wall, said radiation being absorbed by the pipe wall in proportion to thickness of the wall through which the radiation passes, said radiation acting on said film to develop a latent image thereon; said apparatus comprising mounting means for holding the radiation source at the intersection of two mutually perpendicular planes tangent to the pipe and for holding the film in a plane parallel to one of said tangent planes and on the opposite side of the pipe, to form a latent image on the film which is a projection of a section of the pipe wall taken in a plane intersecting the wall, said projection being of substantially greater length than the thickness of the wall and showing irregularities in the wall section in approximately the same relative positions, shapes and magnitudes as exist in the wall section itself said film extending greater than the width of the latent image.

2,975,282
AUTOMATIC CREDIT CARD ACCOUNTING SYSTEM
Lyle E. Schaffer, Flossmoor, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 6, 1957, Ser. No. 676,655
9 Claims. (Cl. 250—65)



6. A credit card system adapted for recording and classifying information on a thermal-sensitive film which system consists essentially of a credit card containing repetitive and identifying information, said identifying information being present in a form suitable for reproduction on a thermal-sensitive film, a form comprising a sales ticket and a duplicate thereof, each comprising a supported thermal-sensitive film, a printer adapted to receive said credit card and said form and provided with means adapted to record non-repetitive sales information on said thermal-sensitive film, a heat producing source adapted to radiate the heat necessary to reproduce on said thermal-sensitive film said identifying information and said sales information without the need for transcription when said form, said card and said means adapted to record said sales information are juxtaposed and exposed to said heat source.

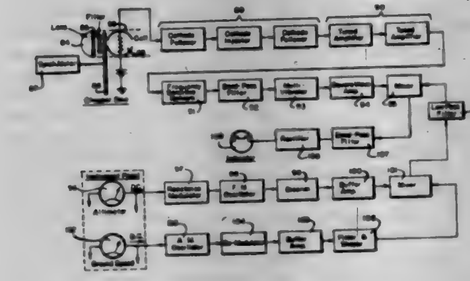
2,975,283
INFRA-RED SIGNALLING AND DETECTING SYSTEMS
George A. Morton, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 5, 1950, Ser. No. 199,319
11 Claims. (Cl. 250—83.3)



1. An infra-red receiving system for receiving desired infra-red radiations originating at a remote point com-

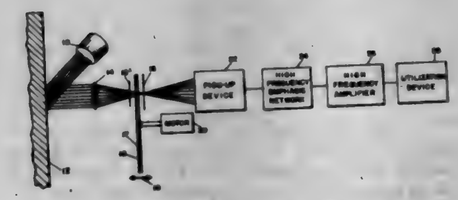
prising, in combination, means spaced from said point for receiving said desired infra-red radiations and undesired infra-red radiations generated by predetermined infra-red emitting elements located between said point and said receiving means, an infra-red radiation filter comprising said same predetermined elements adjacent said receiving means for passing said desired infra-red radiations and rejecting said undesired infra-red radiations, and means coupled to said infra-red filter for utilizing only said desired infra-red radiations.

2,975,284
CONTROLLED APPROACH AIRCRAFT LANDING SYSTEMS
William E. Osborne, 1805 Palisade Drive, Reno, Nev.
Filed Nov. 15, 1956, Ser. No. 622,487
20 Claims. (Cl. 250—83.3)



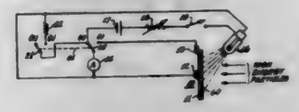
1. In an aircraft approach system, aircraft detection means comprising a plurality of intra-red sensitive photoconductive cells disposed in spaced relation to one another at a detection location, means for focussing infra-red radiation, from an aircraft being detected, upon said cells, whereby movement of said aircraft relative to said cells causes a spot of infra-red radiation to scan said cells, grid means disposed between said focussing means and said cells, said grid means comprising a stationary infra-red transparent surface having a plurality of infra-red opaque grid lines thereon whereby movement of said spot across said surface and lines modulates the output of said cells at a rate varying with variations in the rate of said spot movement, and means responsive to the modulated output of said cells for indicating the movement of said aircraft relative to said cells.

2,975,285
FOCUSING DEVICE
Richard C. Palmer, Pompton Plains, N.J., assignor, by mesne assignments, to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Feb. 26, 1957, Ser. No. 642,413
5 Claims. (Cl. 250—83.3)



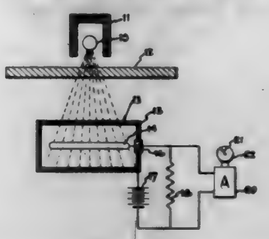
1. In combination with a source of radiations and an optical system for forming an image of a target in a particular focal plane, the combination comprising: a plate, having at least one aperture therein, positioned in a plane parallel to said focal plane and movable in its plane so that said aperture moves transverse to the path of said radiations; means to move said plate perpendicular to said focal plane so that it may coincide therewith; pickup means positioned to receive the radiations that pass through said aperture; an output circuit energized by said pickup means, said circuit adapted to favor high frequencies; and a utilization device.

2,975,286
RADIATION DETECTION
Paul Rappaport, Princeton, and Joseph J. Loferski, Hamilton Square, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 26, 1957, Ser. No. 705,403
6 Claims. (Cl. 250—83.3)



4. A radiation detection instrument comprising, a semiconductor photovoltaic cell of the type subject to radiation damage by the radiation to be detected; an illuminating element; connections for a source of voltage; an adjustable resistor in series with said connections and said illuminating element, whereby the amount of current flow through said illuminating element may be controlled so as to control the intensity of the light emitted thereby; a current measuring instrument; and switch means for permitting said instrument to be connected across said semiconductor or effectively in series with said illuminating element at will, whereby the current applied to said illuminating element may be adjusted to a constant value, and any change due incident radiation damage in the short-circuit current through said semiconductor may be detected.

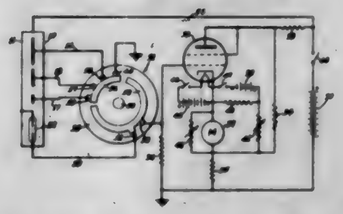
2,975,287
LOW NOISE LEVEL IONIZATION CHAMBER
Philip E. Ohmart, Cincinnati, Ohio, assignor to The Ohmart Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 23, 1956, Ser. No. 573,557
5 Claims. (Cl. 250—83.6)



1. A system for controlling the value of a variable condition of a material, said system comprising an ion chamber, a source of potential connected to the electrodes of said ion chamber, apparatus in circuit connection with said ion chamber for affecting the variable condition in response to the current conducted by said ion chamber, a source of ionizing radiant energy, said source of radiant energy and said ion chamber being disposed relative to said material whereby the intensity of the radiation impinging upon said ion chamber is attenuated by said material in accordance with the value of the variable condition, the potential applied to said ion chamber electrodes and the ion chamber construction

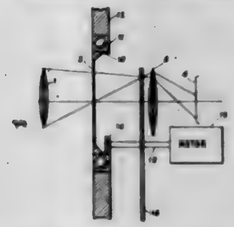
being such that the ion chamber is effective to conduct a continuous current flow in response to the impingement of said radiation and the ion collection efficiency of the ion chamber is below eighty-five percent, said potential being less than the potential at which gas multiplication occurs within said ion chamber, whereby said ion chamber conducts a continuous current, the magnitude of which is correlated with the value of the variable condition and the noise to signal ratio of said current is minimized.

2,975,288
ION CHAMBER AND CIRCUIT THEREFOR
Wilbert Misowitz, New York, N.Y., and John F. Grimm, Newark, N.J., assignors to Tung-Sol Electric Inc., a corporation of Delaware
Filed Mar. 11, 1958, Ser. No. 720,572
10 Claims. (Cl. 250—83.6)



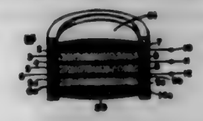
1. An ion chamber in combination with a current measuring circuit comprising: a sealed envelope containing a lining of conductive material, a central disc including a plurality of conducting areas each of which is connected to a lead-in conductor, a constant current component connected between the lining and a lead-in conductor, an external circuit which includes a dial switch connected to said lead-in conductors, an input resistor connected to the dial switch, and an amplifying system having an input circuit connected across said resistor and an output circuit connected to an indicating device.

2,975,289
TRACKING DEVICES
André Robert and Jean Deslandes, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fils, a corporation of France
Filed June 25, 1957, Ser. No. 667,758
Claims priority, application France June 26, 1957
5 Claims. (Cl. 250—203)



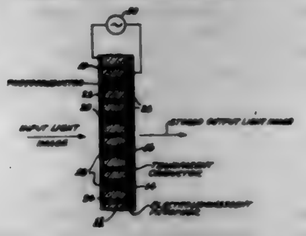
1. In a tracking apparatus for tracking a target emitting luminous energy: an optical objective, having a focal plane and an optical axis, for focusing said energy; and opaque rotatable disc outside this focal plane, centered on said optical axis, for intercepting at least a portion of said energy and having a hole the periphery of which passes through the center of said disc; and light responsive means, located in a plane parallel to said focal plane, for generating a voltage proportional to the luminous energy passing through said hole; and means for measuring the amplitude and the phase of the ratio of the maximum of this voltage to its minimum, during one turn of said disc.

2,975,290
ELECTROLUMINESCENT DEVICES AND NETWORKS
Charles F. Spitzer, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 15, 1956, Ser. No. 585,052
32 Claims. (Cl. 250—213)



1. An article of manufacture comprising a disc-shaped light-opaque rigid metallic electrode, a first layer comprising an electroluminescent phosphor in extended area contact with one side of said electrode, a second light-transmitting electrode in extended area contact with said first layer, a second layer comprising a photoconductive material in extended area contact with said second electrode, a third light-transmitting electrode in extended area contact with said photoconductive layer, a third layer comprising an electroluminescent phosphor in extended area contact with the other side of said first electrode, a fourth light-transmitting electrode in extended area contact with said third layer, a sheath of electrically-insulating light-opaque material surrounding said disc shaped member, and the layers and electrodes thereon, a first lens adjacent said third electrode and supported by said sheath, a second lens adjacent said fourth electrode and supported by said sheath, a common electrical connection means to said second and fourth electrodes and separate electrical connection means to said first and third electrodes.

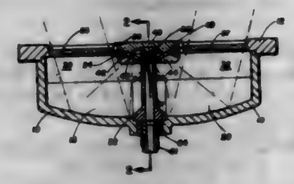
2,975,291
ELECTROLUMINESCENT STORAGE DEVICE
Egon E. Loebner and Harvey O. Hook, Princeton, N.J., and Donald E. Darling, Levittown, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 17, 1957, Ser. No. 690,814
9 Claims. (Cl. 250—213)



1. A light-responsive structure for use in a storage light amplifier comprising a plate of glass of substantial thickness which has integrally formed therein a network of opaque portions dividing said plate into a multiplicity of optically separated transparent portions, each of said transparent portions having an opening therethrough, and at least one solid photoconductive body in each of said openings.

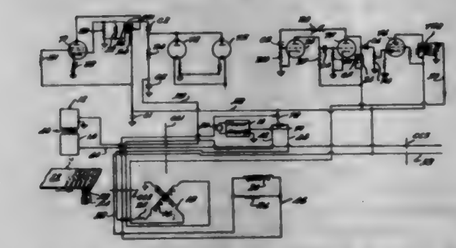
2,975,292
OPTICAL DETECTOR ASSEMBLY
Richard D. Anderson, Riverside, and John J. Nastrenoro, Corona, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 23, 1959, Ser. No. 861,723
9 Claims. (Cl. 250—216)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An optical detector assembly comprising a plurality of housings and closures therefor each hermetically sealed and fabricated from non-hygroscopic materials, a wall portion within said housing dividing the interior thereof into two separate compartments, an optical reflective surface formed on an inner surface of each of the compartments of said housing for reflecting and focusing electromagnetic energy, said closure covering each of said compartments and provided with a slit-type aperture over each compartment, each of said slit apertures provided with a transparent window therein to permit the entrance of electromagnetic radiant energy of desired wavelength into the housing, a detector cell mounted within each compartment of said housing at an optimum angle for having focused thereon by the reflective surface in the compartment reflected electro-



magnetic radiant energy from a target source; each optical detector compartment with its reflective surface, slit-aperture window and detector cell operating to look in a different direction from the other and each having a different field of view, each said detector cell operable to produce an electric signal when electromagnetic radiant energy of desired wavelength impinges thereon, the detector cells looking in one direction in each of said plurality of housings forming one channel and the detector cells looking in the other direction forming another channel, whereby when a detector cell from each channel has electromagnetic radiant of a desired wavelength impinge thereon simultaneously a desired electric signal is produced.

2,975,293
OPTICAL DEFECT DETECTOR
John R. Kruse, Jr., Lawrence D. Burgess, and John A. Stumpf, Lancaster, Ohio, assignors to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Feb. 18, 1955, Ser. No. 489,184
16 Claims. (Cl. 250—219)



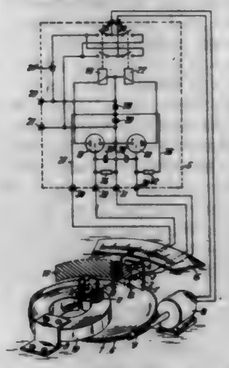
1. In a system for indicating variations in a selected characteristic of a medium, means for producing an image of the medium, means for scanning said image to produce an output signal including an informational component, means for driving said scanning means at a sinusoidal rate, said output signal tending to include a sinusoidal component at the scanning frequency, output means, and means for discriminating against said sinusoidal component and for actuating said output means only in response to said informational component comprising means for differentiating the output signal, limiting means for amplifying only the high-amplitude portion of said differentiated signal, and means responsive to the output of said limiting means for actuating said output means.

2,975,294
ELECTROLUMINESCENT APPARATUS
Benjamin Kazan, Princeton, and James E. Berkeyheiser, Jr., Trenton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 31, 1957, Ser. No. 693,663
5 Claims. (Cl. 250—213)



1. Electroluminescent apparatus comprising an electroluminescent light amplifier device having a photoresponsive surface on which images to be amplified are projected, and an electroluminescent panel having a luminescent surface on one side thereof disposed opposite to said photoresponsive surface, and a surface on the opposite side thereof exposed to said projected images, said panel having a plurality of perforations therein extending through said surfaces for transmitting said projected images to said photoresponsive surface substantially without attenuation.

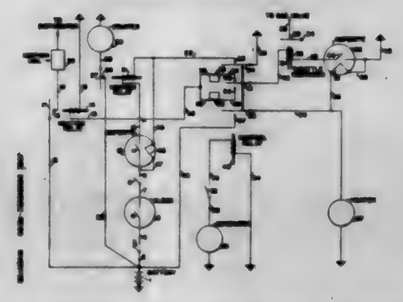
2,975,295
REPEATER WITH PHOTOELECTRIC CONTROL
Helmut Peter, Erlangen, Germany, assignor to P. Gossen & Co. G.m.b.H., Erlangen, Germany
Filed Nov. 24, 1959, Ser. No. 855,184
Claims priority, application Germany Feb. 5, 1959
9 Claims. (Cl. 250—237)



1. A control apparatus for moving a follower in response to the position of a marker in a meter movement comprising a pair of movable photoelectric elements movable along the path of said marker and mounted on said follower for movement thereby, an illumination source mounted adjacent said meter movement for illuminating said elements, a mask on said marker mounted adjacent said elements and having a leading edge movable by said marker between said elements and said source, said mask having an area to successively shade each of said elements upon movement of said marker, and electric means connected to said photoelectric elements for movement of said follower in response to the illumination and shading of said elements, said electric means including first means for moving said follower in the direction toward said leading edge when said elements are in a position where each of said elements is illuminated and second means for moving said follower in a direction toward the edge of said mask when said mask and said elements are positioned so that both of said elements are shaded and shade means for extending the shaded area of said mask behind said leading edge.

2,975,296
CIRCUIT CLOCK CONTROL FOR STARTING MOTORS

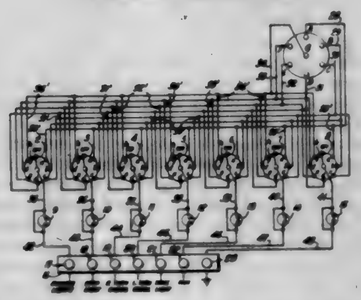
José Domínguez-Rego, 88 Pearl St., Paterson, N.J.
Filed May 11, 1959, Ser. No. 812,336
2 Claims. (Cl. 290—37)



1. An automatic engine starting device for starting an internal combustion engine which includes a starter motor, a generator, a fuel control valves, and a source of current and comprising; an adjustable clock switch which includes a pair of contacts, a starter relay which includes a relay winding and a pair of normally open relay contacts, a control relay which includes a relay winding and a pair of normally closed relay contacts, means connecting the said starter relay winding across the said current source through the said clock switch contacts and control relay contacts in series for energization of the said starter relay upon closure of the said series connected contacts, circuit means connecting the said control relay winding across the said generator to open the said control relay contacts when the said generator produces a predetermined output upon starting of the engine, a throttle mechanism comprising a winding and a magnetic core movable upon energization of the said winding, means coupling the said control valve to the said magnetic core for actuation of the said valve upon energization of the said throttle mechanism winding, first and second rheostats, and means connecting the said throttle mechanism winding across the said current source through the said clock switch contacts, the last-mentioned means including means controlled by the said control relay for connecting the said throttle mechanism winding across the said current source through the said first rheostat when the control relay is energized and through the said second rheostat when the control relay is deenergized.

2,975,297
ELECTRICAL CONNECTOR

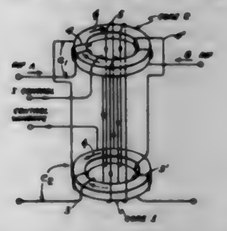
Edward B. O'Neil, 2587 Orchard St., Jacksonville, Fla.
Filed July 15, 1959, Ser. No. 827,314
2 Claims. (Cl. 307—10)



1. A connector for the electric systems of connectable vehicles each having a plurality of electric circuits with the wires of the several circuits of the respective vehicles connected to the respective sections of a separable plug comprising, a housing, a plurality of switches equal in number to the circuits of the vehicle having the greater number, each switch having a movable arm, a wire leading from each movable arm for connecting one to a circuit of one of the vehicles, each switch having a number of contacts equal to the number of switches engageable by the movable arm, means for connecting similar contacts of all switches to each of the circuits leading to the plug section of said one vehicle, whereby manipulation of the movable arms of the switches will connect any wire from the plug section to any circuit of the said one vehicle.

2,975,298
MAGNETIC CORE SWITCHING CIRCUIT

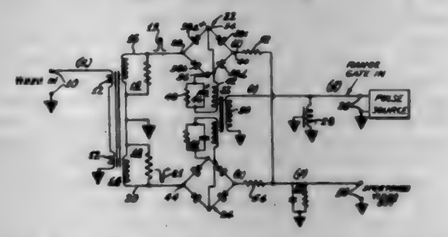
Daniel G. Fawcett, Upper Montclair, and Paul J. Carpenter, Fair Lawn, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Sept. 12, 1958, Ser. No. 760,594
5 Claims. (Cl. 307—88)



1. A bilateral saturable transformer switch comprising two magnetic cores, a first pair of information windings, a second pair of information windings, one winding of said first and said second pairs being mounted on one of said cores and the other winding of said first and said second pairs being mounted on the other of said cores with the windings of said first pair being adjacent each other on their respective cores and the windings of said second pair being opposite the windings of said first pair, means connecting the windings of said first pair in series in electrical opposition so that their flux is opposed, means connecting the windings of said second pair in series in electrical opposition so that their flux is opposed, and a saturation control winding over both cores in the space between the information windings so that the induced currents are opposed in the windings of said first pair, and also in the windings of said second pair.

2,975,299
TIME DISCRIMINATOR

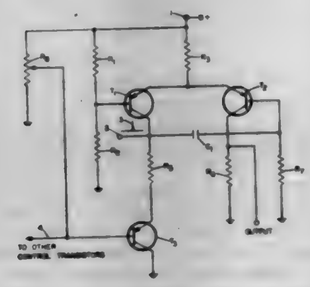
Alfred I. Mintzer, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 2, 1957, Ser. No. 632,041
2 Claims. (Cl. 307—88.5)



1. A circuit for sensing the time of occurrence of a pulse signal comprising, in combination, a pair of normally closed bidirectional diode bridge switches, one capable of conducting current in one direction in response to a gate signal of one polarity and the other capable of conducting current in the opposite direction in response to a gate signal of opposite polarity; gate circuit means including a short circuited delay line and means applying a pulse to the line having a duration equal to the time required for the pulse to travel down the line and return for applying a gate pulse of one polarity to said one switch and of the opposite polarity to said other switch, in succession, the lagging edge of the first applied pulse coinciding with the leading edge of the second applied pulse; means for simultaneously applying a signal pulse in one polarity to one switch and in the opposite polarity to the other switch, said polarities being such that the switches, when open, can conduct the pulses; and a common integrating circuit connected to receive the outputs of both switches for producing a control voltage.

2,975,300
PULSE WIDTH CONTROL FOR MULTIVIBRATORS

Glenn L. Haugen and George D. Wofford, Baltimore, Md., assignors to The Bendix Corporation, a corporation of Delaware
Filed May 1, 1957, Ser. No. 656,287
4 Claims. (Cl. 307—88.5)

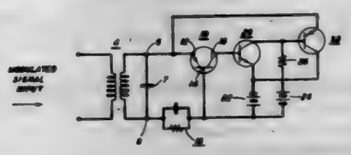


2. In combination with a monostable multivibrator comprising a pair of transistor amplifying stages, having their emitters connected by way of a common resistor to the positive terminal of a source of supply voltage, a capacitor coupling the collector of the first of said stages to the base of the second, respective resistors coupling the collector and the base of said second stage to the negative terminal of said source, a resistor connected to the collector of said first stage, means biasing said first stage to cut-off and means applying a series of triggering impulses to said first stage in a manner to reverse the conductivity of said stages; control means for said multivibrator comprising: a transistor having its collector and emitter terminals connected in series with said resistor connected to the collector of said first stage and means applying a variable direct current, voltage to the base of the last named transistor.

2,975,301
UNIDIRECTIONAL SIGNAL TRANSLATING DEVICE

Harold M. Straube, Mendham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 28, 1957, Ser. No. 692,707
8 Claims. (Cl. 307—88.5)

1. Apparatus for rectifying an input signal which comprises an input transistor of a given conductivity type comprising an emitter electrode, a base electrode and a collector electrode, means for applying said signal between said emitter electrode and said base electrode thereby to derive a signal at said collector electrode in response to currents flowing between said emitter electrode and said base electrode, an amplifying transistor of an opposite conductivity type connected in circuit with said collector electrode for deriving an output control signal, a semiconductor body comprising a variable impedance conduction path, said path being connected between said



emitter electrode and said base electrode, said body being responsive to control signals applied thereto for establishing a low impedance value for said conduction path, and means for applying said output control signal to said semiconductor body thereby to drive said conduction path to a low impedance condition in response to signal currents flowing between said emitter electrode and said base electrode.

2,975,302
PULSE DELAY CIRCUIT

Nicolaas Cornelis De Troye, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 27, 1958, Ser. No. 724,419
Claims priority, application Netherlands Apr. 18, 1957
8 Claims. (Cl. 307—88.5)



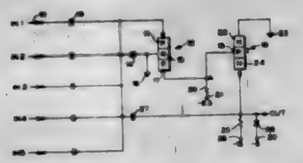
1. In a pulse delay circuit having a desired delay period including a junction transistor having base, emitter, and collector electrodes, means for applying a first comparatively wide voltage pulse to the series connection of the emitter-collector path of the transistor and a load resistor therefor, said first voltage pulse having a width greater than the desired delay of the circuit and a polarity corresponding to the blocking direction of the collector-base junction of the transistor, means for applying a second comparatively short voltage pulse between the emitter and the base of the transistor, the leading edge of said second voltage pulse corresponding substantially in time with the leading edge of said first voltage pulse, and means for deriving a delayed voltage pulse having said desired delay across said collector-emitter path, said delayed voltage pulse occurring after the charge carriers injected by the emitter into the base have been drawn off.

2,975,303
DIFFERENTIATOR AND MIXER CIRCUIT

Genung L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 22, 1958, Ser. No. 737,117
4 Claims. (Cl. 307—88.5)

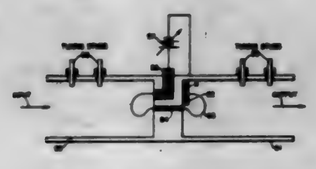
1. A differentiating and mixer circuit comprising a current operated voltage amplifying transistor having emitter, collector and base electrodes, an emitter follower transistor having emitter, collector and base electrodes, a plurality of capacitors arranged in parallel and having a common connection with the emitter of said amplier transistor, means for biasing both said transistors substantially nonconducting, means for applying input pulses to said capacitors whereby the displacement current of

each capacitor pulsed is applied directly to the emitter of said amplifier transistor to drive same into conduction, and a connection between the collector electrode of said



amplifier and the base electrode of said emitter follower whereby said emitter follower is rendered conductive and produces a low impedance output pulse for each input pulse to said capacitors.

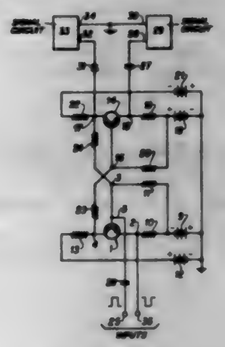
2,975,304
SOLID STATE DEVICES
Peter J. Price and John W. Horton, New York, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application Aug. 7, 1956, Ser. No. 602,602. Divided and this application Aug. 15, 1958, Ser. No. 755,218
3 Claims. (Cl. 307—88.5)



1. A very high speed bistable device including in combination: an input section of an electromagnetic wave guide; an output section of an electromagnetic wave guide; an apertured end wall portion joining said input and said output sections of electromagnetic wave guide, said end wall portion having a first surface facing said input wave guide section and a second surface facing said output wave guide section; a germanium wafer disposed within said output wave guide section, and having first and second surfaces, said first surface of said germanium wafer being adjacently positioned to, and in electrical contact with said second surface of said end wall portion; a thin resistive coating disposed upon said second surface of said germanium wafer; electrical means including a potential source; an electrical conductor connected between said thin resistive coating and said source of potential, said electrical conductor electromagnetically coupling said input section of electromagnetic wave guide to said output section of electromagnetic wave guide; and means for introducing an input electrical manifestation into said input wave guide section, whereby said germanium wafer changes from a first state of conductivity to a second state of conductivity and an output electrical manifestation, indicative of the change in conductivity of said germanium wafer, is introduced into said output section of electromagnetic wave guide.

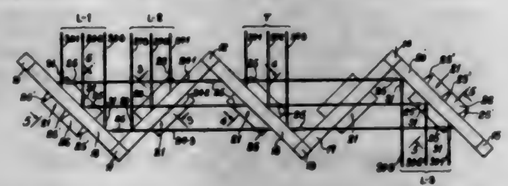
2,975,305
TRANSISTOR LINE SWITCH
Andre Eugene Pinot, St. Maur-des-Fosses (Seine), France, assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Aug. 12, 1959, Ser. No. 833,126
Claims priority, application France Sept. 26, 1958
8 Claims. (Cl. 307—88.5)

1. A switching circuit for opening and closing an alternating current line extending between two signal circuits, a common reference point connected to both of said signal circuits to form one conductor of said line, said switching circuit comprising a transistor having an emitter electrode, a collector electrode and a base electrode, a diode connected between said collector electrode and one of said signal circuits, and a capacitor connected between said emitter electrode and the other of said signal circuits, another conductor of said line extending between said signal circuits through the diode, the transistor, and the capacitor; a bistable trigger circuit including said transistor and direct-current bias means coupling each of said electrodes to the reference point, said trigger circuit having one stable state in which said transistor is conducting and another stable state in which said transistor is non-conducting; a direct-current path extending from the



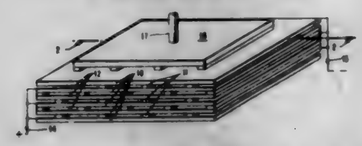
collector electrode through the diode and one of the signal circuits to the reference point, the diode being so poled that with the trigger circuit in the state having the transistor conducting the diode is forward biased, and with the trigger circuit in its state having the transistor non-conducting the diode is reverse biased, and means independent of any potential on said line for applying control signals to said trigger circuit for alternately triggering the trigger circuit to its said two stable states; whereby with the trigger circuit in the state having the transistor conducting a low impedance path exists for alternating current signals on said line, and with the trigger circuit in the state having the transistor non-conducting a high impedance circuit effectively blocks alternating current signal flow over said line.

2,975,306
ZIG-ZAG RING BUS
Donald M. Langston, San Jose, Calif., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Oct. 30, 1958, Ser. No. 770,857
12 Claims. (Cl. 307—147)



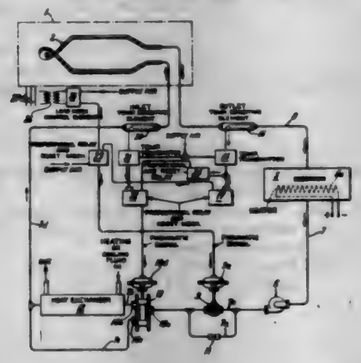
12. An electrical distribution system including a supporting structure, a plurality of generally parallel but mutually offset polyphase power lines supported by said supporting structure, and electrical means at said supporting structure for inter-connecting said power lines, said supporting structure including a series of towers arranged in a zig-zag pattern in which said towers are disposed alternately in a pair of parallel rows, an elongated elevated framework connecting each tower of the series to the next tower of the series, each of said power lines extending in tension from one of said elongated frameworks at a prominent angle relative thereto and there being a greater number of power lines than half the number of said towers.

2,975,307
CAPACITIVE PRIME MOVER
Charles E. Schroeder, Garrison, and Herbert P. Byrnes, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 2, 1958, Ser. No. 706,805
6 Claims. (Cl. 310—4)



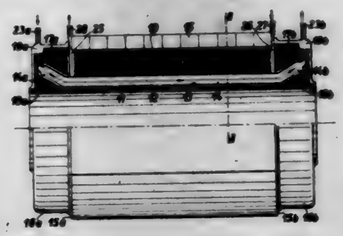
1. In a prime mover, a plurality of conductors each comprising a metallic coating of a dielectric, a plurality of separators, said conductors being stacked with said separators in staggered relation, a pair of power leads, alternate conductors connected to one of said leads, the remaining conductors connected to the other lead, and a source of potential connected to said leads whereby said conductors will be attracted one to another to generate motion and power.

2,975,308
WINDING TEMPERATURE CONTROL SYSTEMS FOR DIRECT-COOLED DYNAMOELECTRIC MACHINES
Charles E. Kilbourne and Lloyd P. Grobel, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed July 24, 1958, Ser. No. 750,750
16 Claims. (Cl. 310—54)



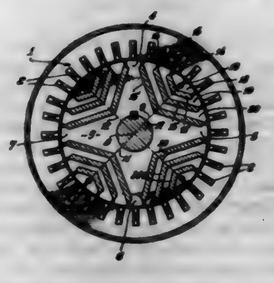
1. Temperature regulating mechanism for a direct-cooled winding of a magneto-electric device having at least one coil surrounded by insulation and defining at least one passage means within the insulation for coolant fluid, a source of fluid coolant, inlet conduit means supplying coolant from said source to said passage, and discharge conduit means for removing spent coolant from the passage, the regulating mechanism comprising heat exchanger means for varying the temperature of the coolant fluid supplied to the inlet conduit, means responsive to the inlet temperature of coolant supplied to the coil cooling passage for controlling said heat exchanger means to keep the coil inlet temperature substantially constant, means regulating the rate of coolant supply to the inlet conduit, and means responsive to coil coolant outlet temperature for adjusting said rate control means to maintain coil outlet temperature substantially constant.

2,975,309
OIL-COOLED STATORS FOR TURBO-ALTERNATORS
Mihály Seidner, Budapest, Hungary, assignor to Komplex Nagyberendezések Export-Import Vállalat, Budapest, Hungary
Filed May 5, 1959, Ser. No. 811,185
Claims priority, application Hungary July 18, 1958
2 Claims. (Cl. 310—54)



1. An oil-cooled stator for dynamo electric apparatus comprising, in combination, a laminated stator body having an axial bore and formed with circumferentially spaced axial grooves in its radially inner surface opening into said bore; an outer jacket enclosing said stator body; hollow head members connected to the axially opposite ends of said jacket; a self-supporting closing pipe seated in said bore and closing said grooves and the radially inner ends of said head members, whereby said head members and said closing pipe define a pair of chambers; insulated windings consisting of hollow conductors disposed within said axial grooves and of hollow head portions in communication with said hollow conductors and disposed in said chambers; nipples communicating with said chamber for flow of cooling fluid into one chamber and from the other chamber; and bodies of dielectric material filling said chambers and surrounding said head portions, said bodies defining relatively small area passage means connecting the interior of said head portions to the respective nipples.

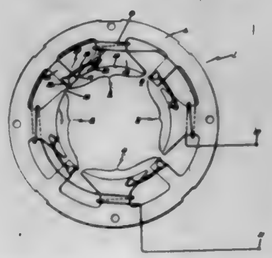
2,975,310
ROTOR STRUCTURE FOR SYNCHRONOUS INDUCTION MOTORS
Paul R. Armstrong, Anaheim, and Frederick O. Lauenberger, Los Angeles, Calif., assignors to U.S. Electrical Motors, Inc., Los Angeles, Calif., a corporation of California
Filed June 3, 1957, Ser. No. 663,133
4 Claims. (Cl. 310—163)



1. A rotor core lamination for an induction motor, having a series of radially extending portions forming

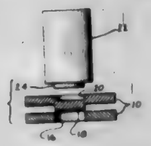
salient poles, equiangularly spaced about the axis of the lamination, and groups of non-radial nested V-shaped slots defining said portions, the slots being progressively deeper as they approach said portions, and opening in the periphery of the lamination.

2,975,311
SHADED POLE MOTOR
Fred W. Suhr, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed May 28, 1958, Ser. No. 738,386
7 Claims. (Cl. 310—172)



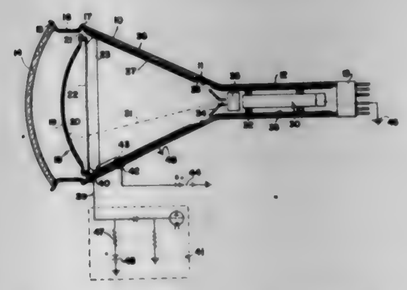
1. In a single phase alternating current shaded pole induction motor: a stator core member comprising at least one pair of pole portions respectively having pole faces defining a bore for receiving a rotor member, each of said pole portions having a main pole section and an auxiliary pole section, each of said auxiliary pole sections having a pole face span substantially smaller than the pole face span of its associated main pole section, each of said pole portions having a shading coil embracing its auxiliary pole section and less than one-half of its main pole section and a main field winding coil arranged on its main pole section so that the third harmonic of the space M.M.F. under each pole portion is substantially reduced and the fifth harmonic is substantially eliminated.

2,975,312
LAMINATED MAGNETO COMPONENTS
William J. Floran, Williamsett, Mass., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 7, 1958, Ser. No. 719,926
1 Claim. (Cl. 310—217)



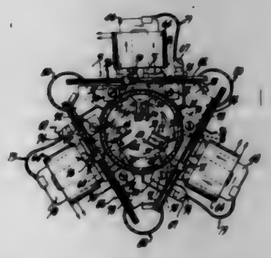
A laminated pole shoe group comprising a stack of flat laminations wherein each lamination includes a pair of pole shoe pieces interconnected by a thin bridge, one of said laminations having a hole through each pole shoe piece, said holes having the same circular outline throughout their lengths, a second lamination stacked thereon and having projections extending from said pole shoe pieces and spaced apart the same distance as said holes, and a recess aligned with each of said projections on the opposite side of a second lamination, the projections of the second lamination extending into the holes in the first lamination a distance less than the thickness of the first lamination to frictionally secure the two laminations together and further laminations disposed in stacked and aligned relation on the second lamination, each of said further laminations having projections and recesses on their pole shoe pieces with the projections and recesses having the same dimensions as and being spaced apart the same distance as the projections and recesses of the second lamination, the projections of the further laminations extending into the recesses of the adjacent lamination to frictionally secure the laminations together.

2,975,313
METAL X-RAY IMAGE TUBE
John E. Jacobs, Hales Corners, Wis., assignor to General Electric Company, a corporation of New York
Filed Jan. 8, 1959, Ser. No. 785,594
2 Claims. (Cl. 313—65)



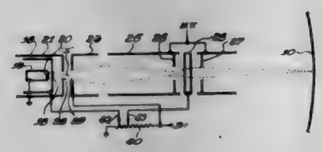
1. An electron discharge tube comprising elements including electron gun means adapted to project a scanning electron beam, a target electrode spaced from the gun means and a screen electrode insulatingly supporting said target electrode transversely to the path of said beam, an evacuated envelope containing said elements, said envelope including a glass neck section surrounding said gun means and a metal section concentrically joined therewith and extending toward the target electrode, a radiation permeable window means joined with said metal section to enclose the envelope, and a vitreous dielectric coating intimately bonded with the interior surface of said metal section substantially coextensively with the length thereof, a conductive coating applied on but terminating short of said dielectric coating, and means electrically connecting said screen electrode with said conductive coating.

2,975,314
STATIC CONVERGENCE MAGNET FOR TRI-COLOR KINESCOPE
Burton R. Clay, Woodbury, and Charles E. Small, Pennsauken, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,892
12 Claims. (Cl. 313—77)



1. A magnet assembly comprising a magnet and a pair of pole pieces spaced from each other, means mounting said magnet adjacent to said pole pieces to form a magnetic field therebetween, said magnet mounting means including a threaded screw supporting said magnet for adjustably moving said magnet from a position adjacent to one of said spaced pole pieces to a position adjacent to the other of said spaced pole pieces for varying said magnetic field.

2,975,315
CATHODE-RAY TUBE
Constantin S. Szegho, Chicago, Ill., assignor to The Rauland Corporation, a corporation of Illinois
Filed Mar. 13, 1957, Ser. No. 645,813
8 Claims. (Cl. 313—82)



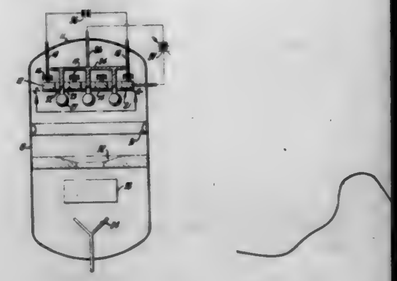
1. In an image reproducer of the cathode-ray type; a thermionic cathode; means including a control electrode having an aperture provided with a superimposed electron-permeable conductive element and disposed in close proximity to said thermionic cathode for creating an electric field between said thermionic cathode and said control electrode to draw emission therefrom, a portion of which passes through said electron permeable element and said aperture to form an electron stream; means including an accelerator-electrode system for accelerating and forming said electron stream into a discrete electron beam; an apertured auxiliary electrode disposed intermediate said control electrode and said accelerator-electrode system; and means for biasing said auxiliary electrode at a potential of a value relative to that on said accelerator-electrode system and said control grid and of a magnitude enforcing convergence of said electron stream at a point interjacent said auxiliary electrode and said accelerator-electrode system.

2,975,316
BEAM DEFLECTION TYPE ELECTRON DISCHARGE DEVICE
Mark B. Knight, West Caldwell, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 17, 1958, Ser. No. 709,565
14 Claims. (Cl. 313—82)



1. An electron tube of the beam deflection type comprising means for providing a single beam of electrons generally along a predetermined path; a pair of anode plates disposed in substantially mutual facing relationship on opposite sides of said predetermined path; and a pair of separate foraminous electron beam deflection grid electrodes disposed substantially coextensive with said anode plates and adapted to have an electric signal applied between them, each of said foraminous deflection electrodes being intermediate a different one of said anode plates and said predetermined path.

2,975,317
BEAM CONTROL DEVICE
Charles Susskind, Berkeley, Calif., assignor to The Regents of The University of California, Berkeley, Calif., a corporation of California
Filed Apr. 7, 1959, Ser. No. 804,620
10 Claims. (Cl. 313—87)



1. A controlled electron source for producing high-density electron beams comprising a cathode having an electron-emissive surface on the face thereof and a plurality of apertures therethrough spaced in hexagonal array, an anode in spaced relation to said cathode electron-emissive face, a plurality of electrode posts extending perpendicularly through said cathode apertures to form an equidistant hexagonal array between said cathode and anode, and a member behind said cathode face mounting said posts, said posts and cathode being adapted to have a potential impressed therebetween for controlling the electrons emitted from said cathode.

2,975,318
ELECTROLUMINESCENT DEVICES
Frederick H. Nicoll, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,931
7 Claims. (Cl. 313—108)

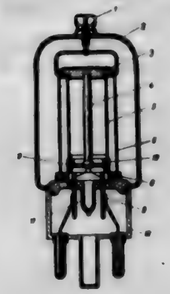


1. An electroluminescent device comprising an electroluminescent cell and a body of photoluminescent material positioned in optical relationship with said electroluminescent cell, and characters engraved partially through said photoluminescent material whereby bevelled edge portions of said photoluminescent material are exposed.

2,975,319
TACITRON
Antonin Hiz, Prague, Czechoslovakia, assignor to Tesla, narodni podnik, Prague, Czechoslovakia
Filed Feb. 27, 1958, Ser. No. 717,954
Claims priority, application Czechoslovakia Mar. 6, 1951
3 Claims. (Cl. 313—186)

1. In combination in a gaseous discharge device of the tacitron type, an envelope having therein a cathode electrode, an anode electrode spaced from said cathode electrode, an apertured grid electrode positioned intermediate said cathode and plate electrodes, and a filling of hydrogen, said grid electrode being adapted to interrupt current flow between said cathode and plate electrodes by closing the aperatures of said grid electrode by a space-charge sheath which is opaque to electrons attempt-

ing to move from said cathode electrode to said anode electrode, the maximum dimensions of the apertures of



said grid electrode being substantially equal to the thickness of said space-charge sheath.

2,975,320
LOW-TEMPERATURE PLASMA SOURCE
Wolfgang Kanner, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 3, 1958, Ser. No. 777,952
4 Claims. (Cl. 313—187)



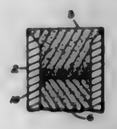
1. In an electron tube having an envelope, a low temperature plasma source including an emitter element within said envelope comprising intermixed particles of tungsten and barium oxide, means for maintaining said emitter at a temperature of about 1300° K., and a quantity of free atoms of an alkali metal having an ionization potential lower than the work function of tungsten in the space adjacent to the surface of said emitter element for producing positive ions at said surface by contact ionization of said free atoms by said tungsten particles.

2,975,321
CATHODE RAY TUBE MEMBER
Eric Pohle, Clifton, N.J., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed July 1, 1954, Ser. No. 440,592
8 Claims. (Cl. 313—255)



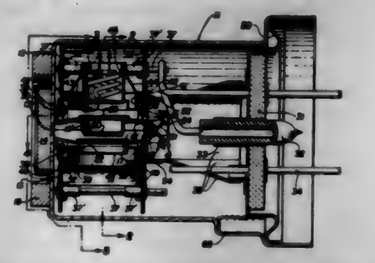
8. In an electron gun for a cathode ray tube, an electrode and a centering device therefor, said centering device comprising a plate attached to said electrode and extending radially outward thereform, and a resilient metal strip member, said member being generally V-shaped at its center portion and having a longitudinal slot therein and bowed end portions presenting a rounded surface on the outer ends thereof, said resilient member being attached to said plate with a portion of the end of said plate extending through said slot, and an elongated finger attached to the V-shaped portion of said strip member and extending substantially normal to the longitudinal axis thereof, said elongated finger having a first portion thereof attached to and immediately adjacent said V-shaped portion having a V-shaped cross section and a second portion constituting an extension of said first portion, said second portion being bent away from the axis of said first portion at the point of attachment thereto and being reversely bent at its outer end.

2,975,322
INDIRECTLY HEATED CATHODES
Huston W. Cockrill, Sherborn, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Dec. 29, 1958, Ser. No. 783,265
1 Claim. (Cl. 313—346)



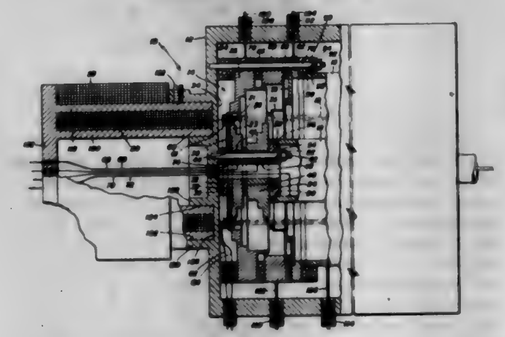
An indirectly heated cathode comprising a metal sleeve, an impregnated sintered metal pellet, constituting the emissive surface for the cathode, supported within the sleeve at one end thereof and having an imperforate surface forming an integral part of said pellet disposed substantially transversely to the longitudinal axis of said sleeve, an insulated heater encased in lightly sintered metal rigidly supported within substantially the entire portion of the sleeve not occupied by the pellet, said encasing metal and said imperforate surface tightly contacting each other so as to constitute a virtually uninterrupted thermal transfer path between the heater and the pellet and said encasing metal and said sleeve tightly contacting each other so as to constitute another virtually uninterrupted thermal transfer path between the heater and the pellet, and said imperforate surface constituting a barrier against migratory emissive material flow from the pellet to the heater.

2,975,323
ELECTRON DISCHARGE DEVICE OF THE KLYSTRON TYPE
Curtis E. Ward, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed June 5, 1959, Ser. No. 818,413
12 Claims. (Cl. 315—5.23)



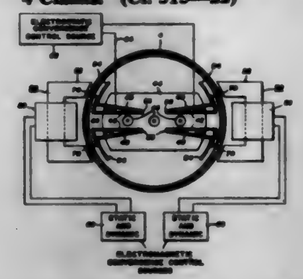
1. An electron discharge device of the velocity modulation type comprising a hollow evacuated body, the main axis of which extends between first and second vacuum sealed ends of the body, a mounting member mounted from said first end of the body, a pair of spaced-apart insulating plates fixedly secured on said mounting member, the planes of said insulating plates extending perpendicular to the main axis of the body, tube elements including a cathode mounted from and between said insulating plates, a wave energy permeable window sealed in said second end of the body, a cavity resonator mounted from said second end of the body having an iris opening therein aligned with said wave energy permeable window in said second end of the body, said cavity resonator having guideways formed in the sides thereof, and a pair of metal resilient guide members fixedly mounted between said plates, said resilient guide members slidably fitting within said guideways on the sides of said cavity resonator for aligning said resonator with the tube elements including said cathode mounted between said plates and for holding said cavity resonator against vibration within said device.

2,975,324
SLANTED GRADIENT ELECTRON GUN
Edward J. Cook, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 24, 1959, Ser. No. 822,545
10 Claims. (Cl. 315—5.31)



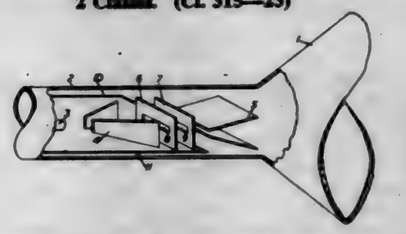
1. An apparatus comprising an annular thermionically emissive cathode surface for producing an electron beam, means producing a radially directed magnetic field in space adjacent to said surface for imparting orbital motion to electrons emitted from said surface and a plurality of electrodes on each side of an axial projection of said cathode and being electrically biased to apply forces to electrons in said beam overcoming the centrifugal forces acting on said electrons resulting from said orbital motion.

2,975,325
ELECTRON BEAM DEFLECTION SYSTEM
Eberhard Gundert, Ulm (Danube), and Gerwig Vibrans, Braunschweig, Germany, assignors to General Electric Company, a corporation of New York
Filed May 22, 1957, Ser. No. 660,885
Claims priority, application Germany May 26, 1956
4 Claims. (Cl. 315—22)



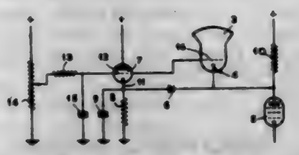
1. Electron beam deflection means for an electron discharge device comprising a pair of magnetic deflection plates straddling the path of the electron beam, said magnetic deflection plates having outturned flanges at one extremity thereof forming pole pieces adapted to magnetically couple to a source of magnetomotive force, the entire opposing surfaces of said magnetic deflection plates straddling the path of the electron beam being continuously, mutually, and angularly inclined to each other with the spacing of said opposing surfaces adjacent said one extremity greater than their spacing remote from said extremity, a pair of electrostatic deflection plates straddling the path of the electron beam between and in a common transverse plane with the pair of magnetic deflection plates, said electrostatic deflection plates being of non-magnetic material and having confronting surfaces substantially parallel to each other and to the path of the electron beam whereby an electrostatic field established therebetween will be substantially uniform throughout the space betwen said electrostatic deflection plates, and means for applying a potential diffrence to said electrostatic deflection plates.

2,975,326
CATHODE-RAY TUBES
Kenneth Collett Burn, Rusholme, Manchester, England, assignor to Ferranti, Limited, Lancashire, England, a company of Great Britain
Filed Aug. 17, 1959, Ser. No. 834,169
Claims priority, application Great Britain Aug. 26, 1958
2 Claims. (Cl. 315—23)



1. A cathode-ray tube of the kind having first and second pairs of electrostatic deflector plates in that order from the electron gun including two metallic plates disposed between said first and second pairs of deflector plates normal to the direction of the electron beam in its undeflected condition, each of said plates containing an aperture through which the electron beam passes, and electrical connections to said two plates for applying an adjustable potential difference between said two plates related to the mean deflector plate voltage to form an electron lens capable of varying the effective sensitivity of the first pair of deflector plates.

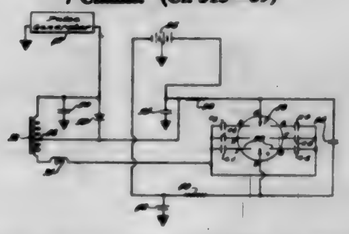
2,975,327
CIRCUIT FOR AVOIDING TOO LOW A POTENTIAL DIFFERENCE BETWEEN CONTROL GRID AND CATHODE OF A CATHODE-RAY TUBE
Tennis Poorter, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1959, Ser. No. 856,555
Claims priority, application Netherlands Dec. 2, 1958
3 Claims. (Cl. 315—30)



1. A circuit for controlling the potential difference between the control grid and cathode of a cathode ray tube comprising a source of signals, means applying said signals to said cathode, a unilaterally conductive element having a cathode connected to said cathode of said cathode ray tube and an anode connected to ground reference potential by way of resistance means, a source of variable positive direct voltage, a discharge tube hav-

ing control grid, anode, and cathode electrodes, said discharge tube being connected as a cathode follower, with the control grid electrode being connected to said source of variable direct voltage and to the control grid of said cathode ray tube, and the cathode of said discharge tube being connected to said anode of said unilaterally conductive element.

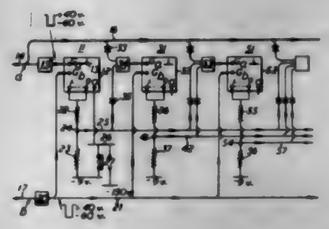
2,975,328
FLASH LAMP ASSEMBLY
Rudolf Ludeke and Marion B. Gregory, Cincinnati, Ohio, assignors to The Baldwin Piano Company, Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 5, 1960, Ser. No. 604
7 Claims. (Cl. 315—59)



7. A flash lamp assembly comprising, in combination: a socket body of electrically insulating material having a face and a parallel surface on the side thereof opposite the face, said body having eight parallel passages extending therethrough and spaced at a common distance about a common axis normal to the face; a contact member disposed within each passageway having a prong engaging portion confronting the face and a lug portion extending from the surface of the body; a flash lamp having eight outwardly extending contact prongs confronting the face of the socket body with each of the contact prongs engaged within a prong engaging portion of a contact member, six of said prongs being connected to firing elements of said tube and two of said prongs being connected to arc discharge elements of said tube, the lugs of the contact members engaging the six prongs extending normally from the surface and the other two lugs extending outwardly from the socket body approximately parallel to the surface of the socket body; an electrically conducting disc having a flat strip portion integral therewith and in the plane thereof mechanically and electrically connected to each of the six lug portions, said strip portions maintaining the discs in spaced relationship parallel to the surface; an electrically conducting plate disposed on each side of each disc, said plates having outwardly extending strips integral therewith and the strips being electrically interconnected; a layer of electrical insulating material disposed between each confronting disc and plate; a mass of electrically insulating hermetic sealing material disposed about the lug portions from the surface of the socket body and encasing the plates and discs, the two lug portions extending outwardly from the sealing material; and a choke mounted on the strip of the plate remote from the surface of the socket body and electrically connected thereto, said choke extending to the exterior of the sealing material.

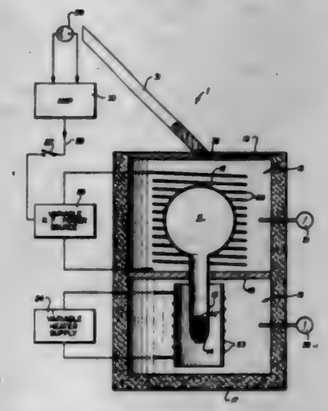
2,975,329
ELECTRONIC COUNTERS
John Anderson Irvine, Dunfermline, Fife, and Gavin Mowat Rendall, Edinburgh, Scotland, assignors to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland
Filed Sept. 25, 1958, Ser. No. 763,380
Claims priority, application Great Britain Oct. 1, 1957
4 Claims. (Cl. 315—84.6)

1. A reversible multistage electronic counter for operation by pairs of sequential overlapping voltage pulses *a* and *b* in either order, each pair in the order *ab* representing a unit to be added to the count and in the order *ba* representing a unit to be subtracted from the count, including for each numerical power required a glow-discharge counter tube of the kind having a circular array of digit-representing cathodes surrounding a common anode, each pair of adjacent cathodes having between them and individual to them first and second electrodes spaced in that order in the direction of increasing the count, each tube having first and second guide-rails common to all the cathodes of the tube and connected



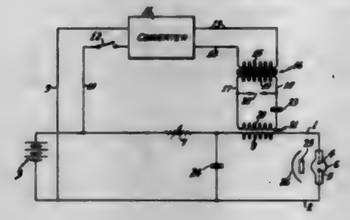
to all the first electrodes and to all the second electrodes of the tube respectively, means for applying in a negative-going sense each *a* pulse to the first rails of all the tubes simultaneously, and each *b* pulse to the second rails of all the tubes simultaneously, and for each tube, except that for the highest power, inhibiting means, operative when the discharge of the tube is directed to any of the digit cathodes of the tube which represent digits other than zero, to inhibit the counting action of the tube of each higher power whilst the glow remains directed to that cathode.

2,975,330
ELECTRODELESS DISCHARGE METHOD AND APPARATUS
Arnold L. Bloom, Los Altos, and William E. Bell, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Continuation of application Ser. No. 796,936, Mar. 3, 1959. This application June 1, 1960, Ser. No. 33,339
26 Claims. (Cl. 315—115)



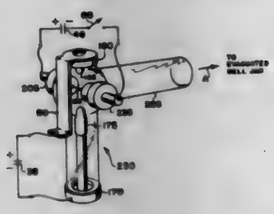
1. Electrodeless discharge lamp apparatus comprising an electrodeless discharge region, electromagnetic means adjacent said discharge region for exciting a substantially noise-free discharge therein, and means for maintaining the temperature of said discharge region at a value which concentrates the intensity of the lamp within a very narrow frequency band thereby enabling constant spectral quality lamp operation over long periods of time.

2,975,331
STARTING AND OPERATING CIRCUIT FOR HIGH PRESSURE ARC LAMPS
Manuel Suriego Diaz, Union, and Taylor D. Whitenack, Jr., Livingston, N.J., assignors to Engelhard Hanovia, Inc., a corporation of New Jersey
Filed Dec. 16, 1959, Ser. No. 859,938
6 Claims. (Cl. 315—163)



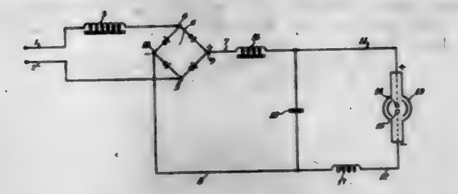
1. An operating and ignition system for a high pressure gaseous discharge lamp containing an ionizable atmosphere and spaced electrodes, comprising said lamp, electrical leads connected to the electrodes, a coil in one of the leads in series with the lamp, the coil being a component of a radio frequency ignition means, a capacitor connected across the lamp, the coil, lamp, capacitor and said leads comprising a radio frequency circuit, and a low pressure gas-filled envelope positioned near the lamp at a location within the radio frequency field of the radio frequency circuit.

2,975,332
PLASMA PROPULSION DEVICE
Walter L. Starr, Palo Alto, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 2, 1959, Ser. No. 856,821
4 Claims. (Cl. 315—169)



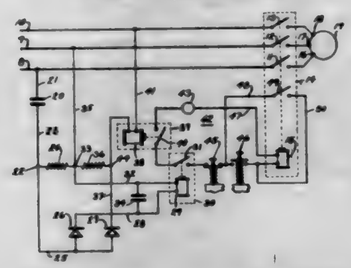
1. A plasma propulsion system adapted for operation substantially in a vacuum environment, said system comprising in combination: first and second oppositely disposed electrodes, means applying an electrical voltage between said electrodes, a metal member serving as a "backstrap" adjacent the path between said electrodes and disposed on the side of said electrodes opposite to the direction in which thrust is desired, means for introducing a plasma between said electrodes, said propulsion system being so constructed and arranged that the introduction of said plasma between said electrodes causes the electrical voltage between said electrodes to break down the gap therebetween, said "backstrap" being connected so that a substantial portion of the discharge current through said gap flows through said "backstrap," the forces acting on said plasma upon breakdown of said gap thereby causing acceleration of said plasma away from the vicinity of said electrodes in a direction substantially away from said "backstrap."

2,975,333
OPERATING CIRCUIT FOR HIGH PRESSURE ARC LAMPS
Lester F. Bird, Newark, N.J., assignor to Engelhard Hanovia, Inc., a corporation of New Jersey
Filed Nov. 13, 1958, Ser. No. 773,590
1 Claim. (Cl. 315—285)



An operating circuit for a high pressure arc lamp comprising electrical conductors connectable directly to a line source of alternating current, a first series reactor in at least one of the conductors, a full wave rectifier having input and output means, the conductors including the said reactor being connected to the rectifier input means, rectifier output conductors connected to the rectifier output means, a high pressure arc lamp, the rectifier output conductors being connected to the terminals of the high pressure arc lamp, a second series reactor in at least one of the rectifier output conductors, a secondary winding of a radio frequency transformer connected in one of the rectifier output conductors near the lamp, a radio frequency by-pass capacitor connected across the rectifier output conductors between the said winding and second series reactor whereby radio frequency components are confined to a portion of the circuit near the lamp and isolated from the second reactor, the circuit having a low resistance such that initially substantially the full line voltage is applied to the lamp.

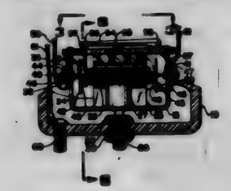
2,975,334
PHASE FAILURE AND PHASE REVERSAL PROTECTIVE CIRCUIT
John E. Callan, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 6, 1958, Ser. No. 713,749
8 Claims. (Cl. 317—48)



1. In a protective circuit for a polyphase system the combination of a first phase shift network adapted to be connected across one phase of a polyphase source to provide a first phase shifted voltage drop; a second phase shift network connected at one end to said first phase shift network and also adapted to be connected across a second phase of a polyphase source to provide a second phase shifted voltage drop; relay means including a coil and contacts operable thereby; a first rectifier; a second rectifier; connections joining said first rectifier and said relay means coil in series across one of said voltage drops, and joining said second rectifier across both said voltage drops; line switch means having a coil and contacts

adapted to be joined to a polyphase source; and an energizing circuit for said switch means coil including said relay means contacts.

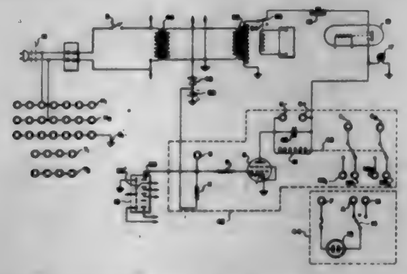
2,975,335
LIGHT POWERED SWITCH
Jack Harris, Tenafly, N.J., assignor to Anton Electronic Laboratories, Inc., Brooklyn, N.Y., a corporation of New York
Filed Mar. 5, 1958, Ser. No. 719,295
7 Claims. (Cl. 317—129)



1. A light powered switch comprising in combination, a non-conductive housing having a bottom wall, first and second external terminals extending therefrom and a cover having a windowed aperture, a photocell mounted within said cover having a light sensitive face disposed within said cover aperture and a voltage output variable as a function of the light incident thereon, a galvanometric movement relay mounted within said housing comprising a U-shaped conductive frame mounted on said first external terminal having a non-conductive cover plate secured thereto and a non-conductive bearing mounted in each of its arms, a non-magnetic post secured to said first external terminal and extending within said frame, a permanent cylindrical magnet secured to said post, a rectangular coil having a pair of oppositely extending pivot shafts secured to the ends of said coil respectively and pivotally mounted within said bearings, said coil being adapted to pivot about said magnet, a spiral hair spring mounted about each of said shafts, each of which has its inner end attached to said shaft and its outer end insulatingly attached to said frame so as to retain said coil in rest position, a movable contact arm mounted on one of said shafts and extending through said non-conductive cover plate, a stationary contact mounted on said cover plate and connected to said frame, contact leads connecting said photocell to said coil shafts respectively, and contact leads connecting said second external terminal to said one pivot shaft having said movable contact mounted thereon whereby the voltage produced by said photocell causes a current to flow through said coil pivoting said coil about said magnet and causing said movable contact to engage said stationary contact so as to complete a circuit connection between said first and second external terminals.

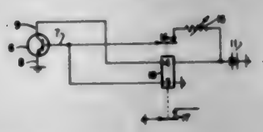
2,975,336
EDUCATIONAL APPARATUS
Hubert J. Schlafly, Hollis, N.Y., assignor to Teleprompter Corporation, New York, N.Y., a corporation of New York
Filed Aug. 4, 1955, Ser. No. 526,476
1 Claim. (Cl. 317—137)

A script display and auxiliary circuit control system comprising a script carrier of laminar form having a script thereon, means to advance the carrier from supply to take-up means past a display station, a plurality of switches arranged adjacent said station transversely of the direction of motion of said carrier relative to said station in position to be actuated individually upon passage thereat of discontinuities in said carrier occupying positions ranged transversely of said direction of motion, a plurality of grid controlled gas rectifiers, means to bias said rectifiers to cut-off, said rectifiers having their cathodes connected together, a connection between the grid of each of said rectifiers and a separate one of said switches adapted to unbias such rectifier upon actuation of such switch, a plurality of relays each having its actuating coil in series with the plate-cathode circuit of one of said rectifiers, each of said relays having two pairs of normally closed contacts and two pairs of normally open contacts, one contact of each normally closed pair being in common with one contact of each normally open pair, a source of alternating current voltage, means to apply an alternating current voltage from said source to the series combination of each of said recti-



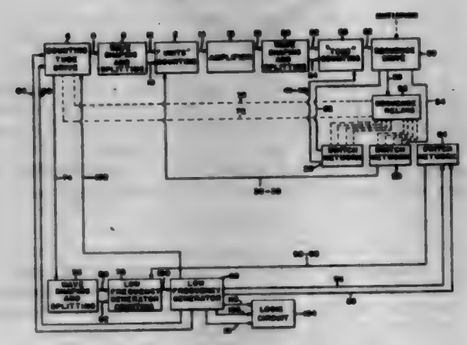
fiers and associated relay coil, means connecting one terminal of said source with one of the common contacts on one of said relays, means connecting the other terminal of said source through a load device to the normally open contact associated with said one common contact, means connecting the other common contact of said one relay to a common contact of another of said relays, means connecting the normally open contact of the other normally open contact pair of said one relay to the grid of the grid controlled rectifier in series with the coil of said one relay, and means connecting the normally closed contact associated with said common contact of said other relay to the cathodes of said rectifiers.

2,975,337
SLOW ACTING RELAY-TRANSISTOR COMBINATION
Robert T. Cleary, Lockport, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed July 31, 1958, Ser. No. 752,347
8 Claims. (Cl. 317—142)



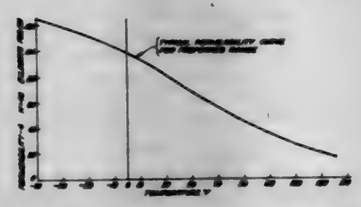
7. In combination, a relay device having a main winding, an auxiliary winding, and a self-interrupter contact, a direct current source for energizing said main winding and a transistor having an input circuit and an output circuit, said self-interrupter contact being operative on closure to apply to said transistor a direct current potential to bias said transistor for conduction, said main winding being connected in said output circuit in series with said direct current source and said auxiliary winding being connected in said input circuit, with said connections of said windings being of a polarity such that a negative feedback from said output circuit to said input circuit is obtained by induction from said main winding to said auxiliary winding, said negative feedback opposing said direct current bias potential thereby causing periodic, slow action of said relay device under the control of said self-interrupter contact.

2,975,339
COLD CATHODE COUNTING TUBE SEQUENCE CONTROL SYSTEM
Maurice E. Bivens, deceased, late of Waynesboro, Va., by Lucienne J. Bivens, administratrix, Schenectady, N.Y., and Carter Sinclair, Waynesboro, Va., assignors to General Electric Company, a corporation of New York
Filed Sept. 3, 1957, Ser. No. 681,712
15 Claims. (Cl. 317—149)



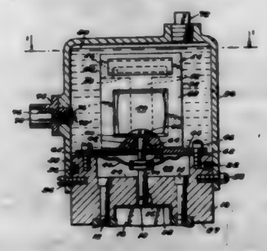
1. A sequence control system comprising at least one multi-cathode electric valve, a plurality of selector switches, means connecting said selector switches to cathodes in said valve, an electric discharge device, means coupling said electric discharge device to a first selected one of the cathodes in said valve whereby said device is rendered conductive in response to conduction of said selected cathode, a plurality of load circuit controlling means, means coupling the output of said electric discharge device to said load circuit controlling means and to said selector switches, means connecting each of said load circuit controlling means to a corresponding one of said selector switches whereby when one of said load circuit controlling means is operated the corresponding selector switch is connected to said device to couple the output thereof to a second selected one of said cathodes in said valves, and means to transfer conduction from said second cathode in said valve to succeeding cathodes in said valve in a sequential manner and at a predetermined rate until conduction occurs at said first selected cathode.

2,975,339
MAGNETIC ALLOY
Ralph H. Mitchel and Raymond E. Schwyn, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 14, 1958, Ser. No. 728,188
6 Claims. (Cl. 317—158)



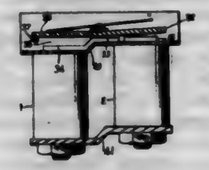
1. A temperature responsive magnetic alloy having a magnetic permeability which decreases with increases in temperature, said alloy comprising by weight about 29.25% to 31.25% nickel, about 1% to 2.4% manganese, less than about 0.5% silicon, less than about 0.3% chromium and the balance substantially iron.

2,975,340
OIL BATH SOLENOID
Hollis W. Jencks, Ferndale, and Edmond A. Viale, Southfield Township, Oakland County, Mich., assignors to Detroit Coil Company, Ferndale, Mich., a corporation of Michigan
Filed May 7, 1956, Ser. No. 583,323
18 Claims. (Cl. 317—185)



6. In an oil bath solenoid assembly for shifting a part to be actuated, an hermetically closed housing, a solenoid in the housing having a reciprocable plunger, actuating rod means sealingly extending through a wall of the housing and reciprocably supported therein in substantially coaxial alignment with the plunger and floatingly connected to the plunger to be shifted by the plunger upon energization of the solenoid, and an oily fluid filling the housing and enveloping the solenoid and bathing its plunger and the floating connection between the plunger and actuating rod means.

2,975,341
SINGLE GAP RELAY
John C. Schuessler, West Covina, and Andrew O. Adams, Inglewood, Calif., assignors to Leach Corporation
Filed June 23, 1958, Ser. No. 743,924
8 Claims. (Cl. 317—188)



1. A relay comprising a duality of coils having cores therein and arranged in adjacent relationship, magnetic flux-conductive means interconnecting the cores of said coils at one end thereof, an armature, and means mounting said armature in a magnetic flux-conductive working gap-free relationship on the opposite end of one of said cores so that said armature is pivotal relative to said opposite end between a position remote from the opposite end of the other of said cores and a position in contact therewith, whereby only a single working gap is provided in the magnetic circuit of said relay.

2,975,342
NARROW BASE PLANAR JUNCTION PUNCH-THRU DIODE
Robert H. Redker, Watertown, Mass., assignor, by mesne assignments, to Research Corporation, New York, N.Y., a corporation of New York
Filed Aug. 16, 1957, Ser. No. 678,611
12 Claims. (Cl. 317—234)

1. An impure semiconductor planar junction diode comprising a wafer of base material having concentric rectifying and ohmic contacts on opposite sides thereof the width of the base material between said contacts be-

ing such that the diode electrical characteristics depend on the value of the ohmic contact generation velocity S



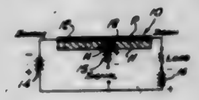
which is the ratio of current flow to the change in the charge of minority carriers at said ohmic contact.

2,975,343
SEMICONDUCTOR RECTIFIERS
Otto Schärli, Baden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 14, 1958, Ser. No. 773,851
Claims priority, application Switzerland Nov. 29, 1957
5 Claims. (Cl. 317—234)



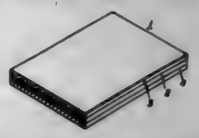
1. A semiconductor rectifier arrangement including a semi-conductor rectifier, a conductor operatively connected to said rectifier and a casing for said rectifier which casing surrounds a portion of said conductor, characterized in that at least at one place along said conductor connected to the rectifier there is arranged a ring member which encloses the conductor, which ring member consists of a material with high initial and maximal permeability with small magnetic field strengths, as well as with small hysteresis losses, and in that a portion of the ring member contactingly surrounds a portion of said casing.

2,975,344
SEMICONDUCTOR FIELD EFFECT DEVICE
Horst A. R. Wegener, Bloomfield, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed May 28, 1959, Ser. No. 816,528
8 Claims. (Cl. 317—235)



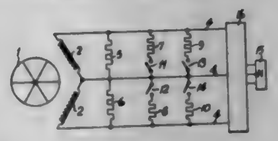
1. A field effect transistor comprising, a quantity of semiconductor material diffused with an element to produce a supporting block having a substantially zero conductance, a semiconductor layer formed on the surface of said block by the diffusion of impurities into said block for the transmission of current between two terminal areas of said layer, and a semiconductor electrode having a conductivity type opposite to that of the layer conductivity type positioned between said terminal areas for the application of a controlling voltage.

2,975,345
ELECTRIC CAPACITOR
Lewis R. Koller, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 15, 1957, Ser. No. 659,285
3 Claims. (Cl. 317—258)



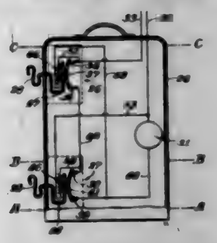
1. An electric capacitor comprising a first capacitor electrode, a thin continuous film of dielectric, vacuum evaporated upon said first electrode, and consisting essentially of amorphous zinc sulfide containing 0.01 to 10.0 weight percent of manganese, and a second conducting electrode vacuum evaporated upon said dielectric.

2,975,346
WINDING AND HAULAGE EQUIPMENT
Leslie Carter Ledbrook, Cawston, near Rugby, England, assignor to The British Thomson-Houston Company Limited, London, England, a British company
Filed Mar. 27, 1958, Ser. No. 724,336
Claims priority, application Great Britain Mar. 28, 1957
5 Claims. (Cl. 318—169)



1. Winding and haulage apparatus for raising and lowering a load comprising an electric winding motor, a permanent magnet rotor to said motor, a polyphase stator winding to said motor, a first set of dynamic braking resistances connected permanently across said stator windings, a second set of dynamic braking resistances, switches adapted to connect said additional dynamic braking resistances across said stator windings and means for actuating said switches in accordance with the position of the load to provide additional braking effort when the load approaches the end of its downward travel.

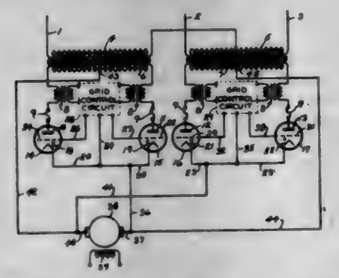
2,975,347
LIQUID LEVEL CONTROL SYSTEM
Edward J. Schaefer, Fort Wayne, Ind. (Franklin Electric Co. Inc., 400 E. Spring St., Bluffton, Ind.)
Filed May 6, 1957, Ser. No. 657,440
14 Claims. (Cl. 318—240)



2. A liquid level control system for starting and stopping a pump arrangement at predetermined upper and lower liquid levels, said system comprising in combination an electric motor having at least one winding connected in a circuit, a pair of heat responsive switches,

means for connecting said switches in series with said winding, a pair of heating elements in physical proximity to the respective switches, means for connecting one of said heating elements to be energized during both the operating and rest condition of the motor for holding one of said switches in open condition, means for connecting the other of said heating elements to be energized in response to closing of said one switch, the other of said switches being biased closed, and a pair of heat conducting elements associated with the respective switches and heating elements and exposed for contact with liquid to conduct heat from the heating elements for preventing actuation of the respective switches, said switches being located at upper and lower positions corresponding approximately to said upper and lower levels with the associated heat conducting eelments being cooled by the liquid until the liquid level falls below the respective positions, said one switch being closable to thereby connect said winding to said circuit and thus operate the motor when the liquid reaches said upper level and thereby effects cooling of the heat conducting element associated with said one heating eelment, and said other switch being operative to disconnect said winding for stopping the motor when the liquid falls below said lower level whereby to discontinue cooling of the heat conducting element associated with said other heating element.

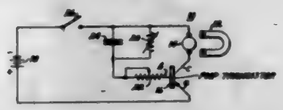
2,975,348
DIRECT CURRENT MOTOR CONTROL APPARATUS
John E. Callan and William J. Hudson, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 12, 1958, Ser. No. 760,586
7 Claims. (Cl. 318—257)



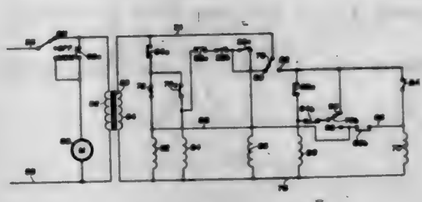
1. A current controlling apparatus for supplying reversible current to a direct current machine, the combination comprising: first and second externally controlled full wave rectifiers having input and output sides, a voltage phase orientating network connectible between the lines of a polyphase source and the input sides of said rectifiers to provide voltages of different phases at said rectifiers, circuit connections joining the output side of said first rectifier to the input side of said second rectifier and joining the output side of said second rectifier to the input side of said first rectifier, and supply terminals joined to the output sides of both of said rectifiers adapted for connection at either side of the direct current machine.

2,975,349
LOAD CONTROL MOTOR CIRCUIT
Milton W. Green, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 27, 1955, Ser. No. 543,077
23 Claims. (Cl. 318—331)

1. A motor control circuit comprising, in combination, connections for a source of direct potential; a semi-conductor having an emitter electrode, collector electrode and base electrode; means coupled to said connections for deriving from said source a predetermined amount of biasing current and applying the same to the base-to-emitter circuit of said semi-conductor; and a motor having an armature and field, said armature being connected in series with the emitter-to-collector circuit of said semi-conductor and the connections for said source of direct potential.



2,975,350
MOTOR AND APPARATUS FOR CONTROLLING UNATTENDED PARKING LOT
Eugene T. Mahoney, Chicago, Ill., assignor to Johnson Fare Box Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 26, 1957, Ser. No. 642,496
6 Claims. (Cl. 318—487)

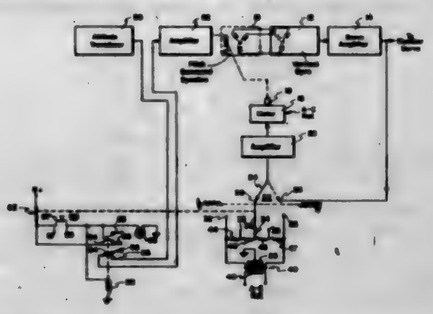


1. Apparatus of the character described comprising a first switch, a second switch, means for selectively actuating said first and second switch sequentially and simultaneously, means for yieldably opposing simultaneous actuation of said switches, a time-delay relay connected to said first switch, a third switch operatively associated with said time-delay relay and actuable thereby, said third switch being connected to said second switch, an electromagnetic device operatively connected in series with said second and third switches, said electromagnetic device having a movable element which moves in response to energization of said device, two terminal lines, said first switch and relay being series connected across said terminal lines, and said second switch, third switch and said electromagnetic device also being connected in series across said terminal lines.

2,975,351
PITCH CONTROL MECHANISM FOR AIRCRAFT
Wesley D. Wegley, Canoga Park, Calif., assignor to Lear, Incorporated
Filed Feb. 18, 1958, Ser. No. 715,915
7 Claims. (Cl. 318—489)

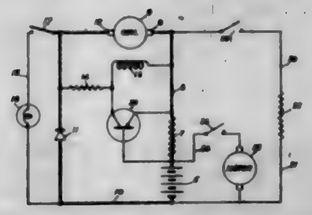
1. In combination with a synchro device having stator and rotor windings, wherein the rotor winding is supported on a rotor, wherein the synchro device develops an output signal upon the application of signals to the stator windings, and wherein the amplitude and phase of the output signal varies with the position of the rotor, a source of signals to be connected to the stator windings, relay means to connect said source to the stator windings, a motor having its output shaft connected to the rotor, means including a first manually operable switch for controlling the operation of the motor to effect rotation of the rotor at a predetermined speed, a second manually operable switch to connect the relay means to a source

of energizing voltage, and said switches being directly connected to permit the second switch to disconnect said



relay means from the energizing voltage source upon actuation of said first switch.

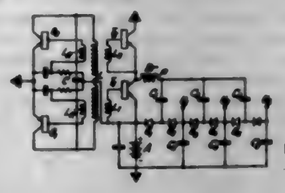
2,975,352
BATTERY CHARGING GENERATOR REGULATOR AND REVERSE CURRENT ELIMINATING DIODE
Gerald M. Ford, 1209 Jayne Drive, Kokomo, Ind.
Filed Nov. 19, 1956, Ser. No. 623,266
2 Claims. (Cl. 320—12)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A transistor current regulator for generator-battery systems comprising: a generator having a field coil and a first low impedance resistance in series shunting said generator; a storage battery coupled in circuit with said generator, said circuit including a unidirectional means oriented to permit flow of current only from said generator to said battery and including a second low impedance resistance between one terminal of said battery and one terminal of said generator; a transistor having base, emitter, and collector electrodes, the emitter and collector electrodes being coupled in parallel to said field coil and the emitter and base electrodes being coupled in parallel to said second low impedance resistance; and a load output coupled across said battery and said second low impedance resistance whereby the current in said field coil will be controlled by division of current between said field coil and said emitter-collector circuit of said transistor in accordance with transistor conduction produced by the base-to-emitter voltage in response to the voltage drop across the second low impedance resistance occasioned by the relative voltages of said generator and said battery and the current drain of said load output.

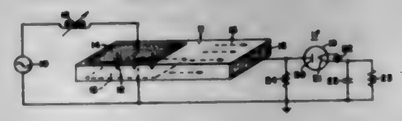
2,975,353
D.C.-D.C. CONVERTER
Fritz G. R. Rockstuhl, New-Ulm (Danube), Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed Sept. 27, 1956, Ser. No. 612,549
Claims priority, application Germany Oct. 11, 1955
3 Claims. (Cl. 321—2)

1. Apparatus for converting a D.C. voltage from a low-voltage source to a higher D.C. output voltage, comprising a low voltage source; a transistor oscillator connected with said low voltage source and generating an alternating voltage; a voltage multiplier having an input and having an output which constitutes the output of the apparatus, transistors acting as switches, each of said transistors having its conductivity controlled by a component



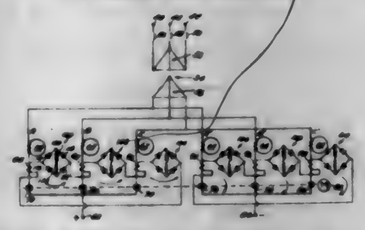
of said alternating voltage and said switching transistors connecting the input of said multiplier with said voltage source to supply current of periodically reversing polarity to the multiplier, the reversing of the polarity being controlled by said alternating voltage, said multiplier comprising a network of condensers and rectifiers.

2,975,354
ELECTRICAL CONVERSION APPARATUS
Charles A. Rosen, East Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 30, 1956, Ser. No. 625,347
9 Claims. (Cl. 321—8)



2. A high voltage supply comprising a piezoelectric member, means for establishing resonant vibrations therein, output electrode means applied thereto for deriving alternating electrical potentials therefrom upon the occurrence of said vibrations, said electrodes having appreciable inter-electrode capacity, a rectifier, a storage capacitor, means coupling said rectifier and said capacitor in series across said output electrode means, a resistive conductive path shunting said output electrode means for providing a discharge path to the uni-directional charge developed at said output electrode means, and means coupled to the terminals of said storage capacitor for deriving direct potentials from said supply.

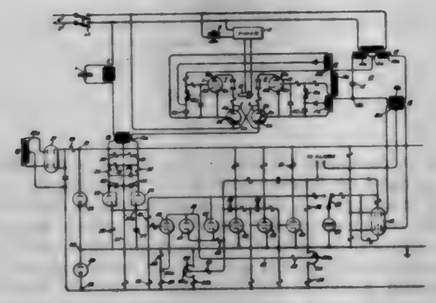
2,975,355
BY-PASS CIRCUIT FOR CONTACT CONVERTERS
Isadore K. Dortort, Philadelphia, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 20, 1958, Ser. No. 722,760
8 Claims. (Cl. 321—48)



1. In a multiphase contact converter for exchanging energy between a multiphase A.-C. system and a D.-C.

system; each phase of said multiphase contact converter including a series connected commutating reactor and contact; each of said contacts being driven into and out of contact engagement in synchronism with the frequency of said A.-C. system to connect and disconnect respectively their respective A.-C. phase to said D.-C. system; a compensation circuit for each rectifier phase comprising a current measuring means; each of said current measuring means being constructed to measure the magnetizing current of its respective commutating reactor passed through its respective contact; each of said current measuring means being connected in series with its said respective contact and the contact of an adjacent phase; each of said current measuring means being further connected to pass the said measured current through said series circuit through its said respective contact in a direction opposite to the flow of magnetizing current therethrough.

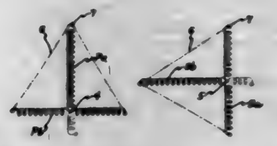
2,975,356
CURRENT REGULATOR
Benjamin Cooper and Carter Sinclair, Waynesboro, Va., assignors to General Electric Company, a corporation of New York
Filed June 19, 1956, Ser. No. 592,442
4 Claims. (Cl. 323—4)



1. A current regulator comprising a pair of alternating voltage supply terminals, electric valve means supplied from said terminals having an output circuit and an input circuit, a current transformer supplied from said output circuit, a resistance capacitance wave-shaping network connected to be supplied from the secondary winding of said current transformer for producing a voltage of generally triangular wave shape having a peak value related to the root means square value of the current in said output circuit a rectifier supplied from said network and having in its output circuit a capacitor across which is developed a direct signal voltage having a value proportional to said peak value, a source of direct reference voltage, and a phase angle control means connected to said input circuit and responsive to the difference of said reference voltage and said signal voltage for determining the firing point of said valve means in each cycle of supply voltage to maintain the effective value of said current substantially constant at a value related to said reference voltage.

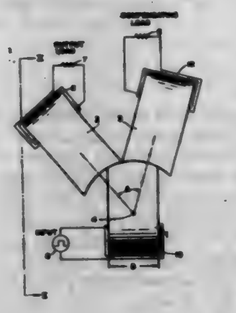
2,975,357
TRANSFORMER
Emmett W. Manning, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Sept. 26, 1958, Ser. No. 763,693
6 Claims. (Cl. 323—44)

1. The combination of two single phase transformers which are interconnected to simulate Y to delta and delta to Y three phase transformers, each of said two transformers having a primary and secondary winding, the primary winding of one transformer being T connected to the mid-point of the primary winding of the other transformer, and the secondary winding of said other transformer being T connected to the mid-point of the



secondary winding of said one transformer, and each of said windings which is T connected having a voltage ratio with respect to the winding to which it is T connected of about 0.866 to 1.

2,975,358
TRANSFORMER
Charles Stanley Ashman, Epsom, Brian Harry Laurence James, Reigate, and Michael Terence Stockford, South Croydon, England, assignors to North American Philips Company, Inc., New York, N.Y.
Filed Sept. 8, 1958, Ser. No. 759,694
5 Claims. (Cl. 323—61)

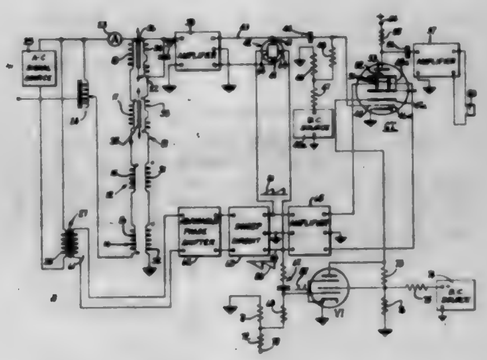


5. A transformer system providing variable output to a utilization device but substantially uniform source loading, comprising a primary magnetic core having end portions, first and second secondary magnetic cores having closely adjacent end portions forming a substantially continuous surface opposed to the primary core end portions, separate windings on each of the magnetic cores, means coupling the winding on the primary core to the source, means coupling the winding on the first secondary core to the utilization device, means coupling the winding on the second secondary core to a compensating artificial load, and means for moving relatively to one another the primary core end portions and the said substantially continuous surface formed by the secondary core end portions so that the relative magnetic coupling of the primary core to the first secondary core may be varied to vary the transformer output but the total magnetic coupling of the primary core to both secondary cores remains essentially the same affording substantially constant loading of the source.

2,975,359
ELECTRICAL APPARATUS
Friedrich M. O. Foerster, 14 Kurrerstrasse, Reutlingen, Germany
Filed Dec. 4, 1957, Ser. No. 700,715
8 Claims. (Cl. 324—34)

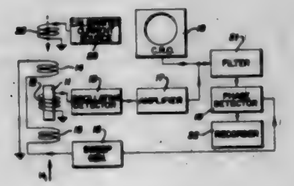
2. Magnetic testing apparatus comprising, a pair of balanced transformer detectors, means for energizing the primaries of said transformers with alternating current energy from an alternating current signal source,

means for combining the signals derived across the secondary windings of said balanced transformer detectors whereby equal loading upon said transformers provides substantially zero signal across said secondaries, means for coupling the signal thus derived to a first pair of deflection plates of an oscilloscope, means for applying a sweep signal to a second pair of deflection plates of said oscilloscope orthogonal to said first pair whereby the signal waveform derived across the connected-together secondary windings may be viewed upon said oscilloscope, a gate tube having a target electrode, a



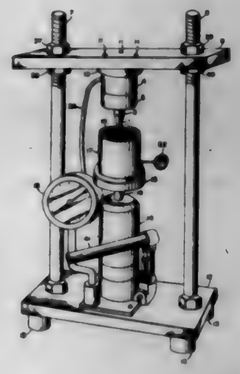
source of an electron beam, deflection electrodes through which said beam passes and a control grid, the structure of said tube being arranged whereby said electron beam reaches said target electrode only when passing through a restricted region between said deflection electrodes, means for coupling the sweep signal applied to the second pair of oscilloscope deflection plates to said deflection electrodes, means for coupling the signal applied to said first pair of deflection plates to said control grid, and means for driving a signal indicative of the beam current which reaches said target electrode.

2,975,360
MAGNETOABSORPTION FLUX METER AND GRADIOMETER
William E. Bell, Palo Alto, Calif., assignor to Varian Associates, San Carlos, Calif., a corporation of California
Filed July 5, 1956, Ser. No. 595,965
18 Claims. (Cl. 324—43)



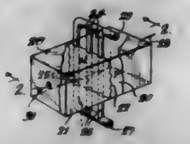
1. Apparatus for measuring the strength of an unknown magnetic field which comprises an object of good magnetic permeability adapted to be positioned in said magnetic field which magnetizes said object, means for cyclically varying the magnetism of said object through its hysteresis loop, means for inducing a radio frequency magnetic field in said object from a radio frequency source, means for detecting the absorption of energy from said radio frequency source, said absorption being a function proportional to the strength of said unknown magnetic field, and means for converting said detected absorption into a magnetic field reading indicating the strength of said unknown magnetic field.

2,975,361
APPARATUS FOR DETERMINING THE MOISTURE CONTENT OF GRANULAR AND FIBROUS MATERIALS
Charles E. Holaday, 2879 S. Buchanan St., Arlington 6, Va.; dedicated to the Public
Filed Mar. 5, 1958, Ser. No. 719,460
1 Claim. (Cl. 324—65)
(Granted under Title 35, U.S. Code (1952), sec. 266)



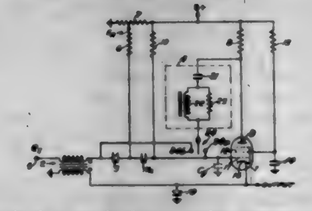
In an apparatus for determining the moisture content of granular or fibrous material by measuring the electrical resistance of a sample while the latter is maintained under compression, the improvements which comprise a cylindrical receptacle of electrically non-conducting material for holding the sample to be tested and coacting therewith, a substantially cylindrical electrode assembly in axial alignment with said receptacle, said electrode assembly comprising a cylindrical metallic base, a cylindrical block of electrically non-conductive material having a diameter corresponding to the diameter of the metallic base mounted coaxially on said base, an elongated cylindrical electrically conductive contact having a conical shaped tip at one end thereof and extending through the block and rigidly secured to the base in axial alignment therewith for insertion into a sample contained in the receptacle, tubular insulating means having an outside diameter corresponding to the base diameter of the conical shaped tip surrounding said cylindrical contact and abutting both the conical base of said cylindrical contact and the metallic base, a discal electrically conductive contact having an outside diameter less than the diameter of the cylindrical block but substantially greater than the outside diameter of the tubular insulating means surrounding said tubular insulating means being rigidly secured to the cylindrical block and base on the side of the cylindrical block which is proximate to the conical tip of the elongated cylindrical contact, the conductive surfaces of the conical tip contact and the discal contact being disposed in planes substantially at right angle to each other, insulating means to insulate the contacts from the metallic base, means for connecting the contacts into an electrical resistance measuring circuit, and means for applying pressure between the receptacle and the electrode assembly to force the conductive contacts of the electrode assembly into engagement with a sample contained in said receptacle and to uniformly compress and pack said sample within the receptacle circumjacent the conductive surfaces of the conical tip, the discal contact, and the walls of the receptacle.

2,975,362
SEMICONDUCTOR DIODES FOR GAS DETECTION
Moses G. Jacobson, Penn Township, Allegheny County, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 6, 1957, Ser. No. 657,343
30 Claims. (Cl. 324—71)



1. In a fluid detector, a rectifying device comprising a junction formed by intimately contacting portions of two dissimilar materials at least one of which is a semiconductor, a protecting layer of insulating material on the outer surface of said device, and conduit means extending through said layer for delivering fluids to the interior of said layer where they flow to said junction, said protecting layer being impenetrable by said fluids except through said conduit means.

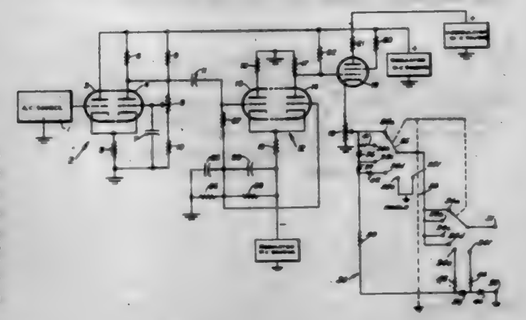
2,975,363
MULTIAR CIRCUIT
Herman H. Wolfish, East Paterson, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 8, 1957, Ser. No. 658,916
10 Claims. (Cl. 328—28)



1. A circuit for producing a pulse output responsive to an amplitude comparison of an input voltage having a negative-going sawtooth waveform and a reference voltage, comprising a vacuum tube having at least a cathode, an anode and a control grid, a regenerative loop including switching means connected in a regenerative feedback circuit coupled from said cathode to said grid, a source of said input voltage, a source of said reference voltage, said switching means being so connected between said voltage sources as to be normally nonconductive and being adapted to conduct responsive to said input voltage going more negative than said reference voltage, output means coupled to said regenerative loop for obtaining a first pulse responsive to the initiation of conduction in said switching means, a plate resistor connecting said anode to a source of direct current voltage, and means including a passive reactive network circuit coupled between said anode and a predetermined point of said regenerative loop for suppressing pulses following said first pulse at said output means during each interval in which said input voltage is more negative than said reference voltage.

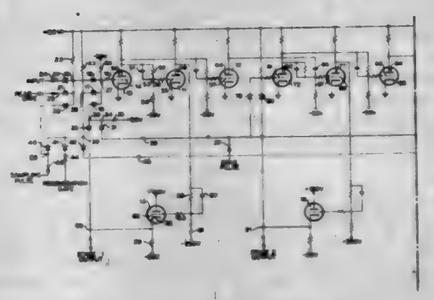
2,975,364
SQUARE WAVE SHAPING CIRCUIT AND ATTENUATOR
Lawrence T. Fleming, Bellaire, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,651
11 Claims. (Cl. 328—31)

1. A square wave shaping circuit including a pair of cathode-coupled clippers, an output cathode follower, means for delivering an input alternating voltage to the first clipper, means for coupling the output wave of the first clipper to the input of the second clipper, the anodes of said second clipper being connected to ground and the cathodes thereof being connected to a negative potential point, a plate resistor between the anode of the output tube of the second clipper and ground, a direct connection



between said last-mentioned anode and the control grid of the cathode follower, and means connected to the cathode resistor of the cathode follower for obtaining an output voltage, said second clipper and the cathode follower being so biased that the cathode follower is cut off when the output tube of the second clipper is conducting and the output tube of the second clipper is cut off when the cathode follower is conducting.

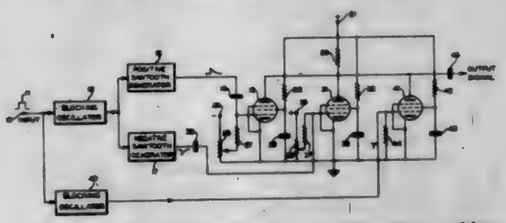
2,975,365
SHIFT REGISTER
George J. Saxenmeyer, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 3, 1957, Ser. No. 669,821
4 Claims. (Cl. 328—37)



1. An electron ring having a plurality of stages, means for supplying input information signals in serial fashion to the first stage and means for supplying a common drive signal to all stages to shift information stored in said ring from stage to stage thereof, said ring comprising, in each of said stages a first inverter controlled by said common drive signal means for assuming alternate states of maximum and minimum conductivity in response to variations of the drive signal, a second inverter controlled by said first inverter for assuming a conductive state opposite to that of said first inverter, feedback means including a cathode follower coupling said second inverter to said first inverter for maintaining said first inverter in the state of conductivity which said first inverter has assumed in response to said drive signal, the cathode followers providing parallel static readout of the information stored in said ring, a third inverter coupled between the output of the first inverter of each stage and the input of

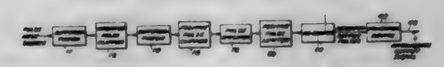
the second inverter of the next succeeding stage, and means including said third inverter to provide a negative signal when the two adjacent stages coupled thereby and having their first inverters conducting and their second inverters nonconducting are under the influence of said drive signal for a shifting operation, said negative signal serving to prevent the latter of said two adjacent stages from switching during said shifting operation.

2,975,366
PULSE WIDTH DISCRIMINATOR
Donald R. Young, Logan, Utah, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 27, 1946, Ser. No. 657,387
4 Claims. (Cl. 328—112)



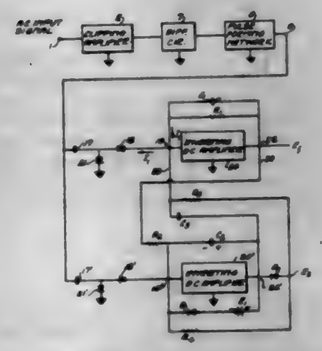
2. For use in a pulse width discriminator the combination of, means responsive to the leading edge of an input pulse for generating in time coincidence a positive and negative saw-tooth wave, a first electron tube normally biased to nonconduction, a second electron tube normally biased to conduction, a third electron tube normally biased to conduction, means for coupling said positive and negative saw-tooth waves to the control circuits of said first and second tubes, respectively, whereby the conditions of conduction of said tubes are simultaneously reversed, said saw-tooth waves and the magnitudes of the biases applied to said first and second tubes being so proportioned that said second electron tube is maintained in a condition of nonconduction and said first electron tube is restored to a condition of nonconduction a specified time following the leading edge of said input pulse, means for rendering said third electron tube nonconducting at the time of occurrence of the trailing edge of said input pulse, and means responsive to a condition of nonconduction in said first, second and third electron tubes for producing an output pulse.

2,975,367
MAXIMUM SLOPE PULSE DETECTOR
Robert T. Adams, Short Hills, N.J., and Jack B. Harvey, New York, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Jan. 10, 1957, Ser. No. 633,442
8 Claims. (Cl. 328—114)



5. A maximum slope pulse detector comprising a source of time modulated pulse signals each having sloping leading and trailing edges and a point of maximum slope, means coupled directly to said source and responsive to said pulse signals to produce a signal wave having a portion peaked at the time of occurrence of said point of maximum slope, means coupled directly to said peaked signal wave producing means to pass only said peaked portion, and means coupled to said means passing only said peaked portion to produce a pulse whose leading edge corresponds in time to said point of maximum slope.

2,975,368
HOLDING CIRCUIT FOR DIRECT READING FREQUENCY METERS
Wolfgang G. Braun, Kettering, Ohio (3917 Villanova Road, Dayton 9, Ohio), and Wolfram E. K. Kerris, North Hollywood, Calif.; said Kerris assignor to the United States of America as represented by the Secretary of the Air Force
Filed Nov. 25, 1958, Ser. No. 776,398
11 Claims. (Cl. 328—140)
(Granted under Title 35, U.S. Code (1952), sec. 266)

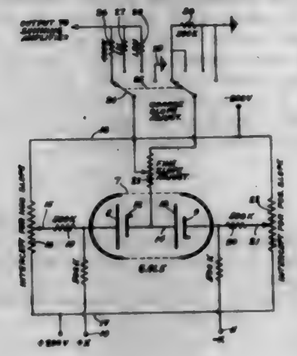


1. A circuit for producing a direct output voltage proportional to the frequency of an alternating input signal and for maintaining said output voltage during breaks in said input signal at the value it had when the break occurred, said circuit comprising: means for converting said input signal into a series of uniform voltage pulses having a repetition frequency proportional to said input signal; a two terminal averaging network; means coupling said series of voltage pulses to said averaging network for producing a corresponding series of uniform current pulses through said averaging network having an average value proportional to the average value of said voltage pulse series, the voltage across said averaging network constituting said output voltage; and a holding circuit coupled to said averaging network and receiving as inputs said voltage pulse series and said output voltage, said holding circuit operating during a break in said voltage pulse series to produce a constant direct current through said averaging network equal to the average value of said pulse current at the start of said break.

2,975,369
ELECTRONIC FUNCTION GENERATOR
Philip R. Vance, Concord, Mass., assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Dec. 30, 1955, Ser. No. 556,581
2 Claims. (Cl. 328—143)

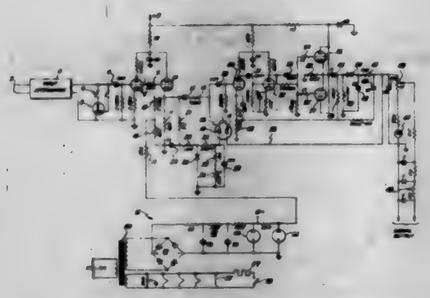
2. An electronic function generator for generating a segment of a curve, said generator comprising a pair of diodes, a low resistance connection between the cathode of the first diode and the anode of the second diode, a double pole multiple position switch, a separate resistance means connected to each of the multiple positions of one pole of the switch, said separate resistance means being of progressively greater value at each multiple position of said one pole of the switch, an output lead connected to each resistance means of said one pole, a ground connection to each of the multiple positions of the other pole of the switch, a potentiometer, a resistance connected in the ground connection to the first several multiple positions of the other pole of the switch, means connecting the potentiometer between the movable switch element of the said other pole connected to ground and

the said low resistance connection, means connecting the movable contact of the potentiometer to the movable switch element of the said one pole connected to the output lead, a pair of potentiometers having their coils connected in parallel, a negative biasing voltage connected to one end of the potentiometers, a positive biasing voltage connected to the other end of the potentiom-



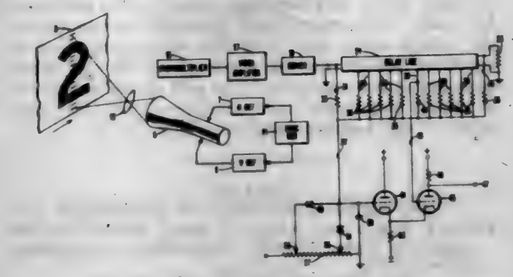
eters, a resistance connected to the movable contact of one parallel connected potentiometer, a positive input voltage connected to the other end of the resistance and to the anode of the first diode, a resistance connected to the movable contact of the second parallel connected potentiometer, and a negative input voltage connected to the other end of the last-named resistance and to the cathode of the second diode.

2,975,370
LOGARITHMIC CONVERTERS
Francis L. Moseley and Andres O. Holdo, Pasadena, Calif., assignors to F. L. Moseley Co., a corporation of California
Filed Oct. 5, 1956, Ser. No. 614,238
5 Claims. (Cl. 328—145)



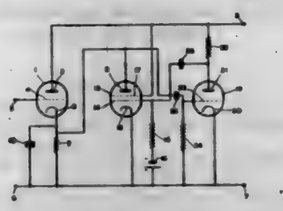
4. A logarithmic converter for a graphical recorder responsive to unidirectional voltage signals comprising a source of signals to be converted, rectifying means for developing a unidirectional output voltage, and means for continuously varying said unidirectional output voltage in accordance with the logarithm of the magnitude of the input signals comprising a voltage dividing network connected to the signal source and having a variable impedance which is exponentially related to current therethrough, means for maintaining one side of said impedance at a substantially constant potential, means for maintaining the other side of the variable impedance at the potential of the unidirectional output voltage, and means for applying the voltage developed across the variable impedance to the rectifying means.

2,975,371
CLIPPING LEVEL CONTROL CIRCUIT
Evon C. Greanias, Binghamton, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 24, 1958, Ser. No. 775,968
13 Claims. (Cl. 328—168)



1. In combination, a source of electrical signals, delay means having an input connected to said source and having a plurality of outputs each of which bears a specific time relationship to the input of said delay means in terms of propagation of a signal therethrough, and each of which outputs provides an output signal proportional to the value of the corresponding time portion of a signal traveling through said delay means, a summing network having a plurality of inputs connected to corresponding outputs of said delay means, and having a common output connection which provides a control signal proportional to the sum of the input signals to the network, controlled amplifier means having a signal input, a signal output, and a control input and effective to transmit signals supplied to said signal input to said signal output at levels determined by the magnitude of a control signal supplied to said control input, circuit means connecting said signal input of said controlled amplifier means to a selected intermediate one of the outputs of said delay means, and other circuit means connecting the common output connection of said summing network to said control input of said controlled amplifier means.

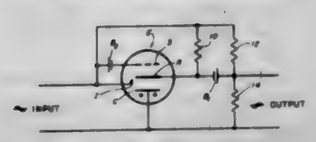
2,975,372
CATHODE FOLLOWER WITH TRIGGER MEANS TO ASSIST DISCHARGE OF CAPACITANCE OF CATHODE CIRCUIT
Gerald Olley Crowther, Chesam, England, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 11, 1956, Ser. No. 584,374
Claims priority, application Great Britain May 13, 1955
2 Claims. (Cl. 328—213)



1. An electrical circuit comprising a first grid-controlled tube having a grid, a cathode, and an anode, load impedance means having one end connected to said cathode, a source of operating voltage connected between the other end of said impedance means and said anode, said load impedance means including a capacitance there-

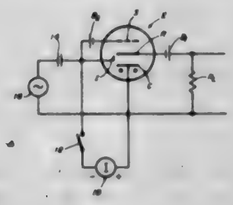
across, means applying a signal voltage to said grid having occasional negative-going excursions, and means for discharging said capacitance to permit the voltage at said cathode to follow the voltage of said grid during said excursions, said discharging means comprising a second grid-controlled tube having an anode directly connected to said one end of said impedance means, a cathode connected to the other end of said impedance means, and a grid biased to render said second tube normally non-conductive, the voltage across said impedance means comprising the operating voltage for the anode circuit of said second tube, and means connected to the grid of said second tube to render said second tube conductive upon the occurrence of said negative-going excursions.

2,975,373
LOW FREQUENCY SIGNAL AMPLIFIER
James J. Moore and Nelson N. Estes, Austin, Tex., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 28, 1958, Ser. No. 777,010
2 Claims. (Cl. 330—41)



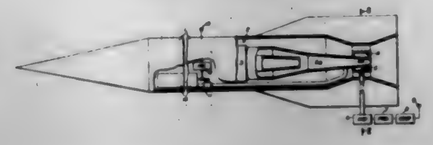
1. An amplifier for amplifying a low frequency signal, which comprises an electrical readout integrator, said integrator comprising a cell containing as an electrolyte a solution of a reversible redox system, said solution being divided into zones of different concentration of a measured species of said system, a readout electrode and a common electrode in one of said zones having a variabe concentration of said measured species, an input electrode in another of said zones high in concentration of said measured species and a shield electrode in a zone dilute in said measured species, said readout electrode being biased negative with respect to said common electrode and said shield electrode being biased negative with respect to said input electrode, a biasing resistor connected between the readout electrode and the input electrode of said integrator, and a feedback network consisting of a second resistor and a load resistance connected in series between the input electrode of said integrator and the common electrode thereof.

2,975,374
AMPLIFIER FOR LOW FREQUENCY SIGNALS
Nelson N. Estes and James J. Moore, Austin, Tex., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 28, 1958, Ser. No. 777,095
1 Claim. (Cl. 330—41)



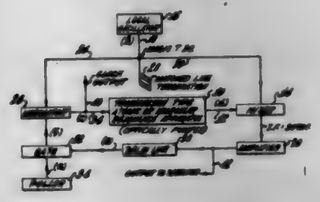
An amplifier for amplifying a low frequency signal, which comprises in combination an electrical readout integrator and a capacitor, said integrator comprising a cell containing as an electrolyte a solution of a reversible redox system, said solution being divided into zones of different concentration of a measured species of said system, a readout electrode and a common electrode in one of said zones having a variable concentration of said measured species, an input electrode in another of said zones high in concentration of said measured species and a shield electrode in a zone dilute in said measured species, said readout electrode being biased negative with respect to said common electrode and said shield electrode being biased negative with respect to said input electrode, said capacitor being connected in series with a source of a signal to be amplified and the input and common electrodes of said integrator.

2,975,375
RADIANT ENERGY SOURCE
Ladislas Goldstein, Urbana, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Apr. 16, 1952, Ser. No. 282,723
6 Claims. (Cl. 331—78)



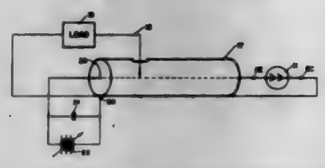
1. A source of radio frequency energy comprising means for producing a stream of ionized high temperature gases having a high electron density, means to control the electron density of said gases, and means to extract radio frequency energy from said stream, said means to control the electron density including means to mix electronegative particles with said high temperature gases.

2,975,376
STABLE OSCILLATOR
Robert H. Dicke, 37 Jefferson Road, Princeton, N.J.
Filed Apr. 30, 1958, Ser. No. 732,857
7 Claims. (Cl. 331—94)



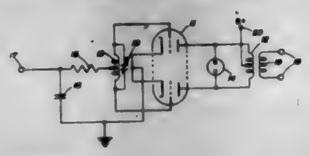
1. A stable oscillator comprising, in combination, an excited electromagnetic wave resonant substance which is resonant at a given electromagnetic wave frequency; means for applying a first pulse of electromagnetic waves at said frequency to said substance, whereby the latter produces oscillations at said frequency and, after the termination of said first pulse, rings for a given interval of time; and means responsive only to a portion of the ringing oscillations for regeneratively applying a later pulse than said first pulse of electromagnetic waves at the ringing frequency to the electromagnetic wave resonant substance so as to sustain oscillations therein.

2,975,377
TWO-TERMINAL SEMICONDUCTOR HIGH FREQUENCY OSCILLATOR
Peter J. Price and John W. Horton, New York, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of abandoned application Ser. No. 602,602, Aug. 7, 1956. This application Oct. 13, 1958, Ser. No. 766,877
8 Claims. (Cl. 331—96)



2. A very high frequency oscillator consisting of: a coaxial line, a two-terminal wafer of semiconductor material having a thickness of approximately one micron and connected between the inner and outer conductors of said coaxial line at one end thereof; and voltage means connected between the said conductors at the other end of said line.

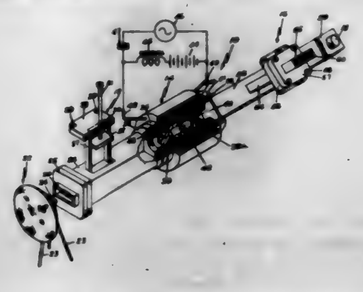
2,975,378
METHOD OF FREQUENCY SWEEPING A PULSED OSCILLATOR
Lewis L. Bonham, Fairfax, and Hill Montague III and Harry E. Culver, Alexandria, Va., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 30, 1959, Ser. No. 810,197
1 Claim. (Cl. 332—17)



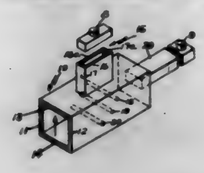
A modulation system for simultaneously amplitude and frequency modulating an oscillator comprising: an oscillator, said oscillator having first and second triodes, each having a cathode, grid and plate; a tuned grid circuit connected across the grids of said first and second triodes and having an amplitude modulating input circuit coupled thereto, a tuned plate circuit connected across the plates of said first and second triodes and having an output circuit coupled thereto, said tuned plate circuit consisting of a center tapped plate tank coil and a gaseous diode connected in parallel, said gaseous diode being responsive to the output of said oscillator to shift the resonant frequency of said tuned plate circuit, thereby varying the output frequency of said oscillator.

2,975,379
FERRITE MODULATORS
Willard W. McLeod, Jr., Lexington, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Oct. 30, 1957, Ser. No. 694,699
15 Claims. (Cl. 332—51)

13. A system for providing modulation of a microwave source of energy comprising a polarization rotating element adapted to receive and rotate linearly polarized microwave energy from a microwave source, a load connected to said rotating element, means for producing a deviation of the polarization of said microwave energy in said rotating element, and means between said load and said rotating element to direct said deviated microwave energy back into said microwave source to shift the frequency of said microwave source in response to amplitude variations in the reactive characteristics of said deviated voltage.



2,975,380
WAVEGUIDE TRANSDUCER
Howard Scharfman, Lexington, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Sept. 30, 1957, Ser. No. 687,101
9 Claims. (Cl. 333—9)

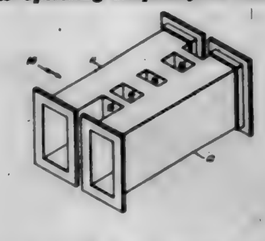


9. A waveguide transducer comprising a section of waveguide having an input port and an output port, an input arm fixed to one side of said waveguide section, separate sources of electromagnetic energy coupled through separate polarizing apertures to said input arm and input port, a single set of conductive posts positioned in said first section of waveguide opposite the junction of said input arm in a manner perpendicular to the axis of said section of waveguide and perpendicular to the axis of said input arm, said posts spaced a quarter of the width of said section of waveguide apart from each other and from one of said posts positioned on the center line of said section of waveguide, said posts extending in a diagonal manner from the junction of one side of said input arm and waveguide section to the projection of the opposite side of said input arm and the other side of said section of waveguide, thereby to reflect energy from said input arm in a single direction along said waveguide, the centrally located post of said set of posts positioned on the center line of said waveguide section and offset a short distance from the projection of the center line toward the projection of the side wall of said input arm onto said center line of said waveguide section.

2,975,381
DUPLEXERS
John Reed, Belmont, and Gershon J. Wheeler, Newton Centre, Mass., assignors to Raytheon Company, a corporation of Delaware
Filed Feb. 21, 1957, Ser. No. 641,552
9 Claims. (Cl. 333—10)

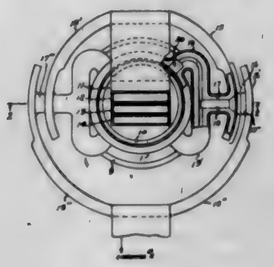
1. A directional coupler comprising a first energy path and a second energy path arranged and adapted to carry electromagnetic energy, said first and second paths spaced apart a distance substantially equal to an odd multiple of a quarter wave length at the operating frequency of said coupler, and three spaced-apart branch paths connecting said first and second energy paths, the lengths and the center-to-center spacing of said branch paths

being substantially an odd multiple of a quarter wave length at the operating frequency of said coupler, and



the impedance of said outer branch paths being equal to each other and less than the centrally located branch path.

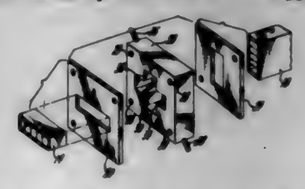
2,975,382
MICROWAVE ROTARY RING JOINT
Winfield E. Fromm, Hempstead, and Eugene G. Fubini, Glen Head, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed May 24, 1957, Ser. No. 661,553
3 Claims. (Cl. 333—98)



1. A ring type rotary joint for high frequency waves comprising a coupling element in the form of a length of coaxial transmission line having inner and outer cylindrical conductors electrically connected at their ends to form a cavity, said inner conductor being of large diameter, hollow and open at the ends whereby a coaxial cylindrical passageway is provided therethrough, said inner and outer conductors having rotary joints intermediate their ends dividing said coupling element into first and second relatively rotatable sections, a first transmission line, coupling means between said first transmission line and the first section of said coupling element, said coupling means providing equal transmission and equal phase shift between said first transmission line and four points equally spaced about the circumference of the first section of said coupling element, a second transmission line, and coupling means between said second transmission line and the second section of said coupling element, said last named coupling means providing equal transmission and equal phase shift between said second transmission line and four points equally spaced about the circumference of the second section of said coupling element.

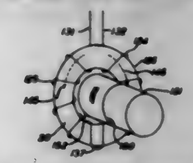
2,975,383
WAVEGUIDE POLARIZATION CONVERTER
Theodore V. Selleg, Davison, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 4, 1957, Ser. No. 694,368
4 Claims. (Cl. 333—98)

1. A polarization converter for electromagnetic waves comprising a pair of hollow rectangular waveguides having their longitudinal axes in alignment and their major lateral axes extending transversely of each other, a coupling member interposed between adjacent ends of said waveguides and defining a cruciform aperture including four rectangular channels disposed in opposed pairs with the side walls of each channel joining the side walls of the adjacent channels, the interior walls of each waveguide being aligned with the side walls of the corresponding pair of channels whereby the walls of the waveguides are effectively extended in overlapping relation



throughout the axial length of the coupling member, and a pair of conductive probes extending diagonally into said aperture from opposite innermost corners of said side walls to match the impedance of the coupling member to said waveguides and to induce rotation of the plane of polarization of an electromagnetic wave transmitted from one waveguide to the other through said coupling member.

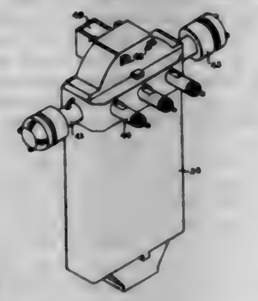
2,975,384
TOROIDAL INDUCTOR COMBINATIONS
David T. Geiser, North Adams, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Sept. 24, 1954, Ser. No. 458,137
4 Claims. (Cl. 336—77)



1. A tunable inductor device comprising a toroid having a permeability greater than two, said toroid provided with a continuous winding, the two ends of said winding forming the two terminals of the device, said winding arranged in an even number of groups in which the radial orientation of adjacent groups is opposed and said groups are in series with said terminals so as to provide adjacent sets of flux that oppose each other, and a longitudinally adjustable slug of a flux controlling material positioned within the toroid opening to permit varying the inductance of said device.

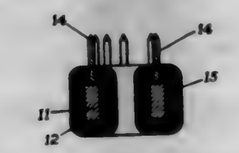
2,975,385
NON-LIQUID TRANSFORMER
William J. Novak, Oakland, Pa., assignor to H. K. Porter Company, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Oct. 15, 1959, Ser. No. 846,678
7 Claims. (Cl. 336—96)

3. An electrical power distribution transformer comprising a transformer core, a pair of pre-formed coil structures disposed upon opposite side legs of said transformer core, the top and bottom portions of said core extending above and below said coils and said core and coils being banded together to form a composite core and coil assembly, an open frame clamping structure comprising an upper and a lower core housing disposed respectively over those portions of the core extending above and below said coils, coil pressure pads disposed between said lower core housing and the bottom of said coils and upon which said coils are seated, terminal bushings mounting brackets seated upon the top of said coils and upon which said upper core housing is seated, means extending between said upper and lower core housings which draw the housings together and clamp the trans-



former securely into a single unit, and a weather-resistant plastic coating which fills all void spaces within the clamped transformer unit and surrounds it with an encapsulating protective coating.

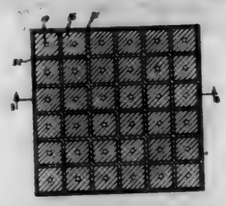
2,975,386
TOROIDAL ELECTROMAGNETIC DEVICE
Carl E. Coy, Glen Burnie, Md., and Byrl D. Tague, Indianapolis, Ind., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 11, 1955, Ser. No. 539,955
1 Claim. (Cl. 336—107)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A toroidal electromagnetic device comprising: a toroidal core assembly constituted by a core box having a uniform cross-section of electrically non-conducting material, said box having an inner and outer coaxial cylindrical wall, said walls being connected by an integral hollow cylindrical ring extending from said inner wall to said outer wall thereby enclosing one end of the hollow cylindrical space between said inner and outer walls, a core of soft iron disposed completely within said core box in the hollow cylindrical space formed by the said outer and inner walls, a separable hollow circular ring-shaped core box cover of electrically non-conducting material to cover said core of soft iron and having a plurality of metallic prongs attached thereto and extending outwardly therefrom in parallel relationship to the axis of said toroidal core assembly and to each other; and a plurality of small diameter wires wound about said toroidal core assembly and between said prongs, the end portions of said wires being connected to at least two of said prongs to provide a plug-in unit.

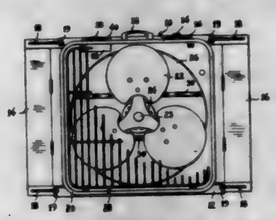
2,975,387
GREY METALLIC SELENIUM PHOTOCELLS
Robert D. Georges, Dons A. Johnson, and Thomas E. Landgren, Dayton, Ohio, assignors to The Standard Register Company, Dayton, Ohio, a corporation of Ohio
Filed Oct. 28, 1955, Ser. No. 543,418
8 Claims. (Cl. 338—17)

1. A selenium photocell comprising a one-piece solid block of selenium material having opposed surfaces one of which is the light receiving surface, and separated electrical contacts forming a unitary part of said block, said electrical contacts comprising a metallic point applied to the light receiving surface in a geometric pattern and metal post means embedded in the block in spaced



relation with portions of the pattern and projecting through and beyond the other one of said opposed surfaces.

2,975,388
RHEOSTAT CONTROL FOR A WINDOW FAN
Charles D. Vince, St. Louis, Mo., assignor to Knapp-Monarch Company, a corporation of Missouri
Filed May 6, 1957, Ser. No. 657,094
1 Claim. (Cl. 338—116)



In a fan structure of the type having a housing, a motor therein, and a fan driven by said motor to propel air through said housing, the improvement of a continuously variable speed control means for said motor comprising first and second rheostat means, a cylindrical core of insulating material, said first and second rheostat means comprising a pair of resistance coils wound in spaced axial alignment upon said cylindrical core, a pair of terminals, one for each resistance coil, adapted to be connected respectively to a source of power and said motor, and manually operable wiper means providing an electrically conductive path between said first and second rheostat means for selectively varying the resistance in the motor circuit to enable the speed of operation of said motor to be controlled as desired in a continuous manner over a predetermined range of speeds, said manually operable wiper means comprising a pair of spaced brushes positioned in axial alignment for sliding contact with their associated resistance coils, whereby the axially aligned arrangement of said coils and said brushes serves to minimize the depth of said speed control means to enable the latter to be placed within the housing adjacent said fan.

2,975,389
POTENTIOMETER
Fred H. Karg, Burbank, Calif., assignor to Giannini Controls Corporation, Pasadena, Calif., a corporation of New York
Filed Jan. 19, 1960, Ser. No. 3,368
2 Claims. (Cl. 338—176)

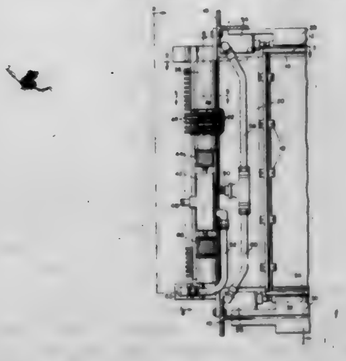
1. An electrical potentiometer, comprising the combination of an elongated support having two mutually spaced longitudinal edge portions, a resistive winding carried by the support, the individual turns of the winding engaging said edge portions of the support and being spaced from the support surface between said edge portions, adjacent turns of the winding being independently deflectable toward that surface, brush means movable longitudinally of the support and comprising a plurality of brush elements having respective contact surfaces that

are spaced laterally of the winding between said edge portions, the brush elements being mounted for independent resilient movement of their contact surfaces toward the winding, engagement of the brush contact surfaces



deflecting each engaged winding turn toward said support surface, and the resilient movement of the individual brush elements maintaining their respective contact during that winding deflection.

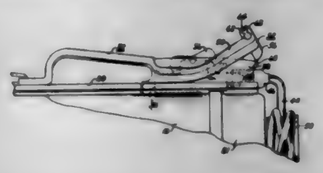
2,975,390
PLUGGABLE UNIT
Rinaldo R. Cardascia, Wappingers Falls, and Ralph D. Markle, Jr., Red Hook, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1958, Ser. No. 784,130
10 Claims. (Cl. 339—45)



1. A pluggable unit assembly adapted simultaneously to complete a multiplicity of electrical circuits comprising a fixed receptacle having a group of female contact members mounted therein, a movable unit having a group of male contact members, said female contact members having contact portions normally spaced apart to receive corresponding male contact portions, fluid operated means including inflatable bladders disposed adjacent said contact portions on either side thereof and adapted to be inflated to urge said contact portions toward one another and into engagement with corresponding male contacts when said male contacts are positioned therebetween, fluid operated pluggable unit ejection means adapted to slide said movable unit so that said male contacts move away from said female contacts including control means adapted simultaneously to deflate said bladders to release said contacts and to operate said ejection means to slide said movable unit outwardly relative to said receptacle.

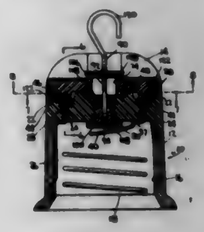
2,975,391
COMBINED HANDLE AND ELECTRIC PLUG RETAINER
Arnold H. Beede, Stamford, Allen P. Cawl, Noroton Heights, and Robert C. Lampe, Stamford, Conn., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Feb. 19, 1957, Ser. No. 641,064
4 Claims. (Cl. 339—91)

1. A plug retainer for an electric appliance having a casing, a cover on said casing providing a plug receptacle, said cover having a top wall and downwardly extending side walls extending down to the casing, the receptacle having a forward wall through which contact prongs extend and an opposite open rear end, said receptacle having a lip on the top wall and extending rearwardly beyond the free edges of the downwardly extending walls, an elastic band secured to the casing having a pair of elongated portions extending along opposite sides of the side walls and a cross piece joining the elongated portions, the normal unextended length of the



elongated portions being such as to position the cross piece in snug engagement with the free edges of the side walls when the cross piece is brought with its upper edge below the lip, whereby when a plug attached to the end of an electric cord is inserted into the receptacle and into electrical contact with the contact prongs, the lower edge of the cross piece will be in line with a portion of the plug to prevent withdrawal of the plug, while the upper edge of the cross piece will be beneath the lip to prevent upward movement of the cross piece.

2,975,392
ELECTRICAL CONNECTORS
Louis Ludwig, New York, N.Y. (% Eagle Electric Manufacturing Co., 23—10 Bridge Plaza S., Long Island City, N.Y.)
Filed Jan. 26, 1959, Ser. No. 789,172
2 Claims. (Cl. 339—99)



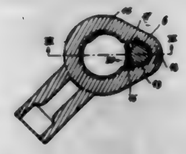
1. An electrical connector comprising a first electrically non-conductive part, a second electrically non-conductive part, said first part having a projection on a surface thereof, said second part having a well in a surface thereof, the first part including a non-circular through opening, the second part including a non-circular through opening, means mounting the first part adjacent the second part for oscillation with respect to the second part with said openings adjacent one another between an operative position in which the projection extends into the well and an inoperative position in which the projection is disposed out of and is angularly displaced from the well, an electrically conductive prong extending into the well in a direction substantially toward the projection when the parts are in operative position, said prong being connected to an electrical contact, both through openings being disposed on the axis of oscillation of the parts, said mounting means constituting an elongated locking element having a shank extending through said openings and including a shoulder disposed adjacent one side of said adjacent openings and an abutment disposed on the other side of said openings, the shoulder being receivable in less than all transverse dimensions of the non-circular opening of the part to which it is adjacent, the elongated locking element being permanently secured to the second part, the first part being slidable along and longitudinally of said locking element, spring means disposed between the abutment and the part to which it is adjacent, said spring means biasing the first part against the second part, the first part being oscillatable about the shank between operative and inoperative positions of the connector, and cam means integral with said parts for axially moving said parts away from one another against the action of the spring means as said parts are oscillated to approach operative position, said cam means being constructed and positioned thereafter to allow the parts to be moved together by the spring means just as the projection swings into registry with the well, whereby in said operative position the projection is forced into the well by the spring means.

2,975,393
ELECTRICAL CONTACT BLOCK
Ray C. Martin, R.R. 1, Hamilton, N. Dak.
Filed Oct. 6, 1958, Ser. No. 765,636
1 Claim. (Cl. 339—184)



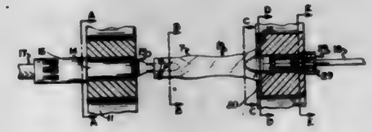
An electrical connector comprising in combination a female receptacle member and a male plug member, said female receptacle member comprising a hollow body having a front wall provided with an opening, a pair of transversely spaced contact blade receivers provided in said body and a third contact blade receiver provided in the body between and vertically offset from said pair of receivers, said pair of receivers and said third receiver having an entrance through said opening, electrical conductors connected to said pair of receivers and to said third receiver, said third receiver including a pair of transversely spaced receiver elements and a pin extending transversely therethrough, said male plug member comprising a body having a wall in abutment with the front wall of the body of said female member when the male and female members are connected, a pair of transversely spaced contact blades and a third contact blade provided in the body of the male member and projecting through the said wall of the latter and through said entrance to engage, respectively, the said pair of blade receivers and the said third blade receiver of the female member, electrical conductors connected to said pair of blades and to said third blade, said third blade being disposed between and offset from said pair of blades and having an edge provided with a notch forming a hook portion at the said edge of the third blade, said hook portion being received between said pair of spaced elements of said third receiver and engaging said pin, said pin providing fulcrum means for said hook portion whereby said male and female members may be connected and disconnected by relative swinging thereof about said fulcrum means, and a handle provided on at least one of said members for swinging the same relative to the other member.

2,975,394
BATTERY TERMINAL CABLE CONNECTORS
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Apr. 28, 1958, Ser. No. 731,284
2 Claims. (Cl. 339—239)



1. A terminal connector for securing a cable to a battery post comprising a member having an axial bore to receive a battery post, a cable receiving lug laterally projecting outwardly from the member, said member having an axially extending recess disposed alongside and in radial communication with the bore, a longitudinally split resilient member forming at least one portion of the peripheral wall of the bore and disposed between the bore and the recess and a connector tightening cam member having a spirally-shaped contour and axially disposed in the recess parallel with the bore and coacting tangentially with the resilient member to bind it against the battery post said resilient member being force fitted in the recess and having a side portion interposed between the bore and the recess and formed on the same radius as the bore so as to complete the peripheral continuity of the bore, said side portion having a free edge coacting with the cam member which binds it against the battery post.

2,975,395
WIPING CONTACT ASSEMBLY FOR PLUGBOARD
Gilbert C. Sitz, Harrisburg, Pa., assignor to AMP Incorporated, a corporation of New Jersey
Filed Feb. 10, 1955, Ser. No. 487,323
12 Claims. (Cl. 339—252)

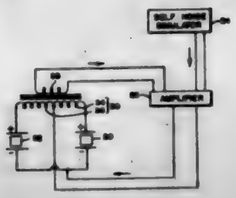


8. An electrical contact member comprising a spring portion operatively deflectable about a bending axis perpendicular to the length thereof, means at one end of said spring portion for mounting said member on a supporting base, and a contact portion at the other end of said spring portion having rib-like means defining a relatively narrow raised contact path on said member, at least a substantial part of said path being inclined toward said bending axis and at least the initial part of said path being inclined with respect to both said bending axis and the direction of deflection of said spring portion, said contact path being substantially V-shaped.

2,975,396
ARTIFICIAL SONAR TARGET
Richard A. Mueller, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 23, 1950, Ser. No. 169,955
8 Claims. (Cl. 340—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

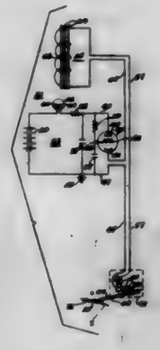
1. In an artificial sonar target for simulating a submarine, means generating a signal corresponding to a desired submarine self-noise characteristic, means ampli-

fying said signal, a pair of transducers connected at one side thereof, respectively, to the output of said amplifier means and angularly arranged to transmit sonic outputs in different directions, a transformer primary connected between said transducers and center-tapped to the output of said amplifier, a secondary for said transformer



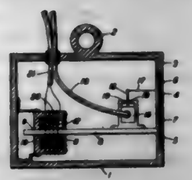
symmetrical about said center top and connected to an input for said amplifier, whereby similar inputs to said transducers and similar signals therefrom induce negligible signal for amplification and dissimilar outputs from the transducers induce signals to the amplifier for amplified signal simulation of echoes from said target.

2,975,397
SURFACE-INDICATING APPARATUS
Harold E. Edgerton, Belmont, Mass., assignor to Edgerton Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed June 6, 1955, Ser. No. 513,377
3 Claims. (Cl. 340—5)



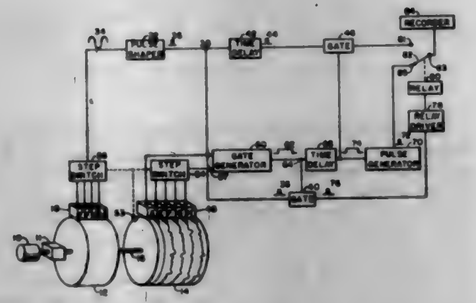
1. Apparatus for revealing the proximity of the bottom of a body of water, comprising an acoustic wave signal transmitting means suspended from a cable and movable toward said bottom through said water, said transmitting means having an acoustic wave generator acoustically coupled to said water and having two operational states, in at least one of which acoustic waves are propagated through the water as freely expanding wavefronts directed toward the surface of the body of water, probing means physically separate from the transmitting means, said probing means being suspended by a cable from said transmitting means and located between said bottom and the transmitting means, said probing means being movable with said transmitting means toward said bottom, said probing means including an exposed probe element and an electric switch actuated by said probe element and having a first operational state when said probe element is separated from said bottom and a second operational state when said probe element reaches said bottom, and means operatively coupling said electric switch and said transmitting means, said transmitting means changing its operational state in response to a change in operational state of said electric switch.

2,975,398
HYDROPHONE
Alfred E. Melhose, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 5, 1951, Ser. No. 224,735
10 Claims. (Cl. 340—14)



1. A hydrophone which comprises a casing, two similar pressure-sensitive diaphragms mounted in a face of said casing, a first member reciprocably attached to one of said diaphragms, a transducer having a body and a movement-sensitive element, said transducer body being fixed to said first member, a second linkage member, the movement-sensitive element of said transducer being coupled by way of said second member to the other of said diaphragms.

2,975,399
SYSTEM FOR PROCESSING SEISMIC DATA
Kay Nell Burns, Tulsa, Okla., assignor to Jersey Production Research Company, a corporation of Delaware
Filed Apr. 8, 1958, Ser. No. 727,080
4 Claims. (Cl. 340—15)



1. An apparatus for extracting information from a multi-trace reproducible type seismogram which comprises a mounting means adapted to receive said reproducible seismogram, another mounting means adapted to receive a visual presentation of said seismogram with said presentation having selected events indicated thereon with electrical conductive markings, reproducing means adapted to scan along the length of each trace of said reproducible seismogram and produce a first electrical signal comprising an electrical pulse for each valley of said trace, scanning means adapted to scan along the length of each trace on said visual seismogram and to detect said conductive markings thereon, gate pulse generating means adapted to generate an electrical pulse of a predetermined magnitude and a predetermined gating time interval to be actuated when said scanning means detects said conductive markings on said visual presentation, an electronic gate adapted to open upon receiving said pulse during the gating time interval and being further characterized to pass only the first pulse therethrough during said gating interval, time delay circuits for storing said first pulse for a predetermined time, delayed pulse generator means adapted to generate an interpolated pulse to occur during the gating interval time

which has been delayed the same delay as occurs in said time delay circuit, a recorder and switching means adapted to record the time delayed first pulse when said electronic gate opens and said interpolated pulse if said electronic gate remains closed.

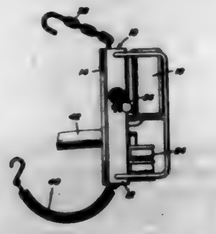
2,975,400
VISUAL POSITION-INDICATING ARRANGEMENTS
Harold Matthew Ferguson, Hatch End, Walter Robert Stevens, Planer Hill, and Alan John Alfred Segar, St. Albans, England, assignors to The General Electric Company Limited, London, England
Filed Dec. 12, 1958, Ser. No. 779,951
Claims priority, application Great Britain Dec. 20, 1957
10 Claims. (Cl. 340—26)



1. An arrangement for providing an observer approaching a location with a visual indication of his angular position with respect to the location relatively to an approach plane passing through the location, comprising a plurality of light sources extending on both sides of the approach plane along a line transverse to the approach plane and a marker fixed relatively to the line sequence of light sources which is visible to an observer over the whole working region of the arrangement, said light sources being arranged in use of the arrangement to project towards the observer light beams which in planes perpendicular to the approach plane are of relatively narrow beam angles and have the centre lines of the light beams from the two light sources situated one at each end of the line sequence directed away from the approach plane to different sides thereof and the directions of the centre lines of the successive beams along the line sequence changing progressively from one to the next between these two extreme values so that, starting at one end of the line sequence, each beam overlaps at least half but not the whole of the light beam from the next light source in the sequence and so that over the greater part of the working region of the arrangement the observer always sees at least two of the light sources illuminated simultaneously, which illuminated light sources from a compound light source whose centre changes in position relatively to the marker with changes in the angular position of the observer relatively to the approach plane.

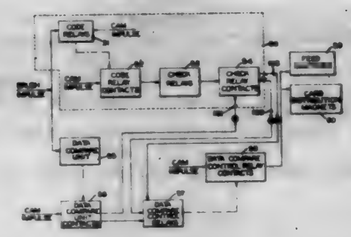
2,975,401
TOW TRUCK SAFETY LIGHT
William F. Shupe, 2962 Harford Road, Baltimore, Md., assignor of twenty-five percent to Molly Hash, Baltimore, Md.
Filed July 27, 1959, Ser. No. 829,625
2 Claims. (Cl. 340—84)

1. A tow safety light arrangement for towed vehicles, such as trucks and automobiles, comprising, an elongated rectangular shaped chassis of pan-like shape, a plurality of electric lamp assemblies mounted at the front of said chassis, means including an adjustable tube telescopic assembly having arms extending outwardly from opposite sides of said chassis to locate the width of the towed vehicle, each said adjustable tube telescopic assembly having a lamp assembly mounted at the outer end thereof, a pair of laterally spaced chains positioned at the top of said chassis and having one end of each connected to said



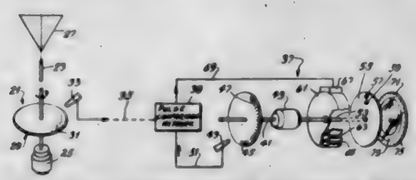
chassis and the opposite ends thereof with a hook element for connection to a support member on said towed vehicle, and a corresponding pair of laterally spaced spring bias means positioned at the bottom of said chassis and having one end of each connected to said chassis and the opposite ends thereof with a hook element for connection to said support member, whereby said tow safety light arrangement can be securely attached to towed vehicles.

2,975,402
DATA COMPARATOR
Asa N. Miller, Hallstead, Pa., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 29, 1954, Ser. No. 419,475
9 Claims. (Cl. 340—147)



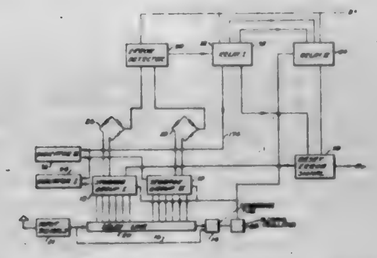
1. A data comparator for comparing a primary multi-order data group with a secondary multi-order data group comprising primary data manifesting means, secondary data manifesting means, means governed by said primary and said secondary data manifesting means for correlating homologous and non-homologous orders of the primary and the secondary data, means controlled by said correlating means for simultaneously comparing homologous and non-homologous orders of primary and secondary data so as to detect unmatched orders thereof, electrical circuit means governed by said homologous order comparing means for analyzing the relationship of the primary and the secondary multi-order data groups order-by-order, other electrical circuit means governed by said non-homologous order comparing means for analyzing the relationship of the primary and the secondary multi-order data groups order-by-order, and means for directing a data compare test impulse to said other electrical circuit means via said electrical circuit means in response to the analysis of a predetermined number of unmatched orders of homologous data.

2,975,403
DATA TRANSMISSION SYSTEM
Charles Henry Doersam, Jr., 24 Winthrop Road, Port Washington, N.Y.
Filed July 13, 1956, Ser. No. 597,835
10 Claims. (Cl. 340—149)
(Granted under Title 35, U.S. Code (1952), sec. 266)



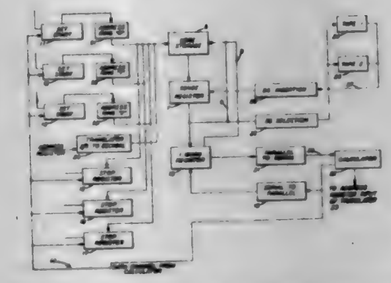
1. A data transmission system for remote indication of the angular position of a motor-driven antenna shaft comprising a calibrated first disc carried by said shaft, means to sense the angular position of such shaft as a train of first pulses having a characteristic corresponding to such angular position, transmission means for transmitting said first pulses from said sensing means to another location, and a remote station having a pulse comparison network connected to said transmission means, and translation means comprising a motor-driven shaft, a calibrated second disc carried by said shaft, means to sense the angular position of said shaft as a train of reference second pulses having a characteristic equivalent to that of said train of first pulses, means feeding said reference second pulses to said network, and indicating means actuated by the coincidence in said network of identical characteristics of said first and second pulses, said indicating means comprising a light source actuated by such coincidence, an opaque disc having a transparent opening, said disc being carried rotatably by said shaft, and a calibrated scale in the path of light from said source projected through said opening.

2,975,404
ERROR-DETECTING CIRCUIT FOR PULSE STORAGE SYSTEMS
Edward Frank Kupa, Los Angeles, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 26, 1958, Ser. No. 717,793
9 Claims. (Cl. 340—164)
(Granted under Title 35, U.S. Code (1952), sec. 266)



9. An error detecting circuit comprising, a delay line, a first and second group of grid controlled discharge devices, the control grids of the successive discharge devices being connected to said delay line at successive spaced positions, a coincidence tube actuated by the arrival through said delay line of a leading bracketing pulse and the arrival at the delay line of a final undelayed bracketing pulse spaced a predetermined number of pulses from said leading pulse, a pulse generator controlled by said coincidence tube, said pulse generator providing a pulse to condition said discharge devices for operation by the simultaneous application of pulses from said delay line, a first bridge having its balance determined by the conducting condition of the tubes of the first group, a second bridge having its balance determined by the conducting condition of the tubes of said second group, a pair of triodes, a common lead for said triodes, a common self biasing circuit for said triodes, the grid of said first triode being connected to said first bridge, the grid of said second tube being connected to said second bridge, a first relay including an actuating coil, a grid controlled tube connected in series with said actuating coil, means responsive to substantial blocking of said triodes to determine current flow in said grid controlled tube, a second relay including a second actuating coil, a second grid controlled tube connected in series with said second actuating coil, means triggered by said pulse from said pulse generator for controlling current flow in said second grid controlled tube, a reset relay, an actuating coil for said reset relay, circuit means for energizing said actuating coil of said reset relay in dependence on the conducting condition of said first and second grid controlled tubes, an indicator circuit, means responsive to simultaneous current conduction in said first and second grid controlled tubes to energize said read out circuit.

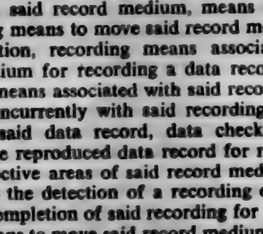
2,975,405
STATIC DATA STORAGE APPARATUS
James P. Hammer, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 6, 1957, Ser. No. 682,568
7 Claims. (Cl. 340—172.5)



1. In a data processing machine the combination comprising, static data storage apparatus having a plurality of addressable positions, first and second data receiving means each for receiving data representing an address in said storage apparatus, addressing means adapted to be conditioned by the data transmitted by either of said data receiving means for selectively addressing said plurality of addressable positions, means for selectively connecting said first and second data receiving means to said addressing means, and means for connecting said first data receiving means to said storage apparatus upon the selective connection of said second data receiving means to said addressing means, the data in said first data receiving means being stored in said storage apparatus at the address position represented by said second data receiving means.

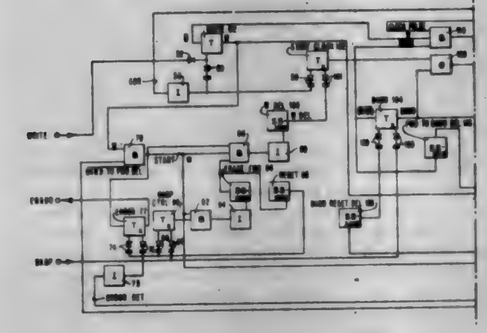
2,975,406
MATRIX MEMORY
Langdon B. Stallard, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 27, 1959, Ser. No. 855,801
15 Claims. (Cl. 340—174)

6. In a magnetic core array having a plurality of core planes each including a group of cores arrayed in rows and columns, a separate row winding coupled to all of the cores in each row of each plane, and a separate column winding coupled to all of the cores in each column of each plane, first coupling means connecting the row windings of said core planes in a plurality of separate row address lines which pass through the entire array and each of which includes one row winding from each plane, second coupling means connecting the column windings



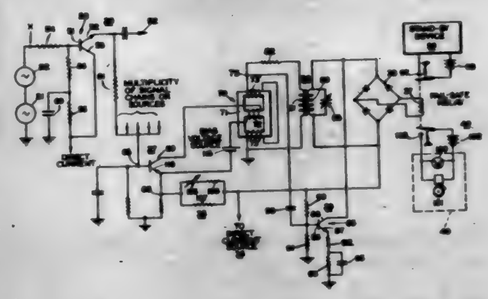
of said core planes in a plurality of separate column address lines which pass through the entire array and each of which includes one column winding from each plane, said first coupling means being connected according to a general pattern in which row address lines which include adjacent row windings in a first of said planes are offset a predetermined number of rows in opposite directions in passing from certain of said planes to the adjacent planes.

2,975,407
ERASE FORWARD
Hugh A. O'Brien, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 3, 1958, Ser. No. 718,861
8 Claims. (Cl. 340—174.1)



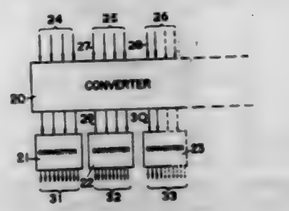
7. In a data recording system, a record medium, means for moving said record medium, means for controlling said moving means to move said record medium in a forward direction, recording means associated with said record medium for recording a data record thereon, reproducing means associated with said record medium and effective concurrently with said recording means for reproducing said data record, data checking means for checking the reproduced data record for recording errors due to defective areas of said record medium, means responsive to the detection of a recording error and effective after completion of said recording for controlling said moving means to move said record medium in a backward direction until the beginning of the data record is reached, means effective thereafter for controlling said moving means to move said record medium in a forward direction, means for signalling said recording means to rerecord the data record on said record medium, and means responsive to said signalling means for delaying the rerecording for a predetermined period of time during which said recording means is effective to cancel the recording over the defective area of said record medium.

2,975,408
SIGNAL CHAIN WARNING DEVICE
Wolfgang Merel, Newark, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 6, 1956, Ser. No. 589,748
3 Claims. (Cl. 340—253)



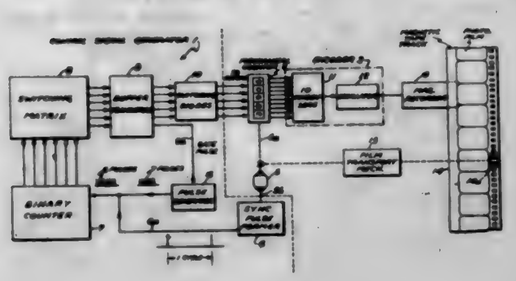
1. A device for detecting an open condition in a signal circuit, comprising a cutoff biased amplifier, an oscillator with a magnetic feedback circuit, and means connected to the output of said oscillator for indicating an open signal circuit, said cutoff biased amplifier being connected to the signal circuit and being connected to the magnetic feedback circuit, and said cutoff biased amplifier being conductive upon an open signal circuit condition to control the operation of said oscillator.

2,975,409
DIGITAL ENCODERS AND DECODERS
Edward John Fotherick, Rowledge, near Farnham, England, assignor, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1954, Ser. No. 478,031
Claims priority, application Great Britain Jan. 7, 1954
19 Claims. (Cl. 340—347)



1. A digital decoder for converting into normal decimal form a cyclic permuting binary-decimal code wherein a binary word representing a digit in the cyclic permuting decimal code of the preferred type described is the same, except for a complementing binary digit, as the binary word representing the cyclic permuting decimal digit's complement on nine and comprising gating means for examining the binary words representing the cyclic permuting decimal digits and for changing the complementing binary digit of the binary word representing a cyclic permuting decimal digit when, and only when, the normal decimal digit of next greater significance than the cyclic permuting decimal digit is odd, and means connected to the output of said gating means for decoding the resulting binary word into its normal decimal equivalent.

2,975,410
DATA TRANSLATING SYSTEM
John C. Green, Nutley, N.J., and William T. Rusch, Kingsville, Md., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed June 6, 1955, Ser. No. 513,259
11 Claims. (Cl. 340—347)



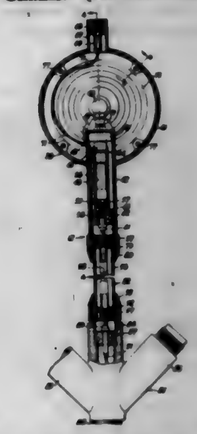
1. A translator for converting a multidigit number into sequential code signals comprising a numbering means including a plurality of cascaded numbering elements each having a plurality of numbering positions any one of which may be assumed by each of said numbering elements to form said multidigit number, a plurality of code signal sources each different in character from the other, means coupling each of said plurality of sources to individual ones of said numbering positions of each of said numbering elements, a utilization means, means coupled to each of said numbering elements responsive to said numbering position assumed by its associated numbering element to select one of said sources, and means to sequentially couple the code signal of each of said selected sources to said utilization means.

2,975,411
ANALOG TO DIGITAL CONVERTER APPARATUS
Henry L. Hanson, Needham, Mass., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed May 21, 1957, Ser. No. 660,621
15 Claims. (Cl. 340—347)



14. Apparatus for analyzing a variable comprising a variable sensing means having an analog output, an analog to digital converter connected to said sensing means, said converter comprising means adapted to produce a series of output digital signals of a first or second characteristic which, over a predetermined period of time, is a direct function of an analog input, a digital counter means connected to the output of said converter to produce a count which is a direct function of the extent and direction of deviation of the variable from a predetermined control point, said digital counter means comprising a pair of digital counters, one of which is adapted to produce a digital indication of a first variable direction of deviation represented by digital signals of said first characteristic and the other of which is adapted to produce a digital indication of a variable deviation in the opposite direction represented by digital signals of said second characteristic.

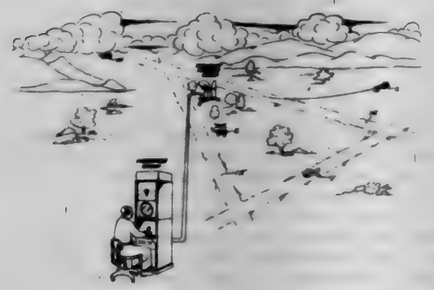
2,975,412
WARNING DEVICE
Frank I. Fuller, Menlo Park, and Montgomery C. Sweey, Palo Alto, Calif., assignors to Western Progress Manufacturers, Palo Alto, Calif., a partnership
Filed July 30, 1957, Ser. No. 675,155
4 Claims. (Cl. 340—366)



1. In a warning device, supporting means, a pair of superposed separable light head units detachably mounted on said supporting means, each of said light head units comprising an annular member, a pair of circular light transmitting members mounted on opposite sides of said annular member to enclose the space within said annular member, a tubular member extending through an opening in said annular member, a lamp, means carried by one end of said tubular member for receiving the base of the lamp, an electrical connector mounted in the other end of said tubular member, means connecting said electrical connector to said lamp, said means connecting said electrical connector to said lamp including a flasher mounted within said tubular member and serving to automatically de-energize the lamp at periodic intervals, an additional tubular member extending through an opening in said annular member diametrically opposed from one first named opening, an electrical connector mounted in said additional tubular member, means connecting said electrical connector in said additional tubular member to the electrical connector in said first named tubular member, means mechanically and detachably connecting said head units so that the lower head unit provides the sole support for the upper head unit, the electrical connector in the first named tubular member of the upper head unit engaging the electrical connector in the additional tubular member of the lower head unit when the upper head unit is mechanically connected to the lower head unit, and means connected to the electrical connector in the first named tubular member of one of the head units for supplying electrical energy to the lamps in said head units.

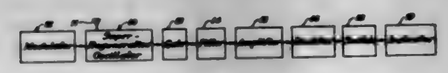
2,975,413
SIMPLIFIED GROUND CONTROLLED APPROACH SYSTEM INCLUDING ADAPTATIONS FOR SURVEILLANCE, PRECISION APPROACH, TAXI AND HEIGHT FINDING
Robert W. Landee, Encino, James R. Deen, John J. Fling, and Robert G. Shaw, Los Angeles, Ronald R. Davis, Ontario, James K. Johnston, Hollywood, and Paul L. Bennett, Burbank, Calif., assignors to Gilfillan Bros. Inc., Los Angeles, Calif., a corporation of California
Filed May 27, 1955, Ser. No. 511,456
33 Claims. (Cl. 343—5)

1. A guidance system for providing flying and taxi information for aircraft, said system comprising: a transmit-receive group for providing radar scanning signals constituting target-positional information, said transmit-receive group including first means selectively actuable to provide search radar signals in a relatively large scanning angle, and to provide associated search data indicating the position of said first means in search scanning, including second means selectively actuable to provide precision radar signals in separate precision scanning coordinates, and to provide associated precision data, including third means selectively actuable to provide radar signals relating to targets within a taxi area, and including fourth means selectively actuable to provide height-finding radar signals in an extended elevation angular range, and associated extended angle data signals; and an indicator group



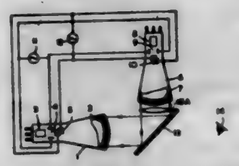
for translating the radar scanning signals into corresponding visual displays, each display representing the related target information, said indicator group including first means responsive to said search radar signals and said search data for providing a search display, including second means responsive to said precision radar scanning signals and said precision data signals for providing a corresponding precision display, including third means responsive to said taxi radar signals to provide a corresponding taxi display, and including fourth means responsive to said height-finding radar signals and said extended angle data signals for providing a height-finding display, means being further provided for ascertaining the height of targets represented in said height-finding display.

2,975,414
RADIO RANGING DEVICE
Robert W. Bogle, Silver Spring, Md., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 16, 1948, Ser. No. 65,692
8 Claims. (Cl. 343—13)



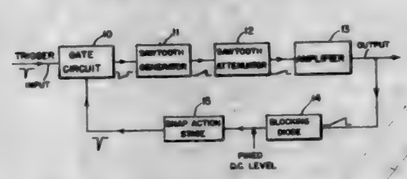
1. In a radio ranging device, a super-regenerative circuit having alternately a transmitting and a sensing phase of operation, an antenna coupled to said circuit for emitting energy when said circuit is in the transmitting phase, and for receiving and impressing on said circuit received signals; a rectifier, means for coupling said rectifier to said super-regenerative circuit, means for blocking said means for coupling said rectifier to said super-regenerative circuit during the transmitting phase of operation whereby said rectifier creates a unidirectional potential during only the sensing phase, and potential responsive indicating means coupled to said rectifier whereby it is adapted to indicate receipt of reflected signals during the sensing phase of operation.

2,975,415
CATHODE RAY TUBE DISPLAY SYSTEM
Hendrik Anne Klasens, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 7, 1957, Ser. No. 632,781
Claims priority, application Netherlands Feb. 7, 1956
10 Claims. (Cl. 343—17)



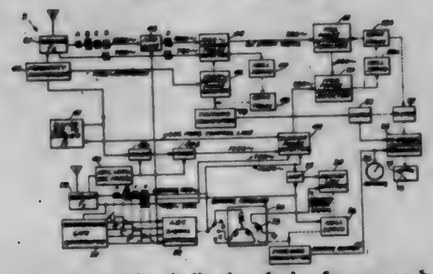
1. A cathode ray tube display system comprising a first luminescent screen, means for scanning said screen in a given pattern to produce a raster, means for modulating said raster to produce an image, said screen having the characteristic that its luminescence is extinguishable by radiation of a given wavelength, a second luminescent screen, means for scanning said second screen in accordance with said given pattern to produce a raster, said second screen having the characteristic of emitting radiation of said given wavelength, and means for optically projecting the raster of said second screen onto the raster of said first screen.

2,975,416
CONTINUOUSLY VARIABLE RANGE CIRCUIT
Kent M. Mack, North Linthicum, and Carl C. Frankenfield, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 27, 1955, Ser. No. 504,393
2 Claims. (Cl. 343—17.1)



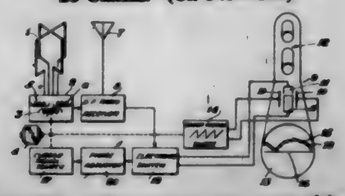
1. In a pulse echo system in which pulses are periodically transmitted and received from objects in space a variable range circuit comprising in combination, input means for receiving a trigger signal, second means connected to said first mentioned means and responsive to said trigger pulse to generate a gating signal, third means connected to said second means and responsive to said gating signal to generate a sawtooth wave, fourth means connected to said third means to continuously attenuate the sawtooth wave, means connected to said fourth means to amplify the attenuated sawtooth wave, output means connected the last said means to receive the last said wave for transmittal to the deflection coil of a cathode ray tube, and a normally nonconducting diode having a predetermined bias, said diode being connected between said second means and said last named means, said bias being less in value than the maximum voltage of said sawtooth wave at the last named means whereby to terminate said gating signal when said bias is exceeded.

2,975,417
LONG RANGE RADIO NAVIGATION SYSTEM
Ben Alexander and Mortimer Rogoff, Nutley, and Malcolm C. Vosburgh, Montclair, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed June 27, 1957, Ser. No. 668,525
11 Claims. (Cl. 343—106)



1. A radio position indicating device for use on board a mobile craft to indicate the location of the craft with respect to a selected one of a plurality of spaced apart beacon transmitters which transmit radio signals at carrier frequencies different per beacon, said device comprising a first receiver means adapted to receive the carrier frequency signals of a first beacon and reduce it to a given frequency, a second receiver means adapted to receive the carrier frequency signals of a second beacon, said second receiver means having its local oscillator controlled by the frequency output of said first receiver means so that the frequency output of said second receiver means is at a frequency corresponding to the frequency output of said first receiver means, means to compare the phase of said given frequency with the phase of said corresponding frequency to determine the differential distance of the craft between said first and second beacons thus determining the hyperbolic line on which the craft is located and means responsive to signals from at least one of said beacons to determine a point on said hyperbolic line which is indicative of the bearing location of said craft.

2,975,418
DIRECTION FINDING SYSTEMS
Leon Himmel, Montclair, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Dec. 1, 1948, Ser. No. 62,858
23 Claims. (Cl. 343—118)



1. A direction finding arrangement, comprising, a cathode-ray tube oscilloscope, means to produce oscilloscope deflection signals at a given rate in response to radiations from a distance source whose orientation is to be determined, a source local to said direction finding arrangement for producing a cursor signal having a wave configuration substantially similar to the wave formation of said deflection signals, means synchronizing said local source of cursor signals to said given rate of deflection signals, means to produce other oscilloscope deflection signals at said given rate under control of the cursor signals of said local source and independent of said distant source, said oscilloscope having coordinate beam deflecting units, means to apply to one of the deflecting units a local sweep voltage at said given rate, and means to apply the first-mentioned deflection signals and the second-mentioned deflection signals alternately to the other deflecting unit and in timed relation respectively to said rising and falling wave portions of the local sweep voltage.

2,975,419
MICROWAVE ANTENNA REFLECTOR SYSTEM FOR SCANNING BY DISPLACEMENT OF FOCAL IMAGE
Newell H. Brown, Morristown, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 13, 1959, Ser. No. 846,219
5 Claims. (Cl. 343—754)



4. A modified microwave analog of the Schmidt optical system comprising, in combination, a spherical reflector, an ellipsoidal reflector symmetrically disposed about the center of curvature of said spherical reflector with one focus of said ellipsoidal reflector occurring somewhere along the focal line of said spherical reflector, a source of microwave energy at the other focus whereby an image of said source is formed at said focal line, means for oscillating said ellipsoidal reflector thereby to cause scanning of the beam reflected from said spherical reflector and a dielectric lens positioned in the path of said reflected beam to correct for spherical aberration resulting from the characteristics of said spherical reflector.

2,975,420
DIRECTIONAL ANTENNA HAVING COSINE SHAPED APERTURE
Gerhard Koch, Ulm, Danube, Germany, assignor to Telefunken G.m.b.H., Berlin Germany
Filed Oct. 4, 1955, Ser. No. 538,347
Claims priority, application Germany Oct. 4, 1954
8 Claims. (Cl. 343—786)



1. In a directional antenna system for radiating very short electro-magnetic waves, a surface radiator having x and y coordinates defining the shape of its radiating surface as viewed from the z direction of propagation, said radiator propagating said waves in a lobe which is focussed in the x—z plane, said radiator comprising a plurality of surface elements all lying parallel to the x—z plane and disposed symmetrically on each side of the y axis, the boundary function of the radiating surface as viewed from the z-direction and defined by the ends of all of said surface elements being

$$y=\pm\frac{d}{2}f_1(x)$$

and being selected in dependence on the excitation density of the radiator $a(x,y)$ in such a manner that

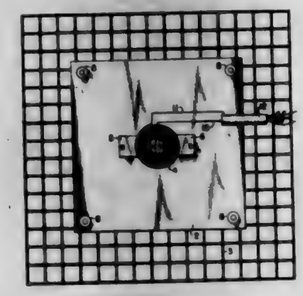
$$\int_{y=-\frac{d}{2}f_1(x)}^{y=+\frac{d}{2}f_1(x)} a(x,y)\,dy=d\cdot f_h(x)$$

wherein:

$f_1(x)$ is a cosine boundary function of the aperture having non-homogeneous excitation density;

$f_h(x)$ is the boundary function of an aperture having homogeneous excitation density and having the same radiation pattern in the x—z plane, and
d is the maximum aperture dimension in the y-direction.

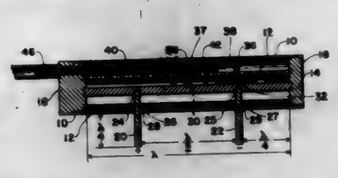
2,975,421
MAGNETIC ANTENNA
George D. Chichester, 5711 Howe St., Pittsburgh, Pa.
Filed Feb. 28, 1956, Ser. No. 568,261
2 Claims. (Cl. 343—787)



1. A magnetic radio receiving antenna device comprising a flat plate of magnetizable metal, a pair of permanent bar magnets laid against and secured to the plate with like poles thereof in confronting relation but separated from each other, a flat coil of wire overlying the magnets and secured thereto in a plane parallel with the planes of the metal plate and the magnets and with its center positioned over the space between the magnets and with the axes of the magnets extending diametrically of the coil, the coil of wire having two terminals, and a lead wire attached to each terminal.

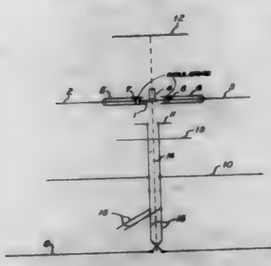
2,975,422
DIRECTIONAL PHASING ANTENNA CONFIGURATION
Robert F. Riggs, Charlottesville, Va., and Henry L. Foster, Jr., Pomona, and Edward A. Moran, Norco, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 5, 1960, Ser. No. 27,229
7 Claims. (Cl. 343—826)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A directional phasing antenna configuration comprising a metal housing having a section of coaxial transmission line mounted therein such that one side of said coaxial transmission line lies nearer to one side of said housing than the remainder thereof, a pair of antenna dipoles of desired length supported by the center conductor of said section of coaxial transmission line and extending perpendicularly therefrom through respective apertures in the outer conductor of said section of coaxial transmission line and said housing, said antenna dipoles extending beyond said housing a distance as determined by the desired frequency and polarization patterns for the antenna configuration, feedpoint means extending from



said center conductor through respective apertures in said outer conductor and connected to respective coaxial cable transmission lines, said coaxial cable transmission lines being connected to means for comparing signals from said feedpoint means.

2,975,423
ANTENNA DIRECTOR
Donald H. Wells, Burlington, Iowa, assignor to Antenna Designs, Inc., Burlington, Iowa, a corporation of Iowa
Filed Mar. 24, 1958, Ser. No. 723,181
8 Claims. (Cl. 343—833)



6. An antenna system comprising a very high frequency high band driven element, a very high frequency low band driven element and a parasitic element so arranged as to be a director and comprising two half wave length high band sections connected together at one end of each section by an ultra high frequency quarter wave length stub, a very high frequency quarter wave length stub connected at its closed end to near the middle of one of the two half wave length high band sections and having its open end positioned near the ultra high frequency quarter wave length stub, another very high frequency quarter wave length stub connected at its closed end to near the middle of the other of the two half wavelength high band sections and having its open end positioned near the ultra high frequency quarter wave length stub.

DESIGNS

MARCH 14, 1961

189,870
CABINET PULL OR THE LIKE
Vytant P. Aleks, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Dec. 9, 1959, Ser. No. 58,614
Term of patent 14 years
(Cl. D10—8)



189,871
PULL
John R. Morgan, Chicago, Ill.
(4000 Auburn St., Rockford, Ill.)
Filed Aug. 30, 1960, Ser. No. 61,947
Term of patent 14 years
(Cl. D10—8)



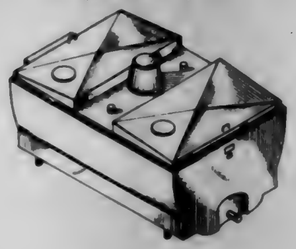
189,872
ADJUSTABLE LEG REST
Helen L. Arnott, Phoenix, Ariz.
Filed Nov. 12, 1959, Ser. No. 58,324
Term of patent 14 years
(Cl. D15—8)



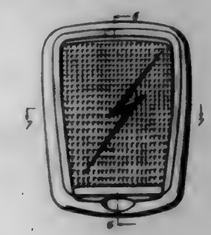
189,873
CURTAIN ROD BRACKET
Alfons Glassenhart, 2425 E. Sheridan, and William J. Stolz, 4601 E. Oak, both of Phoenix, Ariz.
Filed May 31, 1960, Ser. No. 60,779
Term of patent 14 years
(Cl. D21—1)



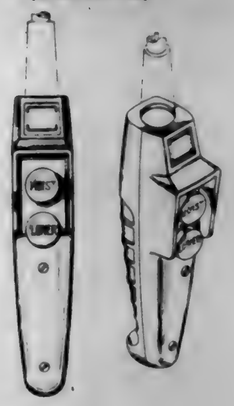
189,874
MILK TANK
William E. Rich, 1720 S. Yale, Wichita, Kans.
Filed Apr. 21, 1958, Ser. No. 50,547
Term of patent 7 years
(Cl. D23—1)



189,875
POWER SUPPLY CABLE HATCH FOR A HOUSE TRAILER OR SIMILAR ARTICLE
Joseph A. Hill, Glen Ellyn, Ill., assignor to Hub Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 15, 1959, Ser. No. 58,672
Term of patent 14 years
(Cl. D26—5)



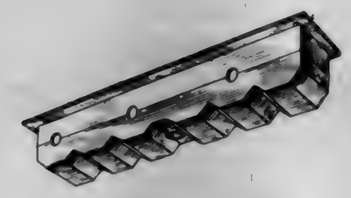
189,876
SWITCH HOUSING
Robert M. Weiaver, Maumee, Ohio, assignor to Manning, Maxwell & Moore, Incorporated, Muskegon, Mich., a corporation of New Jersey
Filed Mar. 24, 1960, Ser. No. 59,857
Term of patent 14 years
(Cl. D26—13)



189,877
COMBINED TELEPHONE HANDSET AND STAND
Lionel W. Mosing, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 11, 1960, Ser. No. 60,537
Term of patent 14 years
(Cl. D26—14)



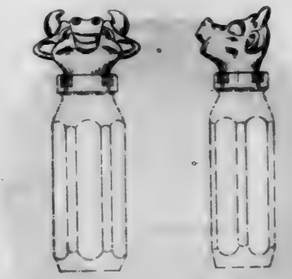
189,878
BIRD HOUSE
Joseph Albert Wettendorf, 711 E. 35th St., Kansas City, Mo.
Filed Aug. 8, 1960, Ser. No. 61,666
Term of patent 14 years
(Cl. D31—2)



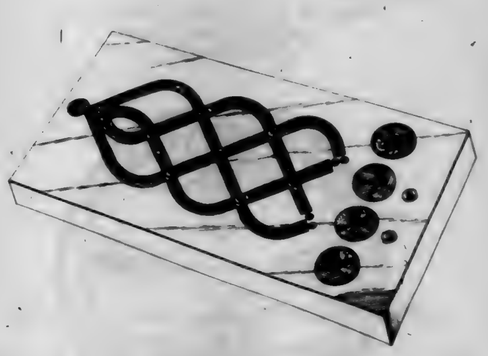
189,879
DESK
Giacomo Jack Buzzitta, Grand Rapids, Mich., assignor to Stow & Davis Furniture Company, Grand Rapids, Mich., a corporation of Michigan
Filed Oct. 5, 1959, Ser. No. 57,795
Term of patent 14 years
(Cl. D33—7)



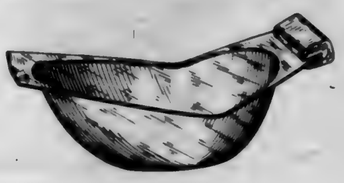
189,880
AUDIBLE FIGURE TOY
Henry A. Blake, Newton, Mass., assignor to Blake Industries, Inc., Boston, Mass., a corporation of Massachusetts
Filed Nov. 2, 1959, Ser. No. 58,189
Term of patent 3½ years
(Cl. D34—2)



189,881
GAME BOARD
Frank L. Davis, Wilmington, Del.
(114 Tennessee Ave., Pleasant Hills, Newport, Del.)
Filed Feb. 2, 1960, Ser. No. 59,243
Term of patent 14 years
(Cl. D34—5)



189,882
BOWL OR THE LIKE
Leo F. Wildgen, Minneapolis, Minn., assignor to Arthur Salm Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 12, 1960, Ser. No. 62,097
Claims priority, application Sweden Mar. 22, 1960
Term of patent 14 years
(Cl. D44—15)



189,883
DINNERWARE PLATE
Jacob Homer, deceased, late of Chicago, Ill., by Reba Homer, Richard Sheldon Homer, Benita Mae Goldhammer, and Marvin David Homer, heirs, all of Los Angeles, Calif.
Filed Apr. 18, 1960, Ser. No. 60,237
Term of patent 7 years
(Cl. D44—15)



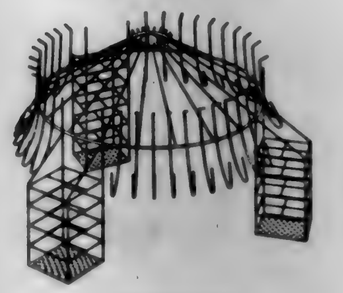
189,884
DINNERWARE PLATE
Jacob Homer, deceased, late of Chicago, Ill., by Reba Homer, Richard Sheldon Homer, Benita Mae Goldhammer, and Marvin David Homer, heirs, all of Los Angeles, Calif.
Filed Apr. 18, 1960, Ser. No. 60,236
Term of patent 7 years
(Cl. D44—15)



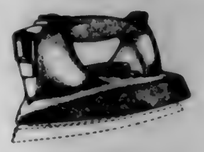
189,885
COMBINED KNIFE, FORK, AND CONTAINER OPENER
Samuel L. Gerson, 229B Monroe Park Apts., Thomas Drive, Wilmington, Del.
Filed May 7, 1958, Ser. No. 50,779
Term of patent 14 years
(Cl. D44—29)



189,886
DISH RACK FOR DISHWASHING MACHINES
Ronald M. Kent, 10 Pinehurst Crescent, Toronto, Ontario, Canada
Filed Aug. 29, 1960, Ser. No. 61,924
Term of patent 14 years
(Cl. D49—1)



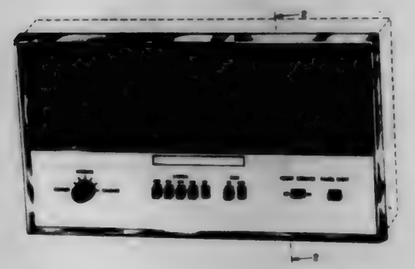
189,887
IRON
Melvin H. Boldt, Glenview, Ill., assignor to National Presto Industries, Inc., Eau Claire, Wis., a corporation of Wisconsin
Filed May 4, 1959, Ser. No. 55,755
Term of patent 14 years
(Cl. D49—6)



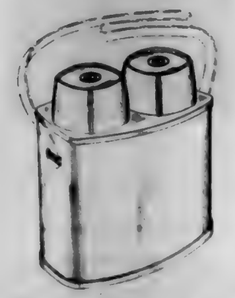
189,888
TABLET DISPENSER
Samuel Tapper, 440 Baldwin Road, Maplewood, N.J.
Filed Sept. 4, 1959, Ser. No. 57,428
Term of patent 14 years
(Cl. D52—2)



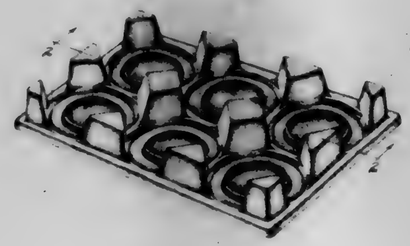
189,889
COMBINED SPACE CONDITION CONTROL AND WEATHER INDICATING INSTRUMENT
Henry Dreyfuss, South Pasadena, Calif., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 24, 1959, Ser. No. 57,664
Term of patent 14 years
(Cl. D52—7)



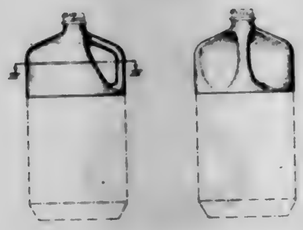
189,890
COMBINED VACUUM BOTTLE UNIT AND HOLDER
John G. Bradshaw, 129 Newington Road, Elmwood, Conn., and George A. Kingham, 44 Hull St., Bristol, Conn.
Filed Apr. 28, 1960, Ser. No. 60,350
Term of patent 14 years
(Cl. D58—6)



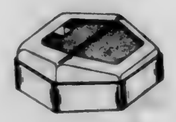
189,891
PACKING SHEET
Paul A. Schilling, 2048 Lower St. Dennis Road, and Thomas G. Mairs, 1707 Delaware Ave., both of St. Paul, Minn.
Filed Apr. 20, 1959, Ser. No. 55,565
Term of patent 14 years
(Cl. D58—13)



189,892
JUG
Floyd E. Pettengill, Millville, N.J., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1960, Ser. No. 62,304
Term of patent 14 years
(Cl. D58—25)



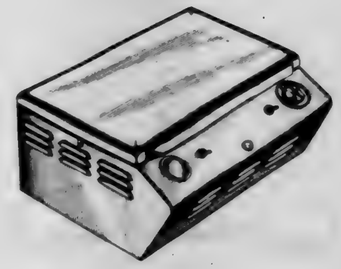
189,893
CASE END CAP FOR PHOTOGRAPHIC SCREENS
Frank D. Sayger and Donald E. Browne, Warsaw, Ind., assignors to Da-Lite Screen Company, Inc., Warsaw, Ind., a corporation of Illinois
Filed Nov. 4, 1960, Ser. No. 62,761
Term of patent 14 years
(Cl. D61—1)



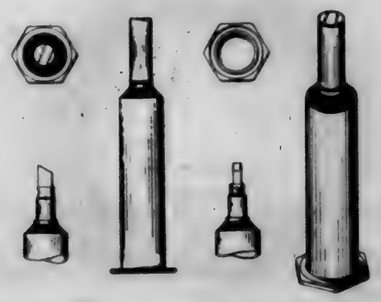
189,894
PHOTOGRAPHIC FLASH HOLDER SAFETY GUARD OR SIMILAR ARTICLE
Vincent F. Lang, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 28, 1960, Ser. No. 59,913
Term of patent 7 years
(Cl. D61—1)



189,895
APPARATUS FOR MAKING PHOTOGRAPHIC PLATES
Harold R. Benson, Lombard, Ill., assignor to The Nuarc Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 8, 1960, Ser. No. 62,064
Term of patent 14 years
(Cl. D61—1)



189,896
COMBINED MARKING DEVICE AND CONTAINER THEREFOR
Robert P. Vuillemenot, Oradell, N.J., assignor to The Carter's Ink Company, Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 7, 1958, Ser. No. 49,946
Term of patent 14 years
(Cl. D74—17)



189,897
GARMENT HANGER
Albert Zifferblatt, 320 Ridgeview Drive, Palm Beach, Fla.
Filed Dec. 30, 1959, Ser. No. 58,860
Term of patent 14 years
(Cl. D80—8)



189,898
INFLATABLE COAT HANGER
Stefan Stern, Vienna, Austria, assignor to Fred Baumgarten, Atlanta, Ga.
Filed July 23, 1958, Ser. No. 51,906
Term of patent 14 years
(Cl. D80—8)



189,899
HANGER FOR DISPLAYING SOCKS
Bernard B. Levine, 530 E. 90th St., and Otto L. Becker, 336 College Road, both of New York, N.Y.
Filed Aug. 1, 1960, Ser. No. 61,580
Term of patent 14 years
(Cl. D80—8)



189,900
MERCHANDISING DISPLAY STAND FOR CONFECTIONERIES OR THE LIKE
Marcel M. Arnould, East Orange, N.J., assignor to Mal Newberg Associates Ltd., New York, N.Y., a corporation of New York
Filed Dec. 7, 1959, Ser. No. 58,574
Term of patent 3½ years
(Cl. D80—9)



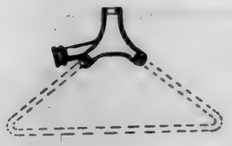
189,901
COMBINED CANDLE HOLDER AND CIGARETTE HOLDER
Roxane Kamenstein, 907 5th Ave., New York, N.Y.
Filed Aug. 3, 1960, Ser. No. 61,617
Term of patent 7 years
(Cl. D85—8)



189,902
PLASTIC SHEET MATERIAL
John R. Ellefson, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 12, 1960, Ser. No. 62,469
Term of patent 14 years
(Cl. D67—3)



189,903
SPRINKLER BASE
Lloyd B. Smith, % Owen-Richards Co., 824 N. 31st St., Birmingham, Ala., and George L. Turner and Carl H. Harris, both % H. B. Sherman Mfg. Co., Battle Creek, Mich.
Filed June 16, 1958, Ser. No. 51,386
Term of patent 14 years
(Cl. D91—1)



LIST OF REISSUE PATENTEES

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PATENTS WERE ISSUED ON THE 14TH DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

General Motors Corp.: *See*—
Kelley, Oliver K. Re. 24,947.
Kelley, Oliver K., to General Motors Corp. Hydrokinetic torque converter and gearing. Re. 24,947, 3–14–61, Cl. 74—677.

LIST OF PLANT PATENTEES

Ball, George J., Inc.: *See*—
Dunham, Orville O. 2,033.
Dunham, Orville O., to George J. Ball, Inc. Chrysanthemum plant. 2,033, 3–14–61, Cl. 47—60.

Mittleider, Jacob: *See*—
Youdath, John A. 2,034.
Youdath, John A., to J. Mittleider. Dianthus plant. 2,034, 3–14–61, Cl. 47—60.

LIST OF DESIGN PATENTEES

Aleks, Vytant P., to National Lock Co. Cabinet pull or the like. 189,870, 3–14–61, Cl. D10—8.
Armstrong Cork Co.: *See*—
Pettengill, Floyd E. 189,892.
Arnott, Helen L. Adjustable leg rest. 189,872, 3–14–61, Cl. D15—8.
Arnould, Marcel M., to Mal Newberg Associates Ltd. Merchandising display stand for confectioneries or the like. 189,900, 3–14–61, Cl. D80—9.
Baumgarten, Fred: *See*—
Stern, Stefan. 189,898.
Becker, Otto L.: *See*—
Levine, Bernard B., and Becker. 189,899.
Bell Telephone Laboratories, Inc.: *See*—
Mosing, Lionel W. 189,877.
Benson, Harold R., to The Nuarc Co. Apparatus for making photographic plates. 189,895, 3–14–61, Cl. D61—1.
Blake, Henry A., to Blake Industries, Inc. Audible figure toy. 189,880, 3–14–61, Cl. D34—2.
Blake Industries, Inc.: *See*—
Blake, Henry A. 189,880.
Boldt, Melvin H., to National Presto Industries, Inc. Iron. 189,887, 3–14–61, Cl. D49—6.
Bradshaw, John G., and G. A. Kingham. Combined vacuum bottle unit and holder. 189,890, 3–14–61, Cl. D58—8.
Browne, Donald E.: *See*—
Sayger, Frank D., and Browne. 189,893.
Bussitta, Giacomo J., to Stow & Davis Furniture Co. Desk. 189,879, 3–14–61, Cl. D83—7.
Carter's Ink Co., The: *See*—
Vuillemenot, Robert P. 189,896.
Da-Lite Screen Co., Inc.: *See*—
Sayger, Frank D., and Browne. 189,893.
Davis, Frank L. Game board. 189,881, 3–14–61, Cl. D34—5.
Dreyfuss, Henry, to Minneapolis-Honeywell Regulator Co. Combined space condition control and weather indicating instrument. 189,889, 3–14–61, Cl. D52—7.
Du Pont de Nemours, E. I., and Co.: *See*—
Ellefson, John R. 189,902.
Eastman Kodak Co.: *See*—
Lang, Vincent F. 189,894.
Ellefson, John R., to E. I. du Pont de Nemours and Co. Plastic sheet material. 189,902, 3–14–61, Cl. D87—3.
Gerson, Samuel L. Combined knife, fork and container opener. 189,885, 3–14–61, Cl. D44—29.
Glassenhart, Alfons, and W. J. Stolz. Curtain rod bracket. 189,873, 3–14–61, Cl. D21—1.
Goldhammer, Benita M.: *See*—
Homer, Jacob. 189,883.
Homer, Jacob. 189,884.
Harris, Carl H.: *See*—
Smith, Lloyd B., Turner, and Harris. 189,903.
Hill, Joseph A., to Hub Industries, Inc. Power supply cable hatch for a house trailer or similar article. 189,875, 3–14–61, Cl. D26—5.
Homer, Jacob, deceased, by R. and R. S. Homer, B. M. Goldhammer, and M. D. Homer, heirs. Dinnerware plate. 189,883, 3–14–61, Cl. D44—15.
Homer, Jacob, deceased, by R. and R. S. Homer, B. M. Goldhammer, and M. D. Homer, heirs. Dinnerware plate. 189,884, 3–14–61, Cl. D44—15.
Homer, Marvin D.: *See*—
Homer, Jacob. 189,883.
Homer, Jacob. 189,884.
Homer, Reba: *See*—
Homer, Jacob. 189,883.
Homer, Jacob. 189,884.
Homer, Richard S.: *See*—
Homer, Jacob. 189,883.
Homer, Jacob. 189,884.
Hub Industries, Inc.: *See*—
Hill, Joseph A. 189,875.
Kamenstein, Roxane. Combined candle holder and cigarette holder. 189,901, 3–14–61, Cl. D85—8.
Kent, Ronald M. Dish rack for dishwashing machines. 189,886, 3–14–61, Cl. D49—1.
Kingham, George A.: *See*—
Bradshaw, John G., and Kingham. 189,890.
Lang, Vincent F., to Eastman Kodak Co. Photographic flash holder safety guard or similar article. 189,894, 3–14–61, Cl. D61—1.
Levine, Bernard B., and O. L. Becker. Hanger for displaying socks. 189,899, 3–14–61, Cl. D80—8.
Mairs, Thomas G.: *See*—
Schilling, Paul A., and Mairs. 189,891.
Manning, Maxwell & Moore, Inc.: *See*—
Wolaver, Robert M. 189,876.
Minneapolis-Honeywell Regulator Co.: *See*—
Dreyfuss, Henry. 189,889.
Morgan, John R. Pull. 189,871, 3–14–61, Cl. D10—8.
Mosing, Lionel W., to Bell Telephone Laboratories, Inc. Combined telephone handset and stand. 189,877, 3–14–61, Cl. D26—14.
National Lock Co.: *See*—
Aleks, Vytant P. 189,870.
National Presto Industries, Inc.: *See*—
Boldt, Melvin H. 189,887.
Newberg, Mal, Associates Ltd.: *See*—
Arnould, Marcel M. 189,900.
Nuarc Co., The: *See*—
Benson, Harold R. 189,895.
Pettengill, Floyd E., to Armstrong Cork Co. Jug. 189,892, 3–14–61, Cl. D58—25.
Rich, William E. Milk tank. 189,874, 3–14–61, Cl. D23—1.
Salm, Arthur, Inc.: *See*—
Wildgen, Leo F. 189,882.
Sayger, Frank D., and D. E. Browne, to Da-Lite Screen Co., Inc. Case end cap for photographic screens. 189,893, 3–14–61, Cl. D61—1.
Schilling, Paul A., and T. G. Mairs. Packing sheet. 189,891, 3–14–61, Cl. D58—13.
Smith, Lloyd B., G. L. Turner, and C. H. Harris. Sprinkler base. 189,903, 3–14–61, Cl. D91—1.
Stern, Stefan, to F. Baumgarten. Inflatable coat hanger. 189,898, 3–14–61, Cl. D80—8.
Stolz, William J.: *See*—
Glassenhart, Alfons, and Stolz. 189,873.
Stow & Davis Furniture Co.: *See*—
Bussitta, Giacomo J. 189,879.
Tapper, Samuel. Tablet dispenser. 189,888, 3–14–61, Cl. D52—2.
Turner, George L.: *See*—
Smith, Lloyd B., Turner, and Harris. 189,903.
Vuillemenot, Robert P., to The Carter's Ink Co. Combined marking device and container therefor. 189,896, 3–14–61, Cl. D74—17.
Wettendorf, Joseph A. Bird house. 189,878, 3–14–61, Cl. D31—2.
Wildgen, Leo F., to Arthur Salm, Inc. Bowl or the like. 189,882, 3–14–61, Cl. D44—15.
Wolaver, Robert M., to Manning, Maxwell & Moore, Inc. Switch housing. 189,876, 3–14–61, Cl. D26—13.
Zifferblatt, Albert. Garment hanger. 189,897, 3–14–61, Cl. D80—8.

LIST OF PATENTEES

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PATENTS WERE ISSUED ON THE 14TH DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Roberts, Perry M. 2,974,424.
Simpson, Donald D. 2,974,517.
Sacsepanik, John A. 2,974,810.

AMP Inc.: *See*—
Sitts, Gilbert C. 2,975,395.

Aaron, Charles, to Cameron Machine Co. Apparatus for controlling tension in a running web. 2,974,893, 3–14–61, Cl. 242—75.43.

Aaron, Charles, to Cameron Machine Co. Apparatus for counteracting tension variations localized toward either side of a running web. 2,974,894, 3–14–61, Cl. 242—75.43.

Abbott, Corliss W., and H. I. Freeman, to The Sherwin-Williams Co. Composition comprising polyester, protective colloid and clay and paper coated therewith. 2,975,147, 3–14–61, Cl. 260—7.5.

Abbott, Henry H., to Bell Telephone Laboratories, Inc. Telephone conference circuit. 2,975,237, 3–14–61, Cl. 179—90.

Abramo, John G., and R. H. Reinhard, to Monsanto Chemical Co. Copolymers of fluorinated ethers. 2,975,161, 3–14–61, Cl. 260—85.5.

Ackerman, Sumner, to Instrument Development Laboratories, Inc. Accelerometer. 2,974,531, 3–14–61, Cl. 73—516.

Acme Industrial Co.: *See*—
Statkus, George M. 2,974,642.

Actuation Research Corp.: *See*—
Kaswan, Siegfried. 2,974,921.

Adams, Albert H.: *See*—
Gibaven, Marvin E., and Adams. 2,975,096.

Adams, Andrew O.: *See*—
Schuessler, John C. and Adams. 2,975,341.

Adams, Gilbert T., to Dover Corp. Door clutch mechanism. 2,974,751, 3–14–61, Cl. 187—52.

Adams, Robert T., to International Telephone and Telegraph Corp. Combining system for diversity communication systems. 2,975,275, 3–14–61, Cl. 250—20.

Adams, Robert T., and J. B. Harvey, to International Telephone and Telegraph Corp. Maximum slope pulse detector. 2,975,367, 3–14–61, Cl. 328—114.

Aerojet-General Corp.: *See*—
Zwicky, Fritz. 2,974,626.

Agarwal, Jagdish C., and W. L. Davis, Jr., to United States Steel Corp. Process for quenching hot iron powder agglomerates. 2,975,086, 3–14–61, Cl. 148—134.

Agfa Aktiengesellschaft: *See*—
Landbrecht, Franz. 2,974,754.

Air Logistics Corp.: *See*—
Hassell, Theodore F. 2,974,972.

Aktiengesellschaft Brown, Boveri & Cie: *See*—
Schärli, Otto. 2,975,343.

Akutowicz, Frank. Expansion nut assembly. 2,974,557, 3–14–61, Cl. 85—33.

Alcott, Ernest G., to General Electric Co. Method and apparatus for balling clay pug. 2,974,364, 3–14–61, Cl. 25—54.

Aldred, Fred C.: *See*—
Kearton, Christopher F., Givens, and Aldred. 2,974,420.

Aleksa, Peter: *See*—
Zimmerman, Edward C., and Aleksa. 2,974,580.

Alexander, Ben, M. Rogoff, and M. C. Vosburgh, to International Telephone and Telegraph Corp. Long range radio navigation system. 2,975,417, 3–14–61, Cl. 343—106.

Allen-Bradley Co.: *See*—
Callan, John E. 2,975,334.
Callan, John E., and Hudson. 2,975,348.

Allen, George R., Jr., and M. J. Weiss, to American Cyanamid Co. Halogenated pregnadienes. 2,975,197, 3–14–61, Cl. 260—397.45.

Allen, Robert C., to E. I. du Pont de Nemours and Co. Propellant grain igniter. 2,974,596, 3–14–61, Cl. 102—70.

Allin, George S., Sr., J. K. Liu, and V. E. Resabek, to International Harvester Co. Brake and actuating means for tractor winch. 2,974,753, 3–14–61, Cl. 188—72.

Allis-Chalmers Mfg. Co.: *See*—
Roseman, Earl C., and Frank. 2,975,088.
Walberg, Maynard E. 2,974,738.
Yanagisawa, Samuel T. 2,975,254.

Allison, Samuel K., to United States of America, Atomic Energy Commission. Reactor. 2,975,114, 3–14–61, Cl. 204—193.2.

Allison, William M., to Sprague Electric Co. Electrical capacitors. 2,974,306, 3–14–61, Cl. 29—25.42.

Allmanna Svenska Elektriska Aktiebolaget: *See*—
Wilk, Sune. 2,974,645.

Alpha Shrimp Machine Corp., The: *See*—
Cerny, Louis L. 2,974,356.

Alward, Kenneth C. Variation arrangement. 2,974,648, 3–14–61, Cl. 121—194.

Alweg-Forschung Gesellschaft mit beschrankter Haftung: *See*—
Macrander, Karl. 2,974,606.

Ambrose, Henry A., to Gulf Research & Development Co. Treatment of distillate fuel oils with aqueous anti-microbial agents. 2,975,043, 3–14–61, Cl. 44—72.

Amchem Products, Inc.: *See*—
Saubaitis, Albert J., Gardner, and Gibson. 2,975,125.

American Alcolac Corp.: *See*—
Blinoff, Vsevolod, and Braude. 2,975,141.

American Can Co.: *See*—
Huse, William S., and Kuchenbecker. 2,974,852.
Kaschner, Daniel B., Sr. 2,974,953.
Kinney, Alfred W. 2,974,459.
Stacey, Frank J., and Schuls. 2,974,775.

American Cyanamid Co.: *See*—
Allen, George R., Jr., and Weiss. 2,975,197.
Cooper, Murray S. 2,974,787.
Roberts, George L., Jr., McSheehy, and Soffer. 2,975,190.

American Forge and Mfg. Co.: *See*—
Calhoun, Robert J., Jr. 2,974,995.

American Home Products Corp.: *See*—
Myers, Gordon S., and Winthrop. 2,975,209.
Warren, George H. 2,975,104.

American Machine & Foundry Co.: *See*—
Schnick, Arthur W. 2,975,262.
Walsh, Richard D. 2,974,955.

American Machine and Metals, Inc.: *See*—
Buss, Benjamin A., and Krynski. 2,974,514.

American Metal Products Co.: *See*—
Thomas, Paul P. 2,974,975.

American Monorail Co., The: *See*—
Fell, Charles L. 2,974,342.

American Optical Co.: *See*—
Di Lorenzo, Norman S. 2,974,567.

American Steel Foundries: *See*—
Polanin, Walter R. 2,974,757.
Quinn, Frank P., and Young. 2,974,610.
Tack, Carl E., and Bachman. 2,974,759.

American Viscose Corp.: *See*—
Howsmon, John A. 2,975,019.
Park, Robert W. 2,975,093.
Sisson, Wayne A. 2,975,021.
Thumm, Byron A. 2,975,030.

Ames, Vernon G., to United States of America, Army. Shock mount. 2,974,943, 3–14–61, Cl. 267—1.

Amsler, Max. Recording apparatus provided with automatic cancellation. 2,975,016, 3–14–61, Cl. 346—16.

Anagnostopoulos, Constantine E.: *See*—
Wineman, Robert J., and Anagnostopoulos. 2,975,182.

Andersen, Clifford W., to The Rudolph Wurlitzer Co. Electronic piano. 2,974,555, 3–14–61, Cl. 84—1.14.

Andersen, Holger C.: *See*—
Cohn, Johann G. E., Steele, and Andersen. 2,975,025.

Anderson Co., The: *See*—
Martens, Jack E. 2,974,589.

Anderson, Floyd E., and J. Bobiaski, to Warner-Lambert Pharmaceutical Co. Piperidinol compounds. 2,975,185, 3–14–61, Cl. 260—294.7.

Anderson, Raymond W., and C. F. Kamrud, to Reserve Mining Co. Relief inserts for metallic lining. 2,974,889, 3–14–61, Cl. 241—295.

Anderson, Richard D., and J. J. Nastronero, to United States of America, Navy. Optical detector assembly. 2,975,292, 3–14–61, Cl. 250—216.

Anderson, William E., to Riegel Paper Corp. Laminated paper. 2,975,094, 3–14–61, Cl. 154—138.

Andre, Noble, W. B. Fahrenbach, and J. J. Tyll, to Andre-Matic Machinery Co. Can packaging apparatus and method. 2,974,454, 3–14–61, Cl. 53—32.

Andre-Matic Machinery Co.: *See*—
Andre, Noble, Fahrenbach, and Tyll. 2,974,454.

Andrews, John S., to General Mills, Inc. Dry cookie mix. 2,975,059, 3–14–61, Cl. 99—94.

Antell, George E., and T. W. Roberts, to Metropolitan-Vickers Electrical Co. Ltd. Purification of semi-conductor material. 2,975,043, 3–14–61, Cl. 75—84.

Antenna Designs, Inc.: *See*—
Wells, Donald H. 2,975,423.

Anton Electronic Laboratories, Inc.: *See*—
Harris, Jack. 2,975,335.

Applied Plastics, Inc.: *See*—
Bauman, Douglas B. 2,974,366.

Applied Research Inc.: *See*—
Dolia, Martin, Scandurra, and Poulos. 2,974,408.

Armour Research Foundation of Illinois Institute of Technology: *See*—
Camras, Marvin. 2,975,241.

Armstrong, Lorne D., to Radio Corp. of America. Production of controlled P-N junctions. 2,975,080, 3–14–61, Cl. 148—1.5.

Armstrong, Paul R., and F. O. Luenberger, to U.S. Electrical Motors, Inc. Rotor structure for synchronous induction motors. 2,975,310, 3–14–61, Cl. 310—168.

Aro Equipment Corp., The: *See*—
Culbertson, Ralph L. 2,974,673.

Art Metal Co., The: *See*—
Dvorak, Lester I. 2,974,355.
Dvorak, Lester I. 2,975,271.

Ashman, Charles S., B. H. L. James, and M. T. Stockford, to North American Philips Co., Inc. Transformer. 2,975,350, 3–14–61, Cl. 323—51.

Ault, Neil N., to Norton Co. Process of making ceramic shells. 2,974,368, 3–14–61, Cl. 25—154.

Ault, Waldo C.: *See*—
Port, William S., Geib, and Ault. 2,975,149.

Aumüller, Walter: *See*—
Wagner, Hans, Aumüller, Ruschig, and Korger. 2,975,212.

Automatic Electric Laboratories, Inc.: *See*—
Cleary, Robert T. 2,975,237.
Glenner, Edward J., and Molnar. 2,975,236.
Pinet, Andre E. 2,975,305.

Axelson, Arthur F.: *See*—
Heath, Carlos M., and Axelson. 2,975,266.

Asoplate Corp.: *See*—
Schmidt, Maximilian P., and Sills. 2,975,053.

B. B. Chemical Co.: *See*—
Johnson, Eric C., and Clarke. 2,975,150.

Babcock, Robert A., and R. L. Putney, to J. B. Nottingham & Co., Inc. Air cooled whip and electrode holder for welders. 2,975,267, 3–14–61, Cl. 219—138.

Bachman, Fred E.: *See*—
Tack, Carl E., and Bachman. 2,974,759.

Bachofer, Henry L.: *See*—
Lerner, Julius, and Bachofer. 2,974,526.

Bader, William, R. W. Berry, Jr., and F. K. Beyer, to Wesson Co. Grinding machine accessory. 2,974,451, 3–14–61, Cl. 51—220.

Bagga, Burton D., Jr.: *See*—
Smith, Alexander, and Bagga. 2,974,469.
Smith, Alexander, and Bagga. 2,974,735.

Bailey, Donald L., and W. T. Black, to Union Carbide Corp. Phenylvinyl-substituted cyclic siloxanes. 2,975,203, 3–14–61, Cl. 260—448.2.

Bailey Meter Co.: *See*—
Baldridge, Bruce H. 2,974,674.

Bair, Stanley G. Journal lubricator. 2,975,009, 3–14–61, Cl. 306—243.

Baird, William G., Jr., to W. R. Grace & Co. Copies and method for making the same. 2,974,370, 3–14–61, Cl. 18—47.5.

Baker, Douglas A.: *See*—
Stevinson, Harry T., and Baker. 2,974,896.

Baker, Dwight L., and W. B. Dockstader, to Basic Products Corp. Antioxidant and process for preparing the same. 2,975,066, 3–14–61, Cl. 99—163.

Baker Oil Tools, Inc.: *See*—
Keithahn, Julian D. 2,974,922.

Baker, William O., to Swimquip, Inc. Grab rail construction. 2,974,746, 3–14–61, Cl. 182—93.

Baldridge, Bruce H., to Bailey Meter Co. Booster relay for pneumatic control systems. 2,974,674, 3–14–61, Cl. 137—85.

Baldwin Piano Co., The: *See*—
Ludeke, Rudolf, and Gregory. 2,975,328.

Ballou, Jack W.: *See*—
Brooks, Harvey, and Ballou. 2,974,623.

Bank of America National Trust and Savings Assn.: *See*—
Merritt, Clarence E. 2,974,974.
Muhleck, Earl M. 2,974,973.

Baran, John S., to G. D. Searle & Co. Derivatives of 11α-hydroxy-11,19-epoxyandrostanes. 2,975,173, 3–14–61, Cl. 260—239.55.

Baranski, Stephen: *See*—
Batlas, George X., and Baranski. 2,974,839.

Barbieri, Donald E., H. Becker, T. N. Dalton, and L. S. Galowin, to Curtiss-Wright Corp. High temperature probe. 2,975,225, 3–14–61, Cl. 136—4.

Barbulesco, Daniel J.: *See*—
Sisson, Kenneth O., and Barbulesco. 2,974,542.

Barnes George U.: *See*—
Green, Kenneth E., Hagan, and Barnes. 2,975,263.

Barr, Irwin R., to United States of America, Army. Method of vision block installation. 2,974,407, 3–14–61, Cl. 29—423.

Barth-Wehrenalp, Gerhard, and A. Kowalski, to Peninsular Chemicals Corp. Phosphorous compounds and process for making. 2,975,028, 3–14–61, Cl. 23—14.

Basic Atomics Inc.: *See*—
Martin, Emmett J., and Landolt. 2,974,884.

Basic Products Corp.: *See*—
Baker, Dwight L., and Dockstader. 2,975,066.

Basic Vegetable Products, Inc.: *See*—
Boles, Lester A., Lundgren, and Daniel. 2,974,039.

Base Inc.: *See*—
Hajny, Charles E. 2,974,869.

Batchelor, William L.: *See*—
Conkey, Herbert E., Batchelor, and Thompson. 2,975,017.
Jackson, Chauncey D., Batchelor, and Thompson. 2,975,239.

Bath, Cyril, Co., The: *See*—
Perkins, George H. 2,974,707.
Perkins, George H. 2,974,708.

Batlas, George X., and S. Baranski, Dispensers for paper toweling. 2,974,839, 3–14–61, Cl. 225—12.

Batzer, Hans, and E. Nikles, to Ciba Ltd. New hydroaromatic di- and poly-amides. 2,975,195, 3–14–61, Cl. 260—148.

Bauer Bros. Co., The: *See*—
Ginaven, Marvin E., and Woodruff. 2,974,684.
Ginaven, Marvin E., and Adams. 2,975,096.
Skees, Lawrence E. 2,974,831.

Baum, Sanford: *See*—
Lane, William B., Baum, Graham, Fuller, Mackin, Lal, Zigman, and Shelberg. 2,974,520.

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Bayer, Helmut: *See*—
Hauk, Hans, Streeck, Bayer, and Belik. 2,974,419.

Beagle, Ralph G. Adjustable display and flower holder. 2,974,442, 3–14–61, Cl. 47—41.

Beale, Evelyn S. L., to Alan Muntz & Co. Ltd. Internal-combustion-operated, free-piston gas-generators. 2,974,-883, 3–14–61, Cl. 103—46.

Beavers, Ellington M.: *See*—
Hurwitz, Marvin J., Craig, and Beavers. 2,975,152.

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Becker, Eugene: *See*—
Barbieri, Donald B., Becker, Dalton, and Galowin. 2,975,225.

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Beckington, Arthur E.: *See*—
Morris, Charles W., and Beckington. 2,974,960.

Beede, Arnold H., A. P. Cawl, and R. C. Lampe, to Electrolux Corp. Combined handle and electric plug retainer. 2,975,-391, 3–14–61, Cl. 339—91.

Beese, Norman C., to United States of America, Navy. Method of evaporating metals. 2,975,075, 3–14–61, Cl. 117—107.

Behnke, George W., and E. G. Westcott, to Simplicity Engineering Co. Grimly feeders. 2,974,795, 3–14–61, Cl. 198—247.

Belanger, Jean M. Garden hose guard. 2,974,933, 3–14–61, Cl. 254—190.

Belik, Luitfried: *See*—
Hauk, Hans, Streeck, Bayer, and Belik. 2,974,419.

Bell, Robert E.: *See*—
Williams, Roger E., Jr., and Bell. 2,974,863.

Bell Telephone Laboratories, Inc.: *See*—
Abbott, Henry H. 2,975,237.
Dillon, Joseph F., Jr. 2,974,568.
Ellis, William C., and Greiner. 2,974,778.
Malhose, Alfred E. 2,975,298.
Straube, Harold M. 2,975,301.

Bell, William E.: *See*—
Bloom, Arnold L., and Bell. 2,975,230.

Bell, William E., to Varian Associates. Magnetoabsorption flux meter and gradiometer. 2,975,360, 3–14–61, Cl. 324—43.

Beller, Wilbert E., and E. A. Ostrowski, to Controls Co. of America. Pressure switch. 2,975,251, 3–14–61, Cl. 200—83.

Belsinger, Samuel P. Wardrobe. 2,974,779, 3–14–61, Cl. 206—7.

Bemis Bro. Bag Co.: *See*—
Peistrup, Henry F. 2,975,090.

Bendar, Arthur E., to Star Recorder Corp. Depth and operation recorder for earth bore drilling rigs. 2,974,522, 3–14–61, Cl. 73—151.5.

Bendix Corp., The: *See*—
Friend, Lindsay C. 2,975,249.
Garday, Louis J. 2,974,881.
Harris, Robert C. 2,975,145.
Haugen, Glenn L., and Wofford. 2,975,300.
Merul, Wolfgang. 2,975,406.
Platt, Walter A. 2,974,906.

Benjamin, Milton L., and F. E. Wiman, to Erickson Tool Co. Diaphragm chuck. 2,974,964, 3–14–61, Cl. 279—4.

Bennett, Albert W., to Courtaulds Ltd. Production of artificial threads. 2,975,024, 3–14–61, Cl. 18—54.

Bennett, Clarence W.: *See*—
Sellars, Elmer V., and Bennett. 2,974,800.

Bennett, Paul L.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,413.

Bent, John H., and R. H. Olsen, to Gardner-Denver Co. Beam mounted tractor. 2,974,609, 3–14–61, Cl. 105—158.

Bentele, Max, H. D. Dehne, and C. W. Folley, to Curtiss-Wright Corp. Direct drive torquemeter. 2,974,522, 3–14–61, Cl. 73—136.

Benzinger, Robert P., to General Motors Corp. Venting systems for internal combustion engines. 2,974,652, 3–14–61, Cl. 123—41.86.

Berg, Harry. Fish holding clamp. 2,974,357, 3–14–61, Cl. 17—8.

Berger, Heinz: *See*—
Gross, Otto, and Berger. 2,975,144.

Bergwerksgesellschaft Hibernia Aktiengesellschaft: *See*—
Gross, Otto, and Berger. 2,975,144.

Berkey, Reynold A., to Diamond Alkali Co. Polyhalo-2,3-dihydrothiophene-1,1-dioxides. 2,975,194, 3–14–61, Cl. 260—332.1.

Berlin, Milton: *See*—
Rheingold, Lawrence M., and Berlin. 2,974,704.

Bernotas, Ralph J., to General Motors Corp. Steerable material handling device. 2,974,430, 3–14–61, Cl. 37—144.

Bernstein, Charles. Balancing means for rotatable cylinders. 2,974,801, 3–14–61, Cl. 210—144.

Berry, Clifford E., to Consolidated Electrodynamics Corp. Flutter correcting circuit for magnetic playback system. 2,975,240, 3–14–61, Cl. 179—100.2.

Berry, Robert W., Jr.: *See*—
Bader, William, Berry, and Beyer. 2,974,451.

Bertling, Ronald J., to McGraw-Edison Co. Switch operating means. 2,974,540, 3–14–61, Cl. 74—425.

Besly-Welles Corp.: *See*—
Welles, Donald P., Jr. 2,974,965.

Bessiere, Pierre E. Fuel injection device for a multicylinder internal combustion engine. 2,974,657, 3–14–61, Cl. 123—139.

Best, Ronald L., A. Crossley, S. Peel, H. Purdun, and C. J. Soeters, to Lever Bros. Co. Cocoa butter substitutes and products containing them. 2,975,060, 3–14–61, Cl. 99—118.

Bethlehem Steel Co.: *See*—
Horton, James B., and Serfass. 2,975,029.

Beurer, Frederick C., to United Aircraft Corp. Aircraft control linkage. 2,974,901, 3–14–61, Cl. 244—17.11.

Beyer, Fred K.: *See*—
Bader, William, Berry, and Beyer. 2,974,451.

Bible, Roy H., Jr., to G. D. Searle & Co. Morpholides and thiamorpholides of 1,4a-diamethyl-1-carboxy-6-hydroxy-1,2,3,4,4a,9,10,10a-octahydrophenanthrene-7-carboxylic acids, 7-alkanoic acids and 7-alkanethionic acids and their ethers and esters. 2,975,176, 3–14–61, Cl. 260—247.1.

Bimber, Russell M., to Diamond Alkali Co. Certain haloalkylolamino pyridines. 2,975,186, 3–14–61, Cl. 260—296.

Bingham, David W. Syruping apparatus for use in the canning of fruit and vegetables. 2,974,691, 3–14–61, Cl. 141—142.

Bird, Lester F., to Engelhard Hanovia, Inc. Operating circuit for high pressure arc lamps. 2,975,333, 3–14–61, Cl. 315—205.

Bitner, Forrest G., and H. Silk, to United States of America, Navy, Seal. 2,974,593, 3–14–61, Cl. 102—49.

Bitterman, Leo L., and J. Roszman; said Roszman assor. to said Bitterman. Side loading trailer. 2,974,996, 3–14–61, Cl. 296—24.

Bivens, Lucienne J.: *See*—
Bivens, Maurice E., and Sinclair. 2,975,338.

Bivens, Maurice E., deceased (L. J. Bivens, administratrix), and C. Sinclair, to General Electric Co. Cold cathode counting tube sequence control system. 2,975,338, 3–14–61, Cl. 317—149.

Black, William T.: *See*—
Bailey, Donald L., and Black. 2,975,203.

Blackman, Charles E., to De Kalb Agricultural Association, Inc. Grain classifier. 2,974,797, 3–14–61, Cl. 209—307.

Blanchard, Roswell W., to Worcester Taper Pin Co. Evaporating nozzle for a liquid fuel burning torch. 2,974,723, 3–14–61, Cl. 158—27.4.

Bleteo, Nelson C., to The Goodyear Tire & Rubber Co. Reinforced rubber articles. 2,975,095, 3–14–61, Cl. 154—140.

Blinoff, Vsevolod, and G. Braude, to American Alcohac Corp. Preparation of sulfo detergents. 2,975,141, 3–14–61, Cl. 252—161.

Bloom, Arnold L., and W. E. Bell, to Varian Associates. Electrodeless discharge method and apparatus. 2,975,330, 3–14–61, Cl. 315—115.

Bloomquist, Rudolph A. Door-knocker. 2,974,630, 3–14–61, Cl. 116—148.

Bloomquist, Wilburn M.: *See*—
Zeigle, Kenneth C., Vance, Nieland, and Bloomquist. 2,974,772.

Bobinski, Jack: *See*—
Anderson, Floyd E., and Bobinski. 2,975,185.

Boehler, Joseph: *See*—
Windstrup, Robert F., Boehler, and Schneider. 2,974,571.

Boehm, Josef, to United States of America, Army. Space vehicle attitude control system. 2,974,594, 3–14–61, Cl. 102—50.

Boehmer, A. & C., Ltd.: *See*—
Boehmer, Floyd O. 2,974,837.

Boehmer, Floyd O., to A. & C. Boehmer, Ltd. Shirt reinforcing member. 2,974,837, 3–14–61, Cl. 223—71.

Bogle, Robert W., to United States of America, Atomic Energy Commission. Radio ranging device. 2,975,414, 3–14–61, Cl. 343—13.

Böhm, Siegfried, and G. Hausmann, to VEB Kamera-und Kinowerke Dresden. Photographic cameras with adjustable emulsion carrier guide. 2,974,574, 3–14–61, Cl. 95—50.

Bolenbach, Adolf. Saw and method for tongue and groove joints. 2,974,692, 3–14–61, Cl. 143—38.

Boles, Lester A., H. C. Lundgren, and D. M. Daniel, to Basic Vegetable Products, Inc. Onion topper and slicer. 2,974,699, 3–14–61, Cl. 146—83.

Bombi, Walter M., J. E. Phillips, and C. H. Watson, to United States of America, Navy. Fluid control system for torpedoes. 2,974,619, 3–14–61, Cl. 114—20.

Bondra, John J.: *See*—
Brueggeman, Leo J., Fischer, Bondra, and Canzoneri. 2,974,529.

Bongiovanni, John C., to The Osborn Mfg. Co. Roll supporting means. 2,974,397, 3–14–61, Cl. 29—81.

Bonham, Lewis L., H. Montague, III, and H. E. Culver, to United States of America, Navy. Method of frequency sweeping a pulsed oscillator. 2,975,378, 3–14–61, Cl. 332—17.

Booth, Julian B., Jr.: *See*—
Morehouse, Charles R., and Booth. 2,974,602.

Bopp, Cecil W., to Bopp Mfg., Inc. Load-handling apparatus for building blocks and the like. 2,974,812, 3–14–61, Cl. 214—6.

Bopp Mfg., Inc.: *See*—
Bopp, Cecil W. 2,974,812.

Borg-Warner Corp.: *See*—
Coolidge, John E., Jr., and Work. 2,974,747.
Gerhardt, Andrew H. 2,974,510.
Gerhardt, Andrew H. 2,974,511.
Lock, Thomas. 2,974,602.
Murray, John F. 2,974,605.

Bortnick, Newman M., and M. F. Fegley, to Rohm & Haas Co. Bis-iminocyrrolines. 2,975,189, 3–14–61, Cl. 260—313.

Bos, Jan A., and H. N. Mulder, to Stamicarbon N.V. Preparation of dialkyl esters of terephthalic acid. 2,975,200, 3–14–61, Cl. 260—475.

Boswell, Robert B.: *See*—
Jominy, Walter E., Olson, and Boswell. 2,974,380.
Jominy, Walter E., Olson, and Boswell. 2,975,084.

Bounds, Ardrey M., and R. L. Hoff, to Superior Tube Co. Zirconium-aluminum-nickel cathodes. 2,975,050, 3–14–61, Cl. 75—170.

Bouvy, Christiaan H., to General Motors Corp. Aluminum die cast engine. 2,974,654, 3–14–61, Cl. 123—55.

Bowen, Glenn L.: *See*—
Davies, Edward R., Bowen, and Lemon. 2,974,545.

Boyle, Richard P., to The Weatherhead Co. Reusable hose end coupling. 2,974,980, 3–14–61, Cl. 285—247.

Boseman, Hoyt W., Jr., to James R. Kearney Corp. Cutting tool. 2,974,414, 3–14–61, Cl. 30—272.

Brady, W. H., Co.: *See*—
Tobey, Frederic S. 2,975,091.

Braeuninger, Karl F., to The Dow Chemical Co. Metal working device. 2,974,710, 3–14–61, Cl. 153—54.

Braid, Milton: *See*—
Hauptschein, Murray, and Braid. 2,975,220.

Branch, Frank F., and H. L. Shaw, to Product Development & Sales Co. Motor vehicle fan clutch assembly. 2,974,770, 3–14–61, Cl. 192—104.

Braschwitz, John M.: *See*—
Freche, John C., McKinnon, and Braschwitz. 2,974,925.

Braude, George: *See*—
Blinoff, Vsevolod, and Braude. 2,975,141.

Braun, Wolfgang G., and W. E. K. Kerris; said Kerris assor. to United States of America, Air Force. Holding circuit for direct reading frequency meters. 2,975,368, 3–14–61, Cl. 328—140.

Bredmer, Hendrik, to North American Philips Co., Inc. Circuit arrangement for correcting the white level in a color television receiver. 2,975,232, 3–14–61, Cl. 178—5.4.

Bricker, Burton C., and L. C. Hoffman, to E. I. du Pont de Nemours and Co. Vitreous enamel. 2,975,070, 3–14–61, Cl. 106—49.

Bright, Thomas J. R. Clips or tags and draught-excluding strips, beadings, mouldings or the like for use therewith. 2,974,383, 3–14–61, Cl. 24—259.

Bristol Biddeley Engines Ltd.: *See*—
Stokes, Morris A., and Parnell. 2,974,487.

British Thomson-Houston Co. Ltd. The: *See*—
Ludbrook, Leslie C. 2,975,346.

Britt, Edward C., to Raspek Corp. Packaging means for articles. 2,974,784, 3–14–61, Cl. 206—47.

Britton, Edgar C.: *See*—
Scigliano, Joseph J., and Britton. 2,975,181.

Bronsavia: *See*—
Jacqen, Jean. 2,974,530.

Brooks, Harvey, and J. W. Ballou, to United States of America, Navy. Torpedo depth steering engine control. 2,974,623, 3–14–61, Cl. 114—25.

Brosseau, John B., to Jeb-Rod Corp. Hanger rod. 2,974,805, 3–14–61, Cl. 211—105.5.

Brown, Arthur E., and F. T. Ogawa, to General Motors Corp. Hydraulic differentiator. 2,974,641, 3–14–61, Cl. 121—41.

Brown, Carl F., Jr., to Wald Industries, Inc. Road striping machine with optical sight. 2,974,875, 3–14–61, Cl. 239—150.

Brown, Harry W., to Cutler-Hammer, Inc. Auxiliary mounting means for use with electric switches. 2,974,919, 3–14–61, Cl. 248—223.

Brown, Newell H., to United States of America, Navy. Microwave antenna reflector system for scanning by displacement of focal image. 2,975,419, 3–14–61, Cl. 343—754.

Brown, William D., and T. W. Waller, to El Dorado Poultry By-Products Co. Method of and apparatus for handling raw materials in the production of hydrolyzed feather meal and other poultry by-product meal. 2,975,055, 3–14–61, Cl. 99—7.

Brubaker, Wilson M., and C. F. Robinson, to Consolidated Electrodynamics Corp. Mass spectrometer. 2,975,278, 3–14–61, Cl. 250—41.9.

Brucken, Byron L., to General Motors Corp. Liquid detergent dispenser for washing apparatus. 2,974,832, 3–14–61, Cl. 222—173.

Brueggeman, Leo J., D. H. Fischer, J. J. Bondra, and R. M. Canzoneri, to Giannini Controls Corp. Acceleration integrator. 2,974,529, 3–14–61, Cl. 73—503.

Brukner, John B.: *See*—
Weiss, Walter J., Walker, and Brukner. 2,975,127.

Bryan, Paul J., to E. I. du Pont de Nemours and Co. Jet perforators. 2,974,569, 3–14–61, Cl. 102—20.

Bryant, Eugene E., and C. J. Reiff, to Ferro Corp. Protective coatings for combustion engine exhaust systems. 2,975,072, 3–14–61, Cl. 117—65.

Büchner, Karl, and O. Roelen, to Ruhrchemie Aktiengesellschaft. Production of dialcohols. 2,975,216, 3–14–61, Cl. 260—635.

Buck, Herman H. Pick-up device for hauling leaves, etc. 2,974,971, 3–14–61, Cl. 280—19.

Buck, Porter A., and R. G. Crist. Hopper and control discharge. 2,974,614, 3–14–61, Cl. 107—14.

Budd Co., The: *See*—
Trimble, John O. 2,974,822.

Buensod-Stacey Corp.: *See*—
Kreuttner, Joseph W. 2,974,680.

Bugbee, Ralph H.: *See*—
Echelson, David, and Bugbee. 2,974,579.

Burch, Oscar G., to Owens-Illinois Glass Co. Method and apparatus for melting glass. 2,975,224, 3–14–61, Cl. 13—8.

Burd, Gorman C.: *See*—
Frye, Richard D., and Burd. 2,974,712.

Burgess, Laurance D.: *See*—
Kruse, John R., Jr., Burgess, and Stumpf. 2,975,263.

Burgess Vibrocrafters, Inc.: *See*—
Ghinassi, Alvin. 2,974,409.

Burkland, Charles W.: *See*—
Smith, Thomas R., and Burkland. 2,974,515.

Burlington Industries, Inc.: *See*—
Parham, Lee R. 2,974,838.

Burn, Kenneth C., to Ferranti, Ltd. Cathode-ray tubes. 2,975,326, 3–14–61, Cl. 315—23.

Burns, Kay N., to Jersey Production Research Co. System for processing seismic data. 2,975,399, 3–14–61, Cl. 340—15.

Burroughs Corp.: *See*—
Higginbottom, William R. 2,975,258.
Joyce, Cecil R. 2,974,368.

Buss, Benjamin A., and J. E. Krynski, to American Machine and Metals, Inc. Laundry machine. 2,974,514, 3–14–61, Cl. 68—58.

Byrnes, Herbert P.: *See*—
Schroeder, Charles E., and Byrnes. 2,975,307.

Cackowski, Vincent H.: *See*—
Doty, Charles R., Smith, Tate, and Cackowski. 2,975,228.

Caldwell, Carlyle G., O. B. Wurzburg, and S.-C. Sun, to National Starch and Chemical Corp. Flocculation of fine particles by starch ethers. 2,975,124, 3–14–61, Cl. 210—54.

Calhoun, Robert J., Jr., to American Forge and Mfg. Co. Coil tilter. 2,974,995, 3–14–61, Cl. 294—103.

California Research Corp.: *See*—
Clayton, James O., and Lowe. 2,975,131.
Ferm, Richard L. 2,975,132.

Callan, John E., to Allen-Bradley Co. Phase failure and phase reversal protective circuit. 2,975,334, 3–14–61, Cl. 317—48.

Callan, John E., and W. J. Hudson, to Allen-Bradley Co. Direct current motor control apparatus. 2,975,348, 3–14–61, Cl. 318—257.

Cameron Machine Co.: *See*—
Aaron, Charles. 2,974,893.
Aaron, Charles. 2,974,894.

Camras, Marvin, to Armour Research Foundation of Illinois Institute of Technology. Means for counteracting shunt reluctance of a transducer head gap. 2,975,241, 3–14–61, 179—100.2.

Canadian International Paper Co.: *See*—
Cranford, William B., and Major. 2,975,169.

Cantley, Joseph C.: *See*—
Imhof, Herman A., and Cantley. 2,974,333.

Canzoneri, Richard M.: *See*—
Brueggeman, Leo J., Fischer, Bondra, and Canzoneri. 2,974,529.

Capron, Nicholas J., and B. E. Lederman, to Pennsalt Chemicals Corp. Resin-curing agent system. 2,975,155, 3–14–61, Cl. 260—47.

Carbogen Corp.: *See*—
Christmann, Ludwig J. 2,975,177.

Cardascia, Rinaldo R., and R. D. Markle, Jr., to International Business Machines Corp. Pluggable unit. 2,975,390, 3–14–61, Cl. 339—45.

Carey, Thomas P., to Specialties Development Corp. Fluid control system. 2,974,647, 3–14–61, Cl. 121—157.

Carlile, Alfred E., to Talon, Inc. Separating end connection for slide fasteners. 2,974,382, 3–14–61, Cl. 24—205.11.

Carlson, Frank N., to Consolidated Electrodynamics Corp. Electrical heater control circuits. 2,975,260, 3–14–61, Cl. 219—20.

Carpenter, Paul J.: *See*—
Fawcett, Daniel G., and Carpenter. 2,975,298.

Carpenter, Walter H., and B. D. Hice, to Process Equipment Co., Inc. Apparatus and method of rapid freezing. 2,974,497, 3–14–61, Cl. 62—63.

Carroll, Robert L. Strand tension device. 2,974,897, 3–14–61, Cl. 242—154.

Carter Controls, Inc.: *See*—
Miller, J. Carter, and Lanman. 2,974,646.

Carter, Ernest P., to The Chemstrand Corp. Textile treating apapratus. 2,74,512, 3–14–61, Cl. 68—5.

Cascade Mfg. Co.: *See*—
Farmer, Stanley E. 2,974,636.

Cassaday, Ernest W., and L. A. Dettlof, to Ross Gear and Tool Co., Inc. Servo system. 2,974,491, 3–14–61, Cl. 60—52.

Cassia, Roland A. Liquid wax applicator. 2,974,349, 3–14–61, Cl. 15—569.

Cawl, Allen P.: *See*—
Beede, Arnold H., Cawl, and Lampe. 2,975,391.

Celovsky, Michael J., to Industrial Tool Engineering Co. Fluid motor. 2,974,644, 3–14–61, Cl. 121—75.

Central Farm Equipment Co.: *See*—
Martin, Edward. 2,974,826.

Century Geophysical Corp.: *See*—
Westervelt, John C., and Hilderbrand. 2,974,632.

Cerny, Louis L., to The Alpha Shrimp Machine Corp. Clamp for fantail shrimp deveining and deshelling apparatus. 2,974,356, 3–14–61, Cl. 17—2.

Chace, Richard A., to Western Hydraulic & Service Co., Inc. Midstroke locking devices. 2,974,638, 3–14–61, Cl. 121—40.

Charle, Roger, G. Kalopissis, and G. Ghilardi, to Societe Anonyme dite: Societe Monsavon l'Oreal. Dyeing of hair and other keratinous materials. 2,975,101, 3–14–61, Cl. 167—88.

Chemische Werke Albert: *See*—
Reiser, Mario, Eidebens, and von Schuh. 2,975,183.

Chemstrand Corp., The: *See*—
Carter, Ernest P. 2,974,512.
Timble, Robert W. 2,974,392.

Chicago Pneumatic Tool Co.: *See*—
Donowick, George. 2,974,553.

Chicago Railway Equipment Co.: *See*—
Ekholm, Herbert W. 2,974,758.

Chichester, George D. Magnetic antenna. 2,975,421, 3–14–61, Cl. 343—787.

Chomarat, Jean, to Societe de Brevets H.D. Aircraft having wings provided with flaps and jets. 2,974,903, 3–14–61, Cl. 244—42.

Christmann, Ludwig J., to Carbogen Corp. Method of making cyanuric acid and intermediate product. 2,975,177, 3–14–61, Cl. 260—248.

Chrysler Corp.: *See*—
Jominy, Walter E., Olson, and Boswell. 2,974,380.
Jominy, Walter E., Olson, and Boswell. 2,975,084.

Ciba Ltd.: *See*—
Batzer, Hans, and Nikles. 2,975,195.

Cislo, Casimer J., to General Motors Corp. Dual height leveling valve for air suspension. 2,974,675, 3–14–61, Cl. 137—87.

Clapper, Genung L., to International Business Machines Corp. Differentiator and mixer circuit. 2,975,303, 3–14–61, Cl. 307—88.5.

Clare, C. P., & Co.: *See*—
Juptner, Wilhelm. 2,975,252.

Clark, Alvetta. Action clown. 2,974,440, 3–14–61, Cl. 46—118.

Clark, Earl W. Attachment for hair clippers. 2,974,412, 3–14–61, Cl. 30—201.

Clarke, Robert D.: *See*—
Johnson, Eric C., and Clarke. 2,975,150.

Clay, Burton R., and C. E. Small, to Radio Corp. of America. Static convergence magnet for tri-color kinescope. 2,975,314, 3–14–61, Cl. 315—77.

Clayton, James O., and W. Lowe, to California Research Corp. Silver non-corrosive lubricants. 2,975,131, 3–14–61, Cl. 252—32.7.

Clearman, Jack F., to Whirlpool Corp. Laundry machine utilizing a pump with flow reversing means. 2,974,513, 3–14–61, Cl. 68—12.

Cleary, Robert T., to Automatic Electric Laboratories, Inc. Slow acting relay-transistor combination. 2,975,337, 3–14–61, Cl. 317—142.

Cleveland Pneumatic Industries, Inc.: *See*—
Hrusch, Louis C. 2,974,906.

Clickner, Earle D., to Shakespeare Co. Fishing reel and gearing. 2,974,534, 3–14–61, Cl. 74—22.

Clickner, Earle D., to Shakespeare Co. Method of making gearing. 2,974,570, 3–14–61, Cl. 90—6.

Cobine, James D.: *See*—
Lee, Thomas H., and Cobine. 2,975,256.

Coe, Thompson J., to United States of America, Agriculture. Shrinkproofing textiles with polyepoxides and hydrazine. 2,975,077, 3–14–61, Cl. 117—141.

Cockrill, Huston W., to Raytheon Co. Indirectly heated cathodes. 2,975,322, 3–14–61, Cl. 313—346.

Coggi, Ettore, to Montecatini-Societa Generale per l'Industria Mineraria e Chimica. Composite ropes, cords and the like. 2,974,559, 3–14–61, Cl. 87—1.

Cohen, George: *See*—
Schubert, Adolf, Cohen, Delcamp, and Lollar. 2,975,018.

Cohn, Johann G. E., D. R. Steele, and H. C. Andersen, to Engelhard Industries, Inc. Method of selectively removing oxides of nitrogen from oxygen-containing gases. 2,975,025, 3–14–61, Cl. 23—2.

Colaruosso, Augustine L., to Van Brode Milling Co., Inc. Method of producing rice foods. 2,975,058, 3–14–61, Cl. 99—81.

Cole, Howard W., Jr. Flowmeter with specific gravity compensator. 2,974,525, 3–14–61, Cl. 73—231.

Colgate-Palmolive Co.: *See*—
Herrick, Aaron B., and Trowbridge. 2,975,170.

Columbia Broadcasting System, Inc.: *See*—
Goldmark, Peter C. 2,974,961.

Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
Newman, Douglas A. 2,974,585.

Commissariat a l'Energie Atomique: *See*—
Donguy, Rene P. F. 2,974,749.

Compagnie Generale de Telegraphie Sans Fils: *See*—
Robert, Andre, and Deslandes. 2,975,289.

Compur Werk Friedrich Deckel O.H.G.: *See*—
Fahlenberg, Paul. 2,974,577.
Singer, Franz. 2,974,575.

Conch International Methane Ltd.: *See*—
Pastuhov, Alexis, and Robinson. 2,974,496.

Conkey, Herbert E., W. L. Batchelor, and D. B. Thompson, to International Business Machines Corp. Optical frequency generator for magnetic timing and index tracks. 2,975,017, 3–14–61, Cl. 346—74.

Consolidated Edison Co. of New York, Inc.: *See*—
Xenis, Constantine P. 2,974,932.

Consolidated Electrodynamics Corp.: *See*—
Berry, Clifford E. 2,975,240.
Brubaker, Wilson M., and Robinson. 2,975,278.
Carlson, Frank N. 2,975,260.
Rayfield, George T. 2,975,078.

Consolidated Electronics Industries Corp.: *See*—
Fackler, Bernard E., and Soden. 2,975,247.

Consolidation Coal Co.: *See*—
Jones, Sam A. 2,974,518.

Container Corp. of America: *See*—
Moore, Marion F. 2,974,854.

Continental Oil Co.: *See*—
Dickey, Frank H., Napier, and Woods. 2,975,201.
Giles, John C. 2,974,360.

Controls Co. of America: *See*—
Beller, Wilbert E., and Ostrowski. 2,975,251.

Cook, Edward J., to General Electric Co. Slanted gradient electron gun. 2,975,324, 3–14–61, Cl. 315—5.31.

Cook, Gerhard A., to Union Carbide Corp. Process for removing ozone from a gas mixture containing ozone and oxygen. 2,975,035, 3–14–61, Cl. 23—222.

Cook, James F., to Union Oil Co. of California. Antiwear lubricants containing boron esters. 2,975,134, 3–14–61, Cl. 252—40.7.

Cooley, Charles M., and M. J. Parhomek, to Spencer Chemical Co. Ammonium nitrate explosive composition. 2,975,046, 3–14–61, Cl. 52—14.

Cooley, Robert A. Ignition system for rocket motors. 2,974,484, 3–14–61, Cl. 60—39.47.

Coolidge, John E., Jr., and L. T. Work, to Borg-Warner Corp. Electric precipitators. 2,974,747, 3–14–61, Cl. 183—4.3.

Cooper, Benjamin, and C. Sinclair, to General Electric Co. Current regulator. 2,975,356, 3–14–61, Cl. 323—4.

Cooper, Murray S., to American Cyanamid Co. Single use, prepackaged vaccinator. 2,974,787, 3–14–61, Cl. 206—63.2.

Cooprider, Rex C.: *See*—
Stewart, James U., and Cooprider. 2,974,880.

Cope, William E., and D. E. Tomkins, to Shenango China, Inc. Decorating apparatus for hollow ceramic ware. 2,974,584, 3–14–61, Cl. 101—39.

Cotner, Basil U.: *See*—
Park, Orrin J., and Cotner. 2,974,690.

Cotton, Sherwood M.: *See*—
Friedman, Bernard S., and Cotton. 2,975,199.

Couch, Glenn F., to Symington Wayne Corp. Package spring group. 2,974,945, 3–14–61, Cl. 267—9.

Coumbis, Niki K., and A. V. Munschy. Rectal applicator. 2,974,666, 3–14–61, Cl. 128—271.

Courchene, Theodore P., to United Shoe Machinery Corp. Welt hold-downs for shoe attaching machines. 2,974,334, 3–14–61, Cl. 12—33.4.

Courtaulds Ltd.: *See*—
Bennett, Albert W. 2,975,024.
Kearton, Christopher F., Givens, and Aldred. 2,974,420.
Tallis, Ernest E., and Tyler. 2,975,023.

Cousins, Sydne. Figure molding and constricting woman's garment. 2,974,667, 3–14–61, Cl. 128—547.

Cox, Robert E.: *See*—
Silver, Walter H., and Cox. 2,974,736.

Coy, Carl E., and B. D. Tague, to United States of America, Navy. Toroidal electromagnetic device. 2,975,386, 3–14–61, Cl. 336—107.

Craig, Andrew M., Jr.: *See*—
Hurwitz, Marvin J., Craig, and Beavers. 2,975,152.

Craig, Frank S., J. Y. Howard, and M. A. Scheg, to General Railway Signal Co. Light signal. 2,975,268, 3–14–61, Cl. 240—46.53.

Craig, Robert D., to Metropolitan-Vickers Electrical Co, Ltd. Mass spectrometers. 2,975,279, 3–14–61, Cl. 250—41.9.

Cranford, William B., and F. W. Major, to Canadian International Paper Co. Bleaching of cellulose pulp. 2,975,169, 3–14–61, Cl. 260—212.

Crawford, George H., and E. S. Lo, to Minnesota Mining and Mfg. Co. New fluorine-containing polymers and preparation thereof. 2,975,164, 3–14–61, Cl. 260—87.5.

Crist, Richard G.: *See*—
Buck, Porter A., and Crist. 2,974,614.

Crits, Frank A. Row cultivator. 2,974,732, 3–14–61, Cl. 172—6.

Cross, Garrett P. S., to United Shoe Machinery Corp. Ammunition feed mechanism. 2,974,569, 3–14–61, Cl. 89—33.

Crossley, Antony: *See*—
Best, Ronald L., Crossley, Paul, Pardun, and Soeters. 2,975,060.
Paul, Stanley, and Crossley. 2,975,063.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,061.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,062.

Crown Zellerbach Corp.: *See*—
Kamlet, Jonas. 2,975,214.

Crowther, Gerald O., to North American Philips Co., Inc. Cathode follower with trigger means to assist discharge of capacitance of cathode circuit. 2,975,372, 3–14–61, Cl. 328—213.

Culbertson, Ralph L., to The Aro Equipment Corp. Altitude compensated continuous flow oxygen regulator. 2,974,673, 3–14–61, Cl. 137—64.

Culp, Chester F., to Lennox Industries, Inc. Fan construction. 2,974,728, 3–14–61, Cl. 170—159.

Culver, Harry E.: *See*—
Bonham, Lewis L., Montague, and Culver. 2,975,878.

Curtiss-Wright Corp.: *See*—
Barbieri, Donald B., Becker, Dalton, and Galowin. 2,975,225.
Bentele, Max., Dehne, and Folley. 2,974,522.
Hoffman, Howard D., and Richardson. 2,974,479.
Kelley, George S. 2,974,482.
Murphy, John F., and Stulen. 2,974,790.

Cutler-Hammer, Inc.: *See*—
Brown, Harry W. 2,974,919.

Dahl, Ernest A. Rotary file. 2,975,014, 3–14–61, Cl. 312—305.

Dale, Colin B., to Webcor, Inc. Automatic indexing record changer. 2,974,962, 3–14–61, Cl. 274—10.

Dalton, Thomas N.: *See*—
Barbieri, Donald B., Becker, Dalton, and Galowin. 2,975,225.

Daly, Thomas A.: *See*—
Malick, Franklin S., Daly, and Voorhees. 2,974,620.

Damiani, Ricardo. Platform supporting the seats in an aircraft combined with means for ejecting the seats from the aircraft in case of disaster. 2,974,911, 3–14–61, Cl. 244—122.

D'Amico, John J.: *See*—
Tung, Ching C., and D'Amico. 2,975,153.

Dammert, Earl D., and M. F. De Wolf, to The Gleason Works. Work handling mechanism. 2,974,811, 3–14–61, Cl. 214—1.

Dammig, Werner: *See*—
Walther, Erhardt, and Dammig. 2,974,460.

Daniel, David M.: *See*—
Boles, Lester A., Lundgren, and Daniel. 2,974,699.

Daniels, Farrington, to United States of America, Atomic Energy Commission. Neutronic reactor. 2,975,116, 3–14–61, Cl. 204—193.2.

Darling, Donald E.: *See*—
Loebner, Egon E., Hook, and Darling. 2,975,291.

Darling, Samuel M., and C.-W. Liao, to The Standard Oil Co. Lubricating oil composition containing 2:1a-glycol borate compounds. 2,975,135, 3–14–61, Cl. 252—49.6.

Davidson Rubber Co.: *See*—
Hood, Ralph S. 2,974,830.

Davies, Edward R., G. L. Bowen, and R. W. Lemon, to Jered Industries, Inc. Multiple speed transmission. 2,974,345, 3–14–61, Cl. 74—720.5.

Davis, Billy E. Core winding apparatus. 2,974,890, 3–14–61, Cl. 242—4.

Davis, Dean W., to International Telephone & Telegraph Corp. Image converter and method and apparatus for producing the same. 2,975,016, 3–14–61, Cl. 316—19.

Davis, Reginald F., to International Combustion (Holdings) Ltd. Apparatus for the distribution of pulverised fuels. 2,975,001, 3–14–61, Cl. 302—28.

Davis, Ronald R.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,413.

Davis, William L., Jr.: *See*—
Agarwal, Jagdish C., and Davis. 2,975,086.

Davis, William L., Jr., to United States Steel Corp. Apparatus for transferring fluidised solids. 2,975,000, 3–14–61, Cl. 302—17.

Day Co., The: *See*—
Swanson, Arden E. 2,974,748.

Day, Cyril L.: *See*—
Orthuber, Richard K., and Day. 2,974,369.

Day, Kim K. Panel lifting device. 2,974,929, 3–14–61, Cl. 254—4.

Dean, Charles A., to G. C. Dean, by decree of distribution. Core orienting apparatus. 2,974,739, 3–14–61, Cl. 175—2.

Dean, Geraldine C.: *See*—
Dean, Charles A. 2,974,739.

De Crescente, Carmine A.: *See*—
Pinnes, Robert W., and De Crescente. 2,974,495.

Deen, James R.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,413.

Deere & Co.: *See*—
Fletcher, Edward H. 2,974,733.
Kienzle, Harold K. 2,974,734.
Silver, Walter H., and Cox. 2,974,736.

Dehne, Hans D.: *See*—
Bentele, Max, Dehne, and Folley. 2,974,522.

De Kalb Agricultural Assn., Inc.: *See*—
Blackman, Charles E. 2,974,797.

Delcamp, Robert M.: *See*—
Schubert, Adolf, Cohen, Delcamp, and Lollar. 2,975,018.

De Long, Herbert K., and D. E. Ritsema, to The Dow Chemical Co. Corrosion resistance of electroless nickel plate. 2,975,073, 3–14–61, Cl. 117—71.

Demler, Ray C., to International Packaging Corp. Carton packaging machine for sheets. 2,974,461, 3–14–61, Cl. 53—388.

Demo, Max J., to J. Morris, d.b.a. DeMor Engineering Co. Drill hammer. 2,974,533, 3–14–61, Cl. 74—22.

DeMor Engineering Co.: *See*—
Demo, Max J. 2,974,533.

Denner, Helmut. System for the remote control of toys. 2,974,441, 3–14–61, Cl. 46—244.

Deslandes, Jean: *See*—
Robert, Andre, and Deslandes. 2,975,289.

Detroit Coil Co.: *See*—
Jencks, Hollis W., and Viale. 2,975,340.

De Troye, Nicolaas C., to North American Philips Co., Inc. Pulse delay circuit. 2,975,302, 3–14–61, Cl. 307—88.5.

Dettlof, LeRoy A.: *See*—
Cassaday, Ernest W., and Dettlof. 2,974,491.

De Witt, Edward J., to Wallace Supplies Mfg. Co. Rotary bending machine having hydraulic means for holding movable pressure die against stock. 2,974,706, 3–14–61, Cl. 153—40.

De Wolf, Myron F.: *See*—
Dammert, Earl D., and De Wolf. 2,974,811.

Diamond Alkali Co.: *See*—
Berkey, Reynold A. 2,975,194.
Bimber, Russell M. 2,975,186.

Diamond National Corp.: *See*—
Foote, James E., and Snow. 2,974,834.
Hurn, Basil A., and Rudd. 2,974,847.
Matteson, Russell E. 2,974,828.
Reifers, Richard F. 2,974,789.
Reifers, Richard F. 2,974,842.
Reifers, Richard F., and Wells. 2,974,843.
Struble, Glenn E. 2,974,845.
Struble, Glenn E. 2,974,846.
Struble, Glenn E. 2,974,851.
Struble, Glenn E. 2,974,853.
Stuart, Meredith R. 2,974,774.
Swanson, Vernon E. 2,974,849.
Vaughan, Gerald L., and Drury. 2,974,773.

Diamond Power Specialty Corp.: *See*—
Kruse, John R., Jr., Burgess, and Stumpf. 2,975,293.

Diaz, Manuel S., and T. D. Whitenack, Jr., to Engelhard Hanovia, Inc. Starting and operating circuit for high pressure arc lamps. 2,975,331, 3–14–61, Cl. 315—163.

Dice, John R., and D. V. Lopiekes, to Parke, Davis & Co. Organic amine compounds and method of obtaining the same. 2,975,193, 3–14–61, Cl. 260—326.5.

Dicke, Robert H. Stable oscillator. 2,975,376, 3–14–61, Cl. 331—94.

Dickey, Frank H., D. R. Napier, and W. W. Woods, to Continental Oil Co. Transalcoholysis of aluminum alkoxides. 2,975,201, 3–14–61, Cl. 260—448.

Dictaphone Corp.: *See*—
Hyatt, Arthur J. 2,974,960.

Dictograph Products, Inc.: *See*—
Lehr, Philip N. 2,975,226.
Lehr, Philip N. 2,975,244.

Die Casting Machine Tools Ltd.: *See*—
Mills, Aubrey B. 2,974,379.

Diets & Co., Inc.: *See*—
Miller, George A. 2,974,220.

Digital Control Systems, Inc.: *See*—
Steele, Floyd G. 2,974,867.

Dillard Tractor Co., Inc.: *See*—
Pawela, Albert C. 2,974,616.

Dillon, Joseph F., Jr., to Bell Telephone Laboratories, Inc. Light modulator. 2,974,568, 3–14–61, Cl. 88—61.

Di Lorenzo, Norman S., to American Optical Co. Ophthalmic mountings. 2,974,567, 3–14–61, Cl. 88—41.

Dinse, Werner: *See*—
Fischer, Georg, Lange, and Dinse. 2,975,242.

Dise, Melvin W. Swim boat. 2,974,331, 3–14–61, Cl. 9—347.

Dlugosch, Paul A., to Noble Mfg. Co. Farm implement caster wheel. 2,974,737, 3–14–61, Cl. 172—456.

Doak Aircraft Co., Inc.: *See*—
Morris, Charles W., and Beckington. 2,974,900.

Dockstader, Wilmer B.: *See*—
Baker, Dwight L., and Dockstader. 2,975,066.

Doering, Fred W., and J. C. Morison, to Western Electric Co., Inc. Apparatus for making splicing-sleeve assemblies. 2,974,361, 3–14–61, Cl. 18—19.

Doersam, Charles H., Jr. Data transmission system. 2,975,403, 3–14–61, Cl. 340—149.

Dolin, Martin, A. M. Scandurra, and N. M. Poulos, to Applied Research Inc. Attenuator methods. 2,974,403, 3–14–61, Cl. 29—155.63.

Dolsa, John, to General Motors Corp. Offset piston-pin balancing arrangement for engines. 2,974,541, 3–14–61, Cl. 74—579.

Dolsa, John, to General Motors Corp. Pump. 2,974,599, 3–14–61, Cl. 103—5.

Domingues-Rego, Jose. Circuit clock control for starting motors. 2,975,296, 3–14–61, Cl. 290—37.

Donald, Russell S., to Electrarc, Inc. Method and apparatus for making shielded wire. 2,975,087, 3–14–61, Cl. 154—2.25.

Donguy, Rene P. F., to Commissariat a l'Energie Atomique. Devices for holding filters intended to stop particles in suspension in gaseous streams. 2,974,749, 3–14–61, Cl. 183—62.

Donowick, George, to Chicago Pneumatic Tool Co. Torque control means for impact wrenches. 2,974,553, 3–14–61, Cl. 81—52.3.

Dorlars, Alfons, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of nuclearly fluorinated pyridines, quinolines, isoquinolines and pyrimidines. 2,975,179, 3–14–61, Cl. 260—251.

Dorr-Oliver Inc.: *See*—
Morehouse, Charles R., and Booth. 2,974,802.

Dorsey, John D., and R. D. Nicholas. Combination woodworking machine. 2,974,696, 3–14–61, Cl. 144—1.

Dortort, Isadore K., to I-T-E Circuit Breaker Co. By-pass circuit for contact converters. 2,975,355, 3–14–61, Cl. 321—48.

Doty, Charles R., R. J. Smith, L. A. Tate, and V. H. Cackowski, to International Business Machines Corp. Data transmission system. 2,975,228, 3–14–61, Cl. 178—3.

Dover Corp.: *See*—
Adams, Gilbert T. 2,974,751.

Dow Chemical Co., The: *See*—
Braeuninger, Karl F. 2,974,710.
De Long, Herbert K., and Ritsema. 2,975,073.
Jankens, Austin L., and Hoerger. 2,975,074.
Raths, Fred W. 2,975,207.
Scigliano, Joseph J., and Britton. 2,975,181.
Teitel, Robert J. 2,974,942.

Drackett Co., The: *See*—
Stewart, James U., and Cooprider. 2,974,880.

Draxler, John A.: *See*—
Leahy, William J., and Draxler. 2,974,764.

Dreiding, André. Molecule demonstrator for stereochemistry. 2,974,425, 3–14–61, Cl. 35—18.

Dresser Industries, Inc.: *See*—
Fleming, Lawrence T. 2,975,364.

Drew, Harold. Hack saw. 2,974,698, 3–14–61, Cl. 145—33.

Drexelius, Victor W.: *See*—
Williams, Charles O., Drexelius, and Smith. 2,974,502.

Dreyer, Richard E.: *See*—
Parsley, Harold V., Dreyer, and Grant. 2,974,997.

Driscoll, Anthony F., ½ to J. Masbach. Inner container cap with pouring outlet. 2,974,815, 3–14–61, Cl. 215—38.

Driver, George W., and N. Senior, to Imperial Chemical Industries Ltd. Diethyl dithiolisophthalate pharmaceutical compositions. 2,975,098, 3–14–61, Cl. 167—58.

Drum, John: *See*—
Polk, Isaac H., and Koch. 2,974,776.

Drury, Bernard M.: *See*—
Vaughan, Gerald L., and Drury. 2,974,773.

Dumes, Raoul H.: *See*—
Eggers, Gerhard, Ernst, Feraud, and Dumes. 2,974,488.

Dunlven, Henry G. Object engaging device. 2,974,903, 3–14–61, Cl. 294—61.

Dunn, Eugene L.: *See*—
Wilson, James E., and Dunn. 2,975,051.

Du Pont de Nemours, E. I., and Co.: *See*—
Allen, Robert C. 2,974,596.
Bricker, Burton C., and Hoffman. 2,975,070.
Bryan, Paul J. 2,974,589.
Euler, Robert D. 2,975,022.
Hollowell, Joseph L. 2,974,393.
Katz, Manfred. 2,975,157.
Starks, Fred W. 2,975,219.
Weinmayr, Viktor. 2,975,189.

Dura Corp.: *See*—
Lucia, Carroll J., Ray, and Maxon. 2,974,470.

Dvorak, Lester I., to The Art Metal Co. Lighting fixture hinge. 2,974,355, 3–14–61, Cl. 16—179.

Dvorak, Lester I., to The Art Metal Co. Lighting fixture. 2,975,271, 3–14–61, Cl. 240—147.

Dziedziula, Edward J.: *See*—
Sinatra, Angelo S., Dziedziula, and Pecoraro. 2,974,499.

Eastman Kodak Co.: *See*—
Wittel, Otto. 2,974,578.

Eberman, Augustus H., to Oscar Mayer & Co., Inc. Continuous chopper. 2,974,701, 3–14–61, Cl. 146—192.

Echelson, David, and R. H. Bugbee, to Mercury Precision Equipment Co., Inc. Step and repeat machine. 2,974,579, 3–14–61, Cl. 95—73.

Edgemond, John W., Jr.: *See*—
Goldschmidt, Hans, and Edgemond. 2,974,693.

Edgerton, Germeshausen & Grier, Inc.: *See*—
Edgerton, Harold E. 2,975,397.

Edgerton, Harold E., to Edgerton, Germeshausen & Grier, Inc. Surface-indicating apparatus. 2,975,307, 3–14–61, Cl. 340—5.

Edwards, Alfred E., to United Aircraft Corp. Afterburner mixture and flame control baffle. 2,974,486, 3–14–61, Cl. 60—39.66.

Egan, Joseph T. Speed change mechanism. 2,974,547, 3–14–61, Cl. 74—796.

Egbert, William F., and T. O. Wiese, to General Motors Corp. Variable jet nozzle and shroud. 2,974,477, 3–14–61, Cl. 60—35.6.

Eggers, Gerhard, G. Ernst, R. Feraud, and R. H. Dumes, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Combustion devices for continuous-flow internal combustion machines. 2,974,488, 3–14–61, Cl. 60—39.72.

Eggers, Gerhard, and G. Ernst, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Apparatus for the stabilisation and control in vertical flight of an aircraft. 2,974,907, 3–14–61, Cl. 244—52.

Ehrenfreund, Herbert A., to Westinghouse Electric Corp. Refrigeration apparatus. 2,974,498, 3–14–61, Cl. 62—156.

Eichorn, Robert N., to International Business Machines Corp. Differential counter. 2,974,862, 3–14–61, Cl. 235—98.

Eidebens, Emil A.: *See*—
Reiser, Mario, Eidebens, and von Schuh. 2,975,183.

Eigenbrode, Glenn S., to Landis Machine Co. Thread rolling apparatus. 2,974,550, 3–14–61, Cl. 80—6.

Einsel, Alfred: *See*—
Schurmann, Max-Otto, and Einsel. 2,974,554.

Ekholm, Herbert W., to Chicago Railway Equipment Co. Railway truck brake structure. 2,974,758, 3–14–61, Cl. 188—233.3.

El Dorado Poultry By-Products Co.: *See*—
Brown, William D., and Waller. 2,975,055.

Electrarc, Inc.: *See*—
Donald, Russell S. 2,975,087.

Electric Vendors, Inc.: *See*—
Zeigle, Kenneth C., Vance, Nieland, and Bloomquist. 2,974,772.

Electro-Hydraulics Ltd.: *See*—
Perdue, Jack. 2,974,900.

Electrolux Corp.: *See*—
Beede, Arnold H., Cawl, and Lampe. 2,975,391.

Elkan, Robert M. L., to The Loewy Engineering Co. Ltd. Extrusion press container. 2,974,791, 3–14–61, Cl. 207—15.

Elliott, Robert H., Jr., to Pennsalt Chemicals Corp. Chemical composition and process for aluminum etching. 2,975,039, 3–14–61, Cl. 41—42.

Elliott, Robert H., Jr., to Pennsalt Chemicals Corp. Chemical composition and process for aluminum etching. 2,975,040, 3–14–61, Cl. 41—42.

Ellis, Robert. Combination cigarette holder, lighter, and smoke purifier, filter and cooler. 2,974,669, 3–14–61, Cl. 131—172.

Ellis, William C., and E. S. Greiner, to Bell Telephone Laboratories, Inc. Low temperature drawing of metal wires. 2,974,778, 3–14–61, Cl. 205—21.

Elmendorf, Armin, and H. F. Herdey, to Elmendorf Research, Inc. Method and apparatus for making a veneer product. 2,974,697, 3–14–61, Cl. 144—320.

Elmendorf Research, Inc.: *See*—
Elmendorf, Armin, and Herdey. 2,974,697.

Elmore's Metal-Aktiengesellschaft: *See*—
Weeber, Carl H., and Schunck. 2,975,110.

Elwell-Parker Electric Co., The: *See*—
Leahy, William J., and Draxler. 2,974,764.

Emmons, Clarence D., to United States of America, Atomic Energy Commission. Vertical rod drive mechanism. 2,975,119, 3–14–61, Cl. 204—193.2.

Engel, Thomas, to Vasco Industries Corp. Process for pulverising thermoplastic material. 2,974,883, 3–14–61, Cl. 241—17.

Engelhard Hanovia, Inc.: *See*—
Bird, Lester F. 2,975,333.
Diaz, Manuel S., and Whitenack. 2,975,331.

Engelhard Industries, Inc.: *See*—
Cohn, Johann G. E., Steele, and Andersen. 2,975,025.

Engelhard, William E. Carbourising procedure. 2,975,083, 3–14–61, Cl. 148—16.5.

English Electric Co. Ltd., The: *See*—
Smith, Thomas W. 2,974,481.

English, William A.: *See*—
Holden, Paul C., and English. 2,974,489.

Equi-Flex Products, Inc.: *See*—
Meyer, Theodore F. W. 2,974,983.

Erdle, John, Sr.: *See*—
Flenup, Wilbur G., and Erdle. 2,975,068.

Erickson Tool Co.: *See*—
Benjamin, Milton L., and Winsen. 2,974,964.

Erlbacher, Robert W. Twisted strut construction for marine bearing with forwardly mounted propeller. 2,974,638, 3–14–61, Cl. 115—34.

Ernst, Günther: *See*—
Eggers, Gerhard, and Ernst. 2,974,907.
Eggers, Gerhard, Ernst, Feraud, and Dumes. 2,974,488.
Ervin, Guy, Jr., and H. F. G. Ueltz, to Norton Co. Impregnation of carbon products. 2,975,079, 3–14–61, Cl. 117—228.
Eschenroeder, Edward E. Lamp shade. 2,974,435, 3–14–61, Cl. 40—131.
Escher Wyss Aktiengesellschaft: *See*—
Tognoni, Richard. 2,975,118.
Esso Research and Engineering Co.: *See*—
Kirshenbaum, Isidor. 2,975,103.
Kolfenbach, John J., and Longwell. 2,974,475.
Estes, Nelson N.: *See*—
Moore, James J., and Estes. 2,975,373.
Estes, Nelson N., and J. J. Moore, to Union Carbide Corp. Amplifier for low frequency signals. 2,975,374, 3–14–61, Cl. 330—41.
Euler, Robert D., to E. I. du Pont de Nemours and Co. Process for preparing acrylonitrile fibers. 2,975,022, 3–14–61, Cl. 18—54.
Everett, Charles V., to International Harvester Co. Flail type chopper rotor. 2,974,888, 3–14–61, Cl. 241—191.
Evering, Bernard L.: *See*—
Roebuck, Alan K., Evering, and Sanders. 2,975,223.
Eyestone, Shirley F., to North American Aviation, Inc. Direct current double integrator. 2,974,868, 3–14–61, Cl. 235—183.
Faasch, Werner, to Franke & Heidecke, Fabrick Photographischer Prazisions-Apparate. Supplementary optical system for photographic cameras. 2,974,573, 3–14–61, Cl. 95—42.
Fackler, Bernard E., and G. B. Soden, to Consolidated Electronics Industries Corp. Time delay relay. 2,975,247, 3–14–61, Cl. 200—38.
Fahlenberg, Paul, to Compur Werk Friedrich Deckel O.H.G. Photographic camera setting mechanism. 2,974,577, 3–14–61, Cl. 95—64.
Fahrenbach, Wolfgang B.: *See*—
Andre, Noble, Fahrenbach, and Tyll. 2,974,454.
Fairchild Camera and Instrument Corp.: *See*—
Palmer, Richard C. 2,975,285.
Poble, Eric. 2,975,321.
Fairchild Engine and Airplane Corp.: *See*—
Lindbom, Torsten, and Rucks. 2,974,840.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Dorlars, Alfons. 2,975,179.
Gold, Heinrich, and Kurtz. 2,975,188.
Samesreuther, Reinhard and E., Strittmatter, and Schneider. 2,974,725.
Schurmann, Max-Otto, and Einsel. 2,974,554.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Hauk, Hans, Streeck, Bayer, and Belik. 2,974,419.
Wagner, Hans, Aumüller, Ruschig, and Korger. 2,975,212.
Fardons' Vinegar Co. Ltd.: *See*—
White, John. 2,975,065.
Farmer, Stanley E., to Cascade Mfg. Co. Single-acting ram with fluid relief means. 2,974,636, 3–14–61, Cl. 121—38.
Fassbender, Frederick A., to S. M. Frank & Co., Inc. Smoking pipes. 2,974,670, 3–14–61, Cl. 131—224.
Favre, Jacques, to Zyma S.A. Process of preparation of a tri-(hydroxyethyl) ether of rutin. 2,975,168, 3–14–61, Cl. 260—210.
Fawcett, Daniel, G., and P. J. Carpenter, to International Telephone and Telegraph Corp. Magnetic core switching circuit. 2,975,298, 3–14–61, Cl. 307—88.
Fawick Flexi-Grip Co.: *See*—
Fawick, Thomas L. 2,974,556.
Fawick, Thomas L., to Fawick Flexi-Grip Co. End-rest foot-assembly for violoncellos, bass viols and the like. 2,974,556, 3–14–61, Cl. 84—280.
Fawick, Thomas L. Sounding play hoop. 2,974,439, 3–14–61, Cl. 46—114.
Federal Pacific Electric Co.: *See*—
Langston, Donald M. 2,975,306.
Fegley, Marian F.: *See*—
Bortnick, Newman M., and Fegley. 2,975,189.
Fekete, Frank, to Pittsburgh Plate Glass Co. Novel monomeric compounds and homopolymers and interpolymers thereof. 2,975,156, 3–14–61, Cl. 260—67.
Felix, John P.: *See*—
Happe, Reynold, and Felix. 2,975,257.
Feil, Charles L., to The American Monorail Co. Apparatus for removing lint from textile machines. 2,974,342, 3–14–61, Cl. 15—312.
Felmet, Frederick W., ½ to R. H. King. Punching element holding and removing means. 2,974,966, 3–14–61, Cl. 279—83.
Felmet, Frederick W., ½ to R. H. King. Tool holding means. 2,974,967, 3–14–61, Cl. 279—89.
Feraud, Roger: *See*—
Eggers, Gerhard, Ernst, Feraud, and Dumes. 2,974,488.
Ferguson, Harold M., W. B. Stevens, and A. J. A. Sagar, to The General Electric Co. Ltd. Visual position-indicating arrangements. 2,975,400, 3–14–61, Cl. 340—26.
Ferm, Richard L., to California Research Corp. Emulsifiable lubricant compositions. 2,975,132, 3–14–61, Cl. 252—33.3.
Ferranti, Ltd.: *See*—
Burn, Kenneth C. 2,975,326.
Irvine, John A., and Rendall. 2,975,329.
Ferrara, Carmine: *See*—
Gercke, Ferdinand, Hubbard, and Ferrara. 2,974,361.
Ferrigno, Thomas H., to Minerals & Chemicals Philipp Corp. Thickened compositions and method of making the same. 2,975,071, 3–14–61, Cl. 106—260.
Ferro Corp.: *See*—
Bryant, Eugene E., and Reiff. 2,975,072.
Fets, Alfred. Welding organisation. 2,975,264, 3–14–61, Cl. 219—89.
Fichtel & Sachs A.G.: *See*—
Von Bomhard, Frans J. 2,974,765.
Fielding, Francis W., to Longfield Bros. Inc. Carton. 2,974,848, 3–14–61, Cl. 229—27.
Fielding, Peter G., W. C. J. Garrard, and J. M. Norman, to Lockheed Aircraft Corp. Control means for a blowing airflow over a control surface. 2,974,904, 3–14–61, Cl. 244—42.
Fienup, Wilbur G., and J. Erdle, Sr., to RC Can Co. Dough package. 2,975,068, 3–14–61, Cl. 99—172.
Findlay, Robert A., to Phillips Petroleum Co. Dilution of high boiling feed in zeolitic molecular sieve. 2,975,222, 3–14–61, Cl. 260—676.
Finley, Donald E., and W. H. Henshaw, Jr., to General Electric Co. Treating agent dispenser system for washing machines. 2,974,516, 3–14–61, Cl. 68—207.
Firma Wassg-Chemie Aktiengesellschaft: *See*—
Pasternack, Horst. 2,974,591.
Fischer, Donald H.: *See*—
Brueggeman, Leo J., Fischer, Bondra, and Canzoneri. 2,974,529.
Fischer, Georg, H.-G. Lange, and W. Dinse, to Telefunken G.m.b.H. Drive mechanism for magnetic recording deck. 2,975,242, 3–14–61, Cl. 179—100.2.
Flarilham S.A.: *See*—
Kundert, Alex. 2,974,351.
Flaskerud, Lyle M.: *See*—
Lamont, Ebenezer N. 2,974,821.
Fleischmann, Herbert J. System for handling waste materials. 2,974,800, 3–14–61, Cl. 210—114.
Fleming, Lawrence T., to Dresser Industries, Inc. Square wave shaping circuit and attenuator. 2,975,364, 3–14–61, Cl. 328—31.
Fletcher, Edward H., to Deere & Co. Hydraulic power lift and hitch system for tractor and implement. 2,974,733, 3–14–61, Cl. 172—7.
Flint, Kenneth C.: *See*—
Werner, Frank R., Jackson, Wooster, Flint, and Topper. 2,974,860.
Flong, John J.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,413.
Florenz, Karl H.: *See*—
Roth, David C., and Florenz. 2,974,338.
Foerster, Friedrich M. O. Electrical apparatus. 2,975,359, 3–14–61, Cl. 324—34.
Fogal, Gordon L., T. W. Kennedy, K. J. Meese, and P. A. Trout, to United States of America, Navy. Shallow water mine and arming means therefor. 2,974,588, 3–14–61, Cl. 102—16.
Folger, Fred, Jr.: *See*—
Westmoreland, Twain. 2,974,508.
Folley, Cranston W.: *See*—
Bentele, Max, Deben, and Folley. 2,974,522.
Food Machinery and Chemical Corp.: *See*—
Kabisch, Gerhard, Richter, and Gross. 2,975,033.
Kauffmann, Hugo J., Mentecki, Naistat, and Wehrfritz. 2,975,130.
Foote, James E., and C. A. Snow, to Diamond National Corp. Stock meter. 2,974,834, 3–14–61, Cl. 222—356.
Fopiano, Paul J.: *See*—
Hardy, Arthur C., Fopiano, and Trageser. 2,974,561.
Ford, Gerald M. Battery charging generator regulator and reverse current eliminating diode. 2,975,352, 3–14–61, Cl. 320—12.
Ford Motor Co.: *See*—
Humenik, Michael, Jr., and Parikh. 2,974,404.
Ford, Ralph E., to Fords (Finsbury) Ltd., and L. C. Snelling (London) Ltd. Closing and sealing bottles and other receptacles. 2,974,816, 3–14–61, Cl. 215—40.
Fords (Finsbury) Ltd.: *See*—
Ford, Ralph E. 2,974,816.
Forrest, Joseph B. Adjustable grill. 2,974,662, 3–14–61, Cl. 126—30.
Foster, Berry W. Square free piston engine. 2,974,855, 3–14–61, Cl. 230—56.
Foster, Henry L., Jr.: *See*—
Riggs, Robert F., Foster, and Moran. 2,975,422.
Foster, John J., Mfg. Co.: *See*—
Green, Kenneth E., Hagan, and Barnes. 2,975,263.
Foster, Walter J., to Lenoir Hosiery Mills, Inc. Stocking. 2,974,507, 3–14–61, Cl. 66—182.
Fotland, Richard A., and E. F. Mayer, to General Dynamics Corp. Electrostatic printing. 2,975,052, 3–14–61, Cl. 96—1.
Fourness, Charles A., to Kimberly-Clark Corp. Corrugated packaging material. 2,974,716, 3–14–61, Cl. 154—31.
Foust, Robert A. Iron working machines. 2,974,711, 3–14–61, Cl. 153—78.
Fowler, Harlan D. Single propeller convertible VTOL. 2,974,899, 3–14–61, Cl. 244—12.
Fox, Gerald B., to The Hobart Mfg. Co. Washing machine. 2,974,672, 3–14–61, Cl. 134—72.
Fox, Homer M., to Phillips Petroleum Co. Rocket with gaseous effluent guide. 2,974,476, 3–14–61, Cl. 60—35.6.
Frampton, Stanley E., to United Shoe Machinery Corp. Last jacks. 2,974,335, 3–14–61, Cl. 12—126.
Frank, Richard W.: *See*—
Frank, William P., and R. W. 2,974,408.
Frank, Russell C.: *See*—
Roesman, Earl C., and Frank. 2,975,085.
Frank, S. M., & Co., Inc.: *See*—
Fassbender, Frederick A. 2,974,670.
Frank, William P. and R. W. Electrical can opening device. 2,974,408, 3–14–61, Cl. 30—4.
Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate: *See*—
Faasch, Werner. 2,974,573.
Frankenfield, Carl C.: *See*—
Mack, Kent M., and Frankenfield. 2,975,416.

Fraser, Andrew. Vaned rotary pumps and motors. 2,974,603, 3–14–61, Cl. 103—121.
Fraser, Joseph H.: *See*—
Perry, James W., Fraser, and Johnson. 2,975,045.
Freche, John C., R. A. McKinnon, and J. M. Braschwitz, to United States of America, National Aeronautics and Space Administration. External liquid-spray cooling of turbine blades. 2,974,925, 3–14–61, Cl. 253—39.15.
Freeman, Howard I.: *See*—
Abbott, Corliss W., and Freeman. 2,975,147.
Frentzel, Herman C. Looms. 2,974,686, 3–14–61, Cl. 139—29.
Fried, Josef, to Olin Mathieson Chemical Corp. 9α-halo-11β, 16α,17α-trihydroxypregnenes and intermediates therefor. 2,975,172, 3–14–61, Cl. 260—239.55.
Friedman, Bernard S., and S. M. Cotton, to Sinclair Refining Co. Olefin self-esterification. 2,975,199, 3–14–61, Cl. 260—410.9.
Friedman, Elliott A. Distillation apparatus. 2,975,107, 3–14–61, Cl. 202—52.
Friedman, Jerome. Rotary marking tool. 2,974,583, 3–14–61, Cl. 101—26.
Friend, Lindsay C., to The Bendix Corp. Snap-action switch. 2,975,249, 3–14–61, Cl. 200—67.
Fromm, Winfield E., and E. G. Fubini, to United States of America, Air Force. Microwave rotary ring joint. 2,975,382, 3–14–61, Cl. 333—98.
Frost, Raymond A., to Ben Rudick & Son, Inc. Outrigger support for concrete form. 2,974,386, 3–14–61, Cl. 25—131.5.
Fry, Lyle L., to Lockwood Graders Inc. Article sizers. 2,974,794, 3–14–61, Cl. 209—106.
Frye, Richard D. and, G. C. Burd, to Neo Products Corp. Hose coupling and method and apparatus for producing same. 2,974,712, 3–14–61, Cl. 153—80.5.
Fubini, Eugene G.: *See*—
Fromm, Winfield E., and Fubini. 2,975,382.
Fuller, Frank L. and M. C. Sweny, to Western Progress Mfrs. Warning device. 2,975,412, 3–14–61, Cl. 340—366.
Fuller Mfg. Co.: *See*—
Perkins, Charles M., and McNamara. 2,974,766.
Fuller, Ross K.: *See*—
Lane, William B, Baum, Graham, Fuller, Mackin, Lal/ Zigman, and Shelberg. 2,974,520.
Fulton, Bertram A. Combined pump and torque transmitting coupling. 2,974,767, 3–14–61, Cl. 192—12.
Furrer, Rud., Sohne AG.: *See*—
Furrer, Werner H. 2,974,807.
Furrer, Werner H., to Furrer, Rud., Sohne AG. Suspension filing rack. 2,974,807, 3–14–61, Cl. 211—126.
Gadget-Of-The-Month Club, Inc.: *See*—
Vail, Robert R. 2,974,827.
Galowin, Lawrence S.: *See*—
Barbieri, Donald B., Becker, Dalton, and Galowin. 2,975,225.
Gamrath, Harry R.: *See*—
Raether, Louis O., and Gamrath. 2,975,210.
Garday, Louis J., to The Bendix Corp. Fuel injection nozzle. 2,974,881, 3–14–61, Cl. 239—533.
Gardner-Denver Co.: *See*—
Bent, John H., and Olsson. 2,974,609.
Gardner, George S.: *See*—
Saukaitis, Albert J., Gardner, and Gibson. 2,975,125.
Garrard, Wilfred C. J.: *See*—
Fielding, Peter G., Garrard, and Norman. 2,974,904.
Garrison, George L., 50% to L. C. Garrison. Hydro-gear transmission device. 2,974,543, 3–14–61, Cl. 74—677.
Garrison, James O., to Garrison Machine Works, Inc. Work holder. 2,974,963, 3–14–61, Cl. 279—106.
Garrison, Loretta C.: *See*—
Garrison, George L. 2,974,543.
Garrison Machine Works, Inc.: *See*—
Garrison, James O. 2,974,963.
Gas Council, The: *See*—
Mills, John E. 2,975,026.
Gebhart, Dave F. Tractor mounted vegetation disintegrator. 2,974,472, 3–14–61, Cl. 56—504.
Gedid, George: *See*—
Jacob, Richard. 2,974,792.
Geigy, J. R., A.-G.: *See*—
Schwander, Hans R., Jung, and Hindermann. 2,975,167.
Geiser, David T., to Sprague Electric Co. Toroidal inductor combinations. 2,975,384, 3–14–61, Cl. 336—77.
Gelb, Leonard L.: *See*—
Port, William S., Gelb, and Ault. 2,975,149.
Geloso, Giovanni. Reel for magnetophone bands. 2,974,892, 3–14–61, Cl. 242—71.8.
Gem Inc.: *See*—
Safianoff, Albert. 2,975,004.
General Dynamics Corp.: *See*—
Fotland, Richard A., and Mayer. 2,975,052.
General Electric Co.: *See*—
Alcott, Ernest G. 2,974,384.
Bivens, Maurice E., and Sinclair. 2,975,338.
Cook, Edward J. 2,975,324.
Cooper, Benjamin, and Sinclair. 2,975,356.
Finley, Donald E., and Henshaw. 2,974,516.
Gundert, Eberhard, and Vibrans. 2,975,325.
Hurt, William C., Jr. 2,974,402.
Jacobs, John E. 2,975,313.
Kemnitz, Warren N. 2,974,344.
Kilbourne, Charles E., and Grobel. 2,975,308.
Koller, Lewis R. 2,975,345.
Lafferty, James M. 2,975,255.
Lee, Thomas H., and Cobine. 2,975,256.
Manning, Emmett W. 2,975,357.
Rankin, Andrew W., Zwicky, and Wheeler. 2,974,924.
Rosen, Charles A. 2,975,354.
Schieder, Richard B. 2,974,485.
Seely, Richard D. 2,974,854.
Skiff, Russell A. 2,975,148.
General Electric Co.: *See*—Continued
Spitzer, Charles F. 2,975,290.
Suhr, Fred W. 2,975,311.
Winter, Alfons M., and Mikusewski. 2,975,237.
Wilson, James E., and Dunn. 2,975,051.
Woodward, Stewart A. 2,975,245.
General Electric Co. Ltd., The: *See*—
Ferguson, Harold M., Stevens, and Sagar. 2,975,400.
General Foods Corp.: *See*—
Lombardi, Eugene H. 2,975,056.
General Mills, Inc.: *See*—
Andrews, John S. 2,975,059.
General Motors Corp.: *See*—
Bensinger, Robert P. 2,974,652.
Bernotas, Ralph J. 2,974,450.
Bouvy, Christiaan H. 2,974,654.
Brown, Arthur E., and Ogawa. 2,974,641.
Brucken, Byron L. 2,974,832.
Cislo, Casimer J. 2,974,675.
Dolza, John. 2,974,541.
Dolza, John. 2,974,599.
Egbert, William F., and Wiese. 2,974,477.
Hart, John G. 2,974,341.
Hause, Gilbert K. 2,974,766.
Hazard, Albert C. 2,974,986.
Himka, John. 2,974,998.
Howard, Harold L. 2,974,752.
Kolbe, Adelbert E. 2,974,655.
Kolbe, Adelbert E. 2,974,660.
Mitchel, Ralph H., and Schwyn. 2,975,839.
Richey, Shirrell C. 2,974,916.
Rike, Richard C. 2,974,494.
Ruley, Bryce T. 2,975,008.
Seling, Theodore V. 2,975,383.
Sisson, Kenneth O., and Barbulesco. 2,974,542.
Thull, Wesley F. 2,975,012.
Wallace, James A., and Nolder. 2,975,013.
Zubaty, Joseph. 2,974,601.
Zwicker, Vernon M. 2,975,007.
General Railway Signal Co.: *See*—
Craig, Frank S., Howard, and Scheg. 2,975,268.
General Time Corp.: *See*—
Kramer, Richard. 2,974,473.
General Tire & Rubber Co., The: *See*—
Kraft, Herman T. 2,974,714.
Georgen, Robert D., D. A. Johnson, and T. E. Landgren, to The Standard Register Co. Grey metallic selenium photocells. 2,975,387, 3–14–61, Cl. 338—17.
Gercke, Ferdinand, R. L. Hubbard, and C. Ferrara, to Warner-Lambert Pharmaceutical Co. Apparatus for shaping plastic articles. 2,974,361, 3–14–61, Cl. 18—4.
Gerhardt, Andrew H., to Borg-Warner Corp. Gentle action agitator. 2,974,510, 3–14–61, Cl. 68—4.
Gerhardt, Andrew H., to Borg-Warner Corp. Gentle action agitator. 2,974,511, 3–14–61, Cl. 68—4.
Germain, Joseph T. Fuel preheating device for internal combustion engines. 2,974,656, 3–14–61, Cl. 123—122.
Gerrick, Isidore E. Slide fastener operating device. 2,974,991, 3–14–61, Cl. 294—1.
Gersten, Gerald B. Gasoline and oil containers. 2,974,636, 3–14–61, Cl. 222—539.
Getzendanner, Vincent J.: *See*—
Phelps, Clyde H. 2,974,521.
Ghilardi, Giuliana: *See*—
Charle, Roger, Kalopissis, and Ghilardi. 2,975,101.
Ghinazzi, Alvin, to Burgess Vibrocrafters, Inc. Drive means for electric can openers and the like. 2,974,409, 3–14–61, Cl. 30—4.
Giannini Controls Corp.: *See*—
Brueggeman, Leo J., Fischer, Bondra, and Canzoneri. 2,974,529.
Karg, Fred H. 2,975,389.
Gibson, Dora S., to Hallmark Cards, Inc. Greeting card. 2,974,434, 3–14–61, Cl. 40—124.1.
Gibson, Gregory L.: *See*—
Saukaitis, Albert J., Gardner, and Gibson. 2,975,125.
Giles, John C., to Continental Oil Co. Slab molding machine. 2,974,360, 3–14–61, Cl. 18—4.
Gilfillan Bros. Inc.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,413.
Gillham, Philip C., and S. K. Moss, to International Business Machines Corp. Fast acting fluid actuator. 2,974,643, 3–14–61, Cl. 121—46.5.
Gilovich, Paul A., to International Business Machines Corp. Positioning device. 2,974,492, 3–14–61, Cl. 60—54.5.
Ginaven, Marvin E., and M. D. Woodruff, to The Bauer Bros. Co. Reinforced molded cone. 2,974,684, 3–14–61, Cl. 138—64.
Ginaven, Marvin E., and A. H. Adams, to The Bauer Bros. Co. Impregnation of wood chips. 2,975,096, 3–14–61, Cl. 162—18.
Girard, Theodore A., to Heyden Newport Chemical Corp. Production of trichlorobenzoic acid. 2,975,211, 3–14–61, Cl. 260—523.
Givens, John H.: *See*—
Kearton, Christopher F., Givens, and Aldred. 2,974,420.
Gleason Works, The: *See*—
Dammert, Earl D., and De Wolf. 2,974,811.
King, Charles B., and Spear. 2,974,399.
Spear, Gilmore M. 2,974,398.
Glenner, Edward J., and I. Molnar, to Automatic Electric Laboratories, Inc. Magnetic drum storage. 2,975,236, 3–14–61, Cl. 179—18.
Glidomatic Corp.: *See*—
Schwartzman, Gilbert. 2,974,350.
Globe-Union Inc.: *See*—
Ploran, William J. 2,975,312.
Globo Investment Trust: *See*—
Wegner, Josef. 2,974,474.

Goettl, Adam D., to McGraw-Edison Co. Louver device. 2,974,581, 3–14–61, Cl. 98—40.

Gold, Heinrich, and P. Kurtz, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of substituted 5-aminopyrasoles. 2,975,188, 3–14–61, Cl. 260—310.

Goldberg, David N. Adjustable length friction unit assembly for brake or clutch structures. 2,974,771, 3–14–61, Cl. 192—107.

Goldmark, Peter C., to Columbia Broadcasting System, Inc. Phonograph reproducer. 2,974,961, 3–14–61, Cl. 274—9.

Goldschmidt, Hans, and J. W. Edgemond, Jr., to Yuba Consolidated Industries, Inc. Sliding table saw. 2,974,693, 3–14–61, Cl. 143—52.

Goldsmith, Morty, to Metro Engineering Co. Ltd. Lifting bridle construction. 2,974,994, 3–14–61, Cl. 294—75.

Goldstein, Ladislas, to International Telephone and Telegraph Corp. Radiant energy source. 2,975,375, 3–14–61, Cl. 331—78.

Golick, George: *See*—
Lynch, George J., and Golick. 2,975,246.

Goodrich, B. F., Co., The: *See*—
Layer, Robert W. 2,975,213.
Sayre, Kenneth L. 2,975,158.

Goodwin, Robert J., to Gulf Research & Development Co. Well perforating apparatus. 2,974,727, 3–14–61, Cl. 166—55.5.

Goodyear Aircraft Corp.: *See*—
Vance, Philip R. 2,975,369.

Goodyear Tire & Rubber Co., The: *See*—
Bietso, Nelson C. 2,975,095.
Hawley, Jesse G. 2,974,493.
Namsick, Raymond J. 2,974,912.
Rogers, Thomas H., Jr., and Peabody. 2,975,146.
Spacht, Ronald B. 2,975,216.
Spacht, Ronald B. 2,975,217.
Tuttle, Jack L., and Phillips. 2,974,970.

Gordon, Carroll M., to United States of America, Atomic Energy Commission. Irradiation transmutation capsule and method of fabrication. 2,975,113, 3–14–61, Cl. 204—154.2.

Gordon, William J. J.: *See*—
Marden, Carleton S., and Gordon. 2,974,651.

Goshen, Charles E., and J. Lyman. Accelerometer. 2,974,532, 3–14–61, Cl. 73—516.

Gossen, P., & Co. G.m.b.H.: *See*—
Peter, Helmut. 2,975,295.

Gottshall, Ralph L., and R. T. Kern, Jr., to Gulf Oil Corp. Corrosion-inhibiting mineral oil compositions. 2,975,133, 3–14–61, Cl. 252—34.

Gourlay, William E. Live bait holder and elastic harness. 2,974,436, 3–14–61, Cl. 43—44.4.

Goyan, Jere E., and M. Wruble, to The Upjohn Co. Polyethylene glycol suppository bases. 2,975,099, 3–14–61, Cl. 167—64.

Grace, W. R., & Co.: *See*—
Baird, William G., Jr. 2,974,370.

Graham, Floyd. Quiver for archery. 2,974,702, 3–14–61, Cl. 150—1.5.

Graham, Lloyd J.: *See*—
Lane, William B., Baum, Graham, Fuller, Mackin, Lal, Zigman, and Shelberg. 2,974,520.

Grandinetti, Edward M. Salt shaker and pepper mill. 2,974,887, 3–14–61, Cl. 241—101.

Grant, George A.: *See*—
Parsley, Harold V., Dreyer, and Grant. 2,974,997.

Gray, Edward F., ¼ to A. V. Oberholtzer. Safety medical container top. 2,974,813, 3–14–61, Cl. 215—9.

Gray, Harold P. Tractor hitch. 2,974,979, 3–14–61, Cl. 280—469.

Gray, Thomas J., to Gulf Research & Development Co. Oscillating helicoidal separating device. 2,974,799, 3–14–61, Cl. 209—434.

Greanias, Evon C., to International Business Machines Corp. Clipping level control circuit. 2,975,371, 3–14–61, Cl. 328—168.

Green, Kenneth E., W. R. Hagan, and G. U. Barnes, to John J. Foster Mfg. Co. Method for producing honeycomb structures. 2,975,263, 3–14–61, Cl. 219—83.

Green, Milton W., to Radio Corp. of America. Load control motor circuit. 2,975,349, 3–14–61, Cl. 318—331.

Greensboro Loom Reed Co., Inc.: *See*—
McFetters, George A. 2,974,687.

Gregory, Marion B.: *See*—
Ludeke, Rudolf, and Gregory. 2,975,328.

Greiner, Earl S.: *See*—
Ellis, William C., and Greiner. 2,974,778.

Gretener, Edgar, to E. Gretener, A.G. Process for the manufacture of embossed screens. 2,974,709, 3–14–61, Cl. 153—48.

Gretener, Edgar, A.G.: *See*—
Gretener, Edgar. 2,974,709.

Grifferth, Forrest P. and L. Combined closure and scouring pad for containers. 2,974,786, 3–14–61, Cl. 206—47.

Grifferth, Lena: *See*—
Grifferth, Forrest P. and L. 2,974,786.

Griffon, Henri. Container for the separate storage and extemporaneous mixing of constituents in injectable solution. 2,974,785, 3–14–61, Cl. 208—47.

Grimm, John F.: *See*—
Minowitz, Wilbert, and Grimm. 2,975,286.

Grinnell Corp.: *See*—
Sherburne, Philip C. 2,974,914.
Zollinger, Alfred. 2,974,915.

Grobel, Lloyd P.: *See*—
Kilbourne, Charles E., and Grobel. 2,975,306.

Groce, John C., and W. T. Rusch, to International Telephone and Telegraph Corp. Data translating system. 2,975,410, 3–14–61, Cl. 340—347.

Gross, Albert: *See*—
Kabisch, Gerhard, Richter, and Gross. 2,975,033.

Gross, Otto, and H. Berger, to Bergwerksgesellschaft Hibernia Aktiengesellschaft. Catalyst for production of hydrocyanic acid. 2,975,144, 3–14–61, Cl. 252—477.

Grotnes Machine Works, Inc.: *See*—
Van Leer, Oscar J. 2,974,841.

Grube, Wilhelm. Suspension railway. 2,974,608, 3–14–61, Cl. 104—96.

Gulf Oil Corp.: *See*—
Gottshall, Ralph L., and Kern. 2,975,133.
Summers, Claude E., Jr. 2,975,042.

Gulf Research & Development Co.: *See*—
Ambrose, Henry A. 2,975,043.
Goodwin, Robert J. 2,974,727.
Gray, Thomas J. 2,974,799.

Gundert, Eberhard, and G. Vibrans, to General Electric Co. Electron beam deflection system. 2,975,325, 3–14–61, Cl. 315—22.

Hacklander, Hans, to The Singer Mfg. Co. Feeding mechanisms for sewing machines. 2,974,617, 3–14–61, Cl. 112—209.

Haddad, Jerrier A., R. K. Richards, N. Rochester, and H. D. Ross, to International Business Machines Corp. Electronic data processing machine. 2,974,866, 3–14–61, Cl. 235—157.

Hagan, Walter R.: *See*—
Green, Kenneth E., Hagan, and Barnes. 2,975,268.

Hagelthorn, George A. Hose and conduit system. 2,974,676, 3–14–61, Cl. 137—343.

Hagerty, Francis W. Method of forming joints. 2,975,092, 3–14–61, Cl. 154—116.

Hahn, Paul T., to John Oster Mfg. Co. Nozzle and filtering device for vacuum cleaners. 2,974,346, 3–14–61, Cl. 15—344.

Hahn, Werner, to VEB Kamera-und Kinowerke Dresden. Arrangement for the setting of the aperture of a lens of a camera. 2,974,576, 3–14–61, Cl. 95—64.

Hajny, Charles E., to Base Inc. Control apparatus. 2,974,869, 3–14–61, Cl. 236—1.

Hallmark Cards, Inc.: *See*—
Gibson, Dora S. 2,974,434.

Hammer, James P., to International Business Machines Corp. Static data storage apparatus. 2,975,408, 3–14–61, Cl. 340—172.5.

Hankins, James R. Scale and adaptor therefor. 2,974,940, 3–14–61, Cl. 265—73.

Hanna, M. A., Co., The: *See*—
Kuntz, Robert S. 2,974,793.

Hanson, Henry L., to Minneapolis-Honeywell Regulator Co. Analog to digital converter apparatus. 2,975,411, 3–14–61, Cl. 340—347.

Happe, Reynold, and J. P. Felix, to The Singer Mfg. Co. Control handle assembly for lawn tool. 2,975,257, 3–14–61, Cl. 200—157.

Harbison-Walker Refractories Co.: *See*—
Tate, Carl A. 2,974,374.

Hardy, Arthur C., P. J. Fopiano, and M. B. Tragesser, to Research Corp. Polarimeter. 2,974,561, 3–14–61, Cl. 88—14.

Hargreaves, Robert H., to James Walker & Co. Ltd. Industrial mat. 2,975,089, 3–14–61, Cl. 154—49.

Harries, William. Loom stop motion. 2,974,682, 3–14–61, Cl. 139—370.

Harriman, Arthur J.: *See*—
Seltzer, Edward, Harriman, and Henderson. 2,975,057.

Harris, Jack, to Anton Electronic Laboratories, Inc. Light powered switch. 2,975,335, 3–14–61, Cl. 317—129.

Harris, Robert C., to The Bendix Corp. Semi-conductive ceramic composition. 2,975,145, 3–14–61, Cl. 252—521.

Hart, John G., to General Motors Corp. Connector for windshield wiper blade. 2,974,341, 3–14–61, Cl. 15—250.32.

Harvestaire, Inc.: *See*—
Witsel, Homer D. 2,974,668.

Harvey, Jack B.: *See*—
Adams, Robert T., and Harvey. 2,975,267.

Hash, Molly: *See*—
Shupe, William F. 2,975,401.

Haskel, Merwin R., to United Merchants and Manufacturers, Inc. Process of dyeing combination drapery-lining fabrics and product. 2,974,396, 3–14–61, Cl. 28—74.

Hassell, Theodore F., to Air Logistics Corp. Positioning trailer. 2,974,972, 3–14–61, Cl. 280—43.23.

Haugen, Glenn L., and G. D. Wofford, to The Bendix Corp. Pulse width control for multivibrators. 2,975,300, 3–14–61, Cl. 307—88.5.

Hauk, Hans, R. Stroeck, H. Bayer, and L. Belik, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Method of and apparatus for drying solid particles. 2,974,419, 3–14–61, Cl. 34—10.

Hauptschein, Murray, and M. Braid, to Pennsalt Chemicals Corp. Fluorinated organic compounds. 2,975,220, 3–14–61, Cl. 260—653.1.

Hause, Gilbert K., to General Motors Corp. Variable speed fan drives. 2,974,788, 3–14–61, Cl. 192—82.

Hausmann, Günter: *See*—
Böhm, Siegfried, and Hausmann. 2,974,574.

Hawley, Jesse G., to The Goodyear Tire & Rubber Co. Displacement saver. 2,974,493, 3–14–61, Cl. 60—54.5.

Hawley, John B. Spool. 2,974,894, 3–14–61, Cl. 242—118.4.

Hazard, Albert C., to General Motors Corp. Bushing. 2,974,986, 3–14–61, Cl. 287—88.

Head, Michael D., to The International Nickel Co., Inc. Dewatering metal ore concentrates. 2,975,123, 3–14–61, Cl. 210—43.

Heath, Carlos M., and A. F. Axelson, to Union Carbide Corp. Gas shielded electric arc welding. 2,975,266, 3–14–61, Cl. 219—137.

Hebberd, Robert E. Bedding support. 2,974,328, 3–14–61, Cl. 5—319.

Heller, John K. Quick acting valve. 2,974,679, 3–14–61, Cl. 137—490.

Helm, Edward J.: *See*—
Van Ackeren, Joseph, and Helm. 2,974,836.

Helmig, Willem H. T.: *See*—
Reumerman, Theodorus, and Helmig. 2,974,865.

Henderson, Cyril, to Smiths America Corp. Vehicle transmission systems. 2,974,769, 3–14–61, Cl. 192—103.

Henderson, Richard W.: *See*—
Seltzer, Edward, Harriman, and Henderson. 2,975,057.

Henkel & Cie, G.m.b.H.: *See*—
Schmidt, Joachim, and Meinhold. 2,975,142.

Henricks, John A. Method of providing ferrous articles with phosphate coatings and compositions therefor. 2,975,082, 3–14–61, Cl. 148—6.15.

Henshaw, Wallace H., Jr.: *See*—
Finley, Donald E., and Henshaw. 2,974,516.

Heppenstall, Charles W. Self-sealing container. 2,974,833, 3–14–61, Cl. 222—190.

Herbrick, Milton B. Self-sealing receptacle closure. 2,974,835, 3–14–61, Cl. 222—507.

Hercules Powder Co.: *See*—
Ramer, Edward L. 2,974,590.
Ropp, Walter S. 2,975,151.

Herdey, Henry F.: *See*—
Elmendorf, Armin, and Herdey. 2,974,697.

Herman, Daniel F.: *See*—
Kruse, Uno, and Herman. 2,975,166.

Herman, Jean F. Equipment for distributing fluid and valve for operating the same. 2,974,923, 3–14–61, Cl. 251—137.

Herrick, Aaron E., and J. E. Trowbridge, to Colgate-Palmolive Co. Process for manufacturing terpeneless essential oils. 2,975,170, 3–14–61, Cl. 260—236.6.

Herron, Robert C. Adjustable mounting for tractor fenders. 2,974,977, 3–14–61, Cl. 280—152.

Hesson, Charles O., to United States of America, Navy. Mechanical switch and hermetically sealing means for an electric time fuse. 2,974,597, 3–14–61, Cl. 102—70.2.

Heth, Sherman C., to International Harvester Co. Hay gathering and conditioning rolls. 2,974,462, 3–14–61, Cl. 56—1.

Heyden Newport Chemical Corp.: *See*—
Girard, Theodore A. 2,975,211.

Heyl & Co. Chemischpharmaceutische Fabrik: *See*—
Wittig, Georg, and Hornberger. 2,975,027.

Hice, Billy D.: *See*—
Carpenter, Walter H., and Hice. 2,974,497.

Higbie Mfg. Co.: *See*—
Wood, Morris B. 2,974,805.

Higgenbottom, William E., to Burroughs Corp. Actuating mechanism. 2,975,258, 3–14–61, Cl. 200—172.

Hilbers, John. Auto trunk lid holder. 2,974,989, 3–14–61, Cl. 292—276.

Hilderbrand, James N.: *See*—
Westervelt, John C., and Hilderbrand. 2,974,632.

Himka, John, to General Motors Corp. Adjustable easy entrance seat for automobiles. 2,974,998, 3–14–61, Cl. 296—65.

Himmel, Leon, to International Telephone and Telegraph Corp. Direction finding systems. 2,975,418, 3–14–61, Cl. 343—118.

Hi-Press Air Conditioning of America, Inc.: *See*—
Kristiansen, Svend H. 2,974,745.

Hlz, Antonin, to Tesla, narodni podnik. Tacitron. 2,975,319, 3–14–61, Cl. 313—186.

Hobart Mfg. Co., The: *See*—
Fox, Gerald B. 2,974,672.

Hobbs, Vernon H., to Thermair Domestic Appliances Ltd. Centrifugal clothes driers. 2,974,422, 3–14–61, Cl. 34—58.

Hobbs, Vernon H., to Thermair Domestic Appliances Ltd. Centrifugal clothes driers. 2,974,423, 3–14–61, Cl. 34—58.

Hoddell, Alan C. Manufacture of metal articles. 2,974,941, 3–14–61, Cl. 266—4.

Hodell, Frederick G., to The National Screw & Mfg. Co. Blind fastener provided with mandrel nut locking means. 2,974,558, 3–14–61, Cl. 85—40.

Hoekstra, Ate H., to North American Philips Co., Inc. Method of producing ultraviolet luminescing silicates. 2,975,143, 3–14–61, Cl. 252—301.6.

Hoerger, Fred D.: *See*—
Jankens, Austin L., and Hoerger. 2,975,074.

Hoff, Richard L.: *See*—
Bounds, Ardrey M., and Hoff. 2,975,050.

Hoffman, Howard D., and E. L. Richardson, to Curtiss-Wright Corp. Manual or air speed fuel control for a jet engine. 2,974,479, 3–14–61, Cl. 60—35.6.

Hoffman, Lewis C.: *See*—
Bricker, Burton C., and Hoffman. 2,975,070.

Holaday, Charles E., dedicated to the public. Apparatus for determining the moisture content of granular and fibrous materials. 2,975,361, 3–14–61, Cl. 324—65.

Holden, Paul C., and W. A. English, to United States of America, Air Force. Internal combustion engine apparatus. 2,974,489, 3–14–61, Cl. 60—39.74.

Holdo, Apdres O.: *See*—
Moseley, Francis L., and Holdo. 2,975,370.

Hollowell, Joseph L., to E. I. du Pont de Nemours and Co. Apparatus for needle punching sheet materials. 2,974,393, 3–14–61, Cl. 28—4.

Holman, Emmette R., to Purex Corp., Ltd. Method for etching aluminum and aluminum alloy bodies. 2,975,041, 3–14–61, Cl. 41—42.

Holmes, Ralph A., and H. R. Wilson, to Western Electric Co., Inc. Pneumatic two-hand control for power machinery. 2,974,637, 3–14–61, Cl. 121—38.

Hood, Ralph S., to Davidson Rubber Co. Mixing device. 2,974,930, 3–14–61, Cl. 222—135.

Hook, Harvey O.: *See*—
Loebner, Egon E., Hook, and Darling. 2,975,291.

Hoover Co., The: *See*—
Krammes, Don C. 2,974,345.

Hopkins, Richard, to Louis Marx & Co., Inc. Bubble gun. 2,974,438, 3–14–61, Cl. 46—8.

Hornberger, Paul: *See*—
Wittig, Georg, and Hornberger. 2,975,027.

Horton, James B., and E. J. Serfass, to Bethlehem Steel Co. Waste pickle liquor recovery process. 2,975,029, 3–14–61, Cl. 23—172.

Hott, Ion V. K., to The Joyce-Cridland Co. Bumper jack and fluid system. 2,974,490, 3–14–61, Cl. 60—52.

Horton, John W.: *See*—
Price, Peter J., and Horton. 2,975,304.
Price, Peter J., and Horton. 2,975,377.

Houdaille Industries, Inc.: *See*—
O'Connor, Bernard E., and Whelpley. 2,974,639.
Rumsey, Rollin D. 2,974,905.

Howard, Harold L., to General Motors Corp. Positive parking brake. 2,974,752, 3–14–61, Cl. 188—60.

Howard, James Y.: *See*—
Craig, Frank S., Howard, and Scheg. 2,975,268.

Howsmon, John A., to American Viscose Corp. Producing all skin viscose rayon. 2,975,019, 3–14–61, Cl. 18—54.

Hruby, John O., Jr., to Rain Jet Corp. Shower heads. 2,974,877, 3–14–61, Cl. 239—237.

Hrusch, Louis C., to Cleveland Pneumatic Industries, Inc. Rotary steering motor. 2,974,906, 3–14–61, Cl. 244—50.

Huang, Hsing T., to Chas. Pfizer & Co., Inc. Fermentation process. 2,975,105, 3–14–61, Cl. 195—47.

Hubbard, Robert L.: *See*—
Gercke, Ferdinand, Hubbard, and Ferrara. 2,974,361.

Hubener, Frank G.: *See*—
Warnock, William K., and Hubener. 2,974,432.

Hubl, Johann: *See*—
Moeltzner, Ernst F. W., and Hubl. 2,974,549.

Hudson, William J.: *See*—
Callan, John E., and Hudson. 2,975,348.

Hugel, Robert, and A. Fasetti, to Montecatini-Societa Generale per l'Industria Mineraria e Chimica. Preparation of trichloro-cyanuric acid. 2,975,178, 3–14–61, Cl. 260—246.

Hughson, Douglas: *See*—
Ware, Marsden, and Hughson. 2,974,740.

Humbert, Reuben J. Ventilating hood structures. 2,974,663, 3–14–61, Cl. 126—299.

Humenik, Michael, Jr., and N. M. Parikh, to Ford Motor Co. Heat exchanger matrix. 2,974,404, 3–14–61, Cl. 29—157.3.

Humphrey, John H. Filing systems and constructions therefor. 2,974,803, 3–14–61, Cl. 211—10.

Humphreys, Victor T.: *See*—
Kirby, Ben H., Jr., Humphreys, and James. 2,975,081.

Hunnebeck, Emil M. Girder units. 2,974,762, 3–14–61, Cl. 189—37.

Hunt, Forest W. Doctor blade and doctor blade shear for textile printing machine. 2,974,586, 3–14–61, Cl. 101—157.

Hunter, Lloyd P., to International Business Machines Corp. Transistor structures and methods of manufacturing same. 2,975,085, 3–14–61, Cl. 148—33.

Hurley, Albert B., deceased; S. F. Hurley, administratrix, to Hurley Screen Co., Inc. Multi-section motion picture projection screen. 2,974,566, 3–14–61, Cl. 88—28.9.

Hurley, Sarah F.: *See*—
Hurley, Albert B. 2,974,566.

Hurley Screen Co., Inc.: *See*—
Hurley, Albert B. 2,974,566.

Hurn, Basil A., and G. A. Rudd, to Diamond National Corp. Packages or cartons for eggs and other fragile articles. 2,974,847, 3–14–61, Cl. 229—2.5.

Hurt, William C., Jr., to General Electric Co. V-shaped magnetc core. 2,974,402, 3–14–61, Cl. 29—155.57.

Hurwitz, Marvin J., A. M. Craig, Jr., and E. M. Beavers, to Rohm & Haas Co. Esters of pentaerythritols and vinyl chloride resin composition plasticised therewith. 2,975,152, 3–14–61, Cl. 260—31.6.

Huss, William S., and M. W. Kuchenbecker, to American Can Co. Dispensing carton. 2,974,852, 3–14–61, Cl. 229—51.

Hyatt, Arthur J., to Dictaphone Corp. Apparatus for positioning and scanning a transducer head over a grooveless record. 2,974,960, 3–14–61, Cl. 274—4.

Hydrick, Julius C., Jr., to H. K. Porter Co. Inc. Method of continuously producing reinforced hose. 2,974,713, 3–14–61, Cl. 154—8.

Hyman Benjamin M., to International Harvester Co. Corn picker. 2,974,466, 3–14–61, Cl. 56—16.

I-T-E Circuit Breaker Co.: *See*—
Dortort, Isadore K. 2,975,355.
Nimylowycz, Osyp. 2,975,253.

Illinois Tool Works: *See*—
Rapata, George M. 2,974,703.

Ilof, Arnd, to VEB Chemische Werke Buna. Process for the production of polymerization products of vinyl chloride. 2,975,162, 3–14–61, Cl. 260—85.7.

Imhof, Herman A., and J. C. Cantley, to United Shoe Machinery Corp. Inseam trimming machines. 2,974,333, 3–14–61, Cl. 12—4.4.

Imperial Chemical Industries Ltd.: *See*—
Driver, George W., and Senior. 2,975,086.
Leech, Harry R., and Wilson. 2,975,034.
Speakman, Raymond H., and Macleod. 2,974,391.

Industrial Tool Engineering Co.: *See*—
Celovsky, Michael J. 2,974,644.

Ingenieurburo Walter Poting K.-G.: *See*—
Pöting, Günter. 2,974,446.

Ingersoll-Rand Co.: *See*—
Neab, Julius. 2,975,010.
Vilmerding, John B. 2,974,406.

Institut de Recherches de la Siderurgie: *See*—
Leroy, Pierre, and Simon. 2,975,047.

Institute of Gas Technology: *See*—
Pettyjohn, Elmore S., and Linden. 2,975,044.

Instrument Development Laboratories, Inc.: *See*—
Ackerman, Sumner. 2,974,531.
International Business Machines Corp.: *See*—
Cardascia, Rinaldo R., and Markle. 2,975,390.
Clapper, Genung L. 2,975,303.
Conkey, Herbert E., Batchelor, and Thompson. 2,975,017.
Doty, Charles R., Smith, Tate, and Cackowski. 2,975,228.
Eichorn, Robert N. 2,974,662.
Gillham, Philip C., and Moss. 2,974,643.
Gilovich, Paul A. 2,974,492.
Greanias, Evon C. 2,975,371.
Haddad, Jerrier A., Richards, Rochester, and Ross. 2,974,866.
Hammer, James P. 2,975,405.
Hunter, Lloyd P. 2,975,085.
Jackson, Chauncey D., W. L. Batchelor, and Thompson. 2,975,239.
Kean, David W. 2,974,864.
Miller, Asa N. 2,975,402.
O'Brien, Hugh A. 2,975,407.
Petherick, Edward J. 2,975,409.
Price, Peter J., and Horton. 2,975,304.
Price, Peter J., and Horton. 2,975,377.
Saxenmeyer, George J. 2,975,365.
Scheerer, Walter. 2,974,861.
Schroeder, Charles E., and Byrnes. 2,975,307.
Stallard, Langdon B. 2,975,406.
Wilson, Lawrence A., and Wheeler. 2,974,951.
International Combustion (Holdings) Ltd.: *See*—
Davis, Reginald F. 2,975,001.
International Harvester Co.: *See*—
Allin, George S., Sr., Liu, and Rezabek. 2,974,753.
Everett, Charles V. 2,974,888.
Heth, Sherman C. 2,974,462.
Hyman, Benjamin M. 2,974,460.
Parsley, Harold V., Dreyer, and Grant. 2,974,997.
Poynor, Russell R., Throckmorton, and Shute. 2,974,876.
Snow, Kenneth T. 2,974,465.
Wilson, Milo R. 2,974,659.
International Heater Co.: *See*—
Trask, Allen. 2,974,682.
International Nickel Co., Inc., The: *See*—
Head, Michael D. 2,975,123.
International Packaging Corp.: *See*—
Demler, Ray C. 2,974,461.
International Telephone and Telegraph Corp.: *See*—
Adams, Robert T. 2,975,275.
Adams, Robert T., and Harvey. 2,975,367.
Alexander, Ben, Rogoff, and Vosburgh. 2,975,417.
Davis, Dean W. 2,975,015.
Fawcett, Daniel G., and Carpenter. 2,975,298.
Goldstein, Ladislas. 2,975,375.
Groce, John C., and Rusch. 2,975,410.
Himmel, Leon. 2,975,418.
Orthuber, Richard K., and Day. 2,974,369.
Renick, Robert C., and Pasquier. 2,975,272.
Wolfish, Herman H. 2,975,363.
Irvine, John A., and G. M. Rendall, to Ferranti, Ltd. Electronic counters. 2,975,329, 3–14–61, Cl. 315—84.6.
Isachsen, Ludvik. Steering mechanism for steering of the wheels of a trailer coupled to a tractor vehicle. 2,974,978, 3–14–61, Cl. 280—444.
Iwasaki, Koichiro: *See*—
Matsumura, Teruo, Iwasaki, and Okumura. 2,975,102.
J. E. Plastics Mfg. Corp.: *See*—
Ross, Bruce. 2,974,825.
Jaccard, Pierre M. Device for affixing leads to a fishing line. 2,974,552, 3–14–61, Cl. 61—15.
Jackson, Chauncey D., W. L. Batchelor, and D. B. Thompson, to International Business Machines Corp. Electromagnetic eraser. 2,975,239, 3–14–61, Cl. 179—100.2.
Jackson, John M.: *See*—
Werner, Frank R., Jackson, Wooster, Flint, and Topper. 2,974,860.
Jacob, Richard, 50% to G. Gedid. Washer sorting machine. 2,974,792, 3–14–61, Cl. 209—90.
Jacob, Robert M., and J. G. Robert, to Societe des Usines Chimiques Rhone-Poulenc. Phenthiazine derivatives. 2,975,175, 3–14–61, Cl. 260—243.
Jacobs, Imac. Combination lock opener. 2,974,517, 3–14–61, Cl. 70—442.
Jacobs, John E., to General Electric Co. Metal X-ray image tube. 2,975,313, 3–14–61, Cl. 313—65.
Jacobson, Moses G., to Mine Safety Appliances Co. Semiconductor diodes for gas detection. 2,975,362, 3–14–61, Cl. 324—71.
James, Brian H. L.: *See*—
Ashman, Charles S., James, and Stockford. 2,975,358.
James, Talfryn: *See*—
Kirby, Ben H., Jr., Humphreys, and James. 2,975,081.
Jankens, Austin L., and F. D. Hoerger, to The Dow Chemical Co. Resin coated paper. 2,975,074, 3–14–61, Cl. 117—76.
Janssen, Paul A. J. 1-(aroylalkyl)-4-(heterocyclyl) piperazines. 2,975,182, 3–14–61, Cl. 260—268.
Jaouen, Jean, to Bronsavia. Angular velocity meter. 2,974,530, 3–41–61, Cl. 73—505.
Jaswinski, Stanislaw T., and J. A. Sisto, to Phoenix Steel Corp. Method for producing titanium. 2,975,049, 3–14–61, Cl. 75—84.4.
Jeb-Rod Corp.: *See*—
Brosseau, John B. 2,974,805.
Jelinek, Erwin, to Kroehler Mfg. Co. Reclining chair with fold-under extendable leg rest. 2,974,720, 3–14–61, Cl. 155—106.
Jencks, Hollis W., and E. A. Viale, to Detroit Coil Co. Oil bath solenoid. 2,975,340, 3–14–61, Cl. 317—185.
Jenkins, Cecil: *See*—
Woolslayer, Homer J., Turner, and Jenkins. 2,974,760.
Jennings, Irving C. Power drive construction. 2,974,538, 3–14–61, Cl. 74—421.
Jered Industries, Inc.: *See*—
Davies, Edward R., Bowen, and Lemon. 2,974,545.
Jersey Production Research Co.: *See*—
Burns, Kay N. 2,975,399.
Kiel, Othar M. 2,974,937.
Rickard, James A. 2,974,629.
Johnson, Alexander. Automatic fan control. 2,974,504, 3–14–61, Cl. 64—30.
Johnson, Donn A.: *See*—
Georgen, Robert D., Johnson, and Landgren. 2,975,387.
Johnson, Elmer G. Supersonic fluid machine. 2,974,927, 3–14–61, Cl. 253—69.
Johnson, Eric C., and R. D. Clarke, to B. B. Chemical Co. Thermoplastic adhesive compositions and supply articles. 2,975,150, 3–14–61, Cl. 260—27.
Johnson Fare Box Co.: *See*—
Mahoney, Eugene T. 2,975,350.
Johnson, William R.: *See*—
Perry, James W., Fraser, and Johnson. 2,975,045.
Johnston, James K.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,418.
Joint Saw Co.: *See*—
Lewis, William H. 2,974,938.
Jominy, Walter E., J. H. Olson, and R. B. Boswell, to Chrysler Corp. Aluminum casting process. 2,974,380, 3–14–61, Cl. 22—204.
Jominy, Walter E., J. H. Olson, and R. B. Boswell, to Chrysler Corp. Flux composition for aluminum casting process and methods for controlling molten flux baths. 2,975,084, 3–14–61, Cl. 148—26.
Jones, Loren F., to Radio Corp. of America. Portable disk-type magnetic recording apparatus. 2,975,238, 3–14–61, Cl. 179—100.2.
Jones, Sam A., to Consolidation Coal Co. Method and apparatus of calibrating a belt conveyer scale. 2,974,513, 3–14–61, Cl. 73—1.
Joslyn, Walter B., and J. F. Williams. Coating applying machine. 2,974,873, 3–14–61, Cl. 239—121.
Joyce, Cecil R., to Burroughs Corp. Method and apparatus for the fabrication of electrostatic recording heads. 2,974,368, 3–14–61, Cl. 18—36.
Joyce-Cridland Co., The: *See*—
Hott, Ion V. K. 2,974,490.
Joyce, James E. Bins. 2,974,808, 3–14–61, Cl. 211—126.
Jung, Jean-Pierre: *See*—
Schwander, Hans R., Jung, and Hindermann. 2,975,167.
Jung, Johannes. Centrifugal-type pulp separator. 2,974,796, 3–14–61, Cl. 209—284.
Juptner, Wilhelm, to C. P. Clare & Co. Relay. 2,975,252, 3–14–61, Cl. 200—93.
Kabisch, Gerhard, E. Richter, and A. Gross, to Food Machinery and Chemical Corp. Process for preparation of hydrogen peroxide. 2,975,033, 3–14–61, Cl. 23—207.
Kabelin, Paul H., to Parker-Hannifin Corp. Accumulator and piston therefor. 2,974,683, 3–14–61, Cl. 138—31.
Kaiser, Walter S., and H. W. Stieglitz, to Seton Corp. Edge trimming welding machine. 2,975,265, 3–14–61, Cl. 219—97.
Kalopissis, Gregoire: *See*—
Charle, Roger, Kalopissis, and Ghilardi. 2,975,101.
Kamlet, Jonas, to Crown Zellerbach Corp. Process for the manufacture of protocatechuic aldehyde. 2,975,214, 3–14–61, Cl. 260—600.
Kamrud, Clarence F.: *See*—
Anderson, Raymond W., and Kamrud. 2,974,889.
Kappen, John W. Pallet. 2,974,917, 3–14–61, Cl. 248—120.
Karg, Fred H., to Giannini Controls Corp. Potentiometer. 2,975,389, 3–14–61, Cl. 338—176.
Karig, Horace E., to United States of America, Navy. Torpedo depth control. 2,974,622, 3–14–61, Cl. 114—25.
Karpuk, John P.: *See*—
Thomas, Jesse B., and Karpuk. 2,975,002.
Kaschner, Daniel B., Sr., to American Can Co. Gauging mechanism. 2,974,953, 3–14–61, Cl. 271—59.
Kaswan, Siegfried, to Actuation Research Corp. Pressurized power actuated butterfly valve. 2,974,921, 3–14–61, Cl. 251—58.
Katella, Albert J., to Philco Corp. Transducers. 2,975,243, 3–14–61, Cl. 179—111.
Katz, Manfred, to E. I. du Pont de Nemours and Co. Products from piperazine and diisocyanates. 2,975,157, 3–14–61, Cl. 260—77.5.
Kauffmann, Hugo J., A. P. Mentecki, S. S. Naistats, and H. J. Wehrfritz, to Food Machinery and Chemical Corp. Laundering method and composition therefor. 2,975,139, 3–14–61, Cl. 252—99.
Kaufman, Samuel S., and J. A. Vargas, to Sier-Bath Gear & Pump Co., Inc. Sealing rings. 2,974,501, 3–14–61, Cl. 64—9.
Kazan, Benjamin, and J. E. Berkeyheiser, Jr., to Radio Corp. of America. Electroluminescent apparatus. 2,975,294, 3–14–61, Cl. 250—213.
Kean, David W., to International Business Machines Corp. Error detecting device. 2,974,864, 3–14–61, Cl. 235—153.
Kearney, James R., Corp.: *See*—
Boseman, Hoyt W., Jr. 2,974,414.
Kearton, Christopher F., J. H. Givens, and F. C. Aldred, to Courtaulds Ltd. Preparation of wood pulp. 2,974,420, 3–14–61, Cl. 34—10.
Keen, Harry J., and K. G. Sears, to Lavoie Laboratories, Inc. Temperature control system. 2,975,261, 3–14–61, Cl. 219—20.
Keithahn, Julian D., to Baker Oil Tools, Inc. Tubing control valve apparatus. 2,974,922, 3–14–61, Cl. 251—77.
Kelco Co.: *See*—
Sperry, Gerald D. 2,975,064.
Kelley Co., Inc.: *See*—
Kelley, Garrett P. 2,974,336.

Kelley, Garrett P., to Kelley Co., Inc. Adjustable dockboard. 2,974,336, 3–14–61, Cl. 14—71.
Kelley, George S., to Curtiss-Wright Corp. Coolant injection system for engines. 2,974,482, 3–14–61, Cl. 60—39.3.
Kemnitz, Warren N., to General Electric Co. Pushing or pulling arrangement for a mobile vacuum cleaner. 2,974,344, 3–14–61, Cl. 15—327.
Kenmore, Herbert, and W. J. Manson, to National-Standard Co. Electroplating apparatus. 2,975,120, 3–14–61, Cl. 204—207.
Kennecott Copper Corp.: *See*—
Marsh, Donald G. 2,974,777.
Kennedy, Thomas W.: *See*—
Fogal, Gordon L., Kennedy, Messe, and Trout. 2,974,588.
Kern, Raymond T., Jr.: *See*—
Gotthsall, Ralph L., and Kern. 2,975,133.
Kernen, Hans. Lifting jack. 2,974,930, 3–14–61, Cl. 254—102.
Kerris, Wolfram E. K.: *See*—
Braun, Wolfgang G., and Kerris. 2,975,368.
Kerwin, James F., and M. E. Wolff, to Smith Kline & French Laboratories. 11,18-lactone steroid compounds. 2,975,174, 3–14–61, Cl. 260—239.57.
Kevorkian, Joseph D. Lamp guard construction. 2,975,269, 3–14–61, Cl. 240—102.
Key Products Co.: *See*—
Keydel, Kurt R. 2,974,339.
Keydel, Kurt R., to Key Products Co. Dust mop. 2,974,339, 3–14–61, Cl. 15—229.
Keyes Fibre Co.: *See*—
Robbins, Gerald L. 2,974,788.
Kheighatian, Habert M.: *See*—
Thomas, Charles L., Stuart, and Kheighatian. 2,975,136.
Kiel, Othar M., to Jersey Production Research Co. Petroleum recovery from carbonaceous formations. 2,974,937, 3–14–61, Cl. 262—3.
Kienzle, Harold K., to Deere & Co. Implement control system. 2,974,784, 3–14–61, Cl. 172—9.
Kilbourne, Charles E., and L. P. Grobel, to General Electric Co. Winding temperature control systems for direct-cooled dynamoelectric machines. 2,975,306, 3–14–61, Cl. 310—54.
Kimberly-Clark Corp.: *See*—
Fourness, Charles A. 2,974,716.
King, Charles B., and G. M. Spear, to The Gleason Works. Cutter for gears of tapering tooth depth. 2,974,399, 3–14–61, Cl. 29—105.
King, Kenneth G., and A. W. Tucker, to Westinghouse Brake and Signal Co., Ltd. Intermittent inductive train control systems. 2,975,273, 3–14–61, Cl. 246—63.
King, Robert H.: *See*—
Felmet, Frederick W. 2,974,966.
Felmet, Frederick W. 2,974,967.
Kinney, Alfred W., to American Can Co. Lid capping device. 2,974,459, 3–14–61, Cl. 53—342.
Kirby, Ben H., Jr., V. T. Humphreys, and T. James, to Koppers Co., Inc. Coloring of aluminum surfaces. 2,975,081, 3–14–61, Cl. 148—6.1.
Kirshenbaum, Isidor, to Esso Research and Engineering Co. Bacteriological desulfurization of petroleum. 2,975,103, 3–14–61, Cl. 195—3.
Klasens, Hendrik A., to North American Philips Co., Inc. Cathode ray tube display system. 2,975,415, 3–14–61, Cl. 343—17.
Kleboe, John E.: *See*—
Muskat, Louis R., Klopfenstein, and Kleboe. 2,974,458.
Klem Chemicals, Inc.: *See*—
Yaroch, William L. 2,975,140.
Klopfenstein, King L.: *See*—
Muskat, Louis R., Klopfenstein, and Kleboe. 2,974,458.
Kluge, Anthony M. Binding for water skis. 2,974,330, 3–14–61, Cl. 9—310.
Knapp-Monarch Co.: *See*—
Visos, Charles D. 2,975,336.
Knauer, Wolfgang, to Radio Corp. of America. Low-temperature plasma source. 2,975,320, 3–14–61, Cl. 313—187.
Knight, Mark R., to Radio Corp. of America. Beam deflection type electron discharge device. 2,975,316, 3–14–61, Cl. 313—82.
Knowles, Edward R., to The Specialty Papers Co. Apparatus for molding hollow articles of plastic. 2,974,362, 3–14–61, Cl. 18—5.
Koch, Gerhard, to Telefunken G.m.b.H. Directional antenna having cosine shaped aperture. 2,975,420, 3–14–61, Cl. 343—786.
Koch, Gustav H., to Westinghouse Electric Corp. Coupling apparatus. 2,974,984, 3–14–61, Cl. 287—53.
Koffel, John K., and C. A. Lindley, to Thompson Ramo Wooldridge Inc. High pressure ratio axial flow supersonic compressor. 2,974,859, 3–14–61, Cl. 230—120.
Kolbe, Adelbert E., to General Motors Corp. Frame assembly for internal combustion engines. 2,974,655, 3–14–61, Cl. 123—56.
Kolbe, Adelbert E., to General Motors Corp. Frame assembly for internal combustion engines. 2,974,660, 3–14–61, Cl. 123—195.
Kolfenbach, John J., and J. P. Longwell, to Esso Research and Engineering Co. Method for operating a rocket motor or the like. 2,974,475, 3–14–61, Cl. 60—35.4.
Koller, Lewis R., to General Electric Co. Electric capacitor. 2,975,345, 3–14–61, Cl. 317—258.
Komplex Nagyberendezesek Export-Import Vallalat: *See*—
Seldner, Mihaly. 2,975,809.
Kopczynski, John F. Cleaner for windshield wipers. 2,974,340, 3–14–61, Cl. 15—250.
Koppers Co., Inc.: *See*—
Becker, Joseph. 2,975,106.
Kirby, Ben H., Jr., Humphreys, and James. 2,975,081.
Van Ackeren Joseph, and Helm. 2,974,936.
Van Ackeren, Paul. 2,975,109.
Koret of California: *See*—
Warnock, William K., and Hubener. 2,974,432.
Korger, Gerhard: *See*—
Wagner, Hans, Aumiller, Ruschig, and Korger. 2,975,212.
Koster, Roland: *See*—
Ziegler, Karl, Koster, and Kroll. 2,975,215.
Kowalski, Alexander: *See*—
Barth-Wehrenalp, Gerhard, and Kowalski. 2,975,028.
Kozak, John W., to Frank L. Wells Co. Helical cutting apparatus. 2,974,705, 3–14–61, Cl. 153—2.
Kraft, Herman T., to The General Tire & Rubber Co. Method of and apparatus for applying an uncured rubber covering to a tire carcass. 2,974,714, 3–14–61, Cl. 154—9.
Kramer, Richard, to General Time Corp. Ship's bell clock. 2,974,473, 3–14–61, Cl. 58—8.
Krammes, Don C., to The Hoover Co. Collapsible support for an ambulatory appliance. 2,974,345, 3–14–61, Cl. 15—328.
Krasner, Maurice. Hand scraper. 2,974,428, 3–14–61, Cl. 37—53.
Kreuttner, Joseph W., to Buensod-Stacey Corp. Valve. 2,974,680, 3–14–61, Cl. 137—595.
Kristiansen, Svend H., to Hi-Press Air Conditioning of America, Inc. Sound-deadening air-intake devices. 2,974,745, 3–14–61, Cl. 181—53.
Kroehler Mfg. Co.: *See*—
Jelinek, Erwin. 2,974,720.
Kroll, Wolf-Rainer: *See*—
Ziegler, Karl, Koster, and Kroll. 2,975,215.
Kruse, John E., Jr., L. D. Burgess, and J. A. Stumpf, to Diamond Power Specialty Corp. Optical defect detecter. 2,975,293, 3–14–61, Cl. 250—219.
Kruse, Uno, and D. F. Herman, to National Lead Co. Sodium-catalysed ethylene polymerization. 2,975,166, 3–14–61, Cl. 260—94.9.
Krynski, John E.: *See*—
Buss, Benjamin A., and Krynski. 2,974,514.
Kuchenbecker, Morris W.: *See*—
Huss, William S., and Kuchenbecker. 2,974,852.
Kuhar, Ludwig J., to The Singer Mfg. Co. Thread carriers for sewing machine loop takers. 2,974,618, 3–14–61, Cl. 112—231.
Kuhn, Harold A.: *See*—
Polk, Isaac H., and Koch. 2,974,776.
Kuhnert, Rudolf, and H. Stuhmke, to VEB Kamera- und Kinowerke Dresden. Motion picture projector. 2,974,840, 3–14–61, Cl. 226—49.
Kundert, Alex, to Flarilham S.A. Ball applicator attachment for bottles. 2,974,351, 3–14–61, Cl. 15—572.
Kunkle, Gerald E., to Pittsburgh Plate Glass Co. Polybutene sealing compound for glazing purposes. 2,974,377, 3–14–61, Cl. 20—56.5.
Kuntz, Robert S., to The M. A. Hanna Co. Rotary sizing mechanism. 2,974,793, 3–14–61, Cl. 209—106.
Kups, Edward F., to United States of America, Air Force. Error-detecting circuit for pulse storage systems. 2,975,404, 3–14–61, Cl. 340—164.
Kurtl, Alexander, to United Aircraft Corp. Balanced exhaust nozzle. 2,974,480, 3–14–61, Cl. 60—35.6.
Kurtz, Peter: *See*—
Gold, Heinrich, and Kurtz. 2,975,188.
Kutsay, Ali U.: *See*—
Yorgiadis, Alexander J. 2,974,536.
Laboon, John F. Method of sewage treatment. 2,975,122, 3–14–61, Cl. 210—12.
Lacko, Anthony V.: *See*—
Rhodes, Joseph C., Segers, and Lacko. 2,974,519.
Laete, Edward J.: *See*—
Long, Jasper, and Laete. 2,975,250.
Lafferty, James M., to General Electric Co. Vacuum circuit interrupters. 2,975,255, 3–14–61, Cl. 200—144.
Laguilharre, Pierre R. Method for pasteurising or sterilizing liquid and semi-liquid products. 2,975,069, 3–14–61, Cl. 99—216.
Lai, John R.: *See*—
Lane, William R., Baum, Graham, Fuller, Mackin, Lai, Zigman, and Shelberg. 2,974,520.
Lake, William C., to Pan American Petroleum Corp. Grid design for fluidized beds. 2,975,037, 3–14–61, Cl. 23—288.
Lambert, Robert L., and W. R. McKelvain, to Sylvania Electric Products Inc. Process and apparatus for obtaining smooth surfaces on films. 2,974,364, 3–14–61, Cl. 18—15.
Lamont, Ebenezer N., ¼ to L. M. Flaskerud. Segmental ash tray. 2,974,821, 3–14–61, Cl. 220—23.4.
Lampe, Robert C.: *See*—
Beede, Arnold H., Cawl, and Lampe. 2,975,391.
Landbrecht, Franz, to Agfa Aktiengesellschaft. Dashpot for camera shutter. 2,974,754, 3–14–61, Cl. 188—95.
Landee, Robert W., J. R. Deen, J. J. Fling, R. G. Shaw, R. R. Davis, J. K. Johnston, and P. L. Bennett, to Gilfillan Bros. Inc. Simplified ground controlled approach system including adaptations for surveillance, precision approach, taxi and height finding. 2,975,418, 3–14–61, Cl. 343—5.
Landgren, Thomas E.: *See*—
Georgen, Robert D., Johnson, and Landgren. 2,975,387.
Landis Machine Co.: *See*—
Eigenbrode, Glenn S. 2,974,550.
Moeltzner, Ernst F. W., and Hubl. 2,974,549.
Landolt, Percy E.: *See*—
Martin, Emmett J., and Landolt. 2,974,884.
Landrieu, Philippe, to Societe des Gypses et Platres de France. Method of and apparatus for the production of gypsum plaster. 2,974,930, 3–14–61, Cl. 263—33.
Lane Container Co.: *See*—
Lane, Dan E. 2,974,844.
Lane, Dan E., to Lane Container Co. Packaging support. 2,974,844, 3–14–61, Cl. 229—14.
Lane, William R., S. Baum, L. J. Graham, R. K. Fuller, J. L. Mackin, J. R. Lai, P. E. Zigman, and W. E. Shelberg, to United States of America, Navy. Detergometer. 2,974,520, 3–14–61, Cl. 73—53.
Lang, Charles. Outboard tow and crash bar. 2,974,625, 3–14–61, Cl. 114—235.

Lange, Hans-Georg: *See*—
Fischer, Georg, Lange, and Dinse. 2,975,242.

Langston, Donald M., to Federal Pacific Electric Co. Zig-zag ring bus. 2,975,306, 3-14-61, Cl. 307—147.

Lanman, Robert W.: *See*—
Miller, J Carter, and Lanman. 2,974,648.

Lavoie Laboratories, Inc.: *See*—
Keen, Harry J., and Sears. 2,975,261.

Lawrence, Parker V., and A. O. Seifert, to Simmons Co. Infant's car seat. 2,974,718, 3-14-61, Cl. 155—11.

Lawson, Robert H., to Scott & Williams, Inc. Knitting method and machine. 2,974,506, 3-14-61, Cl. 66—61.

Layer, Robert W., to The B. F. Goodrich Co. Production of dialkylidene-p-phenylenediamines. 2,975,213, 3-14-61, Cl. 260—560.

Leach Corp.: *See*—
Schuessler, John C., and Adams. 2,975,241.

Leahy, William J., and J. A. Draxler, to The Elwell-Parker Electric Co. Industrial truck braking system. 2,974,764, 3-14-61, Cl. 192—2.

Lear, Inc.: *See*—
Wegley, Wesley D. 2,975,351.

Le Blan, Louis, to North American Philips Co., Inc. Multiplex transmission system for television signals. 2,975,234, 3-14-61, Cl. 178—6.

Lederman, Burton E.: *See*—
Capron, Nicholas J., and Lederman. 2,975,158.

Lee, Thomas H., and J. D. Cobine, to General Electric Co. Vacuum type circuit interrupter. 2,975,256, 3-14-61, Cl. 200—144.

Leech, Harry E., and W. H. Wilson, to Imperial Chemical Industries Ltd. Electrolysis of fused salts. 2,975,034, 3-14-61, Cl. 23—215.

Leeper, Gurney B., Sr. Revolving patio awnings. 2,974,449, 3-14-61, Cl. 50—50.

Lehr, Philip N., to Dictograph Products, Inc. Battery holder. 2,975,224, 3-14-61, Cl. 136—173.

Lehr, Philip N., to Dictograph Products, Inc. Carrier for ear level hearing aid. 2,975,244, 3-14-61, Cl. 179—156.

Leisenring, Arthur E. Molds for concrete test samples. 2,974,385, 3-14-61, Cl. 25—118.

Leitner, Richard G., and J. A. Maise, to Telautograph Corp. Telescribing apparatus. 2,975,235, 3-14-61, Cl. 178—18.

Lemon, Robert W.: *See*—
Davies, Edward R., Bowen, and Lemon. 2,974,545.

Longsfield Bros. Inc.: *See*—
Fielding, Francis W. 2,974,848.

Lennox Industries, Inc.: *See*—
Culp, Chester F. 2,974,728.

Lenoir Hosiery Mills, Inc.: *See*—
Foster, Walter J. 2,974,507.

Lerner, Julius, and H. L. Bachofer, to Sun Oil Co. Compensating capacitor for liquid level measurement. 2,974,526, 3-14-61, Cl. 73—304.

Leroy, Pierre, and R. Simon, to Institut de Recherches de la Siderurgie. Process for the continuous pre-refining of molten pig iron. 2,975,047, 3-14-61, Cl. 75—59.

Lever Bros. Co.: *See*—
Best, Ronald L., Crossley, Paul, Pardun, and Soeters. 2,975,060.
Paul, Stanley, and Crossley. 2,975,063.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,061.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,062.

Levin, Alexander, to United States of America, Army. Air bleed valve. 2,974,724, 3-14-61, Cl. 158—36.6.

Levin, David. Pressure steam cookers. 2,974,523, 3-14-61, Cl. 220—44.

Levin, Nathan. Four yarn overplaid knitting machine. 2,974,505, 3-14-61, Cl. 66—43.

Levkoff, David, ¼ to E. S. Levkoff, ¼ H. S. Levkoff, and ½ to E. L. Sennet. Bottle carriers. 2,974,827, 3-14-61, Cl. 220—113.

Levkoff, Evelyn S.: *See*—
Levkoff, David. 2,974,827.

Levkoff, Henry S.: *See*—
Levkoff, David. 2,974,827.

Lewis, Dean L. Shaving appurtenance supporting device. 2,974,671, 3-14-61, Cl. 132—80.

Lewis, Edward V., to United States of America, Navy. Ship. 2,974,624, 3-14-61, Cl. 114—56.

Lewis, Evan T. Grass mowing unit. 2,974,463, 3-14-61, Cl. 56—7.

Lewis, William H., to Joint Saw Co. Pavement cutting apparatus. 2,974,938, 3-14-61, Cl. 262—20.

Liao, Chien-Wei: *See*—
Darling, Samuel M., and Liao. 2,975,135.

Lidsky, Julius, to Ronel Corp. Metal fastener. 2,974,878, 3-14-61, Cl. 20—92.

Lindbom, Torsten, and W. H. Rucks, to Fairchild Engine and Airplane Corp. Pressure controlled actuator. 2,974,640, 3-14-61, Cl. 121—41.

Linden, Henry R.: *See*—
Pettyjohn, Elmore S., and Linden. 2,975,044.

Lindley, Charles A.: *See*—
Koffel, John E., and Lindley. 2,974,858.

Lindsay, John A. Heat sealing tool. 2,974,717, 3-14-61, Cl. 154—42.

Lingner-Werke G.m.b.H.: *See*—
Raehs, Wilhelm, and Rauchmann. 2,974,879.

Linthout, Erwin. Gymnastic implement. 2,974,527, 3-14-61, Cl. 73—381.

Lipton, Thomas J., Inc.: *See*—
Seltzer, Edward, Harriman, and Henderson. 2,975,057.

Liston, Bohuslav, to Vyzkummi a zkusebni letecky ustav. Combined nozzle. 2,974,882, 3-14-61, Cl. 239—583.

Little, Arthur D., Inc.: *See*—
Marden, Carleton S., and Gordon. 2,974,651.

Little, John T. Peeler for citrus fruit. 2,974,411, 3-14-61, Cl. 30—24.

Littinger, Dennis P. Changeable indicia display device. 2,974,433, 3-14-61, Cl. 40—54.

Liu, John K.: *See*—
Allin, George S., Sr., Liu, and Rensbek. 2,974,753.

Lo, Elizabeth S.: *See*—
Crawford, George H., and Lo. 2,975,164.

Lo, Elizabeth S., to Minnesota Mining and Mfg. Co. Fluorine containing organic compounds and preparation thereof. 2,975,163, 3-14-61, Cl. 260—87.5.

Lock, Thomas, to Borg-Warner Corp. Fuel booster pump. 2,974,602, 3-14-61, Cl. 103—113.

Lockheed Aircraft Corp.: *See*—
Fielding, Peter G., Garrard, and Norman. 2,974,904.
Starr, Walter L. 2,975,332.

Lockwood Graders Inc.: *See*—
Fry, Lyle L. 2,974,794.

Lockwood, Harry A. Furniture glider. 2,974,352, 3-14-61, Cl. 16—42.

Loebner, Egon E., H. O. Hook, and D. E. Darling, to Radio Corp. of America. Electroluminescent storage device. 2,975,291, 3-14-61, Cl. 250—213.

Loewy Engineering Co. Ltd., The: *See*—
Elkan, Robert M. L. 2,974,791.

Loferski, Joseph J.: *See*—
Rappaport, Paul, and Loferski. 2,975,286.

Logan, Richard W.: *See*—
Williams, Newton H. 2,974,413.

Lohman, Lester E.: *See*—
Williams, Edgar E., and Lohman. 2,974,634.

Lollar, Robert M.: *See*—
Schubert, Adolf, Cohen, Delcamp, and Lollar. 2,975,018.

Lombardi, Eugene H., to General Foods Corp. Coffee foam reduction. 2,975,056, 3-14-61, Cl. 99—71.

Long, Jasper, and E. J. Laete, to Wade Electric Products Co. Switch. 2,975,250, 3-14-61, Cl. 200—67.

Long Mfg. Co.: *See*—
Long, William R. 2,974,467.

Long, William R., to Long Mfg. Co. Pickup and threshing unit for peanut combine. 2,974,487, 3-14-61, Cl. 56—19.

Longwell, John P.: *See*—
Kolfenbach, John J., and Longwell. 2,974,475.

Lopiekes, Dolores V.: *See*—
Dice, John R., and Lopiekes. 2,975,193.

Loska, Stephen J., Jr., to The Pillsbury Co. Methods and apparatus for testing consistency. 2,974,524, 3-14-61, Cl. 73—169.

Lott, Peter H., to Utah-Idaho Sugar Co. Method of and apparatus for liquifying granular materials. 2,975,038, 3-14-61, Cl. 23—309.

Lowe, Warren: *See*—
Clayton, James O., and Lowe. 2,975,131.

Lowenthal, Morris: *See*—
Polk, Isaac H., and Koch. 2,974,776.

Lucci, Mario: *See*—
Soares, Affonso P., and Lucci. 2,974,715.

Lucia, Carroll J., G. U. Ray, and J. Maxon, to Dura Corp. Rotary cutter with fluid transmission. 2,974,470, 3-14-61, Cl. 56—25.4.

Lucien, Rene, to Societe a responsabilite limitee: Recherches Etudes Production R.E.P. Inertia responsive switch. 2,975,248, 3-14-61, Cl. 200—61.46.

Luckl, Stanley J., to Socony Mobil Oil Co., Inc. Complex metal salts of oxidised petroleum oils. 2,975,205, 3-14-61, Cl. 260—452.

Ludbrook, Leslie C., to The British Thomson-Houston Co. Ltd. Winding and haulage equipment. 2,975,346, 3-14-61, Cl. 318—169.

Ludeke, Rudolf, and M. B. Gregory, to The Baldwin Piano Co. Flash lamp assembly. 2,975,328, 3-14-61, Cl. 315—59.

Ludwig, Louis. Electrical connectors. 2,975,392, 3-14-61, Cl. 339—99.

Luenberger, Frederick O.: *See*—
Armstrong, Paul R., and Luenberger. 2,975,310.

Luenberger, Frederick O., to U.S. Electrical Motors, Inc. Seal structure for submersible apparatus. 2,974,982, 3-14-61, Cl. 286—10.

Lundelius, Charles. Strainer unit for toilets. 2,974,824, 3-14-61, Cl. 4—257.

Lundell, Vernon J. Aerating windrow attachment for hay choppers. 2,974,468, 3-14-61, Cl. 56—24.

Lundgren, Harry C.: *See*—
Boles, Lester A., Lundgren, and Daniel. 2,974,690.

Luxenberger, Eugene A.: *See*—
Streed, David D. M., and Luxenberger. 2,974,373.

Lyall, Ralph G. Axle load distributing device for motor cranes and like mobile equipment. 2,974,976, 3-14-61, Cl. 280—124.

Lyman, Joseph: *See*—
Goshen, Charles E., and Lyman. 2,974,532.

Lynch, George J., and G. Golick, to Mycalex Electronics Corp. Switching mechanisms. 2,975,246, 3-14-61, Cl. 200—24.

Lynn, Bernard S. Blast fence. 2,974,910, 3-14-61, Cl. 244—114.

Lynn, John W., to Union Carbide Corp. Cyanoethylated oxalactams. 2,975,167, 3-14-61, Cl. 260—307.

Lyon, Channing B., and D. H. McRae, to Rohm & Haas Co. Induced male sterility in tomatoes. 2,974,444, 3-14-61, Cl. 47—58.

M & M Products Co., Inc.: *See*—
Mereness, Lowell H. 2,974,590.

MacArthur, Fulton H. Splice trip for gravure press. 2,974,587, 3-14-61, Cl. 101—184.

Machian, George R., to Western Electric Co., Inc. Adjustable apparatus for holding and assembling articles. 2,974,405, 3-14-61, Cl. 29—203.

Mack, Kent M., and C. C. Frankenfield, to United States of America, Navy. Continuously variable range circuit. 2,975,416, 3-14-61, Cl. 343—17.1.

Mackin, James L.: *See*—
Lane, William B., Baum, Graham, Fuller, Mackin, Lai, Zigman, and Shelberg. 2,974,520.

Macleod, Roderick B.: *See*—
Speakman, Raymond H., and Macleod. 2,974,391.

Macrander, Karl, to Alweg-Forschung Gesellschaft mit beschrankter Haftung Cranes. 2,974,806, 3-14-61, Cl. 104—2.

Mader, Emil A., to J. Spargo. Combined impeller and closure. 2,974,731, 3-14-61, Cl. 170—160.51.

Magee Carpet Co., The: *See*—
Park, Orrin J., and Cotner. 2,974,690.

Mahoney, Eugene T., to Johnson Fare Box Co. Motor and apparatus for controlling unattended parking lot. 2,975,350, 3-14-61, Cl. 318—487.

Maise, James A.: *See*—
Leitner, Richard G., and Maise. 2,975,235.

Major, Frederick W.: *See*—
Cranford, William B., and Major. 2,975,160.

Makela, Eino R., to Reserve Mining Co. Cutter means for balling drum. 2,974,358, 3-14-61, Cl. 18—1.

Maldari, D., and Sons, Inc.: *See*—
Maldari, Ralph A. 2,974,613.

Maldari, Ralph A., to D. Maldari and Sons, Inc. Macaroni die. 2,974,613, 3-14-61, Cl. 107—14.

Malick, Franklin S., T. A. Daly, and J. C. Voorhees, to United States of America, Navy. Triaxial control system. 2,974,620, 3-14-61, Cl. 114—23.

Malott, Clifton S., Jr., to McGraw-Edison Co. Automatic by-pass control. 2,974,948, 3-14-61, Cl. 270—81.

Manchester, William J., to Power Grip, Inc. Precision power chuck. 2,974,969, 3-14-61, Cl. 279—123.

Mango, Roberto. Convertible bed. 2,974,325, 3-14-61, Cl. 5—98.

Manning, Emmett W., to General Electric Co. Transformer. 2,975,357, 3-14-61, Cl. 323—44.

Mansho, Etsuo. Punched can. 2,974,824, 3-14-61, Cl. 220—53.

Manson, Walter J.: *See*—
Kenmore, Herbert, and Manson. 2,975,120.

Marden, Carleton S., and W. J. Gordon, to Arthur D. Little, Inc. Impact tool. 2,974,651, 3-14-61, Cl. 123—7.

Markle, Ralph D., Jr.: *See*—
Cardascia, Rinaldo R., and Markle. 2,975,390.

Maro, Rudolph J. Tool holder. 2,974,804, 3-14-61, Cl. 211—60.

Marsh, Donald G., to Kennecott Copper Corp. Impact bracket for belt-troughing idler. 2,974,777, 3-14-61, Cl. 198—192.

Martens, Jack E., to The Anderson Co. Motion-transmitting device. 2,974,539, 3-14-61, Cl. 74—424.8.

Martin, Edward, to Central Farm Equipment Co. Container construction. 2,974,826, 3-14-61, Cl. 220—72.

Martin, Emmett J., and P. E. Landolt, to Basic Atomics Inc. Beneficiation of lithium ores. 2,974,884, 3-14-61, Cl. 241—20.

Martin, James E. Missile projector. 2,974,954, 3-14-61, Cl. 272—8.

Martin, Ray C. Electrical contact block. 2,975,393, 3-14-61, Cl. 339—184.

Marx, Louis, & Co., Inc.: *See*—
Hopkins, Richard. 2,974,438.

Mastoch, Jean: *See*—
Driscoll, Anthony F. 2,974,815.

Matsumura, Teruo, K. Iwasaki, and S. Okumura, to Raion Hamigaki Kabushiki Kaisha (Lion Dentrifice Co., Ltd.). Transparent jelly-type tooth-paste. 2,975,102, 3-14-61, Cl. 167—93.

Matteson, Russell E., to Diamond National Corp. Vertical chute dispenser. 2,974,828, 3-14-61, Cl. 221—221.

Mattila, Alvin J., and J. E. Shapansky. Combination saw holder and guide. 2,974,694, 3-14-61, Cl. 143—68.

Matsuma, Anthony J., to The Singer Mfg. Co. Sewing machine hinges with releasable latches. 2,974,354, 3-14-61, Cl. 16—175.

Maul, Michael. Record tape controlled punched card machines. 2,974,859, 3-14-61, Cl. 234—34.

Maxon, Ira: *See*—
Lucia, Carroll J., Ray, and Maxon. 2,974,470.

Mayer, Edward F.: *See*—
Fotland, Richard A., and Mayer. 2,975,052.

Mayer, George A., to Miami Stone, Inc. Pressure equalizing assembly for stone breaking presses. 2,974,661, 3-14-61, Cl. 125—23.

Mayer, Louis, to Owens-Illinois Glass Co. Combined shipping container and dispensing receptacle. 2,974,850, 3-14-61, Cl. 229—37.

Mayer, Oscar, & Co., Inc.: *See*—
Eberman, Augustus H. 2,974,701.

Mayon, Leon, to W & M Corp. Lamp shade. 2,975,270, 3-14-61, Cl. 240—108.

Maytag Co., The: *See*—
Smith, Thomas R., and Burkland. 2,974,515.

Mazarika, Joseph A. Detachable handle. 2,974,353, 3-14-61, Cl. 16—114.

McBride, Charles F. Spreading attachment for lawn mowers. 2,974,963, 3-14-61, Cl. 275—2.

McCauley Industrial Corp.: *See*—
Voisard, Walter B. 2,974,729.
Voisard, Walter B. 2,974,730.

McClellan, Howard. Rocker support device. 2,974,719, 3-14-61, Cl. 155—17.

McCorqodale, Alan B. Water heater with side wall venting means. 2,974,650, 3-14-61, Cl. 122—494.

McDonald, Hugh C., to Townsend Co. Method and apparatus for making identifications. 2,974,426, 3-14-61, Cl. 35—26.

McDowell, William A. Anti-breeding device. 2,974,635, 3-14-61, Cl. 119—143.

McFetters, George A., to Greensboro Loom Reed Co., Inc. Dent for loom reeds. 2,974,687, 3-14-61, Cl. 139—192.

McGraw-Edison Co.: *See*—
Bertling, Ronald J. 2,974,540.
Goettl, Adam D. 2,974,581.
Malott, Clifton S., Jr. 2,974,948.

McGraw Electric Co.: *See*—
Zwelling, Martin I. 2,974,401.

McKay Machine Co., The: *See*—
Miller, John S. 2,974,848.

McKelrnan, William R.: *See*—
Lambert, Robert L., and McKelrnan. 2,974,364.

McKinon, Roy A.: *See*—
Freche, John C., McKinnon, and Braschwitz. 2,974,925.

McLean, William B., to United States of America, War. Self destruction switch. 2,974,598, 3-14-61, Cl. 102—70.2.

McLeod, Willard W., Jr., to Raytheon Co. Ferrite modulators. 2,975,379, 3-14-61, Cl. 332—51.

McNair, Samuel L. Roller vibrating device. 2,974,664, 3-14-61, Cl. 128—57.

McNamara, Thomas V.: *See*—
Perkins, Charles M., and McNamara. 2,974,786.

McRae, Dougal H.: *See*—
Lyon, Channing B., and McRae. 2,974,444.

McSheehy, Justin A.: *See*—
Roberts, George L., Jr., McSheehy, and Soffer. 2,975,190.

McVey, Clarence H., to Scott & Williams, Inc. Twist drill sharpening machine and method. 2,974,450, 3-14-61, Cl. 51—219.

Mead Johnson & Co.: *See*—
Wu, Yao H. 2,975,191.

Meakin, Edgar N. Method of extruding material which is adversely affected by heat. 2,974,371, 3-14-61, Cl. 18—55.

Medlano Capdevila, Gonsalo. Revolving last carrier head for footwear vulcanising machines. 2,974,365, 3-14-61, Cl. 18—17.

Meese, Kenneth J.: *See*—
Fogal, Gordon L., Kennedy, Meese, and Trout. 2,974,588.

Meinhold, Werner: *See*—
Schmidt, Joachim, and Meinhold. 2,975,142.

Melhose, Alfred E., to Bell Telephone Laboratories, Inc. Hydrophone. 2,975,398, 3-14-61, Cl. 340—14.

Melville, John G. Center top stacking case. 2,974,519, 3-14-61, Cl. 220—20.

Mentecki, Alfred P.: *See*—
Kauffmann, Hugo J., Mentecki, Naistat, and Wehrfritz. 2,975,139.

Merck & Co., Inc.: *See*—
Poos, George I. 2,975,171.

Mercury Precision Equipment Co., Inc.: *See*—
Echelson, David, and Bugbee. 2,974,579.

Merel, Wolfgang, to The Bendix Corp. Signal chain warning device. 2,975,408, 3-14-61, Cl. 340—253.

Mereness, Lowell H., to M & M Products Co., Inc. Lock for garbage can lids. 2,974,990, 3-14-61, Cl. 292—288.

Merritt, Clarence E., to Bank of America National Trust and Savings Assn. Assembly for steering two or four wheels. 2,974,974, 3-14-61, Cl. 280—91.

Merrow Machine Co., The: *See*—
Pierce, Bernard N. 2,974,604.

Meshberg, Philip. Method of pressure filling aerosol containers. 2,974,453, 3-14-61, Cl. 53—29.

Metro Engineering Co. Ltd.: *See*—
Goldsmith, Morty. 2,974,994.

Metropolitan-Vickers Electrical Co. Ltd.: *See*—
Antell, George R., and Roberts. 2,975,048.
Craig, Robert D. 2,975,279.

Meyer, Hans. Method of and apparatus for the continuous production of synthetic fibers. 2,974,363, 3-14-61, Cl. 18—8.

Meyer, Theodore F. W., to Equi-Flex Products, Inc. Device for wiping or scraping a working member. 2,974,983, 3-14-61, Cl. 286—12.

Miami Stone, Inc.: *See*—
Mayer, George A. 2,974,661.

Miehle-Goss-Dexter, Inc.: *See*—
PasquineHi, Bruno B., and Peyrebrune. 2,974,960.

Mikusewski, Casimir J.: *See*—
Winter, Alfons M., and Mikusewski. 2,975,227.

Miller, Asa N., to International Business Machines Corp. Data comparator. 2,975,402, 3-14-61, Cl. 340—147.

Miller, George A., to Dietz & Co., Inc. Invertible collar construction. 2,974,320, 3-14-61, Cl. 2—98.

Miller, J Carter, and E. W. Lanman, to Carter Controls, Inc. Rotary actuator. 2,974,646, 3-14-61, Cl. 121—119.

Miller, John S., to The McKay Machine Co. Automatic drilling machine. 2,974,548, 3-14-61, Cl. 77—5.

Miller, Wendell S. Projection systems. 2,974,564, 3-14-61, Cl. 88—24.

Miller, Wendell S. Projection system using screen with facets. 2,974,565, 3-14-61, Cl. 88—24.

Mills, Aubrey R., to Die Casting Machine Tools Ltd. Die casting machines. 2,974,379, 3-14-61, Cl. 22—67.

Mills, John E., to The Gas Council. Removing hydrogen sulphide from gases. 2,975,026, 3-14-61, Cl. 23—3.

Mine Safety Appliances Co.: *See*—
Jacobson, Moses G. 2,975,362.
Waters, James L. 2,975,280.

Miner, Charles H., ½ to E. L. Spangler, Jr. Automatic speed regulator. 2,974,844, 3-14-61, Cl. 74—689.

Minerals & Chemicals Philipp Corp.: *See*—
Ferrigno, Thomas H. 2,975,071.

Mink-Dayton, Inc.: *See*—
Tangeman, Russell L. 2,974,611.

Minneapolis-Honeywell Regulator Co.: *See*—
Hanson, Henry L. 2,975,411.
Pitts, Johnston T. 2,974,870.
Stokes, Konrad H. 2,974,758.

Minnesota Mining and Mfg. Co.: *See*—
Crawford, George H., and Lo. 2,975,164.
Lo, Elizabeth S. 2,975,163.
Minowitz, Wilbert, and J. F. Grimm, to Tung-Sol Electric Inc. Ion chamber and circuit therefor. 2,975,288, 3–14–61, Cl. 250—83.6.
Mintzer, Alfred L., to Radio Corp. of America. Time discriminator. 2,975,299, 3–14–61, Cl. 307—88.5.
Mitchel, Ralph H., and R. E. Schwyn, to General Motors Corp. Magnetic alloy. 2,975,339, 3–14–61, Cl. 317—158.
Mitchell, John F., to Motorola, Inc. Frequency modulation radio receiver. 2,975,274, 3–14–61, Cl. 250—20.
Mixer, Robert Y., to Union Carbide Corp. Cyclosiloxane polymers. 2,975,202, 3–14–61, Cl. 260—448.2.
Moan, Jeanne C., to Mobac Laboratories, Inc. *E. histolytica* diagnostic antigen and production thereof. 2,975,100, 3–14–61, Cl. 167—84.5.
Mobac Laboratories, Inc.: *See*—
Moan, Jeanne C. 2,975,100.
Modderno, John P., to Modern-Lab, Inc. Topical analgesic composition. 2,975,097, 3–14–61, Cl. 167—82.
Modern-Lab, Inc.: *See*—
Modderno, John P. 2,975,097.
Moeltzner, Ernst F. W., and J. Hubl, to Landis Machine Co. Rolling mechanisms. 2,974,549, 3–14–61, Cl. 80—6.
Mohaupt, Henry H., to Welex, Inc. Projectile. 2,974,595, 3–14–61, Cl. 102—56.
Molling, Heinrich. Method of starting crushers. 2,974,885, 3–14–61, Cl. 241—30.
Molnar, Imre: *See*—
Glenner, Edward J., and Molnar. 2,975,236.
Monsanto Chemical Co.: *See*—
Abramo, John G., and Reinhard. 2,975,161.
Owens, Marvin L., Jr. 2,975,221.
Raether, Lodie O., and Gamrath. 2,975,210.
Rolingson, William R. 2,975,030.
Rolingson, William R. 2,975,031.
Rolingson, William R. 2,975,032.
Tung, Ching C., and D'Amico. 2,975,153.
Wineman, Robert J., and Anagnostopoulos. 2,975,192.
Montague, Hill, III: *See*—
Bonham, Lewis L., Montague, and Culver. 2,975,378.
Montecatini-Societa Generale per l'Industria Mineraria e Chimica: *See*—
Cozzi, Ettore. 2,974,559.
Hugel, Robert, and Pasetti. 2,975,178.
Monti, James H.: *See*—
Sweet, Donald H., and Monti. 2,974,478.
Moore, James J.: *See*—
Estes, Nelson N., and Moore. 2,975,374.
Moore, James J., and N. N. Estes, to Union Carbide Corp. Low frequency signal amplifier. 2,975,373, 3–14–61, Cl. 330—41.
Moore, Lee C., Corp.: *See*—
Woolslayer, Homer J., Turner, and Jenkins. 2,974,760.
Moore, Marion P., to Container Corp. of America. Reclosable carton. 2,974,854, 3–14–61, Cl. 229—37.
Moran, Edward A.: *See*—
Riggs, Robert F. P., Foster, and Moran. 2,975,422.
Morehouse, Charles R., and J. B. Booth, Jr., to Dorr-Oliver Inc. Discharge blades for rotary filters. 2,974,802, 3–14–61, Cl. 210—396.
Morison, James C.: *See*—
Doering, Fred W., and Morison. 2,974,367.
Morris, Charles W., and A. E. Beckington, to Doak Aircraft Co., Inc. Aircraft flight control system. 2,974,900, 3–14–61, Cl. 244—12.
Morris, Joseph: *See*—
Demo, Max J. 2,974,533.
Morris, Joseph. Mechanical hammer. 2,974,535, 3–14–61, Cl. 74—22.
Morton, George A., to Radio Corp. of America. Infra-red signalling and detecting systems. 2,975,283, 3–14–61, Cl. 250—83.3.
Moseley, F. L., Co.: *See*—
Moseley, Francis L., and Holdo. 2,975,370.
Moseley, Francis L., and A. O. Holdo, to F. L. Moseley Co. Logarithmic converters. 2,975,370, 3–14–61, Cl. 328—145.
Moss, Stanton K.: *See*—
Gillham, Philip C., and Moss. 2,974,643.
Motorola, Inc.: *See*—
Mitchell, John F. 2,975,274.
Schlesinger, Kurt. 2,975,230.
Taylor, William E., and Russi. 2,975,036.
Motsinger, Armand V. Gas mask speech transmission. 2,974,666, 3–14–61, Cl. 128—141.
Mueller, Richard A., to United States of America, Navy. Artificial sonar target. 2,975,396, 3–14–61, Cl. 340—5.
Muhleck, Earl M., to Bank of America National Trust and Savings Association. Steering assembly for automotive vehicles. 2,974,973, 3–14–61, Cl. 280—87.
Mulder, Harm N.: *See*—
Bos, Jan A., and Mulder. 2,975,209.
Muller, Josef: *See*—
Werner, Walter. 2,974,415.
Muller, Willi: *See*—
Werner, Walter. 2,974,415.
Munachy, André V.: *See*—
Coombs, Niki K., and Munachy. 2,974,666.
Munts, Alan, & Co. Ltd.: *See*—
Beale, Evelyn S. L. 2,974,683.
Murphy, Harry R. Lawn edger. 2,974,471, 3–14–61, Cl. 56—25.4.
Murphy, John F., and W. Stulen, to Curtiss-Wright Corp. Cross-extrusion process. 2,974,790, 3–14–61, Cl. 207—2.
Murray, John F., to Borg-Warner Corp. Pressure loaded hydraulic apparatus. 2,974,606, 3–14–61, Cl. 103—126.
Muskat, Louis R., K. L. Klopfenstein, and J. R. Kleboe, to Triangle Package Machinery Co. Wrapping apparatus and method. 2,974,458, 3–14–61, Cl. 53—208.
Mycalex Electronics Corp.: *See*—
Lynch, George J., and Golick. 2,975,346.
Myers, Gordon S., and S. O. Winthrop, to American Home Products Corp. Poly-nitrate esters and salts thereof. 2,975,208, 3–14–61, Cl. 260—467.
N.V. Optische Industrie De Oude Delft: *See*—
Zoglmann, Rudolf. 2,974,949.
Naab, Julius, to Ingersoll-Rand Co. Hollow pistons. 2,975,010, 3–14–61, Cl. 309—4.
Naegeli, Werner, to Joh. Jacob Rieter & Co., Ltd. Support system for the nipper plates in combing machines. 2,974,875, 3–14–61, Cl. 19—116.
Nagel, Theodore. Apparatus for the shattering of solid particles. 2,974,886, 3–14–61, Cl. 241—39.
Naistat, Samuel S.: *See*—
Kaufmann, Hugo J., Mentecki, Naistat, and Wehrfritz. 2,975,150.
Namsick, Raymond J., to The Goodyear Tire & Rubber Co. Shock absorber. 2,974,912, 3–14–61, Cl. 244—138.
Napier, Donald R.: *See*—
Dickey, Frank H., Napier, and Woods. 2,975,201.
Nastromero, John J.: *See*—
Anderson, Richard D., and Nastromero. 2,975,292.
Nathe, Paul J., to Pan American Petroleum Corp. Hydraulic operator fail-safe surface valve. 2,974,677, 3–14–61, Cl. 137—456.
National Cash Register Co., The: *See*—
Werner, Frank R., Jackson, Wooster, Flint, and Topper. 2,974,860.
National Lead Co.: *See*—
Kruse, Uno, and Herman. 2,975,166.
National Research Council: *See*—
Stevinson, Harry T., and Baker. 2,974,898.
National Screw & Mfg. Co., The: *See*—
Hodell, Frederick G. 2,974,558.
National-Standard Co.: *See*—
Kenmore, Herbert, and Manson. 2,975,120.
National Starch and Chemical Corp.: *See*—
Caldwell, Carlyle G., Wurzburg, and Sun. 2,975,124.
Naythons, Benjamin. Display fountain. 2,974,871, 3–14–61, Cl. 239—17.
Nelson, Sydney. Burial caskets. 2,974,390, 3–14–61, Cl. 27—7.
Neo Products Corp.: *See*—
Frye, Richard D., and Burd. 2,974,712.
Networks Electronic Corp.: *See*—
Patrichi, Mihai D. 2,974,761.
New Jersey Zinc Co., The: *See*—
Reinert, Lawrence J., and Fatzinger. 2,975,111.
Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Duplicating. 2,974,585, 3–14–61, Cl. 101—149.4.
Newton, Alan R. Torque limiting device. 2,974,503, 3–14–61, Cl. 64—30.
Nicoll, Frederick H., to Radio Corp. of America. Electroluminescent devices. 2,975,318, 3–14–61, Cl. 313—108.
Nieland, Paul J.: *See*—
Zeigle, Kenneth C., Vance, Nieland, and Bloomquist. 2,974,772.
Nikles, Erwin: *See*—
Batzer, Hans, and Nikles. 2,975,195.
Nimylowycz, Osyp, to I-T-E Circuit Breaker Co. Contact arm kicker for circuit breakers. 2,975,253, 3–14–61, Cl. 200—116.
Noble Mfg. Co.: *See*—
Dlugosch, Paul A. 2,974,737.
Nofsinger, Earl L. Toilet ventilator and air sterilizer and purifier. 2,974,523, 3–14–61, Cl. 4—213.
Nolder, Nevin D.: *See*—
Wallace, James A., and Nolder. 2,975,018.
Nordberg Mfg. Co.: *See*—
Talboys, Henry H. 2,974,607.
Norling, James F., to Red Comet, Inc. Spray unit installation. 2,974,878, 3–14–61, Cl. 239—282.
Norman, James M.: *See*—
Fielding, Peter G., Garrard, and Norman. 2,974,904.
Norris, Naomi E. Portable bath mat. 2,974,822, 3–14–61, Cl. 4—185.
North American Aviation, Inc.: *See*—
Eyerstone, Shirley F. 2,974,868.
North American Philips Co., Inc.: *See*—
Ashman, Charles S., James, and Stockford. 2,975,358.
Breimer, Hendrik. 2,975,232.
Crowther, Gerald O. 2,975,372.
De Troye, Nicolaas C. 2,975,302.
Hoekstra, Age H. 2,975,143.
Klaasens, Hendrik A. 2,975,415.
Le Blan, Louis. 2,975,224.
Poorter, Teunis. 2,975,327.
Teer, Kees. 2,975,233.
Verveat, Wilhelmus L., and Waarle. 2,974,961.
Norton Co.: *See*—
Ault, Neil N. 2,974,388.
Ervin, Guy, Jr., and Ueltz. 2,975,079.
Nottingham, J. B., & Co., Inc.: *See*—
Babcock, Robert A., and Putney. 2,975,267.
Novak, William J., to H. K. Porter Co., Inc. Non-liquid transformer. 2,975,385, 3–14–61, Cl. 336—96.
Oates Ltd.: *See*—
Oates, Thomas G. 2,974,992.
Oates, Thomas G., to Oates Ltd. Dowel and method of inserting same. 2,974,992, 3–14–61, Cl. 294—87.
Oberholtzer, Alton V.: *See*—
Gray, Edward F. 2,974,813.
O'Brien, Eugene. Dead bolt lock. 2,974,987, 3–14–61, Cl. 292—148.
O'Brien, Hugh A., to International Business Machines Corp. Erase forward. 2,975,407, 3–14–61, Cl. 340—174.1.

Obst, Charles J., to Joseph J. Vastano. Cuff link action. 2,974,381, 3–14–61, Cl. 24—97.
O'Connor, Bernard E., and G. E. Wheipley, to Houdaille Industries, Inc. Hydraulic bridge servo control system. 2,974,639, 3–14–61, Cl. 121—41.
O'Donovan, Dorris E. Petticoat and slip cuddler. 2,974,760, 3–14–61, Cl. 206—7.
Ogawa, Fremont T.: *See*—
Brown, Arthur E., and Ogawa. 2,974,641.
O'Herron, Thomas D. Miniature golf apparatus and game. 2,974,958, 3–14–61, Cl. 273—176.
Ohio Crankshaft Co., The: *See*—
Osborn, Harry B., Jr. 2,975,250.
Ohlinger, Leo A.: *See*—
Wigner, Eugene P., Ohlinger, and Young. 2,975,115.
Ohmart Corp., The: *See*—
Ohmart, Philip E. 2,975,287.
Ohmart, Philip E., to The Ohmart Corp. Low noise level ionization chamber. 2,975,287, 3–14–61, Cl. 250—83.6.
Okawa, Riichiro: *See*—
Okawa, Risaku, and Riichiro. 2,974,726.
Okawa, Risaku and Riichiro. Cylinder machine for forming a web in paper making. 2,974,726, 3–14–61, Cl. 162—328.
Okumura, Seiichi: *See*—
Matsumura, Teruo, Iwasaki, and Okumura. 2,975,102.
Olin Mathieson Chemical Corp.: *See*—
Fried, Josef. 2,975,172.
Williams, Charles O., Drexelius, and Smith. 2,974,592.
Olson, John H.: *See*—
Jominy, Walter E., Olson, and Boswell. 2,974,380.
Jominy, Walter E., Olson, and Boswell. 2,975,084.
Olsson, Richard H.: *See*—
Bent, John H., and Olsson. 2,974,609.
O'Neil, Edward B. Electrical connector. 2,975,297, 3–14–61, Cl. 307—10.
Orenda Engines Ltd.: *See*—
Wade, John H. T. 2,974,744.
Orthuber, Richard K., and C. L. Day, to International Telephone and Telegraph Corp. Method of making display amplifier. 2,974,369, 3–14–61, Cl. 18—47.5.
Osborn, Harry B., Jr., to The Ohio Crankshaft Co. Method for bonding liners to tubes. 2,975,250, 3–14–61, Cl. 219—9.5.
Osborn Mfg. Co., The: *See*—
Bongiovanni, John C. 2,974,897.
Osborne, William E. Controlled approach aircraft landing systems. 2,975,284, 3–14–61, Cl. 250—83.3.
Osdene, Thomas S., and E. C. Taylor. 4,7-diamino-2-aryl-6-pteridinecarboxamides. 2,975,180, 3–14–61, Cl. 260—251.5.
Oster, John, Mfg. Co.: *See*—
Hahn, Paul T. 2,974,346.
Ostrowski, Edwin A.: *See*—
Beller, Wilbert E., and Ostrowski. 2,975,251.
Owens-Corning Fiberglas Corp.: *See*—
Van Der Hoven, Walter G. 2,974,859.
Owens-Illinois Glass Co.: *See*—
Burch, Oscar G. 2,975,224.
Mayer, Louis. 2,974,850.
Owens, Marvin L., Jr., to Monsanto Chemical Co. Polymerization inhibitor. 2,975,221, 3–14–61, Cl. 260—666.5.
Palmer, Richard C., to Fairchild Camera and Instrument Corp. Focusing device. 2,975,285, 3–14–61, Cl. 250—83.3.
Pan American Petroleum Corp.: *See*—
Lake, William C. 2,975,037.
Natho, Paul J. 2,974,677.
Papke, Friedrich, to Voigtlander A.G. Photographic viewfinder. 2,974,560, 3–14–61, Cl. 88—1.5.
Pardun, Hermann: *See*—
Best, Ronald L., Crossley, Paul, Pardun, and Soeters. 2,975,060.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,061.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,062.
Parham, Lee R., to Burlington Industries, Inc. Sock printing machine, method and article. 2,974,838, 3–14–61, Cl. 223—76.
Parhomek, Michael J.: *See*—
Cooley, Charles M., and Parhomek. 2,975,046.
Parikh, Niranjan M.: *See*—
Humenik, Michael, Jr., and Parikh. 2,974,404.
Park, Orrin J., and B. U. Cotner, to The Magee Carpet Co. Loop pile fabric. 2,974,690, 3–14–61, Cl. 139—403.
Park, Robert W., to American Viscose Corp. Method of laminating cellulose films. 2,975,093, 3–14–61, Cl. 154—136.
Parke, Davis & Co.: *See*—
Dice, John R., and Lopiekes. 2,975,193.
Parker-Hannifin Corp.: *See*—
Kahelin, Paul H. 2,974,683.
Russell, John G. 2,974,678.
Parnell, Ernest C.: *See*—
Stokes, Morris A., and Parnell. 2,974,487.
Parodi, Federico A., to Stabil Internacional S.A. Stoppering machine. 2,974,456, 3–14–61, Cl. 53—38.
Parsley, Harold V., R. E. Dreyer, and G. A. Grant, to International Harvester Co. Heated truck body. 2,974,997, 3–14–61, Cl. 296—28.
Parsons, Cora E.: *See*—
Parsons, Don D., and C. E. 2,974,814.
Parsons, Don D. and C. E. Insulated bottle handling cover. 2,974,814, 3–14–61, Cl. 215—13.
Pasetti, Adolfo: *See*—
Hugel, Robert, and Pasetti. 2,975,178.
Pasquier, Claude J.: *See*—
Renick, Robert C., and Pasquier. 2,975,272.
Pasquinelli, Bruno B., and H. E. Peyrebrune, to Miehle-Goss-Dexter, Inc. Sheet feeding mechanism. 2,974,950, 3–14–61, Cl. 271—44.
Pasternack, Horst, to Firma Wasag-Chemie Aktiengesellschaft. Electric fuses for detonators and the like. 2,974,591, 3–14–61, Cl. 102—28.
Pastuhov, Alexis, and G. Y. Robinson, Jr., to Conch International Methane Ltd. Low-temperature fluid container. 2,974,496, 3–14–61, Cl. 62—45.
Patent License Corp.: *See*—
Zimmerman, Edward C., and Alekna. 2,974,580.
Patrichi, Mihai D., to Networks Electronic Corp. Electrical component with improved metal-to-glass end sealing mechanism. 2,974,761, 3–14–61, Cl. 189—36.5.
Paul, Stanley: *See*—
Best, Ronald L., Crossley, Paul, Pardun, and Soeters. 2,975,060.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,061.
Soeters, Cornelis J., Pardun, Crossley, and Paul. 2,975,062.
Paul, Stanley, and A. Crossley, to Lever Bros. Co. Cocoa-butter substitutes, process of preparing same and composition containing said substitutes. 2,975,063, 3–14–61, Cl. 99—118.
Pawela, Albert C., ½ to Dillard Tractor Co., Inc. Mower cultivator and fertiliser distributor. 2,974,616, 3–14–61, Cl. 111—11.
Peabody, Donald W.: *See*—
Rogers, Thomas H., Jr., and Peabody. 2,975,146.
Pecoraro, Ralph R.: *See*—
Sinatra, Angelo S., Dziedziula, and Pecoraro. 2,974,499.
Peistrup, Henry F., to Bemis Bro. Bag Co. Wrapping. 2,975,090, 3–14–61, Cl. 154—50.
Penke, Aladar J. Candle. 2,974,509, 3–14–61, Cl. 67—22.5.
Pennsalt Chemicals Corp.: *See*—
Barth-Wehrenalp, Gerhard, and Kowalski. 2,975,028.
Capron, Nicholas J., and Lederman. 2,975,155.
Elliott, Robert H., Jr. 2,975,039.
Elliott, Robert H., Jr. 2,975,040.
Hauptschein, Murray, and Braid. 2,975,220.
Pepe, Enrico J., to Union Carbide Corp. Cyanophenylsiloxanes. 2,975,154, 3–14–61, Cl. 260—46.5.
Pepe, Enrico J., to Union Carbide Corp. (Cyanophenyl) alkoxysilanes. 2,975,204, 3–14–61, Cl. 260—448.8.
Péras, Lucien, to Regie Nationale des Usines Renault. Battery terminal cable connectors. 2,975,394, 3–14–61, Cl. 339—239.
Perdue, Jack, to Electro-Hydraulics Ltd. Retractable landing gear for aircraft. 2,974,900, 3–14–61, Cl. 244—102.
Perkins, Charles M., and T. V. McNamara, to Fuller Mfg. Co. Automotive device. 2,974,766, 3–14–61, Cl. 192—3.5.
Perkins, George H., to The Cyril Bath Co. Table drive for rotary metal forming machines. 2,974,707, 3–14–61, Cl. 153—40.
Perkins, George H., to The Cyril Bath Co. Method and apparatus for stretch forming metal stock. 2,974,708, 3–14–61, Cl. 153—40.
Perry, James W., J. H. Fraser, and W. R. Johnson. Explosive compositions and processes for producing explosions on surfaces. 2,975,045, 3–14–61, Cl. 52—18.
Peter, Helmut, to P. Gossen & Co. G.m.b.H. Repeater with photoelectric control. 2,975,295, 3–14–61, Cl. 250—237.
Peters Machinery Co.: *See*—
Windstrup, Robert F., Boehler, and Schneider. 2,974,571.
Petherick, Edward J., to International Business Machines Corp. Digital encoders and decoders. 2,975,409, 3–14–61, Cl. 340—347.
Pettyjohn, Elmore S., and H. R. Linden, to Institute of Gas Technology. Apparatus for pressure hydrogasification of petroleum hydrocarbons. 2,975,044, 3–14–61, Cl. 48—93.
Peyrebrune, Henri E.: *See*—
Pasquinelli, Bruno B., and Peyrebrune. 2,974,950.
Pfarrwaller, Erwin, to Sulzer Freres, Societe Anonyme. Method and means for stopping a weaving machine. 2,974,688, 3–14–61, Cl. 139—353.
Pfeffer, A. W.: *See*—
Pfeffer, John W. 2,974,695.
Pfeffer, John W., ½ to A. W. Pfeffer. Saw with teeth having wear-resistant facing plates. 2,974,695, 3–14–61, Cl. 143—133.
Pfizer, Chas., & Co., Inc.: *See*—
Huang, Hsing T. 2,975,105.
Phelps, Clyde H., to V. J. Getzendanner. Vibration measuring apparatus. 2,974,521, 3–14–61, Cl. 73—70.2.
Philco Corp.: *See*—
Katella, Albert J. 2,975,243.
Phillips, John E.: *See*—
Bombi, Walter M., Phillips, and Watson. 2,974,019.
Phillips Petroleum Co.: *See*—
Findlay, Robert A. 2,975,222.
Fox, Homer M. 2,974,476.
Rice, Robert B. 2,974,743.
Warner, Paul F. 2,975,200.
Zelinski, Robert P. 2,975,160.
Phillips, William M.: *See*—
Tuttle, Jack L., and Phillips. 2,974,970.
Phoenix Steel Corp.: *See*—
Jaswinski, Stanislaw T., and Sisto. 2,975,049.
Pierce, Bernard N., to The Merrow Machine Co. Pump. 2,974,604, 3–14–61, Cl. 103—123.
Pillsbury Co., The: *See*—
Louks, Stephen J., Jr. 2,974,524.
Pinet, Andre E., to Automatic Electric Laboratories, Inc. Transistor line switch. 2,975,305, 3–14–61, Cl. 307—88.5.
Pinnes, Robert W., and C. A. De Crescente, to United States of America, Navy. Heat exchanger arrangement for maximum utilization of reactor power for all altitude conditions. 2,974,495, 3–14–61, Cl. 60—39.
Pitts, Johnston T., to Minneapolis-Honeywell Regulator Co. Atmospheric condensation prevention control apparatus. 2,974,870, 3–14–61, Cl. 236—44.

Pittsburgh Plate Glass Co.: *See*—
Fekete, Frank. 2,975,156.
Kunkle, Gerald E. 2,974,377.
Saunders, Arnold E., and Wagner. 2,975,076.
Tasher, Fred C. 2,974,447.

Platt, Walter A., to The Bendix Corp. Closed loop ratio changer and automatic trim computer means for controlling the position of an aircraft control surface. 2,974,908, 3–14–61, Cl. 244—77.

Ploran, William J., to Globe-Union Inc. Laminated magneto components. 2,975,312, 3–14–61, Cl. 310—217.

Pohle, Eric, to Fairchild Camera and Instrument Corp. Cathode ray tube member. 2,975,321, 3–14–61, Cl. 313—255.

Polanin, Walter R., to American Steel Foundries. Self-contained brake arrangement. 2,974,757, 3–14–61, Cl. 188—203.

Polk, Isaac H., and J. C. Koch, to J. Drum, L. Morris, and H. A. Kuhn. Package distributing equipment. 2,974,776, 3–14–61, Cl. 198—46.

Polymer Corp., The: *See*—
Stott, Louis L. 2,975,128.

Poorter, Teunis, to North American Philips Co., Inc. Circuit for avoiding too low a potential difference between control grid and cathode of a cathode-ray tube. 2,975,327, 3–14–61, Cl. 315—30.

Poos, George L., to Merck & Co., Inc. 2-acyl-and 2-alkyl-2 acyl-4-pregnene 17a-ol-3,20-diones. 2,975,171, 3–14–61, Cl. 260—239.55.

Port, William S., L. L. Gelb, and W. C. Ault, to United States of America, Agriculture. Non-terminal epoxy resins. 2,975,149, 3–14–61, Cl. 260—23.

Porter, H. K., Co. Inc.: *See*—
Hydrick, Julius C., Jr. 2,974,713.
Novak, William J. 2,975,385.

Pöting, Günter, to Ingenieurburo Walter Poting K.-G. Apparatus for the production of hollow glass vessels. 2,974,446, 3–14–61, Cl. 49—9.

Potter, Ralph A., to Union Oil Co. of California. Water-resistant non-soap greases containing alkyl aryl polyether alcohols and methods of preparing the same. 2,975,130, 3–14–61, Cl. 252—28.

Poulos, Nicholas M.: *See*—
Dolin, Martin, Scandurra, and Poulos. 2,974,403.

Powell, Sanford E., to Sharon Steel Corp. Strap sealing device with full stroke compelling means. 2,974,551, 3–14–61, Cl. 81—9.1.

Power Grip, Inc.: *See*—
Manchester, William J. 2,974,969.

Poynor, Russell R., R. I. Throckmorton, Jr., and G. Shute, to International Harvester Co. Portable irrigation apparatus. 2,974,876, 3–14–61, Cl. 239—183.

Price, Peter J., and J. W. Horton, to International Business Machines Corp. Solid state devices. 2,975,304, 3–14–61, Cl. 307—88.5.

Price, Peter J., and J. W. Horton, to International Business Machines Corp. Two-terminal semiconductor high frequency oscillator. 2,975,377, 3–14–61, Cl. 331—96.

Prince, John F., 50% to J. J. Prince, Jr. Precision measuring instrument. 2,974,417, 3–14–61, Cl. 33—174.

Prince, Joseph J., Jr.: *See*—
Prince, John F. 2,974,417.

Process Equipment Co., Inc.: *See*—
Carpenter, Walter H., and Hice. 2,974,497.

Product Development & Sales Co.: *See*—
Branch, Frank F., and Shaw. 2,974,770.

Protectal: *See*—
Raymond, Pierre. 2,974,874.

Public, Dedicated to the: *See*—
Holaday, Charles E. 2,975,361.

Pullman Inc.: *See*—
Shaver, William R., and Radey. 2,974,376.

Purex Corp., Ltd.: *See*—
Holman, Emmette R. 2,975,041.

Putney, Roger L.: *See*—
Babcock, Robert A., and Putney. 2,975,267.

Quinn, Frank P., and D. M. Young, to American Steel Foundries. Snubbed bolster truck. 2,974,610, 3–14–61, Cl. 105—197.

RC Can Co.: *See*—
Flenup, Wilbur G., and Erdie. 2,975,068.

Radcliffe, Remington S., to Westinghouse Electric Corp. Fan apparatus. 2,974,502, 3–14–61, Cl. 64—11.

Radey, Charles R.: *See*—
Shaver, William R., and Radey. 2,974,376.

Radio Corp. of America: *See*—
Armstrong, Lorne D. 2,975,080.
Clay, Burton R., and Small. 2,975,314.
Green, Milton W. 2,975,349.
Jones, Loren F. 2,975,238.
Kazan, Benjamin, and Berkeyheiser. 2,975,294.
Knauer, Wolfgang. 2,975,320.
Knight, Mark B. 2,975,316.
Loebner, Egon E., Hook, and Darling. 2,975,291.
Mintzer, Alfred I. 2,975,299.
Morton, George A. 2,975,283.
Nicoll, Frederick H. 2,975,315.
Rapport, Paul, and Loferski. 2,975,286.
Rhodes, Roland N. 2,975,231.
Waldhauer, Frederick D. 2,974,891.
Wlasuk, Steven. 2,975,229.

Raehs, Wilhelm, and H. Rauchmann, to Lingner-Werke G.m.b.H. Pocket-atomizer. 2,974,879, 3–14–61, Cl. 239—357.

Raether, Louis O., and H. R. Gamrath, to Monsanto Chemical Co. Esterification process comprising reacting a mono olefin with an acid ester. 2,975,210, 3–14–61, Cl. 260—475.

Rain Jet Corp.: *See*—
Hruby, John O., Jr. 2,974,877.

Raiwa Hamigaki Kabushiki Kaisha (Lion Dentifrice Co., Ltd.): *See*—
Matsumura, Teruo, Iwasaki, and Okumura. 2,975,102.

Ramer, Edward L., to Hercules Powder Co. Static resistant electric initiator. 2,974,590, 3–14–61, Cl. 102—28.

Rankin, Andrew W., E. E. Zwicky, Jr., and A. W. Wheeler, Jr., to General Electric Co. Turbine bucket retaining means and sealing assembly. 2,974,924, 3–14–61, Cl. 253—39.

Rapata, George M., to Illinois Tool Works. Plastic anchor member having a transverse screw receiving bore. 2,974,703, 3–14–61, Cl. 151—41.75.

Rappaport, Paul, and J. J. Loferski, to Radio Corp. of America. Radiation detection. 2,975,286, 3–14–61, Cl. 250—83.3.

Raths, Fred W., to The Dow Chemical Co. O-nitroalkyl phosphoroamidothioates. 2,975,207, 3–14–61, Cl. 260—461.

Rauchmann, Hans: *See*—
Raehs, Wilhelm, and Rauchmann. 2,974,879.

Rauland Corp., The: *See*—
Saegho, Constantin S. 2,975,815.

Ravn, Jacob, to The West Co. Applying caps to bottles. 2,974,455, 3–14–61, Cl. 53—42.

Ray, Gayus U.: *See*—
Lucia, Carroll J., Ray, and Maxon. 2,974,470.

Rayfield, George T., to Consolidated Electrodynamics Corp. Ceramic coated wire. 2,975,078, 3–14–61, Cl. 117—217.

Raymond, Pierre, to Protectal. Gun for projecting plastic products. 2,974,874, 3–14–61, Cl. 239—139.

Rayonier Inc.: *See*—
Van Blaricom, Lloyd E., and Tokos. 2,975,126.

Raytheon Co.: *See*—
Cockrill, Huston W. 2,975,322.
McLeod, Willard W., Jr. 2,975,379.
Reed, John, and Wheeler. 2,975,381.
Scharfman, Howard. 2,975,380.

Red Comet, Inc.: *See*—
Norling, James F. 2,974,878.

Redliker, Robert H., to Research Corp. Narrow base planar junction punch-thru diode. 2,975,342, 3–14–61, Cl. 317—234.

Reed, John, and G. J. Wheeler, to Raytheon Co. Duplexers. 2,975,381, 3–14–61, Cl. 333—10.

Reed, Lester J., to Research Corp. Lipoic acid intermediates. 2,975,198, 3–14–61, Cl. 260—309.

Reel, Roy C., and L. L. Towell. Lead holder. 2,974,931, 3–14–61, Cl. 254—106.

Ref Mfg. Corp.: *See*—
Sinatra, Angelo S., Dziedziula, and Pecoraro. 2,974,490.

Regie Nationale des Usines Renault: *See*—
Peras, Lucien. 2,975,394

Regnits Konstruktionsgesellschaft m.b.H.: *See*—
Walther, Erhardt, and Dammig. 2,974,460.

Rehrig, Houston. Milk crate. 2,974,818, 3–14–61, Cl. 220—19.

Reifers, Richard F., to Diamond National Corp. Egg case packing. 2,974,789, 3–14–61, Cl. 206—65.

Reifers, Richard F., to Diamond National Corp. Egg carton. 2,974,842, 3–14–61, Cl. 229—2.5.

Reifers, Richard F., and R. Wells, to Diamond National Corp. Food container. 2,974,843, 3–14–61, Cl. 229—2.5.

Reiff, Carl J.: *See*—
Bryant, Eugene E., and Reiff. 2,975,072.

Reimert, Lawrence J., and E. A. Fatzinger, to The New Jersey Zinc Co. Production of titanium. 2,975,111, 3–14–61, Cl. 204—64.

Reinhard, Raymond H.: *See*—
Abramo, John G., and Reinhard. 2,975,161.

Reiser, Mario, E. A. Eidebenz, and H. G. von Schuh, to Chemische Werke Albert. Dipropionyl, dibutyryl and diisobutyryl derivatives of corynanthine. 2,975,183, 3–14–61, Cl. 260—287.

Reliance Electric and Engineering Co., The: *See*—
Roehm, Eldron G. 2,974,756.

Rendall, Gavin M.: *See*—
Irvine, John A., and Rendall. 2,975,329.

Rengert, George W., to Root Neal and Co. Constant reduced speed drive unit. 2,974,546, 3–14–61, Cl. 74—745.

Renick, Robert C., and C. J. Pasquier, to International Telephone and Telegraph Corp. Track circuit. 2,975,272, 3–14–61, Cl. 246—34.

Research Corp.: *See*—
Hardy, Arthur C., Fopiano, and Trageser. 2,974,561.
Rediker, Robert H. 2,975,342.
Reed, Lester J. 2,975,198.

Reserve Mining Co.: *See*—
Anderson, Raymond W., and Kamrud. 2,974,889.
Makela, Eino R. 2,974,358.

Retallick, William B. Distillation and absorption process. 2,974,750, 3–14–61, Cl. 183—115.

Reumerman, Theodorus, and W. H. T. Helmig. Check symbol computers. 2,974,865, 3–14–61, Cl. 235—153.

Reynolds Metals Co.: *See*—
Thomas, Jesse B., and Karpuk. 2,975,002.

Rezabek, Vernon E.: *See*—
Allin, George S., Sr., Liu, and Rezabek. 2,974,753.

Rheingold, Lawrence M., and M. Berlin, to Templet Industries Inc. Cutting and forming die. 2,974,704, 3–14–61, Cl. 153—2.

Rhodes, Joseph C., J. P. Segers, and A. V. Lacko, to Standard Oil Co. Laboratory flash point tester. 2,974,519, 3–14–61, Cl. 73—36.

Rhodes, Roland N., to Radio Corp. of America. Delayed action color killer and automatic chroma control circuit. 2,975,231, 3–14–61, Cl. 178—5.4.

Ribaudo, Tony. Ironing board. 2,974,431, 3–14–61, Cl. 38—121.

Rice, Robert B., to Phillips Petroleum Co. Method of seismic prospecting. 2,974,743, 3–14–61, Cl. 181—5.

Richards, Richard K.: *See*—
Haddad, Jerrier A., Richards, Rochester, and Ross. 2,974,866.

Richardson, Glenn H. Scoop and dispenser for forming and dispensing a triangularly-shaped quantity of material. 2,974,615, 3–14–61, Cl. 107—48.

Richardson, Harry L.: *See*—
Hoffman, Howard D., and Richardson. 2,974,479.

Richey, Shirrell C., to General Motors Corp. Flexible retainer. 2,974,916, 3–14–61, Cl. 248—71.

Richter, Ekkehard: *See*—
Kabisch, Gerhard, Richter, and Gross. 2,975,033.

Rickard, James A., to Jersey Production Research Co. Alarm for detection of pressure surges in a borehole. 2,974,629, 3–14–61, Cl. 116—74.

Ridley, Oscar E., to United States of America, Navy. Stator ring locking key. 2,974,928, 3–14–61, Cl. 253—78.

Riegel Paper Corp.: *See*—
Anderson, William E. 2,975,094.

Rieter, Joh. Jacob, & Co., Ltd.: *See*—
Naegeli, Werner. 2,974,375.

Riggs, Robert F., H. L. Foster, Jr., and E. A. Moran, to United States of America, Navy. Directional phasing antenna configuration. 2,975,422, 3–14–61, Cl. 343—826.

Rike, Richard C., to General Motors Corp. Brake power booster. 2,974,494, 3–14–61, Cl. 60—54.6.

Ritzema, Donald E.: *See*—
De Long, Herbert K., and Ritzema. 2,975,073.

Robbins, Gerald L., to Keyes Fibre Co. Molded pulp packing for bottles. 2,974,788, 3–14–61, Cl. 206—65.

Robert, Andre, and J. Deslandes, to Compagnie Generale de Telegraphie Sans Fils. Tracking devices. 2,975,280, 3–14–61, Cl. 250—203.

Robert, Jacques G.: *See*—
Jacob, Robert M., and Robert. 2,975,175.

Roberts, A. Boake, and Co., Ltd.: *See*—
Sully, Bernard T. D. 2,975,138.

Roberts, George L., Jr., J. A. McSheehy, and H. Soffer, to American Cyanamid Co. Solvent recovery. 2,975,190, 3–14–61, Cl. 260—314.5.

Roberts, Perry M., to ACF Industries, Inc. Sound simulator circuit. 2,974,424, 3–14–61, Cl. 35—12.

Roberts, Tudor W.: *See*—
Antell, George R., and Roberts. 2,975,048.

Robertshaw-Fulton Controls Co.: *See*—
Strobel, Charles K. 2,974,421.
Tyler, Hugh J. 2,974,742.

Robinson, Charles F.: *See*—
Brubaker, Wilson M., and Robinson. 2,975,278.

Robinson, George Y., Jr.: *See*—
Pastuhov, Alexis, and Robinson. 2,974,496.

Rochester, Nathaniel: *See*—
Haddad, Jerrier A., Richards, Rochester, and Ross. 2,974,866.

Rockstuhl, Fritz G. R., to Telefunken G.m.b.H. D.C.-D.C. converter. 2,975,353, 3–14–61, Cl. 321—2.

Rodman, James P. Illuminated fountain. 2,974,872, 3–14–61, Cl. 239—20.

Roebuck, Alan K., B. L. Evering, and W. W. Sanders, to Standard Oil Co. Alkylation process. 2,975,223, 3–14–61, Cl. 260—683.53.

Roehm, Eldron G., to The Reliance Electric and Engineering Co. Automatic reset brake release. 2,974,756, 3–14–61, Cl. 188—171.

Roelen, Otto: *See*—
Bilchner, Karl, and Roelen. 2,975,216.

Rogers, Thomas H., Jr., and D. W. Peabody, to The Goodyear Tire & Rubber Co. Method for preparing polyurethane cellular products. 2,975,146, 3–14–61, Cl. 260—2.5.

Rogoff, Mortimer: *See*—
Alexander, Ben, Rogoff, and Vosburgh. 2,975,417.

Rohm & Haas Co.: *See*—
Bortnick, Newman M., and Fegley. 2,975,189.
Hurwitz, Marvin J., Craig, and Beavers. 2,975,152.
Lyon, Channing B., and McRae. 2,974,444.

Rollingson, William R., to Monsanto Chemical Co. Preparation of cyanamide. 2,975,030, 3–14–61, Cl. 23—190.

Rollingson, William R., to Monsanto Chemical Co. Preparation of cyanamide. 2,975,031, 3–14–61, Cl. 23—190.

Rollingson, William R., to Monsanto Chemical Co. Preparation of cyanamide. 2,975,032, 3–14–61, Cl. 23—190.

Romel, Carl F. Attachment for dinner plates. 2,974,820, 3–14–61, Cl. 220—22.

Ronel Corp.: *See*—
Lidsky, Julius. 2,974,378.

Root Neal and Co.: *See*—
Rengert, George W. 2,974,546.

Ropp, Walter S., to Hercules Powder Co. Vulcanization of latex with organic hydroperoxide. 2,975,151, 3–14–61, Cl. 260—29.7.

Rosen, Charles A., to General Electric Co. Electrical conversion apparatus. 2,975,354, 3–14–61, Cl. 321—8.

Rosenbloom, Louis. Stereoscopic visualisers. 2,974,562, 3–14–61, Cl. 88—16.6.

Ross, Bruce, to J. E. Plastics Mfg. Corp. Container. 2,974,525, 3–14–61, Cl. 220—60.

Ross Gear and Tool Co., Inc.: *See*—
Cassaday, Ernest W., and Dettlof. 2,974,491.

Ross, George W., to The United States Bedding Co. Spring insert for spring assemblies. 2,974,326, 3–14–61, Cl. 5—255.

Ross, Harold D., Jr.: *See*—
Haddad, Jerrier A., Richards, Rochester, and Ross. 2,974,866.

Rossi, Giovanni. Heat exchanger. 2,974,649, 3–14–61, Cl. 122—235.

Rossman, Earl C., and R. C. Frank, to Allis-Chalmers Mfg. Co. Unsupported silicone rubber electrical insulation and method of preparing same. 2,975,088, 3–14–61, Cl. 154—2.26.

Rossman, Jay: *See*—
Bitterman, Leo L., and Rossman. 2,974,996.

Roth, David C., and K. H. Florens. Brushes. 2,974,336, 3–14–61, Cl. 15—160.

Rucks, Walter H.: *See*—
Lindbom, Torsten, and Rucks. 2,974,640.

Rudd, Gerald A.: *See*—
Hura, Basil A., and Rudd. 2,974,847.

Rudick, Ben, & Son, Inc.: *See*—
Frost, Raymond A. 2,974,336.

Ruhrchemie Aktiengesellschaft: *See*—
Buchner, Karl, and Boelen. 2,975,218.

Ruley, Bryce T., to General Motors Corp. Separators. 2,975,008, 3–14–61, Cl. 308—201.

Rumsey, Rollin D., to Houdaille Industries, Inc. Linear type shimmy and steer damper. 2,974,905, 3–14–61, Cl. 244—50.

Rusch, William T.: *See*—
Groce, John C., and Rusch. 2,975,410.

Ruschig, Heinrich: *See*—
Wagner, Hans, Aumüller, Ruschig, and Korger. 2,975,212.

Ruspak Corp.: *See*—
Britt, Edward C. 2,974,784.

Russell, John G., to Parker-Hannifin Corp. Fuel tank air supply and relief valve. 2,974,678, 3–14–61, Cl. 137—489.

Russell, Robert B. Starting mechanism for an internal combustion engine. 2,974,653, 3–14–61, Cl. 123—179.

Russi, Ralph F.: *See*—
Taylor, William E., and Russi. 2,975,036.

Růžička, Jaroslav. Vibrating system. 2,974,798, 3–14–61, Cl. 209—365.

Rybold, Henry M., and O. J. Wiggins, to The Trane Co. Reel damper control. 2,974,582, 3–14–61, Cl. 98—106.

Rystrom, Charles H. Pumping system. 2,974,600, 3–14–61, Cl. 103—11.

S B & S Mfg. Co.: *See*—
Smith, Alexander, and Baggs. 2,974,735.

S & S Corrugated Paper Machinery Co., Inc.: *See*—
Shields, Albert F. 2,974,572.

Safianoff, Albert, to Gem Inc. Connection device. 2,975,004, 3–14–61, Cl. 306—19.

Sagar, Alan J. A.: *See*—
Ferguson, Harold M., Stevens, and Sagar. 2,975,400.

Salka, Ludovit. Collapsible travel commode. 2,974,321, 3–14–61, Cl. 4—134.

Samesreuther, Eckard: *See*—
Samesreuther, Reinhard and E., Strittmatter, and Schneider. 2,974,725.

Samesreuther, Reinhard and E., W. Strittmatter, and R. Schneider, to Farbenfabriken Bayer Aktiengesellschaft. Process and apparatus for continuously obtaining dry materials. 2,974,725, 3–14–61, Cl. 159—6.

Sanders, John C. Acceleration control for gas turbine engines with compressor surge limiting. 2,974,483, 3–14–61, Cl. 60—39.28.

Sanders, William W.: *See*—
Roebuck, Alan K., Evering, and Sanders. 2,975,223.

Sandor, Bela I. Vehicle braking system. 2,975,003, 3–14–61, Cl. 303—21.

Sano, Tomitaro T. Combination can holder and punch. 2,974,410, 3–14–61, Cl. 30—6.1.

Sans, Manuel C. Pipette. 2,974,528, 3–14–61, Cl. 73—425.4.

Saubestre, Edward B., to Sylvania Electric Products Inc. Electrodeposition of zinc. 2,975,112, 3–14–61, Cl. 204—119.

Saukaitis, Albert J., G. S. Gardner, and G. L. Gibson, to Amchem Products, Inc. Inhibitor compositions. 2,975,125, 3–14–61, Cl. 252—8.55.

Saunders, Albert L. Apparatus for applying covers to books. 2,974,332, 3–14–61, Cl. 11—4.

Saunders, Arnold E., and W. E. Wagner, to Pittsburgh Plate Glass Co. Preparing glass coating compositions. 2,975,076, 3–14–61, Cl. 117—124.

Saxenmeyer, George J., to International Business Machines Corp. Shift register. 2,975,365, 3–14–61, Cl. 328—37.

Saxton, James B. Machine for bundling and baling trees. 2,974,457, 3–14–61, Cl. 53—124.

Sayre, Kenneth L., to The B. F. Goodrich Co. High fluidity process for polymerizing vinylidene cyanide. 2,975,158, 3–14–61, Cl. 260—78.5.

Scandurra, Aldo M.: *See*—
Dolin, Martin, Scandurra, and Poulos. 2,974,403.

Schaefer, Edward J. Liquid level control system. 2,975,847, 3–14–61, Cl. 318—240.

Schaffer, Lyle E., to Standard Oil Co. Automatic credit card accounting system. 2,975,282, 3–14–61, Cl. 250—65.

Scharfman, Howard, to Raytheon Co. Waveguide transducer. 2,975,380, 3–14–61, Cl. 333—9.

Schärli, Otto, to Aktiengesellschaft Brown, Boveri & Cie. Semiconductor rectifiers. 2,975,343, 3–14–61, Cl. 317—234.

Scheerer, Walter, to International Business Machines Corp. Accumulator and counter mechanism. 2,974,861, 3–14–61, Cl. 235—92.

Scheg, Marcian A.: *See*—
Craig, Frank S., Howard, and Scheg. 2,975,268.

Schiefer, Richard B., to General Electric Co. Combustor for fluid fuels. 2,974,485, 3–14–61, Cl. 60—39.65.

Schlafly, Hubert J., to Teleprompter Corp. Educational apparatus. 2,975,536, 3–14–61, Cl. 317—137.

Schlesinger, Kurt, to Motorola, Inc. Color television beam registration system. 2,975,230, 3–14–61, Cl. 178—5.4.

Schmidt, Joachim, and W. Meinhold, to Henkel & Cie, G.m.b.H. Granular water-soluble perborate-containing salt mixture. 2,975,142, 3–14–61, Cl. 252—186.

Schmidt, Maximilian P., and O. Sös, to Asoplate Corp. Reproduction material. 2,975,053, 3–14–61, Cl. 96—33.

Schneider, Rudolf: *See*—
Samesreuther, Reinhard and E., Strittmatter, and Schneider. 2,974,725.

Schneider, Walter: *See*—
Windstrup, Robert F., Boehler, and Schneider. 2,974,571.

Schnick, Arthur W., to American Machine & Foundry Co. Electrical heating unit. 2,975,262, 3–14–61, Cl. 219—32.

Schofer, Harry N. Power plant for helicopter. 2,974,902, 3–14–61, Cl. 244—17.19.

Schroeder, Charles E., and H. P. Byrnes, to International Business Machines Corp. Capacitive prime mover. 2,975,-307, 3–14–61, Cl. 310—6.

Schubert, Adolf, G. Cohen, R. M. Delcamp, and R. M. Lollar, to United States of America, Army. Treatment of feathers with werner-type chromium complexes. 2,975,018, 3–14–61, Cl. 8—94.1.

Schuessler, John C., and A. O. Adams, to Leach Corp. Single gap relay. 2,975,341, 3–14–61, Cl. 317—188.

Schuls, Charles M.: *See*—
Stacey, Frank J., and Schuls. 2,974,775.

Schunck, Hermann: *See*—
Weeber, Carl H., and Schunck. 2,975,110.

Schurmann, Max-Otto, and A. Einsel, to Farbenfabriken Bayer Aktiengesellschaft. Method of and apparatus for cutting staple lengths of cables of artificial threads. 2,974,554, 3–14–61, Cl. 83—22.

Schwaar, Pierre G., to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Air compressor with axial and radial-flow stages. 2,974,857, 3–14–61, Cl. 230—119.

Schwander, Hans R., J. Jung, and P. Hindermann, to J. R. Geigy, A.-G. Monoazo dyestuffs. 2,975,167, 3–14–61, Cl. 260—199.

Schwartsman, Gilbert, to Glidomatic Corp. Dauber. 2,974,-350, 3–14–61, Cl. 15—569.

Schwyn, Raymond E.: *See*—
Mitchel, Ralph H., and Schwyn. 2,975,339.

Scigliano, Joseph J., and E. C. Britton, to The Dow Chemical Co. Method for the preparation of piperazine salts. 2,975,181, 3–14–61, Cl. 260—268.

Scott & Williams, Inc.: *See*—
Lawson, Robert H. 2,974,506.
McVey, Clarence H. 2,974,450.

Scovill Mfg. Co.: *See*—
Seyfried, Arthur W. 2,974,343.
Seyfried, Arthur W. 2,974,347.
Smader, Charles L. 2,974,935.

Searle, G. D., & Co.: *See*—
Baran, John S. 2,975,173.
Bible, Roy H., Jr. 2,975,176.

Sears, Kay G.: *See*—
Keen, Harry J., and Sears. 2,975,261.

Seely, Richard E., to General Electric Co. Fluid fuel burner assembly. 2,974,856, 3–14–61, Cl. 230—117.

Seewack, Benjamin. Shower rod holder. 2,974,806, 3–14–61, Cl. 211—123.

Segers, John P.: *See*—
Rhodes, Joseph C., Segers, and Lacko. 2,974,519.

Seidner, Mihály, to Komplex Nagyberendezések Export-Import Vállalat. Oil-cooled stators for turbo-alternators. 2,975,-309, 3–14–61, Cl. 310—54.

Seifert, Alfred O.: *See*—
Lawrence, Parker V., and Seifert. 2,974,718.

Seling, Theodore V., to General Motors Corp. Waveguide polarization converter. 2,975,383, 3–14–61, Cl. 333—98.

Sellars, Elmer V., and C. W. Bennett; said Bennett assor. to said Sellars. Floor cranes. 2,974,809, 3–14–61, Cl. 212—34.

Seltzer, Edward, A. J. Harriman, and R. W. Henderson, to Thomas J. Lipton, Inc. Process for converting green tea extract. 2,975,057, 3–14–61, Cl. 99—77.

Senior, Norman: *See*—
Driver, George W., and Senior. 2,975,098.

Sennet, Edith L.: *See*—
Levikoff, David. 2,974,827.

Serfass, Earl J.: *See*—
Horton, James B., and Serfass. 2,975,029.

Seton Corp.: *See*—
Kaiser, Walter S., and Stieglitz. 2,975,265.

Seyfried, Arthur W., to Scovill Mfg. Co. Suction cleaner cord storage means. 2,974,343, 3–14–61, Cl. 15—323.

Seyfried, Arthur W., to Scovill Mfg. Co. Suction cleaner nozzle. 2,974,347, 3–14–61, Cl. 15—356.

Shakespeare Co.: *See*—
Clickner, Earle D. 2,974,534.
Clickner, Earle D. 2,974,570.

Shapansky, John E.: *See*—
Mattila, Alvin J., and Shapansky. 2,974,694.

Sharon Steel Corp.: *See*—
Powell, Sanford E. 2,974,551.

Shavel, John, Jr., to Warner-Lambert Pharmaceutical Co. Yohimbone derivatives and process therefor. 2,975,184, 3–14–61, Cl. 260—289.

Shaver, William R., and C. R. Radey, to Pullman Inc. Door header arrangement for box cars. 2,974,376, 3–14–61, Cl. 20—22.

Shaw, Harmon L.: *See*—
Branch, Frank F., and Shaw. 2,974,770.

Shaw, Robert G.: *See*—
Landee, Robert W., Deen, Fling, Shaw, Davis, Johnston, and Bennett. 2,975,413.

Shelberg, Wesley E.: *See*—
Lane, William B., Baum, Graham, Fuller, Mackin, Lai, Zigman, and Shelberg. 2,974,520.

Shenango China, Inc.: *See*—
Cope, William E., and Tomkins. 2,974,584.
Tomkins, David E. 2,974,387.

Sherburne, Philip C., to Grinnell Corp. Spring hanger. 2,974,914, 3–14–61, Cl. 248—54.

Sherwin-Williams Co., The: *See*—
Abbott, Corliss W., and Freeman. 2,975,147.

Shields, Albert F., to S & S Corrugated Paper Machinery Co., Inc. Cutting and creasing press with movable stops. 2,974,572, 3–14–61, Cl. 93—58.4.

Sholtes, Carl E., to Westinghouse Electric Corp. Air conditioning apparatus. 2,974,500, 3–14–61, Cl. 62—428.

Shupe, William F., 25% to M. Hash. Two truck safety light. 2,975,401, 3–14–61, Cl. 340—84.

Shute, George: *See*—
Poynor, Russell R., Throckmerton, and Shute. 2,974,-676.

Sier-Bath Gear & Pump Co., Inc.: *See*—
Kaufman, Samuel S., and Vargas. 2,974,501.

Silk, Harry: *See*—
Bitner, Forrest G., and Silk. 2,974,598.

Silver, Walter H., and E. H. Coz, to Deere & Co. Front mounted bedder. 2,974,736, 3–14–61, Cl. 172—298.

Simmons Co.: *See*—
Lawrence, Parker V., and Seifert. 2,974,718.

Simon, Roger: *See*—
Leroy, Pierre, and Simon. 2,975,047.

Simplicity Engineering Co.: *See*—
Behnke, George W., and Westcott. 2,974,795.

Simpson, Donald D., to ACF Industries, Inc. Packing dividers. 2,974,817, 3–14–61, Cl. 217—31.

Sinatra, Angelo S., E. J. Daiedziula, and E. R. Pecoraro, to Ref Mfg. Corp. Refrigerator or cooling devices for fluids. 2,974,499, 3–14–61, Cl. 62—386.

Sinclair, Carter: *See*—
Bivens, Maurice E., and Sinclair. 2,975,338.
Cooper, Benjamin, and Sinclair. 2,975,356.

Sinclair Refining Co.: *See*—
Friedman, Bernard S., and Cotton. 2,975,199.

Singer, Franz, to Compur-Werk Friedrich Deckel O.H.G. Gear escapement for a photographic shutter. 2,974,575, 3–14–61, Cl. 95—63.

Singer Mfg. Co., The: *See*—
Hacklander, Hans. 2,974,617.
Happe, Reynold, and Felix. 2,975,257.
Kuhar, Ludwig J. 2,974,618.
Matunas, Anthony J. 2,974,354.

Sisson, Kenneth O., and D. J. Barbulesco, to General Motors Corp. Multiple speed transmission. 2,974,542, 3–14–61, Cl. 74—665.

Sisson, Wayne A., to American Viscose Corp. Method of producing viscose rayon. 2,975,021, 3–14–61, Cl. 18—54.

Sisto, Joseph A.: *See*—
Jaxwinski, Stanislaw T., and Sisto. 2,975,049.

Sitz, Gilbert C., to AMP Inc. Wiping contact assembly for plugboard. 2,975,395, 3–14–61, Cl. 339—252.

Sjostrand, Bengt T. L., to Svenska Oljeslageri Aktiebolaget. Chlorination of naphthoquinone. 2,975,196, 3–14–61, Cl. 260—396.

Skeen, Lawrence E., to The Bauer Brothers Co. Door control mechanism. 2,974,831, 3–14–61, Cl. 222—171.

Skiff, Russell A., to General Electric Co. Epoxy-resin β-monoallyl itaconate-containing compositions, and their preparation and articles containing same. 2,975,148, 3–14–61, Cl. 260—23.

Smader, Charles L., to Scovill Mfg. Co. Ejector for disconnecting tool shafts from motor driven power unit. 2,974,-935, 3–14–61, Cl. 259—1.

Small, Charles E.: *See*—
Clay, Burton R., and Small. 2,975,314.

Smith, Alexander, and B. D. Bagge, Jr. Mower with extensible mounting frame and power transmitting means. 2,974,469, 3–14–61, Cl. 56—25.4.

Smith, Alexander, and B. D. Bagge, Jr., to S B & S Mfg. Co. Earth banking apparatus. 2,974,735, 3–14–61, Cl. 172—108.

Smith Kline & French Laboratories: *See*—
Kerwin, James F., and Wolff. 2,975,174.

Smith, Robert D.: *See*—
Williams, Charles O., Drexelius, and Smith. 2,974,592.

Smith, Roy J.: *See*—
Doty, Charles R., Smith, Tate, and Cackowski. 2,975,-225.

Smith, Thomas R., and C. W. Burkland, to The Maytag Co. Wobble agitator. 2,974,515, 3–14–61, Cl. 68—131.

Smith, Thomas W., to The English Electric Co. Ltd. Jet pipe ejector nozzles. 2,974,481, 3–14–61, Cl. 60—35.6.

Smiths America Corp.: *See*—
Henderson, Cyril. 2,974,769.

Snelling, L. C., (London) Ltd.: *See*—
Ford, Ralph E. 2,974,816.

Snow, Carl A.: *See*—
Foote, James E., and Snow. 2,974,834.

Snow, Kenneth T., to International Harvester Co. Corn picker. 2,974,466, 3–14–61, Cl. 56—18.

Soares, Alfonso P., and M. Lucel. Method and device for repairing tires in general. 2,974,715, 3–14–61, Cl. 154—14.

Societe a responsabilite limitee: Recherches Etudes Production R.E.P.: *See*—
Lucien, Rene. 2,975,248.

Societe Anonyme dite: Societe Monsavon-L'Oreal: *See*—
Charle, Roger, Kalopissis, and Ghilardi. 2,975,101.

Societe de Brevets H.D.: *See*—
Chomarat, Jean. 2,974,903.

Societe des Gypses et Platres de France: *See*—
Landrieu, Philippe. 2,974,939.

Societe des Usines Chimiques Rhone-Poulenc: *See*—
Jacob, Robert M., and Robert. 2,975,175.

Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See*—
Eggers, Gerhard, and Ernst. 2,974,907.
Eggers, Gerhard, Ernst, Feraud, and Dumes. 2,974,488.

Socony Mobil Oil Co., Inc.: *See*—
Lucki, Stanley J. 2,975,205.

Soden, George B.: *See*—
Fackler, Bernard E., and Soden. 2,975,247.

Soennecken, F.: *See*—
Ziegler, Karl. 2,974,947.

Soeters, Cornelis J.: *See*—
Best, Ronald L., Crossley, Paul, Pardun, and Soeters. 2,975,060.

Soeters, Cornelis, J. H. Pardun, A. Crossley, and S. Paul, to Lever Brothers Co. Cocoa-butter substitutes and compositions containing same. 2,975,061, 3–14–61, Cl. 99—118.

Soeters, Cornelis J., H. Pardun, A. Crossley, and S. Paul, to Levers Brothers Co. Compositions containing cocoa-butter substitutes. 2,975,062, 3–14–61, Cl. 99—118.

Soffer, Herbert: *See*—
Roberts, George L., Jr., McSheehy, and Soffer. 2,975,190.

Sowa, Frank J. Method of making an insulated electrical connector. 2,974,400, 3–14–61, Cl. 29—155.55.

Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Catalytic alkylation of phenol. 2,975,216, 3–14–61, Cl. 260—624.

Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Catalytic alkylation of phenol. 2,975,217, 3–14–61, Cl. 260—624.

Spangler, Edwin L., Jr.: *See*—
Miner, Charles H. 2,974,544.

Spargo, John: *See*—
Mader, Emil A. 2,974,731.

Spaulding, Joseph H. Illuminator bracket. 2,974,920, 3–14–61, Cl. 248—291.

Speakman, Raymond H., and R. B. Macleod, to Imperial Chemical Industries Ltd. Process and apparatus for making crimped filaments. 2,974,391, 3–14–61, Cl. 28—11.

Spear, Gilmore M.: *See*—
King, Charles B., and Spear. 2,974,399.

Spear, Gilmore M., to The Gleason Works. Cutter for spiral bevel and hypoid gears. 2,974,398, 3–14–61, Cl. 29—105.

Specialties Development Corp.: *See*—
Carey, Thomas P. 2,974,647.

Specialty Papers Co., The: *See*—
Knowles, Edward R. 2,974,362.

Spencer Chemical Co.: *See*—
Cooley, Charles M., and Parhomek. 2,975,046.

Sperry, Gerald D., to Kelco Co. Product and method for improving frozen desserts. 2,975,064, 3–14–61, Cl. 99—136.

Spitzer, Charles F., to General Electric Co. Electroluminescent devices and networks. 2,975,290, 3–14–61, Cl. 250—213.

Sprague Electric Co.: *See*—
Allison, William M. 2,974,396.
Geiser, David T. 2,975,384.

Spreeuwenberg, Pieter. Scaffolding coupling. 2,974,985, 3–14–61, Cl. 287—54.

Stabil Internacional S.A.: *See*—
Parodi, Federico A. 2,974,456.

Stacey, Frank J., and C. M. Schuls, to American Can Co. Can runway. 2,974,775, 3–14–61, Cl. 198—41.

Stadler, Robert H. Bait tank. 2,974,437, 3–14–61, Cl. 43—55.

Stallard, Langdon B., to International Business Machines Corp. Matrix memory. 2,975,406, 3–14–61, Cl. 340—174.

Stamicarbon N.V.: *See*—
Bos, Jan A., and Mulder. 2,975,209.

Standard Coil Products Co., Inc.: *See*—
Thias, Edwin P. 2,975,276.

Standard Oil Co. (Indiana): *See*—
Rhodes, Joseph C., Segers, and Lacko. 2,974,519.
Roebuck, Alan K., Evering, and Sanders. 2,975,223.
Schaffer, Lyle E. 2,975,262.

Standard Oil Co. (Ohio), The: *See*—
Darling, Samuel M., and Liao. 2,975,135.

Standard Register Co., The: *See*—
Georgen, Robert D., Johnson, and Landgren. 2,975,387.

Star Recorder Corp.: *See*—
Hendar, Arthur F. 2,974,523.

Starks, Fred W., to E. I. du Pont de Nemours and Co. Stabilization of chlorinated hydrocarbons with borate esters. 2,975,219, 3–14–61, Cl. 260—652.5.

Starr, Walter L., to Lockheed Aircraft Corp. Plasma propulsion device. 2,975,332, 3–14–61, Cl. 315—169.

Statkus, George M., to Acme Industrial Co. Control valve. 2,974,642, 3–14–61, Cl. 121—45.

Steele, Duane R.: *See*—
Cohn, Johann G. E., Steele, and Andersen. 2,975,025.

Steele, Floyd G., to Digital Control Systems, Inc. Electronic digital computer. 2,974,867, 3–14–61, Cl. 235—167.

Stein, Jack C. Machine for removing the ballast from beneath railway track sleepers. 2,974,429, 3–14–61, Cl. 37—104.

Steiner, Louis. Dispensing machines for cans and other cylindrically shaped packages. 2,974,829, 3–14–61, Cl. 221—251.

Steinhardt, Irving H. Circular puzzle game. 2,974,957, 3–14–61, Cl. 273—132.

Steinthal, Augustus J., to M. Steinthal & Co., Inc. Pilot chute with auxiliary deployment canopy. 2,974,913, 3–14–61, Cl. 244—145.

Steinthal, M., & Co., Inc.: *See*—
Steinthal, Augustus J. 2,974,913.

Stevens, Walter R.: *See*—
Ferguson, Harold M., Stevens, and Sagar. 2,975,400.

Stevinson, Harry T., and D. A. Baker, to National Research Council. Quick release mechanism. 2,974,898, 3–14–61, Cl. 244—1.

Stewart, James U., and R. C. Cooprider, to The Drackett Co. Aerosol spray head. 2,974,880, 3–14–61, Cl. 239—493.

Stieglitz, Hermann W.: *See*—
Kaiser, Walter S., and Stieglitz. 2,975,265.

Stimson, Glen H., to United-Greenfield Corp. Helix tester. 2,974,418, 3–14–61, Cl. 33—199.

Stockford, Michael T.: *See*—
Ashman, Charles S., James, and Stockford. 2,975,358.

Stokes, Konrad H., to Minneapolis-Honeywell Regulator Co. Dampening apparatus. 2,974,755, 3–14–61, Cl. 188—100.

Stokes, Morris A., and E. C. Parnell, to Bristol Siddeley Engines Ltd. Combustion system for a gas turbine engine. 2,974,487, 3–14–61, Cl. 60—39.71.

Stott, Louis L., to The Polymer Corp. Nylon polytetrafluoroethylene composition and article. 2,975,128, 3–14–61, Cl. 252—12.

Stough, Gerald D., to Whitehead & Kales Co. Shiftable post structure. 2,974,612, 3–14–61, Cl. 105—369.

Straube, Harold M., to Bell Telephone Laboratories, Inc. Unidirectional signal transiating device. 2,975,301, 3–14–61, Cl. 307—88.5.

Streeck, Rolf: *See*—
Hauk, Hans, Streeck, Bayer, and Belik. 2,974,419.

Streed, David D. M., and E. A. Luxenberger, to United States Rubber Co. Hollow molded plastic articles and method of forming the same. 2,974,373, 3–14–61, Cl. 18—59.

Strittmatter, Werner: *See*—
Sameereuther, Reinhard, Sameereuther, Strittmatter, and Schneider. 2,974,725.

Strobel, Charles K., to Robertshaw-Fulton Controls Co. Control device for clothes drier. 2,974,421, 3–14–61, Cl. 34—45.

Struble, Glenn E., to Diamond National Corp. Carton having pour spout with reclosure. 2,974,845, 3–14–61, Cl. 229—17.

Struble, Glenn E., to Diamond National Corp. Carton with reclosing pour spout. 2,974,846, 3–14–61, Cl. 229—17.

Struble, Glenn E., to Diamond National Corp. Cartons. 2,974,851, 3–14–61, Cl. 229—40.

Struble, Glenn E., to Diamond National Corp. Easily opened and reclosed carton. 2,974,853, 3–14–61, Cl. 229—51.

Stuart, Archibald P.: *See*—
Thomas, Charles L., Stuart, and Khelghatian. 2,975,136.

Stuart, Archibald P., to Sun Oil Co. Compression refrigeration working fluid. 2,975,137, 3–14–61, Cl. 252—68.

Stuart, Clarence C., to Traffic Transport Engineering, Inc. Vehicle transport trailer. 2,974,999, 3–14–61, Cl. 296—105.

Stuart, Meredith R., to Diamond National Corp. Orienting apparatus for clothespin wood member. 2,974,774, 3–14–61, Cl. 198—33.

Studebaker-Packard Corp.: *See*—
Ware, Marsden, and Hughson. 2,974,740.

Stuhmke, Horst: *See*—
Kuhnert, Rudolf, and Stuhmke. 2,974,840.

Stulen, Walter: *See*—
Murphy, John F., and Stulen. 2,974,790.

Stumpf, John A.: *See*—
Kruse, John R., Jr., Burgess, and Stumpf. 2,975,293.

Suhr, Fred W., to General Electric Co. Shaded pole motor. 2,975,311, 3–14–61, Cl. 310—172.

Sully, Bernard T. D., to A. Boake Roberts and Co., Ltd. Heat transfer fluid. 2,975,138, 3–14–61, Cl. 252—78.

Sulzer Freres, Societe Anonyme: *See*—
Pfarrwaller, Erwin. 2,974,688.

Summers, Claude R., Jr., to Gulf Oil Corp. Fuel oil compositions containing anti-microbial agents. 2,975,042, 3–14–61, Cl. 44—56.

Sun Oil Co.: *See*—
Lerner, Julius, and Bachofer. 2,974,526.
Stuart, Archibald P. 2,975,137.
Thomas, Charles L., Stuart, and Khelghatian. 2,975,136.

Sun, Shiou-Chuan: *See*—
Caldwell, Carlyle G., Wurzburg, and Sun. 2,975,124.

Superior Tube Co.: *See*—
Bounds, Andrey M., and Hoff. 2,975,050.

Süs, Oskar: *See*—
Schmidt, Maximilian P., and Süs. 2,975,053.

Susskind, Charles, to The Regents of the University of California. Beam control device. 2,975,317, 3–14–61, Cl. 313—87.

Svenska Oljeslageri Aktiebolaget: *See*—
Sjostrand, Bengt T. L. 2,975,196.

Swanson, Arden E., to The Day Co. Air filter. 2,974,748, 3–14–61, Cl. 183—57.

Swanson, Vernon E., to Diamond National Corp. Hand set-up carton. 2,974,849, 3–14–61, Cl. 229—28.

Sweet, Donald H., and J. H. Monti; said Monti assor. to said Sweet. Fluid flow energy transformer. 2,974,478, 3–14–61, Cl. 60—35.6.

Sweny, Montgomery C.: *See*—
Fuller, Frank L., and Sweny. 2,975,412.

Swimquip, Inc.: *See*—
Baker, William O. 2,974,746.

Sylvania Electric Products Inc.: *See*—
Lambert, Robert L., and McKeirnan. 2,974,364.
Saubestre, Edward B. 2,975,112.

Symer, Donald G., to Symington Wayne Corp. Journal box lid. 2,975,006, 3–14–61, Cl. 308—47.

Symington Wayne Corp.: *See*—
Couch, Glenn F. 2,974,945.
Symer, Donald G. 2,975,006.

Szczepanik, John A., to ACF Industries, Inc. Shock absorbing device. 2,974,810, 3–14–61, Cl. 213—73.

Szegho, Constantin S., to The Rauland Corp. Cathode-ray tube. 2,975,315, 3–14–61, Cl. 313—82.

Tack, Carl E., and F. E. Bachman, to American Steel Foundries. Brake head and shoe assembly. 2,974,759, 3–14–61, Cl. 188—243.

Tague, Byrl D.: *See*—
Coy, Carl E., and Tague. 2,975,386.

Talboys, Henry H., to Nordberg Mfg. Co. Track surfacing assembly and method. 2,974,607, 3–14–61, Cl. 104—7.

Tallis, Ernest E., and D. N. Tyler, to Courtaulds Ltd. Production of regenerated cellulose filaments. 2,975,023, 3–14–61, Cl. 18—54.

Talon, Inc.: *See*—
Carille, Alfred E. 2,974,382.

Tangeman, Russell L., to Mink-Dayton, Inc. Hand holds. 2,974,611, 3–14–61, Cl. 105—354.

Tasher, Fred C., to Pittsburgh Plate Glass Co. Frost rail drive for window glass drawing apparatus. 2,974,447, 3-14-61, Cl. 49—17.

Tate, Carl A., to Harbison-Walker Refractories Co. Method of forming a refractory setting. 2,974,374, 3-14-61, Cl. 18—60.

Tate, Lawrence A.: *See*—
Doty, Charles R., Smith, Tate, and Cachowski. 2,975,228.

Tatum, Joseph F. Metal casket and vault protection device. 2,974,359, 3-14-61, Cl. 27—1.

Taylor, Edward C.: *See*—
Osdene, Thomas S., and Taylor. 2,975,180.

Taylor, Jolly J. Stabilized petroleum oil, grease and wax compositions containing dibasic lead phosphite. 2,975,129, 3-14-61, Cl. 252—25.

Taylor, William E., and R. F. Rassl, to Motorola, Inc. Crystal pulling apparatus. 2,975,036, 3-14-61, Cl. 23—273.

Teer, Kees, to North American Philips Co., Inc. Transmission system for television signals. 2,975,233, 3-14-61, Cl. 178—5.6.

Teitel, Robert J., to The Dow Chemical Co. Means for processing nuclear reactor fuel elements. 2,974,942, 3-14-61, Cl. 286—6.

Telautograph Corp.: *See*—
Leitner, Richard G., and Maise. 2,975,235.

Telefunken G.m.b.H.: *See*—
Fischer, Georg, Lange, and Dinse. 2,975,242.
Koch, Gerhard. 2,975,420.
Rockstuhl, Fritz G. R. 2,975,353.

Teleprompter Corp.: *See*—
Behlady, Hubert J. 2,975,386.

Templet Industries Inc.: *See*—
Rheingold, Lawrence M., and Berlin. 2,974,704.

Terp, Leslie S. Temperature responsive spring rate compensating device. 2,974,944, 3-14-61, Cl. 267—1.

Tesla, narodni podnik: *See*—
Hlix, Antonin. 2,975,319.

Texaco Development Corp.: *See*—
Whaley, Thomas H. 2,975,121.

Texaco Inc.: *See*—
Weiss, Walter J., Walker, and Brukner. 2,975,127.

Thermair Domestic Appliances Ltd.: *See*—
Hobbs, Vernon H. 2,974,422.
Hobbs, Vernon H. 2,974,423.

Thlaes, Edwin P., to Standard Coil Products Co., Inc. Frequency selector. 2,975,276, 3-14-61, Cl. 250—40.

Thomas, Charles L., A. P. Stuart, and H. M. Kheirghatian, to Sun Oil Co. Process for improving the color stability of hydrocarbons with hydrazines. 2,975,136, 3-14-61, Cl. 252—51.5.

Thomas, Jesse B., and J. P. Karpuk, to Reynolds Metals Co. Blow torch feeder control. 2,975,002, 3-14-61, Cl. 302—50.

Thomas, Morton I. Fastening for inherently slippery fabric on tubular metal furniture. 2,974,721, 3-14-61, Cl. 155—187.

Thomas, Paul P., to American Metal Products Co. Bearing joints and rod assembly. 2,974,975, 3-14-61, Cl. 280—95.

Thompson, Donald B.: *See*—
Conkey, Herbert E., Batchelor, and Thompson. 2,975,017.
Jackson, Chauncey D., Batchelor, and Thompson. 2,975,239.

Thompson, Harry G. Device for dewaxing carton conveyors. 2,974,631, 3-14-61, Cl. 118—70.

Thompson Ramo Wooldridge Inc.: *See*—
Koffel, John K., and Lindley. 2,974,858.

Thompson, William F., Jr., to United States of America, Navy. Strut supported cooled turbine blade. 2,974,926, 3-14-61, Cl. 253—39.15.

Thornton, Samuel A., to S. A. Thornton, Jr. Cane combine. 2,974,464, 3-14-61, Cl. 56—17.

Thornton, Samuel A., Jr.: *See*—
Thornton, Samuel A. 2,974,464.

Throckmorton, Ray L., Jr.: *See*—
Poynor, Russell R., Throckmorton, and Shute. 2,974,878.

Thull, Wesley F., to General Motors Corp. Refrigerating apparatus. 2,975,012, 3-14-61, Cl. 312—274.

Thumm, Byron A., to American Viscose Corp. Producing all skin viscose rayon. 2,975,020, 3-14-61, Cl. 18—54.

Timble, Robert W., to The Chemstrand Corp. Apparatus for crimping yarn. 2,974,392, 3-14-61, Cl. 28—1.

Tindal, Charles H., to United States of America, Navy. Torpedo steering mechanism. 2,974,621, 3-14-61, Cl. 114—24.

Tobey, Frederic S., to W. H. Brady Co. Heat-resistant adhesive article. 2,975,091, 3-14-61, Cl. 154—53.5.

Tognoni, Richard, to Escher Wyss Aktiengesellschaft. Nuclear power plant. 2,975,118, 3-14-61, Cl. 204—193.2.

Tokos, George M.: *See*—
Van Blaricom, Lloyd E., and Tokos. 2,975,126.

Toledo Scale Corp.: *See*—
Williams, Roger B., Jr., and Bell. 2,974,863.

Tomkins, David E.: *See*—
Cope, William E., and Tomkins. 2,974,584.

Tomkins, David E., to Shenango China, Inc. Tunnel kiln and continuous conveyor system. 2,974,387, 3-14-61, Cl. 25—142.

Topper, Charles W.: *See*—
Werner, Frank R., Jackson, Wooster, Flint, and Topper. 2,974,860.

Towell, Lester L.: *See*—
Reel, Roy C., and Towell. 2,974,931.

Townsend Co.: *See*—
McDonald, Hugh C. 2,974,426.

Traffic Transport Engineering, Inc.: *See*—
Stuart, Clarence C. 2,974,999.

Trageser, Milton B.: *See*—
Hardy, Arthur C., Fopiano, and Trageser. 2,974,561.

Trane Co., The: *See*—
Ryboid, Henry M., and Wiggins. 2,974,582.

Trask, Allen, to International Heater Co. Reversing valve for heat pumps. 2,974,662, 3-14-61, Cl. 137—625.33.

Triangle Package Machinery Co.: *See*—
Muskat, Louis E., Klopfenstein, and Klebes. 2,974,458.

Trimble, John O., to The Budd Co. Float for covering storage basins. 2,974,822, 3-14-61, Cl. 220—26.

Trotter, Wilson D. Stocking package. 2,974,783, 3-14-61, Cl. 206—46.

Trout, Philip A.: *See*—
Fogal, Gordon L., Kennedy, Meese, and Trout. 2,974,588.

Trowbridge, James R.: *See*—
Herrick, Aaron B., and Trowbridge. 2,975,170.

Tucker, Arnold W.: *See*—
King, Kenneth G., and Tucker. 2,975,273.

Tucsek, Franz E. Pneumatic spring structures. 2,974,946, 3-14-61, Cl. 267—64.

Tung, Ching C., and J. J. D'Amico, to Monsanto Chemical Co. Process for heating butyl rubber with metal salts of benzoquinone imine oximes and vulcanized product thereof. 2,975,153, 3-14-61, Cl. 260—41.5.

Tung-Sol Electric Inc.: *See*—
Minowitz, Wilbert, and Grimm. 2,975,288.
Wegener, Horst A. R. 2,975,344.

Turner, Calvin L.: *See*—
Woolshyer, Homer J., Turner, and Jenkins. 2,974,760.

Tuttle, Jack L., and W. M. Phillips, to The Goodyear Tire & Rubber Co. Vehicle for transporting and storing liquids. 2,974,970, 3-14-61, Cl. 280—5.

Twiford, Harry G. Tire mounting tool. 2,974,722, 3-14-61, Cl. 157—1.22.

Tyler, David N.: *See*—
Tullis, Ernest E., and Tyler. 2,975,023.

Tyler, Hugh J., to Robertshaw-Fulton Controls Co. Motor vehicle door lock system. 2,974,742, 3-14-61, Cl. 180—82.

Tyll, John J.: *See*—
Andre, Noble, Fahrenbach, and Tyll. 2,974,454.

Uelts, Herbert F. G.: *See*—
Ervin, Guy, Jr., and Uelts. 2,975,070.

Union Carbide Corp.: *See*—
Bailey, Donald L., and Black. 2,975,203.
Cook, Gerhard A. 2,975,035.
Estes, Nelson N., and Moore. 2,975,374.
Heath, Carlos M., and Axelson. 2,975,266.
Lynn, John W. 2,975,187.
Mixer, Robert Y. 2,975,202.
Moore, James J., and Estes. 2,975,373.
Pepe, Enrico J. 2,975,154.
Pepe, Enrico J. 2,975,204.

Union Oil Co. of California: *See*—
Cook, James F. 2,975,134.
Potter, Ralph A. 2,975,130.

United Aircraft Corp.: *See*—
Beurer, Frederick C. 2,974,901.
Edwards, Alfred E. 2,974,486.
Kurti, Alexander. 2,974,480.

United-Greenfield Corp.: *See*—
Stimson, Glen H. 2,974,418.

United Merchants and Manufacturers, Inc.: *See*—
Haskel, Merwin R. 2,974,396.

United Shoe Machinery Corp.: *See*—
Courchene, Theodore P. 2,974,334.
Cross, Garrett P. S. 2,974,569.
Frampton, Stanley H. 2,974,335.
Imhof, Herman A., and Cantley. 2,974,333.

United States Bedding Co., The: *See*—
Ross, George W. 2,974,326.

U.S. Electrical Motors, Inc.: *See*—
Armstrong, Paul R., and Luenberger. 2,975,810.
Luenberger, Frederick O. 2,974,982.

United States of America
Agriculture: *See*—
Coe, Thompson J. 2,975,077.
Port, William S., Gelb, and Ault. 2,975,149.
Air Force: *See*—
Braun, Wolfgang G., and Kerris. 2,975,868.
Fromm, Winfield E., and Fubini. 2,975,382.
Holden, Paul C., and English. 2,974,489.
Kupa, Edward F. 2,975,404.
Army: *See*—
Ames, Vernon G. 2,974,943.
Barr, Irwin R. 2,974,407.
Boehm, Josef. 2,974,594.
Levin, Alexander. 2,974,724.
Schubert, Adolf, Cohen, Delcamp, and Lollar. 2,975,018.
Atomic Energy Commission: *See*—
Allison, Samuel K. 2,975,114.
Bogle, Robert W. 2,975,414.
Daniels, Farrington. 2,975,119.
Emmons, Clarence D. 2,975,119.
Gordon, Carroll M. 2,975,113.
Wigner, Eugene P., Ohlinger, and Young. 2,975,115.
Zinn, Walter H. 2,975,117.
National Aeronautics and Space Administration: *See*—
Freche, John C., McKinnon, and Braschwitz. 2,974,925.
Navy: *See*—
Anderson, Richard D., and Nastromero. 2,975,292.
Beese, Norman C. 2,975,075.
Bitner, Forrest G., and Silk. 2,974,893.
Bombi, Walter M., Phillips, and Watson. 2,974,619.
Bonham, Lewis L., Montague, and Culver. 2,975,876.
Brooks, Harvey, and Ballou. 2,974,023.
Brown, Newell H. 2,975,419.
Coy, Carl E., and Tague. 2,975,386.
Fogal, Gordon L., Kennedy, Meese, and Trout. 2,974,588.
Hesson, Charles O. 2,974,597.
Karig, Horace E. 2,974,622.

United States of America—Navy: *See*—Continued
Lane, William B., Beam, Graham, Fuller, Mackin, Lal, Zigman, and Shelberg. 2,974,620.
Lewis, Edward V. 2,974,624.
Mack, Kent M., and Frankenfeld. 2,975,416.
Malick, Franklin S., Daly, and Voorhees. 2,974,620.
Mueller, Richard A. 2,975,396.
Pinnes, Robert W., and De Crescente. 2,974,495.
Ridley, Oscar E. 2,974,928.
Riggs, Robert F., Foster, and Moran. 2,975,422.
Thompson, William F., Jr. 2,974,926.
Tindal, Charles H. 2,974,621.
Young, Donald R. 2,975,866.
War: *See*—
McLean, William B. 2,974,598.

United States Rubber Co.: *See*—
Streed, David D. M., and Luxenberger. 2,974,373.

United States Steel Corp.: *See*—
Agarwal, Jagdish C., and Davis. 2,975,066.
Davis, William L., Jr. 2,975,000.

University of California, The Regents of the: *See*—
Susskind, Charles. 2,975,317.

Upjohn Co., The: *See*—
Goyan, Jere E., and Wruble. 2,975,099.

Utah-Idaho Sugar Co.: *See*—
Lott, Peter H. 2,975,088.

VEB Chemische Werke Buna: *See*—
Hoff, Arnd. 2,975,162.

VEB Kamera-und Kinowerke Dresden: *See*—
Böhm, Siegfried, and Hausmann. 2,974,574.
Hahn, Werner. 2,974,576.
Kuhnert, Rudolf, and Stuhmke. 2,974,840.

VEB Vakutronik Dresden: *See*—
Von Ardenne, Manfred. 2,975,277.

Vail, Robert R., ☆ to Gadget-Of-The-Month Club, Inc. Attachment bracket means for attaching bed spring means to a headboard and a footboard to form a bed. 2,974,327, 3-14-61, Cl. 5—288.

Van Ackeren, Joseph, and R. J. Helm, to Koppers Co., Inc. Absorption apparatus. 2,974,936, 3-14-61, Cl. 261—115.

Van Ackeren, Paul, to Koppers Co., Inc. Apparatus for drawing off the charging gases from coking chambers. 2,975,109, 3-14-61, Cl. 202—100.

Van Blaricom, Lloyd E., and G. M. Tokos, to Rayonier Inc. Process for forming a chemical product from bark. 2,975,126, 3-14-61, Cl. 252—8.5.

Van Brode Milling Co., Inc.: *See*—
Colarusso, Augustine L. 2,975,058.

Vance, James C.: *See*—
Zeigle, Kenneth C., Vance, Nieland, and Bloomquist. 2,974,772.

Vance, Philip R., to Goodyear Aircraft Corp. Electronic function generator. 2,975,369, 3-14-61, Cl. 328—143.

Van Der Hoven, Walter G., to Owens-Corning Fiberglas Corp. Pressurized system for producing fibers. 2,974,369, 3-14-61, Cl. 18—2.5.

Van Leer, Oscar J., to Grotnes Machine Works, Inc. Shipping container. 2,974,841, 3-14-61, Cl. 229—1.5.

Vann, Kenneth N. Tree killing instrument. 2,974,445, 3-14-61, Cl. 47—57.5.

Vargas, James A.: *See*—
Kaufman, Samuel S., and Vargas. 2,974,501.

Varian Associates: *See*—
Bell, William E. 2,975,360.
Bloom, Arnold L., and Bell. 2,975,330.
Ward, Curtis E. 2,975,323.

Vasco Industries Corp.: *See*—
Engel, Thomas. 2,974,883.

Vastano, Joseph J.: *See*—
Obst, Charles J. 2,974,381.

Vaughan, Gerald L., and B. M. Drury, to Diamond National Corp. Spring pin woods feeder. 2,974,773, 3-14-61, Cl. 198—33.

Vergara, Ricardo H., to Ward La France Truck Corp. Swivel brace unit for doors of cargo containers and of trailer-truck bodies. 2,974,988, 3-14-61, Cl. 292—257.

Ver Nooy, Burton, to T. D. Williamson, Inc. Pipe plug. 2,974,685, 3-14-61, Cl. 138—90.

Verveer, Wilhelmus L., and G. H. Waarle, to North American Philips Co., Inc. Arrester for iron particles. 2,974,981, 3-14-61, Cl. 286—1.

Viale, Edmond A.: *See*—
Jencks, Hollis W., and Viale. 2,975,340.

Vibrans, Gerwig: *See*—
Gundert, Eberhard, and Vibrans. 2,975,325.

Vilmerding, John B., to Ingersoll-Rand Co. Pipe plug feeder and compound applicator. 2,974,406, 3-14-61, Cl. 29—211.

Vioos, Charles D., to Knapp-Monarch Co. Rheostat control for a window fan. 2,975,388, 3-14-61, Cl. 338—116.

Vitamins Ltd.: *See*—
Watt, Peter R. 2,975,106.

Vogt, Clarence W. Method for forming and filling packages. 2,974,452, 3-14-61, Cl. 53—24.

Voigtlander A.G.: *See*—
Papke, Friedrich. 2,974,560.

Voigtlander, Ernest C. H. Universal bracket support. 2,974,918, 3-14-61, Cl. 248—201.

Voisard, Walter B., to McCauley Industrial Corp. Controllable pitch propeller. 2,974,729, 3-14-61, Cl. 170—160.32.

Voisard, Walter B., to McCauley Industrial Corp. Controllable pitch propeller. 2,974,730, 3-14-61, Cl. 170—160.32.

Von Ardenne, Manfred, to VEB Vakutronik Dresden. Ion source. 2,975,277, 3-14-61, Cl. 250—41.9.

Von Bombard, Franz J., to Fichtel & Sachs A.G. Automotive clutch control system. 2,974,765, 3-14-61, Cl. 192—3.5.

Von Schuh, Heinz G.: *See*—
Reiser, Mario, Kidebens, and von Schuh. 2,975,182.

Voorhees, John C.: *See*—
Malick, Franklin S., Daly, and Voorhees. 2,974,620.

Vosburgh, Malcolm C.: *See*—
Alexander, Ben, Rogoff, and Vosburgh. 2,975,417.

Vuncannon, Sam H. Pivoted vent type window and operating mechanism therefor. 2,974,763, 3-14-61, Cl. 160—62.

Vyzkumnj a zkusebni letecky ustav: *See*—
Liston, Bohuslav. 2,974,882.

W & M Corp.: *See*—
Mayon, Leon. 2,975,270.

Waarle, Godfried H.: *See*—
Vervest, Wilhelmus L., and Waarle. 2,974,981.

Wade Eelctric Products Co.: *See*—
Long, Jasper, and Laete. 2,975,250.

Wade, John H. T., to Orenda Engines Ltd. Silencer. 2,974,744, 3-14-61, Cl. 181—43.

Wagner, Hans, W. Aumüller, H. Ruschig, and G. Korger, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. New sulfonyl-ureas and process for their preparation. 2,975,212, 3-14-61, Cl. 260—553.

Wagner, William E.: *See*—
Saunders, Arnold E., and Wagner. 2,975,076.

Walberg, Maynard E., to Allis-Chalmers Mfg. Co. Locking and balancing folding implement frame. 2,974,738, 3-14-61, Cl. 172—568.

Wald Industries, Inc.: *See*—
Brown, Carl F., Jr. 2,974,875.

Waldhauer, Frederick D., to Radio Corp. of America. Tape recorder. 2,974,891, 3-14-61, Cl. 242—55.12.

Walker, Clarence O.: *See*—
Weiss, Walter J., Walker, and Brukner. 2,975,127.

Walker, James, & Co. Ltd.: *See*—
Hargreaves, Robert H. 2,975,089.

Wallace, James A., and N. D. Nolder, to General Motors Corp. Refrigerator hinge. 2,975,013, 3-14-61, Cl. 312—296.

Wallace Supplies Mfg. Co.: *See*—
De Witt, Edward J. 2,974,706.

Waller, Tom W.: *See*—
Brown, William D., and Waller. 2,975,055.

Walsh, Richard D., to American Machine & Foundry Co. Control mechanism for bowling pin spotting machine. 2,974,955, 3-14-61, Cl. 273—43.

Walther, Erhardt, and W. Dammig, to Regnitz Konstruktionsgesellschaft m.b.H. Method of and apparatus for sealing the layers of the sealing bands of cartons. 2,974,460, 3-14-61, Cl. 53—373.

Walters, Edgar H. Special packages for toy balloons and like articles. 2,974,782, 3-14-61, Cl. 206—45.33.

Walton, Richard R. Machine for processing fibrous materials. 2,974,394, 3-14-61, Cl. 28—14.

Ward, Curtis E., to Varian Associates. Electron discharge device of the klystron type. 2,975,328, 3-14-61, Cl. 315—5.23.

Ward La France Truck Corp.: *See*—
Vergara, Ricardo H. 2,974,988.

Ware, Marsden, and D. Hughson, to Studebaker-Packard Corp. Tracked vehicle. 2,974,740, 3-14-61, Cl. 180—6.48.

Warner-Lambert Pharmaceutical Co.: *See*—
Anderson, Floyd E., and Bobinski. 2,975,185.
Gercke, Ferdinand, Hubbard, and Ferrara. 2,974,361.
Shavel, John, Jr. 2,975,184.

Warner, Paul F., to Phillips Petroleum Co. Preparation of cuprous alkyl mercaptides. 2,975,200, 3-14-61, Cl. 260—438.

Warnock, William K., and F. G. Hubener, to Koret of California. Press-free crease retained garments and method of manufacture thereof. 2,974,432, 3-14-61, Cl. 38—144.

Warren, George H., to American Home Products Corp. Medium and method for producing and isolating hyaluronic acid. 2,975,104, 3-14-61, Cl. 195—28.

Waters, Cecil A., to Lola Waters, by decree of distribution. Feeding and cutting meats. 2,974,700, 3-14-61, Cl. 146—123.

Waters, James L., to Mine Safety Appliances Co. Apparatus for the analysis of mixtures. 2,975,280, 3-14-61, Cl. 250—43.5.

Waters, Lola: *See*—
Waters, Cecil A. 2,974,700.

Watson, Clement H.: *See*—
Bombi, Walter M., Phillips, and Watson. 2,974,619.

Watt, Peter R., to Vitamins Ltd. Thin film rotatable fractionation apparatus. 2,975,106, 3-14-61, Cl. 202—64.

Weatherhead Co., The: *See*—
Boyle, Richard P. 2,974,980.

Webcor, Inc.: *See*—
Dale, Colin B. 2,974,962.

Weber, David C. Hydraulic thrust bearing. 2,975,005, 3-14-61, Cl. 308—9.

Weeber, Carl H., and H. Schunck, to Elmore's Metall-Aktiengesellschaft. Process for the production of electric conductor material from copper having high conductivity. 2,975,110, 3-14-61, Cl. 204—9.

Wegener, Horst A. R., to Tung-Sol Electric Inc. Semiconductor field effect device. 2,975,344, 3-14-61, Cl. 317—235.

Wegley, Wesley D., to Lear, Inc. Pitch control mechanism for aircraft. 2,975,351, 3-14-61, Cl. 318—489.

Wegner, Josef, to Globo Investment Trust. Luminous watch. 2,974,474, 3-14-61, Cl. 58—50.

Wehrfritz, Hugo J.: *See*—
Kauffmann, Hugo J., Mentecki, Naistat, and Wehrfritz. 2,975,189.

Weinmayr, Viktor, to E. I. du Pont de Nemours and Co. Rubber-like interpolymers of ethylene and two other monoolefins. 2,975,159, 3-14-61, Cl. 260—80.5.

Weis, Morley M. Flashing construction. 2,974,448, 3-14-61, Cl. 50—45.

Weiss, Martin J.: *See*—
Allen, George R., Jr., and Weiss. 2,975,197.

Weiss, Walter J., C. O. Walker, and J. S. Brukner, to Texaco Inc. Method of converting an aqueous drilling fluid to a packer fluid. 2,975,127, 3–14–61, Cl. 252—8.55.
Welch, Richard W. Combination windshield and spray curtain. 2,974,329, 3–14–61, Cl. 9—1.
Welex, Inc.: *See*—
Mohaupt, Henry H. 2,974,595.
Welles, Donald P., Jr., to Bealy-Welles Corp. Tool holder and expendable tool. 2,974,965, 3–14–61, Cl. 279—83.
Wells, Donald H., to Antenna Designs, Inc. Antenna director. 2,975,423, 3–14–61, Cl. 343—833.
Wells, Frank L., Co.: *See*—
Kosak, John W. 2,974,705.
Wells, Roger: *See*—
Reifers, Richard F., and Wells. 2,974,843.
Wenk, Cyril. Spectacle frame. 2,974,563, 3–14–61, Cl. 88—20.
Werner, Frank R., J. M. Jackson, R. F. Wooster, K. C. Flint, and C. W. Topper, to The National Cash Register Co. Balance totalizer control means for cash registers and accounting machines. 2,974,860, 3–14–61, Cl. 235—7.
Werner, Walter, ⅛ to Willi Muller, and ⅛ to Josef Muller. Tool guiding device for guiding a tool along the curves of intersection of two intersecting cylindrical tubes. 2,974,415, 3–14–61, Cl. 33—21.
Wessel, Hans. Vacuum cleaner nozzle. 2,974,348, 3–14–61, Cl. 15—399.
Wesson Co.: *See*—
Bader, William, Berry, and Beyer. 2,974,451.
West Co., The: *See*—
Ravn, Jacob. 2,974,455.
Westcott, Russell G.: *See*—
Behnke, George W., and Westcott. 2,974,795.
Western Electric Co., Inc.: *See*—
Doering, Fred W., and Morison. 2,974,367.
Holmes, Ralph A., and Wilson. 2,974,637.
Machlan, George R. 2,974,405.
Western Hydraulic & Service Co., Inc.: *See*—
Chace, Richard A. 2,974,638.
Western Progress Mfrs.: *See*—
Fuller, Frank L., and Swesy. 2,975,412.
Westervelt, John C., and J. N. Hilderbrand, to Century Geophysical Corp. Apparatus for developing electrostatic image. 2,974,632, 3–14–61, Cl. 118—637.
Westinghouse Brake and Signal Co., Ltd.: *See*—
King, Kenneth G., and Tucker. 2,975,273.
Westinghouse Electric Corp.: *See*—
Ehrenfreund, Herbert A. 2,974,498.
Koch, Gustav H. 2,974,984.
Radcliffe, Remington S. 2,974,502.
Sholtes, Carl E. 2,974,500.
Westmoreland, Twain, ¼ to Fred Folger, Jr. Knit fabric. 2,974,508, 3–14–61, Cl. 66—194.
Whaley, Thomas H., to Texaco Development Corp. Petroleum treating process. 2,975,121, 3–14–61, Cl. 208—251.
Wheeler, Arthur W., Jr.: *See*—
Rankin, Andrew W., Zwicky, and Wheeler. 2,974,924.
Wheeler, David L. Tape transport mechanism. 2,974,537, 3–14–61, Cl. 74—220.
Wheeler, Gershon J.: *See*—
Reed, John, and Wheeler. 2,975,381.
Wheeler, Wendell J.: *See*—
Wilson, Lawrence A., and Wheeler. 2,974,951.
Whelpley, Gordon E.: *See*—
O'Connor, Bernard E., and Whelpley. 2,974,630.
Whidden, Howell E. Portable stock feeder. 2,974,633, 3–14–61, Cl. 119—51.
Whipple, William, Jr. Low-speed marine propulsion unit. 2,974,627, 3–14–61, Cl. 115—20.
Whirlpool Corp.: *See*—
Clearman, Jack F. 2,974,513.
White, Alvin C. Piston-type cleaner for pipe lines. 2,974,337, 3–14–61, Cl. 15—104.06.
White, Andrew J. Safety apparatus for highways. 2,974,934, 3–14–61, Cl. 256—13.1.
White, John, to Fardons' Vinegar Co. Ltd. Method for the aeration and agitation of liquors. 2,975,065, 3–14–61, Cl. 99—147.
Whitehead & Kales Co.: *See*—
Stough, Gerald D. 2,974,812.
Whitehurst, George. Rotary fluid distributor valves. 2,974,681, 3–14–61, Cl. 137—624.13.
Whitenack, Taylor D., Jr.: *See*—
Dias, Manuel S., and Whitenack. 2,975,331.
Whitfield Spinning Co.: *See*—
Womelsdorf, Lee B. 2,974,442.
Wiater, Alfons M., and C. J. Mikusewski, to General Electric Co. Means for enclosing electrical apparatus. 2,975,227, 3–14–61, Cl. 174—52.
Wiese, Theodore O.: *See*—
Egbert, William F., and Wiese. 2,974,477.
Wiggins, Oswald J.: *See*—
Ryboid, Henry M., and Wiggins. 2,974,582.
Wigner, Eugene P., L. A. Ohlinger, and G. J. Young, to United States of America, Atomic Energy Commission. Bellows seal on reactor coolant tube. 2,975,115, 3–14–61, Cl. 204—193.2.
Wik, Sune, to Allmanna Svenska Elektriska Aktiebolaget. Hydraulic servo-motors. 2,974,645, 3–14–61, Cl. 121—38.
Williams, Charles O., V. W. Drexelius, and R. D. Smith, to Olin Mathieson Chemical Corp. Cartridge. 2,974,502, 3–14–61, Cl. 102—39.
Williams, Edgar E., and L. E. Lohman. Animal feeder. 2,974,634, 3–14–61, Cl. 119—52.
Williams, John F.: *See*—
Joslyn, Walter B., and Williams. 2,974,873.
Williams, Newton H., to R. W. Logan. Playing implement. 2,974,413, 3–14–61, Cl. 30—219.
Williams, Orlan G. Method and apparatus for measuring wall thickness. 2,975,281, 3–14–61, Cl. 250—65.
Williams, Roger B., Jr., and R. M. Bell, to Toledo Scale Corp. Electronic tare subtracting counter. 2,974,863, 3–14–61, Cl. 235—151.
Williamson, T. D., Inc.: *See*—
Ver Nooy, Burton. 2,974,685.
Wilson, Harold R.: *See*—
Holmes, Ralph A., and Wilson. 2,974,637.
Wilson, Jack K., N. E. and R. S. Archer's tab. 2,974,319, 3–14–61, Cl. 2—21.
Wilson, James E., and E. L. Dunn, to General Electric Co. Nickel base alloy. 2,975,051, 3–14–61, Cl. 75—171.
Wilson, Lawrence A., and W. J. Wheeler, to International Business Machines Corp. Card transport. 2,974,951, 3–14–61, Cl. 271—51.
Wilson, Milo R., to International Harvester Co. Arrangement for cold starting diesel engines. 2,974,659, 3–14–61, Cl. 123—180.
Wilson, Norman E.: *See*—
Wilson, Jack K., N. E. and R. S. 2,974,319.
Wilson, Robert S.: *See*—
Wilson, Jack K., N. E. and R. S. 2,974,319.
Wilson, William H.: *See*—
Leech, Harry R., and Wilson. 2,975,034.
Windstrup, Robert F., J. Boehler, and W. Schneider, to Peters Machinery Co. Carton forming and lining machine. 2,974,571, 3–14–61, Cl. 93—36.01.
Wineman, Robert J., and C. E. Anagnostopoulos, to Monsanto Chemical Co. Methionine analogues. 2,975,192, 3–14–61, Cl. 260—532.3.
Winnen, Franklyn E.: *See*—
Benjamin, Milton L., and Winnen. 2,974,964.
Winterberg, Alexander. Method of preserving comestibles. 2,975,067, 3–14–61, Cl. 99—166.
Winthrop, Stanley O.: *See*—
Myers, Gordon S., and Winthrop. 2,975,206.
Wittel, Otto, to Eastman Kodak Co. Manual adjustment of automatic exposure control for photographic cameras. 2,974,578, 3–14–61, Cl. 95—64.
Wittig, Georg, and P. Hornberger, to Heyl & Co. Chemisch-pharmaceutische Fabrik. Preparation of borohydrides of the alkali metals. 2,975,027, 3–14–61, Cl. 23—14.
Witzel, Homer D., to Harvestaire, Inc. Centrifugal type thresher. 2,974,668, 3–14–61, Cl. 130—27.
Witzmann, Franz. Device for increasing the safety of motor vehicles driving on wet or snow- or ice-covered roadways. 2,974,741, 3–14–61, Cl. 180—15.
Wlasuk, Steven, to Radio Corp of America. Television test apparatus. 2,975,229, 3–14–61, Cl. 178—5.4.
Wofford, George D.: *See*—
Haugen, Glenn L., and Wofford. 2,975,300.
Wolff, Manfred E.: *See*—
Kerwin, James F., and Wolff. 2,975,174.
Wolff, William C. Shoe construction comprising an integral upper and insole. 2,974,427, 3–14–61, Cl. 36—11.
Wolfish, Herman H., to International Telephone and Telegraph Corp. Multiar circuit. 2,975,363, 3–14–61, Cl. 328—28.
Womelsdorf, Lee B., to Whitfield Spinning Co. Shade cloth. 2,974,442, 3–14–61, Cl. 47—126.
Wood, Morris E., to Higbie Mfg. Co. Spinning reel. 2,974,895, 3–14–61, Cl. 242—84.21.
Woodruff, Maurice D.: *See*—
Ginaven, Marvin E., and Woodruff. 2,974,664.
Woods, Warren W.: *See*—
Dickey, Frank H., Napier, and Woods. 2,975,201.
Woodward, Stewart A., to General Electric Co. Rocker-operated switch. 2,975,245, 3–14–61, Cl. 200—5.
Woodward Wanger Co.: *See*—
Zimmerman, Karl L. 2,974,781.
Woolslayer, Homer J., C. L. Turner, and C. Jenkins, to Lee C. Moore Corp. Oil well derrick for use with helicopter. 2,974,760, 3–14–61, Cl. 189—11.
Wooster, Robert F.: *See*—
Werner, Frank R., Jackson, Wooster, Flint, and Topper. 2,974,860.
Worcester Taper Pin Co.: *See*—
Blanchard, Roswell W. 2,974,723.
Work, Lincoln T.: *See*—
Coolidge, John E., Jr., and Work. 2,974,747.
Wruble, Milton.: *See*—
Goyan, Jere E., and Wruble. 2,975,099.
Wu, Yao H., to Mead Johnson & Co. Reduction of 1,3-dicarbalkoxy-pyrrolidine to N-methyl-3-pyrrolidylmethyl alcohol. 2,975,191, 3–14–61, Cl. 260—326.5.
Wurlitzer, Rudolph, Co., The: *See*—
Andersen, Clifford W. 2,974,555.
Wursburg, Otto B.: *See*—
Caldwell, Carlyle G., Wursburg, and Sun. 2,975,124.
Xenis, Constantine P., to Consolidated Edison Co. of New York, Inc. Conduit threader. 2,974,932, 3–14–61, Cl. 254—134.5.
Yanagisawa, Samuel T., to Allis-Chalmers Mfg. Co. Spring bearing for vacuumized electric devices. 2,975,254, 3–14–61, Cl. 200—144.
Yaroch, Geraldine: *See*—
Yaroch, William L. 2,975,140.
Yaroch, William L., deceased, by G. Yaroch, administratrix, to Klem Chemicals, Inc. Organic finish remover and method. 2,975,140, 3–14–61, Cl. 252—110.
Yorgiadis, Alexander J., to Alexander J. Yorgiadis and A. U. Kutsay. Adjustable-while-running oscillator. 2,974,536, 3–14–61, Cl. 74—61.
Yoshida, Tadao. Spiral slide-fastener elements. 2,974,372, 3–14–61, Cl. 18—56.
Young, Donald M.: *See*—
Quinn, Frank P., and Young. 2,974,610.
Young, Donald R., to United States of America, Navy. Pulse width discriminator. 2,975,366, 3–14–61, Cl. 328—112.
Young, Gale J.: *See*—
Wigner, Eugene P., Ohlinger, and Young. 2,975,115.

Yuba Consolidated Industries, Inc.: *See*—
Goldschmidt, Hans, and Edgemond. 2,974,608.
Zeigle, Kenneth C., J. C. Vance, P. J. Nieland, and W. M. Bloomquist, to Electric Vendors, Inc. Variable stamp vending and money changing machine. 2,974,772, 3–14–61, Cl. 194—2.
Zelinski, Robert P., to Phillips Petroleum Co. Preparation of copolymers in the presence of an organo-lithium catalyst and a solvent mixture comprising a hydrocarbon and an ether, thioether or amine. 2,975,160, 3–14–61, Cl. 260—83.7.
Zeuthen & Aagaard A/S: *See*—
Zeuthen, Karl G. 2,974,952.
Zeuthen, Karl G., to Zeuthen & Aagaard A/S. Registering mechanism for the accurate feed of sheets of paper to a printing device particularly to duplicating machines. 2,974,952, 3–14–61, Cl. 271—63.
Ziegler, Karl: *See*—
Ziegler, Karl, Koster, and Kroll. 2,975,215.
Ziegler, Karl, to F. Soennecken. Adjustable stop guide for hole punch. 2,974,947, 3–14–61, Cl. 269—170.
Ziegler, Karl, E. Koster, and W.-R. Kroll, to Karl Ziegler. Process for the production of higher boron alkyls from boron alkyls of lower molecular weight. 2,975,215, 3–14–61, Cl. 260—606.5.
Zigman, Paul E.: *See*—
Lane, William B., Baum, Graham, Fuller, Mackin, Lal, Zigman, and Shelberg. 2,974,520.
Zimmerman, Edward C., and P. Alekna, to Patent License Corp. Adjustable air outlet. 2,974,580, 3–14–61, Cl. 98—40.
Zimmerman, Karl L., to Woodward Wanger Co. Service kits. 2,974,781, Cl. 206—16.
Zinn, Walter H., to United States of America, Atomic Energy Commission. Fast neutron reaction system. 2,975,117, 3–14–61, Cl. 204—193.2.
Zlotnicki, Chester A. Practice golf putting cup. 2,974,959, 3–14–61, Cl. 273—177.
Zoglmann, Rudolf, to N.V. Optische Industrie de Ould Delft. Devices for separating cut films from a stack. 2,974,949, 3–14–61, Cl. 271—18.
Zollinger, Alfred, to Grinnell Corp. Motor driven constant support hangers. 2,974,915, 3–14–61, Cl. 248—58.
Zubaty, Joseph, to General Motors Corp. Free piston fluid pumps. 2,974,601, 3–14–61, Cl. 103—52.
Zuber, Alfred G. Toy return hoop. 2,974,956, 3–14–61, Cl. 273—129.
Zurcher, Paul G. Trammel scale and layout tool. 2,974,416, 3–14–61, Cl. 33—27.
Zwelling, Martin I., to McGraw Electric Co. Three-phase core for electrical transformers and method of manufacturing the same. 2,974,401, 3–14–61, Cl. 29—155.57.
Zwicker, Vernon M., to General Motors Corp. Self-aligning bearing mounting. 2,975,007, 3–14–61, Cl. 308—194.
Zwicky, Everett E., Jr.: *See*—
Rankin, Andrew W., Zwicky, and Wheeler. 2,974,924.
Zwicky, Fritz, to Aerojet-General Corp. Apparatus for jet propulsion through water. 2,974,626, 3–14–61, Cl. 115—13.
Zyma, S.A.: *See*—
Favre, Jacques. 2,975,168.

CLASSIFICATION OF PATENTS

ISSUED MARCH 14, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

2— 21: 2,974,319
98: 2,974,320
4— 134: 2,974,321
185: 2,974,322
213: 2,974,323
237: 2,974,324
5— 98: 2,974,325
255: 2,974,326
283: 2,974,327
319: 2,974,328
8— 94.1: 2,975,018
9— 1: 2,974,329
310: 2,974,330
347: 2,974,331
11— 4: 2,974,332
12— 4.4: 2,974,333
33.4: 2,974,334
126: 2,974,335
13— 6: 2,975,224
14— 71: 2,974,336
15—104.06: 2,974,337
160: 2,974,338
229: 2,974,339
280: 2,974,340
280.32: 2,974,341
312: 2,974,342
323: 2,974,343
327: 2,974,344
328: 2,974,345
344: 2,974,346
356: 2,974,347
359: 2,974,348
359: 2,974,349
2,974,350
372: 2,974,351
16— 42: 2,974,352
114: 2,974,353
175: 2,974,354
179: 2,974,355
17— 2: 2,974,356
8: 2,974,357
18— 1: 2,974,358
2.5: 2,974,359
4: 2,974,360
2,974,361
5: 2,974,362
8: 2,974,363
15: 2,974,364
17: 2,974,365
19: 2,974,366
2,974,367
36: 2,974,368
47.5: 2,974,369
2,974,370
54: 2,975,019
2,975,020
2,975,021
2,975,022
2,975,023
2,975,024
55: 2,974,371
56: 2,974,372
59: 2,974,373
60: 2,974,374
19— 116: 2,974,375
20— 22: 2,974,376
56.5: 2,974,377
92: 2,974,378
22— 67: 2,974,379
204: 2,974,380
23— 2: 2,975,025
3: 2,975,026
14: 2,975,027
2,975,028
172: 2,975,029
190: 2,975,030
2,975,031
2,975,032
207: 2,975,033
215: 2,975,034
232: 2,975,035
273: 2,975,036
288: 2,975,037
309: 2,975,038
24— 97: 2,974,381
206.11: 2,974,382
209: 2,974,383
25— 56: 2,974,384
118: 2,974,385
121.5: 2,974,386
142: 2,974,387
25— 156: 2,974,388
27— 1: 2,974,389
7: 2,974,390
28— 1: 2,974,391
2,974,392
4: 2,974,393
14: 2,974,394
74: 2,974,395
29—25.42: 2,974,396
81: 2,974,397
106: 2,974,398
2,974,399
155.55: 2,974,400
155.57: 2,974,401
2,974,402
155.62: 2,974,403
157.3: 2,974,404
204: 2,974,405
211: 2,974,406
425: 2,974,407
30— 4: 2,974,408
2,974,409
6.1: 2,974,410
24: 2,974,411
201: 2,974,412
219: 2,974,413
272: 2,974,414
33— 21: 2,974,415
27: 2,974,416
174: 2,974,417
199: 2,974,418
34— 10: 2,974,419
2,974,420
45: 2,974,421
58: 2,974,422
2,974,423
35— 12: 2,974,424
18: 2,974,425
26: 2,974,426
36— 11: 2,974,427
37— 53: 2,974,428
104: 2,974,429
144: 2,974,430
38— 121: 2,974,431
144: 2,974,432
40— 64: 2,974,433
124.1: 2,974,434
131: 2,974,435
41— 42: 2,975,039
2,975,040
2,975,041
43—44.4: 2,974,436
55: 2,974,437
44— 55: 2,975,042
72: 2,975,043
46— 8: 2,974,438
114: 2,974,439
118: 2,974,440
244: 2,974,441
47— 26: 2,974,442
41: 2,974,443
57.5: 2,974,445
58: 2,974,444
60: P.P. 2,033
P.P. 2,034
48— 68: 2,975,044
49— 9: 2,974,446
17: 2,974,447
50— 45: 2,974,448
50: 2,974,449
51— 219: 2,974,450
229: 2,974,451
52— 1: 2,975,045
14: 2,975,046
53— 24: 2,974,452
26: 2,974,453
32: 2,974,454
42: 2,974,455
52: 2,974,456
134: 2,974,457
206: 2,974,458
242: 2,974,459
272: 2,974,460
282: 2,974,461
54— 1: 2,974,462
7: 2,974,463
17: 2,974,464
18: 2,974,465
2,974,466
19: 2,974,467
24: 2,974,468
55— 25.4: 2,974,469
2,974,470
2,974,471
804: 2,974,472
56— 9: 2,974,473
50: 2,974,474
60— 33.4: 2,974,475
33.6: 2,974,476
2,974,477
2,974,478
2,974,479
2,974,480
2,974,481
89.28: 2,974,482
89.3: 2,974,482
89.47: 2,974,484
89.65: 2,974,485
89.66: 2,974,486
89.71: 2,974,487
89.72: 2,974,488
89.74: 2,974,489
52: 2,974,490
2,974,491
54.5: 2,974,492
2,974,493
54.6: 2,974,494
59: 2,974,495
62— 45: 2,974,496
63: 2,974,497
156: 2,974,498
286: 2,974,499
428: 2,974,500
64— 9: 2,974,501
11: 2,974,502
30: 2,974,503
2,974,504
66— 43: 2,974,505
51: 2,974,506
182: 2,974,507
194: 2,974,508
67—22.5: 2,974,509
68— 4: 2,974,510
2,974,511
5: 2,974,512
12: 2,974,513
58: 2,974,514
131: 2,974,515
207: 2,974,516
70— 442: 2,974,517
73— 1: 2,974,518
36: 2,974,519
53: 2,974,520
70.2: 2,974,521
126: 2,974,522
151.5: 2,974,523
169: 2,974,524
231: 2,974,525
304: 2,974,526
381: 2,974,527
425.4: 2,974,528
503: 2,974,529
505: 2,974,530
516: 2,974,531
2,974,532
74— 22: 2,974,533
2,974,534
2,974,535
61: 2,974,536
220: 2,974,537
421: 2,974,538
424.8: 2,974,539
458: 2,974,540
579: 2,974,541
595: 2,974,542
677: Re. 24,947
2,974,543
699: 2,974,544
720.5: 2,974,545
745: 2,974,546
766: 2,974,547
75— 50: 2,975,047
84: 2,975,048
84.4: 2,975,049
170: 2,975,050
171: 2,975,051
77— 5: 2,974,548
80— 6: 2,974,549
2,974,550
81— 9.1: 2,974,551
15: 2,974,552
82.5: 2,974,553
83— 22: 2,974,554
84—1.14: 2,974,555
260: 2,974,556
85— 33: 2,974,557
40: 2,974,558
87— 1: 2,974,559
88— 1.5: 2,974,560
14: 2,974,561
16.6: 2,974,562
20: 2,974,563
24: 2,974,564
2,974,565
25.9: 2,974,566
41: 2,974,567
61: 2,974,568
89— 33: 2,974,569
90— 9: 2,974,570
93—36.01: 2,974,571
56.3: 2,974,572
95— 42: 2,974,573
50: 2,974,574
53: 2,974,575
64: 2,974,576
2,974,577
2,974,578
73: 2,974,579
96— 1: 2,975,052
32: 2,975,053
98— 40: 2,974,580
2,974,581
106: 2,974,582
99— 7: 2,975,055
71: 2,975,056
77: 2,975,057
81: 2,975,058
94: 2,975,059
118: 2,975,060
2,975,061
2,975,062
2,975,063
130: 2,975,064
147: 2,975,065
163: 2,975,066
166: 2,975,067
172: 2,975,068
216: 2,975,069
101— 28: 2,974,583
30: 2,974,584
149.4: 2,974,585
157: 2,974,586
184: 2,974,587
102— 16: 2,974,588
20: 2,974,589
28: 2,974,590
2,974,591
30: 2,974,592
49: 2,974,593
50: 2,974,594
56: 2,974,595
70: 2,974,596
70.2: 2,974,597
2,974,598
103— 5: 2,974,599
11: 2,974,600
52: 2,974,601
112: 2,974,602
121: 2,974,603
123: 2,974,604
126: 2,974,605
104— 2: 2,974,606
7: 2,974,607
95: 2,974,608
105— 153: 2,974,609
197: 2,974,610
254: 2,974,611
260: 2,974,612
106— 49: 2,975,070
203: 2,975,071
107— 14: 2,974,613
2,974,614
48: 2,974,615
111— 11: 2,974,616
112— 209: 2,974,617
231: 2,974,618
114— 20: 2,974,619
23: 2,974,620
24: 2,974,621
28: 2,974,622
2,974,623
86: 2,974,624
124: 2,974,625
115— 13: 2,974,626
20: 2,974,627
94: 2,974,628
116— 74: 2,974,629
142: 2,974,630
117— 68: 2,975,072
71: 2,975,073
76: 2,975,074
107: 2,975,075
124: 2,975,076
141: 2,975,077
217: 2,975,078
238: 2,975,079
118— 70: 2,974,631
537: 2,974,632
119— 51: 2,974,633
82: 2,974,634
143: 2,974,635
121— 38: 2,974,636
2,974,637
40: 2,974,638
41: 2,974,639
2,974,640
2,974,641
45: 2,974,642
46.5: 2,974,643
75: 2,974,644
98: 2,974,645
110: 2,974,646
157: 2,974,647
194: 2,974,648
123— 235: 2,974,649
404: 2,974,650
125— 23: 2,974,651
126— 30: 2,974,652
200: 2,974,653
128— 57: 2,974,654
141: 2,974,655
271: 2,974,656
547: 2,974,657
130— 27: 2,974,658
131— 173: 2,974,659
224: 2,974,670
132— 80: 2,974,671
134— 72: 2,974,672
136— 4: 2,975,225
173: 2,975,226
157— 64: 2,974,673
85: 2,974,674
87: 2,974,675
342: 2,974,676
456: 2,974,677
480: 2,974,678
490: 2,974,679
598: 2,974,680
694.13: 2,974,681
625.33: 2,974,682
138— 31: 2,974,683
64: 2,974,684
90: 2,974,685
139— 20: 2,974,686
199: 2,974,687
253: 2,974,688
570: 2,974,689
903: 2,974,690
141— 142: 2,974,691
143— 38: 2,974,692
52: 2,974,693
68: 2,974,694
133: 2,974,695
144— 1: 2,974,696
320: 2,974,697
145— 33: 2,974,698
146— 63: 2,974,699
123: 2,974,700
189: 2,974,701
148— 1.6: 2,975,080
5.1: 2,975,081
5.18: 2,975,082
10.5: 2,975,083
148— 26: 2,975,084
83: 2,975,085
124: 2,975,085
180— 1.5: 2,974,702
181—41.75: 2,974,703
183— 2: 2,974,704
2,974,705
40: 2,974,706
2,974,707
2,974,708
48: 2,974,709
54: 2,974,710
76: 2,974,711
80.5: 2,974,712
184— 2.25: 2,975,087
2.26: 2,975,088
8: 2,974,713
9: 2,974,714
14: 2,974,715
31: 2,974,716
42: 2,974,717
49: 2,975,089
80: 2,975,090
83.5: 2,975,091
116: 2,975,092
136: 2,975,093
138: 2,975,094
140: 2,975,095
185— 11: 2,974,718
17: 2,974,719
106: 2,974,720
187: 2,974,721
187— 1.32: 2,974,722
188— 27.4: 2,974,723
30.6: 2,974,724
189— 6: 2,974,725
192— 18: 2,975,096
228: 2,974,726
196— 55.5: 2,974,727
197— 32: 2,975,097
58: 2,975,098
64: 2,975,099
84.5: 2,975,100
88: 2,975,101
93: 2,975,102
170— 159: 2,974,728
160.32: 2,974,729
2,974,730
160.51: 2,974,731
172— 6: 2,974,732
7: 2,974,733
9: 2,974,734
108: 2,974,735
298: 2,974,736
456: 2,974,737
538: 2,974,738
174— 52: 2,975,227
175— 2: 2,974,739
178— 2: 2,975,228
8.4: 2,975,229
2,975,230
2,975,231
2,975,232
5.6: 2,975,233
6: 2,975,234
16: 2,975,235
179— 18: 2,975,236
99: 2,975,237
100.2: 2,975,238
2,975,239
2,975,240
2,975,241
2,975,242
111: 2,975,243
159: 2,975,244
180— 6.45: 2,974,740
15: 2,974,741
82: 2,974,742
181— .5: 2,974,743
43: 2,974,744
53: 2,974,745
183— 93: 2,974,746
183— 4.3: 2,974,747
57: 2,974,748
62: 2,974,749
115: 2,974,750
187— 53: 2,974,751
188— 69: 2,974,752
72: 2,974,753
95: 2,974,754
100: 2,974,755

186— 171: 2,974,756
208: 2,974,757
233.3: 2,974,758
243: 2,974,759
189— 11: 2,974,760
36.5: 2,974,761
37: 2,974,762
62: 2,974,763
192— 2: 2,974,764
3.5: 2,974,765
2,974,766
12: 2,974,767
83: 2,974,768
103: 2,974,769
104: 2,974,770
107: 2,974,771
194— 2: 2,974,772
196— 3: 2,975,103
29: 2,975,104
47: 2,975,105
198— 83: 2,974,773
2,974,774
41: 2,974,775
46: 2,974,776
192.2: 2,974,777
200— 5: 2,975,245
24: 2,975,246
88: 2,975,247
61.45: 2,975,248
67: 2,975,249
2,975,250
83: 2,975,251
93: 2,975,252
116: 2,975,253
144: 2,975,254
2,975,255
2,975,256
157: 2,975,257
172: 2,975,258
202— 37: 2,975,106
52: 2,975,107
64: 2,975,108
109: 2,975,109
204— 9: 2,975,110
64: 2,975,111
119: 2,975,112
154.2: 2,975,113
192.2: 2,975,114
2,975,115
2,975,116
2,975,117
2,975,118
2,975,119
207: 2,975,120
205— 21: 2,974,778
206— 7: 2,974,779
2,974,780
16: 2,974,781
45.33: 2,974,782
46: 2,974,783
47: 2,974,784
2,974,785
2,974,786
52.2: 2,974,787
65: 2,974,788
2,974,789
207— 2: 2,974,790
15: 2,974,791
208— 251: 2,975,121
209— 90: 2,974,792
106: 2,974,793
2,974,794
247: 2,974,795
254: 2,974,796
307: 2,974,797
365: 2,974,798
434: 2,974,799
210— 12: 2,975,122
42: 2,975,123
54: 2,975,124
114: 2,974,800
144: 2,974,801
356: 2,974,802
211— 10: 2,974,803
60: 2,974,804
105.5: 2,974,805
123: 2,974,806
126: 2,974,807
2,974,808
212— 34: 2,974,809
213— 73: 2,974,810
214— 1: 2,974,811
6: 2,974,812
215— 9: 2,974,813
13: 2,974,814
38: 2,974,815
40: 2,974,816
217— 31: 2,974,817
219— 9.5: 2,975,250
30: 2,975,260
2,975,261
32: 2,975,262
83: 2,975,263
89: 2,975,264
97: 2,975,265
137: 2,975,266
158: 2,975,267
220— 19: 2,974,818
20: 2,974,819
22: 2,974,820
22.4: 2,974,821
28: 2,974,822
44: 2,974,823
58: 2,974,824
80: 2,974,825
72: 2,974,826
113: 2,974,827
221— 221: 2,974,828
351: 2,974,829
222— 135: 2,974,830
171: 2,974,831
173: 2,974,832
193: 2,974,833
356: 2,974,834
307: 2,974,835
539: 2,974,836
225— 71: 2,974,837
76: 2,974,838
225— 12: 2,974,839
226— 49: 2,974,840
229— 1.5: 2,974,841
2.5: 2,974,842
2,974,843
2,974,847
14: 2,974,844
17: 2,974,845
2,974,846
27: 2,974,848
28: 2,974,849
37: 2,974,850
40: 2,974,851
51: 2,974,852
2,974,853
57: 2,974,854
230— 56: 2,974,855
117: 2,974,856
119: 2,974,857
120: 2,974,858
234— 34: 2,974,859
235— 7: 2,974,860
92: 2,974,861
98: 2,974,862
151: 2,974,863
153: 2,974,864
2,974,865
157: 2,974,866
167: 2,974,867
183: 2,974,868
236— 1: 2,974,869
44: 2,974,870
239— 17: 2,974,871
20: 2,974,872
121: 2,974,873
139: 2,974,874
150: 2,974,875
153: 2,974,876
257: 2,974,877
282: 2,974,878
357: 2,974,879
493: 2,974,880
533: 2,974,881
563: 2,974,882
240—46.53: 2,975,268
102: 2,975,269
108: 2,975,270
147: 2,975,271
241— 17: 2,974,883
20: 2,974,884
30: 2,974,885
39: 2,974,886
101: 2,974,887
191: 2,974,888
295: 2,974,889
242— 4: 2,974,890
55.12: 2,974,891
71.8: 2,974,892
75.43: 2,974,893
75.43: 2,974,894
84.21: 2,974,895
118.4: 2,974,896
154: 2,974,897
244— 1: 2,974,898
12: 2,974,899
2,974,900
17.11: 2,974,901
17.19: 2,974,902
42: 2,974,903
2,974,904
50: 2,974,905
2,974,906
52: 2,974,907
77: 2,974,908
102: 2,974,909
114: 2,974,910
122: 2,974,911
138: 2,974,912
145: 2,974,913
246— 34: 2,975,272
63: 2,975,273
248— 54: 2,974,914
58: 2,974,915
71: 2,974,916
130: 2,974,917
201: 2,974,918
223: 2,974,919
291: 2,974,920
250— 20: 2,975,274
2,975,275
40: 2,975,276
41.9: 2,975,277
2,975,278
2,975,279
43.5: 2,975,280
65: 2,975,281
2,975,282
53.3: 2,975,283
2,975,284
2,975,285
2,975,286
53.6: 2,975,287
2,975,288
203: 2,975,289
213: 2,975,290
2,975,291
2,975,294
216: 2,975,292
219: 2,975,293
237: 2,975,295
251— 58: 2,974,921
77: 2,974,922
137: 2,974,923
252— 8.5: 2,975,126
8.65: 2,975,125
2,975,127
12: 2,975,128
25: 2,975,129
28: 2,975,130
32.7: 2,975,131
33.3: 2,975,132
34: 2,975,133
40.7: 2,975,134
49.6: 2,975,135
51.5: 2,975,136
68: 2,975,137
78: 2,975,138
99: 2,975,139
110: 2,975,140
161: 2,975,141
186: 2,975,142
301.6: 2,975,143
477: 2,975,144
521: 2,975,145
253— 39: 2,974,924
89.15: 2,974,925
2,974,926
69: 2,974,927
78: 2,974,928
254— 4: 2,974,929
102: 2,974,930
106: 2,974,931
134.5: 2,974,932
190: 2,974,933
256—13.1: 2,974,934
259— 1: 2,974,935
260— 2.5: 2,975,146
7.5: 2,975,147
22: 2,975,148
2,975,149
27: 2,975,150
28.7: 2,975,151
31.6: 2,975,152
41.5: 2,975,153
46.5: 2,975,154
47: 2,975,155
67: 2,975,156
77.6: 2,975,157
78.5: 2,975,158
80.5: 2,975,159
82.7: 2,975,160
85.5: 2,975,161
85.7: 2,975,162
87.5: 2,975,163
2,975,164
87.7: 2,975,165
94.9: 2,975,166
109: 2,975,167
210: 2,975,168
212: 2,975,169
226.6: 2,975,170
229.55: 2,975,171
2,975,172
2,975,173
229.57: 2,975,174
243: 2,975,175
247.1: 2,975,176
248: 2,975,177
2,975,178
251: 2,975,179
251.5: 2,975,180
268: 2,975,181
2,975,182
257: 2,975,183
259: 2,975,184
264.7: 2,975,185
266: 2,975,186
307: 2,975,187
310: 2,975,188
313: 2,975,189
314.5: 2,975,190
326.5: 2,975,191
2,975,193
332.1: 2,975,194
332.3: 2,975,192
348: 2,975,195
366: 2,975,196
397.45: 2,975,197
399: 2,975,198
410.9: 2,975,199
428: 2,975,200
448: 2,975,201
448.2: 2,975,202
2,975,203
448.6: 2,975,204
452: 2,975,205
461: 2,975,207
467: 2,975,208
475: 2,975,209
2,975,210
523: 2,975,211
553: 2,975,212
566: 2,975,213
600: 2,975,214
606.5: 2,975,215
624: 2,975,216
2,975,217
635: 2,975,218
652.5: 2,975,219
653.1: 2,975,220
666.5: 2,975,221
676: 2,975,222
683.53: 2,975,223
261— 115: 2,974,936
262— 3: 2,974,937
20: 2,974,938
263— 33: 2,974,939
265— 73: 2,974,940
266— 4: 2,974,941
9: 2,974,942
267— 1: 2,974,943
2,974,944
9: 2,974,945
64: 2,974,946
269— 170: 2,974,947
270— 81: 2,974,948
271— 18: 2,974,949
44: 2,974,950
51: 2,974,951
53: 2,974,952
59: 2,974,953
272— 8: 2,974,954
273— 43: 2,974,955
129: 2,974,956
132: 2,974,957
176: 2,974,958
177: 2,974,959
274— 4: 2,974,960
9: 2,974,961
10: 2,974,962
275— 2: 2,974,963
276— 4: 2,974,964
83: 2,974,965
2,974,966
89: 2,974,967
106: 2,974,968
123: 2,974,969
280— 5: 2,974,970
19: 2,974,971
43.23: 2,974,972
87: 2,974,973
91: 2,974,974
95: 2,974,975
124: 2,974,976
152: 2,974,977
444: 2,974,978
469: 2,974,979
285— 247: 2,974,980
286— 1: 2,974,981
10: 2,974,982
12: 2,974,983
287— 53: 2,974,984
84: 2,974,985
88: 2,974,986
290— 37: 2,975,296
292— 148: 2,974,987
257: 2,974,988
276: 2,974,989
286: 2,974,990
294— 1: 2,974,991
57: 2,974,992
61: 2,974,993
74: 2,974,994
103: 2,974,995
296— 24: 2,974,996
28: 2,974,997
65: 2,974,998
105: 2,974,999
302— 17: 2,975,000
28: 2,975,001
50: 2,975,002
303— 21: 2,975,003
306— 19: 2,975,004
307— 10: 2,975,297
68: 2,975,298
88.5: 2,975,299
2,975,300
2,975,301
2,975,302
2,975,303
2,975,304
2,975,305
147: 2,975,306
308— 9: 2,975,005
47: 2,975,006
194: 2,975,007
201: 2,975,008
343: 2,975,009
309— 4: 2,975,010
2,975,011
310— 6: 2,975,307
54: 2,975,308
2,975,309
163: 2,975,310
172: 2,975,311
217: 2,975,312
312— 274: 2,975,012
296: 2,975,013
305: 2,975,014
313— 65: 2,975,313
77: 2,975,314
82: 2,975,315
2,975,316
87: 2,975,317
103: 2,975,318
186: 2,975,319
187: 2,975,320
255: 2,975,321
346: 2,975,322
315—5.23: 2,975,323
5.31: 2,975,324
22: 2,975,325
23: 2,975,326
30: 2,975,327
39: 2,975,328
54.6: 2,975,329
115: 2,975,330
163: 2,975,331
169: 2,975,332
205: 2,975,333
316— 19: 2,975,015
317— 48: 2,975,334
120: 2,975,335
137: 2,975,336
142: 2,975,337
149: 2,975,338
158: 2,975,339
185: 2,975,340
186: 2,975,341
234: 2,975,342
2,975,343
235: 2,975,344
256: 2,975,345
318— 169: 2,975,346
340: 2,975,347
357: 2,975,348
321: 2,975,349
487: 2,975,350
489: 2,975,351
320— 12: 2,975,352
321— 2: 2,975,353
8: 2,975,354
48: 2,975,355
322— 4: 2,975,356
44: 2,975,357
81: 2,975,358
324— 34: 2,973,359
43: 2,975,360
95: 2,975,361
71: 2,975,362
326— 28: 2,975,363
31: 2,975,364
37: 2,975,365
112: 2,975,366
114: 2,975,367
140: 2,975,368
143: 2,975,369
145: 2,975,370
168: 2,975,371
213: 2,975,372
330— 41: 2,975,373
2,975,374
331— 78: 2,975,375
94: 2,975,376
96: 2,975,377
107: 2,975,386
332— 17: 2,975,378
51: 2,975,379
333— 9: 2,975,380
10: 2,975,381
98: 2,975,382
2,975,383
336— 77: 2,975,384
96: 2,975,385
107: 2,975,386
338— 17: 2,975,387
116: 2,975,388
176: 2,975,389
339— 45: 2,975,390
91: 2,975,391
96: 2,975,392
184: 2,975,393
239: 2,975,394
252: 2,975,395
340— 5: 2,975,396
2,975,397
14: 2,975,398
15: 2,975,399
26: 2,975,400
84: 2,975,401
147: 2,975,402
149: 2,975,403
164: 2,975,404
172.5: 2,975,405
174: 2,975,406
174.1: 2,975,407
253: 2,975,408
347: 2,975,409
2,975,410
2,975,411
350: 2,975,412
345— 8: 2,975,413
13: 2,975,414
17: 2,975,415
17.1: 2,975,416
106: 2,975,417
113: 2,975,418
754: 2,975,419
780: 2,975,420
787: 2,975,421
826: 2,975,422
833: 2,975,423
346— 18: 2,975,016
74: 2,976,017

CLASSIFICATION OF DESIGNS

D10— 8: 189,870
189,871
D15— 6: 189,872
D21— 1: 189,873
D23— 1: 189,874
D26— 5: 189,875
D26— 13: 189,876
14: 189,877
D31— 2: 189,878
D33— 7: 189,879
D34— 5: 189,880
5: 189,881
D44— 15: 189,882
189,883
189,884
29: 189,885
D49— 1: 189,886
6: 189,887
D52— 2: 189,888
7: 189,889
D58— 6: 189,890
13: 189,891
25: 189,892
D61— 1: 189,893
D61— 1: 189,894
189,895
D76— 17: 189,896
D80— 6: 189,897
189,898
D81— 6: 189,899
9: 189,900
D85— 8: 189,901
D87— 3: 189,902
D91— 1: 189,903

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

March 14, 1961 Volume 764 Number 2

TRADEMARKS

CONDITION OF TRADEMARK APPLICATIONS AS OF JANUARY 31, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]..... 12,236
Date of oldest new application..... July 8, 1960
Date of oldest amended application..... July 15, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 38, 39, 40, 41, 42, 43, 44, 50	7-8-60	8-8-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-29-60	7-15-60
Renewals (All Classes)	1-6-61	------
Sec. 12 (c) Publications (All Classes)	1-9-61	------

Applications filed during the month of January 1961—1735

Registrations Issued..... 332—No. 712,325 to No. 712,656
Renewals Issued..... 60

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MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 57,034. Vaculite Corporation, Hamilton, Ohio. Filed Aug. 11, 1958.

Vaculite

For Vacuum Metallised Plastics.
First use on or about Feb. 12, 1958.

SN 90,620. Francis A. Bonanno, d.b.a. F.A.B. Products Company, Dayton, Ohio. Filed Feb. 9, 1960.

RED-E-CHAR

For Charcoal Briquets.
First use April 1958.

SN 92,167. Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959; Reg. No. 146,864, dated Jan. 20, 1960.
For Padding and Stuffing Material (Horsehair, Capoc, Feathers, Seaweeds), Textile Fibers Made From Isotactic Polypropylene and From Synthetics on the Basis of Polypropylene.
First use July 24, 1959; in commerce on or about Oct. 26, 1959.

SN 95,010. Phrix-Werke Aktiengesellschaft, Hamburg, Germany. Filed Apr. 13, 1960.

PHRILAN

Owner of German Reg. No. 642,688, dated Aug. 14, 1933; and U.S. Reg. Nos. 699,045, 699,006, and 699,074.
For Spinning Fibers and Staple Fibers, Both Natural and Synthetic.

SN 95,161. Feed Service Corporation, Crete, Nebr. Filed Apr. 15, 1960.

MOREA

Owner of Reg. No. 669,141.
For Living Cattle and Sheep.
First use Apr. 14, 1959.

SN 96,181. J. H. Baker & Sons, Somerville, Tex. Filed May 2, 1960.



The mark is known as the crossed D.
For Livestock.
First use Mar. 4, 1896.

SN 101,425. Phillips Petroleum Company, Bartlesville, Okla. Filed July 25, 1960.

CIS-5

Owner of Reg. No. 660,731.
For Synthetic Rubber.
First use June 30, 1960.

SN 102,018. Fownes Brothers & Co., Incorporated, New York, N.Y. Filed Aug. 4, 1960.

FOWNLON

Owner of Reg. No. 23,017.
For Synthetic Fibers To Be Used in the Manufacture of Hand Gloves.
First use Mar. 1, 1960.

SN 103,113. The Dow Chemical Company, Midland, Mich. Filed Aug. 22, 1960.

ETHAFOAM

Owner of Reg. Nos. 362,672, 685,900, and 701,590.
For Expanded Synthetic Resins.
First use July 13, 1960.

SN 103,115. The Dow Chemical Company, Midland, Mich. Filed Aug. 22, 1960.

STYROLITE

Owner of Reg. Nos. 531,823 and 593,147.
For Expanded Synthetic Resins.
First use Dec. 10, 1956.

SN 103,471. Morton Chemical Company, Chicago, Ill. Filed Aug. 26, 1960.

RWL

For Lubes.
First use on or about May 24, 1957.

SN 103,787. The Dow Chemical Company, Midland, Mich. Filed Sept. 1, 1960.

STYROCEL

Owner of Reg. Nos. 531,823 and 539,147.
For Expanded Synthetic Resins.
First use Oct. 9, 1957.

Class 4—Abrasives and Polishing Materials

SN 90,004. Perry-Austen Manufacturing Company, Incorporated, Grasmere, Staten Island, N.Y. Filed June 14, 1960.

FLOOR MAGIC

For Waxless Emulsion for Floors.
First use Nov. 25, 1957.

SN 106,671. American Military Supply Corp., New York, N.Y. Filed Oct. 14, 1960.

SHYNEROO

For Metal Polish.
First use Oct. 5, 1959.

SN 106,960. Brilliant Abrasive Corporation, Kansas City, Mo. Filed Oct. 24, 1960.

Brilliant

For Abrasive Products—Namely, Raised Hub Blades, Cup Wheels, Portable Hand Saw Blades, Grinding Wheels, Cut-Off Blades, Dry Cutting Blades, Wet Cutting Blades, Resinoid Bonded Blades, and Rubber Bonded Blades.
First use Sept. 16, 1960.

Class 5—Adhesives

SN 92,538. Illinois Tool Works, Chicago, Ill. Filed Mar. 10, 1960.

FASTPROOF

For Adhesive Products.
First use Feb. 22, 1960.

SN 96,021. Mo och Domsjö Aktiebolag, Örnsköldsvik, Sweden. Filed Apr. 28, 1960.

MODOCARB

Owner of Swedish Reg. Nos. 84,920 and 87,484, dated May 16, 1958 and July 3, 1959, respectively; and U.S. Reg. No. 576,218.
For Preparations for Binding Foundry Cores and Molds, Adhesives for Foundry Cores and Foundry Molds.

SN 103,100. Chemical Process Company, San Francisco, Calif. Filed Aug. 22, 1960.



Owner of Reg. Nos. 530,567 and 673,716.
For Synthetic Resinous and Protein Base Adhesives for Bonding Wood or the Like.
First use January 1956.

Class 6—Chemicals and Chemical Compositions

SN 68,883. Dehydag Deutsche Hydrierwerke GmbH, Dusseldorf, Germany. Filed Mar. 4, 1959.

ARAPHEN

Owner of German Reg. No. 680,028, dated Aug. 4, 1955.
For Plasticizing Agents for Addition to Concrete Mixes.

SN 74,738. Geigy Chemical Corporation, Ardsley, N.Y. Filed May 29, 1959.



Owner of Reg. Nos. 396,710, 500,519, and others.
For Dyes, Dyestuffs, Chemical Specialties for Treating and Finishing Textiles Such as Leveling Agents, Softening Agents, Whitening Agents, Preparations Suitable for Protecting Against Attacks From Moths; Agricultural Chemicals Such as Fungicides, Insecticides, Nematocides, Herbicides; Industrial Chemicals Such as Chelating Agents, Surface Active Compounds, Ultra Violet Absorbers, Synthetic Waxes.
First use Apr. 8, 1959, on dyes and textile auxiliaries.

SN 80,074. The Dow Chemical Company, Midland, Mich. Filed Aug. 24, 1959.

TYBRENE

For Synthetic Monomers Used in the Manufacture of the Thermoplastic Resins.
First use July 29, 1959.

SN 94,109. Stauffer Chemical Company, New York, N.Y. Filed Mar. 31, 1960.

GEL-GRO

For Microbiological Culture Medium.
First use on or before Jan. 15, 1960.

SN 95,926. Pitt-Consol Chemical Company, Newark, N.J. Filed Apr. 27, 1960.

PITT-CONSOL

For Cresylic Acids, Phenol, Ortho-Cresol, Meta-Cresol, Para-Cresol, and Xylenols.
First use Feb. 29, 1960.

SN 96,102. Kenrich Petrochemicals, Inc., Maspeth, N.Y. Filed May 31, 1960.

KENMIX

For Rubber Accelerators and Rubber Accelerators Dispersed in Oily Resin.
First use Jan. 25, 1955.

SN 99,200. Acqua Lisa Manufacturing Co., Inc., Brooklyn, N.Y. Filed June 20, 1960.

POOLENE

For Chemical Preparation Used in the Maintenance of Home Wading and Swimming Pools.
First use May 9, 1960.

SN 100,292. P. Robertet, Inc., New York, N.Y. Filed July 8, 1960.

DERMODOR

For Combination of Essential Oils for Manufacturing Purposes or Professional Use Only.
First use June 15, 1960.

SN 100,763. Drilling Specialties Company, Bartlesville, Okla. Filed July 13, 1960.

SOLTEX

For Chemical Drilling Mud Additive.
First use June 21 1960.

SN 100,997. The Hutchinson Products Company, Butler, Pa. Filed July 18, 1960.

TRUE
FEEL
SOFTENER

The word "Softener" is disclaimed apart from the mark as shown.
For Fabric Softener in Liquid Form.
First use July 7, 1960.

SN 100,998. The Hutchinson Products Company, Butler, Pa. Filed July 18, 1960.



The word "Softener" is disclaimed apart from the mark as shown.
For Fabric Softener in Liquid Form.
First use July 7, 1960.

SN 101,305. J. W. Ayers & Co., Easton, Pa. Filed July 22, 1960.

PHELATE

For Chemical Compositions for Use Principally as Gelling Agents, Thickeners, Resin and Oil Modifiers, Acid Acceptors, Drying Aids and Stabilizers.
First use Feb. 22, 1956.

SN 101,679. Gray Realty Corporation, d.b.a. Myson Laboratories, Chicago, Ill. Filed July 29, 1960.

MYACIDE

For Rodenticide—Namely, a Rat and Mouse Bait in Solid, Grain or Pellet Form.
First use on or about July 12, 1960.

SN 101,913. Western Chemical Company, St. Joseph, Mo. Filed Aug. 2, 1960.

BLITZEN

For Ice Melting Compound.
First use Oct. 1, 1956.

SN 102,165. American Cyanamid Company, New York, N.Y. Filed Aug. 8, 1960.

AEROMINE

Owner of Reg. No. 382,822.
For Flotation Reagents for Use in the Concentration of Minerals.
First use Apr. 20, 1940.

SN 106,608. Knickerbocker Biologicals Inc., New York, N.Y. Filed Oct. 18, 1960.

ALBUMASE

For Formulation of Specific 22% Albumin and Activated Enzymes Such as Ficin, Trypsin and Papain, and for Use as a Laboratory Reagent.
First use Aug. 1, 1960.

Class 7 — Cordage

SN 92,168. Montecatini, Societá Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959; Reg. No. 146,864, dated Jan. 20, 1960.
For Ropes, Cords, and Tying Ribbons.

Class 10 — Fertilizers

SN 88,856. W. R. Grace & Co., New York, N.Y. Filed Jan. 12, 1960.



For Urea for Use as a Fertilizer.
First use Jan. 30, 1959.

SN 98,444. Unexcelled Chemical Corporation, New York, N.Y. Filed May 4, 1960.

LAWN LIFE

For Fertilizers.
First use on or about Apr. 6, 1960.

SN 101,718. Wasatch Chemical Company, Salt Lake City, Utah. Filed July 29, 1960.



The linings in the drawing indicate the colors red and yellow.
For Fertilizers.
First use June 1, 1940.

Class 12 — Construction Materials

SN 78,710. National Du-O-Pane Corporation, Brooklyn, N.Y. Filed July 30, 1959.

DU-O-PANE

For Heat Insulating Type Window Units Involving Two Panes of Glass Separated by an Air Space or the Like Therebetween.
First use Jan. 17, 1954.

SN 89,408. Bear Brand Roofing, Inc., Bearden, Ark. Filed Jan. 21, 1960.

DURO-LIFE

For Asphalt Roofing Products—Namely, Saturated Felts, Roll Roofing and Roll Sidings, and Roofing and Siding Shingles.
First use 1952.

SN 90,769. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Feb. 11, 1960.

PAGEANT

For Decorative Tileboard.
First use Jan. 17, 1959.

SN 92,273. Leisure Line Products, Inc., Mineola, N.Y. Filed Mar. 7, 1960.

COLORFAIR

For Metal Wall Tile.
First use Apr. 15, 1959.

SN 95,115. Raybestos-Manhattan, Inc., Passaic, N.J. Filed Apr. 14, 1960.

THREADLINE

For Kit Comprising Four Containers, the Contents of Which Are Adapted To Be Mixed Before Use To Form a Plastic Building Mortar.
First use Mar. 31, 1960.

SN 95,327. The Standard Products Company, Cleveland, Ohio. Filed Apr. 18, 1960.

ELECTROPILE

For Weatherstrips and the Like.
First use Feb. 24, 1960.

SN 95,521. Penn Crete Products Co., Philadelphia, Pa. Filed Apr. 21, 1960.

COAT CRETE

For Plaster and/or Plaster Finish Applied by Trowel as a Bonding and Finishing Coat Applied in One Operation to Interior Concrete Ceilings, Walls, Beams and Columns (Smooth or Rough).
First use Mar. 21, 1957.

SN 97,713. Sta-Crete Inc., d.b.a. Black Technical Industries, San Francisco, Calif. Filed May 23, 1960.



For Patching Assemblage Comprising a Cementitious Base and a Latex Emulsion.
First use Apr. 11, 1960.

SN 98,019. National Gypsum Company, Buffalo, N.Y. Filed May 27, 1960.

BRUXELLES

The English translation of the mark is "Brussels."
For Sculptured Ceiling Tile.
First use Apr. 18, 1960.

SN 98,685. Union Carbide Corporation, New York, N.Y. Filed June 8, 1960.

UNION
CARBIDE

Owner of Reg. No. 704,122.
For Water Vapor Barrier Film Used as Vapor Barriers, Flashing, Concrete Curing Covers, and for Other Uses in the Construction Industry.
First use on or about June 2, 1959.

SN 99,000. Oregon-Pacific Forest Products Corporation, Portland, Oreg. Filed June 14, 1960.



For Lumber and Forest Products.
First use May 9, 1960.

SN 100,730. Southwestern Veneer Company, Cotton Plant, Ark. Filed July 12, 1960.



The representation of the goods is disclaimed apart from the mark as shown.
For Plywood Panels.
First use June 27, 1960.

SN 100,644. Ralph Goldberger, Linden, N.J. Filed July 14, 1960.

CRETE INSTANT

For Cementitious Blend of Aggregates To Be Used in the Performance of All Types of Masonry and Concrete Work.
First use May 15, 1959.

SN 101,619. General Mills, Inc., Minneapolis, Minn. Filed July 28, 1960.

PLASTIFOAM

Owner of Reg. No. 639,171.
For Sound Deadening Decorative Panels.
First use June 23, 1960.

SN 101,919. V. E. Anderson Manufacturing Company, Owensboro, Ky. Filed Aug. 3, 1960.

ANDERSON

Owner of Reg. No. 621,922.
For Aluminum-Framed Louvers, Aluminum and Wood-Framed Combination Storm Windows and Doors With Screens, Wood-Framed Porch and Breese-Way Enclosures, and Wood Window Units.
First use on or about Aug. 1, 1954.

SN 105,909. Modern Stone Company, Inc., Arlington, Tex. Filed Oct. 6, 1960.

MODESCO

For Cast Stone and Brick.
First use Sept. 1, 1960.

SN 105,933. The Stanley Works, New Britain, Conn. Filed Oct. 6, 1960.

STANLEY

Owner of Reg. No. 363,586.
For Windows, Doors and Parts Thereof.
First use about January 1956; about 1900 as to "Stanley" on parts for windows and doors.

SN 106,000. Stran-Steel Corporation, Ecorse, Mich. Filed Oct. 7, 1960.

STRAN

Owner of Reg. Nos. 307,793, 440,757, and 662,440.
For Readily Erectable Buildings, Knock-Down Buildings, Prefabricated Buildings and Structural Parts and Elements for Building Construction.
First use May 20, 1960.

SN 106,048. Cold Spring Granite Company, Cold Spring, Minn. Filed Oct. 10, 1960.

ROCKVILLE

For Cut Stone for Structural and Monumental Use.
First use 1940.

SN 106,092. Globe Roofing Products Co., Inc., Whiting, Ind. Filed Oct. 10, 1960.

ALUMI-GRAIN

Owner of Reg. No. 382,959.
For Shingles.
First use Sept. 22, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 99,202. Ross Cook, Inc., Los Angeles, Calif. Filed June 17, 1960.

CLEAN-SWEEP

For Tubing, T's, Elbows, Reducers, Nipples, Couplings, Band Hangers, Y's and Pneumatic Systems Incorporating Such Components.
First use May 10, 1960.

SN 101,526. The Vollrath Co., Sheboygan, Wis. Filed July 26, 1960.

CONTINENTAL V-IV

For Stainless Steel Cooking Ware—Namely, Sauce Pans, Pots, Covers, Skillets, Casserole Inserts, and Egg Cups.
First use July 20, 1960.

SN 102,866. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 17, 1960.



For Wide Variety of Industrial and Automotive Steel Forgings Such as Hinges, Bolts, Latches, Etc.
First use Sept. 16, 1908.

SN 103,375. United States Pipe and Foundry Company, Birmingham, Ala. Filed Aug. 24, 1960.

TYTON

Owner of Reg. Nos. 661,920, 689,360, and others.
For Cast Iron Pressure Pipe Joints.
First use Feb. 9, 1959.

Class 14—Metals and Metal Castings and Forgings

SN 97,021. Anaconda Aluminum Company, Columbia Falls, Mont. Filed May 13, 1960.

LITHOFOIL

For Aluminum Foil, Especially Foil Prepared for Lithography.
First use Apr. 19, 1960.
Subj. to Intf. with SN 94,679.

SN 101,513. Reynolds Metals Company, Richmond, Va. Filed July 26, 1960.

REYDOX

For Aluminum and Aluminum Alloy Castings.
First use on or about May 20, 1960.

SN 101,607. Dana Corporation, Toledo, Ohio. Filed July 28, 1960.

DANALOY

For Metal Stampings, Castings and Forgings for Parts Used in Automotive Vehicles, Agricultural Equipment and Machinery, Industrial Equipment and Aircraft.
First use on or about Oct. 30, 1957.

Class 15—Oils and Greases

SN 72,972. The Western Petrochemical Corporation, New York, N.Y., assignee of Warwick Wax Co. Inc., New York, N.Y. Filed May 5, 1959.

WILLY WAXHEART

For Petroleum and Paraffin Waxes.
First use Apr. 19, 1957.

SN 91,187. The Western Petrochemical Corporation, New York, N.Y. Filed Feb. 18, 1960.



For Petroleum and Paraffin Waxes.
First use Apr. 19, 1957.

SN 92,548. Pan-American Laboratories, Inc., Angola, Ind. Filed Mar. 10, 1960.

GEAR MOLY

The word "Gear" when used separate and apart from the trademark is disclaimed.
For Lubricants for Application to Differentials, Gear Boxes, Transmissions, Conveyors, Bearings, Elevators, Guide Pins, and Other Devices Employed in Land, Marine, and Industrial Equipment.
First use Jan. 20, 1960.

SN 95,848. Oklahoma Tire & Supply Company, Tulsa, Okla. Filed Apr. 26, 1960.

Auto Magic

For Motor Oils.
First use Oct. 16, 1959.

Class 16—Protective and Decorative Coatings

SN 88,647. Chase and Sons, Inc., North Quincy, Mass. Filed Jan. 8, 1960.

CHASEKOTE

For Laminating Coating Materials in Sheet Form for Application to Pipes, Tubes and the Like.
First use on or about July 30, 1959.

SN 97,598. The Wilbur & Williams Company, Inc., Norwood, Mass. Filed May 20, 1960.

TILE-COTE

For Activated Epoxy Coating for Wood, Metal or Masonry.
First use Mar. 1, 1960.

SN 102,662. Interchemical Corporation, New York, N.Y. Filed Aug. 15, 1960.

AURELIAN BRONZE

For Coloring Material for Use in Varnishes, Lacquers, Enamels, and Paints Sold in Both Solid Form and Dispersed in a Liquid Vehicle.
First use June 5, 1957.

SN 102,764. The Hausman Steel Company, Toledo, Ohio. Filed Aug. 16, 1960.

DEM-A-TOP

For Epoxy Coating Compositions.
First use May 20, 1960.

SN 102,765. The Hausman Steel Company, Toledo, Ohio. Filed Aug. 16, 1960.

DEM-A-GLAZE

For Epoxy Coating Compositions.
First use May 20, 1960.

SN 102,890. Breinig Brothers, Inc., Hoboken, N.J. Filed Aug. 18, 1960.

BREICRAFT MARBELIZER

For Paint.
First use June 21, 1960.

Class 17—Tobacco Products

SN 75,721. General Cigar Company, Inc., New York, N.Y. Filed June 15, 1959.

CIGAR-GRAM

For Gift Wrappers for Boxes of Cigars.
First use May 28, 1959.

SN 75,722. General Cigar Company, Inc., New York, N.Y. Filed June 15, 1959.

CIGAR-A-GRAM

For Gift Wrappers for Boxes of Cigars.
First use May 28, 1959.

SN 75,723. General Cigar Company, Inc., New York, N.Y. Filed June 15, 1959.

CIGAR-O-GRAM

For Gift Wrappers for Boxes of Cigars.
First use May 28, 1959.

SN 104,049. Rembrandt Tobacco Corporation (Overseas) Limited, Union of Stellenbosch, Union of South Africa. Filed Sept. 7, 1960.

MILLION-AYRE

Owner of Union of South Africa Reg. No. 60/667, dated Feb. 20, 1960.
For Cigarettes.

SN 104,114. Rembrandt Tobacco Corporation (Overseas) Limited, Union of Stellenbosch, Union of South Africa. Filed Sept. 8, 1960.

INTERNATIONAL PASSPORT

For Cigarettes.
First use June 27, 1960; in commerce June 27, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 76,913. Armour and Company, Chicago, Ill. Filed July 2, 1959.

ENZYGRANS

For Drug—Namely, Pancreatin Granules for Manufacturing Use.
First use June 9, 1959.

SN 81,405. Jason Products, Inc., d.b.a. Jason Pharmacal Company, Washington, D.C. Filed Sept. 15, 1959.

PRYME-A-LIFE NUGGETS

For Vitamin and Mineral Dietary Supplement Sold in Tablet Form.
First use Sept. 14, 1959.

SN 81,406. Jason Products, Inc., d.b.a. Jason Pharmacal Company, Washington, D.C. Filed Sept. 15, 1959.

RED NUGGETS

For Vitamin and Mineral Dietary Supplement Sold in Tablet Form.
First use Sept. 14, 1959.

SN 81,407. Jason Products, Inc., d.b.a. Jason Pharmacal Company, Washington, D.C. Filed Sept. 15, 1959.

APPETITE NUGGETS

For Vitamin and Mineral Dietary Supplement Sold in Tablet Form.
First use Sept. 14, 1959.

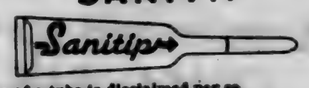
SN 81,408. Jason Products, Inc., d.b.a. Jason Pharmacal Company, Washington, D.C. Filed Sept. 15, 1959.

YELLOW NUGGETS

For Vitamin and Mineral Dietary Supplement Sold in Tablet Form.
First use Sept. 14, 1959.

SN 82,923. The Sanitube Company, Newport, R.I. Filed Oct. 8, 1959.

SANITIP



The outline of a tube is disclaimed per se.
For Preparations Indicated in and for the Prevention and Treatment of Social Diseases.
First use June 1956.

SN 82,939. Vitamin Capsule Corporation, Buffalo, N.Y. Filed Oct. 8, 1959.

Insomnal 11-7

It's a Natural. Don't Gamble on a Sleepless Night.

The wording "It's a Natural. Don't Gamble on a Sleepless Night" is disclaimed apart from the mark as shown.
For Medicament for Inducing Sleep.
First use on about Oct. 2, 1959; about 1949 as to "Insomnal."

SN 91,094. Laboratoire Roger Bellon, Neuilly-sur-Seine, France. Filed Feb. 17, 1960.

BILCRIN

Owner of French Reg. No. 484,087, dated Nov. 17, 1959 (Seine); Natl. Inst. No. 134,502.
For Pharmaceutical Preparation for Causing an Increase Both in the Biliary Secretion and in the Bile Concentration Into Bile Salts, Bile Pigments and Cholesterol.

SN 93,326. H. C. Lients & Co., Inc., Fillmore, Calif. Filed Mar. 21, 1960.

HYDROSULPHOSOL

For Calsulfhydryl for Prevention of Infection, To Stimulate the Healing of Wounds and for Burns.
First use July 15, 1936.

SN 93,509. Durotex Chemical Company, White Deer, Tex. Filed Mar. 23, 1960.

STIM-O-STAM

For Food Supplement Comprising a Mixture of Alkali Metal Phosphates Contained in Natural Body Salts.
First use Aug. 1, 1957.

SN 94,228. R. B. Ashwander, d.b.a. Pet Pharmaceuticals Co., McAllen, Tex. Filed Apr. 4, 1960.

Odorettes

For Deodorant Tablets for Body and Mouth Odors in Dogs and Cats.
First use Mar. 3, 1956.

SN 94,544. Lee J. Adams, d.b.a. Adams Supply Company, Ramsey, Ill. Filed Apr. 7, 1960.

Adams NO-MO

For Medicine for Expelling Tape Worms, Treating Ear Canker and Mange in Dogs.
First use Apr. 1, 1932.

SN 94,949. Aktiebolaget Bofors, Bofors, Sweden. Filed Apr. 13, 1960.

EDALCAIN

Owner of Swedish Reg. No. 79,466, dated Dec. 16, 1955.
For Anesthetics.

SN 99,588. The Schuemann-Jonis Co., Cleveland, Ohio. Filed June 23, 1960.

GELSINATE

For Buffering Agent Incorporated in a Medicinal Preparation for Relieving the Discomforts of Colds, Headaches, and Muscular Pain.
First use Apr. 25, 1960.

SN 100,387. Pharmetics Corporation, Baltimore, Md. Filed July 5, 1960.

MY KNIGHT

Owner of Reg. Nos. 378,477 and 661,747.
For Medicinal Mineral Oil, Cod Liver Oil, Rubbing Alcohol, Rubbing Alcohol Compound, Castor Oil, Petroleum Jelly, Aspirin; Body Rub Liniment, Milk of Magnesia, Peroxide of Hydrogen, Saccharin, Soda Mint, Sodium Phosphate, Boric Acid, Sodium Perborate, Sodium Bicarbonate, Epsom Salts, Spirits of Ammonia, Healing Ointment, Tincture of Iodine, Citrate of Magnesia, Petrolatum, Healing Salves.
First use May 18, 1937.

SN 100,881. Block Drug Company, Inc., Jersey City, N.J. Filed July 15, 1960.

DOLEX

For Medicinal Preparation for Pain Relief Before and After Dental Procedures, Simple Headaches, Neuralgia, Minor Muscular Aches, Discomforts of Cold and Fever, and Ordinary Functional Periodic Distress.
First use June 24, 1960.

SN 104,582. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 16, 1960.

BESOGEL

Owner of German Reg. No. 693,737, dated Aug. 9, 1956.
For Stomach and Medicated Skin Preparations.

SN 104,800. American Home Products Corporation, d.b.a. Whitehall Laboratories, New York, N.Y. Filed Sept. 20, 1960.

COMPOUND W

No claim is made to the word "Compound" apart from the mark as shown.
For Preparation for the Treatment and Removal of Warts.
First use Sept. 15, 1954.

SN 106,467. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Oct. 17, 1960.

ORDERXV

For Vitamin Mineral Food Supplement in Wafer Form.
First use Sept. 23, 1960.

SN 106,468. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Oct. 17, 1960.

ORDERV

For Vitamin Mineral Food Supplement in Wafer Form.
First use Aug. 18, 1960.

SN 106,881. Biobasal A.G., Basel, Switzerland. Filed Oct. 21, 1960.

HISTAGLOBIN

Owner of Swiss Reg. No. 179,593, dated Feb. 1, 1960.
For Antiallergic Compositions.

SN 106,886. Dorock Company, Dover, N.J. Filed Oct. 21, 1960.

69

Applicant disclaims the word "Formula" apart from the mark as shown. The drawing is lined for red and green; however, no claim for these colors is made.
For Drug Compound Used for the Treatment of Acne and Skin Irritations or Skin Diseases.
First use July 1, 1955.

SN 106,967. Adlife Laboratories, Inc., Oneida, N.Y. Filed Oct. 24, 1960.

ADVIM

For Vitamin-Mineral Capsules.
First use Sept. 27, 1960.

SN 107,526. Walker Laboratories, Inc., Mount Vernon, N.Y. Filed Oct. 31, 1960.

NATOREXIC

For Prenatal Nutritional Supplement Containing Vitamins and Minerals.
First use Oct. 13, 1960.

SN 107,691. N.V. Philips-Duphar, Amsterdam, Netherlands. Filed Nov. 2, 1960.

DUPHASTON

Priority claimed under Sec. 44(d) on Dutch application filed Aug. 18, 1960; Reg. No. 138,583, dated Sept. 20, 1960. Owner of U.S. Reg. Nos. 565,633 and 686,830.
For Hormone Preparations.

SN 108,235. S. J. Tutag & Company, Detroit, Mich. Filed Nov. 10, 1960.

CYDRIL

For Anorexigenic Agent.
First use Mar. 17, 1960.

SN 108,664. Chas. Pfizer & Co., Inc., Brooklyn, N.Y. Filed Nov. 17, 1960.

MULTIVAC

For Immunizing Vaccine.
First use Oct. 27, 1960.

SN 108,715. Sterling Drug Inc., New York, N.Y. Filed Nov. 18, 1960.

PLANOLAR

For Preparation With Analgesic, Anti-Inflammatory, Muscle Relaxant, and Tranquilising Properties.
First use Oct. 17, 1960.

SN 108,811. Parke, Davis & Company, Detroit, Mich. Filed Nov. 21, 1960.

PORTYN

For Anticholinergic Preparation.
First use Apr. 14, 1960.

SN 108,869. Robert R. Bischoff, d.b.a. Rollins, Atlanta, Ga. Filed Nov. 22, 1960.

CAPITONIC

For Vitamin Tonic.
First use Sept. 22, 1960.

SN 108,892. Grove Laboratories Incorporated, St. Louis, Mo. Filed Nov. 22, 1960.

DEFENCIN

Owner of Reg. No. 612,079.
For Relaxant Analgesic.
First use Aug. 16, 1960.

SN 108,990. The Mentholatum Company, Buffalo, N.Y. Filed Nov. 23, 1960.

MENTHOLATUM

M.P.O.

Owner of Reg. Nos. 27,260, 686,821, and others.
For Ointment for the Relief of Hemorrhoids.
First use Sept. 14, 1960.

SN 109,535. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Dec. 2, 1960.

PAPASE

For Enzyme Preparation.
First use Nov. 4, 1960.

SN 109,884. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. Filed Dec. 8, 1960.

SORBIFER

For Pharmaceutical Preparations—Namely, Iron Preparations.
First use Sept. 26, 1960; in commerce Sept. 26, 1960.

SN 109,881. Laica Limited, London, England. Filed Dec. 8, 1960.

PRODERMIDE

Owner of British Reg. No. 756,101, dated July 30, 1956.
For Pharmaceutical Preparations for the Skin.

SN 109,917. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 8, 1960.

TYMPACAINE

For Eardrops for Veterinary Use.
First use May 8, 1955.

SN 109,918. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 8, 1960.

CAL-O-B

For Composition for Treatment of Calcium, Iron and Certain Vitamin and Mineral Deficiencies, Especially in Pregnancy and Lactation, Geriatrics and Convalescence.
First use June 22, 1955.

SN 109,920. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 8, 1960.

MYOFLEX

For Analgesic for Relieving Painful Joints, Aching Muscles, Etc.
First use Mar. 11, 1955.

SN 109,923. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 8, 1960.

TALOIN

For Ointment for Diaper Rash.
First use Sept. 13, 1939.

SN 109,924. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 8, 1960.

THERA-TERGENT

For Therapeutic Detergent Shampoo for Veterinary Use.
First use Oct. 1, 1950.

Class 19—Vehicles

SN 89,827. Aktiebolaget Max Sievert, Sundbyberg, Sweden. Filed Jan. 28, 1960.

CARMAX

Priority claimed under Sec. 44(d) on Swedish application filed July 31, 1959; Reg. No. 86,494, dated Dec. 11, 1959.
For Heating Apparatus To Pre-Heat Motors or Engines of Automobiles or Other Motor-Driven Vehicles To Provide Easier Starts in Cold Weather.

SN 92,487. Patons Brake Replacements Proprietary Limited, East Bentleigh, near Melbourne, Victoria, Australia. Filed Mar. 9, 1960.

PBR

For Vehicle Brakes and Parts Therefor.
First use Sept. 1, 1954; in commerce Sept. 1, 1958.

SN 92,488. Patons Brake Replacements Proprietary Limited, East Bentleigh, near Melbourne, Victoria, Australia. Filed Mar. 9, 1960.



For Vehicle Brakes and Parts Therefor.
First use July 1, 1949; in commerce Sept. 1, 1958.

SN 94,339. Pantherwerke A.G., Braunschweig, Germany. Filed Apr. 4, 1960.

LEOPARD

Owner of German Reg. No. 524,146, dated Aug. 21, 1940.
For Motor-Bicycles and Bicycles.

SN 97,090. Jewell G. Oswald, d.b.a. Magic Car-Pet, Elkhart, Ind. Filed May 13, 1960.

Magic Car-Pet

The drawing is lined for red, but no claim is made to color. Applicant disclaims the terms "Deluxe" and "Elkhart, Indiana" apart from the mark as shown.
For Travel Trailers.
First use Mar. 12, 1960.

SN 101,523. Transcontinental Sales Co., d.b.a. Transcontinental Sales Co., Inc., Los Angeles, Calif. Filed July 26, 1960.



No claim is made to the representation of the goods appearing on the drawing.
For Sea Anchors.
First use at least as early as March 1960.

SN 101,620. General Mills, Inc., Minneapolis, Minn. Filed July 28, 1960.

PLASTIFOAM

Owner of Reg. No. 639,171.
For Dashboard Padding and Seat Cushioning.
First use June 23, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 86,301. Julian A. McDermott Corporation, Ridgewood, N.Y. Filed Nov. 30, 1959.

STAF-FLASH

For Battery Operated Beacon Lights.
First use May 1, 1959.

SN 100,947. Trade Manufacturing Co., Chicago, Ill. Filed July 15, 1960.

MINI-SPEAKER

For Radio Speaker.
First use Apr. 17, 1960.

SN 101,092. General Cable Corporation, New York, N.Y. Filed July 19, 1960.

QUALPETH

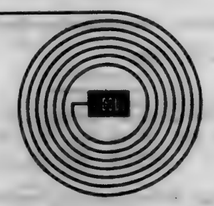
For Electric Cables.
First use June 14, 1960.

SN 101,140. U.S. Magnet & Alloy Corporation, Bloomfield, N.J. Filed July 19, 1960.

ALNICUS

For Magnets.
First use July 15, 1960.

SN 105,143. The Connecticut Hard Rubber Company, New Haven, Conn. Filed Sept. 26, 1960.



For Insulating Material for Electrical Conductors.
First use July 13, 1960.

SN 105,183. The May Department Stores Company, New York, N.Y. Filed Sept. 26, 1960.

DURACREST

For Electric Waffle Irons, Griddles, Toasters, Skillets, Sauce Pans, Irons, Coffee Percolators, Portable Table Ranges, and Window Fans.
First use Apr. 19, 1960.

SN 106,841. Yardney Electric Corporation, New York, N.Y. Filed Oct. 5, 1960.

"FROM MILLIAMPS TO MEGAWATTS"

For Electric Batteries, Accessories and Parts Thereof.
First use Feb. 13, 1959.

Class 22—Games, Toys, and Sporting Goods

SN 76,426. Putnam Products Co., Inc., New York, N.Y. Filed June 24, 1959.

JACK & THE BEANSTALK

For Blocks or Building Elements Sold as a Unit for Playing a Building Game by Children.
First use Mar. 15, 1959.

SN 92,868. Eberhard Faber Toy & Game Co., Inc., Wilkes-Barre, Pa. Filed Mar. 9, 1960.



For Children's Toys—Namely, Pencil, Crayon, Paint and Similar Type Art Sets and Parts Therefor, Printing, Decorating and Origami Sets, and Equipment (or Apparatus) Sold as Units for Playing Chess, Checkers and Similar Games of Skill and Chance.
First use Jan. 25, 1960.

SN 93,898. Peter M. Abdelmaseh, Worcester, Mass. Filed Mar. 29, 1960.

minnow-mizer

For Combination Float and Bait Holding and Protecting Device.
First use Feb. 23, 1960.

SN 99,699. Aeronautical Developments of Florida, Inc., Jacksonville, Fla. Filed June 27, 1960.



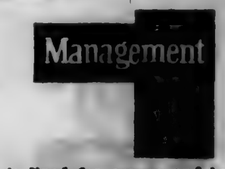
For Glider for Use by Water Skiers.
First use Apr. 27, 1960.

SN 101,553. Ideal Toy Corporation, Hollis, N.Y. Filed July 27, 1960.

BYE-BYE BABY

No claim of exclusive right is made to "Baby" for dolls, apart from the mark as shown.
For Dolls.
First use Mar. 31, 1960.

SN 101,655. The Avalon Hill Company, Baltimore, Md. Filed July 29, 1960.



The drawing is lined for orange and brown, but color is not claimed as a feature of the mark.
For Equipment Sold as a Unit for Playing a Board Game.
First use Mar. 1, 1960.

SN 103,810. The Seamless Rubber Company, New Haven, Conn. Filed Sept. 1, 1960.

SK

Owner of Reg. No. 681,457.
For Footballs, Basketballs, and Soccer Balls.
First use July 15, 1960.

SN 104,018. Brandell Products Corporation, Chicago, Ill. Filed Sept. 7, 1960.

ROCKET

For Ball Return Target Nets.
First use on or about July 11, 1960.

SN 104,219. Abe & Al Tackle Co., Port Angeles, Wash. Filed Sept. 12, 1960.

ABE & AL

For Fish Lures—Namely, Metal Flashers.
First use July 1, 1948.

SN 104,301. The Nivison-Weiskopf Co., Cincinnati, Ohio. Filed Sept. 12, 1960.

Jolly Jouster

For Toy Shields Made of Corrugated Board or the Like.
First use Sept. 2, 1960.

SN 104,688. Brunswick Corporation, Chicago, Ill. Filed Sept. 19, 1960.



For Bowling Alley, Parts, and Accessories—Namely, Pins, Balls, Ball Bags, Ball Racks, Ball Returns, Ball Lifts, Pinsetters and Parts Therefor, and Billiard Tables.
First use in May 1959.

SN 104,729. Johnston, Inc., Dallas, Tex. Filed Sept. 19, 1960.

NO-SHAG

For Golf Practice Nets.
First use July 28, 1960.

SN 104,730. Johnston, Inc., Dallas, Tex. Filed Sept. 19, 1960.

NY-LO-SCO

For Golf Practice Nets.
First use July 25, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 87,803. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed Dec. 22, 1959.

ECLIPSE

For Pesticidal Applicators—Namely, Manually Operated Sprayers.
First use June 16, 1952.

SN 87,805. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed Dec. 22, 1959.

CLOUD

For Pesticidal Applicators—Namely, Manually Operated Sprayers.
First use Apr. 2, 1956.

SN 90,458. Superior Manufacturing Co., Albert City, Iowa. Filed Feb. 5, 1960.

SUPERIOR

For Grease Guns of the Manual, Lever-Operated Type.
First use 1926.

SN 92,488. Patons Brake Replacements Proprietary Limited, East Bentleigh, near Melbourne, Victoria, Australia. Filed Mar. 9, 1960.



For Machinery Brakes and Parts Thereof.
First use July 1, 1949; in commerce Sept. 1, 1956.

SN 92,489. Patons Brake Replacements Proprietary Limited, East Bentleigh, near Melbourne, Victoria, Australia. Filed Mar. 9, 1960.



For Machinery Brakes and Parts Thereof.
First use Sept. 1, 1954; in commerce Sept. 1, 1956.

SN 94,632. Tatge Chemical Company, Herington, Kans. Filed Apr. 7, 1960.

TOX-O-WIK

Owner of Reg. No. 624,717.
For Grain Dryers, Bale Handling Tools, Insecticide Applicators for Livestock, Feed Troughs for Livestock, and Post Hole Diggers.
First use August 1956.

SN 95,074. Manton Gaulin Manufacturing Company, Inc., Everett, Mass. Filed Apr. 14, 1960.

GAULIN

Owner of Reg. No. 671,506.
For Machinery, Including Pumps, Homogenisers, and Other Similar Apparatus.
First use January 1925.

SN 100,906. William C. N. Hopkins, d.b.a. American Metal Products Company and American Metal Products International Co., Portland, Oreg. Filed July 15, 1960.

TROPICLAD

Owner of Reg. No. 663,998.
For Mufflers, Exhaust Systems and Parts Thereof.
First use March 1958.

SN 102,685. The Jayso Corporation, Long Beach, Calif. Filed Aug. 15, 1960.

GROCERETTE

For Automatic Merchandising Machines.
First use June 16, 1960.

SN 102,726. Barry Wright Corporation, Watertown, Mass., by consolidation and change of name from Barry Controls Incorporated, Watertown, Mass. Filed Aug. 16, 1960.

SERVA-LEVL

For Vibration and Sound Isolators.
First use Feb. 15, 1960.

SN 102,863. Peterson Products of San Mateo, Inc., Belmont, Calif. Filed Aug. 17, 1960.

GLASS HOG

For Device for Chopping Glass Roving Into Short Fiber Lengths Used Particularly in the Field of Reinforced Plastic Manufacture.
First use on or about Oct. 1, 1958.

SN 102,866. Cal Connell Cadillac Corporation, d.b.a. Crusader Marine, Warren, Mich. Filed Aug. 18, 1960.



For Marine Engines.
First use on or about Sept. 1, 1956.

SN 102,930. Lessona Corporation, Cranston, R.I. Filed Aug. 18, 1960.

UNICONER

For Machines and Parts Thereof for Winding Thread, Yarn, Cord, Twine, and the Like.
First use May 12, 1960.

SN 103,139. Andrew Fraser & Company Limited, London, England. Filed Aug. 22, 1960.

FRASER MONO-RADIAL

Owner of British Reg. No. 732,775, dated Sept. 6, 1954.
For Hydraulic Radial Cylinder Pumps and Valves for Use in Hydraulic Systems.

SN 103,231. Vernon Tool Company of Arizona, Phoenix, Ariz. Filed Aug. 22, 1960.

VETCOA

For Rotary Table for Boring and Threading.
First use May 18, 1960.

SN 104,869. Tramco Industries, Inc., New York, N.Y. Filed Sept. 20, 1960.

TRAMCO

Owner of Reg. No. 678,407.
For Automatic Transmission and Power Steering Parts for Automobiles and Vehicles.
First use June 20, 1960.

SN 105,204. Flattner Company, Inc., North Kansas City, Mo. Filed Sept. 26, 1960.

PROTECT-O-SEAL

Owner of Reg. No. 650,572.
For Machine for Skin Packaging of Articles of Merchandise.
First use Nov. 19, 1959.

SN 105,286. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wuerzburg, Germany. Filed Sept. 28, 1960.

ROTAFOLIO

Owner of German Reg. No. 729,900, dated Oct. 12, 1959.
For Sheet-Fed Letterpress Rotaries.

Class 24 — Laundry Appliances and Machines

SN 101,988. H. L. Mustee & Sons, Inc., Cleveland, Ohio. Filed Aug. 2, 1960.

KWIKLINK

For Hose Connectors in Laundry Tubs.
First use June 20, 1960.

Class 26 — Measuring and Scientific Appliances

SN 64,354. Burleigh Brooks Inc., Englewood, N.J. Filed Dec. 15, 1958.

MECATWIN

Owner of Reg. No. 634,627.
For Electronic Flash Apparatus for Use in Photography, Particularly Exposure Units.
First use on or about July 14, 1955.

SN 73,238. The Howe Scale Co., Rutland, Vt. Filed May 9, 1960.

BATCHPLUG

For Formula Control Devices for Automatic Batching Systems and Apparatus.
First use Feb. 24, 1960.

SN 74,204. Dynatronics, Inc., Orlando, Fla. Filed May 21, 1960.

D

For Electronic Testing Equipment—Namely, Automatic Discriminator Checkout Systems for Use on Telemetering Sub-Carrier Channels, FM/FM Telemetry Test Sets, and Telemetry Voltage Calibrators.
First use in about October 1957.

SN 73,088. Tellurometer (Proprietary) Limited, Plumstead, Cape Province, Union of South Africa. Filed July 20, 1959.

HYDRODIST

Priority claimed under Sec. 44(d) on South African Reg. No. 59/1647, dated May 28, 1959.
For Distance Measuring Instruments, Employing Micro-Wave Principles, for Use in Making Surveys.

SN 73,089. Tellurometer (Proprietary) Limited, Plumstead, Cape Province, Union of South Africa. Filed July 20, 1959.

RADIOTAPE

Priority claimed under Sec. 44(d) on Union of South Africa Reg. No. 59/1646, dated May 28, 1959.
For Distance Measuring Instruments, Employing Micro-Wave Principles, for Use in Making Surveys.

SN 73,091. Tellurometer (Proprietary) Limited, Plumstead, Cape Province, Union of South Africa. Filed July 20, 1959.

AERODIST

Priority claimed under Sec. 44(d) on South African Reg. No. 59/1645, dated May 28, 1959.
For Distance Measuring Instruments, Employing Micro-Wave Principles, for Use in Making Surveys.

SN 98,365. Compagnie Generale d'Electro-Ceramique, Paris, France. Filed Jan. 4, 1960.

CEROC

Owner of French Reg. No. 484,047, dated Apr. 8, 1957 (Seine); Natl. Inst. No. 58,186.
For Measuring Apparatus Having Parts Resistant to Wear Made in Particular of Ceramic Material, Notably of Sintered Alumina, Including Measuring Scales, Measuring Surfaces for Comparing Apparatus, Caliper Gauges, Micrometer Gauges and All Other Measuring Apparatus Having Shafts, Pivots or Bearings Exposed to Wear.

SN 98,613. The Monarch Machine Tool Company, Sidney, Ohio. Filed Jan. 7, 1960.

PATHFINDER

For Control Apparatus for Programmed Automatic Control of Machine Tools.
First use Dec. 29, 1959.

SN 94,765. The Howe Scale Company, Rutland, Vt. Filed Apr. 11, 1960.

HOWE

Owner of Reg. No. 87,907.
For Weighing Apparatus and Machines—Namely, Scales, Batching Machines, Formula Weight Control Devices, Digital Weight Readout Devices, Weight Printing Devices, Load Cells and Parts, Accessories and Control Devices for the Above-Described Apparatus and Machines.
First use at least as early as 1857 on at least certain ones of the above-enumerated goods.

SN 94,639. Solar Products Limited, Philadelphia, Pa. Filed Apr. 11, 1960.

AQUAZO

For Sensitized Paper, Blueprint and Diazo Types.
First use Mar. 8, 1960.

SN 96,482. Comptometer Corporation, Chicago, Ill. Filed May 5, 1960.

COMPTOCARD

For Electrical Read-Out Mechanism for Controlling a Key Punch Apparatus in Accordance With the Result Registered in an Accumulator.
First use Apr. 18, 1960.

SN 96,124. Chester J. Nowak, d.b.a. Nowak's Optical Service, Chicago, Ill. Filed May 31, 1960.

POWER BLEND

For Contact Lenses.
First use Mar. 1, 1960.

SN 96,318. Waukesha Foundry Company, Waukesha, Wis. Filed June 2, 1960.

MFC

For Meter Flow Control Units.
First use Mar. 15, 1960.

SN 96,609. Werner Rustenacht, d.b.a. The Heusser Instrument Manufacturing Company, Salt Lake City, Utah. Filed June 6, 1960.

NEWEIGH

For Precision Weighing Equipment (Balances).
First use Mar. 23, 1960.

SN 101,428. Pratt & Whitney Company, Incorporated, West Hartford, Conn. Filed July 25, 1960.

Electrolimit

Owner of Reg. Nos. 295,015, 408,129, and 532,678.
For Measuring Apparatus—Namely, Instruments for Measuring, Indicating, Recording and Controlling Dimensional Characteristics; Dimensional Gages—Namely, Electromechanical, External and Internal Gage Comparators, Height Gages and Snap Gages; and Parts and Associated Equipment Thereof.
First use on or before Mar. 20, 1960, on dimensional gages; on or about Jan. 16, 1962, in a different display, on dimensional gages.

SN 101,853. Andre Victor Leon Clement Dubris, Paris, France. Filed Aug. 2, 1960.

SINMOR

Priority claimed under Sec. 44(d) on French Reg. No. 488,913, dated June 20, 1960 (Seine); Natl. Inst. No. 144,603.
For Apparatus for Taking Motion Pictures and Component Parts Thereof.

SN 101,995. Air Conditioning Equipment Corporation, New York, N.Y. Filed Aug. 4, 1960.

Kth

Applicant disclaims exclusive rights to the words "Sweep Balance BTU Meter" apart from the mark as shown.
For Sweep Balance B.t.u. Meters.
First use on or about Mar. 1, 1960.

SN 102,630. Engineered Electronics Company, Santa Ana, Calif. Filed Aug. 15, 1960.

MINISIG

Owner of Reg. No. 677,206.
For Electronic Indicators, Electronic Circuit Plug-in Units, Electronic Circuit Computer Units, Amplifiers, Electronic Decimal Counters, Stepping Switches and Electronic Equipment Racks.
First use Apr. 19, 1960.

SN 102,631. Engineered Electronics Company, Santa Ana, Calif. Filed Aug. 15, 1960.

MINISYSTEM

Owner of Reg. No. 677,308.
For Electronic Indicators, Electronic Circuit Plug-in Units, Electronic Circuit Computer Units, Amplifiers, Electronic Decimal Counters, Stepping Switches and Electronic Equipment Racks.
First use Apr. 19, 1960.

SN 102,633. Engineered Electronics Company, Santa Ana, Calif. Filed Aug. 15, 1960.

MINICIRCUIT

Owner of Reg. No. 677,308.
For Electronic Indicators, Electronic Circuit Plug-in Units, Electronic Circuit Computer Units, Amplifiers, Electronic Decimal Counters, Stepping Switches and Electronic Equipment Racks.
First use Mar. 4, 1960.

SN 102,634. Engineered Electronics Company, Santa Ana, Calif. Filed Aug. 15, 1960.

MINICIRCUIT

Owner of Reg. No. 677,308.
For Electronic Indicators, Electronic Circuit Plug-in Units, Electronic Circuit Computer Units, Amplifiers, Electronic Decimal Counters, Stepping Switches and Electronic Equipment Racks.
First use Mar. 4, 1960.

SN 102,836. Engineered Electronics Company, Santa Ana, Calif. Filed Aug. 15, 1960.

MINIWELD

Owner of Reg. No. 677,836.
For Electronic Indicators, Electronic Circuit Plug-In Units, Electronic Circuit Computer Units, Amplifiers, Electronic Decimal Counters, Stepping Switches and Electronic Equipment Racks.
First use Mar. 4, 1960.

SN 102,952. Stephenson Corporation, Red Bank, N.J. Filed Aug. 18, 1960.

SPEEDALYZER

For Radar Speed Indicating Device.
First use Apr. 22, 1960.

SN 103,937. Living Screen Inc., New York, N.Y. Filed Sept. 6, 1960.

LIVING SCREEN

Applicant claims no exclusive rights to the word "Screen" apart from the mark as a whole.
For Motion-Picture Screens.
First use July 1, 1960.

SN 104,898. Clay-Adams, Inc., New York, N.Y. Filed Sept. 21, 1960.

TRANSPETS

For Disposable Laboratory Blood Pipettes.
First use on or about Aug. 3, 1960.

SN 106,310. Cartoprint A/S, Copenhagen, Denmark. Filed Oct. 18, 1960.

CARTOPRINT

For Photographic Apparatus and Related Processing Equipment for Use in the Graphic Arts Industry in the Production of Printing Surfaces and Parts of Such Apparatus.
First use April 1953; in commerce June 1953.

SN 106,395. Engelhard Industries, Inc., Newark, N.J. Filed Oct. 14, 1960.

BILGE BUG

For Gas Detector.
First use Aug. 31, 1960.

SN 106,588. Endevco Corporation, Pasadena, Calif. Filed Oct. 18, 1960.

DYNA-MONITOR

For Electrical Instruments for Measuring and Indicating Dynamic Forces and Pressures.
First use Jan. 15, 1960.

SN 106,653. Somet, Narodni Podnik, Teplice-Trnovany, Czechoslovakia. Filed Oct. 18, 1960.

SOMET

Owner of Czechoslovakian Reg. No. 151,039, dated Oct. 19, 1964.
For Calipers; Instruments for Measuring Lengths (Longimeters).

Class 29—Brooms, Brushes, and Dusters

SN 101,479. The Denticator Company, Inc., San Francisco, Calif. Filed July 26, 1960.

TUFTEE

For Tooth Brushes.
First use May 2, 1950.

Class 30—Crockery, Earthenware, and Porcelain

SN 88,180. The Rosenthal-Block China Corporation, New York, N.Y. Filed Dec. 20, 1960.

LORELEI

For Chinaware and Porcelain Items—Namely, Plates, Platters, Cups, Saucers, Dishes, Coffee Pots, Tea Pots, Creamers, Sugar Basins, Water Pitchers, Milk Jugs, Sauce Boats, Mustard Pots, Marmalade and Jelly Jars, Egg Cups, Salad Bowls, Cookie Jars, Soup Bowls, Tureens, Casseroles, Chafing Dishes, Relish Dishes and Vegetable Dishes.
First use Jan. 1, 1959.

Class 31—Filters and Refrigerators

SN 101,368. Alco Valve Company, St. Louis, Mo. Filed July 25, 1960.

ALCO DRI-KLEANER

For Filter and Drier Blocks Used in Drying Various Fluids, Removing Water Therefrom, and Removing Solid Contaminants, Mainly for Refrigerants.
First use Apr. 20, 1960.

SN 102,606. Amway Sales Corporation, Grand Rapids, Mich. Filed Aug. 15, 1960.

AMWAY

For Water Purifying and Softening Apparatus.
First use Apr. 7, 1960.

SN 102,860. Whirlpool Corporation, St. Joseph, Mich. Filed Aug. 17, 1960.

WONDER-BOWL

For Refrigerated Receptacles and Parts Therefor.
First use July 1, 1960.

Class 32—Furniture and Upholstery

SN 104,917. Foam Rubber City, Inc., College Point, N.Y. Filed Sept. 21, 1960.

FOAM CITY

No claim is made to the word "Foam" apart from the mark shown.
For Furniture—Namely, Couches, Tables, Benches, Stools, Chairs, Sofas, Beds and Bed Headboards.
First use Aug. 5, 1960.

SN 105,587. Lyle Yoder, d.b.a. Yoder Cabinet Company, Nappanee, Ind. Filed Sept. 30, 1960.

Designer's Dream
HARDWOOD KITCHENS

Applicant hereby disclaims the words "Hardwood Kitchens" apart from the mark as shown.
For Kitchen Cabinets.
First use Jan. 4, 1958.

Class 33—Glassware

SN 102,593. Verrerie Souchon-Neuvesel (Verreries Souchon-Neuvesel, Richarme et d'Evian Réunis), Lyon, France. Filed Aug. 12, 1960.

VERECO

Owner of French Reg. No. 82,078, dated Feb. 29, 1960 (Lyon); Natl. Inst. No. 140,957.
For Domestic Glass Jars.

SN 106,229. Superware Corp., Great Neck, N.Y. Filed Oct. 11, 1960.

ROYAL DUCHESS

For Water Goblets, Tumblers, Finger Bowls; Champagne, Martini, Old Fashioned Wine, and Cordial Glasses, All Made of Glass.
First use June 22, 1960.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 82,676. Wallace Landau, Chicago, Ill. Filed Oct. 5, 1959.

WEATHER-MAGIC

The drawing is lined for red, yellow, and silver; but applicant does not claim silver color as part of the mark.
For Gas and Oil Fired Furnaces as Well as Residential Central Air Conditioning Apparatus.
First use June 10, 1959.

SN 92,765. Hook & Ackerman, Inc., New York, N.Y. Filed Mar. 14, 1960.

AUTO-THERM

For Gas Fired, Hot Water, Cast Iron Heating Boilers.
First use Jan. 1, 1941.

SN 95,944. Stiavna Bizuterie, Narodni Podnik, Jablonec nad Nisou, Czechoslovakia. Filed Apr. 27, 1960.

Owner of Czechoslovakian Reg. No. 153,805, dated May 14, 1959.
For Safety Reflectors for Bicycles and Other Vehicles; Glass Reflectors; Glass Lamps and Parts Thereof.

SN 96,461. American Hydrotherm Corporation, Long Island City, N.Y. Filed May 5, 1960.

HYDROTHERM

Owner of Reg. Nos. 523,426, 692,948, and others.
For Boilers for High Temperature Liquids Above 250° F.
First use on or about Jan. 1, 1950.

SN 98,401. Rex Roto Corporation, Walled Lake, Mich. Filed June 3, 1960.

PYROLITE

For Oil Furnace Combustion Chambers.
First use Apr. 29, 1960.

SN 100,384. Nutone, Inc., Cincinnati, Ohio. Filed July 6, 1960.

SELECT A MATIC

For Stove Hoods.
First use July 1959.

SN 100,521. King-Seeley Corporation, Ann Arbor, Mich. Filed July 8, 1960.

Superflame

For Free Standing and Floor-Furnace Type Oil and Gas Fired Space Heaters and Accessories, Oil Fired Ranges, Range Burners and Water Heaters, Gas Fired Incinerators.
First use in or about January 1957 on space heaters.

SN 100,522. King-Seeley Corporation, Ann Arbor, Mich. Filed July 8, 1960.

Super S flame

For Free Standing and Floor-Furnace Type Oil and Gas Fired Space Heaters and Accessories, Oil Fired Ranges, Range Burners and Water Heaters, Gas Fired Incinerators.
First use in or about January 1957 on space heaters.

SN 100,574. Bell & Gossett Company, Morton Grove, Ill. Filed July 11, 1960.

COLLECTAIRE

For Air Compression Tanks and Air Separation Devices Used in Hot Water Heating Systems.
First use May 13, 1960.

SN 101,014. The Littlepley Company, Park Ridge, Ill. Filed July 18, 1960.

CAMP-HOT

For Water Heaters for Use by Campers.
First use June 7, 1960.

SN 101,915. The Yale and Towne Manufacturing Company, New York, N.Y. Filed Aug. 2, 1960.

YALE

Owner of Reg. Nos. 63,654, 664,624, and others.
For Industrial Type Fans.
First use at least as early as the year 1953.

SN 102,713. Weben Manufacturers, Inc., Dallas, Tex. Filed Aug. 15, 1960.

KOPPER THERM

For Water Heaters.
First use Aug. 9, 1960.

SN 103,702. Caloric Appliance Corporation, Topton, Pa. Filed Aug. 31, 1960.

LECTRO-STATIC

For Hood for Use Above Cooking Stoves To Eliminate Odors and Smoke.
First use on or about Aug. 1, 1960.

SN 104,465. Magic Hostess Corporation, Kansas City, Mo. Filed Sept. 14, 1960.

MAGIC HOSTESS

Owner of Reg. Nos. 587,315 and 624,034.
For Air Conditioning Units and Air Circulating, Filtering and Purifying Units.
First use Mar. 21, 1960, on air conditioning units.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 102,501. P-G Products Mfg. Co., Inc., New York, N.Y. Filed Aug. 11, 1960.

CUSTOMLINE

For Hose for Water and Steam Connections.
First use Feb. 19, 1958.

Class 36 — Musical Instruments and Supplies

SN 88,092. Radio Frequency Laboratories, Inc., Boonton, N.J. Filed Dec. 28, 1959.

SPACIAL STEREO

The word "Stereo" is disclaimed apart from the mark as a whole.
For Sound Reproducing Apparatus Such as Phonographs, Radio-Phonograph Combinations, Magnetic Tape Reproducers, and Parts Thereof Including Loud Speakers.
First use Mar. 13, 1959.

SN 89,951. The Soundscriber Corporation, North Haven, Conn. Filed Jan. 29, 1960.

COMMUNICATOR

Owner of Reg. Nos. 557,861, 625,953, and others.
For Electric Sound Recording and Reproducing Machines, Records and Parts Thereof for Dictation Purposes.
First use on or about Dec. 7, 1959.

SN 104,060. The Astatic Corporation, Conneaut, Ohio. Filed Sept. 8, 1960.

Cantata

For Electric Phonograph Pickup Cartridges.
First use approximately Aug. 18, 1960.

SN 105,090. Miller International Co., Swarthmore, Pa. Filed Sept. 23, 1960.

VALIANT

For Phonograph Records and Phonograph Record Albums.
First use on or about Aug. 10, 1960.

SN 105,128. Ampex Corporation, Redwood City, Calif. Filed Sept. 26, 1960.

FAXTAPE

For Magnetic Tape Recording and Reproducing Apparatus.
First use Jan. 15, 1958.

Class 37 — Paper and Stationery

SN 89,486. The Nuthemo Company, Chicago, Ill. Filed Jan. 21, 1960.

REDI-WEIGH

For Disposable Weighing Papers of Approximately Equal Weight for Use as Receivers of Goods To Be Weighed.
First use Dec. 30, 1958.

SN 102,708. Veratex Professional Products, Inc., Detroit, Mich. Filed Aug. 15, 1960.

VERATEX

For Disposable Paper Specialties for Doctors and Dentists—Namely, Towels, Gauze, Sponges, Tray and Headrest Covers, Facial Tissues, Liners, Examination Table Rolls, Slippers, Sheets, Gloves, Gowns and X-Ray Capes.
First use Jan. 1, 1953.

SN 104,240. Daubert Chemical Company, Chicago, Ill. Filed Sept. 12, 1960.

DAUBRITE

For Wrapping, Packaging, and Boxing Paper Impregnated With Chemicals To Protect Copper, Brass, Bronze, Cadmium and Other Metals Against Corrosion and Discoloration.
First use May 16, 1960.

SN 104,523. Hammermill Paper Company, Erie, Pa. Filed Sept. 15, 1960.

DEEPLAKE

For Printing and Writing Papers.
First use September 1931.

SN 105,153. Erving Paper Mills, Erving, Mass. Filed Sept. 26, 1960.

ECONOSERV

Owner of Reg. No. 510,966.
For Paper Products—Namely, Table Cloths, Table Covers, Place Mats, Tray Covers and Coasters.
First use Mar. 25, 1960.

SN 105,629. Old Town Corporation, Brooklyn, N.Y. Filed Oct. 5, 1960.

COPY-MAGIC

For Self-Contained Copying Paper.
First use Jan. 5, 1960.

SN 107,629. Kimberly-Clark Corporation, Neenah, Wis. Filed Sept. 15, 1960.

KIMWEB

Owner of Reg. Nos. 229,755, 699,434, and others.
For Printing Papers.
First use Aug. 11, 1960.

Class 38 — Prints and Publications

SN 91,726. Metro Associated Services, Inc., New York, N.Y. Filed Feb. 15, 1960.



For Books of Advertising Material, and Mats Therefor, Issued Monthly.
First use about 1927.

SN 99,803. Rogers Publishing Company, Englewood, Colo. Filed June 27, 1960.

V·S·M·F

For Microfilmed Catalogs and Indexes Therefor.
First use Apr. 1, 1960.

SN 100,148. The American Institute of Reading, Los Angeles, Calif. Filed July 1, 1960.



For Textbooks for Teaching Reading, and Phonograph Records for Use in Connection Therewith.
First use Dec. 17, 1959.

SN 100,888. The (Original) Church of God, Inc., Chattanooga, Tenn. Filed July 15, 1960.



Owner of Reg. No. 413,986.
For Printed Periodical Containing Articles of Interest to Church Members.
First use May 1922.

SN 102,722. The American Metal Market Co., New York, N.Y. Filed Aug. 16, 1960.

AMERICAN METAL MARKET

For Daily Newspaper.
First use 1903.

SN 103,248. American Traveler, Inc., New York, N.Y. Filed Aug. 23, 1960.

THE travel agent

For Periodical.
First use Jan. 10, 1952.

SN 103,494. U.S. Electrical Motors, Inc., Los Angeles, Calif. Filed Aug. 26, 1960.

UNDERGROUND RAINDROPS

For Periodical House Organ Distributed to the Trade.
First use Mar. 5, 1957.

SN 103,700. Paul F. Beich Company, Bloomington, Ill. Filed Aug. 31, 1960.

ALPINE

For Greeting Cards.
First use July 25, 1960.

SN 103,770. The Dow Chemical Company, Midland, Mich. Filed Sept. 1, 1960.

MAGNESIUM PROGRESS

Owner of Reg. No. 684,082.
For Trade Magazine.
First use July 11, 1960.

SN 103,972. Sheed-Brown, Inc., Minneapolis, Minn. Filed Sept. 6, 1960.

SYSTEMEMO

For Calendars.
First use in or about January 1960.

Class 39—Clothing

SN 67,534. J. Edwards & Co., Philadelphia, Pa. Filed Feb. 11, 1959.

WEDGE TRED

For Children's Shoes.
First use Dec. 10, 1958.

SN 69,484. Country Tweeds, Inc., New York, N.Y. Filed Mar. 13, 1959.

Cashmere "400"

No claim is made to the word "Cashmere" apart from the mark as shown.
For Cashmere Fabrics Made Up Into Women's, Misses' and Juniors' Coats.
First use Feb. 17, 1959.

SN 69,485. Country Tweeds, Inc., New York, N.Y. Filed Mar. 13, 1959.

Camel "400"

No claim is made to the word "Camel" apart from the mark as shown.
For Camel Hair Fabrics Made Up Into Women's, Misses' and Juniors' Coats.
First use Feb. 17, 1959.

SN 70,405. Town 'N' Trail Sportswear, Inc., New York, N.Y. Filed Mar. 27, 1959.

Town 'n' Trail

For Men's and Boys' Outer Wear—Namely, Jackets.
First use Feb. 6, 1959.

SN 91,178. Spencer Gifts, Inc., Atlantic City, N.J. Filed Feb. 18, 1960.



For Clothing—Namely, Ladies' and Misses' Dresses, Blouses, Jackets, Playsuits, Sweaters, Shorts, Pants, Culottes, and Skirts.
First use Jan. 12, 1960.

SN 91,751. Betti Brent, Ltd., New York, N.Y. Filed Feb. 29, 1960.



For Ladies' Coats and Suits.
First use Feb. 5, 1960.

SN 93,938. Sweaters Unlimited, Carmel, Calif. Filed Mar. 29, 1960.

SWEATERS UNLIMITED

For Sweaters.
First use Nov. 5, 1959.

SN 95,913. Miniquins, Inc., St. Louis, Mo. Filed Apr. 27, 1960.

MINIQUINS

For Dresses for Women and Girls.
First use Apr. 15, 1960.

SN 96,945. Craddock-Terry Shoe Corporation, Lynchburg, Va. Filed May 12, 1960.

NYSHAG

For Shoes for Men, Women, and Children and Shoe Fabric Uppers.
First use May 3, 1960.

SN 96,325. Albin Lexington Corp., New York, N.Y. Filed June 3, 1960.

Graybar

For Men's Dress, Sport and Knitted Shirts, Suits, Sweaters, Belts, Gloves, Scarfs, Robes, Vests, Raincoats, Hats, Pajamas, Handkerchiefs, Swim Trunks, Bermuda Shorts, Cabana Sets, Topcoats, Overcoats, Sport Jackets, Pants, Ties, Underwear and Hose.
First use Apr. 1, 1959.

SN 96,334. 'Bel-Mor Knitwear, Inc., New York, N.Y. Filed June 3, 1960.

A Belle-Knit CREATION

The word "Creation" is disclaimed apart from the trademark as shown.
For Knitted Sweaters for Women.
First use on or about Jan. 1, 1940.

SN 100,385. Paintset Fashions, Inc., New York, N.Y. Filed S.R. July 6, 1960; Amended P.R. Jan. 11, 1961.

CAROL WEST

For Women's and Misses' Dresses, Backwraps, Brunch-Coats and Housecoats.
First use Mar. 9, 1956.

SN 100,386. Pam Paterson, Inc., New York, N.Y. Filed S.R. July 6, 1960; Am. P.R. Jan. 11, 1961.

CAROLYN NORTH

For Women's and Misses' Dresses, Backwraps, Brunch-Coats and Housecoats.
First use Sept. 30, 1958.

SN 101,117. Michaels Stern & Company Incorporated, Rochester, N.Y. Filed July 19, 1960.

COUNTRIWEVE

For Fabric Made Up Into Men's and Young Men's Suits, Topcoats, Jackets and Slacks.
First use Dec. 11, 1959.

SN 101,968. Genesco Inc., Nashville, Tenn. Filed Aug. 2, 1960.

GENESCO

Owner of Reg. No. 703,561.
For Boots, Shoes, and Slippers of Leather, Rubber, Fabric, or a Combination of Those Materials, for Men, Women, and Children.
First use Mar. 2, 1959.

SN 101,982. B. Cohen & Co., Inc., New York, N.Y. Filed Aug. 3, 1960.

SADELLA

For Fabric Made Into Robes for Personal Wear.
First use Aug. 1, 1960.

SN 102,617. Cambridge Rubber Company, Cambridge, Mass. Filed Aug. 15, 1960.



Owner of Reg. Nos. 368,002, 524,436, and 694,598.
For Shoe Soles.
First use July 22, 1960.

SN 102,874. Schiller Bros., Inc., New York, N.Y. Filed Aug. 17, 1960.

UNDERPINNERS

For Women's Underwear.
First use Aug. 10, 1960.

SN 102,905. Craddock-Terry Shoe Corporation, Lynchburg, Va. Filed Aug. 18, 1960.

TAGALONGS

For Shoes for Women and Children.
First use Sept. 6, 1951, on children's shoes.

SN 102,965. The Warner Brothers Company, Bridgeport, Conn. Filed Aug. 18, 1960.

SKINNY-DIPPER

For Girdles.
First use Aug. 2, 1960.

SN 103,129. Flexnit Company, Inc., Elizabeth, N.J. Filed Aug. 22, 1960.

LITTLE LADY

For Foundation Garments (Garterbelt).
First use on or about Feb. 3, 1953.

SN 103,133. Flexnit Company, Inc., Elizabeth, N.J. Filed Aug. 22, 1960.

SUMTHIN

For Foundation Garments.
First use Jan. 9, 1953.

SN 103,134. Flexnit Company, Inc., Elizabeth, N.J. Filed Aug. 22, 1960.

SERENADE

For Foundation Garments.
First use July 30, 1960.

SN 103,136. Flexnit Company, Inc., Elizabeth, N.J. Filed Aug. 22, 1960.

RING LEADER

For Foundation Garments.
First use Aug. 1, 1960.

SN 104,028. Julius Garfinckel & Co., Incorporated, New York, N.Y. Filed Sept. 7, 1960.

BROOKSWEAVE

Owner of Reg. Nos. 667,458, 103,889, and others.
For Men's and Boys' Suits, Trousers, and Outer Shirts; Men's Sport Shirts, Pajamas, Neckties, Caps, Hats, Walking Shorts, Underwear, Robes and Dressing Gowns; and Women's Outer Shirts, Sport Shirts, and Walking Shorts.
First use at least as early as Feb. 25, 1953, on men's outer shirts.

SN 104,236. David Crystal, Inc., New York, N.Y. Filed Sept. 12, 1960.

VIN DRADDY

For Women's Dresses, Suits, Coats.
First use Aug. 29, 1960.

SN 104,275. Izod, Ltd., New York, N.Y. Filed Sept. 12, 1960.

VIN DRADDY

For Men's Shirts.
First use Aug. 29, 1960.

SN 106,901. Goodmade Manufacturing Company, Philadelphia, Pa. Filed Oct. 21, 1960.

Le's Girls

For Children's Blouses, Skirts, Shorts, Pedal Pushers and Related Sportswear Items.
First use Oct. 11, 1960.

SN 107,271. S. H. Kress and Company, New York, N.Y. Filed Oct. 27, 1960.

Phyllis*

Owner of Reg. No. 385,438.
For Hosiery.
First use April 1915.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 95,318. Ribbontrim, Inc., New York, N.Y. Filed Apr. 18, 1960.

Perma-Seam

For Seam Binding Used in Making Wearing Apparel.
First use on or about Feb. 14, 1951.

SN 100,243. Fortuna Foundations, Inc., New York, N.Y. Filed July 5, 1960.

MULTI-GART

For Hose Supporters.
First use June 9, 1960.

SN 102,875. Philip B. Schoen, d.b.a. National Beauty Industries, Chicago, Ill. Filed Aug. 17, 1960.

TEASER

For Combs Which Include a Support Bar and Teeth for Combing Hair.
First use March 1960.

SN 103,042. Nylrem Enterprises Inc., Spencer, Iowa. Filed Aug. 19, 1960.

NYLREM

For Hair Curlers and Hair Curler Fasteners.
First use June 1, 1960.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 92,172. Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959; Reg. No. 146,864, dated Jan. 20, 1960.
For Fabrics (Obtained From Natural or Synthetic Fibers); Blankets, Coverlets; Furniture Scarves and Other Textile Articles—Namely, Table Napkins, Table Linen; Sheets, Pillow Cases, Bed Linen, Kitchen Linen, Towels, Curtains, Rubberized and Waterproof Fabrics, Filter Cloths, Felts Made of Wool, Hair, Cotton and Other Textile Fibers, Tapestry (Fabric), Laces, Ribbon in the Piece; Floor and Wall Coverings—Namely, Carpets, Carpet-Runners.

SN 104,426. Abraham I. Bremen, d.b.a. Artex Rug Manufacturing Co., Philadelphia, Pa. Filed Sept. 14, 1960.

DURAKLEEN

For Braided, Woven and Felted Rugs.
First use during February 1958.

SN 104,427. Abraham I. Bremen, d.b.a. Artex Rug Manufacturing Company, Philadelphia, Pa. Filed Sept. 14, 1960.

KARE FREE

For Braided, Woven and Felted Rugs.
First use during February 1958.

SN 107,523. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Oct. 31, 1960.

"THE COMPASS COLLECTION"

For Piece Goods of Natural, Man-Made, and/or Synthetic Fibers Adapted for Use as Upholstery and Drapery Fabrics.
First use on or about Oct. 17, 1960.

SN 107,794. Shapiro & Son Curtain Corporation, New York, N.Y. Filed Nov. 3, 1960.

MADAME POMPADOUR

Owner of Reg. No. 656,174.
For Bedspreads and Curtains.
First use June 15, 1956.

Class 43 — Thread and Yarn

SN 92,173. Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959; Reg. No. 146,864, dated Jan. 20, 1960.
For Threads, Yarns.

SN 106,906. Japan Exlan Company Limited, Kita-ku, Osaka, Japan. Filed Oct. 21, 1960.

Xlan

Owner of Japanese Reg. No. 541,365, dated Sept. 1, 1959.
For Thread and Yarn Made of Polyacrylnitrile Fibres as Well as of Polyacrylnitrile Mixed and Blended Fibers.

Class 44 — Dental, Medical, and Surgical Appliances

SN 90,133. Abar Manufacturing Company, Cleveland, Ohio. Filed Feb. 2, 1960.

BEAUTIATOR

Owner of Reg. No. 378,113.
For Electrically Operated and Electrically Driven Devices Used in Manicuring, Beauty Culture, and Beauty and Barber Shop Trade Which Includes an Electric Motor and Flexible Shaft, and Which Employs Attachable Manicuring and Rotatable Tools and Vibratory Attachments, Such Tools and Attachments Including Instruments for Buffing, Filing, Brushing the Nails and Cuticle, and Massaging the Skin and Scalp.
First use on or about Oct. 5, 1959.

SN 91,296. Waltham Watch Company, Chicago, Ill. Filed Feb. 19, 1960.

WALTHAM

Owner of Reg. Nos. 431,380, 691,941, and 691,942.
For Electronic Hearing Aids.
First use Feb. 15, 1960.

SN 92,001. Continental Merchandise Co. Inc., New York, N.Y. Filed Mar. 2, 1960.

TRIO

For Electronic Hearing Aids.
First use Feb. 10, 1960.

SN 93,352. The Pyramid Rubber Company, Ravenna, Ohio. Filed Mar. 21, 1960.

EVENFLO

Owner of Reg. Nos. 562,145, 562,725, and 566,385.
For Nipple Covers for Nursing Bottles.
First use April 1958.

SN 93,411. Peter Brasseler, d.b.a. Gebr. Brasseler, Lemgo, Lippe, Germany. Filed Mar. 22, 1960.

COMET

For Dental Instruments—Namely, Drills, Cutters, Grinding Stones, Diamonds and Other Rotary Tools for Dental Treatment and Dental Surgery.
First use Mar. 1, 1959; in commerce Mar. 1, 1959.

SN 101,514. Nadine Sylvia Ada Romanoff, Faversham, England. Filed July 26, 1960.

PRINCESS

Priority claimed under Sec. 44(d) on British Reg. No. 801,243, dated Feb. 4, 1960.
For Surgical Pins.

SN 105,356. Charles J. Glasser, Chicago, Ill. Filed Sept. 28, 1960.

ORAGRAPHIC

For Dental X-Ray Film.
First use at least as early as Aug. 1, 1960.

Class 45 — Soft Drinks and Carbonated Waters

SN 59,603. Thomas M. Eagan, d.b.a. Vel-O-Rich Beverage & Food Co., Detroit, Mich. Filed Sept. 26, 1958.

VEL-O-RICH

For Fountain Syrups.
First use May 18, 1936.

SN 103,691. The Taylor-Reed Corporation, Glenbrook, Conn. Filed Aug. 30, 1960.

PUMPADE

For Fruit-Flavored Syrups for Making Soft Drinks.
First use Aug. 12, 1960.

Class 46 — Foods and Ingredients of Foods

SN 43,891. Stiefel Feed Company, Inc., Syracuse, Ind. Filed Jan. 13, 1958.

Dri-Las
IS BLACKSTRAP MOLASSES IN A BAG

No claim is made to the wording "Is Blackstrap Molasses in a Bag" apart from the mark as shown. Owner of Reg. No. 617,255.
For Livestock Feed.
First use Apr. 15, 1955.

SN 59,385. David W. Dych, d.b.a. Ole Smoky Candy Kitchen, Gatlinburg, Tenn. Filed Sept. 23, 1958.

OLE SMOKY

For Candies, Shelled Nuts, Other Foodstuffs Containing Sugar and/or Coated With Sugar or Sugar-Containing Material—Namely, Coated Fruits or Portions of Fruits, as represented by Chocolate Covered Cherries and Chocolate Covered Orange Peel; Crystallized Fruits; Glaced Fruits, Represented by Glaced Cherries, Glaced Apples and Glaced Pecans; Spiced Nuts, as Represented by Spiced Pecans; and Spreads, as Represented by Honey, Marmalades and Jellies.
First use Feb. 28, 1951.

SN 76,715. J. P. Molica, d.b.a. J. P. Molica Company, Delano, Calif. Filed June 29, 1959.

SUPER SEAL

For Fresh Vegetables.
First use Apr. 3, 1959.

SN 77,806. Certified Brands, Inc., Kansas City, Mo. Filed July 16, 1959.

CERTIFIED **Royal American**

The word "Certified" is disclaimed apart from the mark as shown.
For Coffee.
First use July 1, 1959.

SN 82,940. Viviano Foods, Inc., Detroit, Mich. Filed Oct. 8, 1959.

LA VIVIAN

Owner of Reg. No. 287,022.
For Canned Fish, Vinegar, Crackers, Pretzels, Canned and Bottled Fruits, Canned and Bottled Vegetables, Food Syrups, Olives, Canned and Bottled Stuffed Peppers With Kraut, Hot Peppers, Relishes, Cocktail Tidbits Consisting of Cheese Sticks, Snaps, and Curls, Rice Crackers and Pretzel Bits, Croutons, Canned and Bottled Pimientos, Cocktail Onions, Pickles, Sauerkraut, Pumpkin Seeds, Preserved Fruits, Sunflower Seeds, Nut Kernels, Spices, Canned and Bottled Artichoke Hearts, Alimentary Pastes.
First use July 1, 1928.

SN 86,707. Twin County Grocers, Incorporated, Linden, N.J. Filed Oct. 20, 1959.

LINDEN HOUSE

For Canned Fruits, Vegetables, and Vegetable Oil Shortening.
First use Aug. 19, 1953.

SN 87,044. Fairmont Foods Company, Omaha, Nebr. Filed Dec. 10, 1959.

DIAL-A-CASSEROLE

For Dairy Products—Namely, Sour Cream and Cottage Cheese.
First use Nov. 17, 1959.

SN 87,045. Fairmont Foods Company, Omaha, Nebr. Filed Dec. 10, 1959.

DIAL-A-DRESSING

For Dairy Products—Namely, Sour Cream and Cottage Cheese.
First use Nov. 17, 1959.

SN 87,046. Fairmont Foods Company, Omaha, Nebr. Filed Dec. 10, 1959.

DIAL-ICIOUS

For Dairy Products—Namely, Sour Cream and Cottage Cheese.
First use Nov. 17, 1959.

SN 88,855. W. R. Grace & Co., New York, N.Y. Filed Jan. 12, 1960.



Owner of Reg. No. 638,856.
For Urea Feed Compounds.
First use April 1959.

SN 89,133. Thomas Carvel, Yonkers, N.Y. Filed Jan. 18, 1960.

CARVEL

Owner of Reg. Nos. 599,786, 614,138, and others.
For Congealed and Frozen Food Products—Namely, Ice Cream, Custard, Ices and the Like.
First use July 1949.

SN 90,194. The Sugardale Provision Company, Canton, Ohio. Filed Feb. 2, 1960.

Beauty Baked

The word "Baked" is disclaimed apart from the mark as shown.
For Baked Hams.
First use on or about Apr. 18, 1947.

SN 93,901. Armour and Company, d.b.a. Jacob E. Decker & Sons, Chicago, Ill. Filed Mar. 29, 1960.

DECKER

Owner of Reg. Nos. 279,231 and 306,853.
For Fresh Carcass Beef, Pork Shoulder Picnic, Canned Meats and Smoked Meats, Ham and Bacon.
First use Nov. 1, 1932.

SN 94,175. Merrill Farms, Salinas, Calif. Filed Apr. 1, 1960.

MERRILL FARMS

Owner of Reg. No. 379,912.
For Fresh Vegetables.
First use May 9, 1953.

SN 96,026. Rudy-Patrick Seed Company, d.b.a. The Albert Dickinson Company, Kansas City, Mo. Filed May 27, 1960.

JUMBO

For Unpopped Popcorn.
First use Jan. 5, 1933.

SN 98,166. S. Surabian & Sons, Dinuba, Calif. Filed May 31, 1960.



The drawing is lined for blue.
For Fresh Fruit and Vegetables.
First use May 5, 1960.

SN 98,816. John Schlemmer, West Harrison, Ind. Filed June 10, 1960.

ZIPPY STRIDE

For Dog Food.
First use at least as early as Aug. 17, 1957.

SN 99,112. Betty Zane Corn Products, Inc., Marion, Ohio. Filed June 15, 1960.

DANIEL BOONE

For White and Yellow Unpopped Popcorn.
First use Oct. 10, 1958.

SN 99,453. Revord-James & Co., Golf, Ill. Filed June 21, 1960.

TWIST-O

For Pure Lemon Oil for Use as an Additive to Cocktails.
First use June 17, 1960.

SN 99,932. General Foods Corporation, White Plains, N.Y. Filed June 29, 1960.

GOOD SEASONS

Owner of Reg. No. 607,849.
For Soup Base.
First use at least as early as Feb. 1, 1957.

SN 100,246. Gorton's of Gloucester, Inc., Gloucester, Mass. Filed July 5, 1960.

GORTON'S

Owner of Reg. Nos. 411,843 and 514,074.
For Canned Fish, Salt Fish, Frozen Fish, Frozen Shell Fish, Frozen Prepared Seafoods, Fish Meal and Fish Oil, for Food Purposes.
First use 1875 on canned fish and salt fish.

SN 101,530. Xtra Factors, Inc., Ephrata, Pa. Filed July 26, 1960.



For Vitamin and Mineral Enriched Feed for Livestock and Poultry.
First use May 26, 1960.

SN 102,375. The Braun Brothers Packing Company, Troy, Ohio. Filed Aug. 10, 1960.

TASTY B

For Sliced Bacon and Bologna.
First use Mar. 1, 1956.

SN 102,376. The Braun Brothers Packing Company, Troy, Ohio. Filed Aug. 10, 1960.

TROJAN

For Sliced Bacon.
First use November 1951.

SN 105,093. The Norwich Pharmacal Company, Norwich, N.Y. Filed Sept. 23, 1960.

NECTA

For Non-Nutritive, Artificial Sweetener for Flavoring Foods.
First use Sept. 15, 1960.

SN 105,278. Fisher Flouring Mills Company, Seattle, Wash. Filed Sept. 27, 1960.

GOLDEN 27

For Prepared Pancake Mix.
First use Sept. 28, 1958.

SN 105,715. W. J. Baumbach & Sons, Acampo, Calif. Filed Oct. 4, 1960.

I·X·L

For Fresh Grapes.
First use 1922.

SN 105,733. Dora B. Feinn, d.b.a. D. H. Feinn Company, Modesto, Calif. Filed Oct. 4, 1960.

Santa Bella

For Fresh Grapes.
First use Sept. 22, 1960.

SN 106,680. National Biscuit Company, New York, N.Y. Filed Sept. 29, 1960.

BARBAREE

For Dried Fruits and Peels.
First use Sept. 19, 1960.

Class 48—Malt Beverages and Liquors

SN 94,522. Sunshine Brewing Co., Reading, Pa. Filed Apr. 6, 1960.

Town & Country

For Beer.
First use on or about Mar. 23, 1960.

Class 49—Distilled Alcoholic Liquors

SN 60,470. Aktiebolaget Vin- & Spritcentralen, Stockholm, Sweden. Filed Sept. 14, 1960.

EXPLORER

Owner of U.S. Reg. No. 696,550.
For Vodka.
First use Feb. 10, 1958; in commerce Feb. 10, 1958.

SN 92,412. Western Liquor Distributors, Inc., d.b.a. Western Distributing Company, Culver City, Calif. Filed Mar. 8, 1960.

DON JOSE

For Tequila.
First use on or about Jan. 1, 1959.

Class 50—Merchandise Not Otherwise Classified

SN 92,174. Montecatini, Societá Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959; Reg. No. 146,864, dated Jan. 20, 1960.
For Awnings (Fabric), Flags, Doormats, Artificial Flowers, Table Mats.

SN 105,998. National Distillers and Chemical Corporation, New York, N.Y. Filed Oct. 7, 1960.

KORDITE

Owner of Reg. Nos. 526,340, 545,620, and 621,508.
For Plastic Films and Sheets—Namely, Drop Cloths, Boat Covers, Slip Covers, Machinery Covers, Storage Covers, and Other Material Covers.
First use Aug. 16, 1957.

SN 106,525. Owens-Illinois Glass Company, Toledo, Ohio. Filed Oct. 17, 1960.

"QUIK"

For Closure Caps.
First use Sept. 1, 1960.

SN 106,536. S. Seltzer & Company, Inc., d.b.a. Austin Supply Company, Chicago, Ill. Filed Oct. 17, 1960.

ROYAL-SEAL

For Thermoplastic Adhesive Coated Patching Materials.
First use on or about Aug. 11, 1960.

SN 106,583. Callaway Mills Company, La Grange, Ga. Filed Oct. 18, 1960.

CUTIE CARICS

For Wall Plaques Made of Fabrics.
First use Oct. 5, 1960.

SN 106,912. Lithoplate, Incorporated, Covina, Calif. Filed Oct. 21, 1960.

ALUM-O-LITH

Owner of Reg. No. 596,565.
For Lithographic Plates.
First use on or about Apr. 28, 1947.

Class 51 — Cosmetics and Toilet Preparations

SN 48,716. Curtis Squire, Inc., Minneapolis, Minn. Filed Mar. 31, 1958.

CHERUB

For Baby Antiseptic Skin Lotion for the Prevention of Diaper Rash.
First use on or about Mar. 20, 1958.

SN 81,494. J. Leon Lascoff & Son, Inc., New York, N.Y. Filed Sept. 16, 1959.

LASCOFF

Owner of Reg. No. 603,522.
For Sun Tan Lotion, Skin Freshener, Hair Dressing, Hair Spray, Skin Cream, Eau de Cologne and Hand Lotion.
First use 1930 on hand lotion.

SN 84,422. Henry/Haran/Hutchings, Hollywood, Calif. Filed Nov. 2, 1959.

MARQUESA

The word "Marquesa" is a Spanish word meaning the wife of a marquis.
For Liquid Make-Up Base, Cleansing Cream, Skin Moisturiser, and Skin-Rinse.
First use Sept. 5, 1959.

SN 90,161. Richard Hudnut, Morris Plains, N.J. Filed Feb. 2, 1960.

FATALE

"Fatale" is translated to mean "inevitable."
For Perfume.
First use Jan. 15, 1960.

SN 98,822. Lesli Laboratories, Inc., Chicago, Ill., assignee of Mohr & Eicoff, Inc., Chicago, Ill. Filed Mar. 28, 1960.

Lesli

For Cosmetics Consisting of a Facial Cleansing Lotion, a Facial Cream and a Facial Mask Cream.
First use Sept. 6, 1959.

SN 100,393. Helena Rubinstein, Inc., New York, N.Y. Filed July 6, 1960.

BIO-CLEANSER

For Medicated Cosmetic Skin Cleanser.
First use Jan. 19, 1960.

SN 105,148. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 26, 1960.

PICNIC

For Cologne.
First use on or about Aug. 12, 1960.

Class 52 — Detergents and Soaps

SN 80,163. Bristol-Myers Company, New York, N.Y. Filed Aug. 25, 1959.

DELISE

For Hair Shampoo.
First use July 10, 1959.

SN 99,003. Perry-Austen Manufacturing Company, Incorporated, Grasmere, Staten Island, N.Y. Filed June 14, 1960.

FLOOR MAGIC

For Detergent for Use on Floors.
First use Nov. 25, 1957.

SN 99,523. Les Parfums Worth de Paris Inc., New York, N.Y. Filed June 22, 1960.

WORTH

Owner of Reg. Nos. 196,736, 870,902, and others.
For Soaps.
First use October 1945.

SN 101,375. Michael A. Buyukas, d.b.a. Bergen County Coal and Oil Co., Glen Rock, N.J. Filed July 25, 1960.



The drawing is lined for green and red but color is not claimed as a feature of the mark.
For Granular Preparation for Absorbing Oil, Grease, and Other Liquids.
First use July 5, 1960.

SN 101,383. Economics Laboratory, Inc., St. Paul, Minn. Filed July 25, 1960.

LIME-A-WAY

Owner of Reg. No. 577,526.
For All-Purpose Solvent Used for the Periodic Removal of Lime Deposits From the Interior of Mechanical Dishwashing Machines.
First use Mar. 23, 1960.

SN 101,496. Huntington Laboratories, Inc., Huntington, Ind. Filed July 26, 1960.

WADE

For Paint Seal and Varnish Remover.
First use Oct. 7, 1946.

SN 103,842. Diamond Alkali Company, Cleveland, Ohio. Filed Sept. 2, 1960.



Owner of Reg. Nos. 658,014, 680,961, and others.
For Detergents and Cleaners for Use in the Laundry, Food, Dairy, and Beverage Industries and Metal Cleaning Compositions.
First use Aug. 17, 1960; Feb. 5, 1957, in conjunction with a diamond design.

SERVICE MARKS

Class 100 — Miscellaneous

SN 96,675. Conference of National Organizations, New York, N.Y. Filed May 9, 1960.

CNO
CONFERENCE OF NATIONAL ORGANIZATIONS

For Conducting Forums for the Off the Record Exchange and Discussion by Representatives of the Affiliated Organizations of Matters Affecting the National Interest.
First use Apr. 25, 1960.

Class 101 — Advertising and Business

SN 94,679. The Lasky Company, Newark, N.J. Filed Apr. 19, 1960.

LITHOFOIL

For Printing Upon Metal Foil.
First use Apr. 15, 1960.
Subj. to Intf. with SN 97,021.

SN 98,879. Del Wood Associates, New York, N.Y. Filed June 13, 1960.

dwa

For Financing of Radio and Television Station Equipment and the Furnishing of Programming, Station Advertising and Merchandise to Radio and Television Stations, as Well as the Scheduling of Station Time for Film Presentations and Other Program Material.
First use Apr. 1, 1960.

Class 105 — Transportation and Storage

SN 79,627. Consolidated Freightways, Inc., Menlo Park, Calif. Filed Aug. 17, 1959.

CONSOLIDATED FREIGHTWAYS

For Transporting the Goods of Others by Motor Truck, and Arranging for the Transport of Goods by Rail, Ship, and Aircraft.
First use in March 1955; March 1939 as to "Consolidated Freightways" per se.

Class 106 — Material Treatment

SN 87,135. Optical Coating Laboratory, Inc., Santa Rosa, Calif. Filed Dec. 11, 1959.

OPTICAL COATING LABORATORY, INC.

The words "Optical Coating Laboratory, Inc." are disclaimed apart from the mark as shown.
For Coating of Lenses for Others.
First use September 1955.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 99,219. Italian American War Veterans of the United States, Incorporated, Boston, Mass. Filed June 17, 1960.

The drawing is lined for red, blue, green and yellow.
For Indicating Membership in the Organization.
First use Sept. 15, 1959.

CERTIFICATION MARKS

Class B—Services

SN 101,961. Mac Travlrite, Inc., Charlotte, N.C. Filed Aug. 3, 1960.

MAC TRAVLRITE

The mark certifies that the services rendered by the establishments which display the mark meet standards established by applicant as to cleanliness, hospitality, honesty, diligence and morality.
For Services Rendered to Travelers.
First use Jan. 17, 1960.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

712,325. AGA. Svenska Aktiebolaget Gasaccumulator. SN 11,709. Pub. 2-3-59. Filed 7-6-56.

Class 2—Receptacles

712,326. DUOSTRESS. St. Regis Paper Company. SN 73,156. Pub. 12-27-60. Filed 5-7-59.

712,327. SLEEVEPAK. International Paper Company. SN 86,662. Pub. 12-27-60. Filed 12-4-59.

712,328. LUCKY JUVET ETC. AND DESIGN. Adriana Brita Juvet Dokus and John Ivan Dokus. SN 94,543. Pub. 12-27-60. Filed 3-24-60.

712,329. KRAFTAINER. Fa. Natron-Papier-Industrie Aktiengesellschaft. SN 94,680. Pub. 12-27-60. Filed 4-8-60.

712,330. HEDWIN AND DESIGN. Hedwin Corporation. SN 98,609. Pub. 12-27-60. Filed 5-9-60.

712,331. ZIP-STRIP. The Dow Chemical Company. SN 98,455. Pub. 12-27-60. Filed 6-6-60.

712,332. WESTVACO DISPLAY. West Virginia Pulp and Paper Company. SN 98,956. Pub. 12-27-60. Filed 6-13-60.

712,333. GRIPLOK. Bemis Bro. Bag Company. SN 100,428. Pub. 12-27-60. Filed 7-7-60.

712,334. NI-WARE. Emco Industries. SN 100,484. Pub. 12-27-60. Filed 7-5-60.

712,335. AW. Atlas Wire Products Company, Inc. SN 100,682. Pub. 12-27-60. Filed 7-12-60.

712,336. PAL-A-BIN. Yuba City Steel Products Co. SN 101,723. Pub. 12-27-60. Filed 7-29-60.

712,337. CREST+PAK AND DESIGN. Potlatch Forests, Inc. SN 101,814. Pub. 12-27-60. Filed 8-1-60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

712,338. SCOOTER. Bond Street Ltd. SN 100,493. Pub. 12-27-60. Filed 7-8-60.

Class 4—Abrasives and Polishing Materials

712,339. FLEXLITE. United States Rubber Company. SN 99,469. Pub. 12-27-60. Filed 6-21-60.

Class 5—Adhesives

712,340. PANFIX. Nichiban Yakuhin Kogyo Co., Ltd. SN 91,426. Pub. 12-27-60. Filed 2-22-60.

712,341. SCOTCHRAP. Minnesota Mining and Manufacturing Company. SN 92,280. Pub. 12-27-60. Filed 3-7-60.

712,342. BOX-POP. Minnesota Mining and Manufacturing Company. SN 102,130. Pub. 12-27-60. Filed 8-5-60.

Class 6—Chemicals and Chemical Compositions

712,343. VISCO AND DESIGN. Visco Products Company. SN 34,096. Pub. 12-27-60. Filed 7-19-57.

712,344. PRIMARY SIZE. Wyandotte Chemicals Corporation. SN 48,072. Pub. 12-27-60. Filed 2-19-58.

712,345. GARB-O-FLAKES. Surco Products, Inc. SN 61,868. Pub. 12-27-60. Filed 11-2-59.

712,346. SNOWY. Gold Seal Company. SN 66,639. Pub. 12-27-60. Filed 1-30-59.

712,347. VAPO-PHOS. H. Raymond Neilson, d.b.a. Neilson Chemical Company of California. SN 68,303. Pub. 12-27-60. Filed 2-24-59.

712,348. HCA. Allied Chemical Corporation. SN 78,595. Pub. 12-27-60. Filed 7-29-59.

712,349. RESLAC. The Borden Company. SN 80,958. Pub. 12-27-60. Filed 9-8-59.

712,350. VALDAN. Private Brands, Inc. SN 81,013. Pub. 12-27-60. Filed 9-8-59.

712,351. HARMON. Allied Chemical Corporation. SN 82,059. Pub. 12-27-60. Filed 9-25-59.

712,352. URAB. Allied Chemical Corporation. SN 83,686. Pub. 12-27-60. Filed 10-21-59.

712,353. ACRANYL. Stein, Hall & Company, Inc. SN 85,819. Pub. 11-1-60. Filed 1-11-60.

712,354. METRIX. Michael Reese Research Foundation. SN 89,200. Pub. 12-27-60. Filed 1-18-60.

712,355. WINGED FLASK DESIGN. U.S. Peroxygen Corp. SN 89,220. Pub. 12-27-60. Filed 1-18-60.

712,356. DENDEX. Atlas Powder Company. SN 90,213. Pub. 12-27-60. Filed 2-3-60.

712,357. FONTANA. Claire Burke, Inc., d.b.a. Fontana. SN 95,058. Pub. 12-27-60. Filed 4-14-60.

712,358. MALA-BATH. M.F.A. Oil Company. SN 97,562. Pub. 12-27-60. Filed 5-20-60.

712,359. PRE-MED. Hyland Laboratories. SN 98,093. Pub. 12-27-60. Filed 5-31-60.

712,360. BARCOLENE JET STARCH AND DESIGN. The Barcolene Co. SN 100,683. Pub. 12-27-60. Filed 7-12-60.

712,361. LD-7. Milwhite Mud Sales Company. SN 100,922. Pub. 12-27-60. Filed 7-15-60.

712,362. PARLON. Hercules Powder Company. SN 100,993. Pub. 12-27-60. Filed 7-18-60.

Class 10—Fertilizers

712,363. DURA MULCH. Barrow Forest Products Co. SN 95,353. Pub. 12-27-60. Filed 4-19-60.

712,364. PLANTCO. Plant Care Specialties, Inc. SN 99,088. Pub. 12-27-60. Filed 6-15-60.

Class 11—Inks and Inking Materials

712,365. THERMAGLOSS. Claremont Pigment Dispersion Corporation. SN 96,696. Pub. 12-27-60. Filed 4-29-60.

Class 12—Construction Materials

712,366. DOCO. Deco, Incorporated. SN 67,671. Pub. 9-13-60. Filed 3-13-59.

712,367. TERATEX. Madison Chemical Corporation. SN 82,249. Pub. 12-27-60. Filed 9-28-59.

712,368. CAVALIER. T. V. Walker & Son, Inc. SN 86,374. Pub. 12-27-60. Filed 11-30-59.

712,369. CADET. T. V. Walker & Son, Inc. SN 86,375. Pub. 12-27-60. Filed 11-30-59.

712,370. TAKAPART. Louis L. Levene, d.b.a. Takapart Products Company. SN 86,505. Pub. 12-27-60. Filed 12-2-59.

712,371. LOCK-SEAL. Gifford-Hill-Western, Inc. SN 87,796. Pub. 12-27-60. Filed 12-22-59.

712,372. MIN-K. Johns-Manville Corporation. SN 88,334. Pub. 12-27-60. Filed 12-31-59.

712,373. DOC-PORT. Walter Balfour & Co., Inc. SN 91,741. Pub. 12-27-60. Filed 2-29-60.

712,374. LAL-BRO. Lally Bros. Company. SN 92,020. Pub. 12-27-60. Filed 3-11-60.

712,375. FEATHEROCK. Featherock, Inc., d.b.a. United States Pumice Supply Company, Inc. SN 93,299. Pub. 12-27-60. Filed 3-21-60.

712,376. CRA AND DESIGN. California Redwood Association. SN 96,566. COLLECTIVE MARK. Pub. 12-27-60. Filed 5-6-60.

712,377. EPOTEX. H. B. Fred. Kuhls. SN 96,493. Pub. 12-27-60. Filed 5-6-60.

712,378. PERATITE. H. K. Porter Company, Inc. SN 101,201. Pub. 12-27-60. Filed 7-20-60.

712,379. STEP-TRIM. Reynolds Aluminum Supply Company. SN 101,204. Pub. 12-27-60. Filed 7-20-60.

712,380. BASIBLOK. Basic Incorporated. SN 101,465. Pub. 12-27-60. Filed 7-26-60.

712,381. INSULAIRE. Frederick R. Glassman, d.b.a. Ford Products Company. SN 101,774. Pub. 12-27-60. Filed 8-1-60.

712,382. DELTA ETC. AND DESIGN. Delta Steel Buildings Co. SN 101,934. Pub. 12-27-60. Filed 8-3-60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

712,383. BEACON VALVES AND DESIGN. Beacon Brass Company. SN 95,409. Pub. 12-27-60. Filed 4-20-60.

712,384. TV-O MATIC AND DESIGN. Super Sagless Spring Corporation. SN 97,586. Pub. 12-27-60. Filed 5-20-60.

712,385. DINE-A-CRAFT. Dine-A-Crafts. SN 99,307. Pub. 12-27-60. Filed 6-20-60.

712,386. STARWELD. Lone Star Steel Company. SN 99,339. Pub. 12-27-60. Filed 6-20-60.

712,387. "ENDURO." Woodward Wanger Company. SN 99,607. Pub. 12-27-60. Filed 6-23-60.

712,388. AIR-LAV. Koehler Aircraft Products Company. SN 99,632. Pub. 12-27-60. Filed 6-24-60.

712,389. PLUGAROO. Frank Wheatley Corporation. SN 99,685. Pub. 12-27-60. Filed 6-24-60.

712,390. SHEAR-SEAL. Barksdale Valves. SN 99,710. Pub. 12-27-60. Filed 6-27-60.

Class 14—Metals and Metal Castings and Forgings

712,391. 27. Eutectic Welding Alloys Corporation. SN 95,157. Pub. 12-27-60. Filed 4-15-60.

712,392. SINTERCUT. Diamond Metal Company. SN 95,424. Pub. 12-27-60. Filed 4-20-60.

Class 15—Oils and Greases

712,393. TURBO-DRIVE. E. F. Houghton & Co. SN 97,658. Pub. 12-27-60. Filed 5-23-60.

712,394. SKIBS. American Home Products Corporation, d.b.a. Boyle-Midway. SN 100,400. Pub. 12-27-60. Filed 7-7-60.

712,395. HMF. Shell Oil Company. SN 101,180. Pub. 12-27-60. Filed 7-19-60.

712,396. HUL-E-MUL. Hulburt Oil & Grease Company. SN 103,722. Pub. 12-27-60. Filed 8-31-60.

Class 17—Tobacco Products

712,397. BLUE CHIPS. Philip Morris Incorporated. SN 100,536. Pub. 12-27-60. Filed 7-8-60.

712,398. EXPLORER. Philip Morris Incorporated. SN 100,537. Pub. 12-27-60. Filed 7-8-60.

712,399. MARINER. Philip Morris Incorporated. SN 100,636. Pub. 12-27-60. Filed 7-11-60.

712,400. NORTH WIND. Philip Morris Incorporated. SN 100,637. Pub. 12-27-60. Filed 7-11-60.

Class 18—Medicines and Pharmaceutical Preparations

712,401. WARREN-TEED WT ETC. AND DESIGN. The Warren-Teed Products Company. SN 60,642. Pub. 12-27-60. Filed 10-14-58.

712,402. GELONIDA ANTINEURALGICA. Warner-Lambert Pharmaceutical Company. SN 76,612. Pub. 12-27-60. Filed 6-26-59.

712,403. NAQUA. Schering Corporation. SN 81,641. Pub. 12-27-60. Filed 9-18-59.

712,404. TURF-O. Walter K. Windecker, d.b.a. Turf Specialty Company. SN 81,950. Pub. 12-27-60. Filed 9-23-59.

712,405. KOOL. International Distributors, Inc. SN 88,465. Pub. 12-27-60. Filed 1-5-60.

712,406. SANYA. Sherkra Laboratories. SN 91,458. Pub. 12-27-60. Filed 2-23-60.

712,407. CORTASEP. Gray Realty Corporation. SN 92,760. Pub. 12-27-60. Filed 3-14-60.

712,408. FLURA-DROPS. Kirkman Pharmacal Company. SN 95,604. Pub. 12-27-60. Filed 4-22-60.

712,409. NEOPAN. U.S. Vitamin & Pharmaceutical Corporation. SN 97,732. Pub. 12-27-60. Filed 5-23-60.

712,410. KENACOMB. Olin Mathieson Chemical Corporation. SN 97,948. Pub. 12-27-60. Filed 5-26-60.

712,411. PROHALONE. American Home Products Corporation, d.b.a. Ayerst Laboratories. SN 102,865. Pub. 12-27-60. Filed 8-10-60.

712,412. ARALEN. Sterling Drug Inc. SN 102,434. Pub. 12-27-60. Filed 8-10-60.

712,413. PREVERAL. American Home Products Corporation, d.b.a. Ives-Cameron Company. SN 102,720. Pub. 12-27-60. Filed 8-16-60.

712,414. BLOCK A DESIGN. Abbott Laboratories. SN 102,814. Pub. 12-27-60. Filed 8-17-60.

712,415. HACKS AND DESIGN. White Hudson and Company Limited. SN 102,966. Pub. 12-27-60. Filed 8-18-60.

712,416. BANGINA. Spencer Laboratories Incorporated. SN 103,368. Pub. 12-27-60. Filed 8-24-60.

712,417. VIG. Abbott Laboratories. SN 103,507. Pub. 12-27-60. Filed 8-29-60.

712,418. MONOPAR. Burroughs Wellcome & Co. (U.S.A.) Inc. SN 104,226. Pub. 12-27-60. Filed 9-12-60.

712,419. GY. Geigy Chemical Corporation. SN 104,448. Pub. 12-27-60. Filed 9-14-60.

712,420. OB-A-AEMA. Cenay Laboratories, Inc. SN 104,808. Pub. 12-27-60. Filed 9-20-60.

712,421. NAQUIVAL. Schering Corporation. SN 104,859. Pub. 12-27-60. Filed 9-20-60.

712,422. QUIVAL. Schering Corporation. SN 104,860. Pub. 12-27-60. Filed 9-20-60.

712,423. TEGUNOR. Nordson Pharmaceutical Laboratories, Inc. SN 104,937. Pub. 12-27-60. Filed 9-21-60.

712,424. CYCLE-AID. The Norwich Pharmacal Company. SN 105,091. Pub. 12-27-60. Filed 9-23-60.

712,425. TRINALIS. The William A. Webster Company. SN 105,238. Pub. 12-27-60. Filed 9-26-60.

Class 19—Vehicles

712,426. COANDADYNE. Societe Francaise d'Etudes et de Realisations d'Inventions Coanda Sferi Coanda. SN 73,855. Pub. 12-27-60. Filed 4-1-59.

712,427. AERIUS. Hans Klepper, d.b.a. Klepper-Werke. SN 78,633. Pub. 12-27-60. Filed 7-29-59.

712,428. HI-GLO. Peters & Russell, Inc. SN 89,792. Pub. 12-27-60. Filed 1-27-60.

712,429. BUNDLE BUGGY. Phenix Supply Company. SN 98,294. Pub. 12-27-60. Filed 6-1-60.

712,430. TOURNAPULL. Le Tourneau-Westinghouse Company. CONSOLIDATED CERTIFICATE. SN 100,616, pub. 12-13-60, filed 7-11-60, Cl. 19; SN 100,617, pub. 12-13-60, filed 7-11-60, Cl. 23.

712,431. SEAT-A-BED. Robley D. Hurst, d.b.a. R. D. Hurst Company. SN 101,397. Pub. 12-27-60. Filed 7-25-60.

712,432. HURCO. Robley D. Hurst, d.b.a. R. D. Hurst Company. SN 101,399. Pub. 12-27-60. Filed 7-25-60.

712,433. MONTCLAIR. Montclair Mobile Homes, Inc. SN 101,454. Pub. 12-27-60. Filed 7-25-60.

712,434. RABAR. The Bumper Service. SN 101,539. Pub. 12-27-60. Filed 7-27-60.

712,435. LAKESIDE SPRINGLIDE. Lakeside Manufacturing, Inc. SN 101,955. Pub. 12-27-60. Filed 8-3-60.

Class 20—Linoleum and Oiled Cloth

712,436. RUBBERLOCK. Mitchell Rubber Products, Inc. SN 92,785. Pub. 12-27-60. Filed 3-14-60.

Class 21—Electrical Apparatus, Machines, and Supplies

712,437. INTER-ZINC. Intercontinental Factors, Incorporated. SN 71,289. Pub. 12-27-60. Filed 4-10-59.

712,438. DELTA OHM AND DESIGN. Leonard Electronics, Inc. SN 76,706. Pub. 12-27-60. Filed 6-29-59.

712,439. CANTEL. Cantel Incorporated. SN 80,250. Pub. 12-27-60. Filed 1-19-60.

712,440. SLUMBERWARM. Slumberest Company. SN 94,100. Pub. 12-27-60. Filed 3-31-60.

712,441. SLUMBERLITE. Slumberest Company. SN 94,102. Pub. 12-27-60. Filed 3-31-60.

712,442. SLUMBERLETTE. Slumberest Company. SN 94,104. Pub. 12-27-60. Filed 3-31-60.

712,443. SLUMBERPAD. Slumberest Company. SN 94,106. Pub. 12-27-60. Filed 3-31-60.

712,444. VULCAN AND DESIGN. Ebco Industries, Inc. SN 98,069. Pub. 12-27-60. Filed 5-31-60.

712,445. AMRAD. American Radiotelephone Corporation. SN 98,759. Pub. 12-27-60. Filed 6-10-60.

712,446. KAR-START. Schauer Manufacturing Corporation. SN 98,817. Pub. 12-27-60. Filed 6-10-60.

712,447. NEOX. Jamieson Laboratories, Inc. SN 98,903. Pub. 12-27-60. Filed 6-13-60.

712,448. AMP-IN. AMP Incorporated. SN 98,963. Pub. 12-27-60. Filed 6-14-60.

712,449. DYNA-MITE. Control Dynamics Corporation. SN 99,047. Pub. 12-27-60. Filed 6-15-60.

712,450. "TUF-PLATE." Photocircuits Corporation. SN 99,170. Pub. 12-27-60. Filed 6-16-60.

712,451. IRC AND OMEGA DESIGN. International Resistance Company. SN 99,856. Pub. 12-27-60. Filed 6-25-60.

712,452. IRC AND OMEGA DESIGN ETC. International Resistance Company. SN 99,857. Pub. 12-27-60. Filed 6-25-60.

Class 22—Games, Toys, and Sporting Goods

712,453. RENAISSANCE. E. S. Lowe Company, Inc. SN 67,013. Pub. 12-27-60. Filed 2-3-59.

712,454. CUBIT. Scientoy Company. SN 72,540. Pub. 12-27-60. Filed 4-29-59.

712,455. NYLON 40 AND DESIGN. W. J. Voit Rubber Corp. SN 74,087. Pub. 12-27-60. Filed 5-19-59.

712,456. OM ETC. AND DESIGN. Otto Maier Verlag. SN 77,402. Pub. 12-27-60. Filed 7-9-59.

712,457. CAD-E-MOBILE. Cad-E-Mobile Corporation. SN 89,129. Pub. 12-27-60. Filed 1-18-60.

712,458. MAGIC TRIANGLE. American Machine & Foundry Company. SN 90,214. Pub. 12-27-60. Filed 2-3-60.

712,459. SURF-BUOY. Gotham Industries, Inc. SN 92,352. Pub. 12-27-60. Filed 3-7-60.

712,460. DI-VI-DO. Masters Sporting Goods Co., Inc. SN 95,907. Pub. 12-27-60. Filed 4-27-60.

712,461. BONGO BONES. Vincent T. Gardner. SN 97,479. Pub. 12-27-60. Filed 5-19-60.

712,462. WOBBLE WALK. Houston Ready-Cut House Co. SN 98,484. Pub. 12-27-60. Filed 6-6-60.

712,463. WATCH DOG AND DESIGN. Maydee Mfg. Corp. SN 98,588. Pub. 12-27-60. Filed 6-7-60.

712,464. MARK TWAIN. Longfellow Products, Inc. SN 98,713. Pub. 12-27-60. Filed 6-9-60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

712,480. CONSOLIDATED CERTIFICATE. See Class 19.

712,465. N AND DESIGN. Nyloncraft, Inc. SN 73,421. Pub. 12-27-60. Filed 5-11-59.

712,466. REPRESENTATION OF WINGED SHAPE DEVICE LINED FOR GREEN. Lovett & Thorpe Hardware Company, Inc. SN 76,492. Pub. 12-27-60. Filed 6-25-59.

712,467. SUPER-FLO. Screw Conveyor Corporation. SN 79,811. Pub. 11-15-60. Filed 8-18-59.

712,468. WIEDEMATIC. Wiedemann Machine Company. SN 89,973. Pub. 12-27-60. Filed 1-29-60.

712,469. MITEY MITE. Clayton Mark & Company. SN 96,673. Pub. 11-8-60. Filed 5-9-60.

712,470. FULLFLEX. Goodman Manufacturing Company. SN 98,084. Pub. 12-27-60. Filed 5-31-60.

712,471. SABRE. American Knife Company. SN 98,758. Pub. 12-27-60. Filed 6-10-60.

712,472. REPRESENTATION OF ACE OF SPADES. The Cleveland Trencher Company. SN 99,200. Pub. 12-27-60. Filed 6-17-60.

712,473. REPRESENTATION OF ACE OF SPADES WITHIN A CIRCLE. The Cleveland Trencher Company. SN 99,201. Pub. 12-27-60. Filed 6-17-60.

712,474. DRIVE ALL AND DESIGN. Drive-All Manufacturing Company. SN 99,578. Pub. 12-27-60. Filed 6-23-60.

712,475. DEMPSTER DINOMASTER. Dempster Brothers, Inc. SN 99,848. Pub. 12-27-60. Filed 6-28-60.

712,476. COMMUNITY. Oneida Ltd. SN 99,957. Pub. 12-27-60. Filed 6-29-60.

712,477. SUPER 600. Super Mold Corporation of California. SN 100,169. Pub. 12-27-60. Filed 7-1-60.

712,478. AIROSPRAYER. J. Leon Fawcett, d.b.a. Airosprayer Company. SN 100,770. Pub. 12-27-60. Filed 7-13-60.

712,479. MIST-O-MISER DUSTRAXTOR. The Fly Ash Arrestor Corperation. SN 103,555. Pub. 12-27-60. Filed 8-29-60.

712,480. HYDRAQUADDER. Mergenthaler Linotype Company. SN 103,583. Pub. 12-27-60. Filed 8-29-60.

712,481. SI-NAMIC. Simonds Saw and Steel Company. SN 103,812. Pub. 12-27-60. Filed 9-1-60.

712,482. CENTRAFLEX. Kidder Press Company, Inc. SN 104,357. Pub. 12-27-60. Filed 9-30-60.

712,483. DARNOGRAM. Free Sewing Machine Co. SN 104,447. Pub. 12-27-60. Filed 9-14-60.

712,484. LADY JEWEL. Imperial Knife Associated Companies, Inc. SN 104,526. Pub. 12-27-60. Filed 9-15-60.

712,485. TUFF-TEMPER. Harbison-Fischer Manufacturing Company, Inc., d.b.a. Harbison Fischer Mfg. Co. SN 84,752. Pub. 1-10-61. Filed 11-6-59.

712,486. FOG-GUN. General Implement Corporation. SN 85,484. Pub. 1-10-61. Filed 11-17-59.

712,487. TOM THUMB. Tom Thumb Donut Corp. SN 86,214. Pub. 1-10-61. Filed 11-27-59.

Class 24 — Laundry Appliances and Machines

712,488. SILVABESTOS. Raybestos-Manhattan, Inc. SN 98,145. Pub. 12-27-60. Filed 5-31-60.

Class 25 — Locks and Safes

712,489. WISE-LOCK. Samuel S. Robinson, d.b.a. The Wise-Lock Company. SN 97,959. Pub. 12-27-60. Filed 5-26-60.

Class 26 — Measuring and Scientific Appliances

712,490. AMPLEX. Ampler Corperation. SN 77,882. Pub. 6-14-60. Filed 7-17-59.

712,491. DIATROL. DeVilbiss Machine Company. SN 80,238. Pub. 11-15-60. Filed 8-26-59.

712,492. MULLARD. Mullard Limited. SN 89,365. Pub. 12-27-60. Filed 1-20-60.

712,493. RITHMA STICK. Donald W. White. SN 99,981. Pub. 12-27-60. Filed 6-29-60.

Class 27 — Horological Instruments

712,494. WEATHERPROOF AND DESIGN. Hamilton Watch Company. SN 89,062. Pub. 12-27-60. Filed 1-15-60.

Class 28 — Jewelry and Precious-Metal Ware

712,495. LA REINE. Pearls by Delrah Inc. SN 94,180. Pub. 12-27-60. Filed 4-1-60.

712,496. DUR-A-LUX. Edward N. Smith, d.b.a. Goods Industries. SN 94,704. Pub. 12-27-60. Filed 4-5-60.

712,497. HALO. Jay Feingold. SN 96,952. Pub. 12-27-60. Filed 5-12-60.

712,498. IMPERIAL STAR. Fred Seltzer Corp. SN 100,867. Pub. 12-27-60. Filed 7-14-60.

Class 32 — Furniture and Upholstery

712,499. CHILDCRAFT. Childcraft Equipment Company, Inc. SN 91,591. Pub. 12-27-60. Filed 2-25-60.

712,500. ROTO PACK. Roto-Pack Corporation, by change of name from Reddy-Rack Corporation. SN 91,843. Pub. 11-22-60. Filed 2-29-60.

712,501. PLASTISHIELD. Shwayder Brothers, Inc. SN 97,418. Pub. 12-27-60. Filed 5-18-60.

712,502. TORFLEX. Stuhaitz Greene Corporation. SN 98,945. Pub. 12-13-60. Filed 6-13-60.

712,503. PEOPLE'S CHOICE. The Spring-Air Company. SN 99,604. Pub. 12-27-60. Filed 6-23-60.

712,504. LAMMERTS. Lammert Furniture Company. SN 100,264. Pub. 12-27-60. Filed 7-5-60.

712,505. WEBFOAM. The Kenmar Manufacturing Company. SN 100,371. Pub. 12-27-60. Filed 7-6-60.

712,506. OTTO-VESTIBLE. Dobry Bedding Corporation. SN 100,492. Pub. 12-27-60. Filed 7-8-60.

712,507. MERRY-GO-ROUND. Craftsmanship, Inc. SN 100,496. Pub. 12-27-60. Filed 7-8-60.

712,508. VERVE. Kroehler Mfg. Co. SN 101,011. Pub. 12-27-60. Filed 7-18-60.

712,509. MAWABL. John D. Somerville and Co. Limited. SN 102,589. Pub. 12-27-60. Filed 8-12-60.

712,510. PORTA-LAB. Educators Manufacturing Company. SN 102,628. Pub. 12-27-60. Filed 8-15-60.

712,511. LONG FELLOW. William Intner Co., Inc. SN 102,663. Pub. 12-27-60. Filed 8-15-60.

712,512. SLUMBERMATIC. Slumberland Products Co. SN 103,609. Pub. 12-27-60. Filed 8-29-60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

712,513. HEALTH/AIRE. Associated Mills. SN 91,328. Pub. 12-27-60. Filed 2-22-60.

712,514. FLARE-TROL. Mid-Continent Metal Products Co. SN 96,910. Pub. 12-27-60. Filed 4-27-60.

712,515. OZARK CHEF. McGraw-Edison Company. SN 98,008. Pub. 12-27-60. Filed 5-27-60.

712,516. JET-MIZER. Heilflow Corperation. SN 100,901. Pub. 12-27-60. Filed 7-11-60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

712,517. REPRESENTATION OF BLUE AND GOLD GASKET. Flexitallic Gasket Company. SN 88,904. Pub. 12-27-60. Filed 1-13-60.

712,518. PARBAK. Parker-Hannifin Corporation. SN 99,357. Pub. 12-27-60. Filed 6-20-60.

Class 36 — Musical Instruments and Supplies

712,519. STEREOTABLE. Pickering Associates, Inc. SN 82,843. Pub. 12-27-60. Filed 10-7-59.

712,520. AEROTAPE. Packard-Bell Electronics Corperation. SN 90,436. Pub. 12-27-60. Filed 2-5-60.

712,521. REGINALD KELL. Reginald Kell, d.b.a. The Reginald Kell Company. SN 93,319. Pub. 12-27-60. Filed 3-21-60.

712,522. GEOMETRIC. Reginald Kell, d.b.a. The Reginald Kell Company. SN 93,320. Pub. 12-27-60. Filed 3-21-60.

712,523. STENO-VOICE. Stentor's Inc. SN 100,546. Pub. 12-27-60. Filed 7-8-60.

Class 37 — Paper and Stationery

712,524. PERMATRACE. Lawes Rabjohns Limited. SN 44,906. Pub. 10-28-58. Filed 1-29-58.

712,525. HALLMARK AND DESIGN. Hallmark Cards, Incorporated. SN 94,780. Pub. 12-27-60. Filed 4-11-60.

712,526. EF AND DESIGN. Eberhard Faber Inc. SN 98,273. Pub. 12-27-60. Filed 6-2-60.

712,527. W/V KRAFTSMAN WESTVACO QUALITY PAPERS AND DESIGN. West Virginia Pulp and Paper Company. SN 98,753. Pub. 12-27-60. Filed 6-9-60.

712,528. UNICRAFT. The Heinn Company. SN 100,186. Pub. 12-27-60. Filed 7-1-60.

712,529. FORM-FIXT. The Multistamp Company. SN 101,884. Pub. 12-27-60. Filed 8-2-60.

712,530. READY RITE. Comptometer Corperation. SN 102,203. Pub. 12-27-60. Filed 8-8-60.

Class 38 — Prints and Publications

712,531. FLEET PRODUCT NEWS. Transportation Supply Publishing Corporation. SN 78,951. Pub. 12-27-60. Filed 8-3-59.

712,532. ELECTRIC MOTION CONTROL. Warner Electric Brake & Clutch Company. SN 78,957. Pub. 12-27-60. Filed 8-3-59.

712,533. FIGURE FACTS. Monroe Calculating Machine Company. SN 80,191. Pub. 12-27-60. Filed 8-25-59.

712,534. THE NATIONAL REAL ESTATE INVESTOR. Dornost Publishing Company, Inc. SN 85,663. Pub. 12-27-60. Filed 11-19-59.

712,535. CT SYSTEM. The Corporation Trust Company. SN 91,074. Pub. 12-27-60. Filed 2-17-60.

712,536. ANNY. Adanny Publications, Inc. SN 92,848. Pub. 12-27-60. Filed 3-15-60.

712,537. CABOT-LETTER. Cabot's Promotional Aids, Inc. SN 96,941. Pub. 12-27-60. Filed 5-12-60.

Class 39 — Clothing

712,538. STARTLERS. Five Star Footwear Co. SN 76,187. Pub. 12-27-60. Filed 6-22-59.

712,539. SHARON ORIGINALS. Sharon Hats, Incorporated. SN 81,096. Pub. 12-27-60. Filed 9-9-59.

712,540. COPLAN. E. Coplan Sons. SN 90,014. Pub. 12-27-60. Filed 2-1-60.

712,541. STACY-ADAMS PREPS AND DESIGN. Stacy Adams Company. SN 91,711. Pub. 12-27-60. Filed 2-26-60.

712,542. HAGGAR PICTURA WORSTEDS AND DESIGN. Haggar Company. SN 93,519. Pub. 12-27-60. Filed 3-23-60.

712,543. HAGGAR ANZAC WEAVE AND DESIGN. Haggar Company. SN 93,521. Pub. 12-27-60. Filed 3-23-60.

712,544. PROPPER. Claussner Hosiery Company. SN 93,765. Pub. 12-27-60. Filed 3-28-60.

712,545. "YOUR HANDKERCHIEF SIR." London Handkerchief Co., Inc. SN 93,822. Pub. 10-11-60. Filed 3-28-60.

712,546. FOOT TRAITS ETC. AND DESIGN. The W. L. Kreider's Sons Mfg. Co., Inc. SN 94,315. Pub. 12-27-60. Filed 4-4-60.

712,547. MAR-CLAY. Mar-Clay Hosiery Mills, assignee of William Glynn, d.b.a. Mar-Clay Hosiery Mills. SN 94,395. Pub. 12-27-60. Filed 4-5-60.

712,548. JEAN CASTLE. Nickels Manufacturing Company. SN 94,681. Pub. 12-27-60. Filed 4-8-60.

712,549. SWABBY BLUE BY CORBIN LTD. Corbin, Ltd. SN 96,683. Pub. 12-27-60. Filed 5-11-60.

712,550. SPRING STEP. Ortho-Vent Shoe Company, Inc. SN 97,068. Pub. 12-27-60. Filed 5-13-60.

712,551. TUKE-N-TRAY. Professional Apparel Co. SN 97,696. Pub. 12-27-60. Filed 5-23-60.

712,552. "BELIEVE IN BECK." A. S. Beck Shoe Corperation. SN 98,262. Pub. 12-27-60. Filed 6-2-60.

712,553. "ROUND TOWNERS." A. S. Beck Shoe Corperation. SN 98,264. Pub. 12-27-60. Filed 6-2-60.

712,554. WINKLE PICKERS. A. S. Beck Shoe Corperation. SN 98,265. Pub. 12-27-60. Filed 6-2-60.

712,555. TAB-A-BELT. Regent Belt Company, Inc. SN 98,398. Pub. 12-27-60. Filed 6-3-60.

712,556. HI SIERRA AND DESIGN. Belleville Shoe Manufacturing Company. SN 98,424. Pub. 12-27-60. Filed 6-6-60.

712,557. BUSYBODIES. Moran Shoe Company. SN 98,721. Pub. 12-27-60. Filed 6-9-60.

712,558. POT HOLDER. P. H. Hanes Knitting Company. SN 98,791. Pub. 12-27-60. Filed 6-10-60.

712,559. SHEERFUL. Peter Pan Foundations, Inc. SN 101,572. Pub. 12-27-60. Filed 7-27-60.

Class 40 — Fancy Goods, Furnishings, and Notions

712,560. KLIKETTES. Rau Fastener Company. SN 83,419. Pub. 12-27-60. Filed 10-16-59.

712,561. WISH FAN AND DESIGN. Helene Wright. SN 91,897. Pub. 12-27-60. Filed 2-29-60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

712,562. PADUA. J. P. Stevens & Co. Inc. SN 67,488. Pub. 12-27-60. Filed 2-10-59.

712,563. SLUMBERLITE. Slumberest Company. SN 94,103. Pub. 12-27-60. Filed 3-31-60.

712,564. SLUMBERLETTE. Slumberest Company. SN 94,105. Pub. 12-27-60. Filed 3-31-60.

712,565. SLUMBERPAD. Slumberest Company. SN 94,107. Pub. 12-27-60. Filed 3-31-60.

712,566. SPARKLETRIQUE. Burlington Industries, Inc. SN 96,392. Pub. 12-27-60. Filed 5-4-60.

712,567. TROY EMBLEM. Troy Blanket Mills. SN 97,429. Pub. 12-27-60. Filed 5-16-60.

712,568. STRING OF PEARLS. Shapiro and Son Curtain Corperation. SN 101,820. Pub. 12-27-60. Filed 8-1-60.

Class 46 — Foods and Ingredients of Foods

712,569. CHUN KING CANTONEASY KITCHEN HOLIDAY. The Chun King Corperation, assignee of Chun King Sales, Inc. SN 32,805. Pub. 11-15-60. Filed 6-28-57.

712,570. 31 - BASKIN - ROBBINS ETC. AND DESIGN. Huntington Ice Cream Co., d.b.a. Baskin-Robbins Ice Cream. SN 66,444. Pub. 12-27-60. Filed 1-28-59.

712,571. THE SIGN OF GOOD EATING. H. J. Heinz Company. SN 68,141. Pub. 12-27-60. Filed 2-20-59.

712,572. SYLVIA. Spatola-Thompson, Inc. SN 73,448. Pub. 12-27-60. Filed 5-11-59.

712,573. FRUIT FANTASY. Fantasy Flavors, Inc. SN 76,394. Pub. 12-27-60. Filed 6-24-59.

712,574. VITA-MEAL. Lewis Food Company, d.b.a. Rose Food Co. SN 77,118. Pub. 6-7-60. Filed 7-6-59.

712,575. HAVEN. Haven Foods Limited. SN 77,542. Pub. 12-27-60. Filed 7-13-59.

712,576. MARCA TIGRE AND DESIGN. Societa Anonima Lucchese Olii e Vini, d.b.a. Fortuna Fontana & Co. SN 77,963. Pub. 12-27-60. Filed 7-17-59.

712,577. WESTON'S W. Weston Biscuit Company, Inc. SN 79,901. Pub. 12-27-60. Filed 8-19-59.

712,578. MR. ICKSEL. IXL Food Company. SN 80,686. Pub. 12-27-60. Filed 8-24-59.

712,579. GRIFFITH'S ISOPRO. The Griffith Laboratories, Inc. SN 81,477. Pub. 12-27-60. Filed 9-16-59.

712,580. DAIRYLEA. Dairymen's League Co-Operative Association, Inc. SN 81,978. Pub. 12-27-60. Filed 9-24-59.

712,581. ACADIAN. Evangeline Pepper & Food Products, Inc. SN 82,647. Pub. 12-27-60. Filed 10-5-59.

712,582. FLAVOTANG. Dodge & Olcott, Inc. SN 82,458. Pub. 12-27-60. Filed 10-19-59.

712,583. MRS. PARKER'S. The Mar-Gold Corporation, SN 84,075. Pub. 12-27-60. Filed 10-27-59.

712,584. SCARLET DESIRE. Fearn Foods Inc. SN 84,217. Pub. 12-27-60. Filed 10-29-59.

712,585. GOLDEN DESIRE. Fearn Foods Inc. SN 84,218. Pub. 12-27-60. Filed 10-29-59.

712,586. RAGOSSINO'S. J. Ragossino & Son, Inc. SN 85,395. Pub. 12-27-60. Filed 11-16-59.

712,587. PURETTES. Philadelphia Chewing Gum Corporation. SN 85,606. Pub. 12-27-60. Filed 11-18-59.

712,588. HI-FLO. Mil-Ko Products Limited. SN 87,261. Pub. 12-13-60. Filed 12-14-59.

712,589. JELLY ORBIT SPACE-SHIPS AND DESIGN. Wallace & Co. SN 87,600. Pub. 12-27-60. Filed 12-18-59.

712,590. 7 SEAS HUSHPUPPIES. The 7 Seas Hushpuppies Corp. SN 88,566. Pub. 12-27-60. Filed 1-6-60.

712,591. SCOTT PETERSEN AND DESIGN. John Morrell & Co. SN 89,079. Pub. 12-27-60. Filed 1-15-60.

712,592. SCOTT PETERSEN. John Morrell & Co. SN 89,080. Pub. 12-27-60. Filed 1-15-60.

712,593. HENRI'S SALAD-TANG AND DESIGN. Henri's Food Products Company, Inc., d.b.a. Henri's Food Products. SN 89,162. Pub. 12-27-60. Filed 1-18-60.

712,594. T & L AND DESIGN. Tate & Lyle, Limited. SN 92,328. Pub. 12-27-60. Filed 3-7-60.

712,595. WAGNER'S WINE VINEGAR AND DESIGN. John Wagner & Sons Inc. SN 93,959. Pub. 12-27-60. Filed 3-29-60.

712,596. SCOO-BEE-DO. Leaf Brands, Inc. SN 94,495. Pub. 12-27-60. Filed 4-6-60.

712,597. HERALD. Harold Gatzke Produce Farms, Inc. SN 94,983. Pub. 12-27-60. Filed 4-13-60.

712,598. FLAVOR SPARK. American Home Products Corporation, d.b.a. American Home Foods. SN 95,040. Pub. 12-27-60. Filed 4-14-60.

712,599. GOOD SEASONS AND DESIGN. General Foods Corporation. SN 95,164. Pub. 12-27-60. Filed 4-15-60.

712,600. BOBO. Chix Confectionery Company Limited. SN 96,670. Pub. 12-27-60. Filed 5-9-60.

712,601. C & F. Hills Bros. Coffee, Inc. SN 96,001. Pub. 12-27-60. Filed 5-27-60.

712,602. SOFT-TOUCH. M. J. Holloway & Co. SN 98,480. Pub. 12-27-60. Filed 6-6-60.

Class 47 — Wines

712,603. VALLE FRERES. Vintage Wines, Inc. SN 81,780. Pub. 12-27-60. Filed 9-21-59.

Class 48 — Malt Beverages and Liquors

712,604. LOWENBRAU. Löwenbräu München. SN 99,153. Pub. 12-27-60. Filed 6-16-60.

Class 49 — Distilled Alcoholic Liquors

712,605. ELIJAH CRAIG. T. W. Samuels Distillery, Inc., by change of name from The Foster Trading Corporation. SN 65,366. Pub. 12-27-60. Filed 1-6-59.

712,606. BILTMORE. The Alfred Hart Company. SN 73,784. Pub. 12-27-60. Filed 5-15-60.

712,607. ERNIE'S. Golden Gate Stores, Inc., d.b.a. Ernie's Liquor Stores. SN 96,332. Pub. 12-27-60. Filed 5-3-60.

Class 50 — Merchandise Not Otherwise Classified

712,608. SURE-BAND. Tweatier's Research, Inc. SN 96,555. Pub. 12-27-60. Filed 6-6-60.

712,609. HURCO. Robley D. Hurst, d.b.a. R. D. Hurst Company. SN 101,398. Pub. 12-27-60. Filed 7-25-60.

Class 51 — Cosmetics and Toilet Preparations

712,610. JEANA. Frederick Atkins, Inc. SN 72,969. Pub. 12-27-60. Filed 5-6-59.

712,611. LOVELIE HANDS AND DESIGN. Dewans, Inc. SN 76,467. Pub. 12-27-60. Filed 6-25-59.

712,612. BAIN DE FLEURS. Stephen Riley Company. SN 81,424. Pub. 12-27-60. Filed 9-15-59.

712,613. LOILL. Leonard D. Bergman, d.b.a. Loill Products Company. SN 96,628. Pub. 12-27-60. Filed 6-8-60.

712,614. SPIN. Bristol-Myers Company. SN 100,754. Pub. 12-27-60. Filed 7-13-60.

712,615. VITALIS. Bristol-Myers Company. SN 100,755. Pub. 12-27-60. Filed 7-13-60.

712,616. BATHING BEAUTY. Richard Hudnut. SN 101,494. Pub. 12-27-60. Filed 7-26-60.

712,617. FIRMWAVE. Sales Affiliates, Inc. SN 101,576. Pub. 12-27-60. Filed 7-27-60.

Class 52 — Detergents and Soaps

712,618. TEXIN. Dehydag Deutsche Hydrierwerke GmbH. SN 68,888. Pub. 12-27-60. Filed 3-4-59.

712,619. AMIDOX. The Stepan Chemical Company. SN 81,345. Pub. 12-27-60. Filed 9-14-59.

712,620. KURBIO. Jorgen I. Goldschmidt. SN 84,304. Pub. 12-27-60. Filed 10-30-59.

712,621. STAIN-AID AND DESIGN. Lewis Research Laboratories, Inc. SN 94,781. Pub. 12-27-60. Filed 4-11-60.

712,622. FUN AND REPRESENTATION OF A LAMB. Economics Laboratory, Inc. SN 96,814. Pub. 12-27-60. Filed 6-26-60.

712,623. VISSTRIP. Oakite Products, Inc. SN 96,614. Pub. 12-27-60. Filed 5-6-60.

Service Marks

Class 100 — Miscellaneous

712,624. OGIVE A SYMBOL. Atlantic Research Corporation. SN 91,664. Pub. 12-27-60. Filed 2-26-60.

712,625. KWIK SHOP. S & S Food Service, Inc. SN 94,920. Pub. 12-27-60. Filed 4-12-60.

712,626. CRA AND DESIGN. California Redwood Association. SN 96,544. Pub. 12-27-60. Filed 5-6-60.

712,627. INTERNUCLEAR. Internuclear Company. SN 97,663. Pub. 12-27-60. Filed 5-23-60.

Class 101 — Advertising and Business

712,628. JOLLY ROGER. Jolly Roger Dairy Products, Inc. SN 68,997. Pub. 12-27-60. Filed 3-5-59.

712,629. PBS AND DESIGN. Preferred Business Service Corporation. SN 95,624. Pub. 12-27-60. Filed 4-22-60.

Class 102 — Insurance and Financial

712,630. AQUA-PLAN. Manufacturers & Jobbers Finance Corporation, d.b.a. M & J Finance Corporation. SN 82,005. Pub. 12-27-60. Filed 9-24-59.

712,631. TOP THOROUGH OVERALL PROTECTION AND DESIGN. Centennial Insurance Company. SN 90,226. Pub. 12-27-60. Filed 2-8-60.

712,632. REPRESENTATION OF HOUSE ETC. Allstate Insurance Company. SN 96,652. Pub. 12-27-60. Filed 5-9-60.

712,633. THE PILOT. Pilot Life Insurance Company. SN 99,779. Pub. 10-4-60. Filed 6-27-60.

Class 103 — Construction and Repair

712,634. THERM-O-CRETE. J. Robert Cunningham. SN 84,593. Pub. 12-27-60. Filed 11-4-59.

Class 105 — Transportation and Storage

712,635. SUN BREAK. Western Airlines, Inc. SN 96,906. Pub. 12-27-60. Filed 5-11-60.

Class 107 — Education and Entertainment

712,636. MISS TEEN-AGE AMERICA. Teen America Associates. SN 62,480. Pub. 12-27-60. Filed 11-13-58.

712,637. LITTLE DUFFER AND DESIGN. James H. Templeton. SN 88,500. Pub. 12-27-60. Filed 1-5-60.

712,638. NEC AND DESIGN. National Electronics Conference, Inc. SN 96,720. Pub. 12-27-60. Filed 5-9-60.

Collective Membership Mark

Class 200

712,639. CRA AND DESIGN. California Redwood Association. SN 96,566. Pub. 12-27-60. Filed 5-6-60.

Certification Mark

Class A — Goods

712,640. STABI-LUXE FINISH. The Lace & Embroidery Association of America, Inc. SN 29,512. Pub. 12-2-58. Filed 4-17-57.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 10 — Fertilizers

712,641. Mora Chemical Corporation, Seattle, Wash. SN 76,716. Filed P.R. 6-30-59; Am. S.R. 12-5-60.

TREEFEED

For Pelletized Forest Fertilizer.
First use Nov. 17, 1958.

Class 12 — Construction Materials

712,642. Cold Spring Granite Company, Cold Spring, Minn. SN 106,049. Filed 10-10-60.

CHARCOAL BLACK

For Cut Stone for Structural and Monumental Use.
First use 1950.

712,643. Cold Spring Granite Company, Cold Spring, Minn. SN 106,050. Filed 10-10-60.

PURPLE CRYSTAL

For Cut Stone for Structural and Monumental Use.
First use 1951.

712,644. Cold Spring Granite Company, Cold Spring, Minn. SN 106,052. Filed 10-10-60.

OPALESCENT

For Cut Stone for Structural and Monumental Use.
First use 1940.

712,645. Cold Spring Granite Company, Cold Spring, Minn. SN 106,053. Filed 10-10-60.

VEINED EBONY BLACK

For Cut Stone for Structural and Monumental Use.
First use in 1936.

712,646. Cold Spring Granite Company, Cold Spring, Minn. SN 106,054. Filed 10-10-60.

CRYSTAL GRAY

For Cut Stone for Structural and Monumental Use.
First use 1949.

712,647. Cold Spring Granite Company, Cold Spring, Minn. SN 106,055. Filed 10-10-60.

AGATE

For Building Stone and Cut Granite for Structural and Monumental Use.
First use in 1946.

712,648. Cold Spring Granite Company, Cold Spring, Minn. SN 106,056. Filed 10-10-60.

AUTUMN BROWN

For Cut Stone for Structural and Monumental Use.
First use in 1946.

712,649. Cold Spring Granite Company, Cold Spring, Minn. SN 106,058. Filed 10-10-60.

LAKE PLACID BLUE

For Cut Stone for Structural and Monumental Use.
First use in 1957.

Class 19 — Vehicles

712,650. Truckstell Manufacturing Company, Cleveland, Ohio. SN 85,424. Filed P.R. 11-16-59; Am. S.R. 12-28-60.



For Automobile Radiator Caps.
First use Oct. 31, 1959.

Class 26—Measuring and Scientific Appliances

712,651. P & B Reproduction Supply Corporation, Los Angeles, Calif. SN 76,821. Filed P.R. 6-30-59; Am. S.R. 9-19-60.

KLEER KOPY

For Translucent Reproduction Media Such as Tracing Paper, i.e., a Paper Coated for Translucency for Reception of Original Material To Provide Matrix for Photo Reproduction Processing.
First use on or about Dec. 2, 1957.

Class 32—Furniture and Upholstery

712,652. Allergen-Proof Encasings, Inc., Cleveland, Ohio. SN 77,889. Filed P.R. 7-17-59; Am. S.R. 1-5-61.

Allergen—Proof

For Mattresses and Box Springs.
First use June 12, 1959.

Class 36—Musical Instruments and Supplies

712,653. Columbia Broadcasting System, Inc., Bridgeport, Conn. SN 102,735. Filed 8-16-60.



The words "Stereo" and "Seven" are disclaimed apart from the mark as shown. The drawing is lined for blue, violet, pink, orange, gold, yellow, green.
For Grooved Phonograph Records.
First use July 28, 1959.

Class 40—Fancy Goods, Furnishings, and Notions

712,654. Ribbontrim, Inc., New York, N.Y. SN 95,319. Filed P.R. 4-18-60; Am. S.R. 1-6-61.

wash-prufe

For Seam Binding.
First use on or about May 8, 1951.

Class 44—Dental, Medical, and Surgical Appliances

712,655. Hy Levine Dental Laboratory, Inc., New York, N.Y. SN 73,989. Filed P.R. 5-18-59; Am. S.R. 1-5-61.



For Dentures.
First use June 1, 1941.

712,656. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. SN 79,235. Filed P.R. 8-10-59; Am. S.R. 12-29-60.

SOFWAVE

For Home Permanent Waving Kit Containing Waving Lotion and End Tissues.
First use July 13, 1959.

TRADEMARK REGISTRATIONS RENEWED

18,844. WS & B PARAGON LINEN. Cl. 37. 1-13-1891.
18,845. WS & B REGENT LINEN. Cl. 37. 1-13-1891.
135,566. GEAR LIFE. Cl. 15. 1-4-21.
138,769. WHITE WASHABLE KID ETC. AND DESIGN. Cl. 1. 1-11-21.
139,570. PORTRAIT OF LINCOLN. Cl. 16. 2-8-21.
139,716. MONCRIEF. Cl. 34. 2-15-21.
140,426. MELLO-GLOSS. Cl. 16. 3-15-21.
140,584. ROGERS AND DESIGN. Cl. 16. 3-22-21.
141,675. TASTEE. Cl. 46. 4-26-21.
141,687. STEINWAY. Cl. 36. 4-26-21.
142,177. WILCO. Cl. 14. 5-3-21.
142,681. KEYKO. Cl. 46. 5-17-21.
143,011. POLYPHENYL. Cl. 6. 5-24-21.
143,053. APPLE-US AND DESIGN. Cl. 39. 5-24-21.
143,100. 4711. Cl. 18. 5-24-21.
143,406. 4711. Cl. 52. 5-31-21.
144,210. PULVULES. Cl. 18. 6-28-21.
371,895. PARE. Cl. 44. 10-10-39.
377,276. ORMIG. Cl. 37. 4-20-40.
382,209. TIDY HOUSE. Cl. 16. 10-22-40.
382,772. THE CHURCH REVIEW. Cl. 38. 11-12-40.
383,236. DEX. Cl. 6. 11-26-40.
384,136. RADIO PRESS ASSOCIATION. Cl. 38. 1-7-41.
384,190. PLAST-ALUMINUM. Cl. 14. 1-7-41.
384,224. REPRESENTATION OF LION'S HEAD AND DESIGN. Cl. 28. 1-7-41.
384,225. REPRESENTATION OF A RECLINING LION. Cl. 28. 1-7-41.
384,255. BLARNEY KISS AND DESIGN. Cl. 51. 1-7-41.
384,353. SPEEDBALL. Cl. 28. 1-14-41.
384,539. DOUBLE GJ. Cl. 28. 1-21-41.
384,540. DOUBLE GJ AND CROWN DESIGN. Cl. 28. 1-21-41.
384,700. ABEX. Cl. 25. 1-28-41.
384,831. INFREX. Cl. 26. 2-4-41.
384,859. AERALLOY. Cl. 21. 2-4-41.
385,125. TELTESTER. Cl. 26. 2-18-41.
385,198. KNOR. Cl. 6. 2-18-41.
385,243. ARLACEL. Cl. 6. 2-18-41.
385,563. ROLLING ROCK AND DESIGN. Cl. 45. 3-11-41.
385,600. FASHION PLATE AND DESIGN. Cl. 39. 3-18-41.
385,812. THRIFTY AND DESIGN. Cl. 15. 3-18-41.
386,423. SHARKNIT. Cl. 39. 4-8-41.
386,516. BETEKAKE. Cl. 40. 4-15-41.
386,579. SPIRA-MATIC. Cl. 24. 4-15-41.
386,752. ROLLING ROCK AND DESIGN. Cl. 45. 4-22-41.
386,853. SUNSET AND DESIGN. Cl. 15. 4-22-41.
386,915. SKI-WULS AND DESIGN. Cl. 39. 4-29-41.
387,142. B & T. Cl. 12. 5-6-41.
387,370. BLUE BEAUTY AND DESIGN. Cl. 46. 5-13-41.
387,371. EMPEROR AND DESIGN. Cl. 46. 5-13-41.
387,730. FULLERIZED. Cl. 42. 5-27-41.
387,768. DUVET. Cl. 49. 5-27-41.
387,845. A LITTLE NIP 33 AND DESIGN. Cl. 46. 6-3-41.
387,864. FEEDOWEIGHT. Cl. 26. 6-3-41.
388,041. S-L. Cl. 46. 6-10-41.
388,111. HYPOBETA. Cl. 18. 6-10-41.
388,200. SKYHIGH. Cl. 51. 6-17-41.
388,319. RULANE. Cl. 6. 6-17-41.
388,324. BESTICK. Cl. 5. 6-17-41.
388,325. PEARLS IN WINE. Cl. 51. 6-17-41.
388,382. MISS AMERICA. Cl. 40. 6-24-41.
388,436. CORD-O-RAY AND DESIGN. Cl. 39. 6-24-41.

TRADEMARK REGISTRATIONS CANCELED

Section 8

11,371. THE ROYAL PORCELAIN WORKS. Cl. 30. 7-29-1884.
314,844. THE GONGWER STATE REPORTS. Cl. 38. 7-10-34.
411,458. VELVETEEN. Cl. 46. 1-18-43.

The following registrations issued Jan. 25, 1955

601,164. OPALINE PEARL-PLATINUM FOX. Cl. 1.
601,165. PADEX AND DESIGN. Cl. 2.
601,172. FLEXIN P. Cl. 6.
601,178. REPRESENTATION OF OIL WELL DERRICK IN A FLASK ON A CHECKED BACKGROUND. Cl. 6.
601,179. MAMCO. Cl. 6.
601,185. AMOIL. Cl. 6.
601,200. REDOXITE. Cl. 6.
601,203. TRACE-TONE AND DESIGN. Cl. 10.
601,207. FLEX. Cl. 11.
601,213. EVERLITE. Cl. 13.
601,214. AQUA-BAL. Cl. 13.
601,218. AIR BOLT AND DESIGN. Cl. 13.
601,219. NEO-GRIP. Cl. 13.
601,220. D-FLEXT-O. Cl. 13.
601,222. TANDEM-TONE ETC. AND DESIGN. Cl. 14.
601,224. INCO INCOLOY T AND DESIGN. Cl. 14.
601,226. B WITHIN DESIGN. Cl. 15.
601,227. SEBA. Cl. 15.
601,229. FLOR-EZ-IT. Cl. 16.
601,235. SHAW FINGER-PAINT. Cl. 16.
601,243. P-G-C. Cl. 18.
601,245. OPTINE. Cl. 18.
601,246. SCRAMO. Cl. 18.
601,250. PORENTIK. Cl. 18.
601,255. E.H.S. Cl. 18.
601,257. LEDERBIOTIC. Cl. 18.
601,261. ALMENIC. Cl. 18.
601,273. MALL. Cl. 21.
601,277. THE LISTENING POST. Cl. 21.
601,279. ECSTASY AND DESIGN. Cl. 22.
601,292. TRAILERMAST. Cl. 23.
601,295. TRY TRI-CLOVER. Cl. 23.
601,298. UNOSCOPE. Cl. 26.
601,301. D & L SQUARE -O- MASTER AND DESIGN. Cl. 26.
601,302. CONTROL MASTER. Cl. 26.
601,306. GRANITRU. Cl. 26.
601,309. WHIZ-ACRE O-METER AND DESIGN. Cl. 26.
601,320. POTWATCHER. Cl. 27.
601,332. TEACH-EZY. Cl. 28.
601,333. CHECKER-BOARD. Cl. 28.
601,338. LURINGS. Cl. 28.
601,339. GLOBE, STARS, AND RIBBON DESIGN. Cl. 30.
601,342. MINI-CUBE. Cl. 31.
601,346. CENTER-FLEX. Cl. 33.
601,348. COUNTRYSIDE. Cl. 37.
601,350. PLYMOUTH. Cl. 38.
601,352. MARCH OF FREEDOM AND DESIGN. Cl. 38.
601,354. ARMY AND NAVY MASONIC SERVICE CENTER. Cl. 38.
601,357. BUTTONIT. Cl. 39.
601,360. TREBORKNIT JR. SHORTIE AND DESIGN. Cl. 39.
601,361. BUFF-ALOHA. Cl. 39.
601,362. ANNIE OAKLEY. Cl. 39.
601,364. KOBBLER KUTIE. Cl. 39.
601,366. WOLL-GLO FOXES. Cl. 39.
601,367. SEA BEAU. Cl. 39.
601,373. OFFICE MATES. Cl. 39.
601,374. GO-COAT. Cl. 39.
601,376. NYLOPAQUE. Cl. 39.
601,384. GLEES BY PFEIFFER AND DESIGN. Cl. 39.
601,388. PETISCIARE. Cl. 39.
601,401. QUALITEX. Cl. 42.
601,408. HUNT CLUB. Cl. 42.
601,409. IMULON. Cl. 43.
601,410. INFRAFLEX. Cl. 44.
601,411. SINGMOR. Cl. 46.
601,412. DANEFIELD BRAND. Cl. 46.
601,413. M AND DESIGN OF A FISH. Cl. 46.
601,415. TASTRYT. Cl. 46.
601,420. FALBOEO. Cl. 46.
601,425. DM-20. Cl. 46.
601,429. FLEISHMANN. Cl. 46.
601,436. PLAST-O-PAD. Cl. 50.
601,443. CAPS. Cl. 52.
601,455. PICTURE-IT. Cl. 22.
601,456. 4-WAY MOP. Cl. 29.
601,457. FOUR-WAY MOP. Cl. 29.
601,461. STARR ORIGINALS. Cl. 39.
601,464. FIBRE-VEIN. Cl. 42.
601,466. ELECTRO STEEL. Cl. 50.

Section 18

550,194. TULIP AND DESIGN. Cl. 46. 8-13-57.
550,355. TROBARB. Cl. 18. 12-31-57.
663,938. FLORIDA RED RIPE. Cl. 46. 7-1-58.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(e), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

57,208. WILLIAM S. BROWN AND DESIGN. Cl. 6. William S. Brown. 11-6-06. New Cert. Sec. 7(c) to O. L. Wall, Jr., Knoxville, Tenn.

617,409. CONCENTRIKIT. Cl. 21. International Resistance Company. 12-13-55. New Cert. Sec. 7(c) to CTS Corporation, Elkhart, Ind.

654,215. JALS. Cl. 46. Industrias Jals, S.A. 11-5-57. New Cert. Sec. 7(c) to Easton Investment Corporation, Panama, Panama.

680,101. "VAN-DEL." Cl. 46. Productos Alimentor de Cuba, S.A. 6-9-59. New Cert. Sec. 7(c) to Easton Investment Corporation, Panama, Panama.

710,538. VENT VERT. Cl. 51. Pierre Balmain. 7-19-60. New Cert. Sec. 7(c) to Les Parfums Pierre Balmain S.A., Paris, France.

701,519. JOLIE MADAME. Cl. 51. Pierre Balmain. 7-19-60. New Cert. Sec. 7(c) to Les Parfums Pierre Balmain S.A., Paris, France.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

200,059. FARQUHAR. Cl. 23. 6-23-25. A. B. Farquhar Company, Limited. The Oliver Corporation, Chicago, Ill. Amended: In the statement, column 1, line 9, "hay presses,"; lines 15 through 19, "veneer presses, hot-plate presses, cotton-seed-oil presses, die presses, fiber presses, vulcanizing presses, curb presses,"; line 26, "cider presses," and lines 29 and 30, "hydraulic presses," are deleted.

380,347. UNICO AND DESIGN. Cl. 13. 8-20-40. United Co-Operatives, Inc., Alliance, Ohio. Amended: In the statement, column 2, lines 5 and 6 are deleted, and the drawing is amended to appear:



380,606. UNICO AND DESIGN. Cl. 2. 8-27-40. United Co-Operatives, Inc., Alliance, Ohio. Amended: In the statement, column 2, lines 6 and 7 are deleted, and the drawing is amended to appear:



380,933. UNICO AND DESIGN. Cl. 16. 9-10-40. United Co-Operatives, Inc., Alliance, Ohio. Amended: In the statement, column 2, lines 6 and 7 are deleted, and the drawing is amended to appear:



388,833. UNICO AND DESIGN. Cl. 7. 7-15-41. United Co-Operatives, Inc., Alliance, Ohio. Amended: In the statement, column 2, lines 4 and 5 are deleted, and the drawing is amended to appear:



441,192. FARQUHAR. Cl. 23. 11-2-48. A. B. Farquhar Company, Limited. The Oliver Corporation, Chicago, Ill. Amended: In the statement, column 1, lines 7 and 8, "hay presses" is deleted.

564,397. FARQUHAR. Cl. 23. 9-23-52. A. B. Farquhar Company. The Oliver Corporation, Chicago, Ill. Amended: In the statement, column 1, line 9, "hay presses,"; lines 13 through 17, "tufting presses, veneer presses, hot plate veneer presses, cotton seed oil presses, die presses, hydraulic veneer presses, fiber board presses, curb presses,"; lines 24 through 27, "hydraulic presses, hydraulic hot plate presses, hydraulic plastic moulding presses, hydraulic calender roll presses,"; lines 28 and 29, "cider presses, hydraulic cider presses,"; line 32, "fruit presses"; and column 2, lines 17 through 24, "hydraulic metal drawing presses, hydraulic metal extrusion presses, hydraulic metal forcing presses, hydraulic ship-building metal working presses, hydraulic metal straightening presses, hydraulic utility gap type metal working presses," and line 43, "vulcanizing presses" are deleted.

646,939. BAKON BITS. Cl. 46. 6-11-57. Filler Products, Inc., Atlanta, Ga. Corrected: In the statement, column 2, line 2, "Aug. 17," both occurrences should be deleted and *May 29* should be inserted.

INDEX OF REGISTRANTS

MARCH 14, 1961

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AMP Inc., Harrisburg, Pa. 712,448, pub. 12-27-60. Cl. 21.
Abbott Laboratories, North Chicago, Ill. 712,414, pub. 12-27-60. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 712,417, pub. 12-27-60. Cl. 18.
Acme Quality Paints, Inc.: *See*—
Lincoln Paint & Color Co.
Adams, Stacy, Co., Brockton, Mass. 712,541, pub. 12-27-60. Cl. 39.
Adanny Publications, Inc., New York, N.Y. 712,536, pub. 12-27-60. Cl. 38.
Adler-Jones Co., Chicago, Ill. 601,436, canc. Cl. 50.
Air Bolt, Inc., St. Louis, Mo. 601,218, canc. Cl. 13.
Airosprayer Co.: *See*—
Fawcett, J. Leon.
Allergan-Proof Encasings, Inc., Cleveland, Ohio. 712,652. Cl. 32.
Allied Chemical Corp., New York, N.Y. 712,348, pub. 12-27-60. Cl. 6.
Allied Chemical Corp., New York, N.Y. 712,351-2, pub. 12-27-60. Cl. 6.
Allstate Insurance Co., Skokie, Ill. 712,632, pub. 12-27-60. Cl. 102.
Amalgamated Leather Companies, Inc., Wilmington, Del. 133,769, ren. 3-14-61. Cl. 1.
American Beleek Co., Inc., Trenton, N.J. 601,339, canc. Cl. 30.
American Brake Shoe Co.: *See*—
American Brake Shoe and Foundry Co., The.
American Brake Shoe and Foundry Co., The, to American Brake Shoe Co., New York, N.Y. 284,700, ren. 3-14-61. Cl. 35.
American Cyanamid Co., New York, N.Y. 601,257, canc. Cl. 18.
American Home Foods: *See*—
American Home Products Corp.
American Home Products Corp., d.b.a. American Home Foods, New York, N.Y. 712,598, pub. 12-27-60. Cl. 46.
American Home Products Corp., d.b.a. Ayerst Laboratories, New York, N.Y. 712,411, pub. 12-27-60. Cl. 18.
American Home Products Corp., d.b.a. Boyle-Midway, New York, N.Y. 712,394, pub. 12-27-60. Cl. 15.
American Home Products Corp., d.b.a. Ives-Cameron Co., New York, N.Y. 712,413, pub. 12-27-60. Cl. 18.
American Knife Co., Jacksonville, Fla. 712,471, pub. 12-27-60. Cl. 23.
American Machine & Foundry Co., New York, N.Y. 712,458, pub. 12-27-60. Cl. 22.
American Radiotelephone Corp., Natick, Mass. 712,445, pub. 12-27-60. Cl. 21.
Amplex Corp., Carle Place, N.Y. 712,490, pub. 6-14-60. Cl. 21.
Area Mfg. Co., to Famous Sales Co., a copartnership of Vaughn W. Hapeman and Arthur H. Landon, to Famous Lubricants, Inc., Chicago, Ill. 138,566, ren. 3-14-61. Cl. 15.
Armand Co., The, Des Moines, Iowa. 386,325, ren. 3-14-61. Cl. 51.
Associated Mills, Chicago, Ill. 712,513, pub. 12-27-60. Cl. 24.
Atkins, Frederick, Inc., New York, N.Y. 712,610, pub. 12-27-60. Cl. 51.
Atlantic Research Corp., Alexandria, Va. 712,624, pub. 12-27-60. Cl. 100.
Atlas Powder Co., Wilmington, Del. 385,195, ren. 3-14-61. Cl. 6.
Atlas Powder Co., Wilmington, Del. 386,243, ren. 3-14-61. Cl. 6.
Atlas Powder Co., Wilmington, Del. 712,556, pub. 12-27-60. Cl. 6.
Atlas Underwear Co., The, to Atlas Underwear Corp., Piqua, Ohio. 386,915, ren. 3-14-61. Cl. 39.
Atlas Underwear Corp.: *See*—
Atlas Underwear Co., The.
Atlas Wire Products Co., Inc., Kansas City, Mo. 712,335, pub. 12-27-60. Cl. 2.
Ayerst Laboratories: *See*—
American Home Products Corp.
B. & T. Floor Co., The, to The B & T Metals Co., Columbus, Ohio. 387,142, ren. 3-14-61. Cl. 12.
B & T Metals Co., The: *See*—
B. & T. Floor Co., The.
Balfour, Walter, & Co., Inc., Brooklyn, N.Y. 712,573, pub. 12-27-60. Cl. 12.
Balmain, Pierre, to Les Parfums Pierre Balmain S.A., Paris, France. 701,518-19, new cert. Cl. 51.
Baltic Trading Co., Ltd., New York, N.Y. 630,194, canc. Cl. 46.
Barcolene Co., The, Boston, Mass. 712,360, pub. 12-27-60. Cl. 6.
Bareco Oil Co., Tulsa, Okla. 601,226, canc. Cl. 15.
Barksdale Valves, Los Angeles, Calif. 712,390, pub. 12-27-60. Cl. 13.
Barrow Forest Products Co., Ahoskie, N.C. 712,363, pub. 12-27-60. Cl. 10.
Basic Inc., Cleveland, Ohio. 712,380, pub. 12-27-60. Cl. 12.
Baskin-Robbins Ice Cream: *See*—
Huntington Ice Cream Co.
Beacon Brass Co., Waltham, Mass. 712,583, pub. 12-27-60. Cl. 13.
Beatrice Foods Co.: *See*—
Ohio Dairy Co., The.
Shedd Creamery Co., The.
Beaunit Mills, Inc.: *See*—
Luxuray, Inc.
Bebry Bedding Corp., Bayonne, N.J. 712,506, pub. 12-27-60. Cl. 32.
Beck, A. S., Shoe Corp., New York, N.Y. 712,552-4, pub. 12-27-60. Cl. 39.
Belleville Shoe Mfg. Co., Belleville, Ill. 712,556, pub. 12-27-60. Cl. 39.
Bemis Bro. Bag Co., St. Louis, Mo. 712,333, pub. 12-27-60. Cl. 2.
Bergman, Leonard D., d.b.a. Loill Products Co., Chicago, Ill. 712,613, pub. 12-27-60. Cl. 51.
Bernheim, George W., d.b.a. Vericontrol, Brooklyn, N.Y. 601,302, canc. Cl. 26.
Bettis Corp., Houston, Tex. 601,213, canc. Cl. 13.
Binney & Smith Co., now by merger and change of name Binney & Smith Inc., New York, N.Y. 601,235, canc. Cl. 16.
Binney & Smith Inc.: *See*—
Binney & Smith Co.
Bloom Shoe Shop, New York, N.Y. 601,361, canc. Cl. 39.
Boepple Sportswear Mills, Inc., New York, N.Y. 601,267, canc. Cl. 39.
Bond Street Ltd., New York, N.Y. 712,338, pub. 12-27-60. Cl. 3.
Borden Co., The, New York, N.Y. 712,349, pub. 12-27-60. Cl. 6.
Boyle-Midway: *See*—
American Home Products Corp.
Bristol-Myers Co., New York, N.Y. 712,614-15, pub. 12-27-60. Cl. 51.
Britton Fabrics, to J. P. Stevens & Co. Inc., New York, N.Y. 387,730, ren. 3-14-61. Cl. 42.
Brown, William S., to O. L. Wall, Jr., Knoxville, Tenn. 57,208, new cert. Cl. 6.
Bumper Service, The, Mobile, Ala. 712,434, pub. 12-27-60. Cl. 19.
Burke, Claire, Inc., d.b.a. Fontana, Charlottesville, Va. 712,357, pub. 12-27-60. Cl. 6.
Burlington Industries, Inc., Greensboro, N.C. 712,566, pub. 12-27-60. Cl. 42.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 712,418, pub. 12-27-60. Cl. 18.
CTS Corp.: *See*—
International Resistance Co.
Cabot's Promotional Aids, Inc., Chicago, Ill. 712,537, pub. 12-27-60. Cl. 38.
Cad-E-Mobile Corp., Grand Rapids, Mich. 712,457, pub. 12-27-60. Cl. 22.
California Redwood Association, San Francisco, Calif. 712,376, pub. 12-27-60. Cl. 12.
California Redwood Association, San Francisco, Calif. 712,626, pub. 12-27-60. Cl. 100.
California Redwood Association, San Francisco, Calif. 712,639, pub. 12-27-60. Cl. 200.
Canadian National Silver Fox Breeders Association (Canadian Association), Summerside, Prince Edward Island, Canada. 601,164, canc. Cl. 1.
Cantel Inc., Portland, Oreg. 712,439, pub. 12-27-60. Cl. 21.
Cardwell Mfg. Co., Inc., Wichita, Kans. 601,292, canc. Cl. 23.
Cashin, Francis X., Brooklyn, N.Y. 384,255, ren. 3-14-61. Cl. 51.
Cayton, Kenneth M., Lake Charles, La. 601,346, canc. Cl. 32.
Centennial Insurance Co., New York, N.Y. 712,631, pub. 12-27-60. Cl. 102.
Chicago Pharmacal Co., Chicago, Ill. 656,355, canc. Cl. 18.
Childcraft Equipment Co., Inc., New York, N.Y. 712,499, pub. 12-27-60. Cl. 32.
Chix Confectionery Co. Ltd., Slough, England. 712,600, pub. 12-27-60. Cl. 46.
Chun King Corp., The, from Chun King Sales, Inc., Duluth, Minn. 712,569, pub. 11-15-60. Cl. 46.
Chun King Sales, Inc.: *See*—
Chun King Corp., The.
Church Society for College Work, The, Washington, D.C. 382,772, ren. 3-14-61. Cl. 35.
Claremont Pigment Dispersion Corp., Roslyn Heights, N.Y. 712,365, pub. 12-27-60. Cl. 11.
Clausner Hosiery Co., Paducah, Ky. 712,544, pub. 12-27-60. Cl. 39.
Clayton Mark & Co., Evanston, Ill. 712,439, pub. 11-8-60. Cl. 23.
Cleveland Trencher Co., The, Cleveland, Ohio. 712,472-3, pub. 12-27-60. Cl. 23.
Cochnar, Frank J., d.b.a. Cochnar Mfg. Co., Dorchester, Nebr. 601,300, canc. Cl. 26.
Cochnar Mfg. Co.: *See*—
Cochnar, Frank J.

Columbia Broadcasting System, Inc., Bridgeport, Conn. 712,653. Cl. 36.
Comay Laboratories, Inc., Lake Forest, Ill. 712,620, pub. 12–27–60. Cl. 18.
Comptometer Corp., Chicago, Ill. 712,530, pub. 12–27–60. Cl. 37.
Consolidated Vacuum Corp., Rochester, N.Y. 601,188, canc. Cl. 6.
Control Dynamics Corp., North Hollywood, Calif. 712,449, pub. 12–27–60. Cl. 21.
Coplan, E., Sons, Baltimore, Md. 712,540, pub. 12–27–60. Cl. 39.
Corbin, Ltd., New York, N.Y. 712,549, pub. 12–27–60. Cl. 39.
Corner, Carleton C., d.b.a. The Dexco Products Co., to The Pillsbury Co., Minneapolis, Minn. 385,236, ren. 3–14–61. Cl. 6.
Corp. Trust Co., The, New York, N.Y. 712,535, pub. 12–27–60. Cl. 38.
Cottage Products, Inc., New York, N.Y. 601,420, canc. Cl. 46.
Craftsmanship, Inc., Clearwater, Fla. 712,507, pub. 12–27–60. Cl. 32.
Crane Co.: *See*—
Plastic Metals, Inc.
Cunningham, J. Robert, Philadelphia, Pa. 712,634, pub. 12–27–60. Cl. 103.
D & L Tool and Machine Co.: *See*—
Lesner, William S.
Dairymen's League Co-Operative Association, New York, N.Y. 712,580, pub. 12–27–60. Cl. 46.
Danefeld Produce Coy., Ltd., Copenhagen, Denmark. 601,412, canc. Cl. 46.
Dehydag Deutsche Hydrierwerke G.m.b.H., Duesseldorf, Germany. 712,618, pub. 12–27–60. Cl. 52.
Delta Steel Buildings Co., Dallas, Tex. 712,382, pub. 12–27–60. Cl. 12.
Dempster Brothers, Inc., Knoxville, Tenn. 712,475, pub. 12–27–60. Cl. 23.
Destruxol Corp., Ltd., Pasadena, Calif. 601,203, canc. Cl. 10.
Detroit White Lead Works, to Rogers Paint Products, Inc., Detroit, Mich. 140,584, ren. 3–14–61. Cl. 16.
De Vilieg Machine Co., Royal Oak, Mich. 712,491, pub. 11–15–60. Cl. 26.
Dewane, Inc., Minneapolis, Minn. 712,611, pub. 12–27–60. Cl. 51.
Dexco Products Co., The: *See*—
Corner, Carleton C.
Diamond Metal Co., Houston, Tex. 712,392, pub. 12–27–60. Cl. 14.
Dine-A-Crafts, Kansas City, Mo. 712,385, pub. 12–27–60. Cl. 18.
Doco, Inc., Charlotte, N.C. 712,366, pub. 9–13–60. Cl. 12.
Dodge & Olcott, Inc., New York, N.Y. 712,582, pub. 12–27–60. Cl. 46.
Dokus, Adrienne Britta Juvet, and John Ivan Dokus, Cedar Grove, N.J. 712,328, pub. 12–27–60. Cl. 2.
Dokus, John I.: *See*—
Dokus, Adrienne B. J.
Dollen, Donald H., Omaha, Nebr. 601,279, canc. Cl. 22.
Dormont Publishing Co., Inc., New York, N.Y. 712,534, pub. 12–27–60. Cl. 38.
Dow Chemical Co., The, Midland, Mich. 712,331, pub. 12–27–60. Cl. 2.
Drive-All Mfg. Co., Detroit, Mich. 712,474, pub. 12–27–60. Cl. 23.
Easton Investment Corp.: *See*—
Industrias Jals, S.A.
Easy Washing Machine Corp., to The Murray Corp. of America, Syracuse, N.Y. 386,579, ren. 3–14–61. Cl. 24.
Eau de Cologne & Parfumerie-Fabrik Glockengasse No. 4711: *See*—
Mulhens & Kropff, Inc.
Ebsco Industries, Inc., Birmingham, Ala. 712,444, pub. 12–27–60. Cl. 21.
Economics Laboratory, Inc., St. Paul, Minn. 712,622, pub. 12–27–60. Cl. 52.
Educators Mfg. Co., Tacoma, Wash. 712,510, pub. 12–27–60. Cl. 32.
Eisenegger, John A., Dubuque, Iowa. 601,415, canc. Cl. 46.
Emco Industries, Buffalo, N.Y. 712,334, pub. 12–27–60. Cl. 2.
Engelhard Industries, Inc.: *See*—
Wilson, H. A., Co., The.
Ernie's Liquor Stores: *See*—
Golden Gate Stores, Inc.
Eutectic Welding Alloys Corp., Flushing, N.Y. 712,391, pub. 12–27–60. Cl. 14.
Evangeline Pepper & Food Products, Inc., Martinville, La. 712,581, pub. 12–27–60. Cl. 46.
Fa. Natron-Papier-Industrie Aktiengesellschaft, Vienna, Austria. 712,329, pub. 12–27–60. Cl. 2.
Faber, Eberhard, Inc., Wilkes-Barre, Pa. 712,526, pub. 12–27–60. Cl. 37.
Famous Lubricants, Inc.: *See*—
Area Mfg. Co.
Famous Sales Co.: *See*—
Area Mfg. Co.
Fantasy Flavors, Inc., Wheaton, Ill. 712,573, pub. 12–27–60. Cl. 46.
Farquhar, A. B., Co., Ltd. The Oliver Corp., Chicago, Ill. 200,059. Am. 7(d). Cl. 23.
Farquhar, A. B., Co., Ltd. The Oliver Corp., Chicago, Ill. 441,192. Am. 7(d). Cl. 23.
Farquhar, A. B., Co., Ltd. The Oliver Corp., Chicago, Ill. 544,397. Am. 7(d). Cl. 23.
Fawcett, J. Leon, d.b.a. Airosprayer Co., Neodesha, Kans. 712,478, pub. 12–27–60. Cl. 23.
Fears Foods Inc., Franklin Park, Ill. 712,584–5, pub. 12–27–60. Cl. 46.
Featherock, Inc., d.b.a. United States Pumice Supply Co., Inc., Los Angeles, Calif. 712,375, pub. 12–27–60. Cl. 12.
Feingold, Jay, Philadelphia, Pa. 712,497, pub. 12–27–60. Cl. 28.
Ferdinand Mulhens: *See*—
Mulhens & Kropff, Inc.
Fieldcrest Mills, Inc., Spray, N.C. 601,403, canc. Cl. 42.
Filler Products, Inc., Atlanta, Ga. 646,939, cor. Cl. 46.
Five Star Footwear Co., Long Island City, N.Y. 712,538, pub. 12–27–60. Cl. 39.
Flexitallic Gasket Co., Camden, N.J. 712,517, pub. 12–27–60. Cl. 35.
Fly Ash Arrestor Corp., The, Birmingham, Ala. 712,479, pub. 12–27–60. Cl. 23.
Fontana: *See*—
Burke, Claire, Inc.
Ford, J. B., Sales Co., The, to Wyandotte Chemicals Corp., Wyandotte, Mich. 385,125, ren. 3–14–61. Cl. 26.
Ford Products Co.: *See*—
Glassman, Frederick R.
Fortuna Fontana & Co.: *See*—
Societa Anonima Lucchese Olii e Vini.
Foster Grant Co. Inc., to Foster Grant Co., Inc., Leominster, Mass. 384,831, ren. 3–14–61. Cl. 26.
Foster Trading Corp., The: *See*—
Samuels, T. W. Distillery, Inc.
Free Sewing Machine Co., Los Angeles, Calif. 712,483, pub. 12–27–60. Cl. 22.
Gambrell, Eugene M., Tampa, Fla. 663,938, canc. Cl. 46.
Gardner, Vincent T., Phoenix, Ariz. 712,461, pub. 12–27–60. Cl. 22.
Gatzke, Harold, Produce Farms, Inc., Berlin, Wis. 712,597, pub. 12–27–60. Cl. 46.
Geigy Chemical Corp.: *See*—
Geigy Co., Inc.
Geigy Chemical Corp., Ardsley, N.Y. 712,419, pub. 12–27–60. Cl. 18.
Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 143,011, ren. 3–14–61. Cl. 6.
General Electric Co., Schenectady, N.Y. 601,342, canc. Cl. 31.
General Foods Corp., White Plains, N.Y. 712,599, pub. 12–27–60. Cl. 46.
General Implement Corp., Clearwater, Fla. 712,496, pub. 1–10–61. Cl. 23.
Geode Industries: *See*—
Smith, Edward N.
Gifford-Hill-Western, Inc., Dallas, Tex. 712,371, pub. 12–27–60. Cl. 12.
Gillette Co., The, d.b.a. The Toni Co., Boston, Mass. 712,656. Cl. 44.
Glassman, Frederick R., d.b.a. Ford Products Co., Pawtucket, R.I. 712,381, pub. 12–27–60. Cl. 12.
Glidden Co., The, Cleveland, Ohio. 385,516, ren. 3–14–61. Cl. 46.
Glynn, William: *See*—
Mar-Clay Hosiery Mills.
Gold Seal Co., Bismarck, N. Dak. 712,346, pub. 12–27–60. Cl. 6.
Golden Eagle Refining Co., Inc.: *See*—
Sunset Oil Co.
Golden Gate Stores, Inc., d.b.a. Ernie's Liquor Stores, San Francisco, Calif. 712,607, pub. 12–27–60. Cl. 49.
Goldschmidt, Jorgen L., Copenhagen, Denmark. 712,620, pub. 12–27–60. Cl. 52.
Gongwer, Charles S., Columbus, Ohio. 514,844, canc. Cl. 38.
Goodman Mfg. Co., Chicago, Ill. 712,470, pub. 12–27–60. Cl. 23.
Gotham Hosiery Co., Inc., New York, N.Y. 601,376, canc. Cl. 39.
Gotham Industries, Inc., New York, N.Y. 712,459, pub. 12–27–60. Cl. 22.
Gray Realty Corp., Chicago, Ill. 712,407, pub. 12–27–60. Cl. 18.
Griffith Laboratories, Inc., The, Chicago, Ill. 712,579, pub. 12–27–60. Cl. 46.
Gudebrod Bros. Silk Co., Inc.: *See*—
Gudebrod Brothers Silk Co.
Gudebrod Brothers Silk Co., to Gudebrod Bros. Silk Co., Inc., Philadelphia, Pa. 371,693, ren. 3–14–61. Cl. 44.
Gustave Inc., New York, N.Y. 601,373, canc. Cl. 39.
Haggar Co., Dallas, Tex. 712,542–3, pub. 12–27–60. Cl. 39.
Hallmark Cards, Inc., Kansas City, Mo. 712,535, pub. 12–27–60. Cl. 37.
Hamilton Watch Co., Lancaster, Pa. 712,494, pub. 12–27–60. Cl. 27.
Hanes, P. H., Knitting Co., Winston-Salem, N.C. 712,558, pub. 12–27–60. Cl. 39.
Hapeman, Vaughn W.: *See*—
Area Mfg. Co.
Harbison Fischer Mfg. Co.: *See*—
Harbison-Fischer Mfg. Co., Inc.
Harbison-Fischer Mfg. Co., Inc., d.b.a. Harbison Fischer Mfg. Co., Ft. Worth, Tex. 712,485, pub. 1–10–61. Cl. 23.
Hart, Alfred Co., The, Los Angeles, Calif. 712,606, pub. 12–27–60. Cl. 49.
Haven Foods Ltd., Manchester, England. 712,575, pub. 12–27–60. Cl. 46.
Hedwin Corp., Baltimore, Md. 712,230, pub. 12–27–60. Cl. 2.
Heinz Co., The, Milwaukee, Wis. 712,528, pub. 12–27–60. Cl. 37.
Heinz, H. J., Co., Pittsburgh, Pa. 712,571, pub. 12–27–60. Cl. 46.
Hellrow Corp., Great Neck, N.Y. 712,516, pub. 12–27–60. Cl. 34.
Henri's Food Products: *See*—
Henri's Food Products Co., Inc.

Henri's Food Products Co., Inc., d.b.a. Henri's Food Products, Milwaukee, Wis. 712,593, pub. 12–27–60. Cl. 46.
Henry Furnace Co., The: *See*—
Henry, T. E., Furnace Co., The.
Henry Furnace and Foundry Co., The: *See*—
Henry, T. E., Furnace Co., The.
Henry, T. E., Furnace Co., The, to The Henry Furnace and Foundry Co., of Cleveland, Ohio, to The Henry Furnace Co., Medina, Ohio. 139,718, ren. 3–14–61. Cl. 34.
Hercules Powder Co., Wilmington, Del. 712,362, pub. 12–27–60. Cl. 6.
Heyden Chemical Corp., New York, N.Y. 601,172; canc. Cl. 6.
Hildreth, H. L., Co., Boston, Mass. 411,458, canc. Cl. 46.
Hille, Arthur W., d.b.a. Indiana Feed & Seed Co., Fort Wayne, Ind. 601,411, canc. Cl. 46.
Hills Bros. Coffee, Inc., San Francisco, Calif. 712,601, pub. 12–27–60. Cl. 46.
Hoffner Rayon Co., Philadelphia, Pa. 601,409, canc. Cl. 43.
Holloway, M. J., & Co., Chicago, Ill. 712,602, pub. 12–27–60. Cl. 46.
Houghton, E. F., & Co., Philadelphia, Pa. 712,393, pub. 12–27–60. Cl. 15.
Houston Ready-Cut House Co., Houston, Tex. 712,462, pub. 12–27–60. Cl. 22.
Hudnut, Richard, Morris Plains, N.J. 712,616, pub. 12–27–60. Cl. 51.
Hudson River Pharmaceutical Laboratory, Inc., New York, N.Y. 601,255, canc. Cl. 18.
Hudson, White and Co. Ltd., Southport, England. 712,415, pub. 12–27–60. Cl. 18.
Huibart Oil & Grease Co., Philadelphia, Pa. 712,396, pub. 12–27–60. Cl. 15.
Hunt, C. Howard, Pen Co., Camden, N.J. 384,353, ren. 3–14–61. Cl. 28.
Hunt, Vernon B., d.b.a. Tidy House Products Co., Des Moines, Iowa, to The Pillsbury Co., Minneapolis, Minn. 382,209, ren. 3–14–61. Cl. 16.
Huntington Ice Cream Co., d.b.a. Baskin-Robbins Ice Cream, Burbank, Calif. 712,570, pub. 12–27–60. Cl. 46.
Hurst Co.: *See*—
Hurst, Robley D.
Hurst, R. D., Co.: *See*—
Hurst, Robley D.
Hurst, Robley D., d.b.a. R. D. Hurst Co., Seattle, Wash. 712,431–2, pub. 12–27–60. Cl. 19.
Hurst, Robley D., d.b.a. R. D. Hurst Co., Seattle, Wash. 712,609, pub. 12–27–60. Cl. 50.
Hyland Laboratories, Los Angeles, Calif. 712,359, pub. 12–27–60. Cl. 6.
IXL Food Co., San Leandro, Calif. 712,578, pub. 12–27–60. Cl. 46.
Imperial Knife Associated Companies, Inc., Providence, R.I. 712,484, pub. 12–27–60. Cl. 23.
Indiana Feed & Seed Co.: *See*—
Hille, Arthur W.
Indianapolis Glove Co., Inc.: *See*—
Indianapolis Glove Co.
Indianapolis Glove Co., to Indianapolis Glove Co., Inc., Indianapolis, Ind. 143,053, ren. 3–14–61. Cl. 39.
Industrias Jals, S.A., to Easton Investment Corp., Panama, Panama. 654,215, new cert. Cl. 46.
Intercontinental Factors, Inc., Los Angeles, Calif. 712,437, pub. 12–27–60. Cl. 21.
International Distributors, Inc., Memphis, Tenn. 712,405, pub. 12–27–60. Cl. 18.
International Nickel Co., Inc., The, New York, N.Y. 601,224, canc. Cl. 14.
International Paper Co., New York, N.Y. 712,327, pub. 12–27–60. Cl. 2.
International Resistance Co., to CTS Corp., Elkhart, Ind. 617,409, new cert. Cl. 21.
International Resistance Co., Philadelphia, Pa. 712,451–2, pub. 12–27–60. Cl. 21.
Internuclear Co., Clayton, Mo. 712,627, pub. 12–27–60. Cl. 100.
Intner, William, Co., Inc., New York, N.Y. 712,511, pub. 12–27–60. Cl. 32.
Ives-Cameron Co.: *See*—
American Products Corp.
Jamieson Laboratories, Inc., Santa Monica, Calif. 712,447, pub. 12–27–60. Cl. 21.
Jensen, Georg, Inc., New York, N.Y. 384,539–40, ren. 3–14–61. Cl. 28.
Johns-Manville Corp., New York, N.Y. 712,372, pub. 12–27–60. Cl. 12.
Johnson, Stephens and Shinkle Shoe Co., St. Louis, Mo. 385,800, ren. 3–14–61. Cl. 39.
Jolly Roger Dairy Products, Inc., Johnsville, Pa. 712,626, pub. 12–27–60. Cl. 101.
Kell, Reginald Co., The: *See*—
Kell, Reginald.
Kell, Reginald, d.b.a. The Reginald Kell Co., Aspen, Colo. 712,521–2, pub. 12–27–60. Cl. 36.
Kenmar Mfg. Co., The, East Palestine, Ohio. 712,505, pub. 12–27–60. Cl. 32.
Kidder Press Co., Inc., Dover, N.H. 712,482, pub. 12–27–60. Cl. 23.
Kirkman Pharmacal Co., Seattle, Wash. 712,408, pub. 12–27–60. Cl. 18.
Klepper, Hans, d.b.a. Klepper-Werke, Rosenheim, Upper Bavarian, Germany. 712,427, pub. 12–27–60. Cl. 19.
Klepper-Werke: *See*—
Klepper, Hans.
Koehler Aircraft Products Co., Dayton, Ohio. 712,388, pub. 12–27–60. Cl. 13.
Kreider's, W. L., Sons Mfg. Co., Inc., The, Palmyra, Pa. 712,546, pub. 12–27–60. Cl. 30.
Kreshler Mfg. Co., Naperville, Ill. 712,508, pub. 12–27–60. Cl. 32.
Kuhs, H. B., Fred, Brooklyn, N.Y. 712,577, pub. 12–27–60. Cl. 12.
Lace & Embroidery Association of America, Inc., The, New York, N.Y. 712,640, pub. 12–2–58. Cl. A.
Lakeside Mfg., Inc., Milwaukee, Wis. 712,435, pub. 12–27–60. Cl. 19.
Lally Bros. Co., Chicago, Ill. 712,374, pub. 12–27–60. Cl. 12.
Lammert Furniture Co., St. Louis, Mo. 712,504, pub. 12–27–60. Cl. 32.
Landon, Arthur H.: *See*—
Area Mfg. Co.
Langford, Harry G.: *See*—
Padploc Co., Inc., The.
Latrobe Brewing Co., to Latrobe Brewing Co., Latrobe, Pa. 385,563, ren. 3–14–61. Cl. 45.
Latrobe Brewing Co., to Latrobe Brewing Co., Latrobe, Pa. 386,752, ren. 3–14–61. Cl. 48.
Latrobe Brewing Co., to Latrobe Brewing Co., Latrobe, Pa. 387,845, ren. 3–14–61. Cl. 48.
Leaf Brands, Inc., Chicago, Ill. 712,596, pub. 12–27–60. Cl. 46.
Leeds Associates Inc., New York, N.Y. 601,464, canc. Cl. 42.
Leonard Electronics, Inc., Montebello, Calif. 712,438, pub. 12–27–60. Cl. 21.
Les Parfums Pierre Balmain S.A.: *See*—
Balmain, Pierre.
Lesner, William S., d.b.a. D & L Tool and Machine Co., Detroit, Mich. 601,301, canc. Cl. 26.
Le Tourneau-Westinghouse Co., Peoria, Ill. 712,430, pub. 12–13–60. Classes 19 and 23.
Levene, Louis L., d.b.a. Takapart Products Co., New York, N.Y. 712,370, pub. 12–27–60. Cl. 12.
Levine, Hy, Dental Laboratory, Inc., New York, N.Y. 712,655. Cl. 44.
Lewis Food Co., d.b.a. Ross Food Co., Los Angeles, Calif. 712,574, pub. 6–7–60. Cl. 46.
Lewis Research Laboratories, Inc., Englewood, N.J. 712,621, pub. 12–27–60. Cl. 52.
Lilly, Eli, and Co.: *See*—
Lilly, Eli, and Co., The.
Lilly, Eli, and Co., The, to Eli Lilly and Co., Indianapolis, Ind. 144,210, ren. 3–14–61. Cl. 18.
Lincoln Paint & Color Co., Lincoln, Nebr., to Acme Quality Paints, Inc., Detroit, Mich. 139,570, ren. 3–14–61. Cl. 16.
Listening Post, Inc., The, Boston, Mass. 601,277, canc. Cl. 21.
Loew's Inc., now by change of name Metro-Goldwyn-Mayer Inc., Dover, Del., and New York, N.Y., to Metro-Goldwyn-Mayer Inc., New York, N.Y. 384,224–5, ren. 3–14–61. Cl. 26.
Lolil Products Co.: *See*—
Bergman, Leonard D.
London Handkerchief Co., Inc., New York, N.Y. 712,545, pub. 10–11–60. Cl. 39.
Lone Star Steel Co., Dallas, Tex. 712,386, pub. 12–27–60. Cl. 13.
Longfellow Products, Inc., Fraser, Mich. 712,464, pub. 12–27–60. Cl. 22.
Lovett & Tharpe Hardware Co., Inc., Dublin, Ga. 712,466, pub. 12–27–60. Cl. 23.
Loviner, Ray, Inc., Columbus, Ohio. 601,214, canc. Cl. 13.
Lowe Brothers Co., The: *See*—
Lowe Brothers Co., The.
Lowe Brothers Co., The, to The Lowe Brothers Co., Dayton, Ohio. 140,426, ren. 3–14–61. Cl. 16.
Lowe, R. S., Co., Inc., New York, N.Y. 712,458, pub. 12–27–60. Cl. 22.
Lowenbrau Munchen, Munich, Germany. 712,604, pub. 12–27–60. Cl. 48.
Luxuray, Inc., to Beaunit Mills, Inc., New York, N.Y. 386,428, ren. 3–14–61. Cl. 39.
Luxuray, Inc., to Beaunit Mills, Inc., New York, N.Y. 388,436, ren. 3–14–61. Cl. 39.
M. F. A. Oil Co., Columbia, Mo. 712,358, pub. 12–27–60. Cl. 6.
M & J Finance Corp.: *See*—
Manufacturers & Jobbers Finance Corp.
Madison Chemical Corp., Maywood, Ill. 712,367, pub. 12–27–60. Cl. 12.
Magna Products, Inc., Santa Fe Springs, Calif. 601,178, canc. Cl. 6.
Majestic Mfg. Co., St. Louis, Mo. 601,220, canc. Cl. 13.
Mall Tool Co., Chicago, Ill. 601,273, canc. Cl. 21.
Manufacturers & Jobbers Finance Corp., d.b.a. M & J Finance Corp., Shelby, N.C. 712,630, pub. 12–27–60. Cl. 102.
Mar-Clay Hosiery Mills, from William Glynn, d.b.a. Mar-Clay Hosiery Mills, Philadelphia, Pa. 712,547, pub. 12–27–60. Cl. 39.
Mardecic, Tvornica Biljih Konservi, Zadar, Yugoslavia. 601,413, canc. Cl. 46.
Marea S.R.L., Turin, Italy. 601,388, canc. Cl. 39.
Mar-Gold Corp., The, Atlanta, Ga. 712,583, pub. 12–27–60. Cl. 46.
Masonic Service Association of the United States, The, Washington, D.C. 601,354, canc. Cl. 38.
Masters Sporting Goods Co., Inc., Collierville, Tenn. 712,460, pub. 12–27–60. Cl. 22.
Maydee Mfg. Corp., Brooklyn, N.Y. 712,468, pub. 12–27–60. Cl. 22.
McGraw-Edison Co., Boonville, Mo. 712,515, pub. 12–27–60. Cl. 24.
Mead Laboratories: *See*—
Mead, Vandenberg L.
Mead Vandenberg L., d.b.a. Mead Laboratories, Beverly Hills, Calif. 601,245, canc. Cl. 18.

Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Merpenthaler Linotype Co., Brooklyn, N.Y. 712,490, pub. 12–27–60. Cl. 23.
Merrick Scale Mfg. Co., The, Passaic, N.J. 387,864, ren. 3–14–61. Cl. 26.
Metro-Goldwyn-Mayer Inc.: *See*—
Loew's Inc.
Meyer Chemical Co., Detroit, Mich. 601,261, canc. Cl. 18.
Michigan Appliance Mfg. Corp., Kalamazoo, Mich. 601,179, canc. Cl. 6.
Mid-Continent Metal Products Co., Chicago, Ill. 712,514, pub. 12–27–60. Cl. 34.
Mil-Ko Products Ltd., Hamilton, Ontario, Canada. 712,585, pub. 12–13–60. Cl. 46.
Milwhite Mud Sales Co., Houston, Tex. 712,361, pub. 12–27–60. Cl. 6.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 712,341–2, 12–27–60. Cl. 5.
Mitchell Rubber Products, Inc., Los Angeles, Calif. 712,436, pub. 12–27–60. Cl. 20.
Monroe Calculating Machine Co., Orange, N.J. 712,533, pub. 12–27–60. Cl. 23.
Montclair Mobile Homes, Inc., Montclair, Calif. 712,433, pub. 12–27–60. Cl. 19.
Mora Chemical Corp., Seattle, Wash. 712,641. Cl. 10.
Moran Shoe Co., Carlyle, Ill. 712,557, pub. 12–27–60. Cl. 39.
Morrell, John, & Co., Ottumwa, Iowa. 712,591–2, pub. 12–27–60. Cl. 46.
Morris, Philip, Inc., New York, N.Y. 712,397–400, pub. 12–27–60. Cl. 17.
Mulhens & Kropff, Inc., New York, N.Y., to Ferdinand Mulhens, d.b.a. Eau de Cologne & Parfumerie-Fabrik Glockengasse No. 4711, Gegenuber Pferdepost von Ferd. Mulhens, Cologne, Germany. 143,100, ren. 3–14–61. Cl. 18.
Mulhens & Kropff, Inc., New York, N.Y., to Ferdinand Mulhens, d.b.a. Eau de Cologne & Parfumerie-Fabrik Glockengasse No. 4711, Gegenuber Pferdepost von Ferd. Mulhens, Cologne, Germany. 143,408, ren. 3–14–61. Cl. 52.
Mullard Ltd., London, England. 712,492, pub. 12–27–60. Cl. 26.
Multistamp Co., The, Norfolk, Va. 712,529, pub. 12–27–60. Cl. 37.
Murray Corp. of America, The: *See*—
Easy Washing Machine Corp.
National Association of Evangelicals, Chicago, Ill. 601,352, canc. Cl. 38.
National Electronics Conference, Inc., Chicago, Ill. 712,638, pub. 12–27–60. Cl. 107.
Neilson Chemical Co. of California: *See*—
Neilson, H. Raymond.
Neilson, H. Raymond, d.b.a. Neilson Chemical Co. of California, Los Angeles, Calif. 712,347, pub. 12–27–60. Cl. 6.
Nichiban Yakuhin Kogyo Co., Ltd., Chuo-ku, Tokyo, Japan. 712,340, pub. 12–27–60. Cl. 5.
Nickels Mfg. Co., Bristol, Tenn. 712,548, pub. 12–27–60. Cl. 39.
Nordson Pharmaceutical Laboratories, Inc., Irvington, N.J. 712,423, pub. 12–27–60. Cl. 18.
Norwich Pharmacal Co., The, Norwich, N.Y. 712,424, pub. 12–27–60. Cl. 18.
Nu-Age Products Co., Brooklyn, Mich. 601,443, canc. Cl. 52.
Nyloncraft, Inc., Mishawaka, Ind. 712,465, pub. 12–27–60. Cl. 23.
Oakite Products, Inc., New York, N.Y. 712,628, pub. 12–27–60. Cl. 52.
Oakley, Annie, Enterprises, Inc., Los Angeles, Calif. 601,362, canc. Cl. 39.
O-Cedar Corp'n, Chicago, Ill. 601,456–7, canc. Cl. 29.
Ohio Dairy Co., The, Toledo, Ohio, to Beatrice Foods Co., Chicago, Ill. 142,681, ren. 3–14–61. Cl. 46.
O'Leary, Lydia, Inc., New York, N.Y. 601,250 canc. Cl. 18.
Olin Mathieson Chemical Corp., New York, N.Y. 712,410, pub. 12–27–60. Cl. 18.
Oliver Corp., The: *See*—
Farquhar, A. B., Co., Ltd.
Oneida Ltd., Oneida, N.Y. 712,476, pub. 12–27–60. Cl. 23.
"Ormig" Organisationsmittel G.m.b.H., Berlin, Germany. 377,276, ren. 3–14–61. Cl. 37.
Ortho-Vent Shoe Co., Inc., Salem, Va. 712,550, pub. 12–27–60. Cl. 39.
P & R Reproduction Supply Corp., Los Angeles, Calif. 712,651. Cl. 26.
Packard-Bell Electronics Corp., Los Angeles, Calif. 712,520, pub. 12–27–60. Cl. 36.
Padbloc Co., Inc., The, from Harry G. Langford, d.b.a. The Padbloc Co., Wichita, Kans. 601,165, canc. Cl. 2.
Padbloc Co., The: *See*—
Padbloc Co., Inc., The.
Parker-Hannifin Corp., Cleveland, Ohio. 712,518, pub. 12–27–60. Cl. 35.
Payne, Nancy J., Deale, Md. 601,338, canc. Cl. 28.
Pearls by Deltah Inc., Pawtucket, R.I. 712,495, pub. 12–27–60. Cl. 28.
Peter Pan Foundations, Inc., New York, N.Y. 712,559, pub. 12–27–60. Cl. 39.
Peters & Russell, Inc., Springfield, Ohio. 712,429, pub. 12–27–60. Cl. 19.
Pfeffer Rice Milling Co., Inc., Houston, Tex., to River Brand Rice Mills, Inc., New York, N.Y. 387,370–1, ren. 3–14–61. Cl. 46.
Pfeiffer, Frank H., Co., Inc., Worcester, Mass. 601,384, canc. Cl. 39.
Phenix Supply Co., Atlanta, Ga. 712,429, pub. 12–27–60. Cl. 19.
Philadelphia Chewing Gum Corp., Havertown, Pa. 712,587, pub. 12–27–60. Cl. 46.
Photocircuits Corp., Glen Cove, N.Y. 712,450, pub. 12–27–60. Cl. 21.
Pickering Associates, Inc., Plainview, N.Y. 712,519, pub. 12–27–60. Cl. 36.
Picture-It Corp., Des Moines, Iowa. 601,455, canc. Cl. 22.
Pillsbury Co., The: *See*—
Corner, Carleton C.
Hunt, Vernon B.
Pilot Life Insurance Co., Greensboro, N.C. 712,633, pub. 10–4–60. Cl. 102.
Plant Care Specialties, Inc., Medina, Ohio. 712,364, pub. 12–27–60. Cl. 10.
Plastic Metals, Inc., Johnstown, Pa., to Crane Co., Chicago, Ill. 384,190, ren. 3–14–61. Cl. 14.
Plymouth Records, Inc., New York, N.Y. 601,350, canc. Cl. 36.
Pollak Luminescent Corp., Chicago, Ill. 601,229, canc. Cl. 16.
Popper Morson Corp.: *See*—
Popper-Morson Co., Inc.
Popper-Morson Co., Inc., to Popper Morson Corp., Jersey City, N.J. 367,768, ren. 3–14–61. Cl. 49.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 712,378, pub. 12–27–60. Cl. 12.
Potlatch Forests, Inc., Lewiston, Idaho. 712,337, pub. 12–27–60. Cl. 2.
Preferred Business Service Corp., Oak Park, Ill. 712,629, pub. 12–27–60. Cl. 101.
Private Brands, Inc., Kansas City, Kans. 712,350, pub. 12–27–60. Cl. 6.
Productos Alimentor de Cuba, S.A., to Easton Investment Corp., Panama, Panama. 680,101, new cert. Cl. 46.
Professional Apparel Co., Oakland, Calif. 712,581, pub. 12–27–60. Cl. 39.
Quality Cotton Textile Co., The, Cleveland, Ohio. 601,401, canc. Cl. 42.
Rabjohns, Lawes, Ltd., London, England. 712,524, pub. 10–28–58. Cl. 37.
Ragossino, J., & Son, Inc., Meriden, Conn. 712,586, pub. 12–27–60. Cl. 46.
Rahn Granite Surface Plate Co., Dayton, Ohio. 601,806, canc. Cl. 26.
Rau Fastener Co., Providence, R.I. 712,560, pub. 12–27–60. Cl. 40.
Raybestos-Manhattan, Inc., Manheim, Pa. 712,498, pub. 12–27–60. Cl. 24.
Reddy-Rack Corp.: *See*—
Roto-Pack Corp.
Reese, Michael, Research Foundation, Chicago, Ill. 712,354, pub. 12–27–60. Cl. 6.
Regent Belt Co., Inc., New York, N.Y. 712,555, pub. 12–27–60. Cl. 39.
Reynolds Aluminum Supply Co., Atlanta, Ga. 712,379, pub. 12–27–60. Cl. 12.
Ribbontrim, Inc., New York, N.Y. 712,654. Cl. 40.
Riley, Stephen, Co., Los Angeles, Calif. 712,612, pub. 12–27–60. Cl. 51.
Ringler, F. A., Co., New York, N.Y. 601,466, canc. Cl. 50.
River Brand Rice Mills, Inc.: *See*—
Pfeffer Rice Milling Co., Inc.
Robertshaw-Fulton Controls Co., Greensburg, Pa. 601,320, canc. Cl. 27.
Robinson, Samuel S., d.b.a. The Wise-Lock Co., Cleveland, Ohio. 712,489, pub. 12–27–60. Cl. 25.
Rogers Paint Products, Inc.: *See*—
Detroit White Lead Works.
Ross Food Co.: *See*—
Lewis Food Co.
Roto-Pack Corp., by change of name from Reddy-Rack Corp., Washington, D.C. 712,500, pub. 11–22–60. Cl. 32.
Rubycraft, Inc., New York, N.Y. 601,374, canc. Cl. 39.
Ruland Gas Co., Charlotte, N.C., to Suburban Propane Gas Corp., Whippany, N.J. 388,319, ren. 3–14–61. Cl. 6.
S & S Food Service, Inc., Macon, Ga. 712,625, pub. 12–27–60. Cl. 100.
Sage, Peggy, Inc., Stamford, Conn. 388,200, ren. 3–14–61. Cl. 51.
St. Louis Metalcrafts, Inc., St. Louis, Mo. 601,382, canc. Cl. 28.
St. Regis Paper Co., New York, N.Y. 712,326, pub. 12–27–60. Cl. 2.
Sales Affiliates, Inc., New York, N.Y. 712,617, pub. 12–27–60. Cl. 51.
Samuels, T. W., Distillery, Inc., by change of name from The Foster Trading Corp., Deatsville, Ky. 712,605, pub. 12–27–60. Cl. 49.
Schauer Mfg. Corp., Cincinnati, Ohio. 712,446, pub. 12–27–60. Cl. 21.
Schering Corp., Bloomfield, N.J. 712,403, pub. 12–27–60. Cl. 18.
Schering Corp., Bloomfield, N.J. 712,421–2, pub. 12–27–60. Cl. 18.
Scientoy Co., Arlington, Va. 712,454, pub. 12–27–60. Cl. 22.
Scolding Locks Corp., Appleton, Wis. 388,382, ren. 3–14–61. Cl. 40.
Screw Conveyor Corp., Hammond, Ind. 712,467, pub. 11–15–60. Cl. 23.
Seltzer, Fred, Corp., Lincolnwood, Ill. 712,498, pub. 12–27–60. Cl. 28.
7 Seas Huspuppies Corp., The, London Bridge, Va. 712,590, pub. 12–27–60. Cl. 46.
Shapiro and Son Curtain Corp., New York, N.Y. 712,568, pub. 12–27–60. Cl. 42.
Sharon Hats, Inc., Dallas, Tex. 712,539, pub. 12–27–60. Cl. 39.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 388,111, ren. 3–14–61. Cl. 18.
Shedd Creamery Co., The, Detroit, Mich., to Beatrice Foods Co., Chicago, Ill. 141,675, ren. 3–14–61. Cl. 46.
Shell Oil Co., Wilmington, Del. 712,395, pub. 12–27–60. Cl. 15.

Sherkra Laboratories, Winnetka, Ill. 712,496, pub. 12–27–60. Cl. 18.
Sherman Wash Wear, Inc., Chicago, Ill. 601,364, canc. Cl. 39.
Shirtcraft Co., Inc., The, New York, N.Y. 601,357, canc. Cl. 39.
Shwayder Brothers, Inc., Denver, Colo. 712,501, pub. 12–27–60. Cl. 32.
Simonds Saw and Steel Co., Fitchburg, Mass. 712,451, pub. 12–27–60. Cl. 23.
Slumberland Products Co., Waltham, Mass. 712,512, pub. 12–27–60. Cl. 32.
Slumberest Co., Georgetown, Ky. 712,440–3, pub. 12–27–60. Cl. 21.
Slumberest Co., Georgetown, Ky. 712,563–5, pub. 12–27–60. Cl. 42.
Smith, Edward N., d.b.a. Geode Industries, New London, Iowa. 712,496, pub. 12–27–60. Cl. 28.
Societa Anonima Lucchese Olii e Vini, d.b.a Fortuna Fontana & Co., Lucca, Italy. 712,576, pub. 12–27–60. Cl. 46.
Societe Francaise d'Etudes et de Realisations d'Inventions Coanda, Clichy, Seine, France. 712,424, pub. 12–27–60. Cl. 19.
Somerville, John D., and Co. Ltd., Oakville, Ontario, Canada. 712,509, pub. 12–27–60. Cl. 32.
Spatola-Thompson, Inc., Philadelphia, Pa. 712,572, pub. 12–27–60. Cl. 46.
Speidel Corp., Providence, R.I. 601,333, canc. Cl. 28.
Spencer Laboratories Inc., Morristown, N.J. 712,416, pub. 12–27–60. Cl. 18.
Sperry Rand Corp.: *See*—
Wyckoff, Seamans & Benedict.
Spring-Air Co., The, Chicago, Ill. 712,503, pub. 12–27–60. Cl. 32.
Stadlbauer, Hermann, Salzburg, Austria. 601,410, canc. Cl. 44.
Standard Brands Inc., New York, N.Y. 601,429, canc. Cl. 46.
Star Expansion Bolt Co.: *See*—
Star Expansion Products Co.
Star Expansion Products Co., to Star Expansion Bolt Co., New York, N.Y. 601,219, canc. Cl. 18.
Star-Maid Dresses, Inc., New York, N.Y. 601,461, canc. Cl. 39.
Stein, Hall & Co., Inc., New York, N.Y. 712,353, pub. 11–1–60. Cl. 6.
Steinway & Sons, Long Island City, N.Y. 141,657, ren. 3–14–61. Cl. 36.
Stentor's Inc., New York, N.Y. 712,522, pub. 12–27–60. Cl. 36.
Stepan Chemical Co., The, Chicago, Ill. 712,619, pub. 12–27–60. Cl. 52.
Sterling Drug Inc., New York, N.Y. 712,412, pub. 12–27–60. Cl. 18.
Stevens, J. P., & Co. Inc.: *See*—
Britton Fabrics.
Stevens, J. P., & Co. Inc., New York, N.Y. 712,562, pub. 12–27–60. Cl. 42.
Stubaitz Greene Corp., Adrian, Mich. 712,502, pub. 12–13–60. Cl. 32.
Suburban Propane Gas Corp.: *See*—
Ruland Gas Co.
Sun Chemical Corp., Long Island City, N.Y. 601,207, canc. Cl. 11.
Sunland Packing House Co., Porterville, Calif. 388,041, ren. 3–14–61. Cl. 46.
Sunset Oil Co., to Golden Eagle Refining Co., Inc., Los Angeles, Calif. 385,812, ren. 3–14–61. Cl. 15.
Sunset Oil Co., to Golden Eagle Refining Co., Inc., Los Angeles, Calif. 386,853, ren. 3–14–61. Cl. 15.
Super Mold Corp. of California, Lodi, Calif. 712,477, pub. 12–27–60. Cl. 23.
Super Sagless Spring Corp., Bayonne, N.J. 712,384, pub. 12–27–60. Cl. 13.
Surco Products, Inc., Hialeah, Fla. 712,345, pub. 12–27–60. Cl. 6.
Svenska Aktiebolaget Gasaccumulator, Stockholm-Lidingo, Sweden. 712,325, pub. 2–2–59. Cl. 1.
Swan-Finch Oil Corp., New York, N.Y. 601,227, canc. Cl. 15.
Takapart Products Co.: *See*—
Levene, Louis L.
Tate & Lyle, Ltd., London, England. 712,594, pub. 12–27–60. Cl. 46.
Teen America Associates, Dallas, Tex. 712,636, pub. 12–27–60. Cl. 107.
Templeton, James H., Pilot Mountain, N.C. 712,637, pub. 12–27–60. Cl. 107.
Tidy House Products Co.: *See*—
Hunt, Vernon B.
Tom Thumb Donut Corp., Minneapolis, Minn. 712,487, pub. 1–10–61. Cl. 23.
Toni Co., The: *See*—
Gillette Co., The.
Transportation Supply Publishing Corp., Chicago, Ill. 712,581, pub. 12–27–60. Cl. 38.
Trebor Knitting Mills Co., Brooklyn, N.Y. 601,360, canc. Cl. 39.
Tri-Clover Machine Co., Kenosha, Wis. 601,295, canc. Cl. 31.
Troy Blanket Mills, Troy, N.H. 712,567, pub. 12–29–60. Cl. 42.
Trackstell Mfg. Co., Cleveland, Ohio. 712,650. Cl. 19.
Turf Specialty Co.: *See*—
Windecker, Walter K.
Tweatier's Research, Inc., Phoenix, Ariz. 712,606, pub. 12–27–60. Cl. 50.
United Co-Operatives, Inc., Alliance, Ohio. 380,547. Am. 7(d). Cl. 13.
United Co-Operatives, Inc., Alliance, Ohio. 380,608. Am. 7(d). Cl. 2.
United Co-operatives, Inc., Alliance, Ohio. 380,933. Am. 7(d). Cl. 16.
United Co-Operatives, Inc., Alliance, Ohio. 388,833. Am. 7(d). Cl. 7.
United Paste & Glue Corp., New York, N.Y. 388,324, ren. 3–14–61. Cl. 5.
United Press Associations, to United Press International, Inc., New York, N.Y. 384,136, ren. 3–14–61. Cl. 38.
United Press International Inc.: *See*—
United Press Associations.
U.S. Peroxygen Corp., Richmond, Calif. 712,358, pub. 12–27–60. Cl. 6.
United States Pumice Supply Co., Inc.: *See*—
Featherock, Inc.
United States Rubber Co., New York, N.Y. 712,339, pub. 12–27–60. Cl. 4.
U.S. Vitamin & Pharmaceutical Corp., New York, N.Y. 712,409, pub. 12–27–60. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 601,243, canc. Cl. 18.
Vanadium Corp. of America, New York, N.Y. 601,209, canc. Cl. 6.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 601,425, canc. Cl. 48.
Vericontrol: *See*—
Bernheim, George W.
Verlag, Otto M., Ravensburg, Germany. 712,456, pub. 12–27–60. Cl. 22.
Vintage Wines, Inc., New York, N.Y. 712,608, pub. 12–27–60. Cl. 47.
Visco Products Co., Houston, Tex. 712,343, pub. 12–27–60. Cl. 6.
Volt, W. J., Rubber Corp., Los Angeles, Calif. 712,455, pub. 12–27–60. Cl. 22.
Wagner, John, & Sons Inc., Hatboro, Pa. 712,595, pub. 12–27–60. Cl. 46.
Walker, T. V., & Son, Inc., Burbank, Calif. 712,368–9, pub. 12–27–60. Cl. 12.
Wall, O. L., Jr.: *See*—
Brown, William S.
Wallace & Co., Brooklyn, N.Y. 712,589, pub. 12–27–60. Cl. 46.
Warner Electric Brake & Clutch Co., South Beloit, Ill. 712,532, pub. 12–27–60. Cl. 38.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 712,402, pub. 12–27–60. Cl. 18.
Warren-Teed Products Co., The, Columbus, Ohio. 712,401, pub. 12–27–60. Cl. 18.
Webster, William A., Co., The, Memphis, Tenn. 712,425, pub. 12–27–60. Cl. 18.
Western Airlines, Inc., Los Angeles, Calif. 712,635, pub. 12–27–60. Cl. 105.
Weston Biscuit Co., Inc., Passaic, N.J. 712,577, pub. 12–27–60. Cl. 46.
West Virginia Pulp and Paper Co., New York, N.Y. 712,332, pub. 12–27–60. Cl. 2.
West Virginia Pulp and Paper Co., New York, N.Y. 712,527, pub. 12–27–60. Cl. 37.
Wheatley, Frank, Corp., Tulsa, Okla. 712,380, pub. 12–27–60. Cl. 13.
White, Donald W., Rochester, N.Y. 712,493, pub. 12–27–60. Cl. 36.
Wiedemann Machine Co., King of Prussia, Pa. 712,468, pub. 12–27–60. Cl. 23.
Willett, Consider H., Inc., Louisville, Ky. 601,348, canc. Cl. 22.
Wilson, H. A., Co., The, to Engelhard Industries, Inc., Newark, N.J. 142,177, ren. 3–14–61. Cl. 14.
Wilson, H. A. Co., The, to Engelhard Industries, Inc., Newark, N.J. 384,859, ren. 3–14–61. Cl. 21.
Windecker, Walter K., d.b.a. Turf Specialty Co., Akron, Ohio. 712,404, pub. 12–27–60. Cl. 18.
Wise-Lock Co., The: *See*—
Robinson, Samuel S.
Wittgren, Arthur D., Sr., Chicago, Ill. 601,246, canc. Cl. 18.
Wollman, B., & Bros. Inc., New York, N.Y. 601,366, canc. Cl. 39.
Woodward Wanger Co., Philadelphia, Pa. 712,387, pub. 12–27–60. Cl. 18.
Worcester Royal Porcelain Co., Ltd., The, Worcester, England. 11,371, canc. Cl. 50.
Wright, Helene, Palo Alto, Calif. 712,561, pub. 12–27–60. Cl. 40.
Wyandotte Chemicals Corp.: *See*—
Ford, J. B., Sales Co., The.
Wyandotte Chemicals Corp., Wyandotte, Mich. 712,344, pub. 12–27–60. Cl. 6.
Wyckoff, Seamans & Benedict, to Sperry Rand Corp., New York, N.Y. 18,844–6, ren. 3–14–61. Cl. 37.
York Industries, Allen Park, Mich. 601,298, canc. Cl. 28.
Youngstown Industries, Inc., Girard, Ohio. 601,222, canc. Cl. 14.
Yuba City Steel Products Co., Yuba City, Calif. 712,336, pub. 12–27–60. Cl. 2.

U.S. GOVERNMENT PRINTING OFFICE: 0—1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

March 21, 1961 Volume 764 Number 3

PATENTS

NOTICES

Errata

All references to Patent No. 2,972,954 to Pierre Etienne Bessiere, for Reciprocating Liquid Pumps, and in Particular Fuel Injection Pumps, appearing in the OFFICIAL GAZETTE of February 28, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

All references to Patent No. 2,972,970 to Leighton Homer Surbeck, for Self-Threading Sewing Machine Needle, appearing in the OFFICIAL GAZETTE of February 28, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

Adjudicated Patents

(C.A. Ill.) England Reissue Patent No. 23,927 (289—14), for twine holder. Claims 1, 2, 4 and 7 *Held* valid and infringed. *England* v. *Deere & Co.*, 284 F.2d 460; 127 USPQ 442.

Disclaimers

2,768,310.—*Benjamin Kazan*, Princeton, and *Frederick H. Nicoll*, Mercer County, N. J. DISTRIBUTED GAP ELECTROLUMINESCENT DEVICE. Patent dated Oct. 23, 1956. Disclaimer filed Feb. 8, 1961, by the assignee, *Radio Corporation of America*.

Hereby enters this disclaimer to claims 1 through 5 of said patent.

2,814,757.—*Harold E. Beste*, Verona, N.J. TELEVISION SYSTEM. Patent dated Nov. 26, 1957. Disclaimer filed Feb. 13, 1961, by the assignee, *Fairchild Camera and Instrument Corporation*.

Hereby enters this disclaimer to claim 14 of said patent.

2,835,836.—*Hsiung Hsu*, Liverpool, N.Y. GAS DISCHARGE DEVICE. Patent dated May 20, 1958. Disclaimer filed Feb. 15, 1961, by the assignee, *General Electric Company*.

Hereby enters this disclaimer to claims 1, 2, 8, and 12 of said patent.

2,838,686.—*John Prosper Eckert, Jr.*, Philadelphia, Pa. AMPLIFIER FOR PULSE TYPE SIGNALS. Patent dated June 10, 1958. Disclaimer filed Feb. 6, 1961, by the assignee, *Sperry Rand Corporation*.

Hereby enters this disclaimer to claims 1 and 3 of said patent.

Patents Available for Licensing or Sale

2,800,781. Stop Motion for a Knitting Machine (Catch Bar Safety). Jean P. Newbold, 201 W. Main St., Elizabeth City, N.C.

2,896,727. Apparatus for Harnessing the Power of the Wind. James A. Gordon, Box 665, Lordsburg, N. Mex.

General Electric Company is prepared to grant non-exclusive licenses under the following 16 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 3 patents may be addressed to: Department Patent Counsel, Missile and Space Vehicle Department, General Electric Company, 3198 Chestnut St., Philadelphia 4, Pa.

2,937,101. Heat Resistant Composition.

2,964,678. Arc Plasma Generator.

2,964,679. Arc Plasma Generator.

Applications for license under the following 13 patents may be addressed to: Patent Counsel, Turbine Division, General Electric Company, 1 River Road, Building 53, Schenectady 5, N.Y.

2,855,295. Cobalt Base Hard Surfacing Alloy.

2,917,570. Composite Mica Paper, Mica Flake Electrical Insulating Material.

2,930,581. Damping Turbine Buckets.

2,933,286. Damping Turbine Buckets.

2,939,331. Quiet Gear.

2,943,307. Shaft Rotation Indicator.

2,948,506. Damping Turbine Buckets.

2,955,003. Heavy Duty Segmental Bearing Shoe.

2,955,429. Double Reheat Compound Turbine Powerplant.

2,956,775. Bolted Nozzlebox for High Pressure Steam Turbine.

2,958,196. Flame Igniter for Gas Turbine Combustor.

2,959,393. Turbine Bucket Cover Assembly.

2,960,360. Retaining Ring Structure for Dynamoelectric Machine.

Board of Appeals Decisions Rendered in the Month of February 1961

Examiner affirmed	150
Examiner affirmed in part	23
Examiner reversed	49
Total	222

New Applications Received During January 1961

Patents	6,370
Designs	360
Plant Patents	5
Reissues	29
Total	6,773

Issue

Patents	1,112—	No. 2,975,424	to No.	2,976,535, incl.
Designs	56—	No. 189,904	to No.	189,959, incl.
Plant Patents	4—	No. 2,035	to No.	2,038, incl.
Reissues	5—	No. 24,948	to No.	24,952, incl.
Total	1,177			

CONDITION OF PATENT APPLICATIONS AS OF JANUARY 31, 1961

Total number of pending applications (excluding Designs)	190,233
Total number of pending Design applications	5,565
Total number of applications awaiting action (excluding Designs)	86,571
Total number of Design applications awaiting action	1,561
Date of oldest new application	September 2, 1959
Date of oldest amended application	September 1, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 39, 42, 46, 50, 58, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 36, 37, 41, 43, 44, 45, 51, 54, 56.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 27, 28, 61, 81, 83.
(IV) SPIVTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 33, 34,35, 38, 40, 52, 55.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 32, 33, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 14, 19, 26, 30, 33, 49, 55, 57.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	31, 32, 33, 34, 36.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	7-18-60	7-7-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	7-19-60	6-20-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	5-20-60	5-13-60
4. (VI) FALLER, E. A., Knots; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Slides, Guides and Ways	4-28-60	4-28-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	1-4-60	1-4-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	5-31-60	4-18-60
7. (IV) ANDERSON, E. G., Optics	5-25-60	4-11-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	7-7-60	7-6-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	6-6-60	6-10-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	5-14-60	5-7-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	5-6-60	4-11-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	5-3-60	5-3-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	5-14-60	4-11-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	4-4-60	3-6-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	5-4-60	5-5-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	12-15-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	5-5-60	5-4-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	5-3-60	5-1-60
19. (VII) PATRICK, F. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-19-60	5-9-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	5-5-60	5-5-60
21. (III) MADER, R. C., Textiles	5-25-60	5-24-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	4-6-60	4-25-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	9-2-59	9-1-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	6-9-60	6-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Weed Treating Apparatus; Paper Making	4-4-60	4-4-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	4-7-60	3-6-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	5-12-60	5-26-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Clutches or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-11-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	5-5-60	5-5-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	7-25-60	7-18-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	6-6-60	6-6-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	6-6-60	5-25-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-4-60	3-7-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	4-6-60	4-18-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	6-3-60	5-17-60
36. (V) EVANS, R. L., Measuring and Testing (part)	4-18-60	3-25-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	3-31-60	3-17-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Aza, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	3-21-60	3-17-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-20-60	5-18-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	7-1-60	7-18-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	3-1-60	1-15-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	4-28-60	5-2-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	5-2-60	5-2-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-16-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	6-15-60	6-6-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part).	5-25-60	5-5-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	7-6-60	7-15-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-24-60	3-21-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-3-60	4-11-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	5-4-60	5-14-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-1-60	4-4-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	7-11-60	7-1-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	7-19-60	7-11-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-13-60	5-1-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	5-9-60	5-5-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-16-60	5-2-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	4-4-60	4-5-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufacture; Selective Cutting	5-3-60	5-3-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	3-3-60	12-22-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	6-1-60	5-19-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	5-23-60	5-27-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	8-1-60	8-1-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	5-20-60	5-10-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	4-1-60	3-4-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	5-18-60	5-24-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	1-4-60	1-4-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	5-31-60	5-3-60
81. (III) MONCURE, J. A., Industrial Arts	11-7-60	11-15-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	11-15-60	11-21-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	5-27-60	5-20-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	5-20-60	5-25-60
93. WAHL, R. A., Wire Working	9-7-60	9-23-60
94. BERLOWITZ, W., Gas Separation	7-6-60	7-20-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-1-60	6-1-60
M. E. DIV. A (I) GASTON, L. E., Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylene—Butadiene	5-11-60	5-23-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during March 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 593. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents	Numbers 2,962,287 to 2,965,140, inclusive
Plant Patents	Numbers 100 to 521, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

United States Court of Appeals
District of Columbia Circuit

GUSTAV SCHAFER *v.* ROBERT C. WATSON, COMMISSIONER OF PATENTS

No. 16009. Decided February 9, 1961

HERBERT BESTIAN, ET AL. *v.* ROBERT C. WATSON, COMMISSIONER OF PATENTS

No. 16010. Decided February 9, 1961

[—U.S.App.D.C.—; —F.2d—; —USPQ—]

APPEAL TO U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA—FINDINGS OF LOWER TRIBUNALS NOT UNREASONABLE OR CLEARLY ERRONEOUS—INVENTION A QUESTION OF FACT—FEDERAL RULES OF CIVIL PROCEDURE, RULE 52(a).

"'Although a court, when it agrees with a Patent Office finding, often says so, agreement is not necessary to affirmance and disagreement is not sufficient for reversal.' *Abbott* v. *Coe*, 71 App.D.C. 195, 197, 109 F.2d 449, 451. 'Since invention is a question of fact, a reasonable finding that claims lack invention should not be set aside.' *Besser* v. *Ooms*, 81 U.S.App.D.C. 7, 8, 154 F.2d 17, 18. 'As we pointed out in *Abbott* v. *Coe*, . . . a mere preponderance of the evidence is not sufficient with regard to invention; the Patent Office finding must be accepted if it is "consistent with the evidence," the Patent Office being an expert body pre-eminently qualified to determine questions of this kind.' *Esso Standard Oil Co.* v. *Sun Oil Co.*, 97 U.S.App.D.C. 154, 157, 229 F.2d 37, 40. The Patent Office findings do not appear to have been unreasonable. The District Court was therefore right in dismissing the complaints. Moreover, its findings are not to be set aside unless clearly erroneous. F.R.Civ.P. Rule 52(a)."

APPEAL from the United States District Court for the District of Columbia.

AFFIRMED.

Henry W. Koster, of the bar of the Court of Appeals of New York, pro hac vice, by special leave of court (*Miles D. Pillars*, of counsel) for appellants.

Clarence W. Moore (*Raymond E. Martin*, of counsel) for appellee.

Before MR. JUSTICE REED, *retired*,[1] and EDGERTON and DANAHER, *Circuit Judges*

PER CURIAM:

The Patent Office having rejected certain patent claims of the appellants as unpatentable over the prior art, appellants brought these suits against the Commissioner of Patents under 66 Stat. 803, 35 U.S.C. § 145. The District Court held a hearing, agreed with the Patent Office that the claims were not inventive, and dismissed the complaints.

[1] "Although a court, when it agrees with a Patent Office finding, often says so, agreement is not necessary to affirmance and disagreement is not sufficient for reversal." *Abbott* v. *Coe*, 71 App.D.C. 195, 197, 109 F.2d 449, 451. "Since invention is a question of fact, a reasonable finding that claims lack invention should not be set aside." *Besser* v. *Ooms*, 81 U.S.App.D.C. 7, 8, 154 F.2d 17, 18. "As we pointed out in *Abbott* v. *Coe*, . . . a mere preponderance of the evidence is not sufficient with regard to invention; the Patent Office finding must be accepted if it is 'consistent with the evidence,' the Patent Office being an expert body pre-eminently qualified to determine questions of this kind." *Esso Standard Oil Co.* v. *Sun Oil Co.*, 97 U.S.App.D.C. 154, 157, 229 F.2d 37, 40. The Patent Office findings do not appear to have been unreasonable. The District Court was therefore right in dismissing the complaints. Moreover, its findings are not to be set aside unless clearly erroneous. F.R.Civ.P. Rule 52(a).

[1] Sitting by designation pursuant to Sec. 294(a), Title 28, U.S. Code.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act. of 1952

2,187,752, A. C. Olsen, Building structures; **2,307,889**, same, filed Nov. 30, 1955, D.C., E.D.N.Y. (Brooklyn), Doc. 16074, *Anders A. Olsen et al.* v. *United States Gypsum Company et al.* Consent judgment Jan. 16, 1961.

2,307,889. (See 2,187,752.)

2,310,251, G. A. Mashon, Expansible chute; **2,856,222**, W. T. Gossett et al., Pneumatic gate actuating device for concrete buckets, filed Mar. 24, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39008, *Garlinghouse Brothers* v. *Creative Metals Corporation*. Patent No. 2,856,222 held valid; defendant enjoined. Patent No. 2,310,251 held expired (notice Jan. 18, 1961).

2,309,294, E. M. Zubatsky, Combination shipping crate and trailer, amended complaint, filed Oct. 16, 1959, D.C., E.D. Wis. (Milwaukee), Doc. 59–C–224, *Eugene M. Zubatsky* v. *Chicago, Milwaukee, St. Paul & Pacific R.R. Co. et al.* Complaint amended to include additional defendant, The Milwaukee Motor Transportation Company, Jan. 13, 1961.

2,606,737, R. E. Berlenbach, Safety binding for a ski runner; Reg. No. 680,614 (SKI FREE), same, Safety ski bindings, filed Oct. 10, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/456, *Bernard E. Berlenbach, etc.* v. *Sport Centre Distributing Company et al.* Patent and trademark held valid; defendants enjoined (notice Jan. 11, 1961).

2,826,307, R. M. Pace, Fluid recirculation systems; **2,944,355**, Cavenah and Steffen, Combination filter and surface skimmer, filed Apr. 22, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 480/60–Y, *Landon, Inc.* v. *Marine Swimming Pool Equipment*. Patents held valid and infringed; defendant restrained (notice Jan. 20, 1961).

2,828,174, J. Shapiro, Piece of hardware for attaching a leg to furniture and the like, filed Oct. 21, 1958, D.C., S.D.N.Y., Doc. 159/64, *Joseph Shapiro* v. *Butler Lumber Co., Inc.* Consent judgment; patent held infringed; defendant enjoined Jan. 11, 1961.

2,828,899, J. Zuckerman, Cover for garment hanger, filed Apr. 30, 1959, D.C., S.D.N.Y., Doc. 145/355, *Yankee Plastics, Inc.* v. *Hall Tischer & Co. of New York, Inc. et al.* Consent judgment; all defendants except Alexander Chananau enjoined Jan. 17, 1961. (Stipulation and order of discontinuance as to Alexander Chananau Oct. 6, 1959.)

2,841,971, J. J. Bird et al., Compressive stocking, Appeal, filed Jan. 10, 1961, C.C.A., 1st Cir., Doc. 5781, *Alamance Industries, Inc. et al.* v. *Filene's*.

2,844,355. (See 2,826,307.)

2,847,185, V. A. Galloway, Vehicle loader, filed Mar. 30, 1960, D.C., S.D. Ind. (Indianapolis), Doc. 60–C–97, *Victor A. Galloway et al.* v. *Haulaway, Inc. et al.* Consent decree. Complaint and counterclaim of defendant Haulaway, Inc. dismissed without prejudice by order Nov. 25, 1960.

2,896,822. (See 2,810,251.)

2,858,543, J. Litowsky, Cap, filed Sept. 15, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c1492, *S & L Novelty Co. et al.* v. *Portis Style Industries, Inc.* All claims of Patent No. 2,858,543 held valid; claims 1 and 2 of said patent held infringed (notice Jan. 12, 1961).

2,859,361, S. M. Gray et al., Fuse for incandescent lamp, filed Feb. 3, 1960, D.C. Mass. (Boston), Doc. 60/78–J, *Sylvania Electric Products Inc.* v. *Busseo, Inc.* Decree holding patent valid and infringed; injunction to issue on Apr. 1, 1961 (notice Jan. 24, 1961).

2,864,432, Guntert and Earley, Supporting and level control mechanism for concrete slab laying machines; **2,868,069**, same, Feeler unit for control of traveling machines, filed Jan. 11, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39656, *Guntert & Zimmerman Construction Division, Inc.* v. *Gurries Manufacturing Company*.

2,868,069. (See 2,864,432.)

2,875,283, E. M. Reiback, Binaural phonograph pickup, filed Jan. 19, 1961, D.C. Md. (Baltimore), Doc. 12/791, *Earl M. Reiback* v. *Silver Spring Electronic Supply Company, Inc.*

2,877,808, Gunning and Dorman, Hydraulic lift for industrial trucks and tractors, filed Dec. 14, 1959, D.C., E.D. Mich. (Detroit), Doc. 19/644 (originally filed May 8, 1959, D.C., W.D. Mich. (Grand Rapids), Doc. 3637), *Harlo Products Corporation et al.* v. *Multi-Lift Company*. Consent decree. Complaint dismissed with prejudice Jan. 20, 1961.

2,907,570, I. Horowitz, Playground rocker; Des. 178,663, same, Climbing tower, filed Jan. 23, 1961, D.C., N.D. Ohio (Cleveland), Doc. 36/660, *Universal Manufacturing Co., Inc.* v. *Blazon, Inc. et al.*

2,907,980, T. L. Wadley, Determining relative position by means of transit time of waves, filed Dec. 27, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 2496–SD–K, *Tellurometer, Inc. et al.* v. *Cubic Corporation*.

2,910,137, I. Victor, Method and apparatus for the recovery of solvent vapors, filed Jan. 23, 1961, D.C.N.J. (Newark), Doc. 38/61, *Vic Manufacturing Company Profit Sharing Trust* v. *Lane Cleaners, Inc.*

2,925,658, E. H. Conrad, Attachment for over-lock stitch sewing machine, filed Jan. 17, 1961, D.C.N.J. (Newark), Doc. 27/61, *Eric Henry Conrad* v. *Global Embroidery Corporation*.

2,932,445, C. A. Hathaway, Centrifugal blower wheel and method of making, filed Jan. 23, 1961, D.C., S.D. Tex. (Houston), Doc. 13/489, *The Torrington Manufacturing Company* v. *Engineering Tool & Metals Co. et al.*

2,933,984, C. Dobell, Tank construction, filed Jan. 18, 1961, D.C., E.D. Va. (Richmond), Doc. 3232, *The Preload Company, Inc.* v. *The Crom Corporation*.

2,941,331, C. H. Dolansky, Elastic bands having pivotally connected links and clearance openings for the biasing spring, filed Jan. 20, 1961, D.C. Md. (Baltimore), Doc. 12/795, *Doland Watch Accessories, Inc.* v. *Reliable Stores Corporation*.

Re. 24,136, H. B. Marvel, Water-fuel separator, filed Jan. 23, 1961, Ct. Cls., Doc. 25/61, *Bowser, Inc.* v. *The United States*.

Re. 24,189, V. H. Peoples, Spreader control, filed July 31, 1959, D.C., S.D.N.Y., Doc. 135/170, *Trumatic Machine & Tool Co., Inc.* v. *O. M. Scott & Sons Company, etc., doing business as American Bulb Company*. Consent judgment on complaint and counterclaim; patent held infringed by plaintiff; injunction granted v. plaintiff Jan. 17, 1961. Same, filed June 2, 1958, D.C., S.D. Ohio (Cincinnati), Doc. 4235, *The O. M. Scott & Sons Company* v. *The J. Chas. McCullough Seed Company*. Consent judgment; defendant enjoined Jan. 16, 1961.

Re. 24,649, Dietrich and Shaw, Ball pen, filed Dec. 7, 1960, D.C. Md. (Baltimore), Doc. 12/700, *Essex Corporation* v. *The Koch Office Supply Company*. Dismissed without prejudice (notice Jan. 16, 1961).

Des. 178,663. (See 2,907,570.)

REISSUES

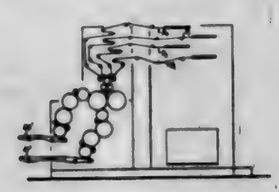
MARCH 21, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,948
ROTARY WEB PRINTING MACHINE

Adolph M. Zuckerman, New York, N.Y., assignor to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York

Original No. 2,887,312, dated May 19, 1959, Ser. No. 536,175, Sept. 23, 1955. Application for reissue Feb. 3, 1960, Ser. No. 6,580
11 Claims. (Cl. 270—5)



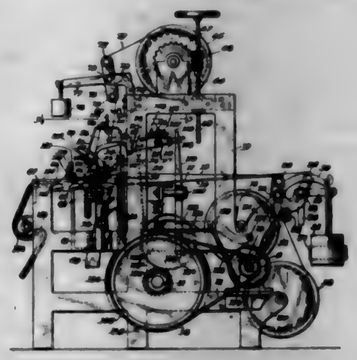
1. A multicolor web printing machine comprising a line of printing units including, in order, first and second printing units, web supply mechanism, and third and fourth printing units, together with turner bars above the web supply mechanism for directing printed webs transversely out of the said line of units and folder, cut off and delivery mechanism positioned opposite the turner bars adjacent the web supply mechanism, for forming the printed webs into products, a first dryer positioned between the web supply mechanism and the said second printing unit, web reversing mechanism above the said first dryer, and a second dryer positioned above the said web reversing mechanism and between the said first printing unit and the said turner bars, and means for guiding a web from the web supply mechanism to the turner bars through alternative paths including a first path going through the second unit, the first dryer, the web reversing mechanism, the first unit and second dryer, in order, for printing the web on both sides and thence to the turner bars and a second path going, in order, through the second unit, first unit and second dryer for printing by means of the said two units on a single side of the web.

24,949
METHOD OF AND APPARATUS FOR WEAVING

Eugene F. Clark, Leaksville, N.C., assignor, by mesne assignments, to Fieldcrest Mills, Inc., a corporation of Delaware

Original No. 2,437,378, dated Mar. 9, 1948, Ser. No. 566,853, Dec. 6, 1944. Application for reissue June 16, 1960, Ser. No. 36,698
45 Claims. (Cl. 139—46)

1. A loom attachment for weaving pile fabrics comprising in combination with a loom, a series of spaced fingers mounted on the loom forward of the harness and extending parallel with the [warp] *warps, there being a respective group of said warps adjacent each of said fingers,* a series of spaced pile yarn feeding guides having eyelets therein through which strands of pile yarn are threaded movably mounted above the spaced fingers, means whereby the said feeding guides are shifted transversely *across respective groups of warps* to predetermined positions above the spaced fingers and moved into and out of the [warp] *warps* whereby the pile yarn is looped over the spaced fingers *and over respective groups*



of warps, and means for beating up the loops thus formed as the fabric is woven.

24,950
SANITARY SIPPING-STRAW DISPENSER

Leonard Atlee Wills, 3125 38th St. NW., Washington, D.C.

Original No. 2,828,887, dated Apr. 1, 1958, Ser. No. 569,371, Mar. 5, 1956. Application for reissue June 18, 1958, Ser. No. 742,966
14 Claims. (Cl. 221—192)



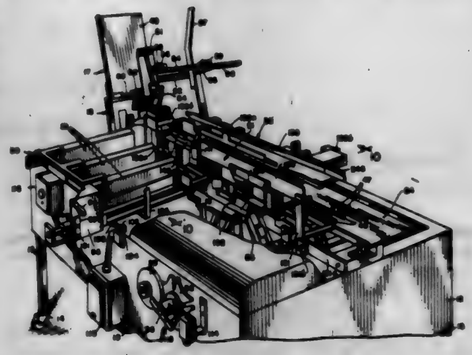
1. A sanitary sipping-straw dispenser of the character described comprising a jar adapted to contain straws standing on end therein, a removable upwardly funnel-shaped top with an aperture at the vertex with said funnel-shaped top adapted to guide the ends of straws being lifted by an ejector into said aperture for exit, a downwardly funnel-shaped cup with an aperture at the vertex, said aperture being narrow enough to prevent straws from falling through but wide enough to permit a portion of the ejector to pass through, said vertex being located near the periphery of the cup and said cup being located within and at the bottom of the jar and said funnel-shaped cup adapted to position straws over said aperture by gravity funneling the straws to said aperture, a straight guide vertically positioned within the jar, an ejector with a first portion thereof slidable on and guided by said guide and a second portion extending from said first portion with two upright pins at the other end with said pins positioned and aligned to pass through the aperture in the cup and each said pin adapted to engage the bottom end of a straw that is positioned above the aperture in the cup and said second portion of the ejector adapted to lift said engaged straws into the aperture in the top, means by which the user may actuate said ejector, two similar cantilever springs attached to the top on opposite sides of said aperture having rough straight clasping edges at a slight horizontal angle to each other with said clasping edges positioned immediately above the aperture and projecting into the path of the straw or straws being lifted through the aperture in the top so that a single straw will cause said springs to deflect creating a spring force that will retain said straw and prevent it from falling by its own weight back into jar and said clasping edges at an angle to each other causing only the straw on the side where the edges are closer together to be clasped and retained when two straws are lifted into the aperture in the top, and a closure plug adapted to fit into the aperture in the cup from the bottom side to hold the straws slightly above the edges of the aperture so that the engaging portion of the ejector may push said straws aside and pass down through said aperture thus preventing the engaging portion of the ejector from crushing the end of a straw against the edge of said aperture when trying to pass down through said aperture, and a spring adapted to push said closure plug upward.

24,951
TUCKING MECHANISM FOR PACKAGING MACHINE

Ellsworth A. Hartbauer, Concord, Calif., assignor to F. B. Redington Co., Bellwood Village, Ill., a corporation of Delaware

Original No. 2,900,778, dated Aug. 25, 1959, Ser. No. 680,546, Aug. 27, 1957. Application for reissue June 30, 1960, Ser. No. 40,496
6 Claims. (Cl. 53—376)

1. In a packaging machine adapted to package articles in an expanded tuck flap carton having four *rectangularly arranged and* joined walls, side flaps *at one end of the carton* extending from *the ends of* two of the opposed walls [at opposite ends thereof], an end closure panel *at the same end of the carton* extending from the [ends] *end* of one of [said other walls] *the other of said walls,* and a tuck flap extending from the [ends] *free end* of said end closure [panels] *panel,* a step-by-step driven conveyer having pockets adapted to receive cartons in expanded tubular form and with said side flaps assuming a vertical position, apparatus for closing the cartons comprising means for folding inwardly said side flaps, movable tuck flap breaker means for folding the tuck flap inwardly against said end closure panel, creasing means for further creasing the fold made by said breaker means, a plow for engaging said end closure panel and camming it toward closed position, and coacting movable tuck flap aligning means and movable tucking means for

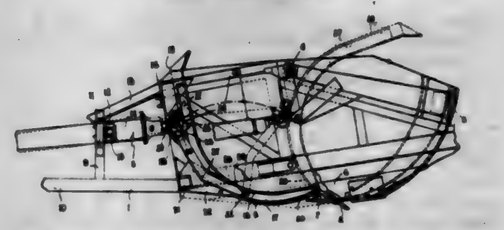


closing said end panel and inserting said tuck flap between the side flaps and the adjacent carton wall.

24,952
SCRAPER CYLINDER IMPROVEMENT

Cecil H. Richardson, Saskatoon, Saskatchewan, Canada

Original No. 2,882,621, dated Apr. 21, 1959, Ser. No. 563,372, Feb. 3, 1956. Application for reissue July 1, 1960, Ser. No. 40,487
1 Claim. (Cl. 37—126)



In a scraper of the type described, the combination of a frame, a forwardly tiltable bowl pivoted to said frame, a hydraulic cylinder disposed rearwardly of said bowl [a pair of trunnions provided intermediate the ends of said cylinder] *trunnion means on said cylinder* and pivotally attaching the same to said frame for swinging movement in a vertical plane, a track provided on said bowl in the plane of swinging of said cylinder, said cylinder having a reciprocable piston rod projecting forwardly therefrom, a carriage movable on said track, a pivot pin connecting the forward end of said piston rod to said carriage, and a pair of guide arms pivoted at one end thereof in transversely spaced relation to said frame, said guide arms being swingable in vertical planes and being pivoted at their other end to opposite sides of said carriage by said pivot pin whereby to guide the carriage in an arcuate path during its movement on said track when said piston rod is reciprocated.

PLANT PATENTS

GRANTED MARCH 21, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,035
CRAB APPLE TREE
Richard Wellington, Geneva, N.Y., assignor to Stark Bro's Nurseries & Orchards Company, Louisiana, Mo., a corporation of Missouri
Filed June 8, 1960, Ser. No. 34,855
1 Claim. (Cl. 47—62)

A new and distinct variety of crab apple tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of attractive pendulous flowers and highly colored fruit, with attendant ornamental utility, an early bearing habit, a heavy and regular bearing habit, a relatively late ripening habit, suitability of the fruit for making excellent jelly, and good resistance to disease and insects, as well as to injury resulting from use of common spraying materials.

2,036
ROSE PLANT
Walter E. Lammerts, Livermore, Calif., assignor to Amling-De Vor Nurseries, Inc., Livermore, Calif., a corporation of California
Filed June 20, 1960, Ser. No. 37,537
1 Claim. (Cl. 47—61)

A new and distinct variety of hybrid tea rose plant, substantially as herein shown and described, characterized particularly by its high rate of bloom production which is continuous from spring through fall, the regular and high centered form of the blooms and the long urn-shaped form of the buds, the large number of petals and petaloids in each of the blooms as compared with the parent varieties, the tall and compact form of the plant and the abundant large sized leaves closely spaced on the flowering stems, and by its retention of the distinctive color characteristics of its pollen parent while adopting the advantageous foliage and vigorous growing characteristics of its seed parent.

2,037
ROSE PLANT
Stanley C. Johnston, Wheaton, Ill., assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania
Filed June 23, 1960, Ser. No. 38,405
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by being generally similar to its parent variety "Peace" (Plant Patent No. 591), but being distinguished therefrom by the Phlox Pink to Spiera Red general color tonality of its flowers, with the base of the flower petals being Canary Yellow in general color tonality.

2,038
THORNLESS HONEY LOCUST TREE
William Flemer III, Princeton, N.J., assignor to Princeton Nurserymen's Research Associates, Princeton, N.J., a partnership
Filed Nov. 4, 1959, Ser. No. 850,978
1 Claim. (Cl. 47—59)

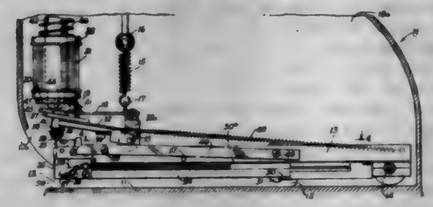
A new and distinct variety of thornless honey locust tree, substantially as herein shown and described, characterized particularly as to novelty by the distinctive translucent and bright red general color tonality of the foliage.

PATENTS

GRANTED MARCH 21, 1961

GENERAL AND MECHANICAL

2,975,424
FASTENER DEVICE
James J. Ossani, 777 5th Ave., Brooklyn, N.Y.
Filed May 16, 1958, Ser. No. 735,818
6 Claims. (Cl. 1—101)



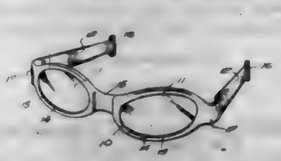
1. A powerized stapler comprising a base having pivotally mounted thereon a work clamp member adapted to compress a stack of sheets to be fastened, a staple driver overlying said work clamp and movable relative to said clamp member, electrical impelling means arranged to actuate said clamp member having activating and deactivating means on said base and high inertia means operatively associated with said driver, said last named means effective, upon compression of said stack, to operate said driver, said clamp member including mounted thereon other means effective prior to full compression of said articles to activate said deactivating means.

2,975,425
CUTTING AND CRIMPING TOOL
Kenneth F. Diehm, Temple, and William T. Leonard, Reading, Pa., assignors to Irving Constant, New York, N.Y.
Filed Mar. 17, 1958, Ser. No. 722,048
3 Claims. (Cl. 1—220)



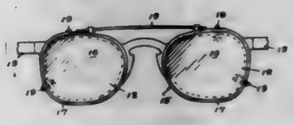
1. In a plier type tool comprising a pair of handles pivotably secured together, each handle having a jaw, said jaws being in the same plane, each jaw having integral spaced land portions and a recess extending between said land portions, said recesses forming a substantially elliptical notch, the major diameter of said notch being substantially perpendicular to the longitudinal axis of said jaws in their closed position, the land portions on one side of said notch being in abutting engagement in the closed position of said jaws, the other land portions being spaced from each other in the closed positions of said jaws thereby defining a gap extending from said notch to the tips of said jaws, whereby a clip may be fixedly secured to tapes extending through said gap into said notch.

2,975,426
INTEGRAL ONE-PIECE FOLDING OPTICAL FRAME
Lionel Rabb, Pawtucket, R.I.
(12 Cross St., Central Falls, R.I.)
Filed Dec. 9, 1959, Ser. No. 858,452
3 Claims. (Cl. 2—13)



1. A folding optical frame comprising an integral one-piece frame of plastic material having a pair of comparatively thick lens portions connected by a comparatively thin integral flexible web of plastic material, a pair of flat thick temple members each integrally connected to the outer end of one of said lens portions by an integral thin flexible web of plastic material, and a lens mounted in each of said lens portions, said webs of plastic material being heat conditioned to force said temple members and said lens portions into folded position to provide a resilient tension on said temple members in open position.

2,975,427
SHIELD
Charles D. Sick, Onawa, Iowa
Filed Feb. 18, 1959, Ser. No. 794,141
1 Claim. (Cl. 2—14)



In eyeglasses embodying a pair of spaced apart lenses, a frame and temples, a shield embodying a pair of spaced apart transparent body members disposed forwardly of said lenses, a rim surrounding each body member, a bar connecting said rims together, said bar being connected to said rims at points adjacent the upper edges of the rims, a pair of spaced apart clamps affixed to each rim, said clamps releasably engaging said frame, a clamp of each pair being positioned at the top of a rim, and the other clamp of each pair being arranged adjacent a lower outer edge portion of a rim, each of said clamps including a curved finger, each clamp having an offset portion which provides a shoulder, the shoulder and finger being disposed in spaced apart relation relative to each other and the shoulder being positioned between the eyeglasses and shield.

2,975,428
COLLAR STAYS
Edward C. Pfeffer, Jr., and Richard J. McFalls, Troy, N.Y., assignors to Cluett, Peabody & Co., Inc., Troy, N.Y., a corporation of New York
Filed Sept. 24, 1957, Ser. No. 685,926
5 Claims. (Cl. 2—132)



1. An article of wearing apparel, comprising at least one ply of woven fabric having a scorch temperature below 425° Fahrenheit, a flat strip of thermoplastic film having a melting temperature above 425° Fahrenheit, only a portion of one face of said strip of thermoplastic film displaced into interstices of said woven fabric providing a fused attachment thereto, said displaced portion providing the sole attachment of said film to said fabric.

2,975,429
GOLF GLOVE
Donald J. Newman, 412 Lincoln Ave., Fox River Grove, Ill.
Filed Sept. 30, 1959, Ser. No. 843,591
2 Claims. (Cl. 2—159)



1. A golf glove comprising palm and back portions, an opening in said palm portion through which a thumb may extend, finger portions extending from said palm and back portions for covering the small and ring fingers throughout substantially the entire lengths thereof, openings defined by said palm and back portions through which the index and middle fingers may extend and remain completely uncovered, a connecting strap between and separating said last named openings, said strap being secured to said palm and back portions and positioned with respect to the edges of said last named openings so as to fit snugly into the base of the V between the index and middle fingers when the glove assumes its normal position on the hand, and means at the wrist end of the palm portion to secure the glove onto the hand of the wearer.

2,975,430
CONVERTIBLE SHADOW-PROOF PETTICOAT
Diana E. Zanger, 10–12 W. 96th St., New York, N.Y.
Filed Dec. 3, 1957, Ser. No. 700,395
1 Claim. (Cl. 2—211)



A petticoat, comprising two cloth plies, each ply being formed of thin sheet material, each ply having narrow and wide opposite ends, the lateral edges of the ply being curved and tapering inwardly from the wide to the narrow end, said edges being finished with decorative trim, said plies being juxtaposed with the narrow ends secured to each other for their entire lengths to form a waist encircling portion, and an elastic band secured to the plies at the narrow ends, the edges and wide ends of the plies being unattached, the juxtaposed plies being overlapped and forming a generally tubular garment with inner and outer plies flaring outwardly from the narrow to the wide ends, the outer ply having its trimmed curved edges arranged to form a generally triangular large opening having its apex at said waist encircling portion and its base at the wide end of the ply, the inner ply having its edges arranged to form another generally triangular large opening with its apex at said waist encircling portion and its base at the wide end of the inner ply, the openings defined by the two plies being disposed at opposite sides of the garment, so that only a single thickness of cloth exists in the garment at each of the opposed openings, whereby a shadowproof four-ply covering of an area between the limbs of the wearer is provided by two overlapped cloth portions at the front and two overlapped cloth portions at the rear of the limbs when the triangular openings are located at the sides of the limbs, and a two-ply expansible covering is provided for said area when said triangular openings are located at the front and rear of the limbs respectively.

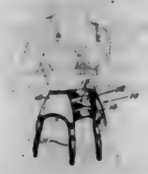
2,975,431
TROUSER SUPPORTING MEANS
Anthony Pasquinto, 185 Efner St., Buffalo, N.Y.
Filed Apr. 9, 1959, Ser. No. 805,227
1 Claim. (Cl. 2—301)



A suspender supporting means adapted to be converted into two waist belts, comprising in combination two shoulder straps, removable means for retaining said straps in position, strap adjusting means, and a trouser clasp member positioned at each end of said straps, one of said clasp members consisting of an inner portion having a tooth jaw and an outer portion having a hook member, said hook member extending beyond said tooth-jawed portion of said clasp, the other of said clasp members, consisting of an inner tooth-jaw portion and an outer slotted member said slotted member extending beyond the jawed portion of said clasp and adapted to receive and lock with said hook member of said first clasp when used as a belt, said removable retaining means consisting of a single piece element having therein slits to receive said shoulder straps and positioned between said straps to form said suspender means.

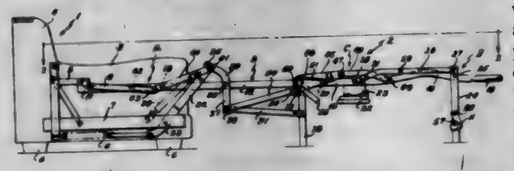
2,975,432
HOSE SUPPORTER
Dorothy Marie Johnson, 7284 Berwood Drive, Madeira, Ohio
Filed Mar. 9, 1959, Ser. No. 798,116
3 Claims. (Cl. 2—386)

1. A waist encircling maternity hose support, comprising a pair of oppositely disposed side panels of woven substantially non-elastic material, a front section comprising a plurality of elongated bands of wide soft readily yieldable elastic capable of readily yielding to movements of the wearer, said bands being interposed between and connected at their respective ends to said



side panels, fastening means associated with the free ends of said side panels for securing said side panels together and said support about the body of the wearer and a plurality of spaced garters secured to and depending from said side panels.

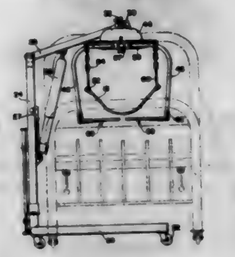
2,975,433
FOLDABLE LOCK FOR SOFA BEDS
Rudolph Coopersmith, Clayton, Michael Lozano, St. Louis, and Julius Greenblatt, Clayton, Mo., assignors to American Bed & Spring Company, St. Louis, Mo., a corporation of Missouri
Filed July 21, 1958, Ser. No. 750,002
6 Claims. (Cl. 5—55)



3. A locking mechanism for a sofa bed construction having a plurality of articulated bed sections of which a first section and a third section are interconnected by a second section and are foldable into a substantially superposed relationship and in which the third section is movably connected to a fourth section; said locking mechanism comprising a swing-over member pivoted at one end to the third section and formed with a slot having an arcuate portion adjacent said pivot and an elongated portion joined to the arcuate portion and extending substantially lengthwise of said swing-over member; link means connecting the other end of said swing-over member to the first bed section, said swing-over member being pivotally responsive to movement of the first bed section; a pull-down member; link means connecting one end of said pull-down member to the third bed section; and connecting means connecting the other end of said pull-down member with said swing-over member, said connecting means being received in and movable in the slot portions of said swing-over member, said pull-down member being substantially stationary when the first bed section is moved to a superposed folded position relative to the third bed section; said pull-down member moving the connecting means into the elongated portion of the slot when the folded first, second and third bed sections are moved relative to the fourth section thereby locking the first and third bed sections in a folded relationship.

2,975,434
HOSPITAL PATIENT LIFT ATTACHMENT
Frederick M. Butler, 1009 Washington N., and Jule T. Butler, 619 S. Cedar St., both of Centralia, Wash.
Filed June 30, 1958, Ser. No. 745,729
4 Claims. (Cl. 5—86)

1. A hospital patient lift attachment, comprising: a main lifting bar of deformed, tubular cross section; a telescopic bar slidably positioned by said lifting bar; a coupling means for slidably supporting said lifting bar from the boom of a hospital patient lift; arm quadrants positioned longitudinally of said lifting bar and on opposite sides of said coupling means; means to lock said arm quadrants in an adjusted position on said lifting bar; actuating arms each having two straight tangent portions disposed substantially at right angles to each other and in a common plane, joined by a curved portion; said arm quadrants each providing a pivot and a lower position locking stop means and an upper position locking stop means for a pair of said coacting actuating arms; said lower position locking stop means comprising a lug for supporting said arm in the using, lowered position; said



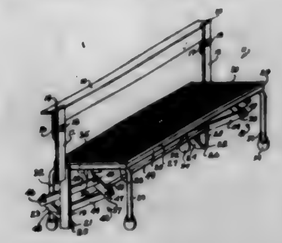
upper position locking stop means comprising a notch; spring urged locking means on each arm adapted to coact with said upper position locking stop means to lock said arm in the upper, raised position; each of said arms being pivoted on one of said pivots on the quadrant and each of the actuating arms having secured to the lower end of the arm, a lifting pad, comprising, a metal, pad support portion having an integral tube for coupling to said arm and adapted to be secured thereto by a toggle locked, through pin, a foam rubber pad covering the upper surface of said metal pad and a removable, cleanable cover completely enclosing the metal support portion and rubber pad.

2,975,435
INVALID TRANSFER APPARATUS
Effee E. Forrest, 209 E. Oppenheimer, Uvalde, Tex.
Filed Jan. 25, 1960, Ser. No. 4,461
3 Claims. (Cl. 5—317)



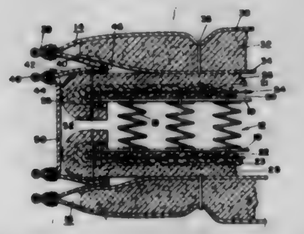
1. An invalid transfer apparatus comprising, in combination, a base member, a base plate rotatable on said base member, uprights carried by said base plate, a hydraulic cylinder mounted vertically on said base plate, a piston rod in said cylinder, a cross-head on the projecting upper end of said piston rod, vertical members, one being fixed to each end of said cross-head and the lower ends thereof being fixed to and supporting a foot base frame, a foot base carried by said frame, means connected to said frame and engageable with said certain uprights for guiding said foot base, and means for actuating said hydraulic cylinder and piston to raise and lower said foot base.

2,975,436
BED STEP
Elmer F. Ries, Cincinnati, Ohio, assignor to The Ries Manufacturing Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 19, 1958, Ser. No. 743,203
6 Claims. (Cl. 5—317)



1. In a bed step the combination with a bed side rail, of a pair of attaching straps depending from said bed side rail, a bed step including a body portion adapted to have a position outwardly of said bed side rail and a position inwardly of said rail and with said bed step body portion located between said attaching straps and with said attaching straps depending to a point below said step body portion when in its outward position, links each having one end pivotally carried by each of said attaching straps at points below said bed step body portion when in its outward position with said links each having its other end pivotally connected to the bed step body portion whereby said bed step may be pivotally actuated from a position outwardly of said bed rail to a position inwardly of said bed rail, means connecting said links to maintain them in spaced apart relation, and means carried by the bed step for engaging the links connecting means in limiting the pivotal movement of the bed step inwardly of the bed rail.

2,975,437
MATTRESS
Morris M. Freeman, Cheltenham, Pa., assignor to Bedding Manufacturers Associates, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Feb. 23, 1960, Ser. No. 10,418
5 Claims. (Cl. 5—351)



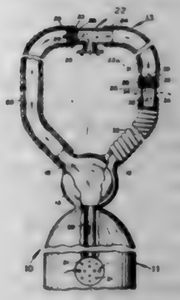
1. In a mattress comprising a spring unit, a quilted pillow portion carried above said spring unit, face ticking on the outside face of said pillow portion, a first flap joined to the side edges of said face ticking, a second flap stitched to the free end portion of said first flap, a felt layer having a main portion between said pillow portion and said spring unit, said felt layer having an end portion which overlaps an end of said spring unit and extends into said spring unit, means anchoring said spring unit to said felt layer and said second flap, and a side ticking flap having an edge portion joined to and disposed between said first and second flap, said second flap extending radially outwardly beyond said anchoring means, said flaps being joined at a point radially inwardly from said anchoring means, whereby said side ticking flap conceals said anchoring means.

2,975,438
SWIMMING DEVICE
Roscoe Magone, P.O. Box 2553, Portland, Oreg.
Filed June 24, 1957, Ser. No. 667,419
12 Claims. (Cl. 9—307)



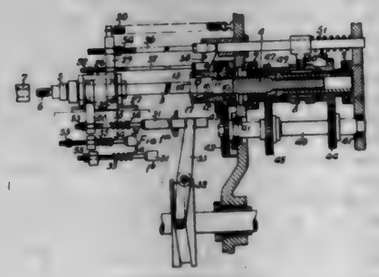
7. A swimming device consisting of a hollow, open-ended means extending from a point medially of the shoulder and elbow to a point medially of the elbow and wrist of the arm of a swimmer disposed therein and formed to a shape to receive and to be secured detachably upon the arm of a swimmer at the elbow; and of a fin, fixedly positioned upon said means at an angular relationship thereto and to have its leading edge disposed rearwardly of an extension of the axis line of the humerus bone of the arm of a swimmer disposed in said hollow means, consisting of a semi-rigid leading edge and flexible outer tip and flexible trailing edge portions, said fin imparting a propelling thrust through flexible, transverse and longitudinal oscillation relative to said hollow means.

2,975,439
TOY SCUBAS
Wallace Bentley, 2775 Okeechobee Road, Hialeah, Fla.
Filed Mar. 16, 1959, Ser. No. 799,614
6 Claims. (Cl. 9—313)



2. In a toy scuba, the combination comprising, a float member, means for securing the float member to the user's back, air conduit means secured to said float member and providing an air inlet opening at one end, a flexible air intake hose, said air intake hose communicating at one end with the other end of said air conduit means, a breathing mouthpiece connected to the other end of said air intake hose and adapted to be held in the mouth for breathing air from said air inlet opening and through said air conduit means and said air intake hose for snorkeling, a check valve in the breathing passage comprising said mouthpiece said air intake hose and said conduit means, for preventing the return passage of exhaled air therethrough, a flexible exhaust hose communicating at one end with said mouthpiece, the other end of said exhaust hose being sealed off and supported by said float member, and an exhaust check valve in said exhaust hose and having an exhaust opening allowing free passage of exhaust air, said exhaust check valve being arranged to prevent breathing of water through said exhaust opening, whereby air expelled through said exhaust hose and exhaust valve during underwater breathing by the user will be rhythmically bubbled through said exhaust opening to simulate the sound of a real scuba.

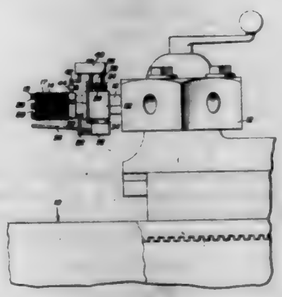
2,975,440
FEED MECHANISMS FOR SCREW THREAD-FORMING ATTACHMENTS FOR METAL-WORKING POWER-DRIVEN LATHES
Reginald John Dixon, Solihull, and Lewis Jones, Coventry, England, assignors to Wickman Limited, Warwickshire, England
Filed Mar. 19, 1959, Ser. No. 800,583
Claims priority, application Great Britain Mar. 25, 1958
4 Claims. (Cl. 10—139)



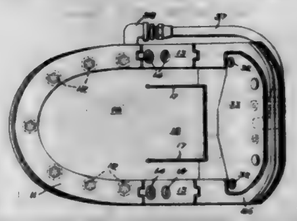
1. A feed-mechanism for a screw thread-forming attachment for a metal-working power-driven lathe, comprising in combination a rotary but axially immovable nut, a rotary and axially movable tap-carrying spindle arranged co-axially with the nut and provided with a screw which is engageable with and disengageable from the nut in response to short axial movements of the spindle, driving means having parts connected to the spindle and nut for rotating them at different speeds and thereby causing the spindle to be moved axially when the screw is in engagement with the nut, yieldable means arranged to act on the spindle for imparting the said short axial movements thereto, a pivoted latch carried by the spindle, and an annular abutment carried by the nut and having differently shaped parts one of which serves by contact with the latch to prevent axial feed movement of the spindle until the screw and nut are in appropriate relative positions for mutual engagement, and another of which serves by contact with the latch to effect disengagement of the latter from the abutment when the screw and nut occupy the said relative positions, and thereby enable the yieldable means to impart axial movement to the spindle for effecting interengagement and disengagement of the screw and nut.

2,975,441
PRECISION OIL FEED TAP
Michele Falco, 296 Liberty St., Painesville, Ohio
Filed Nov. 25, 1957, Ser. No. 698,432
1 Claim. (Cl. 10—141)

The combination of a tap comprising a shank having a threaded portion terminating in a cutting end provided with a plurality of circumferentially spaced openings interrupting said threaded portion, said shank also having a diametrically reduced portion providing an annular shoulder at the junction thereof with said threaded portion, the threaded portion of the shank being provided with a plurality of circumferentially spaced longitudinally extending passages having open ends in said openings and at said shoulder, a collar mounted on the reduced portion of the shank in abutment with said shoulder and provided with an annular groove constituting a manifold in communication with the open ends of said passages at said shoulder, the cutting end portion of the shank being formed with a plurality of lateral passages extending radially outwardly from the respective circumferentially spaced passages and having open outer ends, means mounted on and supported solely by said shank for delivering fluid under pressure into said manifold for discharge through said passages, the cutting end portion of the shank being provided with a central cavity for reception of chip-laden fluid, said shank also being provided with a lateral discharge passage extending outwardly from said cavity to a side of the shank, and means disposed under the threaded portion of the shank for collecting fluid discharged through said passages and recirculating the collected fluid through said means for delivering fluid to said manifold.

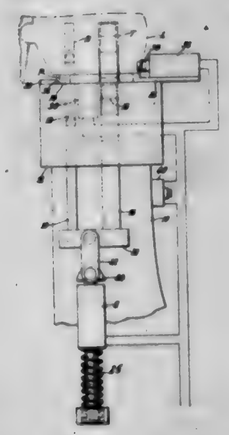


2,975,442
SHOE PAD BOXES
Fred Dawson, West Roxbury, Mass., assignor to Compo Shoe Machinery Corporation, Waltham, Mass., a corporation of Delaware
Filed Mar. 2, 1959, Ser. No. 796,373
5 Claims. (Cl. 12—38)



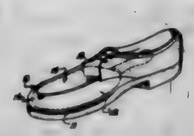
1. A shoe pad box comprising a forepart casing having a first inflatable diaphragm and a leather panel overlying said diaphragm for applying pressure to the shank portion of a shoe and to the front face of the heel of the shoe, a heel port casing having a second inflatable diaphragm and a second leather panel overlying said second diaphragm for applying pressure to the rear face of said heel, common means for clamping said casings together, and for clamping edge portions of said first diaphragm and said first mentioned panel to said forepart casing and edge portions of said second diaphragm to said heel part casing, means for supplying compressed air to inflate one of said diaphragms, and means connecting said diaphragms for supplying compressed air from said one diaphragm to inflate the other of said diaphragms.

2,975,443
LAST JACKS
Stephen Akroyd Makovski, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Mar. 12, 1959, Ser. No. 798,876
Claims priority, application Great Britain Apr. 3, 1958
9 Claims. (Cl. 12—126)



1. A last jack comprising a post for supporting the top of the heel part of a last, a jack pin mounted for movement axially thereof from an inoperative position within said post into an operative position within the thimble of a last on the jack, said post having a socket for receiving the rim of the top of the heel part of the last whereby its thimble is positioned in register with said jack pin, and means actuated in response to insertion of the last into said socket for operating said jack pin between its said positions.

2,975,444
RESILIENT SHOE TREE
John J. Drew, 6023 Elm Ave., Long Beach, Calif.
Filed Jan. 31, 1958, Ser. No. 712,359
2 Claims. (Cl. 12—128)



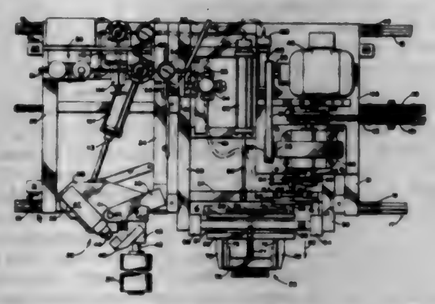
1. A shoe tree comprising: a resilient body removably disposable within the confines of a shoe forwardly of the instep thereof; and manually operable means for longitudinally compressing said body, said manually operable means including a compression rod extending lengthwise through said resilient body, a first compression plate affixed to the forward end of said rod, a second compression plate movably mounted on said rod near the rearward end thereof and a handle longitudinally movable on the rear end portion of said rod capable of moving said second plate forwardly toward said first plate to compress said body and to transversely expand said body into pressure contact with the portion of said shoe adjacent thereto, and return said portion to substantially the shape said portion had when new and so maintain said portion of said shoe while said body is within the confines of said shoe.

2,975,445
METHODS OF HEEL ATTACHING
James F. Leahy, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 27, 1959, Ser. No. 809,275
6 Claims. (Cl. 12—147)



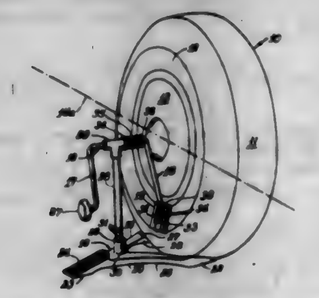
1. The method of permanently attaching a heel to a shoe which comprises providing a shoe upper and a heel formed with a recess in the heel seat engaging surface, depositing in said recess a quantity of a liquid mixture reactive to expand and cure to a stiff, strong resin foam, said quantity of reactive mixture being sufficient to produce on expansion a volume of foam at least equal to the sum of the volume of said recess and the volume of space which would be enclosed between the heel seat engaging surface of a conventional heel for said shoe and the heel seat of said shoe, placing said heel against said heel seat, holding said heel in place against said heel seat and causing said mixture to react to form resin foam to fill said recess and space enclosed between said heel and heel seat and to harden to a rigid body uniting the heel and shoe into a unitary structure.

2,975,446
AUTOMOBILE TIRE WASHER
Edward Furman, 122 N. Hewlett Ave., Merrick, N.Y., and Daniel Chorne, 109 Pine St., and Martin Chorne, 119 Pine St., both of Freeport, N.Y.
Filed May 21, 1958, Ser. No. 736,889
4 Claims. (Cl. 15—21)



1. An automobile tire washing system of the character described wherein an automobile is conveyed along a predetermined path, track means located on each side of said path, a carriage located on each of said track means and adapted to travel therealong from a normal position to a terminating position, tire washing means mounted on said carriage, control arm means extending therefrom in the path of an advancing automobile and adapted to be engaged by a tire thereof whereby said carriage is propelled along the track means as an automobile tire passes the carriage normal position, means to retract said control arm means when the carriage reaches the terminating position, means whereby said carriage is propelled backward from the said terminating position, said last named means comprising means located adjacent the said track means and extending from said normal carriage position to said terminating carriage position, rotatable means located on said carriage and engaged with said means located adjacent the said track means, motor means mounted on said carriage, means including clutch means on said carriage interconnecting said rotatable means nad motor means whereby said carriage is selectively driven rearward to the normal position.

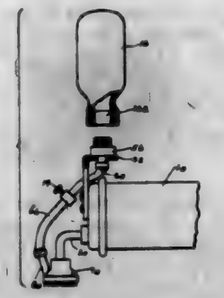
2,975,447
TIRE CLEANING DEVICE
Theodore Vechinas, 3831 Hollywood Blvd., Brookfield, Ill.
Filed Sept. 9, 1958, Ser. No. 760,867
8 Claims. (Cl. 15—21)



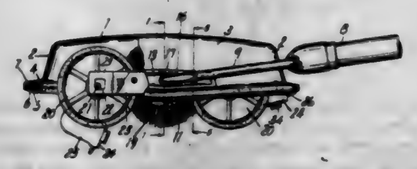
1. A tire side wall cleaning device comprising a cleaning element supporting standard having at the lower end thereof a ground engaging base by which the standard is supported in a position extending upwardly from the ground, said base being provided with fork means projecting outwardly therefrom at one side of the standard and providing a pair of laterally spaced fork arms which are insertable between the ground and laterally spaced bottom portions of an upright tire to locate the standard in a predetermined upright position at one side of the tire, and the base being provided with a step part projecting outwardly therefrom at the opposite side of the standard and having an upwardly presented top face for reception of the foot of a person thereon in downward pressing engagement thereagainst to hold the base firmly against the ground, said standard having a cleaning element supported thereon and rotatable about an axis which extends crosswise of the standard toward the side thereof at which the fork means projects outwardly from the base, said axis being spaced equidistantly from said laterally spaced fork arms at an elevation above the base, and means by which the cleaning element is rotatable about said axis in an upright plane at said side of the tire.

2,975,448
DEVICE FOR REMOVING STAINS FROM FABRICS BY BEATING WITH SIMULTANEOUS TREATMENT WITH CLEANING FLUID
Hans Glaser, Fellnerstrasse 3, Frankfurt am Main, Germany
Filed Oct. 5, 1956, Ser. No. 614,287
Claims priority, application Germany Oct. 14, 1955
1 Claim. (Cl. 15—22)

A device for removing stains from fabrics comprising a motor housing adapted to be gripped by a hand, a motor in said housing, a shaft extending from said housing, said shaft being angled including a right angle portion, whereby when the housing is held in a horizontal position said shaft is normal to the fabric's working surface, means for producing resonance oscillations connecting said shaft with said motor, a head releasably held by the free end of the shaft, the free end of the head presenting a concave fluid retaining cavity, a supply reservoir made of resilient plastic material capable of elastic compression, attached on said housing and in communication with said concave cavity, a brush releasably attached to said head and enclosing said cavity, said brush further including in the backing thereof ports communicating with said cavity, whereby fluid is projected from said container through said ports.



2,975,449
CARPET SWEEPERS
Robert E. Liddell and Norbert T. Kuypers, Detroit, and Robert A. Yonkers, Grand Rapids, Mich., assignors to Bissell Inc., a corporation of Michigan
Filed Nov. 21, 1957, Ser. No. 697,919
8 Claims. (Cl. 15—41)

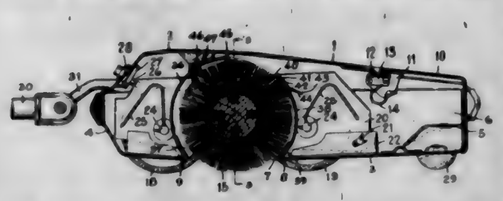


7. In a carpet sweeper having a one-piece thin casing with top, front and rear side walls, and end walls, and having a handle with a bail formed with internal journal ends; a journal support member for each said bail end disposed against the outside of the corresponding end wall of the casing, said support members having notch means therein for positioning the handle relative to the casing, a rotary cylindrical brush extending between the ends of the casing and journaled on the inturned ends of the bail, a pair of floor wheels mounted on a common spindle extending parallel to said brush and in front of the same with the periphery of the wheels engaging corresponding end portions of the brush to drive the latter, a similar pair of floor wheels similarly mounted to the rear of said brush, wheel support members disposed against the inside of each end wall of the casing to receive and rotationally support the corresponding wheel spindle ends, and means securing said journal support members and the corresponding wheel support members rigidly together with the corresponding end walls of the casing clamped therebetween to support the casing on said wheels substantially free of operative stresses.

2,975,450
CARPET SWEEPER WITH DUSTPAN HAVING A FIXED BOTTOM
Donald Edgar Williams, Grand Rapids, Mich., assignor to Bissell Inc., a corporation of Michigan
Filed June 29, 1955, Ser. No. 518,779
8 Claims. (Cl. 15—48)

8. A carpet sweeper comprising a casing, a brush rotatably mounted in said casing, a floor wheel having

driving connection to said brush, a dustpan including an inner wall of substantial height extending upwardly from the bottom of the dustpan with its upper edge disposed closely adjacent to the periphery of the brush, said inner



wall having a downwardly and rearwardly inclined flange on its rear side, and a comb disposed above and in coacting overhanging relation to the brush with its teeth directed toward the upper edge of said inner wall with the tips thereof adjacent to but spaced therefrom.

2,975,451
COLLAPSIBLE MOP SUPPORT
Lewis W. McPherson, Denver, Colo., assignor to Dust-Tex Corporation, Denver, Colo., a corporation of Colorado
Filed Mar. 31, 1958, Ser. No. 725,027
9 Claims. (Cl. 15—147)



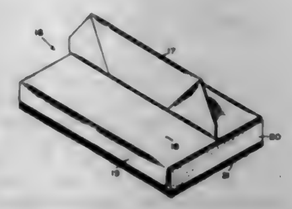
1. A mop head comprising a housing defining a connector frame, a pair of wings for effecting connection with a swab mounted in opposed relation on opposite sides of the frame, said housing being recessed with one of said wings having an inner portion being mounted for pivotal movement through said housing relative to said frame and the other wing from a first position in which the wings are substantially coplanar to a second position in which the wings are collapsed relative to each other, a manually movable lever extending from said housing and at least one link connected within said housing for movement in response to actuation of the lever, the lever and link being movable from a first location wherein the link is in overlapping relation with the one wing to maintain the latter in its first position to a second location wherein the link is moved away from the one wing whereby the latter is free to pivot.

2,975,452
DAUBER OR THE LIKE
Roy D. Doull, Staten Island, N.Y., and Robert E. Magnuson, Packanack Lake, N.J.
Filed Dec. 11, 1958, Ser. No. 779,602
2 Claims. (Cl. 15—209)



1. A dauber device or the like comprising a handle stem having a crosswise notch indenting its free end, a dauber head comprising a mass of filamentary material, the mid portion of said mass being compressed to form a compacted central core from which the filaments radiate in all directions, the free notched end portion of the handle stem being inserted into the core of said dauber head, and a fastening member comprising a binding wire extending through the notched end portion of the handle stem below the core of the dauber head, one end portion of said binding wire being formed to provide a clamping helix encircling the core of the dauber head and terminating in an extremity imbedded endwise in the handle stem material thus binding the dauber head to the handle stem, the other end portion of said binding wire being formed to provide a second helix having its extremity inturned and inserted endwise into the core of the dauber head within the confines of the handle stem notch, all whereby extremities of the binding wire are confined and enclosed against external protrusion relative to the attached dauber head.

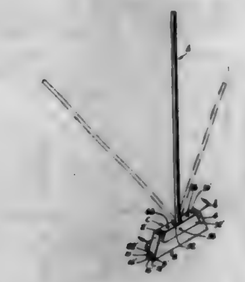
2,975,453
APPLICATOR
Paul V. Imhof, Rochester, N.Y., assignor to Izmie Corporation, Rochester, N.Y., a corporation of New York
Filed July 16, 1958, Ser. No. 748,852
3 Claims. (Cl. 15—210)



1. An applicator for applying a liquid such as paint to a surface in a back and forth wiping stroke, comprising a backing plate of generally rectangular shape having a handle secured to one side thereof, a cushioning block made of compressible, plastic material and being of substantially uniform thickness throughout, said cushioning block having substantially the same area as said backing plate and being cemented to the opposed side of said backing plate in congruent relation therewith, whereby said cushioning block presents an outer freely disposed surface, and a piece of flexible textile material having substantially the same area as said outer surface and being cemented thereto at one side in substantially congruent relation thereto, said piece of textile material being of substantially uniform overall thickness and having a soft thick pile of short, erect threads extending from its opposite side for picking up and holding the liquid, the flexibility of said cushioning block permitting application of the liquid evenly over the surface to be painted.

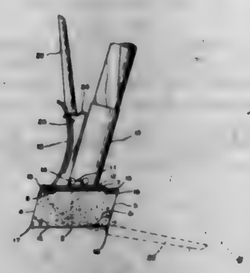
2,975,454
CLEANING IMPLEMENT FORMED OF SPONGE RUBBER OR THE LIKE
Charles A. Bernstein, New York, N.Y., assignor to George S. Leiner & Co., New York, N.Y., a partnership
Filed Oct. 8, 1957, Ser. No. 688,940
12 Claims. (Cl. 15—244)

10. A cleaning implement comprising an elongated body of resilient compressible material secured to a bracket which extends thereover, said body having a recess beneath said bracket, a handle articulately secured to said bracket and having an end extending into said body recess, the size of said recess being closely the same as that of said handle end, said handle thereby compressing said material when said handle moves relative to said bracket but said material providing a restoring force



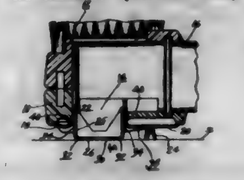
tending to maintain said handle in a predetermined position relative to said bracket.

2,975,455
SPONGE MOPPING ELEMENT FOR FRONT PRESSER MOP
Nathaniel B. Greenleaf, Toronto, Ontario, Canada, assignor to Sponge Products Corporation, Chicago, Ill.
Filed Feb. 10, 1958, Ser. No. 714,255
3 Claims. (Cl. 15—244)



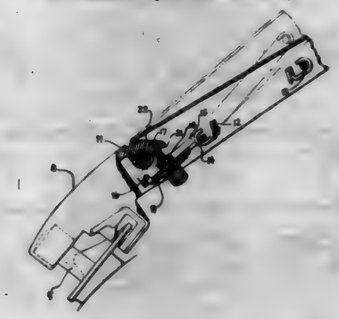
1. A sponge mopping element comprising an elongated sponge block having in cross section the configuration of a parallelogram presenting a bottom working face, a parallel backing receiving face, and parallel forwardly sloping front and rear faces, said sponge block having a grain structure oriented so that the sponge grain extends perpendicular to said parallel bottom working and backing receiving faces, said sloping front face defining with said bottom working face an acutely angled corner, and said sloping rear face defining with said bottom working face an obtusely angled corner, and a backing comprising a rigid plate of smaller area than said backing receiving face and presenting longitudinal front and rear edges, said plate being secured substantially centrally of said backing receiving face, the arrangement being such that the rear longitudinal plate edge is disposed forwardly of the rear edge of said backing receiving face to lie in substantial alignment with the line of sponge grain running perpendicular to the said parallel backing receiving and working sponge faces and intersecting said obtusely angled corner defined by said rear and bottom working faces, the longitudinal front edge of said plate lying rearwardly of the front edge of said backing receiving face a distance substantially equal to the distance that the longitudinal rear edge of said plate is forward of the rear edge of said backing receiving face.

2,975,456
VACUUM CLEANING NOZZLE ATTACHMENT FOR HIGH PILE RUGS
William Emerson Davidson, Cleveland, Ohio, assignor to General Electric Company, a corporation of New York
Filed Aug. 3, 1956, Ser. No. 601,916
10 Claims. (Cl. 15—246)



1. An attachment for insertion into a vacuum cleaner nozzle comprising a substantially flat wall that is adapted to be disposed substantially horizontally to contact a floor surface to be cleaned, upstanding side walls connected to said surface contacting wall at the periphery thereof and being substantially perpendicular thereto, and a plurality of spaced, parallel, narrow, straight slots formed in said surface contacting wall; said slots extending completely through said surface contacting wall between said side walls, and said slots also extending partially into and through said side walls to a height above the top of said surface contacting wall.

2,975,457
WINDSHIELD WIPER ARM
Anthony C. Sciata, Hamburg, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Apr. 28, 1958, Ser. No. 731,330
16 Claims. (Cl. 15—250.21)

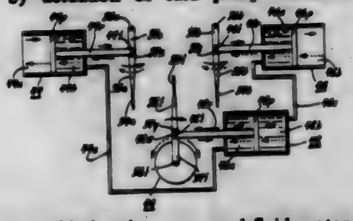


1. A windshield wiper arm comprising a mounting section, a wiper carrying section pivotable thereon, and an automatically operable multi-stage tensioning means having a wiping-tension stage normally imposing a wiping pressure on the wiper carrying section, and a lift tension stage operable independently of a portion of the wiping tension stage to impose a pressure on said wiper carrying section which is greater than said wiping pressure when said wiper carrying section moves in a direction which is away from a windshield.

2,975,458
WINDSHIELD WIPING SYSTEM
Francis M. Ryck, Rochester, and Eugene M. Ziegler, Spencerport, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 8, 1958, Ser. No. 707,817
2 Claims. (Cl. 15—250.27)

1. A windshield wiping system for a vehicle, comprising, three wiper blades, each of which is carried by arms attached to separate spaced shafts, two of said shafts being mounted adjacent to one edge of the windshield, the third of said shafts being mounted adjacent to an opposite edge of the windshield between said two shafts,

an electric motor for driving said intermediate shaft and blade thereof, a pump means connected to be driven by said electric motor as said motor drives and oscillates said intermediate shaft and blade, said pump means having opposite chambers filled with a fluid medium displaceable by actuation of said pump means through

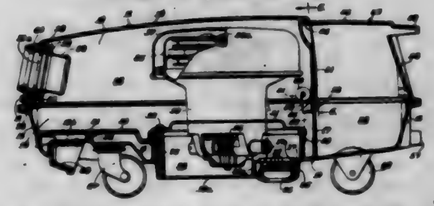


connection to said electric motor, and fluid motor means each having a chamber connected to one of the opposite chambers of said pump means, said fluid motor means including pistons capable of being displaced by said fluid medium and connected to oscillate said outer shafts carrying blades thereon.

2,975,459
ELECTRICALLY CONDUCTIVE WIPER BLADE
Mieczyslaw Wojciechowski, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Oct. 11, 1956, Ser. No. 615,239
4 Claims. (Cl. 15—250.36)

1. A wiper blade adapted for wiping contact with glass surfaces consisting of an electrically conductive elastomer throughout its full extent.

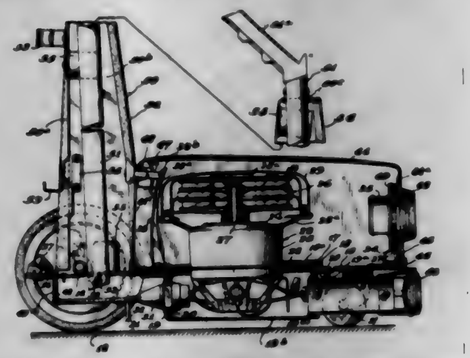
2,975,460
VACUUM CLEANER
Carl W. Sundberg, Bloomfield Hills, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Feb. 10, 1958, Ser. No. 714,239
4 Claims. (Cl. 15—323)



4. In a vacuum cleaner having a body including a flat wall defining a bottom of the body, means for conducting air flow through said wall, comprising: an annular baffle projecting downwardly from said wall and having a lateral extent less than one-half the lateral extent of said bottom wall; a closure across the lower end of said baffle; and means including a portion of said closure and a portion of the downwardly projecting part of said baffle below the said wall defining a compartment, an opening in the wall providing direct communication between the space bove the wall and said compartment, said portion of the baffle having a plurality of openings extending therethrough for discharging air from within the compartment substantially parallel to the said wall, the height of said openings being substantially equal to the height of the baffle below said bottom wall.

2,975,461
VACUUM CLEANER STRUCTURE
Clarence E. Hansen, Chicago, Ill., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 9, 1957, Ser. No. 689,872
6 Claims. (Cl. 15—327)

1. A vacuum cleaner, comprising: a platform; supporting wheels thereon; a depending skirt around the edge of said platform; a suction unit on said platform having an inlet above and an outlet beneath the platform; and enclosing chamber beneath the platform located inwardly of one edge thereof having an exhaust opening therein; an exhaust conduit beneath said platform positioned in said opening and leading from said chamber outwardly toward said one edge; a separable



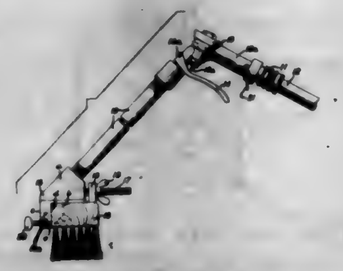
auxiliary conduit tube at the outer end of said conduit concentrically aligned in supporting engagement with the conduit operating as an extension thereof; and means securing said auxiliary conduit tube to the depending skirt, the combination of said conduits and said securing means providing relatively easy alignment of parts during assembly.

2,975,462
APPARATUS FOR APPLYING DETERGENT TO RUGS AND THE LIKE
Robert A. Yonkers and Henry T. Lathrop, Grand Rapids, Mich., assignors to Bissell Inc., a corporation of Michigan
Filed May 22, 1957, Ser. No. 660,807
15 Claims. (Cl. 15—532)



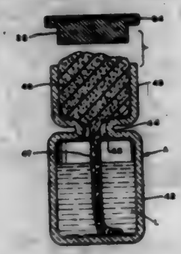
15. Apparatus for applying a foaming liquid detergent mix to rugs and the like surfaces having an upstanding nap, comprising a roller for translation forward and backward over the nap surface to be treated and having a rigid core with a substantial radial thickness of resilient synthetic sponge material on its surface, and means mounting said roller for translating the same over the nap surface to be treated and disposed to apply pressure to said roller against the surface to progressively deform the roller during translation and thereby aerate a quantity of liquid detergent mix absorbed in said sponge material, said mounting means carrying brush means only at a position spaced sufficiently from said roller to engage the nap surface in the path of the roller during translation of the roller without direct interference therewith, said engagement of said brush means being controlled by said mounting means and generally increasing with increased deformation of said roller, and said roller having its lowermost rug engaging surface extending downwardly to the general plane of the bristle tips of said brush means to provide a substantial support for said mounting means and being free to deform at all times.

2,975,463
FOUNTAIN HANDLE FOR CONVENTIONAL BROOM-HEADS
William J. Morris, P.O. Box 324, Rocky Mount, N.C.
Filed Sept. 25, 1957, Ser. No. 686,058
4 Claims. (Cl. 15—544)



1. A fountain-spray device for conventional push-broom heads comprising a chambered body; a tubular handle, through which a fluid supply may pass, rigidly coupled to said body and communicating directly with the chamber in said body; said body being formed with a rearwardly extending off-set portion providing substantially right-angular exterior surfaces against which two surfaces of a conventional broom-head may abut, respectively, to position said body thereon with a portion contiguously overlying the broom-head and with the other portion extending downwardly along the front side surface of the broom-head when applied thereto; a stud projecting rearwardly from said body; a clamping member slidably and adjustably mounted on said stud and positioned for cooperative clamping opposition with one of said right-angular surfaces thereby to receive and clamp therebetween said conventional broom-head, and adjustable means on said stud to move and hold said clamping member in clamping position, the lower end of the said downwardly extending front portion of said body being arcuately convexed about a fore-and-aft axis, said arcuate end having spray openings extending therethrough and arranged in a spaced radially diverging series about said axis, whereby a fan-like spray may be supplied in front of and along a broom-head.

2,975,464
CONTAINERS
Abraham Y. Schultz, 915 Gay Ave., University City, Mo.
Filed Oct. 14, 1957, Ser. No. 689,917
4 Claims. (Cl. 15—563)



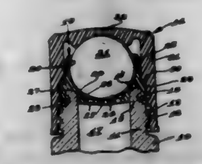
1. A hollow container having substantially cylindrical rigid walls and comprising an upper chamber-forming section having an open upper end, a lower chamber-forming section in downwardly spaced relation to said upper section, an annular neck for separating said sections, said neck being provided with an aperture adapted to provide communication between said sections, a resilient compressible porous element snugly disposed in said upper section and having a normal volume substantially greater than that of said upper section, a wick integral with said porous element, said wick projecting through said aperture and into said lower chamber-forming section, and a removable stopper sized for frictional retentive contact against the inside of said upper section and adapted to compress said porous element to cause said element to lie wholly within said upper section.

2,975,465
LIQUID DISPENSING APPLICATOR
Louis L. Lerner and Albert Safanoff, Chicago, Ill., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Sept. 25, 1958, Ser. No. 763,390
4 Claims. (Cl. 15—569)



1. A dispenser and applicator for fluid materials comprising an open trough having a rigid peripheral wall, a valve opening in the bottom of said trough, means for mounting said trough on a container for said fluid with said valve opening in communication with the container, an elastically resilient fluid-pervious open-celled sponge member mounted in said trough with its outer face protruding throughout its extent substantially beyond said peripheral wall, support means for maintaining the inner face of said sponge member in spaced relation from the bottom of said trough, a valve mounted in said opening, and a valve stem connecting said valve and the outer face of said sponge member, said stem passing adjacent said support means to open said valve when said sponge member is compressed.

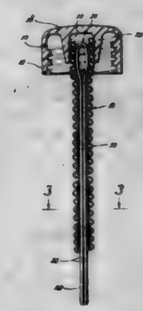
2,975,466
BALL-TYPE LIQUID APPLICATORS
William E. Fillmore, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed May 13, 1957, Ser. No. 658,767
1 Claim. (Cl. 15—572)



In a dispensing container, the combination of a rigid container having an upwardly positioned substantially cylindrical neck defining a filling opening and formed with external peripheral screw threads, said neck having an upper extension terminating in an annular radial rim, said upper extension having an external annular groove in proximity to the rim; a ball; a ball-retaining fitment formed of an inherently resilient plastic material and including an annular ball housing disposed coaxially with the neck and having its upper interior surface shaped and dimensioned to surround a major lower portion of the surface of the ball and functioning to secure the latter against accidental removal upwardly relative to the housing, an annular extension projecting loosely into the

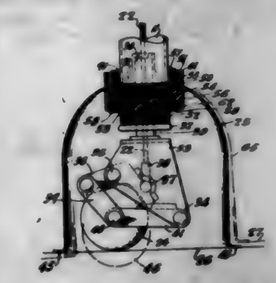
filling opening of the container and having an annular internal ball seat immediately below and coaxial with said upper interior surface, said extension projecting into the neck beyond the seat to terminate in a support portion for the seat underlying the seat, an exterior depending attaching skirt radially outward from and concentric with said ball seat, said skirt cooperating with the annular extension to form therebetween an annular recess receiving the rim of the neck therebetween, said skirt having an internal bead fitting in the extension groove for holding engagement with said container and the skirt being of less external diameter than the screw threads of the container neck; a closure cap telescoped over the fitment and the threaded neck and including a panel portion overlying and in contact with the ball, and a depending skirt portion having internal screw threads engaging the threads of the container neck; an annular upwardly facing shoulder on the fitment overlying said annular radial rim of the container, and an internal downwardly facing shoulder formed on the closure cap and engageable with the shoulder on said fitment, the shoulders each lying in a plane substantially normal to the container axis and positioned axially in relation to the panel portion of the closure cap and the ball so as to limit possible axial downward movement of the ball in the fitment resulting from threading of the cap on the container neck to a degree less than would distort and crack the support portion of the fitment beneath the ball seat after full seating of the ball and subsequent resilent distortion of the fitment support portion, said shoulders sealingly engaging one another to seal the periphery of the ball when the ball is seated on the internal fitment seat, and said shoulders urging the fitment downwardly with the cap to sealingly engage the container rim in the fitment recess.

2,975,467
APPLICATOR FOR LIQUIDS
Victor Stanzel, P.O. Box 171, Schulenburg, Tex.
Filed Aug. 26, 1957, Ser. No. 680,369
2 Claims. (Cl. 15—611)



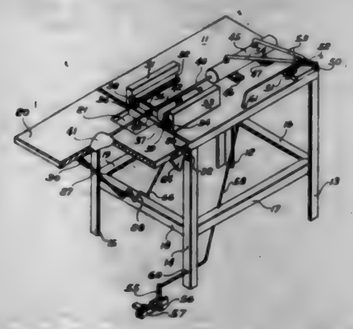
2. In an applicator the combination with a closure having a centrally located, downwardly opening recess of an elongated element formed of flexible material bent upon itself to form an enlarged end loop and parallel, longitudinally coextensive portions forming a channel open at the other end of the element, a sleeve member in the form of a helical coil of flexible material surrounding the element and whose turns are spaced to hold between them a supply of liquid by capillary action and positioned to cause the liquid to flow into the channel as liquid flows from the open end of the channel, turns of said member at one end of the member surrounding said loop in position to be inserted therewith into said recess and shaped for coaction with said loop in the recess to be expanded into gripping engagement with the internal wall of the recess and with said loop to secure the member and element to the closure.

2,975,468
SELF-STABILIZING FOOT FOR RETRACTABLE CASTERED TABLES
Ralph E. McClellan, Toledo, Ohio, assignor to The Meilink Steel Safe Company, Toledo, Ohio, a corporation of Ohio
Filed Nov. 2, 1956, Ser. No. 620,685
7 Claims. (Cl. 16—34)



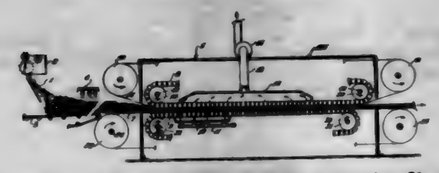
1. A table comprising a plurality of legs, bell shaped feet at the end of each leg spacing the end of said legs from the floor upon which the table rests, each foot having a lower rim floor engaging portion and an upper aperture through which the lower end of said leg extends, and means for attaching said foot around said aperture to said adjacent portion of said leg, said foot attaching means comprising: a sleeve in said aperture connected to said leg, the peripheral edge of said aperture being sufficiently larger than the outside of the adjacent portion of said sleeve to permit free angular and longitudinal movement of said foot with respect to the longitudinal axis of said leg whereby said foot may substantially completely contact the plane of the floor even though said axis of said leg is not perpendicular to the plane of the floor under said foot, means on at least one leg of said table for adjusting the connection of said sleeve axially of said leg, annular resilient means around said sleeve and overlapping opposite sides of said peripheral edge of said aperture, ring means on said sleeve covering the opposite ends of the overlapping portions of said resilient means, and flange means on the opposite ends of said sleeve for compressingly engaging said rings against said resilient means to clamp said opposite sides of said peripheral edge of said aperture between said overlapping portions of said resilient means.

2,975,469
EVISCERATING MACHINE
Louis Anthony Viscolosi, 88 Parnell St., Providence, R.I.
Filed May 25, 1959, Ser. No. 815,501
7 Claims. (Cl. 17—11)



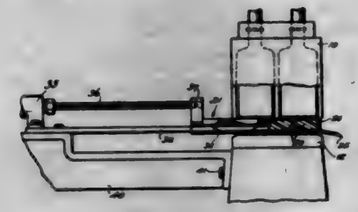
1. An eviscerating machine comprising a table, a left hand block provided with a cam track and a right hand block provided with a corresponding cam track, secured to said table in parallel relationship, a guide holder, cam followers secured in parallel relationship on opposite sides of said guide holder and adapted to respectively engage the cam tracks in said left hand block and right hand block, a rod provided with a claw on one end fixed to said guide holder, mechanism for reciprocating said rod back and forth across said table whereby said cam followers guided in said cam tracks move said claw through a cycle in a movement determined by said cam tracks.

2,975,470
APPARATUS FOR STEAM TREATING FIBROUS PANELS
Howard J. Suelson and William L. Prior, Newark, Ohio, assignors to Tectum Corporation, Columbus, Ohio, a corporation of Ohio
Filed Jan. 9, 1958, Ser. No. 707,987
11 Claims. (Cl. 18—4)



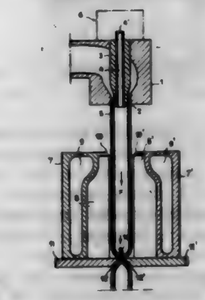
1. In a press for compacting and steam treating fibrous materials, frame means mounting upper and lower flights each composed of a plurality of continuously moving platen members traveling about spaced apart pairs of sprockets having horizontally disposed axes of rotation, continuously moving belts traveling with said flights of platen members, adjustment means for varying the distance between said upper and lower flights of platen members, continuously moving locking means traveling with said flights of platen members for locking together the ends of corresponding of upper and lower platen members in spaced apart relation as established by said adjustment means, the platen members in at least one of said flights comprising hollow steam jackets each having a perforated face for contact with the belt traveling with the said flight, said last named belt also being perforated, and a steam manifold positioned to be in communication with the hollow jackets of said last named platen members when said upper and lower platen members are locked together by said locking means, whereby steam from said manifold may be introduced into said hollow jackets and passed through the perforated faces thereof and said perforated belt for direct contact with fibrous material compacted between said flights.

2,975,471
APPARATUS FOR SEVERING PLASTIC MATERIAL
Orville B. Sherman, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed June 24, 1957, Ser. No. 667,335
1 Claim. (Cl. 18—5)



In an apparatus for producing a blown plastic article from a tube of plasticized material extruded through an orifice for enclosure between a pair of closable blow mold sections, each such section having a tube-engaging surface elongated transversely of the orifice for pinching shut the tube without severing the same to thereby leave the pinched tube joined to material filling the orifice when the mold sections are closed, an improved tube severing mechanism comprising an elongated chamfered surface on each of said mold sections displaced toward the orifice from said tube-engaging surface, said chamfered surfaces being inclined oppositely with respect to one another and the surfaces cooperating upon closure to define an open-ended V-shaped groove having its apex adjacent said mating surfaces, a reciprocal cutting element having a V-shaped shearing edge enterable into said groove to sever said tube at the groove apex immediately adjacent the pinched portion of the tube, means for reciprocating said cutting element, and a second shearing edge movable jointly with said cutting element, said second edge being substantially planar to wipe across the orifice, thereby severing the material intermediate the orifice and said groove apex from material filling the orifice.

2,975,472
METHOD AND APPARATUS FOR BLOWING HOLLOW PLASTIC ARTICLES
Roberto Colombo, Turin, Italy, assignor to S.A.S. Lavorazione Materie Plastiche (L.M.P.) di M. I. Colombo & C., Turin, Italy
Filed Sept. 3, 1958, Ser. No. 758,766
Claims priority, application Italy Sept. 10, 1957
3 Claims. (Cl. 18—5)

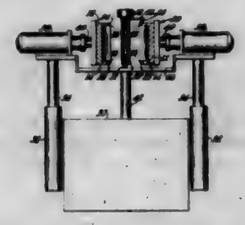


3. Apparatus for manufacturing a hollow article from a thermoplastic material comprising an extrusion head, a downwardly facing annular extrusion nozzle in the head including an axial core, an axial open ended passage through the core, means associated with the upper end of the passage for introducing therethrough a gas yielding material into a tube being extruded from the nozzle, and a sectional mold associated with the head, said mold being adapted to close first at its end remote from its nozzle and then at its opposite end, said mold having a pair of clamping lips on each of its opposite ends for clamping and sealing said tube at each of said opposite ends of said mold in the order that said mold is adapted to close, said first clamping and sealing preceding the introduction of said gas yielding material into said tube through said core passage and said last clamping and sealing following said introduction of said gas yielding material.

2,975,473
MANUFACTURE OF HOLLOW PLASTIC ARTICLES
Reinold Hagen, Hangelar, uber Siegburg, Rhineland, Germany, and Norbert Hagen, 23 Heinrichstrasse, Siegburg, Rhineland, Germany
Filed Feb. 13, 1959, Ser. No. 793,845
Claims priority, application Great Britain June 17, 1953
19 Claims. (Cl. 18—5)

1. A process for the manufacture of hollow articles from plastics, using a single mold, comprising extrud-

ing from an extrusion nozzle at least a single formation of the plastic used to suspend vertically, in a condition of plasticity, into the open space between opposing sections of a sectional mold, with the mold sections being in a generally parallel relationship, the mold having when closed at least a single cavity conforming in shape to the article to be formed, linearly closing the opposing mold sections, while in proximity to the nozzle, about at least a single segment of the extruded formation, thereby forming an inflatable embryo article within the closed mold, relatively moving the nozzle and closed mold apart along the directional line of extrusion to a far apart position, continuing the extrusion, admitting a fluid pressure medium to the embryo article and thereby expanding the embryo article into molding contact with the mold cavity, opening the mold by linearly moving the mold sections apart, withdrawing the blown article, relatively and linearly moving the nozzle and open mold sections from the far apart position back into the proximate position, and linearly closing

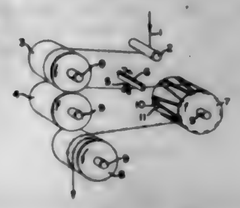


the mold sections, while in said proximate position, about at least a single segment of freshly extruded plastic formation.

19. Apparatus for producing hollow articles of plastic materials, including a two-section mold provided with a cavity conforming in shape to the article to be formed, a ring-shaped extrusion nozzle outside the mold to extrude an open-ended tube into the space within the open mold sections, a blow pipe extending into the mold cavity in axial alignment with the extruded tube to allow the open tube end to slip over the blow pipe, the mold sections being provided with edges to pinch off the tube portion within the mold, two parallel cylinders serving to relatively move the nozzle and the mold toward and from each other, each of said parallel cylinders slidingly receiving a piston, said two pistons supporting two cylinders extending in axial alignment at right angles to the parallel cylinders, the axially aligned cylinders slidingly receiving pistons moving toward and from each other and supporting the sections of said mold.

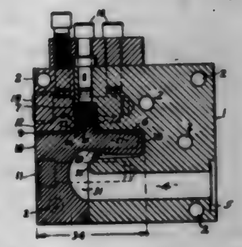
2,975,474
PROCESS AND APPARATUS FOR PREPARING NOVELTY YARNS
James G. Smith, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 11, 1958, Ser. No. 741,287
10 Claims. (Cl. 18—8)

1. The process for preparing yarns having randomly spaced thick-and-thin sections which comprises withdrawing a yarn prepared from an artifical thermoplastic material from a supply source at a uniform rate, heating said yarn at randomly spaced intervals by passing said yarn over a roller having randomly spaced heated portions, simultaneously traversing said yarn back and forth across the surface of said roller at a rate at which the path of said yarn during said traversing forms an angle of at least 60° but less than 90° with a line parallel to the axis of said roller, withdrawing said yarn from said roller under uniform tension at a uniform rate at least about two times greater than the rate at which said yarn is fed to said roller whereby the sections of said yarn



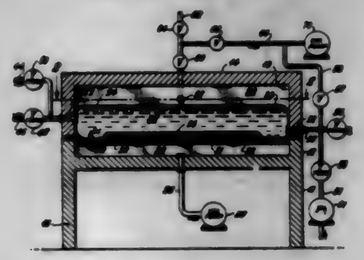
passing in contact with said heated portions of said roller are drawn from about two to twenty times their original length.

2,975,475
SHEETING DIE
Eugene E. Heston, Akron, Ohio, assignor to National Rubber Machinery Company, Akron, Ohio, a corporation of Ohio
Filed July 28, 1956, Ser. No. 599,195
4 Claims. (Cl. 18—12)



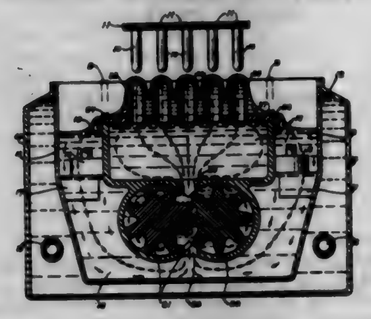
1. A sheeting die comprising a body formed with an inlet passage for plastic material, a pair of die blocks secured to said body and defining therebetween an outlet slit, one die block and said body being formed with an interfitting tongue and groove parallel to said outlet slit which, in a plane transverse to said outlet slit and passing through said inlet passage and said outlet slit, form a sinuous passage through which the plastic material flows from said inlet passage to said outlet slit, said sinuous passage being of progressively increasing width and of progressively decreasing thickness from said inlet passage to said outlet slit.

2,975,476
PRESS
John E. Burke, Rte. 1, New Berlin, Ill.
Filed Mar. 2, 1959, Ser. No. 796,329
4 Claims. (Cl. 18—17)



1. A press adapted to apply a presure to an article and at the same time control the temperature of the pressing surface applied during the pressing operation, said press comprising; a closed chamber, means for supporting an article to be pressed within said chamber, a hollow flexible bag dividing said chamber into two separate compartments which are out of fluid communication with each other, the article supporting means being located in the lower of said compartments, means for supplying fluid pressure to the other of said compartments, said fluid pressure causing said bag to exert a pressure on said article being supported, means for supplying a fluid at a controlled temperature to the interior of said flexible bag for the purpose of controlling the temperature of a pressing surface of the flexible bag and thereby controlling heat transfer to said article being pressed, said fluid pressure supplying means and said fluid supplying means being subject to independent control.

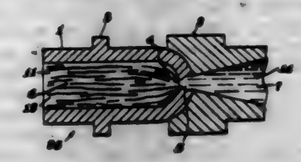
2,975,477
CAPSULE MACHINE DIPPING PAN
Van B. Hostetler, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
Filed Jan. 19, 1959, Ser. No. 787,564
6 Claims. (Cl. 18—25)



1. In a capsule making machine including a pump means, a capsule mold pin dipping pan and a series of capsule mold pins arranged to be dipped and withdrawn from said pan; said dipping pan comprising a reservoir for containing a supply of capsule-forming material; a dipping section superposed thereover and communicating with said reservoir, said pump means being associated with said reservoir and operable to continuously circulate said material from said reservoir into and through said dipping section and back into said reservoir; said dipping section being sectionally divided into a corresponding series of spaced apart, individual compartments each adapted to receive with clearance a corresponding individual capsule mold pin; each of said compartments being effective to direct the flow of capsule forming material upwardly around its individual and corresponding mold pin as the latter is immersed therein and withdrawn therefrom and being effective also to shield each pin from any distortive, turbulation-creating influence by a neighboring pin upon the surface or in the body of said capsule-forming material during the dipping and withdrawal of said pins.

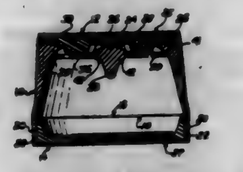
2,975,478
MIXING NOZZLE
Kenneth C. Finster, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 3, 1959, Ser. No. 803,855
4 Claims. (Cl. 18—30)

1. An injection molding nozzle comprising means defining a generally cylindrical conduit enclosing an internal longitudinal passageway, said passageway having an inlet end and a discharge end; one inner surface of the discharge end of said passageway terminating in a concave arcuate surface; a generally cylindrical orifice, disposed coaxial with said conduit, positioned in said concave arcuate surface and passing therethrough, said orifice being in communication with said passageway in said conduit; the innermost portion of said orifice leading from



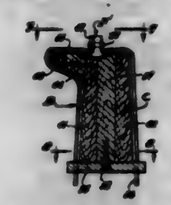
said passageway in said conduit comprising a smaller cylindrical portion than said outermost portion passing out of said end of said conduit, said orifice increasing in diameter as it passes through and out of said discharge end of said conduit.

2,975,479
FLASK FOR MAKING DENTURES
George F. McGowan, 4509 Forest Ave., Kansas City, Mo.
Filed Mar. 12, 1956, Ser. No. 570,842
2 Claims. (Cl. 18—33)



1. In a dental flask, a substantially tubular section having a pair of opposed, open ends; investment-retaining bridge means secured to the tubular section therewithin diametrically across the smaller of said ends inwardly of the latter; and an inwardly-extending elongated heat conductor having a substantially triangular vertical cross section and extending inwardly a substantial distance within said tubular section and rigidly secured to said bridge means.

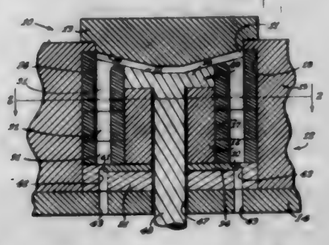
2,975,480
APPARATUS FOR MAKING FELT BOOTS
Konstant Yasunis, 8722 E. Las Tunas Drive, San Gabriel, Calif.
Filed Mar. 19, 1958, Ser. No. 722,491
4 Claims. (Cl. 18—34)



4. In apparatus for making boots, and which includes a carrier, the combination of: a supporting plate adapted to be detachably connected to said carrier; a two-piece outer full-length mold including a first molding element having a boot-shaped concavity corresponding substantially to a first half of a boot and a second molding element having a boot-shaped concavity corresponding substantially to a second half of the boot; latching means coupled to said outer mold and to said supporting plate for releasably supporting said outer mold on said supporting plate so as to maintain said outer mold in an upright position on said plate; a cap resting upon and closing

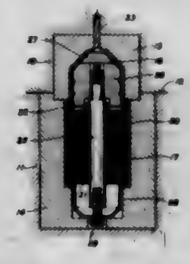
the upper edge of said outer mold; an inner mandrel mold element having a rear portion, a central portion, a front portion, and a detachable toe portion mounted on said front portion, and which portions when in assembled relationship with each other have an external surface corresponding to the interior of the boot, said front and central and rear portions of said inner mandrel mold having a dovetail configuration for mutually supporting one another in longitudinally sliding relationship with respect to one another; means for securing the central portion of said inner mold to the under side of said cap in depending relationship into the outer mold; said inner mandrel mold element when nested within said outer mold forming a space between the inner and outer molds; and means for forming a spout projecting from said cap for the introduction of a mix of fibrous material into the space between said inner and outer molds.

2,975,481
MOLD
Robert D. Kaufman, La Porte, Ind., assignor, by mesne assignments, to Denbo Engineering and Sales Company, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Aug. 10, 1956, Ser. No. 603,426
12 Claims. (Cl. 18—42)



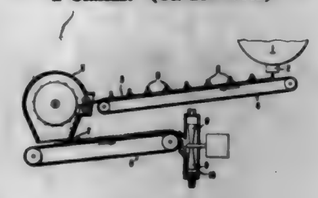
1. A mold comprising body means providing a plurality of spaced, internal surfaces defining, in part, a hollow chamber, removable means having exterior surfaces complementary in shape to and interfitting with said spaced, internal surfaces, said removable means comprising a plurality of cooperating tiers, certain of said tiers having internal surfaces defining hollow cavities of the shape of the article to be molded.

2,975,482
METHOD OF MOLDING A PLASTIC JACKET AROUND A PLURALITY OF INSERTS
David L. Babcock, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 14, 1949, Ser. No. 98,923
2 Claims. (Cl. 18—47.5)



1. In the method of molding a jacket of plastic material around a vertical stack of fragile apertured members, the steps of forming the bottom member of the stack with a sleeve having an outwardly extending flange at the upper edge thereof and with an undercut beginning near the outer circumference of the lower edge of the flange and extending upward at an angle, clamping the apertured members on a mandrel in aligned relation to form an insert, placing the insert centrally in a jacket-shaping cavity of an injection mold, forcing plastic under pressure into the cavity, and machining the lower edge of the sleeve a predetermined distance from the lower edge of the jacket whereby the solidified plastic in said undercut will form a leak-proof seal between the bottom member and the jacket and the height between the top of the jacket and the bottom member will be constant regardless of variation in the height of the stack.

2,975,483
PROCESS FOR PRODUCING POLYMERIC PELLETS BY CUTTING SURFACE COOLED STRANDS
Paul Duncan Cooper and Zygmunt Stephen Zimay, Chattanooga, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 19, 1959, Ser. No. 794,330
2 Claims. (Cl. 18—47.5)

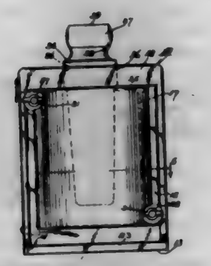


1. An improved high-speed process for producing uniform pellets of a synthetic polymeric composition, comprising the steps of continuously extruding a molten synthetic polymeric composition in the form of a plurality of laterally spaced parallel strands, continuously conveying said spaced parallel strands through a first water spray cooling zone, cooling continuously and solidifying the exterior portions only of said spaced strands by evaporation of part of the water sprayed thereon during passage of said strands through said first cooling zone, continuously cutting said partly solidified spaced strands into discrete pellets after said laterally spaced strands have emerged from said first cooling zone and before significant further cooling and solidification of the interior portions of said strands has occurred, and then completely cooling said pellets to a solidified condition throughout, the strands and pellets being maintained wet throughout the cooling and cutting steps to minimize thermal oxidative degradation of the polymeric composition.

2,975,484
PROCESS FOR PRODUCING FILMS
Leonard Edward Amborski, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 2, 1959, Ser. No. 837,601
5 Claims. (Cl. 18—48)

1. The process of producing a polymeric linear terephthalate ester film having outstanding physical properties which comprises stretching a substantially amorphous polymeric linear terephthalate ester film from 3.7 × to 5.0 × its original length in the longitudinal direction and from 1.5 × to 3.0 × its original width in the direction transverse to the longitudinal direction at a temperature between 80° and 120° C., the stretch in the second of the two directions being performed while restraining the film from shrinkage in the first of the two directions, and heat setting the stretched film at a temperature between about 150° and 200° C. under tension.

2,975,485
METHODS AND APPARATUS FOR CONSERVING SOAP
Robert H. Wendt, Evanston, Ill. (7567 Lincoln Ave., Skokie, Ill.)
Filed Dec. 12, 1958, Ser. No. 779,990
2 Claims. (Cl. 18—55)



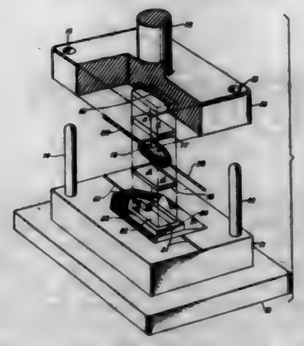
1. The method of making a bar of soap out of used soap slivers which comprises providing a rigid mold of two halves having a cavity the shape of the bar desired and having an end aperture in one end wall of the size and shape of a sliver of used soap, supporting the mold at its other end, depositing slivers of used soap in said cavity with a limited amount of water to moisten the used soap, maintaining the soap in a moist condition by closing the said aperture between the deposits of soap with a sliding closure plug in said aperture, driving the deposited soap laterally from the space beneath said aperture with a plunger having the shape of a sliver of soap and carried by said plug to provide space for receiving the next deposit of soap until the plunger cannot be inserted by hand, thereafter subjecting the said plunger on its outer end to impact, to provide the high unit pressure per square inch needed to drive the soap into all parts of the mold, and driving the plunger and plug into said aperture to such a point that the plug entraps the soap while the plunger forms a full bar of soap except for the aperture in the bar containing the plunger, removing the plunger and inserting a sliver of soap to fill the cavity in the bar to provide a new bar of used soap.

2,975,486
DECORATIVE SHEETING AND METHOD FOR ITS MANUFACTURE
Roger B. Kenyon, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 13, 1959, Ser. No. 806,102
3 Claims. (Cl. 18—57)



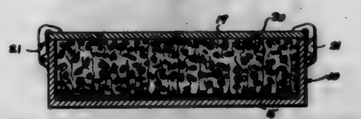
1. The method of continuously forming decorative sheeting of a cellulose organic acid ester composition having a substantially uniform vesicular surface which comprises spreading a casting solution containing a cellulose organic acid ester in a volatile solvent therefor and a plurality of hollow, gas filled, resinous spheres onto a casting surface, heating the casting surface at a temperature to promote volatilization of the solvent and the formation of vapor bubbles around said gas filled spheres whereby continuous sheeting having a pitted surface is formed.

2,975,487
MOLDING OF THERMOPLASTIC MATERIALS
George H. Williams, Jr., Cranford, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 2, 1957, Ser. No. 656,705
1 Claim. (Cl. 18—59)



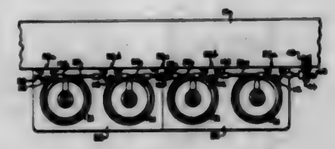
The process of encapsulating a tantalum solid-electrolytic capacitor in a thermoplastic material consisting of 65% cellulose acetate butyrate and 35% dioctyl phthalate by weight comprising the steps of preheating a first sheet of said thermoplastic material having a thickness of approximately 60 mils to a temperature of approximately 230° F., preheating a second sheet of said thermoplastic material having a thickness of approximately 90 mils to a temperature of approximately 230° F., placing said first sheet of said thermoplastic material in the cavity of the bottom block of a two piece flash mold, said flash mold being maintained at a temperature of from 220° F. to 240° F., placing said capacitor upon said first sheet, placing said second sheet upon said capacitor to form a sandwich therewith, causing said sheets of thermoplastic material to flow by closing said flash mold for a period approximating three seconds, said mold being closed with a pressure not exceeding 45 p.s.i., opening said mold, and removing the encased article from said mold.

2,975,488
METHOD OF MOLDING ARTICLES OF MANUFACTURE
Frank J. Brauner, Box 187, Black Diamond, Wash.
Filed Sept. 19, 1958, Ser. No. 761,978
2 Claims. (Cl. 18—59)



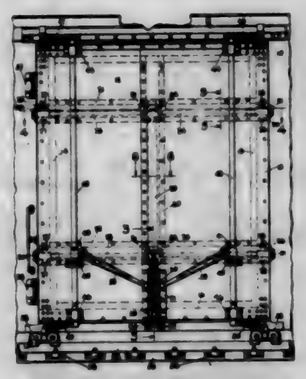
1. The process of manufacturing a solid, non-fusible construction product comprising providing a mold for the article to be formed, partially filling said mold with a predetermined amount of synthetic resin of the type adapted to be foamed by heating, said amount of resin being that required when foamed to substantially completely fill the mold, filling the remainder of the mold with a relatively light weight non-fusible aggregate in the form of small discrete irregularly shaped particles, closing and sealing the mold, heating the material in the mold thereby causing the resin to foam at a pressure of 30 to 50 pounds per square inch and completely fill the mold and completely envelop the said aggregate, cooling said resin thereby causing said resin to set, and removing the molded product from the mold.

2,975,489
DRIVING MEANS FOR TEXTILE MACHINES
Joe R. Whitehurst, Bessemer City, N.C., assignor to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina
Filed Sept. 30, 1957, Ser. No. 687,834
11 Claims. (Cl. 19—199)



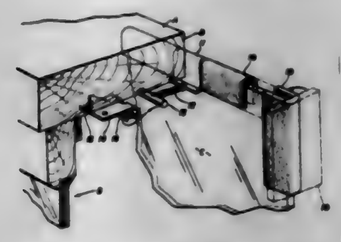
1. Improved driving means for drawing frames having a plurality of coiler heads each having a rotatable tube gear, said driving means comprising gear units fixed on said drawing frame adjacent each tube gear, each of said gear units comprising a rotatable main and auxiliary shaft, a bevel gear fixed on each of said shafts, said bevel gears intermeshing to drivingly connect said shafts to each other, the main shafts of said gear units comprising a plurality of axially alined drive shaft segments, means connecting said plurality of drive shaft segments together, and gear means fixed on each auxiliary shaft and being positioned in driving engagement with corresponding tube gears.

2,975,490
LATERALLY MOVABLE DOORS FOR RAILWAY CARS
Wilfred A. Beauchamp, Chicago, Ill., assignor to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 11, 1958, Ser. No. 754,358
9 Claims. (Cl. 20—23)



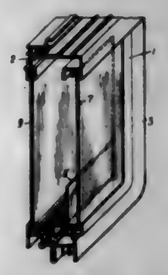
8. A laterally movable door for box cars, said door when in closed position being seated in a door opening formed in a side of a railway car in flush relationship therewith and being so constructed as to retain grain in said car while eliminating the usual grain doors heretofore required, said door comprising a single vertically slidable bar mounted within said door, a plurality of horizontally slidable locking bolts mounted within said door, a plurality of bell cranks swingably mounted on said door on the inside thereof, said bell cranks pivotally engaging said vertical bar and said locking bolts respectively, and means accessible from the outside of said door for imparting vertical movement to said bar, said bar imparting swinging movement to said bell cranks, said bell cranks imparting horizontal locking and unlocking movements to said bolts.

2,975,491
FRAMELESS STORM WINDOWS
Bert B. Paul and Sigurdur Petersson, Toronto, Ontario, Canada, assignors to Jacobs & Thompson Ltd., Toronto, Ontario, Canada
Filed Sept. 18, 1958, Ser. No. 761,774
1 Claim. (Cl. 20—55)



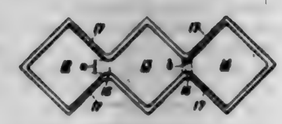
1. A storm window assembly comprising, in combination, a window opening, a window frame encompassing said window opening, a sheet of glass covering said window opening, said sheet of glass having substantially the same shape as but being somewhat larger than said window opening whereby said sheet of glass extends on all sides to overlap said window frame to a sufficient degree to ensure safe seating of said sheet of glass; resilient, easily compressible material mounted upon at least the inner face of and extending peripherially completely around said sheet of glass as to provide a frame therefor; a plurality of U-shaped members spaced around the periphery of said sheet of glass and straddling the edges thereof, the portions of said compressible material which underlie said U-shaped members being compressed; a plurality of plates secured to said window frame, a tension spring attached to each of said U-shaped members, and means for detachably connecting said springs to said plates.

2,975,492
WINDOWS WITH ONE OR MORE METAL SECTION SASHES FOR THREE WINDOW PANES
Sven Eric Persson, Malmo, Sweden
(263 Park Ave., Youngstown 4, Ohio)
Filed Aug. 5, 1957, Ser. No. 676,165
Claims priority, application Sweden Sept. 18, 1956
4 Claims. (Cl. 20—56.5)



1. A window comprising an inner and an outer metallic window sash, means removably supporting said outer sash on said inner sash in heat-insulating relationship, window panes secured circumferentially in said sashes in parallel spaced relationship, said inner window sash having therein two grooves for the insertion of an inner window pane and an intermediate window pane, the outer edge of the groove for said inner window pane being provided with an outwardly extending taper, the outer window sash having therein a groove for the insertion of an outer window pane, said groove being provided on its outer edge with an outwardly extending taper, the distance between the outer window pane and the intermediate window pane being substantially larger than the distance between the intermediate window pane and the inner window pane, said intermediate window pane extending only for a portion of the height of the sash and displaceable in a vertical direction, and packing material to seal the gap between said window panes and the edges of the grooves adapted for hermetically sealing the space between the window panes by a wedge effect.

2,975,493
CASTING OF METALS
James Storrs Morton, Ockham, Ripby, and John Savage, Kenton, Harrow, England, assignors to The British Iron and Steel Research Association, London, England
Filed Feb. 5, 1958, Ser. No. 713,387
Claims priority, application Great Britain Feb. 5, 1957
3 Claims. (Cl. 22—139)



1. A continuous casting mold comprising walls defining a plurality of substantially upright open ended tubular mold sections having substantially similar horizontal cross-sectional dimensions and shapes, means positioning said mold sections in adjacent side-by-side relationship, walls defining channel means for interconnecting the cavities of said adjacent casting mold sections throughout the lengths thereof, and at least one of said mold sections having the inner faces of the wall portions thereof adjacent to and facing away from an adjacent mold section diverging longitudinally downwardly throughout its length away from the longitudinal axis of said one mold section to compensate for cast metal shrinkage whereby binding of the interconnected casting formed therein and in passing through the mold sections is avoided.

2,975,494
FOUNDRY SAND COMPOSITIONS AND METHOD OF CASTING
Ronald H. Cooper, Clare, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 16, 1958, Ser. No. 709,312
18 Claims. (Cl. 22—193)

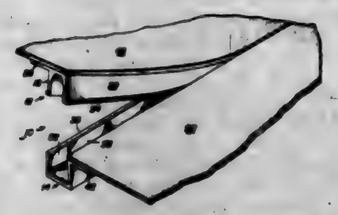
1. Composition for the fabrication of foundry cores and molds which comprises (1) a preponderant proportion of sand; (2) a binding quantity up to about 10 percent by weight, based on the weight of the composition, of an aqueous solution of an alkali metal silicate having a silicate concentration of at least about 10 percent by weight and a silica to alkali metal oxide ratio of at least 0.5 to 1; and (3) a small quantity of an organosilicone additive which is compatible with the aqueous silicate solution and which has an average of from about 0.9 to 1.7 monovalent aliphatic hydrocarbon radicals per silicon atom in the polymer molecule and wherein therein is contained at least about 3 percent by weight of organic substituents consisting of alkoxy radicals of from 1 to about 6 carbon atoms; said organosilicone additive being present in said composition in an amount between about 1 and 15 percent by weight, based on the weight of the aqueous silicate solution in the composition.

2,975,495
COVERED BACKWASHERS
Peter Stephen Wolf, 200—11 45th Road, Bayside, N.Y., and Jack Kaplan, 15 Forsyth Place, Newburgh, N.Y.
Filed Jan. 22, 1958, Ser. No. 710,546
1 Claim. (Cl. 24—95)



A covered backwasher comprising a rectangular metal plate having a central portion and two end portions bent upon said central portions along two parallel fold lines, said end portions having free edges abutting each other so that said central portion forms a rectangular backplate and said end portions form a rectangular frontplate superimposed on said backplate and integrally connected to the same along said fold lines, said frontplate having two pairs of openings respectively located in two parallel planes perpendicular to said foldlines, said backplate being formed with two elongated recesses, each recess being located opposite one opening of each pair of openings, said recesses having curved cross sections in planes perpendicular to said fold lines, and having surfaces parallel to said foldlines; and a fastener member having two pairs of band-shaped prongs passing through said two pairs of openings, said prongs having curved free end portions completely enclosed in the space between said frontplate and said backplate and extending parallel to said surfaces and fully abutting the same, whereby turning of said fastener member in said backwasher, is prevented.

2,975,496
CLOSURE DEVICE
Gerald J. McGraw, 4117 Patterson Ave., Richmond, Va., assignor to W. J. McGraw, Richmond, Va.
Filed May 14, 1959, Ser. No. 813,172
17 Claims. (Cl. 24—201)



1. A closure device comprising a first elongated strip member having a pair of longitudinally extending walls laterally spaced from each other along their length to define a recess therebetween, a second elongated strip member received between the walls of said first strip member in mating relation with the recess of said first strip member, said second strip member including longitudinally extending laterally spaced walls respectively facing the walls of said first strip member, one of said strip members being formed with an undercut portion on each of the walls thereof which extends along substantially the entire length thereof to define a first interlocking means, the other of said strip members including projections on the walls thereof defining a second interlocking means and extending continuously along substantially the entire length thereof and engaged with said undercut portions of said one strip member to retain said strip members in interlocked relation with each other, each of said strip members having an end thereof detachably connected to a

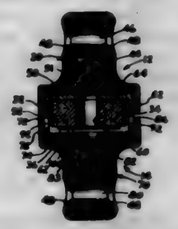
corresponding end of the other strip member, one only of said interlocking means being progressively laterally cut away in the region of said detachably connected ends of said strip members to reduce the lateral width in transverse cross section of portions of said one interlocking means to values less than those of corresponding portions thereof away from the region of said ends of said strip members, the other of said interlocking means having substantially the same contour and dimensions in the region of said ends as in the region away from said ends, whereby the area of interlocking between said first and second interlocking means is progressively laterally reduced in approaching said ends of said strip members, one of said strip members being made of flexible material, whereby movement of said strip members into or out of engagement with each other adjacent said ends flexes said member made of flexible material to effect release or engagement of said projections with respect to said undercut portions.

2,975,497

SEPARABLE TWO-PART MAGNETIC CONNECTOR

Frances Budrock, Chicago, Ill., assignor to Monarch Tool & Machinery Co., Chicago, Ill., a corporation of Illinois

Filed Oct. 7, 1959, Ser. No. 845,626
5 Claims. (Cl. 24—201)



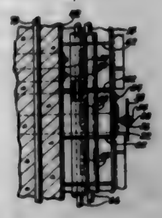
1. A separable two-part magnetic connector comprising in combination, a magnet assembly and a cooperating armature, said magnet assembly comprising a permanent magnet of the barium-ferrite type and in the form of a flat disk presenting oppositely facing pole faces of opposite polarity and a narrow outer rim, and a pole cup of magnetic material and having a bottom wall and a cylindrical side wall, the magnet being nested within said pole cup and having one pole face thereof bonded to said bottom wall, the longitudinal extent of said cylindrical side wall being slightly less than the thickness of the disk whereby the portion of the magnet embodying the other pole face projects outwardly beyond the rim of said cylindrical side wall, said armature comprising a cup-shaped member formed of magnetic material and having a bottom wall and a cylindrical side wall, the longitudinal extent of the armature side wall being slightly greater than the longitudinal extent of the disk less the longitudinal extent of the side wall of the pole cup, the diameter of the two side walls being substantially equal, and said rim of the disk having an overall width slightly less than the diameter of the armature side wall, so that when the magnet and armature are magnetically coupled to the fullest extent of which they are capable, the pole cup will be telescopically received over the outwardly projecting portion of the magnet, the bottom wall of the armature will be slightly spaced from said other pole face of the magnet and lie within the magnetic field thereof, the rim portions of both cylindrical side walls will be in substantially coextensive physical contact and alignment, and the projecting portion of the magnet will be in close proximity to the rim portion of the side wall of the pole cup and prevent shifting of the armature relative to the magnet in a direction to cause misalignment of said rim portions.

2,975,498

CONCRETE COLUMN MOLD

Andrew J. Plattner, 16593 Cruse, Detroit 35, Mich.

Filed Sept. 16, 1957, Ser. No. 684,363
13 Claims. (Cl. 25—131)



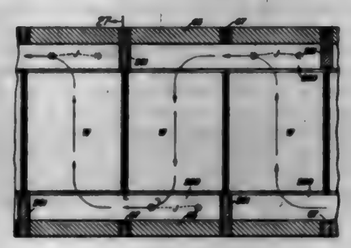
10. A concrete column mold comprising a multiple piece core and a multiple piece shroud surrounding said core to provide structural support, said core including an inner shell of noncircular dimension and a separate sub-assembly of structural members on each side of said shell adapted to provide transverse support for said shell, the transverse cross sectional outline of said sub-assemblies substantially conforming in shape to the space between said shroud and the associated side of said shell.

2,975,499

CERAMIC TUNNEL KILN

Grover W. Lapp, 68 W. Main St., Le Roy, N.Y.

Filed Mar. 14, 1955, Ser. No. 493,905
17 Claims. (Cl. 25—142)



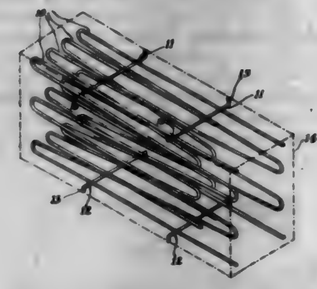
3. A heat treating tunnel kiln having an entrance end and an exit end and comprising a drier section and a kiln section, said two sections being arranged in straight-line end-to-end relation and being adapted to have ware-carrying cars advanced therethrough in end to end relation from said entrance end to said exit end, said drier section comprising a plurality of stations, each of which is at least the length of a car, movable partitions for closing off said stations from one another, means for circulating air in each station selectively in either direction, said kiln section also comprising a plurality of stations, each of which is at least the length of a car, means at an intermediate station in said kiln section for supplying heat to said kiln section, a stack communicating with the station of said kiln section which is nearest said drier section, and a fan cooperating with said stack for causing the air in said drier section to flow from one station of said drier section to another in the direction of car movement and to exhaust out of said stack and for drawing gas from said exit end and for causing said air and the kiln gas to flow through said kiln counter to the direction of car movement and to exhaust out of said stack, and means for injecting gases into said kiln section at its stations outside the ware at a station to mix the gases before they flow through the ware at that station.

2,975,500

CO-MOULDED BRICKS

Louis H. Hosbein, Glencoe, Ill., assignor to M. H. Detrick Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 14, 1955, Ser. No. 546,462
3 Claims. (Cl. 25—154)



1. The process of co-moulding basic refractory material with a plurality of oxidizable metal elements to produce a basic brick having said oxidizable elements running lengthwise of the completed brick in spaced relation to each other and to the exposed faces of the finished brick, which consists of placing a compressible framework larger than said completed brick and consisting of said elements and bendable connecting means between said elements into an empty mold cavity of a size larger than the completed brick with said lengthwise running elements spaced from the walls of said mould cavity and from each other, filling said mould cavity with all the refractory material required for said brick in a single continuous step while holding said elements in spaced relation to each other and to the walls of said moulds, and then compressing the material in said cavity into final brick size while simultaneously compressing said framework to bend said connecting means so that said lengthwise running elements occupy their final aforesaid positions, said compression being accomplished by movement of a pair of opposed walls of the mould toward each other.

2,975,501

APPARATUS AND PROCESS FOR CONDENSING A BAND OF PARALLEL CONTINUOUS FILAMENTS

John C. Whitmore, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 27, 1955, Ser. No. 504,193
5 Claims. (Cl. 28—1)



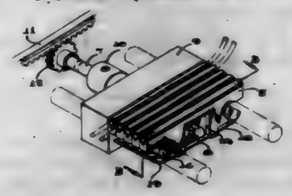
4. Apparatus for condensing a uniform band of essentially parallel filaments to reduced width while maintaining uniform density throughout the band comprising a mechanism having a pair of feed rolls rotatable about horizontal axes and, spaced thereabove, at least one delivery roll rotatable about a horizontal axis oriented at an acute azimuthal angle with respect to the axes of the feed rolls and with its delivery edge centered vertically over the center of the nip line of the feed rolls and terminating at each end substantially directly above opposite side edges of the feed rolls, the axial length of said feed rolls being less than that of any delivery roll, said apparatus further comprising feed means for directly the band of filaments into tangential contact with said delivery roll and into the center of said feed rolls whereby the width of the band of filaments is reduced.

2,975,502

YARN CARRIER FOR YARN SELECTING MACHINES

Frank C. Reim, Bloomsburg, Pa., assignor to The Magee Carpet Company, Bloomsburg, Pa., a corporation of Pennsylvania

Filed Dec. 16, 1958, Ser. No. 780,851
8 Claims. (Cl. 28—55.5)



1. A yarn carrier for yarn selecting machines having spaced parallel track rods for slidably supporting a series of yarn carriers comprising an elongated block extending transversely of the track rods having a passage therethrough to receive a yarn, the ends of said block being cut-away to form stepped shoulders with the upper shoulder arcuate shape to form a bearing to slidably support said block on the track rods, and a spring metal strip extending along the lower edge of said block with its ends extending beyond the lower shoulder of said block and bent upwardly therefrom in confronting relation to said bearings for gripping engagement with the track rods to releasably hold said block on said track rods.

2,975,503

GLASS FABRIC REINFORCEMENT FOR PLASTICS

Clare E. Bacon, Darien, Conn., and Matthew T. Nemeyer, East Chester, N.Y., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Aug. 11, 1958, Ser. No. 754,203
7 Claims. (Cl. 28—78)



1. An extensible fabric of fibrous glass for reinforcement of molded plastics in which there is a set of wrap yarns and a set of fill yarns, and the yarns of one of the two sets are extensible being composed of generally longitudinally extending, and progressively overlapping courses of strands of glass filaments with each course terminating in open loops, the overlapping courses of strands being longitudinally and relatively displaceable under mold conforming pressure applied to the fabric, and said open loops being adapted to receive plastic and thereby act to hold said courses against longitudinal displacement.

2,975,504

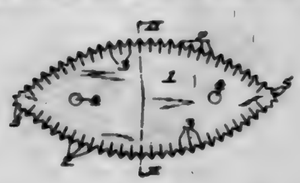
RASPING APPLIANCES AND CUTTERS

Frank Holdsworth Bentham, The Ranch House, Clara Drive, Calverley, England

Filed July 11, 1958, Ser. No. 747,872
1 Claim. (Cl. 29—78)

A rotary cutter block mounting adapted to be mounted on a driving shaft in combination with a plurality of elliptical rasping cutters having teeth on opposite faces of said cutters said mounting comprising a pair of circular cheeks which are each formed with axial bores for mounting on said driving shaft, with a plurality of paraxial studs in symmetrical array fixed to one of said checks adapted to fit through and thereby secure a plurality of sets of elliptical rasping cutters with cutting teeth of neighboring cutters projecting continuously beyond the perimeter of said pair of cheeks while being clamped

between said one cheek and said other cheek, each of said cutters having apertures therein for mounting upon said studs and to be clamped between said cheeks an apertured spacer between each of said cutters and a cheek to adjust the continuous perimeter of cutting teeth from neighboring cutters, said other cheek provided with apertures for said studs on said first cheek to bring said apertured



cutters with apertured spacer into clamping engagement between said cheeks, the major toothed convexities of said cutters corresponding in convexity to that of the cheeks from which cheeks the teeth project, the aforesaid apertures in the cutters being disposed symmetrically to permit inversion of the latter with the so-exposed inverted cutter edge brought into the same continuous perimeter of teeth as before inversion.

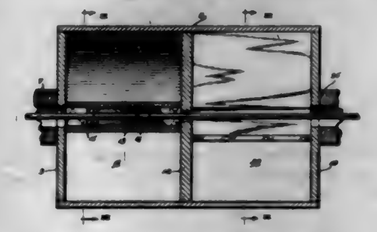
2,975,505
FILE HOLDER
John J. Linskey and Eugene H. Call, Akron, Ohio, assignors to J. William Freeman, Akron, Ohio
Filed May 10, 1955, Ser. No. 507,259
3 Claims. (Cl. 29—80)



1. A tool holder of the character described, comprising; a handle portion having a slot therein extending inwardly from an external surface thereof; a base portion, secured to said handle portion and having a tool receiving opening therein; a resilient pad positioned in said opening and having a flat tool receiving surface thereof restricting said opening; a passage interconnecting said tool receiving opening and said slot; a lever arm pivotally mounted in said slot and having a flat clamping surface provided on one end thereof to overlie said pad; said clamping surface being movable in said passage towards substantial parallelism with said pad upon pivotal movement of said lever; said tool receiving opening being defined by a central cavity that communicates with the exterior of said base through horizontally aligned, spaced slots each defining a support surface; the plane of said flat tool receiving surface of said pad being elevated with respect to the supporting surfaces of said slots, whereby a tool received through said slots will be supported on said flat tool receiving surface of said pad.

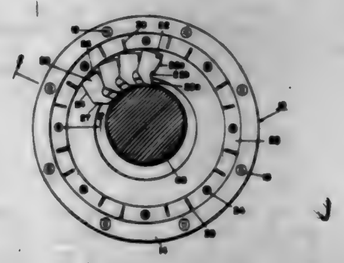
2,975,506
APPARATUS FOR COATING METAL ARTICLES
George W. Bell, Sterling, Ill., assignor to Northwestern Steel & Wire Company, Sterling, Ill., a corporation of Illinois
Original application June 8, 1954, Ser. No. 435,186. Divided and this application July 31, 1957, Ser. No. 675,338
4 Claims. (Cl. 29—81)

1. In an apparatus for conditioning raw wire stock, a rotary drum having a polishing chamber therein, spaced tubular bearings rotatably supporting said drum at opposite ends thereof, a motor, means driven by said motor for rotatably driving said drum, said drum having apertured end walls, the apertured portions of which are in alignment with said tubular bearings, to accommodate the drawing of wire through said bearings and drum, a plurality of axially misaligned sheaves supported at the entering end of said drum defining a reversing circuitous path for the wire and guiding the wire to pass through an adjacent tubular bearing, a tensioning pulley at the discharge end of said drum pulling the wire through said drum under tension, means driven by said motor for driving said pulley, the improvement comprising a pair of



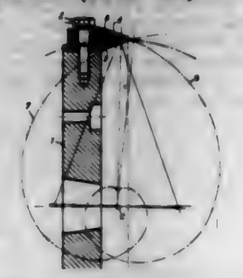
facing chordate support plates within said drum on opposite sides of the path of travel of the wire therethrough, abrasive bars extending along said plates and mounted thereon, for abrading opposite sides of the wire upon rotation of said drum, said chordate support plates engaging the wall of said drum at one end thereof and extending partially across said drum and having free end portions affording access to said abrasive bars, and a retainer door within said drum slidably movable along the free end portions of said chordate support plates, affording access to said abrasive bars and retaining said abrasive bars to said chordate support plates when in position across the free end portion of said support plates.

2,975,507
MILLING CUTTER
Harvey H. Wilder, Moorestown, N.J., assignor of fifty percent to E. Byron Nichols, Moorestown, N.J.
Filed July 10, 1958, Ser. No. 747,648
10 Claims. (Cl. 29—105)



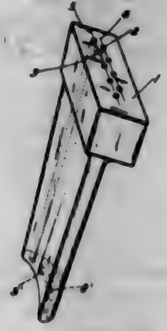
1. A milling cutter comprising a cutter head having a base and an annular flange extending from said base, a plurality of identical cutting teeth mounted in side-by-side relationship against said base and within said flange and an annular collet ring between said annular flange and said cutting teeth locking said cutting teeth together within said head, each of said cutting teeth being substantially rectangular and having a flat end surface abutting said base, a flat outer surface perpendicular to said end surface, one side surface perpendicular to said end surface and said outer surface, the other side surface having at least a portion thereof tapered inwardly toward said one side surface, and the cutting edge of each of said cutting teeth being located along the inner surface thereof.

2,975,508
TOOL FOR CUTTING BEVEL GEARS, HYPOID GEARS AND SIMILAR GEARS
Jaime Picanol, Casa Patral Catalunya, Zillebeke-lez-Ypres, Belgium
Filed Aug. 11, 1958, Ser. No. 754,278
Claims priority, application Belgium Mar. 8, 1958
3 Claims. (Cl. 29—105)



1. A tool for cutting bevel, hypoid and similar gears, characterized by the fact that the outlines of the cutting teeth of the tool are shaped as logarithmic spirals.

2,975,509
METHODS OF EXTRUDING METALS
Jacques Sejournet, Paris, France, assignor to Compagnie du Filage des Metaux et des Joints Carty
Filed May 1, 1957, Ser. No. 656,344
Claims priority, application France May 7, 1956
1 Claim. (Cl. 29—156.8)



A method of making turbine blades having a foot portion which is rectangular in cross section and a blade portion having a curved cross section, said foot portion and said blade portion having cooling passages extending through them, which comprises forming in a billet of a refractory alloy having a rectangular cross section, a plurality of longitudinal passages extending substantially throughout the length of said billet, said longitudinal passages being circular in cross section and being aligned in at least one straight line located substantially along one center line of the cross section of the billet to allow subsequent dovetailing of the butt portion, filling said longitudinal passages with cylindrical rods of ordinary steel, heating said billet to extrusion temperature, coating said billet with a vitreous lubricant which remains viscous at the extrusion temperature, extruding said billet in the direction in which said longitudinal passages extend in a rectangular container through a die to produce a bar having the same cross section as that desired in the foot portion of the turbine blade, cutting the bar transversely into bar portions each suitable for forming a turbine blade, extruding said bar portions in the direction in which said longitudinal passages extend in a container having the same cross section as said bar portions through a die having the same cross section as the blade portion of said turbine blade but leaving in the container an unextruded butt portion which forms the foot portion of the turbine blade, and removing said rods of ordinary steel from said turbine blade to provide cooling passages extending therethrough.

2,975,510
METHOD OF FORMING BRANCHED FITTINGS
Henry C. Hesse, Evergreen Park, and Joseph Zima, Chicago, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 27, 1957, Ser. No. 680,534
7 Claims. (Cl. 29—157)



2. A method of forming branched fittings from tubular blanks, which comprises inserting a quantity of substantially incompressible plastic filler material in a tubular blank, then restraining the blank against lateral expansion except at an area of branch formation, shortening the blank to predetermined length and simultaneously extruding a portion of the blank into an incomplete branch at said area by endwise pressing of the blank and filler material therein while so restrained, discontinuing said pressing and augmenting the filler material by addition of incompressible material in predetermined volume, and while maintaining said restraint subjecting only the filler material and augmenting material to pressure endwise of the shortened blank to complete extrusion of the branch.

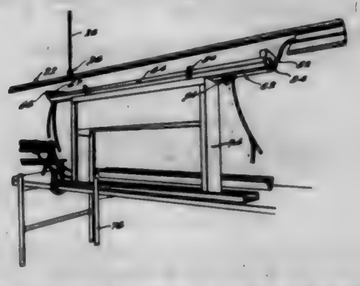
2,975,511
METHOD OF MAKING TAPERED WHEEL DISKS
Stanley N. Johnson, Lansing, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Michigan
Filed Nov. 18, 1957, Ser. No. 696,769
6 Claims. (Cl. 29—159.01)



1. The method of making a tapered vehicle wheel disk comprising forming a flat circular blank from sheet steel of substantially uniform gauge, selecting a central circular portion of said blank to form the bolting-on flange of the wheel disk, maintaining said central circular portion flat and to the diameter of the bolting-on flange of the finished wheel disk while working substantially the entire annular portion of the disk that surrounds and extends radially outwardly from said central portion into the outer circumferential portion of the wheel disk, said working of said annular portion comprising the steps of forming by drawing said annular portion into a wall having a cylindrical outer surface and an inner surface which tapers outwardly in a direction away from said central portion and which extends substantially perpendicular to the plane of said central portion and an annular corner portion which extends circumferentially around the periphery of said central portion and connects the inner edge of said wall with the periphery of said central portion, thereafter flaring said tapered cylindrical

wall outwardly from the periphery of said central portion substantially throughout a major portion of its axial extent into conical shape, and thereafter pressing the conical side wall into its finished form.

2,975,512
METHOD OF INSTALLING AN ELECTRICAL SYSTEM
Frederick J. Somes, Jr., Detroit, Mich., assignor to General Electric Company, a corporation of New York
Original application Feb. 28, 1955, Ser. No. 490,963. Divided and this application Aug. 2, 1956, Ser. No. 601,832
5 Claims. (Cl. 29—429)



1. The method of installing an electrical lighting system including a plurality of lighting units and a support member comprised of a plurality of sections, which includes the steps of successively joining said sections of said support member in end-to-end relationship at a predetermined location so as to form a unitary structure, moving said sections from said location along a predetermined path, supporting said support member at spaced intervals, mounting one of said units on said support member at said location for rolling movement along said support member, moving said one unit from said location a predetermined distance along said support member, mounting another of said units on said support member at said location for rolling movement along said support member, connecting said mounted units in end-to-end relationship at said location, moving said connected units from said location a predetermined distance along said support member, and thereafter successively mounting additional units on said support member at said location, connecting said additional units at said location to the adjacent units on said support member, and moving said connected units from said location a predetermined distance along said support member so that all of said units are supported by said support member.

2,975,513
METHOD OF LINING
John J. Chyle, Wauwatosa, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Nov. 5, 1956, Ser. No. 620,376
2 Claims. (Cl. 29—471.1



1. A method of bonding a carbon steel base plate and a relatively thin liner sheet, said liner sheet being formed of a metallic material selected from the group consisting of stainless steel, nickel, nickel alloys, copper and copper alloys, which comprises electroplating a thin layer of a metal selected from the group consisting of nickel and cobalt on one surface of the steel base plate immediately after said base plate has been cleaned and before oxidation of said surface, placing the liner sheet in flatwise engagement with the layer of said metal, and spot welding the liner sheet and the plated base plate together at closely spaced locations, the layer of said metal protecting the surface of said base plate against oxidation after cleaning and prior to welding of the base plate and liner sheet to improve the bond strength of the spot welds between the base plate and liner sheet.

2,975,514
OPENER FOR CONTAINERS
Marjorie G. Pruyn and Leonard L. Pruyn, both of 1025 Hammond St., Los Angeles, Calif.
Filed June 6, 1960, Ser. No. 34,091
2 Claims. (Cl. 30—6.1)



1. An opener for containers which comprises: a handle; means for pivotally abutting said handle against a container at one end of said handle; support arms pivotally mounted on said handle in overlying position relative to each other adjacent the abutting end of said handle; and means on said support arms at the ends thereof opposite their pivotal mounting for simultaneously producing a plurality of holes in said container.

2,975,515
CAN OPENER
Elvin S. Land, 1013 N. 33rd St., Fort Smith, Ark.
Filed Dec. 21, 1959, Ser. No. 860,760
2 Claims. (Cl. 30—15)



1. In an opener for removing an end wall from a metal can, a support member including an upright, substantially flat, main body portion, an upwardly extending planar section integral with the normally upper extremity of said main body portion and lying in a plane parallel with a plane through said main body portion in offset relationship with one face of the latter, and a fulcrum element integral with said main body portion at said upper extremity thereof adjacent said planar section and extending laterally from said one face of said main body portion, said member being adapted to be positioned against the side of the can adjacent the rim defining the margin thereof in proximity to said end wall and with said fulcrum element overlying and slidably engaging said margin of the can, said support member being further provided with a wall section integral with said main body portion at the normally lower extremity thereof and extending laterally from said one face of the latter to engage the side of the can during the removal of said end wall therefrom; a wheel rotatably mounted on said one face of said main body portion and provided with a serrated peripheral edge engageable with said rim of the can; handle means rigid to said wheel for manually rotating the latter; an elongated blade unit pivotally

mounted at one end thereof on said planar section at a point on the latter spaced laterally from and above said fulcrum and provided with a cutting edge disposed to pierce and then sever the end wall of the can as said wheel is rotated in one direction to advance said support member around the periphery of the can, said blade unit being swingable from a first position with the cutting edge thereof spaced from said end wall to a second position with the cutting edge engaging said end wall and the longitudinal axis of said blade unit substantially horizontally disposed, one end of said blade unit being in substantial engagement with said fulcrum element when said blade unit is swung to said second position, to thereby limit the movement of said cutting edge toward and thus through the end wall of the can; and a finger integral with said planar section proximal to the normally uppermost edge of the latter and extending laterally therefrom in the direction away from said one face, said blade unit being swingable into engagement with said finger for limiting the movement of said blade unit when the same is moved away from the end wall of said can and toward said first position.

2,975,516
DRY SHAVER HEAD CONSTRUCTION FOR CUTTING LONG AND SHORT HAIR
Gerhard Heyek, 116 Babenbergerstrasse, Graz, Styria, Austria
Filed July 7, 1958, Ser. No. 746,849
Claims priority, application Austria July 12, 1957
4 Claims. (Cl. 30—34)



1. A dry shaver comprising a cutter head of arcuate cross section in a plane transverse to its length, and formed with a rectangular opening therein having opposed side edges extending longitudinally of said head, said head including a bar fixed thereto within said opening parallel to but spaced from one of said side edges, a resilient flexible shear plate secured to said head within said opening, said shear plate comprising an arched medial portion formed with openings therethrough to receive hairs, and having a toothed longitudinal edge portion extending between said bar and the adjacent side edge of said rectangular opening, and projecting outwardly from said head, said plate being supported by said bar for flexing movement about same, in combination with an inner cutter blade mounted for longitudinal reciprocation beneath said shear plate on the concave side thereof, said blade including a medial portion having arched cutters for cooperation with the arched medial section of said shear plate to define a close-shaving mechanism, said inner cutting blade including a toothed longitudinal edge portion projecting between said bar and said adjacent side edge and projecting outwardly from said head for cooperation with said toothed longitudinal edge portion of the shear plate to therewith define a long-hair cutter, and means within said body resiliently urging said cutter blade into operative engagement with said shear plate.

2,975,517
VACUUM OPERATED HAIR CUTTER
Percy W. Brittain, 1380 Main St., Cuyahoga Falls, Ohio
Filed Oct. 5, 1959, Ser. No. 844,315
4 Claims. (Cl. 30—133)

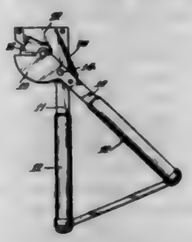
1. In a vacuum operated hair cutter, a tubular frame, a member secured to said frame at an inlet end thereof,

a cutter plate having a row of teeth along one edge thereof secured to said member on its outer surface, a cutter bar operatively associated with said cutter plate on an inner surface thereof, a propeller shaft journalled in said frame and operatively connected to said cutter bar to reciprocate it when said shaft is rotated by an air current



passing through said frame, a pair of ball bearings positioned intermediate said member and cutter bar to aid in movably positioning said cutter bar, and a pair of cam and set screw means carried by said member and each operatively engaging a said ball bearing to urge said cutter bar against said cutter plate and aid in obtaining proper engagement and cutting action thereof.

2,975,518
CUTTING TOOL
Permil N. Nelson, Galesburg, Ill., assignor to Lynn H. Ewing, doing business as Black Hawk Company, Rock Island, Ill.
Filed June 7, 1957, Ser. No. 664,212
1 Claim. (Cl. 30—263)

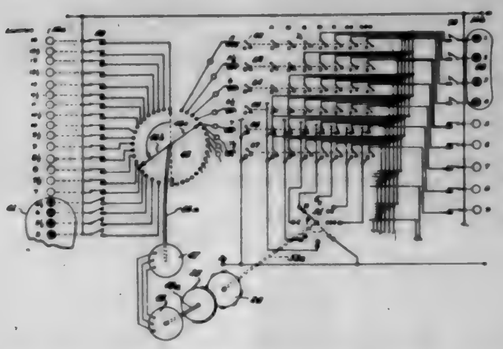


In a cutter for cutting tree limbs, the combination comprising a first elongated arm, a circular blade mounted on a first pivot positioned at the upper end of said arm and having a peripheral cutting edge, a second elongated arm, a second pivot remotely mounted from the upper ends of said arms for connecting said arms together, said second arm having a slot near said upper end to receive said circular blade therebetween, the sides of said slot formed of parallel walls having a squared notch in a remote corner therein, said square notch defined by a pair of extending leg portions connected by a web portion, one of the extending leg portions being at the end of the second arm and the other extending leg portion being spaced from and above the second pivot so that said notch retains a tree limb while said circular blade is being forced therethrough as the extended ends of said arms are moved together about said second pivot.

2,975,519
APPARATUS FOR AUTOMATICALLY DETERMINING AND RECORDING DIMENSIONS OF OBJECTS
Frederick Henry Berlin, Jr., 164 E. 72nd St., New York, N.Y., and Maurice W. Bacon, Elmwood Road, R.D. 1, New Canaan, Conn., assignors of one-third to John W. Melville, Wyoming, Ohio
Filed July 25, 1958, Ser. No. 750,966
12 Claims. (Cl. 33—3)

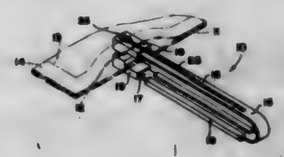
1. In a device for measuring and indicating the length and width of an object, wherein the length is expressed in absolute terms and the width is expressed in one of a

series of arbitrary terms, there being a different series for each length term; a first series of sensing means of which a number are adapted to be actuated in accordance with the length of said object being measured, a first stepping relay having a series of contacts connected respectively to the sensing means of said first series, and thereby being rotated an in accordance with the number of sensing means of said first series which are actuated, a length indicator, and means for transmitting the rotation of said stepping relay to said length indicator, said stepping relay having a contact arm also arranged to be rotated an amount in accordance with the number of sensing means of said first series which are actuated, a number of contacts positioned to be contacted by said contact arm, a gang switch associated with each of said contacts whereby the number of sensing means of said



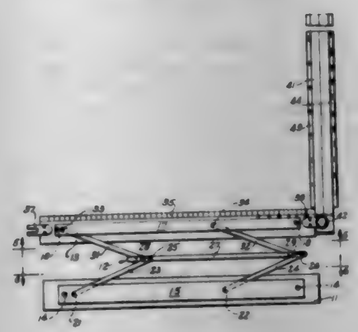
first series which are actuated determines which of said gang switches are actuated, a second series of sensing means of which a number are adapted to be actuated in accordance with the width of said object being measured, a second stepping relay having a series of contacts equal in number to a limited number of arbitrary width measurements, a connection from each of the sensing means of said second series to each of the contacts on said second stepping relay through said gang switches, whereby the number of sensin means of said first series which are actuated determines which contact of said second stepping relay is energized by the particular number of sensing means of said second series which are actuated, a width indicator calibrated in said limited number of arbitrary width measurements, and means for transmitting the rotation of said second stepping relay to said width indicator.

2,975,520
TAILOR'S MARKING DEVICE
John A. Ericson, 732 Market St., and Elmer M. Bias, 272 Ewing Road, both of Youngstown, Ohio
Filed Feb. 24, 1959, Ser. No. 795,043
1 Claim. (Cl. 33—41)



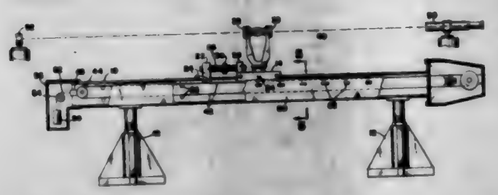
A tailor's marking device adapted to be held in one hand of a user to simultaneously mark cloth and the like in exact accordance with the markings on a pattern overlying said cloth and the like comprising a strip-like body member, said body member being U-shaped to define a pair of longitudinally extending and vertically spaced generally parallel elongated reaches, a holder carried at the forward end portion of each of said reaches, marking means carried by each of said holders, said marking means being disposed in adjacent vertically aligned and spaced relation with respect to each other and being movable relatively toward each other upon pressure being applied by the hand of the user to said reaches to engage opposite sides of said cloth and the like received between said marking means and said reaches, an indicator comprising a thin elongated indicator strip mounted adjacent its rear end on one of said reaches, said indicator strip extending in closely spaced generally parallel relation with respect to said one of said reaches, said indicator strip having an indicator portion disposed in vertically aligned relation respect to said marking means, the space between said indicator strip and said one of said reaches being adapted to receive a pattern overlying the cloth and the like, said indicator strip being movable toward said one of said reaches upon pressure being applied by the hand of the user to said indicator strip, and the arrangement being such that the user can control the pressure exerted by said marking means against the cloth and the like and the pressure exerted by said indicator strip against the pattern with one hand while manipulating the cloth and the like and the pattern with the other hand to mark the cloth and the like in exact accordance with the markings on the pattern.

2,975,521
AREA MEASURING DEVICE
Eugene C. Holmes, Jonesville, Va.
Filed Dec. 30, 1953, Ser. No. 401,171
2 Claims. (Cl. 33—75)



1. In a device of the character described for measuring the area of an irregular triangle, a first ruler having a linear scale thereon, a second ruler having a linear scale thereon, respective lugs secured to the opposite ends of said first ruler, said lugs each having spaced parallel leg elements, means on an end of said second ruler engageable between the leg elements of a selected one of said lugs and being constructed and arranged to rigidly secure said second ruler to the adjacent end of the first ruler at right angles thereto, said scale being calibrated so that the product of scale values on the respective scales is equal to the area of the right triangles defined by the points at which said scale values are taken with relation to the right-angled connection between the rulers, a third ruler, and a plurality of spaced parallel pairs of link bars interconnected to define a parallel motion linkage and further interconnecting said first and third rulers for parallel movement relative to each other.

2,975,522
TOOLING BAR
Carl E. Postel, Canton, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Nov. 3, 1959, Ser. No. 850,590
5 Claims. (Cl. 33—125)



5. The combination in a tooling bar of a beam, a carriage movably mounted on the beam, an endless tape positioned adjacent the beam, an idler roll mounted at one end of the beam about which the tape extends, said drum being constructed of the same material as the object to be measured with the tooling bar, a precision drum mounted at the other end of the beam about which the tape extends, means for tensioning the tape over the roll and drum, means connecting the carriage to one reach of the tape, means associated with the drum and viewable from adjacent the carriage for indicating the rotary position of the drum, a quick clamp means normally movable with the carriage and adapted to releasably clamp on the beam, means for adjusting the distance between the clamp means and the carriage after the clamp means has been clamped to the beam, a transit supported on the carriage at an angle to the direction of movement of the carriage, means associated with the transit for changing the effective position of the transit in a direction toward or from the clamp means, and scale markings on the beam separated by a distance equal to a multiple of the circumference of the drum.

2,975,523
MICROMETER FRAME
George H. Soucy, Warwick, R.I., assignor to Brown & Sharpe Manufacturing Company, a corporation of Rhode Island
Filed Aug. 28, 1958, Ser. No. 757,769
1 Claim. (Cl. 33—164)



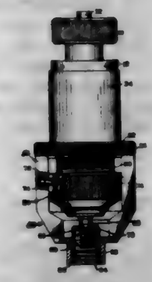
In a micrometer, a frame of U shape with a barrel arm and an anvil arm connected by a bridge portion and generally symmetrical about a plane passing centrally through both arms and bridge portion, the opposite outer faces of the frame diverging on a taper from the outer bight of the frame toward the ends of the arms and at the same time tapering from the barrel arm to the anvil arm and the ends of the arms having arcuate surfaces substantially tangent to the opposite faces of the frame, and tapering to provide partly frusto conical portions with the taper of one portion being a prolongation of the taper of the other portion.

2,975,524
ANGLE MEASURING DEVICE
Leonard D. Field, 5448 W. Adams St., Chicago, Ill.
Filed May 20, 1957, Ser. No. 660,404
5 Claims. (Cl. 33—174)

1. An angle measuring device comprising a tubular housing adapted for hand manipulation and having means defining a planar reference surface at one end thereof, a sleeve having a forward end of accurately predetermined outer diameter mounted in said housing for motion along an axis substantially normal to said planar surface between an extended position wherein said forward end extends from said surface and a retracted position at which said forward end is in the plane of said surface, stop means to limit the extension of said sleeve relative to said surface, a plunger having a forward end of accurately predetermined outer diameter mounted coaxially in and cooperatively engaged with said sleeve reciprocable between an extended position wherein said forward end extends forwardly of said sleeve and a retracted position with the forward end in the plane of said surface, stop means to limit the extension of said plunger, an indicator mounted at the other end of said sleeve to register the position of said plunger relative to said sleeve, and independent resilient means disposed about and urging said sleeve and said plunger to the extended positions, said indicator being calibrated corresponding to a ratio of the extension of said plunger relative to said sleeve and the differences between the outer diameter of said forward end of the sleeve and the outer diameter of said forward end of the plunger.

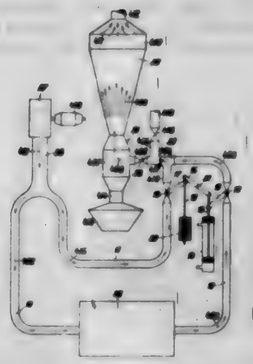


2,975,525
GAUGE DEVICE FOR DRILLS
Ivan V. Abadjieff, Worcester, Mass.
Filed May 8, 1958, Ser. No. 733,925
7 Claims. (Cl. 33—185)



5. A gauging device for determining the extent of a drill point from a drill-holding chuck having a flange and a lock nut, said device comprising a fixture for receiving the chuck in predetermined relation therein, a stop on the fixture to engage the flange on the chuck and so locate the chuck in the fixture, a second stop in the fixture coaxial with a drill in the chuck when the latter is in the fixture, said second stop being spaced from the first-named stop and gauging the extent of the drill point with the chuck so located, and means on the fixture to fix the lock nut on the chuck against turning, the chuck being capable of locking the drill when the latter is in the fixture.

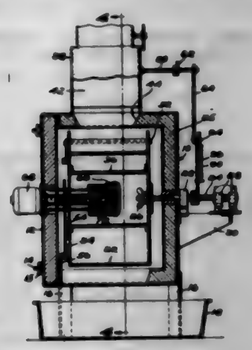
2,975,526
DEVICES FOR HEAT TREATING KERNELS AND SEEDS
Ernst G. W. Heimbs and Walter C. Kangro, Braunschweig, Germany, assignors to Heimbs & Sons, Braunschweig, Germany
Filed May 15, 1956, Ser. No. 585,001
Claims priority, application Germany May 26, 1955
5 Claims. (Cl. 34—57)



1. In a device for roasting kernels and seeds, such as coffee beans and the like, in combination, means defining a roasting chamber for holding said kernels to be roasted, said roasting chamber being of increased cross-section at the top end, a first conduit and a second conduit carrying a gaseous medium to said chamber, first throttling means arranged in said first conduit, pneumatically operated means for adjusting said first throttling means, second throttling means arranged in said second conduit, means for adjusting said second throttling means, means for coupling said throttling means with each other, said coupling means effecting a change of the cross-section of said first throttling means and simultaneously an opposite change of the cross-section of said second throttling means, said coupling means comprising, a substantially straight two-armed lever having two straight slots, a slotted stationary member and a pivot therein on which said lever is mounted, a pair of rods, each of said rods mounted for pivotal and sliding engagement with one of said slots in said lever, and a pair of slotted links, each link engaging with one of said rods and forming connection with one of said throttling means.

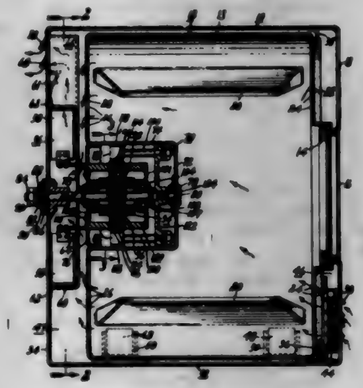
2,975,527
ROASTING MACHINE
George H. Bushway, 20 South Road, Rye Beach, N.H.
Filed July 1, 1957, Ser. No. 669,282
8 Claims. (Cl. 34—87)

8. A cooking machine comprising a housing providing a chamber within insulated walls, a cylindrical drum having a cylindrical wall and mounted for rotation on a horizontal axis in the chamber, means providing charging and discharging openings through the chamber walls respectively above and below the drum, means providing a cooperating opening through the cylindrical wall of the drum, a cylindrical foraminous cage disposed coaxially within the drum in spaced relation from its cylindrical wall, electric heating means adjacent to and disposed about said axis within the cage, means rotatable about said axis within the heating means for circulating the chamber air in an endless path within the chamber and including in one portion thereof the movement of the air radially outward through said heating means and through the cage and drum, means for rotating the drum, and means for preventing escape through said drum opening



of a product being cooked during rotation of the drum in the cooking direction.

2,975,528
PRIME MOVER FOR CLOTHES DRIER
Ralph K. Shewmon, Centerville, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1957, Ser. No. 699,538
4 Claims. (Cl. 34—133)

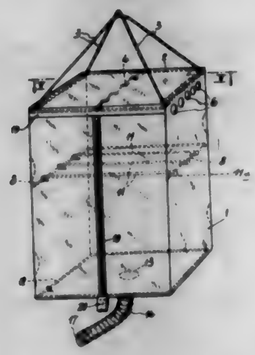


1. In combination, a clothes dryer comprising a cabinet; a drum in said cabinet; a structure within said drum defining a cavity; a shaft connected to said cabinet and rotatably mounting said drum in said cavity; a motor including a stator secured to said shaft and a rotor disposed between said shaft and a portion of said cavity and adapted to rotate said drum; and a blower for drawing a stream of heated air through said drum including a housing arranged axially of said drum and an impeller in said housing secured to said rotor for rotation therewith.

2,975,529
ARRANGEMENT FOR THE SPEEDY DRYING OF SMALL AMOUNTS OF LINEN
Henri Weber, 55 Rue de Chateaudun, Paris, France
Filed Mar. 5, 1958, Ser. No. 719,415
Claims priority, application France Mar. 8, 1957
3 Claims. (Cl. 34—151)

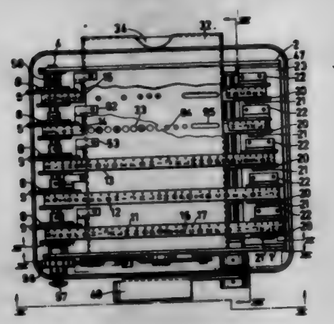
1. A linen drier for the speedy drying of small amounts of linen, comprising a casing of yielding airtight material including a top, a partly double-walled bottom provided

with an outer slot to form an outwardly opening pocket and sidewalls between the top and the bottom, one of said sidewalls being provided with aeration ports in its upper part, two similar rigid flat frames fitted respectively across the upper ends and across the lower ends of the sidewalls of the casing to hold it in its open condition, means attached to the upper frame for suspending the casing to



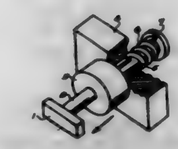
an outer point, a tubular projection carried on the outside of the bottom of the casing adapted to be fed with hot air and including a thin cylindrical wall of yielding material opening inside said casing bottom and a rigid helical axially collapsible member fitted inside said thin wall, said tubular projection and helical member contained therein being collapsible within the pocket in the bottom of the casing.

2,975,530
CIPHERING DEVICES
Vigo Waldemar Lindstein, Poppelvagen 10, Bromma, Sweden
Filed Nov. 15, 1957, Ser. No. 696,847
Claims priority, application Sweden Nov. 17, 1956
7 Claims. (Cl. 35—3)



3. In a ciphering machine having a supporting structure, a key card pocket comprising two plate-shaped wall members in spaced parallel relationship, said wall members perforated by axially aligned holes disposed in spaced parallel rows with uniform spacing between said holes, a shaft member rotatably disposed beyond one lateral edge of the said card pocket and extending transversely of said rows of holes, said shaft member having a plurality of spaced wheels and being displaceable axially against the urge of resilient means, means for holding said wheels axially upon displacement of said shaft member, positive coupling means for each wheel rigidly secured to said shaft member and adapted to release the said wheels upon displacing said shaft member axially against the urge of the resilient means and to engage said wheels upon releasing said shaft member, further spaced rotatable wheels disposed along the opposite lateral edge of said card pocket and having their axes parallel to said shaft member, said further wheels being aligned with the first recited wheels, a series of endless tape members, said tape members each being guided over aligned opposing wheels, said first recited wheels and said tape members having interengageable positive drive means, said tape members having probe pins extending perpendicularly from the surface thereof and having letters for identifying the positions of said probe pins, said probe pins facing opposite said rows of holes, means for stepwise consecutive displacement of said tape members in unison a distance corresponding to the spacing between consecutive holes along the rows of holes in said pocket wall members, spring-urged actuating means adapted to urge said probe pins into said holes, a perforated key card the perforations of which correspond to some of said holes and aligned therewith when said card takes up its operative position within said card pocket, and indicating means operatively connected to said actuating means and adapted to indicate the condition of penetration of said probe pins engaging in turn each consecutive pocket wall member hole in each row.

2,975,531
SAFETY WIRE SIMULATOR
George Malenich, Binghamton, N.Y., assignor to General Precision Inc., Wilmington, Del., a corporation of Delaware
Filed Oct. 6, 1958, Ser. No. 765,524
10 Claims. (Cl. 35—8)

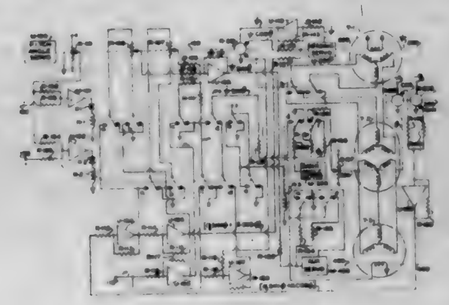


1. A device for simulating the breaking of frangible elements, such as wire, or the like, comprising a magnet and an armature for said magnet constituting a magnetic circuit, support means rigidly supporting said armature, hand operated means attached to said magnet for separating said magnet and said armature upon the application of a force, spring biasing means, and means including a retaining element cooperating with said armature and with said spring biasing means to assure the restoration of said magnetic circuit promptly and automatically upon the removal of said force.

2,975,532
AIRCRAFT FLIGHT SIMULATING TRAINING APPARATUS
John M. Hunt, Binghamton, N.Y., assignor to General Precision Inc., a corporation of Delaware
Filed Jan. 4, 1957, Ser. No. 632,482
11 Claims. (Cl. 35—12)

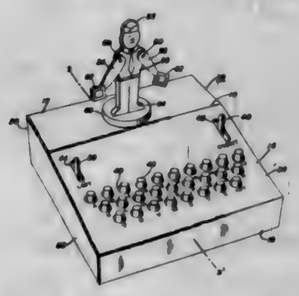
1. In grounded flight trainer apparatus including first and second servomechanisms for providing output shaft positions commensurate with simulated pitch angle and simulated azimuth angle of a simulated aircraft, means for providing a simulated bank angle quantity properly correlated according to the laws of trigonometry applicable to angular rates and angles about a trio of non-orthogonal axes representing bank angle, pitch angle and azimuth angle, with simulated azimuth angle throughout all excursions of simulated pitch angle, comprising in combination, a simulated bank angle servo controlled by

switching means to operate selectively as an integrating servo or as a position servo, an auxiliary servo controlled by said switching means to operate selectively as an integrating servo or as a position servo, means for deriving a first potential commensurate with rate of change of simulated bank angle, means for deriving a second potential commensurate with rate of change of a combination of said simulated bank angle and said simulated azimuth angle, means responsive to said azimuth, bank angle and auxiliary servos for deriving a third potential commensurate with at least said combination of bank angle and azimuth angle; said switching means being operated by



said pitch angle servo to apply said first potential and said third potential to said bank angle servo and said auxiliary servo, respectively, to connect said bank angle servo as an integrating servo and to connect said auxiliary servo as a position servo during a first range of simulated pitch angles; and, said switching means being operated by said pitch angle servo to apply said third potential and said second potential to said bank angle servo and said auxiliary servo, respectively, to connect said bank angle servo as a position servo and to connect said auxiliary servo as an integrating servo during a second range of simulated pitch angles.

2,975,533
SEMAPHORE SIGNAL INSTRUCTOR
William E. Burns, Jr., 5837 N. Hope St., Philadelphia, Pa.
Filed Dec. 27, 1957, Ser. No. 705,698
2 Claims. (Cl. 35—14)



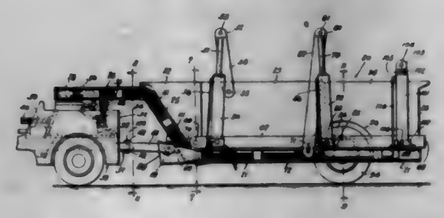
1. An educational device comprising a housing having a plurality of apertures therein, a simulated signalman secured to said surface, said signalman including signal arm members, at least two angle bars mounted within the housing, means for connecting said signal arm members to said angle bars, each angle bar including a plurality of pre-bent tab members, means for mounting a plurality of key members within the housing, the key members having buttons at corresponding ends thereof which extend through the apertures in the surface of the housing, each key member having at least two notches therein which are in alignment with a different set of corresponding pre-bent tabs of the angle bars, and spring means for raising the key members away from the angle bars whereby operation of a key member causes the notches to engage the pre-bent tab members associated therewith causing rotation of the angle bars and movement of the signal arm members to a discrete position corresponding to that key member and no other key member.

2,975,534
COLLAPSIBLE PATTERN HEAD FOR HAIR CUTTING, WAVING OR STYLING
Harry A. Lutz, Elkins Park, Pa.
(285 Shoemaker Road, Huntingdon Valley, Pa.)
Filed Nov. 26, 1958, Ser. No. 776,276
6 Claims. (Cl. 35—59)



1. A collapsible pattern head for hair cutting, waving or styling comprising an inflatable member including a neck through which air may be admitted, said member adapted to carry facial and hair styling indicia and a collapsible base to support said member when inflated, said base including a pair of plates, means removably retaining said plates in crossed relationship with the lower edges thereof positioned to engage a flat support, the upper edges of said plates being inwardly dished to seat the lower portion of said member adjacent said neck when said member is inflated to keep said member erect, and valve means on one of said plates to close off said neck said means comprising a slit opening through the upper edge of said one plate closely adjacent the position where said plates cross, said neck extending around the lower edge of the other of said plates and being pinched in said slit.

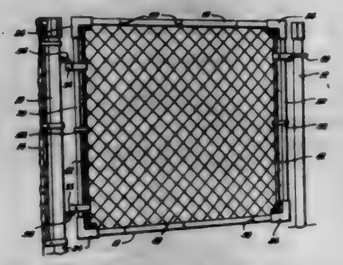
2,975,535
EARTH MOVER
Clarence E. Nickerson, 1224 W. Yale Ave., Flint, Mich.
Filed June 5, 1957, Ser. No. 663,842
3 Claims. (Cl. 37—129)



1. An earth mover comprised by a frame including parallel side beams, means for connecting said frame to a towing vehicle, longitudinally extending frame members pivotally mounted on the respective side beams for swinging movement in vertical alignment with respect to the latter, a forward body section mounted on said frame in front of said longitudinally extending frame members, a rear body section mounted on said longitudinally extending frame members, a center body section pivotally mounted on said longitudinally extending frame members in vertically swingable relation with respect to the latter and adapted to align with the forward and rear body sections when the longitudinally extending frame members

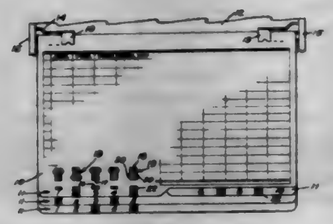
are in the horizontal position, a pair of fluid pressure cylinders mounted on the said side beams and having pistons therein, and linkage connecting said pistons to the pivotally mounted center body section for lowering the latter to operate as a scraper.

2,975,536
GATE
Raymond G. Schindler, 9600 Old Katy Road, Houston, Tex.
Filed Oct. 16, 1959, Ser. No. 846,941
1 Claim. (Cl. 39—87)



A gate comprising side and end frame members, corner fittings formed with portions into which the ends of the members may be inserted at the corners of the gate to form a generally rectangular frame, tie rods positioned in the frame along two opposite ones of said members, interengageable means on the tie rods and fittings positioned in inter-engagement holding the fittings on the ends of said two opposite ones of said members and a wire mesh positioned in the frame and connected to the tie rods to hold the fittings on the opposite ends of the other two opposite ones of said members.

2,975,537
VISIBLE RECORD SIGNAL DEVICE
Donald L. Reid, Proffit, and Samuel Aston Loyd, Waynesboro, Va., assignors to Acme Visible Records, Inc., Crozet, Va., a corporation of Delaware
Filed July 7, 1958, Ser. No. 746,916
4 Claims. (Cl. 40—18)



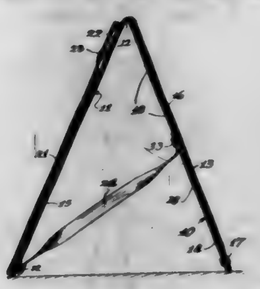
1. Visible record signal means comprising a substantially rectangular flexible base member formed with a slit parallel and adjacent to one of its marginal edges, an inwardly disposed aligned slit parallel and closely adjacent to the former, and a more inwardly disposed aligned slit parallel and relatively remote from the latter, and a flat signal strip of flexible material and contrasting color of a width substantially that of the length of said slits including an opposed pair of laterally projecting ears medially of the length of the strip extending from side edge portions of lesser length than the distance between said inwardly disposed slits, said signal strip and the ears thereof overlying said base member and said strip endwise projecting through the two inwardly disposed remotely spaced slits, with one end of said signal return-projecting through said outermost slit and adapted to thereby alternately endwise overlie the adjacent marginal edge portion of the base member and to be substantially withdrawn therefrom, for signalling relationship therewith, by longitudinal displacement of the signal strip in said slits to the limits defined by said ears between the relatively remotely spaced inwardly disposed slits.

2,975,538
EMBLEM AND MEANS FOR MOUNTING IT
Clifton H. Murfin, 3181 W. Broad St., Columbus, Ohio
Filed Apr. 26, 1960, Ser. No. 24,779
4 Claims. (Cl. 40—20)



1. A unit for attachment to a supporting surface comprising a relatively inflexible body having an exposed front surface and a rear surface, means for attaching the body to a supporting surface, said means comprising a flexible adhesive-bearing attaching layer having an exposed rear surface which carries adhesive and a front surface, and means for attaching the front surface of the layer to the rear surface of the body and including attaching means extending over said front surface of the attaching layer at an area substantially less than the area of said attaching layer and located well within the edge of the layer so that the outer margin of the layer is flexible whereby the layer can flex relative to said body to conform substantially to the contour of said supporting surface to which its rear surface is to adhere.

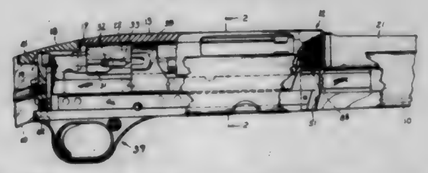
2,975,539
VISUAL-AID PORTFOLIO
Raymond T. Anderson, Clarendon Hills, Ill., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 3, 1959, Ser. No. 796,873
2 Claims. (Cl. 40—125)



2. A visual-aid portfolio which comprises a first rectangular leaf member, a second rectangular leaf member articulated thereto along a common side to form a folding tent-easel, the first leaf member having a ferrous sheet metal panel mounted thereon, a plurality of individual ferromagnets randomly disposed intermediate said first leaf member and said sheet metal panel to provide a magnetized panel area adapted to receive and temporarily engage removable visual-aid plates provided with ferrous metal portions bearing imprinted indicia, the second leaf member containing compartmented means to store said visual-aid plates and enclosing said magnetized panel area when the portfolio is closed, and flexible

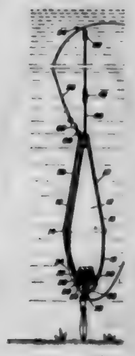
strip means pivotally secured at one end to the outer face of one leaf member and being provided with a first coupling means at the free end thereof for detachably connecting said other end to the other leaf member to cross connect the free ends of the leaf members and retain the portfolio in an open, upright, tent-easel position, said other leaf member being provided on its outer face adjacent its free marginal edge with a second coupling means cooperating with said first coupling means, said strip means being sufficiently long to overlap the free ends of said leaf members when said portfolio is in the closed position to detachably connect the free end of said strip means to said second coupling means.

2,975,540
RECEIVER ASSEMBLY
Oliver N. Lewis, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 2, 1958, Ser. No. 764,798
4 Claims. (Cl. 42—75)



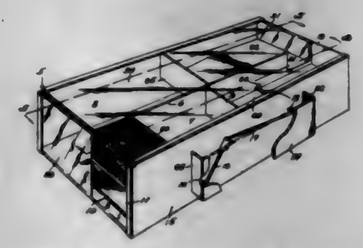
1. A firearm receiver assembly comprising a receiver, a pair of slide arms, and a trigger guard, said receiver having a pair of laterally spaced depending sidewalls and said trigger guard including a pair of laterally spaced guide rails, the sidewalls of the receiver and the guide rails being spaced from one another, vertically, so as to provide sliding clearance for the slide arms, one slide arm and one guide rail of each pair thereof being disposed coplanar with the corresponding depending sidewall of the receiver and means for securing the assembly together to maintain said coplanar disposition.

2,975,541
FISHING FLOAT
James G. Birrell, 6319 Corpus Christi St., Houston, Tex.
Filed Apr. 22, 1959, Ser. No. 808,699
5 Claims. (Cl. 43—43.15)



1. A multipurpose convertible-type fishing device comprising an elongated buoyant body having a socket at one end of the body, an adapter having a portion thereof removably and adjustably connected with said one end by way of said socket, a surface portion of said body adjacent said one end having a longitudinal groove, said adapter having a groove cooperating with said first named groove and said adapter when adjusted having its groove either in line or out of line in respect to the first named groove, a fish line removably seated in said grooves, a portion of the line being adapted to be located between confronting faces of the adapter and said one end of the body in a manner to clampingly fasten the fish line to the body, an eye at the other end of the body, an elongated generally straight reach wire attached to and extending from said other end of said body adjacent to said eye, the fish line extending through said eye, a leader, a swivel connecting said leader to the end of the fish line, said swivel being of a diameter greater than the diameter of said eye to function as a stop when in engagement with said eye, and an additional eye on a free end of said reach wire through which the leader extends.

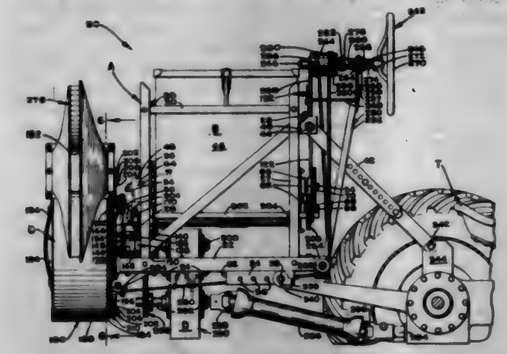
2,975,542
ANIMAL TRAP
Roland C. Underwood, Sr., Rte. 2, Killen, Ala.
Filed Feb. 19, 1959, Ser. No. 797,004
3 Claims. (Cl. 43—76)



1. An animal trap comprising a body portion having communicating trapping and retaining compartments, said body portion having a front and rear wall, side walls and a floor, a treadle pivotally mounted adjacent the floor of the trapping compartment, a shaft on which the treadle is secured, said shaft extending through a wall of the body portion and being extended upwardly, a partition extending across the trapping compartment having a lower edge spaced from the floor thereof, a pivoted platform mounted between the rear wall of the body portion and lower edge of the partition, said platform being adapted to swing downwardly from a substantially horizontal set position to an inclined position over which animals in moving to the retaining compartment pass, a shaft on which the pivoted platform is secured, one end of the shaft extending through a wall of the body portion and engaging the upper end of the upwardly extending portion of the treadle shaft normally holding the pivoted platform in said set position, and a guard extending along the outer surface of the body portion, guarding the portions of said shafts extending through the body portion.

2,975,543
APPARATUS FOR DISTRIBUTING POWDERED MATERIAL
Walter W. Funk, Medina, N.Y., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed July 10, 1957, Ser. No. 670,952
22 Claims. (Cl. 43—148)

1. In an apparatus for distributing powdered material, a support structure, a centrifugal blower including a housing having an axial inlet opening, conduit means mounted on said support structure and arranged to conduct material into said blower housing in coaxial relation thereto, means mounting said blower housing for free rotation on said support structure in substantially coaxial relation with respect to said conducting means, and adjusting means mounted on said support structure and operably engageable with said blower housing for moving said housing to a selected position of angular adjustment.

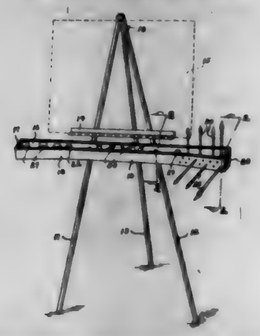


2,975,544
MAGNETIC BOOK HOLDER
Joseph Lutterberg, 10—11 Front St., Uniondale, N.Y.
Filed Mar. 26, 1959, Ser. No. 802,086
1 Claim. (Cl. 45—57)



A book holder comprising a bottom member having a center strip of magnetic material, a back member connected to said bottom member, means connected to support said back member in an upright position, a book holding member adapted to be magnetically connected to said center strip on said bottom member, and a magnet connected to the center of said holding member to adjustably connect it to said bottom member, said holding member having two adjustable arms mounted thereon at either end thereof, said book holding member being rotatable on said center strip of said bottom member in balanced rotation to fit against both pages of an open book regardless of the thickness of said book under either of said opened pages.

2,975,545
ARTIST'S MATERIAL HOLDING DEVICE
Mildred Clauff Moore, Fullerton, Nebr.
Filed June 19, 1958, Ser. No. 743,128
3 Claims. (Cl. 45—129)



1. In combination with an artist's easel, an elongated artist's material holding trough container secured to said easel; said trough container having brush handle receiving holes in its bottom.

2,975,546
SELF-LEVELING FURNITURE LEG
Jones C. Beene III, P.O. Box 224, Athens, Tenn.
Filed July 8, 1959, Ser. No. 825,736
3 Claims. (Cl. 45—137)



1. A furniture leg comprising a plate having a tapped opening therein, a hollow shell, a through bolt having at one end a head abutting against one end of said shell and having its other end threaded for engagement in the tapped opening in said plate, said bolt head having a substantially hemispherical recess in its outer surface, a foot having a flat bottom and a substantially hemispherical knob with a central opening therethrough, and a rod attached to and projecting from the recess in the bolt head through the opening in the knob on said foot, said rod having a flat head on the end thereof larger than the opening in said knob to engage and hold the knob on said foot.

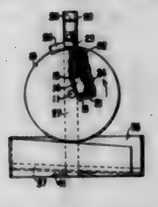
2,975,547
TOY
Edward H. Greve, Oaklawn, Ill.
(111 N. Century, Memphis 11, Tenn.)
Filed May 11, 1959, Ser. No. 812,165
6 Claims. (Cl. 46—11)



1. A toy having, in combination, two generally hemispherical hollow members having axially facing peripheral surfaces opposing each other substantially in abutment in a plane whereby the members form a hollow spherical container, said members having aligned circular holes centered on a common axis of said container normal to said plane, a cylindrical connecting element of resilient material having a length equal approximately to a diameter of said container and a normal diameter slightly larger than the diameter of said holes and split longitudinally to permit radial contraction to a diameter equal to said hole diameter for entry into said holes, said connecting element fitting into said holes and expanding radially into frictional gripping engagement with the edges of the holes to maintain said members releasably in abutment with each other while permitting reassembly of the members in different positions on the element with said peripheral surfaces facing axially away from each other, a

thin apertured divider sheet telescoped over said connecting element and clamped between said peripheral surfaces to divide said container into two compartments, and an elongated flexible part enclosed in one of said compartments and adapted to be wrapped partially around said element when said members are in said different positions.

2,975,548
GOVERNOR MARBLE MOTOR
Walter O. Bray, 3572 S. D, Tacoma, Wash.
Filed Nov. 27, 1959, Ser. No. 855,566
2 Claims. (Cl. 46—42)



1. A mechanical toy comprising in combination, a frame, a fly-wheel axially supported in a vertical plane against the side of said frame, bucket means projecting from the circumference of said fly-wheel, a hopper mounted on the top of said frame and extending over said fly-wheel, a slot formed in the underside of the extended portion of said hopper and adapted to form an opening through which the outer end of an actuating rod may pass, said actuating rod slidably received in a hole drilled centrally of the width of the fly-wheel and extending into a channel radially spaced from the centre thereof, a governor ball free to move into and out of said channel, and adapted to vary the location of said actuating rod longitudinally of said hole, marbles received within said hopper and adapted to be dislodged individually through said slot into said bucket by the rotating action of said actuating rod.

2,975,549
CONTROL HANDLE MEANS FOR POWERED TETHERED MODEL AIRPLANES
Robert F. Larsen, 2723 Easton Blvd., Des Moines 17, Iowa
Filed July 5, 1957, Ser. No. 670,207
1 Claim. (Cl. 46—77)



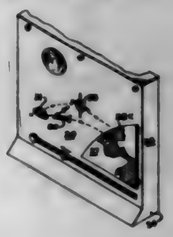
In a model airplane control handle, an elongated grip portion, a strap bar secured directly to said grip portion, having its width extending transversely of the longitudinal length of the grip portion, and having its length extending substantially radially to the elongated grip portion; said bar having an inner and an outer hole in each of its two end portions, and a cable having its two end portions extending first rearwardly through the two inner holes respectively of said bar and thence forwardly through the two outer holes respectively of said bar thereby providing a loop portion of the cable between the two inner holes of the bar; said loop portion adjustable as to size by sliding said cable through the holes of said bar; said bar having each of its outer end portions extending in a one-half twist; said grip portion being in the form of an elongated cylinder.

2,975,550
JUMPING TOY
Ervan H. Miller, Box 422, Spenard, Alaska
Filed Sept. 23, 1957, Ser. No. 685,598
1 Claim. (Cl. 46—118)



A toy comprising a hollow closed body constructed of resilient air impervious, shape sustaining rubber-like material and having a generally flat bottom, said bottom and adjacent peripheral wall portion of the body being flexible, said body having air inlet and outlet means therein for permitting the bottom and adjacent peripheral wall portion of the body to be folded upwardly and inwardly generally about a bend line at the upper edge of the peripheral wall portion of the body to a concave condition within the body when downward force is exerted on the top portion of the body, the bend line defining the peripheral wall portion of the body engaging a supporting surface and providing a seal to temporarily prevent the bottom and adjacent peripheral wall portion of the body from going back to an original position, the release of the seal between the bend line and the supporting surface permitting rapid return of the bottom and the adjacent peripheral wall portion of the body to a normal position whereby the body will be projected upwardly due to the return of the bottom and adjacent peripheral wall portion of the body to a normal position thereby providing a jumping toy, said air inlet and outlet means including an air operated noise maker disposed in an opening whereby the toy will emit a noise as it jumps inasmuch as the bottom and the adjacent peripheral wall portion of the body returning to normal position will cause an inrush of air through the noise maker thus providing a jumping toy with a noise maker operating generally simultaneously with the jumping action.

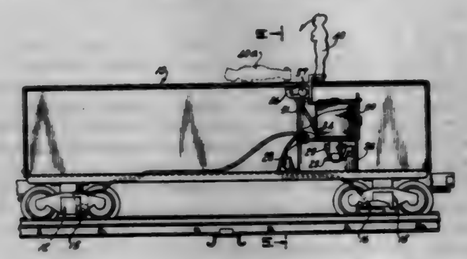
2,975,551
MAGNETIC TOY
Joseph P. Oberinger, 190 3rd St., Hicksville, N.Y.
Filed May 27, 1959, Ser. No. 816,346
2 Claims. (Cl. 46—239)



1. A magnetic toy comprising a face plate of non-magnetic material having an elongated slot adjacent its

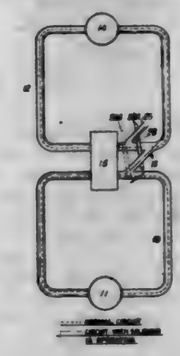
bottom edge, means for supporting said face plate in a vertical position, a back plate having an elongated horizontally disposed aperture disposed behind said face plate, a horizontal rod disposed in said elongated aperture and secured to said back plate, a traveler block disposed behind said elongated slot of said face plate, a pair of manually operated knobs disposed through said slot and into said traveler block for supporting said block on said face plate and for selective movement of said block, a rod disposed vertically in said block and behind said back plate and having an aperture adjacent the top end, a first pair of connected linkage arms disposed exteriorly of said vertically disposed rod, an abutment secured to one of said linkage arms and adapted to slidingly engage said vertical rod, slidable means having a first magnet thereon disposed slidably on said horizontal rod and through an arm of said first linkage, a second pair of linkage arms disposed between said face plate and said back plate one of the arms of said second linkage having a second magnet secured thereto in a pre-selected position, a bifurcated pivot pin disposed through an aperture of the linkage arm having the second magnet and around said horizontal rod and thence into the aperture of said vertical rod, pivot pin means disposed through a linkage arm of said second pair of linkage arms, the back plate and a linkage arm of said first pair of linkage arms, an angular swingable arm disposed between said second linkage pair and said face plate and having a third magnet secured to one end, said arm having an apex for slidingly engaging the top surface of said travel block, pivot pin means for securing said swingable arm in a pre-determined location to said back plate, a metallic simulated satellite secured magnetically against the exterior surface of said face plate by and opposite to said first magnet, a metallic simulated flying saucer secured magnetically against the exterior surface of said face plate by and opposite to said second magnet, a metallic simulated rocket secured magnetically against the exterior surface of said face plate and opposite to said third magnet and a weight secured to said swingable arm in spaced relationship to the magnet thereon and to said apex whereby manual movement of said traveler block produces a simultaneous movement of the first magnet secured slidably to said horizontal rod and of the correspondingly attracted satellite as well as a timed sequential simultaneous movement of the second magnet disposed on said second linkage and of the correspondingly attracted flying saucer as well as a timed sequential simultaneous movement of the third magnet disposed on said swingable arm and of the correspondingly attracted rocket.

2,975,552
OPERATING BRAKEMAN
Joseph L. Bonanno, South Orange, N.J., assignor to The Lionel Corporation, a corporation of New York
Filed Aug. 30, 1957, Ser. No. 681,281
6 Claims. (Cl. 46—245)



1. A toy railway car comprising a vertically elongated object initially in an upright substantially vertical position with its major axis vertical, said object being pivotally mounted on said car and extending above the roof thereof in its upright position, said object being pivotally movable between an upright substantially vertical position with its major axis vertical to a prone substantially horizontal position with its major axis substantially horizontal, operable means connected to said object and effective upon initial and subsequent alternate actuation to move said object to a prone position and upon second and subsequent alternate actuation to move said object to an upright position, said operable means including a solenoid and a plunger slidable in said solenoid upon actuation thereby, a pivotally mounted cam adjacent said plunger, means connecting said cam and said object at a location to cause the weight of the cam to hold said object in an upright position and permit the object to rest in a prone position, said plunger being effective to move said cam to shift the position of said object.

2,975,553
APPARATUS FOR CULTURE OF BIOLOGICAL CELLS AND TISSUES
John Paul, Glasgow, Scotland, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Aug. 25, 1958, Ser. No. 756,836
Claims priority, application Great Britain Aug. 23, 1957
13 Claims. (Cl. 47—1)

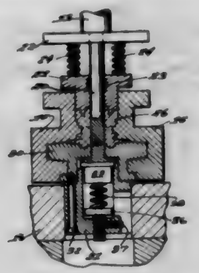


1. Apparatus for the culture of biological cells and tissues comprising means defining a first closed circuit including a reservoir for liquid culture medium, means defining a second closed circuit including a growth vessel for the formation of a suspension of the cells or tissues in the liquid culture medium, means for circulating the culture medium and the suspension in their respective circuits, and means for withdrawing batches of the suspension from the second closed circuit and simultaneously replacing each batch with culture medium from the first closed circuit, at predetermined intervals adapted to maintain the concentration of cells or tissues in the growth vessel substantially constant.

2,975,554
PRESS MOLD AND METHOD OF OPERATION
William A. Stutzke and Julius J. Torok, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed Mar. 20, 1957, Ser. No. 647,278
9 Claims. (Cl. 49—72)

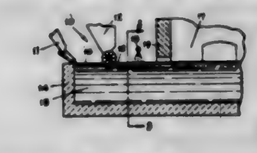
1. Apparatus for press molding glass articles having a recess and a thin frangible window formed within said recess comprising, in combination, an open-ended mold having a mold cavity providing inner wall and bottom surfaces, a press plunger mounted in alignment with the open end of said mold, means for moving said press plunger in reciprocating movement into and out of said

mold cavity, a movable window molding and severing element disposed within a bottom region of said mold having an upper surface essentially coextensive with the said mold bottom surface, resilient means supporting said movable window molding and severing element within the bottom region of said mold, said press plunger having a rigid projecting portion and a movable annular shoulder portion mounted therearound adapted to close the said mold cavity, resilient means on said moving means supporting the said movable shoulder portion of said plunger, the said rigid projecting portion of said press plunger being oppositely disposed and adapted to movement into proximity with said window molding and severing element by said plunger moving means, the said resilient means supporting the movable annular shoulder portion of said plunger being more readily yieldable than the said resilient means supporting the said movable window molding and severing element.



7. The method of press molding glass articles having a body portion with a deep recess and a thin readily frangible window therein, comprising the steps of introducing a charge of molten glass into an open-ended mold having a mold cavity defined by closed side and bottom walls, pressing said molten glass within said mold to fill the mold cavity by a press plunger having a projecting central portion, applying compressive force to the molten glass by said plunger until its projecting central portion closely approaches the mold bottom wall and forms an essentially solidified thin window portion therebetween, applying increased compressive loading to said essentially solidified window portion only and displacing said window portion a limited distance relative to the article body portion to effect at least a partial peripheral severance of the said window portion from the article body portion by said limited movement, and removing the molded article from said mold with the readily frangible window portion attached.

2,975,555
TREATMENT OF GLASS BATCH
James T. Zellers, Jr., Charleston, W. Va., and Alfred E. Badger, Maumee, and Glen J. Lehr, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 6, 1958, Ser. No. 765,506
4 Claims. (Cl. 49—77)



1. In a method of charging glass batch into a glass melting furnace, the steps of forming a layer of the batch material upon a body of molten glass, impregnating the surface of said layer of batch by applying thereto a liquid solution containing a low-melting sodium compound, forming a crust upon the surface of said layer of batch by the reaction of the sodium compound with the batch, and carrying the crust along with the batch layer into the furnace to prevent the batch dust from being carried over into the regenerators of the furnace.

2,975,556
HEAT-PROTECTIVE COATING
Norman F. Baird, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 24, 1957, Ser. No. 685,865
6 Claims. (Cl. 49—78)



1. A heat-protective coating for processing aluminum base shells for lamps, said coating principally comprising from 3% to 30% by weight sodium borophosphate, from 10% to 15% by weight sodium polyacrylate, and from 55% to 87% by weight water.

3. The method of glassing an aluminum base shell for a lamp, comprising applying to at least the lower interior surfaces of the aluminum base shell a heat-protective coating principally comprising from 3% to 30% by weight sodium borophosphate, from 10% to 15% by weight sodium polyacrylate and from 55% to 87% by weight water, inserting a predetermined amount of molten glass into a mold containing said coated base shell to fill a selected portion of said coated base shell, cooling said base and said glass to secure said glass in said base, and thereafter cleaning said base with a cleaning solution to remove residual heat-protective coating.

2,975,557
BRACKETS FOR ATTACHING WALL FIXTURES
John T. Mouille, Sr., San Francisco, Calif., assignor to Schultz Brass Manufacturing Company, Inc., Norwood, Ohio, a corporation of Ohio
Filed Dec. 3, 1956, Ser. No. 625,895
8 Claims. (Cl. 50—22)



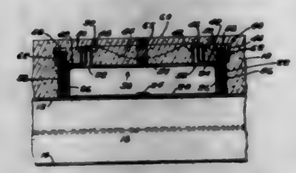
4. As an article of manufacture a wall fixture mounting bracket substantially U-shaped in cross-section for mounting a wall fixture on a tile of a grouted tile wall and wherein said tiles have relatively plane opposed surfaces with grout between them, said U-shaped bracket including a forward mounting plate, a rearwardly spaced hanging arm, and a connecting or bridging base of a thickness no greater than the thickness of the grout between the tiles plane surfaces connecting one end of the rearward hanging arm to the forward mounting plate at a point intermediate the upper and lower ends of said forward mounting plate and said connecting or bridging base spacing said mounting plate and hanging arm from one another a distance substantially equal to the thickness of the tile received therebetween.

2,975,558
WALL FIXTURE MOUNTING MEANS
Elmer J. Kokenge, Cincinnati, Ohio, assignor to Schultz Brass Manufacturing Co., Inc., Norwood, Ohio, a corporation of Ohio
Filed Dec. 26, 1956, Ser. No. 630,656
4 Claims. (Cl. 50—22)



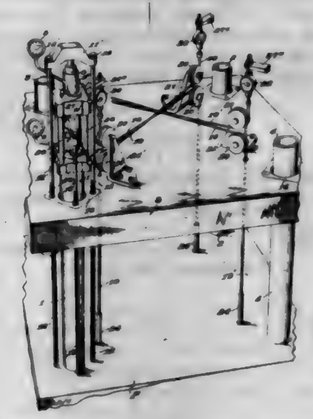
1. A wall fixture mounting bracket for mounting a wall fixture on a grouted tiled wall the combination with a pair of tiles in alignment and having opposed relatively plane surfaces with grout therebetween, of a bracket substantially H-shaped in cross-section and comprising a transverse member located between said plane surfaces of said aligned tiles with said transverse member of no greater thickness than the thickness of the grout between the tiles, a wall fixture mounting plate connected at a point intermediate two opposite edges thereof to said transverse member with said mounting plate projecting above and below said transverse member and on the exterior surface of said tiles, and a mounting arm connected at a point intermediate two opposite edges thereof to the other end of the transverse member and with said mounting arm projecting above and below said transverse member, said mounting plate and mounting arm being spaced a distance substantially equal to the thickness of the tiles to provide channels between said mounting arm and the mounting plate on opposite sides of the transverse member respectively receiving one of the aligned tiles.

2,975,559
WIRE DISTRIBUTING CELLULAR METAL FLOOR
Arthur William Hedgren, Pittsburgh, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1957, Ser. No. 639,739
3 Claims. (Cl. 50—70)



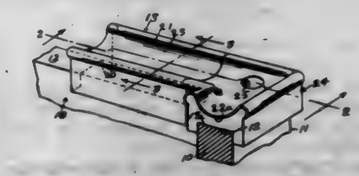
1. In a wire distributing cellular metal floor of the character described, a crossover duct comprising an elongated hollow member provided with an access opening in the top wall thereof, and a cover member for an initially unused access opening to protect the latter from the subsequently poured floor fill, said cover member comprising a generally circular one-piece sheet metal member shaped to fit over said access opening and having a horizontal annular flange portion resting on the top wall of said duct, said flange portion having at its outer portion an upstanding marginal side wall providing an annular rim, and fastening means for detachably securing the cover member to the duct, the annular rim of said cover member being of a height and the upper end of said fastening means being extended such as to dispose the upper edge of the rim and the tops of said fastening means respectively a relatively short distance below the screed line of the subsequently applied floor fill enveloping the cover member and said fastening means whereby breaking of a relatively thin annular layer of fill above said annular rim and above the tops of the fastening means permits access to said securing means and removal of the entire cover member with its overlying floor fill providing a clear space for installation and grouting of a junction unit in operative relation to said access opening.

2,975,560
METHOD OF AND APPARATUS FOR LIFTING PRE-FORMED SLABS
Lloyd H. Leonard, Inglewood, Calif.
(14877 Valley Vista Blvd., Sherman Oaks, Calif.)
Filed Sept. 22, 1955, Ser. No. 535,910
16 Claims. (Cl. 50—80)



1. In the art of hoisting pre-formed floor slabs in the erection of buildings, in which an upright fixed support is provided with a pair of hydraulic jacks mounted at the top of said support, and a different lift rod threaded throughout the greater portion of its length supported by each jack and working through a separate nut carried by the slab, the method which consists in operating said jacks alternately to raise said lift rods one at a time a definite distance at each operation, and while one of said jacks is being operated to raise one rod, screwing the other rod down through its nut, while not under load, to take up the slack.

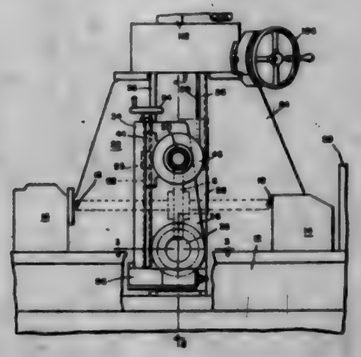
2,975,561
CAP BLOCK AND GUTTER
Martin Branham, Pound, Va.
Filed May 18, 1956, Ser. No. 585,741
1 Claim. (Cl. 50—182)



A cap block and gutter for building walls comprising a longitudinally extending body having a generally flat lower face, spaced parallel depending flanges projecting below said flat lower face in aligned relation to the opposite side edges of said body and defining a generally rectangular lower wall top engaging trough, spaced parallel upwardly and outwardly curved bulbous shoulders extending upwardly and outwardly from said body longitudinally therewith, said body having an arcuate top trough extending longitudinally thereof between said shoulders, right angularly extending depending flanges

joining at one end thereof said first mentioned flanges, said right angularly extending flanges defining a second generally rectangular lower wall top engaging trough positioned at right angles to said first mentioned generally rectangular lower wall top engaging trough, and right angularly extending bulbous shoulders extending integrally upwardly and outwardly from said body and joining at one end thereof said first mentioned shoulders, said right angularly extending shoulders being offset and spaced from one another to define a second arcuate trough extending transversely to said first mentioned arcuate trough at one end of said body, and a longitudinally extending metallic sheath having a right angularly disposed end portion supported in and covering said arcuate troughs, said sheath having its opposite side edges clamped in encompassing relation about said shoulders, and having a portion thereof underlying the outwardly extending portion of said shoulders, and locking said metallic sheath in tight engagement with said block.

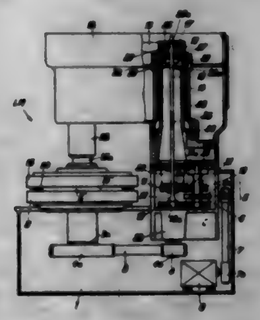
2,975,562
CROWN GRINDER
Mark I. Radnicki, Harper Woods, and Wilhelm Dralle, Detroit, Mich., assignors, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed May 5, 1958, Ser. No. 732,974
14 Claims. (Cl. 51—33)



1. In a grinding machine, a support, an arm rotatably carried by said support, a rotatable grinding wheel carried by said arm in spaced relation to the axis of rotation of said arm, means for oscillating said arm about its axis of rotation, and means for automatically moving said support in a direction transverse to said axis between separate oscillations of said arm to feed said grinding wheel into a workpiece.

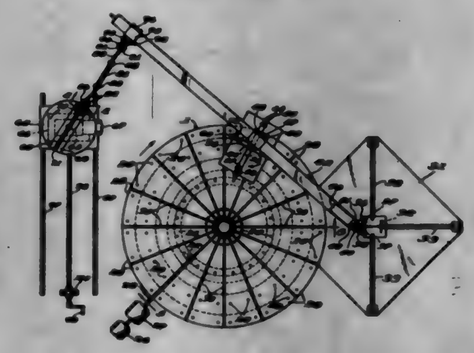
2,975,563
DRIVING ARRANGEMENT FOR INITIATING AND CONTROLLING ROTARY MOVEMENTS OF TWO DRIVEN COMPONENTS TOGETHER WITH AND RELATIVE TO EACH OTHER
Hans Friedrich Bovenkerpen, Hanselerstrasse 32, Methmann, Rhineland, Germany
Filed Apr. 11, 1960, Ser. No. 21,249
11 Claims. (Cl. 51—111)

8. In a two lap lapping machine, in combination: a lower lap having a vertical shaft; an upper lap having a vertical shaft; an endless belt drive for each of said shafts, each of said belt drives comprising a driving pulley, said pulleys coaxial with and vertically spaced from each other with the upper pulley drivingly connected to the shaft of the upper lap and the lower pulley drivingly connected to the shaft of the lower lap; and a driving arrangement for operating said laps comprising a first and a second gear both coaxial with and disposed between said pulleys, both said gears having coaxial bores formed with axially parallel groove means, said first gear closer to and drivingly fixed to said lower pulley; means including a single motor for rotating said gears in opposing directions; and a vertically reciprocable coupling member coaxial with said pulleys, having an upper end



drivingly coupled to and axially shiftable with respect to said upper pulley, and comprising spline means alternately receivable in the bores of said gears for drivingly connecting the respective gear with said upper pulley, said coupling member having a neutral position in which it is disconnected from said gears whereby the upper pulley is free to rotate relative to said gears.

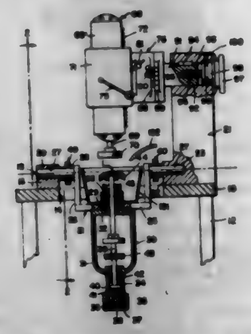
2,975,564
LAPPING MACHINE
Ronald Baldridge, 1745 Wabasso Way, Glendale, Calif.
Filed Oct. 8, 1956, Ser. No. 614,412
16 Claims. (Cl. 51—124)



1. In a machine for lapping flat surfaces on objects disposed with the surface thereof to be lapped resting on a moving, abrading surface, a base, a wheel disposed for rotation about a vertical axis and having a flat upper surface constituting a lapping surface mounted on said base, a first bearing means carried by said base and engaging said wheel and establishing only the said vertical axis of rotation of said wheel, a second bearing means carried by said base and affording vertical support for said wheel; said second bearing means comprising a series of tapered rollers each mounted on a separate stationary base and said rollers being disposed in a circumferentially spaced relation about the axis of said wheel and with the axes of said rollers being in vertical planes radial to said axis of said wheel and being so angularly disposed in said vertical planes that the uppermost portions of the peripheries of said rollers are disposed tangentially to a common plane normal to the axis of said

wheel, and a ring member on the under surface of said wheel disposed coaxially to the axis thereof and having a flat bottom surface in said common horizontal plane resting on all of said rollers; said ring member having a radial dimension which is less than the radial dimension of said wheel, means for rotating said wheel, and means for holding a work piece on said lapping surface of said wheel and for imparting reciprocating movements to the work piece while resting on said rotating lapping surface; said work piece holding means including devices permitting free rotation of the work piece about a vertical axis while engaged by said holding means, and means for imparting said reciprocatory movement to said work holding means.

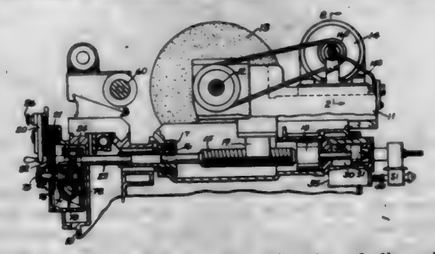
2,975,565
MACHINE FOR GRINDING AND POLISHING LENSES
Edward H. Phillips, R.D. 108A, Bound Brook, N.J.
Filed Oct. 29, 1957, Ser. No. 693,174
13 Claims. (Cl. 51—124)



1. A machine for generating lenses of the types stated, said machine comprising a substantially U-shaped cradle suspended at opposite sides for rocking on a transverse axis, the cradle having a bottom plate, a spindle bracket suspended from said bottom plate and carrying aligned upper and lower bearings, a spindle supported vertically for rotation in said bearings, means on the upper end of the spindle for supporting a lens blank with the surface thereof to be ground substantially coplanar with said cradle axis, a control bracket suspended on one side of the cradle for turning movement on the axis of the cradle, spring means coupling the lower ends of the spindle bracket and control bracket and yieldingly opposing separation of said ends, means for rotating the spindle, a lens curvature defining cam secured on and rotatable with the spindle, an elongate thrust element pivoted at one end to the lower part of the spindle bracket and engaged against the cam to be swung by and on rotation of the cam, a fulcrum element interposed between and engaged by both the thrust element and the control bracket, means for imparting turning movement to the control bracket, a grinding wheel, means for rotatably supporting the grinding wheel in grinding contact with said surface of the lens blank, and means for rotating the grinding wheel.

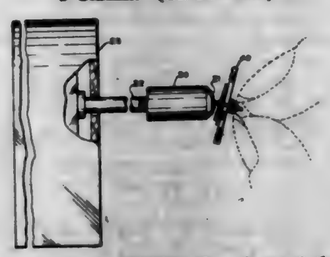
2,975,566
TORQUE RESPONSIVE CONTROL FOR REGULATING OPERATION OF A GRINDING MACHINE
William R. Backer, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Jan. 22, 1959, Ser. No. 788,435
8 Claims. (Cl. 51—165)

3. A grinding machine having a transversely movable wheel slide, a grinding wheel rotatably supported thereon, a motor and grinding wheel driving means on said slide to rotate said wheel, and feeding mechanism to drive the slide at a relatively fast feed rate from a retracted position toward a work piece, and at a grinding feed rate after the wheel contacts a work piece, a control means for activating said relatively fast feed and then the grinding feed of the feeding mechanism, said control means for the relatively fast feed being conditioned to continue said relatively fast feed until the grinding wheel engages a work piece, said control means including a torque responsive means arranged to sense the variation



between the torque developed to drive the grinding wheel as it approaches a work piece and the torque developed to drive the grinding wheel after it engages a work piece, said torque responsive means co-operating with the grinding wheel driving means between the grinding wheel and said motor to be immediately responsive to said variation in the torque developed in the driving means, and said torque responsive means being operative in response to said variation to effect a discontinuance and preclude resumption of the relatively fast feed rate as soon as the driven grinding wheel contacts a work piece and the driving torque increases.

2,975,567
METHOD FOR POLISHING THE BALANCE PIVOTS OF A WATCH
Hugh B. Little, % Little's Watch Service, Box 465, Logan, Ohio
Filed May 4, 1960, Ser. No. 26,800
6 Claims. (Cl. 51—281)

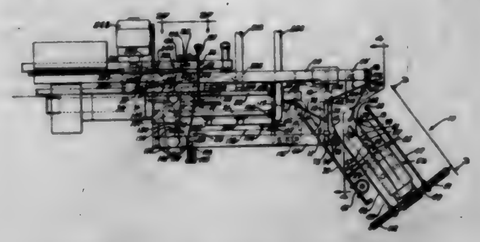


5. The method of polishing the pivot of the balance shaft of a watch which comprises forming a strip of polishing material into loop form and projecting the pivot end of the balance shaft through the closed end of the loop and at the axis of the loop, holding the shaft at an angle with the end of the pivot in the slot between the sides of the loop and in position to be contacted by said sides, and rotating the loop about its axis.

2,975,568
PACKAGING APPARATUS
Donald W. Garnett, Grand Ledge, Mich., assignor to The Olofsson Co., Lansing, Mich., a corporation of Michigan
Filed June 21, 1957, Ser. No. 667,090
33 Claims. (Cl. 53—53)

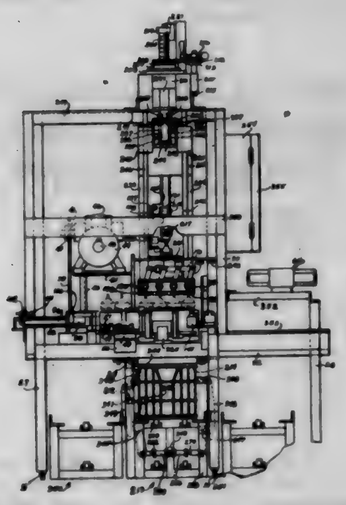
14. Apparatus for filling bags and like containers comprising a conveyor having vacuum controlled means to

grip and open a container while advancing the same, a container ejector unit adapted to displace a container from the path of its advance by said conveyor, a memory device operated in timed relation to said conveyor and



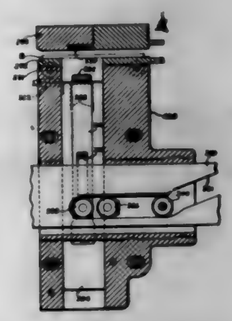
in response to an external signal to actuate said container ejector unit, and means similarly actuated by said device in response to said signal to cut off vacuum controlling said container gripping conveyor and release a container from said conveyor for ejection by said ejector unit.

2,975,569
FILLED CONTAINER CASER
Donald MacLeod, Milford, Ohio, assignor to Tech-Art Inc., Milford, Ohio, a corporation of Ohio
Filed Mar. 18, 1958, Ser. No. 722,345
18 Claims. (Cl. 53—62)



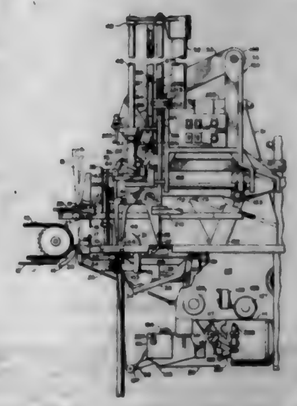
1. In a caser of the class described the combination of a normally stationary carriage adapted to receive and hold a given number of containers, means periodically placing said containers on said carriage until said given number thereof are on said carriage, an elevator laterally adjacent the carriage, gripper means on said elevator adapted to have the containers positioned with respect thereto, means supporting and moving said carriage for positioning the containers with respect to the grippers and retracting said carriage to its normally stationary position, means actuating said grippers to cause same to engage and grip the containers and means actuating said elevator after the retraction of the carriage to its normally stationary position for lowering the grippers and containers gripped thereby.

2,975,570
SEALING AND STAPLING MECHANISM FOR CONTAINER FABRICATING MACHINE
Charles Z. Monroe, Detroit, and Harry B. Egleston, Livonia, Mich., assignors, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Original application July 16, 1957, Ser. No. 672,280. Divided and this application Apr. 9, 1959, Ser. No. 805,287
5 Claims. (Cl. 53—138)



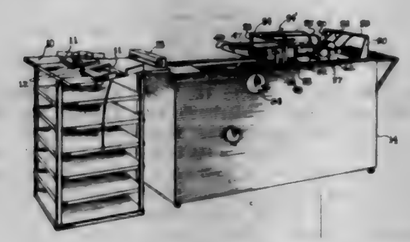
1. In a machine for fabricating containers and having means for filling and closing the same, a sealing and stapling mechanism comprising, in combination, a bedplate having one end defining a fixed jaw, a movable jaw mounted on said bedplate and disposed for cooperation with said fixed jaw, a bender and cut-off element, a staple driver, a wire feed element, and a common means including a cam bar slidably mounted on said bedplate and directly connected with said movable jaw, bender and cut-off element, staple driver and wire feed element for actuating the same in timed sequence with each other.

2,975,571
CONTINUOUS FEED BANDING DEVICE
Theodore F. Aronson, 60 Crescent Road, Glen Cove, N.Y., and Floyd A. Lyon, Old Wheatley Road, Brookville, N.Y.
Filed Dec. 2, 1959, Ser. No. 856,824
12 Claims. (Cl. 53—198)



1. A machine for banding envelopes coming from a constant feed source comprising a table, an envelope receiving station on said table, means to receive the envelopes upon the receiving station, a rigid frame above the table, claw members slidably carried by the frame above the table to grasp a plurality of envelopes at the receiving station, a banding station on said table, a supply of banding material beneath the table, an opening in the table at the banding station, jaw means carried by the frame for grasping the leading end of the banding material and drawing it through the banding station in a direction transverse to the plane of the table, means to advance the claw members and grasped envelopes across the table into the banding station and against the banding material held by the jaw means, until the banding material is partially wrapped about and held beneath the envelopes, a knife carried beneath the table to sever the partially wrapped banding material from the supply, an arm swingably secured beneath the table and adjacent the opening therein to lift the severed trailing end of the banding material and guide it around the envelopes in the banding station, means for lowering the jaw means and the leading end of the banding material until it overlies the trailing end and encircles the envelopes, and a sealing member adjacent the jaws to secure the ends of the band.

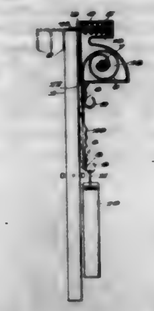
2,975,572
APPARATUS FOR WRAPPING AND HEAT-SEALING PACKAGES
Milton A. Wertheimer, Rock Island, Ill., assignor to Gellman Manufacturing Co., Rock Island, Ill., a corporation of Illinois
Filed Feb. 7, 1958, Ser. No. 713,878
13 Claims. (Cl. 53—206)



1. An apparatus for finishing the wrapping and sealing of a partially wrapped package in a pre-cut sheet of wrapping material comprising a horizontally extending track, means for continuously moving said partially wrapped package over said track, means for partially folding the wrapper about certain sides of said package as it is moved over said track by said moving means, means cooperating with and actuated by said moving means for tucking certain portions of the partially folded wrapper at a predetermined point of movement of said package over said track into facial abutment with certain corners of said package prior to the complete folding of the wrapper about the sides of said package, means for completing the folding of said wrapper over said certain sides and over said certain corners and into facial abutment with the bottom of said package, and means for sealing said folded wrapper about said package.

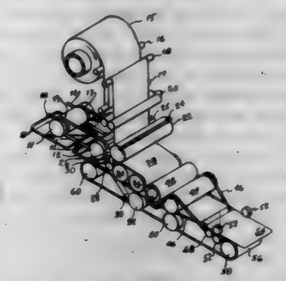
2,975,573
GARMENT HANGER
Walter H. Boal, South Bend, Ind.
(Redbud Trail, R.D. 2, Box 364A, Berrien Springs, Mich.)
Filed Mar. 9, 1959, Ser. No. 798,011
1 Claim. (Cl. 53—241)

In a portable garment hanger device, the combination of a relatively small enclosed casing, yieldable means including a horizontally movable stem member, means for attaching the stem to said casing, means at the opposite extremity of the stem for freely attaching the casing to a support, an axle mounted in the casing, a coil spring strap member having one end secured to the axle and the



other end projecting from the casing and a garment hanger hook connected to the projecting end.

2,975,574
FLEXIBLE COVER APPLICATOR
Ralph J. Jorgenson, San Francisco, and Frank A. Grant, San Mateo, Calif., assignors to Pacific Coast Foil Company, a corporation of California
Filed Feb. 29, 1960, Ser. No. 11,787
5 Claims. (Cl. 53—287)

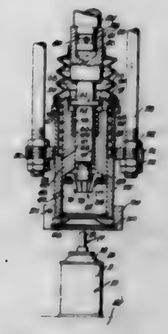


1. A machine for applying a sheet of flexible covering material to the open top of a container having a lip along at least one end thereof and thereafter folding the covering material over and beneath said lip comprising: means for placing a sheet of said covering material over the said container top with a skirt of covering material extending beyond said container lip; means for conveying in a linear path at spaced intervals containers having the said covering material thereon; a pivoted lever arm mounted for circular movement about an axis positioned above and traversing said path, said arm having a tucking and folding bar on one end thereof and a cam follower on the other end thereof; and a cam fixedly mounted coaxially with said axis to permit said follower to ride thereon, said cam having a lobe so oriented that the movement of the said follower thereover causes the tucking and folding bar to swing downwardly beneath the end of the said container whereby to depress the said skirt of said flexible material and thereafter to fold said skirt beneath the said container lip.

2,975,575
APPARATUS FOR SECURING AND SEALING A CLOSURE CAP TO A RECEPTACLE
John R. Nalbach, Oak Park, Lawrence G. Weston, Western Springs, and Ralph L. Mucci, Chicago, Ill., assignors to John R. Nalbach Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 5, 1959, Ser. No. 791,316
18 Claims. (Cl. 53—330)

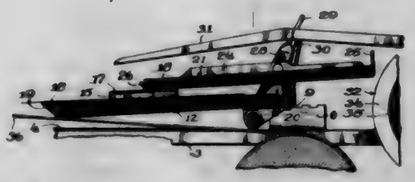
1. An apparatus for securing a closure cap of the type having a cup-shaped portion and an annular, curved

flange extending radially from the upper end of the vertical cylindrical wall of the cup-shaped portion to a wall of a receptacle body having an opening therein defined by an annular bead, said cylindrical wall extending into said opening and said curved flange overlying and resting upon the upper surface of said bead, comprising annular anvil surface movable vertically downwardly into abutting engagement with said closure cap flange; to maintain said curved flange on said bead an expansible and contractible collet having a plurality of circum-



ferentially-spaced crimp forming tips vertically spaced above said anvil surface, said collet being movable vertically downwardly in unison with said anvil surface until said anvil surface abuts said closure cap flange; and means for providing a lost motion connection between said collet and said anvil surface whereby said collet is capable of moving vertically downwardly with respect to said anvil surface once said anvil surface abuts said curved flange a predetermined distance to a position wherein said tips are disposed within said cup-shaped portion and vertically below said anvil surface.

2,975,576
SELECTIVE CARD DISPENSING TRAY
Orlando Garapolo, Chicago, Ill., assignor to Wilson & Co., Inc., a corporation of Delaware
Filed June 2, 1955, Ser. No. 512,637
5 Claims. (Cl. 53—391)



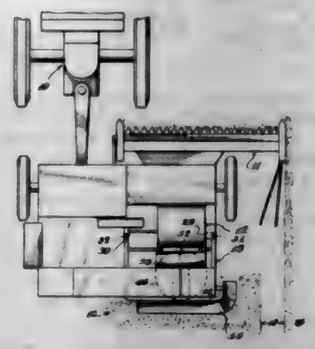
1. In a packaging apparatus, the combination of a supporting member for holding merchandise to be packaged on cards and a card dispensing device, said device comprising a lower card holding tray, an upper card holding tray pivotally secured to said lower tray, and a lever operably to shift said upper tray relative to said lower tray to selectively position either of said trays in card dispensing position, said upper tray being positioned beneath said supporting member with its front end rearwardly of the front end of said supporting member when said lower tray is in card dispensing position, said upper tray being inaccessible for card dispensing purposes in said above described position, said upper tray overlying said lower tray substantially to render said lower tray inaccessible for card dispensing purposes when said upper tray is in its card dispensing position.

2,975,577
COTTON PICKING UNIT WITH SUSPENSION MEANS
Leon Davenport, Leland, Miss., assignor of four-tenths to Southern Developers, Inc., Memphis, Tenn., a corporation of Tennessee
Filed Oct. 15, 1958, Ser. No. 768,522
6 Claims. (Cl. 56—14)



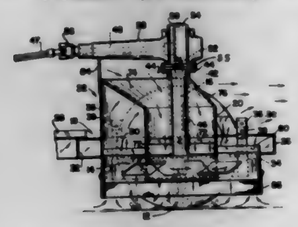
1. A cotton harvesting machine adapted to be suspended from, disposed rearwardly of, and driven by a tractor having a rear axle housing, said machine having cotton picking means, forwardly extending suspension means for suspending said machine at various heights relative to the ground being traversed, said suspension means including an arched rearwardly diverging yoke having laterally spaced rear ends pivotally attached to said machine and a front end adapted to be pivotally attached to said axle housing, and stabilizing means operatively associated with said machine and said rear ends of said yoke for maintaining the machine in a horizontal position, said stabilizer means including a stabilizer on each side of the machine with each stabilizer having one end attached to the machine and the other end being secured to the yoke adjacent one of said laterally spaced ends.

2,975,578
MOWING, CHOPPING, AND SPREADING APPARATUS
Floyd Drauden, Plainfield, Ill. (Rte. 1, Box 23, Minooka, Ill.), and Oscar Lauterbach, Rte. 3, Plainfield, Ill.
Filed May 5, 1958, Ser. No. 733,117
4 Claims. (Cl. 56—23)



1. Apparatus for cutting standing green material and spreading the same on the ground in a preselected uniform distribution, comprising: a mower having a preselected width; means operatively associated with said mower for chopping the mowed material; a horizontally extending plate; means rotating the plate about a vertical axis; a plurality of elongated elements on the upper surface of the plate extending radially to said axis; a guide operatively associated with the chopper and plate directed toward said plate at a point spaced at a substantial distance from said axis for directing chopped material from the chopping means onto said plate whereby said elements first beat said material to break up clumps thereof and secondly throw the broken up material laterally outwardly to distribute the same; and a skirt operatively associated with said plate deflecting the throw material downwardly and co-ordinated with the pattern of distribution of the thrown material provided by the elongated elements to distribute the material to an area of the ground substantially equal in width to the width of the mower and offset a preselected distance from a line defined by one edge of the mower extending perpendicular to the width thereof.

2,975,579
PLANT THINNING MACHINE
Carl E. Balkus, Carl E. Balkus, Jr., and James P. Balkus, all of Birch Mountain Road, Glastonbury, Conn.
Filed Sept. 12, 1958, Ser. No. 760,685
8 Claims. (Cl. 56—25.4)



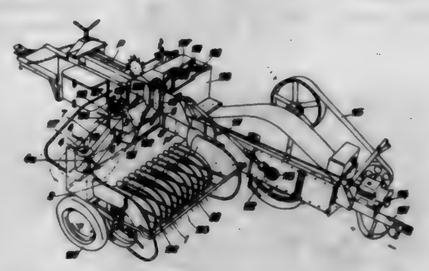
1. A plant thinning machine comprising in combination, a frame supported on ground wheels, a substantially vertically extending power rotated shaft supported by the frame, a rotary cutter secured to a lower end portion of said shaft for rotation therewith above the ground surface and comprising a central supporting means connected with the shaft and holding a plurality of circumaxially spaced radially extending cutting blades with their respective inner ends spaced from said shaft, said supporting means being adapted to accommodate a flow of air downwardly therethrough inwardly of the inner ends of said cutting blades and toward the space beneath said blades, and said cutting blades being shaped to induce air flow upwardly therethrough whereby to lift prone plant growth to an upright position for cutting, means supported by the frame defining an air passageway having its discharge end disposed above said cutter supporting means, and a power driven rotary impeller associated with said air passageway for inducing air flow therethrough and through said cutter supporting means for supply to the space beneath said cutting blades.

2,975,580
COTTON PICKER BARS
Ivan P. Haring, P.O. Box 644, Crosby, Tex., assignor of twenty-five percent to E. A. Kruse, twenty-five percent to Howard T. Tellefsen, and fifteen percent to H. C. Donahoe, all of Houston, Tex.
Filed Mar. 26, 1958, Ser. No. 724,107
4 Claims. (Cl. 56—50)



1. A picker bar for use in a cotton picking machine comprising, an elongate body of uniform cross-section throughout its length, said body having a plurality of circumferentially spaced and axially extending ribs on the periphery, and a plurality of axially extending rows of picker teeth, one row disposed between each pair of ribs, said teeth extending in the intended direction of rotation of the picker bar.

2,975,581
PICK-UP BALER WITH CROSS CONVEYER
Hans Jürgen Matthies, Braunschweig-Lehndorf, Germany, assignor to Gebrüder Welger, Maschinenfabrik, Wolfenbuttel, Germany
Filed May 8, 1957, Ser. No. 657,903
Claims priority, application Germany Sept. 25, 1956
1 Claim. (Cl. 56—341)

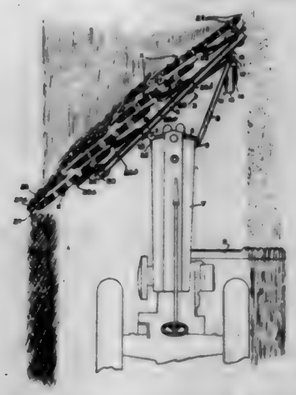


In a pick-up baler of the type having a pick-up unit, an accumulating table for crop material lifted thereon by said pick-up unit, a baling chamber having an inlet opening in a vertical wall thereof adjacent to one end of said table, a plunger for reciprocating movement in said baling chamber, and packer fingers with associated mechanism for moving them out of and into said opening of the baling chamber, thereby pushing said crop material under precompression into said baling chamber and in front of said plunger, in combination, a vertical damming wall with at least one slot therein, said wall being vertically arranged and extending over the entire length of said table opposite said pick-up unit and adjacent to a vertical edge of the inlet opening of said baling chamber, a conveyer belt movably mounted behind said vertical damming wall, feed finger means on said conveyer belt capable of reaching in its conveying stroke from a position in front of the wall and along the same toward said inlet opening, returning into starting position behind said wall, mounting means for said conveyer belt having two spaced vertical rollers behind said wall, the one of said rollers at the far end with respect to the baling chamber being located in close proximity to said back wall and the other of said rollers being located at a considerable distance therefrom, whereby said conveyer is obliquely arranged with respect to said wall, said slot being horizontally disposed, said finger means comprising a plurality of feed fingers rigidly attached to said conveyer belt in the height of the slot in said wall, drive means for continuously driving said belt, said feed fingers being moved by said conveyer to enter the slot in said wall so as to project over the table transversely a considerable depth thereon and to gradually disappear behind the wall during the travel over said table in the direction toward the inlet opening.

2,975,582
FRONT MOUNTED ROTARY WHEEL SIDE DELIVERY RAKE
Ernest B. Pollard, Sherburn, Minn., assignor, by mesne assignments, to Daffin Corporation, a corporation of Delaware
Filed Dec. 8, 1949, Ser. No. 131,725
4 Claims. (Cl. 56—377)

1. A rotary hay rake comprising, a frame having one elongated, horizontal frame member extending rearwardly at an acute angle to the normal line of movement of said rake, means on said frame for transporting said frame spaced above the ground, a plurality of parallel, rotatable rake wheels having parallel axes of rotation all positioned at a slight angle to said elongated frame member arranged in echelon, a plurality of cranks corresponding

in number to said wheels, each of said cranks being pivotally mounted at one end to said elongated frame member and each of said cranks being rotatably connected to one of said wheels at its other end and each of said cranks having a connecting portion disposed at an angle to the horizontal in a vertical plane, an elongated elevating member parallel to said elongated frame member and elevated with respect thereto, means operatively connected to said elevating member for altering the elevation of said elevating member with respect to said frame member, and



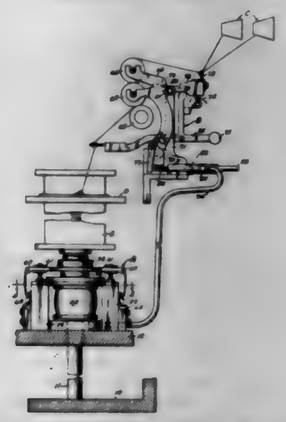
a plurality of resilient links corresponding in number to said wheels, each connected at its upper end to said elevating member and each connected at its lower end to a different one of said cranks adjacent the lower end of the connecting portion of said crank, said links being of a length such that when said elevating member is in lowered position each of said wheels is independently resiliently suspended at ground level to conform to ground level irregularities, said links having a resiliency such that when said elevating member is in raised position all of said wheels are lifted above ground level.

2,975,583
SIDE DELIVERY RAKE
Cornelis van der Lely and Ary van der Lely, both of Maasland, Netherlands, assignors to C. van der Lely N.V. Manufacturers, Maasland, Netherlands, a Dutch limited company
Filed Aug. 19, 1957, Ser. No. 678,896
Claims priority, application Netherlands Aug. 21, 1956
9 Claims. (Cl. 56—377)



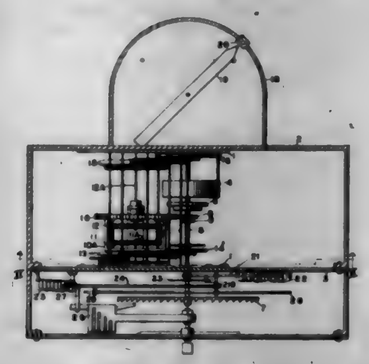
1. An agricultural device comprising a mobile frame, rake wheels on said frame, running wheels pivoted on said frame and supporting the latter, means coupling said running wheels so that the latter are adapted to pivot simultaneously in opposite rotary directions after said device deviates from a straight path, and draw means coupled to one of said running wheels for drawing said frame.

2,975,584
AUTOMATIC STOP SPINDLE MECHANISM
Joseph E. Makant, Barrington, and Henry Collins, Pawtucket, R.I., assignors to Collins Brothers Machine Company, Pawtucket, R.I., a corporation of Rhode Island
Filed Mar. 13, 1959, Ser. No. 799,366
16 Claims. (Cl. 57—88)



1. In a stop spindle mechanism for yarn twisting machines, a spindle base, a spindle blade rotatably mounted in said base, a whorl for driving said spindle blade, clutch means connecting said whorl and spindle in releasable driving relation, brake means for stopping said spindle, and compressed air means automatically responsive to a yarn break for releasing said clutch means and for actuating said brake means.

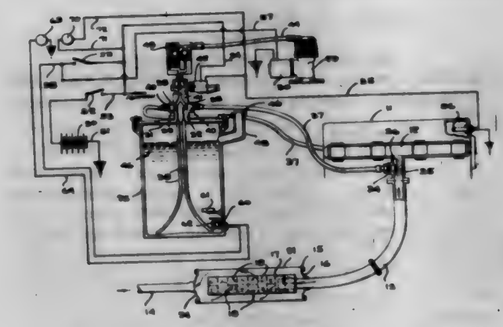
2,975,585
TIMING METER
Straud K. Wood, 322 E. 3rd St., and Wilmer J. Friesen, both of Hutchinson, Kans.; said Friesen assignor to said Wood
Filed Dec. 8, 1958, Ser. No. 778,713
3 Claims. (Cl. 58—142)



1. In a parking timing meter positioned adjacent a vehicle parking stall, a tensioned operating spring, a time control apparatus regulating the rate of spring unwinding to measure the desired time interval, and magnetic means effective by removal of a car from a parking stall

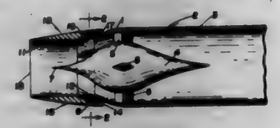
to by-pass the time control apparatus and permit immediate unwinding of the spring, said magnetic means including a magnetic spring driven control wheel and a magnetic bar compass held in a predetermined position by the mass of a vehicle in a parking stall to hold the control wheel against rotation.

2,975,586
SMOKE VAPORIZER
Sterling P. Bray, 521 N. Orange Ave., Modesto, Calif.
Filed July 2, 1959, Ser. No. 824,694
3 Claims. (Cl. 60—30)



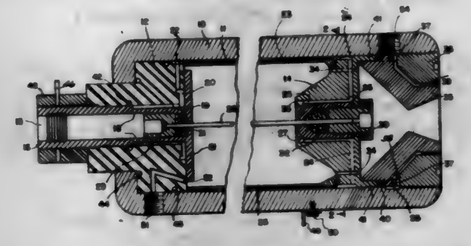
1. In combination, an internal combustion engine having an exhaust manifold, an exhaust pipe, and a conduit connecting said exhaust manifold to said exhaust pipe, a reservoir containing vaporizing liquid, an aspirator chamber on said reservoir, an aspirator tube extending into said reservoir, said aspirator tube having an aspirating jet nozzle at its top and discharging into said chamber, an air compressor, a discharge nozzle mounted in said conduit, first conduit means connecting the outlet of said compressor to said chamber, second conduit means connecting said chamber to said discharge nozzle, whereby to inject said vaporizing liquid into said conduit, a temperature-sensitive member mounted in said engine, and valve means in said first conduit means controlled by said temperature-sensitive member.

2,975,587
STREAMLINED RINGS FOR ASSURING ISENTROPIC COMPRESSION OF SUPERSONIC STREAM THROUGH A CONVENTIONAL MISSILE DIFFUSER
Randolph S. Rae, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 16, 1949, Ser. No. 127,727
6 Claims. (Cl. 60—35.6)



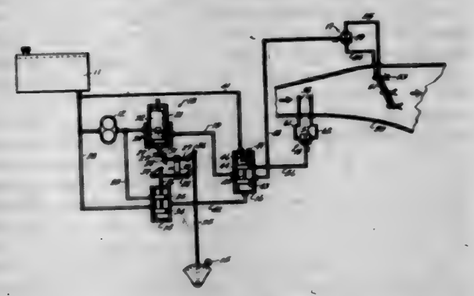
4. A diffuser for a ramjet engine comprising a cowling defining an entrance for the admission of the gases through which the engine travels, a body within said cowling and coacting with said cowling to provide passage for the gases entering said cowling, said body having a surface adapted for deflecting the gases through which the engine travels at increasing angularity to the direction of travel of the engine, said body extending forwardly and aft of said entrance, and a streamlining member supported adjacent said entrance and in spaced relationship thereto, said member projecting forwardly of said body, and aft beyond the entrance defined by said cowling.

2,975,588
THERMAL MONOFUEL REACTOR
Loren C. Smith, Livonia, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
Filed Dec. 27, 1954, Ser. No. 477,890
10 Claims. (Cl. 60—35.6)



10. A monofuel reactor comprising a reactor body having a reaction chamber; means for supplying monofuel to said chamber; means for providing egress of gases from said chamber; means for cooling the walls of said reaction chamber during autodecomposition of said monofuel; means for injecting an annular spray of monofuel into said chamber; an initiator element extending axially of the annular spray of monofuel; and means for heating said initiator element to initiate autodecomposition of monofuel.

2,975,589
WIDE MODULATION RANGE REHEAT FUEL SYSTEM
John William Vdoviak, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 6, 1955, Ser. No. 513,260
3 Claims. (Cl. 60—35.6)



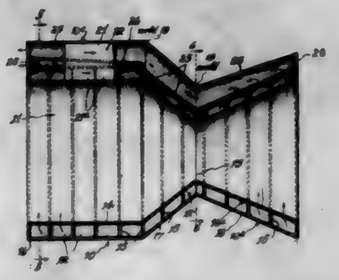
1. In a turbojet engine including a tail pipe having a flameholder mounted therein, said flameholder including a plurality of concentric members, a reheat fuel system comprising: a throttle control selector; a system selector connected to said throttle control selector; a first fuel distribution system connected to said system selector, said first system including fuel injection means mounted in said tail pipe and attached to said flameholder members, and a uniform fuel distribution system connected to said system selector, said uniform system including fuel injection means mounted in said tail pipe upstream of said flameholder, said system selector controlling the flow of fuel to the distribution systems in response to movements of the throttle control selector whereby at low throttle settings fuel is delivered through the first system and injected in the immediate vicinity of the flameholder, and

at high throttle settings fuel is delivered through the uniform system and injected upstream of the flameholder, said first injection means supplying fuel to each of said flameholder members at said low throttle settings.

2,975,590
PROPORTIONAL COOLANT FLOW THRUST CHAMBER

Albert H. Vonder Esch, Flanders, N.J., assignor, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware

Filed Dec. 2, 1957, Ser. No. 699,971
2 Claims. (Cl. 60—35.6)



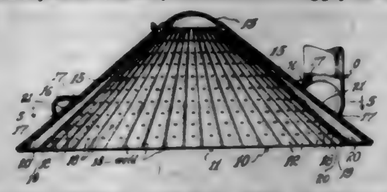
1. A proportional coolant flow thrust chamber of conventional design having a cylindrical combustion chamber and a convergent-divergent nozzle throat, said thrust chamber comprising: an inner shell; plural axially spaced circumferential stiffening ribs provided on the external periphery of said inner shell; an outer shell surrounding said inner shell and ribs to form annular coolant passageways therebetween; an axially extending manifold coextensive with said outer shell and marginally united thereto with its downstream end closed and its upstream end open to provide a combination inlet and outlet; a baffle plate extending lengthwise in the manifold and lying in the plane of the thrust chamber axis to divide said manifold into lengthwise delivery and discharge channels for coolant fluid, the outer shell being provided with orifices located on opposite sides of said manifold baffle plate to establish communication between the delivery channel and the respective coolant passageways and between the latter and the discharge channel; and a substantially tangential divider partition intersecting the baffle plate and extending between the sides of the manifold, said partition being inclined inwardly downstream and united in impervious manner to a rib substantially at the plane of juncture of the combustion chamber and nozzle sections of the thrust chamber to direct a proportion of the coolant flow directly into the coolant passageways of the combustion chamber section and to bypass another proportion of the flow directly to the passageways of the critical nozzle throat section.

2,975,591
CONICAL INJECTOR FOR ROCKET MOTORS

Zola Fox, Verona, N.J., assignor, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware

Filed Dec. 18, 1957, Ser. No. 703,705
6 Claims. (Cl. 60—35.6)

1. An injector head for a rocket motor comprising: structural means forming the walls of plural contiguous propellant passageways arranged in the configuration of the circumference of a cone and being individually straight and collectively apically convergent in such a manner that in assembled condition contiguous areas of said passageways forming structural means abut in straight lines lying in axial planes in the frustum of a cone; means integrally uniting said contiguous areas; the wall means of all passageways being provided with radially inwardly directed injection orifices; and means to supply chemically



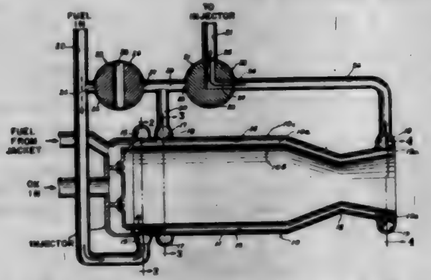
cooperative different propellant fluids to alternate passageways around said circumference.

2,975,592
ROCKET THRUST CHAMBER

Zola Fox, Verona, N.J., assignor to Thiokol Chemical Corporation, Trenton, N.J., a corporation of Delaware

Filed June 11, 1958, Ser. No. 741,317
2 Claims. (Cl. 60—35.6)

1. A coolant-jacketed thrust chamber for jet propulsion devices comprising: a chamber wall having upstream and downstream ends and being provided with plural longitudinal coolant passageways including a first set of passageways and a distinct second set of passageways; a pair of annular circumferentially extending manifolds located substantially at the upstream end of the chamber wall and including a first upstream manifold in communication with said first set of coolant passageways and a second upstream manifold in communication with said second set of coolant passageways; respective coolant inlet and outlet conduit means; a common annular circumferentially extending manifold located substantially at the downstream end of the chamber wall and being in communication with both of said first and second sets of coolant passageways; a return duct means in communication with said downstream manifold and leading toward said coolant outlet conduit means; said coolant inlet means being in permanently open communication with said first upstream manifold; inlet selector valve means including a valve casing having inlet and outlet ports and a valve member in said casing movable between open and closed positions and having a channel constructed and arranged to interconnect said inlet and outlet ports in the open position of said valve member and to block communication therebetween in its closed position, the inlet port of said inlet valve casing being in communication with the coolant inlet conduit means; outlet selector valve means including a valve casing having respective first and second inlet ports and an outlet port permanently communicating with the coolant outlet conduit means, and a valve member movable between a first position and a second position in said casing and having a channel constructed and arranged to alternately interconnect said second inlet port and said outlet port in the first position of said valve and interconnect said first inlet port and said outlet port in the second position thereof, the second inlet port of said outlet selector valve means casing being in permanent communication with the return duct means of the downstream manifold; a branch duct communicatively connecting the outlet port of the inlet valve means to the first inlet port of the outlet valve means; and a connecting duct communicatively permanently interconnecting said branch duct and the second upstream manifold; whereby, in a first selector valve condition wherein the inlet selector valve means is closed and the outlet selector valve member is in its first position coolant fluid will be caused to flow downstreamward through the first set of coolant passageways only for low thrust operation, in a second selector valve condition wherein the inlet selector valve means is open and the outlet selector valve member is in its first position coolant fluid will be caused to flow downstreamward in both sets of coolant passageways for high thrust operation, and in a third selector valve condition wherein the inlet selector valve means is closed and the outlet valve member is in its second position coolant fluid

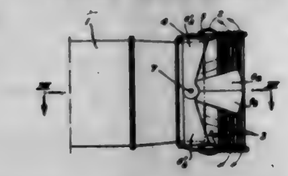


will be caused to flow downstreamward in the first set of coolant passageways and upstreamward in the second set of passageways for intermediate thrust operation.

2,975,593
JET PROPULSION UNITS

Louis Jules Bauger, Vanves, France, and Anton Barthlme, Munich, Germany, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a French company

Filed May 9, 1957, Ser. No. 658,161
Claims priority, application France May 11, 1956
1 Claim. (Cl. 60—35.54)



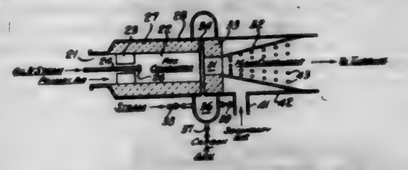
The combination, with a jet propulsion nozzle ending with a circular outlet orifice for the discharge of a jet, of an outwardly curved convex annular surface having a minimum diameter greater than the diameter of said circular orifice, said surface extending around said orifice in radially spaced relation therewith to provide an annular gap around the periphery of said orifice and further extending axially downstream of said orifice, said gap facing substantially in an upstream-downstream direction and being open at both ends, and pivotal flaps mounted on said nozzle and movable through said gap to a retracted position wherein they lie outside the nozzle out of contact with the jet issuing from said orifice and an operative position wherein they lie across part of the path of the jet to deflect it laterally whereby a portion of the jet adheres to said convex annular surface.

2,975,594
GENERATION OF POWER FROM ASH-FORMING HYDROCARBONS

Du Bois Eastman, Whittier, Calif., assignor to Texaco Inc., a corporation of Delaware

Filed Feb. 10, 1955, Ser. No. 487,286
6 Claims. (Cl. 60—39.02)

1. In the generation of power in a heat engine wherein working fluid for said engine is generated from an ash-forming hydrocarbon liquid comprising naturally-occurring heavy metal compounds containing vanadium and nickel wherein said hydrocarbon liquid is subjected to reaction with gaseous oxidizing agent at elevated pressure and gaseous oxidation products of said reaction are utilized in a heat engine as working fluid therefor, the improvement which comprises reacting a hydrocarbon liquid containing a substantial amount of said heavy metal compounds with oxidizing gas in relative proportions such that at least 0.5 percent and not more than 10 percent of the carbon contained in said hydrocarbon is unreacted and is liberated as solid carbon in an amount at least 50 times the combined weight of nickel and vanadium contained in said hydrocarbon liquid wherein said unreacted carbon

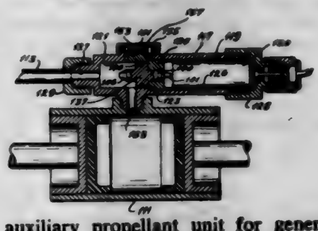


combines with said nickel and vanadium to form a carbon-ash solid composite, separating said carbon-ash solid composite containing said vanadium and nickel from gaseous products of said reaction, and utilizing resulting ash-free gas as a source of working fluid for said engine.

2,975,595
PRESSURE-OPERATED SYSTEMS WITH IGNITABLE PROPELLANTS

Ernest H. Lyons, Jr., Elsah, Ill., assignor to Chromalloy Corporation, Edwardsville, Ill., a corporation of New York

Filed Feb. 6, 1958, Ser. No. 713,698
8 Claims. (Cl. 60—39.47)



1. An auxiliary propellant unit for generating fluid pressure for emergency use as a supplementary power source adapted to be connected to a fluid pressure operated system having a fluid pressure supply means and a fluid pressure operated means, said auxiliary propellant unit comprising a unitary body formed with interconnected valve and cartridge chambers, inlet and outlet passages extending to and from said valve chamber adapted for connection respectively to the pressure supply and pressure operated power means, a piston-like shuttle valve member mounted for sliding sealing movement within said valve chamber from a first position adjacent said cartridge chamber wherein the outlet passage is in communication with said inlet passage to a second position adjacent the inlet passage wherein the inlet passage is closed thereby and the outlet passage is in communication with the cartridge chamber, means biasing said valve to said first position, means responsive to pressure from said cartridge chamber for moving said valve to said second position, and means associated with said cartridge chamber adapted to initiate pressure generation in said cartridge chamber.

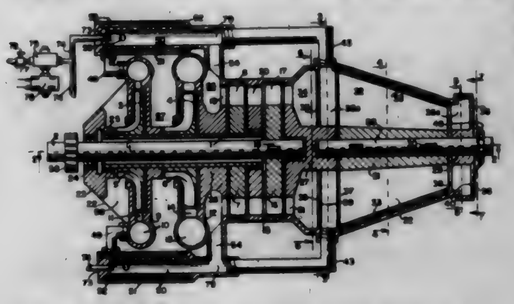
2,975,596
COUNTER FLOW REGENERATIVE GAS TURBINES

Adolphe C. Peterson, 4623 Bruce Ave. S., Minneapolis, Minn.

Filed Feb. 4, 1957, Ser. No. 638,168
7 Claims. (Cl. 60—39.51)

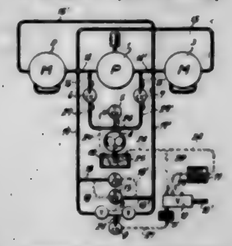
1. A turbine construction including: a rotor and regenerative structure having in sequence axially thereof, a bearing structure, a compressor rotor, a second bearing structure, a turbine rotor, a third bearing structure, a regenerative means; the said regenerative means having a round peripheral shape and an axis coincidental with the extended axis of said rotors, and being located sub-

stantially in the prolonged round area in sequence from said third bearing structure; the said regenerative means having walls extending radially from said axis and gas channels and air channels formed therethrough and substantially parallel to said axis thereof; a casing structure about said rotor structure and having in sequence an intake to said compressor rotor, a compressor chamber wherein said compressor rotor rotates, a turbine chamber wherein said turbine rotor rotates, an exhaust gas chamber between said turbine chamber and gas channels, and a substantially round housing about said walls



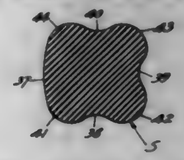
of said regenerative means; a shaft means for said compressor rotor and said turbine rotor whereby they are rotatively mounted in said bearing structures; the said casing having support therewith for said bearing structures; an outlet from said compressor chamber and conduit means therefrom to said air channels; a combustion chamber means and conduit means from said air channels to said combustion chamber means and conduit means from said combustion chamber means to said turbine chamber; the said gas channels having exhaust to atmosphere, and being open to said exhaust gas chamber to receive gases therefrom.

2,975,597
HYDRAULIC TRANSMISSION
Walter Arz, Aschaffenburg, Germany, assignor to Gesellschaft fuer Linde's Eismaschinen A.G. Zweigniederlassung Gueldner-Motoren-Werke in Aschaffenburg, Aschaffenburg, Germany
Filed July 10, 1959, Ser. No. 826,306
8 Claims. (Cl. 60—53)



1. Hydraulic transmission comprising, in combination, a housing including an outer casing and spaced supporting portions within said casing; swash-plate pump means including a piston carrier pump member mounted in said housing for rotation about a first axis and a cylinder block pump member mounted in said housing on said spaced supporting portions for angular displacement about a second axis intersecting with said first axis at right angles; drive shaft means extending into said housing and being rigidly connected to said piston carrier pump member for rotating the same; a pair of swash-plate motors located in said housing on opposite sides of said cylinder block pump member of said swash-plate pump means, each motor including a control member fixedly secured to one of said supporting portions, a cylinder block member rotatable on said control member, and a piston carrier motor member rotatably mounted in said housing, the axes of said cylinder block motor members being located in the same plane as said first and second axes and being respectively inclined to each other and to said first and second axes, and said piston carrier motor members having, respectively, axes inclined to the axes of the respective associated cylinder block members; a pair of driven shaft means extending from opposite sides into said housing and being respectively secured to said piston carrier motor members of said motors for being rotated by the same; and conduit means in said supporting portions connecting said cylinder block pump member with said cylinder block motor members.

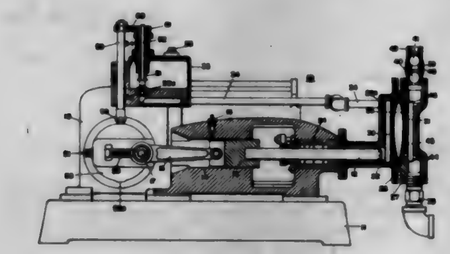
2,975,598
SEALING RING
George E. Carlson, Minneapolis, Minn., assignor to A-P-D Co., Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 17, 1956, Ser. No. 628,588
5 Claims. (Cl. 60—54.6)



4. An assembly comprising, a cylinder member, a piston member mounted within said cylinder member and co-operatively defining therewith in a pressure chamber, said members being movable relative to each other, one of said members having a port for introducing fluid under pressure into said pressure chamber, one of said members having a substantially flat annular surface extending circumferentially of the axis of said piston member along its periphery and substantially normal to said axis, and a sealing ring mounted within said chamber between said flat annular surface and said port, said sealing ring having a pair of axially spaced sides, one of said sides being convex and bearing against said flat annular surface and the other of said sides being concave and smooth throughout its entire surface and being disposed between said port and the remainder of said sealing ring, said sealing ring being generally rectangular in cross-sectional configuration and having a convexly shaped lobe at each of the corners thereof between adjacent sides, the innermost portion of said concave side being disposed at the central portion of the side, the lobes formed at the corners of the concave side extending outwardly of the central portion of the concave side a distance which is a very minor portion of the distance between the central portion of the concave side and the central portion of the opposite convex side to thereby define stubby relatively inflexible lobes, the exterior surface of said lobes in their free forms being smoothly contoured throughout and continuously arcuate in shape whereby when fluid pressure is applied through said port the corner lobes of said sealing ring will provide an effective seal against leakage of the fluid between said piston and said cylinder.

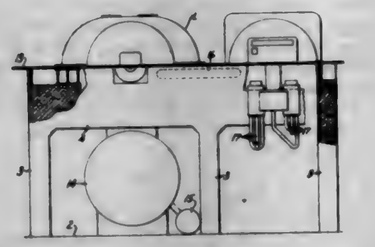
2,975,599
PUMP WITH FLUID TRANSMISSION
Richard A. Bennett, Glenside, Pa., assignor to Milton Roy Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 27, 1957, Ser. No. 699,295
9 Claims. (Cl. 60—54.6)

1. In pumping apparatus of the hydraulic transmission type, a chamber for transmission liquid, actuating means including a plunger for actuating the transmission liquid by reciprocation of said plunger in and out of said transmission chamber, reservoir for the transmission liquid connecting with said chamber by way of a conduit, a pressure relief valve in said conduit, said pressure relief valve being normally biased to closed position at a predetermined pressure to seal said reservoir from said chamber for all pressures below said predetermined pressure during the pressure stroke of said plunger, said pressure relief valve being automatically moved to open



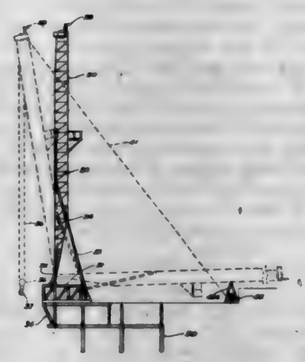
position at any pressure above said predetermined pressure, and mechanical means including a valve operator operated by said actuating means in opposition to the pressure of said normal bias to open said valve when said plunger is at the end of the suction stroke thereby connecting said transmission chamber with said reservoir during each cycle of said pumping apparatus to permit readjustment of the volume of transmission liquid in said transmission chamber.

2,975,600
STEAM TURBINE INSTALLATION
Charles D. Wilson, West Allis, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 17, 1958, Ser. No. 721,855
3 Claims. (Cl. 60—95)



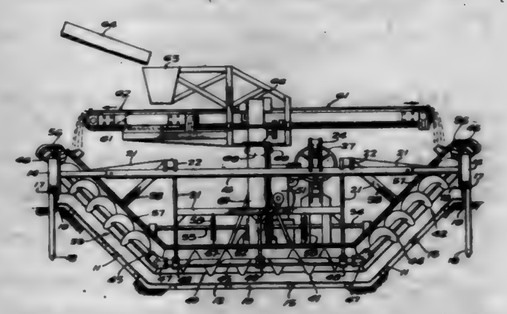
1. In an elastic fluid turbine installation, a subfoundation level, foundation structure mounted on said subfoundation level and extending upwardly from said subfoundation level, said foundation structure having a supporting surface, a turbine mounted on said supporting surface in an elevated position above said subfoundation level and arranged with the longitudinal centerline axis of said turbine in a horizontal plane, and floor structure seated on said supporting surface and spaced above said subfoundation level at least as high above said subfoundation level as approximately said longitudinal centerline axis of said turbine, said turbine having auxiliary piping and equipment located beneath said floor structure so that said floor structure and said upwardly extending foundation structure cooperate to protectively shield operators from said auxiliary piping and equipment and from the lower half of said turbine.

2,975,601
HANDLING OF EQUIPMENT LATERALLY OF A WELL LOCATION
Warren K. Thorson, Dallas, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas County, Tex., a corporation of Delaware
Filed Dec. 22, 1955, Ser. No. 554,765
13 Claims. (Cl. 61—46.5)



4. Apparatus for use in drilling and performing other operations on a well and handling equipment at one side thereof, comprising a platform, a mast, means pivotally mounting the mast on the platform toward one edge thereof for swinging movement in one direction in a vertical plane from a substantially horizontal drilling position through an upright position in which the upper end of the mast is above the platform to a tilted position in which said upper end is to one side of the platform and the mast is at a substantial angle with the vertical, a leg connected between the mast intermediate its ends and the platform and supporting the mast in its upright drilling position, means for causing the leg to apply a force to the mast to swing the mast toward its tilted position, means for releasing the connection of said leg between the mast and platform when the mast is tilted, and means connected to the mast adjacent its upper end when the mast is in tilted position and limiting swinging movement of the mast beyond said tilted position.

2,975,602
APPARATUS AND METHOD FOR PLACING AND FINISHING CONCRETE IN DITCHES
Sylvester V. Stromberg, 13552 Yockey, Westminster, Calif.
Continuation of application Ser. No. 758,451, Sept. 2, 1958. This application Feb. 23, 1960, Ser. No. 10,511
17 Claims. (Cl. 61—63)



1. Apparatus for placing concrete on a surface which inclines relatively steeply from the horizontal whereby concrete deposited at the upper portion thereof will flow

downwardly at a substantial rate; which apparatus comprises an elongated shaft, means to mount said shaft in spaced generally parallel relation above said surface and with one end of said shaft at an elevation substantially above that of the other end thereof, blade means mounted on said shaft at substantially all longitudinal points therealong to effect mixing, placing, working, compacting and tamping of concrete fed thereto, wall means mounted generally parallel to said shaft and blade means both forwardly and rearwardly thereof and generally perpendicular to said surface to confine concrete in the vicinity of said shaft and said blade means carried thereby, said wall means being spaced sufficiently far from said blade means to prevent the larger aggregates from binding between said blade means and wall means, means to rotate said shaft about the longitudinal axis thereof whereby said blade means is rotated about the longitudinal shaft axis to effect said operations on said concrete, and means to effect translational movement of said shaft and said wall means along said surface.

2,975,603

CARBONATED ICE, PROCESS, AND PRODUCT

Harry M. Barnes, Valley Cottage, N.Y., and Leon T. Kremzner, Upper Saddle River, and William A. Mitchell, Lincoln Park, N.J., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 7, 1958, Ser. No. 726,657
8 Claims. (Cl. 62—1)

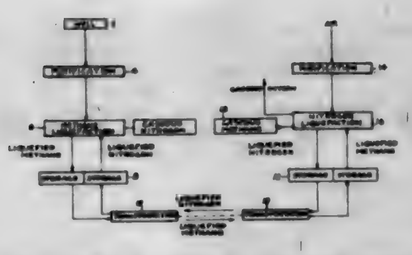
7. A carbonated ice product characterized by its long storage life and ability to react with liquid to provide an effervescent beverage of pleasant taste and long carbonation life comprising ice containing at least 25–27.5 milliliters of bound carbon dioxide per gram of ice prepared at a pressure of at least about 200 p.s.i.g. and less than about 600 p.s.i.g.

2,975,604

METHOD OF DISTRIBUTION OF CONDENSABLE GASES

Howard O. McMahon, Lexington, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed May 7, 1956, Ser. No. 583,119
2 Claims. (Cl. 62—9)



1. The method of making a condensable natural gas available at a location remote from a source, which comprises:

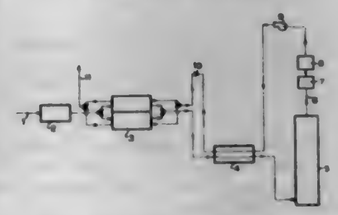
(*a*) liquefying the condensable gas;
(*a'*) introducing the liquefied natural gas into insulated storage tanks;
(*b*) transporting said liquefied gas in the insulated storage tanks to a remote location;
(*b'*) removing the liquefied gas from the insulated storage tanks at the remote location;
(*c*) vaporizing said gas to produce refrigeration at said remote location;
(*d*) utilizing said refrigeration in liquefying air in the vicinity of said remote location;
(*e*) permitting at least a portion of the oxygen in said air to become separated from said air, leaving the nitrogen substantially in liquefied form;
(*e'*) introducing the liquefied nitrogen into said storage tanks from which the liquefied gas was removed without purging the tanks and while the tanks are still cold from the liquefied gas;
(*f*) transporting said liquefied nitrogen to the source of said condensable gas in the facilities used for transporting said condensable gas;
(*g*) vaporizing said nitrogen at the source of said condensable gas to produce refrigeration; and
(*h*) utilizing said last-mentioned refrigeration in liquefying additional condensable gas at the source.

2,975,605

PROCESS FOR PURIFYING TECHNICAL HYDROGEN

Pieter J. Haringhuizen, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

Filed Sept. 27, 1955, Ser. No. 537,071
4 Claims. (Cl. 62—13)



1. In a process for the purification of technical hydrogen comprising subjecting the hydrogen to a preliminary cooling to a temperature below the condensation temperature of the contaminating gases to be removed, said contaminating gases being selected from the group consisting of nitrogen, carbon monoxide and argon so that the greater part of these contaminating substances are deposited in the liquid form, then removing the residual impurities by passing the partly purified hydrogen through a heat exchanging means so that the partly purified hydrogen is cooled and the residual impurities are deposited in said apparatus in the solid form, and removing the deposited solid subsequently by traversing the apparatus in the opposite direction with a flushing current of an equal amount of colder purified hydrogen the improvement comprising passing the flushing hydrogen through the heat exchanging means under a pressure higher than that of the partly purified hydrogen current which passed through the said apparatus, the preliminary cooling being carried out at a temperature below 63° K. to ensure that at the respective pressures and temperatures of the partly purified and the flushing gas currents through the said apparatus, the maximum possible concentration of the impurities in the flushing gas is higher at any point in the apparatus than the maximum concentration of the impurities at that point in the partly purified gas.

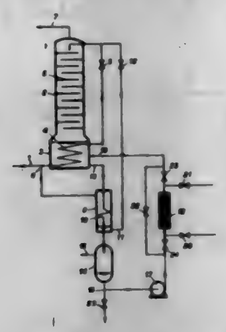
2,975,606

PROCEDURE FOR THE VAPORIZATION OF LIQUID OXYGEN WHICH CONTAINS HYDROCARBONS

Ernst Karwat, Munich-Pullach, Germany, assignor to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Hollriegelskreuth, near Munich, Germany

Filed Mar. 14, 1958, Ser. No. 721,492
Claims priority, application Germany Mar. 20, 1957
4 Claims. (Cl. 62—18)

1. In the fractionation of air containing hydrocarbons as impurities by liquefaction and rectification under relatively low temperatures, wherein compressed air is rectified in a first rectification stage into an oxygen-enriched liquid fraction and a substantially pure nitrogen fraction and wherein the said oxygen-enriched liquid fraction is partially purified from hydrocarbons by passing through an adsorber and wherein the fractions are again rectified together under low pressure in a second rectification stage and wherein a liquid oxygen product containing dissolved hydrocarbons is passed into a liquid body thereof in a lower part of the second rectification stage; the improvement which comprises continuously withdrawing a portion of said liquid body, passing the withdrawn portion



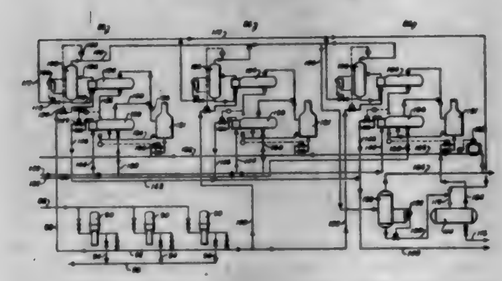
into a vaporizer in the top of said first rectification stage, partially vaporizing said liquid by heat supplied by condensation of the substantially pure nitrogen fraction of the first rectification stage, separating the unvaporized portion of said liquid from said vapors, withdrawing said gaseous portion and passing part of it into the lower section of the low pressure column and withdrawing the other part as a product, recirculating said unvaporized liquid portion at a rate of less than 30% of the amount of liquid vaporized and withdrawn as a product through a body of adsorbent material thereby adsorbing dissolved hydrocarbons, and back to said liquid body.

2,975,607

REVAPORIZATION OF LIQUEFIED GASES

William W. Bodle, Deerfield, Ill., assignor, by mesne assignments, to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas

Filed June 11, 1958, Ser. No. 741,386
9 Claims. (Cl. 62—52)



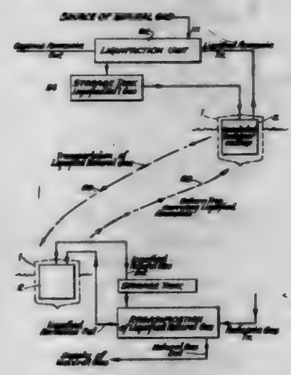
9. A method of utilizing heat from a readily available heat source for vaporizing a liquefied gas having a boiling temperature below the freezing temperature of at least one component of the heat source, comprising passing a heat transfer medium in heat exchange relation with the liquefied gas, and, alternately, the heat source, said heat transfer medium having a freezing temperature below the boiling temperature of the liquefied gas and having a temperature between the temperature of the heat source and the freezing temperature of any component of the heat source while passing in heat exchange relation with the heat source, and characterized further in that the heat transfer medium is a liquid having a moderate vapor pressure at a temperature between the temperature of the heat source and the freezing temperature of any component of the heat source for vaporization of the heat transfer medium upon passage in heat exchange relation with the heat source.

2,975,608

TRANSPORTATION AND USE OF LIQUEFIED NATURAL GAS

Willard L. Morrison, Lake Forest, Ill., assignor, by mesne assignments, to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas

Filed July 1, 1957, Ser. No. 669,194
4 Claims. (Cl. 62—53)



1. In the method of processing natural gas, consisting essentially of methane, available from a source of supply for use at a distant station lacking such supply by reducing the natural gas to a liquefield state at the supply source, transporting the natural gas in its liquefied state in insulated receivers of large capacity while at atmospheric pressure and at a temperatur of about —258° F. to a distint station for use, the steps of withdrawing the liquefield natural gas from the insulated receiver when at the station of use, passing the liquefield natural gas in heat exchange relation with another gas to convert the liquefied gas to the gaseous state for use while concurrently recovering the refrigeration invested in the liquefied natural gas for liquefaction of the other gas passed in heat exchange relation therewith, discharging the vaporized natural gas for use, discharging the liquefied other gas when in the form of an inert gas selected from the group consisting essentially of ammonia and nitrogen into the insulated receivers for use in retaining the temperature in the receivers during the return voyage while also making such other gas and its refrigeration available for use at the supply source for the natural gas.

2,975,609

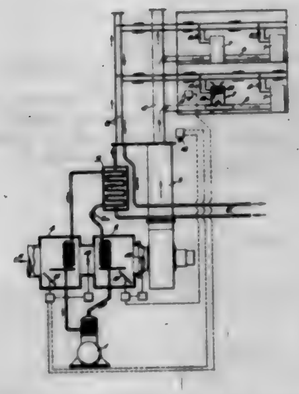
AIR CONDITIONING

Claes Allander, Södra Angby, and Bror Lunden and Karl Nilsson, Bromma, Sweden, assignors to AB Svenska Flaktfabriken, Stockholm, Sweden, a corporation of Sweden

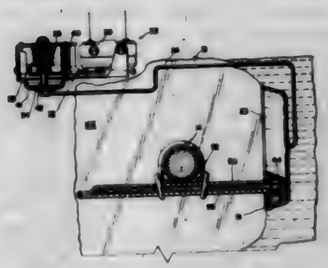
Filed July 30, 1956, Ser. No. 600,836
Claims priority, application Sweden Aug. 1, 1955
1 Claim. (Cl. 62—90)

In the method of air conditioning a plurality of rooms and similar enclosed areas comprising the steps of pretreating outdoor air in a central air conditioning plant by cooling and dehumidfying the air, and then reheating the air approximately to the temperature of the room air, distributing said pretreated air through a duct system to

individual room units, mixing said air with recirculated room air and passing said mixed air over a heat exchanger disposed in each room unit to individually control the temperature of said mixed air to be discharged into the rooms, the improvement comprising the step of cooling and dehumidifying the outdoor air in the central air conditioning plant to such a degree that its dewpoint is below the dewpoint of the atmosphere surrounding said distributing duct system and also sufficiently lower than the dewpoint of the recirculated air in each room unit to insure that the dewpoint of the mixed air will be below the temperature of the heat exchange medium used in said room units.

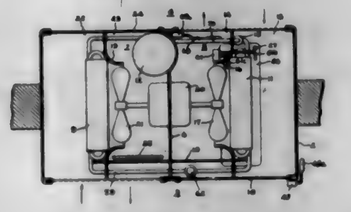


2,975,610
CONTROL APPARATUS
Elwyn H. Olson, St. Paul, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 7, 1958, Ser. No. 726,947
3 Claims. (Cl. 62—139)



1. An ice bank control for controlling the quantity of ice which forms on a cooling coil of a refrigeration apparatus comprising, switch means adapted to control the energization of the refrigeration apparatus, sensing means responsive to the quantity of ice on the cooling coil, and means connecting said sensing means to said switch means so that the refrigeration apparatus is operated to maintain a selected quantity of ice on the cooling coil, said sensing means comprising a water filled chamber bounded on one side by a flexible diaphragm, a tube sealed at one end and connected at the other end to said chamber to form a part thereof, said tube being supported in thermal contact with the cooling coil and providing a support for said sensing unit whereby the relative location of said sensing element and the coil can be adjusted to select the size of the ice bank desired, and a thin silver wire contained in said tube to be in contact with the water in said tube, said wire having been exposed to iodine fumes so that it has a coating of silver iodide on its outer surface to provide an even distribution of silver iodide in said tube.

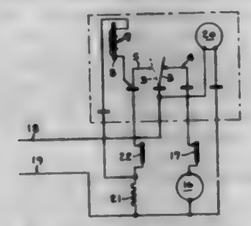
2,975,611
CONTROL SYSTEM FOR AIR CONDITIONING UNITS
Joseph A. Pietsch, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 31, 1959, Ser. No. 837,142
3 Claims. (Cl. 62—151)



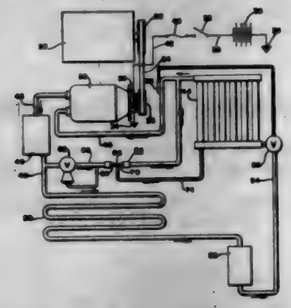
1. An air conditioner for both heating and cooling an enclosure comprising a casing adapted for mounting in an outer wall of said enclosure, a refrigeration system in said casing including a compressor, a condenser and an evaporator connected in refrigerant flow relationship, refrigerant expansion means connected between said condenser and said evaporator for expanding refrigerant from condenser pressure to evaporator pressure, a normally closed bypass conduit also connected between said condenser and said evaporator for bypassing refrigerant from said condenser around said expansion means directly into said evaporator, fans in said casing for circulating separate air streams over said condenser and said evaporator respectively, an electrical motor for driving said fans, openings in said casing communicating with said enclosure and the outside, damper means in said casing for directing air from inside and outside said enclosure over said condenser and evaporator respectively, means for defrosting said evaporator including a pressurestat responsive to the air pressure drop across said evaporator due to frost accumulation thereon, means actuated by said pressurestat for opening said bypass conduit to pass refrigerant around said refrigerant expansion means from said condenser directly into said evaporator, a holding relay also energized by said pressurestat for interrupting the power to said fan motor and for maintaining said bypass conduit open when said pressurestat becomes inoperative as a result of the discontinued air flow through said evaporator, and means responsive to the temperature of refrigerant leaving said evaporator for deenergizing said holding relay so that said bypass conduit is again closed and power is again supplied to said fan motor for circulating air through said evaporator and said condenser respectively.

2,975,612
CONTROL MEANS FOR DEFROSTING REFRIGERATORS
Joseph J. Everard, Two Rivers, Wis., assignor to Paragon Electric Company, Two Rivers, Wis.
Filed Oct. 1, 1956, Ser. No. 613,186
2 Claims. (Cl. 62—155)

1. In an electric refrigerator, a compressor element, a defrosting heater, a low temperature thermostat in series with said compressor element and arranged to open on decrease of temperature below a predetermined point, a high temperature thermostat in series with said heater and arranged to open on rise of temperature above a predetermined point, a switch including a first contact means operatively connected to said compressor element, a second contact means operatively connected to said heater, a third contact means constituting a power supply means and biased towards contact with said first contact means, cam means coacting with the contact means for causing contact between said third contact means and said second contact means, a latching member for holding said third contact means in engagement with said second contact means, and an electromagnet for tripping said latching member when energized, said electromagnet being bridged by said high temperature thermostat when said high temperature thermostat is closed.

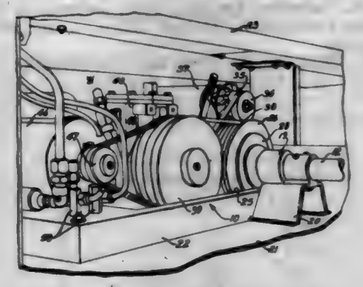


2,975,613
REFRIGERATING APPARATUS WITH ASPIRATOR IN A BY-PASS
John H. Heidorn, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,685
3 Claims. (Cl. 62—192)



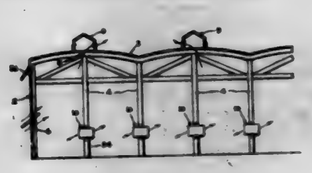
1. Refrigerating apparatus including an operative refrigerant circuit comprising a compressing means having an inlet and an outlet a condensing means having an inlet and an outlet, an evaporating means having an inlet and an outlet, a first conduit means including a flow control device connecting the outlet of said condensing means and the inlet of the evaporating means, a second conduit means connecting the outlet of said compressing means and the inlet of said condensing means, a third conduit means connecting the outlet of the evaporating means and the inlet of the compressing means, a by-pass conduit means connecting said second and third conduit means, said by-pass conduit means including an aspirator means provided with a suction entrance, said evaporating means having a portion where lubricant is apt to collect, a fifth conduit means extending from said suction entrance to said portion of said evaporating means, means for stopping flow through said by-pass conduit means to cause normal refrigeration to be produced by said refrigerant circuit and for opening said by-pass conduit means for stopping refrigeration in said refrigerant circuit and drawing lubricant from said evaporating means through said fifth conduit means.

2,975,614
MOBILE REFRIGERATION SYSTEM
James W. McGuffey, Lansing, Mich., assignor to Tranter Manufacturing, Inc., Lansing, Mich., a corporation of Michigan
Filed Jan. 8, 1958, Ser. No. 707,810
7 Claims. (Cl. 62—230)



1. In a refrigeration system for a vehicle, a vehicle driven shaft, a compressor unit, an electrical generator unit, a stand-by motor, means connecting said generator unit with said shaft and said compressor unit with said shaft and motor for selective drive thereby, including an electrically controlled clutch in each of a pair of driving connections from said motor and shaft to said compressor unit, electrical means including an electrically actuated interlock relay device operatively connected to and controlling said clutches for the mutually exclusive drive of said compressor unit by said motor, or of said compressor unit along with said generator unit by said shaft, a source of electrical power for said motor, and means including a rectifier connecting said source with the clutch in the driving connection from said motor to said compressor unit.

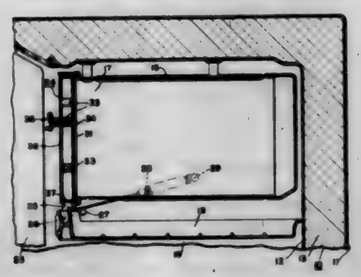
2,975,615
AIR CONDITIONING ARRANGEMENT FOR RELATIVELY HIGH ROOFED BUILDING STRUCTURES
Leonard W. Atchison, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 28, 1959, Ser. No. 862,389
2 Claims. (Cl. 62—263)



1. In combination with a building having means for ventilating the upper portion thereof, a plurality of supporting columns for the roof of said building, means on said supporting columns slightly above the heads of the occupants of said building for mounting window-type air conditioning units, said units being mounted entirely within said building, each of said air conditioning units having a refrigeration unit mounted therein including an air cooling unit and a condensing unit for supplying liquid refrigerant to said air cooling unit, means in each of said air conditioning units for circulating an air stream from the upper portions of said building over said condensing unit and for discharging said air stream in an upward direction from said air conditioning unit, means in each of said air conditioning units for circulating an air stream from the lower portion of said building over said air cooling unit and discharging said air stream in a downward direction from said air conditioning unit so

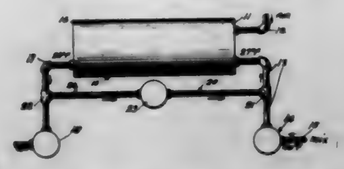
that a layer of cool air is built up in said building from the floor thereof to a height slightly above the heads of the occupants therein.

2,975,616
REFRIGERATING APPARATUS
Orson V. Saunders, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 24, 1958, Ser. No. 769,428
1 Claim. (Cl. 62—291)



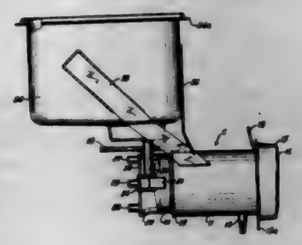
A movable double-walled door structure formed of separate secured together imperforate inner and outer panels spaced from one another to provide a single hollow chamber therebetween extending continuously intermediate four opposed peripheral edges of the door, said inner imperforate door panel closing a low temperature compartment located within a relatively higher temperature compartment and preventing flow of air between said door chamber and said low temperature compartment, said peripheral edges of said door being closed at the top and sides thereof and open at its bottom edge for circulation of air from said higher temperature compartment into the hollow door chamber, moisture in the air circulating into said door chamber being condensable on said inner door panel, the condensate water in said door chamber gravitationally flowing out of the door structure through said open bottom edge thereof, and a removable receptacle in said higher temperature compartment beneath said door structure for receiving the condensate water therefrom.

2,975,617
AERATING AND REFRIGERATING APPARATUS
Alden H. Wakeman, Lake Mills, Wis., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 23, 1958, Ser. No. 710,743
5 Claims. (Cl. 62—342)



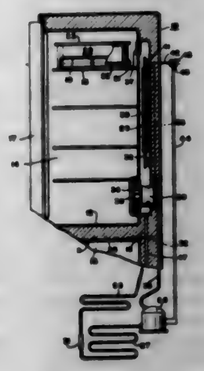
1. An aerating and refrigerating apparatus for a readily solidifiable liquid, comprising an elongated refrigerated chamber through which such a liquid flows and is simultaneously aerated, first conduit means connected to the inlet side of said chamber for effecting introduction of such liquid into said chamber, second conduit means connected to the outlet side of said chamber for effecting removal of aerated and refrigerated liquid from said chamber, third conduit means having one end thereof connected to said first conduit means and the other end thereof connected to said second conduit means, and liquid-impelling means disposed within said third conduit means for effecting continuous recirculation of a portion of the discharged refrigerated and aerated liquid from said second conduit means to said first conduit means whereby said recirculated liquid is intermixed with the liquid initially entering said chamber.

2,975,618
CONTINUOUS FREEZER
Lawrence E. Koch, Beloit, Wis., assignor to Louis A. M. Phelan, Rockton, Ill.
Filed Dec. 30, 1959, Ser. No. 862,899
2 Claims. (Cl. 62—342)



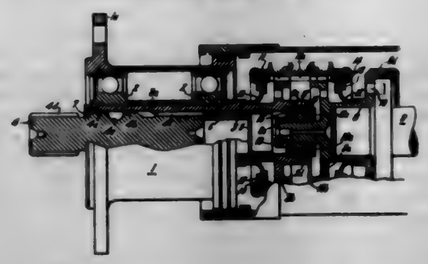
1. A continuous freezer comprising, a freezing cylinder, a fresh-mix supply tank in mix delivering communication with said cylinder and rigidly secured thereto by strap means to form a cylinder-tank unit, a container for said unit and substantially enclosing the latter and forming an enclosed space therewith, and a rigid and self-supporting insulation of the cellular plastic type in said space between said unit and container, said insulation rigidly supporting said cylinder and said tank with respect to one another and also in respect to said container.

2,975,619
REFRIGERATOR WITH MEAT STORAGE RECEPTACLE
Orson V. Saunders, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 16, 1959, Ser. No. 799,686
1 Claim. (Cl. 62—419)



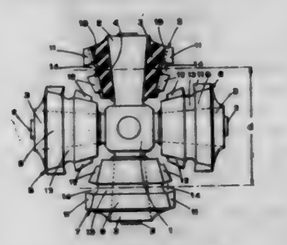
In combination, a refrigerator cabinet having a food compartment therein provided with a front opening closed by a door, a refrigerating system associated with said cabinet including a refrigerant evaporator for cooling air in said compartment, said evaporator being disposed in a flue provided in the cabinet having an inlet opening and an outlet opening communicating with said compartment, means for circulating air from said compartment into said flue over said evaporator to cool the air to a temperature below 32° F. and force the cold air out of the flue back into the compartment through said flue openings respectively, a support within said compartment in the vicinity of said flue outlet opening having opposed upstanding guide means thereon, a rectangularly shaped open top receptacle within said compartment adapted to have cuts of fresh meat stored therein, a lid movably mounted on and carried by said receptacle closing the open top thereof and isolating the interior of the receptacle from air in said compartment, said receptacle being slidably supported on said support intermediate said opposed upstanding guide means thereon to position the receptacle adjacent said flue outlet opening, said receptacle being provided with hollow closed communicating walls containing a temperature hold-over substance, one of said hollow closed walls of said receptacle being located directly in the path of cold air egressing from said flue outlet opening to chill fresh meat cuts stored in the receptacle below 32° F., another of said hollow closed walls of said receptacle being exposed to air in said compartment, said hold-over substance serving to prevent the temperature within said receptacle from increasing above 32° F. during a period of time in which the air egressing from said flue outlet opening rises above 32° F., said receptacle being slidable along said support outwardly of said compartment through its front opening when said door is opened, said lid being movable relative to said receptacle to uncover the top thereof and provide access to meat stored therein when the receptacle is so slid, said opposed upstanding guide means on said support guiding said receptacle upon closing its lid and sliding the receptacle back into said compartment to relocate same in said path of cold air egressing from said flue outlet openings, and said receptacle together with said lid thereon being detachable from said support and removable as a unit from said compartment.

2,975,620
FLEXIBLE COUPLING WITH TORQUE-LIMITING MEANS
Eugene E. Shipley, Middleton, and Darle W. Dudley, Lynnfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Dec. 28, 1959, Ser. No. 862,112
5 Claims. (Cl. 64—9)



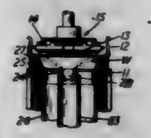
1. A flexible coupling for connecting first and second shafts subject to relative angular misalignment comprising first coupling means connected to the first shaft having a first splined radial flange portion and also including a hollow centering cylinder extending axially beyond said first splined portion, second coupling means having a second splined radial flange portion axially spaced from the first splined portion and also including a stub portion extending axially within the centering cylinder and defining a partially spherical surface forming close clearances with the cylinder interior at a point substantially axially midway between the first and second splined portions, a coupling sleeve enclosing said splined flange portions defining spline teeth engaging the first and second coupling splined portions, and torque-limiting means to limit the coupling torque to a predetermined maximum value comprising a reduced diameter shaft portion arranged to be subjected to the torque transmitted by the coupling and torsionally pre-yielded above the normal operating torque transmitted between the first and second shafts.

2,975,621
UNIVERSAL JOINTS AND COUPLINGS
Alexander Eric Moulton, Bradford-on-Avon, and Alec A. Issigonis, Oxford, England, assignors to Moulton Developments Limited, Bradford-on-Avon, England, a British company
Filed June 1, 1959, Ser. No. 817,096
Claims priority, application Great Britain June 6, 1958
14 Claims. (Cl. 64—17)



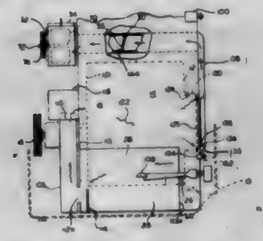
12. A universal shaft coupling of the Hooke's joint type comprising a spider having four mutually perpendicular limbs, a frusto-conical rubber bush having a thicker end and a thinner end bonded to each limb with its thicker end outermost, a frusto-conical shell surrounding each bush, and means compressively engaging each shell upon a corresponding bush, each shell being formed of complemental half sections having their longitudinal edges provided with radially projecting lugs presenting a gap therebetween substantially midway between the opposite ends of each such half section, the wall of each section being inwardly deformed circumferentially from one such gap to the other to define circumferentially extending arcuate grooves deforming the walls inwardly to be embedded within a respective bush.

2,975,622
CIRCULAR KNITTING MACHINES
Herman Booton and Herbert Neal, Leicester, England, assignors to W. E. Booton Limited
Filed Nov. 30, 1956, Ser. No. 625,454
Claims priority, application Great Britain Dec. 2, 1955
8 Claims. (Cl. 66—149)



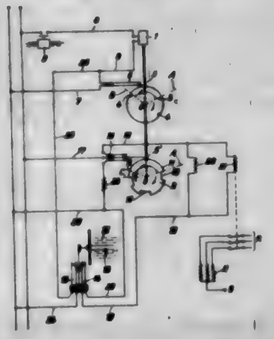
1. In the production of tubular fabric on a circular knitting machine having a circle of needles, a method of drawing off the fabric tube from the needles as production continues, which comprises the steps of sucking the fabric tube along a conduit disposed within the needle circle and having an entry of smaller size than the needle circle with the radial distance between said entry end and the needle circle varying around the circle, and effecting relative rotation between said entry end of the conduit and the circle of needles.

2,975,623
HEATING MEANS FOR COMBINATION WASHER-DRYER
Robert L. Eichhorn and Don R. Cronk, Benton Harbor, Mich., assignors to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed July 29, 1957, Ser. No. 674,948
9 Claims. (Cl. 68—12)



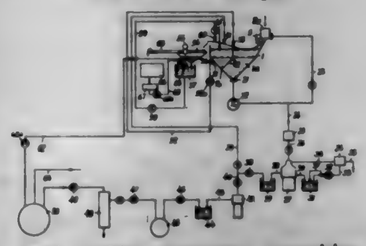
1. A combination laundry machine for washing and drying operations comprising a chamber defining a laundering zone wherein articles may be subjected to a washing operation during a first operational period and subjected to a drying operation during a second operational period, an air conduit means defining a path of air flow through the laundering zone, flow control means for controlling the flow of air through the conduit means and operative to selectively create a first reduced flow quantity during the washing operation and a second increased flow quantity during the drying operation, a heater associated with the air conduit for increasing the temperature of air flowing through said zone, and a presettable sequential time control means determining the cycle of operation of the machine and operatively connected to the flow control means and causing the first flow quantity to be moved through the laundering zone during the washing period and the second flow quantity during the drying period.

2,975,624
WASHING MACHINES
Hugo Werner Geschka, Duesseldorf, Germany, assignor to Maschinenfabrik Peter Pfenningsberg G.m.b.H., Duesseldorf-Oberkassel, Germany
Filed Sept. 4, 1957, Ser. No. 681,978
Claims priority, application Germany Sept. 8, 1956
1 Claim. (Cl. 68—12)



A device for maintaining the water temperature in an automatic washing machine, comprising, in combination electrical heating resistances, a time control motor, a cycle switch control disc having peripheral spaced recessed portions and operable by said motor, a time control circuit connecting said motor to a power supply, a cycle control switch connected in series with said time control circuit and having switch contact means engageable with the periphery of said disc and said recesses, said switch contact means of said cycle control switch opening the time control circuit upon engaging in said recesses of said control disc, time switch contact means, a temperature switch adapted to react to a predetermined temperature connected in series with said time switch contact means and connected in parallel with said cycle control switch for bridging same, a time control disc operable by said motor and adapted to actuate said time switch contact means, a relay switch controlling said heating resistances, said relay switch being connected in the time control motor circuit and being normally open and closing upon operation of said time switch contact means, said temperature switch closing the motor circuit when the desired temperature has been reached, said time-control disc having spaced peripheral recesses, said time switch contact means having contact arms provided with contact points adapted to engage said peripheral recesses for interrupting the circuit to said heating resistances, said switch contact means of said cycle control switch adapted to engage in the recessed portions of said time-control disc to interrupt said cycle control switch shortly before the peripheral recesses of said time switch contact means have been reached.

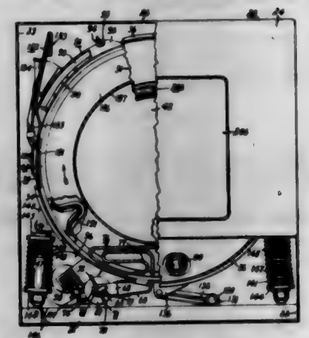
2,975,625
APPARATUS FOR WASHING WOOL
Sven-Olof Lundgren, Norrkoping, Sweden, assignor to Stiftelsen Svensk Textilforskning, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 2, 1956, Ser. No. 575,439
Claims priority, application Sweden Apr. 5, 1955
6 Claims. (Cl. 68—18)



1. A wool washing apparatus, comprising a tank adapted to contain a body of washing liquid, a perforated bed having an entrance portion adjacent one side of said tank, a middle portion, and an exit portion adjacent an opposite side of said tank, means resiliently supporting said bed in said tank with at least the middle portion of said bed normally submerged in such body, means for feeding a suspension of wool in washing liquid onto said bed at the entrance portion of the latter, means for vibrating said bed in such manner as to move wool in one direction therealong from said entrance portion to said exit portion thereof, a plurality of series of spray nozzles, said series of spray nozzles being disposed sequentially above and over the exit portion of said bed and adapted to spray washing liquid onto wool being moved along the latter, means for supplying relatively impure washing liquid from a first source to the sequentially first series of spray nozzles and means for supplying purer washing liquid from a second source to the sequentially last series of spray nozzles.

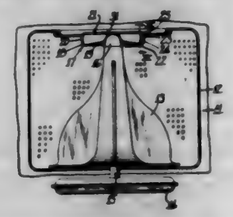
2,975,626
WASHING MACHINE HAVING A CENTRIFUGAL EXTRACTOR AND DRYER
Edward J. Frey, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 19, 1956, Ser. No. 623,052
4 Claims. (Cl. 68—19)

4. In combination, a cabinet having a base, side walls mounted on the base, a top, a removable front wall removable without disturbing the side walls to provide a large front access opening to the interior of the cabinet, a generally cylindrical outer drum within said cabinet, a rotatable inner drum within said outer drum, a sheathed tubular electric heater extending between the inner and outer drums and having a terminal portion extending



through the peripheral wall of the outer drum adjacent said front access opening and removable front wall, and external fastening means on the outside of said outer drum adjacent said terminal portions accessible when the front wall of said cabinet is removed for fastening said heater to the peripheral wall of said outer drum.

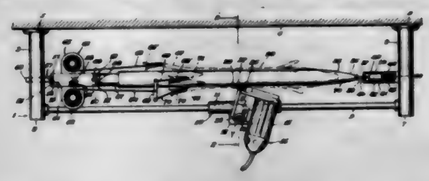
2,975,627
DISPENSING SYSTEM
Raymond S. Platt, Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed July 23, 1956, Ser. No. 599,590
13 Claims. (Cl. 68—207)



8. Liquid handling apparatus rotatable on a vertical axis and being conditioned by rotation about said axis to dispense fluid by a syphon action, comprisnig wall means defining a fluid-receiving chamber capable of retaining the fluid therein during rotation, conduit means having an inlet inside of said chamber radially outwardly of the rotation axis and an outlet outside of said chamber and a portion between the inlet and outlet above the level of the inlet, and means for rotating said chamber about the vertical axis, said outlet, said inlet and said portion of said conduit means being constructed and disposed to retain a sufficient amount of fluid forced from said chamber into said inlet of said conduit means to prime said conduit means upon rotation and forming a syphon passage to cause a syphoning effect through said conduit means when rotation of said chamber is substantially ceased.

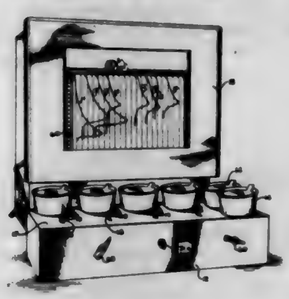
2,975,628
ANIMAL PELT PROCESSING MACHINE
Harvey V. Palmer, R.F.D. 5, Box 430, McHenry, Ill., and Robert H. Palmer, 1728 W. Aladdo St., Chicago 40, Ill.
Filed June 30, 1958, Ser. No. 745,639
11 Claims. (Cl. 69—46)

1. In a fleshing machine, a support including a pair of laterally spaced standards, a holder on each standard, a pelt mounting pole extending between said holders, means releasably mounting said pole on respective holders, said pole having a base abutting one of the holders, means releasably interlocking said base and one holder against relative rotation, a pair of tension devices mounted upon said one holder each including a spring loaded cable, a



clamp on one of said cables for clamping one extremity of a pelt mounted upon the pole, a whiffletree connected to the other cable, and clamping means on the whiffletree for clamping the other extremities of the animal pelt, said one holder pivotal with the pole with respect to the associated standard.

2,975,629
TEST EQUIPMENT FOR DETERMINING TEMPERATURE CHANGE CHARACTERISTICS OF MATERIALS
John D. Herbert, Los Angeles, Calif., assignor, by mesne assignments, to The Patent and Licensing Corporation, New York, N.Y., a corporation of Massachusetts
Filed June 6, 1958, Ser. No. 740,460
10 Claims. (Cl. 73—15)

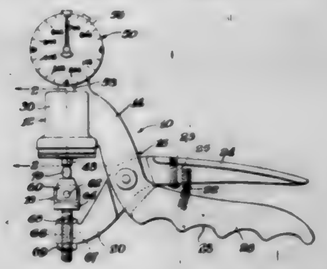


1. In an apparatus for operation in conjunction with a multi-channel recorder for determining temperature change characteristics of plasters, cements and the like, the combination of: support means for supporting a plurality of samples; a plurality of temperature sensitive elements carried in said support means for positioning adjacent each of the samples, respectively, each of said elements providing an electrical impedance change as a function of its temperature; a plurality of impedance elements, with an impedance element connected in series with each temperature sensitive element respectively at a junction point to form a plurality of series circuits; a voltage source; a voltage dividing resistance having a plurality of taps; and circuit means for connecting said series circuits and said voltage dividing resistance in parallel across said source, with said junction points and taps connected in pairs to provide a plurality of input signals to the recorder.

2,975,630
TABLET HARDNESS TESTER
Frank Michel, Brooklyn, N.Y., assignor to Chas. Pfizer & Co., Brooklyn, N.Y., a corporation of Delaware
Filed Oct. 28, 1958, Ser. No. 770,126
3 Claims. (Cl. 73—78)

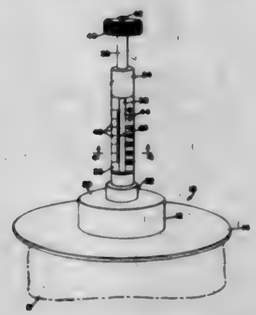
1. A device for testing the hardness of tablets comprising a pair of levers pivoted in a plier form having

handles and opposed jaws, a pivoted anvil for supporting a tablet mounted upon one of said jaws, a cylindrical housing mounted upon the other of said jaws in opposed relationship to said anvil, a transmitting piston movably inserted within said housing and extending a short distance outside it toward said anvil, a gauging spring mounted within said housing and reacting between said



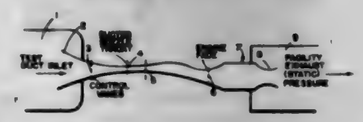
transmitting piston and said housing in a direction forcing said piston out of said housing, a distance-indicating gauge calibrated in load units having a sensing finger mounted upon said housing, and said sensing finger passing through said housing into contact with said piston to permit said gauge to provide a continuous indication of the load applied to a tablet being squeezed between said anvil and said piston.

2,975,631
SOFTNESS GAGE FOR BAKERY PRODUCTS
John Hansen, 710 River Drive, Bettendorf, Iowa
Filed Mar. 3, 1958, Ser. No. 718,544
3 Claims. (Cl. 73—81)



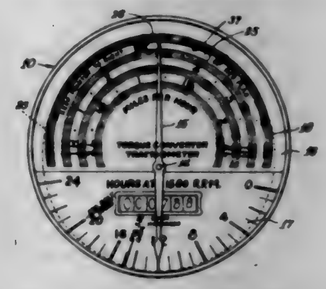
1. An instrument for measuring the softness of a bakery product such as bread and the like, comprising: a base member in the form of an inverted cup having a marginal flat horizontal flange of substantial area adapted to overlie the product and affording a broad undersurface adapted to rest freely on the product so that said instrument is supported directly on the product independently of additional support, said inverted cup providing a downwardly opening pocket and further having a top wall apertured in alinement with said pocket; a weight element housed in said pocket and vertically movable therein for descent by gravity into the product on which the base member is supported so as to measure the softness of the product according to the resistance of the substance of the product to the descent of the weight; a stem secured to and rising from the weight through said apertured top wall of the inverted cup; a sleeve secured to and rising from said top wall and vertically slidably carrying the stem, said sleeve having an opening through its side wall to expose a portion of the stem; a stop on the upper end of the stem engageable with the top of the sleeve to prevent complete downward separation thereof from the sleeve; said weight element affording a stop for the lower end of the stem preventing upward separation of the stem from the sleeve and said stem being otherwise freely vertically slidable and independent of restriction against descent of the weight element; and indicia in part on the portion of the stem exposed through the side opening in the sleeve and in part on the sleeve adjacent to said side opening and cooperative to afford a reading of the amount of descent of the weight element.

2,975,632
DUCTED NOZZLE TESTING APPARATUS
Joseph F. Gazahl, Santa Ana, Calif., assignor to North American Aviation, Inc.
Filed June 4, 1957, Ser. No. 663,508
4 Claims. (Cl. 73—116)



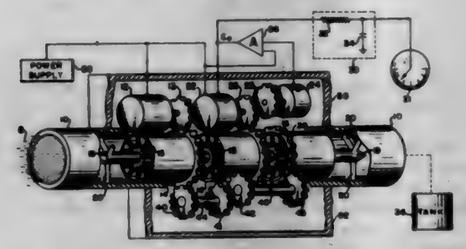
1. A ducted nozzle for simulating actual flight conditions comprising an elongated duct, means to supply air to one end of said duct, throat means in said duct adapted to expand said air to sonic velocity, divergent means in said duct downstream of said throat means to expand said air to supersonic velocity and flow varying means extending into said duct between said one end and said throat means to simulate flow disturbances and to variably control the flow conditions of air including the pressure profile and Mach number contour exiting at the downstream end of said duct, the downstream end of said duct being connectible to the front face of a jet engine to supply controlled air flow to said engine face.

2,975,633
DEVICE FOR DETECTING SLIP IN A TORQUE CONVERTER
Richard W. Hautzenrooder, Detroit, Mich., assignor to Massey-Ferguson Inc., a corporation of Maryland
Filed Nov. 12, 1957, Ser. No. 695,757
4 Claims. (Cl. 73—116)



1. A slipmeter for directly indicating objectionable slip in the fluid coupling of a transmission driven by an internal combustion engine, comprising, in combination, a tachometer coupled to the engine for measuring the latter's driving speed, said tachometer having a dial and a pointer swingable in one direction over the dial in response to increasing engine r.p.m., a manometer coupled to the intake manifold of the engine for measuring the latter's manifold vacuum, said manometer having an indicating member swingable in a plane beneath said tachometer dial and in said direction in response to decreasing manifold vacuum, said member having an index line which may be alined with the pointer when the latter is in a selected speed range, said dial having an arcuate slot permitting said manometer member and its index line to be observed when alined with said tachometer pointer in said speed range, said manometer being calibrated for alining said index line with said pointer when the torque load on the engine for any particular speed in said selected range causes the coupling to operate at the minimum desired efficiency whereby objectionable slip in said coupling is indicated when said index line is swung farther in said one direction than is said pointer.

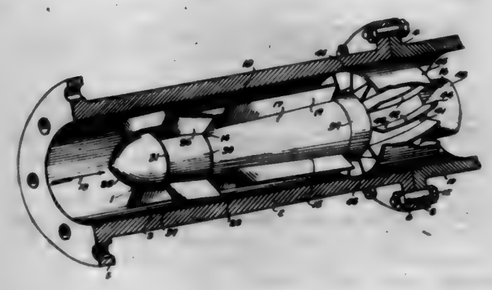
2,975,634
FREQUENCY-COMPENSATED FLOWMETER SYSTEM
Stanley E. Rose, East Meadow, N.Y., assignor to Avien, Inc., Woodside, N.Y.
Filed Aug. 17, 1955, Ser. No. 528,973
6 Claims. (Cl. 73—194)



1. In an apparatus for measuring the mass flow rate of a flowing fluid adapted to be energized by a source of A.C. power including a rotatable vane type first impeller wheel; a synchronous motor, adapted to be energized from the source of A.C. power, coupled to said impeller wheel; a vane type sensing wheel; means for supporting said impeller wheel and said sensing wheel coaxially in juxtaposition; conduit means for directing said flowing fluid, in turn, through said impeller wheel and said sensing wheel so that rotation of the impeller wheel imparts to said fluid angular momentum whereby said sensing wheel has exerted upon it, by the resulting angularly accelerated fluid, a torque related to the mass flow rate of said flowing fluid and the angular velocity of said impeller wheel, the improvement comprising: angular position measuring voltage output means coupled to said sensing wheel so as to provide an output voltage related to the angular position of said sensing wheel, a torque motor coupled to said sensing wheel; means electrically connecting said torque motor with said angular position detecting voltage output means whereby said torque motor is under the control of said angular position detecting voltage output means so as to act on said sensing wheel with a torque substantially equal and opposite said torque exerted on said sensing wheel by said fluid; and indicating means, for indicating said flow rate, electrically connected to said angular position detecting voltage output means and under the control thereof.

2,975,635
APPARATUS FOR DIRECTLY MEASURING MASS OF FLUID FLOW PER UNIT OF TIME
Herbert S. Kindler and Charles M. Halsell, Oklahoma City, Okla., assignors to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware, and Humble Oil and Refining Company, Houston, Tex., a corporation of Texas
Filed June 12, 1956, Ser. No. 590,921
4 Claims. (Cl. 73—194)

1. In combination with a conduit for confining a fluid under flow, an apparatus for indicating mass-flow-rate including a unit adapted to be connected coaxially into the conduit, a rotor having circumferentially spaced radial blades, antifriction means mounting the rotor coaxially in said unit, means responsive to rotation of the rotor for establishing an electrical output in a first electrical circuit, means for straightening and increasing velocity of the flow of the fluid after passing through the rotor, a radial lift element having longitudinally curved radial blades, means supporting the radial lift element in the unit in coaxial relation with the axis of the rotor



and in position to be directly contacted by the straightened flow, means responsive to movement of the radial lift element for changing electrical output in a second electrical circuit, an electrical division computer, means supplying the electrical output of said circuits to the electrical computer for obtaining an electrical output corresponding to division of the electrical output from the second circuit by the electrical output from the first electrical circuit, and means for recording the electrical output from the electrical computer in terms of mass-flow-rate.

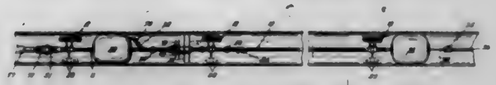
2,975,636
INDICATOR OR CONTROL MECHANISMS USED WITH STORAGE BINS FOR CEREAL PRODUCTS OR THE LIKE
Robert W. Allen, Hazel Grove, England, assignor to Henry Simon Limited, Stockport, England, a British company
Filed May 16, 1958, Ser. No. 735,882
Claims priority, application Great Britain June 12, 1957
12 Claims. (Cl. 73—290)



1. An indicator means for indicating the contents level of a storage bin, comprising a positive-displacement fluid-driven motor, having an output shaft, a paddle carried by said output shaft and adapted to be obstructed to varying degree by the bin contents, a flow restricting device, said motor and said flow restricting device forming a series combination between a fluid pressure source and

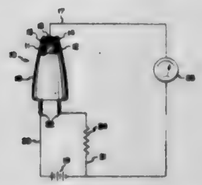
atmosphere, and a pressure responsive device connected effectively across said flow restricting device, said pressure responsive device indicating the contents level of said bin.

2,975,637
LEAK FINDER
Glenn A. Burdick, Murray, Utah, assignor to Statewide Plumbing & Heating Co., Inc., Murray, Utah
Filed Feb. 13, 1957, Ser. No. 640,038
12 Claims. (Cl. 73—304)



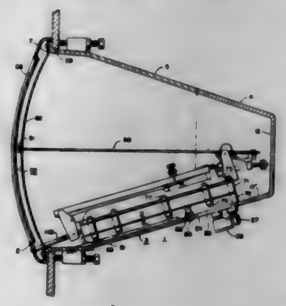
3. A device for detecting and measuring infiltration of water in underground pipes comprising a supporting member, means on said supporting member for supporting the member in spaced relation to the walls of an underground pipe for longitudinal movement therein, spaced apart inflatable sealing means mounted on the supporting member, a plurality of spaced apart electrically isolated electrodes mounted on said supporting member between the spaced apart sealing means, said electrodes extending outwardly from the supporting means toward the walls of the underground pipe, two of said electrodes extending outwardly a greater distance than the remaining electrodes, one of said remaining electrodes extending outwardly a lesser distance than another of said remaining electrodes, electrical conductors connected to said electrodes, a power source having a high potential terminal and a low potential terminal, the conductor connected with one of said farthest outwardly extending electrodes being connected to one of said terminals, the remaining conductors being connected to the other terminal, and means in certain of said conductors to indicate current flow therethrough when a conducting path is established between electrodes connected to opposite terminals of the power source.

2,975,638
ELECTRICAL HYGROMETER DEVICE
Stanley R. Morrison, Minnetonka Village, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 18, 1958, Ser. No. 761,750
9 Claims. (Cl. 73—336.5)



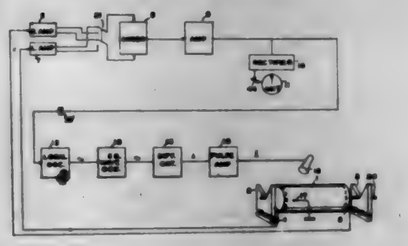
1. An apparatus for determing the moisture content of a gaseous mixture comprising a source of electrical current, thermoelectric means having a junction which is arranged to be cooled upon passage of an electrical current therethrough, and current divider means in thermal and electrical contact with said junction, said current divider means including a support member with a film of a certain electrically conductive material disposed thereon and having electrical contact means arranged on a surface which is spaced from said support member, said electrically conductive material being characterized in that the electrical resistivity drops substantially upon substantial saturation with water, said current divider means being arranged to maintain the said electrically conductive material at an equilibrium moisture content.

2,975,639
INSTRUMENT WITH MAGNETIC COUPLING
Roy Frederick Burlinson, London, Donald Alan Brockman and Philip Maurice Taylor, Shirley, and Llewellyn Young, Croydon, England, assignors to Bailey Meter Company, a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,910
6 Claims. (Cl. 73—407)



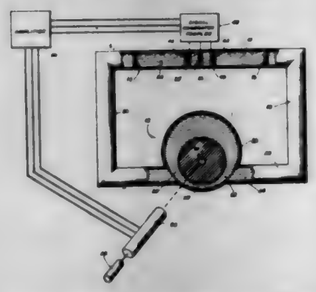
1. An instrument for manifesting the value of a variable comprising, a sealed metal casing having a window in one wall thereof enclosed by a diaphragm of low permeability material, a pressure sensitive element mounted within said casing for movement in response to variations in a pressure condition, a first lever arm supported on said casing independently of said pressure responsive element and operatively connected to said element for movement therewith, a first permanent magnet assembly mounted on one end of said lever arm and defining at least one magnetic pole in close proximity with one side of said diaphragm, a second lever arm pivotally mounted on the exterior surface of said casing in parallel relationship with said first lever arm and having a portion thereof positioned adjacent to the other side of said diaphragm, a second permanent magnet assembly mounted on said portion and defining at least one magnetic pole in close proximity to said other side of said diaphragm, said magnetic pole of said second assembly having magnetic attraction for said magnetic pole of said first assembly to effect movement of said second lever arm with said first lever arm, an indicator pointer movable relative to a scale therefor, and a spring connection between said second movable lever arm and said pointer to effect movement of said pointer with said second arm.

2,975,640
DYNAMIC BALANCING MEANS
Charles H. Quell, Stewart Manor, N.Y., assignor to Micro Balancing, Incorporated, a subsidiary of Giannini Scientific Corporation, Garden City Park, N.Y.
Filed June 28, 1956, Ser. No. 594,499
2 Claims. (Cl. 73—466)



1. Dynamic balancing means of the type having a strobe light comprising means to rotate a workpiece containing two unbalance correction planes and supported in oscillatable work support means, left and right deflection pickups, one at each end of said work support means, each pickup being energized by the oscillations of the rotating workpiece to provide signals having components related to the actual unbalance in a respective correction plane and to an apparent unbalance in said respective correction plane caused by unbalance in the other correction plane, amplifier means connected to each of said pickup means including means to produce a signal to compensate for said apparent unbalance component in the other pickup signal, a mixer circuit, left-right switch means connected to said amplifier means to connect left unbalance signals and left compensating signals to said mixer when said switch is in left position and to connect right unbalance signals and right compensating signals to said mixer when said switch is in the right position, said mixer providing signals related to the actual unbalance in the correction planes, a tunable local vacuum tube oscillator, a switch to selectively connect or disconnect the oscillator to said mixer whereby the oscillator may be either independently tuned or synchronized to the mixer signals, and means to trigger said strobe light comprising a square wave generator connected to said local oscillator, differentiating circuit means connected to said square wave generator and pulse amplifier trigger circuit means connected to said differentiating circuit and connected to flash said strobe light.

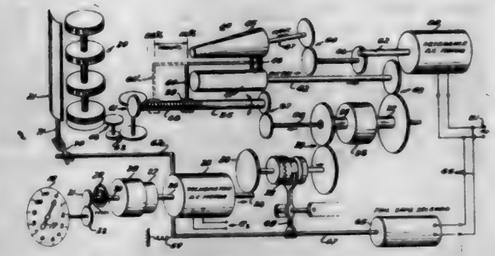
2,975,641
INTEGRATING ACCELEROMETER WITH VISCOUS DRAG PUMP
Sidney Lees, 544 Walnut St., Newton, Mass.
Filed Dec. 15, 1958, Ser. No. 780,566
14 Claims. (Cl. 73—503)



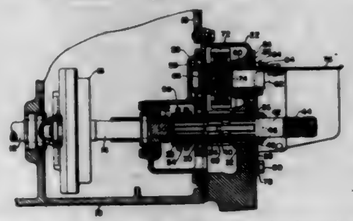
1. An accelerometer comprising an endless fluid passage, Newtonian liquid filling the passage, a signal generator responsive to the displacement of the liquid for producing a signal proportional to the displacement, and a viscous drag pump disposed in the passage and responsive to the signal produced by the generator for returning the liquid in the passage to a reference position.

2,975,642
PRECISION TACHOMETER SYSTEM
David B. Nichinson, Great Neck, and Robert E. White, Westbury, N.Y., assignors to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Nov. 12, 1958, Ser. No. 773,445
14 Claims. (Cl. 73—510)

2. In combination, a first tachometer means, a second tachometer means, and an indicator; said indicator comprising a first indicator means and a second indicator means operatively connected to said first tachometer means and said second tachometer means respectively; said first tachometer means having a lower accuracy than said second tachometer in a given indicator range; and a shade means; said shade means being operable to mask said first indicator means when said first indicator means is in at least a portion of said given range; said first indicator means comprising a decimal counter; said second indicator means comprising a rotatable radial pointer.



2,975,643
SELECTIVE DUAL POWER TAKE-OFF
Henry A. Ferguson, Waterloo, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Nov. 13, 1958, Ser. No. 773,663
6 Claims. (Cl. 74—15.2)

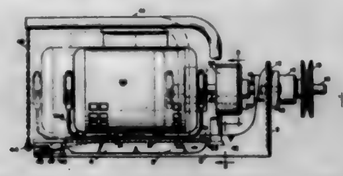


1. A dual power take-off for an agricultural tractor or the like, comprising: a support; first and second shafts journaled on the support; means driving said shafts to cause one shaft to rotate at a speed different from that of the other; a power take-off shaft positioned as a coaxial extension of the first shaft and having a first end proximate to said first shaft and a second end relatively axially remote from said first shaft; first cooperative coupling elements respectively on said first shaft and the first end of the power take-off shaft for disconnectibly connecting said first shaft and power take-off shaft, said power take-off shaft being separable from the first shaft to be turned end for end and disposed as a coaxial extension of the second shaft so that its second end is proximate to said second shaft and its first end is relatively axially remote from said second shaft; and second cooperative coupling elements respectively on said second shaft and said second end of the power take-off shaft and different from the first coupling elements, said first and second coupling elements being mutually exclusive so that the power take-off shaft is connectible to the first shaft only via said first elements and is connectible to the second shaft only via said second elements.

2,975,644
PORTABLE MOTOR AND SEPARABLE POWER TAKE-OFF COUPLING THEREFOR
Clinton L. Graybill, Superior, Mont., assignor to Graybill Industries, Inc., Spokane, Wash., a corporation of Montana
Filed Nov. 12, 1957, Ser. No. 695,794
1 Claim. (Cl. 74—16)

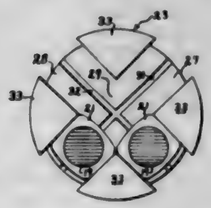
A device of the class described comprising an elongated substantially rectangular flat base, a guide rail secured to the top of said base and extending lengthwise thereof, a horizontal bearing vertically adjustable and lockable relative to one end of the base, a power take-off shaft journalled in said bearing, a hollow cup-shaped

first clutch element having an inner wall secured to one end of said shaft, an auxiliary base having a downwardly opening channel member extending lengthwise thereof and slidably engaged with said rail, said auxiliary base adapted to support prime movers whose shaft centers vary in height from said auxiliary base whereby said horizontal bearing can be adjusted vertically relative to the main base into selective alignment with said shafts of prime movers and locked relative to the main base, a second clutch element comprising a core provided with radiating arms and adapted for securement



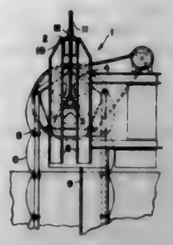
to said shafts of prime movers, resilient segments carried by the core disposed between said arms and of a greater radial extent than said arms and adapted for insertion within said first clutch element whereby upon rotation of said second clutch element said segments will flex radially outward by centrifugal force into wedged driving engagement with said first clutch element and whereby such engagement will hold a motor, to whose shaft said second clutch element is secured, in position upon said main base against longitudinal displacement and whereby said rail and channel member will hold said motor against lateral displacement.

2,975,645
GEARLESS TRANSMISSION
Devereaux A. Durrett III, Rte. 1, Box 419, Montgomery, Ala.
Filed July 27, 1959, Ser. No. 829,805
3 Claims. (Cl. 74—69)



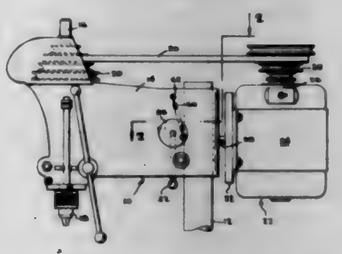
1. In a gearless transmission, a driving shaft and a driven shaft having adjacent facing ends, a disc secured to the adjacent facing ends, a disc secured to the adjacent ends of each of said shaft, a pair of spaced driving pins extending from the disc on said driving shaft, a freely rotatable bearing sleeve fitted about each of said pins, a pair of intersecting guideways positioned at right angles to each other on the disc of said driven shaft and receiving the pins and bearing sleeves of the driving shaft, said bearing sleeves being of a generally square cross section and having beveled corners, the thickness of said bearing sleeves being equal substantially to the width of said guideways, said guideways having a common center portion on the disc of the driven shaft which is substantially equal in area to the cross sectional area of a bearing sleeve, and said bearing sleeves both projecting into said common center portion at one position thereof with a beveled edge on one bearing sleeve facing and positioned closely adjacent a beveled edge on the other bearing sleeve.

2,975,646
DEVICE FOR ADJUSTING SCREW TAKE-UPS
William J. Buchanan, Jr., Glasgow, W. Va., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 29, 1960, Ser. No. 25,606
4 Claims. (Cl. 74—242.14)



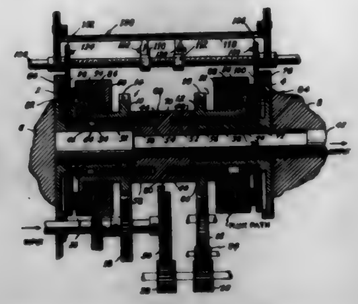
1. A device for use with an adjustment nut and load sensing means for applying the load of a take-up having a projecting screw and external nut to said load sensing means separately of the take-up nut, comprising a cage adapted to fit over the take-up nut and to support said means, said cage having apertures allowing the take-up nut to be turned while the load is applied to said sensing means.

2,975,647
MOTOR ASSEMBLY FOR A DRILL PRESS
Joseph Kurtovich, 318 S. 57th Ave. W., Duluth, Minn.
Filed Oct. 3, 1958, Ser. No. 765,162
2 Claims. (Cl. 74—242.16)



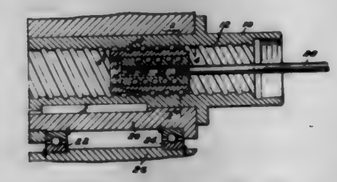
1. The combination with a head having a vertically disposed driven shaft, of a motor assembly including a drive shaft positioned so that the drive shaft is vertically disposed and in lateral alignment with respect to the driven shaft, a block member fixedly secured to said motor assembly, supporting bars carried by said block member and connected to said head for sliding movement toward and away from said head, a horizontally disposed rotatable shaft having end portions journaled in and projecting from said head, and eccentric on the part of said rotatable shaft between said rotatable shaft projecting end portions, means connecting said eccentric to said bars so sliding movement of said bars is responsive to rotational movement of said eccentric, a vertically disposed arm having one end fixedly secured to one of the projecting end portions of said rotatable shaft and shiftable from the vertical position to a horizontal position to effect rotation of said shaft 90°, and means on the other projecting end portion of said rotatable shaft for retaining said arm in the vertical or horizontal positions, said last-named means embodying a disc on the other projecting end portion of said rotatable shaft, a crank pin on said disc, and spring means operatively connecting said crank pin to said head.

2,975,648
ELECTRICALLY CONTROLLABLE SPRING CLUTCH AND BRAKE FOR POWER TRANSMITTING DEVICE
George H. Doerries, West Caldwell, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 842,852
8 Claims. (Cl. 74—377)



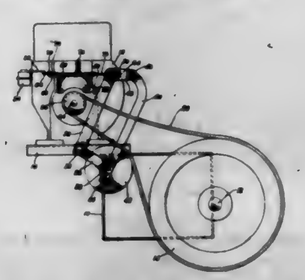
1. A power transmitting device comprising a fixed member, a rotatable output member, a spring normally wrapped on said fixed and output members for holding the output member, a rotatable input member, means for driving the input member, a rotatable spring actuator, and means for magnetically coupling the actuator to the input member to thereby rotate the actuator and cause the actuator to expand the spring into contact with the input member and a surface of the output member whereby the output member is rotated by the input member through the spring.

2,975,649
BALL SCREW ASSEMBLY WITH INTERNAL BALL RETURN
Verle V. Propst, Rochester, Mich., assignor to Beaver Precision Products, Inc., Clawson, Mich., a corporation of Michigan
Filed May 18, 1959, Ser. No. 814,032
2 Claims. (Cl. 74—424.8)



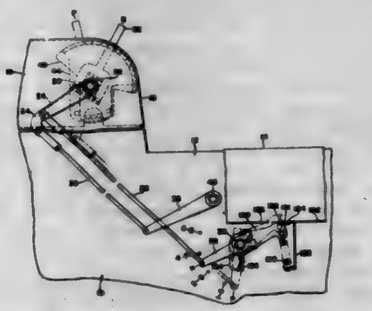
1. In a helical ball screw assembly, the combination of a nut having an internal helical ball groove, a screw within the nut having an external helical ball groove registering with the helical ball groove on the nut, said screw having an axial bore therethrough, a plug fitted within said bore, means forming a helical ball return passageway at the interengaged cylindrical surfaces of the screw and plug, the ball groove on the screw having portions spaced inwardly from the opposite ends of the screw in radial alignment with portions of the ball return passageway which are located inwardly of the opposite ends of the plug, said screw and plug having coaxial radially extending bores therein spaced inwardly from the opposite ends of the screw and plug and intersecting said radially aligned portions of the ball groove and return passageway, cylindrical inserts fitted within said bores and interengaging the screw and plug against relative rotation and axial movement, said inserts each having a passageway therein communicating at one end with the ball groove on the screw and at the other end with the ball return passageway.

2,975,650
ENGINE CONTROL MEANS
James H. Hollyday, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed June 23, 1959, Ser. No. 822,318
10 Claims. (Cl. 74—472)



1. An agricultural implement having an engine provided with throttle means to vary the speed thereof and connected by drive establishing means to mechanism on said implement to be operated by said engine, in combination with control means comprising a shaft supported for pivotal and longitudinal movement, a lever fixed to said shaft and projecting radially therefrom, toggle linkage comprising part of said drive establishing means, said toggle linkage being operated by said lever when said shaft is rotated in opposite directions respectively to establish and dis-establish driving relationship between said mechanism and said engine, and said throttle means being interconnected to said lever and operated thereby when said shaft is moved longitudinally of its axis.

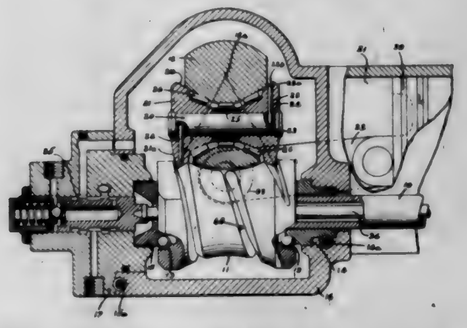
2,975,651
VEHICLE TRANSMISSION CONTROL
Richard L. Fox, Waterloo, James O. Troemner, Cedar Falls, and Roger L. Jacklin, Waterloo, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 8, 1959, Ser. No. 845,222
11 Claims. (Cl. 74—473)



1. In a vehicle having a body and a change-speed transmission having a pair of shiftable elements, each capacitated to produce a driving speed ratio, a shift member mounted on the body for first-range movement from a first position to a second position to shift one element to produce one ratio and for second-range movement to a park position beyond said second position for shifting both elements to produce both ratios for locking the trans-

mission against operation, and a shift controller movable on the body and connected to and for selectively moving said member among said positions, the combination with said member of an actuator carried by the body for movement between idle and operative positions; means providing a one-way connection between the shift member and the actuator and effective to transmit force from said member to said actuator only when the member is moved to its park position so as to cause said actuator to move to its operative position, and said one-way connection means being effective in the opposite direction to transmit force from the operatively positioned actuator to the park-positioned member whereby said actuator is operative, when forcibly returned to idle position, to shift the member out of its park position and back to its second position; means limiting movement of the actuator to its idle position when returned thereto from its operative position so as to retain said actuator clear of first-range movement of the member; and means biasing the actuator to its idle position.

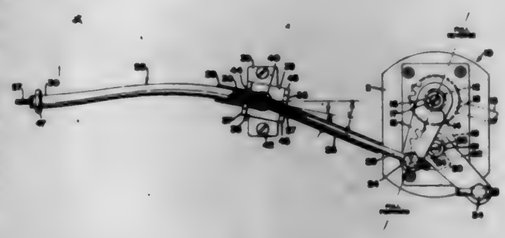
2,975,652
DOUBLE ROLLER HOURGLASS STEERING GEAR
Arthur E. Bishop, 12 Millwood Ave., Chatswood, near Sydney, New South Wales, Australia
Filed July 6, 1959, Ser. No. 824,985
9 Claims. (Cl. 74—500)



1. A steering gear comprising an hourglass worm having generally helically grooved portions for drivingly contacting a follower, comprising a pair of rollers mounted on an output shaft for rotation about the axis of rotation of said output shaft transverse to said worm and about an axis generally transverse to the axis of said output shaft, said rollers both engaging the grooved portions of said worm in the central in-line position and alternately independently engaging said worm as the worm rotates away from the in-line condition, each said roller having axially spaced annular beveled roller surfaces thereon comprising flank surfaces and base surfaces and said groove portions having beveled sides for contact therewith, the base surfaces of said rollers contacting said worm groove portions in in-line condition, the base surface of one roller alone engaging a groove portion as the worm rotates away from in-line condition, and the flank surface of the other roller engaging the worm as the worm continues to rotate against a steering load and the one roller moves out of engagement with the worm.

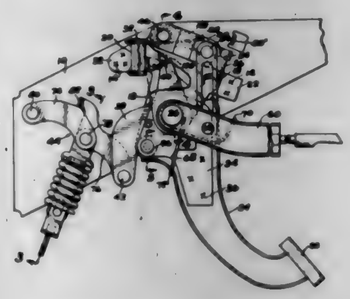
2,975,653
PUSH-PULL CABLE MOUNTING BRACKET FOR MARINE ENGINE CONTROL
John F. Morse, 21 Clinton St., Hudson, Ohio
Filed June 4, 1958, Ser. No. 739,766
8 Claims. (Cl. 74—501)

1. In a single lever marine engine control unit having a throttle control arm and a clutch control arm operatively connected thereto for rotation only during the first part of rotation of the throttle control arm in either direction from neutral, said arms adapted for connection to push-pull cables comprising a core slidably sheathed in a length of casing for operating the clutch and throttle of an engine, the improvement comprising a support adjacent the control unit, a mounting bracket swiveled on said support, connecting means mounted in said bracket



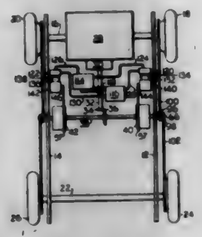
and having the end of the casing of the throttle control cable anchored therein, a sleeve universally swiveled in said connecting means, a push rod slidable in said sleeve and connecting the cable core to the throttle arm, and means on said mounting bracket for engaging said sleeve after limited swinging movement thereof in either direction from neutral and before said cable core engages said sleeve.

2,975,654
BRAKE LEVER ASSEMBLY
Trygve Vigmostad, Detroit, Mich., assignor to Mount Clemens Metal Products Company, Mount Clemens, Mich., a corporation of Michigan
Filed July 11, 1958, Ser. No. 747,945
5 Claims. (Cl. 74—520)



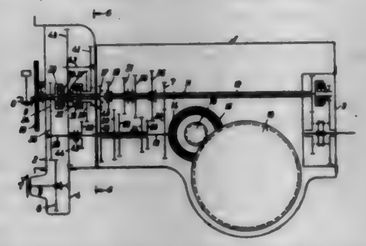
1. In a parking brake lever assembly, the combination of a pivotally supported brake lever, a brake actuating cable, a pivoted latch pawl, a pivotally supported link actuator operated by the brake lever and adapted to be engaged and held by the pawl when the brake lever is swung in the brake applying direction, and an operative connection between said link actuator and said brake actuating cable comprising a pair of links pivotally connected together at one end, the other end of one link being pivoted to a fixed support and the other end of the other link being pivotally connected to said link actuator, said links being inclined to one another at an obtuse angle of less than 180° when the brake is released and to an acute angle when the brake is applied, said last mentioned pivotal connection being located more remote from a line through said fixed pivot and the pivotal axis of the link actuator when the brake is released than when the brake is applied.

2,975,655
STEERING AND DRIVE MECHANISM
Earle F. Cox, Chicago Heights, Ill. (421 S. Ashburton Road, Columbus 13, Ohio)
Filed July 31, 1957, Ser. No. 675,455
2 Claims. (Cl. 74—710.5)



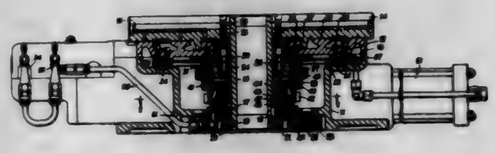
1. A drive and steering mechanism to control individually the respective traction means on each side of a self-propelled vehicle having power means comprising in combination: a pair of differential gear means connected to said power means, each of said gear means being connected to a traction means, respectively; hydraulic pump means connected to said power means to supply hydraulic fluid under pressure; a pair of hydraulic motors connected to said gear means respectively; hydraulic control means connected to said pump means and to said motors to actuate said motors, said control means being variable to control the output of said motors, respectively; each of said gear means including a sun gear member, a planetary gear, a ring gear member, a planetary gear mounting member to rotationally support said planetary gear, each of said members being rotatable about a common axis, one of said members being connected to said power means for rotation therewith, a second of said members being connected to the respective traction means for rotation therewith, the third of the members connected to the respective hydraulic motor for rotation therewith whereby said hydraulic control means may be utilized to control the rotation of the third member which in turn will control the rotation of the respective traction means independently of the rotation of the other traction means; and a clutch means for each of said gear means, each of said clutch means interconnecting two of said members of each of said gear means whereby by engaging said clutch said two members will rotate in unison and said power means will be directly connected to said traction means.

2,975,656
CHANGE-SPEED GEAR UNIT FOR MOTOR VEHICLES
Karl Haverlander, 75 Ferdinand-Wallbrecht-Str., Hannover, Germany
Filed Apr. 21, 1959, Ser. No. 807,932
Claims priority, application Germany Apr. 21, 1958
10 Claims. (Cl. 74—745)



1. A change-speed gear unit for vehicles, especially tractors or the like, including an engine, an engine shaft and an engine clutch driven by said engine, a drive shaft driven by said clutch, and a gear box including said change-speed gear, and said change-speed gear unit having an additional reduction gearing in front of said change-speed gear unit to obtain crawling speeds, and a reversing gearing for all normal speeds, both gearings selectively constituting a power train from said engine to said change-speed gear unit, a reversing unit comprising two clutches, one of said clutches providing a forward drive and the other of said clutches providing a reverse drive, one of said clutches being disposed between said engine shaft and said drive shaft for said change-speed gear unit, and the other of said clutches being disposed between said reversing gearing and said reduction gearing, respectively, and said change-speed gear unit, so that upon rendering operative said one of said clutches said engine is directly connected with said change-speed gear unit and upon rendering operative said other of said clutches, said engine is connected with said change-speed gear unit by means of said reversing and said reduction gearing, respectively.

2,975,657
INDEXING MECHANISM FOR MACHINE TOOLS
Walter D. Samuel, Hemel Hempstead, England, assignor to Centec Machine Tools Limited, Hemel, Hempstead, England, a British company
Filed Mar. 26, 1959, Ser. No. 802,123
12 Claims. (Cl. 74—822)



1. A rotary indexing table comprising, a frame, a table rotatably mounted on said frame but restrained against axial movement thereon, a driven member fixed on said table, a driving member selectively engageable with said driven member, a non-rotatable brake member mounted on said frame for movement axially of said table into and out of locking engagement with said driven member, and interengaging means on said brake member and said driven member, operable when said brake member is moved into engagement with said driven member to accurately position said table in a desired angular position and to lock said table in said position.

2,975,658
KNIFE SHARPENER
Robert F. McCarty, 1208 Cooper St., Farmington, N. Mex., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed May 25, 1959, Ser. No. 815,709
2 Claims. (Cl. 76—86)



1. A knife sharpener comprising, in combination, a frame consisting of an upwardly opening tray of substantially parallelopiped shape, a first plurality of sharpening blocks supported within and on one side of said frame and a second plurality of sharpening blocks supported within and on the other side of said frame from said first plurality of sharpening blocks and defining

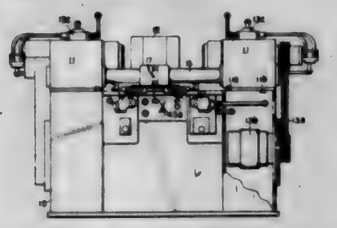
therewith a longitudinal passageway slidably receiving a knife blade therethrough, each of said sharpening blocks comprising a flat base side, a perpendicularly related back side, and an arcuate front face side connected between the free ends of said base and back sides and having a plurality of laterally spaced-apart converging fine sharpening edges for sharpening the cutting edge of the knife drawn along said longitudinal passageway, a pair of longitudinally extending rods slidably supported within said frame from end to end thereof, each of said sharpening blocks including an aligned opening extending laterally therethrough slidably receiving one of said rods, with said blocks being alternately carried by different ones of said rods on opposite sides of said frame throughout the entire length thereof with the arcuate front faces of the alternately positioned sharpening blocks on opposite sides of said frame and with the laterally spaced-apart converging fine sharpening edges thereof being arranged and staggered in face-to-face relationship with the arcuate face side of a sharpening block and the laterally spaced-apart converging fine sharpening edges thereof on one side of said frame converging downwardly with and partially overlapping the corresponding face side of the next adjacent sharpening block and the plurality of laterally spaced-apart converging fine sharpening edges thereof on the opposite side of said frame.

2,975,659

BORING MACHINE OR SIMILAR MACHINE TOOL

Paul W. Nippert, Columbus, Ohio, assignor to The Nippert Electric Products Company, Columbus, Ohio, a corporation of Ohio

Filed Sept. 24, 1958, Ser. No. 763,073
6 Claims. (Cl. 77—3)



6. A machine tool comprising a supporting base having opposed heads, each of said heads including a plurality of cylinders with their axes disposed in parallel relationship, the axes of the cylinders in opposed heads being in axial alignment, rods extending into the aligned cylinders of opposed heads and being slidably mounted therein, a carriage fixed to said rods between said heads and being supported by and movable therewith, said movable carriage and at least one of said heads carrying the work and tool to be brought into and out of cooperative relationship by the movement of the carriage in opposite directions, each of said cylinders being a single-acting cylinder having means connected thereto for supplying pressure fluid at its pressure end and the opposite end having the rod extending therefrom for supporting the carriage.

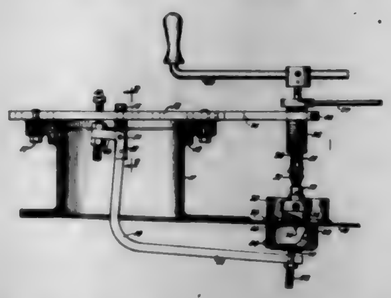
2,975,660

SAFETY-TANK DRILL

Irvin La Delle Heideman, Glen Ellyn, Ill., assignor to Pettibone Mulliken Corporation, a corporation of Delaware

Filed Oct. 8, 1958, Ser. No. 766,824
5 Claims. (Cl. 77—13)

1. Apparatus for cutting a hole in the roof of a tank containing fuel fumes and having a vent opening therein, including a frame, an arm carried by the frame, means independent of the arm for securing the frame over the opening, said arm being adapted when the frame is thus secured to extend through the opening and approach a point of the roof on the inside of the tank, a hood carried by the arm and having a yieldable rim facing the inside surface of the tank roof, means to adjust the arm from



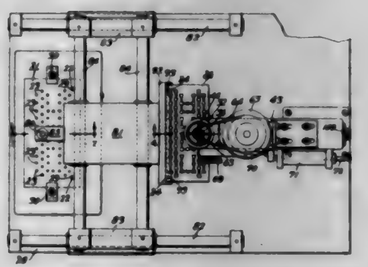
the outside of the tank to press the hood firmly against the tank roof, and a rotary hole cutter carried by the frame to engage the outer surface of the tank roof opposite the hood to cut through the tank roof wall within the area surrounded by the rim.

2,975,661

DRILLING MACHINES

James Coleman, Mendham, Morris County, N.J., assignor to Coleman Machine Company, Inc., Berkeley Heights, N.J., a corporation of New Jersey

Filed Feb. 18, 1960, Ser. No. 9,639
2 Claims. (Cl. 77—32.2)



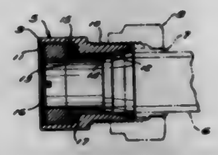
1. A drilling machine for printed-circuit boards and the like comprising a work table, a board-mounting carriage mounted above said table for moving the board in a plane, means to index said carriage, a drill assembly including a rotary drill mounted above said plane for movement perpendicular to and through said plane, said indexing means comprising a template mounted on said table having a plurality of recesses therein corresponding to the holes to be drilled in the board, and a probe on said carriage operable to engage in said recesses and positively locate said board relative to said drill during said drilling movement, a top bushing fixedly mounted with its lower surface coplanar with said plane of movement and having a central bore receiving said drill, a bottom bushing mounted below said plane in vertical registry with said top bushing, means to displace said bottom bushing upwardly into clamping cooperation with said top bushing to clamp the board therebetween whereby said board is held rigidly in said plane during the drilling operation, a switch mounted adjacent said probe, and a switch operator on said probe operable upon entry of said probe into said recesses to operate said switch to initiate upward displacement of said bottom bushing and down displacement of said drill.

2,975,662

RING PRE-SET TOOL

Louis B. Courtot, Euclid, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 8, 1958, Ser. No. 759,605
8 Claims. (Cl. 78—15)



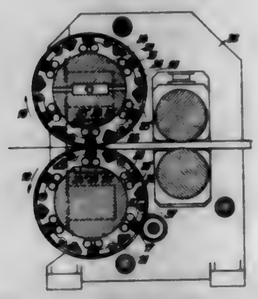
1. A ring setting tool for cutting rings comprising a generally cylindrical body, one end of said body being exteriorly threaded and said end having a conical mouth, a shoulder in the body spaced axially from said mouth, an insert having a generally cylindrical portion and an annular flange, said insert flange overhanging said shoulder on the interior of the body, shims between said flange and the shoulder on the tool body to position the insert within the tool body, and a nut carried by the tool body adapted to bear against the insert and press said shims against said shoulder.

2,975,663

ROLLING MILL

Franz G. Platzer, Max Tendler Gasse 26, Leoben, Steiermark, Austria

Filed Jan. 14, 1958, Ser. No. 708,790
Claims priority, application Germany Jan. 26, 1957
9 Claims. (Cl. 80—38)



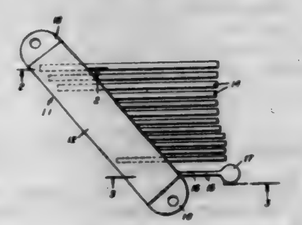
1. In a rolling mill equipped with stationary supporting means including respective peripheral guide surfaces each provided with a cam portion, rigid, annular and drivable roller cages mounted to revolve about said supporting means and said guide surfaces thereof, a plurality of levers linked to said roller cages, a plurality of axially parallel working rolls each rotatably carried by a respective one of said levers, a plurality of intermediate rolls carried by said roller cages in axially parallel relationship to and supporting said working rolls, and spring means biasing said working rolls against said intermediate rolls and the latter against said control surfaces of said supporting means; said intermediate rolls being arranged in pairs with each pair supporting one of said working rolls, each of said intermediate rolls comprising a plurality of roll sections all of equal diameter arranged axially along the axle, a connecting element disposed between each two adjacent roll sections for ensuring a predetermined spacing therebetween, each of said roll sections comprising an inner ring fixed to said axle, and an outer ring rotatably mounted on said inner ring, said inner rings being arranged in a first group and a second group, each group including alternate inner rings along the axle, the inner rings of said first group being mounted on the axle with their pripheries concentric with the axis of said axle, the inner rings of said second group being mounted with their peripheries concentric to a common axis parallel to but spaced from the axis of said axle in the direction of said working mill, whereby the said outer rings mounted on said first group of inner rings contact said guide surfaces, and said outer rings mounted on said second group of inner rings contact said working roll.

2,975,664

MUSIC COMB WITH WEIGHTED CANTILEVER

Theodore R. Duncan, North Hollywood, Calif., assignor to Mattel Incorporated

Filed Mar. 1, 1957, Ser. No. 643,345
4 Claims. (Cl. 84—94)



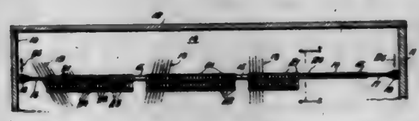
1. In combination with a sounding board element presenting a comb-mounting surface, a music comb comprising a base secured to said sounding board element against said comb-mounting surface thereof, a plurality of vibrators, each vibrator being mounted in the base at one end and free at its other end, said vibrators varying in length and being disposed from end to end of the base generally in the order of their length, and an elongated stiff arm rigid with the base and projecting laterally therefrom at the end thereof from which the shortest vibrators extend, the outer end portion of said arm being weighted and contacting said sounding board comb-mounting surface.

2,975,665

PIANO ATTACHMENT

Martin Rothman, 2895 Grand Concourse, and Irving Bernstein, 1240 Walton Ave., both of Bronx, N.Y.

Filed May 13, 1958, Ser. No. 734,938
2 Claims. (Cl. 84—224)



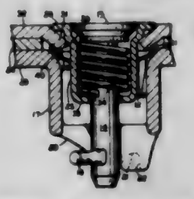
1. A piano attachment for use in a piano having two opposing side walls, said attachment comprising an elongated composite, tubular rod formed from a plurality of tubular sections, spring means enclosed within at least one section and acting on a succeeding section for normally longitudinally extending said sections relative to each other, frictional engaging heads secured to the respective outer ends of the composite rod whereby the rod may be suspended pursuant to said spring means between said two opposing side walls, a plurality of individual flexible strips suspended from said rod and rigid buttons disposed on the lower ends of said strips, said buttons being adapted to be interposed between the hammers and the strings of a piano, each of said strips being individually horizontally adjustable on said rod, said strips being formed with annular top portions which frictionally embrace the rod and are slidable thereon.

2,975,666
STRINGED MUSICAL INSTRUMENTS HAVING A PLASTIC HOUSING
Clair Omar Musser, 12997 Blairwood Drive, Studio City, Calif.
Filed Sept. 9, 1957, Ser. No. 682,656
7 Claims. (Cl. 84—285)



1. A stringed musical instrument comprising a plastic housing having a top with a sound opening therein, a metallic frame attached to the inside of said top, at least two spaced anchor means on said top connected through said top to said frame, a plurality of tunable strings attached to said anchor means respectively, and a bridge on said top having operative engagement with said strings.

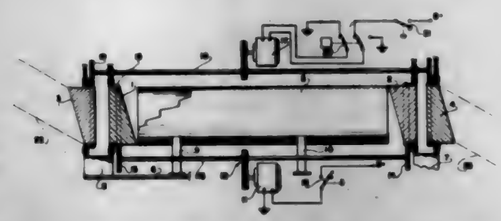
2,975,667
RETAINING RING FOR ROTARY STUD FASTENER
Warren C. Bruss, Westwood, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed July 22, 1957, Ser. No. 673,499
1 Claim. (Cl. 85—36)



The combination of a cup-shaped member and a retaining washer securing said cup-shaped member within an inwardly dimpled opening in a sheet to resist outward thrust of the member, said washer comprising a circumferentially continuous ring of generally frustro-conical contour formed of spring metal and provided with a plurality of spaced, generally rectangular gripping spring fingers extending radially inwardly from the small diameter end of the frustro-conical ring along a bend line, the metal in the areas between the fingers being removed to provide the spaces between the fingers, the frustro-conical walls of the ring lying at an acute angle relative to a plane that is normal to the axis of the ring and the fingers lying at a lesser acute angle to said plane, and extending in the same general direction as said ring, the inner diameter of the ring as defined by the inner edges of the fingers being originally less than that of the outer diameter of the cup-shaped member, the washer being forced onto said member with its concave side outermost whereby the fingers are deflected inwardly under a bending stress and grip the member and resist outward thrust while the washer sections adjacent the bend line are spaced from the lower annular periphery of the dimpled opening.

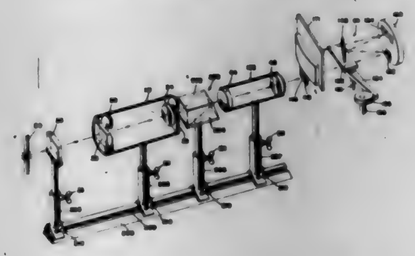
2,975,668
OPTICAL SCANNING DEVICE
Arthur F. Eckel, Burbank, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 1, 1957, Ser. No. 669,095
3 Claims. (Cl. 88—1)

1. An optical scanning device comprising, a frame, a pair of spaced inner optical wedges and a pair of spaced outer optical wedges arranged one on either side of said pair of inner optical wedges and all rotatably carried by said frame in generally coaxial alignment, the optical wedges in each pair having at one relative rotational position thereof a zero wedge angle maintaining the refracted light rays parallel to the incident light rays,



means locking the pair of inner optical wedges together at said zero wedge angle, means locking the pair of outer optical wedges together at said zero wedge angle, and drive means rotating one pair of optical wedges relative to the other pair of optical wedges to provide a wide angle field of view.

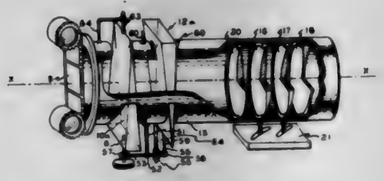
2,975,669
CROSSED DISPERSION PHOTOGRAPHIC SPECTROMETER
Richard F. Jarrell, Newton, Mass., and William G. Fastie, Owings Mills, Md., assignors to Jarrell-Ash Company, Newtonville, Mass., a corporation of Massachusetts
Filed Aug. 26, 1954, Ser. No. 452,416
22 Claims. (Cl. 88—14)



1. In a spectrochemical analysis system, having a heterochromatic luminous source, a pair of coplanar jaws with parallel edges forming a slit spaced from said source, means including at least one optical focusing element positioned on an optical line between said source and slit for directing radiation from said source through said slit, a spectral dispersing element, a spherically concave mirror so positioned that a first portion of the surface of said concave mirror parallelizes the radiation emergent from said slit and directs it to said spectral dispersing element, and a photographic plate, the central point of said first portion of said surface of said concave mirror being located on said optical line which includes the central point of said slit, the central point of said focusing element and the central point of said source, the radiation dispersed by said spectral dispersal element being focused in a spectrum by a second portion of the surface of said concave mirror onto said photographic plate, said spectral dispersing element being located substantially halfway between said concave mirror and said photographic plate, the width of said second portion of the surface of said concave mirror being substantially one half of the length of said photographic plate, said slit and photographic plate being arranged coplanar, with said slit being positioned on a vertical line which passes through the center of said photographic plate.

5. A spectrochemical analysis system having a heterochromatic luminous source, comprising, a first pair of coplanar jaws with parallel edges forming a first slit, means for directing radiation from said source through said first slit, an optical focusing means, means for parallelizing radiation emergent from said first slit and for directing said radiation to said optical focusing means, a second pair of coplanar jaws with parallel edges forming a second slit, said optical focusing means being so arranged to form an image of said first slit on said second slit, a first spectral dispersing element, means for inserting said first spectral dispersing element between said optical focusing means and said parallelizing means, means for directing the spectral dispersed radiation to said optical focusing means for forming a first spectrum consisting of a multiplicity of images all of different wavelengths of said first slit along said second slit, the parallel edges of the second pair of jaws of said second slit being arranged perpendicular to the parallel edges of the first pair of jaws of said first slit, with the line along which the wavelength varies in said first spectrum being parallel to the edges of the second pair of jaws of said second slit, a second spectral dispersing element, a spherically concave mirror so positioned that a first portion of the surface of said concave mirror parallelizes the radiation emergent from said second slit and directs it to said second spectral dispersing element, and a photographic plate, the radiation dispersed by said second spectral dispersal element being focused in a second spectrum by a second portion of the surface of said concave mirror onto said photographic plate, said second spectral dispersing element being located substantially halfway between said concave mirror and said photographic plate, the width of said second portion of the surface of said concave mirror being substantially one-half of the length of said photographic plate, said second slit and said photographic plate being arranged coplanar, with said second slit being positioned on a vertical line which passes through the center of the photographic plate.

2,975,670
METHOD AND APPARATUS FOR PRODUCING VISUAL DISPLAY
Harold S. Hemstreet, Binghamton, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Apr. 22, 1955, Ser. No. 503,211
18 Claims. (Cl. 88—24)



1. The method of producing a visual display of a surface area as it would appear when viewed from a selected viewpoint located at a selected attitude h_2 by means of an object having the appearance of said area as it would appear when viewed along a line-of-sight which makes an angle ϵ with the horizon from a reference viewpoint located at a reference altitude h_1 and displaced from said selected viewpoint within the plane of said selected viewpoint, said plane of said selected viewpoint comprising a plane perpendicular in two dimensions to said line-of-sight, comprising the steps of: projecting an image of said object along an optical axis toward a screen; varying the vertical magnification of said image in accordance with the vertical distance between said viewpoints; shearing said image in accordance with the horizontal distance between said viewpoints, said steps of varying the vertical magnification and shearing said image tending to displace the horizon portion of said image on said screen; and shifting said image on said screen so as to substantially satisfy the equations

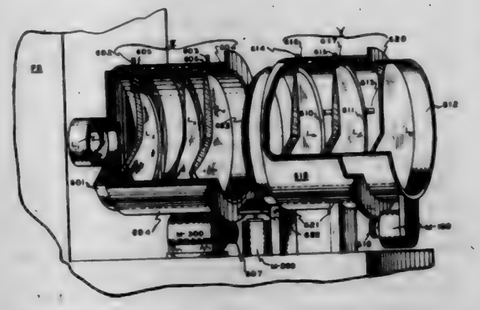
$$S_v = K_v\left(\frac{h_2-h_1}{h_1}\right)\tan\epsilon$$

and

$$S_h = K_h\left(\frac{d}{h_2}\right)\tan\epsilon$$

wherein S_v and S_h are amounts of vertical and horizontal shifting, respectively K_v and K_h are constants of proportionality, and d is the horizontal component is said plane of said selected viewpoint of the displacement between said viewpoints, to counteract said tendency to displace said horizon portion of said image.

2,975,671
MEANS FOR ALTERING APPARENT PERSPECTIVE OF IMAGES
Harold S. Hemstreet, Binghamton, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed May 27, 1955, Ser. No. 511,488
10 Claims. (Cl. 88—24)



1. Apparatus for altering the apparent perspective of an image of an object having the appearance of an area as viewed from a particular viewpoint located at a particular altitude h_1 and at a particular position, to provide an image having the appearance of said area as viewed from a selectable second viewpoint located at a different altitude h_2 and at a lateral distance d from said particular position, comprising in combination, means for projecting an image of said object along an optical axis onto a surface, an axailly rotatable variable power anamorphoser having an anamorphic magnification proportional to m coaxially disposed along said optical axis, and a variable effective focal length spherical lens system having a magnification proportional to P_0, where

$$m^2 - m\left[\frac{d^2+h_1^2+h_2^2}{h_1h_2}\right]+1=0$$

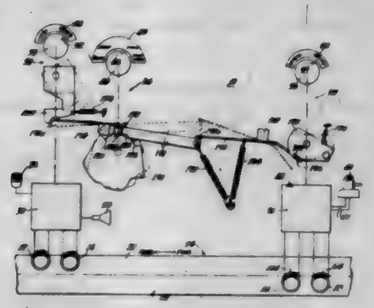
and

$$P_0^2=\frac{h_2}{h_1m}$$

2,975,672
COMBINED TAPE RECORDER AND FILM PROJECTOR
George B. Shields, Racine, Wis., assignor to Webster Electric Company, Racine, Wis., a corporation of Delaware
Filed July 21, 1954, Ser. No. 444,805
17 Claims. (Cl. 88—28)

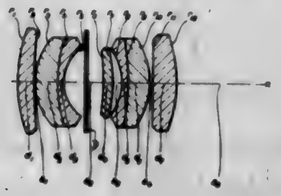
1. Transducing apparatus wherein means are provided for propelling a sensible medium having a plurality of

effective channels in different directions and at different speeds, comprising first transducing means cooperating with one of said channels, second transducing means cooperating with another of said channels, circuit means including first and second independently actuated switching means each operable to two different settings for independently conditioning said first and second transducing means for recording and reproducing operations, adjustable control means for varying the direction and speed of movement of said sensible medium, and interlock means controlled by said control means and including means for controlling the settings to which said first and second switching means are adjusted, thereby to maintain said first and second transducing means in condition for a predetermined transducing operation.



5. A combined sound recorder and visual display device comprising a display operating unit for actuating said visual display device to provide a visual display; transducing means for performing transducing operations on a sensible medium; circuit means including electronic means for operating said transducing means and said display operating unit, said electronic means having one condition in which it generates a signal which is recorded on said medium by said transducing means and a second condition in which said electronic means receives a signal reproduced from said medium by said transducing means to operate said display unit; and means for alternatively adjusting said circuit means to the signal generating condition and to the display unit operating condition.

2,975,673
HIGH APERTURE PHOTOGRAPHIC OBJECTIVE
Walter Mandler and Erich Wagner, Midland, Ontario, Canada, assignors to Ernst Leitz Canada Ltd., Optical Works, Midland, Ontario, Canada, a company of Canada
Filed Aug. 26, 1959, Ser. No. 836,195
Claims priority, application Germany Aug. 30, 1958
2 Claims. (Cl. 88—57)



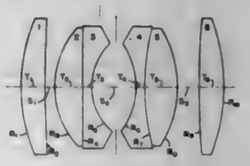
1. A high aperture photographic objective having a diaphragm and comprising, in the direction of the incidence of light, a first positive lens; a cemented negative meniscus lens between the first positive lens and the diaphragm; another cemented negative meniscus lens on the other side of the diaphragm; a positive concave meniscus lens between the diaphragm and said other cemented negative meniscus lens, the positive concave meniscus lens having a back surface with a radius which is at least twice as large as the radius of the front surface of said other cemented negative meniscus lens and a focal length which is larger than the total focal length of the objective; and a final positive lens succeeding said other cemented negative meniscus lens, said objective being characterized by the following data:

[Focal length $f=10$ Angle of image=64° Relative aperture 1 : 1.4]

		n_e	μ_e
$r_1=+0.84171$	$d_1=0.1000$	1.72341	50.10
$r_2=+2.6089$	$a_1=0.0008$		
$r_3=+0.3842$	$d_2=0.1287$	1.7899	48.0
$r_4=+0.8639$	$d_3=0.0374$	1.70444	29.84
$r_5=+0.2852$	$a_2=0.2309$		
$r_6=-1.6077$	$d_4=0.0554$	1.7899	48.0
$r_7=-0.8639$	$a_3=0.0494$		
$r_8=-0.3448$	$d_5=0.0374$	1.76167	27.34
$r_9=-1.3714$	$d_6=0.1314$	1.7899	48.0
$r_{10}=-0.4575$	$a_4=0.0171$		
$r_{11}=-20.0000$	$d_7=0.1371$	1.73066	47.69
$r_{12}=-0.8417$	$a_5=0.8489$		

wherein r_1 to r_{12} indicate the radii of curvature of the objective lenses, d_1 to d_7 the thickness of the lenses, a_1 to a_4 the distance of the lenses from each other, a_5 the distance of the last lens from the image-receiving photosensitive surface x, n_e the index of refraction, and μ_e the coefficient of dispersion.

2,975,674
CONVERTIBLE DUAL CONJUGATE LENS
Raymond E. Tibbetts and David C. Gilkeson, Rochester, N.Y., assignors, by mesne assignments, to Revere Camera Company, a corporation of Delaware
Filed Dec. 29, 1959, Ser. No. 862,576
4 Claims. (Cl. 88—57)



1. A convertible photographic lens comprising a front interchangeable group of lens elements and a rear permanent group of lens elements, said lens being capable of operation at two materially different magnification powers by interchange of one front group for another front group and having substantially the same equivalent focal length regardless of which front group is used, each front group having three lens elements with the front element air spaced and the other two elements having mating surfaces cemented to each other, said rear group having three lens elements with the rear element air spaced and the other two elements having mating surfaces cemented to each other, and below-mentioned characteristics of said lens element with one front group in

effective operating position being substantially within the ranges indicated by the following algebraic inequalities:

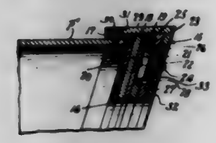
$.63\ F<+R_1<.68\ F$	$.03\ R<T_3<.04\ F$
$18.\ F<+R_2<25.\ F$	$.16\ F<S_2<.18\ F$
$.32\ F<+R_3<.35\ F$	$.03\ F<T_4<.04\ F$
$48.\ F<+R_4\leqq\infty$	$.12\ F<T_5<.13\ F$
$.22\ F<+R_5<.24\ F$	$.08\ F<S_3<.09\ F$
$.28<-R_6<.30\ F$	$.09\ F<T_6<.11\ F$
$.98\ F<+R_7<1.3\ F$	$1.60<N_1<1.64$
$.40<-R_8<.44\ F$	$1.60<N_2<1.64$
$7.8\ F<+R_9<40.\ F$	$1.58<N_3<1.62$
$.77\ F<-R_{10}<.85\ F$	$1.56<N_4<1.60$
$.09\ F<T_1<.10\ F$	$1.60<N_5<1.64$
$.03\ F<S_1<.04\ F$	$1.59<N_6<1.63$
$.100\ F<T_2<.115\ F$	

the below-mentioned characteristics of the lens elements of the other interchangeable front group being substantially within the ranges indicated by the following algebraic inequalities:

$.62\ F<+R_1<.64\ F$	$.100\ F<T_2<.115\ F$
$6.2\ F<+R_2<11.8\ F$	$.03\ F<T_3<.04\ F$
$.33\ F<+R_3<.35\ F$	$.16\ F<S_2<.18\ F$
$4.6\ F<+R_4<16.\ F$	$1.59<N_1<1.63$
$.23\ F<+R_5<.25\ F$	$1.60<N_2<1.64$
$.08\ F<T_1<.09\ F$	$1.58<N_3<1.62$
$.011\ F<S_1<.013\ F$	

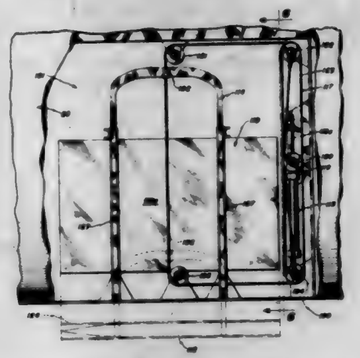
wherein F is the equivalent focal length of the entire lens, R is the radius of curvature of a lens surface, the subscript numeral identifying the particular surface as numbered in order from front to rear, mating cemented surfaces being counted as a single surface in numbering them, plus and minus values of R indicating surfaces which are respectively convex and concave toward the front of the lens, T and N are respectively the axial thickness and the refractive index (for the D line of the spectrum) of the particular lens element whose number corresponds with the subscript, numbering the lens elements in order from front to rear, and S is the axial thickness of air spacing between two adjacent lens elements, the subscript thereof identifying the particular air space as numbered in order from front to rear.

2,975,675
SAFETY LIGHT REFLECTOR
Emilee B. Knight, Virginia, Ill.
Filed Oct. 12, 1956, Ser. No. 615,675
3 Claims. (Cl. 88—81)



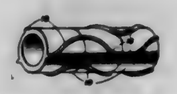
1. A supplemental reflecting structure for attachment to the hood of an automobile headlight comprising a resilient mounting member having an annular groove therein to receive the outer edge of the hood, a first gasket member abutting said mounting member, a reflector mounting bracket abutting said gasket, a plurality of discs secured to said bracket in equi-spaced relation to each other, a reflector button mounted on each disc, a second gasket having openings therein to receive said buttons abutting said bracket, a third gasket member having openings therein to receive said buttons abutting said second gasket, and a frame having openings therein to receive said buttons abutting said third gasket and having a flange thereon that extends over all of said gaskets and said bracket.

2,975,676
MISSILE LAUNCHING SYSTEMS FOR AIRCRAFT
George V. Butler, Dallas, Tex., assignor, by mesne assignments, to Chance Vought Corporation, a corporation of Delaware
Filed Oct. 20, 1950, Ser. No. 191,115
3 Claims. (Cl. 89—1.7)



1. A missile launcher for vehicles comprising a missile carriage housed by said vehicle, a plurality of stacked missile containing launching tubes contained by said carriage, said carriage being slidable between a retracted position substantially within said vehicle and an extended position protruding from said vehicle, guide rails affixed to said carriage, guide beams affixed to said vehicle and cooperating with said rails to guide said carriage in its movement between extended and retracted positions, a ram entering said carriage for moving the same between extended and retracted positions, two pairs of dogs pivotally secured to said carriage and cooperating with said ram and guide beams to enable extension and retraction of said carriage by movement of said ram, said beams having two pairs of recesses formed therein, one pair of recesses cooperating with a first pair of said dogs to support said carriage in extended position, the second pair of recesses cooperating with the second pair of dogs for supporting said carriage in retracted position, the movement of said ram in extending and retracting said carriage appropriately camming said dogs into and out of their respective recesses, and means for moving said ram to effect said carriage extension and missile advancement after the carriage has been moved to the extended position to thereby advance the stacked missiles successively into a missile launching portion of the carriage and for subsequently retracting said carriage to its retracted position.

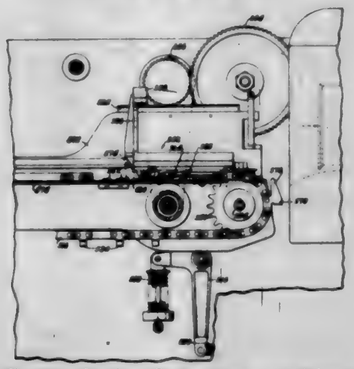
2,975,677
GUN BARREL LINER
John C. R. Kelly, Jr., Upper Montclair, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 26, 1952, Ser. No. 295,635
4 Claims. (Cl. 89—16)



4. A gun barrel liner comprising a plurality of annular segments assembled end to end, each segment being bored and having at least one upstanding integral rib formed to extend generally longitudinally and peripherally along its periphery, a single, relatively thick jacket encasing said assembled segments, said jacket comprising a deformed tube fitted thereabout with the ribs completely embedded

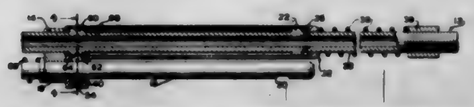
therein, whereby the segments are mutually keyed within the jacket and prevented from relative rotation and translation thereby.

2,975,678
GUN-LOADING MECHANISMS
Sidney J. Finn, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Mar. 20, 1946, Ser. No. 655,704
6 Claims. (Cl. 89—45)



2. Loading mechanism for a gun comprising a transfer tray, means for moving said tray to carry a shell into alinement with the gun and then to return the tray into a shell-receiving position, an endless chain support for the shell in the tray, a carriage carried by said chain for supporting the rearward end of the shell, means operated by said tray-moving means for operating said chain, means for disconnecting the carriage from the chain when the carriage approaches the forward end of the tray, means carried by the chain for continuing movement of the shell relatively to the tray to catapult it into the gun, and means operative during return movement of the tray for coupling the carriage to it.

2,975,679
POWER SYSTEM FOR FIREARMS
David C. Fletcher, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 27, 1956, Ser. No. 624,708
3 Claims. (Cl. 89—192)
(Granted under Title 35, U.S. Code (1952), sec. 266)



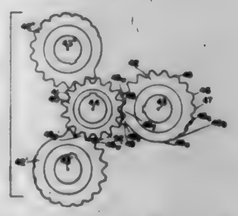
1. A power system for a firearm having a barrel and an operating rod biased for travel from a rearward to a forward position parallel to the longitudinal axis of the barrel, the power system including a cylindrical bearing portion along the outside of the barrel, an annular flange provided around the barrel at the rear end of said bearing portion, a cylinder mounted over the barrel for substantially gas-tight sliding contact with said flange, a head portion terminating the front end of said cylinder and having a bore therethrough for slidably receiving said bearing portion with substantially gas-tight contact between said head portion and said bearing portion to form between said cylinder and the barrel an expansible annular chamber, gas ports for bleeding gas pressure from the barrel to said chamber adjacent said flange for moving said cylinder forwardly along said bearing portion, a spring engageable by said cylinder when actuated by the gas pressure, said spring being adapted to store sufficient energy for actuating the operating rod, adjustment means for regulating the energy storable by said spring, and a latch member mounted on said cylinder for releasably connecting said cylinder to the operating rod to transfer the energy in said spring to the operating rod for actuation thereof after said spring is energized.

2,975,680
SEMIAUTOMATIC PISTOL WITH BREECH BLOCK FORWARD OF MAGAZINE CHAMBER
George A. Wilson, 15 War Admiral Lane, R.D. 26, Media, Pa.
Filed Apr. 22, 1958, Ser. No. 730,231
3 Claims. (Cl. 89—196)



1. In a semiautomatic pistol, a receiver including a casing defining a magazine chamber and including a front wall, a part extending forwardly from said casing, side walls on said forwardly extending part, said side walls being continued rearwardly over said casing and having upwardly extending side-wall extensions and a rear wall defining a recoil space over said magazine chamber; a barrel slidably mounted in said forwardly extending part; and a slide mounted on said barrel and having a rear end constituting a breechblock, said breechblock being located forward of said magazine chamber when said slide is in its forwardmost position; said casing, rearwardly continuing side walls, side-wall extensions and rear wall defining a pistol grip with its upper portion in rearward alignment with said barrel.

2,975,681
METHOD AND APPARATUS FOR CUTTING TOOTHED ARTICLES
Ernest Wildhaber, 124 Summit Drive, Brighton 20, N.Y.
Filed May 23, 1955, Ser. No. 510,468
21 Claims. (Cl. 90—10)

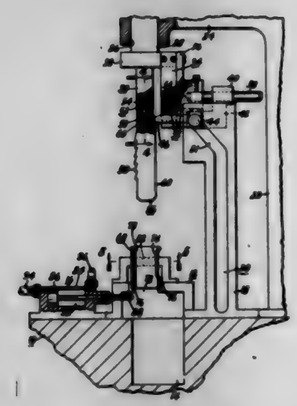


1. The method of cutting helical teeth on a blank, which comprises engaging with the blank a rotatable cutter, that has a plurality of cutting teeth of progressively increasing depth spaced about its axis of rotation and that extend parallel to said axis, cutting predominantly with the tops of said cutting teeth by providing a width of said cutting teeth at their tops decreasing with increasing depth, and cutting with one tooth of the cutter at a time by effecting cutting strokes between the cutter and

blank which comprise rectilinear movement in the direction of the axis of the blank and simultaneous angular movement about the blank axis, the cutter axis being inclined to the rectilinear component of the cutting strokes to effect cutting clearance, turning the blank on its axis between each successive cutting stroke so that different tooth spaces of the blank are engaged by the cutter on successive cutting strokes, and periodically indexing the cutter on its axis to bring its different cutting teeth successively into cutting engagement with the blank.

13. A machine for cutting teeth, comprising a rotatable work support, means for reciprocating said work support along its axis to effect cutting and return strokes thereof, a plurality of rotatable tool supports disposed around said work support at approximately the same distance therefrom, means for turning said work support on its axis on the return strokes, means for indexing said tool supports intermittently in succession, so that each tool support is indexed while the other tool supports are angularly stationary.

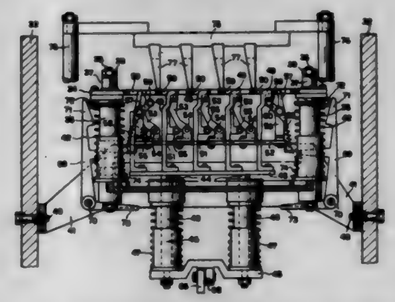
2,975,682
BROACHING METHOD AND APPARATUS THEREFOR
Wilbur L. Carlson, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 9, 1959, Ser. No. 798,852
7 Claims. (Cl. 90—93)



1. Broaching apparatus including, a fixture for supporting an article, a pair of reciprocable carriers connected for simultaneous linear movement in a parallel path, a broach connectible with either of said carriers, one of said carriers being aligned with said article and the other of the carriers being laterally spaced from said article, reciprocable means operable to actuate said carriers to move said broach through said article, means operable to transfer said broach from said one carrier to the other carrier after the broach has been moved through said article, and means operable to transfer the broach from said other carrier to said one carrier during the return stroke of said reciprocable actuating means.

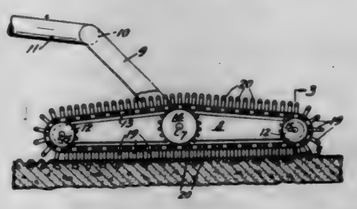
2,975,683
SYSTEM FOR THE PACKING OF EGGS
Max Lehner-Stirnemann, Granichen, Switzerland
Filed July 16, 1959, Ser. No. 827,513
Claims priority, application Switzerland June 11, 1959
4 Claims. (Cl. 93—37)

1. A machine for folding a carton blank for forming a packing of the type having transverse partitions connected to side panels which are joined along a fold with floor portions which are connected along another fold with lobed extensions forming a median longitudinal partition and wherein each side panel forms a surface broken along a further fold; this machine comprising a machine frame, a block rigidly mounted in said frame, a supporting plate mounted on and movable relatively to said block and to which the flat blanks are fed and movable from a blank receiving to a blank folding position, said plate being biased toward its blank receiving position, a second plate mounted on said block below said supporting plate and movable relatively both to the block and to the supporting plate, a yoke movably mounted in the machine frame above the supporting plate and provided with holding fingers and pre-



folding means including fingers for folding the side panels along said further fold and the floor portions along the other fold, said holding and prefolding fingers being directed downwardly, means including folding fingers secured to the second plate for erecting the transverse partitions out of the plane of the blank by engagement therewith upon relative movement between the supporting plate and the second plate, slots in said supporting plate, first means including folding blades for folding the lobed extensions along the other fold, second means including folding blades for closing the packing by pressing the folded lobed extension into the transverse partitions, and a main driving shaft carrying the cam means controlling the movements of the yoke and the folding blades.

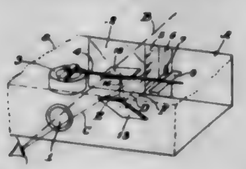
2,975,684
COARSE AGGREGATE DEPRESSING MACHINE FOR CONCRETE
Stanley A. Humphrey, P.O. Box 515, Excelsior, Minn.
Filed Apr. 16, 1958, Ser. No. 729,001
8 Claims. (Cl. 94—45)



1. A device for depressing the coarse aggregate a predetermined distance below the surface of a plastic concrete mass, said device comprising a supporting frame, guiding sprocket wheels journaled for rotation on said frame with the lower peripheries of said wheels all lying on the same plane, an endless chain conveyor structure trained about said wheels for movement therearound and supported thereon, a plurality of transversely dis-

posed parallel rods carried by said endless conveyor structure and being mounted in spaced relationship outwardly therefrom, each of said rods being spaced apart one from another at such a distance to engage and depress the coarse aggregate in a concrete mass into a plane disposed a predetermined distance below the surface layer of the mass and permitting a finer aggregate to pass upwardly through the spaces between said rods, and means for moving the unit across the surface of a concrete mass to cause the endless conveyor rod and chain assembly to travel around the supporting end guiding wheels journaled on said frame while progressively engaging the rods with the coarse aggregate particles of the concrete.

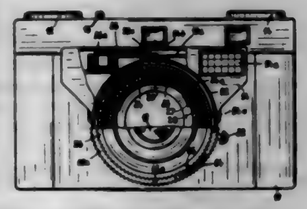
2,975,685
PHOTOGRAPHIC CAMERA WITH COMBINED VIEW FINDER AND EXPOSURE METER
Helmut Fegert, Stuttgart-Feuerbach, Germany, assignor to Zeiss Ikon A.G. Stuttgart, Stuttgart, Germany
Filed July 24, 1958, Ser. No. 750,827
Claims priority, application Germany July 30, 1957
2 Claims. (Cl. 95—10)



1. In a photographic camera, a camera casing, a view finder and an exposure meter arranged in the upper portion of said camera casing, said exposure meter including a measuring instrument having a movable pointer moving in a substantially horizontal plane, said view finder including a vertical viewer window facing the object to be photographed, and an eye-piece opening arranged in horizontally spaced relation rearwardly from said window, a vertical reflecting surface being arranged laterally of said viewer window and facing said eye-piece opening, a vertical ground glass plate being arranged adjacent said reflecting surface and having a fixed mark thereon, two reflecting surfaces arranged in the space between said vertical reflecting surface and said eye-piece opening, said movable pointer extending above and beyond the upper edge of said viewer window and directly in front of one of said two reflecting surfaces, the latter being arranged at such a position with respect to said vertical reflecting surface and said vertical ground glass plate that a reflected image of said pointer is reflected onto said ground glass plate and can be observed through said eye-piece opening together with said fixed mark on said ground glass plate, said vertical reflecting surface being effective to illuminate said pointer and said ground glass plate with said fixed mark thereon with reflected light coming from the photographed object.

2,975,686
PHOTOGRAPHIC CAMERA
Kurt Gebele, Munich, Germany, assignor to Compur-Werk Friedrich Deckel O.H.G., Munich, Germany, a firm of Germany
Filed Nov. 4, 1958, Ser. No. 771,780
Claims priority, application Germany Nov. 8, 1957
5 Claims. (Cl. 95—10)

1. A photographic camera having a shutter including a shutter speed setting member and a diaphragm aperture setting member, means for differentially interconnecting said setting members, means for setting said setting members to an exposure value, said last named means including a first exposure value setting member for the setting of exposure values, an auxiliary exposure value setting member coaxial with and partially overlying said first exposure value setting member, a film speed scale carried by one of said exposure value setting members and an indicator carried by the other of said exposure value setting members, means defining a recess between said exposure value setting members, and releasable coupling means mounted within said recess for coupling said exposure value setting members together for joint rotation at a selected film speed posi-



tion, said exposure value setting members being rings coaxial with the optical axis of the shutter, said releasable coupling means including a displaceable latch member carried by one of said rings, and interengaging teeth carried by said latch member and the other of said rings for mutual engagement in one position of said latch member, photoelectrically operated exposure meter means having a pointer, and a follow-up curve mark carried by said auxiliary exposure value setting ring for the setting of exposure values.

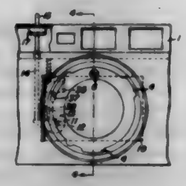
2,975,687
PHOTOGRAPHIC CAMERA
Paul Greger, Braunschweig, Germany, assignor to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany
Filed June 5, 1959, Ser. No. 818,327
Claims priority, application Germany July 18, 1958
4 Claims. (Cl. 95—10)



1. A photographic camera comprising, in combination, a built-in electric exposure meter having a movable pointer; a follow-up indicator operatively associated with said pointer; an objective shutter having an exposure value adjuster; mechanism operable to displace said adjuster; a setting element movably mounted on the camera and operatively coupled to said indicator and said mechanism for conjointly adjusting said indicator to coincide with said pointer and said adjuster in correspondence with the position of said indicator; a scale calibrated in accordance with filter factors and including a reference indication; a plurality of uniformly spaced marks cooperable with said scale; one of said scale and said plurality of marks being fixedly arranged on the camera and the other on said setting element; whereby, after movement of said setting element to adjust said indicator into coincidence with said pointer, with one of said marks or

the space between adjacent marks being brought into substantial coincidence with said reference indication, said setting element may be further moved, prior to taking the picture, to bring such one mark or space into coincidence with the filter scale factor corresponding to any filter then being used on said camera; such further movement of said setting element displacing said indicator out of coincidence with said pointer by an amount corresponding to the selected filter scale factor.

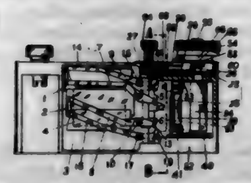
2,975,688
LOCKING MEANS FOR THE SHUTTER ACTUATING MECHANISM OF A DETACHABLE LENS MOUNT CAMERA
Paul G. Härter, Stuttgart, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 15, 1957, Ser. No. 652,924
Claims priority, application Germany Sept. 22, 1956
4 Claims. (Cl. 95—11)



1. In a photographic camera having a camera body and a detachable lens mount including a shutter and adapted to be secured to said camera body when turned in one direction and detached therefrom when turned in the opposite direction, the combination of: a light-trap means including a rectangularly shaped flap member hingedly mounted along one edge to said camera body and cooperating with a light-transmitting opening for excluding light from the film on removal of said lens mount from said camera body, said flap member having a roller means mounted thereon; a plate member reciprocally carried by said camera body and having an arm adapted upon reciprocal movement of said plate member to cooperate with said roller means to control movement of said flap member between light admitting and light excluding positions; a spring interposed between said camera body and said plate member normally moving said light-trap means to said light excluding position; a lip formed by said plate member; an ear carried by the rear portion of said lens mount adapted when said lens mount is placed on said camera body and turned in said one direction to engage and urge said lip and said plate member against the bias of said spring causing said arm to urge said roller means and said flap member into a position admitting light to the film; a shutter actuating mechanism carried by said camera body and including a reciprocal plunger and a pivotal dog member adapted to be pivotally moved by said plunger to actuate said shutter, said dog member provided with a latching recess; and a lug formed by said plate member adapted to be urged by said spring into said latching recess when said lens mount is turned in said opposite direction whereby said plunger and said dog member are positively latched against operation.

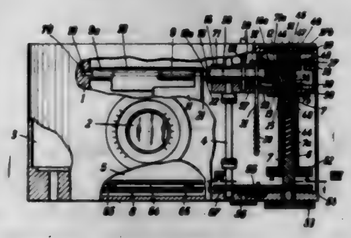
2,975,689
PHOTOGRAPHIC CAMERA
Kunju Chatani, 136 Midorigaoka-cho, Uchide, Ashiya, Japan
Filed Aug. 20, 1956, Ser. No. 604,942
18 Claims. (Cl. 95—31)

1. A photographic camera of focal plane shutter type, in which the shutter comprises a pair of blade groups, each group consisting of two partly overlapping blades connected by two substantially parallel levers which are pivoted on the window frame at one side of the picture window, each of said two levers being connected at the end of its length to the lower blade in the proximity of its side edge distant from said lever pivot and at the middle of the length to the upper blade at the central part, one of said two levers for connecting each blade group



being provided with means for driving it, so that the overlapping area of each blade group may be varied by moving said levers within the scope from a minimum overlap position in which each blade group wholly blinds the picture window to a maximum overlap position in which each blade group lies entirely clear of the picture window and in which the pair of blade groups are also connected respectively by said levers to counter-poising members at the position beyond the pivots of the levers.

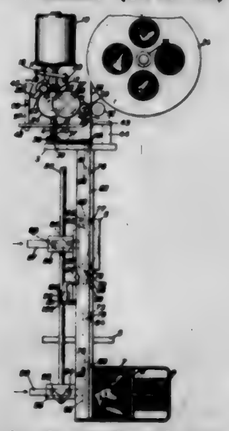
2,975,690
ROLL FILM CAMERA WITH FOCAL PLANE SHUTTER MECHANISM
Joseph Alphonse Op de Beeck, 48 Ave. du Parc, St. Gilles, Brussels, Belgium
Filed Aug. 5, 1958, Ser. No. 753,348
13 Claims. (Cl. 95—31)



5. In a roll film camera with a housing, a focal plane shutter mechanism including a first leading curtain and a second subsequently following curtain, curtain supports for said curtains disposed independently from each other for free rotation about their axes in said housing and comprising a spring actuated roller and a releasing roller, said supports having a support member which is mounted on the camera housing, a winding mechanism for rotating the release curtain roller of each curtain and for tensioning the separated independent driving spring mechanisms of the spring actuated curtain rollers, coupling and releasing mechanisms operative between said winding mechanism and each of said releasing curtain rollers, each of said coupling and releasing mechanisms including a pivotal cylindrical supporting body for the respective releasing curtain roller coaxially and cooperatively disposed thereto and in driving connection with said winding mechanism, each of said coupling mechanisms including an eccentrically fixed coupling projection at the end face of each of said release curtain rollers, and a movable coupling crank at the opposing end face of the respective cylindrical supporting body engaging the respective coupling projection and being mounted upon a turnable shaft eccentrically disposed in said cylindrical supporting body, connecting means interconnecting said

cylindrical supporting bodies for simultaneous rotation about their axes, a first gear rigid with one of said cylindrical supporting bodies, a second gear fixed to a driving shaft, meshing with said first gear, a takeup spool mounted on said driving shaft for winding exposed film so that rotation of said driving shaft is transmitted through said gears, said release mechanism being operatively connected with said coupling cranks for independently moving the latter out of engagement with said opposing coupling projections at said release rollers, so as to independently release said curtain rollers and said curtains to the influence of said driving spring mechanism of said spring actuated curtain rollers.

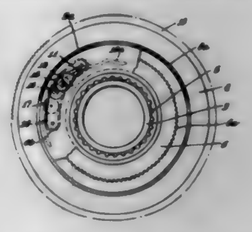
2,975,691
DEVICE FOR THE SUPPLY AND REMOVAL OF FILM IN MIRROR CAMERAS
Rudolf Zoglmann, Delft, and Hendricus Jacobus Cornelis Nieuwenhoven, Rijswijk, Netherlands, assignors to N.V. Optische Industrie De Oude Delft, Delft, Netherlands
Filed Jan. 26, 1959, Ser. No. 789,891
Claims priority, application Netherlands Nov. 3, 1954
7 Claims. (Cl. 95—31)



6. A device for the supply and removal of individual films in mirror cameras comprising a camera housing, a pair of parallel guides extending through said housing having a first portion and a second portion, means for supplying cut films individually from a film supply to said first portion of said parallel guides, a window frame mounted upon said guides between said first and second portions, a plurality of motor-driven rollers mounted upon said first portion of said parallel guides to engage the edges of said individual films when passing through said guides and to convey said films to said window frame, stop means to stop said films temporarily for the exposure thereof upon arrival at said window frame, means for pressing said films against said window frame into position for exposure thereof and for releasing said films after exposure and a plurality of motor-driven rollers mounted upon said second portion of said parallel guides to engage the edges of said films when passing through said second portion to convey said films away from said camera housing.

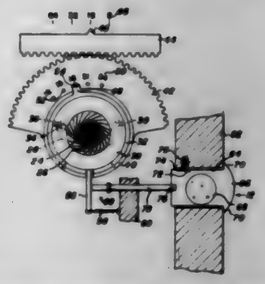
2,975,692
PHOTOGRAPHIC CAMERA
Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Jan. 21, 1958, Ser. No. 710,279
Claims priority, application Germany Feb. 20, 1957
7 Claims. (Cl. 95—64)

1. In a photographic camera having an adjustable diaphragm mechanism and a single actuation member for effecting different exposure values involving related shutter speeds and diaphragm apertures, a field-depth indicator comprising a focussing scale; two movable indicator members adapted to travel over said scale; toothed reduction gear means coupling said indicator members for counter movements; a cam movable with adjustment of the diaphragm mechanism, said cam having a camming edge a portion of which extends substantially along the line of movement of the cam whereby it has no cam-



ming function; a cam follower engaged with said camming edge; and means for actuating said toothed reduction gear means in response to movement of the cam follower, thereby to cause counter movements of the indicator members over the focussing scale as the diaphragm mechanism is adjusted by movement of the actuator member, said indicator members being motionless when the follower is at the above-identified portion of the camming edge.

2,975,693
FILTER COMPENSATION FOR PHOTOGRAPHIC CAMERAS
Carl Ort, Stuttgart-Bad Cannstatt, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 12, 1959, Ser. No. 819,931
11 Claims. (Cl. 95—64)



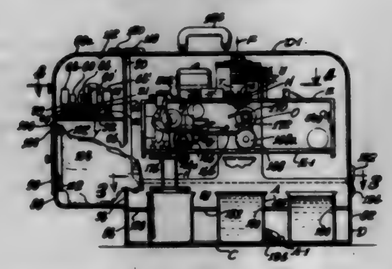
1. In a photographic camera having a taking lens, a taking-lens diaphragm, and means for regulating said diaphragm as a function of scene brightness, said means including a photocell disposed for illumination by scene light, the combination comprising: adjustable light-controlling means disposed on said camera for variably exposing said photocell to scene light; means for adjusting said light-controlling means to vary the exposure of said photocell to scene light, said adjusting means comprising a first input member movable under manual control for adjusting said light-controlling means to compensate for changes in a first exposure factor, and a second movable input member differentially coupled to said first input member for adjusting said light-controlling means to compensate for the prolongation factor of any of a plurality of taking-lens filters; means adapted to receive a filter mount; a filter mount insertable into said receiving means, said mount carrying a filter having predetermined light-attenuating properties, said filter being aligned with said taking lens upon insertion of said mount into said receiving means, said mount having a control surface uniquely related to the light-attenuating properties of said filter; and means cooperating with said filter mount and said second input member for sensing said control surface to move said second input member in proportion to the light attenuating properties of said filter.

2,975,694
STEP AND REPEAT APPARATUS
Kenneth M. Pell, 120 S. Hayford Ave., Lansing, Mich.
Filed Sept. 22, 1958, Ser. No. 762,570
1 Claim. (Cl. 95—77)



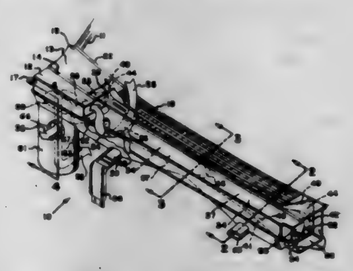
An apparatus adapted for the step and repeat reproduction of the same film transparency comprising: a flat flexible rectangular master plate sheet provided at each end with a positioning pin tab having upwardly extending positioning pins mounted thereon; and a second flat transparent flexible member of substantially the same size as said master plate sheet and having at each end positioning pin receiving tabs in register with and adapted to receive said positioning pins, said second member positioned on said master plate sheet in said register, said second member and said master plate sheet being adapted to receive therebetween a sensitized press plate of substantially the same size coated with a photographic emulsion and a movable transparency overlying said sensitized plate so as to create an image upon said sensitized press plate upon exposure through said transparent member, said transparent member having horizontal and vertical grid lines over the entire surface thereof, said grid lines being of a blue color to which said sensitized press plate is insensitive, said master plate sheet having press plate positioning lines thereon.

2,975,695
AUTOMATIC FILM DEVELOPING MECHANISM
Hardy Iwao Tsuno, 1240 W. 164th St., Gardena, Calif.
Filed Dec. 28, 1959, Ser. No. 862,113
19 Claims. (Cl. 95—89)



1. In a device for successively placing sensitized photographic film into a plurality of processing means and washing means, said washing means being a first open-mouthed receptacle, said processing means being a plurality of second open-mouthed receptacles circumferentially spaced about said first receptacle that are capable of holding a plurality of film processing chemical solutions, comprising in combination: a film holder on which said film is removably mounted, said holder being of such size as to be insertable in said first and second receptacles; a carriage; horizontal elongate track means on which said carriage can move longitudinally to either a first or second position thereon; means for rotatably supporting said track means above said first and second receptacles, with the center of rotation thereof being in vertical alignment with the vertical center line of said first receptacle; first electrically operated means on said carriage for raising said film holder out of said first and second receptacles when energized and allowing said film holder to move downwardly into said receptacles when de-energized; second electrically operated means for moving said carriage to either said first or second position; third electrically operated means for rotating said track means; a normally open first electrical circuit; a plurality of normally open electric switches forming a part of said first circuit which when closed and opened control said first, second and third means; and power operated means for intermittently closing said plurality of switches in such a time pattern as to cause said first means to be energized to raise said film holder out of the first of said second receptacles to a fixed elevation thereabove when said carriage is in said first position, and for energizing said second means to move said carriage to said second position while maintaining said holder at said elevation, allowing said holder to move downwardly into said first receptacle when in said second position, raising said holder out of said first receptacle to said elevation, moving said carriage to said first position while maintaining said holder at said elevation, rotating said track means to a position relative to the second of said second containers where said holder is lowered enters the confines thereof, and continuing the operation of said fourth means until all of said second receptacles have had said holder lowered thereinto.

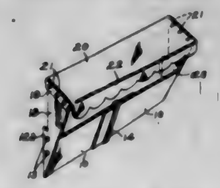
2,975,696
MOTOR VEHICLE VENTILATION SYSTEM
Gordon R. Jewell, Plymouth, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 5, 1957, Ser. No. 663,812
4 Claims. (Cl. 98—2)



1. A cowl providing a ventilation system for a motor vehicle having a passenger compartment and a windshield forwardly of the passenger compartment, a cowl top extending transversely of the vehicle and forwardly of the windshield, an air intake opening in the cowl top for the passage of air, an inner panel member having flange portions completely secured to the underside of said cowl top, said cowl top and said inner panel member forming a transverse hollow shell, said inner panel member forming the under side of a transversely extending air passage in said shell, an air opening at each end of the shell laterally outwardly of the vehicle centerline and communicating with the passenger compartment, a curved air guide member mounted beneath said cowl top and depending downwardly into the shell in spaced apart relationship to said inner panel member, said air guide member forming the inner side of the transversely extending air passage, one of said members having a rela-

tively small curved section centrally of the cowl and a progressively larger curved outer section extending laterally outwardly on opposite sides of said small section, the laterally outward ends of said air guide member being secured to the inside of the cowl top and the inner panel member intermediate of said air openings communicating with the passenger compartment thereby damming the inlet air and compelling it to flow around and into the air guide before passing through the air openings communicating with the passenger compartment, and drainage means in said inner panel member open to the air passage.

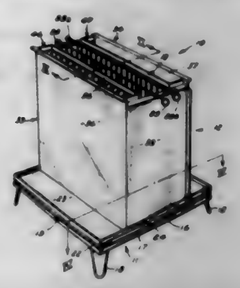
2,975,697
WINDOW DRAFT CONTROLLER
Carrie E. Bishop, Box 137, Chelmsford, Ontario, Canada
Filed July 16, 1959, Ser. No. 827,469
2 Claims. (Cl. 98—99.5)



1. An adjustable ventilator for attachment to window frames and adjacent the window sills comprising solely a pair of rectangular plate sections arranged with adjacent end portions in side to side overlapping relation, the remote ends of said sections having triangular shaped end brackets integrally formed at right angles therewith and adapted to be secured to the window frames inside the window sash and closely adjacent the window sill, whereby the plate sections may be adjusted for various distances between said window frames, said brackets at the upper ends thereof being integrally formed with substantially trapezoidal enlargements extending upwardly therefrom, a transparent canopy extending across the upper ends of said extensions, means for securing the opposite ends of said canopy to said extensions, and an endless securing means removably mounted on said plate end portions intermediate their overlapping ends, said endless securing means being a rectangular shaped sleeve type loop adapted to secure said rectangular plate sections together in adjusted position, the longitudinal internal length of said loop being substantially equal to the transverse width of said plate sections and the internal width of said loop being substantially equal to the combined thickness of said overlapped plate end portions, each of said triangular shaped brackets having a plurality of holes therein whereby means may be passed through said holes for securing said brackets rigidly to the window frames.

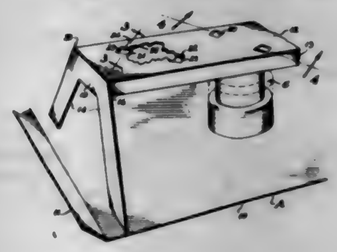
2,975,698
TWIN CHARCOAL VERTICAL BROILER
Paul W. Miller, 837 W. South St., Kalamazoo, Mich.
Filed May 14, 1959, Ser. No. 813,165
5 Claims. (Cl. 99—390)

1. A vertical charcoal broiler, comprising: a substantially flat drip pan having side wall means therearound; a flat support pan removably supported upon and spaced upwardly from said drip pan, said support pan having an elongated opening substantially parallel with and midway between a pair of opposite edges thereof; a pair of channel shaped members movably supported upon said support pan, said channel members having substantially parallel webs disposed upon opposite sides of said elongated opening and each channel member having a pair of substantially parallel flanges in overlapping arrangement with the corresponding flanges on the other channel member at opposite ends of said opening; a pair of elongated, substantially parallel and upwardly opening charcoal containers of substantially rectangular shape and means supporting said containers upon said channel members on opposite sides of and substantially parallel with said opening, said containers having perforated adjacent and bottom walls, said perforate adjacent walls and said flanges



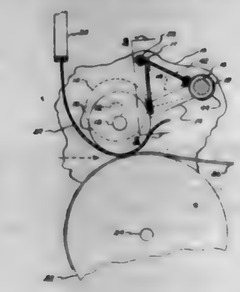
defining a cooking compartment above the opening in said support pan, said channel members being movable toward and away from each other; a pair of flat rectangular grills movably connected along one corresponding edge of each; and support means secured to each grill near the opposite edges of each and engageable with said flanges for supporting said grills within said compartment.

2,975,699
PATTY SHELL BAKING FORM
Hans M. Dohring, 716 Veteran Ave., Los Angeles 24, Calif.
Filed May 13, 1958, Ser. No. 734,870
4 Claims. (Cl. 99—442)



1. In a patty shell baking form apparatus: a stand including a horizontal beam embodying an elongated web of flat sheet metal, a pair of legs secured to each end of said beam and extending downwardly in laterally spaced positions, and a plurality of groups of integral mandrel supporting seats in said web, the seats of each group being uniformly spaced radially and circumferentially with reference to a common vertical axis and said axes being longitudinally spaced along said beam, each of said seats being depressed below the plane of said web to define a lug-receiving socket, being integrally joined to said web along an outer end and one side of the respective socket by vertically offset shoulders, and being separated from said web along its opposite side to define an entry slot; a plurality of mandrels of cup form each including a cylindrical lateral wall having a rim defining an open top, and a flat bottom wall cooperating with said lateral wall to form a recess in a patty shell, and a plurality of thin flat lugs formed integrally with and projecting radially outwardly from said rim substantially in the plane thereof and receivable through respective entry slots and into respective sockets, with lateral margins of said lugs vertically retained between the opposed marginal portions of said web and seats along said entry slots to lock said mandrels to said beam; and a baking pallet for supporting dough biscuits below respective mandrels, said stand legs resting on said pallet at opposite ends thereof and supporting said stand so that the mandrels project downwardly from said beam with their said flat bottoms spaced above the upper surface of said pallet by a narrow flat horizontal space proportioned to correspond to the bottom of a patty shell, said baking pallet providing a flat baking surface with laterally unobstructed space around each mandrel adjacent said baking surface whereby patty shell dough biscuits arranged on said pallet with their upper ends receiving the lower ends of respective mandrels, will have free unrestrained raising and swelling upwardly and radially outwardly during a baking operation and at the same time will be guided by the mandrels so as to avoid tilting laterally while raising, and restrained from contracting inwardly so as to be internally shaped to the contours of the lower portions of said mandrels.

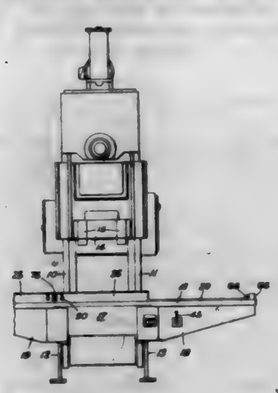
2,975,700
PRESS ROLL TWINE GUARD FOR ROLL-TYPE BALERS
John V. Stroburg and Glen O. Stroburg, both of Blackton, Iowa
Filed Jan. 24, 1958, Ser. No. 710,937
2 Claims. (Cl. 100—5)



1. In combination with a roll-type baling machine having a frame and a first roll member mounted on said frame, a pair of arms operatively pivotally secured to a common pivotal axis on said frame, a second roll member mounted between said arms, said rollers being adapted to receive a binding twine therebetween, said first and second roll members being parallel to each other and in operative engagement with each other, and a bracket fixedly secured to said frame and having a surface in engagement with said second roll member to prevent the twine from being wound around said second roll member; the distance from the pivotal axis of said arms on said frame to said surface and the nearest point on the periphery of said second second roll being substantially the same so that said surface can maintain its position of engagement with said second roll while said second roll is pivoting with said arms without substantially increasing the pressure of engagement between said surface and said second roll.

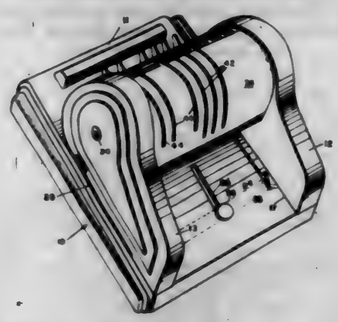
2,975,701
POWER PRESS WITH SHIFTABLE BOLSTER MEANS
Frederick E. Munschauer, Jr., and George E. Munschauer, Eggertsville, and Edwin A. Munschauer, Jr., Snyder, N.Y., assignors to Niagara Machine & Tool Works, Buffalo, N.Y.
Filed Aug. 17, 1960, Ser. No. 50,254
10 Claims. (Cl. 100—214)

1. In a power press, a press frame and a bed rigidly associated therewith, a movable platen above and reciprocable toward and away from said bed, said bed including a top surface portion extending laterally substantially beyond the normal working area of said bed, a pair of die receiving bolsters disposed on said bed surface in side by side relationship, means guiding said bolsters for movement along said bed surface and for retaining the same against substantial lifting movement relative to said bed surface, each bolster having a plurality of apertures



at its underside and passage means in each bolster communicating with the plurality of apertures thereof, conduit means for supplying air under pressure to each of said passage means and a manual valve selectively operable to connect air pressure to either of said bolster passage means to effect a lifting force on the associated bolster by pressure of air passing from said apertures horizontally between said bolster and said bed surface.

2,975,702
CHECK PROTECTOR
Howard E. Hutzelman, Corry, Pa., assignor to Applied Research Corp., Erie, Pa., a corporation of Pennsylvania
Filed Apr. 1, 1957, Ser. No. 649,887
11 Claims. (Cl. 101—99)



1. A check writing machine comprising a base, indicating wheels rotatably mounted on said base, said indicating wheels having a rim portion disposed around a portion of the periphery thereof, said rim portion having an outer peripheral surface, a strip of resilient material supported on said outer peripheral surface and having characters on the side of said resilient material remote from said peripheral surface, and means to support a paper against said resilient material, said strip of resilient material having spaced notches on the side thereof remote from said peripheral surface, said wheels having axially extending fingers spaced outwardly from the outer periphery of said rim portion, said fingers being

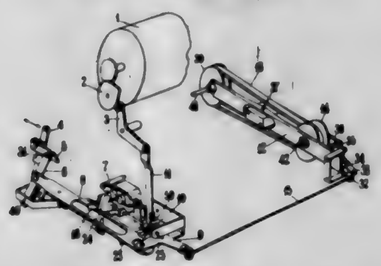
disposed in said notches in said resilient material whereby said resilient material is held in place on said indicating wheels.

2,975,703
CONTINUOUS ARTICLE CODING APPARATUS
Gisbert Burkhardt, Konstanz (Bodensee), Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed May 18, 1959, Ser. No. 813,996
Claims priority, application Germany May 28, 1958
18 Claims. (Cl. 101—114)



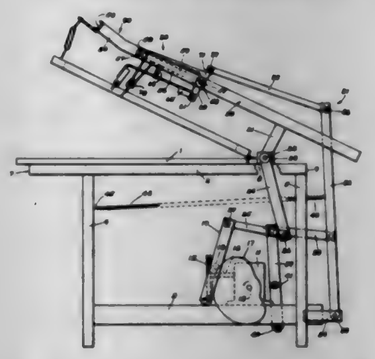
1. Apparatus for applying code signals to articles being conveyed, said apparatus comprising: at least one nozzle means directed toward the path along which the articles are being conveyed; stationary stencil means arranged between said nozzle means and said path; a dyestuff reservoir; a dyestuff carrier capable of holding dyestuff by adhesion and of releasing the dyestuff under the influence of an air jet, said carrier being movable between said reservoir of dyestuff and a position wherein the dyestuff picked up from said reservoir and adhering to said carrier is interposed between said nozzle means and said stencil means; and means for forcing an air jet through said nozzle means at predetermined instants and thereby causing dyestuff adhering to said carrier to be released and moved through said stencil means onto articles being conveyed, whereby there is applied to the articles being conveyed a code signal permutation corresponding to said predetermined instants and having a geometric configuration corresponding to said stencil means.

2,975,704
ROTARY DUPLICATING MACHINES
Leslie Harrold Smith, Gidea Park, England, assignor to Ronco Limited, London, England
Filed Apr. 30, 1956, Ser. No. 581,754
Claims priority, application Great Britain May 2, 1955
6 Claims. (Cl. 101—116)



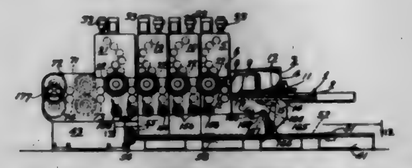
1. In a rotary duplicating machine of the type having a frame, a printing drum, a variable speed gear operatively connected to the drum, electric switch means controlling the power supply to the drum, and means operatively associated with the variable speed gear operative to adjust said gear to the lowest-operating speed prior to actuation of the electric switch means to cut-off the power supply, such latter means including a slide mounted within the frame for longitudinal reciprocable movement, lever means pivoted to the frame and connected to the slide whereby pivotal movement of the lever means displaces the slide in one direction, spring means connected to the slide urging the slide in the opposite direction, catch means on the frame, operating means connected to the lever means to displace the slide in said one direction with the catch means engaging the lever means to hold the same in such position, a switch actuating means mounted for rotary movement in the path of travel of the slide, trip means on the slide operative on the movement of the slide in said one direction to rotate the switch actuating means to actuate the electric switch means to supply power to the drum, latch means displaceable substantially perpendicularly and in the direction of movement of the slide disposed in the frame with at least a portion thereof being in the path of movement of the slide, cam means rotatable with the drum and operatively connected to the latch means to displace the latch means perpendicularly operative on movement of the slide in said one direction to move the latch means in a direction whereby the latch means engages the slide, movement imparting means connected to the variable speed gear, means pivotally connecting the movement imparting means to the slide and including a lost-motion connection, a further trip means operatively associated with said switch actuating means and located in proximity to said latch means, and further means operable to disengage said catch means from said lever means whereby the spring means urges the slide in the opposite direction whereupon said movement imparting means and its connections to the variable speed gear and the slide adjust the gear to the lowest operating speed and thereafter the latch means is displaced by the cam means to actuate the further trip means to rotate the switch actuating means to actuate the electric switch means to cut-off the power supply.

2,975,705
SILK SCREEN PROCESS PRESS
Louis Gilman, Newtonville, Mass. (80 Hampshire St., Boston 20, Mass.)
Filed Feb. 12, 1958, Ser. No. 714,728
7 Claims. (Cl. 101—123)



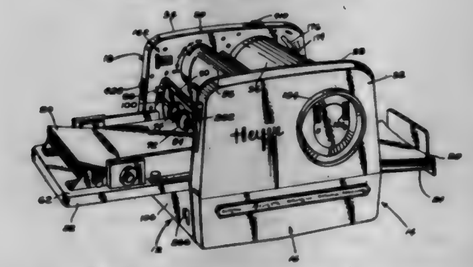
1. In a screen process press having a screen, a table top, means mounting said screen for pivotal movement against said top, a squeegee and means mounting said squeegee for movement into positive pressure contact across said screen, the combination comprising channels at least substantially as long as said screen within which said means mounting said squeegee is mounted, means for pivoting said channels into fixed parallel relation above said screen, end channel portions continuous with said channels extending angularly away from said screen when said channels are in said fixed position with said channel portions adapted to receive said squeegee mounting means at the beginning of said movement of said squeegee, and means for rigidly securing said channels and channel portions in said position before the movement of said squeegee whereby said squeegee will be guided by said channel portions and channels into a gradual positive pressure contact with said screen during its movement and after said channel portions are secured in said position.

2,975,706
PRINTER-SLOTTER MACHINES
Henry W. Moser, Haddonfield, N.J., and William Grobman and Ewald Otto P. Eskilson, Philadelphia, Pa., assignors to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey
Filed Oct. 23, 1958, Ser. No. 769,149
15 Claims. (Cl. 101—181)



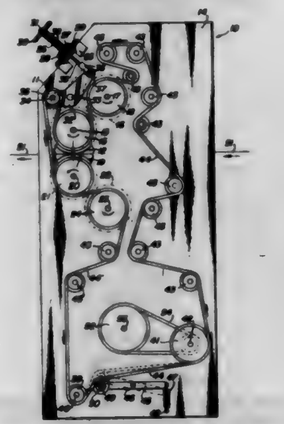
1. In a rotary printing machine of the multi-impression type comprising a plurality of printing couples arranged serially in the path of travel of the work and an inking apparatus operatively associated with each of the couples and forming with the latter a unit printing mechanism, together with means for adjusting said units between relatively closed positions in which the said units lie contiguous to each other and relatively extended positions in which the said units are spaced apart on said path, drive means for said mechanisms consisting of a rotary splined shaft paralleling said path of travel and means for connecting each of said unit mechanisms to the shaft including a first gear element splined to and axially movable on the shaft, a hollow sleeve journaled in the unit and having thereon a gear element meshing with said first gear element, a stub shaft journaled in said hollow sleeve, a clutch releasably connecting said stub shaft and hollow sleeve, and means for coupling the stub shaft to the said mechanism.

2,975,707
DUPLICATING MACHINE
Edward M. Springer, Chicago, Ill., assignor, by mesne assignments, to Heyer Inc., Chicago, Ill., a corporation of New York
Filed May 24, 1957, Ser. No. 661,460
25 Claims. (Cl. 101—232)



1. A duplicating machine comprising a support for copy sheets, a rotatable drum for carrying a master for imprinting on the copy sheets, means for feeding copy sheets successively from the support through the machine, means including an electric motor for driving the feeding means and drum through a succession of cycles, the drum making one revolution in a cycle, circuit means for controlling the electric motor, a gravity operated follower arranged for riding on a stack of the copy sheets on the support, and means for automatically stopping the machine including switch means in said circuit means and a manually actuated control member for operating said switch means, the follower and control member having cooperating interengagement whereby in either the uppermost or lowermost position of the follower the control member assumes a retracted position, and when the follower is in its uppermost position and the control member is in its retracted position the control member retains the follower in uppermost position, said switch means having a self-biased position when the control member is in retracted position in which it de-energizes the circuit for stopping the motor.

2,975,708
MEANS ADJUSTING CYLINDER IN PRINTING PRESS
James G. Ghormley, Jr., and Clyde T. Kitchens, Fort Worth, Tex., assignors to Ghormley Engineering and Manufacturing Company, Fort Worth, Tex., a corporation of Texas
Filed Jan. 11, 1960, Ser. No. 1,736
5 Claims. (Cl. 101—248)

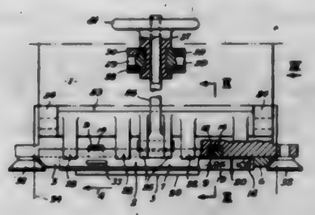


1. In a printing press having an axially mounted plate cylinder and having an axially mounted impression roller: a sprocket coaxially secured to said plate cylinder, a sprocket coaxially secured to said impression roller, a bell crank pivotally mounted on said press in a plane of rotation parallel to the plane of rotation of said sprocket coaxially secured to said impression cylinder, a single sprocket rotatably secured to a projecting end of said bell crank in the plane of rotation of said sprocket coaxially secured to said impression roller, a shank rotatably attached to said press and having a threaded axial opening, a threaded rod engaging said threaded axial opening of said shank and extending to pivotal attachment to said bell crank, a sprocket chain engaging each of said sprockets and engaging said sprocket rotatably secured to said bell crank intermediate its engagements with the other said sprockets, a tension bar pivotally secured to said press, a sprocket rotatably connected to one end of said tension bar and engaging said chain, a spring extended in tension between the other end of said tension bar and said press, means driving said sprocket chain, and means carrying paper stock through said press and in contact with said impression roller.

2,975,709
PRINTER'S CHASES
William Frank Golding, 22 Parry's Close, Stoke Bishop, Bristol, England
Filed Feb. 4, 1958, Ser. No. 713,186
Claims priority, application Great Britain Feb. 5, 1957
8 Claims. (Cl. 101—391)

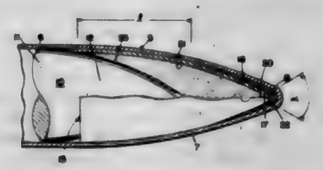
1. In a press having a platen positioned for the pressure surface thereof to face downwards, a chase se-

curable to said platen in an operating position the chase being defined by two parallel side members and two parallel end members, a forme being securable in the chase by pressure between the form and the members of the chase, a guide means dimensioned to support the chase at the side members thereof in a position parallel to but clear of said pressure surface and to guide the chase for inward movement towards and outward movement from said operating position, first and second ramp means operating to engage the chase when the latter, upon inward movement, has reached a position close to



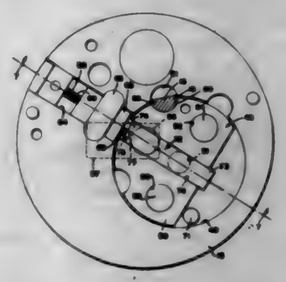
the operating position and to guide the chase in an oblique inward and upward direction into the operating position, said first and second ramp means being situated in positions spaced apart in the direction of said guides and each said first and second ramp means comprising a component provided on the chase and a cooperating component provided on the press, releasable means for urging the chase along said components on the press into said operating position thereby to secure the chase to said platen, and means for registering the chase in a direction horizontally transverse to the direction of said guides.

2,975,710
PROJECTILE
Ellis W. Read, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 18, 1958, Ser. No. 774,787
6 Claims. (Cl. 102—66)
(Granted under Title 35, U.S. Code (1952), sec. 266)



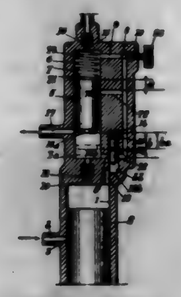
4. An incendiary projectile having a body portion, a soft metal jacket contiguous said body portion and having a generally conical forward portion, an inner conical jacket of harder and less easily deformable material than the outer jacket, said inner jacket being in tight-fitting contact with said outer jacket for a major portion of the length of the inner jacket and abutting said body portion to maintain a precise spacing between said jackets in a nose portion of said projectile, an incendiary material within said inner jacket, an impact sensitive explosive between said jackets in the projectile nose, the inner jacket being perforate adjacent the projectile nose for passage of flame from said impact sensitive explosive to ignite said incendiary material after deformation of a nose portion of the outer casing, whereby any elongation of the outer jacket on bending a rear portion is largely confined to a portion of the outer jacket in rear of the inner jacket without danger of reducing the spacing between said jackets in a nose portion of said projectile.

2,975,711
ARMING MEANS FOR A FUZE
Calvin F. Brown, West Friendship, and Felix H. Young, Silver Spring, Md., and James L. Walthall, Jr., Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 16, 1952, Ser. No. 299,324
6 Claims. (Cl. 102—80)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. A delay arming and safety mechanism for a projectile comprising a casing, a normally locked arming rotor rotatably supported within said casing for movement from an unarmed to an armed position in response to centrifugal force when released, a shaft rotatably supported within said casing and disposed within said arming rotor for locking the arming rotor in said unarmed position until the shaft has been rotated to a released position, a normally locked spring actuated driving gear secured to said shaft for rotating the shaft to said release position, means including a spring urged plunger slideably arranged within said casing for releasably locking said driving gear and for releasing said gear when the plunger is moved a predetermined amount in response to setback force as the projectile is fired from a gun, an escape wheel rotatably supported within said casing, a pinion secured to said wheel in engagement with said driving gear and driven thereby for rotating said wheel, a normally locked balance member pivotally mounted on the casing, escapement means on said balance member in engagement with said wheel for regulating the same thereby to control the speed of rotation of the driving gear and the movement of the shaft to a release position, a pair of spring urged pawls pivotally mounted on said casing in engagement with said balance member for releasing said balance member as the pawls are moved out of engagement therewith in response to centrifugal force, a spring secured centrally to said balance member and having the free ends thereof attached to said casing for controlling the frequency of said escapement means in response to variations in centrifugal torque thereon, a mass slideably arranged within the casing and actuated in response to centrifugal force, a detent formed on said mass in locking engagement with said arming rotor for maintaining the arming rotor in said unarmed position until the mass has been moved a sufficient amount by said force to cause the detent to be disengaged from the arming rotor, a latch member slideably arranged on the arming rotor, a bill on said latch member normally out of engagement with the casing and adapted to be moved into locking engagement therewith when said latch member is moved a predetermined amount in response to a sudden shock received thereby for preventing movement of the arming rotor to said armed position prematurely, a primer disposed within the casing, and a detonator arranged within the arming rotor normally out of alignment with said primer for movement into alignment therewith as the arming rotor is moved to said armed position.

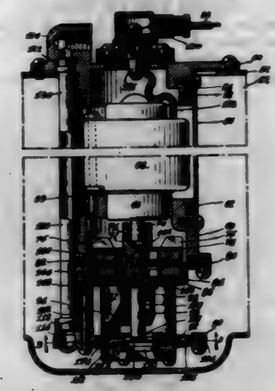
2,975,712
SELF-REGULATING RECIPROCATING PUMPS, AND IN PARTICULAR IN INTERNAL COMBUSTION ENGINE FUEL INJECTION PUMPS
Pierre Etienne Bonnere, 55 Blvd. du Commandant Charcot, Neuilly-sur-Seine, France
Filed Mar. 18, 1958, Ser. No. 722,217
Claims priority, application France Mar. 18, 1957
9 Claims. (Cl. 103—41)



1. In a pump comprising a cylinder, a piston reciprocable in said cylinder, a delivery conduit and reciprocating feed means for supplying fuel to said delivery conduit in response to the reciprocating movement of said piston in said cylinder, a device for automatically regulating the amount of liquid delivered by said feed means to said piston is reciprocated, this device comprising, in combination, means fixed with respect to said cylinder forming a hollow space, a shuttle member reciprocable in said space to divide it into two chambers, a passage connecting one of said chambers with one end of said cylinder where liquid is entrapped during every stroke of said piston in one direction, a check-valve in said passage mounted to open toward said last mentioned chamber and to prevent the flow of liquid from said last mentioned chamber toward said cylinder, whereby said shuttle member is moved in one direction during every such stroke of said piston, resilient means for urging said shuttle member in the opposed direction, a circuit starting from said last mentioned chamber, valve means mounted in said circuit and operatively connected with said piston for closing circulation through said circuit during every such stroke of said piston, whereby liquid can circulate through said circuit only during every movement of said shuttle member in said last mentioned direction, a portion of said circuit being of restricted cross section to brake the movement of said shuttle in said last mentioned direction, and conduit means in communication with said hollow space and controlled by said shuttle member after a first portion of its movement in said last mentioned direction for giving the liquid driven by said shuttle through said circuit a large section of flow whereby said movement of said shuttle in said last mentioned direction is suddenly accelerated.

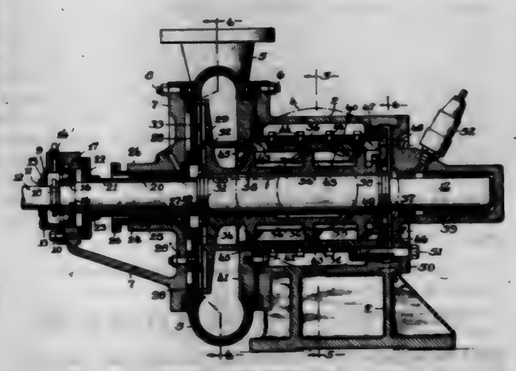
2,975,713
LIQUID FUEL SUPPLY APPARATUS
George W. Wright, Fort Wayne, Ind., assignor to Tokheim Corporation, Fort Wayne, Ind., a corporation of Indiana
Filed June 9, 1955, Ser. No. 514,221
10 Claims. (Cl. 103—87)

1. A self-purging fuel pump for operation in submerged position in a fuel tank such as the gasoline tank of an automotive vehicle, comprising a pump casing adapted to be mounted in the fuel space in a fuel tank and forming an annular centrifugal pumping chamber having top and bottom walls, said top wall having a central upward-facing inlet opening for admitting liquid to the chamber and for releasing gas therefrom, said bottom wall having a central downward-facing inlet opening for admitting liquid to the chamber, said openings being in open communication with the space surrounding the pump whereby fuel can freely enter said openings from said space and gas can freely escape to said space from said upward-facing opening, a centrifugal impeller in said casing having pumping blades in said pumping chamber to pump liquid outward therein from



said inlet openings, said pumping blades and the annular pumping chamber portion swept thereby being of greater radial width than axial thickness, said impeller being axially open therethrough in areas adjacent said upward-facing inlet opening and the top surface thereof inward of such axially open areas being a substantially bladeless surface of revolution, whereby gas entering the bottom inlet can freely pass through the impeller to the top inlet and be released therethrough ahead of substantial pumping action at the top inlet.

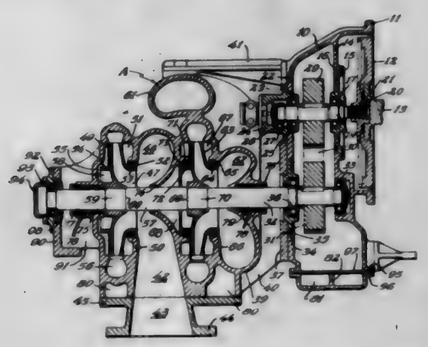
2,975,714
SCREW FEED CENTRIFUGAL PUMP
Leonard M. Nechine, Highland Park, Ill., assignor, by mesne assignments, to Food Machinery and Chemical Corporation, Chicago Pump Company Division, San Jose, Calif., a corporation of Delaware
Filed Nov. 1, 1954, Ser. No. 465,935
15 Claims. (Cl. 103—88)



1. A screw feed centrifugal pump for pumping liquid containing solid and semisolid material, said pump comprising a suction housing, a discharge casing fixed to said housing, a liner subassembly comprising a liner, cutting blades, and a labyrinth sealing plate insertable into and removable from said housing as a unit, and another sub-

assembly also insertable into and removable from said housing as a unit, said second subassembly comprising a shaft, a screw conveyor keyed to said shaft and having screw flutes adapted to cooperate with said cutting blades to comminute solid and semisolid material in the liquid being pumped, and an impeller keyed to said shaft and operable to pump liquid through said discharge casing.

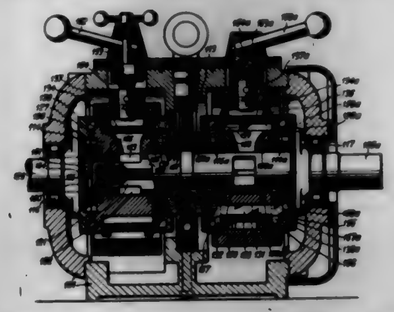
2,975,715
CRASH TRUCK PUMPS
David F. Thomas, St. Paul, and Louis B. Evans, Hastings, Minn., assignors to Waterous Company, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 24, 1958, Ser. No. 723,363
7 Claims. (Cl. 103—108)



1. In a centrifugal pump, a pump housing, an impeller shaft supported in said housing, a pair of axially spaced impellers on said shaft, said housing including volutes encircling said impellers, said housing including an axially extending inlet passage on one side of each impeller, said impellers being arranged with the inlet passages facing the same end of said impeller shaft, said housing including an inlet conduit terminating between said impellers in communication with the inlet passage of one impeller and on the side thereof facing said end of said impeller shaft which is on the side thereof closest the other impeller and said inlet conduit communicating with the side of said other impeller opposite the inlet side thereof, said housing including a passage leading from the volute of said one impeller to the side of said other impeller facing said end of said impeller shaft and to the inlet passage of the other impeller subjecting the inlet side of said other impeller to first stage discharge pressure, said pump housing including a pressure chamber on the side of said one impeller opposite said inlet passage thereof communicating with the first stage volute and subjecting said opposite side of said one impeller to first stage discharge pressure, and said housing defining a discharge conduit connected to the volute of said other impeller, whereby first stage discharge pressure against the outer sides of said impellers creates substantially equal axial pressure against the impellers tending to urge said impellers toward each other on said shaft.

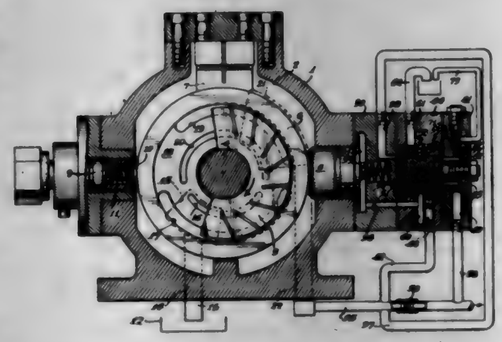
2,975,716
ROTARY ENGINE, IN PARTICULAR FLUID TRANSMISSION
Karl Eickmann, 2420 Isshiki, Hayama-machi, Miuragun, Kanagawa-ken, Japan
Filed Feb. 3, 1954, Ser. No. 407,983
19 Claims. (Cl. 103—120)

1. In a rotary pump or motor, in combination, a center rotor element formed with slot-shaped apertures extending in substantially radial direction; a plurality of vanes slidably arranged in said apertures respectively and having each opposite axial end portion extending in radial and axial direction beyond said rotor element; a guide ring element surrounding said rotor element and guiding said vanes in radial direction, one of said elements being adjustable with respect to the other for adjusting the distance between the axes of said elements; and end wall means at said axial end portions of said vanes for axially closing chambers formed between said center rotor element, said vanes and said guide ring element, each of said end wall means being composed of an outer end wall member and an inner end wall member located between said rotor element and said outer end wall member and abutting against said outer end wall member with an end face, only said inner end wall member being



formed with slots extending through said inner end wall member in radial direction to the periphery of said inner wall member and in axial direction to said end face thereof for respectively receiving and guiding said vane end portions, whereby said slots may be machined together with said slot-shaped apertures in said center rotor element to exactly the same dimensions, said slots being radially and axially outwardly closed by said outer wall member, said rotor element, vanes, and end wall means rotating together and when said axes of said elements are spaced from each other said vanes moving radially along said slots while said chambers increase and decrease in volume during rotation of said rotor to cause a fluid to be pumped in the case of a pump or to cause said rotor to be driven in the case of a motor.

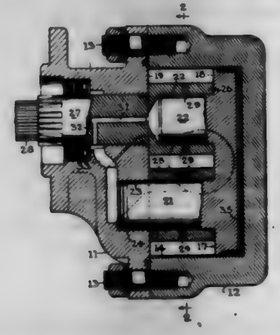
2,975,717
FLOW GOVERNING HYDRAULIC SYSTEM
Robert D. Rynders and Edward O. Brannon, Racine, Wis., assignors to Racine Hydraulics & Machinery, Inc., a corporation of Wisconsin
Filed June 12, 1959, Ser. No. 819,907
1 Claim. (Cl. 103—120)



A variable volume vane type pump with a unitary flow feed-back governor comprising, a casing with a cavity,

a rotor with slidable vanes in said cavity, a movable rotor ring surrounding said rotor and shiftable to control the pump delivery volume, a governor for controlling the position of the ring including a casing component having a cylinder, a piston slidable in said cylinder and operatively engaged with the ring and a spring urging said piston toward the ring and the ring toward a full flow position, governor controlling means affixed to said casing including a pressure differential valve with a valve member for controlling flow of pressure fluid to said governor cylinder to act in the same direction as the spring, a sleeve movably receiving the differential valve member, a spring nested within the valve member urging the valve member to a position to connect the governor cylinder with pressure fluid to shift the pump ring toward full flow, and said valve member controls the connection of the governor cylinder to either pressure fluid or drain, means for creating differential pressures in a pump outlet line, means for applying said differential pressures to said valve, and a pressure relief valve in said casing for limiting the pressure acting on the valve member.

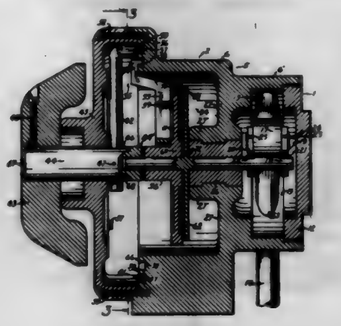
2,975,718
ENGINE
Robert F. Hodgson, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Nov. 28, 1958, Ser. No. 776,874
2 Claims. (Cl. 103—126)



1. In an engine of the gear type including a housing having inlet and outlet ports, a working chamber communicating with the ports and provided with two transverse end walls, a pair of meshing gears mounted in the working chamber and having side faces in sealing engagement with the end walls, and a drive shaft connected in driving relation with one of the gears, the improvement which comprises a wear plate mounted in the housing and having a face which defines one of the transverse end walls, the wear plate being supported for movement relatively to the housing in the direction of the other transverse end wall; and a pair of stationary parallel shafts formed as an integral part of the wear plate and projecting only from said face, each shaft serving as a journal for one of the gears.

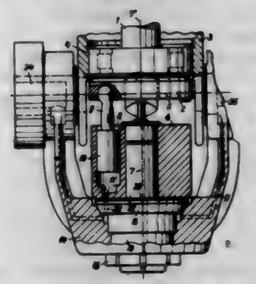
2,975,719
VARIABLE CAM DRIVEN PUMP
Samuel Kaufman, 5506 Floral Bluff Road, Jacksonville 11, Fla.
Filed Nov. 7, 1958, Ser. No. 772,564
8 Claims. (Cl. 103—149)

5. A liquid ejector comprising a housing and an elastic tube pump having a drive-shaft mounted within said housing, said housing having a circular groove formed therein and arranged concentrically to said drive shaft, an elongated land member disposable in said groove, means for moving said land member inwardly along said groove and for withdrawing it therefrom thereby to at least partially fill said groove for a variable length thereof, a follower arm mounted on and freely rotatable about said drive-shaft and having a follower arranged to traverse said groove in one path as said arm rotates about said shaft and to be deflected by said land member into another path, said follower arm being further arranged to pivot on said mounting as said follower thereof is de-



flected by said land member from said one path to said other path, means urging said follower arm into said one path, motor driven means for continuously rotating said follower arm about said shaft, means connecting with said shaft operable to drive said shaft, and a pawl rigidly connected to said follower arm arranged and adapted to drivingly engage said last mentioned means as said follower traverses said groove in said one path and to disengage therefrom as said follower is deflected into said other path by said land member.

2,975,720
GEAR UNIT OR OTHER MOVABLE MECHANISM
Friedrich Wilhelm Schoellhammer, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed July 11, 1955, Ser. No. 521,343
Claims priority, application Germany Mar. 9, 1955
17 Claims. (Cl. 103—162)



1. A thrust bearing for a drive mechanism comprising a first member having a flat contact surface, a second member having a flat contact surface, said members being adapted for rotation relative to each other with said contact surfaces sliding along each other, central grooves in one of said contact surfaces containing a supply of oil in contact with the other of said contact surfaces, said one of said contact surfaces having surface portions free of control grooves and disposed intermediate said control grooves in the direction of said rotation, said intermediate surface portions having recesses therein forming chambers, and a substantially solid material adapted to reduce

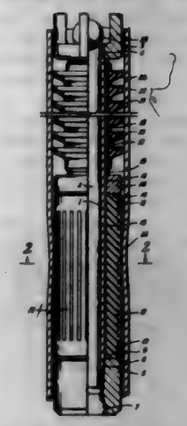
the friction between said surfaces filling out said chambers, the said other of said contact surfaces transporting oil from said control grooves in rotative directions toward said solid material upon the occurrence of said rotation.

2,975,721
DEEP WELL PUMPING SYSTEM
Forrest E. Chancellor and Robert O. Chancellor, both of 2917 Pierce Road, Bakersfield, Calif.
Filed Dec. 22, 1958, Ser. No. 782,252
4 Claims. (Cl. 103—179)



1. In a pumping system for a deep well, the combination of: a sucker rod string reciprocator at an upper level of said well; upper and lower pump tubing strings arranged in tandem spaced relation in said well; upper and lower sucker rod strings arranged in tandem spaced relation within said tubing strings and with said upper rod string suspended from and reciprocated by said reciprocator; a plunger pump disposed at a lower level of said well, said pump having a barrel connected to the lower end of said lower pump tubing string with a standing valve at the lower end of said barrel, said pump also having a valved plunger connected to the bottom of said lower rod string and reciprocable vortically within said barrel; a combination transmission and pump unit interposed between and uniting juxtaposed ends of said upper and lower pump tubing strings, said unit including a rectilinear motion transmission means which is operatively associated with said sucker rod strings and supports the same and counterbalances one against the other, the upper rod string being heavier than the lower rod string, a downstroke of the upper rod string functioning through said transmission means to produce an up stroke of the lower rod string and vice versa, said unit also including an intermediate level pump means which is actuated by said transmission means in response to movement of said upper rod string, firstly, in a suction stroke, which takes place concurrently with the up stroke of said lower rod string and causes said intermediate level pump means to suck in a charge of production liquid from said lower pump tubing string, and secondly, in a discharge stroke concurrent with the upstroke of said upper sucker rod string to discharge said charge of liquid upwardly into said upper pump tubing string, said unit including means for also subjecting said transmission to the weight of a column of production liquid in said upper pump tubing string, in addition to the weight of said upper rod string, during the down stroke of said upper rod string whereby said column counterbalances a similar column of production liquid occupying said lower pump tubing string and being elevated by the concurrent up stroke of said lower sucker rod string.

2,975,722
SWAB
Jack C. Webber, 353 Dolphin Place, Corpus Christi, Tex.
Filed Feb. 25, 1957, Ser. No. 642,120
2 Claims. (Cl. 103—225)



1. A swab for moving fluid through a passageway in one direction comprising a mandrel having a flowway, a check valve interposed in said flowway permitting flow through the flowway in said one direction only, a pressure expansible swab element on and surrounding said mandrel and having an unexpanded diameter substantially smaller than the interior of the passageway it is adapted to swab to enable it to pass obstructions normally present in such passageway, the interior of said element adjacent said mandrel being in communication with the space above the swab in such passageway, and a limited-load sealing means engaging an upper portion of said expansible element and having a part of an outer dimension substantially as great as the inner dimension of such passageway and flexible to permit it to readily pass obstructions therein and to bypass fluid load thereon in excess of a predetermined maximum.

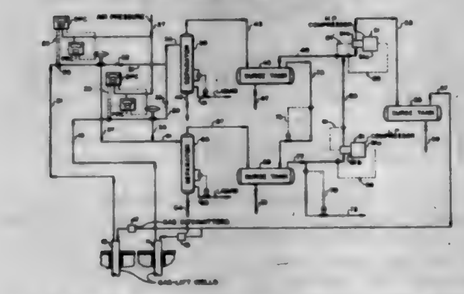
2,975,723
PERCOLATOR PUMP CONSTRUCTION
Theodore E. Andrews, Orefield, Pa., assignor to General Electric Company, a corporation of New York
Filed Nov. 18, 1957, Ser. No. 696,983
5 Claims. (Cl. 103—231.5)



1. A percolator comprising: a liquid reservoir, a pump well defined by heat conducting walls located below said reservoir; said pump well having an opening placing said reservoir and said pump well in communication with each other; said heat conducting walls being constructed and arranged to receive heat from a heat source adjacent the bottom of said reservoir; an elongated pump tube; a pump and wall rigidly secured to said pump tube near an end thereof; said pump tube and said pump end wall adapted to be jointly removably mounted in said reservoir with said pump end wall temporarily substantially closing said opening, said pump end wall having apertures

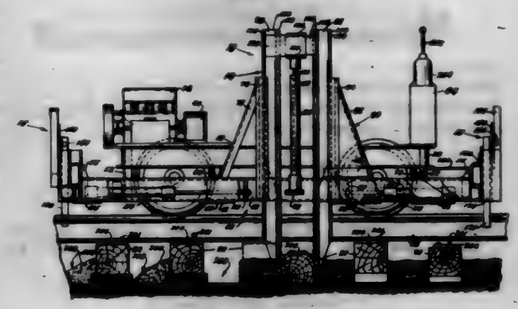
therein for placing said reservoir in limited communication with said pump well, a pump washer slidably mounted on said pump tube adjacent to said pump end wall and adapted during operation to periodically close the apertures in said pump end wall to thereby periodically disrupt communication between said reservoir and said pump well; whereby during operation of said percolator, small amounts of cold liquid from said reservoir periodically flow through the apertures in said pump end wall into said pump well where they are heated by said heating means and pumped up through said pump tube, and a one-way valve disposed in the lower portion of said pump tube and adapted to allow liquid to flow only upwardly through said pump tube, whereby during operation of said percolator said valve operates to prevent any liquid which is in said pump tube above said valve from returning to said pump well, thereby improving the liquid flow rate through said pump tube and minimizing noise caused during operation.

2,975,724
INTERMITTENT GAS-LIFT SYSTEM
James K. Welchon, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 21, 1957, Ser. No. 697,883
8 Claims. (Cl. 103—232)



2. In an intermitting cycle gas-lift system for producing oil from an oil well having an oil outlet and a gas inlet, the improvement comprising, in combination, a first separator vessel having an upper normally gas containing space, a first conduit communicating said first separator vessel with the oil outlet of said oil well, a second separator vessel having an upper normally gas containing space, a second conduit communicating said second separator vessel with the oil outlet of said oil well, a high pressure compressor having an inlet and an outlet, a third conduit communicating said space of said first separator vessel with the inlet to said high pressure compressor, a low pressure compressor having an inlet and an outlet, a fourth conduit communicating said space of said second separator vessel with the inlet of said low pressure compressor, a fifth conduit communicating the outlet of said low pressure compressor with the inlet of said high pressure compressor, a sixth conduit communicating the outlet of said high pressure compressor with the gas inlet to said oil well, a gas intermittor in said sixth conduit, a fluid flow control device in said first and second conduits, said fluid flow control device including a 3-way motor valve in said first and second conduits, a seventh conduit communicating the motor of said motor valve with said oil outlet whereby said valve directs flow of oil and gas from said well to said first separator and to said second separator in response to pressure in said oil outlet, an eighth conduit communicating said third conduit with said fourth conduit, a back pressure regulator motor valve in said eighth conduit, a ninth conduit communicating the motor of said back pressure regulator motor valve with a conduit selected from the group consisting of said third conduit and said eighth conduit intermediate said back pressure regulator motor valve and said third conduit, and separate means for outlet of liquids from said first and second separator vessels.

2,975,725
METHOD AND MACHINE FOR SURFACING TRACK TIES
Russell E. Paulson, 406 N. Maple Ave., Itasca, Ill.
Filed Feb. 26, 1957, Ser. No. 642,538
3 Claims. (Cl. 104—9)

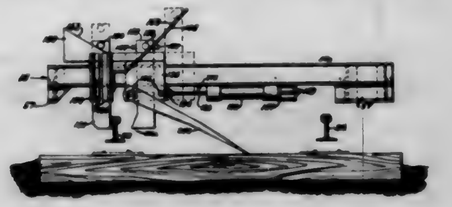


1. In a track surfacing machine of the type used for carrying tie gripper apparatus for raising and shifting ties in a railroad track, said machine comprising a wheeled frame having a transversely extending support member, a pair of pendently mounted clamp bars mounted on said support member above and straddling one of the rails of said track, one of said bars being mounted in a frame fixed to said wheeled frame and the other of said bars being mounted in a frame movable longitudinally along said support member, cam follower means carried by each of said bars, cam means carried by each of said bar frames for engagement with the cam follower means of the other bar respectively, said cam means each including cam surfaces shaped to raise and lower the respective bars between positions in horizontal alignment with the track rail and positions above the track rail as said movable frame is moved away and toward, respectively, said fixed frame, and ram means for moving said movable frame longitudinally of said support member and transversely of the track, whereby said clamp bars are simultaneously lowered and brought into engagement with the track rail to clamp said wheeled frame to the track when said movable frame is moved toward said fixed frame, and said clamp bars are simultaneously separated and raised to release the wheeled frame from the track when said movable frame is moved away from said fixed frame.

2,975,726
METHOD AND MACHINE FOR REMOVING SKEWED TRACK TIES
Russell E. Paulson, 406 N. Maple Ave., Itasca, Ill.
Filed Feb. 4, 1958, Ser. No. 713,143
5 Claims. (Cl. 104—9)

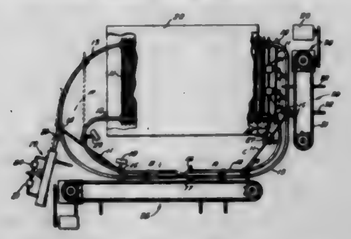
1. A track handling machine comprising a wheeled frame including spaced members extending longitudinally of the track, a platform mounted on each of said members for travelling movement longitudinally of the track with respect to the frame, a beam carried by said platforms and extending generally transversely of said machine, said beam being pivotally connected to said platforms, a platform mounted on said beam for travelling movement longitudinally thereof, ram means for independently shifting said platforms with respect to each other and to the track, a generally vertical spud carried by the last mentioned platform, said spud being mounted for movement generally vertically of the track, and ram means for shifting said spud between upper and lower

positions and for driving said spud into a tie, whereby, the first mentioned platforms may be shifted to align said beam with a skewed tie, the last mentioned ram means



may be actuated to drive said spud into the skewed tie, and said last mentioned platform actuated to move the skewed tie transversely of the track.

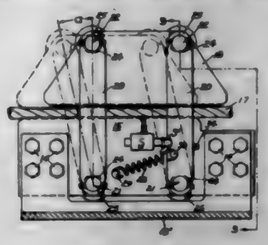
2,975,727
SKIN DRYING APPARATUS
James N. Kokoras, Peabody, Mass., assignor to John Flynn and Sons, Inc., Salem, Mass., a corporation of Massachusetts
Filed Feb. 14, 1958, Ser. No. 715,428
4 Claims. (Cl. 104—91)



1. A brake assembly for removing a single one of a plurality of drying boards supported in parallel relationship on inclined tracks within a drying oven comprising in combination a first toothed holding element rotatably supported in engagement with the single one to be removed of the plurality of drying boards, a first ratchet integrally attached to the first holding element and a first pawl engaged in the ratchet whereby the first ratchet, first holding element and the drying boards are held in position; a second toothed holding element similar to the first toothed holding element, a second ratchet integrally attached to the second ratchet; the second toothed holding element being disposed on the downhill side of the first toothed holding element and spaced therefrom a distance greater than the thickness of a single one of the drying boards, but less than twice the thickness thereof, means for releasing the first pawl momentarily to cause the drying boards to roll along the inclined tracks to engage the second pawl with the second ratchet and to cause the second holding element then to hold all the drying boards in position and then releasing the second pawl momentarily to cause the last drying board in the oven to pass beyond the second holding element and to cause the first holding element to hold all the drying boards then remaining in position.

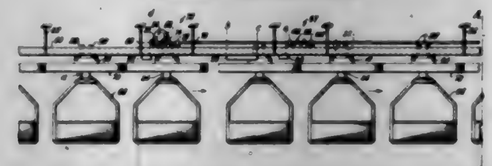
2,975,728
SELF-ENERGIZING ROPE BRAKE FOR AERIAL TRAMWAYS
Tony R. Sowder, Spokane, Wash., assignor to Riblet Tramway Company, Spokane, Wash., a corporation of Washington
Filed Aug. 18, 1958, Ser. No. 755,695
4 Claims. (Cl. 104—178)

1. The combination with an aerial tramway having a traveling traction rope of a fixed self-energizing backstop brake having cooperating clamping shoes disposed to clamp said rope; means operable to move said shoes



into clamping engagement with said rope; and means responsive to predetermined rope velocity or travel direction changes controlling said first named means.

2,975,729
POWER AND FREE OVERHEAD TROLLEY CONVEYOR
Bruno E. Stockbart, Northbrook, and William H. Ando, Chicago, Ill., assignors to Link-Belt Company, a corporation of Illinois
Filed Nov. 28, 1958, Ser. No. 776,869
7 Claims. (Cl. 104—178)



1. In an overhead trolley conveyor system, the combination comprising an inclined track, a plurality of free-wheeling trolleys traveling along siad track, a stop and feed mechanism at one location along said track for controlling the movement of trolleys past said location, a screw positioned along said track and spaced to the rear of said stop and feed mechanism, said screw having a helicoid flight extending into the path of trolley movement and adapted upon rotation of said screw to advance a trolley in engagement therewith along said track from a position behind said screw to a position in front thereof, a first limit switch between said stop and feed mechanism and said screw adapted for actuation in response to the presence of a trolley at a first point located between two adjacent trolleys when a plurality of trolleys are held stationary and backed up behind said stop and feed mechanism, said limit switch being adapted upon actuation thereof to start the rotation of said screw, and a pair of limit switches adapted when simultaneously actuated to stop the rotation of said screw, the first switch of said pair being adapted for actuation in response to the presence of a trolley at a second point located immediately to the rear of said screw, the other switch of said pair being adapted for actuation by a trolley positioned along said track at a given location in front of said screw, whereby rotation of said screw is stopped when one trolley is at said given location and another trolley is moved over said second point, and started again when a trolley moves over said first point.

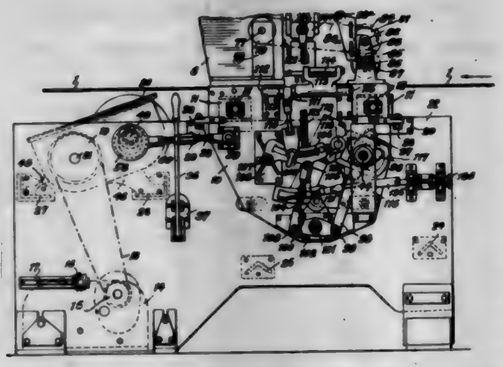
2,975,730
LOAD RETARDING DEVICE
Wilbert G. Nichol, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 3, 1959, Ser. No. 850,615
4 Claims. (Cl. 105—369)

1. In apparatus for checking the movement of a metal strapping-encircled load, the combination which comprises a load-bearing surface, an elongated box frame member having spaced end walls and sidewalls mounted in recessed relation in said load-bearing surface, a cover plate disposed on the top of said member, said cover plate having a pair of aligned slots therethrough spaced longitudinally therealong for receiving said metal strapping, a bottom plate in said frame member spaced below said cover plate, said bottom plate having a wave-like configuration along its length, said bottom plate extending between points adjacent opposite ends of said frame member, said slots being disposed between said points, an elongated intermediate plate having a wave-



like configuration along its length attached to and extending longitudinally along the underside of said cover plate between said slots, the waves in the wave-like configuration of said bottom plate and said intermediate plate extending transversely of said box frame member, said intermediate plate being spaced above said bottom plate, said intermediate plate and said bottom plate being disposed in substantially nesting relation and defining therebetween a tortuous passageway for said strapping, and spaced bearing surfaces on said intermediate plate and on said bottom plate for frictionally engaging and deforming said strapping to retard but not prevent its movement through said passageway.

2,975,731
CONFECTIONERY DEPOSITORS
Robert L. Greenberg, Englewood, N.J., assignor to National Equipment Corporation, New York, N.Y., a corporation of New York
Filed July 23, 1959, Ser. No. 829,015
7 Claims. (Cl. 107—29)



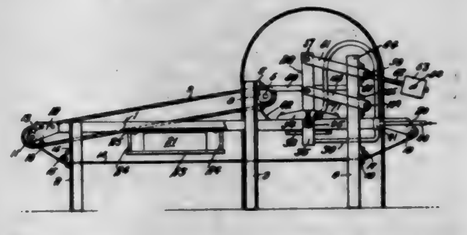
1. In a confectionery machine, a continuously moving belt, a depositor positioned thereover, said depositor having nozzles, means for reciprocating the depositor in a manner to cause the same to be moved in the same direction as the belt and at the same travelling speed while the depositor is depositing confectionery material on the belt, and then reversing its movement to position it over a fresh section of the belt for deposit thereon as the depositor again moves along in company with the belt, and means carried by the depositor for elevating the belt to bring it in close proximity to the nozzles while the deposit is first being made, and then moving the belt away from the nozzles to draw the deposited material into conical formation.

2,975,732
METHOD OF PRODUCING FROZEN COMESTIBLES
Patrick J. De Pasquale, 221 Grandview Terrace, Hartford, Conn.
Continuation of application Ser. No. 685,156, Sept. 20, 1957. This application Feb. 3, 1960, Ser. No. 6,564
3 Claims. (Cl. 107—54)



1. A method of producing a spumoni ice cream within an individual container which includes forcing the first material into the container to a predetermined level, forcing a second material through a spout injected into the first material and thereby displacing the first material and forming an outer layer with a cavity therein and filling the cavity with the said second material, forcing a third material into the said second material by injecting a spout into the said second material and forcing the third material through said spout to displace the second material into an inner layer and forming a cavity therein and filling said cavity with the third material.

2,975,733
METHOD FOR TREATING FOOD ITEMS
Arthur Jacobs, New Hyde Park, N.Y., assignor to The Haumag Corporation, Carle Place, Nassau County, N.Y., a corporation of New York
Original application Jan. 22, 1957, Ser. No. 635,419, now Patent No. 2,935,034, dated May 3, 1960. Divided and this application July 10, 1959, Ser. No. 826,279
3 Claims. (Cl. 107—54)

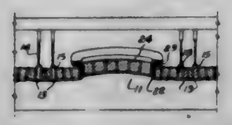


1. In a method of removing finely comminuted particles such as starch from food items such as candies, the steps of the method comprising transporting such food items, bodily agitating and spreading such food items while being transported, maintaining such food items in captured relation while being transported, and simultaneously directing a blast from a source of a whirling stream of a medium under pressure upon the upper face of said food items at a preselected distance, and controlling and maintaining said preselected distance of the source of the blast under pressure from the upper side of said food items irrespective of the height of the bulk of the food items being transported.

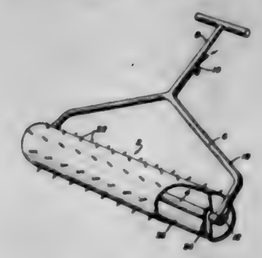
2,975,734
FURNACE ROOF CONSTRUCTION
William A. Vogt, 772 Moraga Road, Lafayette, Calif.
Filed May 26, 1958, Ser. No. 737,787
2 Claims. (Cl. 110—99)

1. A furnace roof construction comprising a plurality of suspended transverse beams, said beams being in spaced and parallel relationship, the confronting faces of adjacent beams being adapted to form opposing skewbacks, a panel of bricks interposed in the space between each pair of adjacent beams and being supported thereby,

said panel being of arcuate form relative to its transverse vertical cross-section, substantially straight relative to its longitudinal vertical cross-section and having its transverse edges sloping inwardly and downwardly complementary to the confronting faces of said beams, an annular member set into said panel and being adapted to form a charging opening therein, a depending skirt extending from said annular member, said skirt having its exterior surface converging toward its remote edge, the portion of said panel immediately surrounding said annular member being in wedging contact with said skirt and being of polygonal peripheral configuration.

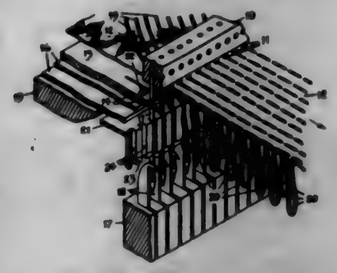


2,975,735
AGRICULTURAL IMPLEMENT FOR CONDITIONING SOIL
William T. Purvance, Provo, Utah, assignor to United States Steel Corporation, a corporation of New Jersey
Filed Apr. 2, 1958, Ser. No. 725,997
5 Claims. (Cl. 111—6)



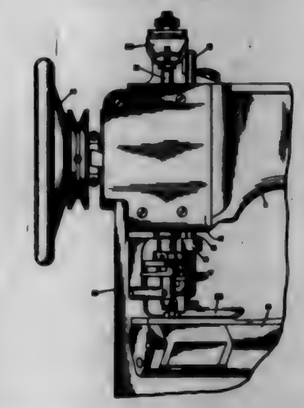
1. An agricultural implement for injecting agricultural liquids into soil while rolling and aerating it which comprises a close-end hollow cylindrical drum adapted to contain liquid under pressure, a hollow tubular axle extending axially of said drum with its ends projecting outwardly of the drum, said drum being rotatably mounted on said axle, a liquid inlet in one projecting end of said axle, said axle having an opening through its sidewall intermediate its ends communicating with said inlet and the interior of said drum, a pair of spaced brackets rotatably attached to and depending from said axle in said drum, a roller journaled in the distal ends of said brackets and circumferentially engaging the bottom portion of the interior wall of said drum, a plurality of spikes each having a hollow bore attached to and projecting radially outwardly from said drum, the hollow bore of each spike being closed at its distal end and communicating with the interior of said drum at its other end, each of said spikes having liquid outlets communicating with said hollow bore adjacent its closed end, a spring-loaded ball valve in said other end of the bore of each of said spikes, each of said valves including a ball seal normally resiliently projecting into the interior of said drum, said projecting ball seal being engageable by said roller to open said valve momentarily as the spike containing the valve passes under said roller when the drum is circumferentially propelled along the ground and said last named spikes are imbedded in the soil to effect passage of liquid from the drum through the spike into the soil.

2,975,736
LOOP SHEDDER
Joseph Lewis Card, Chattanooga, Tenn., assignor to Singer-Cobble, Inc., Chattanooga, Tenn., a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,573
3 Claims. (Cl. 112—79)



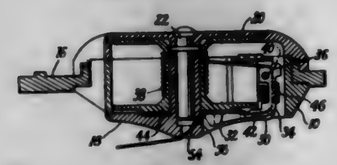
1. In a tufting machine including a reciprocable needle, a support for a fabric in the path of said needle, means for feeding said fabric in a direction transverse to said needle and a loop hook for forming loops in yarn stitched through said fabric by said needle, a guard member for preventing the loop from re-entering the path of said reciprocable needle comprising a pair of members spaced transverse of the direction of fabric feed apart from and on opposite sides of the path of said needle and spanning the major portion of the distance between said fabric support and said loop hook, each member having a co-extensive loop engaging surface substantially parallel to the needle axis and facing in the direction of fabric feed, said surfaces being spaced from said needle axis less than a stitch length in the direction of fabric feed and spaced apart sufficiently to permit the passage therebetween of a closed loop but to block the re-entry of a spread loop.

2,975,737
SEWING MACHINE WITH LOOPER THREAD RETAINER
Richard H. Lukins, Glen Ellyn, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed July 3, 1957, Ser. No. 669,867
6 Claims. (Cl. 112—197)



1. A sewing machine having a reciprocable needle bar, a plurality of thread carrying needles carried by said bar, a thread-carrying four-motion looper cooperating with said needles to form stitches, means for imparting loop seizing, shedding and needle avoid movements to said looper, said needles having paths of movement spaced along a plane adjacent and parallel with the line of loop seizing movement of the looper, a non-thread-carrying movable loop retainer mounted for movement in the plane of the paths of movement of the needles beyond the last needle from which a loop is seized by said looper, and means for operating the same in properly timed relation to the movement of said bar to cause said retainer to enter the loop of thread carried by said looper in advance of the entry therein of said thread carrying needles and to retain the looped end of looper thread away from said last needle while the looper thread loop is being drawn toward the underface of the work, and while succeeding needle thread loops are being seized by the looper.

2,975,738
LOCK STITCH SEWING MACHINE
Otto F. Hoppe, Schoenberg (Taunus), Germany, assignor, by mesne assignments, to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed May 17, 1957, Ser. No. 659,787
Claims priority, application Germany June 1, 1956
5 Claims. (Cl. 112—233)



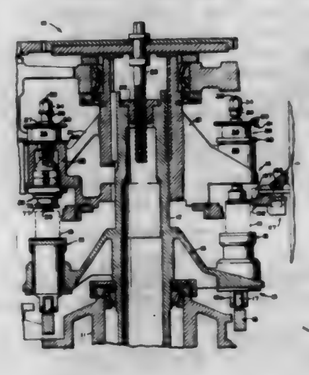
1. A sewing machine locking thread supply retainer containing a bobbin on which a supply of locking thread is wound, having in combination therewith means to prevent overrunning of the bobbin comprising a thread engaging member pivoted to the thread retainer and formed with a friction surface for pressing the thread against the bobbin.

2,975,739
MACHINE FOR SEWING CONCEALED SLIDE FASTENERS
Benjamin Duchan, Bronx, N.Y., assignor to Placket Closing Corporation of America, New York, N.Y., a corporation of New York
Filed Dec. 16, 1957, Ser. No. 702,925
4 Claims. (Cl. 112—260)



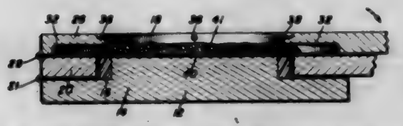
1. In a sewing machine for sewing concealed slide fasteners, an arcuate needle plate, said needle plate having a needle hole in the uppermost point and closely adjacent the outer edge thereof, said outer edge of said needle plate being inwardly curved on either side of said needle hole when viewed from a position above said needleplate, a presser foot superposed above said needle plate, said presser foot having a needle guide notch on the outside edge thereof, and said presser foot being disposed over said needle plate with the needle guide hole of said presser foot mating with the needle hole of said needle plate and the outside edge of said presser foot being above said needle plate and spaced inwardly a short distance from the outer edge of said needle plate, said needleplate extending downwardly from diametrically opposite points on said needlehole, said diametrically opposite points forming a line substantially parallel to the longitudinal axis of said presser foot.

2,975,740
CAN END SEAMER
Clarence J. Smith and Ralph M. Peterson, Rockford, Ill., assignors to W. F. & John Barnes Company, Rockford, Ill., a corporation of Illinois
Filed Oct. 10, 1956, Ser. No. 615,145
1 Claim. (Cl. 113—17)



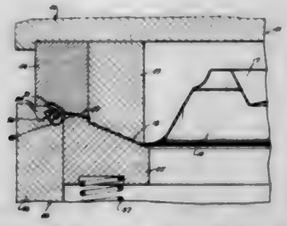
A can end seaming machine for forming double end seams on cans, said machine comprising a frame, a plurality of seaming chuck assemblies rotatable in said frame about a central axis, each seaming chuck assembly being also capable of spinning about its individual axis and clamping together an assembled can body and can cover in coaxial relation to the seaming chuck assembly with the cover overlying one end of the can body and overlapping the same at the commencement of the first seaming operation; means for rotating said seaming chuck assemblies in unison about said central axis; a mechanism including means mounted on said frame for spinning said seaming chuck assemblies simultaneously about their individual axes during rotation of said assemblies; said machine also comprising two circular stationary seaming bars fixed to the frame, said bars being in the same plane and being concentric to said central axis along substantially their entire lengths, said seaming chuck assemblies and seaming bars being cooperable to form end seams from assembled can bodies and can covers, the first of said bars being operable in conjunction with the seaming chuck assemblies to initiate and to perform the first operation of double seam formation, the second of said bars being operable in conjunction with the seaming chuck assemblies to complete the end seam formation by performing the second operation of double end seam formation; said machine being designed to operate on can bodies and can covers up to a maximum can body diameter of D inches; said machine being further characterized by the fact that each of said seaming bars is concentric to said central axis, has substantially no departure from such concentricity throughout substantially its entire length and has a length not greatly exceeding about 1.5 x 3.14 x D; said first seaming bar being further characterized by a relatively short, relatively steep tapered section at its entry end, said tapered section being the first section of said bar to be contacted by an assembled can body and can cover and acting to apply a rapidly increasing pressure to an overlapping can cover to initiate seam formation.

2,975,741
FOOD PRODUCT MACHINE
Gabriel G. Ruffino, 132½ N. Soto St., Los Angeles 33, Calif.
Filed Oct. 9, 1956, Ser. No. 614,943
5 Claims. (Cl. 113—42)



1. For use in making tortillas, tacos and other similar food products, an appliance comprising a base, a disk rising from said base, a collar surrounding said disk and functioning as an anvil, said disk and said anvil adapted to support a film of metal foil with dough deposited thereon, a former plate having an opening of slightly larger size than said collar and adapted to be brought in superposition to said base with said disk and anvil passed through said opening to thereby fold said foil around the sides of said anvil, and a cutter adapted to be brought down on said anvil to sever the dough to shape and size and to sever the foil on the upper surface of said anvil.

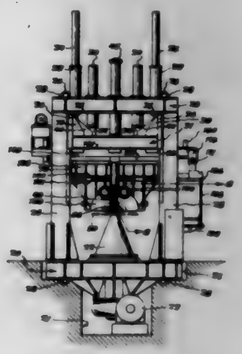
2,975,742
METHOD FOR MAKING WHEEL COVERS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Original application Dec. 7, 1956, Ser. No. 626,852. Divided and this application July 1, 1957, Ser. No. 669,373
4 Claims. (Cl. 113—51)



1. In a method of making wheel trim or cover, the steps of drawing a sheet metal blank to provide a body having an annular axially outwardly opening trough-like channel defining an axially inwardly directed rib and a radially outer narrow hollow rib-like channelled section opening rearwardly and projecting generally axially outwardly at the radially outer side of the first mentioned channelled rib and with a radially outwardly directed flange structure on the radially outer wall or leg of the radially outer rib-like channelled section and inset relative to the outer rib-like channelled section, upsetting and curling the radially outwardly directed flange structure forming consecutive axially oppositely opening channelled portions, and flattening and collapsing the radially outer rib-like channelled section radially outwardly while curling the inner channelled portion thereby swinging the outer channelled portion in closer proximity to the radially outer rib-like channelled section.

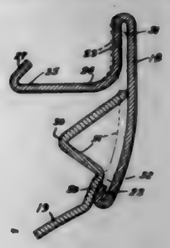
2,975,743
METAL FORMING MACHINE
Otto Hoffmann, Kenmore, and Alexander Krynytzky, Ebenezer, N.Y., assignors, by mesne assignments, to Lake Erie Machinery Corporation, Buffalo, N.Y., a corporation of New York
Filed May 18, 1956, Ser. No. 585,686
13 Claims. (Cl. 113—53)

2. A metal forming machine, comprising a mandrel rotatable about a longitudinal axis, means arranged to hold a metal workpiece against an axial end of said mandrel to rotate therewith, a pair of forming rolls arranged at opposite longitudinal sides of said mandrel, means rotatably supporting each forming roll with one axial end face opposing said mandrel and with the axis of the roll extending toward the axis of said mandrel in a direction generally perpendicular to the surface to be generated by the forming roll, means moving said forming roll supporting means lengthwise of the axis of said mandrel with the forming rolls in contact with said workpiece, and means constraining the roll supporting means of both rolls, while so moving lengthwise



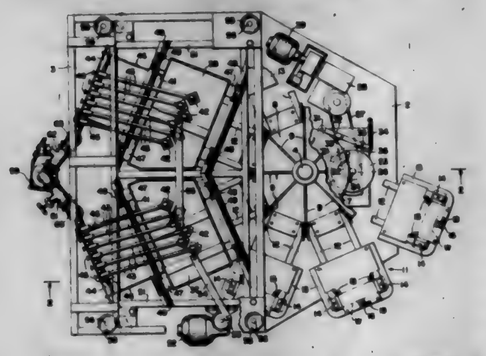
of the axis of the mandrel, to move away from each other to produce, with said mandrel, a hollow shape of the desired form, said axial end face terminating in a peripheral cutting edge which bounds said end face and said peripheral cutting edge also forming one end boundary for a conical working face which forms and has rolling contact with a complementary conical face on the portion of the metal workpiece projecting outwardly from said surface to be generated and which conical working face displaces said outwardly projecting portion of said metal lengthwise of said axis of said mandrel away from said one axial end of said mandrel.

2,975,744
METHOD OF AND MEANS FOR MAKING WHEEL COVERS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Feb. 17, 1956, Ser. No. 566,229
4 Claims. (Cl. 113—116)



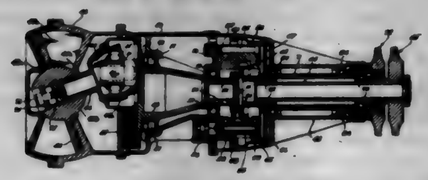
1. In a method of making wheel covers, shaping a ring member to provide a body and a return bent resilient flange affording a generally radially opening annular socket groove of predetermined limited width, forming a cover body member with a marginal series of tabs of predetermined extended length and a thickness slightly greater than said socket groove width, bending said tabs transversely to predetermined smaller tip diameter than said extended diameter so as to be disposable adjacent to the mouth of said socket groove, assembling the members to locate the drawn up ends of the tabs adjacent to the mouth of said socket groove, and then substantially straightening said tabs and driving the same into said extended length and forcing the distal end portions of the tabs into said socket groove and thereby causing said flange to expand slightly until the straightened tabs have been forced into press fit gripped relation into said socket groove.

2,975,745
HEAT TREATING MACHINE
Charles A. McFadden, Wynnewood, Walter K. Mammel, Newtown, and Thomas Liddell, Wayne, Pa., assignors to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed Feb. 23, 1956, Ser. No. 567,287
11 Claims. (Cl. 113—128)



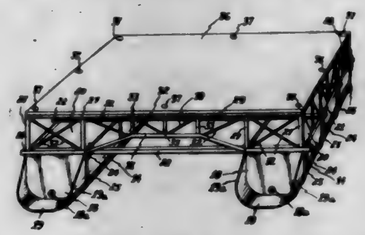
1. In a device for applying heat to a plurality of work pieces, the combination of a frame, an elongated heating element, fixed supporting means on said frame having thereon means to mount said element for limited rectilinear movement in the direction of its length and in a given plane, a work carrying table having a plurality of work holders thereon, means to mount said table on said frame for rotary movement in a plane parallel to the plane of movement of and in front of said element whereby work pieces carried by said holders will be moved into a position in front of said element to be heated thereby, means to move said table intermittently to bring said holders successively into said position, said mounting means being so positioned relative to said table that the path of movement of said element is substantially parallel to the movement of a work piece into and out of said position and means on said supporting means to move said element continuously back and forth through its path of limited movement.

2,975,746
PROPULSION SYSTEM
Marshall J. Corbett, Willoughby, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Dec. 23, 1957, Ser. No. 704,407
13 Claims. (Cl. 114—20)



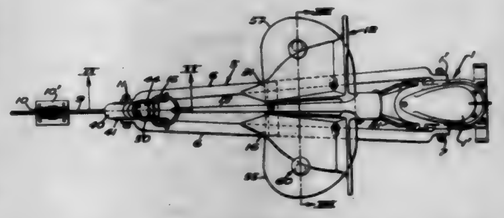
13. A propelling system for a vehicle which travels through an ambient medium comprising, a supply of mono-propellant fuel on said vehicle, a feed device for said fuel, means for energizing the feed device, a chamber for burning said fuel to provide a high energy gas at a rate controlled by said feed device, means for receiving ambient for diluting said gas with ambient to cool said gas, and a driving motor for said vehicle driven by the cooled diluted gas.

2,975,747
PONTOON AND BOAT CONSTRUCTION
John Opie, 64 S. Herbert, Riverside, Ill.
Filed Dec. 19, 1957, Ser. No. 703,951
4 Claims. (Cl. 114—61)



1. In a boat having a pair of spaced apart pontoons each of said pontoons having a reduced forwardly extended lower inclined portion and each having a transversely extended upper wall providing an inner sealed compartment; the combination of a plurality of transverse connecting bars mounted above the upper walls of said pontoons; a light weight water repellent material filling the entire compartment of said pontoons; a plurality of upwardly extending bars and braces connected together and connected to said transverse connecting bars; said bars and braces forming a frame; a flat platform mounted on said frame; a plurality of metal straps encircling and engaging said pontoons at spaced apart points; and threaded bolts connecting the ends of said straps respectively to said transverse connecting bars.

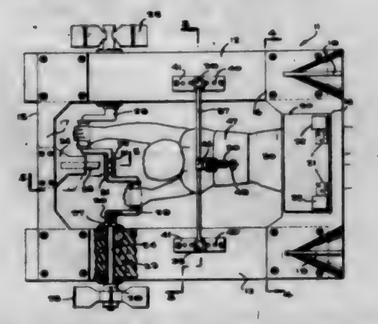
2,975,748
ANCHOR DAVIT
Walter Uebelhoer, Snyder, N.Y., assignor to Marwal Products Corporation, Buffalo, N.Y.
Filed May 15, 1959, Ser. No. 813,531
8 Claims. (Cl. 114—210)



1. An anchor davit comprising, a base, a support mounted on said base for swinging movement relative thereto between anchor stowed and anchor lowered positions about a normally generally horizontal axis, a pulley carried by said support, a rope trained over said pulley, an anchor carried by said rope, ring means interposed between said rope and said anchor, and ring receiving hook means carried by said support, said hook means extending forwardly and upwardly from said support when said support is in a substantially straight vertical position relative to said base, said ring means slipping over said hook means upon predetermined movement of said support from said anchor lowered position toward

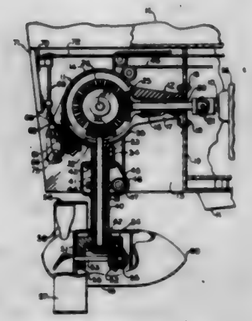
said anchor stowed position, said hook means thereby supporting said anchor against lowering movement relative to said support when the latter is in said substantially vertical position.

2,975,749
SWIMMING INSTRUCTION APPLIANCE
Charles F. Armstrong, Center Line, Mich.
(8293 Essex St., Warren, Mich.)
Filed Feb. 16, 1960, Ser. No. 9,095
4 Claims. (Cl. 115—22.2)



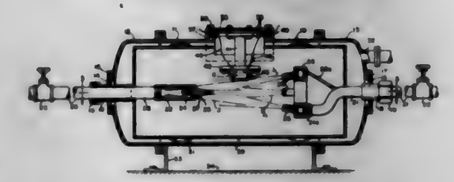
1. A swimming appliance comprising a pair of spaced parallel pontoon members, respective rigid cross members connecting the front and rear end portions of said pontoon members, respective transverse paddle wheel shafts journaled in the forward end portions of the pontoon members, paddle wheels on the outer ends of said shafts, respective hand cranks on the inner ends of said shafts located inwardly adjacent the pontoon members, an upwardly arched transverse support member connecting the intermediate portions of the pontoon members, spring means connected to the mid portion of said support member, and means attached to said spring means and adapted to support the body of a swimmer disposed between the pontoon members.

2,975,750
MOTORBOAT PROPELLING AND STEERING UNIT
Laird Smith, 2641 Fair Ave., Columbus, Ohio
Filed May 13, 1959, Ser. No. 812,926
12 Claims. (Cl. 115—41)



1. A propelling unit for use in combination with an inboard motor disposed within the hull of a boat, comprising a housing attached to the boat and carrying a first shaft driven by the motor of the boat, said housing having a ring gear mounted for rotation therein and driven by said first shaft, a second shaft extending radially from said housing and having a pinion on its inner end meshing with said ring gear, a propeller shaft extending radially relative to said second shaft adjacent its outer end and driven thereby by meshing gears carried by the respective shafts, means for swinging said second shaft about the axis of said ring gear, means for swinging said propeller shaft about the axis of said second shaft, said means for swinging said second shaft about the axis of said ring gear comprising a worm and gear mechanism, and yieldable means for permitting disengagement of said worm and gear mechanism when a propeller carried by the propeller shaft strikes an obstruction, said worm and gear mechanism comprising a buttress type thread on the worm and cooperating teeth on the gear, and a yieldable member for normally maintaining the worm in engagement with the gear.

2,975,751
METHOD AND APPARATUS FOR ENVIRONMENTAL NOISE GENERATION
Albert G. Bodine, Van Nuys, Calif.
(13120 Moorpark St., Sherman Oaks, Calif.)
Filed May 6, 1957, Ser. No. 657,163
18 Claims. (Cl. 116—137)



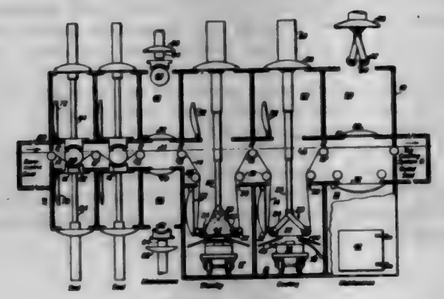
1. For environmental sound applications, the method of generating destructive intensity level of multiple frequency sound characteristic of sound generated by jet propelled aircraft which comprises: orienting a plurality of jet flows of air or like fluid into mutually impinging relationship, and establishing the relative velocity of said jet flows, at a region of said impingement, with a value that is within the flight velocity range which is characteristic of jet propelled aircraft.

2,975,752
MACHINE FOR MAKING STABILIZED CAPSULES
Joseph B. Vaughan, Norwood, Ohio, assignor to Lloyd Brothers, Inc., Cincinnati, Ohio, a corporation of Ohio
Original application Oct. 23, 1957, Ser. No. 691,976. Divided and this application June 2, 1958, Ser. No. 739,314
5 Claims. (Cl. 118—13)



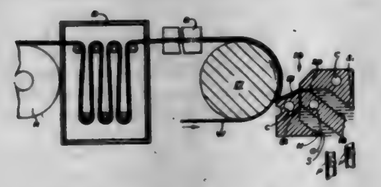
3. A machine for hardening the surface of gelatin capsules which comprises an elongated, enclosed tunnel having an inlet section, a main section, and an outlet section, means for supporting a plurality of trays in said tunnel for advancing therethrough, means for substantially sealing the inlet and outlet sections from the main section, open-topped containers in the tunnel, formaldehyde solution in at least one of said containers, a humidity controlling solution in at least another of said containers, whereby an atmosphere of predetermined humidity and concentration of formaldehyde is maintained in the main section of the tunnel for forming a coating on gelatin capsules held in said trays as the trays are moved through the tunnel, and means for agitating the trays when in the tunnel to stir capsules in the trays.

2,975,753
VACUUM COATING APPARATUS
Oliver W. Hayes, Weston, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Nov. 18, 1958, Ser. No. 774,636
7 Claims. (Cl. 118—49)



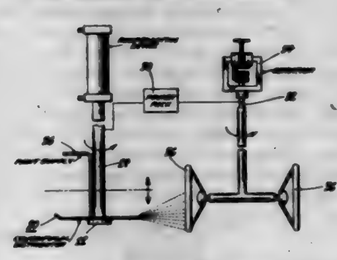
1. In apparatus for coating a substrate by vacuum deposition of a material onto a substrate wherein the substrate is moved past a source of coating vapors in a coating chamber maintained under a vacuum, the improvement which comprises a passage defining a predetermined path for travel of the substrate, a plurality of coating chambers spaced from said path, means for deflecting said substrate out of its predetermined path into one of said coating chambers, and a vacuum-tight door for sealing each said coating chamber from said passage.

2,975,754
MULTIPLE COATING APPARATUS
Stanley E. Wright, Fairport, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 27, 1958, Ser. No. 769,881
4 Claims. (Cl. 118—407)



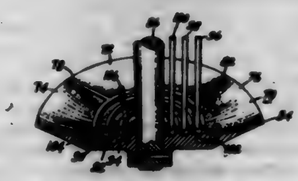
1. In an apparatus for simultaneously applying a plurality of fluid coating compositions to the surface of a web in superposed and distinct layer relationship the combination with a web guiding surface over which the web to be coated is adapted to be continuously moved and held in a smooth condition; of a multiple layer slide hopper comprising an exposed slide surface inclined downwardly toward the web guiding surface and terminating in a lip spaced from the guide surface by an amount slightly greater than the thickness of the web to be coated; wall means forming a discharge slot extending from the interior of said hopper at an acute angle to said slide surface and having an exit end opening onto said slide surface at a point spaced above said lip to provide an uninterrupted and exposed slide portion below said exit end down which a layer of a fluid coating composition extruded therefrom flows by gravity to form a smooth layer of uniform thickness; second wall means forming a second discharge slot extending from the interior of said hopper and having an exit end opening onto said slide surface above the exit end of said first discharge slot and merging therewith into a common slot in said slide surface whereby a layer of fluid coating composition extruded from said second slot flows onto the upper surface of the layer extruded through said first slot and the two layers flow down said uninterrupted slide portion by gravity flow in stratified relation with the layer of coating composition issuing from the first slot supporting the layer of coating composition issuing from the second slot and maintaining the latter layer out of physical contact with said slide portion, and the layer of coating composition issuing from the second slot acting to seal said other layer from contact with the surrounding atmosphere as they issue onto and slide down said exposed slide portion, and means for continuously feeding a fluid coating composition into each of said discharge slots at a predetermined rate commensurate with the thickness desired for each of said layers after coating.

2,975,755
ELECTROSTATIC PAINT SPRAY APPARATUS
Harold J. Reindl, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 30, 1957, Ser. No. 687,107
13 Claims. (Cl. 118—626)



1. In an electrostatic painting apparatus, the combination comprising; a plate-like distributing member of rectilinear shape having at least two pairs of sharp-edged sides wherein the edges of each pair are generally parallel to one another and wherein one pair of edges is of greater length than the other pair of edges, a support associated with the plate adjacent the geometric center thereof and adapted to be attached to means for rotating the support and the plate, and a cup-like supply means surrounding the support and depressed from the surface of the support and adapted to receive paint to be distributed therefrom over the entire surface of the plate-like distributor by centrifugal action and means for impressing an electrostatic charge upon the plate wherein paint distributed therefrom will bear an electrostatic charge.

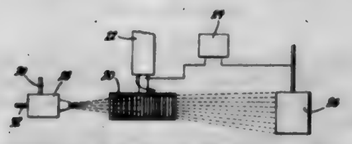
2,975,756
ELECTROSTATIC PAINT SPRAY
Harold J. Reindl, Dayton, and John T. Marvin, Xenia, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 26, 1958, Ser. No. 717,641
3 Claims. (Cl. 118—627)



1. An electrostatic painting apparatus for painting of an article spaced therefrom with at least two different paints, comprising in combination; a distributor plate in-

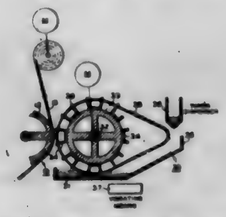
cluding a plurality of segmental portions each being adapted for connection to a separate source of supply of paint, a plurality of paint supplies for supplying different paints to the several portions simultaneously, means for rotating the distributor plate, and a source of electrostatic power for supplying opposite charges to the distributor plate and the article.

2,975,757
ELECTROSTATIC PAINT SPRAY
Harold J. Reindl, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 26, 1958, Ser. No. 717,673
7 Claims. (Cl. 118—627)



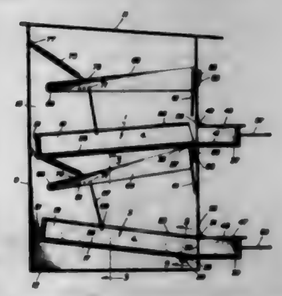
1. Apparatus for electrostatically painting an article, comprising in combination; a pressurized paint source, means for conveying paint from said source to an orifice, a rotating air moving device located remote from said orifice and adapted to be rotated at speeds above one thousand r.p.m., said orifice being positioned so that paint being emitted therefrom as supplied by said source will impinge tangentially upon the outer surface of said air moving device, and an electrostatic power means having opposite poles thereof connected respectively to said air moving device and to said article.

2,975,758
APPARATUS FOR DEVELOPING ELECTROSTATIC IMAGES
John W. Bird, Jr., Royal Oak, Mich., assignor to Haloid Xerox Inc., a corporation of New York
Filed Mar. 13, 1958, Ser. No. 721,282
7 Claims. (Cl. 118—637)



1 An apparatus for depositing electroscopic powder from a supply of magnetic developer particles onto an electrostatic image bearing member comprising a frame, a cylindrical magnetic structure producing a magnetic flux externally outside said cylindrical structure and rotatably mounted on said frame, means operatively connected to said frame for rotating said cylindrical structure sequentially through a magnetic brush-forming station, an electrostatic image development station and a magnetic brush-releasing station, a continuous rigid stationary non-magnetic shield operatively connected to said frame and enclosing said cylindrical structure and closely spaced therefrom so that the lines of force from said cylindrical structure extend through and beyond said non-magnetic shield at said magnetic brush-forming station and said development station, said shield sloping downwardly beyond the lines of force of said cylindrical structure at said magnetic brush-releasing station, trough means operatively connected to said frame beneath said cylindrical structure and positioned and adapted to retain the supply of magnetic developer particles in contact with said non-magnetic shield whereby said particles are formed into a brush-like array by the lines of force of said cylindrical structure, an electrostatic image-bearing member, means operatively connected to said frame to move said image-bearing member through the magnetic field of said cylindrical structure at said power deposition station, the rotation of said cylindrical structure causing said developer particles to move through said deposition station over said shield in brush-like configuration contacting said image-bearing member at said development station, said non-magnetic shield being positioned and adapted so that as the rotation of said cylindrical structure moves said developer particles through said development station into said magnetic brush-releasing station, the force of gravity causes said particles to move through said magnetic brush-releasing station after said shield has removed said particles beyond the lines of force of said cylindrical structure.

2,975,759
HENS' NESTS
Elmer S. Stromblad, Box 106, Bigelow, Minn.
Filed June 30, 1958, Ser. No. 745,488
2 Claims. (Cl. 119—50)

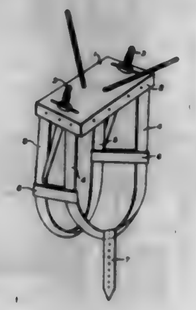


1. In a hen's nest, the combination of a housing having a wall provided with a door opening, a nest box provided in said housing in communication with said door opening, means pivotally mounting the nest box in the housing for depressing movement under the weight of a hen therein, a rocker arm pivotally mounted in the housing above said nest box for raising and lowering movement, means operatively connecting said rocker arm to said nest box whereby the rocker arm is lowered when the nest box is depressed, a door supported by said rocker arm for raising and lowering movement therewith at said door opening, resilient means connected to the rocker arm for urging the same and said door to a raised position and for simultaneously urging the nest box to its undepressed position, said door being provided with a centrally disposed downwardly opening notch permitting a hen in the nest box to project its neck outwardly from the housing when the door is lowered and facilitating passage of the hen through the door opening when the door is raised, and a marker mounted on said door above said notch and projecting downwardly over the notch whereby to mark the neck of a hen leaving said nest box through the door opening.

2,975,760
DEVICE FOR THE PROTECTION OF BULLS IN SIMULATED BULLFIGHTS
Bonifacio Fresnillo Peña, Espoz y Mina 12, Madrid, Spain
Filed July 31, 1959, Ser. No. 830,870
Claims priority, application Spain Nov. 7, 1958
1 Claim. (Cl. 119—143)

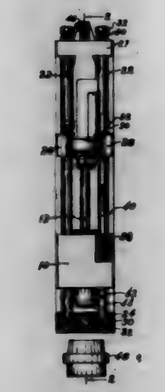
A device for the protection of bulls in simulated bullfights, comprising a cork board having two large laterally

disposed openings extending therethrough, greater in one dimension than the other dimension, and adapted to be positioned on the withers of a bull, two first belts adapted to cross, respectively, the shoulders and the chest of said bull, and laterally connected by two second belts adapted to engage the lower part of the ribs of said bull, and a third belt connecting together said second belts, said third



belt having holes adapted for connection with a mechanical device limiting the movements of said bull in the bull ring, said cork board being adapted to protect the bull against being hurt and to receive darts and swords driven into its surface through said lateral openings provided with hanging sheaths, said cork board having a marginal cork covering, and means for securing said cork covering to said cork board.

2,975,761
DRIVING HAMMER
William R. Fairchild, % W. R. Fairchild Construction Co., P.O. Box 31, Hattiesburg, Miss.
Filed Nov. 29, 1957, Ser. No. 699,788
4 Claims. (Cl. 121—13)



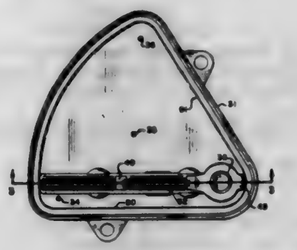
1. A steam hammer comprising a cylinder, a reciprocating piston within said cylinder, a piston rod having one end fixed to the piston extending through the cylinder base and resiliently anchored to a movable ram, four columns each of which extends from and through the base of the steam hammer through the body of the ram and through the cylinder base, and resilient means mounted on each column at the base of the steam hammer and the base of the cylinder.

2,975,762
SINGLE ACTION-QUICK RETURN-TOOL AND DIE CYLINDER ASSEMBLY
Leland F. Blatt, Grosse Pointe Woods, and Joseph M. Jatcko, Detroit, Mich., both of 22930 Sherwood Ave., Warren, Mich.
Filed Feb. 23, 1960, Ser. No. 10,169
3 Claims. (Cl. 121—38)



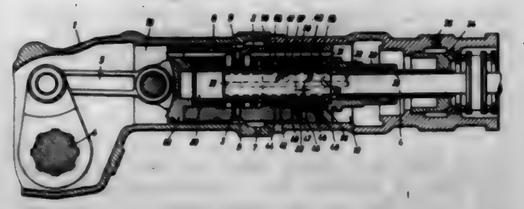
1. A single action quick return tool and die cylinder comprising an elongated barrel, axially apertured heads upon its opposite ends, one head adapted for communication with a source of fluid pressure, a centrally apertured reciprocating piston sealed in said barrel, a hollow rod in said barrel axially secured at one end to said piston and communicating with said one head, with the other end of the rod slidably projecting through the other head, a closure adjustably threaded and secured within said other end of the rod, a compression spring within said rod anchored at one end to said one head, a tension spring concentrically mounted loosely over said compression spring within said rod, with one end of said tension spring anchored to said rod closure for movement therewith, and a spring plug engaging the other end of said compression spring for compressing the same and secured within the other end of said tension spring providing a yielding anchor therefor.

2,975,763
VACUUM SERVO SYSTEM
Philip F. Grace, Wayne, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,343
7 Claims. (Cl. 121—41)



1. In a vacuum motor, a vane housing, a pressure vane rotatably carried in said housing, a vane reaction wall in said housing, double acting valve means carried by said vane, said vane defining a passageway having one end in communication with said valve means and the other end opened into air at atmospheric pressure, said housing defining a plurality of vacuum inlets distributed at spaced intervals about the path of rotation of said vane, one of said vacuum inlets being disposed at each end of the housing outwardly of the path of rotation of said vane, said valve means operable upon application of vacuum to one of said inlets to seal one side of said vane from said passageway and at the same time to place the other side of said vane into communication with said passageway.

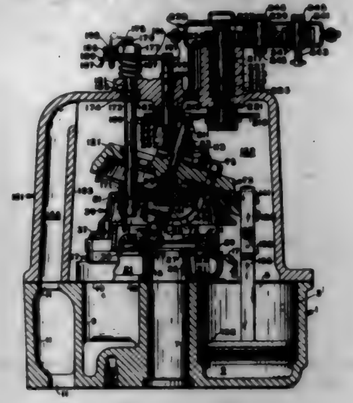
2,975,764
AUXILIARY POWER STEERING FOR MOTOR VEHICLES
Erich Jablonsky, Schwabisch Gmund, Germany, assignor to Zahnradfabrik Friedrichshafen, Aktiengesellschaft, Friedrichshafen am Bodensee, Germany
Filed Jan. 30, 1959, Ser. No. 790,115
Claims priority, application Germany Feb. 1, 1958
8 Claims. (Cl. 121—42)



1. An auxiliary power steering device for motor vehicles comprising a housing defining two pressure chambers, a reciprocal, double-faced piston in said housing, each face being in a respective pressure chamber, said faces being of unequal size, a movable sleeve valve in said piston, a manually rotative steering rod operatively connected to said sleeve valve to effect said movement thereof upon rotation of said rod, said valve and piston having co-acting shoulders and channels to control fluid pressure at the piston faces for effecting movement of said piston in a selected direction, said shoulders and channels being relatively movable with respect to each other to effect differing flow passage areas in a neutral piston position to provide greater unit pressure at one face of said piston whereby difference in unit pressure at the faces of the piston maintains a neutral position of said piston, and means for maintaining said valve in a predetermined position to effect relative positions of said shoulders and channels so as to achieve a difference in flow passage areas for effecting equality of total pressures on the faces of said piston, when not effecting power steering.

2,975,765
FLUID METER
George W. Wright, Yoder, and Burdette W. Foss and Paul T. Kachuk, Fort Wayne, Ind., assignors to Tokheim Corporation, Fort Wayne, Ind., a corporation of Indiana
Filed Mar. 20, 1959, Ser. No. 800,822
25 Claims. (Cl. 121—69)

1. A fluid meter comprising a cylinder block having an upright axis and defining cylinders arranged in circularly spaced relation about and parallel to said axis, a piston in each cylinder, said block defining an axial outlet passage and a fluid passage for each cylinder, a valve seat on said block defining a port for each passage, said cylinder ports being disposed about said outlet port as a center, a valve mechanism comprising a slide valve mounted on said seat, a track member mounted on said block and defining a circular track and having a first spherical journal, both centered on said axis and disposed above said valve, a wobble plate, having a central axis, said plate being mounted on said journal and having an outwardly extending web, spaced above said track and tilted on said journal so as to engage said track in rolling contact, thereby causing points on said central axis to describe orbital paths, a bracket mounted on the bottom of the plate and extending to a position adjacent the valve, a journal support mounted on said bracket and on said central axis, a second spherical journal on said support, said valve defining an upwardly open socket adapted to receive said second journal so as to be driven thereby in an orbital path, guide means on said valve and journal support for preventing the valve from rotating relative to said suport and means for connecting said pistons with said wobble plate.

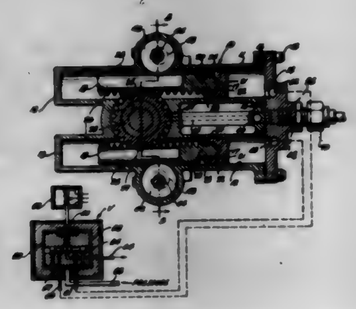


2,975,766
HYDRAULIC ROTARY ACTUATOR WITH UNRESTRAINED VANE AND SEAL MEMBERS
Augustus P. Henry, Los Angeles, Calif., assignor to Kelsey-Hayes Company, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 28, 1958, Ser. No. 731,250
12 Claims. (Cl. 121—99)



6. A rotary hydraulic actuator which includes: a stator housing having a cylindrical cavity, the cylindrical walls of said cavity having a pair of longitudinal vane slots disposed diametrically opposite one another; a cylindrical rotor journaled in said housing and substantially filling said cavity except for an annular space around said rotor, the cylindrical wall of said rotor having a pair of longitudinal vane slots disposed diametrically opposite one another; a cylindrical vane disposed in each of said vane slots and contacting the opposite cylindrical wall surface to divide said annular space into two pairs of fluid-receiving chambers; walls defining a pair of fluid passages, each communicating with one of said pairs of fluid-receiving chambers; walls defining a longitudinally disposed seal slot at the bottom of each of said vane slots; a resilient tubular seal member disposed in each of said seal slots and adapted to provide sealing between each of said pairs of fluid-receiving chambers; a spring means in the bottom of each of said seal slots, under said seal member to urge said seal member against the cylindrical surface of said cylindrical vane; a pair of load shoulders associated with each vane slot, one of said shoulders being disposed along each side of said vane slot and adapted to bear on substantially diametrically opposite regions of the surface of said vane; walls defining a pair of pressure-balancing chambers in the side walls of each of said vane slots, one of said chambers being disposed on each side of said slot between one of said load shoulders and said seal slot; walls defining channels in said load shoulders to provide communication between each of said fluid-receiving chambers and the two pressure-balancing chambers adjacent to it; and walls defining a pair of sealing shoulders associated with each seal slot, one of said shoulders along each side of the opening of said seal slot and adapted to provide sealing contact with said seal member.

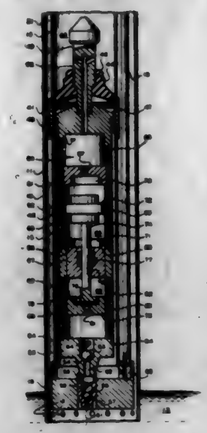
2,975,767
SERVO ACTUATOR
William H. Liggett, Redondo Beach, and James B. Gadikunst, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 17, 1958, Ser. No. 781,167
7 Claims. (Cl. 121—120)



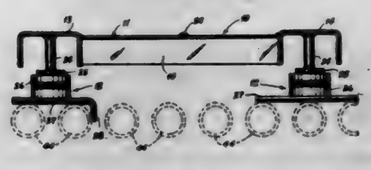
2. In a servo actuating device: a housing; a pair of cylinders disposed in parallel relationship in said housing; a gear rack disposed in and partially contacting the surfaces of each of said cylinders; a piston pivotally carried by a longitudinal end of each of said gear racks and adapted for sliding cooperation with each of said cylinders; a pinion gear rotatably carried by said housing and disposed for cooperation with said gear racks; a torque output shaft carried by said pinion gear and disposed outwardly from said housing; rotatable backup means carried by said housing and engageable with a longitudinal edge of said gear racks for adjustably positioning said gear racks relative to said pinion gear; means for delivering fluid under pressure to said cylinders for action upon said pistons whereby to move said gear racks, pinion gear and output shaft; and passage means in said housing for conducting said fluid from between said pistons and said cylinders over said rack and pinion gear and from said housing.

2,975,768
SUBSURFACE HYDRAULIC PUMP
Dunne E. Marquis, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,800
9 Claims. (Cl. 121—158)

1. A fluid pressure actuated reversing valve for use in combination with a fluid actuated, double acting reciprocating engine having an engine piston, said reversing valve comprising a directional valve adapted to connect a first side of said engine piston alternately to an exhaust fluid passageway and to both a second side of said engine piston and a source of power fluid, and a pilot valve adapted to change the position of said directional valve, said pilot valve adapted to change positions in accordance with the changes in operating pressure on the opposite sides of said pilot valve whenever said engine piston reaches the end of a power stroke.



2,975,769
PORTABLE ELECTROLYTIC WATER TREATMENT DEVICE
Eugene S. Bremerman, 82 Whitehall Court, St. Louis, Mo.
Filed July 28, 1958, Ser. No. 751,340
3 Claims. (Cl. 122—4)

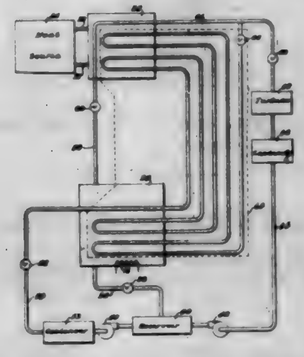


1. A portable protector device removably positioned in a metallic boiler having a metallic shell-like container and horizontally extending boiler tubes contained therein below a water level, said device comprising a low relatively flat elongated frame having a plurality of elongated metallic members connected by metallic cross-members, means supporting the frame upon the boiler tubes in spaced relation thereto beneath the water level, said supporting means comprising a plurality of metallic studs connected to the bottom of the frame, an adjustable insulating member threadedly adjustable on the lower end of the stud, and horizontally extended metallic support element having a threaded socket adjustable upon an exterior threaded surface of the insulating member, said metallic support element having a vertical end element adapted to catch between the horizontal boiler tubes to hold the device upon the tubes, and electrical cable means electrically connecting the frame to the interior of the container above the liquid level.

2,975,770
STEAM GENERATOR
Harry O. Monson, Elmhurst, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 19, 1959, Ser. No. 787,784
3 Claims. (Cl. 122—33)

1. Apparatus for transferring heat from a molten alkali metal to water in order to produce superheated steam, comprising a reservoir for water in the liquid state, a connection between the reservoir and a water

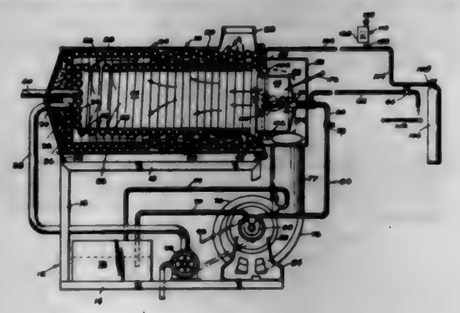
boiler, a water boiler having a shell and within the shell a start-up heater and a sufficiently plurality of closed parallel conduit convolutions to carry steam to convert to vapor, by heat diffusion, the water within the shell and exterior to the start-up heater and the conduit convolutions, a connection between the shell of the boiler and through the shell of a heat exchanger, a double tube-sided heat exchanger having a shell and within the shell flowing molten alkali metal, a first tube-side joined to the connection from the shell of the boiler of sufficient length to permit heat from the alkali metal to convert the vapor from the boiler to superheated steam, and a second tube-side consisting of a plurality of closed parallel conduit convolutions equal in number to the plurality of conduit convolutions within the boiler, the two pluralities being joined by a like plurality of connections in series as to form a continuous conduit running alternately through the boiler and the heat ex-



changer, an outlet for the first tube-side leading through the shell of the heat exchanger to a pipe junction, a pipe junction having a first branch and a second branch, said first branch making exterior delivery of the superheated steam produced by the apparatus, means for returning the condensate of said superheated steam to the reservoir, said second branch having a valve for controlling the respective amounts of steam passing through the two branches, said second branch leading to said continuous conduit running alternately through the boiler and the heat exchanger through said pluralities of conduit convolutions, whereby heat is absorbed from the steam by the liquid water in the boiler and replaced by heat absorbed by the steam from the molten alkali metal in the heat exchanger, means for leading steam from the last of the series of conduit convolutions to a condenser, a condenser, and means for leading the condensate produced by the condenser into the reservoir.

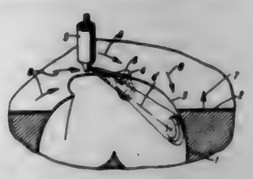
2,975,771
FIRE EXTINGUISHING SYSTEM
Richard Cunningham, Jr., Houston, Tex., assignor to Vapor Heating Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 11, 1957, Ser. No. 639,273
2 Claims. (Cl. 122—504)

1. In combination with an oil heater including a fire chamber, means for containing oil to be heated arranged in direct heat exchange relation with the products of combustion within the fire chamber; a burner assembly including a fuel nozzle and a burner assembly hood for directing hot combustion gases into the fire chamber, a plenum chamber enclosing said burner assembly hood and communicating through the interior thereof with the fire chamber, a pump for circulating oil under pressure through said oil containing means, a pump for delivering fuel to said fuel nozzle, a blower for delivering combustion air through said plenum chamber and burner assembly hood into the fire chamber, an electrical motor for operating said pumps and said blower, and a normally closed electrical circuit for energizing said motor, of means for extinguishing the fire within said oil heater including any extraneous flames therein occasioned by oil leaking into the fire chamber comprising a fluid discharge means located in said plenum chamber for flooding the



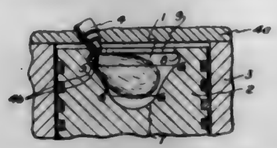
plenum chamber, burner assembly hood and the fire chamber with a flame-inhibiting fluid, a source of such fluid under pressure, a conduit connecting said source with the said fluid discharge means, a shut-off valve disposed in said conduit, and means including a pressure-actuated element responsive to fluid pressure developed in said conduit upon opening of said shut-off valve for opening said normally closed motor circuit.

2,975,772
INTERNAL COMBUSTION ENGINE WITH DIRECT FUEL INJECTION AND COMPRESSION IGNITION
Josef Böttger, 5 Mezihori, Prague, Czechoslovakia
Filed Feb. 21, 1958, Ser. No. 716,591
Claims priority, application Czechoslovakia Feb. 27, 1957
4 Claims. (Cl. 123—32)



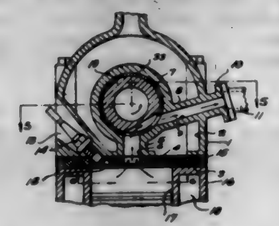
1. In a cylinder arrangement of an internal combustion engine of the kind having a cylinder, a piston movable in said cylinder, direct fuel injection at the end of the compression stroke of the piston when the contents of the interior of the cylinder are nearly all combustion supporting air rotating within the cylinder, and wherein self-ignition of the injected fuel is effected; the combination of wall means at one end of said piston defining a combustion space having the shape of a body of revolution which is symmetrical with respect to the axis of said cylinder and which opens into said interior of the latter past an edge of said wall means, and an injection nozzle offset with respect to the central axis of said combustion space and having a plurality of nozzle orifices discharging jets of fuel into said combustion space along paths having different lengths between said orifices and said wall means, the shortest of said paths being disposed in relation to said wall means so that an outer portion of the related fuel jet passes beyond said edge of the combustion space wall means while the remainder of said jet having the shortest path impinges against said wall means immediately adjacent said edge, and each of the remainder of said jets impinging exclusively against said wall means of the combustion space at a location further removed from said edge.

2,975,773
COMBUSTION CHAMBERS FOR PISTONS
Siegfried Meurer, Nurnberg, Germany, assignor to Maschinenfabrik Augsburg-Nurnberg A.G., Nurnberg, Germany
Filed June 9, 1958, Ser. No. 740,968
Claims priority, application Germany July 6, 1957
17 Claims. (Cl. 123—32)



1. In a piston having a combustion chamber for receiving a film of fuel injected upon the wall of the chamber, said fuel being then vaporized and burned, the improvement compriaing a downwardly directed generally conically shaped combustion chamber extending from the top surface of the piston into the piston body, said chamber having a convexly curved wall portion extending entirely around the longitudinal axis of said chamber for receiving and spreading said film of fuel.

2,975,774
INTERNAL COMBUSTION ENGINES
Robert L. Coffey, 4002 St. Elmo, Chattanooga, Tenn., and Rufus J. Buchanan, Rte. 2, Kensington, Ga.
Filed Apr. 21, 1959, Ser. No. 807,930
1 Claim. (Cl. 123—89)



A cylinder head wth fuel and exhaust control means for internal combustion engine open top cylinder blocks comprising a flat plate to be mounted on and closing said cylinder block open top and having an intake and an exhaust opening for each cylinder of said block, a hollow elongated head having a flat open bottom detachably mounted on said plate and detachably connected to said block retaining said plate thereon, said head being capable of extending lengthwise of the cylinder block and having opposite ends each with an opening therethrough, an open ended tube extending lengthwise of the interior of said head with each open end of said tube connected to one of said ends of said head for being positioned lengthwise of said block, a plurality of exhaust tubes extending laterally from said tube through said head connecting the bore of said tube with the exterior of said head, a standard connected to and extending lengthwise of said tube and said head and laterally from said tube through said head open bottom for being mounted on said plate in line with said plate intake and exhaust openings, a longitudinal series of passages in said standard for connecting the bore of said tube with said plate intake and exhaust opening, an elongated one-piece cylindrical member extending longitudinally the entire length of said tube bore and through said head end openings with its base exteriorly of one end of said head and its open end opening at the opposite end of said head, means connected to said cylindrical member base for rotating said cylindrical member in said tube, said cylindrical member having a series of tangential recesses in the periphery thereof each in line with an opening in said standard communicating with an exhaust opening in said plate and also in line with one of said exhaust tubes for at times placing the same in communication with said standard opening, said cylindrical member also having a series of lateral openings through the side wall of said member each positioned for at times placing the bore of said cylindrical member in communication with one of said standard openings in line with an intake opening in said plate, a tube having one end connected to the exterior of said head opposite end having said cylindrical member opening therethrough with the bore of said tube communicating with the bore of said cylindrical member and its opposite end connected to a source of fuel and a source of cooling fluid connected to and through said head.

2,975,775
BALL TIPPED PUSH ROD
Joseph F. Macura, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 13, 1956, Ser. No. 591,078
6 Claims. (Cl. 123—90)

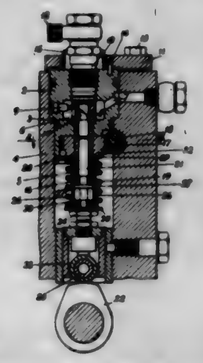


1. A push rod comprising a hollow length of ferrous tubing each end of which is internally upset to define a portion of a spherical surface, and two hardened completely spherical steel bearing balls having a diameter greater than the inside diameter of the ferrous tubing, one of said hardened completely spherical steel bearing balls being secured to each end of said ferrous tubing only by welding together the spherical steel balls and the internally upset portions of the tubing, said welding being conducted without substantially disturbing the hardness of the surface of the steel bearing balls in the areas remote from the weld.

2,975,776
LIQUID FUEL PUMPS FOR INTERNAL COMBUSTION ENGINES
Wilfrid Edward Walter Nicolls, Pinner, England, assignor to C.A.V. Limited, London, England
Filed Mar. 18, 1959, Ser. No. 800,308
Claims priority, application Great Britain Mar. 20, 1958
1 Claim. (Cl. 123—139)

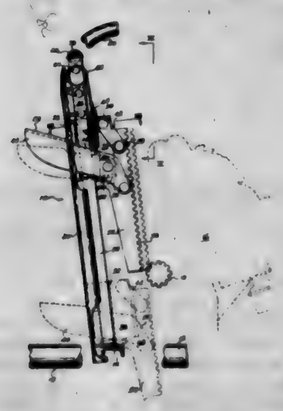
A liquid fuel pump of the type specified for an internal combustion engine, comprising in combination a hollow body part of stepped cylindrical form adapted to be accommodated in a stepped bore in the engine housing, a pump barrel in the form of a liner secured within and extending from the inner end of the body part, a pump plunger slidable within the barrel and capable of angular movements about its axis, an abutment on the inner end of the plunger, a sleeve supported on the barrel with freedom of angular movement about the axis thereof, and provided with external teeth, means for transmitting angular movement from the sleeve to the plunger, a toothed rack adapted to be slidably supported by the engine housing at right angles to the axis of the sleeve, and engaging the teeth on the sleeve so that sliding movement of the rack is accompanied by angular move-

ment of the sleeve, a securing plate situated at the outer end of the body part and adapted for attachment to the engine housing, a locating pin interconnecting the securing plate and the outer end of the body part, a spring mounted on the sleeve and acting on the abutment on the inner end of the plunger for imparting suction strokes to the latter, a non-return discharge valve secured to the outer end of the body part and extending through



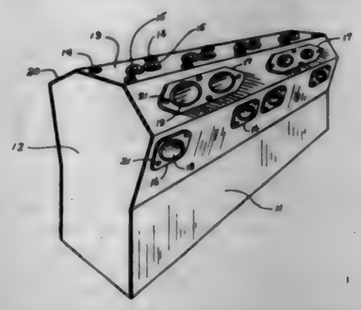
a hole in the securing plate, a discharge-pipe connection on the outer end of the valve, and a radial projection on the sleeve at the inner side of, and opposite to the space between two of, the teeth on the sleeve, the rack having one of its teeth removed to provide a gapped portion through which the radial projection on the sleeve can pass when the pump is being inserted into the bore in the engine housing, and thereby ensure proper relationship between the rack and sleeve.

2,975,777
STARTER MECHANISM
Carl J. Gustafson, Jackson, Mich., assignor to Yard-Man, Inc., Jackson, Mich., a corporation of Michigan
Filed Oct. 5, 1959, Ser. No. 844,281
3 Claims. (Cl. 123—185)



1. A starter for internal combustion engines having a starting pinion gear, said starter including a guide shaft, a carriage supported on said shaft for slideable movement thereon, a gear rack adapted to selectively engage the starting pinion gear, a pair of link elements pivotally mounted at one end on said carriage and pivotally mounted at the other end to said rack constituting a parallogram linkage mounting said rack upon said carriage, a foot pedal portion formed on one of said links, stop means formed on said carriage cooperable with stop means defined on said rack limiting pivoting of said links, said stop means being located such that initial depression of said foot pedal link portion will pivot said links to align said rack with the pinion gear and continued depression axially translates said carriage and rack to engage said rack with the gear for the rotation thereof.

2,975,778
FABRICATED CYLINDER HEAD-EN-BLOCK
Orland W. Wilcox, Pasadena, Calif.
(3000 N. Fair Oaks Ave., Altadena, Calif.)
Filed July 25, 1957, Ser. No. 674,090
4 Claims. (Cl. 123—195)



1. A fabricated cylinder head-en-block structure for adaptation to an internal combustion engine consisting of a plurality of cylinder units, each cylinder unit comprising as components a tubular cylinder, a head, inlet, exhaust, valve guide, and spark plug conduits communicating with said head, and a sheet metal water jacket through which all of said components exclusive of said head, extend, all of said components and said water jacket being secured together by a heat fusion process, each said head comprising a sheet metal stamping having a peripheral portion transverse to the cylinder axis adjacent the top of the cylinder so formed as to provide high turbulence of a fuel charge in said cylinder.

2,975,779
CURVED BALL PROJECTING DEVICE
James K. Pope, Box 103, Northville, Mich.
Filed Apr. 20, 1959, Ser. No. 807,561
19 Claims. (Cl. 124—11)

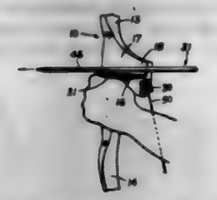


1. In a device for projecting a ball or other missile-like object in a non-gravitationally curved trajectory, characterized by a resilient ring against a surface of which the object is axially engaged and restrained, and means to apply force to said object to propel the object through said ring against said restraint; the improvement in accordance with which said ring has a portion thereof rendered less obstructive to propulsion of the object through the ring than another portion thereof, thereby occasioning said trajectory upon issuance of the object through the ring.

2,975,780
ARCHER'S BOW
Joseph C. Fisher, Box 283, Rte. 4, Celina, Ohio
Filed Nov. 17, 1958, Ser. No. 774,463
4 Claims. (Cl. 124—24)

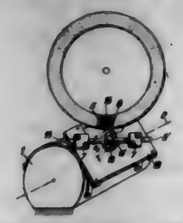
1. In a clear center shot long bow having a bow limb, an arrow support movably mounted on the bow and

effective to support an arrow at full draw, and means connected to said bow limb to move said support from



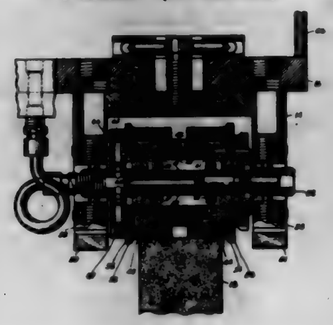
the flight path of an arrow upon the straightening of said limb from loose.

2,975,781
DIAMOND TRUING DEVICE FOR PROFILING GRINDING DISKS WITH A GRINDING OF HELICAL SINGLE CURVE SPUR GEARS
Johannes Looman, Hermann Hofer, and Walter Thiemig, all of Friedrichshafen (Bodensee), Germany, assignors to Zahnradfabrik Friedrichshafen Aktiengesellschaft, Friedrichshafen, Germany
Filed July 7, 1958, Ser. No. 746,896
Claims priority, application Germany July 5, 1957
17 Claims. (Cl. 125—11)



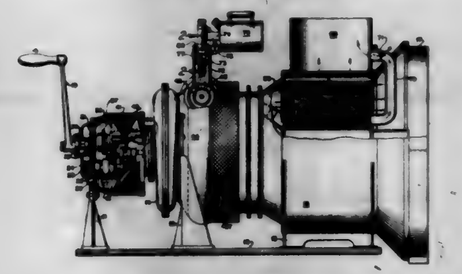
15. In a machine for profiling grinding disks to be used in grinding the flanks of helical spur gear teeth having a predetermined base circle, a dressing tool mount for holding a dressing tool disposed for cutting along a straight line for generating a tooth and means for rollably moving said mount on a cylindrical rolling arc parallel to the axis of same, said rolling arc having a radius equal to the radius of said base circle, the other line of said dressing tool effecting a constant, predetermined angle with a line parallel to the axis of said arc surface, and lying on said arc surface.

2,975,782
ROLLER-TYPE DRESSERS FOR GRINDING WHEELS
Harold E. Balsiger, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.
Filed Dec. 18, 1959, Ser. No. 860,476
7 Claims. (Cl. 125—11)



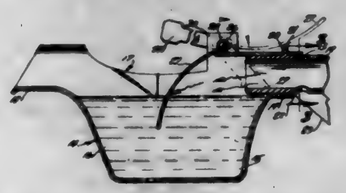
7. A dressing device for a grinding wheel comprising a rotatable dressing member having formed corner dressing portions axially spaced from one another at a distance greater than the spacing of the corners on said grinding wheel, means for rotatably supporting said dressing member for movement into and out of operative engagement with said grinding wheel, and means for effecting an axial reciprocating movement of said dressing member to dress first one and then the other corner of said grinding wheel.

2,975,783
GAS TURBINE HEATER
Frederick Dalleabach, Inglewood, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed July 30, 1954, Ser. No. 446,709
3 Claims. (Cl. 126—110)



1. A gas turbine heater comprising, a compressor, shaft means connected with said compressor, turbine means connected with said shaft means for driving said compressor, a combustor intercommunicating with said compressor and with said turbine means, a heat exchanger arranged to receive hot exhaust gas from said turbine means, a fan for forcing fresh air into heat exchange relation with said hot gas in said heat exchanger, said fan being connected with and driven by said turbine means, a manual crank operatively connected with said shaft, a torch-receiving structure communicating directly with said combustor, and a torch removably positioned in said receiving structure for heating the combustor during cranking of the compressor and turbine on said shaft.

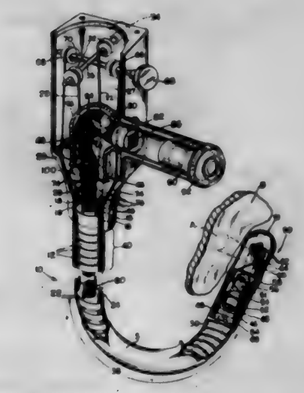
2,975,784
ACCESSORY FOR BLOW TORCH
Douglas J. Nelson, Rte. 2, Box 115, Portland, Oreg.
Filed June 30, 1958, Ser. No. 745,629
2 Claims. (Cl. 126—240)



2. In a blowtorch attachment, a melting pot including a main body portion having an opening in its upper end, a pouring spout on one end of the pot, a collar on the other end of said pot for connecting the pot to a blowtorch, a set screw extending through said collar and engageable with a blowtorch for retaining the pot in fixed relation to a blowtorch, there being a slot in said collar for receiving a portion of a blow torch, the lower portion of said collar being cut away for receiving another portion of a blowtorch, a pair of vertically disposed spaced parallel ears extending upwardly from said pot, a shaft extending between said ears, a weighted lever connected to

an end of said shaft, and a curved deflector having a rolled end portion rigidly secured to said shaft and adapted to be positioned forwardly of and adjacent the forward end of a blowtorch to deflect a heating flame passing outwardly of a blowtorch into the melting pot.

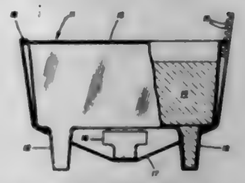
2,975,785
OPTICAL VIEWING INSTRUMENT
Gilbert J. Sheldon, Irondequoit, N.Y., assignor to Bausch & Lomb Optical Company, Rochester, N.Y., a corporation of New York
Filed Sept. 26, 1957, Ser. No. 686,320
11 Claims. (Cl. 128—6)



1. An optical viewing device of the character described comprising in combination a sheath including a plurality of individual tube elements arranged in end to end relationship, a pair of flexible elements operatively associated with said tube elements and arranged longitudinally along at least a portion of the length of the sheath in diametrically opposed positions, said flexible elements being adapted to flex at portions thereof between the adjacent ends of said tube elements for permitting pivotal movement between said tube elements, means operatively associated with said tube elements for imparting pivotal movement between said tube elements to thereby cause flexing of the sheath in either direction on opposite sides of the longitudinal axis of the sheath an optical system including a flexible bundle of fibers made of transparent material arranged within said sheath, extending therealong and flexible therewith, an objective mounted at one end of the sheath and adapted to form an image of an object to be examined upon the adjacent end of said bundle of fibers, an eyepiece mounted at the other end of the sheath for viewing the image formed at the other end of said bundle, and means for controlling said flexing of the sheath for flexing said bundle in either of said directions to thereby cause said objective to assume various predetermined positions.

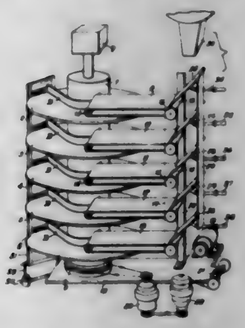
2,975,786
THREE-DIMENSIONAL THERAPY
L G Williams, Rte. 2, Box 297A, Martinez, Calif.
Filed Feb. 24, 1959, Ser. No. 794,951
2 Claims. (Cl. 128—65)

2. A vibrational therapy device comprising an open-topped water-tight container having vertical legs for supporting same in an elevated position, said container having an outwardly extending rim at the top edge thereof, a mixture of water and solid substantially spherical particles of about ⅛ to ¼ inch diameter having a density greater than and approaching that of water disposed within said container, a localized area electric hand vibrator disposed externally in contact with the bottom of said container, and a substantially U-shaped strap having a right angle projection at one end and a series of longitudinally spaced right angle projections at the other end thereof, said projection hooked over said rim at one side of the container with the strap extending downwardly



beneath said vibrator and upwardly to said rim at the opposite side of the container, one of said series of projections hooked over said rim to releasably cinch said vibrator snugly against the bottom of said container.

2,975,787
APPARATUS AND A METHOD OF MIXING LEAFY OR FIBROUS MATERIALS
Heinrich Müller, 49 Falkenstein, and Franz Muth, 14 Wulfsdale, both of Hamburg-Blankensee, Germany
Filed July 26, 1955, Ser. No. 524,492
Claims priority, application Germany July 30, 1954
10 Claims. (Cl. 131—108)



1. An apparatus for mixing leaf-like or fibrous materials having several mixing components, comprising in combination a plurality of disks, each of said disks being adapted to receive at least one layer of said mixing components, said disks being spacedly mounted in superimposed relationship on a common axis, means to rotate said disks together, feeding means to supply said mixing components consecutively to said disks during their rotation, and means to remove said layers together from all of said disks.

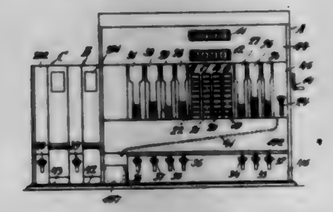
2,975,788
HAIR ORNAMENT
Michael Ardelyan, 57199 Van Dyke Road, Washington, Mich.
Filed Feb. 5, 1959, Ser. No. 791,348
1 Claim. (Cl. 132—46)



A hair ornament consisting of an inner circular disk made of soft stretchable rubber, the disk having in the

center a circular opening, and being provided in its outer rim with a radial groove all along its periphery, and a flat outer disk of a relatively hard material, the outer disk having a central aperture defined by a rim fitting into said groove for engagement with said inner disk.

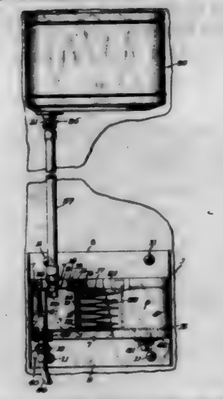
2,975,789
CURRENCY DISPENSING APPARATUS
Hermann Schmidt, 36 Wilhelm-Bleystrasse, Ludwigsburg, Germany
Filed July 14, 1954, Ser. No. 443,329
Claims priority, application Germany July 17, 1953
18 Claims. (Cl. 133—1)



1. Currency dispensing apparatus comprising, in combination, a plurality of currency dispensing means, each currency dispensing means being associated with a currency type within a denominational currency order; a plurality of operating means, each operating means being associated with one of said currency dispensing means; drive means; a plurality of coupling devices, each coupling device including two parts, each coupling device being connected to one of said operating means for being moved between a coupling position in which said parts are coupled, and a released position, one of said parts being connected to and driven by said drive means; a plurality of intermediate shafts, each shaft associated with one denominational currency order; a plurality of linkage means connecting the other parts of said coupling devices with said intermediate shafts for rocking the same so that each of said intermediate shafts rocks whenever one of said operating means is actuated; at least one totalizer including indicating means; a plurality of motion transmitting means connecting said intermediate shafts with said totalizer so that said totalizer adds in each denominational order all currency types dispensed by said currency dispensing means in the respective currency order; and connecting means connecting said other parts of said coupling devices with said currency dispensing means so that the same are operated by said operating means.

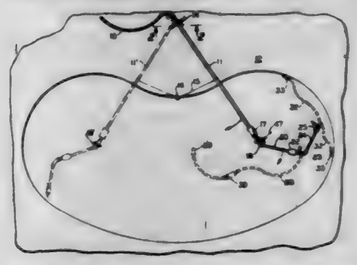
2,975,790
SPRAY GUN CONTAINER
Constantine Lisciani, Chicago, Ill., assignor to The Protectoseal Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 19, 1956, Ser. No. 629,412
12 Claims. (Cl. 134—155)

1. In a spray gun container, the combination of a fluid receptacle, comprising top, bottom and side walls, said top wall having an opening therein, an internally threaded collar secured to said top wall and extending upwardly therefrom, said collar being axially aligned with the axis of said opening, a tubular well member carried at its upper end by an externally threaded ring member adapted to be threaded into said collar with said well member positioned in the receptacle and extending to adjacent the bottom wall thereof, said ring and well members being of a size to receive the nozzle of a spray gun and provide support to the latter, a perforated safety closure member movably positioned in said well and adapted to seat on said ring, and a compression spring positioned in said well adapted to seat at its respective ends on the inner face of the bottom wall and the inner face of said



closure member operative to urge the latter into engagement with said ring.

2,975,791
AUTOMATIC SWIMMING POOL CLEANER
Andrew L. Pansini, 180 Los Cerros Drive, Greenbrae, Calif.
Filed July 2, 1959, Ser. No. 824,562
17 Claims. (Cl. 134—167)

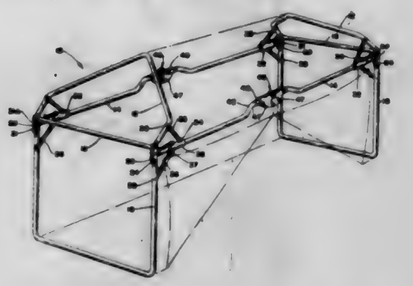


1. An automatic cleaner for a swimming pool comprising rotary means having fluid passageway means extending therethrough including a fluid discharge port, said rotary means being rotatable about a vertical axis, float means for supporting said rotary means on the surface of said pool, positioning means for limiting to a fixed distance the approach of said rotary means toward the side wall portions of said pool, a first rigid conduit extending from said discharge port and having a radial length less than said fixed distance, a second rigid conduit, the combined length of said first and second conduits substantially exceeding said fixed distance, a flexible coupling connecting said first and second conduits, second float means for supporting said conduits, laterally directed jet orifice means connected to at least one of said conduits adapted to rotate said conduits about said rotary means, and a flexible hose connected to said second conduit at the end thereof remote from said first conduit and having a submergible length portion carrying a discharge nozzle.

2,975,792
FOLDING TENT STRUCTURE
Marjorie V. Herbert, 2201 Wichert Drive, Cuyahoga Falls, Ohio, and Bruce D. Heiser, 3646 W. 47th St., Cleveland, Ohio
Filed Oct. 3, 1958, Ser. No. 765,106
4 Claims. (Cl. 135—4)

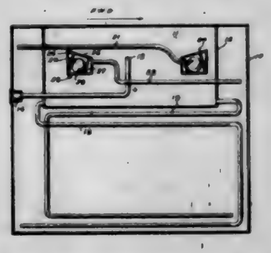
1. A folding tent frame comprising, an upper generally rectangular portion when erected including inter-

connecting side, end and corner members, said side members being hinged at their central portions to permit said frame to be foldable into a compact form, roof members connected to the upper end of each corner member, leg members connected to the lower end of each corner



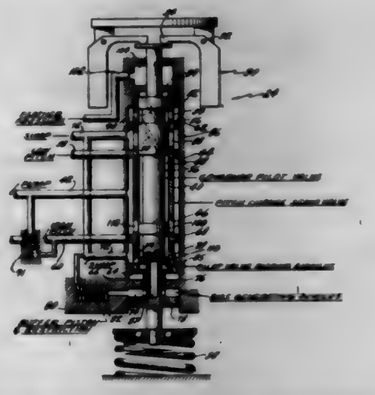
member, a yoke member slidable on each side member between said hinged portion and a corner member, links connecting each yoke member to a roof and leg member, and means to simultaneously move each yoke member toward a corner member when said side members are unfolded.

2,975,793
LIQUID STORAGE TANK
Walter C. Klank, Jr., Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Sept. 8, 1959, Ser. No. 838,751
3 Claims. (Cl. 137—43)



2. A vent system for a tank assuming in use different attitudes relative to the earth's surface, including a tank shell having normal upper and normal lower interior portions as well as having forward and rearward interior portions with regard to the direction of movement of the tank in normal use, interior wall means defining in the normal upper portion of the tank shell interior an elongated vent chamber having its ends extending respectively into forward and rearward interior portions of the tank shell and spaced from corresponding walls of the tank shell, an outlet to the tank shell exterior from said vent chamber, a pair of individual tubes connecting said vent chamber to the normal upper portion of the tank shell interior, said tubes having inner ends terminating in the vent chamber and outer ends terminating outside the vent chamber between the ends thereof and the tank shell, said tubes overlapping one another within the vent chamber to place the inner end of one tube rearwardly in the vent chamber while the outer end thereof projects into the forward portion of the tank shell interior and to place the inner end of the other tube forwardly in the vent chamber while the outer end thereof projects into the rearward portion of the tank shell interior, gravity responsive valves at the inner ends of said tubes closing respectively in response to upward and downward longitudinal tilting motions of the tank shell, and another pair of tubes communicating at their one ends with the interior of the vent chamber and extending at their opposite ends into respective forward and rearward portions of the tank shell interior in the normal lower portion thereof.

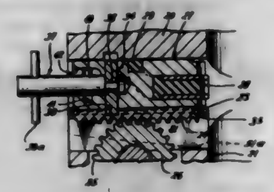
2,975,794
CONSTANT SPEED PROPELLER GOVERNOR HAVING PROPELLER SPEED AND ACCELERATION SENSITIVITY
Richard L. Fischer, Suffield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 22, 1957, Ser. No. 691,755
6 Claims. (Cl. 137—48)



6. A propeller constant speed governor comprising first valve means, means responsive to propeller speed error applying a first positioning force to said first valve means proportional to propeller speed error and moving said first valve means at a rate proportional to the rate of change of said propeller speed error, second valve means concentric with said first valve means, means to amplify said first positioning force and establish a hydraulic pressure regulatable in response to the movement of said first valve to position said second valve means in accordance with the position of said first valve means so that said first valve means hydraulically positions said second valve means in accordance with the movement of said first valve means and with amplified force, a hydraulic chamber of volume defined by the position of said second valve means and hence said first valve means so that the rate of hydraulic fluid flow into and out of said chamber is determined by the rate of movement of said second valve means and hence said first valve means, fluid conveying means communicating with said chamber and with each end of said first valve means and having a restriction between said first valve means ends through which all hydraulic fluid, into and out of said chamber, must flow so that the pressure drop across said restriction caused by movement of said first and second valve means and in proportion to the rate of movement thereof is applied across said first valve means as a second positioning force supplemental to said first positioning force.

2,975,795
VALVE APPARATUS
Herbert Allen, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Dec. 2, 1957, Ser. No. 700,203
15 Claims. (Cl. 137—315)

1. A blowout preventer or like valve apparatus, comprising a body having a flowway therethrough and an opening therein connecting the flowway with the exterior of the body, a carrier within the opening, means for reciprocating the carrier longitudinally within the opening, a ram fitted closely between the carrier and a surface of the opening, and means for selectively locking the ram to the carrier for reciprocation inwardly and outwardly therewith with respect to the flowway between positions clos-



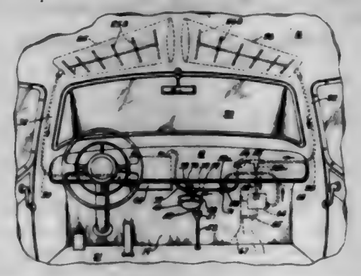
ing and opening the flowway, respectively, and to the body to permit movement of said carrier inwardly with respect to the ram to a position relieving the close fit of the ram, whereby the outer end of the ram may be moved outwardly of the position in which it is locked to the body.

2,975,796
IRRIGATION PIPE GATE
Paul L. Tallman, Los Angeles, Calif., assignor, by mesne assignments, to Emerald Distributors, Inc., Salinas, Calif., a corporation of California
Filed May 9, 1958, Ser. No. 734,331
2 Claims. (Cl. 137—322)



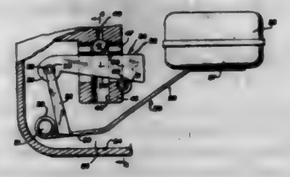
1. An irrigation sleeve adapter, a rod extending across and thru the sides of said adapter for movement longitudinally of said rod, and a part carried by said rod between said sides, said part comprising a U-shaped spring clip having a hole formed in each leg thereof, each hole being of a size to slidingly fit said rod and said holes being in alignment for the free passage of said rod therethru when said legs are sprung toward each other, and said part and clip comprising opposed ratchets for preventing movement of said part on said rod when said legs are released to spring away from each other.

2,975,797
WATER SUPPLY MEANS FOR MOTOR CARS
Richard Matheney, 233 W. 64th St., Los Angeles, Calif.
Filed Sept. 12, 1957, Ser. No. 683,649
2 Claims. (Cl. 137—334)



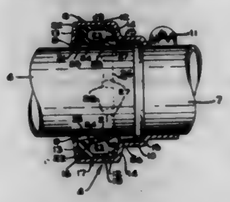
1. In a motor car having a top, a pair of transversely-spaced tanks contained in said top, one tank for drinking water and the other for plain water, a conduit descending from each tank into the cowl compartment of the motor car, a two-way dispensing valve receiving the conduit from the drinking water tank in one side, a pair of branches leading from the plain water conduit, a mixing valve receiving the free ends of the branches in inlets, and an outlet conduit leading from the mixing valve to the other side of the dispensing valve, one of said branches passing through a heating unit.

2,975,798
FUEL VALVE FOR CARBURETORS
Oliver R. Jones, Rte. 4, Longview, Tex.
Filed Apr. 14, 1959, Ser. No. 806,249
9 Claims. (Cl. 137—445)



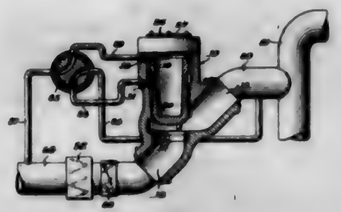
1. In a carburetor, a fuel reservoir, having an inlet and an outlet, a float and a linkage system disposed in said reservoir and movable in response to vertical movement of said float, said linkage system including an elongated arm pivotally anchored at one end thereof within said reservoir and having its opposite end moved generally vertically in response to positioning of the float, a valve member controlling said inlet and actuated by said linkage system, the connection between said valve member and the linkage arm being such as to establish an over-center relationship with the point of pivotal connection between the arm and the reservoir whereby the forces set up in said linkage system by fuel inlet pressure will be opposite to those normally imposed thereon in response to the vertical movement of the float, tending to maintain said valve member in closed position.

2,975,799
COMBINATION PIPE COUPLING AND AUTOMATIC DRAIN VALVE
Robert E. Stilwell, Santa Clara, Calif., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed July 9, 1956, Ser. No. 596,461
10 Claims. (Cl. 137—521)



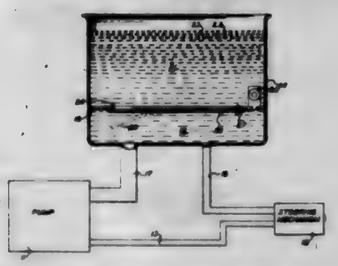
1. A coupling for joining pipes of an irrigation system comprising a housing having an apertured wall, a pipe loosely received in said apertured wall, said housing having an annular channel surrounding said pipe and facing radially inwardly toward the outer surface of the pipe, and a resilient sealing element positioned within said annular channel and including a portion having a surface arranged to be flexed into engagement with the pipe received in the housing to establish a seal therebetween, said resilient sealing element being provided with an opening in said surface of said sealing portion communicating the interior of the housing with the exterior thereof when said sealing element is in an unflexed condition.

2,975,800
INTERNAL-CYLINDER-OPERATED VALVE
John F. Doelger and Richard Fennema, Chicago, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 17, 1958, Ser. No. 715,719
4 Claims. (Cl. 137—565)



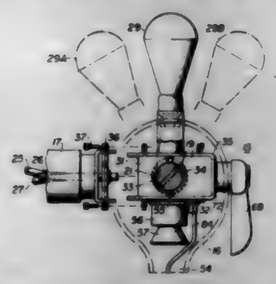
2. Valve apparatus comprising a valve having a body with a pair of substantially coaxial cylinders of different effective areas defined therein, a valve seat adjacent that end of the smaller-area cylinder remote from the larger-area cylinder, a free piston working in the larger-area cylinder, a valve closure member movable with said piston working in the smaller-area cylinder for opening and closing said valve seat, a fluid line communicating with the valve seat, said fluid line also communicating with a fluid pressure source, pump means having the pressure side thereof communicating through the valve seat with said fluid line, conduit means connecting the larger-area cylinder at opposite sides of the piston with the fluid line and the suction side of said pump means, and valve means controlling flow of fluid through said conduit means for selectively admitting piston-actuating fluid from the fluid line to the larger-area cylinder at one side of the piston while exhausting the other side to said pump means suction side.

2,975,841
PUMP FLOW CONTROL MEANS
Harold A. Kuypers, Dearborn, Alastair S. MacLennan, Huntington Woods, and Frederick R. Dinger, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,897
4 Claims. (Cl. 137—576)



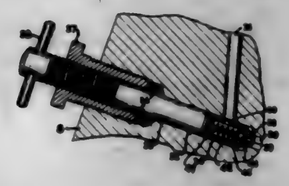
1. Means for changing an open liquid system to a closed liquid system in response to liquid temperature comprising a liquid filled sump having a separator secured therein which separates the sump into a first and second liquid chamber respectively, passage means through said separator normally permitting the passage of fluid from one of said chambers into the other of said chambers, said first chamber adapted to be connected to a sump inlet and further adapted to be connected to a sump outlet, said second chamber being adapted to be vented to atmosphere, temperature responsive means in said sump which closes the passage means between the first and second chambers at a predetermined low liquid temperature and changing the liquid system from an open system to a closed system, said liquid passing from the sump inlet to the sump first chamber and out of the first chamber through the sump outlet, and pressure operated valve means operable to vent said first chamber when the liquid pressure has reached a predetermined value.

2,975,883
DISPENSING VALVE
Anthony Turak, 11208 Lorain Ave., Cleveland, Ohio
Filed Nov. 6, 1957, Ser. No. 694,830
14 Claims. (Cl. 137—599)



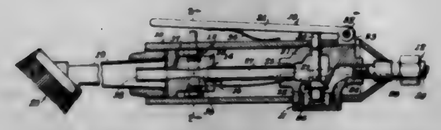
1. A valve comprising, in combination, a body, an inlet line and a discharge opening in said body; first and second valve plugs in said valve body each having a first operative position and a neutral position and said second valve plug additionally having a second operative position, a fluid diffuser in said valve, first conduit means in said valve body and said first valve plug connecting said inlet line through said diffuser to said discharge opening with said first valve plug in said first position, said neutral position of said first valve plug closing off said first conduit means, second conduit means in said valve body and said first and second valve plugs connecting said first and second valve plugs in series reentrantly with said valve plug and with said fluid diffuser for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said neutral and first positions, respectively, and third conduit means in said valve body and said second valve plug connecting in series said first and second valve plugs for fluid communication therethrough from said inlet line to said discharge opening and by-passing said diffuser with said first and second valve plugs in said neutral and second positions, respectively.

2,975,893
PRESSURE RELEASE AND RELIEF VALVE
Wendell L. Vallee, Sheboygan, Wis., assignor to Blackhawk Mfg. Co., West Allis, Wis., a corporation of Wisconsin
Filed Apr. 19, 1956, Ser. No. 579,309
1 Claim. (Cl. 137—599.3)



A combination pressure release and relief valve assembly comprising, a casing member having a bore of uniform diameter one end of which is provided with a seat in open communication past a port with a high pressure liquid source while its opposite end portion is sealed by a gland having internal screw threads and its medial portion is in open communication through a return conduit with a low pressure liquid supply, a unitary cup-shaped release valve cartridge directly slidably confined within said bore and having a tapered end sealingly cooperable with said seat and also having therein a passage in open communication with said port and an opening in open communication with said conduit, a spring pressed ball relief valve housed within said cartridge and coacting with said port to establish communication between said source and said supply whenever the pressure at said source becomes abnormally high, and a longitudinally adjustable spindle having thereon external screw threads coacting with said gland threads and being provided with a cylindrical inner end portion also directly slidable within said casing bore and abutting the end of said cartridge remote from its tapered end.

2,975,884
CLEANSING TOOL
Fred Dunn, 4248 Edgehill Drive, Los Angeles, Calif., and Robert S. Hammett, 2312 Manhattan Ave., Manhattan Beach, Calif.
Filed June 16, 1958, Ser. No. 742,467
6 Claims. (Cl. 137—604)



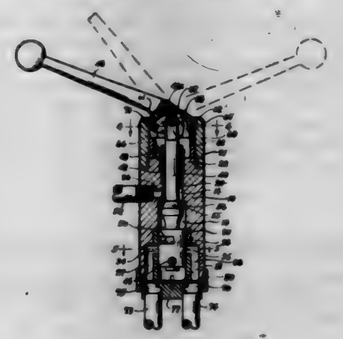
1. A cleansing tool comprising an elongated housing, a water valve disposed within one end of said housing and connected to a source of water supply, two additional valves located in the other end of the housing and provided with independent inlets, a handle to open the water valve, said handle having a portion to engage and actuate first one and then the other of said two additional valves to sequentially open the two other valves while the same is being operated to open the water valve, and passage means interconnecting the outlets of said three valves to mix the flow of the water valve with the flow through said two other valves.

2,975,885
DOWNSPOUT EXTENSION
John Horn, Rte. 1, Manitowoc, Wis.
Filed Oct. 2, 1957, Ser. No. 687,771
1 Claim. (Cl. 137—615)



The combination of a downspout including an elbow of rectangular cross-section on its lower end and an extension mounted on said elbow, said extension comprising: a tube open at its ends and including a top wall, a bottom wall and side walls straddling the free end portion of the elbow and pivotally connected thereto for mounting the tube thereon for swinging movement in a vertical plane, said top wall, at its inner end, terminating short of the corresponding ends of the side walls for clearing the free end of the elbow when the tube is swung upwardly thereon to inoperative position, the inner end portion of said bottom wall extending beyond the inner ends of the side walls and engageable beneath the elbow for supporting the tube in operative position, and a resilient clamp on the downspout engageable with the tube for releasably securing same in inoperative position said inner end portion of said bottom wall of the tube, when said tube is in inoperative position, extending vertically in spaced, opposed relation to the discharge end of the elbow for breaking the force of the water therefrom and deflecting said water downwardly.

2,975,886
BODY FORMING VALVE CHAMBER AND STEM MOUNTING
Alfred M. Moen, 377 Woodland Ave., Elyria, Ohio
Filed Oct. 1, 1956, Ser. No. 613,031
4 Claims. (Cl. 137—625.17)



1. A faucet comprising a unitary body formed with a bore of stepped diameters directed upwardly thereinto from its lower end, and bore providing, in succession as defined by its parts of different diameter, an inlet chamber at its lower end, a mixing chamber intermediate its ends, and a discharge chamber at its upper end, the latter chamber having an outlet leading to a side of said body, a cylindrical sleeve in said inlet chamber, said body also having hot and cold water inlets leading upwardly thereinto through its lower end surface between said sleeve and the body, said sleeve forming a valve chamber, openings through the sleeve into said valve chamber between the ends of the sleeve and connecting the valve chamber with the inlets, a movable valve element fitted in the valve chamber to control inflow through said openings to the mixing and discharge chambers, a valve stem movably mounted in the body, the outer end of said stem extending above the body and the inner end of the stem being operatively connected to said valve element.

2,975,887
SUPPLY CONVEYING MEANS
Gilbert Wanlager, Victoria-Allee 19, Aachen, Germany
Filed Sept. 30, 1954, Ser. No. 459,301
Claims priority, application Germany Oct. 29, 1953
7 Claims. (Cl. 138—61)

1. A protective support for flexible conduits, conductors and the like for delivery of services such as electric power, compressed air, water and the like to a part moving in a guided path, comprising a chain made up of links hinged together at their contiguous ends, the line of said hinges being the neutral axis of said chain, each said link comprising at least two laterally spaced chain plates and at least one cross web uniting the lateral plates, each of said cross webs having transversely of the chain similar sets of openings therein, each opening of said similar sets of openings constituting with the correspond-

ing openings of the other links a plurality of parallel passages longitudinally of said chain, each said passage being adapted to receive at least one flexible conductor longitudinally therethrough, the said chain plates having to one side of the neutral axis inclined end edges each of which serves with the adjacent edge of the contiguous plate to limit the angle of swing of the links of the chain



relative to one another when bent to cause said edges to contact each other to a value corresponding with a predetermined radius of bending of the conductor most sensitive to bending, said chain plates having on the other side of the neutral axis end edges at right angles to the length of the chain which serve with the similar edges of the contiguous chain plates, when said edges are in contact with each other, to hold the chain straight.

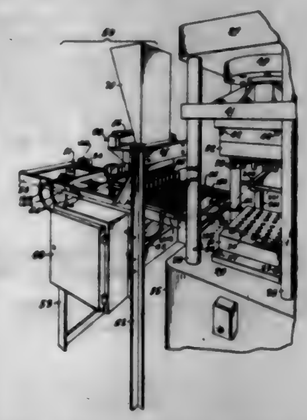
2,975,806
CONDUIT AND FABRICATING MATERIAL THEREFOR
Albert W. Schilder, Marshall, Mich., assignor to Lyna Corporation, Inc., Marshall, Mich.
Filed Dec. 10, 1956, Ser. No. 627,334
6 Claims. (Cl. 138—74)



1. As an article of manufacture, an elongated laminated web adapted to be laterally folded into an elongated conduit and comprising, an elongated web-like body of fibrous material impregnatingly bonded with asphaltum and plies of aluminum foil co-extensive with the body and supportedly bonded throughout to each side thereof, the web having laterally spaced pairs of longitudinally extending laterally spaced parallel wall and flange defining scores on one side thereof facilitating folding thereof on predetermined lines into an elongated conduit, the outer of one pair of scores being adjacent to but spaced from one longitudinal edge of the web defining therewith a relatively narrow flange section, the outer of the other pair of scores being spaced from the other edge of the web a distance equal to the spacing of the inner scores of the pairs of scores plus the width of said flange section so that the web may be folded on its said scores into a conduit with an edge portion of said last defined section in overlapping sealing relation to said flange section for attachment in such relation to an elongated support member.

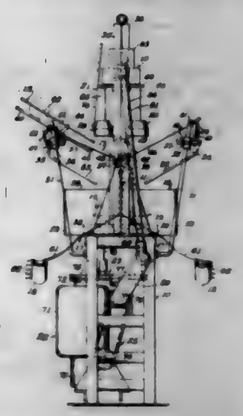
2,975,809
LOADING AND UNLOADING APPARATUS
Lawrence D. Nimeeman and Robert M. Crayford, Toledo, Ohio, assignors to Baker Brothers, Inc., Toledo, Ohio, a corporation of California
Filed Dec. 10, 1956, Ser. No. 627,418
17 Claims. (Cl. 141—1)

1. A method of simultaneously feeding a plurality of quantities of material particles into a corresponding plurality of pre-arranged cavities, comprising: dividing said plurality of cavities into equal pluralities of adjacent identical pattern groups, measuring simultaneously a plurality of quantities of said material corresponding to one of said groups, collecting said plurality of said measured quantities of said material particles corresponding to one of said pattern groups, stepping said pattern groups for measuring another of said plurality of quantities and for collecting said another plurality of quantities into the next of said identical pattern groups adjacent said one of said



pattern groups until collections are made in all of said pattern groups, simultaneously moving all of said collected groups of measured material particles over said cavities, simultaneously discharging all of said groups of quantities of material particles into said cavities, and returning said groups for successively collecting another corresponding plurality of quantities of material.

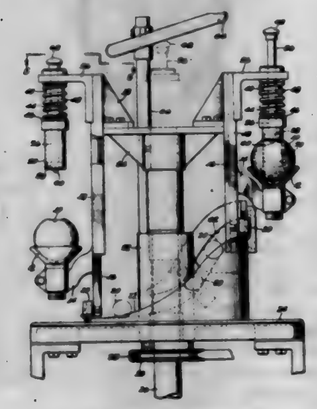
2,975,810
CITRUS FRUIT JUICER
Robert L. Wurgaft, Anaheim, Calif., assignor to Bruce Alexander, San Marino, Calif.
Filed Aug. 19, 1957, Ser. No. 678,994
14 Claims. (Cl. 146—3)



1. A citrus fruit juicer comprising the combination of a frame, an elongated stationary blade mounted on the frame, said blade having an upper cutting edge, means adjacent said blade to feed citrus fruit to a position above and generally centered with respect to said cutting edge, said means being operably connected to the frame, reamers disposed on said frame on each side of the blade and mounted to rotate on substantially vertical axes, pushing means on either side of the said blade having a

first portion thereon operable to push on the fruit above the cutting edge to move the same downwardly to be divided into halves by said blade edge, and having a second portion thereon engageable with said halves to move said halves toward the reamers, means on either side of said blade and in the path of movement of the fruit halves while the halves are moved by said pushing means to turn the halves from dispositions with their cut faces directed toward the blade to dispositions with said faces directed toward the reamers, said turning means being operably connected to said frame, and flexible support means for the fruit halves mounted on said frame in said path and deflected by the halves during movement of the latter to operative engagement with the reamers.

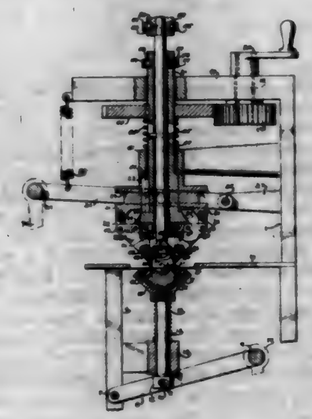
2,975,811
PEACH SPOONER
Albert H. Kugler, Oakland, Calif., assignor to California Packing Corporation, San Francisco, Calif., a corporation of California
Filed Feb. 4, 1957, Ser. No. 638,014
9 Claims. (Cl. 146—28)



1. A spooning device for drupe fruit and the like comprising: fruit supporting means; vertically aligned coring knife means, said knife means being movably mounted in a suitable support and being resiliently urged downwardly toward said fruit supporting means by a spring between said knife supporting means and said knife means, aligning means within said knife means having a terminal portion extending below said knife means, said aligning means being free for vertical movement within said knife means; and ejecting means operatively associated with said aligning means for causing removal of a drupe fruit from said knife means.

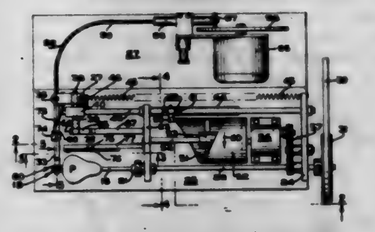
2,975,812
PITTER FOR REMOVING PITS FROM DRUPE HALVES
John Perrelli, Richmond, Calif., assignor to Filper Corporation, Richmond, Calif., a corporation
Filed Feb. 11, 1957, Ser. No. 639,336
10 Claims. (Cl. 146—28)

1. In a pitter for removing a pit half from the pit cavity of the generally hemispherical half body of a bisected drupe having a substantially planar face around said cavity; a drupe holder adapted to engage the convex side of such half body for holding the latter in a predetermined position, pit finding means supported for movement into engagement with opposite edges of such pit half, a support for supporting said drupe holder and said pit finding means in positions relative to each other for movement of said pit finding means into said engagement with said opposite edges of said pit half when said half body is held in said predetermined position by said drupe holder, means connected with said pit finding means for effecting said movement thereof, pit gripping means connected with said pit finding means for movement simultaneously therewith to points adjacent to opposite edges of said pit half, and means connected with said pit gripping means for moving them into gripping relation with said pit half after said pit gripping means



is moved to said opposite edges of said pit half, and means operatively associated with said pit gripping means and with said holder for effecting relative movement between said pit gripping means and said holder when said half body is held by said holder and when said pit gripping means is in said pit gripping relation for detaching said pit half from the walls of the pit cavity of said half body.

2,975,813
FRUIT PROCESSING MACHINE
Marshall E. C. Freeman and Sylvio Puccinelli, San Jose, and Sherman H. Creed, Campbell, Calif., assignors to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 4, 1955, Ser. No. 526,438
16 Claims. (Cl. 146—43)



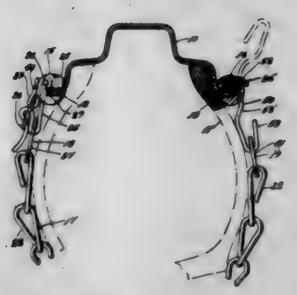
1. A pear peeling machine comprising a platform, a spindle on said platform adapted to support a pear with the stem-blossom axis of the pear having a fixed orientation relative to said platform, a rod slidably journalled on said platform for movement along a fixed straight line path longitudinally of said spindle, means for moving said rod along said fixed path, a cutter support pivotally supported from said rod and connected to said rod for bodily movement therewith, a rotary cutter mounted on said cutter support in position to move along the length of a pear on said spindle as said rod moves along said longitudinal path, and means connected between said cutter support and said platform for pivoting said cutter support to swing said cutter through a fixed angular distance as said cutter traverses the butt end of the pear.

2,975,814
PLASTIC ANCHORING FASTENER WITH DIVERGING SHANKS
George A. Tinnerman, 17864 Beach Road, Lakewood 7, Ohio
Filed Dec. 9, 1957, Ser. No. 701,417
1 Claim. (Cl. 151—41.75)



A moldable, one piece plastic expandable anchoring fastener for insertion within a receiving aperture of a mounting member comprising a unitary body including a base, a plurality of flexible shank members integral with and rising from said base in spaced apart relation and complementary to one another, each shank member terminating at its opposite end in a laterally projecting head member forming a shoulder, said head members forming in conjunction with one another a multi-piece fastener head, said base having a central bore for reception of a stud, said shanks being spaced apart from one another at said base a distance at least equal to the diameter of said bore, the inner surfaces of said shanks being inclined to the central axis of the bore upwardly and outwardly of said base, the opposite outer surface of said shanks adjacent to the head members being substantially parallel to the axis of said bore, the continuing and joining outer surface of said shanks located adjacent to the base being inclined outwardly and upwardly therefrom substantially parallel to said inner surfaces complementary thereto, the plane of said shoulder of the head members of each shank being disposed substantially normal to the plane of said inner surface of said shank, said shanks being thereby spaced apart a greater distance at the head members than at the base, said shanks being compressible towards one another for insertion of said fastener in said aperture and being capable of flexing outwardly to engage opposed edges thereof.

2,975,815
TIRE CHAIN SETUP
Harry W. Bottow, 400 West Ave., Jenkintown, Pa.
Filed Oct. 9, 1959, Ser. No. 845,552
4 Claims. (Cl. 152—236)

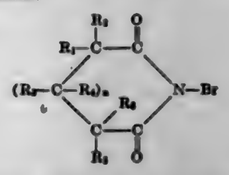


4. An arrangement for securing traction and preventing skidding for use on tires having rims, comprising a first mounting member for the inner side of the tire under the vehicle which has a rod-like element and mounting attachments to the rim at opposite ends of the rod-like element, the rod-like element extending in the direction of a chord of the rim circle, an opposite mounting member on the outside of the rim, and a chain setup having at the inner side of the tire under the vehicle a hook provided with a body adjoining the rim and provided with a reversely bent hook end which extends outwardly from the body around said rod of the mounting member, said hook end being insertable around the rod only in the position in which the hook is rocked to a location transverse with respect to the inner side of the tire under the vehicle, and being non-removable from the rod when the hook lies in a position generally parallel to the inner side of the tire under the vehicle, said chain setup also including anti-skid chain means and means for connecting the chain setup with the mounting member at the outside of the rim.

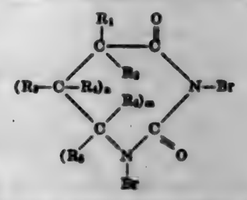
2,975,816
LAMINATED STRUCTURES
Francis P. Ford, Watchung, and Samuel B. Robison, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Feb. 27, 1957, Ser. No. 642,700
8 Claims. (Cl. 152—330)



1. A process which comprises forming a first layer comprising a major proportion of a chlorinated butyl rubber copolymer of a C_4 to C_8 isoolefin with a C_4 to C_{14} multiolefin containing therein at least about 0.5 weight percent combined chlorine but not more than about one combined atom of chlorine per double bond in the copolymer blended with a minor proportion of high unsaturation rubber; forming a second layer of a high unsaturation rubber; reacting at least one of said layers with about 0.1 to 5.0 weight percent of a N-bromo cyclic imide compound selected from the group consisting of the general formula

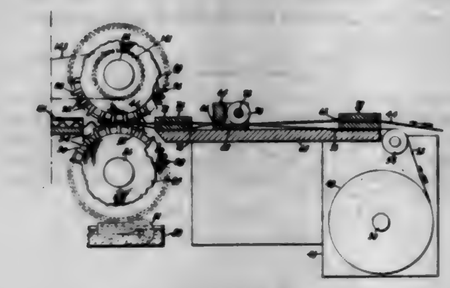


wherein n is 0 to 20 and R_1 to R_6 are selected from the group consisting of hydrogen and C_1 to C_{18} alkyl, aryl, aralkyl and alkaryl groups and the general formula



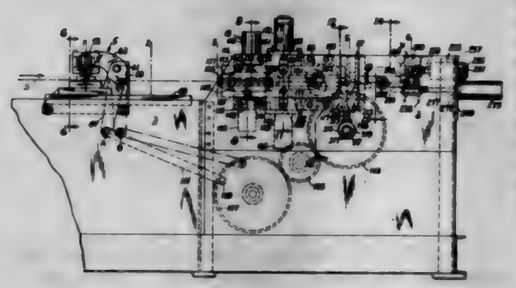
wherein n and m are 0 to 20 and R_1 to R_6 are selected from the group consisting of hydrogen and C_1 to C_{18} alkyl, aryl, aralkyl and alkaryl groups at a temperature level of between about 50° and 200° C.; and subsequently vulcanizing said first layer in contact with said second layer at a temperature between 90° and 230° C. to provide a laminated structure therefrom having an adhesion between said layers of at least 20 pounds per inch at 212° F.

2,975,817
CORRUGATING MACHINES
Robert M. Neff, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 29, 1958, Ser. No. 738,709
3 Claims. (Cl. 153—2)



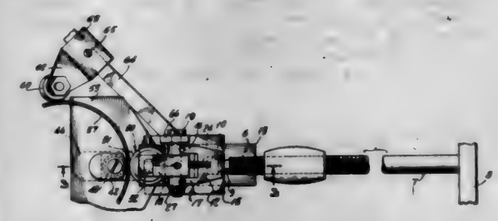
1. In a machine for corrugating metal wires and a metal strip together, guide means for bringing the metal wires and the metal strip together in a longitudinal relationship, corrugating wheels having corrugating projections and depressions extending transversely to the wires and the strip and interengaging each other for simultaneously corrugating the superimposed metal wires and metal strip in contact with each other, the projections and depressions of the corrugating wheels when at their nearest positions having clearance less than the combined thickness of the wire and the strip to force the wires and the strip into intimate contact at the tip of each of the ridges of the corrugations in the wire and strip, and a roller located between said guide means and said corrugating wheels having a resilient surface pressing the wires against the surface of the strip received from the guide means and simultaneously contacting all the wires and the surface of the strip for providing their simultaneous uniform advancement.

2,975,818
SHINGLE FORMING MACHINE
Dondeville M. Rippe, Webster Groves, Mo., assignor to Dondeville Products Co., Inc., Webster Groves, Mo., a corporation of Missouri
Filed Sept. 14, 1959, Ser. No. 839,915
11 Claims. (Cl. 153—2)



1. In a machine for making rectangular sheet metal shingles of a type having integral hooks along all four edges from a continuous strip of sheet metal including means for intermittently feeding the strip forward a predetermined amount, means operable while the strip is at rest between feeding intervals for bending over side portions of the strip to form the hook for two opposite edges of a shingle, means forward of said bending means operable while the strip is at rest between feeding intervals for cutting off a forward portion of the strip and for bending the rearward margin of the cut-off portion of the strip to form the hook for a third edge of a shingle, means forward of said cutting means and spaced therefrom a distance corresponding to said predetermined amount of strip feed operable while the strip is at rest between feeding intervals for bending the forward end margin of the strip to form the hook for the fourth edge of a shingle, and means for feeding completed shingles laterally outward toward one side of the machine, said means for bending the rearward margin of said cut-off portion of the strip to form the third hook comprising a fixed member and a movable member around which said rearward margin is bent, said movable member being formed and located to provide an outwardly offset portion on said third hook at the end thereof toward said one side of the machine, and means for moving said movable member out of said offset end portion following the formation of said third hook to allow the shingle to be fed laterally out of the machine.

2,975,819
PIPE GROOVING TOOL
Frank X. Costanzo, Cranford, and Raymond B. Frost, Springfield, N.J., assignors to Victaulic Company of America, Union, N.J., a corporation of New Jersey
Filed June 29, 1955, Ser. No. 518,754
3 Claims. (Cl. 153—9)

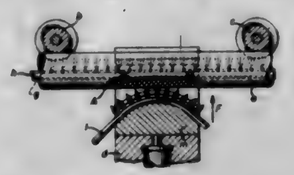


1. A pipe grooving tool compriaing a base member, a mounting member slidably mounted on said base member, a grooving roller carried by said mounting member, a backup roller mounted on said base member on an axis parallel to the axis of said grooving roller, said axes lying in a single plane, a stop plate carried by said base member and extending transversely with respect to said axes, a support carried by said mounting member and extending away from said grooving roller, and a stabilizing roller carried by said support in laterally spaced relationship with respect to said grooving roller, the axis of said stabilizing roller lying substantially in a plane parallel to the plane extending through the axes of said grooving and backup rollers, said axis of said stabilizing roller being angled in two different directions with respect to the axes of said grooving and backup rollers, one of said angles causing said stabilizing roller to tend to follow a helical path away from said stop plate, and the other of said angles causing the leading edge of said stabilizing roller to bear on the work during the grooving operation.

2,975,820
DEVICE FOR BENDING TUBES
André Huet, 48 Ave. du President Wilson, Paris, France
Filed June 21, 1957, Ser. No. 667,238
Claims priority, application France July 3, 1956
7 Claims. (Cl. 153—48)

1. A device for bending a tube under the action of a punch adapted to exert pressure on the tube, while maintaining the tube at a suitable temperature gradient, comprising, in combination, a partitioning member insertable in longitudinally-disposed position interiorly of the empty tube to be bent, said partitioning member di-

viding the interior of said tube into two compartments, one of said compartments including the portion of the tube corresponding to the outside of the bend to be formed and the other of said compartments including the portion of the tube corresponding to the inside of the bend to be formed, means for cooling said first-named compartment, a punch adapted to exert a pressure on the tube



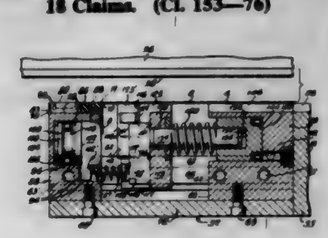
having a length sufficient to overlie the bent portion of the tube to be bent, a roller on each side of the punch to support the straight tube, a groove formed in the punch and having a bulge at its bottom and two lateral cheeks of such height that, at the beginning of the bending operation, said cheeks engage that area of the tube which is maintained at a lower temperature.

2,975,821

APPARATUS FOR FORMING CORRUGATIONS

Donald P. Rutter, New Providence, and Anthony E. Cimochowski, Hillsborough Township, Somerset County, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Nov. 12, 1953, Ser. No. 391,472
18 Claims. (Cl. 153—76)



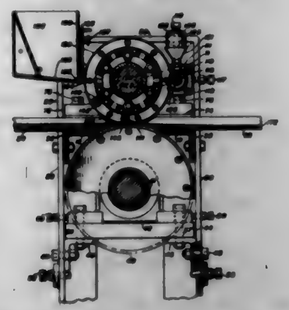
1. Apparatus for forming corrugations in a strip of sheet metal having a base and a side wall extending therefrom to form an angular corner therewith, the corrugations to be formed in said base and side wall so as to extend transversely of the corner, with the axis of a base corrugation and the axis of a corresponding side wall corrugation adjacent said corner lying in substantially a common plane through said corner, said apparatus comprising, means providing a first female die in the form of a slot opening in one direction with the longitudinal borders of the slot forming surfaces adapted to engage the side wall of the strip, means providing a first male die lying in substantially the same plane opposite said first female die and facing said first female die and movable relatively thereto and into the slot thereof in forming a corrugation in said side wall, at least one of said die-providing means having a surface extending at an angle to its die and adapted to support the base of the strip thereon, said angle corresponding generally to that formed at the corner between the base and side wall of the strip, the last mentioned surface having a second female die in the form of a groove opening outwardly thereof and lying in substantially the same plane as said first female die and said first male die, means providing a second male die lying in substantially said same plane and movable relatively to said second female die and into the slot thereof in forming a corrugation in said base, means associated with said movable dies for imparting movement thereto, and in which said means providing said first male die has a groove opening opposite said second male die and at one end opening opposite a portion of said first female die but being closed at its other end over a portion of its depth adjacent the bottom thereof, said first male die comprising deformable, extrudable material confined in the last mentioned groove for extrusion through its open end into the slot of said first female die upon the movement of said second male die into said second female die.

2,975,822

MACHINE FOR EMBEDDING BEADS IN A SHEET

Edgar W. Gent, Morristown, N.J., and Walter W. Werring, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 31, 1947, Ser. No. 794,928
7 Claims. (Cl. 154—1)



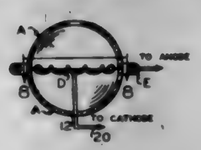
1. A machine for embedding beads in a sheet, comprising a rotatable drum having parallel rows of recesses at its periphery communicating with the interior of said drum, a container for the beads and having an opening, said drum having a wall in juxtaposition to said opening against which the beads rest to be attracted into the rows of recesses, means for producing a negative pressure in said recesses, means for applying an adhesive to the beads, and means for forcing the beads into the sheet during the rotation of said drum.

2,975,823

METHOD OF MAKING HOLLOW PLASTIC BALLS AND OTHER HOLLOW BODIES

Abraham Pennock, 5624 Overbrook Ave., Philadelphia, Pa.

Filed Aug. 7, 1958, Ser. No. 753,735
5 Claims. (Cl. 154—16)



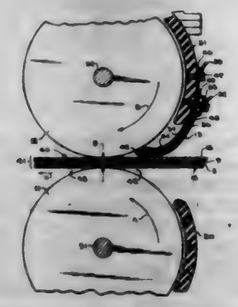
1. A method for forming a thermo-plastic hollow body comprising the steps of forming a pair of shells having complementary registering edges, at least one of said shells having at least one aperture therein, bringing the complementary edges into abutment with application of pressure, applying high frequency di-electric power across and through said complementary edges with the simultaneous application of pressure against the shells normal to the plane of the abutting edges, said high frequency di-electric power being applied by inserting a first electrode through said aperture into the interior of said abutting shells, whereby the electrode will assume an interior position adjacent the abutting edges, mounting a second electrode exterior of the abutting shells and annularly spaced from said abutting edges and the first electrode, whereby upon said application of high frequency di-electric power the area about said complementary edges will fuse and integrate said shells, and whereby said electrodes are subsequently withdrawn.

2,975,824

DEVICE FOR SEAM WELDING THERMOPLASTIC SYNTHETIC MATERIALS

Emerich Scheskengel, Kaiserslautern, Germany, assignor to G. M. Pfaff A.G., Kaiserslautern-Pfalz, Germany, a corporation of Germany

Filed Aug. 23, 1955, Ser. No. 530,156
Claims priority, application Germany Jan. 19, 1953
6 Claims. (Cl. 154—42)



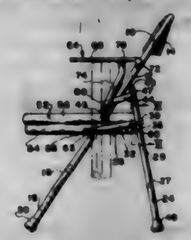
1. In apparatus for the heat-sealing of thermoplastic materials comprising a pair of pressure welding rollers arranged for rotation in opposite directions, to define a gap for advancing therebetween a pair of superposed plastic sheets to be sealed under pressure with protective sheets overlying the outer faces of said plastic sheets, a pair of arcuate stationary insulating supports each arranged in spaced relation and parallel, respectively, to one of the curved surfaces of said rollers near the entrance side of said sheets into said gap, and a pair of electrical heating elements each mounted upon one of said supports and arranged with their ends in resilient slidable contact engagement with the adjacent protective sheet at a point ahead of its entrance into the nip of said rollers, as the superposed plastic and protective sheets are advanced by said rollers, to pre-heat said plastic sheets to a temperature, to effect pressure welding thereof during subsequent passage between said rollers.

2,975,825

FOLDING CHAIR WITH FOLDING SEAT

Stanley James Gedris and William A. Gedris, Grand Rapids, Mich., assignors to Ideal Seating Company, Grand Rapids, Mich., a corporation of Michigan

Filed May 2, 1958, Ser. No. 732,543
7 Claims. (Cl. 155—142)



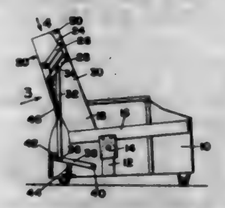
1. A folding chair, comprising; an arched member having a seat back provided at the upper end thereof and the ends disposed to provide forward leg members, a chair seat pivotally mounted between said forward leg members, a pair of rearwardly disposed leg members connected together intermediate their ends, and a U-shaped one piece stabilizer bar for engaging said forward and rearwardly disposed leg members together, said bar extending between said rearwardly disposed legs and being pivotally engaged thereto, the ends of said bar extending forwardly and being pivotally engaged to said forward legs, means at the rearward end of said seat contacting said bar for limiting upward pivotal movement of said rearward end, and a pair of pivotally mounted connecting links connecting said forward leg members to said rearwardly disposed leg members.

2,975,826

AUTOMATICALLY ACTUATED HEADREST FOR RECLINING CHAIRS

Albert M. Spound, % Charlton Co., Fitchburg, Mass., and Joseph Martin, Bayside, N.Y.; said Martin assignor to said Spound

Filed May 2, 1958, Ser. No. 732,652
4 Claims. (Cl. 155—177)



1. Article of furniture comprising a frame, a seat thereon, a backrest pivotally mounted on said frame for disposition between a reclining position and a seating position, a headrest associated with said backrest, means mounting said headrest for projection from said backrest from a substantially concealed position within said backrest to an exposed useful condition, stop means limiting the motion of the headrest, resilient means associated with the backrest and said frame, said resilient means operating said headrest projecting means automatically upon pivoting of said backrest from seating position toward reclining position, said resilient means yielding to provide for continued motion of the backrest with the headrest fully projected.

2,975,827

CHAIR FRAME STRUCTURE

Alfons Mauser, Koln-Ehrenfeld, Germany, assignor to Mauser Kommandit-Gesellschaft, Koln-Ehrenfeld, Germany

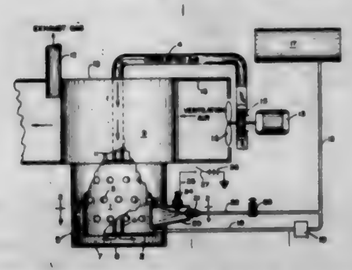
Filed Nov. 22, 1957, Ser. No. 698,310
Claims priority, application Germany May 25, 1957
1 Claim. (Cl. 155—194)



A chair frame comprising a pair of laterally spaced support portions each having three fingers, one finger

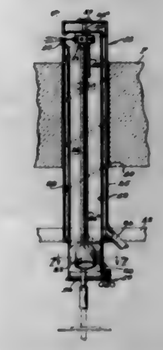
of each portion extending rearwardly and upwardly therefrom, a second finger of each portion extending forwardly therefrom and a third finger of each portion depending therefrom, said spaced portions being interconnected by an arcuate downwardly curved yoke defining the boundary of the seat and back of the chair, said upwardly extending fingers being arcuate in shape and forming part of the periphery of the back of the chair, an arcuate peripheral chair back frame portion directly engaged with said upwardly extending fingers and forming in conjunction therewith and with said yoke a substantially oval shaped chair back frame, said forwardly extending fingers being arcuate in shape and forming part of the periphery of the seat of the chair, an arcuate peripheral chair seat portion directly engaged with said forwardly extending fingers, and a base support secured to said fingers depending from said arcuate yoke.

2,975,828
AIR HEATER
Aubrey H. Robson, Rock Island, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed June 5, 1957, Ser. No. 663,795
3 Claims. (Cl. 158—36.6)



1. In a vaporizing fuel burner of the pot type having an inner pot disposed within an outer shell to form an annular space between the walls of said pot and said shell and through which space combustion air flows into said pot, fuel ignition and control apparatus comprising: a fuel tank containing a source of fuel of the type normally adapted for use in said pot type burner, said tank being disposed above said pot for providing gravity flow of fuel during normal burner operation; a first fuel conduit connected between said tank and said pot and including valve means for controlling gravity fuel flow in said first conduit, an ignition chamber having an open inner end mounted over an opening in the side wall of said pot to place the interiors of said pot and chamber in open communication, said ignition chamber extending outwardly through said annular space and said shell in sealed relationship to provide an air tight outer portion of said chamber external to said shell and remote from combustion in said pot; a second fuel conduit having one end connected to said tank and the other end to nozzle means mounted in the end wall of said chamber outer portion in a position to direct a spray of relatively fine particles through said open inner end of said chamber into said pot when fuel is supplied under pressure to said nozzle means; manually operative pump means in said second conduit and adapted to be operated to supply fuel to said nozzle means under a spray producing pressure; a fuel igniter mounted in said outer portion of said chamber with its fuel igniting element disposed in the path of a portion only of said spray to provide vaporization and ignition thereof as said spray is discharged from said nozzle means; and, means for electrically energizing said fuel igniter for igniting the spray of fuel discharged into said pot.

2,975,829
FUEL OIL BURNER
John G. Howell, Jr., Piedmont, Calif., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Sept. 9, 1957, Ser. No. 682,851
1 Claim. (Cl. 158—76)



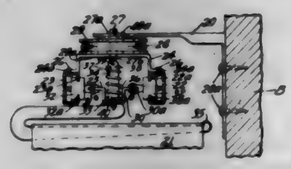
A fuel oil burner comprising an elongated cylindrical housing adapted to have its axis disposed substantially vertically when the burner is in an operative position, said housing having a closed upper end and an open lower end and provided near its closed end with a radial discharge port for atomized fuel, a cylindrical jacket enclosing a major portion of said housing and with the latter providing an annular liquid coolant accommodating space between them, a spiral fin in said space extending substantially the entire length of the jacket, said jacket extending a short distance above and thence across the housing in axial spaced relation to the closed end to thereby provide a chamber immediately above the latter, a liquid coolant inlet adjacent the lower end of the jacket, a liquid coolant discharge pipe extending lengthwise in the housing with an inlet end projecting well into said chamber and an outlet end in proximity to the coolant inlet, means for introducing air into the lower portion of said housing under pressure to cause movement of such air to the discharge port, a burner head at the upper end of the housing formed with a row of orifices facing the discharge port, a fuel supply pipe disposed substantially axially within said housing and connected at its upper end to the burner head and a bodily removable cover for the open lower end of the housing fixed to the fuel pipe whereby the cover, fuel pipe and burner head may be removed and replaced as a unit, the fuel pipe and burner being so positioned relative to said cover that assembly of the latter with the housing places the burner in registry with the radial discharge port in said housing.

2,975,830
COMBINATION CLOSURE DEVICE
William H. McDonald, 4100 NE. 15th Ave., Pompano Beach Highlands, Fla.
Filed June 18, 1959, Ser. No. 821,208
1 Claim. (Cl. 160—92)



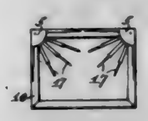
A combination swinging door device that comprises a rectangular frame embodying stiles, a header and a sill, one stile being hingedly connected to a wall opening, the frame defining an outer rectangular opening and an inner and relatively larger rectangular opening, the openings being in stepped relation and parallel, a stop strip upon the outer face of the frame that partially overlies the first named opening, a solid panel that is proportioned to engage within the first named opening to be flush with the outer face of the frame and also flush with the step of the openings, stepped hinges that are connected to the panel and with the hingedly connected stile, the hinges being recessed into the frame and into the stepped openings and whereby the panel may be swung outwardly from its opening and angled from the inner face of the frame, an insect screen frame that is proportioned to engage in the larger stepped opening, the screen frame being hingedly mounted upon the opposite stile to be movable into and out of its respective opening, the swinging of the panel and the screen frame being in opposed directions, a latch device for the free edge of the panel and a latch device for the free edge of the screen frame, the panel when swung outwardly being disposed out of the path of swinging movement of the screen frame, the said panel when swung outwardly being movable with the door throughout its swinging movement.

2,975,831
ROTARY LOUVER TRAVERSE BLIND
Ernest F. Taylor and Ralph M. Poe, Grand Rapids, Mich., assignors, by mesne assignments, to Edgar K. Orr, Grand Rapids, Mich.
Filed Oct. 10, 1957, Ser. No. 689,397
3 Claims. (Cl. 160—176)



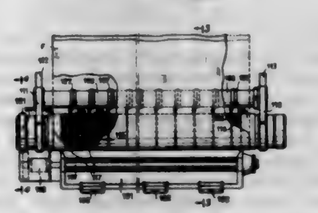
2. A window blind construction comprising supporting structure at opposite sides of the window, a plurality of pliable louvers extending across the window opening between opposite sides therefor for rotation on longitudinal axes, a pair of louver-mounting mechanisms respectively disposed adjacent opposite ends of the louvers and secured to said supporting structure, each of said mechanisms including a pair of parallel tracks extending along the side of the window and means mounting said tracks for swinging oscillation toward and away from each other, said tracks being spaced apart a distance substantially less than the width of the louvers, a plurality of louver-mounting bars each extending across the end of a respective louver and being secured thereto, said bars being spaced inwardly toward the window opening from said tracks, each of said bars having a shaft extending transversely between the adjacent tracks, a plurality of louver mountings each including a pair of slide bearings opposite each other on a pair of tracks and each of the mountings also including an elongate bar-shaped mounting element extending between said pair of bearings and having end portions swingably connected to said bearings on axes extending longitudinal of the louvers, said mounting elements also having an apertured, substantially U-shaped intermediate portion non-rotatably, but slidably receiving said shaft of a respective louver-mounting bar therethrough, each of said shafts having an outer end with a transverse abutment thereon, and a plurality of springs each being respectively seated in the U-shaped intermediate portion of a respective mounting element and bearing against said abutment to place tension upon the louver.

2,975,832
WINDOW CURTAIN SUPPORTS
Kell Tordorf, Montreal, Quebec, Canada
(55 Jogues St., Cote Ste. Catherine, Quebec, Canada)
Filed July 18, 1958, Ser. No. 749,523
5 Claims. (Cl. 160—330)



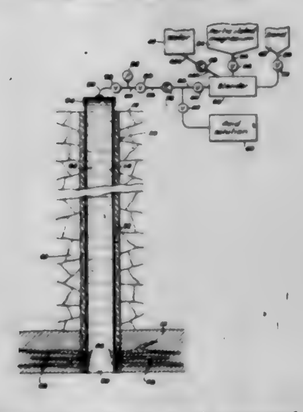
2. A window and window-curtain assembly comprising a frame, a plurality of groups of curtain supporting and draping rods supported by said frame with the rods of each group extending across a different portion of the glazing carried by said frame, the rods of each group being supported so that they extend radially from a centre of radiation common to all of the rods of that particular group, a curtain suppoted by and attached to the rods of each group, the said rods of each group being supported by a rod holder including inner and outer facing plates having the contour of a quadrant of a circle, said plates being secured together in spaced opposing relation by two straight walls extending along the straight edges of said facing plates and a third curved wall joining the curved edges of the facing plates and a plurality of elongated radially extending rod receiving sockets secured in place between said inner and outer facing plates and extending radially to the curved edges of said facing plates from the centre of curvature thereof, each of said sockets receiving and supporting therein one end of one of the group of rods associated with said holder.

2,975,833
APPARATUS FOR MANUFACTURING SHEETS OF FIBROUS MATERIALS
Alessandro Magnani, 18 Viale della Liberta, Pavia, Italy
Filed June 5, 1959, Ser. No. 818,359
Claims priority, application Italy June 6, 1958
3 Claims. (Cl. 162—318)



1. In an apparatus for manufacturing a sheet of fibrous material by drawing and dehydrating an aqueous slurry from a vat by means of a suction cylinder on which a permeable endless web is wound, the said suction cylinder of a hollow structure having longitudinally extending ribs on its outer circumferential surface defining longitudinal channels between the ribs, suction ports opening into said channels, a circumferential annular groove transverse to said longitudinal channels on the cylinder and said suction ports being arranged on the bottom of said annular groove, at least a pair of members, fork-shaped in combination and positioned externally of the cylinder out of the region of engagement of the cylinder with the web, said pair of fork-shaped members engaging in said annular groove to close the suction ports which do not face the said region of cylinder and web engagement and to leave open the ports facing the said region.

2,975,834
TREATING WELLS BY INJECTION OF METAL AND ACID
Samuel R. West, Wichita, and Jack C. Thompson, Eureka, Kans., and James R. Paul, Carmi, Ill., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 14, 1957, Ser. No. 659,014
2 Claims. (Cl. 166—42)



1. A method of treating a cased, cemented earth well having casing perforations adjacent to a fluid permeable formation, comprising introducing a pumpable slurry of fluid carrying agent and particulated light metal into said well bore and applying sufficient pressure to fracture said formation and cause a substantial penetration of said slurry into the earth formation adjacent to the well bore, then injecting into said formation an iron complexing agent and an acid solution in an amount sufficient to dissolve said light metal, and closing in the well.

2,975,835
BACTERIOLOGICAL METHOD OF OIL RECOVERY
Donald C. Bond, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Nov. 7, 1957, Ser. No. 694,927
5 Claims. (Cl. 166—42)

1. The method of increasing production of hydrocarbon fluid from a rock formation containing such fluid comprising forcing into said formation through a well a fracturing medium, together with oil-releasing bacteria of the group consisting of the genus Desulfovibrio, *Aspergillus flavus*, *Bacillus methanicus*, and *Bacillus ethanicus* and a nutrient therefor, under pressure sufficient to fracture said formation, shutting in said well for a period of about 1 to 12 months to enable said bacteria to act upon said hydrocarbon fluid, and then producing said hydrocarbon fluid from said well.

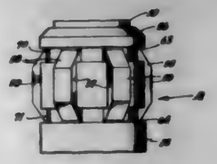
2,975,836
DUAL STRING CROSS-OVER TOOL
Joe R. Brown, Houston, Tex., assignor to Cicero C. Brown, Houston, Tex.
Filed June 11, 1958, Ser. No. 741,272
7 Claims. (Cl. 166—189)

1. In dual-string well completions employing a pair of parallel pipe strings extending into a well and carrying means cooperating with the well wall to direct fluids from spaced earth formations separately into the respective pipe strings, a cross-over device, comprising, a body member connectible into both pipe strings and having a pair of parallel longitudinal passages therethrough each adapted to communicate with one of said pipe strings, a pair of cross-over channels in said body member arranged to provide cross-communication between longitudinally spaced points in the respective passages, each of said channels connecting the upper one of said points in one passage to the lower one of said points in the other passage, first flow-directing means removably insertable in both said passages to positions therein relative to said spaced points to direct fluid from said formations through said body member in cross-over flow, and a second flow-



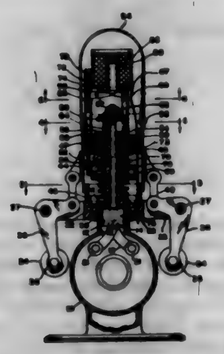
directing means removably insertable in one of said passages to a position relative to said spaced points to direct fluids from said formations through said body member in parallel flow, and means for releasably securing the respective flow-directing means in said passages, said first and second flow-directing means being alternatively employable for selectively directing cross-over or parallel flow through said body.

2,975,837
FRICTION DRAG DEVICES
Julian D. Keithahn, Anaheim, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed May 19, 1958, Ser. No. 736,138
4 Claims. (Cl. 166—241)



1. In a drag assembly adapted to be lowered in a well bore: a body member having a circumferential groove extending completely therearound; circumferentially spaced longitudinally extending grooves in said body member on one side of and opening into said circumferential groove; circumferentially spaced drag members movable in said longitudinally extending grooves and circumferential groove and projecting laterally outwardly of said body member; means for urging said drag member in a direction laterally outwardly of said body member; said body member having a circumferential recess extending completely therearound and disposed on the other side of said circumferential groove and receiving portions of said drag members at one end thereof, the outer side of said body member defining said recess constituting stop means engageable by said end portions; and means on said body member overlying portions of said drag member at the other end thereof and engageable therewith to limit the extent of movement of said drag members outwardly of said body member.

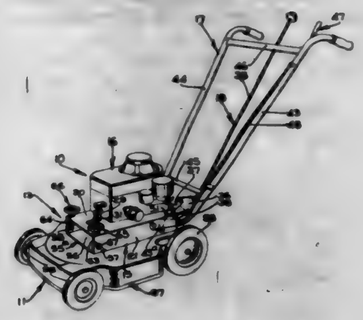
2,975,838
TWO POSITION CONSTANT SPEED SEMI-AUTOMATIC PROPELLER PITCH CONTROL
Clinton Corum, 4225 Manzanita Drive, San Diego, Calif.
Filed Dec. 17, 1956, Ser. No. 628,882
2 Claims. (Cl. 170—160.16)



1. A propeller pitch control mechanism, comprising: a semi-automatic, air-controlled propeller having pitch adjustable blades; a plunger coupled to said blades and mounted to move along the propeller axis of rotation with pitch change of the blades; a flyweight counterbalancing spring operatively connected with said plunger to bias the plunger in one direction; flyweights operatively connected to said counterbalancing spring so that extension of said flyweights under inertia overcomes the counterbalancing spring and releases said plunger for movement independently of the flyweights, and whereby said counterbalancing spring is operatively connected with said plunger when said flyweights have less than a predetermined extension due to reduced inertia, said counterbalancing spring thereby retarding pitch change of said blades; an auxiliary counterbalancing spring operatively connected with said plunger; control rods connected to said auxiliary spring and mounted for movement parallel to the axis of said plunger; locking means engageable with said control rods; said locking means including dogs pivotally mounted adjacent said control rods and having edge portions movable to one, engaged position to grip and hold said control rods; said dogs having substantially radially extending portions biased by centrifugal force to hold said edge portions clear of said control rods; and remotely controlled actuating means operable to move said dogs to said engaged position.

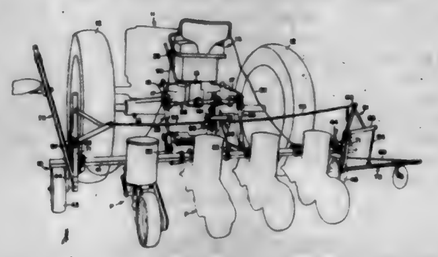
2,975,839
DETACHABLE POWER UNIT FOR LAWN AND GARDEN ATTACHMENTS
Milford D. Burrows, Thiensville, and Walter F. Fieber, Saukville, Wis., assignors to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 13, 1956, Ser. No. 609,628
11 Claims. (Cl. 172—125)

1. Apparatus for detachably connecting a power unit and an implement attachment supporting said power unit comprising a first mounting frame normally carried by the implement attachment in a generally horizontal position, a second generally horizontal mounting frame on the power unit disposed in superposed relation to said first frame, a pair of spaced parallel side members on each of said frames, said pairs of side members being arranged in juxtaposition, mounting pin means projecting from each side member of one of said frames, means defining an open-ended bevel slot in each side member of the other frame with a wall of the slot forming a downwardly inclined pin camming surface and with the closed end of the slot forming a pin abutment surface, the inclination of the camming surface of each slot relative to the end of said slot being such that the force of gravity acting on said power unit frame urges said pin means into



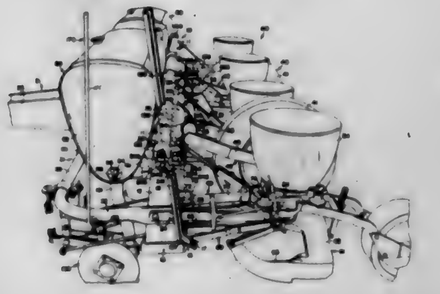
engagement with the closed ends of said slots, and means for detachably connecting said power unit frame to said implement attachment frame while pressing said pins against the closed ends of said slots.

2,975,840
MARKERS FOR PLANTERS
Knud B. Sorensen and Waldo D. Martin, Rock Island, Ill., assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Oct. 8, 1956, Ser. No. 614,665
4 Claims. (Cl. 172—128)



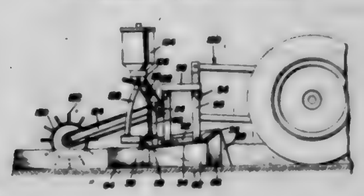
1. In an agricultural implement adapted to be propelled by a tractor and having a part to be shifted relative to the tractor from one position to another by power in a relatively short period of time, the combination therewith of a marker carried by said part and adapted to be shifted between upper and lower positions, and means including a spring connected at one end with the marker and at the other end with the tractor, whereby when said part is shifted during said relatively short period of time said spring is biased so as to shift said marker into a raised position after the completion of movement of said part, and a substantially inextensible link extending generally alongside said spring and connected at its ends with both ends, respectively, of said spring, said inextensible link including lost motion and having a length, when said lost motion has been taken up, that is slightly less than the effective distance between said marker in the lower position and the point of connection of the spring with the tractor in the full raised position of the said part, whereby when the spring has been biased substantially the full permissible amount said link acts to transmit motion to said marker independently of said spring, so as to impart movement to said marker with sufficient force to overcome inertia of the marker and initiate movement of the latter toward its raised position, the force stored in the spring completing movement of the marker into its raised position.

2,975,841
PLANTER MARKER MECHANISM
William P. Oehler, Moline, and Harold V. Hansen, Hillsdale, Ill., assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,587
16 Claims. (Cl. 172—128)



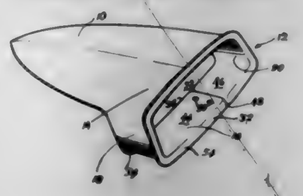
1. In a planter, a frame including a generally transverse pipe member having an opening therein facing in a generally fore and aft extending direction, a pair of marker arms swingably connected with the ends, respectively, of said transverse member, for generally lateral movement relative to the planter frame, a flexible element extending along the inside of said pipe member and out through the ends of the pipe member and connected with said marker arms, said flexible element having a generally central bight portion extending outwardly through said opening to a point outside said pipe member, a fore and aft shiftable bar extending across said pipe member, means supporting one end portion of said bar on said pipe member adjacent said opening, sheaves carried by said pipe member at each side of said bar and extending partially into the latter to guide said flexible element, a lever pivoted on said frame and operatively connected with the other end of said bar for shifting the latter transversely of said pipe member, and a sheave on said one end of said bar to receive and support said bight portion.

2,975,842
PLANT BED SHAPER
Casey M. Mostrong, P.O. Box 1011, El Centro, Calif.
Filed Feb. 18, 1959, Ser. No. 794,040
3 Claims. (Cl. 172—252)



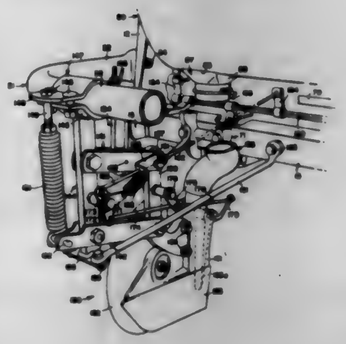
1. In a shaper for forming plant beds selectively with a flat top surface and with a peak ridge on the top surface, the combination of a pair of side members, a top plate disposed above said side members and provided with an upturned front portion, said top plate also being provided with an elongated ridge of an inverted V-shaped cross-section having an open bottom at the underside of the top plate and an open front at the upturned front portion of the top plate whereby to form a plant bed with a flat top surface and with a peak ridge on the top surface, a filler plate for closing the open bottom and the open front of said ridge whereby to form a plant bed with a flat top surface only, and means for removably securing said filler plate to said top plate.

2,975,843
GARDEN TOOL
Robert A. Lattin, 19481 Greydale, Detroit 19, Mich.
Filed Aug. 29, 1958, Ser. No. 758,035
6 Claims. (Cl. 172—370)



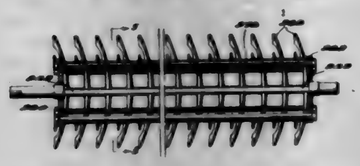
1. A garden tool comprising a substantially rigid sleeve-like handle of generally rectangular section, said handle comprising a top side, a bottom side and opposite ends defining an elongated opening for receiving all the fingers of the hand of a user but not the thumb such that said bottom side may be grasped between the palm and thumb for manipulating said tool and with the top side opposite the bottom side and in proximity to the knuckles and extending forwardly beyond said bottom side for protecting the same, said bottom side having a width permitting said fingers to crook past the forward edge thereof so as to be free for manipulation independently of said handle, and a soil disturbing blade extending forwardly from said top side of said handle.

2,975,844
PLANTER MECHANISM
William P. Oehler, Moline, and Harold V. Hansen, Hillsdale, Ill., assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,586
6 Claims. (Cl. 172—484)



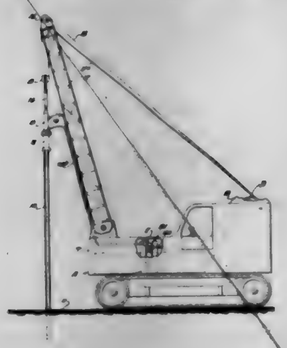
1. In an agricultural implement, a frame comprising an upper transverse bar, a lower transverse bar, vertical parts connecting the ends of said bars, a forwardly disposed transverse bar, and means connecting the end portions of said forward bar with said vertical parts, a pair a generally vertical furrow opener brackets fixed at their upper ends to said forward bar, furrow openers, each including an upwardly extending standard, said furrow opener brackets extending downwardly past the upper portions of said standards, generally fore-and-aft extending upper and lower links connecting said standards, respectively, with said brackets, brace means extending between the lower ends of said brackets and said lower transverse bar, and means fixing the said brace means to said lower ends and said lower transverse bar.

2,975,845
CULTIVATING MACHINE
Henry A. Simpson, Geneva, Fla.
Filed Jan. 22, 1958, Ser. No. 710,502
1 Claim. (Cl. 172—599)



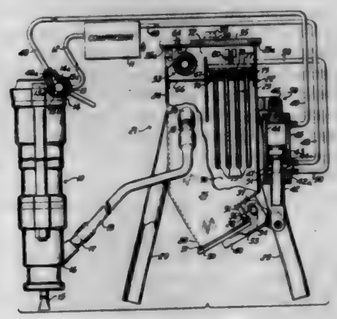
In combination with a driven shaft, a plurality of circular cutter members mounted along said shaft, a disc fixed on said shaft for rotation therewith, said disc and each of said cutter members having a plurality of holes therein spaced from the centers thereof and angularly spaced therearound, said cutter members being arranged side by side in spaced relation with their centers in the line of the axis of the shaft, a plurality of bolts extending through the holes of the disc and cutter members and spaced outwardly from the shaft, means associated with said bolts engaging the cutter member furthest from the disc, and annular spacers with cylindrical outer walls between each adjacent pair of cutter members, said bolts extending through the interior of the spacers, said disc forming the sole driving connection between the cutter members and the shaft, said spacers frictionally engaging cutter members to transmit movement therebetween, the length of each spacer being substantially greater than the thickness of one of the discs, said cutter member engaging means comprising a second disc having holes therethrough through which all of the bolts extend, said spacers having grooves on their inner wall surfaces engaging over said bolts.

2,975,846
ACOUSTIC METHOD AND APPARATUS FOR DRIVING PILES
Albert G. Bodine, Jr., 13120 Moorpark St., Van Nuys, Calif.
Filed Mar. 8, 1957, Ser. No. 644,774
13 Claims. (Cl. 175—19)



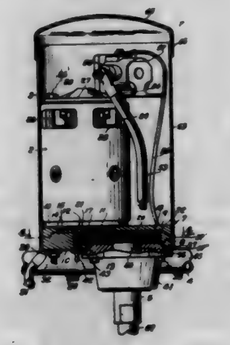
1. The method of installing an elastic foundation pile in tight engagement with the surrounding earth, that comprises: coupling to said pile an acoustic wave generator whose output impedance is of the order of that of the pile with the pile in tight engagement with the earth, in such manner as to constitute thereof an elastically vibratory column system, maintaining the pile in engagement with the earth, and operating said generator at a frequency to establish in said column system an acoustic resonant standing wave, said frequency being no less than $c/4L$, where L is the equivalent length of said elastically vibratory column system and c is the speed of transmission of elastic vibration in said system.

2,975,847
AUTOMATICALLY OPERABLE ROCK DRILL DUST COLLECTOR
Jacob E. Fenchl, Garfield Heights, Ohio, assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 8, 1958, Ser. No. 765,999
6 Claims. (Cl. 175—170)



3. A dust collector tank for a valve operated pneumatic drill including, an air-operated suction means for creating a suction pressure in said tank, a dump door mounted on said tank for shifting between open and closed positions, and control means adapted to be pneumatically operated by said drill and mounted on said tank and connected with said door for operating the latter, said control means being in air pressure delivering communication with said suction means for operation thereof, said control means including a shiftable means movable in one direction to close said door and cause air pressure to actuate said suction means, and movable in the other direction to open said door and cut off air pressure to said suction means.

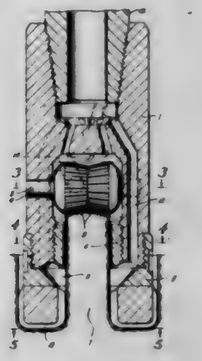
2,975,848
PORTABLE POWER DRIVEN DEVICE FOR BORING HOLES
Hugh Roberts, Enid, Okla., assignor to Machinery and Electrical Products Co., Inc., Enid, Okla., a corporation of Oklahoma
Filed June 27, 1958, Ser. No. 745,131
3 Claims. (Cl. 175—192)



1. An apparatus of the character described, including a tool, a motor having a driving shaft for driving the tool, a plate of substantial thickness for taking the reaction

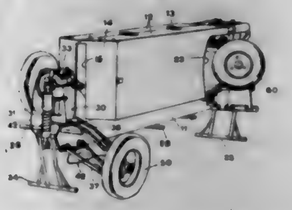
forces between the motor on one side of the plate and the tool on the opposite side of the plate, said plate having a recess extending inwardly from the motor side of the plate and having a laterally offset recess extending inwardly from the opposite side of the plate, said recesses intersecting each other in providing a connection between said recesses, means for attaching the motor to said plate in covering relation with said first named recess and with the driving shaft extending therein, a pinion gear in said first named recess and fixed to the motor shaft and having teeth extending into the intersecting connection between the recesses, a driven gear in the second named gear recess and having teeth meshing with the teeth of the pinion gear in said intersecting connection, a bearing housing covering the driven gear and having an annular flange lapping the face side of the plate, a driven shaft having rotatable support in the bearing housing and connected with the driven gear for rotating the tool, fastening devices extending through said flange and into the plate for securing the bearing housing, and a holding member including spaced apart bars fixed to the plate on opposite sides of the bearing housing.

2,975,849
CORE DISINTEGRATING DRILL BIT
Robert W. Stuart, Midland, Tex., assignor to Diamond Oil Well Drilling Company, Midland, Tex., a corporation of Texas
Filed Apr. 25, 1958, Ser. No. 731,025
5 Claims. (Cl. 175—333)



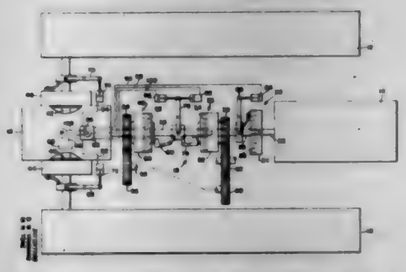
2. In a rotary drilling bit of the character described, a main body having a drive coupling upper portion containing a passage for pressure drilling fluid and a drilling head lower portion containing a hollow chamber open at its lower end and branch passages leading from the passage in said upper portion and terminating at discharge outlets into said chamber intermediate its vertical length and said body also having an outlet passage leading from the upper portion of the chamber and opening to the exterior of said body, an annular grinding bit facing downwardly on said drilling head and having a central opening aligned with said hollow chamber for the passage downwardly of the chambered body about a central core of the material being ground during bit operation, core crusher means mounted by the head interiorly of the upper part of said chamber and an annular guide bearing inserted within the chamber below said crusher means and above the outlets of said branch passages for guide bearing relation with a core and for confining and directing a portion of the drilling fluid discharged into the chamber for flow upwardly to said outlet passage and between the annular guide bearing and a core surrounded by the bearing.

2,975,850
COLLAPSIBLE ROAD VEHICLE
John Robert Vernon Dolphin, Whitchurch, England, assignor to Hydraulic Developments Limited, Reading, England, a British company
Filed Aug. 22, 1958, Ser. No. 756,658
Claims priority, application Great Britain Aug. 30, 1957
7 Claims. (Cl. 180—1)



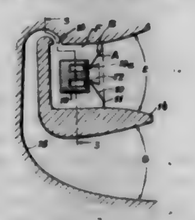
1. A road vehicle collapsible from an in-use position to an out-of-use crated position, comprising a backbone chassis frame, a pair of panniers hinged one at each side of said frame, at least two reinforcing posts each upstanding from the front and the rear of said frame, respectively, an engine connected to drive said road vehicle, said engine being supported by the rear reinforcing post, controls for said engine housed within said chassis frame, a pair of front wheels, a pair of parallelogram linkages each pivoted outboard to a front wheel and inboard to said chassis frame, a pair of suspension units pivotally mounted on said front reinforcing post, means removably to attach one of said suspension units to an outboard end of each said parallelogram linkages, steering mechanism for said front wheels, a pair of rear wheels, a pair of rear parallelogram linkages each pivoted outboard to a rear wheel and pivoted inboard to the chassis frame, a pair of rear suspension units pivoted to the rear reinforcing post, and means removably to attach said rear suspension units one to an outboard end of each of said rear parallelogram linkages.

2,975,851
FLUID PRESSURE CONTROL SYSTEM
Donald W. Youmans and Melvin N. Tone, Dubuque, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,678
8 Claims. (Cl. 180—6.2)



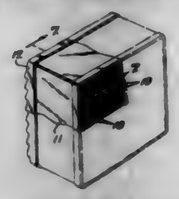
1. A fluid-pressure control driving system for a vehicle having a power plant, right and left traction devices driven means connected to said devices and including right and left normally engaged steering clutches connected respectively to said devices, and forward-reverse means alternately operative to drive the driven means either forwardly or reversely from the power plant, said system comprising: a pressure source and reservoir; right and left steering motors connected to and for respectively disengaging the right and left steering clutches; forward and reverse direction motors connected to the forward-reverse means for alternately incurring forward or reverse operation thereof; steering valve means connected to the pressure source and having an outlet and neutrally conditioned to depressurize both steering motors and to connect said source to said outlet and actively conditionable to connect said source to either steering motor exclusively of the outlet and other steering motor for pressurizing the selected steering motor to disengage the associated steering clutch; and direction valve means connected to the steering valve means outlet and to the reservoir and neutrally conditioned to depressurize both direction motors and to communicate said outlet with the reservoir and actively conditionable to connect said outlet to either direction motor exclusively of the other direction motor and exclusively of the reservoir to cause operation of the forward-reverse means in the selected direction and also to incur a pressure rise in the neutrally conditioned steering valve means effective to pressurize both steering motors, said direction valve means being returnable to neutral to depressurize the steering motors and thus to incur reengagement of both steering clutches for operation of the vehicle in the selected forward or reverse direction; and said steering valve means being operative independently of the neutrally conditioned direction valve means for effecting steering of the vehicle irrespective of its forward or reverse direction.

2,975,852
LOUDSPEAKERS
Donald Maynard Chave, Lowther House, St. Mark's Road, Bromley, England
Filed Jan. 3, 1955, Ser. No. 479,599
Claims priority, application Great Britain Jan. 5, 1954
6 Claims. (Cl. 181—31)



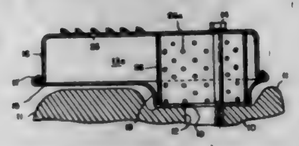
1. A loudspeaker horn having an acoustic chamber, a loudspeaker in said chamber, said loudspeaker having a substantially cylindrical voice coil, a plate-like baffle in said chamber having contact with the side of said chamber and lying in a radial plane of said voice coil.

2,975,853
SOUND ABSORBENT TRANSLUCENT BUILDING BLOCK
Albert W. Friend, 1334 Montgomery Ave., Narberth, Pa.
Filed Nov. 7, 1957, Ser. No. 694,959
19 Claims. (Cl. 181—33)



1. A translucent building block having peripheral bearing faces and front and rear exposed sides, said block having sound attenuating openings extending inwardly from at least one side thereof, and said block being otherwise solid throughout and capable of bearing load on its peripheral faces.

2,975,854
EXHAUST MUFFLERS
Laurence D. Bakke, Plymouth, and Raymond A. Dittmer, Detroit, Mich., assignors to Continental Motors Corporation, Muskegon, Mich., a corporation of Virginia
Filed Aug. 1, 1957, Ser. No. 675,685
4 Claims. (Cl. 181—49)



1. An exhaust muffler for an internal combustion engine having a finned cylinder head provided with an exhaust port, said muffler comprising substantially oval shaped inner and outer walls and a peripheral side wall defining a substantially flattened laterally elongated chamber, one end of said inner wall having an inlet opening communicating with said exhaust port, said outer wall having an outlet opening disposed opposite the other end of said inner wall and thereby being laterally offset from said inlet opening, a tubular baffle member longitudinally sandwiched between said inner and outer walls and peripherally enclosing only a portion of said chamber directly adjacent said inlet opening, said baffle member comprising a tubular structure having inner and outer ends respectively abutting the inner and outer walls of said muffler whereby said baffle member is retained by and between said walls, and means securing said muffler to said cylinder head, said muffler extending laterally with respect to said exhaust port.

2,975,855
JUMPING BELLOWS
Ludwig Dudek, Quellenstrasse 145/7, Vienna, Austria
Filed Nov. 10, 1952, Ser. No. 319,739
2 Claims. (Cl. 182—137)

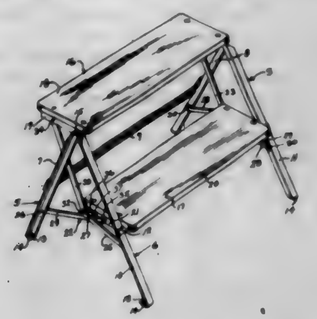


1. In a jumping bellows, the combination of an envelope formed with apertured portions maintained open to the outside air, one of said portions being arranged at the center of said envelope and having a larger aperture than the others of said apertured portions, and partitions dividing the interior of said envelope into a plurality of cells each of which has as its outlet one of said apertured portions of said envelope, the cell which has as its outlet said apertured portion arranged at the center of said envelope being larger than the others of said cells, said envelope and partitions being made of flexible material as to permit said bellows to collapse under its own weight and said apertures all being of a size to restrict the rate of air escape on cell collapse.

2,975,856
COLLAPSIBLE STEP STOOL
Arvid J. Anderson and Enfred W. Anderson, Norway, Mich.
Filed Jan. 15, 1959, Ser. No. 787,063
1 Claim. (Cl. 182—161)

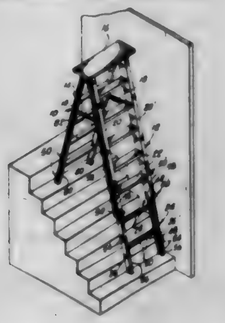
A folding step stool comprising a pair of like side frames, each of said side frames including end legs and

a brace connecting said legs together intermediate the ends thereof, means pivotally connecting the upper ends of said side frames together, whereby said frames can be swung toward one another to a collapsed position and away from one another to a spread open operative position, toggles connecting adjacent legs of the side frames together intermediate the upper and lower ends of said side frames, each toggle including levers pivotally connected together intermediate their ends, the lower ends of the levers being pivotally connected to the side frames, a step platform pivotally secured to the upper ends of the frames and movable to a lowered horizontal position and to a raised inoperative position, and links pivotally secured to the step platform depending therefrom and piv-



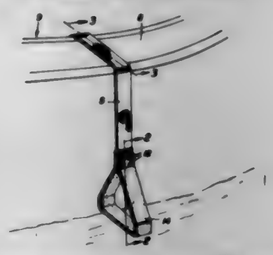
otally secured to the upper ends of said levers of the toggles, downward movement of the step platform functioning to push down on the toggles to open the toggles and spread the side frames and upward movement of the step platform functioning to close the levers of the toggles and move the side frames toward one another, and a lower step platform pivotally carried solely by the upper ends of the other levers of the toggles, and operating links pivotally connected to the upper ends of the first levers of the toggles at the points of pivotal connection of the first mentioned links therewith, the lower step platform being movable with the levers to a raised inoperative position and to a lowered horizontal operative position with the lower step platform resting on the brace of one side frame.

2,975,857
EXTENSIBLE LADDER CONSTRUCTIONS
Hyman Suroff and Leonard Suroff, both of 329 E. 54th St., Brooklyn, N.Y.
Filed Nov. 17, 1955, Ser. No. 547,413
18 Claims. (Cl. 182—166)



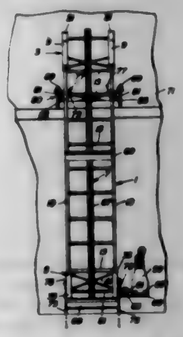
1. A ladder, comprising a pair of stile members, means for maintaining said stile members in laterally spaced relation, an extension device cooperatively associated with said stile members, said extension device comprising a pair of extension members, each extension member and a respective stile member being interfitted one within the other and being slidable and longitudinally adjustable relatively to its stile member, each of the extension members having a face disposed in opposition to the like face of the opposite disposed face of the other extension member, and step means mounted on each of the opposed faces to move with that face of and with relation to the other of said extension members, said step means being capable of extension to and engagement with the opposed face of the other extension member, each of said extension members being independently extensible longitudinally relatively to its respective stile member.

2,975,858
BOAT STIRRUP
Leonard Billingsley, Panama City, Fla. (2912A Beacon Beach Road, Capehart Housing, Tyndall A.F.B., Fla.), assignor of fifty percent to Robert L. Waterson, Parker, Fla.
Filed July 28, 1958, Ser. No. 751,435
1 Claim. (Cl. 182—196)



A boat stirrup comprising a generally triangular foot receiving frame including a flat metallic bar free at its ends, a flat, flexible strap looped around the frame and terminating in an end portion opposed to an intermediate portion of said strap, a protective tube enclosing the frame and the looped portion of the strap, plates receiving said one end and said intermediate portions of the strap and the end portions of said protective tube therebetween, rivets securing said one end and said intermediate strap portions and said end portions of the protective tube together, and means for suspending the strap from a gunwale of a boat.

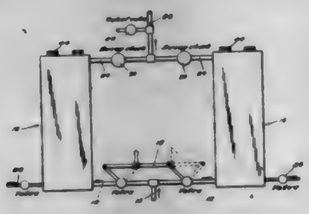
2,975,859
ELEVATOR FOR ROOFING MATERIAL
Johannes Demuth, 43 Foley Road, Calgary, Alberta, Canada
Filed Aug. 22, 1958, Ser. No. 756,697
5 Claims. (Cl. 182—214)



1. Means for supporting a ladder above a roof over which the ladder is inclined upwardly comprising a frame,

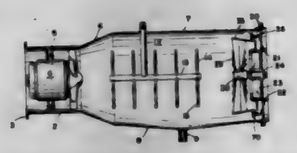
a pair of separate channel guides on said frame elevated thereby and for receiving the side rails of a ladder, lateral concave rests on said guides extending outwardly from corresponding sides thereof for seating a rung of a ladder to prevent the side rails of a ladder from sliding in the guides, and hinges on said frame attachable to a roof to anchor the frame to a roof for vertical tilting to vary the angle of inclination of a ladder.

2,975,860
ATMOSPHERE DRYING APPARATUS
Herbert W. Westeren, Barrington, R.I., assignor to C. I. Hayes, Inc., a corporation of Rhode Island
Original application May 3, 1957, Ser. No. 656,840. Divided and this application Dec. 15, 1958, Ser. No. 789,220
1 Claim. (Cl. 183—4.7)



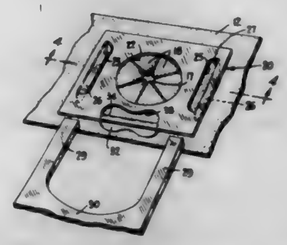
Atmosphere drying apparatus comprising a pair of chambers each substantially filled with a desiccant, inlet and outlet openings adjacent opposite extremities thereof, vent means adjacent said inlet openings, first valve means for diverting the flow of atmosphere to be dried to one or the other of said inlet openings, second valve means adjacent each of said outlet openings for enabling a regulated flow of dried atmosphere to pass into and through the other chamber when the vent means of the latter is operated, said second valve means comprising swing check valves having a relatively small aperture extending through the swinging element of each check valve, and means for heating said chambers.

2,975,861
SEAL FOR A ROTATING ELIMINATING DEVICE
Richmond S. Hayes, Jr., De Witt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed May 1, 1957, Ser. No. 656,368
4 Claims. (Cl. 183—24)



1. In a seal arrangement between a rotating structure and a stationary structure, a seal comprising a first rotatable member, a first stationary member, said first rotatable member and said first stationary member being parallel and in spaced relationship, a second stationary member extending nearly across the space between the first rotatable member and the first stationary member, a second rotatable member extending in the space between the first rotatable member and the first stationary member, said first and second rotatable members and said second stationary member substantially defining a first annular chamber; said first rotatable member and said second stationary member defining a first annular constriction extending radially outwardly from and in communication with the first chamber whereby air passing through the annular constriction is severly limited and is then expanded within the first chamber resulting in water particles in the air stream leaving the air stream and passing onto the various members defining the first chamber; the second rotatable member and the second stationary member having general conical shapes; an annular baffle member which with the first and second rotatable members and the first stationary member substantially define a second chamber, said second chamber being in communication with the first chamber; an annular constriction between the first and second chambers formed by the second rotatable and first stationary members, the first annular chamber surrounding annularly the second annular chamber, the annular baffle member and the first rotatable member defining a third annular constriction, said second chamber being in communication with the third annular constriction.

2,975,862
CUT AND SCORED TABS IN CARDBOARD COLLAR
Harry Goldberg, Monsey, N.Y., assignor to Modern Dust Bag Co., Inc., West Haverstraw, N.Y., a corporation of New York
Filed May 27, 1958, Ser. No. 738,864
6 Claims. (Cl. 183—51)

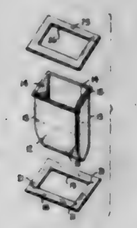


1. A filter bag for suction cleaners of the type having a double armed mounting bracket for supporting the bag in pressure fluid receiving relationship with a fluid pressure delivery line comprising, in combination, a flat-sided filter bag enclosure having one side defining an air inlet opening, reinforcing means secured to said one side in encircling relationship with said air inlet opening, said reinforcing means comprising a mounting plate having an annular central area in sealing engagement with one side of said bag at the marginal portions surrounding said inlet opening, and spacer means carried by said mounting plate selectively movable into engagement with said one side of said enclosure defining passageways at opposite sides of said inlet opening for guidingly receiving the arms of the cleaner mounting bracket transversely therethrough.

2,975,863
MOUNTING DISPOSABLE VACUUM CLEANER BAGS, BY MEANS OF RIGID MEMBER WITH SLOTTED CORNERS
Michael Sosnowich, Congers, N.Y., assignor to Modern Dust Bag Co., Inc., West Haverstraw, N.Y., a corporation of New York
Filed May 27, 1958, Ser. No. 738,986
1 Claim. (Cl. 183—51)

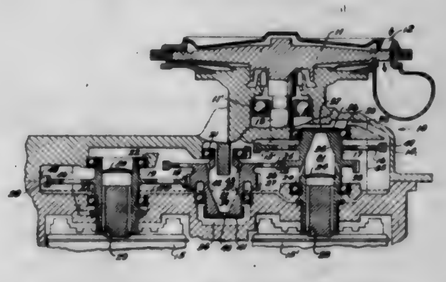
A filter unit for suction type cleaners, comprising in combination, a paper filter bag that is substantially rectangular in cross section forming longitudinal corner edges at the juncture of the adjacent sides thereof, the bag being open at one end, a marginal flange extending outwardly

from the sides of the bag at the open end thereof, a rectangular shaped base plate having a rectilinear opening of smaller area than the cross sectional area of the bag and through which opening the bag is disposed, the corners of the opening in the base plate being provided with diagonally extending slits, the adjacent edges of each of the slits being normally disposed in contact with each other, the respective corner edge portions of the bag ad-



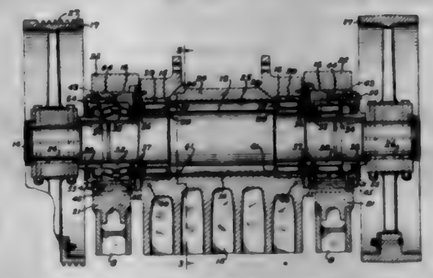
jacent the open end of the latter being clampingly secured within the respective slits in the base plate, the marginal flange of the bag overlying the face of the base plate and secured thereto, and a cover plate formed with a rectilinear opening registering with the open end of the bag and with the opening in the base plate and being secured to the face of the marginal flange on the bag and to the base plate.

2,975,864
FLUID LUBRICATION SYSTEM
Arnold Charles Stoffert, Reading, Mass., assignor to General Electric Company, a corporation of New York
Filed May 25, 1959, Ser. No. 815,701
5 Claims. (Cl. 184—6)



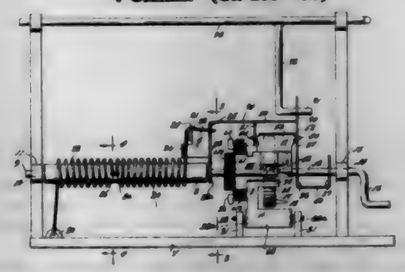
1. In a gear and bearing mechanism including a pair of gear members mounted on substantially parallel rotational axes in a gear casing, a lubrication system comprising a tapered cavity in one of said gear members tapering down toward an inlet opening near one end thereof, a tapered cavity in the other of said gear members tapering down in an opposite direction from said first mentioned cavity toward an inlet opening near one end thereof such that the inlet openings to said tapered cavities are oppositely disposed in said gear members and in said casing, and discharge ports extending into said cavities near the ends thereof opposite from said inlet openings, said discharge ports being positioned to discharge lubricating fluid from said cavities into the interior of said gear casing to facilitate distribution of lubricating fluid within said casing, said gear casing being shaped such that a supply of lubricating fluid stored within the casing is brought into communication with one of said inlet openings over a first range of operating attitudes and into communication with the other of said inlet openings over a second range of operating attitudes.

2,975,865
JAW CRUSHER LUBRICATION
Harvey H. Rumpel, Sullivan, Wis., assignor to Smith Engineering Works, Milwaukee, Wis., a corporation of Wisconsin
Filed June 25, 1958, Ser. No. 744,694
1 Claim. (Cl. 184—7)



In a jaw crusher, a jaw suspension and actuating shaft, a frame having thereon axially alined and spaced shaft supporting roller bearings one of which is formed to absorb end thrust on the shaft, said shaft having a pair of eccentric portions axially spaced apart from one another and each adjacent a shaft supporting bearing, a movable jaw having a suspension hub disposed between said shaft supporting bearings, roller bearings on said eccentric portions mounting said jaw hub on said shaft, the bearings mounted on said eccentric portions each comprising a single set of rollers, said eccentrically mounted roller bearings being sealed from the shaft supporting bearings while being in open communication with but separated from each other by a spent oil collecting chamber formed within said hub and between the eccentric portions, an oil supply reservoir, an oil conduit for conducting oil from said reservoir into the medial portion of all of said bearings, each of said conduits having therein a metering device for regulating the quantity of oil flowing therethrough, a pump for forcing oil under pressure into said bearings through said conduits and said metering devices, and independent lines for returning oil by gravity from the opposite ends of all of said bearings to said reservoir, several of said return lines communicating with the adjacent ends of said eccentrically mounted bearings through said oil collecting chamber.

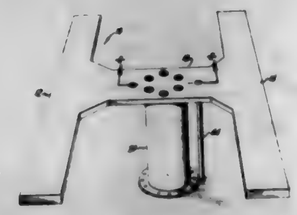
2,975,866
SPRING MOTORS
Robert M. Worthington, Bristol, Pa., assignor to Graco Metal Products, Inc., Elverson, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1959, Ser. No. 856,039
4 Claims. (Cl. 185—38)



1. A spring motor comprising a supporting frame, a shaft mounted in said frame, a first power spring having one end connected to said shaft, a ratchet wheel secured to said shaft, a second power spring having one end secured to said shaft and the other end secured to said frame, a driving frame pivotally mounted on said shaft,

a connecting member from the other end of said first power spring to said driving frame, a power take off member to which said driving frame is operatively connected, interconnected ratchet escapement members one of which is carried by said driving frame and the other of which is carried by said first mentioned frame for alternate engagement with said ratchet wheel, said first power spring applying a force in a predetermined direction to said driving frame and said power take off member and said second power spring applying a force in an opposite direction through said shaft and said ratchet wheel and through said one of said escapement members to said driving frame and said power take off member.

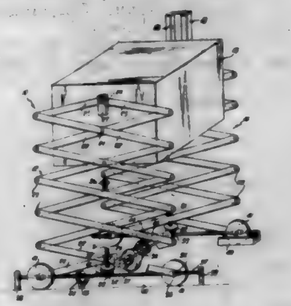
2,975,867
AUTOMOTIVE VEHICLE LIFT
John H. Halstead, 1024 Emory St., San Jose, Calif.
Filed May 26, 1958, Ser. No. 737,750
8 Claims. (Cl. 187—8.41)



8. In a vehicle lift having a superstructure adapted to engage beneath a vehicle to be raised above a ground level, a fluid-operated cylinder-and-piston assembly operatively connected to said superstructure for raising said superstructure to a selected one of a plurality of predetermined distances above the ground level, which distances are ultimately determined by the rotational position of said lift, said assembly comprising a cylinder element open at one end, a piston element slidably and rotatably mounted in the cylinder element, interengaging means carried by said piston and cylinder elements for selectively limiting the upward travel of the piston element in the cylinder element to a plurality of vertically spaced positions, said interengaging means including a stop member carried by one of said elements and a plurality of vertically and circumferentially spaced stop members carried by the other of said elements, said stop members in one vertically aligned position limiting the upward travel of the piston element to a first position and in another angularly spaced, vertically aligned, position limiting the upward travel of said piston element to a second position which is above said first position.

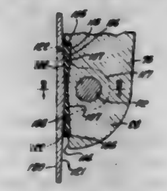
2,975,868
ELEVATOR
John C. Long, 90 Broad St., Charleston, S.C.
Filed Nov. 26, 1957, Ser. No. 699,824
7 Claims. (Cl. 187—18)

7. In an elevator, a load-carrying platform, spaced vertically expansible and contractible mechanism frames supporting opposite sides of said platform and each comprising a vertical series of pivotally connected crossed levers, actuating means for said frames comprising a first drive system operably connected to vertically displaced corresponding lever pivot points of each of said mechanism frames, a second drive system operably connected to levers at each side for horizontally displacing portions thereof, and reversible means for differentially and simultaneously driving said systems in synchronism and in such



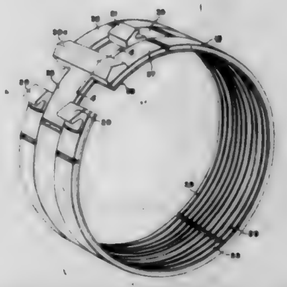
directions as to expand or contract said frames to raise or lower said platform.

2,975,869
RAILWAY CAR BRAKE MECHANISMS
Charles R. Busch, Orange, N.J., assignor to Buffalo Brake Beam Company, a corporation of New York
Filed Aug. 2, 1956, Ser. No. 601,768
6 Claims. (Cl. 188—59)



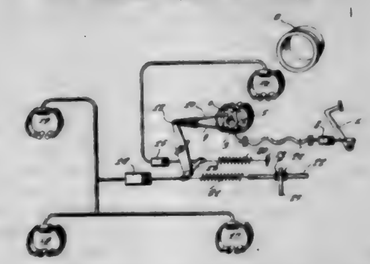
1. In a railway car truck, the combination of a pair of side frames, two pairs of coaxial car wheels supported on said side frames with the two axes of said wheels extending parallel between said side frames, brake discs rigid with said car wheels respectively for rotation therewith, and means for applying a brake to each of the brake discs comprising a lever pivoted at one end and carrying a brake head at the other end rigid therewith, a rocker having means for accommodating a brake shoe thereon, means supporting said rocker on the brake head for pivotal action about an axis fixed in relation to said rocker and said brake head, said lever being supported for angular substantially horizontal movement to bring the shoe carried thereon into braking engagement with the corresponding brake disc, said brake head and said rocker presenting substantially flat confronting faces, and a generally flat pad of elastomeric material independent of said supporting means and located between said confronting faces, the opposite faces of said pad being entirely covered by said confronting faces respectively, and said confronting faces being substantially parallel in normal position of said rocker when said brake lever is in brake released position, said pad extending on opposite sides of that plane of said axis transverse to said confronting faces, said rocker being adapted to pivot about said axis on the brake head from said normal position against the resistance of said pad as the lever moves angularly into braking position to cause said rocker to accommodate itself to the arcuate swing of the lever and thereby to effect continuous surface engagement of the shoe with the brake disc, said pad by its resilient action returning said rocker in either rotative direction about its pivotal support on the brake head into said normal position when the lever moves into brake released position.

2,975,870
BRAKE BAND
Edward J. Vosler and Harold W. Schultz, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application June 28, 1954, Ser. No. 439,578. Divided and this application July 30, 1957, Ser. No. 675,087
3 Claims. (Cl. 188—77)



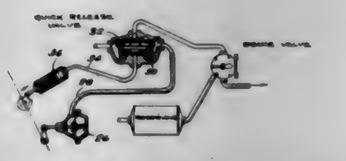
1. A brake band for double encirclement and continuous engagement of the periphery of a drum comprising, a cylindrical sleeve having a boss projecting outwardly from the outer periphery of the sleeve transversely thereof, said boss being rigid in the direction of the axis of the drum, said sleeve having a pair of parallel slits extending peripherally around the sleeve from one side of the boss to the other forming thereby a central longitudinally extending ribbon disposed between coextensively longitudinally extending outer ribbons, said inner ribbon having one end portion fixedly connected with said boss and the opposite end disconnected therefrom, said outer ribbons each having one end portion fixedly connected with the opposite side of said boss on opposite sides of said central ribbon and the opposite ends thereof disconnected from said boss, said boss and said connecting end portions of said inner and outer ribbons forming a smooth cylindrical surface on their radially inner periphery.

2,975,871
VEHICLE BRAKING SYSTEM
Kurt Eckardt, Schwartze Strasse 17, and Johannes Eckardt, Lessing Strasse 13, both of Leipzig, Germany
Filed Apr. 27, 1956, Ser. No. 581,059
7 Claims. (Cl. 188—140)



1. In a braking system for automotive vehicles having first and second axles and at least one pair of wheels mounted on a first axle, the combination comprising a plurality of brake drums, each secured to each vehicle wheel for rotation therewith; a first main brake shoe assembly, arranged for co-action with one of said first brake drums on a first vehicle wheel of the first vehicle axle; an auxiliary brake shoe assembly, arranged in addition to said first main brake shoe for co-action with said first brake drum on the said first vehicle wheel of said first vehicle axle; a second main brake shoe assembly arranged for co-action with a second brake drum on a second vehicle wheel of said first vehicle axle; third and fourth main brake shoe assemblies arranged for co-action, each one with one of the other brake drums on the other vehicle wheels; a carrier member rotatably mounted with respect to the first axle securing said auxiliary brake shoe assembly rotatably to said first axle during its actuation, said auxiliary brake shoe assembly having a rotational moment upon actuation; means for actuating said auxiliary brake shoe assembly; means operatively connected to said carrier member for the transmission of the rotational moment of said auxiliary brake shoe assembly actuating said first, second, third and fourth main brake shoe assemblies in all vehicle wheels.

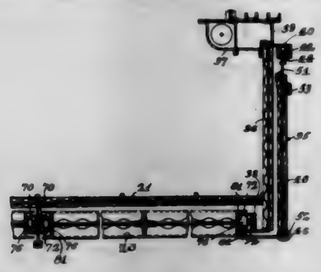
2,975,872
AUTOMATIC AIR BRAKE RELEASE
Carl B. Lacy, Box 4034, Roanoke, Va., assignor of one-fourth each to Roy N. Beheler, Nathan V. Nininger, Jr., and Charles S. McNulty, Jr.
Filed Aug. 24, 1956, Ser. No. 605,968
3 Claims. (Cl. 188—152)



1. An automatic air brake release means for an air brake system including a cam shaft and having a quick release valve connected between a brake valve and an air operated diaphragm which actuates the cam shaft to apply the brakes; said means comprising an air cylinder connected to the quick release valve for capturing the air normally released to the atmosphere from the quick release valve after the application and release of the brakes, said air cylinder being connected to said quick release valve means to receive the air at one end therefrom, a piston slidably fitted in the cylinder and actuated by the air, a piston rod carried by the piston and sealingly and slidably extended through the other end of the cylinder and moved outwardly by the piston, means for venting the air from the cylinder after a predetermined travel of the piston rod, resilient means for returning the piston to its normal position after the air has been vented from the cylinder and means adjustably fitted on the cam shaft, said piston rod normally spaced from said adjustable means and actuated by the outward travel of the piston to strike said adjustable means to initiate the return of the cam shaft to a normal position.

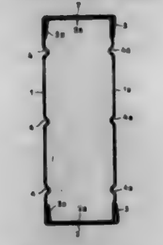
2,975,873
CORNER LIFTING SECTION FOR HOOD
Oscar Belivesu, St. Laurent, Quebec, Canada, and William G. Sparrell, Fredericton, New Brunswick, Canada, assignors to Ross Engineering of Canada, Limited, La Salle, Quebec, Canada
Filed July 13, 1959, Ser. No. 826,663
3 Claims. (Cl. 189—1)

3. In a hood structure adapted to totally enclose a paper machine or the like and having interconnected side and end walls extending from a top roof with at least the lower portion of one of said side walls provided with lifting doors and lifting means connected to said doors adapted to provide clear access to the said machine along said side wall; an additional lifting portion comprising a lower corner section of at least one of said end walls adjacent said side wall having said lifting doors, said end wall portion being mounted for vertical sliding movement parallel with and relative to the remainder of said end wall and being interconnected to said side wall door lifting means, whereby in addition to and simultaneously



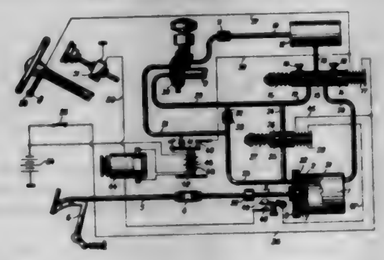
with said side wall doors said end wall portion is adapted to be raised providing additional unobstructed access to said machine.

2,975,874
GIRDER MADE UP OF STRUCTURAL MEMBERS
Alberto Pagan, 24 Via Pombe, Turin, Italy
Filed Mar. 25, 1959, Ser. No. 801,837
Claims priority, application Italy Apr. 1, 1958
3 Claims. (Cl. 189—37)



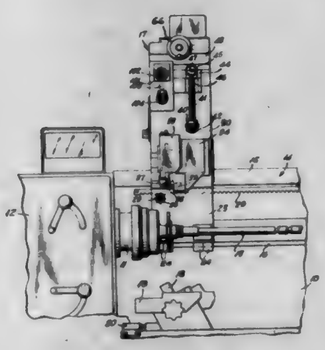
1. Girder comprising two interengaging sheet metal structural members of U-shaped cross-section, wherein each structural member is formed with bent over end edges, the edges of the outer structural member being at an angle below 90° to the adjacent flanges of the U so as to be slightly inclined towards the inside of the girder, the edges of the inner structural member being at an angle exceeding 90° to the adjacent flanges of the U, so as to be slightly inclined towards the outside; the said bent over edges of each structural member contacting with the web of the other U shape.

2,975,875
AUTOMATIC CLUTCH DEVICE
Johann Edelblut, 145 Wilhelmshoherstrasse, Frankfurt am Main, Germany
Filed June 25, 1957, Ser. No. 667,879
Claims priority, application Germany June 26, 1956
9 Claims. (Cl. 192—3.5)



1. An automatic arrangement for a clutch in a vehicle comprising a cylinder, a piston in said cylinder and connected to the clutch, a first suction pipe operatively coupled to one side of the piston for disengagement of the clutch, a second suction pipe operatively coupled to the other side of the piston for engagement of the clutch, suction means, reversing valve means selectively coupling one of the suction pipes to said suction means and the other of said suction pipes to atmosphere, a mechanical member operatively associated with the clutch and which stores energy during the engagement of the clutch for augmenting disengagement of the clutch, a cut-off valve in the second suction pipe, a pressure-reduction device bridging said cut-off valve, said pressure-reduction device being selectively operable to reduce the suction in said second suction pipe to decrease rate of engagement, and an electric circuit means for controlling the cut-off valve to render said cut-off valve and said pressure-reduction device selectively active to connect the second suction pipe to said suction means, said circuit means comprising and being controlled by a first switch operable in accordance with the speed of the vehicle and a second switch operatively associated with the piston and actuatable in accordance with the engagement of the clutch whereby the speed of piston movement is controlled.

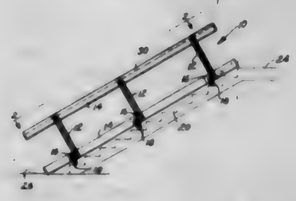
2,975,876
INFEED ATTACHMENT FOR A MACHINE TOOL
Elio F. D'Aloisio, East Hartford, Conn., and Max De Haas, Grosse Point Park, Mich., assignors to The New Britain Machine Company, New Britain, Conn., a corporation of Connecticut
Filed Aug. 27, 1956, Ser. No. 606,238
2 Claims. (Cl. 192—150)



1. As an article of manufacture, a slide attachment for an automatically cycling machine tool and selectively capable of controlling the machine cycle or of being controlled by the machine cycle, said attachment comprising a frame member, a slide member reciprocably guided on said frame member, first fixed abutment means coacting directly and positively between said slide and frame members and determining a forward feed position of said slide, second abutment means coacting between said slide and frame members and determining a limiting retraction of said slide member on said frame member, lead-screw feed means for displacing said slide member on said frame member in accordance with lead screw rotation, continuously running drive means, a drive shaft and forward and reverse clutches selectively connecting said drive means to said drive shaft, a torque-limiting clutch connecting said shaft to said lead screw, means for engaging said forward clutch to advance said slide in an in-feeding direction, means responsive to detection of excessive torque by said torque-limiting clutch and disengaging said forward clutch and engaging said reverse clutch, said second abutment means including means disengaging said reverse clutch upon completed retraction

of said slide, whereby said torque-limiting clutch will serve not only in cooperation with the positive stop of said first abutment means to determine a precision in-feed limit of travel but also in the presence of unexpected excessive torque (as in a tool-breakage situation) to immediately stop the in-feed and return said slide to fully retracted position in readiness for a complete new recycling of slide movement.

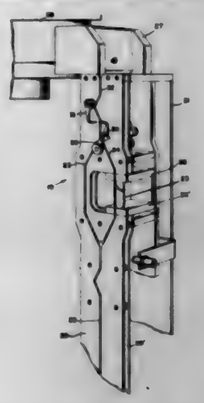
2,975,877
HANDRAIL STAIRWAY RAMP
Andrew Helgeson, 418 E. Madison, Rapid City, S. Dak., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Oct. 7, 1958, Ser. No. 765,900
2 Claims. (Cl. 193—41)



1. A handrail stairway ramp comprising, in combination, a flat rigid rectangular frame having a slide surface on one flat side and consisting of a pair of laterally spaced-apart and longitudinally parallel boards, and a plurality of longitudinally spaced-apart and transversely parallel tie members on the undersides of and securing said boards in said parallel position, hinge means consisting of a plurality of hinge blocks secured to one side edge of said frame and a corresponding strap hinge integrally secured to each of said hinge blocks and pivotally supporting said frame upon a side longitudinal structural member of a stairway for selective movement between one position in a first plane overlying the treads of the stairway and a second upright position lying in a plane extending substantially normal to said first plane and at one side of the treads of the stairway, and a combination load guide and handrail member integral with the opposite side edge of said frame and lying in a plane substantially normal to the plane of said frame and projecting vertically above said slide surface when said frame is in said first plane to comprise a longitudinal upwardly projecting load guide along the edge of the slide surface and movable to an elevated position above the level of and at one side of the stairway treads in response to rotation of said frame to said second upright position to comprise an outwardly projecting handrail along the top of the frame.

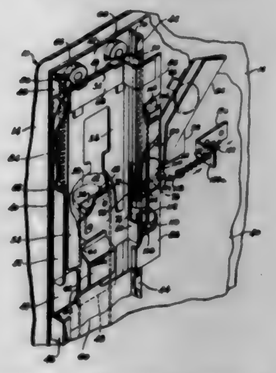
2,975,878
APPARATUS FOR PHYSICALLY ORIENTING ELECTRICALLY ASYMMETRICAL DEVICES
Paul B. Cason, Redondo Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed June 13, 1958, Ser. No. 741,939
11 Claims. (Cl. 193—43)

1. Apparatus for orienting electrically asymmetrical devices in a conveyor to obtain a predetermined relationship between terminals on each of said devices having opposed electrically dissimilar characteristics and the physical position of said devices comprising means for arranging said devices in sequence in said conveyor in a first position randomly oriented with respect to their electrical characteristics, means for determining the relationship between said first position and the electrically dissimilar terminals of said devices, and means for changing the orientation position of said devices in said con-



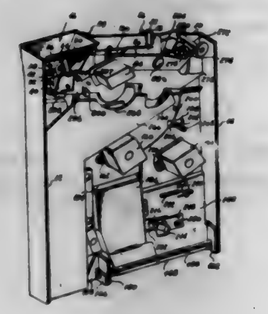
veyor to orient said devices in said predetermined relationship.

2,975,879
DISPENSING DEVICE
Harold Goodman, 118 E. 32nd St., Paterson, N.J.
Filed June 19, 1958, Ser. No. 743,179
4 Claims. (Cl. 194—69)



1. In a dispenser for paper covers, in combination with a front cover portion, a guide plate carried upon an inner surface of said front cover portion and having lateral guideways, and a movable plate having flanges located in said guideways, a coin-operated releasing mechanism for said dispenser, said mechanism comprising a coin chute having an upper end communicating with an opening formed in said front cover portion, and a lower end, a pin having a stem portion located below said lower end, said stem portion extending in a locking position of said pin into openings formed in one of said guideways and one of said flanges to prevent substantial downward movement of said movable plate by engagement with an edge of said flange opening, said pin having a base and a transverse intermediate portion between said base and said stem portion for stopping a coin dropped down said coin chute, an actuating piece connected with said one flange and movable along with said movable plate to engage and press against the coin engaged by said intermediate portion to move the pin and withdraw said stem portion from said flange opening to permit further downward movement of said movable plate, and resilient means connected with said pin for returning said pin into said locking position when said movable plate has been returned to said inoperative position.

2,975,880
COIN SEPARATOR AND SLUG EJECTOR
Christian Gabrielsen, Mountain Lakes, N.J., assignor to Rowe Manufacturing Co., Inc., Whippany, N.J., a corporation of New York
Filed Nov. 16, 1954, Ser. No. 469,183
6 Claims. (Cl. 194—99)



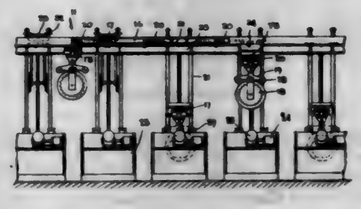
1. In a device of the character described, means forming a common coin passage, means forming a coin slot for directing coins inserted therein to said common coin passage, a washer catcher, means pivotally mounting said washer catcher between said coin slot and the common coin passage, means normally biasing said washer catcher to a position where it extends into the space between the coin slot and the common coin passage, the arrangement being such that a coin pivots said washer catcher and passes by the washer catcher into the common coin passage while a slug formed with a hole is caught and retained thereby, an antitilt lever, means pivotally mounting said antitilt lever adjacent the washer catcher, means formed on said antitilt lever for preventing pivotal movement of said washer catcher when the machine is tilted, and means biasing said antitilt lever to a position where the washer catcher is permitted to pivot.

2,975,881
TYPE BAR HEAD WITH DETACHABLE TYPE MEMBERS FOR TYPEWRITERS AND THE LIKE
Gerardo Delponte, Turin, and Domenico Giannitrapani, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Via Jervis, Ivrea, Italy, a corporation of Italy
Filed May 5, 1959, Ser. No. 811,041
Claims priority, application Italy May 10, 1958
9 Claims. (Cl. 197—36)



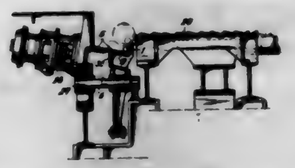
1. In a type bar head having an elongated slotted type member detachably mounted thereon, a pair of elements longitudinally arranged within said slot, and a pair of counter-elements integral with said head for each one engaging one of said elements, one of said counterelements being yieldable with respect to said head, said counterelements being arranged to urge the engaged elements in opposite directions.

2,975,882
MECHANISMS FOR INDIVIDUAL CARRIER SELECTION OF PROCESSING CYCLE IN CONVEYOR SYSTEMS
Harold G. Abbey, 189—10 Aberdeen Road, Jamaica 23, N.Y.
Filed Nov. 5, 1957, Ser. No. 694,626
8 Claims. (Cl. 198—19)



2. In a conveyor system provided with a plurality of work carriers, a track for conveying said carriers to various work stations disposed below said track, said track including removable rail segments vertically disposed above said stations, separate elevators operatively coupled to each of said segments to lower same to a respective work station therebelow, substitute rail segments normally disposed above said removable segments and adapted to replace said removable segments when lowered by the respective elevators associated therewith, a switch for operating each elevator provided with an actuating arm disposed at the associated segment, a tripper mechanism borne by said carrier and including a retractable operating lever adapted selectively to engage said arm when said carrier enters a segment above a station and means including a control cam positioned on said track in advance of each segment therein in the line of carrier movement adapted to control the position of said operating lever whereby either the operating lever is operative to effect said engagement whereby said elevator is caused to lower said segment or said operating lever is retracted and said elevator is by-passed.

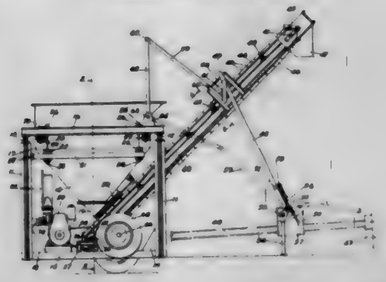
2,975,883
ARRANGEMENT FOR THE CONTROL OF THE MOTIONAL ACTIONS ON A COOLING BED AND A SET OF SHEARS LOCATED BEFORE THE COOLING BED
Wilhelm Schnettker, Aachen, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed Jan. 31, 1957, Ser. No. 637,428
Claims priority, application Germany Feb. 4, 1956
2 Claims. (Cl. 198—20)



1. Means for controlling the movements of lengths of rolled stock on their way from the shears that have severed them into lengths to a cooling bed, comprising: a laterally inclined take-up trough divided longitudinally into two parts, of which the upper part is fixed, while the lower part is movable up and down, means for raising and lowering the moveable part of the take-up trough between a lower position, in which it is flush with the fixed part, and a higher position, a live roller bed for impelling the rolled material forward when it is in the fixed part of the take-up trough, and also when it is in the movable part so long as the movable part is in its lower position, a

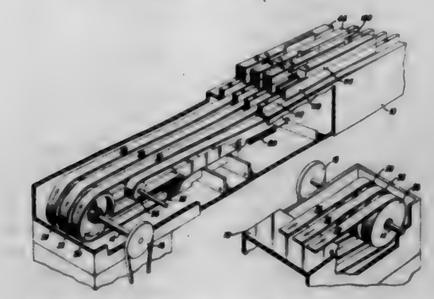
movable rack alongside the movable part of the take-up trough and between the take-up trough and the cooling bed, a deflector for guiding the lengths of rolled stock into the fixed upper part of the take-up trough when the movable part is raised, the movable part then ejecting the rolled stock on to the movable rack for conveyance to the cooling bed, and at the same time forming a side wall bounding the fixed part, and the lateral inclination of the take-up trough causing the rolled material to slip down from the fixed part to the movable part when the movable part is lowered into its flush position.

2,975,884
PORTABLE CONCRETE BATCH PLANT
Allan J. Kayser, 712 S. Gilpin St., Denver, Colo.
Filed Aug. 25, 1958, Ser. No. 756,868
9 Claims. (Cl. 198—53)



1. A concrete batching unit comprising: a main supporting frame; a hopper mounted in said frame; a horizontal shaft rotatably mounted in the bottom of said supporting frame below said hopper; a conveyor frame pivotally mounted at its rear extremity on said shaft and extending forwardly therefrom; ground-engaging wheels mounted on said conveyor frame forwardly from said shaft and below said conveyor frame so that said wheels will act as a fulcrum so that downward movement of said conveyor frame will extend said wheels below the bottom of said supporting frame and upon contact of said wheels with the ground will elevate said shaft and thereby elevate said supporting frame; a conveyor mounted in said conveyor frame; and means for driving said conveyor.

2,975,885
OFFICE CONVEYOR
Herman H. Grundelman, Woodcliff Lake, N.J., assignor to Mercury Handling Systems, Inc., a corporation of New York
Filed Oct. 30, 1959, Ser. No. 849,817
10 Claims. (Cl. 198—160)



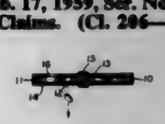
1. An office conveyor comprising first and second parallel horizontally separated rotatable shafts; driving means connected to said shafts for rotating same in opposite directions; at least one pair of pulleys, one pulley in each pair being rotatably mounted on said first shaft, the other pulley being mounted on said second shaft, each pulley being provided with a separate rotation adjustment mechanism having a first position in which the pulley is clamped to its shaft and rotates therewith and a second position in which the pulley rotates freely and independently of its shaft, the two mechanisms for each pair of pulley having different positions; and at least one endless belt mounted around and between the corresponding pulley pair and driven thereby in a direction determined by the direction of rotation of the shaft carrying the one pulley of said pair which is clamped to its shaft.

2,975,886
DISTRIBUTOR BOX BAR ASSEMBLY
Edward C. Jorgensen, 18 Jefferson Ave., Norristown, Pa.
Filed Apr. 20, 1959, Ser. No. 807,414
2 Claims. (Cl. 199—37)



1. As a new article of manufacture a type-casting machine distributor box bar having a slot extending lengthwise thereof, a bar point in said slot extending substantially throughout the length of said slot, said slot being formed by two opposed side bar parts and means fixedly mounting said point in said slot.

2,975,887
DISPENSING CONTAINER
Richard I. N. Weingart, 860 5th Ave., New York, N.Y.
Filed Feb. 17, 1959, Ser. No. 793,896
4 Claims. (Cl. 206—42)



1. A dispensing container comprising a pair of generally flat cover discs and a generally flat body member mounted between the cover discs in face-to-face relation, each of said cover discs being mounted for rotation relative to the body member independent of each other and of the body member, and means for mounting the three members in such superimposed relation and for maintaining their rotational axes in alignment, the body section having two rows of through openings arranged in circles of different diameters but concentric with the common axis of rotation and forming article receiving pockets, each cover disc having an opening which can be successively aligned with the openings in one of said circles and through which an article contained in a pocket can be removed.

2,975,888
ARCHERY PACKAGE
Harold G. Paynton, Sr., 39 Clark St., Manasquan, N.J.
Filed Mar. 26, 1959, Ser. No. 802,121
10 Claims. (Cl. 206—45.34)



1. A multi-purpose package comprising an elongated hollow cylindrical casing of transparent severable material, end walls permanently closing said casing, a bow

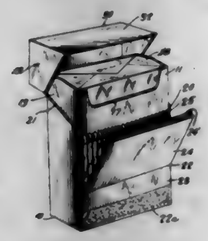
and arrows located in and extending longitudinally of the casing and trapped therewithin by the end walls, an elongated loop member one end of which is affixed to a wall of the casing adjacent the center thereof the other and of the loop being free and closer to an end thereof, and a line of demarcation about the casing between the loop member and the other end thereof whereby, on severance of the casing portions along the line of demarcation, that portion between the line of severance and the first end referred to may be suspended by the said loop.

2,975,889
BUBBLE PACKAGE
Dennis D. Brown, Valley Stream, N.Y., assignor to Kem Manufacturing Company, Inc., a corporation of New Jersey
Filed Mar. 27, 1959, Ser. No. 802,414
3 Claims. (Cl. 206—45.34)



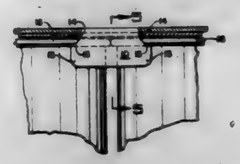
2. A display container comprising a transparent housing having an end wall, and open at the normally underportion thereof, the side walls of said housing tapering outwardly in the direction of said opening, said housing having a grooved portion along the lateral walls adjacent the opening defining a track, a closure member substantially the size and shape of the grooved portion of said housing positioned in said track and closing the housing, said closure having a tab pivotally affixed thereto at one end thereof positioned entirely within the housing and wedged against the tapered side walls to secure the position of the closure member with respect to the housing.

2,975,890
PACKAGE FOR CIGARETTES AND MATCHES
Pedro Block, Sierra Madre 540, Mexico City, Mexico
Filed Nov. 21, 1958, Ser. No. 775,443
2 Claims. (Cl. 206—48)



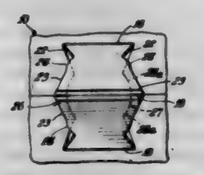
1. A combined cigarette and match package comprising an outer paper container having a rear wall of a predetermined height, side walls, a bottom wall and a front wall, said side, rear and bottom walls being fixedly connected, said front wall being of less height than said rear wall and connected to said bottom wall and having a flap portion throughout a major part of its length separated from the front edges of the said side walls to permit pivotal movement toward and away from said front edges of said side walls about a horizontal axis parallel to said bottom wall, a front insert having side walls fixedly secured to said container side walls and having a front wall with a top edge of a lower height than said container rear wall, a flip top cover comprising a top wall, a rear wall pivotally connected to the top of said rear wall of said container, side walls and a front wall of a greater height than said rear wall of said cover, matches secured between the inner side of said front wall of the container and the outer side of said front insert, the combined height of the rear walls of said cover and said container being slightly less than the combined heights of said front walls of said cover and said container and the matches whereby the lower portion of said front wall of said cover overlies the matches and meets the upper portion of said front wall of said container when in closed position, said insert separating said container into a cigarette containing compartment consisting of said rear, side and bottom walls and the inner side of said insert, and a match containing compartment thereby being provided between the front wall of said insert and the inner side of said container front wall, said cover serving to close both cigarette and match-containing compartments with the engagement of its front wall of the cover over the top edge of said front wall of said container serving to hold the cigarettes and the container front wall against movement about its pivotal axis away from the front edges of said container side walls.

2,975,891
LOCKING CONSTRUCTION FOR PAPERBOARD CARTONS
Orison W. Stone, Valley Cottage, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 24, 1957, Ser. No. 667,494
1 Claim. (Cl. 206—65)



A carton package comprising a paperboard carton wrapped around goods contained in cylindrical containers such as metal cans having chines, said containers arranged in parallel rows within the carton, said carton having overlapping flaps, a slot in one of the flaps and a complementary locking tongue in the other flap, the locking tongue and slot positioned adjacent the space between four of the cylindrical containers and the locking construction being characterized as follows: the locking tongue extending inwardly of the package at nearly a right angle to the flaps and having positioning ears extending laterally from each side thereof between adjacent pairs of said four containers, said positioning ears engaging the chines of at least two adjacent containers.

2,975,892
CONTAINER FOR PACKAGING YARN CONES
James P. H. Leavitt, Wayne, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 16, 1958, Ser. No. 742,284
4 Claims. (Cl. 206—65)



1. A yarn cone package comprising a plurality of superposed layers of spaced yarn cones, each of such cones being of hollow, frusto-conical form, a plurality of trays interposed between adjacent layers of cones, each tray comprising a base sheet and a top sheet of paper-

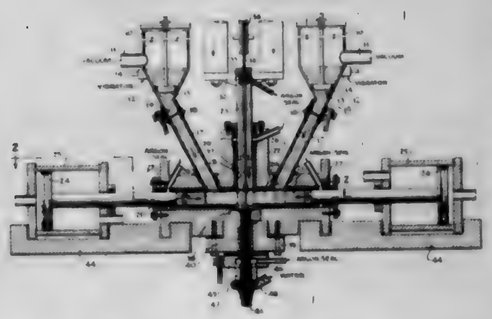
board, the base sheet being cut and scored to provide a plurality of upwardly extended, inverted, V-shaped projections, the lower ends of the legs of which are hingedly connected to the base sheet along parallel fold lines, such projections being cut from within the contour of the base sheet, whereby apertures are formed when the projections are folded upwardly, marginal edge portions of concave, arcuate shape formed in the base sheet at such apertures and disposed in circular relation symmetrically below the apex of each of the V-shaped projections, the top sheet being disposed in flatwise relation upon the base sheet, said top sheet being cut to provide a plurality of pocket-forming apertures in registration with the projections and through which the projections are disposed, the marginal portions of the top sheet around the apertures therein including portions extending below the legs of the inverted V-shaped projections and in interlocking contact with the lower end portions of such legs near their hinged connection with the base sheet, the lower ends of cones above the tray being arranged telescopically over the projections, and the upper ends of cones below the tray being received into the circular apertures formed by said arcuate, marginal edge portions in the base sheet disposed below the projections.

2,975,893

APPARATUS FOR CONSOLIDATING PARTICULATE MATERIALS CONTINUOUSLY WITHOUT MELTING

Herbert G. Johnson, 17 N. Drexel Ave., Havertown, Pa.

Filed Apr. 21, 1955, Ser. No. 502,997
5 Claims. (Cl. 207—2)



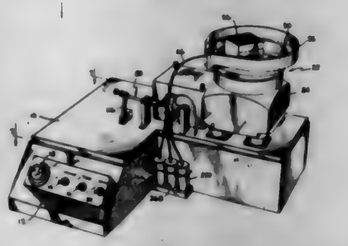
5. Apparatus for extruding a continuous bar product from a supply of particulate electrically conductive metal which is subject to rapid contamination when heated in air comprising: a work material container having a vertical extrusion chamber and at least one horizontal compression chamber which latter intersects and joins said vertical extrusion chamber near the bottom thereof, each of the vertical and horizontal chambers being insulated throughout the work material-holding length thereof; a lead-off material supply tube for each said horizontal chamber, said supply tube leading into a mating upper opening along said horizontal chamber which opening is remote from said vertical chamber, said tube being completely electrically insulated from said particulate material throughout its length; a sealed bin for each said supply tube; said bin having a spout spaced from said tube, a non-conductive flexible tube connection which joins and forms an air tight seal between each said bin spout and the adjacent said tube; said bin having a first opening which may be unsealed for the admission of particulate work material, said bin having a lower second opening to the spout from which said work material may flow into said tube, and said bin having a third opening by which air may be evacuated to create a vacuum in said bin; a vibrator for each said bin to vibrate the same and facilitate the flow of work material from said bin; a first electrode connected to said bin spout to pass current to the material if present in the spout; an electrically conductive vertical extrusion ram movable, in sealed relation, in said vertical extrusion chamber; an electrically conductive horizontal compression ram for each said horizontal compression chamber and movable in sealed relation in the same; an extrusion die with a die bore including an orifice therethrough installed in the bottom of said vertical extrusion chamber; a retainer block having a bore therethrough, said block being affixed to said container and supporting said die so that the die bore orifice thereof is aligned with said block bore, said block bore being electrically insulated along the length thereof; a second electrode electrically insulated from said block but sealed thereagainst, said second electrode having a bore through which the extruded product moves in electrical contact therewith, said second electrode having an opening leading into its said bore for the admission of an inert gas which latter exits in the direction of extrusion and around said extruded bar product; a ring nozzle positioned against the exit end of said second electrode, said nozzle being for a suitable coolant which is sprayed against said extruded product by said nozzle; whereby said work material is fed from said bin through said spout, in electrical contact therewith, through said tube and into said horizontal compression chamber from whence said work material is forced into said vertical extrusion chamber to later be extruded through said die bore and orifice as said extruded bar product which latter is protected by said inert gas until cooled by said coolant; whereby electric current passes from said second electrode, through said extruded product, through said work material on the incoming side of said die and through said extrusion ram when present in the column of material, through the column of material at said compression chamber and through said horizontal compression ram when present in the column of material, through the work material at said tube, and to said first electrode thus resistance-heating said work material for the compacting and extruding thereof; and whereby pressure applied by said horizontal ram is sufficient to cause the filling of said vertical extrusion chamber and, while said horizontal ram is advanced, pressure applied by said vertical extrusion ram is sufficient to cause extrusion of material through said die.

2,975,894

MAGNETIC CORE HANDLING DEVICE

John L. Hill, North St. Paul, and Robert R. Reisinger, Mahtomedi, Minn., assignors to Telemeter Magnetics, Inc., Los Angeles, Calif., a corporation of New York

Filed Feb. 11, 1959, Ser. No. 792,649
14 Claims. (Cl. 209—72)



1. A magnetic core handling device comprising vacuum means for releasably holding a toroidal core with the axis of its opening extending in a given direction, an elongated probe, means for inserting said probe into the opening of said core, and means for moving said probe away from said vacuum means to effect a release of said core from said vacuum means.

2,975,895

FLOTATION PROCESS

Charles H. G. Bushell, Montrose, British Columbia, and Harry E. Jackson, Rossland, British Columbia, Canada, assignors, by mesne assignments, to Nova Beaucage Mines Limited, Montreal, Quebec, Canada, a company of Canada

No Drawing. Filed Dec. 16, 1959, Ser. No. 859,845
11 Claims. (Cl. 209—166)

1. In a froth flotation process for the concentration of a niobium mineral selected from the group consisting of pyrochlore and niocalite in which an aqueous dispersion of solids which contain at least one of said minerals is subjected to agitation and aeration in the presence of a frothing agent and a collector to produce a float product, the improvement which comprises adding catechol to said aqueous dispersion, continuing agitation and aeration of the aqueous dispersion, and separating and recovering niobium mineral concentrate as the float product.

2,975,896

HYDROCYCLONE FOR FIBRES SUSPENSION

Siegfried Hirsch, Eichelgasse 18, Karlsruhe-Durlach, Baden, Germany

Filed Aug. 17, 1959, Ser. No. 834,156
4 Claims. (Cl. 209—211)



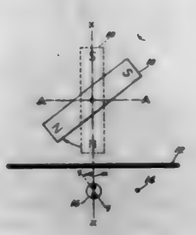
1. A hydrocyclone comprising in combination means forming an elongated chamber closed at one end and having an inner surface of circular section, said chamber including a first chamber portion at said one end having a cylindrical inner surface and a tangential inlet opening in said cylindrical surface longer in the axial direction than in the circumferential direction of said first chamber portion; a second chamber having a conical inner surface coaxial with and merging at its base into said cylindrical inner surface, and an outlet opening at the apex of said conical surface; and a vortex finder tube projecting inwardly axially from said one end through said first chamber portion, said vortex finder tube having an axial outlet passage flaring toward the inner end of said tube and an outer cylindrical guide face concentric with the inner surface of said chamber and defining therewith an annular chamber; the interior of said elongated chamber being considered with reference to unbounded zones therein including an initial whirl space within the annular chamber defined between said cylindrical guide face and said inner surface, a primary whirl space between a projected cylindrical extension of said cylindrical guide face and said conical inner surface, a neutral zone between said cylindrical extension of said cylindrical guide face and a projected cylindrical extension of said outlet passage, and a secondary whirl space within said projected cylindrical extension of said outer passage, wherein the ratio of the volume of the primary whirl space to the volume of the initial whirl space is between 0.6 and 2.5, the ratio of the volume of the primary whirl space to the volume of the neutral zone is between 0.6 and 2.5, the ratio of the volume of the primary whirl space to the volume of the secondary whirl space is between 0.6 and 2.5, and the ratio of the total volume of the initial, primary, neutral and secondary zones to the volume of the primary whirl space is between 2.2 and 6.0.

2,975,897

MAGNETIC METHOD FOR REMOVAL OF FINELY DIVIDED MAGNETIC MATERIALS

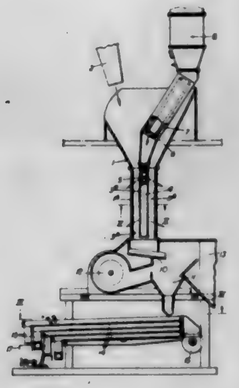
Cyril Presgrave, Gwynedd Valley, Pa., assignor to G. & W. H. Carson, Incorporated, Plymouth Meeting, Pa., a corporation of Pennsylvania

Filed Nov. 30, 1959, Ser. No. 856,300
13 Claims. (Cl. 209—214)



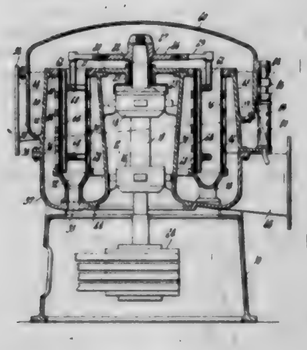
1. A method for the kinetic separation of non-magnetic particles from ferromagnetic particles in a mixture of said particles, substantially all of which particles have a particle size below about 100 mesh, which comprises introducing said mixture to a rotating magnetic field moving in a predetermined direction and which decreases in mean field intensity with distance from a region of maximum field intensity adjacent a non-magnetic surface, said mean maximum field intensity being at least 20 percent of the mean coercive force of said ferromagnetic particles and less than about 2 webers per square meter, said decrease in mean field intensity with distance being from about 0.3 to about 40 webers per square meter per meter, the lines of flux at substantially each point in at least a portion of said magnetic field varying in direction with time, said variation in direction of said lines of flux comprising a magnetic component rotating about each of said points at a mean speed of from about 150 to about 10,000 radians per second, said rotating magnetic components imparting to said ferromagnetic particles a translational motion opposite to the direction of translation of said magnetic field, and an angular velocity, which is converted in part to random translational velocity by collision of said ferromagnetic particles with each other and with non-magnetic particles, whereby said mixture of particles is expanded and the distance between particles is great as compared to the size of the particles and the particles are in turbulent motion, said mixture of particles constituting a pseudo gas, the linear velocity of said non-magnetic particles carrying them beyond and away from said ferromagnetic particles retained in said magnetic field by said change in field intensity with distance and being transported along said non-magnetic surface in essentially a common direction opposite to the direction of translation of said magnetic field by the net rotation in essentially a common direction imparted to said ferromagnetic particles by said rotating magnetic components and collision of said ferromagnetic particles with said non-magnetic surface.

2,975,898
APPARATUS FOR DRYING AND CLEANING SEEDS
William Bernhard Nelson, Epsom Downs, England, assignor to R. W. Gunson (Seeds) Limited, London, England
Filed Nov. 24, 1958, Ser. No. 776,147
Claims priority, application Great Britain Oct. 3, 1958
6 Claims. (Cl. 209—238)



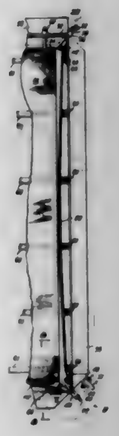
1. Apparatus for simultaneously drying and cleaning seed comprising a container for initially receiving the seed to be dried and cleaned, means within said container for subjecting seed therein to the action of heated air to bring moisture in the seed to the surface thereof, means for feeding seed thus treated from the container, screening means for receiving the seed as it is fed from the container by said feeding means and adapted to remove foreign matter from the seed, and heating elements incorporated in said screening means for drying the seed while it is being screened.

2,975,899
SCREENING DEVICE
Madison M. Cannon, Wellesley, Mass., George M. Dick, Sherbrooke, Quebec, Canada, and Salomon M. Salomon, Sharon, Mass., assignors to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts
Filed Apr. 16, 1957, Ser. No. 653,197
10 Claims. (Cl. 209—273)



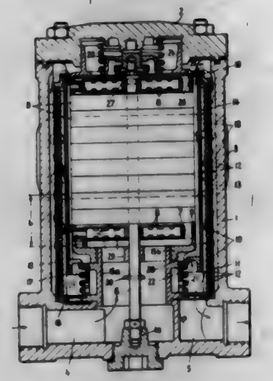
1. A screening device comprising inner and outer concentric, spaced, cylindrical screens, inlet means for introducing a stream of liquid suspension under pressure between said screens adjacent one end thereof, at least two vanes of streamlined cross-sectional configuration having a smoothly rounded front merging into a tapering tail extending into the space between said screens, at least one of said vanes being adjacent to the face of one screen only and at least one other of said vanes being adjacent to the face of the other screen only, said vanes being mounted for rotation in one direction with respect to said screens about the axis of said screens, drive means for rotating said vanes relative to said screens about said axis at a speed sufficient to produce an area of reduced pressure between each said vane and the adjacent screen portion, a pair of generally annular chambers, one disposed outside of the outer screen and one disposed within said inner screen, arranged to receive suspension passing through said screens, means for withdrawing screened suspension from said chambers, and means for withdrawing rejected material from the space between said screens at the end opposite to said inlet.

2,975,900
BASKET SCREENS AND IMPROVED MOUNTING ATTACHMENTS THEREFOR
Robert L. Hoffman, San Francisco, Calif., assignor to Western Machinery Company, San Francisco, Calif., a corporation of Utah
Filed Dec. 8, 1958, Ser. No. 778,900
17 Claims. (Cl. 209—403)



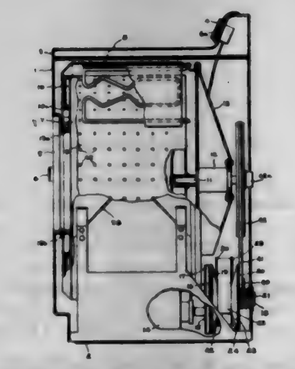
1. In a basket structure adapted to be immersed in fluids, a basket screen having flexible wire mesh screen walls set up in angular relation to each other, means for supporting said screen walls including a rigid frame and means for cambering said screen walls in supporting relation over said frame, resilient means between said frame and the marginal edges of each of said screens for sealing said marginal edges of said screen facially with said frame, and means for applying a uniform horizontal pull on each of said screens from opposed sides thereof transversely across the cambered face thereof to uniformly tension said cambered screen and to establish a vertical compressive force component for pressing said screens firmly against said resilient means to provide a liquid-tight seal between said frame and the marginal edges of said screens continuous around the edges thereof, said frame being provoided with closed wall portions between the adjacent seals individual to each of said screen walls whereby transfer of fluid within said basket screen is confined to passage through said screen walls.

2,975,901
COMBINED LIQUID MEASURE AND FILTER
Ernst Max Tischer, Bei den 7 Kindeln NR. 3, Augsburg, Germany
Filed Dec. 15, 1958, Ser. No. 780,378
6 Claims. (Cl. 210—132)



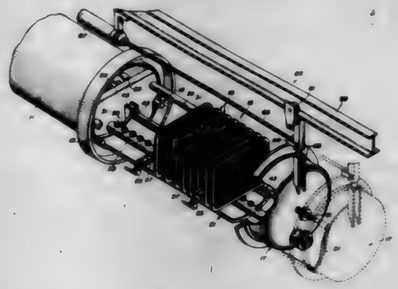
1. A combined liquid filter comprising a casing having an inlet and an outlet, a plurality of superposed circular filter elements in said casing and communicating with said inlet, a plurality of stacked strainer coil filter elements surrounding said circular filter elements and spaced from said housing, an imperforate cylindrical partition surrounding said circular filter elements and disposed between and spaced from said circular filter elements and said strainer coil filter elements, a passageway at the upper end of said partition communicating the space between said partition and said circular filter elements with the space between said casing and said strainer coil filter elements, said outlet communicating with the space between said partition and said strainer coil filter elements.

2,975,902
MEANS FOR IMPROVING CLOTHES DISTRIBUTION IN A MACHINE HAVING A CENTRIFUGAL LIQUID EXTRACTION STEP
James M. Pinder, North Canton, Ohio, assignor to General Electric Company, a corporation of New York
Filed July 2, 1959, Ser. No. 824,535
10 Claims. (Cl. 210—144)



1. In a laundry machine, a clothes basket rotatable on a substantially non-vertical axis; multi-speed drive means rotatively engaging said basket, said drive means rotating said basket at a relatively low speed for tumbling clothes in said basket and at a relatively high speed for centrifugal extraction of liquid from the clothes; and means for improving the balanced distribution of the clothes for high speed rotation of said basket comprising means for sensing when the clothes are in substantially balanced distribution in said basket, and means for increasing the speed at which said drive means rotates said basket in predetermined increments from said relatively low tumble speed to the minimum speed at which the clothes are plastered around the basket, said sensing means controlling said speed increasing means and causing said speed increasing means to raise the basket speed one of said predetermined increments at the time said sensing means determines there is substantially balanced distribution of the clothes.

2,975,903
FILTER
Edward A. Ulrich, Kenmore, N.Y., assignor to Process Filters, Inc., Buffalo, N.Y., a corporation of New York
Filed Oct. 31, 1957, Ser. No. 693,700
4 Claims. (Cl. 210—236)



1. A filter structure comprising an elongated tank provided with a tubular inlet, and a carriage mounted in the tank, said carriage comprising a header having a chamber provided with a tubular inlet telescopically connected to the first-mentiond tubular inlet, a support, a manifold carried by the header and support for dispensing a filtrate from the tank, a plurality of primary filter means connected to the manifold in positions substantially transverse to the longitudinal axis of the tank for filtering liquid in the tank so the filtrate will flow into the manifold, a tubular conductor carried by the header and support and communicating with the chamber, said conductor being provided with apertures through which the liquid to be filtered is directed angularly toward the filter means said conductor provided with baffles spaced between said apertures so that a uniform rate of flow of the liquid will flow through the apertures, a secondary filter movably mounted on the carriage below the primary filter means, and a pipe independent of the manifold for conducting the filtrate from the filter away from the tank.

2,975,904
INDUSTRIAL APPARATUS
Samuel Krubs and Fred Howard, New York, N.Y., Carleton Male, New Canaan, Conn., and James W. Sumpter, New York, N.Y., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1958, Ser. No. 769,792
3 Claims. (Cl. 211—46)

1. A hanger assembly for suspending a full sized pile rug comprising an overhead track of inverted T shape, at least two trolleys movable horizontally along said track, two pairs of rollers on each of said trolleys, a rigid elongated channel member having a web and two parallel

downwardly depending flanges for extending substantially the entire width of a rug, a connection between each of the trolleys and the web of the channel, hinge means connecting one of the flanges to the web of the channel, a relatively flat vertically parallel upper surface on each of said flanges, one of said surfaces being contiguous to the hinge means, an outwardly facing concave portion



on each of said flanges extending parallel to each other said concave portions being positioned below and contiguous to the flat surfaces, a mandrel positioned between and parallel to the flanges and in said concave portions thereof, and clamping means operative on the flat surfaces for locking the flanges around the rug and the mandrel.

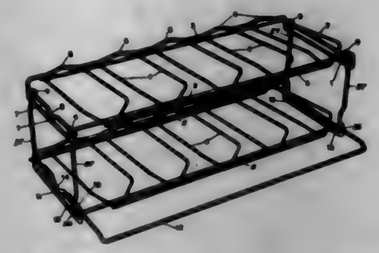
2,975,905
DISPLAY RACK
Howard L. Foland, Nevada, Mo. (Hillspeak, Eureka Springs, Ark.)
Filed July 2, 1959, Ser. No. 824,717
2 Claims. (Cl. 211—50)



1. A display container for exhibiting pieces of literature, cards and the like comprising, front and rear angularly disposed body panels having an opening therebetween defined by horizontal edges on each of the upper ends of said body panels, said opening being sufficient to admit a plurality of said literature therebetween, front and rear base panels forming a triangular arch connecting the lower ends of said front and rear body panels respectively, the front and rear base panels forming respectively first and second means which automatically vertically offset and support said literature, said first means cooperating with said edge on said rear body panel to maintain the literature in a substantially upright and vertically ascending front to rear offset relationship, said second means cooperating with said edge on said front body panel to maintain the literature in a substantially upright and vertically descending front to rear relationship.

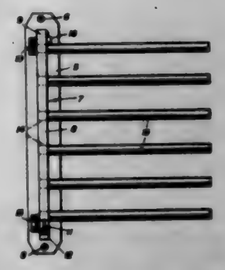
2,975,906
RACK
Jan van der Togt, Zwijndrecht, Netherlands, assignor to Tomado N.V., Dordrecht, Netherlands
Filed Mar. 14, 1960, Ser. No. 14,950
Claims priority, application Netherlands Mar. 14, 1959
2 Claims. (Cl. 211—74)

1. A rack comprising superposed members, connected together and each including a supporting structure having a pair of transverse rods at opposite edges, each pair of said rods defining a slit-like opening, and further having two frame-like side wall members at said opposite edges, each of said side wall members being pivotally secured to one rod of the corresponding pair of rods and



having an inwardly bent portion resiliently engaging one of the transverse rods of an adjacent member.

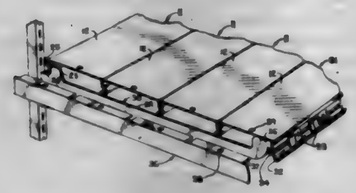
2,975,907
TROUSER RACK
Herman A. Hirsch, 806 Upson Drive, El Paso, Tex.
Filed Sept. 16, 1958, Ser. No. 761,346
3 Claims. (Cl. 211—96)



1. A trouser hanger comprising: a flat, vertical bar for mounting on a door, an angular bracket mounted for horizontal swinging movement on said bar and adapted to parallel the door, said bracket comprising an inclined bar hingedly secured on one side of its upper end to the upper end portion of the vertical bar for lateral swinging movement in opposite directions, said bracket further including a horizontal brace having one end portion affixed to the lower end portion of the inclined bar and its other end hingedly secured on one side to the lower end portion of the vertical bar, a plurality of parallel, horizontal trouser supporting arms fixedly mounted at spaced points on the opposite side of the inclined bar at right angles thereto and adapted to extend outwardly at right angles to the door when the bracket is in parallelism therewith, the hinged ends of said inclined bar and said brace being square-cut for abutting engagement with the vertical bar for arresting the swinging movement of the bracket in one direction in a position at right angles to the door and with the arms paralleling said door, and coacting means on said opposite side of said inclined bar and the vertical bar for releasably securing said bracket in the arrested position.

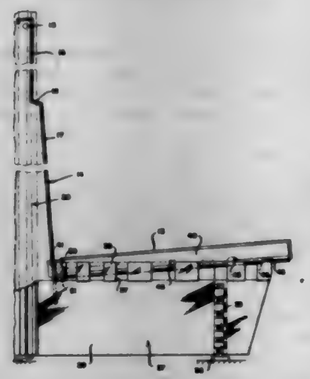
2,975,908
MODULAR SHELF ASSEMBLY
Edward C. Huet, Coldwater, Mich., assignor to L. A. Darling Company, Bronson, Mich., a corporation of Delaware
Filed Aug. 1, 1958, Ser. No. 752,497
3 Claims. (Cl. 211—136)

3. A support for a modular shelf, which shelf is comprised of a plurality of segments, and means associated with each segment for interlocking adjacent segments relative to one another to prevent any motion of a segment relative to an adjacent segment except rotation in one direction about the joint means, the support comprising a bracket having means adapted for cooperative engagement with an upright member, and means asso-



ciated with said bracket for engaging and holding at least two spatially remote interlocking means to prevent rotation of each of the shelf segments relative to each adjacent segment.

2,975,909
SHELF CONSTRUCTION
Allan D. Foster, Grosse Pointe, Mich., assignor to Almor Corporation, Detroit, Mich.
Filed Oct. 14, 1959, Ser. No. 846,300
6 Claims. (Cl. 211—150)

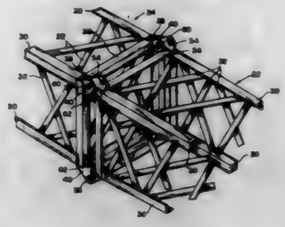


6. A shelf construction comprising a pair of spaced apart vertically arranged columns, each column having at least one base supporting said column; a substantially vertically arranged back panel extending between the columns and having side edges, each closely adjacent to a column, the upper end of the back panel being hingedly connected to the columns for swinging the panel about a horizontal axis; a shelf at the bottom of the panel, said shelf having a rear edge adjacent to the panel and means connecting said rear edge to the panel, said means for connecting the shelf to the panel consisting of a continuous, upwardly opening channel bent from the rear edge of the shelf and struck-out tongues bent from the panel, with the tongues receiving the channel and frictionally holding the channel between the tongues and the panel whereby the panel and the shelf may be moved as a unit and means on said base for selectively supporting the shelf in a horizontal position or in a tilted position relative to the horizontal.

2,975,910
CRANE BOOM
Marcus L. Conrad, Stevensville, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed June 6, 1958, Ser. No. 740,296
10 Claims. (Cl. 212—144)

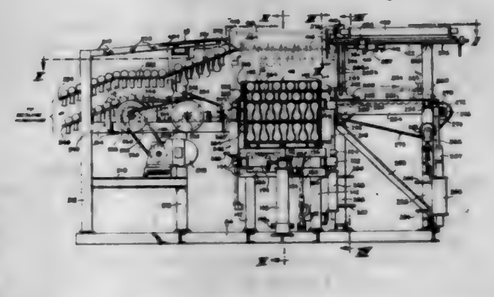
1. A boom construction comprising a plurality of adjoining sections, at least two of said adjoining sections

having end frame portions in confronting relation, one of said end frames having pairs of spaced vertically extending plates thereon cooperating with single vertically extending plates on the other of said end frames, each of the said pairs of plates comprising a larger plate and



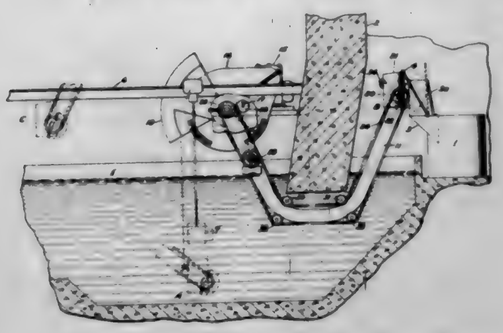
a smaller plate and the said single plates being located respectively between the said pairs of plates, pivotal means extending through aligned apertures in each set of said plates, and securing means extending through aligned apertures in said single plates and the larger plate only of each of said pairs of plates.

2,975,911
APPARATUS FOR UNLOADING, ORIENTING, AND FEEDING ARTICLES
Alexander V. Wedensky, Mountain Springs, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 7, 1957, Ser. No. 676,738
6 Claims. (Cl. 214—8.5)



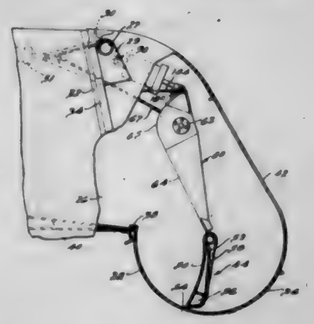
1. Apparatus for unloading layered bulbous articles from a hamper and feeding said articles to an article-receiving device, comprising a hamper-receiving and squaring means movable from a hamper-receiving position to a hamper-inverting position, means for feeding a hamper to said hamper-receiving and squaring means, means adjacent said hamper-receiving and squaring means for supporting the latter with the articles therein when inverted, means for storing said layered articles after removal from said hamper, article-supporting means reciprocal in said storing means and actuated by movement of said hamper-receiving and squaring means to move into juxtaposition with said inverted hamper-receiving and squaring means, means on said hamper-receiving and squaring means movable to release said inverted articles from said squared inverted hamper and to cause said article-supporting means to remove said articles from said squared inverted hamper and to insert said articles in said storing means, and threading and lifting means movable into said storing means and the spaces between said layered articles and operable to select a layer of articles from said article-storing means and lift said layer into registry with an article-receiving means.

2,975,912
CHARGING DEVICE
Stanley L. Handforth, Wilmington, Del., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 19, 1946, Ser. No. 677,885
9 Claims. (Cl. 214—17)



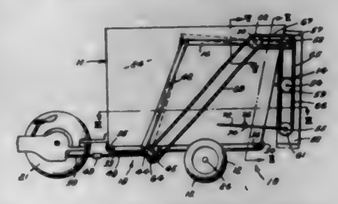
1. An apparatus for handling radioactive material, comprising a liquid-containing channel for submerged storage of radioactive material, a tank to contain the radioactive material located near the channel and having a charging hole located at a level above the liquid level in the channel, a barrier wall surrounding said tank and confining an affected zone and extending into the channel and below the liquid level therein so as to form a liquid seal, a bent arm pivoted outside the affected zone and having a free end movable between a position below the liquid level in the channel outside the affected zone and a second position proximate to said charging hole, a receptacle mounted on the free end of said bent arm adapted to rotate between an upright position and a dumping position, and means controllable externally of said affected zone for rotating said receptacle and said bent arms independently.

2,975,913
REFUSE LOADER CONTROL MECHANISM
Joseph M. Gwinn, Jr., Dearborn, Angus J. O'Brien, Birmingham, and Gerald W. Coleman, Detroit, Mich., assignors to Gar Wood Industries, Inc., a corporation of Michigan
Filed Jan. 22, 1957, Ser. No. 635,487
11 Claims. (Cl. 214—83.3)



1. In a refuse collector which includes a storage compartment for receiving refuse, a refuse receiving trough positioned adjacent one side of said compartment, apparatus for transferring refuse from the trough to the compartment comprising a sweep panel rotatable in one direction through a substantially complete revolution through said trough to move refuse from the trough to a supported position on said sweep panel, and a ram panel mounted above said sweep panel for movement across said sweep panel in one direction for moving refuse from the sweep panel into the compartment; a pair of cam members connected to said sweep panel for rotation therewith, separate motor means for moving said panels, and means connected to said motor means and operatively associated with said cams for selectively controlling the operation of said motor means so that said panels are moved through a predetermined cycle in response to movement of said sweep panel.

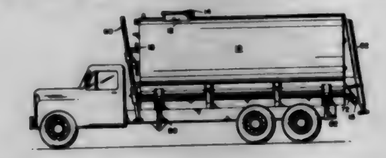
2,975,914
FIBROUS MATERIAL DISPENSER
Dale C. Clapsaddle, 2087 S. Oak Road, Davison, Mich.
Filed Dec. 23, 1958, Ser. No. 782,553
7 Claims. (Cl. 214—83.14)



7. In an apparatus for discharging fibrous material from a wagon having a bed with a pair of side walls and one end wall mounted thereon; the combination comprising: an upright frame structure; gate support means movably mounted upon said frame structure near the upper end thereof and projecting endwardly therefrom; a discharge gate including a flanged wall pivotally supported near its upper edge upon said gate support means for movement around a horizontal axis toward and away from said frame, whereby said gate can be moved into and out of a position substantially blocking the open end of a said wagon adjacent thereto; first actuating means connected to said gate support means for effecting upward and downward movement of the projecting ends thereof, whereby said gate may be reciprocated in a substantially vertical plane defined by said flanged wall; a plurality of spaced substantially horizontal beater shafts supported upon said gate along the inner side of said flanged wall for rotation about substantially parallel axes arranged substantially within a plane parallel with and spaced from said wall; a plurality of beater elements secured to and extending substantially radially from said beater shafts; rotary drive means associated with said frame structure; second actuating means responsive to rotation of said drive means and connected to said beater shafts for rotating said beater shafts during the reciprocation of said gate; and means including an elongated member connected to, and supported between, said gate near the lower edge thereof and said frame structure near the lower end thereof for controlling the position of said gate relative to said frame and said wagon, and thereby controlling the movement of said materials from said wagon between the bed thereof and said gate.

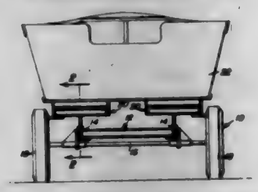
2,975,915
DISPENSING CONTAINER FOR POWDERED MATERIALS
Curtis P. Lindley, Bellevue, Wash., assignor to Centennial Mills, Inc., Portland, Oreg., a corporation of Washington
Filed Feb. 17, 1958, Ser. No. 715,755
4 Claims. (Cl. 214—83.28)

1. A transportable bulk container for powdered materials, comprising: a tank of cylindrical form normally employed in a substantially horizontal position; a filling opening in the upper portion of said tank and means to close said filling opening; a discharge opening in the lowermost portion of said tank and means to close said discharge opening; a supporting framework secured to the bottom of said tank and so proportioned as to facilitate securing said tank to a truck for transporting it and for supporting the tank at a point of use; a plenum chamber disposed below said tank and extending throughout its length; said plenum chamber composed of plates spaced apart from the bottom of said tank by spacing and positioning members disposed longitudinally and transversely of said tank to provide a central plenum portion and



lateral plenum portions spaced away from and parallel to said central portion; removable perforated plates for each of said plenum portions having openings for conducting air from the plenum chambers to the interior of said tank; fabric membranes of a porous character having a pass through opening size in the range of .0027" to .0076", adhesively secured to the upper faces of said perforated plates; limber holes in said longitudinal and transverse spacing members to proportion incoming air to the central plenum chamber portion and the lateral plenum chamber portions; and means for supplying air under pressure to said plenum chamber.

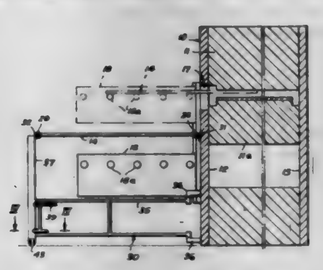
2,975,916
ROLLER SUPPORT FOR BOAT TRAILER
Clarence R. Steber, Biloxi, Miss.
(3978 S. Byronell Drive, Mobile, Ala.)
Filed Oct. 28, 1957, Ser. No. 692,768
6 Claims. (Cl. 214—84)



1. A support assembly for boat trailers adapted to support the lower surfaces of a boat, said support assembly comprising a standard adapted to be secured to a boat trailer, a support bracket, means pivotally mounting said bracket to said standard for pivotal movement about a substantially horizontally disposed axis, a flat boat support and a roller boat support carried by said support bracket in spaced relation to each other and being movable, upon rotation of said support bracket, to be selectively positioned uppermost relative to the other for comprising the sole support of a boat surface disposed thereabove, and latch means carried by said bracket and engageable with said support standard for retaining said bracket in selected pivoted positions.

2,975,917
PRINTING OR LIKE MACHINES
William Frank Golding, 22 Parry's Close, Stoke Bishop, Bristol, England
Filed May 1, 1959, Ser. No. 810,331
Claims priority, application Great Britain May 6, 1958
9 Claims. (Cl. 214—95)

1. A press for working on sheets comprising a frame, a platen situated at one side being the inside of said frame, a substantially plate-shaped tool connectable to the platen in an operative position thereon and at a first level determined by the platen, the tool being withdrawable from the platen in a horizontal direction into an inoperative position at the other side being the outside of said frame, a pair of first supporting members connected to the frame and extending at the outside thereof in a position to support the tool during withdrawal and in the withdrawn position, elevator means for lowering and raising said first supporting members thereby to



move the tool as supported thereon between said first level and a second lower level, a pair of second supporting members connected to the frame and dimensioned to support the tool between them at said second level, said elevator means being operable to lower the tool onto said second supporting members or raise the tool therefrom, and means for supporting the tool on said second supporting members for pivotal motion therebetween about an axis parallel to the direction in which the tool is withdrawable from said platen.

2,975,918
LOADING ATTACHMENT
Edward Joseph Sharp, 1421 Oregon Ave., The Dalles, Oreg.
Filed Feb. 20, 1959, Ser. No. 794,558
3 Claims. (Cl. 214—147)



1. In a material handling machine, a tractor, a pair of booms pivotally connected to said tractor, hydraulic cylinders for moving said booms, a material gripping mechanism connected to said booms, said material gripping mechanism comprising a hollow rectangular shaped support member having pairs of rearwardly disposed ears pivotally connected to said booms, a pair of spaced parallel lugs extending rearwardly from said support member, a hydraulic cylinder connected to said booms and to said lugs, first and second alined rectangular shaped arms slidably mounted in said support member and projecting outwardly therefrom, a hydraulic cylinder positioned within said support member, one end of said last named cylinder being anchored to said first arm, a piston movably mounted in said last named cylinder, a movable rod connected to said piston, the outer end of said rod being anchored to said second arm, a pair of spaced parallel tapered blades secured to the outer ends of said arms, said blades being mounted for movement towards and away from each other, and a backrest connected to said support member.

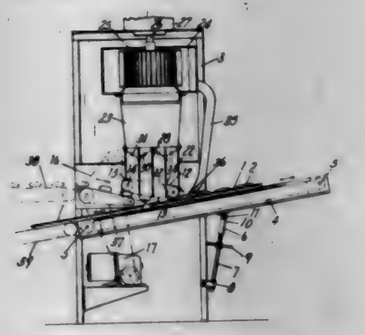
2,975,919
CONTROL OF COARSE SOLIDS FLOW
George F. Pappas, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,626
9 Claims. (Cl. 214—152)



1. A method for controlling the rate of coarse solids flow down through a vertically arranged conduit section, which comprises, maintaining a mass of coarse solids in a holdup zone positioned above said conduit section, a dilute solids phase being maintained above said solids mass, flowing solids downwardly in response to gravity from said holdup zone into and through said conduit section, introducing gas into the lower portion of said conduit section and flowing it upwardly to impede the flow of solids as well as to seal the atmosphere of said holdup zone from the area below the point of said gas introduction, establishing a confined zone extending upwardly through said descending coarse solids passing to said conduit section, said confined zone extending from about the inlet area of said conduit section to the dilute solids phase above said mass of coarse solids in said holdup zone, and introducing gas upwardly through said confined zone so as to educt only a portion of the downflowing coarse solids from about the inlet of said conduit section and to recycle said educted solids to the upper portion of said holdup zone to control solids flow rate downwardly through said conduit section.

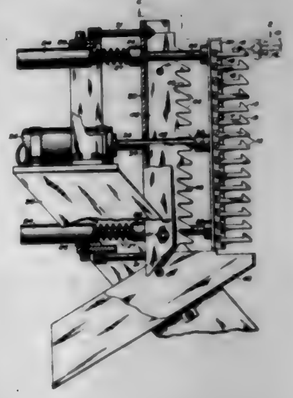
2,975,920
MACHINE FOR REMOVING BAKED GOODS AND THE LIKE FROM PANS
Linwood L. Reed and Jack W. McKim, Albion, Mich., assignors to Union Steel Products Company, Albion, Mich.
Filed June 9, 1958, Ser. No. 740,630
6 Claims. (Cl. 214—309)

4. A machine for removing products from pans comprising a feed conveyor, a suction chamber open at its lower end disposed above and in vertically spaced relation to said feed conveyor and having a plurality of valved suction passages, a pick up conveyor disposed mainly within and subject to the suction within said suction chamber with the lower reach thereof in approximately the plane of the lower edge of opposed walls of the suction chamber, a discharge conveyor disposed with its forward end below the rear end of said pick up conveyor to receive products discharged therefrom, suction means operatively associated with said suction chamber, and a nozzle connected to said suction means and disposed to discharge a stream of air under pressure



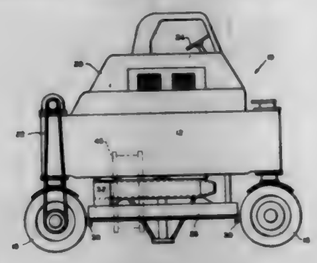
closely adjacent to the front end of said suction conveyor means in releasing products from the pans.

2,975,921
ARTICLE EJECTING FIXTURE
Albert L. Pizzi, Union, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 9, 1959, Ser. No. 792,024
3 Claims. (Cl. 214—309)



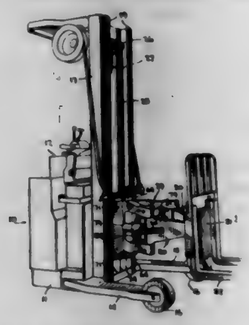
1. An apparatus for removing articles, having apertured projections, from aligned pockets of a unit from which the apertured projections are engageable, comprising a support, aligned hook-shaped catches, means to mount the hook-shaped catches for relative movement on the support in alignment with their respective pockets, means to move the support in one direction to move the hook-shaped catches into the apertures of the projections simultaneously and to move the support in a reverse direction to cause the hook-shaped catches to remove the articles simultaneously from the pockets, a comb having teeth with tapered surfaces, and means to mount the comb at a fixed position relative to the support so that the tapered surfaces of the teeth thereof will engage the projections and cause them to move free of the hook-shaped catches.

2,975,922
LOAD HANDLING DEVICE FOR STRADDLE CARRIERS
Raymond A. Dodge, Niles, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Mar. 24, 1955, Ser. No. 496,363
2 Claims. (Cl. 214—394)



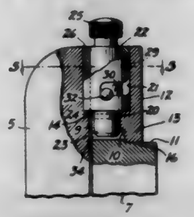
1. In combination with a straddle carrier, a pair of longitudinally extending load hooks connected to the straddle carrier and located in parallel relation adjacent opposite sides of the carrier and arranged to be raised and lowered in order to raise material from the ground to a carrying position beneath the carrier, a load handling device comprising a pair of stringer members located in parallel spaced apart relation and adapted to be engaged by said load hooks, a spacer and bracing member rigidly connected to said stringer members adjacent one end only thereof for providing an open U-shaped pocket formed between said stringer members and said bracing member, a pair of load support members extending upwardly from said stringer members in converging relation and connected to said stringer members adjacent the said one end thereof to form with said spacer and bracing member a triangular brace structure, and a cantilever ram member rigidly secured adjacent the apex of the said brace structure and extending centrally between and above the said stringer members and parallel thereto, whereby the straddle carrier may be operated to pick up an annular load in the space between the stringer members by moving the carrier with the load handling device located upon the load hooks longitudinally to insert the said ram member into the opening of the annular load and raising the load hooks.

2,975,923
SWINGING AND EXTENDING FORKS
Bronislaus I. Ulinski, Flossmoor, Ill., assignor to The Yale and Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Oct. 13, 1958, Ser. No. 766,998
7 Claims. (Cl. 214—730)



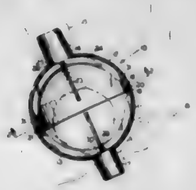
1. In a truck of the class described, a base member, a load carrier, a pair of arms for supporting said load carrier on said base member for horizontal movement relatively to said base member, each arm including a base lever and a load lever, the base lever of each arm being pivotally secured at one end to said base member and pivotally secured at the other end to one end of the load lever, the load lever of each arm being pivotally secured at its other end to said load carrier at a point laterally spaced from the load lever of the other arm whereby said load carrier may be moved horizontally relatively to said base member by folding movement between the base lever and load lever of each arm, separate means operatively interconnecting the base lever and load lever of each arm for effecting folding movement of the base lever and load lever of each arm independently of the folding movement of the base lever and load lever of the other arm whereby said load carriage may be selectively moved toward and away from said base member and moved angularly relatively to said base member, and means interconnecting the base lever on one arm and the base lever of the other arm for causing equal and synchronized angular movement of the base levers.

2,975,924
ADJUSTABLE LIFT FORK MOUNTING
Roman R. Kopanski, Cleveland, Ohio, assignor to Jos. Dyson & Sons, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 25, 1959, Ser. No. 822,795
3 Claims. (Cl. 214—731)



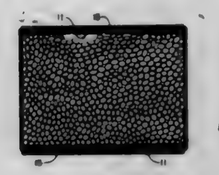
1. In an adjustable mounting for lift forks of the type in which a carriage is provided with a horizontally extending upwardly projecting guide rib that has longitudinally spaced upwardly opening locking recesses, in which a lift fork is provided with an upright attaching leg that has an enlarged upper end shaped to provide a top face and a rearwardly projecting hook portion provided with a downwardly opening recess beneath said top face that receives said rib, and in which said hook portion has a bore opening to said rib receiving recess and a counterbore opening to said top face and to said bore, fork locking means comprising an internally cylindrical bearing sleeve positioned in said counterbore and fitting within the same, said sleeve having a vertically extending slot with vertically spaced circumferentially extending portions within the counterbore, a locking pin slidably and rotatably fitting in said sleeve, said pin being movable downwardly to a fork locking position in which its lower end engages in a locking recess of said guide rib and upwardly to a fork releasing position where its lower end is above and clear of said rib, the upper end of said pin projecting above the top face of said leg and providing a hand grip for lifting and turning said pin, and a retaining member movable axially and angularly with said pin, said retaining member projecting into said slot and movable vertically with the pin from one circumferentially extending portion thereof to the other and angularly with the pin into either circumferentially extending portion, said circumferentally extending portion of the slot providing upper and lower shoulders for retaining the pin in an upper position clear of the rib or in a lower position where it engages in a locking recess of the rib.

2,975,925
CONTAINER ATTACHMENT FOR POP BOTTLES
Glenn M. Chambers, 1035 18th Ave., Longview, Wash.
Filed Jan. 19, 1960, Ser. No. 3,310
1 Claim. (Cl. 215—100)



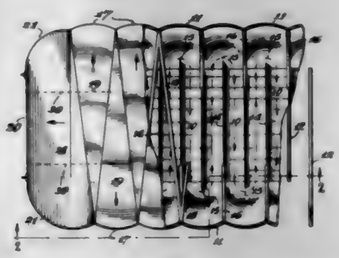
A container for a comestible adapted to be attached to a pop bottle comprising a hollow body of globular shape formed of two similar hemispherical sections, each section having at its peripheral edge an inwardly directed annular flange, the engagement of said flanges with each other retaining said sections in fixed relation to each other to form said body, a hollow bottle attaching neck at one pole of said globular body, and a drinking neck at the opposite pole thereof, a pair of radially disposed crescent-shaped ribs interiorly of each section positioned in intersecting diametrically opposed relation to each other, the intersection of each pair being centrally located at the mouth of the associated neck to restrict the passage of the comestible contained in said body through said neck.

2,975,926
VENTILATED SHIPPING CONTAINER FOR FRUITS AND VEGETABLES
Mark B. Royce, Hohokus, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 12, 1956, Ser. No. 627,812
1 Claim. (Cl. 217—42)



A ventilated package for perishable articles which substantially fill a shipping container, said container comprising a rectangular fiberboard unit having four side panels, each side panel having a marginal flap at each end which is substantially coextensive with its related side panel wherein the adjacent corners of said flaps overlap when folded into a substantially planar position, said marginal flaps being of such a width that when in said planar position they only partially close the respective end of the container, each end further including a slatted unit having dimensions substantially the same as the cross-sectional dimension of said container, the slats in said slatted unit being in spaced relation, and means securing the overlapped corners together at both ends, each end of the container having one slatted unit loosely contacting the inner faces of the respective marginal flaps and forming closures for the container ends, each slatted unit being held in contact with its respective marginal flaps by said perishable articles within the container.

2,975,927
STORAGE TANK
Christian Arne, Chicago, Ill., assignor to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 11, 1958, Ser. No. 779,757
11 Claims. (Cl. 220—1)



1. A storage tank comprising a bottom; scalloped side walls comprising an interconnected continuous series of upright cylindrical segments attached to said bottom, and end walls attached to said side walls and to said bottom; said bottom comprising a plurality of cooperating pairs of open-ended, parallel cylindrical bottom segments, the adjacent side edges of each pair being joined together in side by side relationship to form a continuous bottom, a plurality of toroidal segmental return bends, each of said return bends having its axis of rotation normal to the juncture between the individual members of each pair and interconnecting the adjacent open ends of said individual members, said return bends joining opposing ends of pairs of cylindrical bottom segments with the opposing return bends being arranged in staggered relationship each to the other with one member of each of said pairs of bottom segments being common to opposing cooperating return bends to provide a continuous serpentine trough in said bottom; said scalloped side walls being joined at their bottom edges to corresponding toroidal segmental return bends; and a plurality of spaced horizontal supports supporting said bottom, said supports being coextensive with said cylindrical bottom segments and being positioned at each juncture of contiguous bottom segments.

2,975,928
METHOD OF JOINING TWO METAL PARTS IN A VACUUM-TIGHT MANNER AND OBJECT MANUFACTURED BY THE USE OF SUCH METHOD
Wilhelmus Antonius Roovers, Nijmegen, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,482
Claims priority, application Netherlands Nov. 23, 1956
4 Claims. (Cl. 220—2.3)



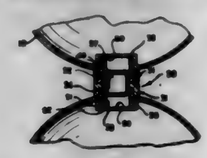
1. A semiconductor encapsulating device comprising first and second housing members having, respectively, first and second metallic flanges extending outwardly therefrom and overlying and contacting one another and press-joined together forming a self-sustaining vacuum-tight bond to enclose a semiconductor body between the housing members, one of said flanges being constituted of a relatively soft metal, the contacting surface of the other flange being constituted of relatively hard metal and containing a groove whose side walls extend approximately at right angles to the said surface, soft metal of and integral with said one flange substantially filling the said groove and contacting the said side walls and having been pressed therein by the application of pressure alone.

2,975,929
GOODS SUPPORT FOR A LOADING FOOT OR THE LIKE
Eric Åke Sjöblom, Orebro, Sweden, assignor to Aktiebolaget Grythyttans Stalmöbler, Grythyttan, Sweden, a corporation of Sweden
Filed Oct. 20, 1958, Ser. No. 768,125
Claims priority, application Sweden, Oct. 28, 1957
4 Claims. (Cl. 220—4)



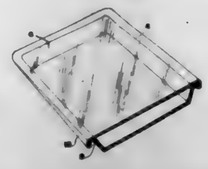
1. A vertical end section adapted to be removably secured to an end edge of a rectangular load pallet having a horizontal load-supporting surface supported by rectangular skirting blocks arranged at the corners of said load-supporting surface, said vertical end section comprising two coplanar vertical shank portions connected together at their upper ends and separable at their lower ends for coplanar movement relative to each other, a pallet gripping member secured to the lower portion of each of said vertical shank portions, each of said gripping members having a horizontal portion adapted to contiguously engage the upper surface of the pallet load supporting surface, a first vertical portion parallel to the pallet end edge and adapted to contiguously engage the corresponding outer end surface of the associated pallet corner skirting block, a second vertical portion at right angles to said first vertical portion and adapted to contiguously engage the corresponding outer surface of said associated corner skirting block, and a third vertical portion extending parallel to said first vertical portion and adapted to contiguously engage the face of said corner skirting block which is opposite the end surface engaged by said first vertical portion, the lower ends of said vertical shank portions being normally maintained adjacent each other.

2,975,930
MULTI-PURPOSE CONTAINER
Davis W. Pennington, Northridge, Calif. (1617 S. Walnut St., Anaheim, Calif.), and Charles A. Pennington, Burbank, Calif. (17620 Devonshire, Northridge, Calif.)
Filed Feb. 10, 1959, Ser. No. 792,400
3 Claims. (Cl. 220—23.4)



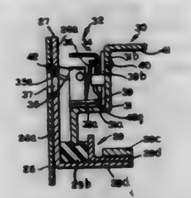
1. In a composite structure having at least a pair of hollow container bodies each provided with wall means forming a socket, a connector assembly joining said bodies, comprising a pair of end couplings received in the sockets of the pair of hollow bodies, interengaging means on said couplings and the socket wall means of said bodies securing said couplings in said sockets, a connecting coupling element received in said end couplings, and interengaging means on said end couplings and said connecting coupling detachably securing the same together.

2,975,931
CONTAINER
John W. Harrison, Winchester, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed June 4, 1959, Ser. No. 818,216
6 Claims. (Cl. 220—24)



1. In combination, a rectangular container of rigid material comprising a pair of long sidewalls and a pair of short sidewalls, the upper edges of both pairs of sidewalls terminating in an outwardly extending peripheral flange around the container and a skirt on that portion of the flange connected to each of said long sidewalls, said skirt tapering downwardly from each corner area of the corresponding long sidewall, and a cover of a heat shrinkable plastic film over said container, said cover being heat shrunk into locking engagement with said container under said flange and said skirt to an apex in the vicinity of the midpoint of the long sidewall.

2,975,932
BOX HAVING REMOVABLE AND REPLACEABLE COVER
Siegfried Lendle, Astoria, N.Y., and Scott R. Bond, North Plainfield, N.J., assignors to Levolor Lorentzen, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Nov. 18, 1959, Ser. No. 853,745
15 Claims. (Cl. 220—55)



1. A box having an annular wall providing a mouth; an annular abutment extending inwardly from the wall in spaced relation to the mouth; a cover nested within the annular wall of the box, the cover having a skirt the free edge of which is in contact with the abutment and the skirt having an offset which provides an annular channel extending around the inside of the box; a series of locking dogs distributed about the cover and carried thereby, the locking dogs being mounted on pivots that are parallel to the wall of the box, and the dogs and their mounts being located within said annular channel; a series of dog-receiving means distributed about the wall of the box to receive the noses of the locking dogs respectively; and finger-operable locking levers individual to the locking dogs and operable to swing the dogs into engagement with the dog-receiving means to

thereby clamp the cover against the annular abutment, the locking levers being carried by the cover, being retractable to release the locking dogs, and being mounted on pivots that are perpendicular to the wall of the box, and the mounts of the locking levers being within said annular channel.

2,975,933
SPACER PAD FOR CONTAINERS
Andrew Abolins, Peandel, Pa., assignor to Strick Trailers, Philadelphia, Pa., a division of Fruehauf Trailer Co., a corporation of Michigan
Filed Jan. 20, 1959, Ser. No. 787,915
5 Claims. (Cl. 220—69)



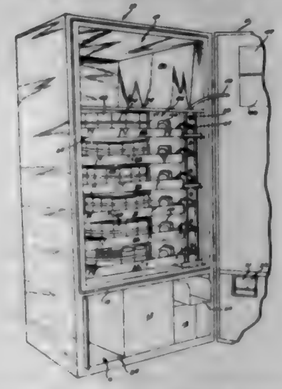
1. In combination with a container having a bottom wall, an elongated slot therethrough and a recess beyond said slot, a removable support pad comprising a base having an upstanding coupling pin fixed thereto and an enlarged head on said pin, said head having a length less than that of said slot but greater than the width thereof, said head being disposed in said recess with the pin extending through said slot, a member rotatably mounted on said base freely embracing said pin and having an upstanding portion disposed in said slot adapted to engage the edges thereof to permit rotation of said base relative to said member, and means operative between said base and said member to releasably lock said base and member together against relative rotation in the container coupling position wherein said head traverses said slot.

2,975,934
PACKAGING CARRIER SEPARABLE INTO INDIVIDUAL AND MULTIPLE CARRIER UNITS
Truman W. Powell, 1146 St. Augustine Place NW., Atlanta, Ga.
Filed Sept. 17, 1958, Ser. No. 761,586
2 Claims. (Cl. 220—112)



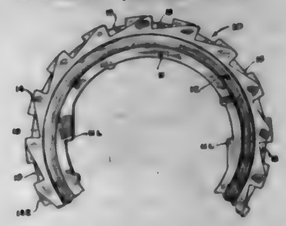
1. A carrier for receiving canned and bottled beverages and foodstuffs, comprising a perfectly rectangular blank of tough flexible material having a plurality of parallel perforated lines extending longitudinally of said blank and a transverse perforated line transverse thereto near the medial portion of the blank, said blank being folded to form the carrier which includes two adjacent rectangular compartments formed by intermediate portions of the blank, a multiple ply handle on the upper portion of the carrier between the compartments and including a doubled over portion folded along said transverse perforated line, terminal portions of the blank contacting each other and providing a central partition wall between the compartments, the said terminal portions of the blank extending upwardly to form some of the multiple plies within the handle structure, and an opening formed through the doubled over handle portion and the terminal portions of the blank in each section of the carrier separated by said longitudinally extending perforated lines to provide ease in carrying regardless of the number of units into which the carrier is separated, said longitudinally extending perforated lines traversing the adjacent rectangular compartments, whereby the carrier may be divided along the perforated lines into any convenient number of individual units each having a handle portion.

2,975,935
DISPENSING MACHINE
Fred Hebel, Wilmette, Ill., assignor to Fred Hebel Corporation, Addison, Ill., a corporation of Illinois
Filed Nov. 7, 1957, Ser. No. 695,100
5 Claims. (Cl. 221—14)



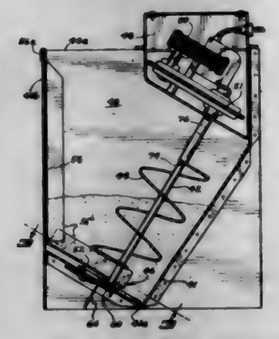
1. In a dispensing machine, a housing having an interior space, a series of dispensing units disposed in superposed relation in said space, each of said dispensing units comprising a turntable and a tray removably disposed in the housing, each of said trays having a discharge position to which successive articles are delivered by the turntable, a delivery conveyor extending vertically in adjacent relation to the discharge positions of said trays and having article receiving openings at the level of each dispensing unit and in alignment with the respective discharge positions for receiving articles in succession from said dispensing units, and means providing an article delivery outlet in said housing communicating with the lower end of said conveyor.

2,975,936
PLANTING OF SEEDS
Ernest J. Rousek, Lincoln, Nebr., assignor to Genetic Giant AG.-Products Co., a corporation of Nebraska
Filed Nov. 24, 1958, Ser. No. 775,877
3 Claims. (Cl. 221—265)



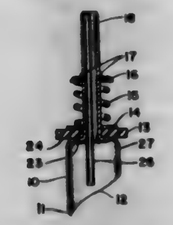
1. A planter plate for use in conventional seed planters and comprising an annular ring formed from a relatively rigid resilient plastic material with integral drive lugs on its inner periphery and its outer peripheral portion providing seed cells that may readily be modified as to size and shape by cutting of the plastic and having the ring formed with smooth surfaces to minimize friction between the ring and the stationary parts of the planter and between the ring and the seed supply in such a planter.

2,975,937
METERING VENDING DISPENSER
Gilbert vP. Totten, Minneapolis, Minn., assignor to Advance Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 20, 1959, Ser. No. 794,577
13 Claims. (Cl. 222—70)



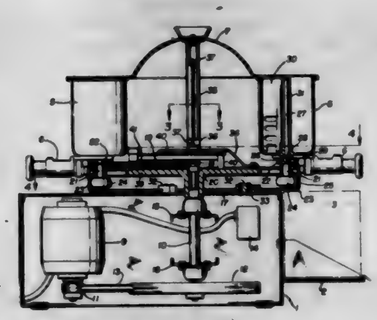
1. A dispenser for granulated or powdered material, comprising a hopper having an angled bottom portion, a motor driven rotatable shaft, a baffle extending partially over the bottom portion of the hopper, the hopper bottom portion having an aperture located under the baffle, transport means immediately above the aperture and being operatively connected to the shaft for successively carrying predetermined volumes of material from the hopper and transporting same under the baffle upwardly to the aperture, and means disposed adjacently under the transport means in cooperative relation with the aperture and the transport means for adjustably retaining a part of the transported material in the transport means.

2,975,938
CAN SPOUT
Joseph Marfisi, 211 Bouvee St., Pittsburgh 14, Pa., assignor of one-fourth to William J. Ruano, Pittsburgh, Pa.
Filed Dec. 31, 1958, Ser. No. 784,417
1 Claim. (Cl. 222—90)



A can spout having a tube composed of a lower tube portion oval-shaped in cross-section, said portion having a shoulder at its upper end and an inclined lower cutting end, a spout-forming cylindrical tube portion of smaller cross-section than said lower tube portion integrally connected to, and extending outwardly from, said shoulder, a helical spring surrounding said cylindrical tube portion, a washer of resilient material normally biased by said spring toward said shoulder of said oval-shaped tube portion, a metallic washer resting on said washer of resilient material and forming a seat for the lower end of said spring, means projecting radially from said cylindrical tube portion, said means comprising a cup-shaped metal washer serving as a stop for the upper end of said spring, and protuberances on said cylindrical tube portion for retaining said cup-shaped washer thereon, whereby, when said cutting end is pressed through and punctures an end wall of a can and said tube portions are turned 90° about their axes, while said spring is under compression, said spring will urge said shoulder against the inner surface of said end wall and will urge the said washer of resilient material against the outside surface of said end wall so that the spout will be held fast to the can in liquid-tight relationship therewith, and an air inlet tube secured to the inner wall of said cylindrical tube portion and projecting into said oval-shaped tube portion.

2,975,939
LIQUID DISPENSING APPARATUS
Arthur G. Russell and Grant Noble Willis, Bristol, Conn., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 9, 1958, Ser. No. 779,180
4 Claims. (Cl. 222—142)

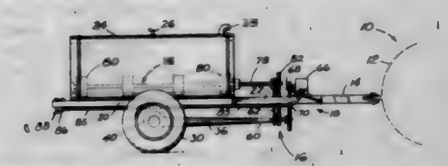


1. In an apparatus for dispensing liquids the combination comprising a rotatable turret, a plurality of individual liquid-retaining vessels disposed about the periphery of said rotatable turret, each of said vessels having a vertical shaft extending to the exterior thereof, means coacting with each of said shafts for agitating the contents of said vessels, a plurality of spindles vertically disposed in said turret adapted to coact with each vertical shaft, means for driving at least one of said spindles, drive means for causing relative rotation of said spindles with respect to said drive means including a drive ring in coaxial relationship with said turret and means coacting between said drive ring and said spindles for transmitting relative motion therebetween, and means coacting between the turret and the drive ring for alternatively selectively preventing rotation of said turret and said drive ring while simultaneously alternatively selectively permitting the rotation of the drive ring and the turret, respectively.

2,975,948
WHEELED VEHICLE FOR DISPENSING FLOWABLE MATERIAL
Clifford R. Nybakke, Newberg, Oreg., assignor to Oregon Nut Growers, Inc., Newberg, Oreg., a corporation of Oregon
Filed May 15, 1959, Ser. No. 813,406
9 Claims. (Cl. 222—177)

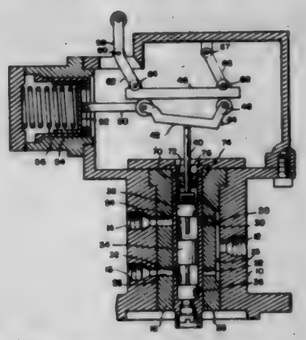
1. A wheeled vehicle with power-operated mechanism for dispensing flowable material comprising a mobile

frame having a pair of laterally spaced, ground-engaging wheels, a reservoir supported on the frame for carrying the material, a dispensing system communicating with the reservoir including pump mechanism for forcing material carried in the reservoir through the system, and power-transmitting means connecting the pair of wheels to said pump mechanism whereby the pump mechanism is powered by rotation of the wheels, the latter means



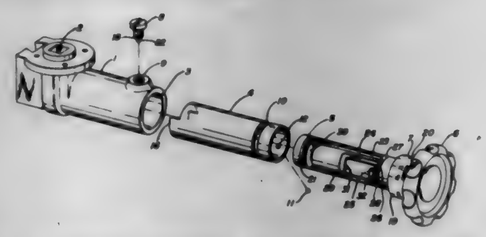
comprising a pair of wheel shafts set end to end and each connected to one of said ground-engaging wheels, differential gearing connecting adjacent ends of said shafts including an epicyclic gear constrained to movement in an orbit about the axes of said shafts and movable on rotation of either of said shafts, and a drive shaft for the pump mechanism operatively connected to the epicyclic gear whereby orbital movement of the former produces actuation of the latter.

2,975,941
FUEL METERING AND PUMPING DEVICE
Alton G. De Claire, Jr., Harper Woods, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Nov. 10, 1958, Ser. No. 772,903
6 Claims. (Cl. 222—250)



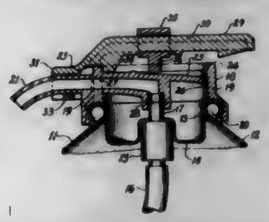
1. A fuel metering and pumping device comprising a body having a cylindrical chamber therein, angularly and axially spaced inlet and outlet passages opening into said chamber, a tubular rotor in said chamber having axially spaced passages each of which communicates alternately with an inlet and an outlet passage of said body, a shuttle type piston movable axially in said tubular rotor between the axially spaced passages of said rotor, a fixed abutment at one end of said rotor engageable with one end of said piston, an adjustable piston-like abutment member movable axially within said tubular rotor at the other side of said piston from said fixed abutment, an apertured plug at the end of said rotor containing said adjustable abutment member, an actuating rod extending through the aperture in said plug and connected to said adjustable abutment member, condition responsive means connected to said rod for adjusting said adjustable abutment, means for maintaining a supply of fluid fuel under pressure at the inlet passages of said body, and passage means for admitting fluid fuel at all times at inlet pressure to the space within said tubular rotor between said adjustable abutment member and said plug to maintain a constant balancing pressure effective at all times on the side of said piston-like abutment member remote from said shuttle type piston.

2,975,942
METERING DISPENSING VALVE
Joseph Giordano, Chicago, Ill., and Arthur G. Russell, Bristol, Conn., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 15, 1958, Ser. No. 780,548
6 Claims. (Cl. 222—380)



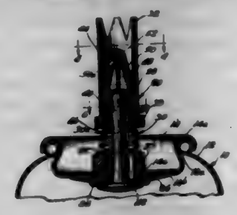
1. A metering dispensing valve comprising a housing having an inlet and an outlet, a barrel valve sleeve rotatably mounted within said housing for selective opening and closing said inlet and outlet respectively, a piston telescopically mounted within said sleeve, means adapted to coact between the piston and the housing for selectively limiting the axial displacement of said piston to any of a plurality of predetermined axial displacements, and means coacting between said piston and said sleeve to cause the sleeve to follow the piston when the latter is rotated about its axis.

2,975,943
ACTUATION ASSISTANT FOR AEROSOL DISPENSER VALVES
Gilbert De Wayne Miles, Ossining, Russell Park McGhie, New York, and Charles W. Fries, Long Island City, N.Y., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Mar. 31, 1958, Ser. No. 725,255
5 Claims. (Cl. 222—394)



5. For a dispensing container for pressurized material having at its top a normally closed discharge valve which opens when depressed and a spouted valve actuator, through the spout of which contained material is dispensed upon opening of the valve, that improvement which comprises a substantially horizontal lever actuation assistant for the valve having means at one end to slip onto the spout and to contact the actuation assistant with a movement restricting part of the actuator held fast to the container, retaining means on said lever for holding the same end of the actuation assistant to the spout so as substantially to prevent relative vertical movement of the lever and spout at that point, stop means on the actuation assistant which prevents horizontal movement of the lever in the direction of the spout by making contact with a part of the actuator held fast to the container and, in conjunction with the lever actuation assistant being held against movement in the opposite direction by contact with the actuator, holds the actuation assistant firmly in place, preventing horizontal movement and, extending downwardly from the lever actuation assistant, a projection over the discharge valve which is movable far enough downwardly when the lever is depressed to open the discharge valve, the lever being of sufficient length so that the force required at the end thereof to actuate the discharge valve is appreciably less than that otherwise required for direct actuation of the valve.

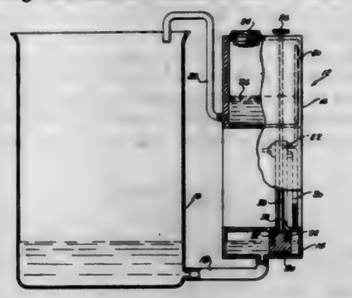
2,975,944
FOAM VALVE ASSEMBLY
David Daniel Michel, 39 S. La Salle St., Chicago, Ill.
Filed June 4, 1958, Ser. No. 739,738
9 Claims. (Cl. 222—394)



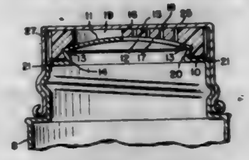
1. A dispensing valve for use with a container for holding fluent materials, said valve including an elongate, axially apertured adjutage and a cooperating plug member, said adjutage having a valve seat, shoulder means disposed within the aperture of said adjutage and a resilient tensioning portion of reduced cross sectional area intermediate said valve seat and said shoulder means, said plug member having an obturator, hook means, and an elongate body portion intermediate said obturator and said hook means, said body portion having a plurality of longitudinally extending radially protruding, peripherally disposed ribs, said hook means and body portion being disposed within the aperture of said adjutage to define a passageway therethrough, said obturator being transversely disposed with respect to said body portion and adapted to sealingly engage said valve seat to prevent fluid flow through the aperture in said adjutage, said hook means extending transversely within the aperture of said adjutage to latchingly engage said shoulder means, the tensioning portion of said adjutage being under axial compression and constantly urging said plug member in a direction to effect sealing engagement of the obturator with the valve seat.

2,975,945
LIQUID AGENT DISPENSER FOR WASHING MACHINE
Maynard E. Anderson, Detroit, Mich., and Lemuel B. Cooper, Edmonds, Wash., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y.
Filed Oct. 31, 1957, Ser. No. 693,725
9 Claims. (Cl. 222—396)

3. A variable charge liquid dispenser for a washing machine comprising means forming a closed air chamber connected in liquid communication with a lower portion of the washer tub of said washing machine, means forming a closed reservoir for a liquid agent adapted to be injected into said tub, an air passageway extending between upper regions in said air chamber and said reservoir by which air can flow from the former into the latter when water flows from the tub into said air chamber, another passageway leading from a lower region of said reservoir into said tub through which liquid agent displaced from said reservoir by the incoming air can flow into said washer tub, air valve means in said first-named air passageway to control the flow of air from said air chamber to said reservoir, air escape means in said air chamber for permitting the escape of air therefrom to the atmosphere only during the period when the water flowing into the air chamber rises to a predetermined level after which the remaining air will begin to flow through the first-named air passageway, and means for selectively varying the effective level of said air escape means so that the volume of air transmitted to said reservoir can be varied for a given rise of water in the tub.



2,975,946
CONDIMENT DISPENSER
Oscar L. Westgate, Pittsford, N.Y., assignor to The R. T. French Company, Rochester, N.Y., a corporation of Delaware
Filed Nov. 24, 1958, Ser. No. 775,820
3 Claims. (Cl. 222—480)

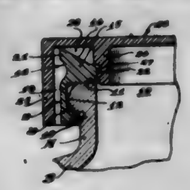


1. A dispensing container having a neck which is circular in cross-section and which is closed at its top by a convex top wall, said top wall having an opening therethrough, said neck having a peripheral recess, a removable, resilient, plastic dispensing cover for said container which is also circular in cross-section and which has an internal annular rib adapted to snap into said peripheral recess to secure said cover to the container, said dispensing cover having a concave undersurface adapted to engage said convex top wall when said cover is secured on the container, said cover having a plane top surface and a plurality of sifting perforations therein, and a separate pouring opening therethrough, said cover being rotatable on said neck to bring said perforations or said opening selectively into registry with the first-named opening, said cover being thickest at its periphery and gradually tapering in thickness from its periphery to its center, the opening in said top wall and the pouring opening in said cover being semi-circular, the straight sides of said openings extending along diametral lines of said top wall and of said cover, respectively, and when in registry forming a wiping edge for leveling off a spoon as it is withdrawn from the container.

2,975,947
DISPENSING TYPE CLOSURES
Fred G. Pellett, Maumee, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed May 3, 1957, Ser. No. 656,953
1 Claim. (Cl. 222—546)

In combination with a container having a neck provided with a central discharge opening for the container,

said neck having an external annular flange forming a retaining surface, a ring shaped pour-out fitment formed of a resilient plastic material secured to said neck and provided with a central axial discharge opening, said fitment having a sealing surface engageable with the terminal end surface of said neck and being formed with a continuous top pouring surface inclined outwardly and upwardly terminating in an annular cut-off edge, an annular peripheral skirt on said fitment, said skirt terminating in an enlarged portion extending radially inwardly, said portion having a surface cooperating with the retaining surface of said external flange to secure said fitment



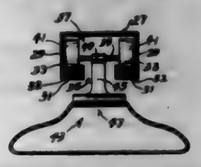
to said neck, said fitment having an annular rib extending radially inwardly within said central opening, a cover comprising a disc-like member having a diameter sufficient to overlie and engage said cut-off edge, said cover having an annular skirt extending into the central opening of said fitment, said last mentioned skirt having a shallow annular groove cooperating with said rib to secure said closure to said fitment, the dimensions of said rib and groove being substantially less than that of said enlarged portion whereby the force required to separate said closure from said fitment is substantially less than that required to remove said fitment from said container.

2,975,948
GARMENT FORM RETAINER
Frank Y. Sherbondy, P.O. Box 7021, San Antonio, Tex.
Filed Dec. 21, 1959, Ser. No. 860,931
1 Claim. (Cl. 223—71)



A form retainer for a coat garment, said garment having overlapping front portions with at least one button hole on one portion, and at least one button on the other portion, said retainer comprising an elongated flat body of yieldable material for insertion between the overlapping front portions of the garment, said body being cut whereby an elongate flap is coupled to said body by a connection integral with said flap and said body, said flap being swingable outwardly from said body about an axis defined by said connection, said body having perforations extending from one end of said coupling along said axis to a point spaced from the other end of said coupling whereby the length of said connection is adjustable by severing the portions of said body between said cut and said perforations, said flap being positioned inwardly of an end of said body and adapted for engagement in said button hole, said body also having a longitudinal slot with an axis parallel to said axis defined by said connection, said slot having one end spaced from said flap and the other end spaced from the other end of said body, said slot having an enlarged opening therein spaced from said one end of said slot to facilitate passing a button through said body, said slot having side edges of said body in engagement therealong on either side of said enlarged opening.

2,975,949
SUSPENSION DEVICE FOR ARTICLES OF WEARING APPAREL
Sidney Latsky, 1490 Goodbar Ave., Memphis, Tenn.
Filed Jan. 27, 1959, Ser. No. 789,301
7 Claims. (Cl. 223—91)



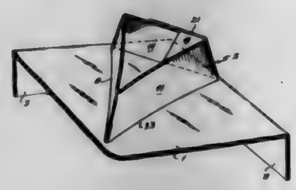
1. In a suspension device for supporting clothes and the like, a support member including a depending neck portion and a transversely extending hook integrally formed adjacent the lower end of said neck portion, said hook being transversely elongated with the transverse width thereof being substantially greater than the vertical length thereof, and said hook extending first rearwardly to provide a ledge for hanging clothes thereon, thence circling downwardly and forwardly to provide a cradle-like portion on the upper surface thereof and finally extending upwardly adjacent its forward edge in spaced relationship with said neck portion; an upper horizontal rod removably received in said cradle-like portion, said upper horizontal rod being stationarily held by said cradle-like portion against rotation about an axis normal to said upper horizontal rod, a pair of side rods respectively integrally formed with the opposite ends of said upper horizontal rod and sloping substantially outwardly and downwardly therefrom, said upper rod being substantially straight between said side rods, a first clamping rod integrally formed with one of said side rods adjacent the lower end thereof and extending inwardly therefrom substantially parallel to said upper horizontal bar, a second clamping rod integrally formed with the other of said side rods adjacent the lower end thereof and extending inwardly therefrom substantially parallel to said first clamping rod and in spaced overlapping relationship therewith whereby being adapted to receive a pair of trousers therebetween, a pair of clamps respectively mounted from said first and second clamping rods adjacent the distal ends thereof, said pair of clamps being arranged to hook over a portion of the opposite clamping rod to clamp the two clamping rods together for holding a pair of trousers therebetween.

2,975,950
TAPE DISPENSER
Edwin F. Kusek, Chicago, Ill., assignor to Mystik Adhesive Products, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 26, 1959, Ser. No. 789,907
2 Claims. (Cl. 225—26)



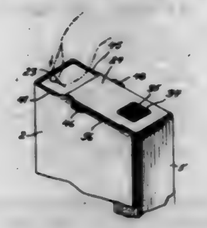
1. A device for dispensing self-sticking tape or the like from a roll, comprising, in combination, a pair of opposite generally parallel sidewalls with a space therebetween for receiving the roll, a front wall extending between the front edges of said sidewalls, said front wall being formed integrally with said sidewalls, said sidewalls having aligned generally triangular openings therein, each of said sidewalls having a three-sided flange formed thereon around said triangular opening and projecting toward the opposite sidewall to extend part way through the roll of tape and thereby hold the roll between said sidewalls, said sidewalls and said front wall being substantially flexible and resilient, said sidewalls thereby being movable away from each other by flexing said sidewalls and said front wall to provide for insertion and removal of the roll, said front wall having a generally horizontal lip formed at the upper end thereof, said lip having a serrated front edge for cutting off the tape, said sidewalls having portions extending upwardly from the side edges of said lip for guiding the tape, each of said generally triangular openings having an arcuately curved rear edge and a pair of substantially straight edges converging forwardly from the upper and lower ends of said curved edge, said flanges having curved sides extending along said curved edges, and substantially straight sides extending along said straight edges of said openings, said curved sides of said flanges being engageable with the inside of the roll, said flanges having nose portions extending between said straight sides of said flanges for engaging the inside of the roll at a point opposite said curved sides, said flanges forming finger grip portions for resisting the pull of the tape as it is drawn forwardly from the roll, said curved sides of said flanges being on the sides of said triangular openings remote from said serrated lip for engagement by a finger inserted through said openings and for supporting the roll against the pull of the tape.

2,975,951
CHICK BOXES AND SPACING CLEATS
Walwin J. Bosche, Jr., Highland, Ill., assignor to The Lawrence Paper Company, Lawrence, Kans., a corporation of Kansas
Filed Apr. 23, 1958, Ser. No. 730,311
3 Claims. (Cl. 229—6)



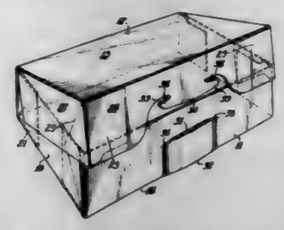
3. A chick box cleat consisting of a single strip of paperboard having lateral flexibility and edgewise rigidity, said strip being die cut and folded with ends secured together in a triangular loop having connected side sections, a pair of said side sections being in angular relation and integrally joined at one end by a fold, the third side section of the triangular loop being end portions integrally joined to the other ends of said respective side sections of the angular pair, said end portions being folded and secured together in at least partial overlapping relationship with one another with the overlap forming a double ply portion between and spaced from said other ends of the angular pair of side sections, upper and lower margins of said side sections of the loop being in substantially parallel planes, said side sections being convergent with one another toward said upper margins thereby permitting internesting of a plurality of such cleats prior to attachment to a chick box cover, notched feet depending from the lower margins of two side sections, and a double ply tongue depending from the lower margin of the third side section at the overlap of said end portions, said depending feet and tongue being for interlocking cooperation with an apertured cover of a chick box.

2,975,952
CONTAINER CLOSURE
Richard B. Tamaria, 1020 Kipling Road, Rydal, Pa.
Filed Oct. 8, 1957, Ser. No. 688,967
2 Claims. (Cl. 229—17)



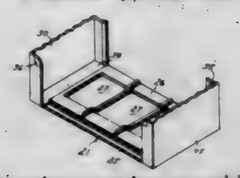
1. An end closure for a container having a dispensing opening extending substantially the width of the container and comprising a substantially rectangular, fixed outer closure piece covering part of that end from side to side alongside the dispensing opening and having a window therein; an inner closure piece carrying a first display means located underneath the outer closure piece and the window therein; and a captive closure piece extending substantially the width of that end of the container and being slidable along the end to cover and to uncover the dispensing opening, the slidable captive closure piece having a portion thereof located beyond the outer edge of the fixed outer closure piece and adapted to be manipulated to move the slidable closure piece and having a second portion thereof adapted to move between the outer and inner closure pieces and carrying a second display means visible through the window of the outer piece when the dispensing opening is uncovered, the captive closure piece being clear of the window and the display means on the second previously mentioned portion thereof being concealed by the fixed outer closure piece when the dispensing opening is covered by the captive closure piece.

2,975,953
CARTON WITH COVER LOCK
Richard J. Muth, Seattle, Wash., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Apr. 24, 1958, Ser. No. 730,685
2 Claims. (Cl. 229—45)



1. A carton formed of foldable paperboard, comprising a tray section having a bottom panel, a front wall panel integrally hinged thereto along a crease line, said front wall panel having a slit cut therein of which at least a portion extends substantially parallel to the crease line, a cover for the tray section including a top panel, front cover flange and a tab depending from an edge of said cover flange adjacent the slit in the front wall panel, the crease line having a portion thereof located adjacent and substantially coextensive with said slit portion and slightly deviated from a straight line, said front wall panel having a portion thereof intermediate the slit and the deviated portion of the crease line deflected out of the general plane of said front wall panel to receive and lock said tab.

2,975,954
EASY-OPENING SETUP BOX
George C. Sparks, Sparks Corp., Shurs Lane and Pechin St., Philadelphia, Pa.
Filed May 15, 1959, Ser. No. 813,399
3 Claims. (Cl. 229—51)



1. An easy opening set-up box comprising a lower part adapted to support goods, a cardboard top wall covering said lower part, a plurality of cardboard side walls depending from and extending about the periphery of said top wall surrounding said lower part, there being a pair of generally parallel lines of weakening formed in said top wall extending there across and continuing across a first pair of spaced side walls, said lines of weakening defining there between a removable tear strip for severing said top wall and said first pair of spaced side walls, a flexible flap connecting each of a second pair of spaced side walls to said lower part for individual swinging movement of the severed top wall portions relative to said lower part, and a flexible rupturable cover sheet secured in substantially completely covering relation with said top wall and said side walls and rupturable upon removal of said tear strip, said flexible flaps each being defined by an integral extension of said cover sheet secured to the underside of said lower part, said lines of weakening being defined by cuts formed in said top wall and first pair of side walls, and said cover sheet being imperforate and overlying said cuts to exclude foreign matter.

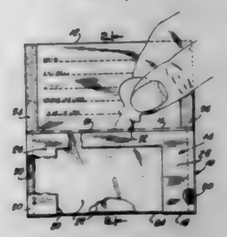
2,975,955
HEAT SEALABLE STEPPED END BAG
Thomas M. McCurry, Savannah, Ga., assignor to Union Bag-Camp Paper Corporation, New York, N.Y., a corporation of Virginia
Filed Apr. 30, 1959, Ser. No. 810,879
6 Claims. (Cl. 229—55)



1. A heat sealable stepped end bag comprising outer paper plies and a heat sealable inner ply formed into a tube, a closure at one end of the tube forming a bottom, the opposite end having the outer plies of one face of the tube, the inner ply and the outer plies of the opposite face each extended beyond the other in stepped relationship with the inner ply exposed, said inner ply being heat sealable adjacent the top edge of said bag to close said tube.

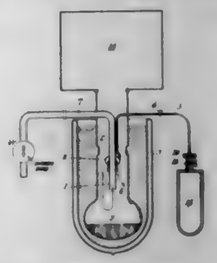
2,975,956
IMPRESSION RECORD ENVELOPE
Edward N. Robinson, Wilton, Conn., Mark J. Appleman and Leonard W. Miller, New York, N.Y., and Leonard Singer, Woodridge, N.J., assignors to Impreg-A-Key Corporation, East Rutherford, N.J., a corporation of New Jersey
Filed Feb. 26, 1958, Ser. No. 717,648
3 Claims. (Cl. 229—68)

1. An impression record envelope comprising a top panel having an information record area on one side and a blank mailing address arm on the opposite side, a bottom article receiving pocket hingedly connected to said top panel, said pocket having an open area intermediate the ends thereof, and an impressionable material liner sheet folded along a fold line intermediate the ends



thereof and located on the inside of said pocket with the fold line adjacent the bottom edge of said pocket and bridging the open area of said pocket, said impressionable material having sides extending upwardly from the fold line and connected to the wall of said pocket.

2,975,957
DIFFUSION PUMPS
Richard Geller, Gif-sur-Yvette, and Guy Mongodin, Clamart, France, assignors to Commissariat a l'Energie Atomique, Paris France, a French society
Filed Aug. 2, 1956, Ser. No. 601,738
Claims priority, application France Aug. 5, 1955
8 Claims. (Cl. 230—95)

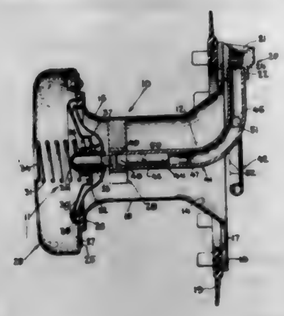


1. A high vacuum diffusion pump apparatus, including a primary pump, said diffusion pump comprising a pump body having one end connected with a container to be exhausted, cooling means enclosing said pump body, a primary vacuum duct extending longitudinally into the central part of said pump body, first pipe means connecting said duct with the primary vacuum pump, an annular ejector mounted around said duct, a primary vessel for holding pumping fluid under pressure, second pipe means connecting said vessel with said ejector, said ejector directing the stream of said pumping fluid in a direction away from the container to be exhausted, means for detachably securing said vessel to said second pipe means, and valve means in said second pipe means for controlling the rate of flow of fluid to said ejector.

2,975,958
ASPIRATING APPARATUS
Donald C. Kane, Wayne Township, Passaic County, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Dec. 8, 1958, Ser. No. 778,676
10 Claims. (Cl. 230—95)

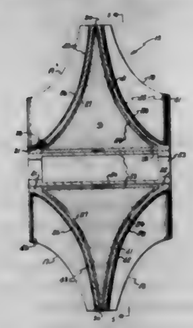
1. Aspirating apparatus for an inflatable device, said apparatus comprising a tube having an air entrainment inlet and an outlet for delivering the entrained air into the inflatable device, seat means on said tube at said outlet,

a closure at said outlet for said seat means, spring means in engagement with said closure, structure positioning said spring means for urging said closure on said seat means, means mounted adjacent said tube for supplying and directing gas under pressure into said inlet to entrain air,



means including a piston for moving said closure away from said seat means, flow directing means slidably mounted on said piston between said closure means and said seat means, and spring means positioned between said closure and said flow directing means for urging said flow directing means towards said seat means.

2,975,959
BACK-TO-BACK CENTRIFUGAL COMPRESSOR AND CENTRIPETAL TURBINE HAVING AN INTEGRAL ROTOR DISC
Berry W. Foster, 1147 10th St., Santa Monica, Calif.
Filed Sept. 30, 1958, Ser. No. 764,291
10 Claims. (Cl. 230—116)

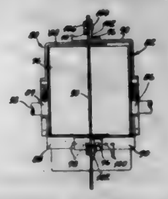


1. A unit comprising a compressor-turbine combination, including an annular single rotor disc, centrifugal compressor blades on one side of said disc, and centripetal turbine blades on the other side of said disc, said unit having a cooling system comprising a cylindrical channel near the inner periphery of said disc, a series of second channels leading generally radially outwardly from the opposite sides of said cylindrical channel each said second channel being generally parallel to the surface of the side to which it is closer and terminating at its radially outer extremity in a port joining it to a said second channel from the opposite side, said channels being filled with heat-conductive fluid, whereby, under rotative forces, said fluid being heated on said turbine side decreases in density and flows radially inwardly as it is displaced by fluid of higher density cooled on said compressor side, and flows through said cylindrical channel to the channels on said compressor channels where its heat is dissipated.

ERRATUM

For Class 230—117 see:
Patent No. 2,976,352

2,975,960
BLOWER UNIT AND MOTOR SUPPORTING MEANS FOR USE THEREIN
Anwar A. Atalla, Torrington, Conn., assignor to The Torrington Manufacturing Company, Torrington, Conn., a corporation of Connecticut
Filed May 19, 1958, Ser. No. 736,212
13 Claims. (Cl. 230—117)

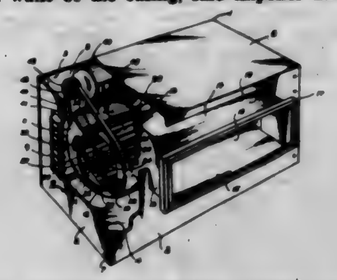


1. In a blower unit, the combination of a housing including parallel side walls respectively having circular intake openings concentric with a common central axis, one of said openings being adapted for motor assembly therethrough, a thin partition in said housing parallel with and midway between said side walls and having a relatively large opening through which said central axis extends which last said opening is smaller than the assembly opening, an electric motor including a casing substantially smaller than said partition opening and located therein and also including a drive shaft concentric with said central axis and having projecting end portions which motor further includes two cylindrical supporting elements adjacent the opposite ends of the casing, two air impellers secured respectively to the projecting portions of said motor shaft and respectively adjacent said intake openings, a separate motor mounting cage including two longitudinally spaced rings respectively fixedly connected with said supporting elements of said motor which cage has two separate half portions each of which includes one of said rings and each of which also includes circumaxially spaced struts extending longitudinally from the corresponding ring and toward the plane of said partition, said mounting cage further including elements extending radially outwardly from the struts and each having a face parallel with the partition at a position spaced outwardly from the partition opening and at the side of the partition facing the assembly opening, said motor and said mounting cage in their fixedly connected relationship with each other being smaller than said assembly opening and therefore adapted to be assembled in an axial direction through said assembly opening to bring said faces of the radially extending elements closely adjacent the partition, and means operable after assembly and accessible and operable through the assembly opening for connecting said radially extending elements with said partition.

2,975,961
BLOWER UNIT
Raymond E. Rodick, Sedalia, Mo., assignor, by mesne assignments, to The Steam-O-Matic Corporation, Sedalia, Mo., a corporation of Missouri
Filed July 23, 1958, Ser. No. 750,322
4 Claims. (Cl. 230—117)

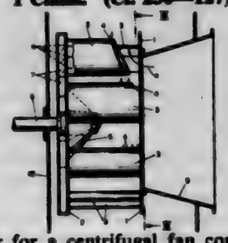
1. A blower unit comprising, a casing including a pair of spaced end walls and a peripheral wall extending around the edges of said end walls, means at the ends of the peripheral wall defining a casing outlet opening, a casing end wall having an inlet opening, a shaft extending through the casing with the longitudinal axis

thereof aligned with the end wall inlet opening, means secured to said end walls and supporting the end portions of said shaft, an elongate air impeller having spaced end members and spaced blades in the periphery of the impeller and extending between said end members, said impeller being carried by said shaft and rotatably mounted in said casing with said end members adjacent the end walls of the casing, said impeller having a belt



receiving groove in the periphery thereof, a motor supported on the casing, a pulley on said motor and driven thereby, and a belt operatively connecting the motor pulley and impeller belt groove for rotating said impeller, the disposition and arrangement of the impeller and casing being such that rotation of the impeller draws air through said inlet opening into the interior of the impeller and forces it outwardly through the outlet opening.

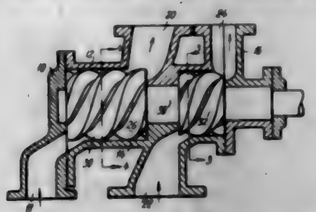
2,975,962
IMPELLERS FOR CENTRIFUGAL FANS
Jan C. Bauquet, Hengelo, Netherlands, assignor to Koninklijke Machinefabriek Gebr. Stork & Co. N.V., Hengelo, Netherlands
Filed Apr. 7, 1958, Ser. No. 726,793
Claims priority, application Netherlands May 10, 1957
1 Claim. (Cl. 230—127)



An impeller for a centrifugal fan comprising a front plate, a back plate, hollow blades having leading and trailing ends and extending between said plates, an opening in one of said plates for each hollow blade and communicating with the interior of said blade, means for introducing fluid through said openings and into the blades at a pressure exceeding that existing at the periphery of the impeller when it is operating, a discharge opening at the trailing end in the wall of each blade adjacent the front plate and remote from the impeller axis, said opening extending for at least part of the width of the blade, the width of the discharge opening of the blade at the front plate of the impeller being larger than towards the back plate of the impeller.

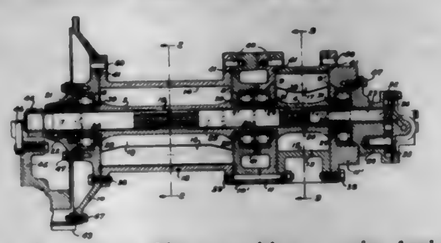
2,975,963
ROTOR DEVICE
Hans Robert Nilsson, Ektorp, Sweden, assignor to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Feb. 25, 1959, Ser. No. 795,534
Claims priority, application Sweden Feb. 27, 1958
7 Claims. (Cl. 230—143)

1. Rotor device operating with at least two pressure stages and provided with male and female rotors each one comprising male and female sections corresponding to the number of stages, the male sections being provided with helical convex lands and intermediate grooves and the female sections with helical concave lands and intermediate grooves, the cross sections of the male sections having a common basic profile and the cross sections of the female sections having a common basic pro-



file, and in a lower pressure stage the lands of the female section being provided with addendum portions outside the profile of the lands of the adjacent female section, the grooves of the corresponding male section being provided with recesses in their bottoms corresponding to these addendum portions, similar sections of each pressure stage having the same land angle.

2,975,964
ROTARY MACHINE
Henry C. Osterkamp, Elm Grove, Wis., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1958, Ser. No. 720,683
4 Claims. (Cl. 230—152)

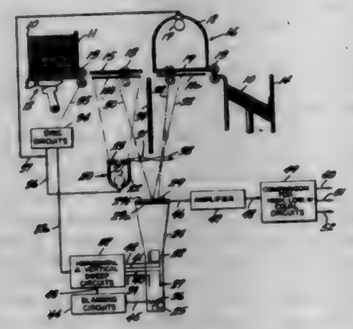


1. A rotary machine comprising, a casing having a cylindrical bore and spaced end heads coacting therewith to provide a chamber extending axially of the bore, a rotor disposed eccentrically within and extending axially of said bore with its opposite ends spaced slightly from said end heads to provide restricted annular gaps and having an annular series of vanes extending along and disposed radially of the bore axis and constantly snugly slidably cooperable with said bore and with said end heads within said chamber, a shaft extending centrally through said rotor axially of said bore, a motion transmitting connection between said shaft and said rotor formed to permit the rotor to move axially within said chamber between said end heads, supporting bearings for said rotor confined within said end heads and being communicable with the gaps between said rotor ends and the adjacent end heads, and means for forcing liquid under pressure along said bearings and through said end heads and gaps to equalize the end pressures acting upon said rotor.

2,975,965
RECORD COMPARING READER
Frederick M. Dewer, Johnson City, and Ralph G. Mork, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 4, 1955, Ser. No. 486,166
25 Claims. (Cl. 235—61.7)

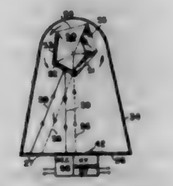
1. In apparatus for comparing data stored at index points on records, means for focusing an electron beam

on a light storage target, light ray generating means, means to convey the records into the path of the light rays to provide images thereof, means for superimposing the images representative of two of said records on said



target, and means for scanning said images with said electron beam to generate signals indicative of the comparison between the data stored on said two records.

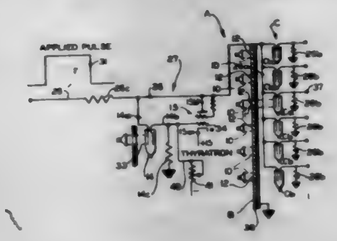
2,975,966
CODED DOCUMENT READER
John H. Howard, Wallingford, Pa., assignor to Burroughs Corporation, a corporation of Michigan
Filed Apr. 9, 1956, Ser. No. 577,143
6 Claims. (Cl. 235—61.11)



6. Apparatus for reading a document upon which data is coated in long persistent luminescent materials and upon which short persistent luminescent materials may be deposited incident to processing and handling of said document, said apparatus comprising, means to irradiate the material on said document, detector means to receive radiation from said material in a selected manner from distinct areas of the pattern of coated data on said document, means to establish a bent ray path between said irradiating means and said document and between said document and said detector means, means to control said bent ray establishing means in a manner to establish predetermined time periods between irradiation of said material and radiation reception to enable said detector means to respond to radiation from said long persistent luminescent materials only after radiation from said short persistent luminescent materials has subsided.

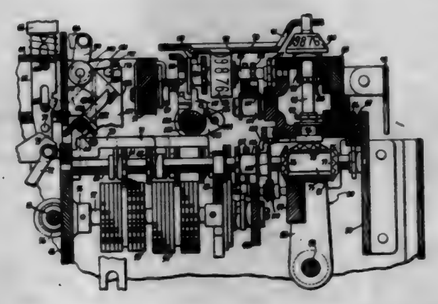
2,975,967
PHOTO-SENSING MECHANISM AND CIRCUIT FOR PUNCHED DATA CARDS
Harold F. Martin, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 1, 1959, Ser. No. 817,298
6 Claims. (Cl. 235—61.11)

1. A photo-sensing unit for reading a punched data processing card having a plurality of punch zones therein, comprising a plurality of small neon reading bulbs mounted to register one with each of such punch zones with such card in a selected position, lighting means mounted to direct a beam of light at each of such punch zones and through a punched hole in any of such punch zones, thereby to illuminate the neon bulb in register with each punch zone having such hole punched therein, the remainder of said bulbs being shielded by such card



from the lighting means, circuit means for subjecting all of said bulbs to an electrical pulse of firing intensity, and light controlled means for limiting the duration of such pulse to a length of time sufficient to fire the illuminated ones of said reading bulbs, and insufficient to fire the non-illuminated ones of said reading bulbs.

2,975,968
CALCULATING MACHINE
Grant C. Ellerbeck, San Leandro, Calif., assignor to Friden, Inc., a corporation of California
Filed July 10, 1956, Ser. No. 596,889
4 Claims. (Cl. 235—63)

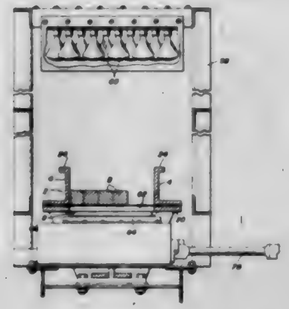


1. In a cyclically operated calculating machine having a full keyboard including ordinally arranged differentially settable selection bars normally registering a "0" value an auxiliary multiplier keyboard, a counter register, a counter actuator, multiplying mechanism including multiplier control keys effective to initiate operation of the machine through a number of cycles corresponding to the value entered into the auxiliary keyboard whereby a value will be entered into said counter register by said counter actuator equal to that inserted into said auxiliary keyboard, and a manually settable multiplier nonentry mechanism effective when in nonentry position to disable operation of said counter actuator and thereby normally preclude the entry of an auxiliary keyboard value into said counter register, the combination which comprises a slot in each of said selection bars, said slots being aligned when the respective bars stand in a "0" value position, a sensing bail adapted to engage in said aligned slots, a yieldable mechanism operated by any of said multiplier control keys for operating said bail, enabling means for enabling said counter actuator regardless of the setting of said nonentry mechanism, and means operated by said sensing bail for operating said enabling means.

2,975,969
APPARATUS FOR FEEDING AND COUNTING BILLETS

Albert L. Stoeckel, Euclid, and Carl T. Zimmermann, Cleveland Heights, Ohio, assignors to United States Steel Corporation, a corporation of New Jersey

Filed Oct. 10, 1957, Ser. No. 689,319
7 Claims. (Cl. 235—98)

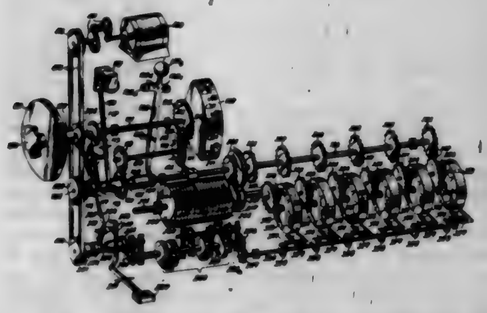


1. Apparatus for feeding and counting billets or the like comprising a conveyor, a scanning plate having substantially vertical holes therein located adjacent said conveyor and positioned transversely of the conveyor, means mounting said scanning plate in fixed relationship with said conveyor, a carriage mounted adjacent one side of said plate for movement transversely of said conveyor, a light source on the side of said plate and said conveyor opposite said carriage and extending transversely of said conveyor, a photosensitive device carried by said carriage, said conveyor having an opening therein permitting passage of light between said light source and said photosensitive device, means for moving said carriage back and forth transversely of said conveyor, means operable by said photosensitive device to indicate a count each time said photosensitive device receives light through a hole in said scanning plate, and means for turning said light source off at the end of the scanning stroke and maintaining it off during travel of said carriage in the reverse direction.

2,975,970
TOKEN TICKET DISPENSERS

Friedrich Heil and Wilhelm Muller, Frankfurt am Main, Germany, assignors to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany, a firm of Germany

Filed Oct. 15, 1957, Ser. No. 690,372
20 Claims. (Cl. 235—101)



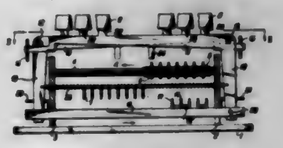
10. In a token ticket dispenser the combination of a manually operable quantity selector dial adapted to be turned from an initial position to a plurality of ultimate positions, a storage shaft under the control of said dial adapted to perform angular movements proportional to a shift of said dial from said initial position to one of said plurality of ultimate positions, a cam on said storage shaft, a plurality of dispensing devices each including a rotatable transport drum adapted to move a strip of token tickets in a direction longitudinally thereof, a first plurality of gears each associated with a transport drum of one of said plurality of dispensing devices to operate said transport drum thereof, a dispensing devices-operating shaft, a manually operable species selector adapted to shift said dispensing devices operating shaft in a direction longitudinally thereof to a plurality of selecting positions, a locking mechanism for said species selector under the control of said cam on said storage shaft for locking said species selector in position upon angular movement of said storage shaft out of said initial position thereof, a second plurality of gears spaced on said dispensing devices operating-shaft in such a way as to permit meshing engagement of each of said first plurality of gears with but one of said second plurality of gears, and means depending on the setting of said storage shaft for rotating said dispensing-devices-operating shaft.

14. A token ticket dispenser as specified in claim 10 comprising a plurality of counters each operatively related to said transport drum of one of said plurality of dispensing devices to count the value of the token tickets dispensed by each of said transport drum, a plurality of electric switches each under the control of one of said plurality of counters, electro-magnetic means under the control of said plurality of switches, and a locking mechanism under the control of said electromagnetic means precluding continued operation of said dispensing devices-operating shaft when any of said plurality of counters reaches a predetermined operating position thereof.

2,975,971
CALCULATING MACHINE WITH DIGIT KEYS AND FUNCTION CONTROL KEYS

Gustav Schenk, Darmstadt, Germany, assignor to Werkzeugmaschinenfabrik Oerlikon Buhrle & Co., Zurich, Switzerland

Filed Nov. 9, 1955, Ser. No. 545,976
Claims priority, application Germany Nov. 13, 1954
1 Claim. (Cl. 235—145)

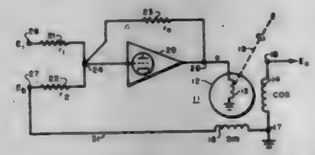


In a calculating machine, indexing mechanism comprising a pair of transversely spaced ten-key keyboards composed, respectively, of digit keys and function control keys, a horizontally disposed transversely shiftable pin carriage below said keyboards, vertically adjustable pins in said pin carriage, a pair of spaced parallel, horizontal axles above said pin carriage disposed normal to the direction of movement of said pin carriage, said keyboards being disposed intermediate said axles, a first group of substantially L-shaped key levers pivotally supported at their apices on one of said axles and having horizontal arms directed towards the other axle and vertical arms directed downwardly, the digit keys of one of said keyboards being attached to the distal ends of said horizontal arms intermediate said axles, a second group of substantially L-shaped key levers pivotally supported at their apices on the other of said axles and having horizontal arms directed towards said one axle and vertical arms directed downwardly, the function control keys of said other keyboard being attached to the distal ends of the horizontal arms of said second group of levers intermediate said first keyboard and said one axle, the horizontal arms of one group of key levers being disposed between and parallel to the horizontal arms of the other group of key levers, downwardly directed means on the horizontal arms of said first group of key levers for adjusting said pins in said pin carriage, a plurality of function control slides below said pin carriage and movable longitudinally parallel to said axles, means connected to the downwardly directed arms of said second group of key levers for controlling the movement of said slides, said key levers by their shape and disposition embracing a gate-shaped space in the upper part of which is arranged the pin carriage and in the lower part of which are arranged the function control slides, and a plurality of springs in the space between said pin carriage and said function control slides connected at opposite ends to the downwardly directed arms of a pair of key levers one from each of said groups.

2,975,972
FUNCTION GENERATOR

Lawrence H. Dworetzky, Valhalla, N.Y., assignor to General Precision Inc., a corporation of Delaware

Filed Jan. 21, 1958, Ser. No. 710,288
1 Claim. (Cl. 235—186)



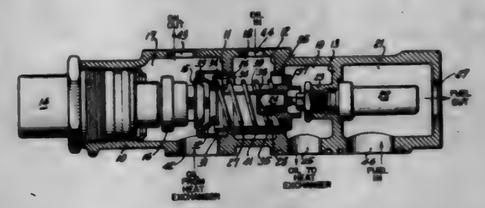
A function generator comprising, a resolver having an input winding, a mechanical input connected to adjust the angular position of said input winding, said resolver additionally including a pair of output windings displaced by 90° relative to each other whereby the signal produced across one output winding is the product of the potential applied to the input winding and the sine of the mechanical input angle and the signal produced across the other input winding is the product of the potential applied to the input winding and the cosine of said mechanical input angle, a subtracting circuit having an input signal and the signal produced across said one output winding applied thereto and producing a difference signal therefrom, an amplifier, negative feedback resistor means interconnecting the output and input of said amplifier maintaining the magnitude of the output thereof the same as that of its input, said amplifier having said difference signal impressed on its input and having the output thereof connected to said input winding, and means obtaining an output signal from said other output winding.

2,975,973
THERMOSTATIC VALVE

Frank E. Carroll, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio

Filed Nov. 27, 1957, Ser. No. 699,360
3 Claims. (Cl. 236—34.5)

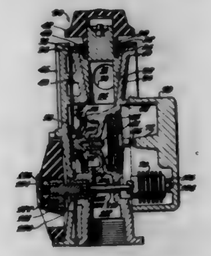
1. A valve assembly interposed in the path of flow of two different fluids to control the flow of one of said fluids by reference to the temperature of both thereof, including a valve body providing first and second passages therethrough for said one fluid, a third passage therethrough for the other one of said fluids, and two by-passes between said first and second passages; a valve adjustable in said body to obtain a modulated flow of said one fluid through said first passage, said valve independently controlling one only of said by-passes; thermal means responding to the temperature of the other one of said fluids in said third passage to adjust said valve; another valve controlling flow through the other one of said by-passes; and thermal means responding to the temperature of said one fluid in said second passage to adjust other said valve.



2,975,974
THERMOSTATIC CONTROL DEVICES

Wilbur F. Jackson, Compton, and John W. Wright, Long Beach, Calif., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware

Filed July 1, 1957, Ser. No. 669,286
6 Claims. (Cl. 236—48)



1. In a control device, the combination comprising a casing, flow control means enclosed within said casing being movable between controlling positions, means to bias said flow control means to one of its positions, actuating means to move said flow control means against said biasing means to another of its positions, said actuating means having a portion extending exteriorly of said casing, a hollow levered housing exteriorly of said casing engaging said actuating means and being fulcrumed on said casing, said portion of said actuating means extending within the hollow portion of said levered housing, spring means biasing said levered housing in an arc toward said casing to exert a force on said actuating means to move said flow control means to the said another of its positions, and thermally responsive means operatively engaging said levered housing and exerting a second force thereon opposite to the first force and variable in accordance with temperature variations so that operation of said actuating means is dependent upon the resultant of the forces, said thermally responsive means extending within the hollow portion of said levered housing.

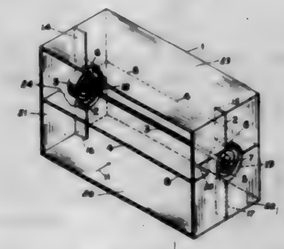
2,975,975
AUTOMATIC VENTILATORS

Erwin L. Weber, 632 Medical Arts Bldg., Seattle, Wash.

Filed July 21, 1958, Ser. No. 750,039
1 Claim. (Cl. 236—49)

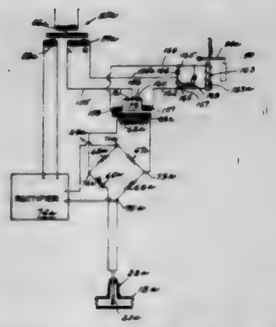
In a ventilator, the combination which comprises a rectangular-shaped casing having a base, side walls extended upwardly from sides of the base, and an upper panel parallel to the base and connecting upper edges of the side walls, shrouds extending from the base to the upper panel and having vertically disposed upper and lower flanges positioned in a plane extended longitu-

dinally through the casing and connected by semi-circular sections, said shrouds being located at the ends of the casing and secured to inner surfaces of the side walls, a pair of bi-metal coils mounted on inner surfaces of the semi-circular sections of the shrouds, a shaft positioned longitudinally of the casing and mounted with the ends thereof secured to inner ends of the bimetal coils, a damper having recesses in the ends mounted on the shaft and positioned to close a passage through the casing, said shrouds being positioned to cover one vertical side of



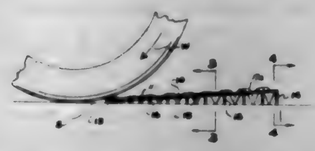
the bimetal coil unit to prevent the coils from being subjected to rapid changes in temperature due to the passage of fluid through the casing, and said bimetal coils being positioned to actuate the damper to, selectively, a closed position in said casing when the temperature of air around the casing rises to a predetermined degree, and to a closed position in said casing with the damper turned about its axis to a substantially completely reversed position when the temperature of the air drops to a predetermined degree.

2,975,976
ELECTRO PNEUMATIC TEMPERATURE CONTROL SYSTEM
Robert P. Smith and Joseph A. Christ, Chicago, Ill., assignors to Vapor Heating Corporation, Chicago, Ill., a corporation of Delaware
Filed May 31, 1957, Ser. No. 662,844
2 Claims. (Cl. 236—78)



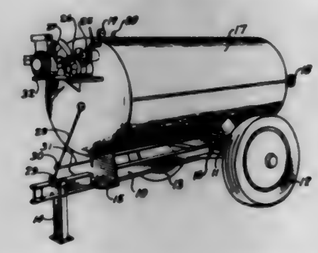
1. In a temperature control system wherein means comprising a valve and operating mechanism therefor deliver variable amounts of heated air into an enclosure whose temperature is being controlled; means including a magnetically controlled element for regulating the said valve operating mechanism in relation to the temperature within said enclosure and comprising an electro-magnet having a winding for imparting progressive increments of motion to said element to an extent proportional to the strength of the magnetic flux developed in said electro-magnet winding; electrical means for energizing said electro-magnet comprising a transformer having a secondary winding, an electro-magnetic amplifier including a pair of output coils and a control winding therefor; a full wave rectification circuit for electrically connecting the transformer, the electro-magnetic amplifier and said electro-magnet comprising a connector provided with a pair of opposed rectifiers therein and leading from the output end of one of said pair of output coils to the input end of the other output coil, a connector leading from a point intermediate said opposed rectifiers to one end of the transformer secondary winding, a connector leading from the output coil of said pair to the input end of said electro-magnet winding, a connector leading from the output end of said electro-magnet winding to the input end of the first mentioned coil of said pair, a second pair of opposed rectifiers connected across the input and output ends of said electro-magnet winding and a connector leading from the other end of the transformer secondary winding to a point between the last mentioned pair of rectifiers; a source of direct current; means for passing variable amounts of current from said source through said control winding including a bridge having its input terminals connected to said direct current source, its output terminals connected to said control winding and having a temperature sensitive resistance connected in one arm of the bridge and responsive to the temperature within said enclosure to vary the flow of electrical current through the bridge to said control winding and thereby vary the magnetic force of said electro-magnet; and a manually adjustable temperature selector resistance connected in the bridge arm containing said temperature sensitive resistance.

2,975,977
TRACTION DEVICE FOR AUTOMOBILE TIRES
Joseph Chodacki, 12504 Charest, and Roman Zdrojkowski, 3889 Sobieski, both of Detroit 12, Mich.
Filed Mar. 20, 1959, Ser. No. 800,811
1 Claim. (Cl. 238—14)



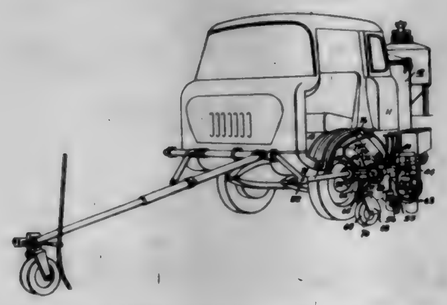
A traction device for an automobile tire, the device consisting of an oblong plate defined by two parallel sides and having a front end and a rear end, said plate having along each side a downwardly turned flange formed into a plurality of integrally-formed teeth of gradually-increasing length beginning with the shortest teeth at the front end to the longest teeth at the rear end, said teeth lying in a single plane, said plate having along its rear end a downwardly turned flange formed into a plurality of teeth extending downwardly from the rear end of the plate and lying in a plane at right angles to the planes of the side teeth, and a plurality of longitudinally spaced teeth extending from the undersurface of the plate in a row along a line centrally spaced from both sides of the plate, the teeth being graduated in length from the shortest at the front end of the plate to the longest at the rear end thereof, said latter teeth being parallel to each other and in planes parallel to the plane of the rear end teeth, the plate as supported by said teeth forming an incline, the front end portion of the plate being shaped into a shallow arcuate trough, and adapted to be wedged against the tire at the ground level, with the main body of the plate extending forwardly of the tire in the path of its intended travel, and a plurality of transversely arranged arcuate ridges integrally formed from and projecting above said plate for engagement with the tire tread, the ridges being aligned in longitudinal rows on each side of a longitudinal median of the plate, individual ridges being spaced from each other longitudinally and laterally.

2,975,978
MANURE HANDLING DEVICES
James P. Propst III, Tucker, Ga., assignor to Superior Tank Corporation, Tucker, Ga., a corporation of Georgia
Filed June 29, 1959, Ser. No. 823,504
6 Claims. (Cl. 239—148)



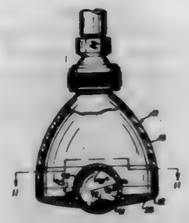
1. In a device of the character described, a vehicle chassis including a support frame, an enclosed tank positioned thereon, a pump mounted on the tank, an engine situated adjacent the pump, a drive belt connecting the engine and the pump, valve means for reversing the action of said pump so that it is either drawing air from or blowing air into the tank, a pressure guage mounted on the tank, a discharge outlet at the rear of the tank, a cock valve connected thereto, means for actuating said valve including a connecting rod and operating lever pivotally mounted near the front of the tank; an elbow spray connected to the valve, a spray plate at the discharge end of said elbow, and means for adjustably regulating the distance between said plate and said discharge end whereby the amount and nature of fluid material ejected at a given time is determined and governed.

2,975,979
ROAD STRIPING MACHINE
William R. Shaffer, Huntingdon, Pa., assignor to Wald Industries, Inc., Huntingdon, Pa., a corporation of Pennsylvania
Filed Feb. 11, 1959, Ser. No. 792,571
14 Claims. (Cl. 239—150)



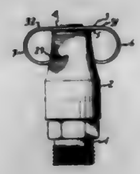
10. A road striping machine comprising a vehicle, a carriage laterally of said vehicle, a spray gun on said carriage, means pivotally connecting said carriage to said vehicle for rotational movement about a longitudinally extending axis, and a positive drive mechanism connecting said carriage and vehicle for maintaining the carriage vertical axis in parallel positions during said rotational movement.

2,975,980
SHOWER HEADS
Allan H. Siebert, Avon Lake, and William F. Blonchek, Parma, Ohio, assignors to Raven, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 11, 1958, Ser. No. 754,193
4 Claims. (Cl. 239—316)



1. In a shower head for a liquid supply pipe, bowl-shaped means having an annular side wall and a bottom wall with nozzle openings, said bottom wall having a substantially circular opening with side surfaces flaring outwardly toward the interior of said bowl-shaped means, a weighted ball-shaped member normally positioned substantially interiorly of said bowl-shaped means to close said opening with its peripheral surface in snug engagement with said flaring surfaces, and pivot means on the interior surface of said bottom wall permitting pivotal movement of said ball-shaped member toward and away from said opening, said ball-shaped member when positioned to close said opening having a portion projecting outwardly beyond the external surface of said bottom wall exposed for engagement by an operator.

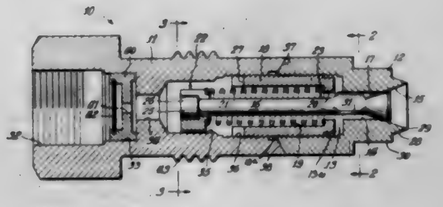
2,975,981
SPRINKLER
Haggie I. Cockman, P.O. Box 656, Sanford, Fla.
Filed July 7, 1959, Ser. No. 825,569
1 Claim. (Cl. 239—383)



A sprinkler comprising an upright hollow sleeve having an upper end and a lower end and with a vertical cylindrical bore opening through said ends, a hollow cylindrical rotor slideably and rotatively fitted in said bore, said rotor having an upper end portion and a lower end and being slideable from a rest position in which said upper end portion is housed within said bore to an extended active position in which said upper end portion projects above said upper end of said sleeve, a horizontal cover plate fixed to said upper end portion of said rotor in position to rest on said upper end of said sleeve, said upper end portion being provided with outwardly directed discharge outlets arranged below said cover plate and communicating with the hollow interior of said rotor, said cover plate extending outwardly and having downwardly curved end portions spaced outwardly of and opposite respective ones of said discharge outlets, an upwardly facing thrust bearing surface on an upper exterior portion of said rotor and a cooperating fixed bearing member having a resilient band portion supportedly surrounding said sleeve and a bearing portion disposed spacedly above said rotor bearing surface

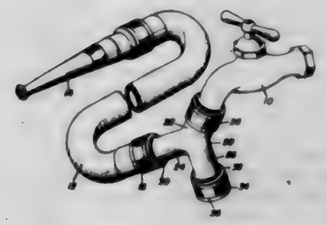
when said rotor is in said rest position and engaged in bearing contact with said bearing surface when said rotor is in said active position, said lower end of said sleeve extending below said lower end of said rotor, and being adapted and arranged for connection to an external water supply source.

2,975,982
FUEL INJECTION NOZZLE
Einar S. Dahl, Decatur, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 16, 1957, Ser. No. 702,853
4 Claims. (Cl. 239—453)



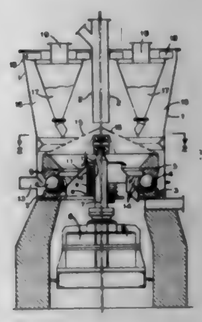
1. In a fuel injection nozzle for spraying liquid fuel into a chamber in which fuel and air are mixed, the combination of a sleeve-like body member having a longitudinally extending fuel passage therethrough which is threaded on its interior for a portion of its length and to one end of which fuel under pressure is adapted to be supplied, a sleeve-like nozzle tip having a longitudinally extending fuel passage therethrough and forming a fluid tight seal with said body, said nozzle tip being formed with an outwardly flaring opening defining a seat at one end of the fuel passage, a pintle extending into said fuel passage and having a tapered conical head adapted to seal against said seat, a spring for maintaining said pintle against said seat, and a spring retaining sleeve threaded within said nozzle tip and adapted to adjust the force of said spring and thereby adjust the force acting to hold said pintle against said seat and also adapted to be threaded within said nozzle body so as to attach said nozzle tip to said body.

2,975,983
GARDEN HOSE SAFETY VALVE
Warren H. Niebling, 303 Suffolk Road, Flourtown, Pa.
Filed Nov. 4, 1959, Ser. No. 850,885
2 Claims. (Cl. 239—547)



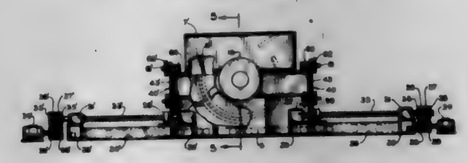
1. In combination, a sill cock, a Y-fitting having one of its branches threadedly connected to said sill cock, a hose having one end threadedly connected to another branch of the fitting, a control nozzle on the other end of said hose, and a safety valve on the third branch of the fitting and operable at a pressure below the pressure-resisting capacity of the hose.

2,975,984
PULVERIZING APPARATUS
Karl-Heinz Kayatz, Hamburg-Grossflottbek, Germany, assignor to Babcock & Wilcox Limited, London, England, a company of Great Britain
Filed Mar. 3, 1958, Ser. No. 718,877
Claims priority, application Germany Mar. 6, 1957
7 Claims. (Cl. 241—52)



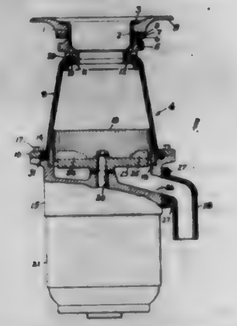
6. Apparatus for pulverizing solid materials comprising a housing having a pulverized material outlet duct in the upper portion thereof and a pulverizing zone in the lower portion thereof, said pulverizing zone including a stationary horizontally disposed lower annular grinding ring and a rotatable upper annular grinding ring, a circumferential row of rolling grinding elements positioned between said lower and upper grinding rings, means for rotating said upper grinding ring including an upright drive shaft operatively connected to said upper ring and a drive motor connected to the lower portion of said drive shaft and supported therefrom, whereby the weight of said motor and drive shaft are superposed on said upper ring, means for gravitationally introducing raw solid materials from above through a duct into the central portion of said pulverizing zone, means for discharging the pulverized solid materials from the outer circumference of said grinding zone, and means for introducing carrier medium horizontally against said grinding elements and passing an annular stream of said carrier medium upwardly to entrain pulverized material discharging from the outer circumference of said pulverizing zone and toward said outlet duct.

2,975,985
GRINDERS
Harry J. Shelton, Jr., Ladue, Mo., assignor to Gruendler Crusher and Pulverizer Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 12, 1958, Ser. No. 714,851
5 Claims. (Cl. 241—86)



2. A grinder comprising a fixed housing open on two opposite sides thereof, grinding means rotatably mounted in said housing, a pair of screen supporting carriages, one each on opposite sides of the housing and adapted for closurewise disposition across the open sides when the carriages are within the housing, each carriage having a foraminous screen removably mounted therein, mounting means interposed between each carriage and the housing for shiftably supporting the carriages, and driving means operatively connected to the carriages for shifting said carriages and screens along their respective mounting means into and out of said housing, said screens being adapted to contact edgewise when in operative position within the housing so that one screen forms substantially a continuation of the other, said driving means being adapted for causing the independent shifting of the carriages in diverging and converging directions.

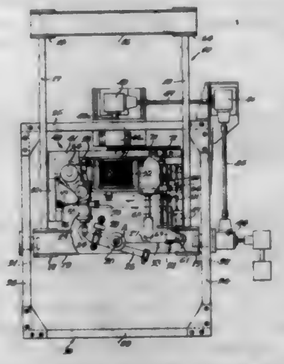
2,975,986
SILENT GARBAGE GRINDER
Paul A. Frank, Akron, Ohio, assignor to National Rubber Machinery Company, Akron, Ohio, a corporation of Ohio
Filed July 18, 1957, Ser. No. 672,714
1 Claim. (Cl. 241—100.5)



A garbage grinder comprising an upper tubular connector adapted to be secured in the drain opening of a sink to support the grinder; a downwardly extending tubular housing of elastomeric material terminating in upper and lower wire reinforced beaded edges, means securing said housing in depending relation from said connector; a motor housing providing a discharge opening for comminuted refuse, a shredder ring piloted in a counterbore in the top of said motor housing and telescoped in the lower end of said elastomeric tubular housing; a motor driven rotary impeller disposed within said ring adapted in cooperation with said ring, to comminute refuse introduced into said housing through said connector, a clamping ring clamping said lower beaded edge of said elastomeric tubular housing between complemental recesses of said motor housing and clamping ring and holding the lower end of said elastomeric tubular housing against said shredder ring, said elastomeric tubular housing being reinforced by vertically reinforcing cords embedded therein and wrapped around the reinforcing wires of the upper and lower beaded edges, the cord enclosed reinforcing wires of said beaded edges having a wrapping of woven fabric extending therearound, to constitute a substantially unyielding vertical support while being laterally flexible for isolating motor vibrations and grinding noises from said connector and from the sink from which the grinder is adapted to be hung.

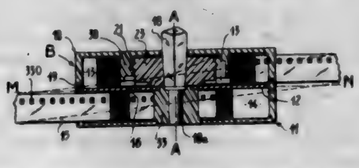
2,975,987
POLAR WIND APPARATUS
Edward T. Strickland, Homer C. Amos, and Billy M. Glass, Palm Springs, Calif.; said Strickland and Amos assignors to General Analytics Associates, Palm Springs, Calif., a partnership, and said Glass assignor to The Brunswick-Balke-Collender Company, a Delaware corporation
Filed Oct. 27, 1959, Ser. No. 848,983
8 Claims. (Cl. 242—2)

1. Apparatus for winding filaments on a mandrel to form a pressure vessel comprising a frame, a rotatable mandrel shaft on said frame, means for indexing said shaft by steps of less than a revolution, a subframe pivotally mounted on said frame for movement about an axis intersecting, at a first intersection, said mandrel shaft rotation axis at a right angle, a filament applying arm rotatably mounted on said subframe for rotation about an axis extending to said first intersection, means for



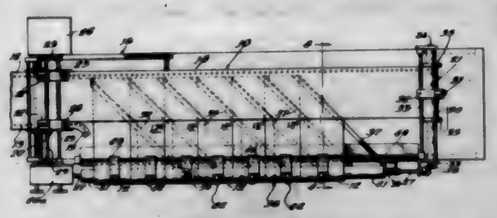
rotating said arm, means on said arm supporting a filament supply reel and filament tensioning means, and a filament applying pulley movably mounted on said arm for bodily movement along a path parallel to said last mentioned axis to apply successive filament lengths on a mandrel adjacent to each other as the arm rotates about the mandrel.

2,975,988
SPOOL FOR ENDLESS FILM
Gustavo Galluzzi, % A. Giambrocono, Via Durini 4, Milan, Italy
Filed Jan. 5, 1959, Ser. No. 784,948
1 Claim. (Cl. 242—55.19)



A spool for an endless film comprising in combination a film, a cylindrical film intake cap adapted to receive a plurality of turns of said film and provided with a slot for the intake of film thereinto and a part-circular housing concentric with the center of said intake cap, a rotatable film driving drum having a toothed periphery, said driving drum being rotatably mounted within said part-circular housing, a shaft for rotating said driving drum and adapted to project out of said intake cap, a cylindrical film issue cap substantially the same size as said intake cap, said issue cap being adapted to receive a plurality of turns of film and being provided with a slot for the issue of film therefrom, a circular diaphragm having an arcuate slot substantially concentric with the center of said diaphragm and of said intake and issue caps, and means for locating and fastening said intake and issue caps and said diaphragm to each other to form a cylindrical unit, one end of said film being introduced through said intake slot into said intake cap, coiled about said part-circular housing, with a part of the innermost turn of said film being led to engage a part of said toothed periphery of said driving drum, thence being led through said arcuate slot in said diaphragm into said issue cap, thence being led out of said issue cap through said issue slot, that free end of the film thence being spliced to the free end of the film entering said intake cap.

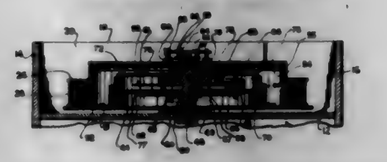
2,975,989
MECHANISM FOR DELEAVING CARBON STRIPS
Burton L. Hinman, Downers Grove, Ill., assignor to Uarco, Incorporated, a corporation of Illinois
Filed July 10, 1957, Ser. No. 670,951
6 Claims. (Cl. 242—56.5)



1. Mechanism for deleaving carbon strips from a stationery assembly of superposed continuous form stationery strips joined together at one longitudinal marginal edge portion, comprising: a frame across which the stationery assembly can be drawn, said frame being provided with a supporting member positioned transversely of its forward end; stationery strip tensioning rolls journaled in the frame and spaced rearwardly of said supporting member so that a span of the stationery strips may be extended between said supporting member and tensioning rolls, said tensioning rolls being engageable with the stationery strips to pull said strips across the frame toward a collecting station; a plurality of turning bars secured to the frame intermediate said supporting member and tensioning rolls, each bar extending cantileverwise into the stationery assembly between adjacent stationery strips so that a carbon strip can be passed therearound and laterally out of the stationery assembly, said turning bars being spaced longitudinally of the frame so as to turn the carbon strips out of the assembly in longitudinally spread relation during a deleaving operation; rotatable carbon advancing means on the frame extending longitudinally thereof for engaging the longitudinally spread, laterally projecting carbon strips and pulling said carbon strips from the stationery assembly; and drive means for imparting rotation to said tensioning rolls and carbon advancing means to remove the carbon strips from the stationery assembly and advance the marginally interconnected stationery strips across the frame toward said collecting station.

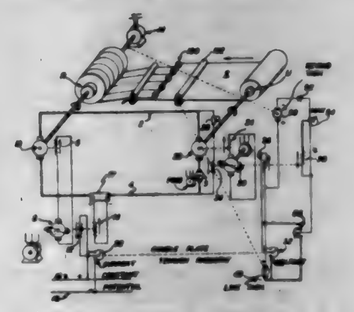
6. Mechanism for deleaving carbon strips from a stationery assembly of superposed continuous form stationery strips joined together at one longitudinal marginal edge portion, comprising: a frame over which the stationery assembly can be drawn; a pin-wheel type feeding device journaled in the forward portion of the frame for engaging and advancing the stationery assembly; rotatable tensioning rolls mounted in the rearward portion of the frame for gripping and tensioning the span of the stationery strips extending from the pin-wheel type feeding device; a trimming blade rotatably mounted adjacent said pin-wheel feeding device, said trimming blade being adjustable laterally of the frame for severing the marginal edge portion opposite said one marginal edge portion and freeing the stationery strips from the interposed carbon strips; turning bars secured to the frame and spaced longitudinally thereof for laterally turning the carbon strips out of the assembly into longitudinally spread relation, each of said turning bars being positioned to extend cantileverwise into said span of the stationery assembly between adjacent stationery strips to support the span of stationery assembly and to enable a carbon strip to be passed therearound and laterally out of the stationery assembly; rotatable carbon rolls on the frame and extending longitudinally thereof for engaging the longitudinally spread, laterally projecting carbon strips and pulling said carbon strips from the stationery assembly; a carbon collecting roll journaled in the frame adjacent and parallel to said carbon rolls for winding up the carbon strips pulled from the stationery assembly; and drive means for rotating the tensioning rolls, the carbon rolls and carbon collecting roll to remove the carbon strips from the stationery assembly and advance the marginally interconnected stationery strips across the frame toward a collecting station.

2,975,990
FILM REELING MAGAZINE FOR MOVIE CAMERAS
Pedro M. Rodriguez, 122—19 111th Ave., South Ozone Park, N.Y.
Filed Mar. 19, 1959, Ser. No. 800,547
7 Claims. (Cl. 242—71.2)



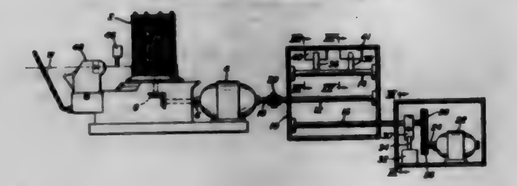
1. A film magazine for a motion picture camera having a drive sprocket wheel for drawing a film past a lens assembly, comprising a rotatable base plate, an annular supply reel of said film disposed on said plate, said plate having a cylindrical wall, a take-up reel concentrically disposed within said supply reel, a support concentrically disposed within and frictionally engaging said take-up reel, a cover plate supported by said wall, a chute formed in said cover plate for feeding said film from said drive sprocket wheel to said take-up reel, and gears means operatively connecting said base plate and support for driving the take-up reel at a faster angular speed than the supply reel and base plate, said gear means comprising a plurality of rotatable meshed gears, a frame supporting said gears, and means holding said frame stationary while said gears rotate.

2,975,991
STRIP TENSION CONTROLLER
Mathias Michel, Walnut Creek, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Dec. 30, 1957, Ser. No. 705,989
9 Claims. (Cl. 242—75.51)



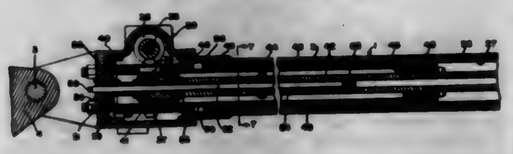
1. A tension controller in a rewind system for uncoiling and coiling strip material comprising in combination with a rewinding reel and an unwinding reel a strip material engaging roller means disposed intermediate said reels, dynamoelectric machines connected to said reels and to each other in a loop circuit, dynamoelectric control means including a tachometer generator mechanically connected to said roller means and electrically connected to one of said dynamoelectric machines for controlling said dynamoelectric machines to establish a predetermined tension in the strip material being coiled, said control means controlling the voltage in the loop circuit to maintain said voltage directly proportional to the speed of the strip material being passed from the unwinding reel to the rewinding reel and including a further control means enabling a variable selection of the tension introduced into the strip material.

2,975,992
AUTOMATIC RESETTING SYSTEM FOR COUNTERS
John A. Kondrath, Waukegan, Ill.
Filed Aug. 5, 1955, Ser. No. 526,587
3 Claims. (Cl. 242—78)



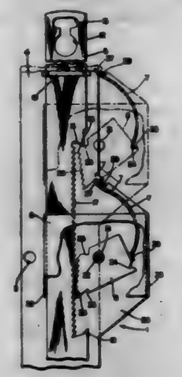
3. In a mechanism for coiling an elongated article, an actuating device for operating said mechanism, an electric circuit for energizing said device, a predetermined counter connected to said actuating device for measuring the length of article coiled, a reset shaft for resetting said counter to zero, a motor connected to said reset shaft, a control shaft operable by said counter, means mounted on said control shaft for opening said actuating circuit after said counter reaches a predetermined count, a reset circuit for supplying power to said motor comprising a normally open initiating switch in said reset circuit and a holding switch connected in parallel with said initiating switch to hold the circuit initiated thereby closed, means mounted on said control shaft for closing said switch after said predetermined count to start said motor to reset said counter to zero, a cam mounted on said reset shaft to hold said holding switch open when said reset shaft is in full cycle position and said motor is not operating and to allow said holding switch to close when the motor starts operating and to remain closed until the reset shaft completes a revolution and the counter is reset, and a switch mounted adjacent the elongated article being coiled and having a normally closed contact in said first named circuit and a normally open contact in said reset circuit in parallel with said initiating switch, said last named switch being operable by breakage of said elongated article to deenergize said first named circuit and to energize said reset circuit.

2,975,993
ADJUSTABLE TOOL MOUNTING
Michael A. Bengen, Jr., Claremont, N.H., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 21, 1957, Ser. No. 691,485
18 Claims. (Cl. 248—2)



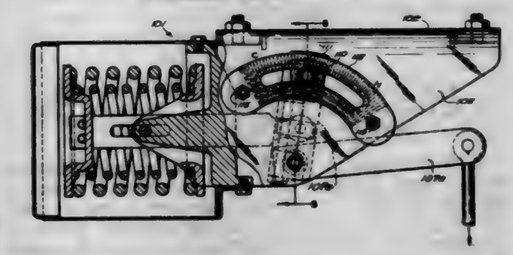
1. In an adjustable tool mounting, an extensible boom compriaing cooperating boom parts one telescoping within and extendible relative to the other, said extendible part also being rotatable relative to the other part, power operated means for extending said extendible boom part comprising power actuated cylinder and piston members one having movement relative to the other and said movable member being connected to said extendible boom part, power operated rotating means, and means for connecting said rotating means to said extendible and rotatable boom part for rotating the latter relative to said other boom part.

2,975,994
PICTURE HANGING BRACKET
James W. Goss, 410 South St. SW., Warren, Ohio
Filed Mar. 5, 1959, Ser. No. 797,516
5 Claims. (Cl. 248—31)



5. A device for hanging framed pictures or the like upon a wall, comprising a bracket, means for connecting the bracket to a picture or the like, a slide bar slidably mounted upon the bracket, means at the upper end of the bar for attachment to a wall, a ratchet on the slide bar, a pawl on the bracket movable between ratchet-engaging and disengaged positions, a spring on the bracket holding the pawl in either position, first pawl-actuating means at the upper end of the ratchet for moving the pawl to the disengaging position, and second pawl-actuating means at the lower end of the ratchet for moving the pawl to the engaging position.

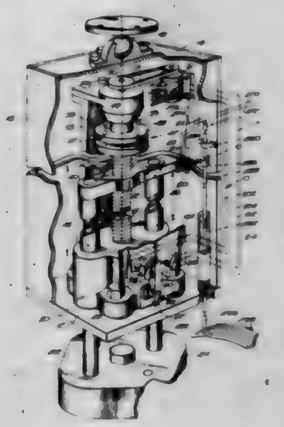
2,975,995
PIPE HANGER CLAMP STOP
Philip C. Sherburne, Rumford, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Sept. 3, 1958, Ser. No. 758,802
4 Claims. (Cl. 248—54)



1. In a constant support hanger of the type described having a frame and a lever member pivoted thereon, a clamp stop assembly comprising an elongated toothed surface on said frame extending along the path traced

by a point on said lever member when the lever swings about its pivot, a clamp member having a point thereon, a projection on one of said members at its said point, a socket on the other said member at its said point receiving said projection, said clamp member also having a toothed surface presented to said toothed surface on said frame, and means for drawing said toothed surfaces into interlocking engagement, whereby the lever may be fixed with respect to the frame at any selected position in its range of swing.

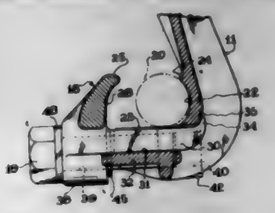
2,975,996
MOTOR DRIVEN POSITIONER
Philip C. Sherburne, Rumford, and Alfred Zollinger, Providence, R.I., assignors to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed July 13, 1959, Ser. No. 826,760
17 Claims. (Cl. 248—58)



1. A motor-driven device for positioning fluid handling equipment in accordance with changes in the temperature of said equipment, said device comprising a frame, a jack mechanism having a pair of components one of which is movable linearly with respect to the other and with respect to said frame and the said other of which is linearly immovable with respect to said frame, a motor, means connecting said motor to one of said components for moving said one component to produce relative movement between said components, a unit mounting said linearly immovable component on said frame, said unit having first guide parts, means connected to a portion of said linearly movable component for connecting said equipment thereto, said component portion having second guide parts engaging said first guide parts, whereby said linearly movable component is guided directly on said mounting unit.

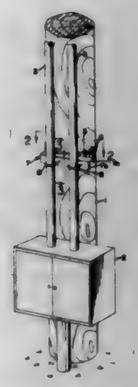
2,975,997
SUSPENSION CLAMP FOR CONDUCTORS
L. E. Lindsey, 2262 E. Mountain St., Pasadena, Calif.
Filed Aug. 1, 1958, Ser. No. 752,613
10 Claims. (Cl. 248—63)

9. A side-opening two-piece suspension clamp having a main body provided with an upwardly opening clevis, the opposite lower end of said main body having an elongated conductor supporting channel extending generally parallel to the side walls of said clevis and having rounded downturned ends, said channel being open fully along one lateral side, a transverse horizontal opening through said main body centrally below and opening into the bottom of said channel, a movable jaw member having guide and retainer fingers slidable along said transverse opening and a clamping jaw extending along the open side of said channel, and threaded fastener means separable from



said jaw for adjustably locking said movable jaw in position to clamp a conductor in place in said channel.

2,975,998
TUBE-RETAINING BRACKET
Therlis L. Clift, Toledo, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed July 10, 1957, Ser. No. 671,072
1 Claim. (Cl. 248—68)



A bracket adapted to secure tubular conduits to the side of a round pole carrying electric transmission means comprising a concave backing member having a plurality of openings in the face thereof, whereby fastening means may be employed to secure said concave backing member to said pole, an angle iron member secured directly to the convex face of said concave backing member so that one face of said angle iron is perpendicular to said backing member and the other face of said angle iron member is spaced apart from said backing member in a plane which is parallel to a plane tangent to the middle of said concave backing member, said last-named face of said angle iron being provided with a plurality of openings to receive U-bolts, a plurality of U-bolts and fastening means associated therewith disposed in said openings of said angle iron face whereby the U-boats may be drawn towards said backing member to clamp a tubular conduit to said angle iron face.

2,975,999
PORTABLE LANTERN STAND
Walter V. Busch, 1338 Bruce St., Chico, Calif.
Filed July 30, 1958, Ser. No. 751,973
1 Claim. (Cl. 248—121)

In a lantern stand of the type including a hollow vertical conduit and a stand to support said conduit in a vertical position the combination of: a slot cut in the upper end of the conduit and being open ended at the top of said conduit: a pin mounted in said conduit normal to the wall carrying the slot; said pin mounted at

approximately the elevation of the bottom of said slot; and a lantern mounting arm having an upwardly facing cup formed on one end; said arm mounted on said conduit with the upwardly facing cup mounted under



said pin and a section of said arm mounted on the bottom edge of said slot; said arm being mountable and demountable from and into engagement with said conduit through the open ended slot in the top portion of said conduit.

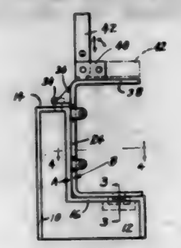
2,976,080
RESILIENT SUPPORTING SHANK
Ralph R. Gunderson, 5520 South Shore Drive, Chicago, Ill.
Filed Feb. 24, 1960, Ser. No. 10,691
9 Claims. (Cl. 248—204)



1. A resilient support for an indicating sign, comprising: a length of coil spring having closely coiled convolutions affording a central longitudinal opening through the coil spring; a length of flexible wire positioned within said central opening, said wire being of a size so that its outer lateral surface is closely adjacent to the inner surfaces of the convolutions of the coil spring whereby lateral flexing forces on the spring are distributed by said inner surfaces of the convolutions longitudinally of the embraced wire to prevent the wire from assuming a set position, one end portion of the wire being retained adjacent a corresponding end portion of the coil spring so as to prevent longitudinal movement of the wire with respect to the coil spring in one direction, and the other end portion of the wire extending outwardly of the opposite end portion of the coil spring; and means secured to said other end portion of the wire and being adapted to engage the indicating sign to secure the support to the indicating sign.

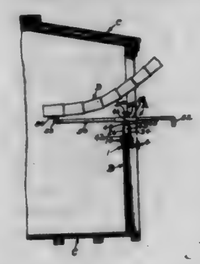
2,976,001
MOUNTING RACK AND DETACHABLE FRAME
Stanley S. Wulc, Lafayette Hills, Pa., assignor to Vector Manufacturing Company, Inc., Southampton, Pa., a corporation of Pennsylvania
Filed Feb. 6, 1958, Ser. No. 713,755
5 Claims. (Cl. 248—224)

1. In combination, a mounting rack and a complementary frame for carrying electrical equipment and being detachably supportable by the rack in only one given alignment, said frame being of substantially U-shaped configuration and having a base, an upright side wall, and a top member, and said rack having a base and upright side wall for snugly accommodating said frame, an interfitting complementary projection and recess located on the bases of said rack and frame to provide a given aligned position of the rack and frame, a bracket projecting from the side of the frame to rest against the rack, connector means for detachably locking the bracket



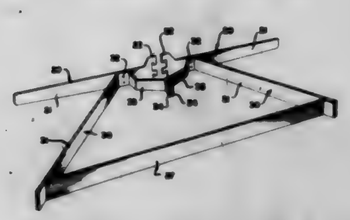
to the rack, a pivotally mounted handle on the top member of the frame and being positionable in an upright position whereby the frame may be accurately guided into its aligned position on the rack.

2,976,002
HOLDER AND GUIDE MEANS FOR GRAIN SPOUTS AND THE LIKE
Donald W. Green, Box 148, Mountain Lake, Minn.
Filed Apr. 29, 1959, Ser. No. 809,671
2 Claims. (Cl. 248—226)



1. A holder and guide means for grain spouts and the like comprising a longitudinal elongated mounting plate adapted to be removably clamped to the upper edge of a box car grain door, said plate having ways to slidably receive a carriage thereon and having a plurality of spaced holes therein, a carriage slidable on said plate engageable with the ways thereof, spring urged stop means on said carriage adapted for positioning in a selected hole in said plate, a first shallow cylindrical body on said carriage having toothed elements projecting upwardly therefrom, a second shallow cylindrical body having downwardly projecting toothed elements engageable with the toothed elements of said first body and having a central aperture therein, a vertical post integral with said first body extending through the central aperture of said second body, a vertical hollow sleeve of lesser diameter than and integral with said second body adapted to enclose said post, spring means on said post for biasing said second body into intimate contact with said first body, a releasable stop horizontally engageable with the upper surface of said second body, spaced means attached to said sleeve for pivotally carrying a horizontal support member thereabove, a horizontal support member pivotally mounted between said spaced carrying means in spaced relation to the upper end of said sleeve, means normal to and integral with the upper surface of said horizontal support member for receiving a control rod, a control rod slidably mounted in said receiving means adapted to be releasably positioned in a selected axial position, and means on said rod for pivotally engaging the terminal end of a grain spout.

2,976,003
END SHELF BRACKET
Allan D. Foster, Grosse Pointe, Mich., assignor to Almor Corporation, Detroit, Mich.
Filed Oct. 14, 1959, Ser. No. 846,373
6 Claims. (Cl. 248—243)



6. A shelf bracket unit comprising a pair of substantially identical bracket members, each formed of a thin, elongated, rigid strip, with the two brackets being aligned in end to end relationship in the same vertical plane and with their facing ends each being provided with means for connecting said ends to the opposite sides of a single support column and each bracket being of a length to extend a considerable distance beyond the respective column side to which its respective facing end is adapted to be connected; each of the bracket members having an elongated joist strip secured to it at a point close to its respective end connection means and extending outwardly therefrom at an acute angle, with each joist strip and its respective bracket member forming a triangular shape wherein the joist strip forms one wall of the triangle and its bracket member forms a second wall of the triangular shape, and with the apex of the triangle, that is, the place where the joist strip and bracket member are secured together, being adjacent the said facing end of that bracket member, and with the two joist strips forming the sloping side walls of a truncated triangular shape having its small base at the facing ends of the bracket members, and with the top edges of the joist strips and the bracket members all being in the same plane for supporting a flat shelf placed on top of said edges, and including means for connecting the two joists strips together, said means for connecting the joist strips together including a cross-member in the form of a thin, elongated strip, which is rigid in its transverse direction but resiliently bendable in its length direction, arranged substantially parallel to and spaced a considerable distance from the pair of bracket members and having its top edge arranged co-planar with the top edges of the joist strips and the bracket members, and with each of its opposite ends being rigidly connected to one of the joist strips, to thus form a large base for said truncated triangular shape; the cross-member, joist strips, and brackets forming a single, permanent unit, and the facing ends of the brackets being movable towards and away from each other, for connection to a support column, against the resilient resistance of the cross-member.

2,976,004
REVERSIBLE APPLIANCE MOUNTING
Frank E. Aberer, Kansas City, Kans., and Henry J. Talge, % Rival Manufacturing Co., 36th and Bennington, Kansas City, Mo.; said Aberer assignor to said Talge
Filed May 15, 1958, Ser. No. 735,575
6 Claims. (Cl. 248—289)

1. A reversible mounting comprising a channel-shaped support having legs and a base adapted to be fixed to the underside of a shelf, a table rotatably fixed to said support, said table substantially circular in outline over at least a portion of its circumference, locking means on the edge of the circular opening of the table, a pair of slots in the base of said channel support, a dog having a head portion positioned in one slot adjacent the table, a body portion positioned in the other slot and a neck portion connecting the head and body portion positioned on the side of the base opposite from the



table, the dog movable within said slots so the head portion thereof may engage and disengage said locking means to permit and stop rotation of the table on said support, and resilient means connecting the dog and the table urging the dog toward said table.

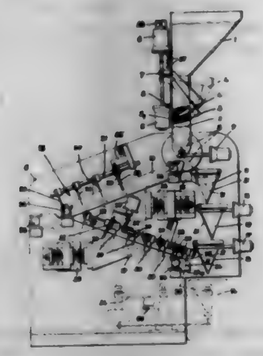
2,976,005
SLIDING MOUNT FOR KITCHEN IMPLEMENTS AND THE LIKE
George H. Stell, Elmhurst, Ill., assignor to Precision Metal Workers, Chicago, Ill., a partnership of Illinois
Filed July 9, 1959, Ser. No. 826,080
5 Claims. (Cl. 248—298)



1. In an implement support comprising a fixed track and a carriage slidable to and from an advanced position thereon, the track providing a stop, the combination therewith of means for positively locking the carriage fixed in its advanced position and including a lever pivoted on the carriage and laterally movable to and from a position in which it engages the stop when the carriage is in an operative position, a spring having its ends respectively connected with the carriage and the lever for biasing the lever toward its position of stop engagement, the lever being provided with a lateral slot closely fitting the stop and in which the stop is receivable and having a depending handle by which the lever can be oscillated against the bias of said spring to free its slotted portion from stop engagement.

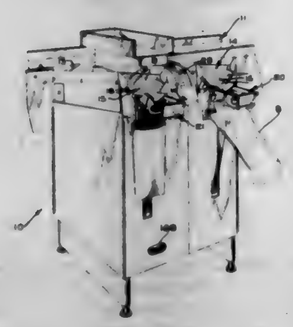
2,976,006
APPARATUS FOR FEEDING ROD-SHAPED ARTICLES TO AUTOMATIC SCALES
Adolf Stamberg, Stuttgart-Bad Cannstatt, Germany, assignor to Firma Fr. Hesser, Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany, a corporation of Germany
Filed Mar. 25, 1958, Ser. No. 723,674
Claims priority, application Germany Apr. 5, 1957
11 Claims. (Cl. 249—19)

1. Apparatus for delivering articles to provide a predetermined weight thereof, said apparatus comprising a supply hopper, a channel-like outlet connected to said hopper, a shut-off gate pivoted on said hopper and arranged to close said outlet at one pivoted position, a separating wedge pivoted on said hopper and arranged to close said outlet a predetermined distance above said gate at one pivoted position, the gate and the wedge together forming a portioning means within said outlet for delivering a predetermined quantity of said articles from said hopper, deflecting means pivoted in said outlet below said gate, a scale, a vibrating conveying means arranged below said deflecting means with its inlet end being communicable with said outlet and its discharge end being communicable with said scale, operating means for selectively pivoting said deflecting means to a first position whereby articles leaving said outlet are deflected to said scale, and to a second position whereby such articles are deflected to said conveyor means, means for



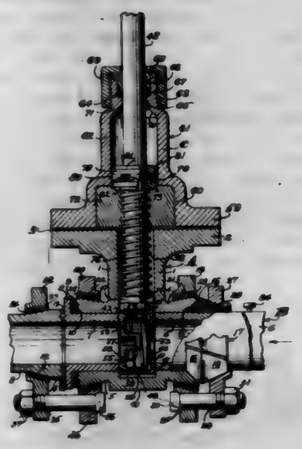
vibrating said conveyor, and means controlled by said scale for stopping the conveyor vibrating means upon receipt of a predetermined weight of articles on said scale.

2,976,007
DRIVE MECHANISM FOR A BAGGING MACHINE
Charles A. Shoetz, Woodstock, Va., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 17, 1957, Ser. No. 684,502
15 Claims. (Cl. 249—62)



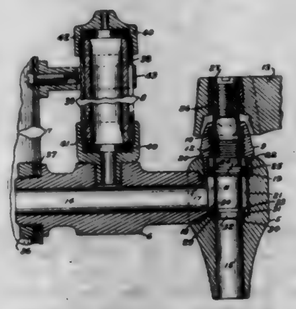
1. In a bagging machine having a conveying means for depositing articles in a bag detachably secured to a scale mechanism, a drive mechanism comprising a pair of oppositely rotating clutch drive members, a first driven member operatively connected to said conveying means and adapted to engage one of said drive members to drive said conveying means in its bag loading direction, a second driven member operatively connected to said conveying means and adapted to engage the other of said drive members to drive said conveying means in a reverse direction, a timing mechanism connected with said second driven member, means responsive to downward movement of said scale for disengaging said first driven member from its drive member and simultaneously engaging said second driven member with its drive member and actuating said timing mechanism, and means responsive to said timing mechanism for disengaging said second driven member from its drive member after a predetermined interval of operation thereof.

2,976,008
VALVE STRUCTURE
Charles Ocker, 914 Magnolia St., New Smyrna Beach, Fla.
Filed May 3, 1957, Ser. No. 656,950
4 Claims. (Cl. 251—175)



1. In a valve assembly a body structure sealed at its upper end, means for mounting said structure in a pipe-line constituting a conduit for a fluid under pressure, said body structure having aligned fluid inlet and outlet passages, a valve chamber intersecting said passages and having communication therewith, a valve block mounted within the chamber for movement therein and alternately operable into and out of fluid cut-off position relative to said fluid passages, means for directing the pipe-line fluid into said valve block for equalizing the pressure around said block, to effect easy floatable movement of the valve block within the chamber when subjected to pipe-line fluid pressure, means controlled by the movement of said valve block to seal said valve chamber when the valve block is in cut-off position relative to said fluid passages and to form a vacuum above the sealed valve chamber, said vacuum in connection with the pipe-line pressure serving to assist the initial movement of the valve block from fluid cut-off position.

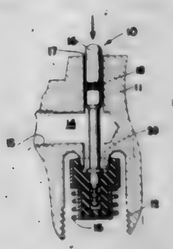
2,976,009
FAUCET
Gilbert L. Hartmann, Whitefish Bay, Wis., assignor to Milwaukee Faucets, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 18, 1957, Ser. No. 703,673
2 Claims. (Cl. 251—332)



1. In a faucet, a liquid dispensing spout having an upper bore and an adjoining axially alined lower bore of

smaller diameter than the upper bore terminating in an annular bottom surface, said spout being provided with a side inlet passage in open communication with said upper bore and with an outlet passage extending downwardly in axial alinement with said bores and away from said surface, a cap nut detachably secured to said spout at the end of said upper bore remote from said lower bore and having therein a guide bore of approximately the same diameter as said upper bore also disposed in axial alinement with said upper and lower bores, a valve stem movable axially within said bores and having a lower end flange slidable within said lower bore and sealingly cooperable with said surface and also having another flange cooperating with said lower flange to provide an annular lower recess and a pair of medial flanges forming an enlarged piston exposed to liquid pressure and slidable within said guide bore and also providing another annular recess intermediate the stem ends, and an O-ring confined within each of said recesses and being sealing cooperable with said lower and guide bores respectively.

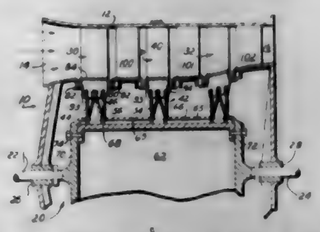
2,976,010
VALVE STRUCTURE
Charles K. Huthsing, Sr., Culver City, Calif., assignor to General Fire Extinguisher Corporation, a corporation of California
Filed Apr. 11, 1958, Ser. No. 727,867
3 Claims. (Cl. 251—333)



1. In a valve assembly: a valve seat including an annular end portion with outer sidewalls sloping inwardly relative to the longitudinal axis thereof, and terminating at its lower end with a bottom edge; a valve of resilient material for engagement with said valve seat, said valve including an upper portion with a recess in the upper surface thereof, the recess having inner sidewalls defined by a slightly greater slope with respect to the longitudinal axis of said valve seat than the outer sidewalls thereof, said outer sidewalls having a greater minimum diameter than the minimum diameter of the inner sidewalls of said recess, a lower portion integral with said upper portion and longitudinally aligned therewith; a valve operator longitudinally movable through the annular end portion of said valve seat and secured at its lower end to the lower portion of said valve; a seal retainer in engagement with the outside walls and the bottom of said valve, whereby said outer sidewalls will impose both an axially and radially directed sealing force upon said inner sidewalls in the region of the bottom edge of said outer sidewalls in response to the engagement of said valve with said valve seat by said operator, and said seal retainer limits the deformation of said valve.

2,976,011
FABRICATED BLADED COMPRESSOR WHEELS
Edward A. Stalker, Bay City, Mich., assignor to The Stalker Corporation, a corporation of Michigan
Filed Feb. 10, 1955, Ser. No. 487,315
4 Claims. (Cl. 253—39)

1. In combination in a bladed wheel for exchanging energy with a fluid, a hub structure comprising a plurality of axially spaced disks having peripherally continuous and imperforate radial outer portions secured together for rotation about the axis of symmetry thereof, a plurality of blades peripherally spaced about said hub structure, each said blade having axially spaced slots each receiving said radially outer imperforate portion of each of said disks thereinto, said blades being fixed to both sides of said outer imperforate portions of said disks by fused metal, and continuous annular rim means defining wheel flow passages between adjacent blades, said rim means being fixed in said wheel at the inner end portions of said blades and extending from one blade to another providing walls bounding said wheel flow passages on the radially inward sides thereof, said rim means having front and rear flanges directed radially inward, the inner end of at least one of said flanges having a radius greater than that of said disks to provide for axial assembly thereover.



2,976,012
TURBINE OVERSPEED PROTECTIVE SYSTEM
Ely George Allen, Lynn, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 19, 1959, Ser. No. 794,412
9 Claims. (Cl. 253—52)

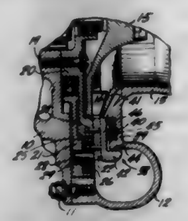


1. In a fluid turbine comprising a radial flow turbine wheel mounted on a shaft, an overspeed protective system comprising releasable fastening means securing said turbine wheel against axial movement on said shaft, means responsive to an overspeed condition for releasing said releasable fastening means, whereby said turbine wheel is permitted to move axially along said shaft, and means for exerting an axial force on said turbine wheel in a direction to move it along said shaft and out of the path of the incoming motive fluid.

2,976,013
TURBINE CONSTRUCTION
David Ulrich Hunter, Huntington, N.Y., assignor to Fairchild Engine and Airplane Corporation, Bay Shore, N.Y., a corporation of Maryland
Filed Aug. 17, 1955, Ser. No. 528,995
2 Claims. (Cl. 253—55)

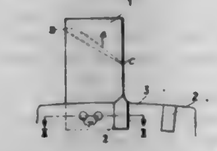
1. In a turbine or like fluid flow machine having nozzle blades for controlling the flow of fluid under pressure from a passageway to the blades of an impeller, wherein the casing for said passageway overlies said nozzle blades and said impeller blades, the improvement comprising the combination therewith of differential pressure responsive

sealing means interposed in sealing relation between said nozzle blades and said overlying casing and including means whereby said sealing means is responsive to the difference in pressure between the fluid flowing in said passageway and the fluid flowing between said nozzle



blades, including a portion thereof movable against said nozzle blades by said difference in pressure and another portion thereof in overlying relation to said impeller blades and movable toward the said impeller blades to maintain a minimum clearance therebetween.

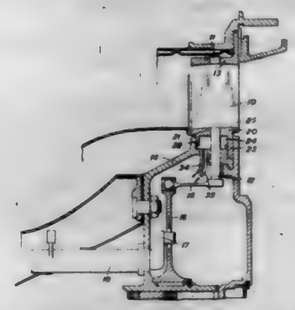
2,976,014
BLADING FOR USE IN AXIAL FLOW MACHINES
Herwig Roland Aguilla Kress, Ravensburg, Germany, assignor, by mesne assignments, to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a corporation of Switzerland
Filed Dec. 15, 1952, Ser. No. 325,974
Claims priority, application Switzerland Jan. 19, 1952
2 Claims. (Cl. 253—77)



1. A blade-mounting for use in axial flow machines, said mounting comprising a blade carrier having slots formed obliquely in the perimeter thereof, said slots having plane parallel faces; hollow sheet-metal blades each having a blade portion proper, and a root portion, the latter in the form of a hollow prism whose cross-section approximates a parallelogram conforming to the cross-section of the corresponding slot, whereby each root portion fills its slot; filling and reinforcing means for said blades each comprising at least two sheet metal laminae which are offset laterally and together approximate the internal cross-section of the root portion, at least one of said laminae having a spanwise length corresponding to the spanwise length of the root portion and another of said laminae being longer so as to extend into the blade portion proper; welds connecting relatively remote faces of the two laminae just mentioned to internal surfaces of the hollow blade; and means for fixing each root portion in its corresponding slot.

2,976,015
TURBINE STATOR BLADE RINGS
Ronald A. Gilbert, North Wembley, England, assignor to D. Napier & Son Limited, London, England, a British company
Filed June 16, 1958, Ser. No. 742,088
9 Claims. (Cl. 253—78)

1. A turbine stator blade assembly including a frame member, and relatively closely fitting parts including a ring of variable incidence stator blades, each blade being mounted on said frame member for pivotal movement about a longitudinal axis which is substantially radial to the rotary axis of the turbine, and a guide element of thermally expansible material, means mounting said element concentrically to said ring of blades for expansion and contraction relative to said blades into and from locking frictional engagement with said blades, and means for selectively supplying or interrupting the delivery of a cooling fluid at a temperature different from that of the gases passing through the blade ring, into close thermal contact with at least one of said closely fitting parts,



namely, said guide element and the adjacent portions of the blades, to cause differential thermal expansion between the parts, so as to free the parts for relative movement and permit each blade to rotate on its longitudinal axis when the cooling fluid is supplied, the said parts being so dimensioned that when hot gases are passed through the turbine assembly and in the absence of such cooling fluid the parts are frictionally locked against relative movement.

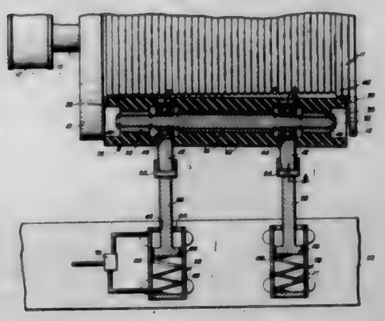
2,976,016
STAPLE REMOVER FOR STRAPPING OR THE LIKE
Charles H. Fennell, 99th Engr. Co. (RB), 30 Engr. Bn. (BT), Presidio of San Francisco, Calif.
Filed May 26, 1959, Ser. No. 816,026
13 Claims. (Cl. 254—28)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A tool for lifting a steel band or the like and simultaneously lifting a staple securing such band to an object encircled by the same, comprising a rigid lifting platform adapted to be disposed in an operative position beneath said band rearwardly of a staple, said platform including a forwardly extending staple lifting portion adapted to be forced beneath that portion of said band which is below said staple as said platform is moved toward such staple to an operative position, said platform including a downwardly extending object engaging projection providing a fulcrum operative to elevate said staple lifting portion as said platform is rocked rearwardly on said fulcrum, handle means, a vertical extension of said platform laterally thereof, pivot means carried by said extension and extending transversely of said platform above the same and pivotally connecting said handle thereto for limited movement relative to said platform in a vertical plane, said handle including a band clamping portion overlying said platform and band when said platform is in said operative position, said band clamping portion being movable downwardly with said handle relative to said plat-

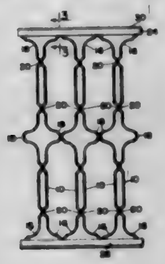
form to clamp said band between said band clamping portion and said platform, and continued downward movement of said handle being operative to move said handle and platform as a unit in a direction to elevate said staple lifting portion together with said band and said staple.

2,976,017
PRESSURE BAR FOR CABLE SPOOLING DRUMS
Franklin L. Le Bus, Sr., Longview, Tex., assignor to Le Bus Royalty Company, Longview, Tex., a partnership
Filed July 7, 1958, Ser. No. 746,968
4 Claims. (Cl. 254—190)



1. A line engaging mechanism for a hoisting drum having a line spooled thereon, and comprising a shaft mounted adjacent the drum, a plurality of roller members journalled on said shaft, a plurality of non-rotatable members interposed between the roller members in longitudinal alignment therewith, means for urging the roller members and non-rotatable members in a direction toward the drum and into a pressure engagement with the line, means providing for a canting action of the roller members during the various stages of the spooling operation for concentration of pressure adjacent the last wrap of the line on the drum.

2,976,018
ORNAMENTAL METAL RAILING
Sabato Dellagala, 709 Franklin St., Worcester, Mass.
Filed Aug. 8, 1958, Ser. No. 753,985
1 Claim. (Cl. 256—21)



A metal railing comprising a series of stiles and an apertured top and bottom rail, the stiles being connected to the rails, the extreme end portions of the stiles extending laterally and overlying the top rail at the top of the railing and underlying the bottom rail at the bottom, the stiles being of uniform flat metal bar stock and extending full width through the respective apertures at top and bottom, each stile including a laterally extending portion intermediate the ends thereof and each said portion contacting a like but reversed portion on an adjacent stile, and each laterally extending end portion contacting a similar end portion of an adjacent stile in the respective aperture therefor, there being a pair of flat end portions in each aperture, the flat stiles all being located at right angles to the length of the rails.

2,976,019
FITTING CLIP
Benjamin Heyman, Baltimore, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed Nov. 28, 1958, Ser. No. 775,242
11 Claims. (Cl. 256—47)



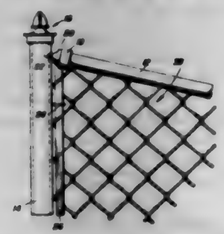
1. A coupling arrangement for connecting a strip of material to a polygonal shaped hollow post having a plurality of spaced apertures provided in one face thereof along a line located substantially parallel to the longitudinal axis of said post and a plane passing through the longitudinal axis of said post and located transversely to the face of said post containing said apertures, said coupling arrangement including a plurality of open end clips, each said clip having a different radius coplanar bight at opposite ends thereof and arranged at substantially right angle to each other, with each bight having a terminal end, together with an intermediate portion connecting said bights together such that a plane passing through the center of radius of one of said bights and the terminal end of the other of said bights will be spaced from said intermediate portion of said clip, one of said bights being mechanically connected to said strip of material and the other of said bights passing through its respective aperture in said post to connect to the interior of said post to secure and offset said material laterally from said plane passing through the longitudinal axis of said post and said line in said face thereof containing said apertures, with said strip of material being located substantially normal to the face of said polygonal shaped hollow post when in a stretched condition.

2,976,020
COLLAPSIBLE BARRICADE
Harris Anstey, 33 Winchester Place, East Haven, Conn.
Filed Feb. 9, 1960, Ser. No. 7,594
2 Claims. (Cl. 256—64)



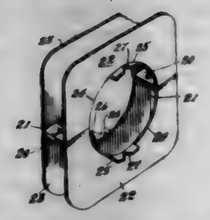
1. A barricade comprising a pair of leg assemblies, each leg assembly having an angularly bent, tubular, stationary leg, with a hollow upper portion forming a socket; a connecting plate secured to said upper portion of the stationary leg substantially parallel to the axis of said upper portion of the stationary leg; a tubular sleeve secured to said connecting plate coaxially with the said upper portion of the stationary leg, the lower end of said sleeve being provided with opposing notches; an angularly bent, tubular, collapsible leg, with hollow upper portion forming a socket, and passing through within said sleeve, permitting the rotation of said collapsible leg from the collapsed position into the open position; a collar secured to the upper end of said collapsible leg; a rotary lock rotatably mounted over the upper portion of said collapsible leg adjacent to said collar; a compression spring interposed between said rotary lock and said sleeve; a locking pin passing through and secured to said collapsible leg, and being so arranged as to engage said notches of the sleeve in said two positions of the collapsible leg, as a result of the action of said compression spring, thereby retaining said collapsible leg in said two positions; a cross bar having a pair of end hooks, each formed to engage the connecting plate of one of said leg assemblies, and being locked in the engaged position when said rotary lock is turned over said connecting plate.

2,976,021
UNIVERSAL ANGLE COUPLING
Nicholas Stefan, Baltimore, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed Nov. 28, 1958, Ser. No. 775,154
10 Claims. (Cl. 256—65)



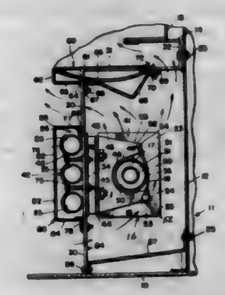
2. A universal angle coupling for use in coupling a first member at an angle to a second member, comprising, a tubular cap having one end thereof arranged for receiving one end of said first member, an intermediate section extending along the longitudinal direction of said tubular cap and closing off the opposite end thereof, and a tapered pin secured to said intermediate section and arranged centrally therewith, said conical pin having a spherical portion for engaging in an aperture provided in said second member.

2,976,022
HEAT TRANSFER FIN
John J. Gannon, Clinton, Mass., assignor to Lancaster Engineering Co., Clinton, Mass., a corporation of Massachusetts
Filed Feb. 26, 1958, Ser. No. 717,658
1 Claim. (Cl. 257—262.16)



A heat transfer fin construction comprising a pair of cooperating U-shaped fin elements each of which has two spaced bases of the U which cooperate with the bases of the U of an opposing fin element of said pair and each of which has arms of the U which comprise heat dissipating fins, there being a semicircular opening through the arms of the U between the spaced bases of the U, a first extension extending perpendicularly endwise from one of the arms of the U and having a cross section corresponding to the curvature of the semicircular opening, a tongue integral with and extending from said first extension, a second extension extending perpendicularly enwise from the other arm of the U in a direction opposite that of the said first extension, and said second extension having a cross section corresponding to the curvature of the semicircular opening, a notch in said second extension, said tongue on said first extension being adapted to cooperate with a notch on a second extension of an adjoining fin, and means acting across between bases of the U's of said pair of fin elements uniting the fin elements together.

2,976,023
RADIATOR HOUSING AND GUARD STRUCTURE
Laurance H. Gillick, Wilmette, Ill., and Ronald W. Maddocks, Rosemere, Quebec, Canada, assignors to Vapor Heating Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 30, 1958, Ser. No. 712,149
8 Claims. (Cl. 257—295)

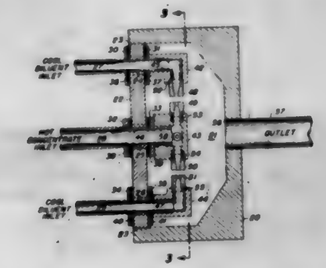


1. A prefabricated housing and guard structure for a railway car radiator comprising, in combination, a housing structure extending lengthwise of the car at a side thereof in the region of the floor and provided with a front side wall and air inlet and discharge openings, means located within the housing for supporting a radiator therein, whereby heated air is delivered into the interior of the car, a channel-shaped trim member having lateral flanges removably secured to the outer face of said front wall of the housing to provide a closed but readily opened conduit extending lengthwise of the housing along the outer face thereof and in the region of said radiator enclosed within the housing, and cold water piping enclosed and concealed in said conduit and serving to prevent overheating of the outer face of said channel-shaped trim member.

2,976,024
APPARATUS FOR PREPARING COLLOIDAL DISPERSIONS
Thomas W. Martinek, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Original application Oct. 6, 1954, Ser. No. 460,653, now Patent No. 2,905,448, dated Sept. 22, 1959. Divided and this application Aug. 29, 1958, Ser. No. 758,989
2 Claims. (Cl. 259—4)

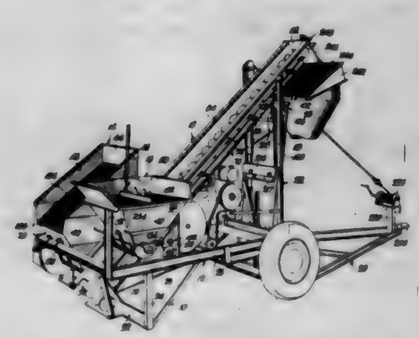
1. An apparatus for forming emulsoidal dispersions of a solid phase in a liquid phase comprising a housing having an annular opening in a side thereof, a plate engaging said annular opening to form a dispersion zone within said housing, in an outlet passage communicating with said dispersion zone, a central aperture within said plate, an inlet conduit sealed within said central aperture and protruding into said dispersion zone to a point removed from said outlet, a central jet head attached to the protruding end of said inlet conduit, a plurality of jet nozzles

attached to said central jet head, said jet nozzles being located circumferentially around said jet head and forming central jet nozzles, a plurality of concentrically-arranged outer apertures within said plate spaced from the periphery thereof, a plurality of inlet conduits sealed within said outer apertures and protruding within said dispersion zone, a jet head attached to the protruding end



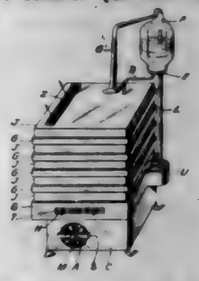
of each of said latter inlet conduits, a jet nozzle attached to each of said last mentioned jet heads and forming peripheral jet nozzles, each of said peripheral jet nozzles having its openings directly opposite and spaced from a corresponding one of said plurality of central jet nozzles so that the streams produced thereby impinge on one another to subject the resulting mixture to simultaneous cooling, dilution, expansion and working.

2,976,025
COMBINED MIXER AND CONVEYOR
George M. Pro, Leawood, Kans., assignor to Air Placement Equipment Company, Kansas City, Mo., a corporation of Missouri
Filed Oct. 16, 1958, Ser. No. 767,728
9 Claims. (Cl. 259—154)



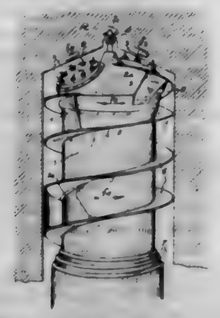
1. In a combined mixer and elevator, a frame adapted to be disposed on the ground; an elongated, inclined combination material mixing and elevating assembly carried by the ground including an angularly-positioned, upwardly facing trough disposed with the lower end thereof in close proximity to the ground when the frame is supported thereby, and the uppermost end of the trough being spaced a substantial distance from the ground, said elevating assembly being provided with a helix conveyor rotatably mounted within the trough and extending substantially the length thereof, said helix conveyor having a spiral vane disposed with the marginal edge thereof in frictional engagement with the proximal, opposed base of the trough; a pair of open-topped, horizontally spaced hoppers mounted on the frame on opposite sides of said trough and adjacent said lowermost end thereof, each of said hoppers being adapted to receive a different material, the upper margin of one of the hoppers defining said open top thereof being disposed at a sufficient angle to cause the lowermost edge of said margin to be located in relatively close relationship to said lowermost end of the trough and thereby the ground, to permit relatively easy hand shoveling of a first material disposed on the ground into said one hopper through the open top thereof, the lower extremity of said one hopper terminating in substantially direct horizontal alignment with said lowermost end of the trough, the upper margin of the other hopper defining said open top thereof to thereby permit dumping of a second material into said other hopper from bags, the lower extremity of said other hopper terminating slightly above the horizontally aligned portion of the trough; horizontal first tubular means intercommunicating the lower extremity of said one hopper with the opposed aligned portion of said trough; horizontal second tubular means communicating with and extending from the lower extremity of said other hopper and terminating in overlying relationship to the proximal horizontally aligned portion of said trough for discharging said second material thereinto; conveyor structure within each of said first and second tubular means for translating respective materials horizontally from corresponding hoppers into said trough; and means carried by the frame and operably coupled to one of said conveyor structures for driving the latter at selectively variable speeds relative to the other of said conveyor structures whereby the ratio of said first and second materials directed into said trough from said hoppers may be changed.

2,976,026
AIR HUMIDIFIER
Everardo Machuca Aguirre, Juan de Dios Arias 161, Col. Asturias, Mexico City, Mexico
Filed Aug. 4, 1958, Ser. No. 752,885
Claims priority, application Mexico Apr. 8, 1958
8 Claims. (Cl. 261—30)



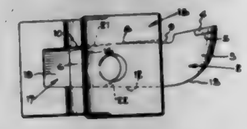
1. An air humidifier, comprising in combination, a plurality of tray elements detachably superimposed upon each other, each tray element having a bottom portion, an annular wall portion extending downwardly from said bottom portion and an annular rim portion extending upwards from said wall portion, the wall portion of each of said superimposed tray elements resting on the bottom portion of the respective tray element below the same, so that said bottom portions and said wall portions define a plurality of superimposed closed chambers; overflow means including an opening in each of said superimposed tray elements so that the respective tray element below the same is filled with water while permitting passage of air from each of said chambers to the adjacent of said chambers; water supply means for supplying water to the uppermost of said tray elements; control means sensitive to the height of the water held in the lowermost of said tray elements for controlling said water supply means; and means for circulating air through said superimposed chambers and said openings of said overflow means for humidification by contact with the water held therein.

2,976,027
DRILLING-HEAD FOR THE SINKING OF SHAFTS, GALLERIES AND THE LIKE
Georges Allimann, 17 Rue de Champagne, Mulhouse, France
Filed June 29, 1956, Ser. No. 594,821
Claims priority, application France July 2, 1955
2 Claims. (Cl. 262—7)



1. In a drilling machine for the excavation of galleries and the like, a rotary head, a plurality of rotary drilling plates on the head provided on their top face with picks inclined toward the direction of rotation of the plates, said plates being set at an angle with a plane perpendicular to the longitudinal axis of the machine and their axes being inclined relative to any plane comprising this longitudinal axis, means for rotating said head, means for rotating said plates, and means for removing the muck as the machine advances.

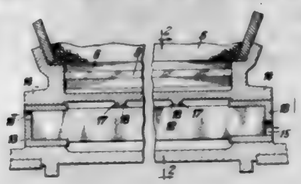
2,976,028
CUTTING TOOL BIT AND HOLDER
Duane S. Saxman, Bedford, Pa., assignor to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania
Filed June 6, 1958, Ser. No. 740,348
2 Claims. (Cl. 262—33)



1. In a tool holder having a socket of generally rectangular configuration in cross section and including a pair of opposite substantially flat walls for wedging the shank of a tool bit therein; the combination therewith of a cutting tool bit comprising an elongated shank of generally rectangular configuration in cross section, said shank having opposite sides adapted to cooperate respectively with said pair of opposite walls of said socket, one of said sides of said shank being arched longitudinally and having tangential point contact with the adjacent wall of said socket and the opposite side of said shank being substantially flat and extending longitudinally of said shank in a straight line and providing line contact with the wall of said socket adjacent to it for tightly fitting said tool bit within said socket.

2,976,029
SINTERING PROCESS AND APPARATUS FOR PRODUCING HARD PELLETS
Adam Huber, Offenbach (Main), Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Dec. 2, 1957, Ser. No. 700,030
Claims priority, application Germany Jan. 8, 1957
5 Claims. (Cl. 266—21)

1. A forced draft sintering grate for sintering hard materials at high temperatures comprising grate bars, supporting beams carrying said bars, said supporting beams being entirely closed on their longitudinal tops, bottoms and sides and having an opening at each longitudinal end for the passage of cooling gas therethrough, and a reinforcing beam longitudinally and substantially co-extensively mounted within each supporting beam with the



outer end portions of each reinforcing beam bearing in the inner end portions of its respective supporting beam, and said reinforcing beam being spaced from and entirely enclosed by said supporting beam to form an air cooling passageway longitudinally through said supporting beam from one open end to the opposite open end thereof.

2,976,030
TWO STEP ESTERIFICATION PROCESS OF TEREPHTHALIC ACID
Delbert H. Meyer, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed May 20, 1957, Ser. No. 660,056
2 Claims. (Cl. 260—475)

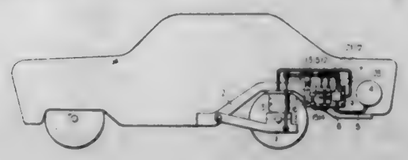
1. A process for making dimethyl terephthalate which process comprises (1) intimately contacting terephthalic acid and methanol, in a weight ratio of methanol to acid of between about 2 and 5, at a temperature of about 240° C. at autogenous pressure for a time of about 20 minutes in the absence of a catalyst, (2) increasing rapidly the temperature of the reaction mixture from step 1 to a temperature of about 300° C. and maintaining said temperature, at autogenous pressure, for a time of about 20 minutes in the absence of a catalyst and (3) recovering dimethyl terephthalate from the reaction product mixture of step 2.

2. A process for making dimethyl terephthalate which process comprises (I) intimately contacting terephthalic acid and methanol, in a weight ratio of methanol to acid of between about 2 and 5, at a temperature of about 240° C. at autogenous pressure for a time of about 10 minutes in the presence of a hereinafter defined catalyst, (II) increasing rapidly the temperature of the reaction mixture from step I to about 300° C. and maintaining said temperature at autogenous pressure for a time of about 10 minutes in the presence of a hereinafter defined catalyst and (III) recovering dimethyl terephthalate from the reaction product mixture of step II, wherein said catalyst is selected from the class consisting of zinc, zinc oxide, and antimony oxide and said catalyst is present in an amount between about 0.1 and 1 percent by weight based on total charge to step I.

2,976,031
VIBRATION DAMPER OF AIR CUSHION FOR VEHICLES
Tatsuya Takagi, 63 Arashiso-machi, Nishinomiya-shi, Japan
Filed July 24, 1959, Ser. No. 829,344
Claims priority, application Japan Apr. 23, 1959
3 Claims. (Cl. 267—15)

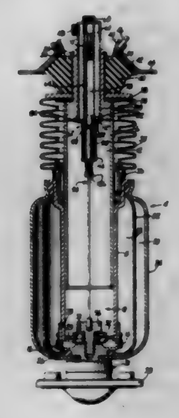
1. A vibration damper for vehicles connected with an air bellows disposed between a chassis and an axle of a wheel, comprising in combination an air vessel containing compressed air, an air valve assembly provided in a comparatively large passage connecting said bellows and said air vessel, a throttle valve provided in a by-pass of

said valve within said assembly, a driving piston within an oil cylinder, a motion transmitting means between a rod of said driving piston and said axle, a driven piston within an oil cylinder normally keeping its neutral position by springs, an oil sump for both of said cylinders, an oil passage connecting the bottom of the driving cylinder with the bottom of driven cylinder and the bottom of driving cylinder with said oil sump, an oil throttle valve provided in said oil passage between said oil sump and said driving cylinder, and a cam arm oper-



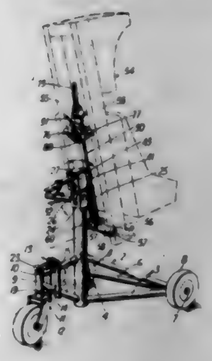
atively engaged between a valve rod of said air valve and a rod of said driven piston, wherein said cam arm is so formed that it closes said air valve when said driven piston lies in its neutral position and opens the same in other positions, said oil throttle valve being so adjusted that said driven piston opens said air valve only when the velocity of the driving piston is larger than a certain value, so that the damping action is effective only when the relative velocity of the wheel to the chassis is smaller than the value due to the natural vibration of the vehicle.

2,976,032
HYDRO-PNEUMATIC SUSPENSION STRUT
Achilles C. Sampietro, Detroit, Mich., assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Mar. 6, 1958, Ser. No. 719,633
6 Claims. (Cl. 267—64)



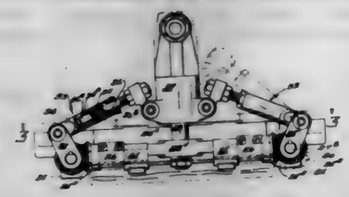
1. An expansible strut assembly for connection between the axle and frame of a vehicle and for controlling the level of the frame above the axle comprising in combination a supporting strut having a piston with a cylinder slidably receiving the piston and forming a chamber therebetween, the piston being connected to one end of the strut and the cylinder to the other end whereby the amount of fluid in said chamber will control the length of the strut, a tubular inlet passage leading into one end of the strut and communicating with the chamber, a valve in the passage including a valve seat facing the flow of fluid and a movable valve element held against the seat by the pressure of the fluid supplied to the chamber through the inlet passage, a valve control needle positioned downstream of said valve and slidable in said inlet passage to displace the valve element from the seat, said control needle connected to the other end of said strut to move relative to the valve with shortening or lengthening of the strut, a coaxial discharge passage at said one end of the strut surrounding said inlet passage, a discharge valve for said discharge passage including an annular end wall for the discharge passage with flow orifices therethrough and a movable valve element seated against said orifices, said inlet passage having a tubular extension past the inlet valve and said discharge valve element having a collar slidable on said tubular extension to guide the discharge valve element, and means on said control needle for engaging the discharge valve element to open the discharge valve when the control needle moves relatively in a direction away from said inlet and said discharge valves.

2,976,033
APPARATUS SERVICING STANDS
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, England
Filed July 29, 1958, Ser. No. 751,661
Claims priority, application Great Britain Aug. 6, 1957
13 Claims. (Cl. 269—185)



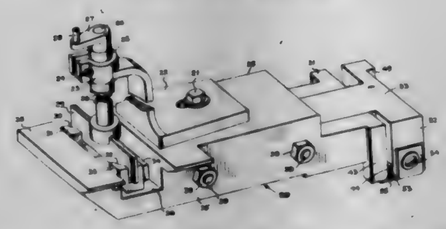
1. An apparatus servicing stand comprising: a pillar; a vertically bifurcated bracket at the upper end of such pillar; a horizontal pivot pin carried by such bracket; an executive member including a sector-like plate formed near to its periphery with a series of arcuately arranged angularly spaced openings, such plate being mounted in the bifurcation of said bracket for pivoting about said pivot pin, whereby the said executive member is rotatable through a substantial arc about a first axis disposed transversely of the said pillar; a first spring biased plunger carried by said bracket and adapted at its tip to engage in any one of the openings in said sector-like plate so as to secure the said executive member in any one of a plurality of alternative positions about said first axis; an apparatus supporting member mounted on the said executive member for rotation relatively thereto through a substantial arc about a second axis perpendicular to the first named axis; a second spring biased plunger carried by one of said executive and apparatus supporting members and adapted to engage in the other of such members at any one of a plurality of alternative angularly spaced positions so as to secure the said apparatus supporting member in any one of a plurality of alternative positions about said second axis; and two manually operable hand levers connected one to each of said plungers and operable individually to withdraw the same.

2,976,034
CHUCK FOR GLASS BLOCK MACHINE
Earl Hiatt, Sr., R.R. 5, Muncie, Ind.
Filed Jan. 27, 1956, Ser. No. 561,810
4 Claims. (Cl. 269—189)



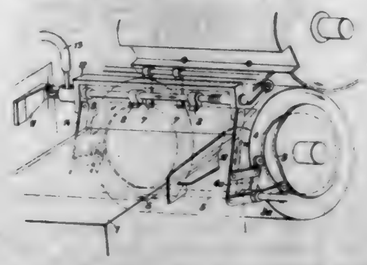
1. In an apparatus for fabricating hollow glass blocks from preformed glass block sections, a block section supporting chuck comprising a body member arranged to form a backing support for one of said block sections, a pair of main shafts journalled on opposite sides of said body member in opposed relationship and in the same horizontal plane, pairs of cooperating lateral shafts extending laterally of said main shafts on opposite sides of said body member, one of each of said pairs of lateral shafts being interconnected for oscillatory motion with one of said main shafts and the other one of each of said pairs being similarly interconnected with the other of said main shafts, supporting fingers for the block section mounted on all said shafts and arranged for pivotal contact with the peripheral edge of said block section, a power operated reciprocatory actuator, a crank-arm fixedly mounted on each of said main shafts, a resilient linkage interposed between and pivotally interconnecting each said crank-arm with said actuator in such manner as to thereby accommodate independent movement of one main shaft through a limited distance relative to the other main shaft.

2,976,035
FILAMENT CONVEYOR
Geoffrey A. Daines, West Caldwell, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 26, 1958, Ser. No. 737,715
13 Claims. (Cl. 269—189)



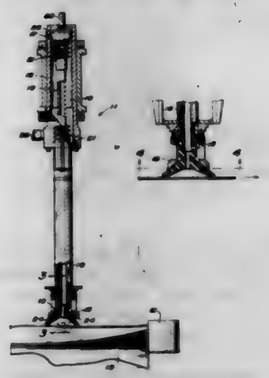
1. A conveyor for a filament having a coiled portion and legs extending from said coiled portion, said conveyor comprising a relatively long and relatively narrow body, said body having at one longitudinal side a first filament-leg gripping jaw, and having at its opposite side a second filament leg gripping jaw spaced longitudinally of said body from said first jaw, a pair of slides slidable within said body, one of said slides having a third filament-leg gripping jaw facing said first jaw, the other of said slides having a fourth filament-leg gripping jaw facing said second jaw, and means for concurrently moving said slides to move said third jaw towards said first jaw and said fourth jaw toward said second jaw to secure said legs in said jaws, or to move said third jaw away from said first jaw and said fourth jaw away from said second jaw to release said legs.

2,976,036
SHEET FEEDER FOR PRINTING AND DUPLICATING MACHINES
Erich Gericke, 14 Flemmingstrasse, Berlin-Steglitz, Germany
Filed Nov. 25, 1957, Ser. No. 698,636
Claims priority, application Germany Dec. 3, 1956
1 Claim. (Cl. 271—5)



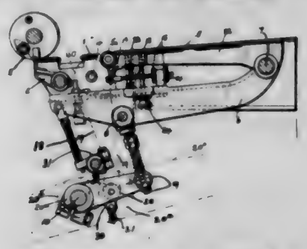
A sheet feeder for printing and duplicating machines comprising sheet forwarding means for lifting a sheet of paper from the top of a pile and conveying the same to the front and side lays of the printing machine for adjusting the sheet to accurate register, said forwarding means after the lifting of the sheet from the pile causing a sideways traversing movement in addition to their forward movement and then continuing their forwarding movement until the sheet reaches the front lays, means for moving a side lay transversely to adjust the lateral register of the sheet on the front lays, a swinging shaft on which said forwarding means are mounted, a rod provided upon said forwarding means and grippers mounted on said rod and means for displacing said rod transversely to the direction of forward feed.

2,976,037
SHEET HANDLING SUCKER
Howard J. Seel, Cleveland, and Arthur G. Royer, Cleveland Heights, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,436
15 Claims. (Cl. 271—26)



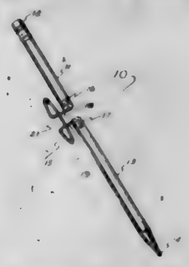
1. In a sheet forwarding device for grasping sheets one at a time and forwarding them to a sheet handling machine, a suction mouth carried by said device, said mouth being flexible at least in a direction transverse to the direction of sheet forwarding to enable the mouth to conform to uneven sheets when they are grasped, means for forwarding said device, and means providing a relatively unyielding support for said suction mouth in the direction of sheet feeding and enabling yielding thereof in a transverse direction during the forwarding action.

2,976,038
FEED MECHANISMS FOR PRINTING AND LIKE MACHINES
Fred Whyte, Evergreens, Barras Lane, Otley, England
Filed June 17, 1957, Ser. No. 665,925
4 Claims. (Cl. 271—60)



1. In a feed mechanism for printing machines, and the like, a rising and falling feed plate, said feed plate having a front portion and a rear portion, a front registering lay carried by such front portion, a first camshaft carried by said front portion for raising and lowering said registering lay, a drive to said first camshaft, said drive having adjustable centres to accommodate variations in centre distances resulting from the rise and fall of the feed plate, a pair of arms pivoted to said rear portion supporting said front portion, said front portion being slidably adjustable on said arms, a second camshaft mounted on said printing machine, means for raising and lowering the feedplate comprising a connecting rod and lever mechanism, the connecting rod being secured to the said pair of arms and said lever mechanism and being operatively connected to said second camshaft for operation thereby.

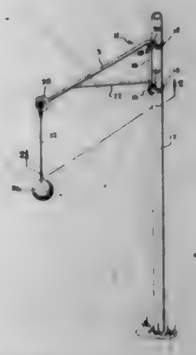
2,976,039
TRICK TONGUE PIERCING DEVICE
Gerald C. Chouinard, 4912 Biloxi Ave., North Hollywood, Calif.
Filed Oct. 24, 1958, Ser. No. 769,344
4 Claims. (Cl. 272—8)



1. A trick tongue piercing device of the character described comprising an upper pencil segment having a blunt end, a lower pencil segment having a pointed end, and a tongue clamp for interconnecting in spaced-apart relationship said upper pencil segment and said lower pencil segment, said tongue clamp being a wire member with tongue engaging portions extending normal to the longitudinal axes of said pencil segments and a circular portion disposed at an angle to said tongue engaging portions greater than 90° and less than 180°.

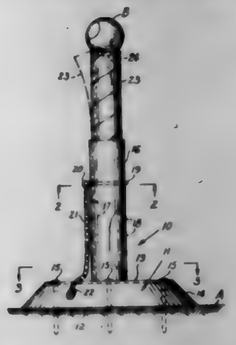
2,976,040
PRACTICE TETHER BALL DEVICE
Jack J. Bales, 1163 Orange Ave., Beaumont, Calif.
Filed Sept. 19, 1958, Ser. No. 762,078
1 Claim. (Cl. 273—26)

A practice tether ball device comprising a vertical support post, a horizontal arm, a depending vertical leg on one end of said arm, a pair of spaced loop elements on said leg, respective vertical V-shaped saddle members on said leg opposite said loop elements and engaging said vertical support post, respective clamping straps engaged through said loop elements and clampingly engaging around the support post and clampingly securing said arm at an adjusted position on said vertical support post,



a vertical inner annular race ring secured to the other end of said arm, coaxially with the arm, an outer annular race ring concentrically surrounding said inner race ring, a plurality of ball bearings engaged between said race rings, said outer race being formed with an aperture in its peripheral portion, a flexible cable member connected to said outer race ring at said aperture, and a practice ball secured to the free end of the flexible cable member.

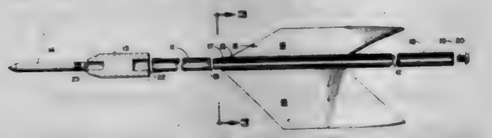
2,976,041
BASEBALL PRACTICE STANDARD
John G. White, 617 N. 27th St., Sheboygan, Wis.
Filed Aug. 28, 1959, Ser. No. 836,690
1 Claim. (Cl. 273—26)



In a practice standard a base plate of circular formation having a smaller top than bottom and a tapered peripheral edge extending between said top and bottom, a tubular member secured to said base plate centrally thereof in vertical relation, said member having aligned rows of openings therein, a resilient flexible cylindrical member telescopically positioned in said tubular member, said cylindrical member having a pair of opposed openings extending through the walls thereof, said last-mentioned openings adapted for alignment with the openings in said tubular member, a pin selectively insertable through the aligned openings in said rows of openings and through said openings in said cylindrical member for adjustably positioning said cylindrical member vertically relative to said tubular member, said cylindrical member having an open top forming a seat adapted to receive

a baseball, spikes extending vertically through said base and adapted to extend into the ground to retain said base in fixed relation to the ground, an eye secured to said base, a second eye on said pin, and a chain extending between said eyes to secure said pin against loss.

2,976,042
PROJECTILE
Lawrence Barnett, Box 252, Fort Edward, N.Y.
Filed Oct. 1, 1957, Ser. No. 687,391
3 Claims. (Cl. 273—106.5)



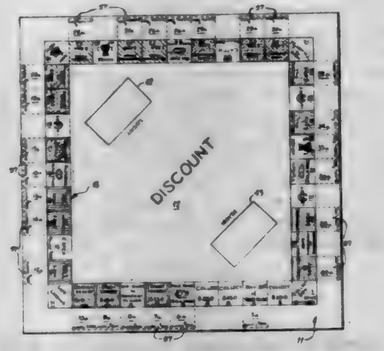
2. A projectile comprising first and second tubular shaft portions, said second tubular shaft portion having its forward end secured into the rearward end of said first tubular shaft portion, a cylindrical weight secured at one end to the forward end of said first shaft portion, a point secured to said cylindrical weight at the other end thereof, a flight comprising a tubular sleeve and a plurality of symmetrically disposed vanes integrally formed therewith slidably mounted on said second tubular shaft portion adjacent said first tubular shaft portion so as to leave a part of said second shaft portion exposed, a further tubular sleeve slidably fitted over the exposed part of said second shaft portion between said flight and the rear end of said second shaft portion, and a plug having an enlarged head and secured within the end of said second shaft portion for replaceably retaining said flight and second tubular sleeve on said second shaft portion.

2,976,043
ARCHERY ARROW
Leonard S. Meyer, Waverly, Ohio, assignor to Parallel Products Company, Columbia, S.C., a corporation of South Carolina
Filed Feb. 27, 1959, Ser. No. 796,083
7 Claims. (Cl. 273—106.5)



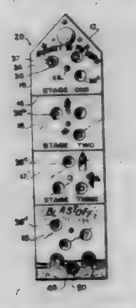
6. An arrow shaft having fletchings thereon, said fletchings being disposed in longitudinally extending angularly spaced radial slots which extend into the shaft and meet at the axis thereof, said slots being disposed longitudinally within the length of the shaft so that both the leading and trailing ends thereof are closed to provide unslotted shaft portions ahead of and behind the slots to give adequate strength to the shaft, a pair of said fletchings being formed by a unitary flexible fletching section which extends around a corner at the junction of the two adjacent slots and which is included within the two angularly related halves of the fletching section that extend out through the angularly related slots to project radially outwardly beyond the surface of the shaft, and projections on said fletching section formed integrally in one piece with the fletching section which engage said shaft adjacent the outer ends of said radial slot.

2,976,044
BOARD GAME APPARATUS
Gene S. Corpening, 27 N. Main St., Granite Falls, N.C.
Filed Oct. 29, 1958, Ser. No. 770,529
4 Claims. (Cl. 273—134)



1. A game apparatus for a plurality of players comprising, in combination, a playing board, a continuous main course on said board divided into a plurality of interconnected playing areas of substantially equal size and constituting a playing path for the players, said main course having penalties associated therewith assessable to players registering movement therethrough, secondary spaces adjacent to at least some of said playing areas on said main course to which ownership may be acquired by the players and which constitute a protective zone from the penalties of the main course, such ownership carrying with it absolute territorial control over said secondary spaces, each of said secondary spaces corresponding in size to each of said playing areas, each of said secondary spaces being contiguous to one respective playing area adjacent thereto along a boundary line common to said secondary space and the corresponding playing area, means defining related indicia on each of said secondary spaces and the corresponding playing area contiguous thereto, and means including individually distinctive sets of elements corresponding to the respective players for positioning on said board in each of said secondary spaces to identify the particular player acquiring ownership of each of said secondary spaces.

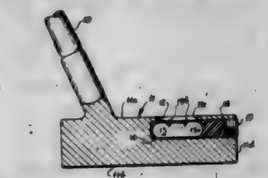
2,976,045
ROCKET TO THE MOON GAME
Robert D. Mason, 223 W. 52nd St., New York, N.Y.
Filed May 25, 1959, Ser. No. 815,355
3 Claims. (Cl. 273—135)



3. A game played by calling numbers on a card, comprising an elongated card having a pointed end simulating a rocket, said card having a front face divided into a plurality of successive marked playing stages, each of said

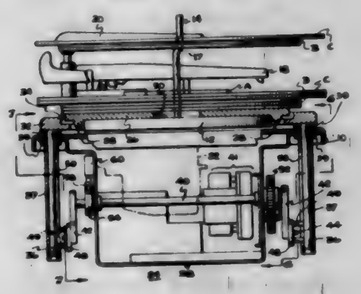
stages having a plurality of windows formed therein, and a number disk rotatably mounted on the rear face of the card behind each of said stages with certain numbers on the disk visible through said windows, there being means for turning all of the disks simultaneously to change all the numbers at the windows at once, said means comprising a knob mounted on the front face of the card and operatively connected with the disks for turning the disks simultaneously, each of said disks having a groove therein, said knob being mounted on a pin extending through the card, a grooved drive pulley fixedly mounted on said pin, and a drive cord engaged in the grooves of said pulley and disks, said cord being wound in reverse directions on the successive disks to insure sufficient tension of the cord thereon to turn simultaneously when the knob is turned, a plurality of markers for covering the numbers on the card as the numbers are called, and a spinning top for selecting said numbers.

2,976,046
GOLF CLUB
Lowell O. McCullough, Jr., 1236 East Blvd., Charlotte, N.C.
Filed Mar. 4, 1957, Ser. No. 643,882
1 Claim. (Cl. 273—162)



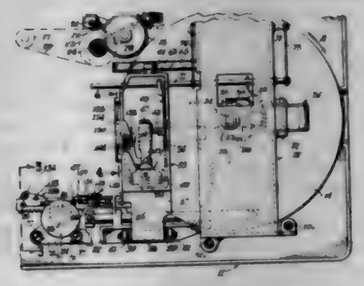
A golf club comprising a shaft, a head having an outer free end, said head having a bore extending inwardly from the outer free end, the upper surface of said head having an aperture therein communicatively connected to the bore, a spirit level positioned in said bore and underneath said opening to be viewed therethrough, a mass of resilient material substantially filling said bore, said mass of resilient material being provided with a recess in its upper surface snugly receiving said spirit level, and a plug threadably secured in said bore at the outer free end of said head, said plug abutting said mass of resilient material.

2,976,047
AUTOMATIC RESTACKING MECHANISM FOR PHONOGRAPH
Roy Q. Edwards, Elkins Park, Pa., assignor to Leon S. Gross, Philadelphia, Pa.
Filed Aug. 29, 1958, Ser. No. 758,000
13 Claims. (Cl. 274—10)



1. In a phonograph having a turntable and a central shaft extending through said turntable with an offset position on said shaft for supporting a plurality of records and automatic means for dropping said records one by one to said turntable and for playing same, a restacking mechanism for lifting the records to the support position above the turntable after all of said records have been rotated on said turntable comprising a disc rotatable on and supported by said turntable, said disc having a diameter greater than the diameter of said turntable, a central opening in said disc having a diameter at least as great as twice the distance between the outermost periphery of said offset and the axis of said central shaft, means for elevating said disc to said offset position on said shaft and for returning said disc to said turntable, and other means for centering said disc on said turntable when it is returned to said turntable from said raised position.

2,976,048
CARRIAGE CONTROL MECHANISM FOR PHONOGRAPHS
Robert M. Silverman, Union, N.J., assignor, by mesne assignments, to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed May 9, 1956, Ser. No. 583,715
6 Claims. (Cl. 274—13)



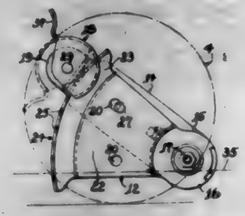
1. In a phonograph having a movably mounted support for a record, the combination of record-cooperable translating means, a carriage for said translating means mounted for traveling movement with respect to a record, a control member mounted for rotational movement, a rack coupled to the carriage, a pinion connected to said control member and engageable with said rack for moving said carriage by rotation of said control member, power mechanism effective when activated, for positively moving said carriage in one direction, means for activating said power mechanism, and means responsive to said control member for placing said activating means in an inoperable condition when manual movement of said control member is initiated to shift said carriage in the other direction.

2,976,049
TALKING GREETING CARD
John J. Read, Norwood, Mass.
Filed Dec. 10, 1957, Ser. No. 701,849
1 Claim. (Cl. 274—16)



An audible greeting card comprising a sheet of semi-rigid cardboard, a small phonograph disc rotatably mounted on said sheet, a central pivot connecting said disc to said sheet, a spacing washer between the central portion of said disc and the adjacent portions of said sheet, a needle arm fastened to said sheet near the edge of said disc, and a needle mounted on said arm bearing against said disc near the edge thereof tilting the disc and pressing the adjacent edge portion thereof against the sheet.

2,976,050
WHEELS HEIGHT ADJUSTMENT FOR LAWN-MOWERS
John Gber, Cleveland, Ohio, assignor to The M.T. & D. Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 2, 1958, Ser. No. 764,788
3 Claims. (Cl. 280—43.17)



1. In a lawn-mower with a generally rectangular body having a plurality of wheels, an adjustable supporting device for each of said wheels including a sector-like base plate attached to said body and formed at the peripheral end portion with a laterally extended, slotted flange, an elongated wheel supporting plate pivoted at one end to said base plate and extended with the other end beyond the slotted flange thereof, and locking and clamping means for securing the wheel supporting plate in a plurality of adjustable positions to said base plate, said locking and clamping means being pivoted to the extended end of said wheel supporting plate and including laterally extended flange means arranged opposite said slotted flange and extending through one of its slots to secure the wheel supporting plate in adjusted position to said base plate and cam means adapted to laterally force the wheel supporting plate into face-to-face contact with the base plate.

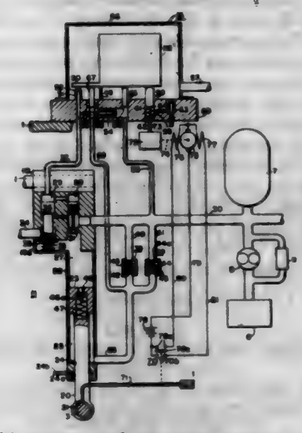
2,976,051
ADJUSTABLE TRAILER SUSPENSION
William A. Morey, 2045 N. Elizabeth, Dearborn, Mich.
Filed Sept. 10, 1958, Ser. No. 760,233
6 Claims. (Cl. 280—81)



1. In an adjustable dead axle construction for use on a trailer, the combination of a pair of longtiudinal side rails and a plurality of cross members forming a frame structure; a pair of beams secured to and positioned below said side rails; an axle assembly adjustably secured to said beams; said axle assembly comprising an upper and lower mounting plate; means on said upper mounting plate for locating and positioning said axle assembly on said beams; a dual wheel axle secured to said lower mounting plate; a plurality of vertical pilot posts slidably mounted between said mounting plates; resilient means interposed between said mounting plates for suspension of a load on said frame; and means for limiting extension of said resilient means.

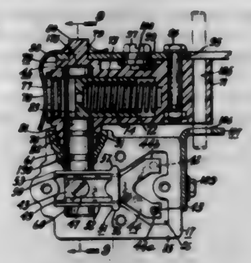
2,976,052
VEHICLE STABILIZER, TILTER AND LEVELING MEANS
Clinton R. Hanna, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1956, Ser. No. 630,835
22 Claims. (Cl. 280—112)

1. In a stabilizer for a vehicle having sprung and unsprung masses, a power source, sensing means connected to said power source for control of said power source, said sensing means comprising a weight supported at a point horizontally and vertically displaced with respect to its center of gravity to respond to lateral and vertical accelerations, force producing means connected



between said sprung and unsprung masses and to said sensing means and power source, said sensing means causing said force producing means to develop forces in proportion to accelerations of said sprung mass and also in proportion to the relative velocity of said sprung and unsprung masses.

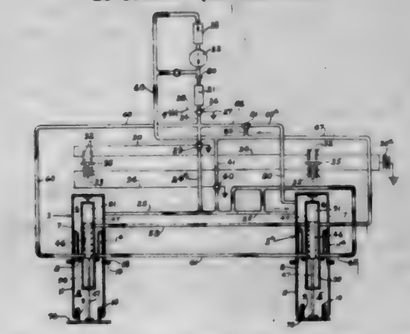
2,976,053
HEIGHT CONTROL VALVE FOR VEHICLE SUSPENSION
John F. Pribonic, Dayton, and Wayne A. Karlgaard, Englewood, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,416
18 Claims. (Cl. 280—124)



1. A height control or leveling valve for use in a fluid suspension system for a vehicle to maintain a predetermined clearance height between the sprung mass and the unsprung mass of the vehicle by supplying fluid under pressure to a fluid spring in response to a decrease of the predetermined clearance height and exhausting fluid from the fluid spring in response to an increase of the predetermined clearance height, comprising, a valve body having a fluid receiving chamber, inlet and exhaust valve means in said body controlling fluid flow to and from said chamber, an oscillatable shaft journaled in said body having a portion within said chamber and a portion extending exteriorly of said body, a valve actuating arm in said chamber and secured on said shaft portion in said chamber for oscillation with said shaft and having free ends engageable with said inlet and exhaust valve means to actuate the same by oppositely directed movements of the actuating arm, said valve actuating arm having shoulder means

thereon forming thrust shoulders to position the said shaft transversely within said valve body and form thrust means to receive axial thrust of said shaft and prevent removal of the shaft from the said body, a hollow body member supported on said shaft portion exterior of said valve body and freely rotatable on said shaft, said body member containing therein a spring urging a member therein against a flat portion on said shaft portion within said hollow body member for resiliently positioning said hollow body member in a predetermined position relative to said shaft and thereby relative to said valve actuating arm and also providing for resilient movement of said hollow body member relative to said shaft and said valve actuating arm beyond the limits of movement of said valve actuating arm, and means on said hollow body member for connecting the same with the sprung or unsprung mass of a vehicle to actuate the same and said valve actuating arm in response to relative movement between the sprung mass and the unsprung mass of the vehicle.

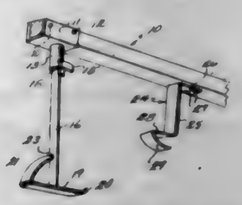
2,976,854
STABILIZING MEANS FOR THE AIR SPRINGS OF AN AUTOMOBILE
Edward H. Sahagian, 46 Brent St., Dorchester 24, Mass.
Filed Dec. 17, 1958, Ser. No. 781,118
10 Claims. (Cl. 280—124)



1. Stabilizing means for the air springs of an automobile in which the automobile is supported on each side by a front air spring and a rear air spring each of which has a sealed air chamber provided with a flexible wall and an expansible and contractible liquid-receiving chamber, said stabilizing means comprising a source of liquid under pressure, a system of pipes providing a communication between said source of liquid under pressure and the liquid-receiving chamber of each of the two air springs on the same side of the automobile body, valve means normally closing said communication, control means associated with each air spring, the two control means on the same side of the automobile body having a tandem connection and being rendered operative only by the simultaneous downward movement of both the front and rear ends of said side below their normal level position to open said communication whereby liquid under pressure will flow from said source into the liquid-receiving chambers of both of the air springs on said downwardly moving side of the automobile body, thereby to increase the pressure in the air chamber of each of said air springs sufficiently to restore both ends of said side to their normal level positions.

2,976,855
SUPPORT FOR TRAILER TONGUE
Ralph C. Harrison, 1789 Johnson St., Beloit, Wis.
Filed Nov. 3, 1959, Ser. No. 850,666
1 Claim. (Cl. 280—150.5)

A support for a trailer tongue comprising, in combination, a tubular socket having elongated aligned slots therein, secured to the underside of said tongue, a pin extending transversely across said socket through said slots, a tubular support having aligned openings in the upper end thereof, said pin extending through said openings, an offset semi-cylindrical downwardly opening portion extending transversely of said socket at the lower end thereof in alignment with said pin and adapted to receive said support when said pin is in its lowermost position relative to said slots and said support is swung to horizontal position, a foot on said support, and a resilient clip secured to the underside of said tongue en-



gageable with said foot for holding said support in inoperative horizontal position beneath said tongue, said foot including an extending arcuate tip portion, and said clip having a horizontally offset portion and a lower arcuate portion, said tip portion and said lower arcuate portion effecting a cam action to displace said resilient clip and seat said foot on said horizontal offset portion, said foot having an extending reverted portion on the side thereof opposite said extending arcuate tip, said reverted portion seating on the horizontal offset portion of said clip.

2,976,856
BICYCLE SUSPENSION SYSTEM
John D. Henry, 35—15 155th St., Flushing, N.Y.
Filed June 4, 1958, Ser. No. 739,839
2 Claims. (Cl. 280—277)



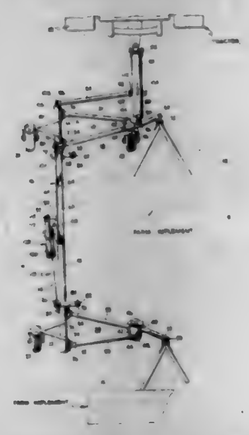
1. A suspension system for a bicycle having a driving chain to the rear wheel comprising in combination, a rear rocking fork journaled to the rear frame fork of the bicycle, said rear rocking fork supporting the rear wheel of the bicycle on one side of said journal, first resilient means suspending said rear rocking fork from the bicycle frame and connected to said rear rocking fork on the other side of said journal, said first resilient means having strength sufficient to maintain an angle between said first resilient means and said rear rocking fork of greater than 90° and less than 180° during bicycle use, a front rocking fork journaled to the front frame fork of the bicycle, said front rocking fork supporting the front wheel of the bicycle on one side of said journal, said front frame fork provided with rocking fork limiting means to prevent the front wheel from striking said front frame fork, second resilient means suspending said front rocking fork from the bicycle frame and connected to said front rocking fork on the other side of said journal, said second resilient means having strength sufficient to maintain an angle between said second resilient means and said front rocking fork of greater than 90° and less than 180° during bicycle use, and a chain length compensator for adjusting the effective length of the driving chain upon movement of the rear rocking fork.

2,976,857
BICYCLE TRAINER WHEEL ATTACHMENT
Raymond M. Krokos, Detroit, and Newman B. Smith, Livonia, Mich., assignors to Evans Products Company, Plymouth, Mich., a corporation of Delaware
Filed Jan. 7, 1958, Ser. No. 707,644
1 Claim. (Cl. 280—293)



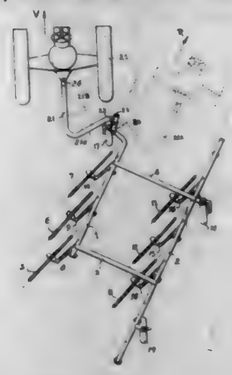
In a trainer wheel attachment for a bicycle, a leg to support the wheel comprising an integral single piece of metal rod having a horizontal axle section, portions of said axle section being transversely deformed to limit inward movement of the wheel, said leg being bent at the inward end of said axle section to form a vertical section, said vertical section having a flattened portion tangent to the outer surface of the leg, said leg having a portion curved htrough approximately 180° extending upwardly from said vertical section and terminating in a flat portion spaced from said aforementioned flat portion, each said flat portion having an opening therein for attachment to a bicycle.

2,976,858
DRAFT HITCH
John A. Sandgren, Bathgate, N. Dak.
Filed Nov. 16, 1959, Ser. No. 853,379
11 Claims. (Cl. 280—413)



1. A draft hitch for towing a pair of farm implements in an abreast or tandem relation comprising an elongated frame member for determining the relative spacing of the implements in their abreast and tandem positions, said frame member assuming a transverse relation with respect to the towing direction when said implements are in their abreast position and assuming a parallel relation to the direction of tow when said implements are in their tandem position, a pair of spaced foldable wing means carried by said frame member, means on each wing means near the free end thereof for respective pivotal connection to said implements, means maintaining said wing means folded when said implements are in their abreast position, means intermediate the ends of said frame member for connection to a vehicle for towing said implements in said abreast position, means maintaining said wing means in an extended relation to one side of said frame member when said implements are in their tandem position, and means near the free end of one wing means for connection to the vehicle for towing said implements in their tandem position.

2,976,859
AGRICULTURAL IMPLEMENTS HAVING DRAW-BARS
Cornelis van der Lely and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Weverskade, Maasland, Netherlands, a Dutch limited company of the Netherlands
Filed July 18, 1957, Ser. No. 672,710
Claims priority, application Netherlands July 27, 1956
6 Claims. (Cl. 280—456)

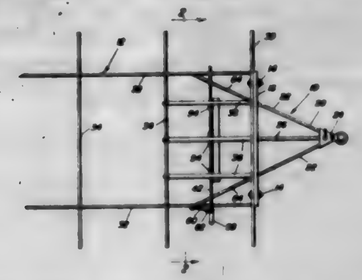


1. Apparatus comprising a draw-bar mechanism, an implement, wheels on and supporting said implement, a prime mover, wheels on said prime mover, said mechanism coupling said implement to said prime mover; said mechanism comprising a longitudinally extending traction portion pivotally connected to said prime mover about a vertical axis, an arm fixed to and extending substantially laterally from said traction portion, said traction portion and arm lying generally in a horizontal plane, means on the free end of said arm, coupled to said implement and defining a substantially horizontal and longitudinal axis about which the implement and the wheels thereon are freely pivoted, and a ground wheel supporting said means, said arm forming an angle of less than 90 degrees with said traction portion and with said substantially horizontal and longitudinal axis.

2,976,860
DETACHABLE HITCH ELEMENT
Lyle G. Barden, Box 112, Mansfield, Pa.
Filed June 8, 1959, Ser. No. 818,770
2 Claims. (Cl. 280—491)

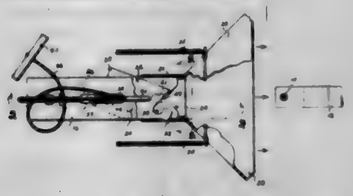
1. In combination, a trailer frame having a transversely extending beam on the forwardmost end thereof, a plurality of longitudinally extending parallel tubular frame members secured to said transverse beam, openings formed in said beam in alignment with said tubular frame members, a detachable hitch element comprising a mounting beam removably secured to said transverse beam in surface to surface contacting relation thereto, a hitch frame fixedly secured to said mounting beam and extending forwardly therefrom having a first hitch element on the forward end thereof for connection with a second

hitch element on a towing vehicle, securing means on said mounting beam slidably received within said longitudinally extending frame members, said hitch frame comprising a substantially V-shaped frame having two legs joined at one end, the apex of said hitch frame having said first hitch element fixedly secured thereto, the other ends of the legs of said hitch element being fixedly secured to said mounting beam, means removably attaching said mounting beam to said transverse beam, said securing means including a plurality of spaced, parallel longitudinally extending bars projecting from the rear of said mounting beam adapted to be telescopingly received within said longitudinally extending, tubular trailer frame members through openings in alignment with the latter formed in said transversely extending frame member and



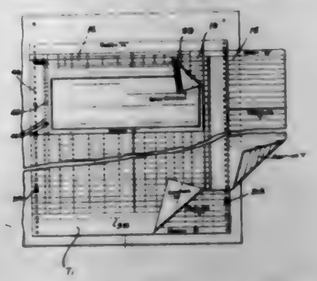
removably secured therein, said hitch frame including a third leg secured between the apex of said hitch frame and said mounting beam that bisects the angle formed by said apex, each of said legs being secured to said beam at points therealong in alignment with one of said bars, an aperture formed through corresponding surfaces of each of said bars and said longitudinal members, the aperture in each of said bars being aligned with the corresponding aperture in said frame members, hook means on said trailer frame removably passed through said aligned apertures securing said bars within said longitudinal frame members, said last mentioned means comprising a transversely extending shaft journaled on said trailer frame having a plurality of hooks thereon in alignment with said apertures receivable therein upon rotation of said shaft.

2,976,061
HITCH
Clifford Albert Embree, Rte. 2, Villisca, Iowa
Filed Oct. 2, 1959, Ser. No. 844,894
5 Claims. (Cl. 280—509)



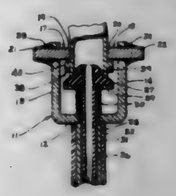
1. In a hitch, a bar adapted to have its forward end secured to a vehicle and having its rear end portion horizontally slotted, a lock member rotatably mounted in the slot of said bar having a hook portion at its forward end and capable of having a rear end portion extending laterally from the slot of said bar when in one position of its rotation, a vertical slot opening in the forward end portion of said bar capable of having its outlet closed by the hook portion of said lock member when said lock member is in a position where its rear end portion is totally within the horizontal slot of said bar, a sleeve slidably embracing said bar capable of holding the rear end portion of said lock member within the horizontal slot of said bar when in a forward position of its sliding movement, a means for yieldingly holding the rear end portion of said lock member in a position to extend laterally from the horizontal slot of said bar, and a means for yieldingly holding said sleeve in a forward position of its sliding movement.

2,976,062
APPARATUS FOR PAYROLL SYSTEM
Hyman Brechner, 65 Bella Vista Drive, Tuckahoe, N.Y.
Filed Jan. 7, 1958, Ser. No. 707,506
7 Claims. (Cl. 282—29)



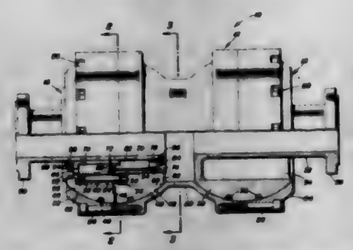
1. In a selective recording graphic transfer system, a plurality of at least three directly readable record sheets having coated surfaces wherein the coatings are of types which co-act to transfer writing between sheets which have coatings sensitive to each other but not between sheets having coatings which are insensitive to each other depending on selective contiguity of surfaces thereof; said coated sheets being superimposed to effect transfer from an upper sheet to an intermediate sheet but not to a lower sheet below said intermediate sheet except upon removal of said intermediate sheet; said intermediate sheet having a coating of the same type on both sides thereof, the lower sheet having a coating on the obverse surface thereof insensitive to the coating on the reverse surface of said intermediate sheet, the coatings on the obverse surfaces of the intermediate and lower sheets being sensitive to the coating on the reverse surface of the upper sheet.

2,976,063
COUPLING ADAPTER
Walter F. Kuhlman, 99 Corwin St., Norwalk, Ohio
Filed Oct. 23, 1959, Ser. No. 848,328
3 Claims. (Cl. 285—119)



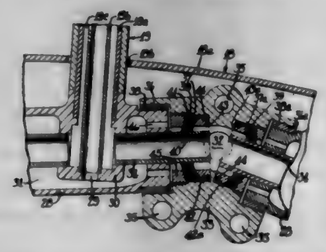
1. A coupling adapter comprising a generally U-shaped frame having a base member and a pair of arms extending upwardly at generally right angles therefrom, each of said arms having a bore adjacent its free end and said base member having a bore generally centrally thereof, a pair of pins one of which is slidably mounted in each of the arm bores, means resiliently urging said pins radially outwardly to a position in which they are substantially completely withdrawn from the interior of said frame, each of said pins being provided with stop means on its inner end effective, when said pin is in its normal withdrawn position, to prevent further outward movement thereof, a tube slidably mounted in the bore through said base member, means resiliently urging said tube upwardly into the interior of said U-shaped frame, and a generally frusto-conical gasket member seated on the upward extremity of said tube, said gasket converging upwardly and having a bore extending therethrough in axial alignment with said tube.

2,976,064
FLEXIBLE JOINT ARRANGEMENTS
Fred E. Croy, Annapolis, Md., assignor, by mesne assignments, to Ultradyne, Incorporated, Albuquerque, N. Mex., a corporation of New Mexico
Filed June 26, 1959, Ser. No. 823,118
4 Claims. (Cl. 285—165)



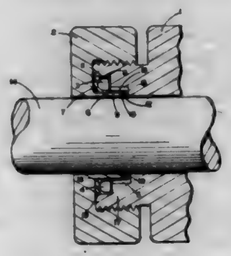
1. A flexible and expandable joint arrangement for joining relatively misaligned or relatively movable fluid conduits together, comprising, structure defining a tubular casing, a rocker assembly positioned at opposite ends of said tubular casing, with each of said rocker assemblies having means for connecting to one of said fluid conduits, one of said connecting means of one of said rocker assemblies being arranged to slide with respect to the connecting means of the other of said rocker assemblies, and means arranged to cooperate with one of said rocker assemblies and said slidable connecting means to compensate for expansion forces caused by conducted fluid, said compensating means including a master piston device and a slave piston device, said master piston device having an annular piston connected to a plurality of circumferentially equally spaced pistons acting in unison on said slave piston device to multiply the compensating forces so as to proportion the opposing forces caused by the thrust of the conducted fluid, whereby relatively misaligned or relatively movable fluid conduits can be joined together to form a continuous flexible, expansion type joint arrangement.

2,976,065
GAS PRESSURIZED FLUID SEAL
Melville F. Alexander, Euclid, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed July 3, 1956, Ser. No. 595,772
3 Claims. (Cl. 286—8)



1. A seal for use between parts for preventing leakage of fluid under pressure at high temperatures which comprises a stack of spring washers of equal size having inner aligned peripheries engaging one part and outer aligned peripheries engaging the the other part, said inner and outer peripheries being axially offset from one another but having a spring characteristic inherently tending to come into alignment, means holding one periphery of said washers in position, means allowing the washer on one side of the stack to communicate with a first fluid under pressure, and means allowing the washer on the other side of the stack to communicate with a second fluid of higher pressure than the ambient atmospheric pressure or the pressure of said first fluid so that only the differential in pressure between said fluids acts to influence the engagement between the other periphery of the washers and the part engaged thereby.

2,976,866
COMPRESSION TYPE HIGH TEMPERATURE SEAL
Arthur J. Antoniades, Gardena, and Edward J. Bigelow, Torrance, Calif., assignors to North American Aviation, Inc.
Filed Sept. 30, 1957, Ser. No. 687,180
3 Claims. (Cl. 286—10)

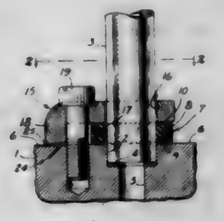


1. A fluid seal for high temperature, high pressure sealing between two relatively translatable members having slidably fitted complementary cylindrical working surfaces with a clearance gap therebetween, one of said members containing a first annular groove within said member and a second annular groove in the cylindrical working surface of said member connected to said first annular groove, an annular metal seal ring disposed in said second groove in wiping contact with said other working surface, an annular U-shaped metal compression member positioned in said first groove, said compression member having substantially parallel lip portions extending in an axial direction, one of said lip portions being of greater length than the other lip portion and extending into said second groove to bear against the outer surface of said annular insert whereby the same is biased radially into wiping contact with said other cylindrical working surface to dynamically seal the same.

2,976,867
EXTERNAL SEAL
John J. Zrimec, Cleveland, Ohio, assignor to The Meriam Instrument Company, Cleveland, Ohio, a corporation of Ohio
Filed May 26, 1958, Ser. No. 737,580
2 Claims. (Cl. 286—39)

1. An external seal for a cylindrical member comprising a block having an aperture to receive said member and a substantially flat seating face surrounding said aperture, a sealing ring engaging said face and surrounding said member, said ring comprising an outer endless retaining band having a cylindrical internal face and an inner packing ring within said band, said packing ring having a cylindrical external face and flat side edges and being normally of an axial width greater than that of said band and having its external face in sliding contact with the internal face of said band, said packing

ring having a single centrally disposed circumferentially continuous groove in its external face that is of a depth greater than one half the radial thickness of the ring to provide said ring with a flexible zone intermediate its side edges, a thrust member encircling said cylindrical member and having a substantially flat face opposed to said seating face and engageable with said sealing ring, and means for moving said thrust member axially toward said seating face to press said packing ring against said seating face, to move into contact the portions of said ring separated by said groove and to bow the



interior face of said ring radially inwardly into engagement with said cylindrical member at said flexible zone.

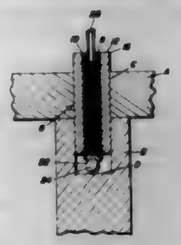
2. An external seal such as claimed in claim 1 in which the thrust member has an end portion that projects downwardly for engagement with the seating face of the block radially outwardly of said retaining band to limit the downward movement of said member and that has a beveled bottom face that is inclined upwardly from its outer end to provide a fulcrum about which said thrust member may rock after it engages with the face of the block.

2,976,068
BALL JOINT
James C. Jordan, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 11, 1956, Ser. No. 609,278
4 Claims. (Cl. 287—90)



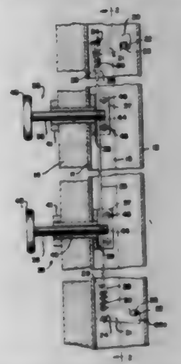
1. A ball joint comprising an upper bracket having a hemispherical embossment therein, a hemispherical bearing having non-yieldable characteristics positioned within said embossment in surface abutting relationship, a stud having a substantially spherical shaped head pivotally nested within said upper bearing, a depending threaded shank integral with said head, a lower fragmented bearing having non-yieldable characteristics disposed on the underside of said head and having an annular opening through which the shank extends, said lower fragmented bearing being in edge relationship with said upper bearing, an elastomer sealing boot bonded to said lower bearing and forming a downwardly depending extension, said boot having an annular opening through which said shank protrudes therethrough in surface contacting relationship, a complementary mating bracket underlying said upper bracket and said lower bearing and in surface abutting relationship to said lower bearing, and means for fixedly securing said brackets together.

2,976,069
DOWEL PIN
Eugene V. Meredith, R.D. 1, Apalachin, N.Y.
Filed Apr. 9, 1959, Ser. No. 805,221
3 Claims. (Cl. 287—127)



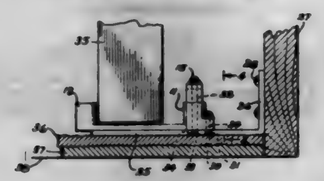
1. A dowel pin comprising an elongated dowel having generally flat leading and trailing ends with rounded marginal edge corners and having an axial bore extending therethrough and through the respective ends, said bore being internally screw-threaded, the threads terminating short of the respective ends of the dowel, and in combination, a jack screw adapted to be screwed through said bore, said jack screw having a tool socket at one end and a recess at the other end to accommodate an end thrust ball.

2,976,070
LATCHING MECHANISM
Fred W. Gollbach, 8835-43 Mark Twain St., Detroit 28, Mich.
Filed July 13, 1959, Ser. No. 826,526
2 Claims. (Cl. 292—25)



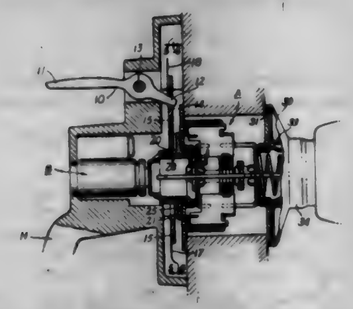
1. A latching mechanism for latching a fixed member to a movable member, comprising a journal formed in and extending through one of the members and a shaft fitted in said journal and extending beyond both ends of the journal, one end of the shaft being exposed for manually grasping the shaft, said shaft being axially slidable in the journal and also being rotatable in both a counterclockwise and a clockwise direction about its axis, the opposite end of the shaft being provided with an opening extending transversely through the shaft, a latching hook means pivotally secured to said one member and arranged to engage a pin means secured on the other member, an elongated, flexible cord having an end secured to the hook means so that a pull on the cord causes the hook means to pivot and thereby disconnect from the pin means, the cord loosely passing through said shaft opening and having its opposite end secured to the same one member, with the cord being taut at all times, whereby rotation of the shaft either clockwise or counterclockwise or axial movement of the shaft all will provide a pull on the cord to thus pivot the latching hook means.

2,976,071
AUTOMATIC DOOR STOP AND CATCH
Burton E. Anderson, 678 Stowe Ave., Baldwin, N.Y.
Filed Apr. 29, 1959, Ser. No. 809,776
1 Claim. (Cl. 292—216)



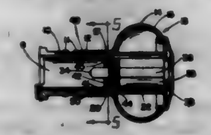
In a door stop and catch, the combination which comprises an L-shaped support having a vertically disposed portion that is adapted to be mounted on a mop board of a wall and a horizontally disposed portion that extends outwardly of said vertically disposed portion in parallel spaced relation to a floor contiguous to the wall, an inverted U-shaped bracket having apertured lugs extending outwardly thereof at right angles thereto, screw members extended through said apertured lugs to secure said inverted U-shaped bracket to the horizontally disposed portion of said support, an arm positioned within said inverted U-shaped bracket, said arm having a pair of vertically disposed knobs extending laterally from one end thereof and a vertically disposed bumper on the opposite end thereof, a bolt extended through the bight of said inverted U-shaped bracket, through said arm intermediate of the pair of knobs thereon and into the horizontally disposed portion of said support to pivotally mount said arm in said inverted U-shaped bracket, said support being adapted to be mounted so that one of the knobs is in the path of a free edge of a door, with the knobs positioned whereby the arm will swing below the free edge of the door and upon engagement of one of the knobs by the free edge of the door, the arm is actuated to swing the bumper against the side of the door opposite to the side which engages the knob, the free edge of the door engaging the knob at a point spaced from the pivotal mounting of the arm and between the pivotal mounting of the arm and the pivotal mounting of the door.

2,976,072
LOCK ASSEMBLY
Vincent Muttart, Downey, Calif., assignor to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts
Filed July 23, 1957, Ser. No. 673,591
1 Claim. (Cl. 292—336.3)



In a thumb lever operable door lock assembly wherein an outwardly spring biased latch bolt is withdrawn by retractor means operatively connected to inner and outer retractor actuating plates arranged to be pivoted to retractor actuating position by means affixable on the inner face of a door, means on the outer face of said door for withdrawing said bolt, comprising a vertically swingable lever having an exterior thumb operable branch and an internally extended branch forming a motion transmitting tooth, a vertically, slidably guided plate positioned in a casing with a seat operatively connected to said lever by the engagement of said tooth with said seat, thereby to actuate said plate in a vertical plane exterior of the outer face of the door upon thumb actuation of said lever, said plate including retractor plate engaging means whereby said bolt may be withdrawn by actuating said lever against the biasing action of said latch bolt spring, said plate being guided to be slidable vertically by guide shoulders defined by the casing and said plate having an extended recess asymmetrically positioned with respect to the vertical axis of said plate comprising a large clearance portion whose upper edges provide a pair of spaced upper lateral shoulders and one lower lateral shoulder spaced in opposed position to one of said upper edges, a pair of retractor lugs rotatably carried by said outer retractor plate extending through said recess, one of which lugs may be selectively extended between the upper and lower opposed lateral shoulders, the other of said lugs lying in contact with the other upper lateral shoulder, whereby lever operation will transmit one-direction rotary movement between the one of said lugs and the said opposed shoulders of said plate to actuate the said outer retractor plate and, upon release of said lever, said other lug will engage said other shoulder to limit the return of said lever to normal position.

2,976,073
KNOB ASSEMBLY
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles, Calif., and Franz J. Netschert, Glendale, Calif.; said Netschert assignor to said Russell
Filed May 25, 1959, Ser. No. 815,339
4 Claims. (Cl. 292—352)

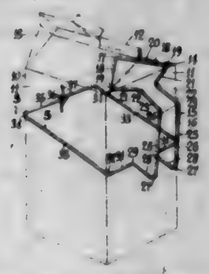


1. An operating assembly for a door latch including a tubular spindle having a pin recess therein at a location intermediate outside and inside ends, said assembly comprising a knob having an outer opening and an inner opening in axial alignment with said first identified opening, a hollow tube extending through said knob and having one end thereof retained laterally by said knob adjacent said inner opening, an underplate having a central opening therethrough, means on said tube interlocked with said underplate, a face plate having a disengaged overlying surface to surface position with respect to the outer end of the knob and attached to said tube, said face plate covering the outer opening of the body and overlying the edge thereof, said face plate being confined by said underplate whereby to secure said face plate in assembled position on the tube, and a transversely acting spring-pressed pin in said spindle in releasable engagement respectively with said tube whereby to hold said tube in releasable position on said spindle independent of the mounting of the knob on said spindle.

2,976,074
COMBINED HOLDER AND HANDLE FOR CARTONS
Roger N. Weisser, 19 Parkside St., and John A. Eder, 54 Lake St., both of Hamburg, N.Y.
Filed Apr. 11, 1958, Ser. No. 727,967
2 Claims. (Cl. 294—33)

1. A combined holder and handle for facilitating the use of wax impregnated paperboard containers having

flat upright sides and its upper end portions bent to form a pair of triangularly shaped side pockets and a seal manipulatable to form a pouring spout comprising a single length of resilient wire-like material bent intermediate its connectible ends to form a first substantially diamond shaped loop having its laterally opposite corners spaced to enter one of the pockets and engage its inner side walls, then successively bent to provide adjoining pairs of spaced substantially straight and parallel top, upright and bottom handle portions, and a second rectangularly shaped loop portion for receiving



and embracing the flat sides of the container, said first and second loop portions being coplanar with the associated top and bottom handle portions respectively and extending angularly upward from the ends of the upright handle portions in spaced substantially parallel planes, whereby upon engaging the second loop upon the container body, inserting the first loop in the pocket and grasping the handle portions said handle portions cause the second loop to grip the body and thereby prevent inadvertent removal of the holder handle from the container.

2,976,875
MAGNETIC PICK-UP DEVICE
Frances Budrock, Chicago, Ill., assignor to Monarch Tool & Machinery Co., Chicago, Ill., a corporation of Illinois
Filed July 17, 1959, Ser. No. 827,813
6 Claims. (Cl. 294—65.5)



1. A releasable magnetic pick-up device comprising in combination a tubular casing formed of non-magnetic material and presenting a forward rim, a thin membrane substantially coplanar with the rim and extending transversely across the same, a thin permanent magnet of the mixed ferrite type mounted for axial shifting movement within said casing and presenting a planar forward face, said magnet being magnetized in an axial direction whereby the forward and rear faces thereof constitute magnetic poles of opposite polarity, a combined backing plate for the magnet including a backing wall in coextensive contact with the rear face of the magnet and a forwardly extending marginal flange encompassing the peripheral edge of the magnet and slightly spaced therefrom, said marginal flange terminating in a plane parallel to and in close proximity to the forward face of the magnet, said backing plate and flange being formed of magnetic material, said magnet and backing plate being shiftable between an advanced position wherein the forward pole face of the magnet is in flush engagement with said membrane and a retracted position wherein said pole face is remote from said membrane, and means for shifting said magnet between its advanced and retracted positions.

2,976,876
RELEASING OVERSHOT
David L. Farley, Duncan, Okla., assignor to Halliburton Company, a corporation of Delaware
Filed Mar. 14, 1958, Ser. No. 721,500
1 Claim. (Cl. 294—102)



A releasing overshot for use in removing a fish from a well or the like, comprising a cylindrical housing, a locking spring within said housing and having a fish engaging catch depending therefrom, a releasing sleeve within said housing beneath said catch, said catch and said releasing sleeve having opposed surfaces effective to positively cam said catch to a fish releasing position upon movement of said releasing sleeve relatively toward said catch, releasable retaining means for holding said releasing sleeve in a lower inoperative position in said housing and out of engagement with said catch, said retaining means being releasable upon forcible downward movement of said housing relative to said releasing sleeve to position said releasing sleeve in an upper operative position in said housing, and a latch between said releasing sleeve and said housing for holding said releasing sleeve in said upper position in said housing after said forcible upward movement therein, said opposed surfaces engaging in said upper position of said releasing sleeve to positively cam said catch to a fish releasing position whereby the overshot may be removed from the well without the fish.

2,976,877
VEHICLE STABILIZING MEANS
John Medley Totton, Jr., R.R. 1, Solsberry, Greene County, Ind.
Filed Jan. 17, 1957, Ser. No. 634,798
2 Claims. (Cl. 296—1)



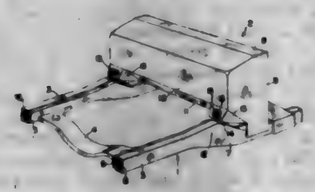
1. Control means for an associated vehicle, comprising a controllable fin arrangement adapted for movement between a longitudinally extending position and a protruding position presented in the path of the air stream about the vehicle, said fin arrangement including a fin member swingable about an axis outwardly inclined from the vehicle, and means actuatable by the vehicle operator for effecting said movement of the fin member.

2,976,878
PULLMAN CAMPER TRUCK ATTACHMENT
Virgil M. Maidl, 8211 Phlox St., Downey, Calif.
Filed June 15, 1959, Ser. No. 820,379
12 Claims. (Cl. 296—26)



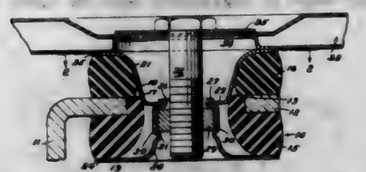
1. A sleeper attachment body for a vehicle having an open-top box type body with open rear end, defined by vertical side member, comprising: a cover unit having sides for attachment to said vehicle body in adjoining relation to the upper margins of said side members, having a top bridging between the upper extremities of said sides and covering the area within said body, and having a rear end doorway; a canopy disposed above said top and substantially co-extensive therewith in area; and anti-friction slide means connecting the respective sides of said canopy to the respective sides of said top and supporting the canopy for easy sliding movement between a retracted position covering said top and an extended position sheltering a space behind the vehicle substantially equal to the area within said body, while said top continues to shelter said area within the vehicle body.

2,976,879
MOTOR VEHICLE CONSTRUCTION HAVING INCREASED RIGIDITY AT THE DASH AREA
Arnold G. Schilberg, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Feb. 18, 1957, Ser. No. 640,758
4 Claims. (Cl. 296—28)



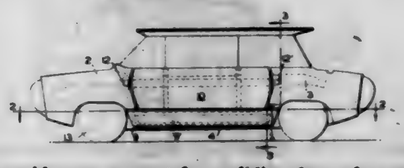
1. In a motor vehicle, a frame including a side rail having a kicked-up portion to accommodate the front wheel structure of the vehicle, a separate body including a dash member connected to the frame and disposed generally rearward of said kicked-up portion, means secured to the side rail on the rearward slope of said kicked-up portion and defining with said side rail a closed section for increasing the vertical dimension of said side rail at said rearward slope, a bracket secured to the dash member and extending toward said means, and means for resiliently connecting said bracket to said first named means to thereby increase the resistance of the frame to twisting and bending stresses.

2,976,880
MOTOR VEHICLE BODY MOUNTS
Charles D. Moore, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 711,955
2 Claims. (Cl. 296—35)



1. A body mount for connecting a motor vehicle body part to an apertured motor vehicle frame part, comprising a pair of apertured resilient insulators positioned on opposite sides of said frame part, a pair of cup-shaped retaining members having flange portions and base portions, said retaining members being oppositely disposed with respect to each other and extending into the apertures in said insulators, said retaining member flange portions overlying the respective outer sides of said insulators and the base portions abutting each other, said base portions being centrally apertured, a nut means, cage means integrally formed in the cup wall of one of said retaining members, said cage means comprising deformations in said cup wall forming diametrically opposed flat portions contiguous to opposite sides of said nut means to retain the latter against turning movement and in substantial alignment with said apertures, said cup wall being provided with inwardly projecting ribs below said flat portions to retain said nut means against axial displacement, and bolt means engageable with said nut means and securing said body part to said frame part through said body mount.

2,976,881
GUIDE ARRANGEMENT FOR SLIDING DOORS IN MOTOR VEHICLES
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 2, 1957, Ser. No. 700,062
Claims priority, application Germany Dec. 5, 1956
12 Claims. (Cl. 296—47)

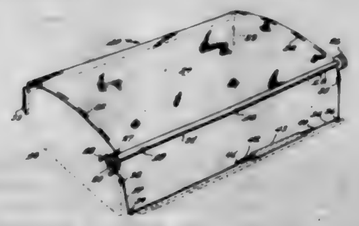


1. A guide arrangement for a sliding door of a motor vehicle provided with longitudinal bearer means, said door being slidingly guided only within a lower region thereof, comprising guide means detachably secured to said bearer means, cover means for said guide means secured to said bearer means, and support means operatively connecting said guide means with said door including pivot means for pivotably mounting said door on said support means enabling pivotal movement thereof about the axis of said pivot means.

2,976,882
ROLL-UP VEHICLE LOAD COVER
Adam P. Dahlman, Box 143, Power, Mont.
Filed Sept. 12, 1958, Ser. No. 760,663
2 Claims. (Cl. 296—98)

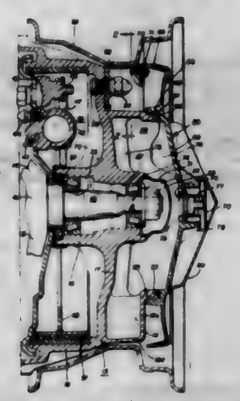
1. In a body of the type having a bottom wall, spaced apart parallel upright side walls, a front wall and a rear

wall, a flexible cover for said body comprising a flexible tarpaulin panel having one edge thereof secured to the upper edge of one of said side walls, a spindle secured to an opposite edge of said tarpaulin parallel to the edge secured to said side of said body, means engaging the front and rear edges of said tarpaulin securing said front and rear edges in engagement with the upper edges of



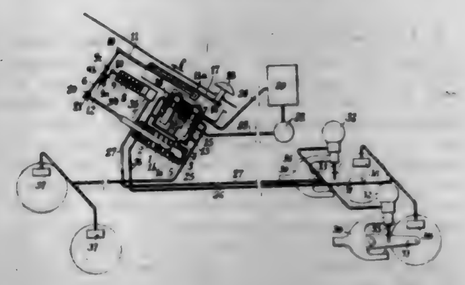
said front and rear walls of said body, and resilient means on said body engaging said spindle for holding said spindle with said tarpaulin panel tightly stretched across said body, said resilient means including a pair of spools secured at opposite ends of said spindle, a cable wound on each of said spools, and resilient means securing the opposite ends of said cables together and to said body.

2,976,083
INTEGRALLY CAST VEHICLE WHEEL AND BRAKE DRUM WITH HEAT SINK
George A. Zink, Bedford, and Walter E. Taylor, Seymour, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 12, 1959, Ser. No. 845,827
5 Claims. (Cl. 301—6)



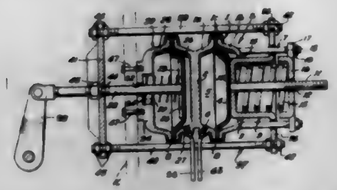
1. A vehicle wheel and brake drum structure for containing a confined body of liquid for temporary heat storage and subsequent dissipation, comprising; a unitary casting structure including a generally cylindrical body portion positioned concentrically of the axis of the casting structure and forming a wheel hub arranged to receive an end of a vehicle axle, a generally radially extending flange portion extending from said hub and forming the wheel flange of the structure, said wheel flange portion terminating in a first annular flange portion concentric with the axis of the structure disposed on the inboard side of the said wheel flange portion and forming a brake drum, and a second generally annular flange portion concentric with the axis of the structure disposed on the outboard side of said wheel flange portion of substantially the same diameter as said first flange portion and forming with the wheel flange portion an open-ended chamber in which the outboard end of the said hub is positioned, said second flange portion having pocket recesses extending inwardly from the periphery of the second flange portion open to the outboard side of the wheel flange to receive wheel mounting lug members therein for mounting of a tire rim on the said wheel flange; and a closure member secured on said second flange portion closing the open end of the said chamber to confine therein a body of liquid in the said chamber in thermal association with the chamber walls for thermal exchange of heat from the said structure to the atmosphere surrounding the said chamber.

2,976,084
BRAKE CONTROL DEVICE FOR AUTOMOTIVE VEHICLES
Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed May 15, 1958, Ser. No. 735,445
Claims priority, application France Feb. 10, 1958
4 Claims. (Cl. 303—6)



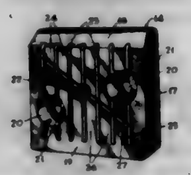
1. Braking device for a vehicle having a front axle and a rear axle and a hydropneumatic suspenison system for the rear axle, said suspension system comprising a fluid compressed at a pressure proportional to the load supported by said rear axle, said device comprising two braking mechanisms for the front axle and the rear axle respectively, a circuit for distributing compressed fluid, a distributor fed from said compressed fluid distributing circuit, two pipe lines extending from said distributor to said two braking mechanisms respectively, two valve members carried by said distributor, each valve member when submitted to a control thrust causing the delivery of fluid compressed at a rate proportional to said thrust from said distributor to each one of said pipe lines, respectively, a yoke bar connected to said pair of valve members, a pair of rollers bearing on said yoke bar between said valve members, a brake pedal adapted to apply to said rollers, upon each brake application, a thrust distributed by said yoke bar among said valve members as the inverse ratio of the distances from said pair of rollers to the two valve members respectively, a roller carrier in which said pair of rollers is rotatably mounted, and means acting upon said roller carrier in a manner responsive both to the liquid pressure of the hydropneumatic suspension system of the rear axle and to the pressure of the compressed liquid delivered by said distributor into the pipe line of the hydraulic control of the braking mechanism of said front axle, said means being adapted to move said pair of rollers in the direction of said valve member controlling the rear-axle braking mechanism when the liquid pressure in said rear-axle hydraulic suspension system increases, and to move said pair of rollers in the direction of the valve member controlling the front axle braking mechanism when an increase occurs in the pressure of the compressed liquid delivered by said distributor into the pipe line controlling said front axle braking mechanism.

2,976,085
SAFETY BRAKE UNIT
Leo E. Grogan, Downey, Calif.
(1300 W. Pacific Coast Highway, Harbor City, Calif.)
Filed Sept. 23, 1958, Ser. No. 762,780
5 Claims. (Cl. 303—9)



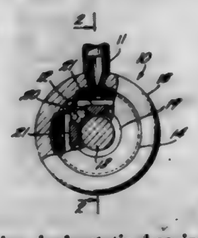
1. A safety device for an air brake actuating unit comprising: a housing having opposed walls and means for mounting said housing on a stationary support; a flexible and imperforate diaphragm peripherally secured between said walls and forming with one of said walls a safety chamber sealed exclusively by said diaphragm; said housing having means for introducing fluid under pressure into said chamber and for relieving pressure therefrom; the other of said walls having an opening therein; a cup-like spring retaining member unconnected to and having abutting engagement only with said diaphragm; said member extending outwardly through said opening and free of contact with said housing; a spring keeper member; means supporting said keeper member in outwardly spaced relation to said other wall; a coiled spring confined between said retaining member and said keeper member so that said spring will be maintained compressed by the fluid pressure response of said diaphragm at a fluid pressure in said chamber above a predetermined value; and means operatively connected with said retaining member adapted to be connected with said unit for transmitting thereto a brake actuating force derived from said spring incident to reduction of said pressure below said value.

2,976,086
GIB, PARTICULARLY FOR FORMING DIES
John O. Trimble, Havertown, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 24, 1958, Ser. No. 710,970
3 Claims. (Cl. 308—3)



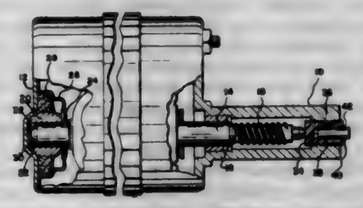
1. A gib for guiding two members for sliding movement relative to each other, consisting of a molded plastic plate formed of a moldable plastic material including "nylon" and "Teflon" which are heat-curable in molds with depth-penetration of cure with time, the plate having a bearing surface on its operating side formed with raised active wall portions and intervening open spaces with closed ends extending back from the surface to a backing portion, the wall portions, ends, and backing portion all being of approximately the same wall thickness from the open spaces.

2,976,087
VARIABLE PRESSURE ORIFICE
Justin Cherubim, Wyandanch, N.Y., assignor to Fairchild Engine and Airplane Corporation, Hagerstown, Md., a corporation of Maryland
Filed Jan. 26, 1959, Ser. No. 788,825
10 Claims. (Cl. 308—122)



1. A self-adjusting hydrostatic bearing comprising a housing having a substantially cylindrical borehole adapted to receive a shaft to be supported, a plurality of feed holes formed in said housing leading to said borehole, a plurality of conduits in said housing in communication with said feed holes and adapted to be connected to a source of high pressure fluid, said feed holes acting as valve seats and being positioned in said housing so that the direction of flow through them is toward the axis of the borehole, and a plurality of plungers positioned in said feed holes and having a portion that extends into said borehole, each of said feed holes and said plungers acting as a variable valve that varies the output fluid pressure in response to a change in the position of said plunger in the feed hole.

2,976,088
END PLAY DEVICE FOR DYNAMOELECTRIC MACHINE
Peter R. Content, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 15, 1958, Ser. No. 780,567
8 Claims. (Cl. 308—158)

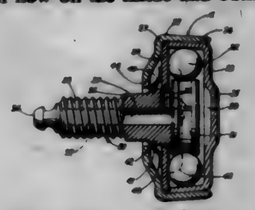


1. An adjustable thrust bearing assembly including, a support having a threaded opening therein, a stud of self-lubricating plastic material threaded into said opening so as to be axially adjustable therein, the inner end of said stud engaging the partially spherical end of a shaft to control the end play of said shaft, and means for expanding said stud to effect locking thereof relative to said support.

2,976,089
ROLLER WHEEL LUBRICATION
Rudolph B. Vogt, Cincinnati, Ohio, assignor to The E. W. Bachmann Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 24, 1958, Ser. No. 744,898
6 Claims. (Cl. 308—187)

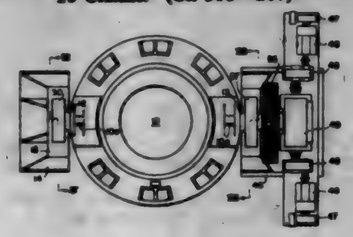
1. In a conveyor wheel having an inner race integral with a stub shaft at one end thereof and an outer race substantially surrounding said inner race and having a hole through which said stub shaft passes, said outer

and inner races being spaced from each other by anti-friction elements, a grease connection comprising, a fitting on said stub shaft, said stub shaft having a passage from said fitting and opening adjacent the hole in said outer race whereby grease discharging from said passage will flow on the inside and outside of said outer



race, and an outwardly bowed washer mounted by a central hole on said stub shaft and having its peripheral edge portion engaging said outer race, around a line spaced from the hole in said outer race, and forming a cavity with a portion of the outer surface of said outer race to receive grease.

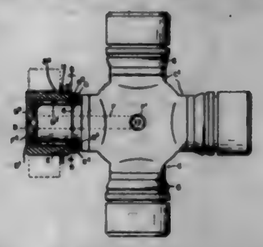
2,976,894
FURNACE TRUNNION BEARING CONSTRUCTION
Harry L. McFeaters, New Castle, Pa., assignor to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1958, Ser. No. 781,601
10 Claims. (Cl. 308—207)



1. In a turnable furnace having lifting lugs and oppositely extending trunnion shafts, a pair of anti-friction bearing cartridges operatively positioned over the trunnion shafts, associated bearing stands for each of said bearing cartridges, driving mechanism operatively connected to one of the trunnion shafts to turn the furnace within said bearing cartridges, said driving mechanism having a driving pinion, a gear on said one trunnion shaft in a meshing lift-out relationship with respect to said driving pinion, the cartridge for the other trunnion shaft having transversely-outwardly-projecting mounting portions, said mounting portions being perpendicular to and lying substantially in alignment with the axial plane of and in a vertically-balanced relation with the other trunnion shaft, an expansion housing for said outwardly-projecting portions, said housing being removably secured to the associated bearing stand, so that it and said bearing cartridge may be lifted as a unit with the furnace, and a housing removably positioning the other bearing cartridge on its associated bearing stand, so that the other bearing cartridge may be lifted as a unit with said gear and the furnace.

2,976,895
UNIVERSAL JOINT
Fred F. Miller, Jr., Berkley, Mich., assignor, by mesne assignments, to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed May 14, 1956, Ser. No. 584,853
6 Claims. (Cl. 308—212)

1. In a bearing assembly of the type including a trunnion having a substantially smooth outer surface and a trunnion bearing, means for holding the bearing on the smooth outer surface of the trunnion during shipping and installation, comprising a portion of the bearing surrounding and spaced from the trunnion having a circum-



ferential groove in its inner surface, and a resilient snap ring biased to engage said groove and to clamp upon the smooth outer surface of the trunnion adapted to frictionally hold the bearing from displacement.

2,976,892
BEARING STRUCTURE
Stanley W. Anderson, Hinsdale, Ill. (314 Circle Ave., Forest Park, Ill.)
Filed Aug. 20, 1957, Ser. No. 679,389
7 Claims. (Cl. 308—217)



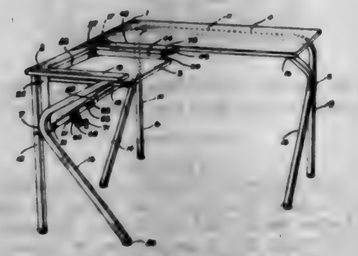
4. A roller bearing assembly comprising, a one-piece outer cage having roller bearing receiving openings of a width less than the diameter of a roller bearing, an intermediate cage having openings of a width sufficient to permit a roller bearing to pass therethrough, and an inner cage composed of two rings of the same diameter in contact with intermediate cage, each ring being complementary to the other in forming openings of a width less than the diameter of a roller bearing when said inner rings are inserted adjacent the intermediate cage and from opposite sides of the assembly whereby at least an edge of each inner cage opening lies across a corresponding intermediate cage opening, confining the bearings against inward radial movement.

2,976,893
FABRICATION OF PLASTIC MATERIAL
Victor G. Rolling, Dayton, Ohio, assignor, by mesne assignments, to The Durion Company, Inc., Dayton, Ohio, a corporation of New York
Filed Mar. 28, 1958, Ser. No. 724,686
14 Claims. (Cl. 308—238)



1. An article of manufacture comprising a rigid backing member having multiple holes therein, a body of sintered plastic material overlying said backing member and including an integral portion projecting within each said hole in said backing member, said plastic body being of greater density in the portions thereof directly overlying said backing member than in the portions thereof overlying and projecting within said holes to provide for cold flow of said material under pressure from said more dense portions into said less dense portions substantially without change in the thickness of said article, and said projecting portions of said plastic body cooperating with the adjacent edge portions of said holes to secure said body in maintained intimate contact with said backing member.

2,976,894
VERTICALLY ADJUSTABLE TABLE
George J. Scherer, Kansas City, Kans., assignor to Cramer Posture Chair Company, Inc., Kansas City, Kans., a corporation of Missouri
Filed May 22, 1959, Ser. No. 815,204
5 Claims. (Cl. 311—17)



1. A vertically adjustable table comprising, a table top member having a work surface and front and rear edges and a cut-out portion extending from said front edge and terminating in spaced relation to said rear edge, a movable table top portion adapted to be positioned in said cut-out portion and substantially fill same, a back frame extending along said table top member between said cut-out portion and said rear edge, a side wall fixed to said back frame and extending forwardly therefrom under said table top member adjacent to and at one side of said cut-out portion, means securing said back frame and side wall to said table top member in depending relation thereto, a plurality of legs fixed relative to said table top for supporting same, one of said legs being secured to the back frame adjacent the other side of said cut-out portion, said back frame having laterally spaced parallel vertically disposed guide ways therein in opposed relation to said cut-out portion, said back frame having elongate vertical slots extending therethrough from said guide ways and for a substantial portion of the length of said guide ways, a guide member in each guide way and vertically slidable therein, a sub-frame secured to the movable table top portion and having a depending portion engaging the back frame oppositely from said guide ways, adjustable means extending through said slots and connecting said guide members to said sub-frame for retaining same in sliding engagement with the back frame, and means on the back frame and operatively connected with said sub-frame for vertically moving and adjusting said movable table top portion relative to the table top member.

2,976,895
BOBBY PIN DISPENSER
Richard H. Taves, 10611 W. Nevada, Melrose Park, Ill.
Filed Mar. 4, 1959, Ser. No. 797,127
1 Claim. (Cl. 312—42)

A device for dispensing U-shaped bobby pins including a substantially L-shaped housing forming a magazine for a stack of horizontally arranged bobby pins; said housing being of hollow structure defining a channel in a vertical leg, a channel in a horizontal leg and a curved channel portion formed on a fixed radius and communicating at the opposite ends thereof with said channels in said legs; said vertical leg of said housing comprising a straight vertical front wall, a straight vertical rear wall and a pair of straight vertical side walls, said straight vertical front wall and said straight vertical rear wall integrally secured to the opposite vertical straight edges of said straight vertical side walls; said horizontal leg of said housing comprising a flat horizontal top wall, a flat horizontal bottom wall, a front wall and a single straight vertical end wall, said top and bottom horizontal walls integrally secured to said single straight end wall, the opposite end of said horizontal leg being open forming a discharge opening; said curved channel portion having an upper curved wall, a lower curved wall and two curved vertical end walls; said upper curved wall integrally secured at the opposite ends thereof to said vertical front wall and said flat horizontal top wall; said lower curved wall integrally secured at the opposite ends thereof to said flat horizontal bottom wall and said vertical rear wall; one curved vertical end wall of said channel portion integrally secured at opposite ends with one of said

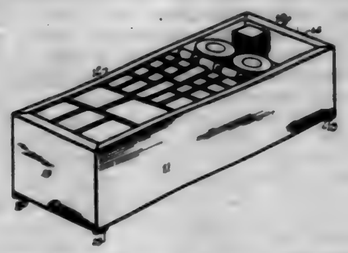


straight vertical side walls of said vertical leg and said single straight vertical end wall of said horizontal leg, the opposite curved vertical end wall of said channel portion integrally secured at its upper end to the opposite vertical side wall of said vertical leg; the top end of said vertical leg being open; one end of said horizontal leg being open forming a dispensing opening; a closure for the open end of said vertical leg hingedly secured to its rear wall effecting an entrance for receiving the bobby pins stacked in said housing; a portion of the upper, lower and front walls adjacent said dispensing opening of said horizontal leg being cut away forming a bobby pin exposing opening; said bobby pins being stacked horizontally, one on top of the other, in side-to-side relation within said vertical leg, said bobby pins sliding from said vertical leg into said horizontal leg and becoming in side-by-side and in side-to-side relation with each other effecting the bobby pins to be supported horizontally on one longitudinal edge thereof exposing the closed end portions of said bobby pins adjacent the said dispensing opening for manual removal thereof from said housing.

2,976,896
ARTICLE DISPENSER MEANS
Dean E. Rueckert, Mokena, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 7, 1957, Ser. No. 688,763
2 Claims. (Cl. 312—71)

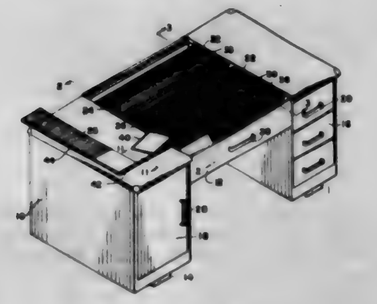
1. An apparatus for dispensing articles comprising: a vertical cell having a bottom portion, side members and an open top portion for confining articles in generally vertically stacked relation, vertical rub strips secured to each side member for spacing the stacked articles therefrom, and resilient means disposed between the bottom portion of said cell and the stacked articles therein adapted for supporting said articles with the top of the uppermost article at a preselected level above the top of said cell and urging said stacked articles upwardly

as each successive uppermost article is removed, said resilient means consisting of a compression spring having



at least one dead coil spaced between said articles and the bottom of said cell.

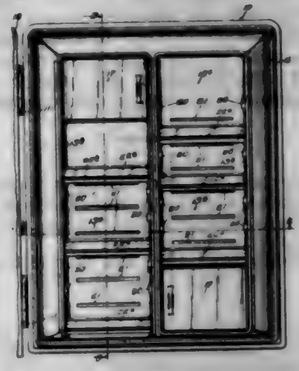
2,976,097
CARD REFERENCE AND POSTING FILE
Terence E. Devine, 506 Pennwood Drive, Pittsburgh 35, Pa.
Filed Aug. 27, 1958, Ser. No. 757,573
16 Claims. (Cl. 312—184)



1. In a card reference file the improvement comprising a receptacle having front and rear sections, said receptacle including a front, back and two side walls, a plurality of semi-vertical spaced raceways positioned along one side wall of both the front and rear sections of said receptacle, a plurality of semi-vertical spaced raceways positioned along the other side wall of both the front and rear sections of said receptacle, the raceways in said front section extending upwardly toward the back of said receptacle, the raceways in said rear section extending upwardly toward the front of said receptacle, said raceways in each section being in alignment and parallel to each other to slidably receive a plurality of trays in parallel stacked relation.

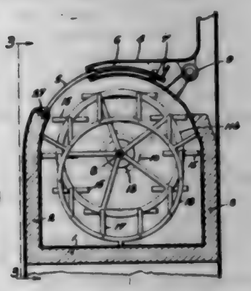
2,976,098
SHELVING ARRANGEMENT FOR A REFRIGERATOR DOOR
Virgil E. Combs, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 17, 1958, Ser. No. 721,830
3 Claims. (Cl. 312—214)

1. A removable shelving arrangement for a refrigerator door having an inner surface cavity with rear and side walls and a removable shelf having an article supporting bottom portion and an upstanding article retaining front portion, comprising: a plurality of pairs of oppositely positioned bosses on said side walls having their upper rear surfaces tapered downwardly and forwardly, the rear wall having a plurality of spaced, substantially horizontal recesses therein, a rear edge portion on said shelf bottom adapted to releasably engage one of said recesses; and a pair of downwardly opening socket portions at the edge of said shelf front portion adapted to receive the upper ends of said bosses and having parts to closely



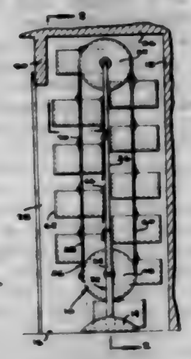
engage the tapered rear surfaces of the bosses for supporting the front of said shelf and holding the shelf in place.

2,976,099
SELF-SERVICE DISPLAY COUNTER
Willard Langdon Morrison, Lake Forest, Ill., assignor to The Union Stock Yard and Transit Company of Chicago, Chicago, Ill., a corporation of Illinois
Filed May 29, 1957, Ser. No. 662,533
2 Claims. (Cl. 312—267)



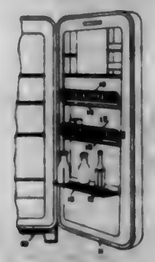
1. A display counter including a housing having an access and inspection opening in the upper forward portion thereof, a transparent door panel mounted in said housing for movement into and out of the access and inspection opening between closed and open positions respectively, means for maintaining refrigerated conditions within said housing, laterally spaced apart wheels mounted for rotational movement within the housing about a common horizontally disposed axis, a plurality of article supporting, flat display trays extending crosswise between the wheels and pivotally supported at opposite ends on the wheels in circumferentially spaced apart relation for free rocking movement between the wheels, a link for each tray and secured at one end to the tray for rocking movement therewith, a cam track fixed to the housing adjacent one wheel, a follower on the opposite end of each link slidably received in the cam track, said cam track being shaped to maintain the links at a uniform angle for holding the trays in a horizontal position independent of the wheel position and for holding the trays against free rocking movement, power means operating continuously in operative engagement with the wheels for rotating the wheels about their axis, and a slip clutch interposed between said power means and the wheels operative to enable the wheels to be stopped by manual engagement of a tray to enable removal of articles located thereon.

2,976,100
ARTICLE STORAGE ASSEMBLY
Ann K. Wigley, 712 Mississippi Ave., Clarksdale, Miss.
Filed Feb. 25, 1959, Ser. No. 795,375
5 Claims. (Cl. 312—268)



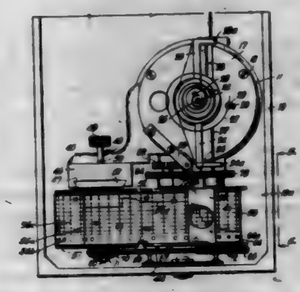
1. In an article storage assembly, a pair of vertically disposed endless belts arranged in side by side spaced relation and each movable about vertically spaced axes, said belts having complemental front and rear flights, a plurality of open top receptacles arranged in superimposed spaced relation with the open top facing upwardly positioned between and connected for movement with the complemental front flights and the complemental rear flights of said belts, a fixed post positioned between the group of receptacles on the front flights of said belts and the group of receptacles on the rear flights of said belts, and a single row of resilient fingers projecting from and carried by one side of said post, said fingers each having the portion adjacent the free end projecting outwardly and downwardly and being selectively engageable with and releasable from the adjacent portion of the open top of the group of receptacles on the complemental front flights of said belts as the latter group execute their downward movement.

2,976,101
DROP GUARDS FOR REFRIGERATOR DOOR SHELVES
William J. Rooney, 840 S. Main St., Phillipsburg, N.J.
Filed Oct. 25, 1957, Ser. No. 692,392
1 Claim. (Cl. 312—300)



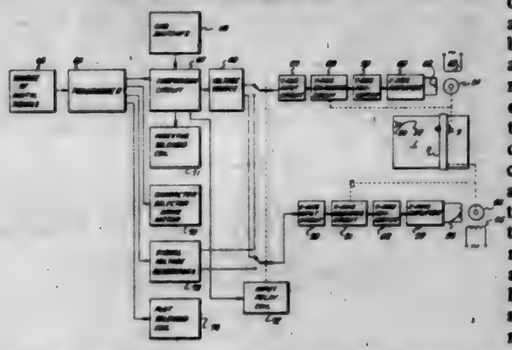
In a refrigerator, freezer or the like structure, a hollowed door having opposite side ends, a shelf proper fixed within the door and extending between the door side ends, a shelf guard having depending and rearwardly extending L-shaped hinge arms at the opposite ends thereof adapted to horizontally overlie the shelf when the guard is in its elevated position, means for respectively pivotally connecting the ends of said hinge arms to the respective side ends of the hollowed door, said pivot connecting means being elevated above the shelf a distance equal to the rearward length of the depending and rearwardly extending L-shaped hinge arms so that upon the guard being lowered to its horizontal position the depending parts of the hinge arms rest upon the top of the shelf, said guard having its lower edge elevated above the shelf so that the contents thereof may be viewed from thereunder, and spring means reacting between the depending hinge arms of the shelf guard and the pivot connecting means for holding the shelf guard in at least one of its positions to which it may be moved, whereby the guard may serve as a temporary support for articles as they are being arranged on the shelf proper and so that they may be viewed from under the guard when on the shelf.

2,976,102
DISTANCE AND SPEED RECORDING DEVICE
Benjamin F. Palmer, Surrey Court Apts., 520 W. 12th St., Kansas City, Mo.
Filed Apr. 22, 1957, Ser. No. 654,092
1 Claim. (Cl. 346—18)



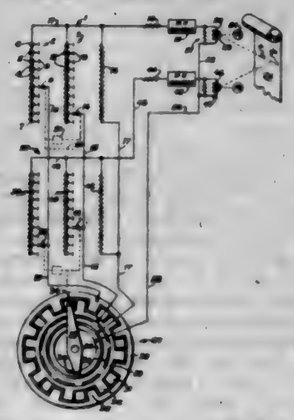
A speed and distance recording device for use in a vehicle having a cable-driven speedometer comprising a housing, a first shaft rotatably mounted on said housing, means for connecting the first shaft to the speedometer cable whereby rotation of the cable drives the first shaft in rotation therewith, a source of tape in continuous strip form rotatably mounted on said housing, means comprising a stylus for marking said tape strip with a continuous line mounted on said housing, means for moving said tape past said marking means, traversing means for the marking means operable to move said marking means back and forth across said tape between its lateral edges to and from a base position adjacent to one edge of said tape, a magnet carried on said first shaft for rotation therewith, a second shaft rotatably mounted on said housing axially in line with the first shaft, an induction pickup hood fixedly mounted on said second shaft and so positioned relative to said magnet that rotation of the said first shaft causes deflection of the second shaft proportional to the velocity of rotation of the first shaft, a positive mechanical drive connection between said traversing means and said second shaft whereby deflection of the second shaft, actuated by its magnetic coupling with the first shaft, traverses the marking means across the tape a distance proportional to the deflection of the second shaft, a positive mechanical drive connection from said first shaft to said tape moving means whereby rotation of the first shaft moves the tape past the marking means at a rate strictly commensurate to the rate of rotation of the first shaft, and resilient means attached to the second shaft tending to maintain the marking means adjacent said base position when the first shaft is not rotating and limiting the total possible deflection of the second shaft, the resistance of said resilient means increasing substantially uniformly in relation to the increase in deflection of the second shaft.

2,976,103
CHARACTER PRINTING GRAPHICAL RECORDER
Robert N. Flanders, Monrovia, and Francis L. Moseley, Pasadena, Calif., assignors to F. L. Moseley Co., a corporation of California
Filed Sept. 30, 1957, Ser. No. 687,089
7 Claims. (Cl. 346—29)



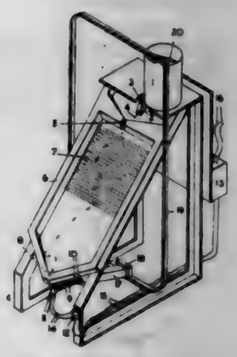
4. In a graphical recorder for recording information in the form of symbols on a record medium, the combination of a bed for receiving the record medium, a carriage movable along the bed, a character wheel supported by the carriage, means for transporting the character wheel along the carriage over the surface of the record medium, a plurality of symbols positioned on the edge of the character wheel, a character selector affixed at one location on the bed, means for engaging the character wheel with the character selector unit, means receiving electrical signals coded in accordance with predetermined ones of the plurality of symbols, means for comparing the position of the character wheel and the electrical signals, means coupled between the comparison means and the character selector for energizing the character selector to turn the character wheel to a predetermined position corresponding to the electrical signals, and means for moving the character wheel to a predetermined position for impressing a symbol on the record medium in a location representing the value of the information being recorded.

2,976,104
DIGITAL RECORDING
Jack Allen Petersen, Eau Gallie, Fla., assignor to Radiation, Inc., Melbourne, Fla., a corporation of Florida
Filed Oct. 6, 1955, Ser. No. 538,920
5 Claims. (Cl. 346—33)



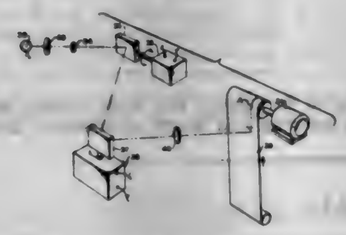
1. A recording system for providing digital indications of multiple digit numbers, said recording system including a plurality of recording channels, each of said channels comprising digitizer means for generating a plurality of distinct quantized electrical quantities, each of said electrical quantities having a value representative of a different digit of a multiple digit number to be recorded, an indicating means associated with each of said digitizer means and commutator means for sequentially and successively applying electrical quantities generated by a digitizer means to its associated indicating means and for simultaneously applying the electrical quantities representing digits having the same positional value in each of said multiple digit numbers to be recorded each to the indicating means associated with the digitizer means developing said electrical quantity, each of said indicating means including means for producing a variable amplitude waveform, the amplitude of which is proportional at any instant to the value of the electrical quantity applied to said indicating means, said commutator means comprising a plurality of first switch contacts and a second switch contact, said indicating means each having a first and second terminal, means connecting said second switch contact to each of said second terminals, means connecting said first terminal of each of said indicating means through a different digitizer means to each of said first switch contacts, the digitizer means connected to each indicating means establishing the electrical quantities representative of the digits of a multiple digit number, the digitizer means connected to the same first switch contact establishing electrical quantities representing digits having the same potential value in each multiple digit number, and means for sequentially and successively connecting said second switch contact to said first switch contacts.

2,976,105
MEANS FOR GENERATING AND CONTROLLING RANDOM EFFECTS
Leslie Rose, Whitefield, and Harry Sparke, Holcombe Brook, England, assignors to Kirklees Limited, Bury, England, a company of Great Britain
Filed Feb. 6, 1956, Ser. No. 563,806
11 Claims. (Cl. 346—33)



1. Means for generating randomly occurring impulses which can be employed to operate or control apparatus where randomly occurring effects are desired comprising a pin table having a large number of transversely staggered ranks and files of pins forming transverse and longitudinal rows which are at least several in number, means including a central inlet for feeding a succession of balls to the table at one end at constant and predetermined time intervals and causing the balls to travel through the ranks and files of pins, and means at the other end of the pin table defining a single outlet from said table through which each ball is directed after passing through the ranks and files of pins, and means at said outlet adapted to be contacted by each ball as it is delivered therefrom and which while a ball is in contact therewith will cause generation of an impulse which can be employed to control the apparatus for producing the desired randomly occurring effects.

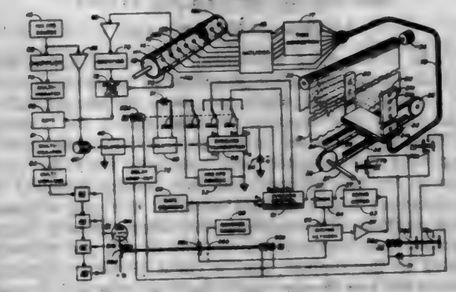
2,976,106
SEISMIC SIGNAL RECORDING APPARATUS
Raymond G. Piety, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 23, 1956, Ser. No. 560,848
11 Claims. (Cl. 346—109)



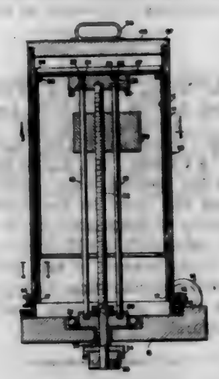
1. Apparatus for recording seismic signals so that signals from a reflecting surface appear side by side one another on the recording medium comprising a photographic film, a light source, first and second mirror-supporting galvanometers positioned with respect to one another and to said source and said film so that a beam of light from said source is reflected from the mirror of said first galvanometer to the mirror of said second galvanometer and to said film, the axes of rotation of the mirrors of said galvanometers being at right angles to one another, and means to move said film relative to said galvanometers and said light source so that said beam is deflected perpendicular to the direction of movement by rotation of the mirror of one of said galvanometers and is deflected parallel to the direction of movement by rotation of the mirror of the other of said galvanometers, said one galvanometer being connected to a seismometer to deflet the light beam in accordance with the signal to be recorded, and said other galvanometer being connected to a means to supply a direct current bias to deflect the light beam parallel to the direction of movement of said film so that corresponding signals appear side by side one another on said film.

2,976,107
SEISMIC SECTION PLOTTER
Walter W. Klein, Jr., and Aubra E. Tilley, Fullerton, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed Apr. 3, 1957, Ser. No. 650,457
5 Claims. (Cl. 346—109)

1. Apparatus for automatically plotting a seismic cross-section from a plurality of groups of reproducibly recorded seismic detector signals, each of said groups of detector signals having associated therewith a timing reference signal and a reference event, comprising a plurality of galvanometers, each galvanometer corresponding to one of the different seismic signals in one group of said plurality of groups, a carriage for supporting said galvanometers, drive means for driving said carriage and said galvanometers past a photosensitive medium, timing means responsive to the time of occurrence of said reference event on the reproducible record for controlling the start of said drive means, a servo mechanism controlled by said timing reference signal for controlling the speed of said drive means in accordance with the frequency of said timing reference signal, whereby the speed of drive of said carriage and said galvanometers is related to the timing on said reproducible record, and means for supplying ops of said groups of reproducibly recorded seismic detecto signals to said bank of galvanometers each time said galvanometers are driven past said photosensitive medium to record said plurality of groups of said signals as a seismic cross section on said medium.



2,976,108
PORTABLE OSCILLOGRAPH
James F. Johnson, Tulsa, Okla., assignor to Sinclair Oil & Gas Company, Tulsa, Okla., a corporation of Maine
Filed Feb. 20, 1959, Ser. No. 794,698
6 Claims. (Cl. 346—109)



1. An oscillograph for recording a plurality of electrical signals in side-by-side relationship on a sheet of photosensitive material which includes a slide mount, an optical system including a light projector and a mirror galvanometer, said optical system being slidably mounted on said slide mount for movement along the length thereof, a barrel positioned about and enclosing said slide mount and optical system, means for positioning a sheet of photosensitive material about the inner surface of said barrel in fixed relation therewith, said mirror galvanometer being adapted for connection to an electrical signal to be recorded and positioned to intercept a beam of light projected by said light projector to direct said beam of light toward said sheet at the inner surface of said barrel, means for rotating said barrel about said slide mount and optical system, and means for moving said optical system lengthwise on said slide mount to any predetermined position thereon.

2,976,109

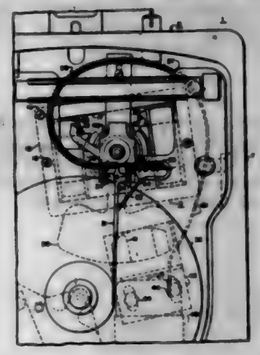
MOVABLE-PEN RECORDING INSTRUMENTS

Stanley G. Hayter, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 21, 1957, Ser. No. 697,955

11 Claims. (Cl. 346—140)

10. In a recording instrument, a support, a pen element, means mounting the pen element for rotation relative to the support about an axis, an ink container mounted on said support, ink-feed means for feeding ink from the container to the pen, said ink-feed means comprising an elongated tube extending from the container to the pen element, said tube having flexibility in a substantial length thereof adjacent the pen element which produces non-repetitious movements of said length in response to repeated movements of the pen element relative to the support, and a guide element extending between the pen element and a point on said support and having a movable portion, said guide element movable portion being self-supporting for repetitious movements in response to repeated movements of the pen element



relative to the support, said guide element movable portion supporting said length substantially continuously.

CHEMICAL

2,976,110

PROCESS FOR PRINTING WITH VAT DYESTUFFS

Felix Gund and Friedrich Schubert, Leverkusen, and Dieter Goerrig, Lohmar, Germany; said Gund and said Schubert assignors to said Goerrig

No Drawing. Filed Apr. 8, 1958, Ser. No. 727,063
Claims priority, application Germany Apr. 16, 1957
3 Claims. Cl. 8—70)

1. In the process for the printing with vat dyestuffs, the improvement which comprises printing with a paste composition containing boronates as reducing agents.

2,976,111

TANNING WITH FURFURAL

Bernard A. Roll, 8312A W. Center St., Milwaukee 10, Wis.

No Drawing. Filed Oct. 7, 1957, Ser. No. 688,434
5 Claims. (Cl. 8—94.33)

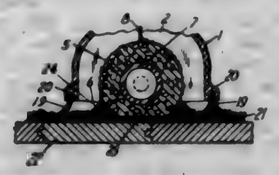
3. A process for tanning hides, comprising liming the hides, subjecting the hides to the action of a pickling solution containing a dissociable metal salt and an acid to provide the hides with a pH in the range of 0.77 to 6.40, said salt being present in said pickling solution in a 0.2 to 2.0 molal concentration, and thereafter applying a tanning agent to the pickled hide consisting of substantially 100% furfural.

2,976,112

METHOD OF APPLYING DETERGENT TO RUGS AND THE LIKE

Robert A. Yonkers and Henry T. Lathrop, Grand Rapids, Mich., assignors to Bissell Inc., Grand Rapids, Mich.

Filed Oct. 5, 1959, Ser. No. 844,287
2 Claims. (Cl. 8—150)



1. The method of applying detergent to a rug or other surface having a nap to be cleaned, comprising applying successive limited quantities of detergent-water mix to the top of a roller, said roller being freely rotatable about its axis in operation in either direction and having a rigid core with a surface material thereon of substantial radial thickness composed of a resilient synthetic sponge, while applying to the axis of the roller a reciprocating forward and backward movement over the rug effecting a rolling action of said roller upon its axis, and simultaneously applying pressure to the roller upon the rug to effect a progressive and substantial deforming of the bottom portion of the sponge of the roller and thereby transform the detergent-water mix and the air in the pores of the sponge of the roller into a foam which is progressively squeezed from the sponge and into the nap leaving empty pores filling with air in that portion of the sponge moving upwardly from the rug for a fresh limited supply of detergent-water mix.

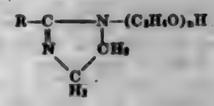
2,976,113

PROCESS OF PRODUCING VISCOSE RAYON

Carl Schlatter, Wilmington, Del., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 3, 1954, Ser. No. 466,695
14 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose consisting substantially entirely of skin, the step which comprises extruding viscose into an aqueous spinning bath in the presence of a substance selected from the group consisting of water-soluble compounds corresponding to the formula



where *n* is between about 5 and about 30 and R is an aliphatic hydrocarbon chain containing from 5 to 23 carbon atoms and mixtures of such compounds, the bath containing from about 10% to 25% sodium sulfate, from about 3% to 15% zinc sulfate and sulfuric acid, the percentage sulfuric acid content of the spinning bath exceeding the slubbing point but not exceeding about 1.4 times the percentage caustic soda content of the viscose, the substance being present in an amount of from about 0.25% to about 4%, based upon the weight of the cellulose in the viscose, when present in the viscose and of at least about 0.005%, based upon the weight of the spinning bath, when present in the spinning bath.

2,976,114

PROCESS FOR SEPARATING NIOBIUM AND TANTALUM FROM EACH OTHER

Fritz Kern, Binningen, and Waldemar Schornstein, Arlesheim, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed Jan. 25, 1957, Ser. No. 636,235
Claims priority, application Switzerland Feb. 6, 1956
5 Claims. (Cl. 23—17)

1. In a process for separating tantalum and niobium values from each other, the steps of heating a mixture of oxides of these metals to a temperature between 400° C. and 1000° C. in the presence of carbon, passing a current of chlorine gas over the oxides, whereby a mixture of volatile chlorination products containing niobium values preponderantly in the form of niobium oxychloride and tantalum values preponderantly in the form of tantalum pentachloride is produced, cooling below their solidification temperature the thus obtained volatile chlorination products within a few seconds after chlorination, subsequently heating the solid mixture thus obtained and separately subliming the tantalum and niobium values.

2,976,115

METHOD FOR PREPARING OXIDES OF NIOBIUM AND TANTALUM

Alfred Mayer, Ottawa, Ontario, Canada, assignor to Quebec Metallurgical Industries Ltd., Ottawa, Ontario, Canada

No Drawing. Original application Aug. 5, 1957, Ser. No. 676,384, now Patent No. 2,934,426, dated Apr. 26, 1960. Divided and this application May 16, 1958, Ser. No. 735,679
1 Claim. (Cl. 23—22)

The method of preparing an oxide of a metal selected from the group consisting of niobium, tantalum and mixtures thereof which comprises mixing water with a product selected from the group consisting of niobium pentachloride, tantalum pentachloride, a mixture consisting essentially of iron chloride and niobium chloride, a mixture consisting essentially of niobium chloride, iron chloride, tantalum chloride and aluminum chloride, and mixtures of such products in the proportion of about 10 gallons of water to each 100 pounds of said product, digesting the aqueous mixture thus formed at a temperature between about 80° C. and 100° C. for about 3 hours, diluting the digested mixture with water to increase substantially its water content, adding to the diluted mixture an aqueous solution of ammonium sulphate and heating the mixture at a temperature between about 85° C. and 95° C. for about 2 hours thereby causing a granular hydrated basic sulphate of a metal selected from the group consisting of niobium, tantalum and mixtures thereof to be precipitated, removing the precipitate by filtration, and calcining the precipitate to obtain an oxide of the selected metal, the amount of said ammonium sulphate used being such that it contains about one mole of SO_4 group per mole of said selected metal in said product.

2,976,116

METHOD OF PREPARATION OF BARIUM TITANATE POWDER

Walter W. Maliaofsky, Red Bank, N.J., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,927
4 Claims. (Cl. 23—51)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of preparing chemically pure barium titanate having essentially cubic crystal form comprising grinding together carefully dried, chemically pure titanium dioxide and barium carbonate in the molar ratio of 1:1, pressing the resulting mixture at relatively high pressures into a pellet, heating said pellet in an atmosphere of chemically pure oxygen at temperatures between about 650 to 900° C. and quenching said pellet in a stream of purified oxygen.

2,976,117

PROCESS FOR THE PREPARATION OF HYPOPHOSPHITES

René Pahud, Bex, Switzerland, assignor to La Foute Electrique S.A., Bex, Switzerland, a corporation of Switzerland

No Drawing. Filed July 23, 1956, Ser. No. 599,316
Claims priority, application Switzerland July 30, 1955
5 Claims. (Cl. 23—107)

1. A process for the preparation of a hypophosphite comprising forming at a temperature between 40 and 60° C. an emulsion of elemental phosphorus in an aqueous solution of at least one metal hydroxide, stirring the emulsion and maintaining said temperature until all the phosphorus has reacted, whereby a hypophosphite is formed, and finally heating the resulting reaction mixture at a temperature above 60° C. until formed phosphine polymeric is decomposed.

2,976,118

METHOD OF PREPARING HYPOPHOSPHITES

René Pahud, Bex, Switzerland, assignor to La Foute Electrique S.A., a corporation of Switzerland

No Drawing. Filed Aug. 29, 1957, Ser. No. 680,912
Claims priority, application Switzerland Sept. 10, 1956
7 Claims. (Cl. 23—107)

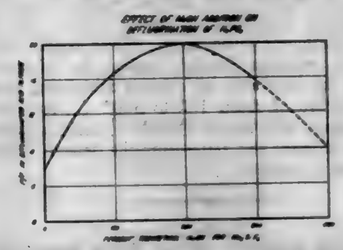
1. A method of preparing a hypophosphite which consists of reacting, in admixture with a catalytic amount of a saturated aliphatic alcohol, yellow elemental phosphorus with water and a metal hydroxide selected from the group consisting of alkali metal hydroxides and alkaline earth metal hydroxides whereby a hypophosphite is formed.

2,976,119

PROCESS FOR PRODUCING PHOSPHATIC MATERIALS

Paul D. V. Manning, Glencoe, Ill., and Ira M. Le Baron, Lakeland, Fla., assignors to International Minerals & Chemical Corporation, a corporation of New York

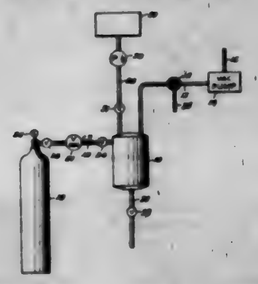
Filed May 27, 1955, Ser. No. 511,624
11 Claims. (Cl. 23—109)



1. The process which comprises producing feed grade dicalcium phosphate from an aqueous solution of acidic phosphatic materials containing fluorine in an amount in excess of that permissable in feed grade dicalcium phosphate by initially establishing in said solution an elemental phosphorus to elemental fluorine weight ratio of at least about 15, thereafter reacting with said solution substantially fluorine-free calcium ions only in an amount requisite to form a precipitate containing substantially all of the fluorine present in said solution and provide a mother liquor containing phosphate values in solution and characterized by an elemental phosphorus to elemental fluorine weight ratio of not less than about 100, separating said precipitate from said mother liquor, and thereafter adding substantially fluorine-free calcium ions to said mother liquor to precipitate dicalcium phosphate

therefrom, said process being effective to reduce the phosphate pentoxide values lost in said fluorine-containing precipitate to not more than about 30% of the phosphorus pentoxide values present in said solution prior to the introduction of calcium ions to form said precipitate.

2,976,120
SYSTEM FOR THE FORMATION OF AN AQUEOUS GAS SOLUTION
Harvey H. Trombly and Robert H. Harper, Park Forest, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed May 16, 1957, Ser. No. 659,523
8 Claims. (Cl. 23—157)



1. The method of forming a nitric oxide solution of a predetermined concentration including the steps of sequentially evacuating an enclosed space, introducing a predetermined quantity of nitric oxide gas into said evacuated enclosed space, and filling said enclosed space with water.

2,976,121
PROCESSING OF CESIUM METAL CYANIDES
Oscar H. Koski, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Jan. 7, 1959, Ser. No. 785,543
4 Claims. (Cl. 23—184)

1. A process of converting cesium values of a cesium double-metal cyanide to the oxide, consisting in grinding said cesium metal cyanide; adding a catalyst oxide to the ground cyanide, said catalyst oxide being selected from the group consisting of cupric oxide, zinc oxide, aluminum oxide, mercuric oxide, ferric oxide, lead dioxide and any mixture thereof; heating the mixture thus obtained in the presence of oxygen-containing material to a temperature of from 150 to 360° C.; leaching the reaction product with water whereby a cesium hydroxide solution is obtained; and separating the cesium hydroxide solution from a residue.

2,976,122
ANALYSIS OF HEAVY METAL IONS AND METAL CHELATES OF DIALKYL DITHIOPHOSPHORIC ACIDS
Henry R. Ertelt, Fanwood, Stephen L. Wythe, Plainfield, Michael J. Furey, Cranford, and John K. Appeldoorn, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 7, 1955, Ser. No. 551,526
7 Claims. (Cl. 23—230)

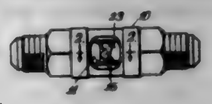
1. A method for determining the concentration of an aqueous solution of a heavy metal ion selected from the group consisting of nickel, iron, cobalt and copper which comprises precipitating said heavy metal ion from said aqueous solution by adding a water soluble metal dialkyl dithiophosphate, the metal being selected from the group consisting of alkali and alkaline earth metals and the alkyl radicals having in the range of 3 to 4 carbon atoms; extracting the precipitate containing said heavy metal ion with a predetermined volume of a water immiscible solvent; and determining the concentration of the heavy metal ion responsive to the color of the solvent extract, the color intensity of the solvent extract being directly proportional to the concentration of the heavy metal ion present therein.

2,976,123
CORROSION-MEASURING APPARATUS
Glenn A. Marsh and Edward Schaschl, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Mar. 24, 1958, Ser. No. 723,503
11 Claims. (Cl. 23—253)



1. A corrosion-measuring test element comprising a multi-layer elongated probe having an outer exposed layer on one side thereof composed of a corrodible material of construction to be tested, an inner core layer of a dissimilar material of construction having a different coefficient of linear thermal expansion from that of said outer exposed layer, a corrosion protected layer on the other side of said probe composed of said material of construction to be tested, means for preventing corrosion of said protected layer, said outer exposed layer and protected layer having substantially the same thickness and composition, and means for indicating the movement of one end of said probe relative to the other.

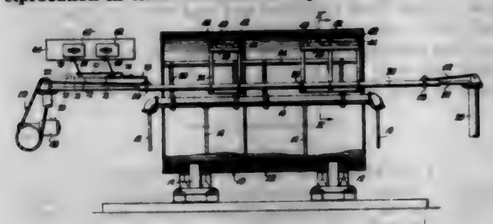
2,976,124
FLUID INDICATOR
Albert Wittlin, % Allis Mfg. Co., 410 N. Hermitage Ave., Chicago 22, Ill.
Filed June 2, 1958, Ser. No. 739,176
5 Claims. (Cl. 23—253)



2. In a fluid indicator having a flow passage having interior walls, said passage being bounded at one portion by transparent means permitting the viewing of the interior thereof, means in said passage for indicating the presence of another substance in the fluid, comprising: a sheet of material having an appearance varying as a function of the presence of another substance in the fluid, said sheet comprising an elongated strip being bound on one side by a spring and a support, said sheet, spring and support being adapted to be biased against the interior walls of said passage.

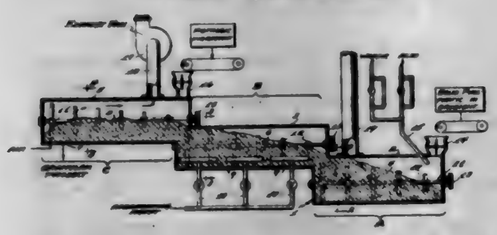
2,976,125
ROTATING DRUM AMMONIATOR WITH INTERNAL MECHANICAL SCRAPER
Murrel W. Buzzas, Gashland, Mo.
(624 E. 89th St. N., Kansas City 55, Mo.)
Filed Sept. 12, 1957, Ser. No. 683,621
5 Claims. (Cl. 23—259.1)

1. In a rotating drum type ammoniator, the combination of an elongated drum having a cylindrical wall; means mounting said drum for rotation about an axis concentric with said wall; a scraper assembly including an elongated, rigid, shiftable member parallel with said axis of rotation; means mounting said member for reciprocation in either direction along the longitudinal axis



of said member; laterally extending arm means mounted on said member within the drum; scraper means on said arm means engaging the inner face of said wall; and means operably connected with said member for reciprocating the same alternately in said directions during rotation of the drum.

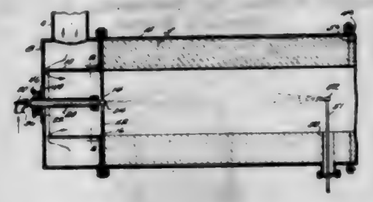
2,976,126
APPARATUS FOR MANUFACTURING MIXED FERTILIZERS
James E. Seymour, Collinsville, Ill., assignor, by mesne assignments, to Central Farmers Fertilizer Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 18, 1957, Ser. No. 684,713
4 Claims. (Cl. 23—259.2)



1. An apparatus for use in manufacturing granular mixed fertilizer comprising: a first elongated, substantially closed reaction chamber; a second elongated, closed reaction chamber arranged in ascending series with said first reaction chamber, the downstream end of said first chamber communicating with the upstream end of said second chamber by means of a throat; a third elongated, ventilated reaction chamber arranged in ascending series with said second reaction chamber, the downstream end of said second chamber communicating with the upstream end of said third chamber by means of a throat; supply means feeding fertilizer ingredients and water to said first chamber; mixing and advancing means arranged in each of said chamber for advancing the mixture of said fertilizer ingredients and said water in the form of a reaction bed, said bed creating a vapor seal at each of said throats; and evaporating means for passing a current of drying gas through said third chamber in intimate contact with said mixture.

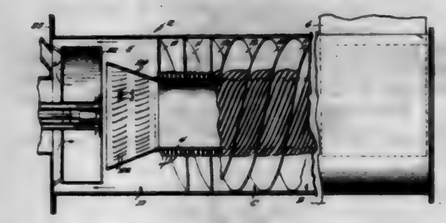
2,976,127
APPARATUS FOR MAKING CARBON BLACK
Burton F. Latham, Jr., Amarillo, Tex., assignor to Continental Carbon Company, Amarillo, Tex., a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,427
4 Claims. (Cl. 23—259.5)

1. Apparatus for making carbon black comprising a cylindrical combustion chamber; a centrally apertured plate secured to one end of said cylindrical combustion chamber; a cylindrical air box secured to said centrally apertured plate; a cylindrical air baffle disposed concentrically within said cylindrical air box and having a substantially imperforate side-wall; the inside diameter of said cylindrical air baffle being substantially the same as the inside diameter of said cylindrical combustion chamber; the inner end of said cylindrical air baffle terminating in contact with said centrally apertured plate and the outer end thereof terminating proximate, but spaced from, the outer end-wall of said cylindrical air box; means for supplying air to said cylindrical air box; a longitudinally adjustable fuel gas supply pipe disposed axially of said cylindrical air baffle and terminating adjacent said centrally apertured plate; a disk secured to



the inner end of said fuel gas supply pipe; said disk being of substantially greater diameter than said fuel gas supply pipe and but slightly less diameter than the central aperture in said plate; the wall of said fuel gas supply pipe having a series of radial apertures disposed adjacent the rearward side of said disk; means carried by said disk for diverting rearwardly fuel gas which flows through said radial apertures; an oil supply pipe disposed concentrally in said fuel gas supply pipe and secured thereto; the inner end of said oil supply pipe extending through, and projecting slightly from, said disk; and means for cooling the hot gases and suspended carbon black to a point where the reaction stops and the gases are sufficiently cool to handle in a carbon black collecting device.

2,976,128
APPARATUS FOR MAKING CARBON BLACK
Burton F. Latham, Jr., and Theodore A. Ruble, Amarillo, Tex., assignors to Continental Carbon Company, Amarillo, Tex., a corporation of Delaware
Filed Jan. 28, 1959, Ser. No. 789,714
7 Claims. (Cl. 23—259.5)



1. In an apparatus for making carbon black, an elongate metallic tubular housing, an elongate metallic tubular reactor disposed within and axially of said elongate metallic tubular housing and providing an air jacket therebetween, one end of said elongate metallic tubular housing extending beyond the corresponding end of said elongate metallic tubular reactor and providing an unobstructed chamber therein, a closure member for the aforementioned end of said elongate metallic tubular housing, an air inlet disposed adjacent the other end of said elongate metallic tubular housing and communicating with said air jacket, a gas burner disposed in said

unobstructed chamber and in axial alignment with said elongate metallic tubular reactor, means for supplying liquid carbon black feedstock to the flame produced by said gas burner, a flared extension on the upstream end of said elongate metallic tubular reactor and in axial alignment with said gas burner, said flared extension being provided with a series of louvers for receiving air from said air jacket, and a series of heat-transfer fins on the outer surface of said elongate metallic tubular reactor, said heat-transfer fins being adapted to guide the air from said air inlet toward the upstream end of said elongate metallic tubular reactor.

2,976,129
CHLORINATORS FOR SWIMMING POOLS
Edward G. Buehler, 313 Merchandise Mart Bldg., Honolulu, Hawaii
Filed May 28, 1959, Ser. No. 816,568
6 Claims. (Cl. 23—267)



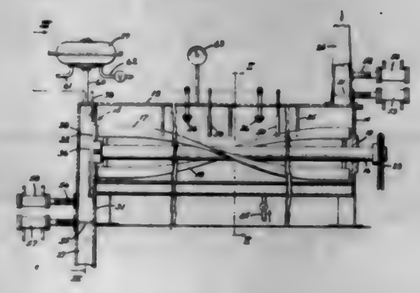
1. In a device for dissolving and dispensing in a swimming pool a solution dissolved from crystals of chlorine or the like sterilizing compound, a receptacle for a mass of said crystals, said receptacle having upper and lower ends and a side wall, buoyant means for floating said receptacle upright in a pool of water, a plurality of U-shaped tubes each having open upper and lower end portions respectively engaged in upper and lower openings in the side wall of said receptacle, said tubes having perforate bight portions disposed within said receptacle for circulating ambient water throughout the interior of said mass, and catch basin means including an upwardly open trough disposed around said receptable adjacent and extending outwardly from the lower ends of said tubes for catching gritty residue issuing therefrom.

2,976,130
GAS-SOLID CONTACTOR
Carl W. Hedberg, Bound Brook, and Rudolf G. Streuber, Somerville, N.J., assignors to Research Corporation, New York, N.Y., a corporation of New York
Filed Aug. 30, 1954, Ser. No. 452,956
2 Claims. (Cl. 23—284)



1. Gas treating apparatus comprising a gas treating chamber having a top entering inlet for raw gas and a side exiting outlet for cleaned gas, a V-shaped bottom in the chamber, a plurality of slotted openings along the apex of the chamber bottom, a plurality of cyclone type dust separators positioned one above the other at one side of the chamber, a vertically descending dust collector tube attached to the cyclone separators so as to serve as a manifold outlet for separated dust discharged from said separators, the lower end of said manifold tube passing through an opening in said chamber bottom, a conduit which increases in cross sectional area from one end to the other fixed to the undersurface of said chamber bottom beneath said apex slots and said manifold tube for flow of fluid from said slots and said tube into said conduit and a common partition in the conduit dividing it into two non-communicating sections, one of which communicates with said bottom slots and the other which communicates with said manifold tube.

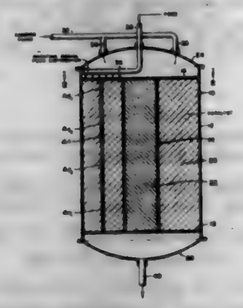
2,976,131
CONTINUOUS REACTION VESSEL
David T. Milne, Fredericksburg, Va., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 20, 1958, Ser. No. 716,340
5 Claims. (Cl. 23—285)



1. A vessel for the continuous chemical reaction of alkali cellulose with ethylene oxide to produce hydroxyethyl cellulose comprising a horizontally arranged elongated container, two agitating reels mounted on parallel axes extending longitudinally through said container, means rotating said reels in opposite directions at speeds differing from one another, said reels having blades which describe substantially tangential paths, said container having bottom and outer side walls closely conforming with the paths of said blades and an upper compartment in open communication with both of said reels, partitions in said upper compartment, said partitions extending across said upper compartment transversely of the axes of said reels and having lower curved edges substantially conforming with the paths of said blades to divide said upper compartment into a plurality of segments longitudinally of said vessel, means for selectively introducing an ethylene oxide spray into said segments, means for continuously introducing alkali cellulose crumbs into one end of said container at a controlled rate, said reels, because of the differing speeds, moving said crumbs longitudinally through said container and agitating them so that each particle of alkali cellulose is uniformly contacted and reacted with the ethylene oxide, and adjustable means controlling the rate of discharge of the reacted product from said container.

2,976,132
FIXED BED TYPE REACTOR
James A. Dinwiddie and Walter A. Morgan, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Feb. 10, 1958, Ser. No. 714,091
3 Claims. (Cl. 23—288)

1. A reactor for the catalytic conversion of fluent feed stock comprising spaced coaxial cylindrical wall members defining an annular conversion zone therebetween, means for supporting a bed of finely divided catalyst within said annular conversion zone, means for continually introducing a carrier fluid simultaneously into all incremental portions of said annular conversion zone, rotatable feed means terminating adjacent the top of said catalyst bed for continually introducing a feed stock to be converted into said reactor in a longitudinal flow direction for

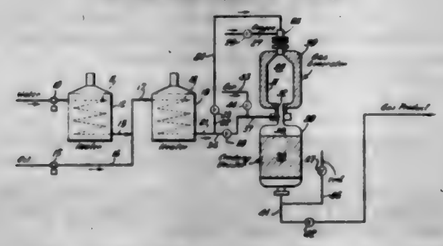


periodic contact with incremental portions of catalyst in said conversion zone, said feed means terminating transversely with respect to the axis of said cylindrical shell members whereby said feed stock passes through said bed in a helix path, and means for withdrawing said carrier fluid and conversion products from said reactor.

2,976,133
ARTIFICIAL FUEL COMPOSITION
Marylin L. Stueler, Hyattsville, Md., by Henry V. Stueler, guardian, 5818 33rd St., Hyattsville, Md.
No Drawing. Filed Apr. 4, 1957, Ser. No. 650,550
3 Claims. (Cl. 44—24)

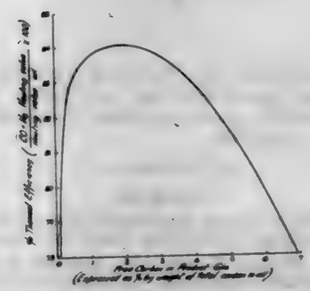
1. An artificial fuel composition adapted especially for use in portable grills and outdoor fireplaces, comprising briquets composed of a substantially homogeneous mixture of one volume of the heavier aliphatic hydrocarbon waxes of the parafine series $C_{10}H_{36}$ to $C_{25}H_{52}$ and 2⅓ to 2½ volumes of the residue ashes of burned anthracite coal.

2,976,134
HYDROCARBON CONVERSION PROCESS
Peter L. Paull, Westport, Conn., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 7, 1956, Ser. No. 626,909
11 Claims. (Cl. 48—215)



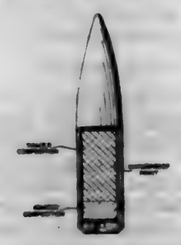
1. A process for the generation of a fuel gas of high calorific value which comprises subjecting a carbonaceous fuel to partial combustion to form a gas comprising carbon monoxide and hydrogen at a temperature within the range of about 1800 to 3500° F., mixing said gas with a dispersion of heavy oil in steam to form a combined stream at a temperature within the range of about 1000 to 1600° F., said dispersion of heavy oil in steam being formed by introducing a heavy oil into a stream of steam and subjecting the resulting mixture of oil and steam to high turbulence effecting dispersion of the oil in the steam while maintaining a portion of the oil in the liquid phase, contacting said combined stream with a cracking catalyst under cracking conditions including a temperature within said range of 1000 to 1600° F., and recovering a composite gas of relatively high heating value as a product of the process.

2,976,135
GENERATION OF CARBON MONOXIDE AND HYDROGEN FROM A LIQUID HYDROCARBON
Du Bois Eastman, Whittier, Calif., assignor to Texaco Inc., a corporation of Delaware
Filed Dec. 13, 1957, Ser. No. 702,661
3 Claims. (Cl. 48—215)



1. In a process for the production of carbon monoxide and hydrogen from an ash-forming liquid hydrocarbon containing vanadium and nickel wherein said hydrocarbon is subjected to a partial combustion reaction with steam and free oxygen at a temperature above 2,000° F. in a reaction zone free from catalyst and packing, the improvement which comprises introducing said reactants into said reaction zone in relative proportions such that a portion of the carbon contained in said hydrocarbon is uncombined and is liberated as a carbonaceous solid together with ash from said hydrocarbon and the weight of the carbon liberated as a solid by said reaction is at least 50 times the combined weights of the nickel and vanadium contained in said liquid hydrocarbon supplied to the reaction zone, and continuously removing from the reaction zone gaseous products of reaction and said carbonaceous solid combined with ash from said hydrocarbon.

2,976,136
COMPOSITION FOR TRACER UNIT
Raymond H. Heinkell, 517 S. Alameda Blvd., Compton, Calif.
Original application June 29, 1948, Ser. No. 35,960, now Patent No. 2,899,291, dated Aug. 11, 1959. Divided and this application Feb. 10, 1959, Ser. No. 795,310
2 Claims. (Cl. 52—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A slow-burning, non-flash igniter mixture for a tracer unit consisting essentially of 76 to 78.4% barium peroxide, from 18.4 to 23% antimony sulphide, up to 2.2% magnesium, and containing an amount up to 1% graphite.

2,976,137

AMMONIUM NITRATE EXPLOSIVES

Leonard A. Stengel, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed June 4, 1959, Ser. No. 819,530
7 Claims. (Cl. 52—14)

1. Ammonium nitrate compositions suitable for use in the explosive art consisting essentially of mixtures of ammonium nitrate with 2–50% by weight, based on the weight of the mixture, of an amine having the structural formula



where R is selected from the group consisting of lower alkyl, lower hydroxyalkyl and $-C_2H_4NH_2$, and R' is selected from the group consisting of hydrogen, lower alkyl and $-C_2H_4NH_2$.

2,976,138

STABILIZED TRACE ELEMENT SOLUTIONS FOR CORRECTING SOIL DEFICIENCIES

Jackson B. Hester, Elkton, Md., assignor to Suburban Propane Gas Corporation, Whippany, N.J., a corporation of New Jersey

No Drawing. Filed July 30, 1958, Ser. No. 751,857
6 Claims. (Cl. 71—1)

1. The method of producing an ammoniacal trace element soil additive composition which comprises dissolving in strong aqueous ammonia at least one acid from the class consisting of molybdic and boric acids and a number of trace element salts of metals from the class consisting of copper, manganese, zinc, nickel and cobalt, together with ammonium sulfate, the acid and the trace element salts dissolved being in proportions to form ammonium and complex ammonium salts of the trace elements, and the amount of aqueous ammonia being in excess of that necessary to react with the trace element salts, so that the resultant ammonium and complex ammonium salts are dissolved in an aqueous ammoniacal solution.

2,976,139

METHOD FOR PROMOTING THE FLOWERING OF PINEAPPLE PLANTS

Robert W. Leeper, Honolulu, Hawaii, and Victor C. Fusco, Ridgewood, N.J., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Oct. 9, 1957, Ser. No. 689,045
5 Claims. (Cl. 71—2.7)

1. In the promotion of the flowering of vegetative pineapple plants, the step of applying 2-beta-hydroxyethylsemicarbazide hydrochloride to the plants in an amount effective to promote flowering of the plants.

2,976,140

PROCESS FOR PRODUCING AMMONIATED PHOSPHATIC FERTILIZERS

John N. Carothers and Rudolph J. Hurka, Jr., both of 1629 Lady Marion Lane NE., Atlanta, Ga.

No Drawing. Filed Feb. 18, 1955, Ser. No. 489,266
11 Claims. (Cl. 71—40)

1. The process of producing ammoniated phosphate in which substantially all of the P_2O_5 is available from acidulated phosphate rock in the presence of fluorine remaining in the rock after acidulation which comprises, acidulating the rock with sulfuric acid in the proportion of 1.77 pounds to 2.06 pounds H_2SO_4 to each pound of P_2O_5 in the rock and with sufficient water to form a moist product, allowing the acidulated rock to age without substantial drying for at least a week, whereby it will contain after aging in excess of 6% moisture, and adding ammonia to the acidulated rock to produce a product having in excess of 6.5 parts ammonia to 20 parts P_2O_5 while maintaining the temperature during ammoniation below 75° C.

2,976,141

PROCESS FOR THE RECOVERY OF VALUES FROM PHOSPHATE ROCK

John N. Carothers and Rudolph J. Hurka, Jr., both of 1629 Lady Marion Lane NE., Atlanta, Ga.

No Drawing. Filed Sept. 9, 1957, Ser. No. 682,695
8 Claims. (Cl. 71—40)

1. In a process of recovering values from high grade Florida phosphate rock, reacting the phosphate rock with sulfuric acid as the only acid limited to an amount approximately 80% of that required to convert the P_2O_5 content of the rock to phosphoric acid and in the presence of sufficient water to form a filterable solution, separating the resulting solids from the solution, said solution containing from 7% to 16% P_2O_5, from 0.2% to 1.7% fluorine, from 0.043 to 0.2% aluminum together with sulfate, calcium, and rare earths, the sulfate being in an amount whereby the SO_4^{--}/Al weight ratio in the solution is at least two and one half parts sulfate to one part aluminum, thereby to precipitate fluometallic compounds in the form of octahedral crystals containing aluminum, fluorine, calcium and sulfate, and separating the crystals from the solution.

2,976,142

ALUMINUM ALLOY FOR HIGH TEMPERATURE SERVICE

Charles F. Maxwell, Oak Park, Ill., assignor to Howard Foundry Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Dec. 27, 1957, Ser. No. 705,477
4 Claims. (Cl. 75—142)

1. An aluminum base alloy consisting essentially of from 4.5 to 5.5% copper, from 2.25 to 2.75% silicon, from 0.2 to 0.45% magnesium, from 0.35 to 0.65% nickel, from 1.0 to 1.5% chromium, from 0.15 to 0.40% molybdenum, from 0.15 to 0.40% vanadium, and the balance consisting essentially of aluminum.

2,976,143

METHOD OF GRAIN REFINEMENT OF MAGNESIUM BASE ALLOYS

Lorenzo Sturkey and Virgil B. Kurfman, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 26, 1959, Ser. No. 788,744
7 Claims. (Cl. 75—168)

1. The method of treating an aluminum-containing magnesium base alloy so as to insure a grain refined structure being obtained on casting a melt thereof which comprises adding to the melt at a temperature in the range of 1200 to 1700° F. a proportion of an inorganic carbon-nitrogen compound selected from the group consisting of cyanides, cyanates, cyanamides, ferrocyanides, ferricyanides and thiocyanates, said proportion of inorganic carbon-nitrogen compound having a carbon content by weight equivalent to 0.01 to 1 percent of the weight of the melt.

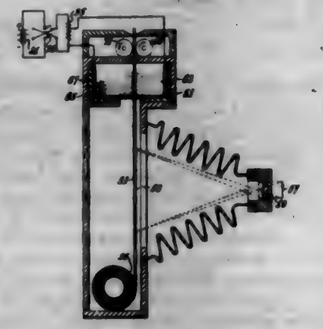
2,976,144

ELECTROPHOTOGRAPHY

Albert Rose, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 24, 1958, Ser. No. 769,502
7 Claims. (Cl. 96—1)

1. A method of producing a visible powder image on an uncharged electrophotographic element comprising a substrate having a coating thereon and in intimate contact therewith of a finely-divided photoconductor dispersed in an electrically insulating vehicle; said method comprising the steps of maintaining said element in darkness to substantially reduce the conductivity of said coating; then, before applying any electric field to said element, exposing said coating to a light image to produce thereon a latent conductivity pattern in substantial configuration with said light image, thereafter contacting



a surface of said element with a mass of developer powder consisting solely of material having a volume resistivity not in excess of 10^{12} ohm-cm.; and, while said powder is in contact with said surface, applying a bias voltage to said powder with respect to the opposite surface of said element to cause said powder to be attracted to and adhere on said element in substantial configuration with said light image.

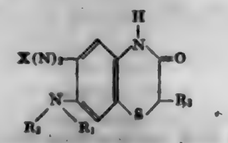
2,976,145

PHOTOGRAPHIC MATERIALS

Albert Baril, Jr., and Elias Klein, Metairie, La., assignors to Kalvar Corporation, New Orleans, La., a corporation of Louisiana

No Drawing. Filed June 4, 1957, Ser. No. 663,360
4 Claims. (Cl. 96—49)

1. A photographic material capable of furnishing a record solely in the form of a distribution pattern of radiation scattering discontinuities formed within an otherwise substantially homogeneous vehicle, said vehicle consisting essentially of a synthetic, thermoplastic, water-insoluble vinylidene chloride polymer having uniformly dispersed therein, as the sole essential image producing agent, a photolytic diazonium compound having the formula



wherein R_1 and R_2 stand for alkyl groups, R_3 stands for a member of the group consisting of hydrogen, alkyl and alkyl aryl, and X stands for halogen, said agent being decomposable upon exposure to light in the visible spectrum into products which are chemically non-reactive to said polymer and upon warming are volatile to form light scattering discontinuities only in the light struck areas.

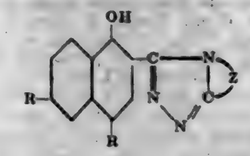
2,976,146

NOVEL CYAN-FORMING COUPLERS

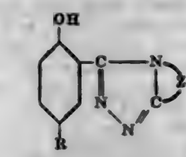
Ilmari F. Salminen and James A. Van Allan, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 28, 1958, Ser. No. 776,699
7 Claims. (Cl. 96—55)

1. A cyan color-forming photographic developer comprising a primary aromatic amino developing agent and a coupler compound having the formula:



and



wherein Z is a combination of non-metallic atoms necessary to form a ring selected from the group consisting of the pyridine ring, the quinoline ring, and the benzothiazole ring and R is a member selected from the group consisting of hydrogen atoms, chlorine atoms and sulfo radicals.

2,976,147

PHOTOGRAPHIC STRIPPING FILM

Francis Peter Alles, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 7, 1958, Ser. No. 753,630
3 Claims. (Cl. 96—83)

1. A photographic stripping film comprising a hydrophobic film base having on one surface coated in order with a water-permeable colloid layer, a stripping layer comprising an aqueous composition having as essential ingredients (1) gelatin and (2) a water soluble polymer of at least 80% N-vinyllactam units selected from the group consisting of N-vinyl-2-pyrrolidone, N-vinyl-2-piperidone, N - vinyl-2-pyrrolidone/N-vinyl-epsilon-caprolactam, N-vinyloxazolidone, N-vinylvalerolactam, and N-vinyl-5-methyl-2-pyrrolidone, the balance of the polymeric units consisting of units of a vinylidene monomer containing a single carbon to carbon unsaturation, said ingredients being present in said composition in a ratio of from 3 to 15 parts by weight of gelatin for each part of ingredient (2), and a gelatino silver halide emulsion layer; said polymer being soluble from about 4% to about 40% in water.

2,976,148

ANTISTATIC BACKING LAYERS FOR PHOTOGRAPHIC FILM

Raymond J. Walford, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 2, 1957, Ser. No. 632,006
10 Claims. (Cl. 96—87)

1. A light sensitive photographic element comprising a cellulose ester film support carrying a silver halide emulsion layer, said element having an antistatic backing layer comprising an alkali metal salt of a triple polymer obtained by the copolymerization of one molar equivalent of vinyl acetate, two molar equivalents of acrylic acid and one molar equivalent of styrene, said backing layer

having uniformly dispersed therein the alkali metal salt of a fatty acid having from 8 to 18 carbon atoms, the amount of fatty acid alkali metal salt dispersed in the triple polymer alkali metal salt being from 5 to 20 percent by weight based on the amount of the triple polymer alkali metal salt.

2,976,149

DIRECT POSITIVE PHOTOGRAPHIC EMULSION

Irma De Maria and Vincent De Maria, Freeport, N.Y., assignors to Repro Design & Equipment Company, Inc., Freeport, N.Y., a corporation of New York

No Drawing. Filed Oct. 30, 1956, Ser. No. 619,121
6 Claims. (Cl. 96—94)

1. The process for producing, in the absence of gelatin, silver halide grains in a relatively pure condition for mixing with gelatin to form a direct photographic emulsion, which comprises mixing together in an aqueous solution a soluble silver compound capable of reacting with halide to form silver halide and ammonium hydroxide in an amount sufficient to solubilize the silver present as the silver ammonia complex $Ag(NH_3)_2OH$, a halide compound capable of reacting with silver to produce silver halide, the said halide compound being in an amount at least 40% greater than the amount stoichiometrically required to precipitate silver halide, and an accelerator selected from the group consisting of thiourea, tannin and cupric oxide promoting formation of silver halide grains, said solution consisting of the said ingredients and waters, thereby obtaining a precipitate of silver halide grains, separating the grains from the residual solution, and then mixing the grains with an aqueous gelatin solution.

2,976,150

PREPARATION OF SILVER HALIDE EMULSIONS

Thomas David Smith, Red Bank, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 16, 1957, Ser. No. 690,438
7 Claims. (Cl. 96—94)

1. A process for preparing light-sensitive silver halide grains which comprises precipitating and ripening light-sensitive silver halide grains in an aqueous solution containing as the sole organic constituent a cationic amphiphilic polyoxyalkylene compound of the formula

$$R-N(R')-(CH_2CH_2O)_nH$$

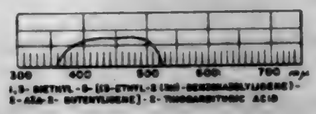
where R is a hydrocarbon group taken from the class consisting of phenyl and saturated aliphatic hydrocarbon radicals of at least 8 carbon atoms, R′ is a member taken from the group consisting of hydrogen, alkyl of 1 to 18 carbon atoms, cycloalkyl and a radical of the formula $-(CH_2CH_2O)_mH$ where m is an integer from 1 to 20 and n is an integer greater than 2, lowering the pH to produce coagulation, coagulating said grains by the addition to the resulting aqueous solution of an aqueous solution containing a water-soluble anionic surface active agent containing a hydrophobic group and an ionizable group and taken from the class consisting of (*a*) anion soaps containing an aliphatic hydrocarbon radical of at least 8 carbon atoms and an ionizable group taken from the class consisting of sulfonic acid and sulfuric acid and their alkali metal and ammonium groups and (*b*) water-soluble, acid-soluble organic anionic polymers of molecular weight greater than 10,000 containing a plurality of periodically occurring ionizable groups taken from the class consisting of free acid groups and alkali metal salts thereof, and washing the silver halide grains which settle out.

2,976,151

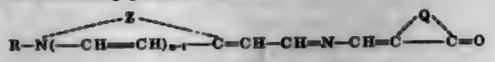
AZAMERODICARBOCYANINE DYES AND PHOTOGRAPHIC EMULSIONS SENSITIZED THEREWITH

Earl J. Van Lare and Leslie G. S. Brooker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 6, 1959, Ser. No. 791,658
14 Claims. (Cl. 96—102)



1. A photographic silver halide emulsion containing a polymethine dye selected from the class represented by the following general formula:



wherein R represents an alkyl group, *n* represents a positive integer of from 1 to 2, Q represents the non-metallic atoms necessary to complete a 2-thiobarbituric acid nucleus and Z represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the class consisting of a thiazole nucleus, a benzothiazole nucleus, a naphthothiazole nucleus, a thianaphtheno-7′,6′,4,5-thiazole nucleus, an oxazole nucleus, a benzoxazole nucleus, a naphthoxazole nucleus, a selenazole nucleus, a benzoselenazole nucleus, a naphthoselenazole nucleus, a thiazoline nucleus, a 2-quinoline nucleus, a 4-quinoline nucleus, a 1-isoquinoline nucleus, a benzimidazole nucleus, a 3,3-dialkylindolenine nucleus, a 2-pyridine nucleus and a 4-pyridine nucleus.

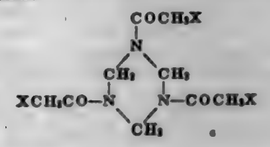
2,976,152

PHOTOGRAPHIC GELATIN LAYERS CONTAINING TRIAZINE HARDENERS

Harold A. Levine, Vestal, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 19, 1958, Ser. No. 781,467
20 Claims. (Cl. 96—111)

1. The method of producing a hardened gelatin layer in a photographic silver halide element which comprises uniformly mixing with the aqueous gelatin dispersion used in the perparation of said layer, prior to coating upon a support, a hardening amount of 1,3,5-tris-(halogenoacetyl)perhydro-1,3,5-triazine hardening agent selected from the group of compounds having the following general formula:



wherein X represents a halogen atom selected from the group consisting of chlorine, bromine and iodine; and coating said aqueous gelatin dispersion onto a suitable base.

2,976,153

PROCESS FOR PREPARING POTATO CHIPS

Simon W. Aremson, 3406 Bancroft Road, Baltimore, Md., assignor of twenty-four and one-half percent to Alvin N. Geser, Baltimore, and twenty-four and one-half percent to Alvin C. Schaegaus, Owings Mill, Md.

Filed Feb. 5, 1958, Ser. No. 713,386
4 Claims. (Cl. 99—100)

1. A process for preparing potato chips having improved taste and texture and longer shelf life comprising cooking sliced chips in hydrogenated oil and evenly coating the cooked chips with a liquid oil and maintaining



said liquid oil in the uncooked state, said liquid oil being used in an amount such that the chips absorb the oil in an amount not exceeding about 2%.

2,976,154

WHIPPED PEANUT PRODUCT AND METHOD FOR PRODUCING SAME

Leo C. Brown and Daniel Rusin, Chicago, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed May 29, 1959, Ser. No. 816,769
11 Claims. (Cl. 99—128)

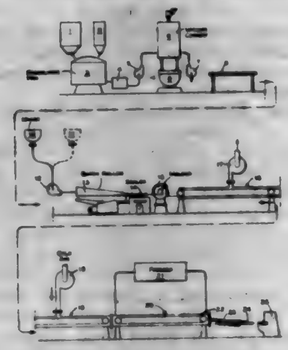
1. The method of preparing a whipped peanut product comprising: feeding an inert gas into a peanut butter mixture having a temperature substantially above 100° F., and concurrently whipping said gas-entrained mixture and lowering the temperature thereof to about 70° F. or less.

2,976,155

METHOD OF MAKING FROZEN CONFECTION

Charles W. Heller, Belgradplatz 3, Vienna, Austria, assignor of one-half to John Heller, White Plains, N.Y.

Filed Jan. 30, 1959, Ser. No. 790,169
7 Claims. (Cl. 99—136)



1. The method of making a frozen confection comprising forming a thin walled, sugar candy shell pliant at elevated temperature, providing a high viscosity edible cream mix at elevated temperatures, totally enclosing said mix with said pliant candy shell, cooling the enclosed mix, and then freezing the enclosed mix to bond the frozen mix to said candy shell and convert said candy shell to brittle form.

2,976,156

TREATMENT OF EDIBLE OILS

Alan Roylance, Bebington, Stanley Paul, Prenton, Birkenhead, and Reginald James Taylor, Heswall, England, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 19, 1958, Ser. No. 722,401
Claims priority, application Great Britain Mar. 21, 1957
15 Claims. (Cl. 99—163)

1. A process for preparing a refined edible vegetable glyceride oil of improved keeping qualities which comprises dissolving a neutralized edible vegetable oil in a non-polar solvent, contacting the solution thus obtained with activated alumina, removing the solvent from the oil, steam-deodorizing the oil and adding an antioxidant to the oil, said antioxidant being added to the oil not substantially later than the end of the deodorizing step.

2,976,157

PRESERVATION OF COLOR OF CANNED GREEN VEGETABLES

George J. Malecki, Wellesley Hills, Mass., assignor to Patent Protection Corporation, New York, N.Y., a corporation of New York, as trustee

No Drawing. Filed July 21, 1954, Ser. No. 444,923
1 Claim. (Cl. 99—186)

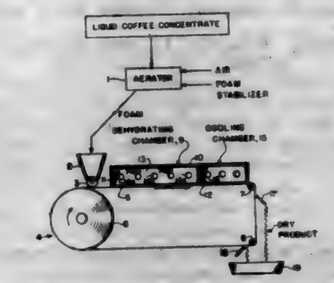
The method of preserving color in canned green vegetables which consists in treating the green vegetables with sodium aluminate to effect an exchange of a substantial portion of the magnesium of the chlorophyll for the sodium of the sodium aluminate.

2,976,158

PRODUCTION OF INSTANT COFFEE

Arthur I. Morgan, Jr., and John M. Randall, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

Filed July 24, 1959, Ser. No. 829,470
9 Claims. (Cl. 99—199)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A process for preparing a dehydrated product from a liquid coffee concentrate which comprises incorporating into the concentrate a non-toxic gas and a minor proportion of a foam stabilizing agent to form a stable foam, spreading the foam into a relatively thin layer, contacting the layer of foam, at atmospheric pressure, with hot gaseous medium having a temperature, within the range about from 120 to 220° F., insufficiently high to cause the foam to substantially decrease in volume and continuing said contact of the hot gaseous medium with the foam until the foam is dehydrated to a solid, porous, readily rehydratable product.

2,976,159

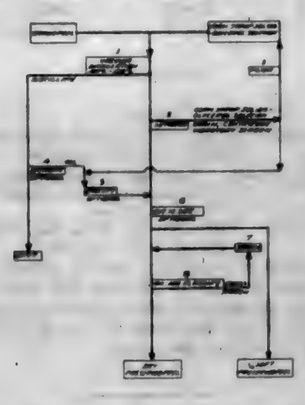
FIBROUS FRUIT PRODUCT AND PROCESS

Horton E. Swisher, Upland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California

Filed Nov. 30, 1959, Ser. No. 856,301
37 Claims. (Cl. 99—204)

1. A fibrous fruit product comprising a firm fibrous fruit substance selected from the class consisting of citrus peel, pomes, pineapple, cranberries and coconuts impreg-

nated with not less than 10% corn syrup solids, not less than 22% glycerol and having not more than 16%



moisture said product being substantially free from crystalline components.

2,976,160
EMULSION CONCENTRATES
Ernest T. Fronczak and Paul R. Chapman, Crystal Lake, and Elmer W. Brennan, West Dundee, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Nov. 14, 1958, Ser. No. 773,841
6 Claims. (Cl. 106—38.24)

1. The method of preparing a stable emulsion-concentrate capable of forming stable emulsions upon dilution with about 6–15 parts of water per part of concentrate comprising mixing an acidic extract obtained by the solvent extraction of a mineral lubricating oil fraction with a solvent selected from the group consisting of phenol, furfural, and nitrobenzene, with a soap-forming fatty acid in an amount sufficient to form a gel upon neutralization with aqueous alkali-metal hydroxide solution, neutralizing the extract-acid mixture with sufficient aqueous alkali-metal hydroxide solution of sufficient concentration to form a gel with a free acidity of not less than about 0.01 percent by weight oleic acid equivalent, adding additional acidic extract and water to produce an emulsion-concentrate containing not more than about 10 percent by weight of fatty acid soap and not more than about 49 percent by weight of extract, and having an acidity of 0.45 to 0.65 percent by weight oleic acid equivalent.

2,976,161
GLASS BATCHES AND METHOD OF PREPARATION
Rowland D. Smith, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed Nov. 2, 1956, Ser. No. 619,939
10 Claims. (Cl. 106—47)

1. In the preparation of a glass batch containing glass cullet particles wherein the cullet is deficient in a necessary glass-making material and an amount of the glass-making material is added to the batch to compensate for the cullet deficiency, the improvement which comprises applying to the surfaces of the glass cullet particles, prior to introducing them into the batch, a coating containing the deficient material.

2,976,162
BRIQUETTING GRANULAR MATERIAL
Wendell G. Ekdahl, North Plainfield, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed July 3, 1958, Ser. No. 746,316
21 Claims. (Cl. 106—71)

1. A briquet for use in charging finely divided mineral furnish ingredients to a melting furnace consisting essentially of a compressed mass of approximately 80 to 95% by weight of finely divided mineral furnish ingredients and a binder, said binder consisting essentially of approximately ½ to 6% by weight of a mixture of approximately 75 to 95% by weight of a non-swelling clay mineral and approximately 5 to 25% by weight of a swellable clay mineral of fine particle size, and approximately 2 to 6% by weight of gelatinized starch, together with a total moisture content when formed of approximately 3 to 8% by weight.

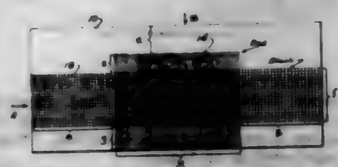
2,976,163
EMULSIFYING POLYMER OILS
Russell D. Bitting, Hilliards, Ohio, Kenneth E. Jackson, Bethel Borough, Pa., and Louis J. Nowacki, Bexley, Ohio, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 8, 1954, Ser. No. 461,292
5 Claims. (Cl. 106—141)

1. A process for preparing an emulsion which comprises adding 2 to 5 weight percent of a polyoxyethylated nonyl phenol containing at least 8 ethylene oxide units to an oily polymer of 60 to 100% butadiene-1,3 and 40 to 0% styrene which polymer has been stripped of all volatile material and agitating the mixture with water until an emulsion is formed.

2,976,164
LIGNOCELLULOSE PRODUCT AND METHOD
William T. Glab, Dubuque, Iowa, assignor, by mesne assignments, to Durel Incorporated, Dubuque, Iowa, a corporation of Iowa
No Drawing. Filed Sept. 25, 1958, Ser. No. 763,193
17 Claims. (Cl. 106—163)

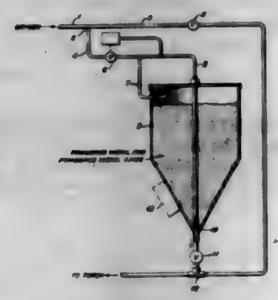
1. The method of making a moldable lignocellulose product, consisting essentially of: intimately mixing finely divided lignocellulose material with about 0.1–50% of a chloride catalyst capable of catalyzing the conversion of at least a portion of the lignocellulose to a material capable of being consolidated under heat and pressure; and heating said mixture in a confined atmosphere in the presence of moisture at a pressure of about 25–700 pounds per square inch gauge and a temperature of about 250–500° F. for about 4–60 minutes, said percentage being by weight of the lignocellulose.

2,976,165
MULTI-COLOR WRITING TRANSFER SHEET
Joseph Zalkind, 22 W. 22nd St., New York, N.Y.
Filed Jan. 31, 1958, Ser. No. 712,509
2 Claims. (Cl. 117—18)



1. A multi-color writing transfer sheet having a writing surface; transfer coatings on the opposite surface; the first of said coatings being of a hot wax color pigmented transfer ink and substantially covering said entire opposite surface; the other of said coatings being of a cold ink superimposed in a predetermined smaller area on said first coating and being of a contrasting, darker color; whereby writing on the writing surface of said sheet with a stylus type or writing instrument will cause transfer of said coatings in both areas of the respective colors under the pressure of said stylus instrument.

2,976,166
METAL OXIDE CONTAINING COATINGS
Robert E. White, 14 Annabella Ave., Havertown, Pa., and William E. Marceau, 253 Township Line, Upper Darby, Pa.
Filed May 5, 1958, Ser. No. 732,981
7 Claims. (Cl. 117—23)



1. A method of forming a metal oxide-coating on an article which comprises forming and maintaining a flame from a combustible mixture, the combustible portion of said mixture consisting essentially of oxygen and a combustible metal, the oxide formed from said metal melting above 1000° C. and being condensible to the liquid state above 1300° C., entraining in said flame refractory seed particles, each 100 parts by weight of combined metal and seed particles comprising at least 30 parts of metal and at least 10 parts of seed particles, said metal upon burning yielding available heat at the melting point of the metal oxide produced by the combustion of the metal, at least equal to the enthalpy of said oxide at said melting point, said available heat comprising at least 85% of the heat requisite for the coating operation, impinging the flame against the article to form an adherent coating containing both the seed particles and the oxide formed in burning the metal.

2,976,167
PROCESS FOR IMPROVING FIBROUS MATERIAL AND COMPOSITION THEREFOR
Arthur Maeder, Basel, Theodor Weber, Neuewelt, near Basel, Georg Sulzer, Basel, Willy Fatzer, Bottmingen, and Peter Goertler, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland
No Drawing. Filed July 9, 1956, Ser. No. 596,393
Claims priority, application Switzerland Aug. 17, 1955
21 Claims. (Cl. 117—33)

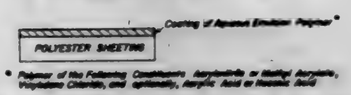
11. A process for producing a flock print, which comprises contacting a cellulosic fabric with an aqueous composition of matter which consists essentially of the following components:

(*a*) a latex of a flexible elastic polymerization plastic which has been obtained by polymerization of ethylenically unsaturated compounds,

(*b*) an aqueous dispersion of a water-insoluble derivative, which is soluble in organic solvents, of a condensation product of formaldehyde with an aminotriazine-compound and

(*c*) a member selected from the group consisting of water-soluble condensation products of formaldehyde with an aminotriazine-compound, water-soluble condensation products of formaldehyde with an urea-compound and water-soluble ethers of such condensation products, applying flock to the coated fabric, drying the material and heating it to harden the composition applied; the components being used in the following proportions, the parts being by weight calculated on the dry-content of the components: per 100 parts of component (*a*) about 60 parts of component (*b*) and about 25 to 60 parts of component (*c*).

2,976,168
METHOD OF APPLYING ANTIHALATION LAYERS TO POLYESTER FILM
Crayton B. Thompson and George W. Pierce, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 6, 1959, Ser. No. 797,571
11 Claims. (Cl. 117—34)



1. The process of applying an antihalation layer to surfaces of polyester sheeting which sheeting in its manufacture has been coated with a latex, oriented and crystallized, which comprises preparing a coating solution consisting of at least 90% of water and containing acrylate-acrylic acid polymer having saturated lower alkyl groups, ammonium hydroxide, a coloring ingredient and a spreading agent, applying this aqueous coating solution to the surface of said polyester film which carries a latex coating upon which the antihalation layer is desired, and drying the coating sufficiently to volatilize off substantially all of the water and the ammonium constituent.

9. As an article of manufacture, a product comprised of a polyester sheet, said sheet having a latex coating thereon said latex coating carrying a layer of a material consisting of an acrylate-acrylic acid polymer having saturated lower alkyl groups, said polymer containing carbon particles of a size less than 30 mμ, said coating being characterized in that it is substantially water insoluble but soluble in photographic developer.

2,976,169
IMMERSION DEPOSITION OF TIN
Michael A. Streicher, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 12, 1958, Ser. No. 714,688
2 Claims. (Cl. 117—37)

1. In a process for making a selected area of a steel sheet amenable to soldering, the steps comprising mechanically roughening such area and effecting an immersion deposition of tin thereupon by applying thereto an aqueous bath consisting essentially of:

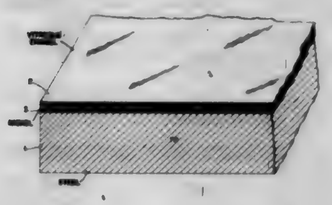
	Parts by weight
Water	2400
Stannous sulfate	30±18
Sulfamic acid	270±50
Polyalkylene oxide having a molecular weight between 350 and 20000	48±16

2,976,170
METHOD FOR IMPROVING COATING RECEPTIVITY OF AN ALUMINUM SURFACE AND RESULTANT ARTICLE
Ehrlich M. Eiland, Lower Burrell, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed July 14, 1959, Ser. No. 826,929
11 Claims. (Cl. 117—49)

1. A method for improving the receptivity for adhesively applied coatings of an aluminum surface having

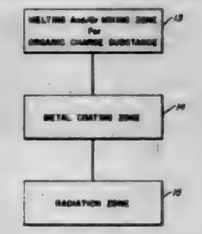
residual rolling oil thereon which comprises treating said aluminum surface with phytic acid whereby the adhesion preventing characteristics of said oil are counteracted.

2,976,171
GLASS COATED STEEL STRUCTURE AND METHOD OF MAKING THE SAME
James D. Sullivan, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Oct. 14, 1957, Ser. No. 689,994
3 Claims. (Cl. 117—53)



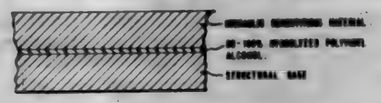
1. A method of applying a glass coating to steel, comprising blasting the steel with a metallic grit having a particle size of 25 to 40 mesh to provide an average surface roughness in the range of 230 to 450 microinches, depositing a layer of nickel on the roughened surface with the nickel layer having a thickness in the range of 0.08 to 0.30 gram of nickel per square foot of steel surface, applying a coating of a vitreous enamel composition directly to the coated steel surface, and firing the vitreous enamel composition at an elevated temperature to fuse the vitreous enamel to the steel.

2,976,172
PROCESS FOR IRRADIATING HIGH HYDROCARBON COATINGS ON METAL TO FORM POLYMERIC COATINGS AND RESULTANT ARTICLE
Alexander T. Wilson, Whiting, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 29, 1955, Ser. No. 531,292
6 Claims. (Cl. 117—62)



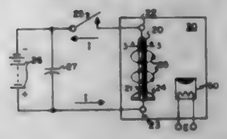
1. A process for producing solid state polymerized chemical coatings from non-volatile normally low melting point organic substances selected from the class consisting of heavy oils, waxes, fatty acids, and asphalts which comprises extending the chemical starting material in the form of a film on the surface of an oxidizable metal and subjecting it to ionizing radiation in the energy range of about 10,000 to 500,000 volts of cross-linking intensity approximating at least about 10 kilowatt hours per pound of product for a period of time sufficient to convert the starting material to a hardened coating.

2,976,173
PROCESS FOR APPLYING A HYDRAULIC CEMENTITIOUS MATERIAL TO A STRUCTURAL BASE AND ARTICLE PRODUCED THEREBY
Edward P. Czerwin, Oakwood Hills, and Richard S. Seidel, Claymont, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 26, 1958, Ser. No. 763,449
6 Claims. (Cl. 117—70)



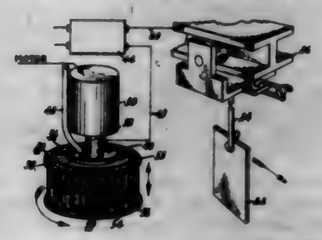
1. A laminated structure comprising a base material, a coating thereon consisting essentially of polyvinyl alcohol of 96% to 100% hydrolysis, and a hydraulic cementitious material overlying and adhering to said coating.

2,976,174
ORIENTED MAGNETIC CORES
John H. Howard, Wallingford, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 22, 1955, Ser. No. 495,943
5 Claims. (Cl. 117—93)



1. The method of producing magnetic cores having square hysteresis loops, which comprises the steps of placing a sleeve of insulating material around a current conductor, driving a direct current through said conductor to generate a magnetic field around said sleeve, effectively vaporizing magnetic metallic material in the vicinity of said sleeve, and depositing said vaporized magnetic material upon said sleeve while said magnetic field is present.

2,976,175
METHOD AND APPARATUS FOR COATING ELECTROSTATICALLY AND MECHANICALLY
Harold J. Reindl, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 23, 1958, Ser. No. 710,665
14 Claims. (Cl. 117—93)



6. A method of depositing paint as a coating onto an article, the steps comprising; supplying paint at a controlled rate to an atomizing zone, atomizing finely divided discrete particles of said paint electrostatically from said zone, producing a suction zone adjacent said atomizing zone, concentrating said charged particles by drawing them into said suction zone, and then subsequently mechanically directing said particles toward the article with sufficient force to bridge the space between the mechanical directing means and the article.

2,976,176
SEALING POROUS METAL SURFACES
Christ F. Parks, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 22, 1958, Ser. No. 762,216
14 Claims. (Cl. 117—97)

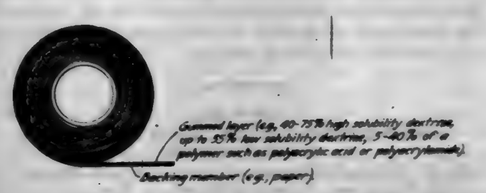
11. The method of sealing a hollow porous metal article consisting of the steps of: partially condensing a phenol, an alkyl aldehyde selected from the class consisting of formaldehyde, acetaldehyde, and butyraldehyde, a cyclic aldehyde selected from the class consisting of furfural, benzaldehyde, tolualdehyde, and salicylaldehyde, and an acid catalyst, the alkyl aldehyde being present in the proportions of from 0.9 to 1.05 moles per mole of phenol and said cyclic aldehyde being present in the proportion of from 0.45 to 0.60 mole per mole of phenol; admixing with the partially condensed product thus produced between 8 and 30 percent by weight, based on the phenol employed, of a lignin compound selected from the class consisting of the alkali metal salts of lignin and sulfonated lignin and heating the mixture thus produced at a temperature of between about 120° and 160° F. for about 0.5 hour; cooling the resulting reaction product; adjusting the pH value thereof, as necessary to between 4.75 and 5.25; substantially filling the interior of said hollow article with the mixture; applying pressure on the mixture in the article whereby some of said mixture is forced into pores in the metal; releasing the pressure and pouring the excess mixture from said hollow article; and subjecting the article thus treated to sufficient heat to set said resin.

2,976,177
METHOD AND MEANS FOR COATING OF FILAMENTS
William P. Warthen, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Apr. 15, 1957, Ser. No. 652,995
12 Claims. (Cl. 117—119.2)



1. The method of coating a continuous filament with heat-softenable material comprising continuously moving the filament axially, supplying molten coating material in surrounding relation with said moving filament at a given point along its path of motion, said molten material being supplied at a temperature and in a condition of fluidity such that a trailing channel of the coating material is drawn along the path of said filament by the moving filament itself, forcefully cooling said channel of material in a given zone along the path of the filament to the extent that an outer non-fluid tube-like shell of the coating material is formed for said channel, restraining said shell from movement with said filament, and regulating such cooling to maintain said shell, whereby said shell restricts the amount of fluid coating material applied to the filament in said zone and thereby to meter the quantity of said material coated on said filament.

2,976,178
GUMMED PAPER
Walter H. Pahl, Falcon Heights, and Willis A. Sandholtz, St. Paul, Minn., and Nicholas R. Eberts and Richard E. Goggin, Chicago, Ill., assignors, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 22, 1957, Ser. No. 654,143
10 Claims. (Cl. 117—122)



1. A flexible gummed sheet product exhibiting high adhesive strength and comprising a flexible fibrous sheet backing member and a normally non-tacky gummed coating thereon, the dry coating weight of said coating being from 5 to 15 pounds per ream, said coating being rapidly activated to tackiness by water-moistening and comprising by weight up to 95% of high solubility dextrine (*a*) exhibiting a viscosity below 50 centipoises Brookfield at 100° F. and 30% solids concentration in water, and (*b*) exhibiting a solubility of at least 90% in water at 77° F., and between 5 and 40% of water-soluble acrylyl polymer selected from the group consisting of polyacrylic acid and polyacrylamide, said dextrine and acrylyl polymer being uniformly blended in said gummed coating.

2,976,179
RUST PREVENTIVES
Roy A. Westlund, Jr., Linden, and Michael J. Furey, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 23, 1954, Ser. No. 451,686
1 Claim. (Cl. 117—127)

A method for inhibiting the rusting of a metal which comprises coating the surface of said metal with an oil type rust preventive composition containing as the essential rust inhibitor 0.01 to 30 weight percent of a salt selected from the group consisting of triethylene tetramine trioleate, and triethylene tetramine tetraoleate.

2,976,180
METHOD OF SILVER PLATING BY CHEMICAL REDUCTION
Robert R. Brookshire, Canoga Park, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
No Drawing. Filed Dec. 17, 1957, Ser. No. 703,290
4 Claims. (Cl. 117—130)

1. The method of silver-plating comprising the step of contacting a surface to be plated with a plating solution at a temperature in the range of from about 50° to about 110° C., consisting essentially of an alkali metal cyanide, a dissolved hypophosphite reducing agent, dissolved silver ions, and an undissolved silver ion-containing compound in contact with the plating solution, the ion ratio of said hypophosphite ion to the undissolved silver ion being in the range of from about 0.33 to about 10, and the ion ratio of the cyanide ion of the dissolved alkali metal cyanide to the undissolved silver ion being in the range of from about 0.1 to about 10.

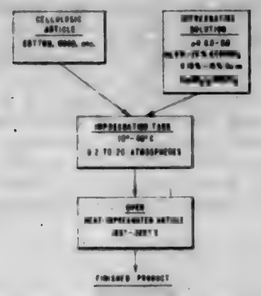
2,976,181
METHOD OF GOLD PLATING BY CHEMICAL REDUCTION
Robert R. Brooksbire, Canoga Park, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
No Drawing. Filed Dec. 17, 1957, Ser. No. 703,291
4 Claims. (Cl. 117—130)

1. The method of gold plating comprising the step of contacting a surface to be plated with a plating solution containing a quantity of dissolved gold, a dissolved hypophosphite reducing agent, a gold cyanide complexing agent, and a quantity of undissolved gold cyanide in contact with the plating solution.

2,976,182
ELASTOMERIC VAPOR-PERMEABLE FILMS AND COATINGS
John R. Caldwell, Clarence C. Donnelly, and Edward H. Hill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 10, 1957, Ser. No. 701,715
16 Claims. (Cl. 117—135.5)

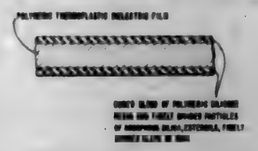
1. A process for preparing a fabric having a coating of a synthetic resinous composition which resists the passage of liquid water but permits transmission of water vapor comprising mixing 15–60 percent of cross linked organic pigment containing amide groups based on the dry coating with an elastomer carried in a liquid medium containing 5–80 percent solids content of the elastomer, and coating on a fabric.

2,976,183
PROCESS FOR THE TREATMENT OF CELLULOSIC MATERIALS TO PREVENT DETERIORATION AND DECAY
Wilfred John Arthur, Charleston, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 27, 1958, Ser. No. 757,462
2 Claims. (Cl. 117—138.5)



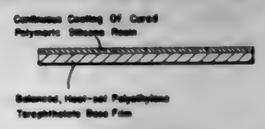
1. A process for treating cellulosic materials to render them highly resistant to the deterioration and decay caused by the attack of biological organisms and cellulose-attacking insects which comprises impregnating a cellulosic material by contact with an aqueous solution having a pH between 6.0 and 8.0 and consisting essentially of from 9% to about 20% ammonium formate and from about 0.15% to about 15% by weight copper in the form of cupric ammonium formate, said aqueous solution being maintained in the range of 10° to 45° C. and at a pressure between 0.2 and 20 atmospheres, removing the impregnated cellulosic material from contact with the solution, and fixing the copper within the cellulosic material by heating to temperatures within the range of 100° C. to 200° C., and recovering a product having 0.5% to about 8% by weight of copper deposited in the cellulosic material including from about 0.3% to about 6% by weight of copper chemically bound to the cellulose as determined by the fact that the copper is insoluble when said cellulosic material is leached with 4% aqueous ammonia.

2,976,184
METHOD OF COATING A POLYMERIC THERMOPLASTIC DIELECTRIC FILM AND ARTICLE PRODUCED THEREBY
Phillip Strubing Bintz, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 28, 1955, Ser. No. 549,518
16 Claims. (Cl. 117—138.8)



1. A product of manufacture consisting essentially of a polymeric, thermoplastic, dielectric base film having an adherent, continuous coating of a cured, homogeneous blend consisting essentially of a polymeric silicone resin, and finely divided particles from the group consisting of amorphous silica, estersils, finely divided clays, and mica, said particles having an ultimate average particle size between 5 millimicrons and 5 microns.

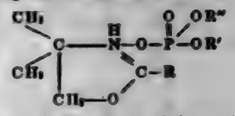
2,976,185
COATED POLYMERIC THERMOPLASTIC DIELECTRIC FILM
Richard Thomas McBride, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 12, 1955, Ser. No. 552,301
2 Claims. (Cl. 117—138.8)



1. Balanced, heat-set polyethylene terephthalate base film having a continuous coating consisting essentially of a cured polymeric silicone resin having an R/Si ratio from about 1.3 to 1.8 wherein R is selected from the group consisting of methyl, ethyl and phenyl.

2,976,186
TREATED TEXTILE FIBER
Howard A. Thompson, Raymond E. Donaldson, and Charles Clayton White, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 27, 1957, Ser. No. 699,165
3 Claims. (Cl. 117—139.5)

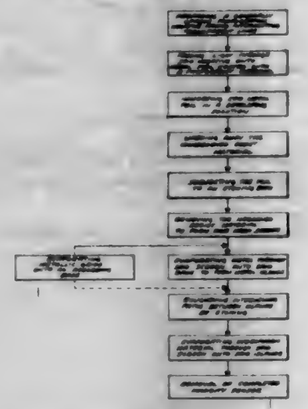
1. A textile fiber selected from the group consisting of cellulose ester fibers and hydrophobic synthetic polymer fibers, carrying a textile lubricant composition comprising from 40 to 70 parts by weight of mineral oil, from 5 to 15 parts by weight of a non-aromatic alcohol of from 6 to 18 carbon atoms, and from 12 to 35 parts by weight of a compound having the structural formula



in which R is an alkyl radical of from 1 to 17 carbon atoms, R' is an aliphatic radical selected from the group consisting of lauryl and oleyl, and R'' is a radical selected from the group consisting of lauryl, oleyl and hydrogen.

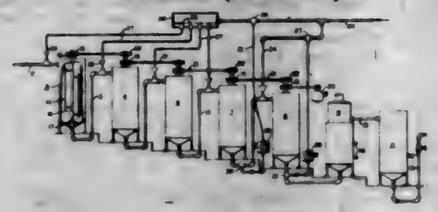
2,976,187
WITHDRAWN

2,976,188
METHOD OF PRODUCING A HUMIDITY SENSER
Douglas A. Kohl, Osseo, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Nov. 25, 1955, Ser. No. 549,117
5 Claims. (Cl. 117—212)



1. A method of making a humidity sensor comprising the steps of applying interleaved metallic grids to one surface of an adsorbing element, evaporating metal through a mask having a plurality of relatively small openings therein so as to form a plurality of metallic islands on said adsorbing surface, evaporating hydrophobic material through said same mask without displacing said mask from the position assumed during the formation of the islands so as to produce a plurality of superimposed hydrophobic areas on said islands, and etching the adsorbing surface intermediate said islands, the second evaporating and etching steps being performed in any desired sequence.

2,976,189
METHOD FOR PURIFYING SUGAR BEARING BEET DIFFUSION JUICE
Paul W. Alston, 1042 Oxford St., Berkeley, Calif.
Filed Dec. 12, 1955, Ser. No. 552,523
6 Claims. (Cl. 127—48)



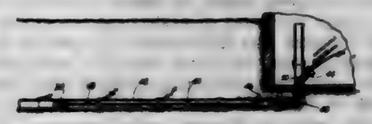
3. In the purification of an aqueous sugar bearing juice obtained by the diffusion of sugar beets with hot water substantially free of added SO_2 and at a temperature sufficient to inhibit micro-biological action and to kill living matter in the beet cells, the method of purifying the diffusion juice with lime and carbon dioxide gas in order to obtain a juice of high purity with a small amount of lime, which comprises adding lime to the diffusion juice in increments at intervals of at least one minute to form a precipitate of impurities, stirring said diffusion juice during formation of said precipitate at a rate below that at which the precipitate breaks up because of turbulence, continuing the addition of lime until between about 0.2 and 0.6 percent by weight CaO has been added based on the weight of beets diffused, and a large flocculent precipitate composed principally of particles of flocculent larger than ¼ inch in cloudy diffusion juice is transformed into smaller more granular curds of precipitated impurities less than 1/16 of an inch in clear diffusion juice, heating the diffusion juice to a temperature below the boiling point of the juice, filtering said diffusion juice prior to substantial introduction of carbon dioxide into said juice in order to separate the precipitated impurities from the diffusion juice, adding additional lime to the filtrate of said diffusion juice in an amount less than 1.5% by weight CaO based on the weight of beets diffused, subjecting the limed filtrate from the diffusion juice to carbon dioxide gas in order to precipitate additional impurities, and separating the limed diffusion juice filtrate from the precipitate formed by the additional lime and the carbon dioxide gas.

2,976,190
CIGARETTES
Louis C. Meyer, Rte. 1, Box 160, Mount Morrison, Colo.
Filed May 27, 1957, Ser. No. 661,748
1 Claim. (Cl. 131—17)



A cigarette comprising a paper wrapping, tobacco enclosed in said wrapping, and loose, independent, separated, metal flake particles having a relatively low specific heat uniformly intermixed with said tobacco throughout the entire length and breadth of the cigarette tobacco, so that the metal particles will always be present in the combustion zone as the cigarette is consumed, said metal particles being of a size and spaced a sufficient distance apart to continuously fall away from the cigarette with the ashes as the combustion zone travels from the point of combustion toward the mouth of the user for continuously extracting the heat from the combustion zone thereby lowering the temperature of said zone.

2,976,191
METHOD OF KILLING ROOTS ADJACENT SEWER LINE JOINTS
James C. Weston, Webster Groves, Mo.
(14102 Marlow, Detroit 27, Mich.)
Filed Jan. 9, 1958, Ser. No. 707,980
2 Claims. (Cl. 134—24)



1. A method of destroying and inhibiting root growth around the peripheral exterior and interior of sewer line joints comprising blocking off a segment of sewer line including the joints through which roots have intruded into the sewer line by inserting an expansible blocking means at both ends of the area to be blocked and ex-

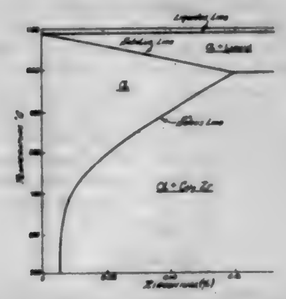
panding the blocking means, supplying a root killing chemical under pressure into the blocked off sewer line segment, and forcing under pressure a quantity of the chemical through the sewer line joints into the soil area adjacent thereto.

2,976,192

PROCESS FOR IMPROVING THE QUALITY OF COPPER-ZIRCONIUM ALLOY CASTINGS

Matti J. Saarivirta, Plainfield, Archibald A. K. Booth, Jr., Elizabeth, and John J. Burgmeister, New Brunswick, N.J., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York

Filed July 1, 1959, Ser. No. 824,343
5 Claims. (Cl. 148—3)



5. The process for making sound castings of a precipitation hardenable alloy made with initially oxygen-free copper containing within the maximum solid solubility limit of zirconium, comprising the steps of casting the molten alloy under a protective atmosphere, homogenizing the cast solidified alloy for at least 10 minutes at a temperature above the solvus line in the phase diagram of Figure 1 of the accompanying drawing for any particular zirconium content and thereafter slow cooling the substantially completely homogenized casting from a temperature of at least 850° C. such that the progressive cooling thereof down to 400 to 300° C. requires a minimum period of at least two and one-half hours.

2,976,193

PROCESS AND COMPOSITIONS FOR PRODUCING ALUMINUM SURFACE CONVERSION COATINGS

George H. Pimbley, Inglewood, Calif., assignor, by mesne assignments, to Parex Corporation, Ltd., a corporation of California

No Drawing. Filed Aug. 3, 1959, Ser. No. 830,988
37 Claims. (Cl. 148—6.21)

6. A process for producing a substantially colorless chemically bonded coating on an aluminum article, which comprises treating said article with an aqueous acid aluminum conversion coating bath, said bath comprising a halogen-containing anion, an anion including a member of the group consisting of hexavalent chromium, molybdenum, tungsten and ferricyanide, a cation of the group consisting of zinc, cadmium, mercury, vanadium, chromimum, manganese, iron, cobalt, nickel and copper, and an agent of the group consisting of a soluble thiocyanate, a soluble cyanate, thiourea, urea, cyanuric acid, thiocyanuric acid, soluble sulfur-containing compounds, soluble phosphorus-containing compounds, soluble ferrocyanides, soluble divalent and trivalent chromium compounds, hydro-quinone, quinhydrone and hydrazines, and forming a substantially colorless conversion coating of high corrosion resistance, the pH of said solution being about 1.5 to about 3.5.

2,976,194

METHODS FOR IMPROVING THE PROPERTIES OF REFRACTORY METALS

Maurice R. Commanday, Los Angeles, and James R. Darnell, Reseda, Calif., assignors, by mesne assignments, to Chromizing Corporation, a corporation of Delaware

No Drawing. Filed July 10, 1959, Ser. No. 826,112
8 Claims. (Cl. 148—13.1)

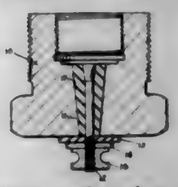
1. The method for surface decontamination and improvement of the properties of a refractory metal of the group consisting of molybdenum and tungsten and alloys of molybdenum and tungsten wherein the alloys consist essentially of molybdenum or tungsten, that includes heating the metal within a closed zone in contact with a powdered uniform mixture comprising about 50 to 95 percent (by weight) inert diluent, about 5 to 50 percent of the same refractory metal in powder form, and about 0.05 to 0.5% ammonium halide, for a period of about 4 to 24 hours at a temperature sufficient to dissociate the halide and combine the released halogen with the powdered refractory metal.

2,976,195

SUPER PRESSURE ELECTRODE-INSULATOR

George T. Angeloff, North Branford, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Jan. 20, 1958, Ser. No. 709,954
5 Claims. (Cl. 148—135)



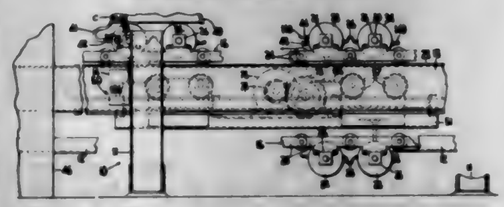
1. A process for manufacturing a super pressure insulated electrode capable of withstanding shock pressures of the order of 50,000 p.s.i. generated over intervals as short as ½ millisecond comprising the steps of providing a heat hardenable metallic housing having a tapered bore, said housing being fabricated of type 440 stainless steel, providing an unfired ceramic insulator, machining a taper on the outer surface of the insulator corresponding to the tapered bore of the housing, inserting the unfired insulator into the metallic housing so that the taper and the tapered bore mate, and heating the assembled insulator and housing to a temperature of about 1950° F. at a rate not exceeding 500° per hour to fire the insulator and to harden the housing and furnace cooling the insulated electrode to about 250° F.

2,976,196

APPARATUS FOR LAMINATING

Harry L. Ziegler, Delmont, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

Filed Sept. 13, 1957, Ser. No. 683,844
11 Claims. (Cl. 154—2.71)



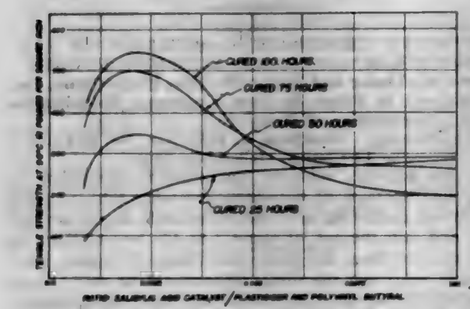
1. An apparatus for laminating a composite assembly of two glass sheets and a thermoplastic interlayer comprising an oven, vacuum tanks, means for conveying the tanks through the oven and in a cyclic path including first and second stations outside the oven and on the same side of the oven, means for coupling the tanks to a vacuum source, means for moving said coupling means between the first and second stations, means for moving the coupling means toward and into engagement with each of the tanks at the first station, means for moving the coupling means away from each of the tanks for disengagement of the tanks and the coupling means at the second station and a part of a coupling mounted on and communicating with each of some of said tanks, each said part of a coupling being closed except when engaged by another part of said coupling, whereby the vacuum from the tank and heat from the oven provide at least marginal bonding of the composite assembly.

2,976,197

PROCESS FOR LAMINATING GLASS OR PLASTIC MATERIAL

Robert P. Cox, Madison, Wis., assignor to Bjorksten Research Laboratories, Inc., Madison, Wis., a corporation of Illinois

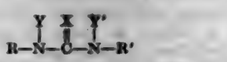
Filed Oct. 18, 1954, Ser. No. 462,931
4 Claims. (Cl. 154—2.75)



1. The process of producing a polymeric resinous article comprising in combination the steps of reacting together three components respectively in the mole ratio of from 110 to 250 moles of the first component, 5 to 40 moles of the second component and 60 to 95 moles of the third component, said first component being an aldehyde, said second component being a substance selected from the group consisting of urea and thiourea, said third component being a substance selected from the group consisting of urea derivatives having the following structures:



and



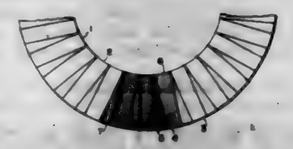
in which X is selected from the group consisting of sulfur and oxygen, R and R' are selected from the group consisting of an alkyl group having from one through sixteen carbon atoms, and a cyclo-paraffinic group having from five through eight carbon atoms in the ring, and Y, Y', and Y'' are selected from the group consisting of hydrogen, hydroxy alkyl and alkoxy alkyl; mixing .1 to 30 parts of the polymeric material thus obtained with 60 to 90 parts of polyvinyl butyral and .001 to 5 parts of a catalyst; forming a dimensional article from said mixture; partially curing said article with heat at a temperature from 55° to 105° C.; stretching the article until every portion thereof is elongated at least 100%; and further curing said article with heat at a temperature from 90° to 350° C.

2,976,198

METHOD OF MAKING TUBE-LIKE ARTICLES AND PARTS THEREOF

Arnold B. Freeman, Akron, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware

Filed May 21, 1959, Ser. No. 814,736
3 Claims. (Cl. 154—81)



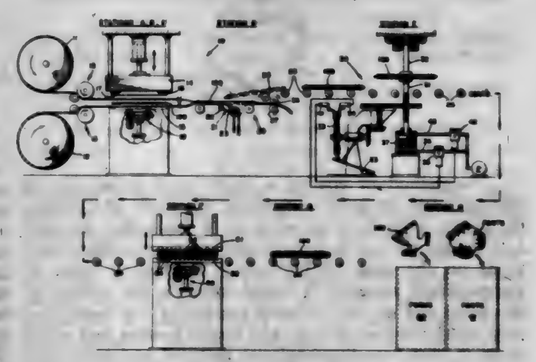
1. That method of making a tube-like article having relatively heavy walls which includes the steps of laying plies of parallel uncured resin-treated fibers upon each other to provide a laminated slab in which all of the fibers extend in a single direction, the fibers being of a length substantially equal to the radial thickness of the wall of the tube-like article and the slab of a length substantially equal to the length of the tube-like article, applying pressure against proposed faces of the slab in a direction to compress the plies against each other, relatively moving the pressure applying forces without releasing them and in a direction parallel to the axes of the fibers to shift the plies substantially equally upon each other with the uncured resin acting as a lubricant and to provide a slab of lozenge-shaped cross-section, the slab of shifted plies having a width substantially twice the width of the original slab, releasing the pressure, splitting the lozenge-shaped slab to provide a pair of elongated strips of triangular cross-section, repeating the first step of the operation to provide slabs of rectangular cross-section, repeating the operation to provide additional slabs of triangular cross-section, assembling the triangular strips and the rectangular strips to form a tube-like article with the fibers all extending substantially radially of the tube-like article, and molding the assembled material under heat and pressure to cure the resin.

2,976,199

PROCESS FOR MANUFACTURE OF BABY PANTS

Edward H. Rand, New York, N.Y., assignor to Rand Rubber Co., Inc., Brooklyn, N.Y., a corporation of New York

Filed May 8, 1959, Ser. No. 811,850
16 Claims. (Cl. 154—85)



1. A method for making baby pants comprising placing a metallic form having two leg parts, two side seam parts, a crotch part and a waist part between two super-

posed sheets of thermoplastic material, simultaneously tear sealing said sheets about the periphery of said form and heat sealing said sheets inwardly of the thus formed tear seal at the two side seam parts and the crotch part, separating the partially completed baby pants from the residual sheet material, placing stretched endless elastic thermoplastic bands over said form and over the sheets at the leg parts and the waist part, heat sealing intermittent portions of said bands to said sheets, separating said tear seals to provide leg and waist openings, and removing said form from said thus completed baby pants article.

2,976,200

METHOD OF MAKING A CLOSURE CAP AND CLOSURE CAP MADE THEREBY

Harry E. Stover, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

Filed Sept. 29, 1958, Ser. No. 763,921
6 Claims. (Cl. 154—89)



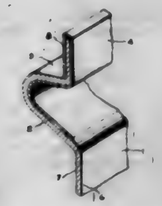
6. The method of adhering an annular gasket to a closure cap having a flat cover portion and a skirt portion which comprises rotating said closure cap, applying a thread of adhesive of uniform cross-section to the peripheral zone of the inside of the cover portion to form a continuous ring thereon in spaced relation to said skirt portion, and placing on said ring of adhesive a flat annular gasket wider than the width of said ring of adhesive to adhere the gasket to the closure cap and pressing the gasket down onto the ring of adhesive to thereby spread the adhesive to substantially the width of the gasket.

2,976,201

COATED PANEL AND METHOD OF MAKING THE SAME

Theroid W. Perkins, Fern Creek, Ky., assignor to General Electric Company, a corporation of New York

Filed Dec. 29, 1958, Ser. No. 783,430
2 Claims. (Cl. 154—116)



1. A method of coating a sheet metal panel with a thermoplastic material comprising the steps of cleaning the panel, applying a primer coat to the metal, securing a U-shaped protective strip of formed thermoplastic material on the edge of the panel, spraying a layer of thermoplastic material in liquid form on the surface of the panel and on the adjacent portion of said protective strip overlying said surface, and finally heating said panel so as to cure said thermoplastic material and bond said protective strip to said panel, said thermoplastic material being thereby bonded to said panel and fused to the protective strip so as to form a continuous corrosion resistant coating on the surface and edge portions of the panel.

2,976,202

METHOD OF BONDING SYNTHETIC HIGH POLYMERS TO POLYURETHANE ELASTOMERS

Samuel Salem and Donald W. Anderson, Akron, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed July 27, 1956, Ser. No. 600,417
5 Claims. (Cl. 154—139)

5. The process of bonding a fabric of a long chain polyamide having a high melting point to a flexible elastomeric reaction product, free of aliphatic chemical unsaturation, of about 1 mole of a generally linear long chain polyhydroxyl-containing polymer selected from the group consisting of polyesters and polyethers, and about 1 mole of an organic diisocyanate, comprising the steps of forming a coating on the fabric composed essentially of an infusible insoluble resin by applying to the fabric an aqueous solution consisting essentially of dihydroxy phenol and sufficient formaldehyde to form an insoluble resin together with a resin-forming catalyst and heating the fabric sufficiently to convert at least a portion of the phenol and formaldehyde to form an insoluble resin, cleaning the elastomer with an organic solvent to provide a clean surface for bonding, calendering the fabric to the elastomer, and thereafter subjecting the fabric and elastomer to a curing temperature, said elastomer reaction product being free of olefinic unsaturation.

2,976,203

ADHESIVE COMPOSITION, METHODS OF EMPLOYING IT, AND LAMINATED STRUCTURES

Harold C. Young and Walter W. Toy, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 6, 1957, Ser. No. 682,306
12 Claims. (Cl. 154—140)

1. An aqueous adhesive composition comprising an aqueous dispersion of polymeric substance selected from the group consisting of a water-insoluble linear copolymer, and salts thereof, of about 2 to 4% by weight of an acid selected from the group consisting of itaconic acid, fumaric acid, and the dimer of methacrylic acid, about 5 to 25% by weight of a member selected from the group consisting of methyl methacrylate and acrylonitrile, and the balance of at least one ester of acrylic acid with an alcohol having 1 to 18 carbon atoms, the copolymer having a T_1 between −15° C. and +15° C. and a viscosity average molecular weight between 50,000 and 250,000, the salt being selected from the group consisting of ammonium, alkali metals, and those formed with a water-soluble amine, the dispersion containing 30 to 55% by weight of water and at least 30% by weight of the copolymer.

2,976,204

ADHESIVE COMPOSITIONS, METHODS OF EMPLOYING THEM, AND LAMINATED STRUCTURES MADE THEREFROM

Harold C. Young and Walter W. Toy, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 6, 1957, Ser. No. 682,317
20 Claims. (Cl. 154—140)

1. An aqueous adhesive composition comprising an aqueous dispersion of polymeric substance selected from the group consisting of a water-insoluble linear copolymer, and salts thereof, of about 5 to 10% by weight of an acid selected from the group consisting of acrylic acid, methacrylic acid, and crotonic acid, about 3 to 25% by weight of a member selected from the group consisting of methyl methacrylate and acrylonitrile, and the balance of at least one ester of acrylic acid with an alcohol having 1 to 18 carbon atoms, the copolymer having a T_1 between −15° C. and +15° C. and a viscosity average molecular weight between 50,000 and 250,000, the salt being selected from the group consisting of those of ammonium and alkali metals, and those

formed with a water-soluble amine, the dispersion containing 30 to 55% by weight of water and at least 30% by weight of the copolymer, said proportions being based on the total weight of the composition excluding any fillers and pigments that may be present.

2,976,205

PREPARATION OF WEBS AND SHEETS FROM CELLULOSE ESTERS

Charles D. Snead and Ralph W. Peters, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 9, 1955, Ser. No. 533,526
7 Claims. (Cl. 162—157)

1. A method of making sheets which may be adapted to be formed into desired products which comprises forming a suspension in water of a fibrous flocculated precipitate of a lower fatty acid ester of cellulose, laying down the cellulose ester suspension onto a foraminous surface to form a sheet of the cellulose ester and drying the so-formed sheet.

2,976,206

PESTICIDAL COMPOSITION

Edward C. Baillie, Moorestown, and Lewis F. Stevens, Haddonfield, N.J., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 29, 1957, Ser. No. 636,880
3 Claims. (Cl. 167—20)

1. A pesticidal composition which when applied to apple trees is effective to control European red mites, apple cedar rust, apple scab and apple powdery mildew, which comprises a uniform blend of about 65 to about 75 parts by weight of sulfur, about 7 to about 12 parts by weight of ferric dimethyldithiocarbamate, and about 2 to about 5 parts by weight of 2,3-dichloro-1,4-naphthoquinone, the blend being of an average particle diameter below about 5 microns.

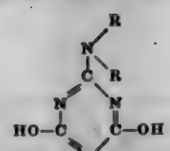
2,976,207

DIHYDROXY-AMINOTRIAZINE INSECTICIDES

Randel Q. Little, Jr., Munster, Ind., and Jack F. Bussert, Calumet City, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Feb. 27, 1959, Ser. No. 795,895
5 Claims. (Cl. 167—33)

1. The method of increasing the resistance of vegetation to damage from insects, mites, and fungus growths which comprises applying a dihydroxy-amino-triazine to said vegetation, said dihydroxy-amino-triazine having the formula



where at least one of the R groups is an alkyl radical of 4 to 25 carbon atoms and the other R group is selected from the group consisting of an alkyl radical of 4 to 25 carbon atoms and a hydrogen atom.

2,976,208

DISPERSANT COMPOSITIONS AND TOXICANT CONCENTRATES CONTAINING THE SAME

Paul L. Lindner, Evanston, Ill., assignor, by mesne assignments, to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Aug. 27, 1956, Ser. No. 606,182. Divided and this application Feb. 3, 1960, Ser. No. 6,349
15 Claims. (Cl. 167—42)

1. A dispersant composition, soluble in organic solvent solutions of water-insoluble biocidal toxicants, comprising (*a*) a compound in the form of a higher fatty acid ester of an alcohol non-tertiary amine, the higher fatty acid acyl radical of said ester containing from 8 to 18 carbon atoms, and a reactive hydrogen of the amine radical of said non-tertiary amine being replaced by an acyl radical of a sulfopolycarboxylic acid, said latter acyl radical containing from 4 to 8 carbon atoms and being represented by the formula

$$-OC-Y-(COOM)_n$$
$$\quad\quad\quad

2,976,211
DISPERSANT COMPOSITIONS AND TOXICANT CONCENTRATES CONTAINING THE SAME
Paul L. Lindner, Evanston, Ill., assignor, by mesne assignments, to Wico Chemical Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 21, 1958, Ser. No. 716,567
19 Claims. (Cl. 167—42)

1. A dispersant composition, having the property of being soluble in organic solvent solutions of water-insoluble biocidal toxicants, comprising (*a*) a compound in the form of a sulfopolycarboxylic acid amide of a higher molecular weight amine in which the amine contains a hydrocarbon radical having from 12 to 26 carbon atoms, the sulfopolycarboxylic acid radical being represented by the formula

$$-OC-Y(-COOM)_n$$
$$\quad\quad SO_3M'$$

wherein Y is the completely decarboxylated residue of a polycarboxylic acid containing from 4 to 8 carbon atoms; M and M' are members of the group consisting of alkali metals and organic substituted ammonium radical with the proviso that at least one of them is an organic substituted ammonium radical; and *n* is 1 or 2; and (*b*) an amine salt of an alkyl benzene sulfonic acid in which the alkyl radical contains from 12 to 18 carbon atoms; the weight ratio of said (*a*) to said (*b*) ingredient being at least 2 to 1.

2,976,212
HYALURONIDASE WITH HEPARIN OR HEPARINOIDS IN OINTMENT COMPOSITIONS
Hermann Friedrich and Rudolf Gosswald, Wuppertal-Elberfeld, Germany, assignors to Schenley Industries, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 25, 1957, Ser. No. 698,353
Claims priority, application Germany Dec. 1, 1956
8 Claims. (Cl. 167—63)

1. A stable ointment comprising an anhydrous sterile ointment base containing about 0.1% to 1.0% of hyaluronidase and about 0.1% to 2% of a member of the group consisting of heparin and an anti-coagulant sulfated polysaccharide, calculated on the weight of the ointment base.

2,976,213
INJECTABLE SKELETAL MUSCLE RELAXANT
Robert S. Murphey, Richmond, Va., assignor to A. H. Robins Company, Inc., Richmond, Va., a corporation of Virginia
No Drawing. Filed Nov. 18, 1959, Ser. No. 853,707
10 Claims. (Cl. 167—65)

1. A pharmaceutical preparation comprising a sterile aqueous solution of polyethylene glycol having a molecular weight of approximately three hundred containing about 40 to 55% by volume of said polyethylene glycol and a proportion of methocarbamol within the range of about 5% to about 12% by weight of said solution.

2,976,214
SEALING COAT FOR TABLETS AND SIMILAR ARTICLES
Tadao Ida, Gose-shi, Nara-ken, Japan, assignor to Tanabe Seiyaku Co., Ltd., Osaka, Japan
No Drawing. Filed June 22, 1959, Ser. No. 821,635
2 Claims. (Cl. 167—82)

1. A protective coating for application to material in solid form and adapted for oral ingestion comprising a water insoluble, acid-soluble film-forming material selected from the group consisting of polyvinyl diethylaminoacetal, polyvinyl benzylaminoacetal, polyvinyl piperidinoacetal, copolymers of vinyl diethylaminoacetal with vinyl acetate, copolymers of vinyl pipefidinoacetal with vinyl acetate, copolymers of N,N-diethylvinylamine with vinyl acetate, copolymer of N-benzylvinylamine with vinyl acetate, copolymer of N-hydroxyethylvinylamine with vinyl acetate and copolymer of N-vinylpiperizine with vinyl acetate.

2,976,215
PERMANENT WAVING OF HAIR
Gregoire Kalopissis and André Viout, Paris, France, assignors to Société Anonyme dite Societe Monsavon-l'Oreal, Paris, France, a corporation of France
No Drawing. Filed Apr. 9, 1959, Ser. No. 805,135
Claims priority, application France Apr. 17, 1958
9 Claims. (Cl. 167—87.1)

1. A freshly prepared composition suitable for application to hair as a step in the permanent waving thereof comprising, in aqueous solution a mercapto derivative of the general formula

$$R—CO—S—CH(R_1)—CO—NHR_2$$

where R is a radical selected from the group consisting of a lower alkyl group having from 1 to 3 carbon atoms and a carboxy alkyl group having from 2 to 5 carbon atoms and R_1 and R_2 are members selected from the group consisting of hydrogen and a lower alkyl residue containing from 1 to 3 carbon atoms and a nitrogen base, said composition having a pH within the range of about 5 to 9.5, the amount of nitrogen base being from 1 to 5 moles and preferably of 1 to 3 moles, per mole of mercapto derivative.

2,976,216
PERMANENT WAVING AGENT
Louis E. De Mytt, Chicago, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Massachusetts
No Drawing. Filed Nov. 4, 1959, Ser. No. 850,760
7 Claims. (Cl. 167—87.1)

1. A dry solid composition soluble in an aqueous medium to form a hair waving lotion comprising (1) one molecular proportion of a member of the class consisting of thioparaconic acid, alkali metal salts of thioparaconic acid, alkaline earth metal salts of thioparaconic acid, ammonium salt of thioparaconic acid, mono-(lower alkyl)-amine salts of thioparaconic acid, di-(lower alkyl)-amine salts of thioparaconic acid, mono-(hydroxy-substituted lower alkyl)-amine salts of thioparaconic acid, and di-(hydroxy-substituted lower alkyl)-amine salts of thioparaconic acid, and (2) a non-volatile alkaline material including at least one molecular proportion of a non-volatile amine having the structure



wherein R and R' are selected from the class consisting of hydrogen, lower alkyl groups, and hydroxy-substituted lower alkyl groups, the total quantity of said alkaline material being in excess of the amount required to react with the first said member to form an amide salt, the amount of said excess being up to 0.8 equivalent proportion.

2,976,217
SUNSCREENING AGENTS
Saul L. Kreps, Cedar Grove, N.J., assignor to Van Dyk & Company, Inc., a corporation of New Jersey
No Drawing. Filed Aug. 20, 1957, Ser. No. 679,121
9 Claims. (Cl. 167—90)

1. A composition for application to the human skin for protection against ultraviolet rays comprising a cosmetic carrier having distributed therethrough a small amount of a substance having the following formula:

$$R_1—CH=N—C_6H_4—COOR_2$$

wherein R_1 represents a radical taken from the class consisting of hydrogen, lower alkyl, and aryl; and R_2 represents a radical taken from the class consisting of lower alkyl.

2,976,218
PRODUCTION OF L-LYSINE FROM SYNTHETIC DIAMINOPIMELIC ACID
Bert S. Gorton, Wilmington, Del., and Norman L. Hause, West Chester, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 20, 1958, Ser. No. 722,638
9 Claims. (Cl. 195—29)

1. The process for converting chemically synthesized diaminopimelic acid containing a substantial proportion of D-diaminopimelic acid to L-lysine which comprises treating the diaminopimelic acid with monodecarboxylation enzymes in aqueous solution at 20° to 45° C. and a pH of 6.5 to 8.5, to produce a reaction mixture containing L-lysine and unchanged D-diaminopimelic acid separately recovering the L-lysine produced and unchanged diaminopimelic acid from the reaction mixture, racemizing the recovered diaminopimelic acid by heating in aqueous acid solution at 125° to 230° C. until treatment of the racemized diaminopimelic acid with monodecarboxylation enzymes as before will convert a major part of the racemized diaminopimelic acid to L-lysine, so treating the racemized diaminopimelic acid with enzymes to produce L-lysine, and recovering the additional L-lysine produced from the reaction mixture.

2,976,219
METHOD FOR INCREASING THE PRODUCTION OF STARCH-HYDROLYZING ENZYMES
Koichi Yamada, RA24 Honcho-dori, Nakano-ku, Tokyo, Japan
No Drawing. Filed Aug. 3, 1959, Ser. No. 831,025
8 Claims. (Cl. 195—62)

1. In a process for the production of starch-hydrolyzing enzymes selected from the group consisting of dextrinogenic amylase and saccharogenic amylase by the fermentation of a nutrient medium with an enzyme-producing microorganism selected from the group consisting of dextrinogenic amylase-producing microorganisms and saccharogenic amylase-producing microorganisms, the improvement which consists of incorporating in said nutrient medium a material selected from the group consisting of phytic acid and non-toxic salts of phytic acid in amounts sufficient to improve the yields of said starch-hydrolyzing enzymes.

2,976,220
PROCESS FOR THE CONVERSION OF BENZIMIDAZOLE-CONTAINING VITAMIN B_{12} FACTORS, PARTICULARLY FACTOR III, TO VITAMIN B_{12}
Elisabeth Becher, Stockstadt (Main), and Konrad Bernhauer and Georg Wilhelm, Aschaffenburg, Germany, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 4, 1959, Ser. No. 791,010
Claims priority, application Germany Feb. 19, 1958
1 Claim. (Cl. 195—114)

A process for the preparation of vitamin B_{12} which comprises growing *Propionibacterium shermanii* in a culture medium comprising factor III and 5,6-dimethylbenzimidazole under anaerobic conditions.

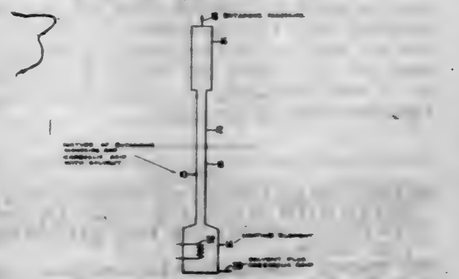
2,976,221
PROCESS FOR CONVERSION OF PURINE-CONTAINING TO BENZIMIDAZOLE-CONTAINING VITAMIN B_{12}-FACTORS
Elisabeth Becher, Stockstadt (Main), and Konrad Bernhauer and Georg Wilhelm, Aschaffenburg, Germany, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 4, 1959, Ser. No. 791,011
Claims priority, application Germany Feb. 8, 1958
1 Claim. (Cl. 195—114)

A process for the preparation of vitamin B_{12} which comprises growing *Propionibacterium shermanii* in a culture medium comprising a purine-containing vitamin B_{12}-factor selected from the group consisting of pseudovitamin B_{12}, factor A and 2-methylmercaptoadenine-cobalamine analog, in the presence of a compound selected from the group consisting of 5,6-dimethylbenzimidazole and 5(6)-hydroxybenzimidazole.

2,976,222
PROCESS FOR THE BIOSYNTHETIC CONVERSION OF INCOMPLETE ACID VITAMIN B_{12} FACTORS TO VITAMIN B_{12}
Elisabeth Becher, Stockstadt (Main), and Konrad Bernhauer and Georg Wilhelm, Aschaffenburg, Germany, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 4, 1959, Ser. No. 791,025
Claims priority, application Germany Feb. 23, 1958
1 Claim. (Cl. 195—114)

A process for the preparation of vitamin B_{12} which comprises growing *Propionibacterium shermanii* in a culture medium comprising at least one acidic incomplete vitamin B_{12}-factor selected from the group consisting of etiocobalamine carboxylic acid and etiocobalamine phosphoribose and 5,6-dimethylbenzimidazole under anaerobic conditions.

2,976,223
RECOVERY OF BUTADIENE MONOXIDE BY EXTRACTIVE DISTILLATION
Malcolm Korach and Walter Henry Rideout, Corpus Christi, Tex., assignors to Columbia-Southern Chemical Corporation, Allegheny County, Pa., a corporation of Delaware
Filed June 4, 1957, Ser. No. 663,392
10 Claims. (Cl. 202—39.5)

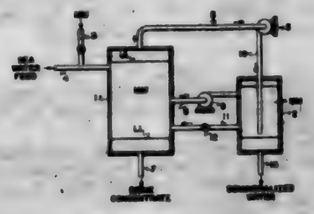


1. A method of separating butadiene monoxide from acetic acid which comprises passing vapors of an organic solvent, which is inert to butadiene monoxide and acetic acid and which is capable of dissolving an appreciable concentration of butadiene monoxide, having a boiling point between the boiling points of acetic acid and the butadiene monoxide in contact with a liquid mixture of the butadiene monoxide and the acetic acid thereby forming a vapor mixture of butadiene monoxide and said solvent and recovering said vapor mixture from said liquid mixture.

2,976,224
VAPORIZATION BY MOLTEN MATERIAL
Edwin R. Gilliland, Arlington, Mass., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 22, 1958, Ser. No. 710,505
12 Claims. (Cl. 202—74)

1. A process for vaporizing a liquid from a less volatile component of a feed mixture which comprises contacting said feed mixture in a vaporization zone with a molten material heated to a temperature near and above its solidification temperature and higher than the temperature of said feed mixture, said molten material being less volatile than said liquid, in proportions such as to effect a partial solidification of said molten ma-

terial and to effect vaporization of a substantial portion of said liquid by means of the heat evolved from said solidification, stratifying the unvaporized portion of said feed mixture as a phase separate from said molten material in a stratification zone, withdrawing vapors from



said vaporization zone, withdrawing said unvaporized portion of said feed from said stratification zone, circulating said molten material and solidified particles thereof through a heating zone wherein said solidified particles are remelted, and recycling molten material from said heating zone to said vaporization zone.

2,976,225

ELECTRODEPOSITION OF NICKEL

Donald Gardner Foulke, Watchung, William B. Stoddard, Jr., Matawan, Otto Kardos, Red Bank, and Walter B. Kleiner, Plainfield, N.J., assignors to Hanson-Van Winkle-Munning Company, a corporation of New Jersey

No Drawing. Filed Mar. 3, 1959, Ser. No. 796,760
1 Claim. (Cl. 204—49)

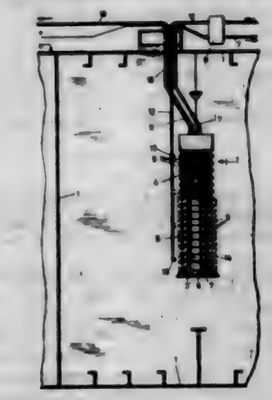
A process for producing a corrosion-resistant nickel electrodeposit substantially smoother than the basis metal to which it is applied which comprises electrodepositing nickel from an aqueous acidic solution of at least one nickel salt at a temperature in the range from about 135° F. to about 180° F. and at a pH from 3.0 to 4.5 while maintaining a saturation concentration of 3-bromocoumarin in the solution.

2,976,226

METHOD OF CATHODIC PROTECTION OF TANKS FILLED WITH SEA-WATER USING AN APPLIED VOLTAGE AND MEANS FOR EXECUTION OF THE METHOD

Eilif Risberg, Sentralinstitutt for industriell Forskning, Forskningsveien 1, Blindern, Oslo, Norway

Filed July 5, 1957, Ser. No. 670,259
Claims priority, application Norway July 5, 1956
3 Claims. (Cl. 204—147)



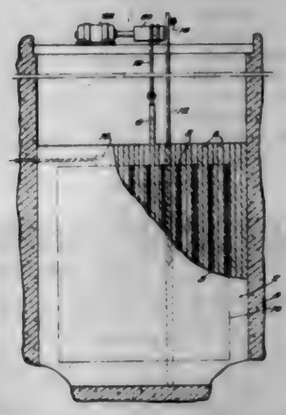
1. The method of protecting tanks filled with sea water against corrosion, which comprises positioning within the tank, a hollow insoluble anode having a wall formed for the passage of liquid therethrough, applying a voltage to said anode to cause a current to flow between said anode and the interior surface of the tank, the tank being the cathode, and to create anode products in a zone around said anode, reducing the pressure within the hollow of said anode with respect to the pressure in the sea water surrounding said anode to cause liquid to be drawn through the wall of said anode and removing said anode products from said zone around said anode by carrying said products through said wall by said liquid drawn therethrough.

2,976,227

NEUTRONIC REACTOR

John A. Wheeler, Princeton, N.J., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 13, 1945, Ser. No. 634,859
1 Claim. (Cl. 204—193.2)



A neutronic reactor having an active portion comprising slabs of uranium and slabs of a moderator selected from the group consisting of beryllium and graphite, said slabs extending across the entire cross-sectional area of the active portion, the thickness of the uranium slabs and the volume ratio of moderator to uranium being within the area encompassed by the $K=1.00$ curves of Figs. 2 and 3 for beryllium and graphite moderator respectively, on the side thereof wherein less than the optimum amount of moderator is present and means coupled to at least one of said moderator slabs for adjusting the relative position of said slab with respect to the active portion whereby withdrawal of the slab from the active portion reduces the moderator to fuel ratio thereby reducing the value of K and insertion of the slab into the active portion increases the moderator to fuel ratio thereby increasing the value of K.

2,976,228

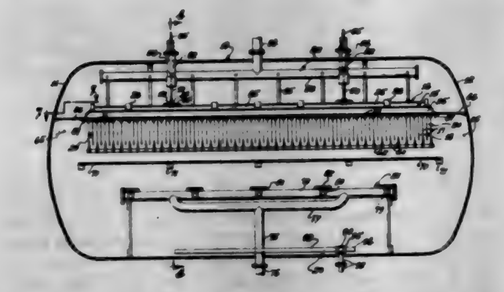
ELECTRIC TREATER

Logan C. Waterman and William L. Shirley, Houston, Tex., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

Filed May 14, 1957, Ser. No. 659,168
15 Claims. (Cl. 204—302)

1. An electric treater for reducing the dispersed material in an oil-continuous dispersion, said treater including: a container; a support structure; insulator means depending from top portions of the container suspending said support structure horizontally in an upper zone of said container, said support structure including a pair of parallel widely-spaced support members having positions equally spaced along the lengths thereof; a hanger

connected to each support member at each of said positions; a plurality of planar electrodes each having a pair of openings near its upper edge, said openings of each electrode being linked with a pair of said hangers on the respective support members for free hinging of such electrode in a direction transverse to its plane, said hangers hanging said electrodes vertically in parallel relation with electrode spacings determined by the fixed and equal spacings of said hangers, said plurality of planar electrodes forming a first electrode set; a second support structure in said upper zone of said container including a second pair of parallel widely-spaced support members having positions therealong spaced equally from each other, such spacings being equal to the spacings of said positions of said first-named support members; a second hanger connected to each support member of said second pair at each of said positions therealong; a second plurality of planar electrodes each having a pair of openings near its upper edge linked with a pair of



the hangers on the respective second-pair support members for free hinging of the corresponding electrode in a direction transverse to its plane, said second plurality of planar electrodes constituting a second electrode set, said second hanger suspending and spacing the electrodes of said second set to bisect the spaces between the electrodes of said first set to form upright treating spaces of equal width each bounded by an electrode of said first set and an electrode of said second set, said insulator means electrically insulating the electrodes of said first and second sets from each other; means for supplying to said first electrode set a high-voltage potential to establish electric fields in said treating spaces; means for delivering the dispersion to be treated to said treating spaces, the electrically treated constituents settling in said container to form upper and lower bodies respectively in said upper zone of said container and in a lower zone thereof; and effluent means respectively communicating with said upper and lower zones for withdrawing separated constituents therefrom.

2,976,229

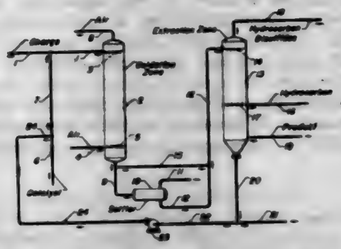
PURIFICATION OF ACID OILS

Kenneth M. Brown, Hinsdale, and William K. T. Gleim, Island Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Apr. 24, 1959, Ser. No. 808,721
10 Claims. (Cl. 208—3)

1. A process for removing mercaptans from an alkaline solution of acid oils containing mercaptans, which comprises oxidizing said mercaptans to disulfides in the presence of a phthalocyanine catalyst, and thereafter extracting disulfides from said solution by contacting the same with a solvent consisting essentially of a normally liquid hydrocarbon fraction and preferentially dissolving said disulfides in said hydrocarbon fraction.

2. A process for removing mercaptans from an alkaline solution of acid oils containing mercaptans, which comprises oxidizing said mercaptans to disulfides in the presence of a phthalocyanine catalyst, passing the products into a settling zone, in which an upper disulfide layer separates, separately withdrawing and removing said disulfides, and thereafter extracting additional disulfides



from said solution by contacting the same with a solvent consisting essentially of a normally liquid hydrocarbon fraction and preferentially dissolving said disulfides in said hydrocarbon fraction.

2,976,230

TAR VAPOR TREATMENT

Durward L. Emery, St. Clair Township, St. Clair County, Ill., and Eugene W. Bennett, Rockdale, Tex., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 1, 1958, Ser. No. 732,283
1 Claim. (Cl. 208—8)

In the process of recovering tar comprising carbonizing bituminous material, continuously conducting a stream of the resultant tar vapor containing particulate matter through dust collecting means, removing a substantial portion of the said particulate matter from the said stream in the said dust-collecting means, and condensing tar from the said stream subsequent to passage of the stream through the said dust-collecting means, the improvement comprising the steps of quenching the said stream between the said particulate removing step and the said condensing step sufficiently to condense part of the tar therein and remove particulate matter from the stream in the resultant condensate, and feeding the said condensate into the said tar vapor stream at a point intermediate the said carbonizing step and the said particulate-removing step in further operation of the said process.

2,976,231

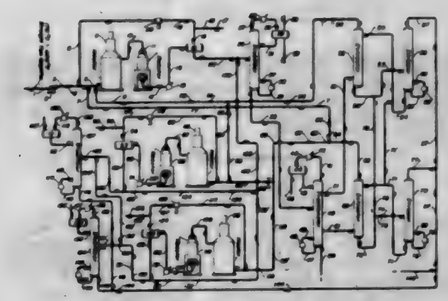
PRODUCTION OF AN AROMATIC FUEL BY SOLVENT EXTRACTION OF THE REFORMATE FRACTIONS

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed June 22, 1959, Ser. No. 822,156
7 Claims. (Cl. 208—96)

1. A process for the production of an aromatic fuel product which comprises catalytically reforming a gasoline boiling range fraction in the presence of hydrogen separating substantially all of the gasoline boiling hydrocarbons from the reforming step into a low boiling fraction having an end boiling point of about 250° F. and

a high boiling fraction having an initial boiling point of about 250° F. and boiling within the gasoline range, subjecting said low boiling fraction to solvent extraction with an aqueous polyethylene glycol solvent at extraction conditions selective for the separation of benzene and toluene, substantially free of non-aromatics, from a paraffinic raffinate substantially free of aromatic hydrocarbons, subjecting said high boiling fraction to solvent extraction with an aqueous glycol solvent comprising a polyethylene glycol at extraction conditions selective for the separation of aromatic hydrocarbons boiling above about 250° F. substantially free of non-aromatics, the



solvent extraction of said high boiling fraction being effected at extraction conditions at which the solvent has greater solvent capacity for the aromatic components contained in the fraction than the first-mentioned extraction conditions and characterized by at least one of the following conditions compared to the extraction of said low boiling fraction: a lesser amount of water in the solvent, the presence of dipropylene glycol in the solvent, a greater solvent to feed ratio, and a higher temperature of extraction, and thereafter mixing the resulting aromatic extracts recovered from each of said low boiling and high boiling fractions.

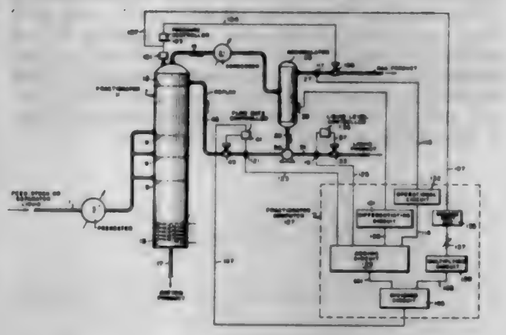
2,976,232
PLATINUM-ALUMINA-CERIA HYDROFORMING CATALYST AND PROCESS
Walter James Porter, Jr., Warren Maxwell Smith, and Robert Edward Schexnailder, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Jan. 19, 1959, Ser. No. 787,348
6 Claims. (Cl. 208—138)

4. A method of reforming hydrocarbon fractions boiling in the naphtha boiling range which comprises contacting naphtha vapors in admixture with hydrogen at temperatures of from 800 to 1000° F. and pressures of from about 100 to 1000 p.s.i.g. with a catalyst consisting essentially of from about 0.01 to 5.0 wt. percent of a platinum group metal in combination with from 0.05 to 5.0 wt. percent of ceria as the catalytic metal components supported upon an adsorptive alumina-containing carrier.

2,976,233
REMOVAL OF VANADIUM FROM PETROLEUM OILS BY OXIDATION
Joel Selbin, Baton Rouge, La., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Oct. 22, 1957, Ser. No. 691,526
5 Claims. (Cl. 208—251)

1. A method of removing vanadium from petroleum hydrocarbon oils containing vanadium combined therein as a tetravalent vanadium porphyrin complex which consists essentially in the steps of oxidizing said vanadium to the pentavalent condition and then separating it from the oil.

2,976,234
CONTROL OF FRACTIONATING COLUMNS
William O. Webber, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed July 10, 1959, Ser. No. 826,281
6 Claims. (Cl. 208—350)



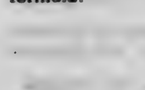
5. The method of operating a fractionating system having a fractionating column including a plurality of vertically disposed fractionating plates, an overhead products line from the column feeding a condensate receiver, and a reflux line for returning a portion of the liquid products from the condensate receiver to the fractionating column, said method comprising: measuring the flow rate of overhead products withdrawn from the fractionating system, the rate of change of liquids in the condensate receiver, the absolute pressure in the space in the column above the topmost plate, and the flow rate of reflux into the column, measuring the entrainment constant of the column; producing a first electrical signal indicative of the sum of said flow rate of products, said rate of change of liquids into the condensate receiver, and said flow rate of reflux; producing a second electrical signal indicative of the product of said entrainment constant and the square root of the absolute pressure in the space above the top-most fractionating plate producing a third electrical signal indicative of the ratio between said first and second electrical signals; and regulating the rate of flow of reflux in accordance with variations in said third electrical signal to keep said third electrical signal at a value corresponding to a value of unity for said ratio.

2,976,235
DRILLING FLUIDS CONTAINING SYNTHETIC RESINOUS MATERIALS
Russell L. Sperry, Ojai, Calif. (% Keystone Labs Inc., 340 E. Santa Clara St., Ventura, Calif.)
No Drawing. Filed Jan. 29, 1959, Ser. No. 789,776
8 Claims. (Cl. 252—8.5)

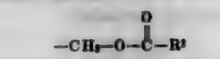
1. A well-drilling fluid comprising: water; clayey solids; and alkali metal salts produced by charring lignin materials to char resins with an acid selected from the group consisting of sulfuric acid, sulfur trioxide, and hydrochloric acid at temperatures between from about 150° F. to about 350° F. to yield a char substantially insoluble in alkali metal hydroxide below 350° F., and reacting the resultant char resins with alkali metal hydroxides at temperatures between from about 450° F. to about 600° F. to produce water-soluble alkali metal salts of high-molecular-weight organic acids, the metal salts being in the proportion of about one-fourth pound to about twenty pounds per forty-two-gallon barrel of fluid.

2,976,236
PROCESS FOR THE CONTROL OF BACTERIA IN WATER FLOODING OPERATIONS
Edward O. Bennett, Houston, Tex., and Edward B. Hodge, Terre Haute, Ind., assignors to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Oct. 3, 1958, Ser. No. 765,832
12 Claims. (Cl. 252—8.55)

1. In the process of secondary oil recovery characterized by the step of injecting flooding water into oil bearing subterranean formations to displace portions of the residual oil therein, the improvement comprising having present in said injected flooding water in excess of 2–5 p.p.m. of a nitroester having the following structural formula:



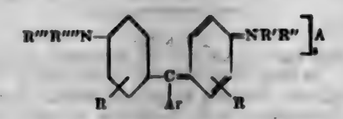
where R is selected from the group consisting of hydrogen, chloro, bromo, methyl, ethyl and propyl; R^1 is selected from the group consisting of alkyl having up to four carbon atoms and

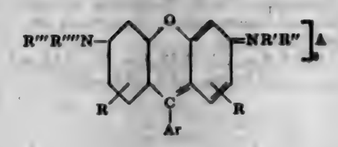


and R^2 is alkyl having up to twenty carbon atoms, to inhibit the growth of bacteria within said formations.

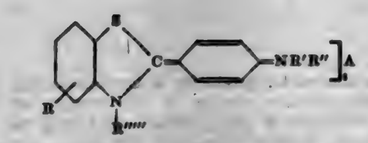
2,976,237
LUBRICATING GREASES THICKENED WITH REACTION PRODUCTS OF ARYLAMINE DYES WITH PHOSPHOMOLYBDIC, PHOSPHOTUNGSTIC AND PHOSPHOTUNGSTOMOLYBDIC ACIDS IN ADMIXTURE WITH ULTRAMARINE BLUE
Norman R. Odell, Fishkill, and Joseph Francis Lyons, Wappingers Falls, N.Y., assignors to Texaco Inc., a corporation of Delaware
No Drawing. Filed Aug. 13, 1957, Ser. No. 677,822
6 Claims. (Cl. 252—28)

1. A lubricating grease consisting essentially of a lubricating oil thickened to a grease consistency by a mixture in about a 1:3 to 3:1 ratio by weight of ultramarine blue in the form of particles below about 3 microns in diameter and a high melting organic compound selected from the class of compounds represented by the following formulas:





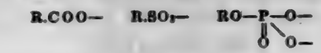
and



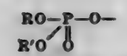
wherein Ar is chosen from the group consisting of phenyl, naphthyl and substituted phenyl and naphthyl groups, R and R'''' are chosen from the group consisting of hydrogen and lower alkyl groups, R', R'', R''' and R'''' are chosen from the group consisting of hydrogen, hydrocarbon groups and substituted hydrocarbon groups, at least one group represented by R' and R'' being chosen from the group consisting of hydrocarbon and substituted hydrocarbon groups, and A is the anion of a heteropoly acid chosen from the group consisting of phosphomolybdic, phosphotungstic and phosphotungstomolybdic acids, said organic compound being in the form of particles below about 5 microns in diameter.

2,976,238
OIL-BASED COMPOSITIONS
John Scotchford Elliott and Eric Deecamp Edwards, London, England, assignors to Castrol Limited, a British company
No Drawing. Filed Dec. 19, 1957, Ser. No. 703,753
Claims priority, application Great Britain Dec. 24, 1956
8 Claims. (Cl. 252—32.5)

1. An oil-based composition consisting essentially of a lubricating oil having incorporated therein from 2% to 30% by weight of an oil-soluble complex ammino compound having the general formula $M_xA_yB_z$, wherein M is selected from the group consisting of zinc, cadmium, cobalt, tin, lead, nickel and chromium; A is selected from the group consisting of



and



where R and R' are selected from the group consisting of alkyl, cycloalkyl, aralkyl and aryl groups; and B is a long-chain diamine having a general formula

$$R''—NHCH_2CH_2CH_2NH_2$$

where R'' is an alkyl group having from 8 to 18 carbon atoms; x and y are small integers satisfying the valency requirements of M and A, and z is a small integer such that the coordination number of M is at least partially satisfied.

2,976,239
LUBRICANT COMPOSITION CONTAINING NON-CORROSIVE SULFURIZED TERPENES
Albert R. Sabel, Munster, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Original application Feb. 27, 1957, Ser. No. 642,635, now Patent No. 2,910,462, dated Oct. 27, 1959. Divided and this application Dec. 18, 1958, Ser. No. 781,199
5 Claims. (Cl. 252—32.7)

1. A lubricant composition substantially non-corrosive to silver comprising a major proportion of a lubricating oil and from about 0.01% to about 10% of a sulfurized terpene substantially non-corrosive to silver, obtained by the method comprising treating a sulfurized terpene, normally corrosive to silver, with from about 20% to about 30% of an alkane monobasic carboxylic acid, containing from 1 to about 4 carbon atoms in the alkyl group, at a temperature of from about 32° F. to about 40° F. while bubbling anhydrous HCl through the reaction mixture, maintaining the acid-treated sulfurized terpene at a temperature of from about 32° F. to about 40° F. for a period of from about 3 to about 5 hours, and washing the cooled reaction mixture with a dilute alkane alcohol solution to remove the alkane monobasic carboxylic acid, and heating the washed product at a temperature of from about 212° F. to about 220° F.

2,976,240
FOAM-INHIBITED AQUEOUS OIL EMULSIONS
William I. Gilbert, Oakmont, and Arthur C. Whitaker, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Oct. 21, 1958, Ser. No. 768,563
3 Claims. (Cl. 252—33.4)

3. An aqueous oil emulsion of reduced foaming properties comprising a major amount of water, at least about 5 percent by volume of an emulsifiable oil comprising from about 50 to about 95 percent by weight of a mineral lubricating oil and from about 5 to about 50 percent by weight of emulsifying agent, and about 0.001 to about 1.0 percent by weight of a branched-chain trioctylamine.

2,976,241
LUBRICATING GREASE COMPOSITIONS CONTAINING NOVEL SOAP-SALT COMPLEXES
Arnold J. Morway, Clark, and Alfred H. Matuszak, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed June 30, 1955, Ser. No. 519,280
7 Claims. (Cl. 252—33.6)

1. A lubricating grease composition comprising a major proportion of a lubricating oil thickened to grease consistency with a soap-salt complex, said complex being prepared at a temperature of about 450° to 550° F. and consisting essentially of a metal salt of acetic acid, a metal salt of an amino-carboxylic acid having the formula

$$NH_2(CH_2)_xCOOH$$

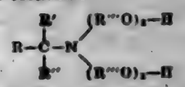
wherein x is an integer from 3 to 5, and a metal soap of a high molecular weight carboxylic acid having from about 12 to 30 carbon atoms per molecule, the mol ratio of amino-carboxylic acid to high molecular weight acid being about 1:1 to 10:1, the mol ratio of acetic acid to both the amino-carboxylic acid and the high molecular weight carboxylic acid being about 0.5:1 to 20:1, and the metal constituent of said salts and soap being selected from the group consisting of alkaline earth metals, alkali metals and zinc.

2,976,242
LUBRICATING GREASE COMPOSITIONS
Arnold J. Morway, Clark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 1, 1955, Ser. No. 498,743
8 Claims. (Cl. 252—35)

1. A lubricating grease composition which comprises a lubricating oil thickened to grease consistency within the range of 5 to 40 wt. percent of a complex of a metal salt of acetic acid, a metal salt of a medium molecular weight carboxylic acid containing from about 3 to 10 carbon atoms, and a metal soap of a high molecular weight carboxylic acid containing from about 12 to 22 carbon atoms, wherein the mol ratio of acetic to the other carboxylic acids is at least 4:1, the mol ratio of medium to high molecular weight acids is in the range of 0.5:1 to 10:1 the average difference in number of carbon atoms per molecule between the high and the medium molecular weight carboxylic acids is at least 7, the metal constituent of said soaps and salts is selected from the group consisting of alkaline earth metals and zinc, and said complex is prepared at a temperature in the range of 400° to 550° F.

2,976,243
STABLE CALCIUM ACETATE-MINERAL OIL DISPERSION
Arnold J. Morway, Clark, N.J., and John O. Smith, Jr., Swampscott, Mass., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 1, 1957, Ser. No. 693,820
7 Claims. (Cl. 252—40.7)

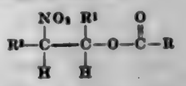
1. A dehydrated lubricating composition comprising a major portion of lubricating oil, about 2.5 to 30.0 wt. percent of anhydrous calcium acetate as the sole salt component and about 0.1 to 10.0 wt. percent of an amine having the general formula:



wherein R, R' and R'' are C_1 to C_{18} alkyl radicals, and R, R' and R'' combined contains a total of 16 to 36 carbon atoms, R''' is a C_2 to C_4 aliphatic hydrocarbon radical and x is 0 to 10.

2,976,244
PETROLEUM LUBRICANTS STABILIZED WITH NITROESTERS
Edward O. Bennett, Houston, Tex., assignor to Commercial Solvents Corporation, Terre Haute, Ind., a corporation of Maryland
No Drawing. Filed June 27, 1958, Ser. No. 744,918
3 Claims. (Cl. 252—51.5)

1. A stabilized liquid petroleum composition consisting essentially of a petroleum hydrocarbon lubricant and a small but sufficient amount to inhibit bacterial growth in said liquid petroleum composition of a nitroester having the following structural formula:

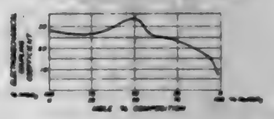


where R is selected from the group consisting of phenyl, methyl, ethyl, and propyl; R^1 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl; and R^2 is selected from the group consisting of hydrogen, methyl, ethyl, and propyl.

2,976,245
ESTERS OF 1,4-BUTANEDIOL AND 1,2,4-BUTANETRIOL AS RUST INHIBITORS
Joseph P. Copes, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 13, 1957, Ser. No. 665,611
5 Claims. (Cl. 252—57)

1. A corrosion inhibited petroleum hydrocarbon composition consisting esentially of a major amount of a petroleum hydrocarbon and a minor effective corrosion inhibiting amount of a compound selected from the group consisting of oleic acid esters of 1,4-butanediol and 1,2,4-butanetriol and dimerized linoleic acid esters of 1,4-butanediol and 1,2,4-butanetriol.

2,976,246
METHOD OF MANUFACTURE OF POTASSIUM-SODIUM-NIOBATE CERAMICS
Lawson Egerton, Basking Ridge, and Steward S. Flaschen, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 28, 1958, Ser. No. 731,465
5 Claims. (Cl. 252—62.9)

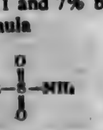


1. The method of producing a ceramic in the potassium-sodium-niobate system in the range of from $K_3Na_{.1}(NbO_3)$ to $K_{.1}Na_3(NbO_3)$ comprising the steps of combining sodium carbonate (Na_2CO_3), potassium carbonate (K_2CO_3) and niobium pentoxide (Nb_2O_5) in proportions such that the ratio of the moles of niobium pentoxide to the sum of the moles of potassium carbonate and sodium carbonate is approximately unity and the ratio of the moles of sodium carbonate to the moles of potassium carbonate is in the range of from approximately 1:9 to 9:1 and corresponds to the ratio of the moles of sodium to the moles of potassium in the ceramic being produced, calcining the mixture at a temperature in the range of 750° C. to 1050° C. molding the calcined material into a desired shape, and firing the shape in accordance with the following schedule:

Composition, $K_xNa_{1-x}(NbO_3)$	Firing Temperature Range, 1,030° C. to 1,075° C.
$K_3Na_{.1}(NbO_3)$ to $K_2Na_{.8}(NbO_3)$.	The outer limits of the firing range for $K_3Na_{.1}(NbO_3)$ are increased at a rate of 1.5° C. for a 1 percent increase in the ratio of the moles of sodium to the sum of the moles of sodium and potassium, to give a firing range of 1,120° C. to 1,190° C. for a composition corresponding to $K_2Na_{.8}(NbO_3)$.
$K_2Na_{.8}(NbO_3)$ to $K_{.1}Na_3(NbO_3)$.	The outer limits of the firing range for $K_2Na_{.8}(NbO_3)$ are increased at a rate of 12.5° C. for a 1 percent increase in the ratio of the moles of sodium to the sum of the moles of sodium and potassium, to give a firing range of 1,260° C. to 1,305° C. for a composition corresponding to $K_{.1}Na_{.8}(NbO_3)$.

2,976,247
CORROSION INHIBITED ANTIFREEZE COMPOSITIONS
James K. Tuttle, Beacon, N.Y., assignor to Texaco Inc., a corporation of Delaware
No Drawing. Filed May 15, 1958, Ser. No. 735,397
13 Claims. (Cl. 252—78)

1. An antifreeze composition adapted to be added to water consisting essentially of a water soluble liquid alcohol and between about 0.1 and 7% by weight of a corrosion inhibitor of the formula



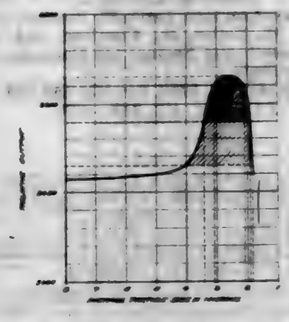
wherein R is a member selected from the group consisting of aryl and alkaryl monovalent hydrocarbon radicals having less than 15 carbon atoms.

2,976,248
BOTTLE WASHING COMPOSITION AND METHOD
Joseph V. Otrhalek, Dearborn, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed Aug. 1, 1957, Ser. No. 675,559
9 Claims. (Cl. 252—156)

1. A composition for washing glassware consisting essentially of a mixture of about 70 to 99 weight percent of an alkaline detergent selected from the group consisting of sodium hydroxide, potassium hydroxide and mixtures thereof, about 0.5 to 29 weight percent of a hydroxy carboxylic acid sequestrant and about 0.5 to 20 weight percent of a corrosion-inhibiting agent, said corrosion-inhibiting agent being a member selected from the group consisting of sodium lignosulfonate, potassium lignosulfonate and mixtures thereof.

2,976,249
METHOD FOR PREPARING CALCIUM HALOPHOSPHATE PHOSPHORS
Henry W. Rinbach, Bloomfield, and Jacob Van Broekhoven, Passaic, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 29, 1956, Ser. No. 606,888
13 Claims. (Cl. 252—301.4)

12. The method of preparing a halophosphate phosphor material comprising: thoroughly mixing calcium oxide, phosphorus pentoxide, manganous carbonate, antimony trioxide, strontium chloride and calcium fluoride in such proportions that the metal to phosphorus molar ratio is from 4.65/3 to 4.92/3, the halide to phosphorus molar ratio is from 1.02/6 to 1.23/6, the chloride to fluoride molar ratio is from 1:6 to 1:1, the antimony expressed as metal is from about 1% to about 4% by weight, and the manganese expressed as metal is from



about 0.7% to about 0.9% by weight; firing in a non-oxidizing atmosphere the mixed raw-mix constituents at a temperature of 1185° C. for a period of three hours; reducing said fired phosphor material in a pebble mill to an average particle size of from 1.8 microns to 4.0 microns; and refiring the reduced phosphor material in a non-oxidizing atmosphere at a temperature of about 1120° C. for two and one-half hours.

2,976,250
MATTE-SUSPENSIONS
Raymond J. Walford, Binghamton, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 17, 1956, Ser. No. 566,076
5 Claims. (Cl. 252—313)

1. A stabilized suspension of silicon dioxide in water consisting essentially of water, silicon dioxide having a particle size ranging from 1 to 10 microns and a quaternary ammonium salt characterized by the following general formula:



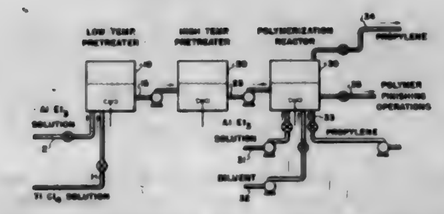
wherein R_1 is a β-hydroxethyl radical, R_2 and R_3 are low molecular weight alkyl radicals having not more than 3 carbon atoms, R_4 is a long chain alkyl radical of from 14 to 18 carbon atoms, and X is a halide selected from the class consisting of chloride and bromide, the amount of silica being from 10 to 200 grams per liter and the amount of the quaternary ammonium salt being from 0.1 to 5 grams per liter.

2,976,251
GLYCEROL FATTY ACID PARTIAL ESTER GELS
George Y. Brokaw and William C. Lyman, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Apr. 19, 1957, Ser. No. 653,728, now Patent No. 2,895,879, dated July 21, 1959. Divided and this application Sept. 22, 1958, Ser. No. 762,284
7 Claims. (Cl. 252—316)

1. A firm, substantially clear gel consisting essentially of a glycerol fatty acid partial ester composition containing at least 75% by weight of monoglycerides having fatty acid radicals with at least 16 carbon atoms and having incorporated therein water in an amount of from 10% to 90% by weight based on said glycerol fatty acid

partial ester composition, said glycerol fatty acid partial ester composition containing less than 10% by weight of glycerides having saturated fatty acid radicals with more than 11 carbon atoms.

2,976,252
TEMPERATURE-STAGED CATALYST PRETREATMENT
Robert F. Leary, Cranford, Lewis W. Bowman, Westfield, and Joseph M. Kelley, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed May 18, 1957, Ser. No. 658,320
3 Claims. (Cl. 252—429)



1. A continuous process for making a normal C_3–C_4 alpha monoolefin polymerization catalyst which comprises continuously agitating a mixture consisting essentially of an aluminum trialkyl, the alkyl group having from 2–4 carbon atoms and a titanium tetrahalide selected from the group consisting of titanium tetrachloride and titanium tetrabromide in a hydrocarbon solution to give a mixture having an Al/Ti ratio of about 0.1/1 to 0.8/1, maintaining the mixture in a first pretreatment zone at a temperature between about 0° and 35° C. and an average residence of about 0.1 to 60 minutes, continuously passing the resulting liquid mixture to at least one subsequent pretreatment zone, and maintaining the mixture in said subsequent pretreatment zone at a temperature of about 55° to 150° C. for an average residence of about 5 to 120 minutes until substantially all titanium is reduced to a valence ranging from about 2.1 to 3.

2,976,253
PROTECTION OF CATALYST
Oliver D. Edwards, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 10, 1958, Ser. No. 766,451
11 Claims. (Cl. 252—436)

1. A method of protecting a pelleted dehydrogenation catalyst from moisture and attrition during handling which comprises coating each catalyst pellet with a thin, continuous film of a normally solid polymer selected from the group consisting of polyethylene and copolymers of ethylene with at least one monoolefin having from 3 to 4 carbon atoms per molecule.

2,976,254
ALDEHYDE HYDROGENATION CATALYST PREPARATION
Ralph Burgess Mason, Denham Springs, La., and Edward W. S. Nicholson, Summit, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Original application Aug. 21, 1953, Ser. No. 375,591, now Patent No. 2,813,911, dated Nov. 19, 1957. Divided and this application Feb. 8, 1957, Ser. No. 638,938
3 Claims. (Cl. 252—439)

1. An improved process for preparing a superior sulfactive molybdenum sulfide hydrogenation catalyst which comprises impregnating preformed activated char pellets with an ammonium molybdate solution, drying the pellets, decomposing said molybdate to the oxide, subjecting said oxide to a hydrogenation reaction to reduce at least a portion of the metal combined therewith to an oxide of a lower valence state, and thereafter sulfiding said reduced material.

2,976,255
WITHDRAWN

2,976,256
BITUMINOUS COMPOSITIONS CONTAINING EPOXY ETHER RESIN AND CHLORINATED RUBBER
Fred Whittier and Raymond J. Lewa, Pittsburgh, Pa., assignors, by mesne assignments, to Pittsburgh Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed May 2, 1957, Ser. No. 656,487
8 Claims. (Cl. 260—3.3)

1. A bituminous composition comprising coal tar pitch, an epoxy ether resin having a 1,2-epoxy equivalency of greater than one, 0.1–5% based on the weight of the total composition of a member of the group consisting of chlorinated rubber and rubber hydrochloride and 1–5% based on the weight of the total composition of a thixotropic agent selected from the group consisting of colloidal silica, quaternary ammonium clays and alcohol esterified amorphous silica, wherein said epoxy ether resin is between 10 and 90% of the mixture of epoxy ether resin and said coal tar pitch.

2,976,257
RE-DISPERSIBLE DISPERSION OF POLYTETRAFLUOROETHYLENE
Harold J. Dawe, Port Huron, Mich., and Earl L. Youse, Berkeley Heights, N.J., assignors to Acheson Industries, Inc., Port Huron, Mich., a corporation of Michigan
No Drawing. Filed Jan. 24, 1958, Ser. No. 710,848
10 Claims. (Cl. 260—14)

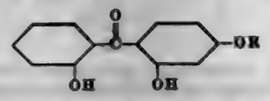
1. A re-dispersible dispersion comprising finely divided polytetrafluoroethylene, at least one thermosettable resin dissolved in a solvent, said dispersion containing less than about 25% combined polytetrafluoroethylene and thermosettable resin solids, by weight of said dispersion, and at least about 5% to about 15% of a stabilizing agent selected from the group consisting of vinyl resins and cellulosic resins, by weight of said said thermosettable resin, said dispersion having the characteristic of settling an amount in the range of about one-fifth to about nine-tenths of the depth of said dispersion in two to five hours.

2,976,258
MOLDING MATERIAL COMPRISING A POLYAMIDE AND A NITRILE OF A HIGHER FATTY ACID, AND PROCESS OF MAKING
Jan Lodewijk Voigt, Arnhem, Netherlands, assignor to N.V. Onderzoekingsinstituut Research, Arnhem, Netherlands, a corporation of Netherlands
No Drawing. Filed Aug. 19, 1958, Ser. No. 755,878
Claims priority, application Netherlands Aug. 21, 1957
3 Claims. (Cl. 260—32.4)

3. A molding material comprising (*a*) a synthetic linear polyamide prepared by polycondensation of a monomer selected from the class consisting of ε-caprolactam and ε-aminocaproic acid in admixture with (*b*) from approximately 0.005% to 2.5% of a lubricant consisting essentially of a nitrile of a saturated higher fatty acid having from 11 to 23 C-atoms, based on the weight of the synthetic linear polyamide.

2,976,259
2,2'-DIHYDROXY-4-ALKOXYBENZOPHENONES AS ULTRAVIOLET LIGHT ABSORBERS FOR RESINS
William B. Hardy, Bound Brook, Warren S. Forster, Basking Ridge, and Ralph A. Coleman, Middlesex, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Sept. 5, 1956, Ser. No. 607,986
8 Claims. (Cl. 260—45.95)

1. A composition of matter which comprises a substantially uniform molecular dispersion of between about 0.001 and about 15.0% by weight of a compound having the structural formula:



wherein R is alkyl in a carrier selected from the group consisting of polyethylene, polypropylene, polyvinyl chloride, a linear super polyamide obtained by condensing an aliphatic polymethylene diamine with an aliphatic dicarboxylic acid, and thermoplastic polymers of a styrene.

2,976,260
POLY-α-OLEFINS CONTAINING CERTAIN 4-ALKOXY-2-HYDROXYBENZOPHENONES AND ALKYLENE-BIS-PHENOLS
Gordon C. Newland and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,697
11 Claims. (Cl. 260—45.95)

1. A solid poly-α-olefin composition comprising a solid poly-α-olefin prepared from an α-monoolefinic aliphatic hydrocarbon having 2 to 6 carbon atoms containing .001% to 10% by weight based on said poly-α-olefin of a stabilizer combination comprising an alkylene-bisphenol selected from the group consisting of 2,2'-methylenebis[4-methyl-6-(1-methylcyclohexyl)phenol] and 4,4'-ethylenedioxybis(2-tert.butyl phenol), and a 4-alkoxy-2-hydroxybenzophenone having an alkoxy group of the formula —OR wherein the R is an alkyl radical having 12 to 14 carbon atoms, the weight ratio of said alkylene-bis-phenol to said 4-alkoxy-2-hydroxybenzophenone being in the range of 1/30 to 30/1.

2,976,261
ETHERS
Kuno Wagner and Erwin Müller, Leverkusen, Germany, assignors, by direct and mesne assignments, of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and of one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Aug. 26, 1957, Ser. No. 680,407
Claims priority, application Germany Sept. 1, 1956
3 Claims. (Cl. 260—52)

1. A method for making a water soluble condensation product which comprises condensing by heating under acid conditions in an inert organic solvent which forms an azeotropic with water a mixture of (1) a compound containing at least two terminal groups selected from the class consisting of N-methylol groups and etherification products of N-methylol groups and monohydroxy alcohols having from 1 to 4 carbon atoms and (2) a polyhydric alcohol selected from the group consisting of an hydroxyethyl ether of propylene glycol, an hydroxyethyl ether of butylene glycol, an hydroxyethyl ether of pentamethylene glycol, an hydroxyethyl ether of hexamethylene glycol, an hydroxyethyl ether of glycerine, an hydroxyethyl ether of trimethylolpropane, an hydroxyethyl ether of pentaerythritol, an hydroxyethyl ether of thiodiglycol, an hydroxyethyl ether of 4,4'-dihydroxydiphenyldimethylmethane, an hydroxypropyl ether of 4,4'-dihydroxydiphenyldimethylmethane, an hydroxyethyl ether of 4,4'-dihydroxydiphenyl sulfone, an hydroxypropyl ether of 4,4'-dihydroxydiphenyl sulfone, and polytetramethylene ether glycol while removing the water of condensation as rapidly as it is formed by azeotropic distillation; said compound having N-methylol groups having been prepared by reacting at a temperature below about 50° C., formaldehyde and a member selected from the group consisting of urea, thiourea, diurea, dithiourea, hydrazodicarbonamide, ethylene urea, ethylene thiourea, and melamine; said compound (1) being substantially water free when mixed with said inert organic solvent.

2,976,262
SOLID STATE POLYMERIZATION
Yun Jen, Anaheim, Calif., and Janet L. Johnson, New Brunswick, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Jan. 6, 1959, Ser. No. 785,112
8 Claims. (Cl. 260—72)

1. In a process for preparing solid polymers which comprises polymerizing vinyl monomers having a melting point above 35° C. and selected from the group consisting of acrylamide, methylol acrylamide, methacrylamide, methylene bisacrylamide and mixtures of said acrylamides with acrylic acid and methacrylic acid with a free radical polymerization catalyst in the solid state and below their melting point, said polymerization being conducted in a non-aqueous medium, said medium being an inert liquid organic nonsolvent for said monomers and for said polymers and having a boiling point in the range of from about 50° C. to 110° C., the improvement which comprises conducting the polymerization in the presence of from about 0.5% to about 20% by weight of an alkyl ester of an alkali metal sulfosuccinic acid salt as dispersant.

2,976,263
SOLID STATE POLYMERIZATION
Yun Jen, Anaheim, Calif., and Janet L. Johnson and Romeo R. Alois, New Brunswick, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Jan. 6, 1959, Ser. No. 785,113
4 Claims. (Cl. 260—72)

1. In a process for preparing solid polymers which comprises polymerizing vinyl monomers having a melting point above 35° C. and selected from the group consisting of acrylamide, methylol acrylamide, methacrylamide, methylene bisacrylamide and mixtures of said acrylamides with acrylic acid and methacrylic acid with a free radical polymerization catalyst in the solid state and below their melting point, said polymerization being conducted in a non-aqueous medium, said medium being an inert liquid organic nonsolvent for said monomers and for said polymers and having a boiling point in the range of from about 50° C. to 110° C., the improvement which comprises conducting said polymerization in the presence of from about 0.5% to about 15% of solid powdered preformed polymer of said vinyl monomers suspended in said medium.

2,976,264
COMPOSITIONS OF MATTER AND METHODS AND STEPS FOR MAKING AND USING THE SAME
Mortimer T. Harvey, South Orange, and Peter L. Rossmilia, Newark, N.J., assignors to Harvel Research Corporation, a corporation of New Jersey
No Drawing. Filed Aug. 29, 1957, Ser. No. 680,923
2 Claims. (Cl. 260—73)

1. A novel composition of matter comprising (II) organic material containing butadiene-furfural reaction

product, said material having viscosity of at least 2000 centipoises at 25° C., softening point (ball and ring) no greater than 180° F. and selected from the group consisting of (*a*) residues obtained in the furfural extractive distillation method for the purification of butadiene, (*b*) residual fractions of (*a*), and polymers of (*a*) and (*b*) respectively, intimately combined with (I) styrene.

2,976,265
PROCESS FOR PREPARING EPOXIDE COMPOSITIONS USING A DEHYDRATED ACID CATION EXCHANGE RESIN CATALYST
John W. Pearce, Racine, Wis., assignor to S. C. Johnson & Son, Inc., Racine, Wis.
No Drawing. Filed Apr. 26, 1955, Ser. No. 504,896
6 Claims. (Cl. 260—75)

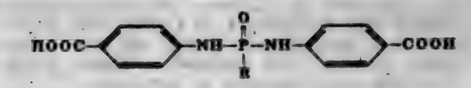
1. In the epoxidation of a hydrophilic organic compound having an olefinic unsaturated aliphatic portion by reacting at below boiling temperatures mixtures of said compound and a perorganic acid selected from the group consisting of peracetic acid, performic acid and perbenzoic acid, the improvement comprising forming said perorganic acid in situ with said organic compound and simultaneously during the epoxidation reaction, by reacting an organic acid selected from the group consisting of acetic acid, formic acid and benzoic acid with hydrogen peroxide in the presence of a dehydrated sulfonic acid cation exchange resin catalyst.

2,976,266
FILM-FORMING POLYESTERS OF BIBENZOIC ACID
Marion R. Lytton, West Chester, and Edward A. Wielicki, Philadelphia, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Oct. 17, 1957, Ser. No. 690,639
8 Claims. (Cl. 260—75)

1. A filament- and film-forming linear interpolyester formed from reactants consisting essentially of p,p'-bibenzoic acid and from about 2.05 to about 2.25 mols of mixed glycols per mol of said acid, said mixed glycols consisting essentially of from 75 to 20 mol percent of a branched chain C_3–C_{10} alkylene glycol and from 25 to 80 mol percent of a straight chain C_3–C_{10} alkylene glycol, said interpolyester melting above 140° C.

2,976,267
SUBSTITUTED PHOSPHONYLIDENE DIIMINO DIBENZOIC ACIDS AND POLYESTERS THEREFROM
John R. Caldwell and James C. Martin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 3, 1958, Ser. No. 718,405
7 Claims. (Cl. 260—75)

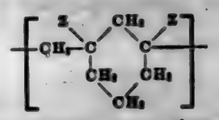
1. A polymeric ester of components (A) a bifunctional dicarboxylic acidic component and (B) a glycol having from 2 to 10 carbon atoms, wherein said component (A) is composed of from 25 to 100 mole percent of (1) a lower dialkyl ester of an acid having the following formula:



wherein R is a member of the group consisting of phenyl and diethylamino radicals and (2) from 0 to 75 mole percent of a different bifunctional dicarboxylic acid.

2,976,268
POLYMER OF 2,6-DISUBSTITUTED HEPTADIENE-1,6
George Noel Milford, Jr., Waynesboro, Va., and Frederick Theodore Wall, Urbana, Ill., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 13, 1958, Ser. No. 721,984
5 Claims. (Cl. 260—77.5)

1. A linear polymer having the recurring structural unit.

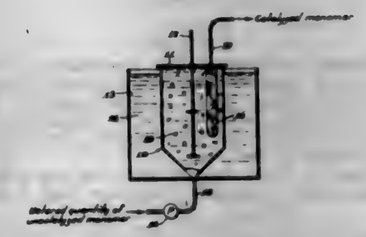


in which Z is a monovalent group selected from the class consisting of cyano, carboxyl, carbamyl, aryl, and alkaryl which does not interfere detrimentally with linear polymerization of 1,6-heptadiene having Z attached to each of the 2- and 6-carbon atoms, said polymer having an inherent viscosity of at least 0.15.

2,976,269
ETHYLENE-SULFUR DIOXIDE POLYMERIZATION AND PRODUCT THUS OBTAINED
Jan Ide de Jong, Landsmeer, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 8, 1955, Ser. No. 533,257
5 Claims. (Cl. 260—79.3)

1. An ethylene-sulfur dioxide interpolymer having adjacent ethylene units in the interpolymer chain, and more than 50 mol percent of the $—CH_2CH_2—$ component, said interpolymer having no components other than ethylene and sulfur dioxide.

2,976,270
PROCESS FOR CONTINUOUSLY METERING CATALYST INTO A POLYMERIZATION SYSTEM
Herbert Malin, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 16, 1956, Ser. No. 571,928
8 Claims. (Cl. 260—92.8)



1. A process for the continuous introduction to an addition polymerization system of an oil-soluble free radical polymerization catalyst to maintain the desired concentration thereof in the system, comprising metering liquid uncatalyzed monomer into a zone containing an amount of said oil-soluble free radical polymerization catalyst in excess of that capable of dissolution at a temperature at which only enough catalyst will dissolve in the monomer to produce a saturated solution thereof at a concentration desired for subsequent polymerization, the metering of said uncatalyzed monomer into said zone being at the desired rate of feed to a subsequent polymerization, and withdrawing said saturated solution of catalyst in monomer from said zone and passing the solution into a polymerization zone.

2,976,271
PROPYLENE POLYMERIZATION
Samuel B. Lippincott, Springfield, Robert M. Thomas, Westfield, Howard T. Oakley, Elizabeth, Robert F. Leary, Cranford, and Robert S. Bradley, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 28, 1955, Ser. No. 543,624
7 Claims. (Cl. 260—93.7)

6. A method for preparing oil-soluble, amorphous polypropylene which comprises polymerizing propylene in the presence of an inert diluent at a temperature of about 25 to 79° C. at a pressure of about 100 to 2000 p.s.i.g. in the presence of a catalyst obtained by mixing aluminum trialkyl, dialkyl aluminum halide and titanium tetrahalide; the molar ratio of aluminum trialkyl to dialkyl aluminum halide being in the range of about 1:1 to 4:1 and the molar ratio of aluminum to titanium being in the range from 2 : 1 to 6 : 1, the alkyl group of said trialkyl aluminum and dialkyl aluminum halide having from 2 to 4 carbon atoms, and the halide being selected from the group consisting of chloride, bromide and iodide.

7. A method for preparing oil-insoluble, crystalline polypropylene which comprises polymerizing propylene in the presence of an inert diluent at a temperature of about 80° C. to 100° C. at a pressure of about 100 to 2000 p.s.i.g. in the presence of a catalyst obtained by mixing aluminum trialkyl, dialkyl aluminum halide, and titanium tetrahalide; the molar ratio of aluminum trialkyl to dialkyl aluminum halide being in the range of about 1:4 to 1:1 and the molar ratio of aluminum to titanium being in the range of 6:1 to 12:1; the alkyl groups of said trialkyl aluminum and dialkyl aluminum halide having from 2 to 4 carbon atoms and the halide being selected from the group consisting of chloride, bromide and iodide.

2,976,272
OLEFIN POLYMERIZATION USING A TRANSITION METAL HALIDE AND A REDUCED AROMATIC HYDROCARBON AS CATALYST
Harry W. Coover, Jr., and Willis C. Wooten, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Feb. 17, 1959, Ser. No. 793,691
13 Claims. (Cl. 260—94.9)

6. In the polymerization of α-monoolefinic hydrocarbon material to form solid crystalline polymer, the improvement which comprises polymerizing the α-monoolefinic hydrocarbon material in the presence of a catalytic mixture consisting essentially of a halide of a transition metal selected from the group consisting of titanium and vanadium and a bis-dihydro unsaturated aromatic hydrocarbon, the molar ratio of halide to aromatic hydrocarbon being within the range of 1:0.25 to 1:4.

2,976,273
TREATMENT OF KRAFT BLACK LIQUOR AND PRODUCT
Frank J. Ball and Richard Pueschel, Charleston, S.C., assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Sept. 10, 1958, Ser. No. 760,185
8 Claims. (Cl. 260—124)

1. The method of treating residual black liquor of the kraft pulping process having a small initial ratio of sulfidic sulfur to total solids inherently present and a considerably larger initial ratio of chemically combined, non-sulfidic sulfur to total solids inherently present, which comprises heating such black liquor, concentrated to a solids content of 25 to 60%, to, and maintaining it in, the range of 220° to 350° C. under a pressure which is at all times at least as great as the vapor pressure of the black liquor at the existing temperature of the black liquor, thereby producing a quantity of dimethyl sulfide whose sulfur content is derived chiefly from the initially non-sulfidic sulfur of the black liquor, and separating and recovering from the back liquor the dimethyl sulfide so produced.

6. A modified lignin product, obtained from black liquor from the kraft process of pulping wood having a small initial ratio of sulfidic sulfur to total solids inherently present and a considerably larger initial ratio of chemically combined non-sulfidic sulfur to total solids inherently present, by heating such black liquor, concentrated to a solids content of 25 to 60%, to, and maintaining it in, the range of 220° to 350° C. under a pressure which is at all times at least as great as the vapor pressure of the black liquor at the existing temperature of the black liquor, and separating the modified lignin product from the black liquor by acidifying the liquor to precipitate the modified lignin product therefrom, said modified product being characterized by having a sulfur content between 0.5 and 2.0% by weight and having, when compared to the kraft lignin from which the modified lignin was prepared, a substantially reduced methoxy content, greater acidic group content, greater ether extractable content, increased reactivity toward oxygen and formaldehyde, and substantially increased solubility in each of acetone, hexanol, and 1:1 mixture of methanol-benzene.

2,976,274
METHOD OF PRODUCING A HIGH VISCOSITY WATER-SOLUBLE GUM PRODUCT
William H. McNeely and Orville G. Lowe, San Diego, Calif., assignors to Kelco Company, San Diego, Calif., a corporation of Delaware
No Drawing. Filed Feb. 21, 1958, Ser. No. 716,526
9 Claims. (Cl. 260—209)

1. A method of preparing a water soluble product suitable for increasing the viscosity of an aqueous solution comprising: admixing at least one of the members selected from the group consisting of gum arabic, dextran and corn fiber gum with a base selected from the group consisting of sodium hydroxide and potassium hydroxide in an amount from 1% to 20% by weight of said members; and a bi-functional etherifying agent in an amount of from 1% to 15% of the aforesaid members selected from the group consisting of epihalohydrins, alkyl substituted epihalohydrins and glycerol dihalohydrins; heating said mixture at a low temperature until the cation of the base forms a salt; adding an acid to neutralize the solution; adding the solution to a water-miscible organic solvent to form a gum precipitate; removing said solvent; and drying and heating said precipitate.

2,976,275
SURFACE ACTIVE COMPOUNDS DERIVED FROM CARBOHYDRATES
Ernest L. Pollitzer, Hinsdale, Ill., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 28, 1956, Ser. No. 631,953
14 Claims. (Cl. 260—211)

1. A process for the production of a nitrogen-containing carbohydrate condensation product which comprises reacting a lipophilic compound selected from the group consisting of the mono-amino and mono-nitro-substituted monocyclic hydrocarbons containing an alkyl group of at least 9 carbon atoms with a reducing sugar in the presence of hydrogen and at a reductive alkylation temperature of from about 50° to about 180° C. sufficient to condense said lipophilic compound with said carbohydrate to form a secondary amine and thereafter condensing the resulting product with an oxyalkylating agent in the presence of a basic condensation catalyst and at a condensation temperature of from about 50° C. to about 180° C. sufficient to form a poly-(oxyalkylene) chain containing at least 2 oxyalkylene units per molecule.

2,976,276

PURE VITAMIN B_{12} AND METHOD OF MAKING SAME

Gerard Nomine, Noisy-le-Sec, Lucien Penasse, Paris, and Pierre Barthelemy, St.-Germain-en-Laye, France, assignors to UCLAF, Paris, France, a body corporate of France

No Drawing. Filed Feb. 20, 1958, Ser. No. 716,271
Claims priority, application France Mar. 13, 1957
6 Claims. (Cl. 260—211.5)

1. The method of preparing substantially pure cyanocobalamine complex which comprises reacting an aqueous solution of vitamin B_{12} containing a minimum of 0.05% of vitamin B_{12} with an amount of a phenol selected from the group consisting of orcinol, phloroglucinol and hydroquinone, which is below the limit of solubility of the phenol in an aqueous solution of vitamin B_{12}, crystallizing the resultant vitamin B_{12} phenol complex, separating, redissolving in water, precipitating the cyanocobalamine therein by the addition of a water miscible solvent selected from the group consisting of dioxane and acetone.

2,976,277

METHOD OF PREPARING CELLULOSE ESTERS

George P. Tocsy and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 9, 1959, Ser. No. 805,130
5 Claims. (Cl. 260—227)

1. A method of preparing lower fatty acid esters of cellulose which comprises esterifying cellulose with a lower fatty acid anhydride and 1–10%, based on the cellulose, of a catalyst selected from the group consisting of titanium salts, esters, alkoxides and hydroxides.

2,976,278

PROCESS FOR THE MANUFACTURE OF CARBOXYMETHYL CELLULOSE INVOLVING 3-COMPONENT, 2-PHASE LIQUID REACTION MEDIUM

Osborne H. Paddison, Tenafly, and Roy W. Sommers, Pennsville, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 1, 1956, Ser. No. 612,924
6 Claims. (Cl. 260—231)

1. In the process of preparing an alkali metal salt of carboxymethylcellulose wherein cellulose is etherified in the presence of caustic alkali with a compound selected from the class consisting of monochloroacetic acid and the alkali metal salts thereof, the improvement which comprises contacting said cellulose with said caustic alkali in a 3-component, 2-phase liquid reaction medium in which one liquid phase consists essentially of mixture of water and a water-miscible aliphatic alcohol having from 2 to 4 carbon atoms, and the second liquid phase consists essentially of an inert water-immiscible organic liquid and an additional amount of said water-miscible aliphatic alcohol, the ratio of total liquid by weight in said reaction medium to dry cellulose being at least about 4:1 but not exceeding about 20:1 the ratio of water by weight in the water-alcohol phase to dry cellulose at the beginning of the reaction being in the range of about 0.03:1 to about 3.4:1, the total amount of said water-miscible aliphatic alcohol in the reaction medium constituting at least about 7% by weight of the total weight of the liquid in the reaction mixture at the start of the reaction, and subsequently effecting etherification in said 3-component, 2-phase liquid reaction medium.

2,976,279

2,3,6-TRIS-AZIRIDINO-1,4 BENZOQUINONE

Walter Ganss, Leverkusen-Bayerwerk, Leverkusen, and Gerhard Domagk, Wuppertal-Elberfeld, Germany, assignors to Schenley Industries, Inc., a corporation of Delaware

No Drawing. Filed Mar. 11, 1958, Ser. No. 720,548
Claims priority, application Germany Mar. 14, 1957
1 Claim. (Cl. 260—239)

As a new composition of matter, 2,3,6-trisaziridino-1,4-benzoquinone.

2,976,280

HEXAMETHYLENIMINE PHENOLS AND THEIR PREPARATION

Eric B. Hotelling, Westport, Conn., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed May 22, 1958, Ser. No. 736,979
2 Claims. (Cl. 260—239)

1. 6,6′-bis(N-hexamethyleniminomethyl) - 4,4′ - isopropylidenebis(o-cresol).

2,976,281

N-SUBSTITUTED IMINOSTILBENES

Walter Schindler, Riehen, near Basel, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 11, 1958, Ser. No. 779,560
Claims priority, application Switzerland Dec. 20, 1957
6 Claims. (Cl. 260—239)

1. 5 - (3′ - diethylamino - 2′ - hydroxypropyl) - iminostilbene.

2,976,282

PROCESS FOR THE PRODUCTION OF LACTAMS

Wallace F. Runge, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed May 13, 1959, Ser. No. 812,786
5 Claims. (Cl. 260—239.3)

1. In a process for the production of lactams from cyclic ketoximes selected from the group consisting of cyclo-aliphatic ketoximes and alkyl substituted cyclo-aliphatic ketoximes, the cyclo-aliphatic portion of the ketoxime containing from 3 to 7 carbon atoms inclusive, the steps which comprise dissolving the cyclic ketoxime in sulfuric acid having a concentration of from about 99 to about 105% sulfuric acid at a temperature ranging from about 40° to about 60° C. in a ratio of 1 mole of said cyclic ketoxime to 1 to 3.0 moles of said sulfuric acid and permitting said mixture to react at temperatures ranging from about 40° to about 70° C.

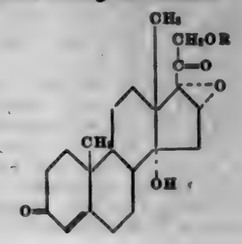
2,976,283

16α-17α-EPOXIDO-Δ^4-PREGNENE-21-OL-3,20-DIONE DERIVATIVES AND THE 21-ESTERS THEREOF

Eugene J. Agnello, Barry M. Bloom, and Gerald D. Laubach, Jackson Heights, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

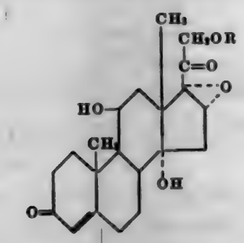
No Drawing. Filed Apr. 1, 1957, Ser. No. 649,660
5 Claims. (Cl. 260—239.55)

4. A compound having the formula



wherein R is selected from the group consisting of hydrogen and hydrocarbon acyl radicals containing up to ten carbon atoms.

5. A compound having the formula



wherein R is selected from the group consisting of hydrogen and hydrocarbon acyl radicals containing up to ten carbon atoms.

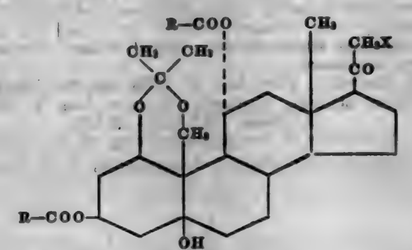
2,976,284

19-HYDROXYPREGNENE-3,11,20-TRIONES, DERIVATIVES AND INTERMEDIATE 1,19-ISOPROPYLIDENEDIOXY STEROIDS USED IN THEIR PREPARATION

John S. Baran, Chicago, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 28, 1959, Ser. No. 842,566
5 Claims. (Cl. 260—239.55)

3. A compound of the structural formula



wherein R is a lower alkyl radical and X is a member of the class consisting of hydrogen, iodine and hydroxy radicals.

2,976,285

METAL CHELATES AND PROCESS OF PREPARING SAME

Virgil W. Gash, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 9, 1956, Ser. No. 583,629
19 Claims. (Cl. 260—242)

1. A process for the preparation of metal complexes of diketones which comprises contacting a β-amino α,β-olefinically unsaturated ketone with a metal salt of a chelate-forming metal to produce a metal chelate of the diketone corresponding to the said ketone in which the said β-amino group has been replaced by an oxygen atom.

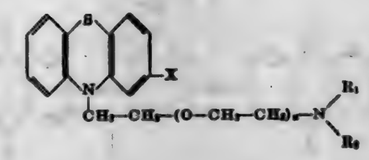
2,976,286

BASICALLY SUBSTITUTED PHENOTHIAZINE DERIVATIVES

Walter Schindler, Riehen, near Basel, and Charles Gamser, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 28, 1959, Ser. No. 836,587
Claims priority, application Switzerland Sept. 10, 1958
7 Claims. (Cl. 260—243)

1. A member selected from the group consisting of compounds of the formula



and the non-toxic acid addition salts thereof, wherein X is a member selected from the group consisting of hydrogen and chlorine, each of R_1 and R_2 is lower alkyl, and n is an integer selected from the group consisting of 1 and 2.

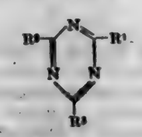
2,976,287

NAPHTHOFURANEDIONE VAT DYESTUFFS

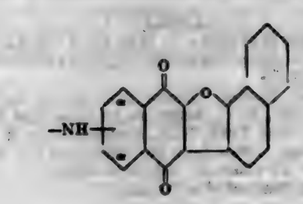
David I. Randall, New Vernon, and Wilhelm Schmidt-Nickels, Little York, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 3, 1958, Ser. No. 777,827
8 Claims. (Cl. 260—249.6)

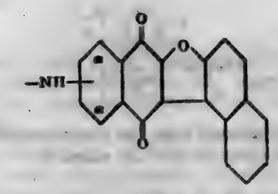
4. Compounds of the formula



wherein R^1 is selected from the group consisting of



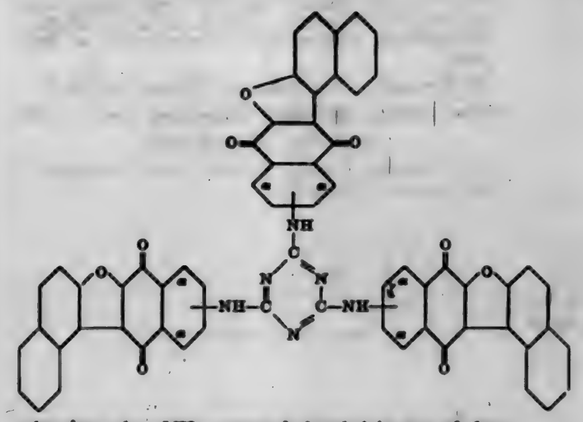
and



and the —NH— group is bonded in one of the α positions

shown, and R^2 and R^3 are selected from the group consisting of R^1, phenoxy and naphthoxy.

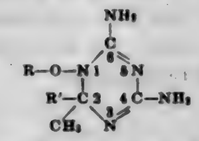
5. Compounds of the formula



wherein each —NH— group is bonded in one of the α positions shown.

2,976,288
TRIAZINE DERIVATIVES
Joseph Green, London, David McHale, Epsom, and Patrick Mansalis, Tadworth, England, assignors to Vitamins Limited, London, England, a British company
No Drawing. Filed Aug. 18, 1958, Ser. No. 755,466
Claims priority, application Great Britain Sept. 16, 1957
6 Claims. (Cl. 260—249.9)

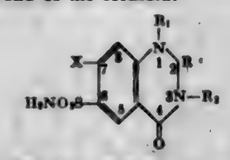
1. A compound selected from the group consisting of substituted triazines of the formula



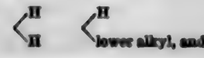
and non-toxic salts thereof, wherein R is selected from the group consisting of alkyl radicals containing from 7 to 16 carbon atoms, benzyl, chlorobenzyl, bromobenzyl, benzyl methyl, naphthyl, naphthyl methyl, and methoxy naphthyl radicals and R' is selected from the group consisting of the hydrogen atom and methyl radical.

2,976,289
1,2,3,4-TETRAHYDRO - 7 - HALO - 6 - SULFAMYL-4-QUINAZOLINONES AND 7-TRIFLUOROMETHYL ANALOGUES
Elliott Cohen, Mount Vernon, and James R. Vaughan, Jr., New City, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 30, 1959, Ser. No. 823,806
11 Claims. (Cl. 260—256.5)

1. A compound of the formula:



in which X is selected from the group consisting of halogen and trifluoromethyl, R is selected from the group consisting of



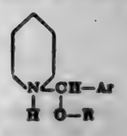
R_1 is selected from the group consisting of hydrogen and lower alkyl and R_2 is selected from the group consisting of hydrogen and lower alkyl.

2,976,290
PIPERAZINE DERIVATIVES AND METHODS FOR THEIR PRODUCTION
Robert F. Parcell, St. Clair Shores, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Apr. 24, 1959, Ser. No. 808,551
3 Claims. (Cl. 260—268)

1. A member of the class consisting of 1-(m-methylthiophenyl)piperazine and non-toxic acid-addition salts thereof.

2,976,291
ETHERS OF 2-PIPERIDYLPHENYLMETHANOLS
Robert Michel Jacob, Ablon-sur-Seine, and Nicole Marie Joseph, Paris, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a corporation of France
No Drawing. Filed July 17, 1958, Ser. No. 749,075
Claims priority, application France Aug. 1, 1957
10 Claims. (Cl. 260—294.7)

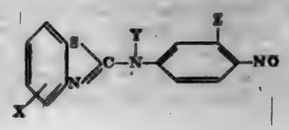
1. A member of the class consisting of the racemates and optically active isomers of compounds of the formula:



wherein R is selected from the class consisting of methyl, ethyl, n-propyl, n-butyl, isopropyl and allyl and Ar is selected from the class consisting of phenyl, p-methoxyphenyl, 3,4-methylene dioxyphenyl, and p-ethoxyphenyl and acid addition salts of the said compounds which have pharmaceutically acceptable anions.

2,976,292
p-NITROSOANILINO BENZOTHIAZOLES
Ching C. Tang, Kirkwood, Mo., and John J. D'Amico, Charleston, W. Va., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 28, 1958, Ser. No. 776,766
5 Claims. (Cl. 260—305)

1. A compound of the structure



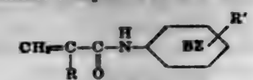
where X is selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, nitro and phenyl, Y is selected from the group consisting of hydrogen, lower alkyl and nitroso and Z is selected from the group consisting of lower alkyl, lower alkoxy, halogen and hydrogen.

2,976,293
2-(2-CYCLOHEXENYLTHIO)BENZIMIDAZOLE
John J. D'Amico, Charleston, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 30, 1959, Ser. No. 862,745
1 Claim. (Cl. 260—309.2)

2-(2-cyclohexenylthio)benzimidazole.

2,976,294
DYE INTERMEDIATES
John Charles Firestine, South River, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 26, 1959, Ser. No. 788,723
4 Claims. (Cl. 260—310)

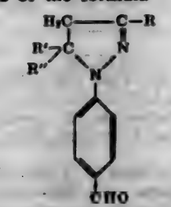
1. A monomeric compound of the formula:



wherein R is a member selected from the group consisting of hydrogen and methyl and R' is a color forming nucleus containing an active methylene group having a trivalent nitrogen atom linked by the monovalent bond to the benzene nucleus BZ and being selected from the group consisting of 1-pyrazole-5-one-3-carboxylic acid and benzoylacetamido.

2,976,295
p-(3,5-DISUBSTITUTED AND 3,5,5-TRISUBSTITUTED - 2 - PYRAZOLIN - 1 - YL)BENZALDEHYDES
Arnold F. Pino, Albany, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 17, 1958, Ser. No. 780,956
16 Claims. (Cl. 260—310)

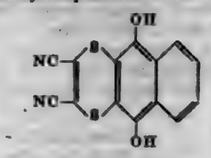
1. A compound of the formula



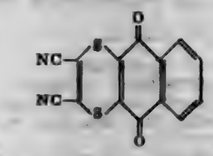
wherein R and R' are selected from the group consisting of lower alkyl, phenyl and naphthyl and these monosubstituted by a member selected from the group consisting of lower alkoxy, halogen, nitro, lower dialkylamino, cyano, sulfonamido, N-lower alkyl sulfonamido, N,N-bis(lower alkyl)sulfonamido, N,N-morpholinyl sulfonamido, and N,N-piperidinyl sulfonamido, and R'' is selected from the group consisting of H, R and R'.

2,976,296
DERIVATIVES OF 1,4-DITHIA-ANTHRAQUINONE AND -HYDROQUINONE
Albert van Schoor, Traisa, near Darmstadt, and Ernst Jacobi, Siegmund Lust, and Horst Flemming, Darmstadt, Germany, assignors to E. Merck Aktiengesellschaft, Darmstadt, Germany, a corporation of Germany
No Drawing. Filed Oct. 23, 1958, Ser. No. 769,067
Claims priority, application Germany Oct. 26, 1957
3 Claims. (Cl. 260—327)

1. Members of the group consisting of 2,3-dicyano-1,4-dithia-anthra-hydroquinone of the formula:

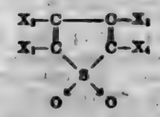


and the quinone of the formula:



2,976,297
HALOGENO-THIOPHENE-1,1-DIOXIDES
Henry Bloomfield, University Heights, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed Jan. 17, 1958, Ser. No. 709,449
5 Claims. (Cl. 260—332.1)

1. Compounds represented by the structure



wherein X_1, X_2, X_3 and X_4 are selected from the group consisting of hydrogen and halogen atoms, at least one X being halogen.

2,976,298
α-HYDROXY-β,β-DIMETHYL-γ-BUTYROLACTONE AND A PROCESS FOR PRODUCING SAME
Howard C. Klein, Brooklyn, N.Y., and Richard Griffith, Middletown, N.J., assignors to Nopco Chemical Company, Harrison, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 4, 1958, Ser. No. 778,066
9 Claims. (Cl. 260—343.6)

1. A process for the production of α-hydroxy-β,β-dimethyl-γ-butyrolactone from α,γ-dihydroxy-β,β-dimethylbutyramide which comprises heating said amide at a temperature of from about 100° C. to 245° C. for a period of time to substantially completely convert said amide to said lactone and removing from the system, concurrently with its formation, substantially all of the ammonia gas present therein.

2,976,299
PRODUCTION OF 2,3-DIHYDROPYRAN
Donald G. Manly, Barrington, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 28, 1958, Ser. No. 770,123
7 Claims. (Cl. 260—345.1)

6. In a process for producing 2,3-dihydropyran in which tetrahydrofurfuryl alcohol in the vapor phase is contacted with a catalyst at a temperature between about 250° C. and about 350° C., the improvement comprising

employing a catalyst containing from about 85% to about 95% by weight of titanium dioxide and from about 15% to about 5% by weight of aluminum oxide.

2,976,300
METHOD OF PREPARING METHYL 5-NITRO-2-FURYL KETONE
Kenyon J. Hayes and Julian G. Michels, Norwich, N.Y., assignors to The Norwich Pharmacal Company, Norwich, N.Y., a corporation of New York
No Drawing. Filed Feb. 20, 1959, Ser. No. 794,497
3 Claims. (Cl. 260—347.8)

1. In the process of nitrating methyl 2-furyl ketone to produce methyl 5-nitro-2-furyl ketone wherein said methyl 2-furyl ketone is treated with a nitrating mixture comprising acetic anhydride and nitric acid to form a nitration intermediate, the step of converting said nitration intermediate into methyl 5-nitro-2-furyl ketone which comprises treating said nitration intermediate with a salt of a strong base selected from the group consisting of potassium acetate and sodium acetate under anhydrous conditions.

2,976,301
MITICIDAL AGENT
Max W. Miller, North Stonington, Conn., assignor to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 16, 1958, Ser. No. 780,674
4 Claims. (Cl. 260—348)

1. L-trans epoxysuccinonitrile.

2,976,302
PROCESS FOR THE PRODUCTION OF 2,2-DIALKYL ANDROSTANE COMPOUNDS
Howard J. Ringold and George Rosenkranz, Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico
No Drawing. Filed Mar. 11, 1957, Ser. No. 644,970
Claims priority, application Mexico Mar. 14, 1956
3 Claims. (Cl. 260—397.4)

1. A process for the production of compounds selected from the group consisting of 2,2-lower alkyl-Δ^4-androsten-17β-ol-3-one and 2,2,17α-tri lower alkyl-Δ^4-17β-ol-3-one comprising reacting respectively a compound selected from the group consisting of androstan-17β-ol-3-one and 17α-lower alkyl-androstan-17β-ol-3-one with an excess of a lower alkyl iodide in the presence of a potassium t-alkoxide to form a corresponding 2,2-di lower alkyl derivative, reacting the 2,2-di lower alkyl derivative with approximately 1 molar equivalent of bromine to form a corresponding 4-monobromo compound and refluxing the 4-monobromo compound with collidine.

2,976,303
PROCESS FOR THE PREPARATION OF BIS(CYCLOPENTADIENYL) MANGANESE COMPOUNDS
Hymin Shapiro, Detroit, Earl G. De Witt, Royal Oak, and Jerome E. Brown, Detroit, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 8, 1955, Ser. No. 527,125
3 Claims. (Cl. 260—429)

1. A process for the preparation of hydrocarbon cyclomatic manganese compounds having the general formula R_2Mn wherein R is a cyclomatic hydrocarbon radical selected from the group consisting of the cyclopentadienyl radical and hydrocarbon substituted cyclopentadienyl radicals having from 5 to about 17 carbon atoms which embody a group of 5 carbons having the general configuration found in cyclopentadiene, said compound being characterized in that the cyclomatic hydrocarbon radicals are bonded to the manganese through the carbons of the cyclopentadienyl-group, comprising reacting, in proportions to produce said R_2Mn compounds and in an inert atmosphere, an ionic manganese salt with a compound having the formula RMX wherein M is a group II metal and X is halogen.

2,976,304
PROCESS FOR THE PREPARATION OF CYCLOPENTADIENYL MANGANESE COMPOUNDS
Earl G. De Witt, Royal Oak, and Jerome E. Brown, Detroit, Mich., and Hymin Shapiro, East Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 27, 1958, Ser. No. 711,183
4 Claims. (Cl. 260—429)

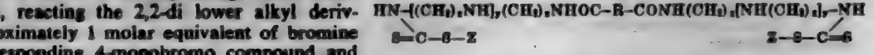
1. A process for the preparation of a hydrocarbon cyclomatic manganese compound having the general formula

RMnR'

wherein R and R' are cyclomatic hydrocarbon radicals having from 5 to about 17 carbon atoms which embody a group of 5 carbons having the general configuration found in cyclopentadiene, said compound being further characterized in that the cyclomatic hydrocarbon radicals are bonded to the manganese through the carbons comprising the cyclopentadienyl-group configuration, which process comprises reacting a manganese salt, consisting of manganese bonded to a negative radical, with an alkali metal cyclomatic hydrocarbon compound having from 5 to about 17 carbon atoms which embodies a group of 5 carbons having the general configuration found in cyclopentadiene and in which the alkali metal is bonded to a carbon of said 5 carbons comprising the cyclopentadienyl group.

2,976,305
SALTS OF DITHIOCARBAMIC ACIDS DERIVED FROM AMINO AMIDES OF DICARBOXYLIC ACIDS
Johannes Rasse and Ernst August Barteis, Wiesbaden-Biebrich, Germany, assignors to Chemische Werke Albert, Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed June 4, 1959, Ser. No. 818,008
Claims priority, application Germany July 30, 1958
8 Claims. (Cl. 260—429)

3. Salts of dithiocarbamic acid compounds having the formula



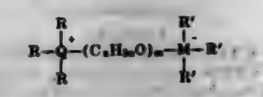
in which R is selected from the group consisting of C_6H_4, CH=CH and $(CH_2)_{6-8}$, x is 2 to 3, y is 0 to 3 and Z is an equivalent of a metal selected from the group consisting of alkali metals, zinc, iron, manganese and copper.

2,976,306
IMPROVEMENT IN THE PROCESS OF TRANSALKYLATING ALUMINUM
Robert A. Walde, Pittsburgh, Pa., assignor to Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed June 17, 1958, Ser. No. 742,488
8 Claims. (Cl. 260—448)

1. In a process wherein an organo aluminum compound is transalkylated with an olefin having from 2 to 18 carbon atoms, the improvement which comprises heating said organo aluminum compound in a closed system until an autogeneous pressure is reached therein and removing from the system organic material formed as a result of such heating while introducing said olefin in said closed system.

2,976,307
AMPHOLYTIC METAL ESTERS AND THE METHOD OF THEIR PREPARATION
Bernard Rudner and Maud S. Moores, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Nov. 17, 1959, Ser. No. 853,555
15 Claims. (Cl. 260—448)

1. Compounds of the formula:



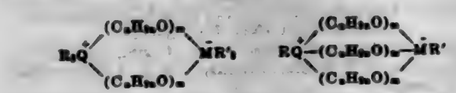
wherein Q is a member selected from the group consisting of quaternized nitrogen and phosphorus atoms; M is a member selected from the group consisting of tetracovalent negatively charged boron and aluminium atoms; n is an integer having a value of 1–6; m is an integer having a value of 1–25; R is a member selected from the group consisting of acyclic hydrocarbon radicals having up to 20 carbon atoms, benzyl, amino lower alkyl, alkylacylamino lower alkyl,

$$-(C_nH_{2n}O)_mH,\ -(C_nH_{2n}O)_mM-(R')_3$$

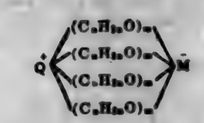
and

$$[-(C_nH_{2n}O)_mM(R')_3]^-Y^+$$

wherein Y is a cation selected from the group consisting of the metals of groups 1A and 2A of the periodic table; R' is a member selected from the group consisting of hydrogen, lower alkoxy, $-(C_nH_{2n}O)_mQ^+R_3$ and $[-(C_nH_{2n}O)_mQR_3]^+X^-$, wherein X is an anion of a strong acid; and R and R' when taken collectively with the Q and M on which they are respective subtituents form a heterocycle of the group consisting of



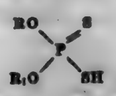
and



2,976,308
PREPARATION OF PHOSPHORODITHIOATE TRIESTERS
William E. Bacon, Painesville, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 13, 1954, Ser. No. 462,097
9 Claims. (Cl. 260—461)

1. The process of preparing phosphorodithioate triesters which comprises reacting

(A) a phosphorodithioic acid having the structure



where R and R_1 are saturated hydrocarbon radicals, said acid having been purified by extraction of its metal salt with a non-polar solvent to remove reducing agents, with

(B) an olefin

in the presence of a free-radical type catalyst, at a temperature within the range of 0–150° C.

2,976,309
PROCESS FOR THE PRODUCTION OF THIOL-PHOSPHORIC ACID ESTERS
Gerhard Schrader, Opladen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 29, 1956, Ser. No. 618,714
Claims priority, application Germany Oct. 29, 1955
3 Claims. (Cl. 260—461)

1. A process for the production of O,O,S-trialkylthiophosphoric acid which comprises reacting, in a substantially aqueous neutral medium, an alkali group salt of O,O-dialkylthiophosphoric acids with an alkyl halide of the general formula:

Hal—R^1

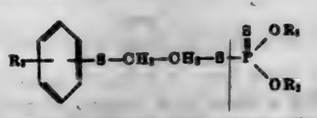
wherein R^1 stands for a saturated aliphatic radical and Hal stands for halogen at a temperature from about 20° C. to about 100° C.

2,976,310
MULTIPLE STEP CONTINUOUS CONTACTING OF IMMISCIBLE SUBSTANCES
William A. Vaughn, St. Albans, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed May 31, 1957, Ser. No. 662,732
3 Claims. (Cl. 260—461)

2. A method of washing O-p-nitrophenyl di(lower alkyl) phosphorothioate containing inorganic salts including sodium bicarbonate in suspension and p-nitrophenol in solution which comprises continuously feeding the material to be extracted near the top of a mixing zone into contact with combined aqueous washes of different treating agents and passing it countercurrently through successive stages of contact, fresh water being introduced continuously near the bottom of the mixing zone and aqueous soda ash solution at an intermediate point, the temperature of the water at the inlet being maintained at a minimum of 75° C.

2,976,311
DITHIOPHOSPHORIC ACID ESTERS
Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 29, 1957, Ser. No. 693,006
Claims priority, application Germany Dec. 10, 1956
5 Claims. (Cl. 260—461)

1. Dithiophosphoric acid esters of the following formula



in which R_1 and R_2 stand for lower alkyl radicals and R_3 stands for a member selected from the group consisting of halogen and lower alkyl radicals.

2,976,312
PROCESS FOR MAKING THIONOPHOSPHORIC ACID ESTERS OF α-HYDROXY-METHYL-THIOETHERS
Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 15, 1957, Ser. No. 696,628
Claims priority, application Germany Dec. 13, 1956
6 Claims. (Cl. 260—461)

1. A process for the formation of a thiophosphoric acid ester which comprises reacting a di-lower alkyl phopsphite with a compound of the following formula

R—S—CH_2—Cl

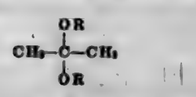
in which R is selected from the group consisting of a lower alkyl radical, a phenyl radical, and a benzyl radical in the presence of sulfur.

2,976,313
METHOD FOR THE PREPARATION OF TRIMETHYL BORATE
Carlos M. Bowman and Edward J. Watson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,296
4 Claims. (Cl. 260—462)

1. A method for preparing trimethyl borate comprising, reacting, at a temperature of between about 0° C. and about 100° C., boric oxide with a compound selected from the group consisting of 1,1-dimethoxycyclohexane and 2,5-dimethoxy-2,5-dimethyl-1,4-dioxane, and separating the resulting trimethyl borate from the reaction mixture.

2,976,314
METHOD FOR PREPARATION OF TRIALKYL BORATES
Carlos M. Bowman and Edward J. Watson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,297
6 Claims. (Cl. 260—462)

1. A method for preparing boron-containing esters comprising reacting, at a temperature of between about 0° C. and about 200° C. boric oxide with a compound having the formula:



wherein R is a lower alkyl radical containing from 1 to 8 carbon atoms, and separating the resulting trialkyl borate from the reaction mixture.

2,976,315
METHOD FOR THE PREPARATION OF TRIALKYL BORATES
Carlos M. Bowman, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 2, 1959, Ser. No. 796,298
6 Claims. (Cl. 260—462)

1. A method for preparing trialkyl borates comprising, reacting, at a temperature of between about 0° C. and about 200° C., boric oxide with a compound having the formula:



wherein R is a lower alkyl radical containing from 1 to 8 carbon atoms, removing by distillation at least one fraction from the reaction mixture, and separating the trialkyl borate from the reaction mixture.

ERRATUM

For Class 260—475 see:
Patent No. 2,976,030

2,976,316
ALKYLAMINE REACTION PRODUCTS
Carl Borsch and Mathieu Quaedvlieg, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed July 31, 1956, Ser. No. 601,103
Claims priority, application Germany Aug. 4, 1955
5 Claims. (Cl. 260—501)

1. A process for the manufacture of an alkylamine reaction product which comprises reacting an aliphatic acid salt of a primary alkyl monoamine with a stoichiometric excess of epichlorhydrin in the melt at a temperature of at least 100° C. but not in excess of 120° C., the monoamine having at least 14 carbon atoms and the aliphatic acid salt thereof being selected from the group consisting of lower alkanoic acid salts and lower alkenoic acid salts.

5. As a composition of matter, the reaction product obtained according to claim 1.

2,976,317
N(ALKYL-, CYCLOALKYL-, AND CYCLOALKYL-ALKYLSULFONYL)-N'(ALKYL-, ALKENYL-, CYCLOALKYL, AND CYCLOALKYLALKYL)-UREAS
Heinrich Ruschig, Bad Soden (Taunus), Walter Aumüller, Gerhard Korger, Hans Wagner, and Josef Scholz, Frankfurt am Main, and Alfred Bender, Hofheim (Taunus), Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed July 31, 1956, Ser. No. 601,130
Claims priority, application Germany Oct. 19, 1955
9 Claims. (Cl. 260—553)

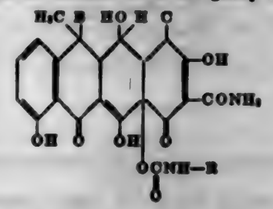
1. Compounds selected from the group consisting of sulphonyl ureas of the general formula

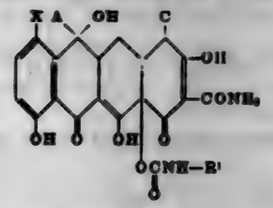
$$R—SO_2—NH—CO—NH—R_1$$

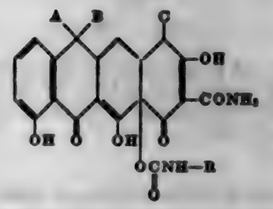
wherein R is a member selected from the group consisting of alkyl-, cycloalkyl- and cycloalkylalkyl radicals containing 4 to 7 carbon atoms, and R_1 is a member selected from the group consisting of alkyl-, alkenyl-, cycloalkyl- and cycloalkylalkyl radicals containing 2 to 8 carbon atoms and alkali-metal, alkaline earth metal, and ammonium salts thereof.

2,976,318
TETRACYCLINE DERIVATIVES AND PROCESS OF PRODUCING THE SAME
Robert K. Blackwood, Gales Ferry, Conn., assignor to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
No Drawing. Filed May 18, 1959, Ser. No. 813,653
8 Claims. (Cl. 260—559)

1. A compound selected from the group consisting of:

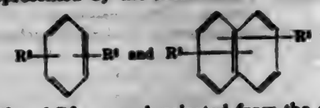




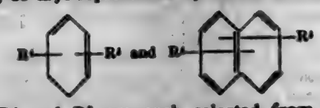


wherein A is selected from the group consisting of H

and CH_3; B is selected from the group consisting of H and OH; C is selected from the group consisting of H and $N(CH_3)_2$; X is selected from the group consisting of Cl and Br; R is selected from the group consisting of aryl represented by the formulae:

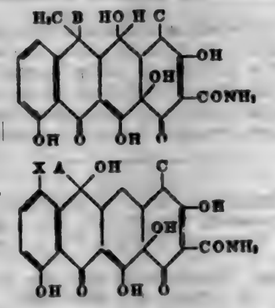


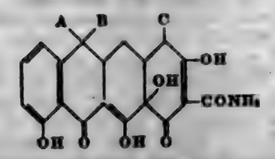
wherein R^2 and R^3 are each selected from the group consisting of hydrogen, halogen, nitro, amino, lower alkyl and lower alkoxy; and R^1 is selected from the group consisting of aryl represented by the formulae:

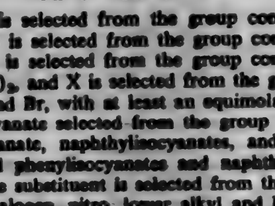


wherein R^4 and R^5 are each selected from the group consisting of hydrogen, halogen, nitro, lower alkyl and lower alkoxy; mineral acid salts, hydrocarbon carboxylic and sulfonic acid salts in which said acid contains up to 10 carbon atoms, and alkali and alkaline earth metal salts thereof.

8. A process which comprises contacting a tetracycline compound selected from the group consisting of:



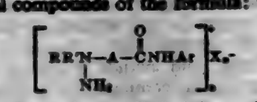




wherein A is selected from the group consisting of H and CH_3, B is selected from the group consisting of H and OH, C is selected from the group consisting of H and $N(CH_3)_2$, and X is selected from the group consisting of Cl and Br, with at least an equimolar amount of an arylisocyanate selected from the group consisting of phenylisocyanate, naphthylisocyanates, and mono- and disubstituted phenylisocyanates and naphthylisocyanates in which the substituent is selected from the group consisting of halogen, nitro, lower alkyl and lower alkoxy, in a reaction-inert organic solvent for the reactants under substantially anhydrous conditions.

2,976,319
CARBANILINOALKYLHYDRAZINIUM SALTS
Bernard Rudner, Pittsburgh, Pa., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Oct. 15, 1958, Ser. No. 767,258
3 Claims. (Cl. 260—563)

1. Chemical compounds of the formula:



wherein R and R' are lower alkyl; A is an alkylene radical having less than five carbon atoms; Ar is a member selected from the group consisting of phenyl and lower alkyl phenyl; X is a pharmaceutically acceptable anion; and *n* is an integer less than four.

2,976,320
CATALYTIC HYDROGENATION OF THE DINITRO DERIVATIVES OF TOLUENE
Leon O. Winstrom and Roger D. Sandahl, East Aurora, and Phillip S. Porch, Buffalo, N.Y., assignors to Allied Chemical Corporation, a corporation of New York
No Drawing. Filed July 30, 1957, Ser. No. 675,015
8 Claims. (Cl. 260—580)

1. The improvement in the method of reducing dinitrotoluene to the corresponding diamine by catalytic hydrogenation, which comprises carrying out the hydrogenation with the dinitrotoluene in the molten form as the reaction medium and containing not more than 500 p.p.m. of nitrophenols.

2,976,321
PARA-TERTIARY-BUTYLHYDROCINNAMIC ALDEHYDE
Julius Dorsky, Rockaway, and William M. Easter, Jr., Hasbrouck Heights, N.J., assignors to The Givaudan Corporation, New York, N.Y., a corporation of New Jersey
No Drawing. Filed June 18, 1959, Ser. No. 821,104
1 Claim. (Cl. 260—599)

Para-tertiary-butylhydrocinnamic aldehyde.

2,976,322
PREPARATION OF METHANETHIOL
Hillis O. Folkins, Crystal Lake, Elmer Miller, Cary, and Adolph Kempf, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Sept. 23, 1953, Ser. No. 381,984
3 Claims. (Cl. 260—609)

1. In the method for producing methanethiol by the reaction between hydrogen sulfied and methanol at a temperature sufficient to effect the reaction, the improvement which comprises conducting said reaction at a temperature of 575° to 930° F., using a mol ratio of hydrogen sulfide to methanol of about 1:1 to 5:1, and a liquid volume hourly space velocity, based on methanol, of about 0.1 to 5 in the presence of an activated alumina in combination with about 0.5–15% by weight of tin oxide.

2,976,323
PROCESS FOR THE PREPARATION OF ALKYL MONOSULFIDES
Hillis O. Folkins, Crystal Lake, and Elmer L. Miller, Cary, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Aug. 2, 1955, Ser. No. 526,853
3 Claims. (Cl. 260—609)

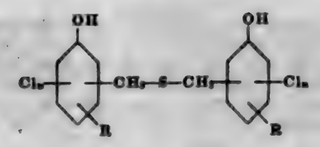
1. A process for the preparation of low molecular weight alkyl monosulfides which comprises reacting a C_1–C_8 aliphatic monohydric alcohol with hydrogen sulfide at a temperature within the range of about 600°–950° F., a pressure within the range of about atmospheric–200 p.s.i.g. in the presence of a catalyst consisting essentially of silica gel.

2,976,324
BISPHENOL SULFIDE
Samuel Wendell Long and Rodney D. Moss, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 17, 1958, Ser. No. 774,123
8 Claims. (Cl. 260—609)

1. The process of preparing bisphenol sulfides which includes: contacting, at a temperature of from about 0°

C. to about 110° C. and at a pressure of about atmospheric pressure, 6-chloro-o-cresol with bis(chloromethyl) sulfide; and separating the $\alpha^4,\alpha^{4'}$-thiobis(6-chloro-2,4-xylenol) product.

8. A compound having the formula

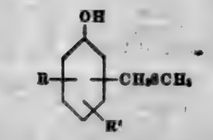


wherein R represents an alkyl group containing from 1 to 3 carbon atoms and *n* is an integer from 1 to 3 inclusive.

2,976,325
SUBSTITUTED PHENOLIC SULFIDES
Samuel Wendell Long and Rodney D. Moss, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 17, 1958, Ser. No. 774,140
16 Claims. (Cl. 260—609)

1. A process for preparing phenolic sulfides which includes: contacting, at a temperature from about 0° C. to about 110° C., and under atmospheric pressure, o-nitrophenol with chlorodimethyl sulfide, and separating the α-(methylthio)-2-nitro-p-cresol and α-(methylthio)-6-nitro-o-cresol products.

14. A compound having the formula



wherein R represents at least one member of the group consisting of chlorine, bromine and nitro radicals and in which R' represents a member of the group consisting of hydrogen and methyl radicals.

2,976,326
PROCESS FOR THE MANUFACTURE OF VINYL THIOETHERS
Elmer K. Wilp, Cambridge, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
No Drawing. Filed Dec. 11, 1959, Ser. No. 858,851
4 Claims. (Cl. 260—609)

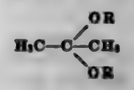
4. The method of making a vinyl thioether which includes the steps of reacting a mercaptan with a vinyl ester selected from the group consisting of vinyl acetate, vinyl formate and vinyl propionate at a temperature of about −10° C. to −20° C. in the presence of a catalyst selected from the group consisting of mercury, zinc and cadmium salts of strong acids.

2,976,327
ALPHA-METHYLHYDROCINNAMIC ALDEHYDE DIMETHYL ACETAL
Julius Dorsky, Rockaway, and William M. Easter, Jr., Hasbrouck Heights, N.J., assignors to The Givaudan Corporation, New York, N.Y., a corporation of New Jersey
No Drawing. Filed June 9, 1959, Ser. No. 819,824
1 Claim. (Cl. 260—611)

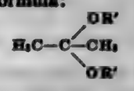
Alpha-methylhydrocinnamic aldehyde dimethyl acetal.

2,976,328
PREPARATION OF 2,2-DIALKOXYPROPANES
Carlos M. Bowman, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 27, 1959, Ser. No. 802,297
3 Claims. (Cl. 260—615)

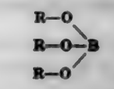
1. A method for preparing 2,2-dialkoxypropane having the formula:



wherein R is a lower alkyl group containing from 2 to 8 carbon atoms, comprising, contacting at a temperature between about 0° C. and about 250° C., 2,2-dialkoxypropane having the formula:



wherein R' is a lower alkyl radical containing from 1 to 7 carbon atoms with a trialkyl borate having the formula:



wherein B is the boron atom and R is a lower alkyl radical containing from 2 to 8 carbon atoms, and where R contains a greater number of carbon atoms than R', removing by distillation by-products of the reaction and unreacted starting materials, and, separating the desired 2,2-dialkoxypropane from the reaction mixture.

2,976,329
PREPARATION OF PHENOLS
John B. Brennwarth, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Sept. 30, 1958, Ser. No. 764,256
13 Claims. (Cl. 260—621)

1. The process for producing phenols which comprises reacting an aromatic hydrocarbon having at least one unsubstituted nuclear hydrogen atom with water, an alkali metal phosphate and a copper salt selected from the group of copper sulfate and copper sulfate pentahydrate at a temperature in the range of about 350° to about 710° F., under super atmospheric pressures, about 1 to 10 mols of said aromatic hydrocarbon being present per mol of said copper salt, the amount of said water being sufficient to react with said copper salt and about 0.01 to 0.20 mol of said alkali metal phosphate being present per mol of said copper salt.

2,976,330
METHOD OF OBTAINING CHLORINATED DERIVATIVES
Jean Guérin, Jarrie, France, assignor to Societe Anonyme dite: Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France
No Drawing. Filed June 19, 1959, Ser. No. 821,366
Claims priority, application France July 3, 1958
15 Claims. (Cl. 260—650)

1. A method of preparation, with the use of catalysts, of di-substituted chlorinated benzine derivatives, in which one atom of chlorine is substituted for a hydrogen atom in the para-position with respect to a constituent selected from the class consisting of a second atom of chlorine, linear radical which is also substituted, a cyclic radical which is also substituted, and a functional group which is also substituted, said method consisting essentially in the steps of: taking the compound to be chlorinated, containing at least one substitutive chlorination catalyst

which is a member selected from the group consisting of metallic chlorides, metalloid chlorides, metallic sulphides, metalloid sulphides, mixtures of sulphur with any of the above members, and chloro-sulphides; putting said compound into intimate contact with 3 to 40% by weight of an orientation catalyst selected from the group consisting of mixtures of sulphuric acid and sulphonic acids of the group consisting of benzene sulphonic acids, alkylbenzene sulphonic acids and their chloro-sulphonic acids, said mixtures having a low water content; separating the mass into two liquid phases when the required degree of chlorination has been reached; and then treating the liquid in known manner to separate and purify the constituents.

2,976,331
PREPARATION OF AROMATICS
Charles Newton Kimberlin, Jr., and William Judson Mattox, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 31, 1957, Ser. No. 675,269
6 Claims. (Cl. 260—668)

1. A method for simultaneously effecting the catalytic dehydrogenation of a naphthenic hydrocarbon to an aromatic and the catalytic hydrogenation of an olefin to paraffins which comprises contacting a stream consisting of at least one naphthenic hydrocarbon and at least one olefin with a hydrogen transfer catalyst at a temperature in the range of about 350° to 850° F., a pressure in the range of about atmospheric to 750 p.s.i.g. and a feed rate in the range of about 0.05 to 5.0 w./hr./w., said catalyst comprising a crystalline metallo-alumino-silicate having uniform pore openings of from about 10 to 13 Angstrom units and wherein the metal constituent is a metal selected from the group consisting of sodium, vanadium, zirconium, group IIA, IIB, VIB, VIIB and VIII of the periodic table.

2,976,332
ISOMERIZATION OF XYLENES AND ALKYL BENZENES
Leonard N. Lown, Media, and James E. Connor, Jr., Drexel Hill, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 17, 1958, Ser. No. 715,487
9 Claims. (Cl. 260—668)

1. The method of isomerizing alkylated benzene hydrocarbons having 8 to 10 carbon atoms in the molecule wherein the alkyl substituents are selected from the group consisting of methyl and ethyl radicals which comprises contacting at least one such alkylated benzene hydrocarbon in the presence of excess hydrogen and under isomerization conditions with a catalyst consisting essentially of a physical admixture of an inert carrier on which has been deposited 0.1 percent to 2.5 percent by weight of platinum based on the weight of the final catalyst and a silica-alumina cracking component, the carrier and platinum component being present in an amount ranging between 5 percent and 75 percent by weight of the final catalyst, the silica-alumina cracking component containing from 7 percent to 30 percent by weight of alumina and having a surface area ranging between 80 and 400 to 425 square meters per gram and being substantially entirely devoid of platinum.

2,976,333
PRODUCTION OF AROMATIC COMPOUNDS
James Kenneth Dixon, Riverside, Edwin Marvin Smolin, Stamford, and Kenneth Worden Saunders, Darien, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 23, 1954, Ser. No. 438,875
10 Claims. (Cl. 260—669)

1. A process of producing a plurality of aromatic compounds which comprises mixing an asymmetric diarylethane with a diluent, contacting the resulting mixture thereof with a boron oxide-alumina catalyst and maintaining the temperature of said mixture at a temperature which will cause said asymmetric diarylethane to decompose into a plurality of aromatic compounds in the presence of a catalyst and which is at least 350° C. during the contact time with said catalyst of between about 0.001 second and about 0.8 second.

8. A process for producing vinyl substituted aryl compounds which comprises heating an asymmetric diarylethane at a temperature which is at least 350° C. and which will cause said diarylethane to decompose in the presence of a boron oxide-aluminum catalyst.

2,976,334
PRODUCTION OF AROMATIC COMPOUNDS
Edwin Marvin Smolin, Stamford, James Kenneth Dixon, Riverside, and Kenneth Worden Saunders, Darien, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 23, 1954, Ser. No. 438,876
10 Claims. (Cl. 260—669)

1. A process of producing a plurality of aromatic compounds which comprises mixing an asymmetric diarylethane with a diluent, contacting the resulting mixture thereof with a boron oxide alumina-silica catalyst and maintaining the temperature of said mixture at a temperature which will cause said asymmetric diarylethane to decompose into a plurality of aromatic compounds in the presence of a catalyst and which is at least 350° C. during the contact time with said catalyst of between about 0.001 second and about 0.8 second.

8. A process for producing vinyl substituted aryl compounds which comprises heating an asymmetric diarylethane at a temperature which is at least 350° C. and which will cause said diarylethane to decompose in the presence of a boron oxide-alumina-silica catalyst.

2,976,335
METHOD OF MAINTAINING CATALYST ACTIVITY IN PREPARATION OF METHYL AND ETHYL-SUBSTITUTED BENZENES
William R. Edwards, Baytown, Tex., and Harry G. Boynton, Berkeley Heights, N.J., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Dec. 3, 1958, Ser. No. 777,930
7 Claims. (Cl. 260—671)

1. In the continuous alkylation in a stirred reaction zone of a monoaryl compound selected from the group consisting of benzene, benzenes substituted with from one to five C_1 to C_2 alkyl groups and mixtures thereof with an alkylating agent selected from the group consisting of methyl chloride and ethyl chloride under liquid phase alkylation conditions in the presence of a catalytically effective amount of an emulsion, said emulsion containing aluminum chloride, hydrogen chloride and at least one of said monoaryl compounds in the molar ratio of about 1:1:2, the improvement which comprises separately preparing an emulsion by adding hydrogen chloride to a mixture of said selected monoaryl compound with aluminum chloride, fresh mixture containing about 2 mols of said selected compound per mol of aluminum chloride, said hydrogen chloride being added in an amount sufficient to provide a liquid emulsion containing aluminum chloride, hydrogen chloride, and said selected monoaryl compound in the molar ratio of about 1:1:2, continually adding said thus-prepared emulsion to said reaction zone in an amount within the range of about 0.00015 to about 1.0 mol of aluminum chloride per mol of feed stock charged to said reaction zone and continually withdrawing an equivalent amount of emulsion from said reaction zone.

2,976,336
PURIFICATION OF BENZENE
Ernest Carlton Hoosam and Ronald Lester, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
No Drawing. Filed July 9, 1957, Ser. No. 670,666
Claims priority, application Great Britain July 11, 1956
5 Claims. (Cl. 260—674)

1. In a method of separating benzene from crude benzole mixtures comprising benzene and non-aromatic hydrocarbons which form azeotropes with the benzene, and sulphur compounds, said mixtures containing a major portion of benzene, and said method including the step of desulphurising the mixture, the improvement which comprises subjecting the mixture to catalytic reforming by contacting the mixture in the presence of added hydrogen with a reforming catalyst at a pressure in the range of 50 to 100° p.s.i.g., a temperature in the range of from 850° F. to 1050° F., a space velocity in the range of from 0.5 to 5 v./v./hr. and a molar hydrogen/hydrocarbon ratio in the range of from 0.5:1 to 15:1, and fractionally distilling the reformed desulphurised product to obtain a benzene fraction.

2,976,337
CATALYTIC DEHYDROGENATION
Harold F. Christmann, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware
No Drawing. Filed Aug. 4, 1958, Ser. No. 753,148
3 Claims. (Cl. 260—680)

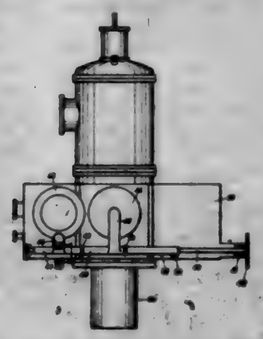
1. A process for the dehydrogenation of mono-olefins of from 4 to 5 carbon atoms which comprises contacting said mono-olefins mixed with from 2 to 15 moles of steam per mole of mono-olefin at a temperature of about 580° C. to about 700° C. with a catalyst which comprises an intimate mixture of about 10 to about 20 weight parts iron oxide, about 5 to 30 weight parts of a potassium compound selected from the group consisting of potassium compounds convertible to potassium carbonate under dehydrogenation conditions and potassium carbonate, about 60 to 85 weight parts of a mixture of alumina and chromia, said chromia being about 5 to 20 weight parts of the final catalyst and wherein said alumina is 50 percent or more of the total catalyst, said catalyst having been prepared by mixing the iron oxide and potassium compound with the mixture of alumina and chromia, the mixture of alumina and chromia having been previously used as a dehydrogenation catalyst in a Houdry dehydrogenation reactor and having been ground to an average particle size of smaller than about 1/100 inch in diameter prior to mixing with the iron oxide and potassium compound.

2,976,338
PROCESS AND CATALYST FOR POLYMERIZATION
Telfer L. Thomas, Sarnia, Lambton, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 6, 1955, Ser. No. 778,635
4 Claims. (Cl. 260—683.15)

4. An improved process for polymerizing C_3 to C_{10} olefins which comprises intimately contacting said olefins in a reaction zone with 1 to 30 liquid volume percent of an acid catalyst which comprises in combination a major proportion of a boron trifluoride-phosphoric acid admixture containing 3 to 50 liquid volume percent of boron trifluoride and 50 to 97 liquid volume percent of 100 to about 110 weight percent phosphoric acid, and a minor proportion of a potassium acid fluoride, at a temperature in the range of 32° to 212° F. and a pressure in the range of 0 to 2000 p.s.i.g. for a period of time in the range of 1/4 to 5 hours.

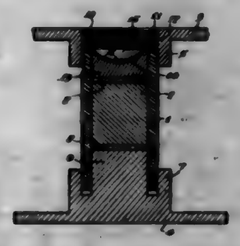
ELECTRICAL

2,976,339
VACUUM SMELTING FURNACE AND METHOD OF OPERATION
Helmut Graber, Helmut Schelding, Werner Pieper, and Gerhard Muller, Hanau (Main), and Adrien Herman Bussard, Bruchkobel, near Hanau (Main), Germany, assignors to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a corporation of Germany
Filed May 2, 1957, Ser. No. 656,665
Claims priority, application Germany Dec. 3, 1956
20 Claims. (Cl. 13—31)



1. A vacuum smelting furnace comprising at least one chamber having a bottom opening, an open container constructed and arranged to be connected to said bottom opening, means for evacuating said chamber and container, means for releasing said vacuum in said chamber, means for hermetically closing said container within said furnace, and means at the outside of said furnace for operating said closing means within the evacuated furnace so as to permit said container to be removed from said chamber at the end of a smelting operation in a closed condition with its inside still being under a vacuum.

2,976,340
REFRIGERATING APPARATUS
John B. Heinicke, Benton Harbor, and William J. Frotagus, South Haven, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 5, 1958, Ser. No. 719,344
6 Claims. (Cl. 136—4)



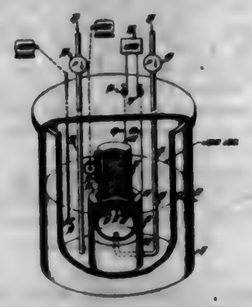
1. A thermoelectric assembly, comprising: a hollow dielectric connector; a thermoelectric element within said connector; a pair of spaced apart terminal members

fastened to said connector and positioned one adjacent each end thereof with one terminal member in electrically conducting relation with said element; and a two-part joint thermoelectrically connecting said other terminal member to the thermoelectric element with one part in electrically conducting relation with said other terminal member and adjustably positionable thereon and the other part movably mounted within said connector and in electrically conducting relationship with said thermoelectric element, confronting portions of said parts being complementarily concavo-convex to permit surface contact therebetween notwithstanding a skewed relationship between said parts.

2,976,341
ELIMINATION OF FORMATION OF ALKALINE SECONDARY CELLS
John L. S. Daley, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Nov. 21, 1958, Ser. No. 775,493
5 Claims. (Cl. 136—34)

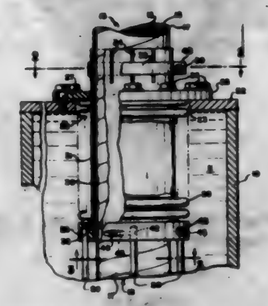
1. A method of manufacturing a sealed alkaline secondary cell, which comprises intimately associating a metallic hydroxide and an alkaline electrolyte to form a positive electrode, said electrolyte being present in said positive electrode in sufficient quantity to support the initial cell reaction, incorporating said positive electrode within said cell in combination with an inorganic metallic oxygen containing compound negative electrode material, said electrodes being in the unformed condition at the time of incorporation, and additional alkaline electrolyte, the total amount of electrolyte being sufficient to sustain formation of said electrodes and subsequent cell reactions, and sealing said cell prior to the passage of an electric current therethrough.

2,976,342
FUEL CELLS
Clarence E. Morehouse and Gerald S. Lozier, Princeton, and Richard Glickman, Highland Park, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,555
14 Claims. (Cl. 136—100)



1. A continuous electrochemical method for providing electric power at a desired rate comprising introducing a solid metallic anode into a reaction zone of a fuel cell at a rate which is a function of the rate at which electric power is desired, introducing a cathode into said reaction zone at a rate which is a function of the rate at which electric power is desired, said cathode including an organic oxidizing material in which the oxidizing properties are due at least in part to a chemical radical combined therein, said radical being selected from the group consisting of nitro, nitroso, azo and positive halogen, maintaining an electrolyte in contact with said anode and said cathode, drawing the electric power generated in said reaction at said desired rate, removing the reaction products from said reaction zone, and maintaining each of said steps at substantially normal temperatures and pressures.

2,976,343
END-CLOSURE FOR CABLE-ENCLOSING PIPES
John L. Lanoch, Fort Lee, N.J., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Nov. 24, 1959, Ser. No. 854,285
5 Claims. (Cl. 174—18)

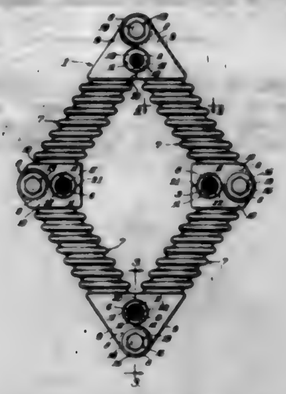


5. In combination with a cable-enclosing pipe, at least one insulated electric power cable extending through said pipe, a plurality of skid wires adjoining the outside of said cable throughout substantially its entire length, and a pressurized dielectric fluid contained in said pipe, closure means for sealing off the end of said pipe around said cable comprising an end plate welded across and sealed to the end of said pipe, said end plate having a circular aperture formed therein freely accommodating said cable, an annular collar encircling said cable and fastened to the outer face of said end plate around and partially over said aperture, gasket sealing the junction between said end plate and said collar, an axially resilient substantially cylindrical bellows member welded and sealed to the inner peripheral portion of said collar and extending into said pipe, an annular cuff member welded and sealed about the end of said bellows member remote from said collar, clamping means on said cuff member securing each of said skid wires, a sleeve welded and sealed at one end to said cuff and extending outwardly about said cable freely through said bellows member and beyond said collar, said sleeve having a plurality of slits formed therein extending longitudinally inwardly from the end of the sleeve remote from said cuff member and terminating short of said collar, an extended resilient inner tubular liner disposed in continuous engagement between said cable and the inside surface of said sleeve from said cuff member to the slitted end of said sleeve, and circumferential gripping means compressing and sealing the slitted portion of said sleeve against said cable.

2,976,344
CABLE SPACER
Robert L. Bethel, 149 Raymond Ave., Barrington, Ill.
Filed Mar. 2, 1959, Ser. No. 796,475
8 Claims. (Cl. 174—146)

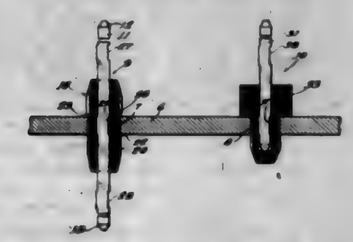
5. A cable spacer comprising a series of substantially identical insulating links hinged together end to end to form a ring-like geometrical figure lying substantially in a single plane, each end of each link comprising a hinge member and a shoulder member with a concave seat portion between the hinge member and the shoulder member, said concaved seat portions of adjacent ends registering to form substantially complete cylindrical openings

for receiving insulated conductors and holding them in fixed spaced relation out of contact with each other, said



links having hinge pins for said hinges at least one of which pins is releasable.

2,976,345
INSULATED ELECTRIC TERMINAL
John B. Whitted, Kenilworth, Ill., assignor to Whitso, Inc., a corporation of Illinois
Filed Oct. 31, 1957, Ser. No. 693,693
2 Claims. (Cl. 174—153)



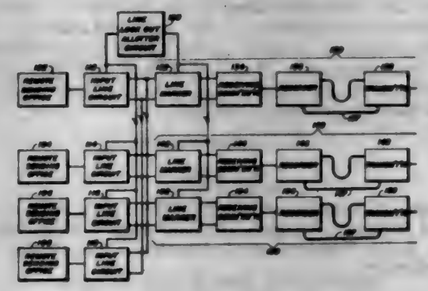
1. An insulated electrical terminal, comprising: a two-part assembly including a square wire conductor and an elongated insulating body about the central portion of the conductor, said body being a molded nylon plastic member and having an uninterrupted annular portion throughout its length, said member having a central bore defining the interior of said annular portion and receiving the conductor for frictionally binding the conductor and body together, resiliently yieldable, outwardly extending flutes on the annular portion of said body for binding the body to a base when forced into an aperture in the base smaller than the outermost extent of said flutes and larger than the outer extent of said annular portion, said body having a length to extend on either side of said base holding the conductor in position for use relative to the base and insulating the conductor from the base.

2,976,346
ELECTRIC FENCE POST
Russell J. Bellamy, Drayton, N. Dak.
Filed Feb. 26, 1959, Ser. No. 795,702
3 Claims. (Cl. 174—158)

1. An electric fence post comprising: a substantially A-shaped frame providing a base having a pair of angular ground penetrating legs, and a rod of an electrically non-conductive plastic material mounted vertically on the base, said base further including an integral, upstanding tang on its upper apical end secured in the lower end portion of the rod, said base also including a foot bar extending at right angles to and between median portions of the angles of the legs and adapted for forcing said legs into the ground.



2,976,347
TELEGRAPH SWITCHING SYSTEM
Charles R. Fisher, Jr., Rochester, and Frank A. Morris, Fishers, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Jan. 18, 1957, Ser. No. 634,973
70 Claims. (Cl. 178—2)

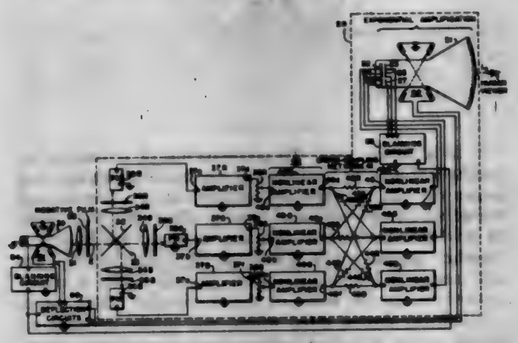


1. In a data handling system, a plurality of data receiving stations, means for storing messages having address portions, a first plurality of electronic means operated in accordance with said messages, switching means including a second plurality of electronic means, and means for transferring said address portions from said first plurality of electronic means to said second plurality of electronic means to operate said switching means to establish data handling circuits from said means for storing messages through said first plurality of electronic means to selected ones of said data receiving stations.

2,976,348
ELECTRONIC PREVIEWER FOR SIMULATING IMAGE PRODUCED BY PHOTOCHEMICAL PROCESSING
William F. Bailey, Valley Stream, Bernard D. Loughlin, Huntington, and Charles E. Page, Westbury, N.Y., assignors to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed May 28, 1957, Ser. No. 663,199
34 Claims. (Cl. 178—5.2)

11. An electronic previewer for producing output light images simulating positive color film images obtainable from negative color film by photographic processing comprising: an image-reproducing device for producing colored light images; means responsive to light from negative color film for developing a plurality of electrical signals individually representative of component colors of

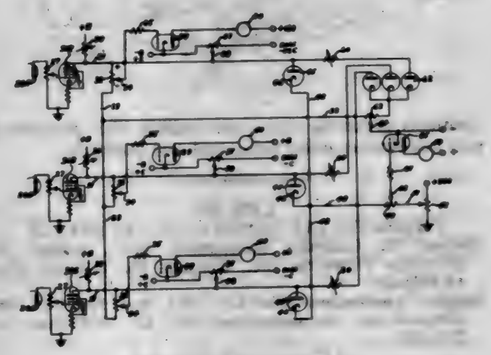
the negative image and including means for simulating the responses obtainable with the taking sensitivities of the positive color film, calibrated gain-control means for independently adjusting the amplitudes of the electrical signals; circuit means for cross-coupling the gain-adjusted electrical signals for modifying them in accordance with the overlapping of the spectral absorption characteristics of the positive film dyes; and means for supplying the cross-coupled electrical signals to the image-reproducing device and providing a transfer function between the cross-coupled signals and the resulting light output from the image-reproducing device which is exponential in nature so that the positive film dyes are simulated; the overall transfer characteristic of the previewer being proportioned so that the transfer function between the original light input from the negative color film and the resulting



light output from the image-reproducing device simulates the nonlinear transfer characteristics of the positive color film; the various signal-translating means being constructed to provide for each component color signal an odd number of phase inversions between the input light and the resulting output light for simulating the change from a negative to a positive image, and the image-reproducing device being responsive to the modified electrical signals for producing a positive color image simulating the image that would be produced by positive color film obtained by said photographic processing, the appearance of such electrically-reproduced positive image being capable of adjustment by the operator by means of the calibrated gain-control means to obtain a desired appearance, whereupon the calibration settings of the gain-control means indicate beforehand any modification required in the photographic processing.

2,976,349
METHOD AND APPARATUS FOR MAKING COLOR-CORRECTED SEPARATIONS
Louis A. Thompson, Santa Barbara, Calif., assignor to N.R.A. Services, Inc., Cleveland, Ohio, a corporation of Delaware
Filed June 10, 1957, Ser. No. 664,824
10 Claims. (Cl. 178—5.2)

3. An apparatus for making color-corrected separations from a colored picture or the like, comprising scanning means for producing light effected by said picture, including means for separating the light transmitted or reflected by said picture into its primary components which include red, blue and green components where there are either one or all thereof in said picture each having therein such neutral density as is in the original element being scanned, comprising separate amplifier means for each of said components, each of said amplifiers including an input and an output, means for removing and separately recording the individual primary color components from said channels comprising load means for each of said amplifiers each of which is connected to the other at a common point, means for abstracting from said load means signals which are representative of the potential differences across said load resistors and the common point comprising separate color amplifiers each of which includes a vacuum tube having a grid, a cathode and an anode wherein each input circuit comprises a grid and cathode with the grid connected to said load means closer to said common point than said cathode, bias means for said color amplifier for biasing said amplifiers to cut off in the absence of a signal on the grid, and recording means in the anode circuit of each of said color amplifiers for recording in the presence of a signal on the grid great enough to overcome said bias, means for abstracting and recording the neutral density from said signals including means for abstracting

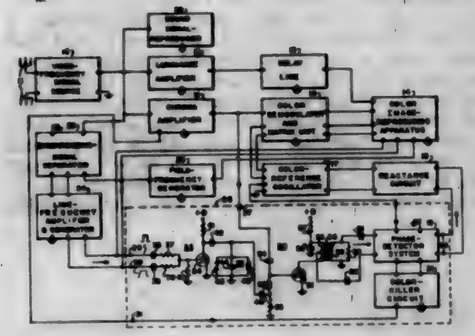


and combining all of said colors from said first amplifier means comprising diodes each having its anode connected to the anode of each of said amplifiers and having their cathodes connected directly together, load means in the cathode circuit of said diodes connected to said common point, means for abstracting a full panchromatic signal from said first mentioned amplifier comprising a second set of diodes having their anodes connected to said first amplifier anodes and their cathodes connected together and through a common load resistance to the cathode of said first mentioned amplifier, a neutral density amplifier comprising a vacuum tube having a cathode, a grid and an anode and means for connecting the grid to the second set of diodes and means connecting the cathodes to the first set of diodes, and recording means in the output of said neutral density amplifier.

2,976,350
CONTROL APPARATUS FOR COLOR SYNCHRONIZATION IN COLOR TELEVISION
Donald Richman, Fresh Meadows, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed June 28, 1958, Ser. No. 743,396
12 Claims. (Cl. 178—5.4)

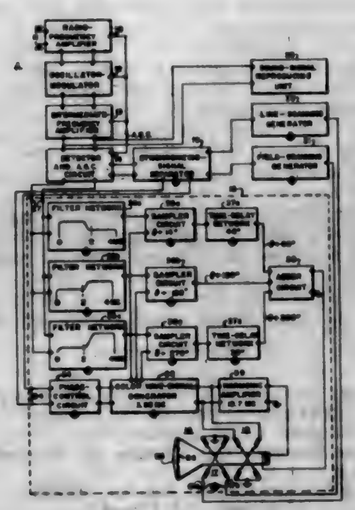
1. Control apparatus for the color-synchronization system of a compatible color-television receiver comprising: signal developing means responsive to at least the line-synchronizing pulses of the composite monochrome and the composite color-television signals for developing a periodic control signal therefrom; and gating means, subject to the application thereto of said composite signals which may include spurious transients that are occasioned by receiver mistuning and/or the pass-band characteristic of the receiver and that may be related to the trailing edges of said line-synchronizing pulses and the pedestals of said composite signals, responsive to predetermined amplitude portions of said control signal for translating restricted portions of the color-burst wave of said compos-

ite color-television signal, whereby the color-synchronization system is substantially unresponsive to said spurious



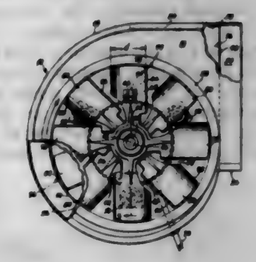
transients occurring during the trailing edge portions of said line-synchronizing pulses and said pedestals.

2,976,351
COLOR-SIGNAL MODIFYING APPARATUS
Bernard D. Loughlin, Huntington, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Original application Feb. 26, 1953, Ser. No. 339,145. Divided and this application Aug. 12, 1958, Ser. No. 754,682
4 Claims. (Cl. 178—5.4)



1. Color-signal modifying apparatus comprising: means for supplying a color-television signal having modulation components asymmetrically disposed thereon; a plurality of signal-translating means coupled to said supply means having nonuniform amplitude response characteristics, each of said translating means including a sampling circuit, and at least one of said translating means having a predetermined phase shift, for developing from said supplied signal symmetrically phased signal components of a luminance-corrected symmetrical signal; and signal combining means coupled to the output of said translating means for combining said symmetrically phased components into a composite luminance-corrected signal.

2,976,352
BLOWER UNIT
Anwar A. Atalla, Torrington, Conn., assignor to The Torrington Manufacturing Company, Torrington, Conn., a corporation of Connecticut
Filed Nov. 14, 1957, Ser. No. 696,537
22 Claims. (Cl. 230—117)

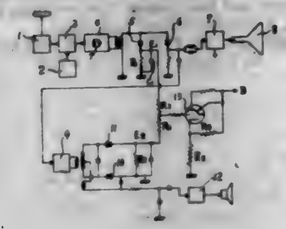


1. In a blower unit, the combination of a housing including a front side wall having a circular intake opening concentric with a central axis and including a second wall behind said front wall and parallel therewith, said housing having a peripheral discharge opening and having a chamber therein which is substantially closed except for said intake and discharge openings and which is unobstructed except for some of the hereinafter stated parts, a cylindrical shroud fitted within said intake opening, an electric motor including a drive shaft, means for supporting said motor with its drive shaft concentric with said central axis and with a portion of said shaft projecting toward the plane of said front wall, and an air impeller comprising a hub and a plurality of uniformly spaced blades connected with said hub and extending generally radially therefrom which hub is secured to the projecting portion of said motor shaft and is so located that the outer portions of its blades are within said shroud, said outer portions of the blades of the impeller having radii only slightly less than the internal shroud radius and said blades in their entireties being so pitched that said impeller serves upon rotation by the motor to draw air inwardly through the shroud and intake opening and each blade of said impeller having a mean pitch angle with respect to a plane parallel to said axis which is within the range of 45° to 60° and each blade of said impeller having a portion of its laterally projected depth extending axially inwardly beyond the shroud to an extent within the range of 60% to 70% of the total laterally projected depth.

2,976,353
TUNING INDICATOR SYSTEM FOR INTER-CARRIER TELEVISION
Takuya Nasu, 80 3-Chome, Morishoji-Naka, Asahi-ku, Osaka-shi, Osaka-fu, Japan
Filed Sept. 26, 1956, Ser. No. 612,180
Claims priority, application Japan Oct. 3, 1955
4 Claims. (Cl. 178—5.8)

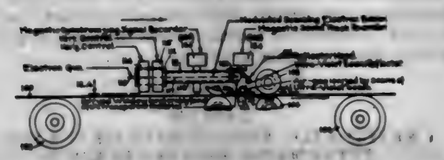
1. A tuning indicator, for a television receiver of the intercarrier sound system type in which intermediate frequency signals are passed through an intermediate frequency amplifier and a video detector for obtaining a tuning signal, comprising first and second means respectively connected to said intermediate frequency amplifier and said video detector for deriving direct current potentials varying in accordance with the magnitudes of the signals therein, control means including a resistive device coupled to said first and second means for combining said direct current potentials, and an indicating device for providing said tuning signal coupled to said control means

and responsive to the combined potentials for indicating the same and thereby the tuning of the receiver, said resistive device including first and second resistive ele-



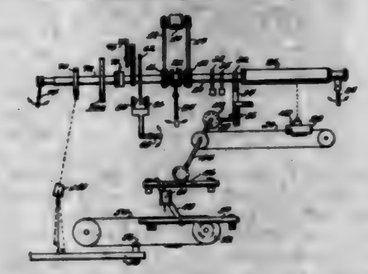
ments coupled to said first and second means respectively for combining said direct current potentials, said resistive elements superimposing said direct current potentials in parallel for controlling said indicating device.

2,976,354
TAPE RECORDING AND TRANSLATING AND THE LIKE
Thomas A. Banning, Jr., and Emil L. Ransom, Chicago, Ill., assignors, by direct and mesne assignments, to Thomas A. Banning, Jr., as trustee
Filed May 4, 1954, Ser. No. 427,428
28 Claims. (Cl. 178—6.6)



1. A recording and translating device comprising in combination a movable element having a signal responsive recording surface of sensitive force emitting material, means to support said element in recording and translating position for movement of the element along a path of travel means to move the element along said path during the recording or translating operation, an electronic element including a gas tight envelope having a window, a gun in the envelope, said gun being constituted to emit a beam, means to support the envelope element with the window in proximity to the signal responsive surface of the movable element and extending across the same for a width thereof to be cross-scanned, a beam responsive surface within the envelope and in light transmitting proximity to said window, said surface being constituted to emit a secondary light beam of wave lengths within the ionizing frequency range at the location of excitation of said signal responsive surface by the beam, said secondary beam being directed towards the window, means to deflect the beam for traverse of the location of excitation of said surface along the window and transversely of the surface of the movable element, said window being formed of material transparent to wave lengths in the ionizing frequency range and the ionizing frequency wave lengths of the beam passing through said window and traversing the length of the window along a path of scan harmoniously with the deflections of the beam, said path of scan including a path transversely of the surface of the movable element, and means to control the strength of the beam emitted by the gun to thereby also control the strength of the secondary beam during scan of said secondary beam transversely of the surface of the movable element.

2,976,355
CARRIAGE DRIVE FOR SELECTIVE SIZE PHOTOELECTRIC IMAGE REPRODUCING MACHINE
Samuel W. Levine, Westbury, N.Y., assignor to Fairchild Camera & Instrument Corp., a corporation of Delaware
Original application Jan. 24, 1957, Ser. No. 636,022. Divided and this application Oct. 13, 1958, Ser. No. 766,874
7 Claims. (Cl. 178—6.6)

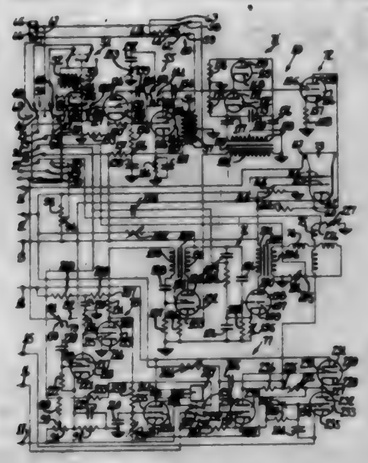


3. In an image reproducing machine of the photoelectric scanner type, a drive shaft, a cylinder for receiving a sensitive sheet, said cylinder being coupled to said shaft for continuous rotation thereby, a transducer carriage, means for slidably mounting said transducer carriage for motion parallel to the axis of said cylinder, means including an oscillatable drive element for moving said transducer carriage along a path parallel to the axis of said cylinder, means actuated by said drive shaft for oscillating said element through a cycle during each revolution of said drive shaft, means including a disengageable clutch for coupling said oscillatable drive element to said transducer carriage, means including a selectively operable brake for selectively operating said clutch and said brake to thereby produce intermittent motion of said transducer carriage, a copy support, means coupled to said transducer carriage drive means for intermittently moving said copy support in timed relationship with said transducer carriage, and means to adjust the increments of intermittent motion of said copy support.

2,976,356
SLOW SWEEP TELEVISION SYSTEM
George H. Fathauer, Decatur, Ill., assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Sept. 9, 1955, Ser. No. 533,286
8 Claims. (Cl. 178—6.8)

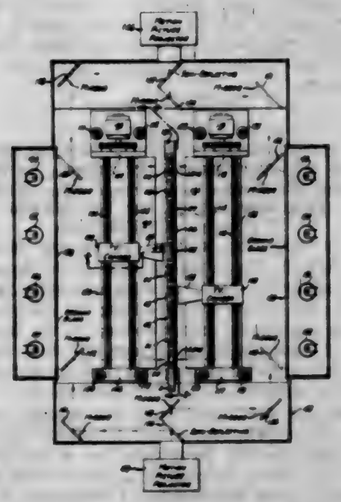
1. In a television system, a camera including a camera tube having a screen adapted to have an image focused thereon and means for impinging an electron beam on said screen for producing an electrical signal having an amplitude corresponding to the intensity of light on the portion of the screen on which said beam is impinged, amplifier means responsive to said signal and arranged to uniformly amplify frequencies up to a maximum value of less than 100 kc. per second, means for applying the amplified signal to a telephone line arranged to uniformly transmit frequencies up to said maximum value, a reproducer comprising a picture tube having a luminescent screen and means for impinging an electron beam on said screen, amplifier means responsive to the signal transmitted by said telephone line, means applying an amplified signal from said amplifier to said picture tube to control the intensity of said beam, first sweep generator means for causing periodic movement of said beams in one direction at a line rate on the order of 60 per second, and second sweep generator means for causing periodic movement of said beams in a transverse direction at a frame rate on the order of 0.1 per second, comprising: a sweep capacitor, a charging resistor connecting said

sweep capacitor to a direct current source, and electromagnetic relay including a coil and a contact, means coupling said contact and said sweep capacitor for discharg-



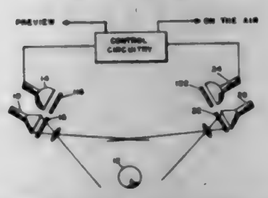
ing said capacitor, means for periodically energizing said coil, and a capacitor in parallel with said coil for maintaining the same energized for a certain time interval.

2,976,357
TELEVISION SLIDE PROJECTOR
Robert L. Hammett, 1488 Alvarado Ave., Burlingame, Calif.
Filed Jan. 22, 1957, Ser. No. 635,490
14 Claims. (Cl. 178—7.2)



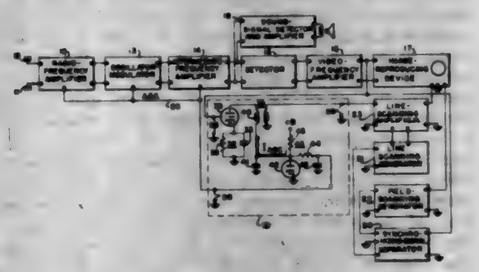
2. A television slide projector comprising means for supporting a plurality of partly transparent photographic slides in a coplanar array having two opposite planar sides, means for illuminating both sides of said array, two television cameras disposed on opposite sides of said array, and means for moving each of said cameras independently relative to said array for bringing each camera into alinement with each of a plurality of said slides selectively.

2,976,358
TELEVISION PICKUP SYSTEM
Jesse Hilton Haines, Clifton, and Frank Tamaro, Paterson, N.J., assignors, by mesne assignments, to Fairchild Camera and Instrument Corporation, Long Island City, N.Y., a corporation of Delaware
Filed Apr. 19, 1957, Ser. No. 653,868
16 Claims. (Cl. 178—7.2)



16. A television pickup system comprising a source of energy radiation including the visible and near visible spectral ranges, means causing an object to be simultaneously illuminated by said two spectral ranges of said radiation, a filter positioned in front of said source, said filter preventing the passage of one of said spectral ranges while transmitting the other, a second source of energy radiation including the visible and near visible spectral ranges, a second filter positioned in front of said second source, said second filter transmitting said one of said spectral ranges while preventing the passage of said other of said spectral ranges; pickup means responsive only to said one of said spectral ranges, a second pickup means responsive only to said other of said spectral ranges, said pickup means comprising a plurality of phototubes, said phototubes converting said energy radiation received thereby to television signal outputs whereby a preview picture signal is made available.

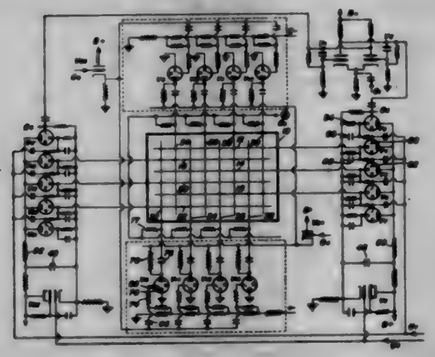
2,976,359
KEYED A.G.C. SYSTEM WITH MEANS FOR PREVENTING SIGNAL LOCKOUT
Donald Richman, Fresh Meadows, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 225,388, May 9, 1951. This application June 23, 1955, Ser. No. 517,614
10 Claims. (Cl. 178—7.3)



9. An automatic-gain-control apparatus for a television receiver comprising: an electron-discharge device effectively having an anode, a cathode, and a control electrode; means including biasing means for normally maintaining said device nonconductive; a circuit coupled to said control electrode and cathode for applying thereto a composite modulation signal including the original unidirectional components and including synchronizing pulses having such polarity as to tend to develop anode current in said device; a circuit including a conductive circuit element coupled between said anode and cathode for applying thereto across said conductive circuit element

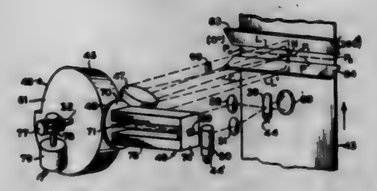
periodic control pulses having an amplitude substantially unaffected by amplitude variations of said synchronizing pulses and a frequency component not greatly different from a frequency component of said synchronizing pulses and with such polarity as to render said device conductive and develop anode-current pulses only during coincidence of said synchronizing pulses and said control pulses, said anode-current pulses sometimes occurring during pull-in operation of the receiver in beat-frequency groups having a recurrence rate substantially less than that of said synchronizing pulses due to intermittent coincidence of said synchronizing pulses and said control pulses; a direct-current path between said anode and cathode with a point of fixed potential therein and including a resistor which is connected to said anode through said conductive circuit element and connected to said fixed potential point and carries the unidirectional and beat-frequency components of said anode current and has developed thereacross corresponding components of voltage; a condenser which is connected between said fixed potential point and the junction of said conductive circuit element and said resistor and has developed thereacross each of said components of voltage, said resistor and condenser having a time constant which is long with respect to said synchronizing pulses but not long with respect to said beat-frequency components of voltage; a clamping device effectively connected in parallel with said condenser and responsive to the positive peak amplitudes of said beat-frequency voltage for clamping said peak amplitudes at said fixed potential and developing across said condenser an additional component of unidirectional voltage; a pair of output terminals; and a filter network coupled between said condenser and said terminals and having a time constant not less than the period of said beat-frequency voltage for developing between said terminals from said unidirectional voltages across said condenser a substantially ripple-free gain-control voltage.

2,976,360
GRID PLATE SEQUENTIAL SCANNING SYSTEM
Grant C. Riddle, Penn. Pa.
(USS Starlet (SS392), % FPO, San Francisco, Calif.)
Filed Nov. 29, 1955, Ser. No. 549,588
7 Claims. (Cl. 178—7.3)



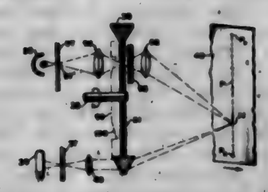
2. A grid-plate scanning circuit for use in combination with a grid-plate for graphically reproducing by luminous points a signal applied on said scanning circuit, said grid-plate including a plurality of horizontally spaced vertical grid-leads and a plurality of vertically spaced horizontal grid-leads, said scanning circuit including means for applying a keyed signal voltage on said horizontal grid-leads, means for applying successive voltage pulses on each of said vertical grid-leads whereby the grid-plate will emit light at the cross-over points of said horizontal grid-leads when said keyed signal voltage and said voltage pulses are coincident, said means for applying said keyed signal on said horizontal grid-leads including a series of cold cathode tubes each having a plate, grid, and cathode, each of said cathodes of said tubes being connected to a separate horizontal grid lead, a cathode resistor and a cathode condenser connected between each of said cathodes and the signal transmission line, said cathode resistors being connected in parallel with said cathode condensers, said means for providing successive voltage pulses on said vertical grid-leads comprising a series of cold cathode tubes having a plate, grid, and cathode, means for applying a potential on the said plates of said tubes, said means being a series of resistors connected between said plates and a voltage bus, means whereby when said tubes conduct, successive negative voltage pulses are applied on each of said grid-leads, said means being a series of plate condensers connected between said plates and said grid-leads, so that when said tubes conduct, the sharp drop of said tubes' plate potential is coupled to said grid-leads, means for causing said tubes to successively conduct, said last named means being a linear rising potential on the said grids of said tubes to successively bring said tubes to the conductive point, means to apply said linear rising potential on said grids, including the series connection of a grid condenser and grid resistor, the junction of said grid condenser and grid resistor being connected to a limiting resistor, a second terminal of each said limiting resistors being connected to the said grids, a second terminal of each said grid resistors being connected to successive taps of a voltage divider network, a second terminal of said grid condensers being connected to a linear rising potential bus whereby said linear rising potential is coupled to said grid.

2,976,361
CONTINUOUS SCANNER WITH WARPED MIRROR
George M. Stamps, New Hyde Park, N.Y., assignor to Faximile Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1956, Ser. No. 577,708
6 Claims. (Cl. 178—7.6)



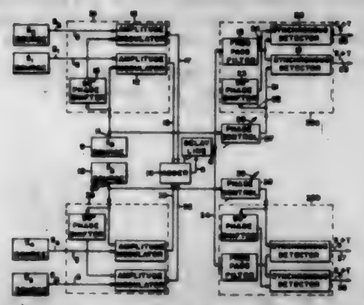
1. A device for scanning a record sheet, comprising a warped cylindrical optical element having a light reflecting surface, said surface being twisted to disposed opposite circumferential ends thereof at an acute angle to each other, opposite axial ends of said element having spiral perimeters, a rotatable disk support for said element, a light shield defining a divided light path, a lens having a mask defining a plurality of slits therein, another lens, at least one of the lenses having a cylindrical curvature, a light source, a movable copy sheet and a phototube, said element, lenses, light shield, light source, photocell and copy sheet being disposed in a common reentrant optical path, whereby a single fixed line on said sheet is scanned upon rotation of said element.

2,976,362
CONTINUOUS SCANNER
George M. Stamps, New Hyde Park, N.Y., assignor to Faximile Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1956, Ser. No. 577,709
3 Claims. (Cl. 178—7.6)



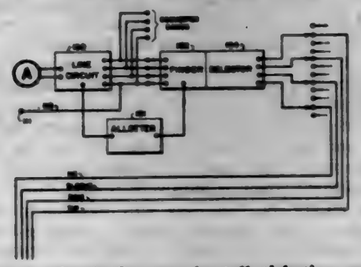
1. A scanning device, comprising a flat faced rotatable opaque circular disk, a ring-like prism mounted on the periphery of said disk, said prism having at least one side inclined and continuously twisted from end to end thereof with respect to the plane faces of the disk, said disk having a transparent spiral slit therein, a lens, a graphic copy medium, a light source disposed at one end of an optical path including said prism, copy medium, lens and disk in sequence, said prism projecting a moving spot of light on a single line of said copy medium for reflection therefrom, said lens focusing the reflected line on said disk for repeated scanning by said slit and light responsive means at the other end of said path for receiving light reflected from said line.

2,976,363
MODULATION OF SELECTED PHASES OF CARRIERS FOR SIMULTANEOUS TRANSMISSION THROUGH SINGLE DELAY MEANS
Leon M. Barton, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1957, Ser. No. 706,212
11 Claims. (Cl. 178—50)



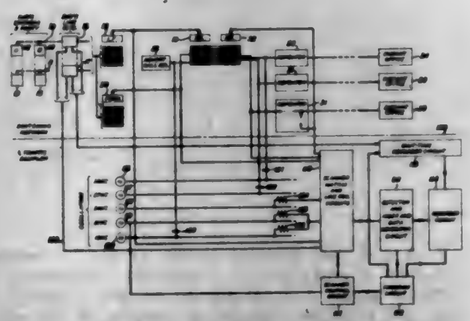
4. In combination, a source of first, second, third and fourth signals each having a characteristic modulation, a common time delay circuit responsive to an input signal available at an input terminal for providing said signal at an output terminal with a time delay T, an output circuit, means for simultaneously applying said first, second, third and fourth signals through said time delay circuit to said output circuit comprising a source of first carrier oscillations f_a, a source of second carrier oscillations f_b, said first and second oscillations each comprising two components with a fixed, relative phase difference, means for amplitude modulating the two components of said first oscillations with a respective one of said first and second signals to provide amplitude modulated components, means for amplitude modulating the two components of said second oscillations with a respective one of said third and fourth signals to provide amplitude modulated components, means for simultaneously applying said amplitude modulated components to said time delay circuit to provide time delayed, amplitude modulated components, means for demodulating said time delayed, amplitude modulated components to provide time delayed first, second, third and fourth signals, and means for applying said last-named signals to said output circuit.

2,976,364
METHOD AND APPARATUS FOR CONTROLLING TRUNK RECORDER PLAYBACK
Milton A. Clement, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Aug. 3, 1956, Ser. No. 601,870
4 Claims. (Cl. 179—7.1)



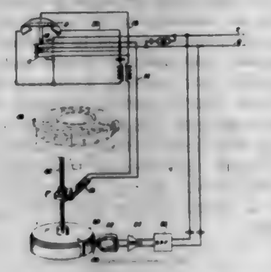
2. A trunk circuit for use in toll ticketing systems comprising a storage device for storing data pertaining to the duration of a toll call, a timing mechanism individual to said trunk circuit and operative to supply a control signal after a selected first time interval and to supply a plurality of duration signals at second selected time intervals greater than said first time interval for operating said storage device, a supervisory relay responsive to answering supervisory signals, first circuit means controlled by said supervisory relay for initiating operation of said timing mechanism to supply said control signal and said duration signals, and second circuit means controlled by said control signal at the end of said first time interval for operating said timing mechanism to supply said duration signals to said storage device.

2,976,365
AUTOMATIC TELEPHONE TRAFFIC RECORDER EMPLOYING MAGNETIC TAPE
William R. Young, Jr., Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 10, 1954, Ser. No. 455,154
28 Claims. (Cl. 179—8)



20. In combination a first diode switching matrix comprising a plurality of unilateral conducting diodes, a plurality of input terminals for receiving one or the other of two different electrical conditions, a plurality of control conductors interconnected with said unilateral conducting diodes, an output circuit including means responsive to the reception of one of said electrical conditions on one of said input terminals for establishing a path through said network from said input terminal to said output circuit, means for deriving control potentials on said control conductors from said established path, a second diode switching matrix including a second plurality of unilateral conducting diodes and a second plurality of input terminals, a second plurality of control conductors interconnected with the diodes of said second diode switching matrix and a second output circuit, means for applying the control potentials derived from said first control conductors to said second control conductors for establishing a path through said second diode switching matrix from one of said second plurality of input terminals to said second output circuit.

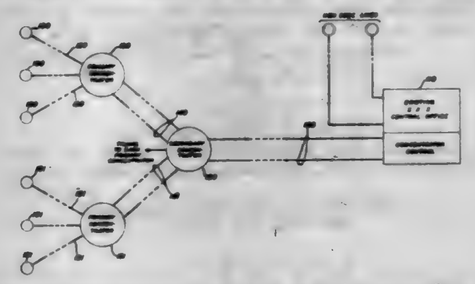
2,976,366
TELEPHONE STATION IDENTIFICATION SYSTEM
Noah S. Terry, Freeport, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 9, 1958, Ser. No. 747,426
3 Claims. (Cl. 179—8.5)



2. An automatic telephone system including a central office, a line terminating therein, a plurality of stations on said line, and a calling device at each station, said calling device comprising a dial having a normal position and rotatable in one direction from the normal position to another position and rotatable in a second direction to return from said other position to said normal position, a shaft, a set of normally closed pulsing contacts connected to said line in a direct-current circuit, a cam and a magnetic record member coaxially mounted on said shaft, an alternating-current signal representing the directory number of the station recorded on said record member, a magnetic core winding disposed in close proximity to said member, said winding being connected to said line, and means responsive to the movement of said dial in said second direction to said normal position for rotating said shaft and cam to open and close said pulsing contacts to interrupt said direct-current line circuit a variable number of times in accordance with the degree of rotation of said dial and for rotating said record member to induce said directory number signal in said magnetic core winding and transmit said signal to said central office between the instant said dial starts to move in said second direction and the instant the first closure of said pulsing contacts occurs after their first break.

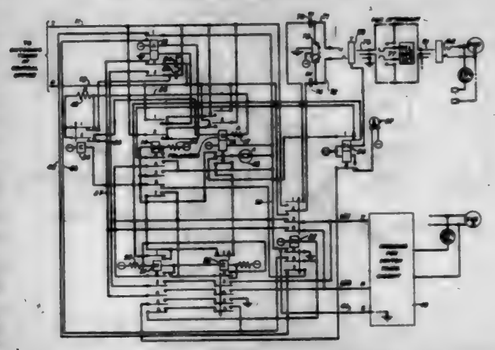
2,976,367
TWO-STAGE LINE CONCENTRATOR SYSTEM
Edmond Bruce, Fair Haven, Willard A. Roesstra, Rutherford, and Wesson J. Ritchie, Morris Plains, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 23, 1958, Ser. No. 782,419
26 Claims. (Cl. 179—18)

2. A communication system comprising a central office, a plurality of lines, a plurality of primary trunks less in number than said plurality of lines, a plurality of primary concentrators remote from said central office and each comprising means for connecting an associated group of said lines to a corresponding group of said primary trunks, a plurality of secondary trunks less in number than said primary trunks and extending from said central office, a secondary concentrator remote from said



central office for connecting all of said primary trunks to said secondary trunks, and means at said central office responsive to a calling condition at one of said lines for enabling said secondary concentrator and in conjunction with means at said secondary concentrator for enabling said primary concentrator associated with the group of said lines including said calling line to complete a connection of said calling line to said central office.

2,976,368
INCOMING TRUNK CIRCUIT FOR IN-DIALING SERVICE
Preston R. Gray, Elmhurst, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 17, 1958, Ser. No. 774,409
6 Claims. (Cl. 179—27)

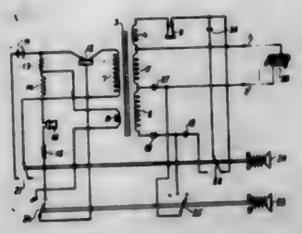


1. In a trunk for automatically connecting a calling line with a called line, a first relay, a second relay, a thermistor, means including said thermistor for operating said first relay, means independent of said thermistor for holding said first relay operated, means including said thermistor for subsequently releasing said first relay, means independent of said thermistor for operating said second relay, and means including said thermistor for releasing said second relay.

2,976,369
FIELD TELEPHONE
Adolf Salzer, Franz Liszstrasse 14, Bremen, Germany
Filed Apr. 9, 1957, Ser. No. 652,333
Claims priority, application Germany Apr. 11, 1956
11 Claims. (Cl. 179—84)

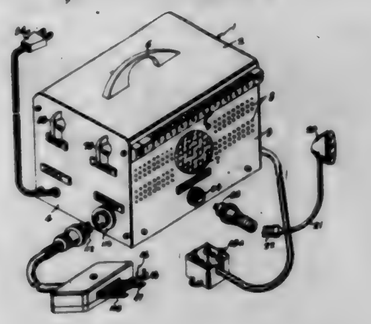
1. A portable telephone set comprising a transistor having input and output circuits, a battery adapted to

supply power to said transistor, a transformer core, said output circuit including a first primary winding on said core, another primary winding on said core adapted to be connected in signal feedback relationship to said input circuit, a microphone, means for selectively switching said microphone into said input circuit, a secondary



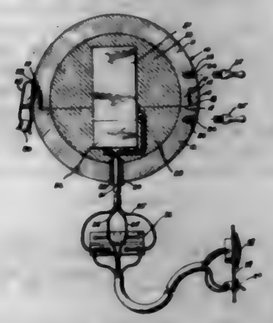
winding on said core connected to a telephone line, a telephone receiver inductively coupled to said line through said core, a charging circuit including another secondary winding on said core, a condenser, and means for successively charging said condenser through said charging circuit and discharging it across said line.

2,976,370
TELEPHONE OPERATING DEVICE FOR HANDICAPPED PERSONS
Edward T. Duncan, Bridgeport, Conn., assignor to Harvey Hubbel, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed June 25, 1957, Ser. No. 667,761
6 Claims. (Cl. 179—90)



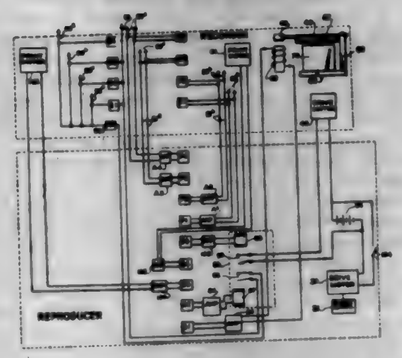
1. In a telephone operating device for handicapped persons, a transmitter and a receiver, a telephone dialing mechanism including a pulsing switch, an indicator including a series of electric lights numbered to correspond with the numbers of the standard telephone dialing system, means for operating said lights in succession including a series of stationary contacts connected to the respective lights and a movable contact mounted to engage the stationary contacts in succession, a motor, driving means from the motor for operating the pulsing switch to provide a series of electric pulses and to shift the movable contact over the stationary contacts to light the lights in succession, and control switches operable by moving parts of the person's body, one operable to connect the transmitter, receiver and pulsing switch into a telephone line and another operable to control operation of the motor to operate the pulsing switch and shift said movable contact.

2,976,371
SAFETY RECORDING DEVICE
James R. Bell, San Lorenzo, Calif.
(14795 Washington Ave., San Leandro, Calif.)
Filed Apr. 15, 1959, Ser. No. 806,498
6 Claims. (Cl. 179—100.1)



1. A self-contained emergency recording instrument comprising in combination a spherical housing having two separable portions joined to form a continuous shell of substantial and uniform thickness, a self-contained recorder within said housing, a separate power source for said recorder and in circuit therewith in said housing, insulation packing around said recorder and power source and filling the space within said housing, and means passing through said housing comprising a circuit connecting said power source and recorder for accepting signals at a remote station and recording the same on said recorder.

2,976,372
MAGNETIC TAPE REPRODUCING SYSTEM
Sidney O. Sampson, 216 E. 31st St., New York, N.Y.
Filed Mar. 2, 1959, Ser. No. 796,642
6 Claims. (Cl. 179—100.2)



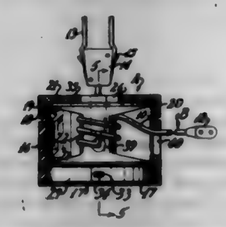
1. A tape duplication system, comprising a master tape reproducer, at least one tape recorder operatively connected to the reproducer, and means at the reproducer for controlling starting, driving, stopping and cutting of a recording tape in the recorder, said master tape having a plurality of recorded tracks carrying recorded signals to be impressed upon the recording tape in a plurality of recording tracks, said master tape having another plurality of tracks carrying control signals for actuating said means, said recorder having tape driving means and tape cutting means actuated by the first-named means.

2,976,373
OMNI-DIRECTIONAL ELECTRO-ACOUSTIC CONVERTER OF ELECTRO-MAGNETIC TYPE
Saburo Uchida, Bunkyo-ku, Tokyo-to, Japan, assignor to Fukuin Denki Kabushiki Kaisha (known as Fukuin Electric Works, Ltd.), Tokyo-to, Japan, a Japanese limited-liability company
Filed Oct. 23, 1956, Ser. No. 617,879
Claims priority, application Japan Jan. 18, 1956
5 Claims. (Cl. 179—115.5)



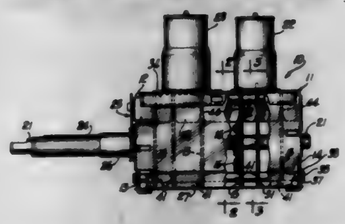
3. An omni-directional device of the electrodynamic type usable for converting electrical impulses into sound and alternatively usable for converting sound into electrical impulses comprising, means for establishing a substantially circular magnetic field, a continuous flexible ribbon conductor disposed in said magnetic field, and means dividing the ribbon conductor into a plurality of circularly arranged portions each capable of vibrating freely in said magnetic field to generate electrical energy in response to a sound field and each being frequency-responsive to alternative application of electrical impulses thereby to generate a substantially uniform sound field in all directions.

2,976,374
EXTENSION CORD REEL
Ralph E. Poulsen, 6457 Aqueduct Ave., Van Nuys, Calif.
Filed Feb. 17, 1958, Ser. No. 715,597
8 Claims. (Cl. 191—12.4)



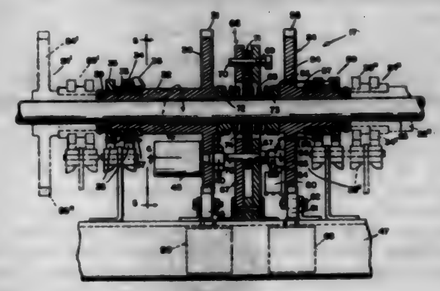
1. In an extension cord and cord reel for connecting an electric appliance to an electric power outlet, in combination: a casing including back, front and lateral wall members; a reel drum comprising a hub, a combined radial flange and ratchet wheel on the front end of said hub, adjoining said front wall member, a rear radial flange on the rear end of said hub, spaced axially from said back wall member, and front and rear trunnions extending axially from the respective ends of said hub beyond said flanges and journalled in said front and back wall members respectively; said hub having a cavity opening into its forward end and an L-shaped passage extending from the bottom of said cavity axially and thence radially through the periphery of said hub; an extension cord having a male connector plug adapted to be plugged into a power outlet including a body received in said cavity and prongs projecting beyond the front end of said hub, said cord extending from the rear end of said plug through said passage to the periphery of said hub, thence wound around said hub and thence extended radially outwardly, said casing having in said lateral wall an axially extending slot through which said cord projects, and said cord having at its outer end a female connector adapted to be connected to an appliance; a spiral spring disposed in the space between said rear flange and said back wall member, having one end encircling and attached to said rear trunnion, and having its other end anchored to the casing near said lateral wall member, said spring being arranged for winding said cord upon said reel when the latter is released for rotation; and a locking dog, shiftably mounted in and projecting through said front wall member of the casing, said dog being manually operable exteriorly of the casing, being engageable with said ratchet wheel when shifted in one direction, whereby to lock said reel against cord-retracting rotation, and disengageable from said ratchet wheel when shifted in an opposite direction, to release said reel for retracting said cord into the casing.

2,976,375
HIGH FREQUENCY TUNER
Alarico A. Valdettaro, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Apr. 9, 1958, Ser. No. 727,301
10 Claims. (Cl. 200—14)



1. In a high frequency tuner, the combination of a chassis having a deck, a pair of end walls depending from said deck, a tie rod connected between said walls, said rod being remotely disposed from said deck, an elongated resilient strip disposed beneath and adjacent to said deck, and a plurality of switch wafers disposed between said strip and said rod, said strip and said rod engaging said switch wafers at diametrically spaced points thereon, said strip being partially compressed whereby said wafers are pressed against said rod and yet may be readily removed without removal of said tie rod.

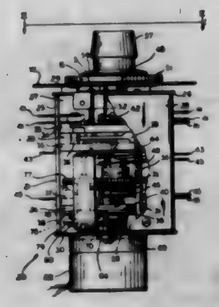
2,976,376
CONVEYOR DISPATCH SYSTEM
Paul Klamp, St. Clair Shores, Mich., assignor to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Mar. 25, 1957, Ser. No. 648,027
8 Claims. (Cl. 200—33)



1. A control unit comprising primary and secondary wheels coaxially mounted for indexing rotation, means to impositively drive said wheels, electrically energizable devices controlling periodic indexing of said respective wheels in timed relation to one another under said impositive drive, a fixed circumferential series of shiftable control elements arranged coaxially of and between said wheels, said primary index wheel having an electrically

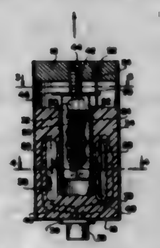
responsive actuator member thereon operable when electrically energized to shift one of said elements, in accordance with the rotatively indexed position of said wheel, from an inoperative to an operative position, said secondary index wheel having an electrical switch member rotatable therewith and actuated by said shifted element, and manually controlled means governing energization of one of said first named control devices to effect simultaneous indexing of said primary wheel and energization of said actuator member and to effect energization of the other of said first named devices to control indexing of the secondary wheel.

2,976,377
SWITCH CONSTRUCTION AND MECHANISM THEREFOR
Richard H. Jordan, Mansfield, Ohio, assignor to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana
Filed July 23, 1957, Ser. No. 673,658
23 Claims. (Cl. 200—38)



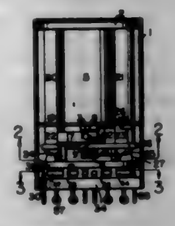
1. A program timer for the electrical components of a device comprising in combination: a first program cam and a separately movable second program cam; switch means operated by each of said cams, and having means for connection to the electrical components to be controlled; a first drive gear connected to said first program cam and rotatable therewith; a second drive gear connected to said second program cam and rotatable therewith; a pivotable link biased toward the peripheries of said drive gears; gearing carried by said link and engageable with said first drive gear to rotate said first cam; means driving said gearing; and a recess in the periphery of said first drive gear for receiving a portion of said driven gearing, said recess permitting said gearing to pivot toward said drive gears for drivingly engaging said second drive gear.

2,976,378
ACCELERATION RESPONSIVE DEVICES
Robert W. Goddard, San Jose, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 3, 1958, Ser. No. 739,542
6 Claims. (Cl. 200—61.45)



1. An acceleration switch comprising; operator means for producing a variable magnetic field intensity including a movable mass of magnetic material responsive to acceleration forces, a sealed fluid filled elongated tube enclosure about said mass for dampening and guiding its movement and means normally biasing said mass to one end of said tube enclosure, and enclosed switching means adjacent said tube enclosure and path of movement of the movable mass, actuated in response to movement of the mass along the path.

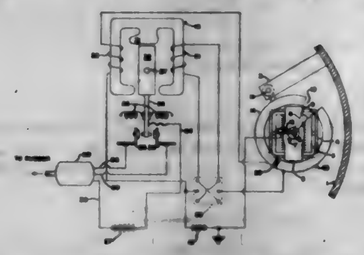
2,976,379
WIPING CONTACT ROTARY RELAY
Chester R. Rhodes, 11845 E. Bexley Drive, Whittier, Calif.
Filed Feb. 6, 1958, Ser. No. 713,645
17 Claims. (Cl. 200—87)



1. A rotary relay having wiping contacts comprising a stationary magnetomotive structure having pole pieces, a magnetizable armature, bearings on said armature to allow rotation thereof from a high to a low reluctance position over said pole pieces upon magnetomotive excitation of said structure, restorative means to return said armature to the high reluctance position upon the cessation of said excitation, an insulating wafer mechanically connected to said armature, said wafer having plural radial electrical contacts, three stationary contacts disposed circumferentially adjacent to each of said plural contacts, the center contact of each of said three stationary contacts having a circumferential width only sufficient to remain in wiping contact with one of said plural contacts when said armature is in both the excited and the non-excited rotative positions, another of said stationary contacts differently positioned circumferentially to make wiping contact with said one plural contact when said armature is in the excited position, still another of said stationary contacts oppositely circumferentially removed from said center contact to make wiping contact with said one plural contact when said armature is in the non-excited position; a surrounding case, and a diaphragm in said case adjacent to said pole pieces disposed to separate the contact portion of said relay from the stationary magnetomotive structure of said relay.

2,976,380
RELAY DEVICE FOR CONTROLLING A SERVO MOTOR
Carleton H. Schlesman, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 24, 1952, Ser. No. 300,797
5 Claims. (Cl. 200—102)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A course control device comprising a gyroscope, direction selector assembly means including a pair of contact strips separated by insulating material forming a ring having a gap diametrically opposite said insulating material, a contact arm having an end portion for selectively contacting said strips, said contact strips and said contact arm being in a common plane, said contact arms being secured to said gyroscope, said contact strips mounted for relative rotation with respect to said contact arm, said end contact portion being of size sufficient to straddle said insulating material and concurrently therewith contacting said pair of contact strips when said end contact is adjacent said insulating material and adapted to be disposed in said gap when said end contact is in line with a desired course and without contacting said strips, translating means, bias relay control means connecting said translating means to said selector assembly, said relay including an E-shaped core having an unsymmetrical pole portion projecting between the outer legs of said core and forming a portion of the core, said unsymmetrical projecting portion being centrally located on said



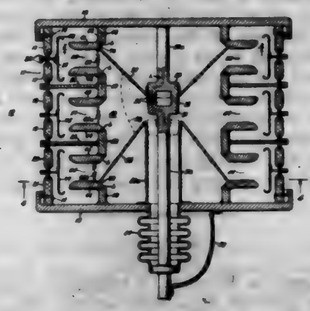
core and having unequal cross-sectional areas on either side of the center thereof, a pair of coils respectively arranged about the legs of said core, elongated armature means pivotally mounted between said legs, said armature having a contact carrying member, first and second contact members disposed on opposite sides of the contact carrying member and connected to said translating means, said coils being connected to said pair of contact strips, said unequal cross-sectional areas of said projecting portion being effective to urge said armature in a predetermined direction when said contact arm portion dwells in a position straddling said insulating material and engaging both contact strips.

2,976,381
CIRCUIT INTERRUPTER
Sigurd I. Lindell, Chicago, Ill., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware
Filed May 15, 1959, Ser. No. 813,584
16 Claims. (Cl. 200—120)



1. An electric circuit interrupter comprising, in combination, a tubular insulating housing having at one end an arcing chamber and a stationary terminal, said housing providing lengthwise extending parallel large and small bores, a movable rod-like terminal substantially filling said large bore, means connected to one end of said rod-like terminal for moving it away from said stationary terminal, a fusible element in said arcing chamber connecting the other end of said rod-like terminal to said stationary terminal, a movable auxiliary terminal in said small bore connected at one end to said one end of said rod-like terminal and movable therewith and at the other end having means for establishing a gap by movement of said auxiliary terminal away from said stationary terminal and drawing an arc in said arcing chamber between said auxiliary terminal and said stationary terminal, and a stationary barrier formed wholly of insulating material in said arcing chamber between said arc drawing means and said fusible element whereby on final interruption of the circuit by said auxiliary terminal the arc products incident thereto are prevented from impinging on the ends of said fusible element when blown.

2,976,382
ARC EXTINGUISHING STRUCTURE FOR AN ELECTRIC CIRCUIT INTERRUPTER
Thomas H. Lee, Media, Pa., assignor to General Electric Company, a corporation of New York
Filed June 29, 1959, Ser. No. 823,731
18 Claims. (Cl. 200—144)



1. A vacuum-type circuit interrupter comprising an evacuated envelope defining a vacuum chamber, a pair of electrodes disposed within said vacuum chamber and defining therebetween a main arcing gap across which a circuit-interrupting arc is adapted to be established, a plurality of pairs of annular disc-shaped members surrounding said arcing gap and radially spaced from said electrodes, the disc-shaped members of each pair being spaced apart to define between the two disc-shaped members a secondary arcing gap of annular shape surrounding said main gap, means for driving said circuit-interrupting arc from said main arcing gap radially outward into contact with said disc-shaped members and for thereafter dividing said circuit-interrupting arc into a plurality of series-related arclets respectively bridging said secondary arcing gaps, means for thereafter driving each of said arclets onto the outer peripheral region of said disc-shaped members and for providing a magnetic force acting to hold said arclets on said outer peripheral region for substantially all angular positions of said arclets, means for producing motion of said arclets repetitively about the outer peripheral region of said disc-shaped members comprising slot means extending from the outer periphery of at least one disc-shaped member of each pair in such a manner that the current path extending through said one disc-shaped member to an arclet terminal located at substantially any angular point on said outer peripheral region has a net component extending generally tangentially with respect to said periphery in the vicinity of said arclet terminal.

2,976,383
CONTACT PIECES
Paul Kobler, 81 Fenimore St., Lynbrook, N.Y.
Filed May 15, 1956, Ser. No. 584,934
2 Claims. (Cl. 200—166)

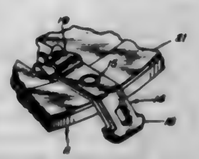
1. A contact structure comprising a pair of movable contact pieces, each contact piece having a concentrated

sparking area spaced inwardly of the edges of the contact but outwardly of the center thereof, said sparking area being formed by a ground-off rim on at least a portion of the edge of the contact piece, each of said contact pieces comprising a large surface approximately as wide, as long, one of said contact pieces being arranged at an angle with respect to the other contact piece, said contact pieces touching each other at their concentrated sparking area when in closed position,



thereby forming a pair of V-shaped air pockets, one considerably larger than the other, the remaining non-contacting surfaces of the contact pieces forming heat radiating surfaces which are air cooled by the motion of at least one contact piece, said concentrated sparking area further being surrounded on at least two more sides by smaller air pockets formed by the contact surfaces receding outwardly from the concentrated sparking area, and means for moving one contact piece with respect to the other for opening and closing a circuit.

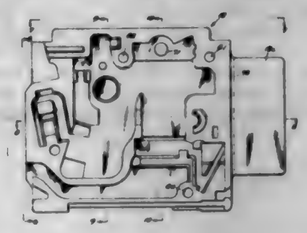
2,976,384
SWITCH
John McLauchlin Winston, Washington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Nov. 6, 1958, Ser. No. 772,370
3 Claims. (Cl. 200—166)



1. A multiple contact rotary switch, comprising an annular stator wafer formed of a thermosetting resin, a rotor journaled in the aperture of said stator, a plurality of metallic contact clips riveted to one face of said stator for selective engagement by said rotor, and a layer of a thermoplastic adhesive provided on said face between said stator and said clips, said adhesive being hard at the normal operating temperature of said switch and becoming plastic at temperatures used in making solder connections to said clips, whereby the application of heat to said clips while making solder connections thereto causes said adhesive to become tacky, whereupon cooling of said clips permits said adhesive to set and firmly anchor said clips to said stator.

2,976,385
CIRCUIT BREAKER FOR BOLTED AND PLUG-IN CONSTRUCTIONS
William Harold Edmunds, Havertown, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 3, 1959, Ser. No. 803,969
2 Claims. (Cl. 200—168)

1. A circuit breaker including a hollow molded casing having an open side, a molded cover forming a closure for said open side, and a bolted type line terminal positioned externally of a first end of said casing; said cover including a first portion extending beyond said casing first end to form an insulating barrier between said line terminal and a line terminal of a similar circuit breaker positioned adjacent to said cover; said cover including formations whereby said first portion may conveniently be broken away and the remaining portion of said cover utilized as a cover for a circuit breaker having a plug-in line terminal.

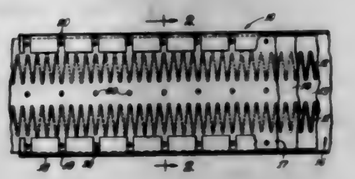


2,976,386
ELECTRIC FOOD WARMERS
Lewis L. Salton, 1361 Madison Ave., New York, N.Y.
Filed Mar. 31, 1958, Ser. No. 725,155
7 Claims. (Cl. 219—19)



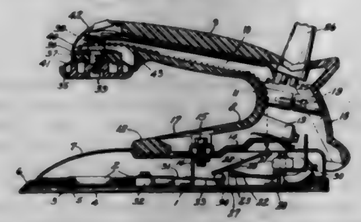
4. A heating device which includes: a conductive metal support; a glass plate loosely held by said support, said plate having an upper and a lower surface; an electrically conductive layer attached directly to the lower surface of said plate, said layer being spaced from the edges of said lower surface; a hydrophobic strip located on said lower surface of said plate so as to surround said conductive layer and so as to be spaced therefrom, said strip serving as a liquid repellant border around said layer.

2,976,387
HEATER BAND
Donald W. Browne, Des Plaines, Ill., assignor to Acra Electric Corporation, a corporation of Illinois
Filed May 28, 1958, Ser. No. 738,363
1 Claim. (Cl. 219—19)



A heater band construction comprising: a generally flat heater element; a pair of insulating sheets juxtaposed to opposite sides of said heater element and extending laterally therefrom; a support sheet facially juxtaposed to one of said sheets and having discontinuous overturned edges overlying portions of said sheets laterally of said heater element; a cover sheet facially juxtaposed to the other of said sheets and extending to between said overlying edges and said lateral portions of said other of said sheets; and means associated with at least one of said support and cover sheets providing a localized pressure on points of said sheets laterally of said heater element, said pressure providing means comprising a projection on one of said support and cover sheets extending to a point spaced from the other of said support and cover sheets less than the thickness of the arrangement of said insulating sheets and heater element, said projection being aligned with a discontinuity of said edges.

2,976,388
THERMOSTAT CONTROL
Frank E. Finlayson and Alfred G. Swenson, Ontario, Calif., assignors to General Electric Company, a corporation of New York
Filed May 27, 1957, Ser. No. 661,954
3 Claims. (Cl. 219—25)



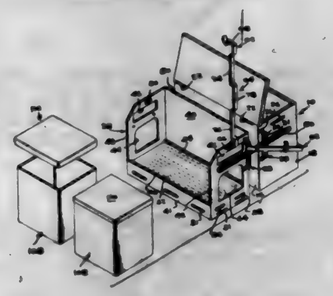
1. In a flatiron, a soleplate assembly including an electrical heating element, a handle secured to said soleplate, said handle having a hollow rear handle support and a grip portion with an internal passageway, a fixed contact carried by said soleplate, a resilient arm carrying a movable contact for operation in conjunction with said fixed contact as a switch, a temperature responsive member secured to said soleplate and adapted to impart switch actuating motion to said resilient arm, a manually rotatable element at the forward portion of said handle grip portion, a flexible motion transmitting member extending through said internal passageway and rear handle support for connection to said resilient arm, and a driving connection from said manually rotatable element to said motion transmitting member, whereby manual adjustment of said rotatable element adjusts the temperature setting at which said switch operates.

2,976,389
ELECTRIC BASEBOARD HEATING UNIT
Nicholas J. Burger, Silver Spring, and John J. Finn, Rockville, Md., assignors to Electro-Therm, Inc., Silver Spring, Md.
Filed Jan. 19, 1959, Ser. No. 787,617
7 Claims. (Cl. 219—34)



1. In an electric air heater, a horizontally elongated housing having a lower horizontal air inlet and an upper horizontal air outlet and having substantially vertical front and rear walls, a heating unit comprising an intermediate horizontally elongated vertical plate member, respective additional horizontally elongated vertical plate members disposed on opposite sides of said intermediate plate member, an elongated electrical heating element substantially coextensive in length with and secured longitudinally on said intermediate plate member, a plurality of transverse tubular rivets extending through said plate members, and spacer sleeves on said rivets between the plate members and spacing said plate members in parallel relation, horizontal projections on the rear wall of the housing extending supportingly through said tubular rivets, and further projections on said rear wall engaging the rearmost vertical plate member to space the heating unit from said rear wall.

2,976,390
ELECTRICALLY HEATED LUNCH BOX
Henry E. Stemp, 3803 Cameron Ave., Hammond, Ind.
Filed Feb. 24, 1960, Ser. No. 10,756
7 Claims. (Cl. 219—35)

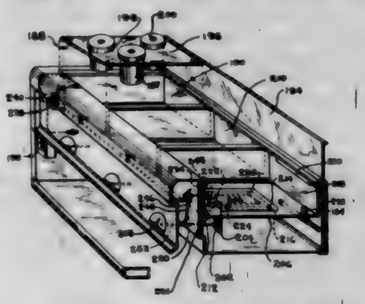


4. A lunch box comprising an elongated carrier device and receptacle each having an elongated substantially rectangular configuration and normally disposed in side-by-side relation, said device having a pair of opposed end panels and said receptacle having a pair of opposed end walls, said device and receptacle being disposed relative to each other to provide oppositely arranged pairs of adjacent end panels and end walls, each adjacent pair of end panels and end walls having a plurality of elements projecting laterally therefrom, an elongated link for each pair of adjacent end panels and end walls, each of said links having a pair of longitudinally extending slots formed therein, said slots having their respective adjacent ends separated by a transverse bar, said slots slidably receiving said elements therethrough, a bracket fixedly secured to each of said adjacent pairs of end walls and end panels, said brackets spanning said links, each of said brackets having a normally vertical bight portion and each of said bight portions having an elongated slot extending therethrough, a substantially U-shaped handle having a pair of opposed arms, means pivotally connecting each of said arms intermediate their ends to said bars, respectively, and means carried on each of said arms on opposite sides of said pivotal means slidably engaging within said slots whereby actuation of said handle will effect movement of said device and said receptacle towards and away from said side-by-side relation.

2,976,391
FOOD WARMER
Clifford R. Carlson, Grand Haven, Mich., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed July 31, 1957, Ser. No. 675,447
11 Claims. (Cl. 219—35)

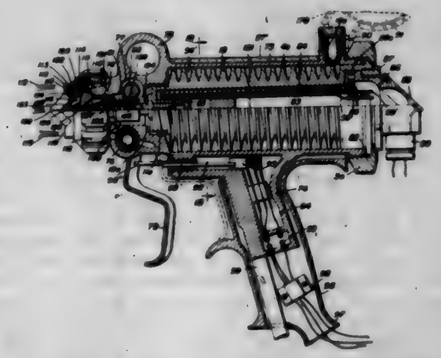
1. In a food warmer of the type described, a housing, a plurality of wells supported in said housing, each of said wells defining a section for heating cooking insets by moist or dry heat selectively, a drain for each of said wells, a fill tank in said housing having an inlet manifold, said inlet manifold communicating with each of said wells for simultaneously filling said wells, each of

said drains being manually closable for affording independent operation of said wells, means for heating each of said wells independently, and thermostatic control means for each of said wells, a float control in each of



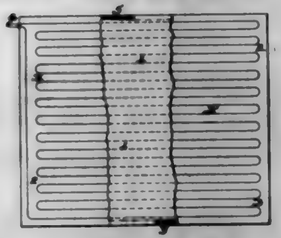
said wells, each of said float controls having linkage means operable thereby, said linkage means being connected to dial means for changing the calibration of said thermostatic control means in accordance with the condition of the well associated therewith.

2,976,392
FLUID DISTRIBUTING APPARATUS
Richard Wabaltz, New York, N.Y.
(27628 Denmar, Warren, Mich.)
Filed Sept. 4, 1953, Ser. No. 378,569
15 Claims. (Cl. 219—39)



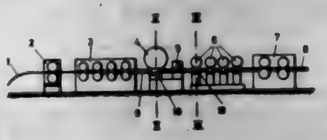
3. Spraying apparatus comprising, in combination, a spray gun having ah outlet nozzle at its front end and being formed with a passage leading to said outlet nozzle for guiding a fluid thereto; a tubular extension mounted on said spray gun, communicating with said passage, and having an elongated portion extending outwardly away from said spray gun; a housing mounted on said elongated portion of said tubular extension, communicating at one end with the interior of said tubular extension, and having an inlet located distant from said tubular extension; helical guide means mounted in said housing between said tubular extension and inlet thereof for guiding a fluid admitted to said housing through said inlet thereof along a helical path to said tubular extension so that the fluid flows from the latter to said nozzle, said guide means having an end portion engaging a portion of said housing located adjacent said tubular extension; and heating means operatively connected to said guide means for heating the latter so as to heat the fluid flowing through said housing and tubular extension to said nozzle, the contact between said guide means and housing transferring heat from the former to the latter and from said housing along said tubular extension to said spray gun.

2,976,393
FLOOR COVERINGS, UNDERFELTS, UNDERLAYS AND THE LIKE
Alec Ronald Illingworth, Wingfield, High Ufley, Keighley, England
Filed Sept. 5, 1958, Ser. No. 759,169
2 Claims. (Cl. 219—46)



1. A process for the production of a floor covering comprising a pair of upper and lowermost felt layers and an electrical heating conduit between said layers comprising positioning the heating conduit upon the lowermost of said layers with removable positioning pin means, one of said layers being softer than the other of said layers, maintaining said heating conduit in position with said positioning pin means, coating said lowermost layer and said conduit with adhesive, removing said positioning pin means, assembling with said lowermost layer and conduit an adhesive coated upper layer and passing the assembled layers through pressure rollers whereby said layers are caused to adhere and said heating conduit is pressed into the softer of said layers.

2,976,394
METHOD FOR THE MANUFACTURING OF ELECTRICALLY WELDED TUBES AND IMPROVEMENT IN MEANS FOR SUCH MANUFACTURE
Arne Sönnichsen, Sandakerveien 116, Oslo, Norway
Filed June 13, 1958, Ser. No. 741,940
Claims priority, application Norway June 22, 1957
2 Claims. (Cl. 219—59)

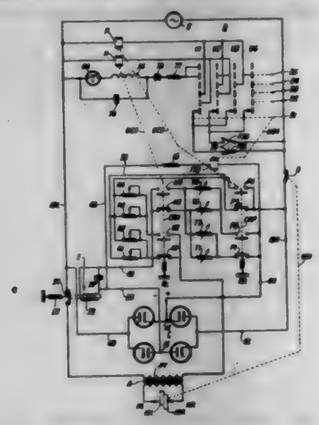


2. An apparatus for making electrically welded tubes comprising means for forming a steel strip into tubular shape, a pair of welding electrodes arranged adjacent the seam, the electrodes being arranged on opposite sides of the seam so that welding current passes between the electrodes transversely of the seam for welding the tube, and a series of single electrodes successively arranged axially of the path of movement of the tube and engageable with the welded seam so that welding currents pass longitudinally of the single electrodes for further welding the seam longitudinally and annealing the tube.

2,976,395
ELECTRICAL WELDING APPARATUS
Kenneth M. Spencer, Galeton, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 14, 1959, Ser. No. 786,788
5 Claims. (Cl. 219—108)

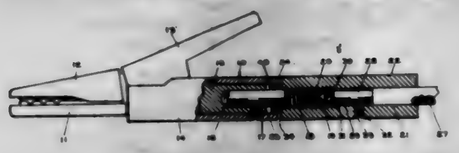
1. Welding apparatus comprising welding electrodes adapted to be moved into contact with parts to be welded; a transformer for supplying welding current to the electrodes; means to provide alternating current power; a

power supply switch, uni-controlled with said electrodes so as to be closed when said electrodes are moved into welding position and opened when said electrodes are moved away from their welding position, said power supply switch when closed, supplying power from said means to provide power to said transformer; a rectifier; connections for supplying power through said power supply switch when closed to said rectifier, a solenoid operated switch having a pair of normally closed contacts completing the circuit from said power supply means to said transformer, said contacts when opened breaking the circuit to said welding transformer, said solenoid operated



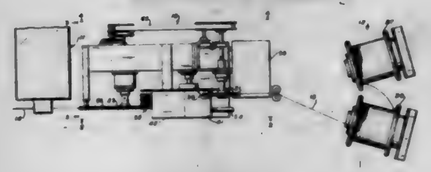
switch having an operating solenoid coil connected to said rectifier; a condenser connected in shunt to said solenoid coil; a series of timing resistors adapted to be connected sequentially in series with said shunting capacitor; a series of heating current controlling resistors adapted to be connected sequentially in series with said transformer; and, a switching system responsive to the successive opening and closing of said power supply switch for sequentially connecting into circuit different combinations of said timing and heat controlling resistors and to repeat the sequential connection of said combinations after completion of a sequence of welds.

2,976,396
WELDING ELECTRODE HOLDER
Harold E. Booher, 201 E. 37th St., Hialeah, Fla.
Filed June 12, 1959, Ser. No. 819,875
2 Claims. (Cl. 219—138)



1. A welding rod holder comprising a main body member having a substantially cylindrical cross section, a connector having a stem portion and a threaded portion, means securing said stem portion of said connector in said main body member with said threaded portion extending outwardly of said main body member, said main body member having a peripheral slot adjacent said stem portion, said threaded portion of said connector having a conical end portion, a substantially cylindrical sleeve member threadedly mounted on said connector at one end, a substantially cylindrical flange portion mounted at said one end of said sleeve member and extending into said peripheral slot, a contact member secured in said sleeve member, said contact member having a tapering front wall portion in contact relation with said conical end portion of said connector whereby upon the unthreading of said sleeve member said contact is broken between said contact member and said connector and a gap appears between said main body member and said sleeve member.

2,976,397
SELF-CONTROLLED STRAND ANNEALER
Benjamin C. Ellis, Jr., Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 30, 1957, Ser. No. 637,285
1 Claim. (Cl. 219—155)



Annealing apparatus in which a moving conductor is heated by the passage of electrical current therethrough, which comprises at least three sheaves to guide the conductor in a predetermined path, at least three of said sheaves being electrically conductive contact sheaves individually insulated from the remainder of the annealing apparatus over which the conductor to be annealed is progressively passed at a variable speed, means for supplying electrical energy at a substantially constant voltage connected to the conductor through two of said sheaves to progressively heat successive portions of the conductor of a predetermined length to anneal the same, an annealing tube which is so positioned between said last two mentioned sheaves that the successive portions of the conductor passing at variable speeds therebetween are directed to said tube and which includes an elongated tube, a second elongated tube of comparatively small cross-sectional dimensions secured in one end of said first-mentioned elongated tube for sealing the end thereof, a plastic composition lining the interior of said second elongated tube except for a bore of substantially the same cross-sectional dimensions as the conductor passing therethrough, and a plurality of ceramic guide bushings secured within said tubes for guiding the conductor and electrically insulating the conductor from said tubes, means to supply steam to said annealing tube for cooling and cleaning the surface of the conductor and preventing oxidation thereof, the means for supplying the electrical energy being connected to the annealed conductor through a third sheave and the last one of said last two mentioned sheaves over which successive portions of the conductor pass at variable speeds to progressively heat a section of said conductor of a predetermined length to a predetermined temperature, a cooling tube which is so positioned between said third sheave and said last one of the last two mentioned sheaves that the successive portions of the conductor passing therebetween are directed through said cooling tube, means to supply cooling fluid to said cooling tube, steam wiper means positioned adjacent to said cooling tube for wiping the conductor whereby the portions of the conductor leaving the cooling tube are cleared of moisture and foreign material, variable speed means for rotating said electrically conductive sheaves at equal peripheral speeds for propelling the conductor progressively at both sides of each of the heated sections of the conductor for preventing stretching of the conductor, and variable resistance means to com-

pensate for the variation in the voltage drop in the various contact sheaves for insuring that the portions of the conductor entering and exiting from the annealing apparatus are at the same potential, whereby successive portions of the conductor are annealed a predetermined amount at variable speeds by the substantially constant applied voltage in a given length of conductor and issue from said annealing apparatus at variable speeds with a dry, clear, clean surface and at a predetermined temperature.

2,976,398
PHOTOGRAPHIC FLASH HOLDER
Edward S. McKee and Edward L. Sturm, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 2, 1958, Ser. No. 739,353
6 Claims. (Cl. 240—1.3)



6. In a flash holder the combination with an open-sided case; a cover hinged on one edge of said case to move between open and closed positions; a source of electrical potential contained in and occupying a part of said case; a flash lamp socket fixed to the inside of said cover and disposed so as to occupy free space in said case when the cover is closed and be exposed for the reception of a lamp when the cover is open; means for electrically connecting the contacts of said socket in circuit with said source of potential and including a pair of rigid contact straps formed to lie against the wall of said case, one end of each strap wrapped around a stationary portion of the hinge between the cover and said case; and a pair of resilient contact fingers carried by said cover to move therewith and electrically connected at one end to opposite contacts of the socket and having their other end in constant wiping engagement with the ends of different ones of said contact straps wrapped around said hinge as the cover moves between its two positions; and cooperating means integral with the engaging portions of said contact fingers and contact straps providing a detent action to frictionally restrain the cover against movement away from either of its open and closed positions.

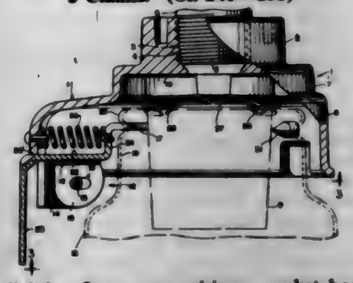
2,976,399
FLUORESCENT OUTDOOR LIGHT
Howard L. Christy, Pratt, Kans. (4616 N. 12th St., Phoenix, Ariz.)
Filed Apr. 29, 1959, Ser. No. 809,794
4 Claims. (Cl. 240—11.4)

1. An outdoor lighting fixture comprising, in combination, an elongated hollow support and conduit member having openings thereinto in both end portions, said support and conduit member positionable in an upright position, a closed sectional housing concentrically mounted on the lower end portion of said support and conduit member with said lower end portion of said support and conduit member extending therethrough and out of the lower end of said housing, a plurality of plate mounting members mounted on said support and conduit member within said housing, the side portions of said plate mounting members being spaced from said support and conduit member, ballasts mounted on said plate mounting members, a plurality of holes in said lower end portion of said housing and in said support and conduit member within said housing, said holes providing fluid flow communication from without said housing to the inside of said support and conduit member, a closed sectional housing concentrically mounted on the upper end portion of



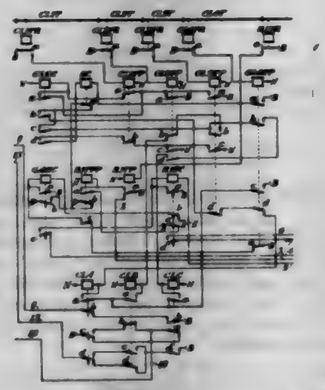
said support and conduit member to provide a cap thereover, and upper sections of said housings overlapping adjacent lower sections in water tight relation, opposed sets of water proof fluorescent lamp sockets mounted in the facing ends of said housings, said sockets constructed and adapted to operatively mount unshielded fluorescent lamps, and electrical wiring operatively wiring said ballasts and lamp sockets and having means therewith to connect to an electrical power supply, said electrical wiring passing through said support and conduit member between said housings to operatively connect the lamp sockets in the upper one of said housings and said ballasts and said electrical wiring passing through said support and conduit member from said ballasts to said means to connect to said electrical power supply.

2,976,400
LIGHTING FIXTURE
Clarence L. Steber, River Forest, Ill., assignor, by mesne assignments, to The Pyle-National Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 17, 1958, Ser. No. 729,090
5 Claims. (Cl. 240—133)



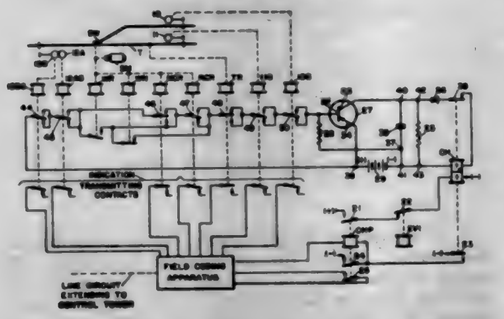
1. A lighting fixture comprising a socket hood forming a cavity and adapted to support a reflector shade having a mounting neck receivable in said cavity, a pair of spaced shade engaging projections on one side of the hood in said cavity in position to supportingly engage the neck of the shade, a support pin on said hood at the side thereof opposite said projections, a latch mounted for rocking movement on said pin between shade holding and releasing positions, said latch, while in shade holding position, being bodily shiftable on said pin in a direction radially outwardly of the shade to release the same, and spring means on said hood and connected with said latch to yieldingly urge the same rockably on the pin toward shade holding position and bodily on the pin into holding engagement with the neck of the shade.

2,976,401
CUT LENGTH DETECTOR
Joseph M. Berill, Edgewood, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1957, Ser. No. 696,406
17 Claims. (Cl. 246—1)



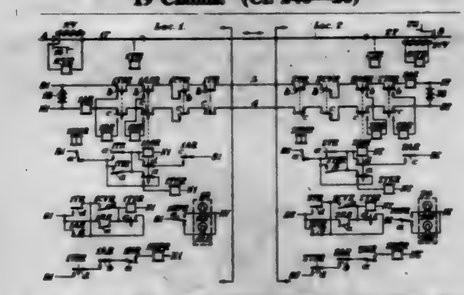
17. In a railway car cut length detector, in combination, a stretch of railway track divided into a plurality of track sections, means for detecting the occupancy of each track section by passing cars, means for registering the length of the cuts, and means controlled by said occupancy means for selectively actuating said registering means in accordance with the different sequences of occupancy and vacancy of said track sections.

2,976,402
CONTROL CIRCUIT FOR A FIELD START RELAY IN A CODE TYPE COMMUNICATION SYSTEM
Thomas J. Judge and Peter H. Swane, Rochester, N.Y., assignors to General Railway Signal Company, Rochester, N.Y.
Filed June 18, 1957, Ser. No. 666,360
6 Claims. (Cl. 246—5)



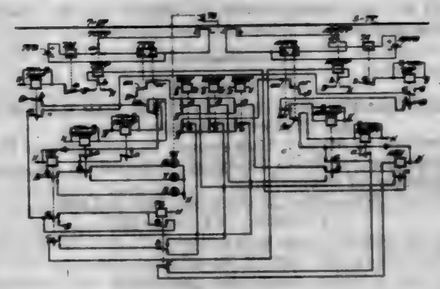
1. In a centralized traffic control system for railroads, a plurality of traffic controlling devices at a particular location, a transistor, a direct current source, a relay normally held in an energized position by a permanent magnet, a first circuit means including said direct current source for applying a biasing potential to said transistor only during operation of any one of said traffic controlling devices, and circuit means including said transistor for neutralizing the flux of the permanent magnet of said relay in response to the current output of said transistor as rendered effective by said first circuit means.

2,976,403
RAILWAY TRAFFIC CONTROLLING APPARATUS
Walter C. Reustle, Trafford, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 6, 1959, Ser. No. 791,731
19 Claims. (Cl. 246—26)



1. A system for controlling signals governing the entrance of trains into a stretch of railway track over which trains may travel in either direction, said system comprising a single pair of conductors extending between the ends of the track stretch, a source of current and an approach relay at each end of the stretch, a circuit including the windings of said relays connected in series with said sources of current over said conductors said sources being poled in series aiding relationship, a control device at each end of the stretch, means responsive to the actuation of the control device at one end of the stretch for deenergizing the approach relay and clearing the signal at that end of the stretch, means responsive to the entrance of a train into the stretch for deenergizing the approach relay at the opposite end of the stretch, and means responsive to the exit of the train from the stretch for reenergizing both approach relays over said pair of conductors.

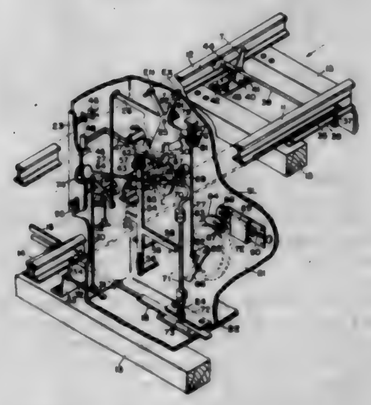
2,976,404
RAILWAY SIGNALING SYSTEMS
Charles W. Fallor, Forest Hills, and Crawford E. Staples, Homewood, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1957, Ser. No. 692,926
4 Claims. (Cl. 246—33)



4. In a coded track signaling system for a stretch of railway track provided with two electrically isolated

track sections having a juncture, the combination comprising, a series approach track relay for each said section adjacent said juncture, means for energizing each said approach relay when a train occupies the associated section within a predetermined distance of said juncture, a slow release relay, means for energizing said slow release relay when one of said sections is unoccupied, a directional stick relay, means controlled by said approach relays and said slow release relay for energizing said directional stick relay when said approach relays and slow release relay are energized, and means controlled by said slow release relay and said directional stick relay for maintaining said stick relay energized when said slow release relay is deenergized.

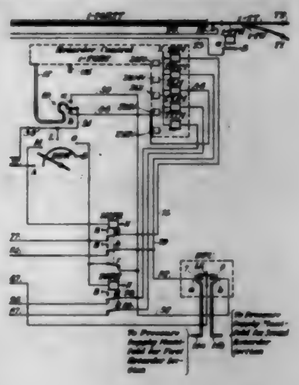
2,976,485
MECHANICAL LOCK FOR RAILROAD TRACK SWITCHES
Nell D. Preston, Rochester, N.Y., assignor to General Railway Signal Company, Rochester, N.Y.
Filed Oct. 8, 1956, Ser. No. 614,685
2 Claims. (Cl. 246—161)



1. A switch lock for a railway track switch comprising, a lock rod having one end connected to the points of the switch and extending outwardly away from the track, a locking mechanism normally locking said lock rod in a particular position, timing means, a first manually operable releasing means for initiating operation of said timing means and for releasing said lock mechanism only after the completed operation of said timing means, a normally inactive wheel detecting treadle located in advance of the track switch, separate manually operable means for rendering said treadle responsive to the presence of a train, and means connected to said treadle for conditioning said first manually operable means for immediately releasing said locking mechanism independently of said timing means in response to the detection of the presence of a train by said treadle.

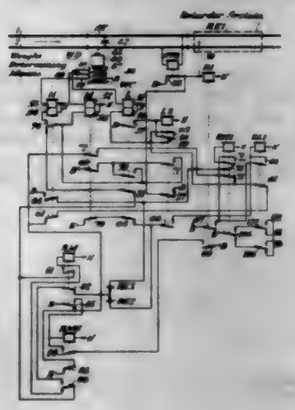
2,976,486
AUTOMATIC CONTROL SYSTEM FOR RAILWAY CAR CLASSIFICATION YARDS
Crawford E. Staples, Homewood, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 2, 1958, Ser. No. 732,606
8 Claims. (Cl. 246—182)

1. In combinations with a stretch of railway track provided with a first railway car retarder and a second railway car retarder, means for controlling the retardation settings of said car retarders, a retardation setting sensing device responsive to the retardation setting of said first car retarder, a retardation setting sensing device responsive to the retardation setting of said second car retarder; an electrical contact device controlled by said retardation setting sensing devices, said contact device being controlled to a first position when the retardation setting of said first car retarder exceeds the retardation setting of said second car retarder by a predetermined value and to a second position when the retardation setting of the



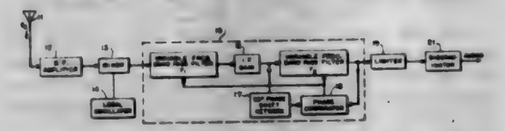
second retarder exceeds the retardation setting of the first retarder by a predetermined value; and circuit means controlled by said electrical contact device and operating to increase the retardation setting of said second car retarder when said contact device is controlled to said first position and to decrease the retardation setting of said second retarder when said contact device is controlled to said second position.

2,976,487
RAILWAY CAR WEIGHT REGISTRY APPARATUS
John W. Logan, Jr., Forest Hills, and Crawford E. Staples, Homewood, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 29, 1959, Ser. No. 816,890
9 Claims. (Cl. 246—182)



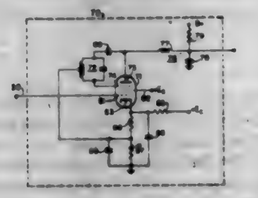
1. A railway car weight registry system comprising, in combination, means for individually determining the weight on the wheels on one side of a car as being of light, medium, or heavy weight as the car traverses a stretch of track; first and second storage relays, means controlled by said weight determining means for picking up said first storage relay in response to a light weight determination, means controlled by said weight determining means for picking up said second storage relay in response to a heavy weight determination, first and second auxiliary relays, means controlled by said weight determining means in response to a first medium weight determination and by the second auxiliary relay in its released position for picking up the first auxiliary relay, means controlled by the first auxiliary relay in its picked up position and by said weight determining means in response to said first medium weight determination for retaining the first auxiliary relay picked up, means controlled by the first auxiliary relay for picking up the second auxiliary relay when the first auxiliary relay is picked up; and means controlled by said weight determining means in response to a second medium weight determination and by said second auxiliary relay in its picked up position and said first auxiliary relay in its released position for picking up both said storage relays to thereby store a medium weight determination.

2,976,488
SYNCHRONOUS SELECTIVITY RECEIVER
Albert C. Colagnori, Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 25, 1960, Ser. No. 24,630
8 Claims. (Cl. 250—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)



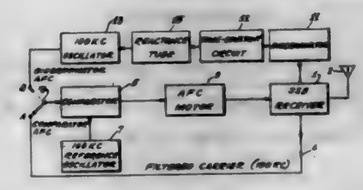
1. In a communication system: filter means having the center frequency of its passband adjustable to follow the frequency of an incoming signal, phase comparing means coupled to said filter means for comparing the phase between the input and output signals of said filter means and for developing controlling information according to the deviation in the phase between said input and output signals of said filter means, and controlling means connected between said phase comparing means and said filter means for coupling said controlling information from said phase-comparing means to said filter means and for adjusting said center frequency of said filter means to follow the frequency of the incoming signal.

2,976,489
DETECTOR CIRCUIT
Bernard D. Loughlin, Huntington, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 19, 1956, Ser. No. 617,040
10 Claims. (Cl. 250—20)



1. A detector circuit for use as the second detector in a vestigial-side-band amplitude-modulated signal receiver, the circuit comprising: circuit means for applying a vestigial-side-band amplitude-modulated carrier signal which is to be detected; means including an electric valve nonconductive in the absence of the carrier component of the applied signal and having input and output electrodes and coupled to the circuit means for rectifying the applied signal; narrow band frequency-selective regenerative feedback circuit means oscillatory in response to said applied signal at a harmonic of the carrier frequency and at a phase determined by the carrier signal component and which is coupled from an output electrode to an input electrode of the electric valve and is responsive to successive cycles of the applied signal to successively enable substantial translation through said valve only during selected phase intervals of the carrier component of the applied signal; and circuit means coupled to an output electrode of the electric valve for further translating the video-frequency modulation components of the rectified signal.

2,976,410
AUTOMATIC FREQUENCY CONTROL SYSTEM
Robert E. Schock, Riverhead, N.Y., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 29, 1957, Ser. No. 636,980
9 Claims. (Cl. 250—20)

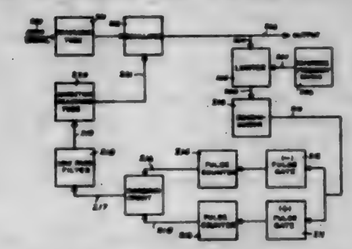


1. An automatic frequency control system comprising a comparator frequency control circuit having an output coupled to a tuning element in a receiver and including a stable reference oscillator, a reactance control, a frequency discriminator circuit connected to said receiver and to said reactance control and arranged to apply a control signal to said reactance control according to energy received by said discriminator circuit from said receiver, a second oscillator connected to said reactance control and arranged to operate at a frequency determined by the operation of said reactance control in response to said control signal, a switch having first and second positions, the first position of said switch coupling the input of said comparator circuit to a portion of said receiver to compare the carrier frequency of a received signal with said first oscillator frequency, said comparator circuit being arranged when said switch is in said first position to produce an output signal determined according to the difference between said carrier frequency and said first oscillator frequency, the second position of said switch connecting the output of said second oscillator to said input of said comparator circuit to compare said first oscillator frequency and said second oscillator frequency, said comparator circuit being arranged when in said second position to produce said output signal determined according to the difference between said first oscillator frequency and said second oscillator frequency.

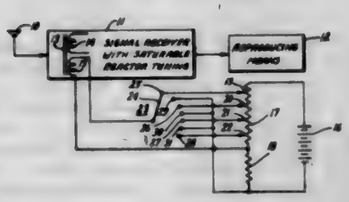
2,976,411
AUTOMATIC FREQUENCY CONTROL SYSTEM SUITABLE FOR SINGLE-SIDEBAND RECEIVERS, FREQUENCY MODULATION TRANSMITTERS AND THE LIKE
Leonard R. Kahn, 81 S. Bergen Place, Freeport, N.Y.
Filed June 16, 1958, Ser. No. 742,221
13 Claims. (Cl. 250—20)

1. An automatic frequency control circuit comprising means selecting and isolating a sample of a carrier com-

ponent frequency, means generating a stable reference frequency, means mixing a sample of said carrier component frequency and said reference frequency in a manner producing relatively sharp frequency modulation excursions, discriminator means deriving positive and negative pulses of frequency modulation from said frequency modulation excursions, means separating and comparing said positive and negative pulses, means deriving a corrective signal from the pulse comparison means, and means regulating said carrier component frequency responsive to said corrective signal.



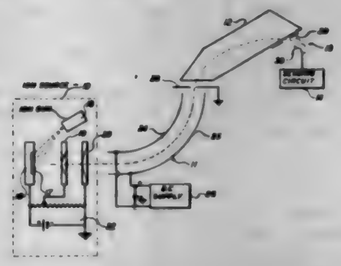
2,976,412
SATURABLE REACTOR TUNING SYSTEM
Samuel H. Coloday, Levittown, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 2, 1958, Ser. No. 777,764
9 Claims. (Cl. 250—40)



1. In combination with signal receiver tuning means including at least one saturable reactor having a magnetic core wherein residual magnetism tends adversely to affect the tuning when proceeding in the direction of lower control current supplied to the reactor, means for supplying variable control current to the reactor to tune the receiver for reception of different signals, and means for supplying reverse current to the reactor before each application thereto of tuning control current of lower amplitude, the reverse current being sufficient to cause the subsequent tuning to proceed along substantially the same magnetization curve in the direction of increasing control current and thus prevent adverse effect of residual magnetism upon the tuning.

2,976,413
MASS SPECTROMETER
Charles F. Robinson, Pasadena, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed June 25, 1956, Ser. No. 593,560
8 Claims. (Cl. 250—41.9)

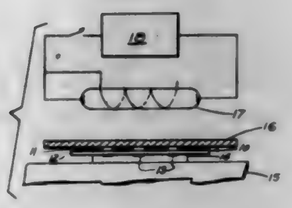
1. A mass spectrometer comprising a spark ion source having at least two electrodes, an A.C. source and a D.C. source connected across the electrodes, an energy filter, means for causing ions to enter the filter from the source, means operable to enable the filter to pass only ions of a given energy band, means for reversing the connection of the electrodes to the D.C. source to alternately cause ions originating at different ones of the electrodes to fall in said energy band, a mass analyzer into which ions passing the filter are injected, and collecting and measuring means for collecting and measuring ions focused thereon by the analyzer.



2,976,414
METHOD OF CONTINUOUSLY ANALYSING ETHYLENE OXIDE IN THE PRESENCE OF ETHYLENE BY INFRA-RED ABSORPTION
Heinz Warncke, Koln-Bickendorf, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 2, 1957, Ser. No. 656,501
Claims priority, application Germany May 18, 1956
3 Claims. (Cl. 250—43.5)

1. In the positive filtering method using a non-dispersion type infra-red analyzer with a substitute receiver gas, the improvement which comprises carrying out the continuous determination of ethylene oxide in gaseous mixtures containing at least one hydrocabon in addition to ethylene oxide by subjecting the gaseous mixture containing ethylene oxide and said at least one hydrocarbon to infra-red radiation using a substitute receiver gas comprising nitrous oxide in admixture with a non-absorbing gas.

2,976,415
HEAT-SENSITIVE COPY-PAPER
Carl A. Kuhrmeyer, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 21, 1958, Ser. No. 749,708
4 Claims. (Cl. 250—65)



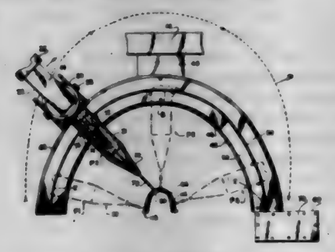
2. Apparatus for making reproductions of graphic originals by front-printing with radiant energy as herein described and comprising a gas flash lamp member, power supply means for flashing said lamp, means for supporting a graphic original with its printed surface, of which a reproduction is desired, in position for irradiation, and means for holding a partially radiation-absorptive, chemically reactive, visibly heat-sensitive copy-paper closely adjacent said printed surface and in position for intercepting the radiation from said lamp member to said original.

2,976,416
DENTAL X-RAY APPARATUS
Irving A. Ellman, 1624 Sherbourne Road, Valley Stream, N.Y.
Filed July 21, 1958, Ser. No. 750,843
5 Claims. (Cl. 250—65)



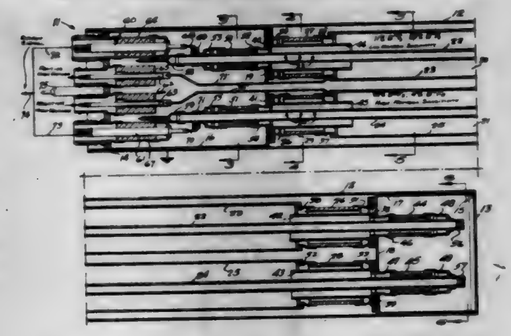
2. An apparatus for taking radiographs of the teeth, said apparatus comprising a radiolucent bite plate shaped to conform to the contour of the arch of the teeth, said bite plate adapted to be positioned in the mouth between the upper and the lower teeth, a handle extending outwardly from said bite plate, an opening extending centrally therethrough and through said bite plate, a lead container on the normally upper surface of said bite plate, a cover hingedly connected thereto, spring means normally retaining said cover in closed position upon said lead container, a segment of radioactive isotope in said lead container, and manually operable means extending through the opening in the bite plate to open said cover whereby the isotope will radiate X-rays to expose a photographic film.

2,976,417
DENTAL X-RAY DEVICE
Stephan T. Freeman, 10 W. Fulton St., Gloversville, N.Y.
Filed Dec. 24, 1959, Ser. No. 861,923
15 Claims. (Cl. 250—65)



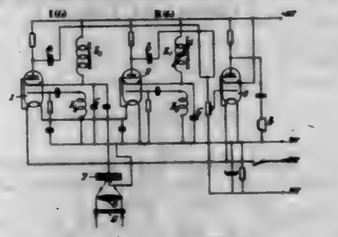
13. A device for taking dental X-ray pictures, comprising a panoramic dental X-ray machine having an X-ray projection cone movable in a U-shaped path, a U-shaped guide member having a groove therein, a follower element movable in said groove to traverse said member from end to end of the groove, a U-shaped track disposable in a patient's mouth, film reel holding means movably mounted on said track, means operatively connecting said element and holding means for driving said holding means along the track as said element is moved along said member, there being a yoke carried by said element and connected to said cone for adjustably tilting the same during movement of said element in said groove, said groove having a concave curved bottom camming said element between elevated positions at ends of the groove and a lowered position at the center of the groove midway between its ends, whereby said cone is tilted during movement thereof, a film container removably mounted on said holding means, said holding means comprising a pair of shafts, at least one gear attached to one of said shafts, said track being formed with a rack gear engaged by said one gear, said film container including an outer wrapper opaque to light and transparent to X-rays, a shell opaque to X-rays disposed within said shell to form a substantially closed chamber, said shell being formed with an opening to admit a beam of X-rays, a pair of reels rotatably mounted in said chamber, a strip of film carried by said reels and feeding from one reel to the other past said opening in the shell, there being motor means at one end of said member, and a cable connecting said element and motor means for moving said element in said groove.

2,976,418
GAMMA-COMPENSATED IONIZATION CHAMBER
Leslie E. Johnson, 168th and Kilpatrick Sts., R.R. 1, Tinley Park, Ill.
Filed Nov. 22, 1957, Ser. No. 698,226
12 Claims. (Cl. 250—83.1)



1. In a system for measuring neutrons, a first ionization chamber having a relatively high neutron sensitivity, a second ionization chamber having a relatively low neutron sensitivity, each of said chambers comprising a signal electrode and a sleeve electrode surrounding said signal electrode, said chambers having substantially equal sensitivities to gamma radiation, said chambers being enclosed in a common conductive housing, a filling of inert gas in said common housing, means applying a high positive voltage to one sleeve electrode, means applying a high negative voltage to the other sleeve electrode, and means connecting the signal electrodes together, whereby the effects of gamma radiation on the chambers are substantially canceled and a resultant signal is provided at the connected signal electrodes in accordance with the difference between the responses of the chambers to the presence of neutrons.

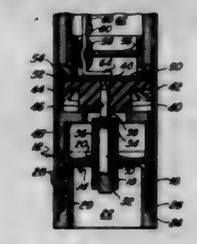
2,976,419
APPARATUS FOR DETECTING SOURCES OF INFRA-RED RAYS
Joseph Ferdinand Menke and Ernst Hans Doerpinghaus, Zurich, Switzerland, assignors to Briaro Limited S.A., Tangiers, Morocco, a society of France
Filed Sept. 7, 1954, Ser. No. 454,337
Claims priority, application Luxembourg Sept. 14, 1953
9 Claims. (Cl. 250—83.3)



1. A portable apparatus for detecting infra-red rays and indicating their intensity which comprises, in com-

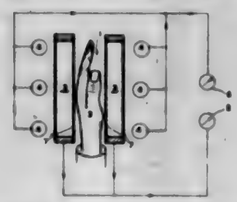
bination, a beat frequency oscillator, means for varying the beat frequency of said oscillator operative in response to variation of an electrical characteristic of an element thereof, said element being made of a substance sensitive to the direct action thereon of incident infra-red rays of a wavelength ranging from 0.75 to 7 microns so that said electrical characteristic of said substance varies in accordance with the intensity of such infra-red rays striking it, and means for converting the beat signals from said oscillator into a sound signal, whereby the pitch of said sound signal varies in accordance with the intensity of the infra-red rays incident on said subetance.

2,976,420
DOSIMETER CHARGING SWITCHES
Ole G. Landsverk, Glendale, Zenonas Glodenis, Los Angeles, and Delbert L. Merriner, Glendale, Calif., assignors to Landsverk Electrometer Company, Glendale, Calif., a corporation of California
Filed Aug. 12, 1958, Ser. No. 754,670
11 Claims. (Cl. 250—83.3)



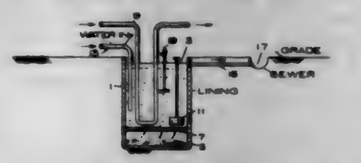
1. In a dosimeter having a tubular housing end and a charging pin movably mounted within said end, a structure for sealing said tubular end and for holding said charging pin which comprises: a diaphragm member formed out of a flexible, electrically non-conductive material so as to have an outer cylinder, an inner cylinder spaced from said outer cylinder, and a diaphragm extending between said cylinders, said outer cylinder fitting closely against the inside of said tubular end, said charging pin fitting within said inner cylinder so as to extend therefrom into said tubular end; a sleeve located within said outer cylinder so as to hold said outer cylinder against the interior of said tubular end in a sealed relationship therewith; cap means attached to said charging pin at each end of said interior cylinder, each of said cap means engaging the outside of said inner cylinder so as to hold said inner cylinder in a sealed relationship with said charging pin.

2,976,421
RADIATION MONITOR
William Alexander Bayfield, Bromley, England, assignor to North American Philips Company, Inc., New York, N.Y.
Filed Sept. 27, 1957, Ser. No. 686,781
Claims priority, application Great Britain Oct. 5, 1956
2 Claims. (Cl. 250—83.6)



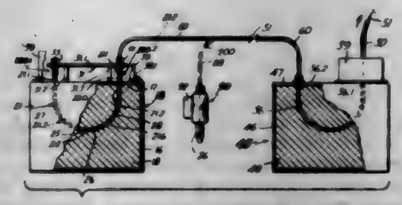
1. In a radiation counter, the combination comprising a pair of ionisation chambers each having front and rear walls which are substantially transparent to alpha, beta and gamma radiations, said chambers being in substantially opposing relationship with their front walls defining a cavity therebetween for receiving a body emitting penetrating radiations including alpha, beta and gamma radiations, said ionization chambers containing an alpha-ionizable but beta- and gamma-transparent medium and being adapted to detect alpha radiation, and a plurality of independent Geiger-Müller counters separate from and positioned behind the rear wall of each of the ionization chambers remote from the cavity and each having a wall portion substantially transparent to beta and gamma radiations and positioned to receive radiations which pass through said ionization chambers, said Geiger-Müller counters being adapted to detect beta and gamma radiations.

2,976,422
APPARATUS FOR IRRADIATING CHEMICAL REACTIONS
Max W. Hill, Du Quoin, Ill., and James F. Black, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed July 20, 1953, Ser. No. 368,972
5 Claims. (Cl. 250—106)



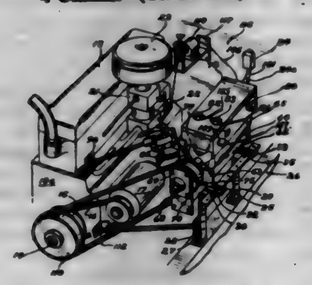
1. An apparatus for irradiating chemical reactants which comprises a reaction container having a lower section and an upper section, a water impervious concrete member disposed between said lower and said upper section adapted to form a water impervious seal therebetween, radioactive material disposed within said lower section comprising a gamma ray emitter of energy sufficient to pass through said concrete member, a shielding layer of water contained within said upper section, a reactant chamber formed of material capable of passing gamma radiation disposed within said layer of water proximate to said radioactive material, and an earthen shield disposed adjacent said reaction container whereby radiation emitting from within said container is absorbed.

2,976,423
MANIPULATING RADIOACTIVE MATERIAL
Robert J. Prest, Concord, Mass., assignor to Technical Operations, Incorporated, Arlington, Mass., a corporation of Delaware
Filed May 15, 1956, Ser. No. 585,081
22 Claims. (Cl. 250—106)



1. Apparatus for manipulating radioactive material that is carried by propelling means for transporting it between shielding devices, comprising: a guide tube that is connected to a first shielding device and has an open end; bushing means having at one end means for fastening thereto guide means leading to a second shielding device; means for distancing said bushing means from said open end of said guide tube and for aligning the guide tube and the bushing means, to form a gap between said open end of the guide tube and the other end of the bushing means; and at the other end of said bushing means, guard means bridging said gap which can be axially withdrawn to open the gap.

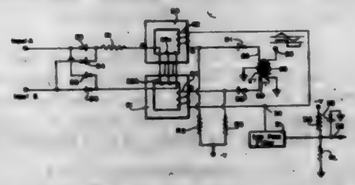
2,976,424
PORTABLE WELDER GENERATOR
Ivan Anderson, Branson, Minn., assignor, by mesne assignments, to W. W. Paulson & Co., Burley, Idaho
Filed Jan. 5, 1959, Ser. No. 784,916
4 Claims. (Cl. 290—1)



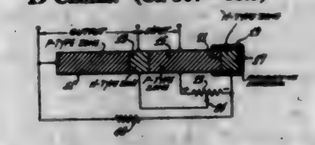
4. An apparatus for controlling and generating electrical energy in connection with the under hood frame portion of a motor vehicle adjacent the motor thereof having in combination, a bracket upstanding from said frame adjacent one side of said motor, a generator adjustably supported on said bracket, means connecting said bracket and said motor for forming an integral operating unit of said motor and said bracket with said generator thereon, said motor and said generator having alined pulleys, a belt passing over said pulleys, a hand adjustable connecting member extending between said generator and said motor for movement of said generator toward and away from said motor for removal and placement of said belt and for locking said generator in an operating position integral with said motor, means in connection with said motor and generator for accelerating and decelerating said motor to drive said generator, an accelerator arm in connection with said motor, a flexible linkage connecting said means and said accelerator arm of said motor, a pair of upstanding guide members mounted on said last mentioned means, a cross member slidable on said guide members, a pulley depending from said cross member, said flexible member moving over said pulley, manual means for adjusting the height of said cross member to adjust the effective length of said flexible member in controlling said accelerator arm of said motor, and remote means for operating said second mentioned means.

2,976,425
MAGNETIC QUARTER ADDERS
John Presper Eckert, Jr., Philadelphia, Pa., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Nov. 9, 1954, Ser. No. 467,798
20 Claims. (Cl. 307—88)

1. A quarter adder comprising a carrier type magnetic amplifier, said amplifier including a magnetic core having saturated and unsaturated operating regions, an input winding and an output winding on said core, a source of alternating energizing potential coupled to said output winding, said amplifier being responsive to a resultant signal at said input winding such that said core operates in a saturated operating region thereof, thereby to pass an output signal from said energizing source via said output winding, a first source of selective input signals coupled to said input winding, a second source of selective input signals coupled to said input winding, the frequency of said energizing source being substantially higher than that of said input sources, said first and second input sources being coupled to opposite ends of said input winding that the simultaneous occurrence of input signals from both of said sources results in there being no resultant signal in said input winding, said amplifier being responsive to an input signal applied from one only of said input sources such that said input winding has a resultant signal applied thereto and said core is caused to operate in a saturated operating region thereof to produce said output signal only in response to occurrence of a signal from one only of said first and second sources, low pass filter means coupling said output winding to said output terminal for isolating signals having the frequency of said energizing source from said output terminal whereby said output signal at said output terminal contains substantially no components at the frequency of said energizing source, and rectifier bridge means connected in series with one of said windings of said amplifier for controlling the polarity of said output signal so that an output signal of predetermined polarity and relatively low frequency appears at said output terminal in response to an input signal from only one of said first and second sources.



2,976,426
SELF-POWERED SEMICONDUCTIVE DEVICE
Paul Rappaport, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 3, 1953, Ser. No. 371,823
19 Claims. (Cl. 307—88.5)



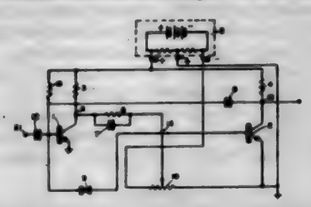
4. Electrical apparatus comprising, a body of semiconducting material having a first zone of one type conductivity, an adjacent second zone of conductivity type opposite to said one type conductivity, a third zone adjacent said second zone and having said one type conductivity, a fourth zone adjacent said third zone and having said opposite type conductivity, and a radioactive emitter for irradiating portions of said third and fourth zones.

5. Apparatus as claimed in claim 4 including means coupled to said third and fourth zones for deriving different electric potentials, and means for applying said different potentials to said first and second zones.

2,976,427
TRANSISTOR MULTIVIBRATOR
Edward N. Armantal, Bellflower, Calif., assignor to North American Aviation, Inc.
Filed Sept. 27, 1956, Ser. No. 612,440
10 Claims. (Cl. 307—88.5)

1. In combination, a first transistor, a second transistor, means for establishing operating potentials on said tran-

sistors, coupling means connected between the output of said first transistor and the input of said second transistor to cause said second transistor to conduct as said first transistor becomes nonconductive, positive feedback means connected between the output of said second transistor and the input of said first transistor to tend to cause said first transistor to be nonconductive when said second transistor is conducting, and integrating means connected between the output and input of said second transistor to decrease the output of said second transistor.

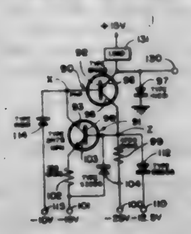


2,976,428

DIGITAL SYSTEM OF MECHANICALLY AND ELECTRICALLY COMPATIBLE BUILDING BLOCKS

Douglas F. Parkhill, Brookline, Donald C. Redpath, Brighton, and Theddeus C. Rose, Malden, Mass., assignors to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Apr. 4, 1957, Ser. No. 650,758
1 Claim. (Cl. 307—88.5)



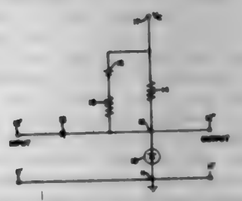
A digital system comprising a plurality of active transistorized compatible plug-in units, each unit comprising a mounting and, secured to said mounting, logical operator means comprising: the combination of: a first PNP type transistor having a base and emitter and collector, an NPN type transistor having a base and emitter and collector, the emitter of the first PNP transistor being the output, a first structure terminal interconnecting the collector of the NPN transistor and the base of the first PNP transistor, a second structure terminal interconnecting the collector of the first PNP transistor and the base of the NPN transistor, said transistors and interconnections being equivalent to a two-state PNPN structure, a positive clamping diode for clamping the first terminal to a first reference potential level of minus ten volts when the structure is in its high-current binary "0" state, a first reference potential terminal connected to the anode of said clamping diode, a first negative clamping diode connected between said output and a second reference potential level of zero volts for clamping the output to said second reference potential level when the structure is in its "off" or binary "1" state, individual load resistors connected to the emitters of said first PNP type transistor and said NPN transistor, a first positive voltage terminal coupled to said first structure terminal to bias it slightly above said second reference potential level, a second positive voltage terminal of plus fifteen volts connected to the emitter resistor of said first PNP type transistor and a first negative voltage terminal of minus fifteen volts connected to the emitter resistor of said NPN transistor, the voltage of said negative voltage terminal being more negative than said first reference potential level, and the voltage of the second positive voltage terminal being more positive than said first positive voltage terminal and said second reference potential level, a second negative voltage terminal of minus twelve and one half volts, a second negative clamping diode connected between said second structure terminal and said second negative voltage terminal, the voltage of said second negative voltage terminal being more negative than said first reference potential level and less negative than said first negative voltage terminal, said second negative clamping diode clamping the second structure terminal to a voltage more negative than the first structure terminal to provide a reverse bias on each base-collector junction, a fourth diode connected between said second structure terminal and the emitter circuit of said NPN transistor with its cathode connected to the base of said transistor, a third negative voltage terminal of minus twenty five volts having a voltage more negative than any of the other negative voltage terminals or reference potentials, and a first resistance connected between the third negative voltage terminal and said second structure terminal, said voltage terminals and output terminal and first reference potential terminal being positioned with standardized spacing and sequence to render the units mechanically and electrically compatible.

2,976,429

SEMICONDUCTOR CIRCUITS UTILIZING A STORAGE DIODE

Harold W. Abbott, Albany, and Lawrence D. Wechsler, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 19, 1958, Ser. No. 716,194
8 Claims. (Cl. 307—88.5)



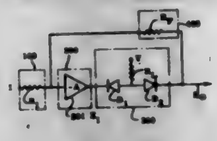
1. An active electrical circuit comprising, a diode having a body of semiconductor material including a p-n junction therein and further having anode and cathode electrodes on opposite sides respectively of said junction, said semiconductor material of said body material of said body being capable of transient storage of electrical carriers injected therein; a first of the electrodes of said storage diode being connected to ground, the second of the electrodes of said storage diode being connected through an impedance to a source of supply voltage of predetermined frequency, said supply voltage being such that during one-half of each of its cycles said storage diode is normally biased in the forward direction to inject carriers into said diode and during the other half of each of its cycles said diode is normally biased in the reverse direction to sweep carriers out of said diode in a transient reverse current; a switching diode having one electrode connected to the junction point of said storage diode and said impedance element said diodes being poled to pass current in the same direction and means for coupling an input signal between the second electrode of said switching diode and ground whereby the presence of an input signal controls the injection of carriers by said supply voltage into said storage diode; and means to derive an output signal from said junction point of said storage diode and said impedance element.

2,976,430

FUNCTION GENERATOR CIRCUITS

Wendell B. Sander, Los Angeles County, Calif., assignor to Tasker Instruments Corporation, Hollywood, Calif.

Filed Apr. 20, 1959, Ser. No. 807,608
10 Claims. (Cl. 307—88.5)



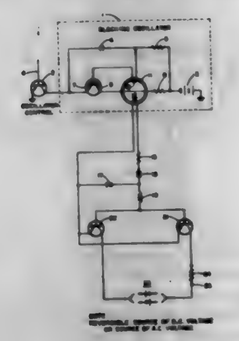
9. An output limiting circuit for a high gain amplifier having input and output terminals and having a feedback impedance coupled at one end to the input terminal thereof, the feedback impedance being adapted to couple degenerative feedback signals from the amplifier output to the amplifier input, said output limiting circuit comprising: a two terminal unilateral device having one terminal thereof coupled to the amplifier output terminal and the other terminal thereof coupled to a corresponding terminal of a second two terminal unilateral device, the other terminal of said second unilateral device being coupled to the other end of said feedback impedance, a load impedance coupled to both unilateral devices at the common terminals thereof, and a voltage source coupled to the other end of said load impedance; said output limiting circuit being adapted to turn said first unilateral device "on" when an input signal greater than a first reference level is applied to the amplifier input terminal, said output limiting circuit being adapted to turn said second unilateral device "on" when an input signal smaller than a second reference level is applied to the amplifier input terminal, and said second reference level being greater than said first reference level.

2,976,431

BLOCKING OSCILLATOR CONTROLLED TWO-TRANSISTOR BILATERAL SWITCH

Glenn L. Richards, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed June 22, 1959, Ser. No. 821,993
1 Claim. (Cl. 307—88.5)



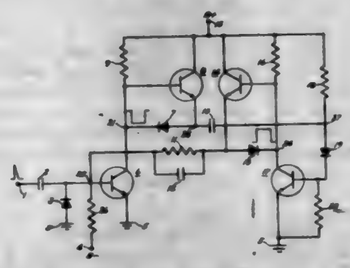
A bilateral switch for connecting a load to a source of load current comprising, a source of fluctuating voltage having a first and second output terminal, means for controlling the state of activation and de-activation of said source of fluctuating voltage, a unilateral conducting device coupled across said first and second output terminal, an inductor, means for coupling one electrode of said unilateral conducting device to one terminal of said inductor, a first and second translating device each having a pair of control electrodes and an output electrode, means for coupling the other terminal of said inductor to one of said pair of control electrodes of each translating device, means for coupling the other electrode of said unilateral conducting device to the other of said pair of control electrodes of each translating device, a load device having a first and second terminal, a source of operating voltage having a first and second terminal, means for coupling the second terminal of said load device to the second terminal of said source of operating voltage, means for coupling the first terminal of said source of operating voltage to the output electrode of one of said translating devices, and means for coupling the first terminal of said load device to the output electrode of the other of said translating devices.

2,976,432

STABLE-FAST RECOVERY TRANSISTORIZED MULTIVIBRATOR CIRCUIT

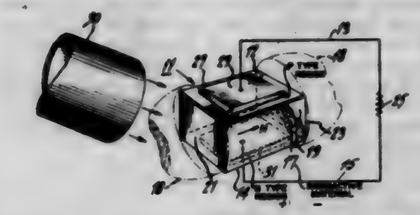
William A. Geckle, Jr., Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 14, 1959, Ser. No. 859,543
2 Claims. (Cl. 307—88.5)



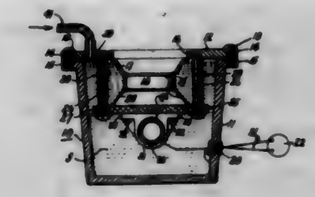
2. A monostable multivibrator circuit comprising: first and second alternately conducting transistor means, each having a base, an emitter, and a collector electrode, and each having its collector electrode resistively coupled to a source of direct current potential and its emitter electrode coupled to ground potential; input terminal means for receiving a trigger signal capacitively coupled to the base of said first transistor means, said base of said first transistor means being further coupled through a diode means to ground potential and through a resistance means to a source of direct current potential; a third and fourth transistor means, each having a base, an emitter, and a collector electrode, and each having its collector electrode coupled to a source of direct current potential, said third transistor means having its base electrode coupled directly, and its emitter electrode coupled through a diode means, to the collector electrode of said first transistor means, and said fourth transistor means having its base electrode coupled directly, and its emitter electrode coupled through a diode means, to the collector electrode of said second transistor means; an impedance, consisting of a resistance means placed in parallel with a storage means, coupled between the base electrode of said first transistor means and the emitter electrode of said fourth transistor means; a resistance means coupling the base electrode of said second transistor to ground potential; and a diode means having a first terminal coupled to the base electrode of said second transistor means and a second terminal coupled through a resistance means to a source of direct current potential, and through a storage means to the emitter electrode of said third transistor means whereby said multivibrator circuit provides a unit featuring stability and fast recovery.

2,976,433
RADIOACTIVE BATTERY EMPLOYING SEMICONDUCTORS
Paul Rappaport, Princeton, and Joseph J. Loferski, Cranbury, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 26, 1954, Ser. No. 432,472
20 Claims. (Cl. 310—3)



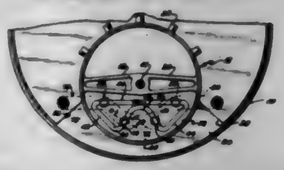
1. A primary source of electrical energy comprising, a body of semiconducting material, a source of nuclear emissions positioned adjacent to said body to irradiate at least a portion of said body to produce electrons and holes in a localized region of said body which diffuse into said body, means adjacent to said body for applying a magnetic field to said body, the magnetic lines of force of said field within said portion of said body being substantially transverse to the direction of travel of said emissions within said portion of said body to cause separation of said electrons and holes, and non-rectifying contacts secured to said body for separately collecting said electrons and holes and thereby deriving an electric current.

2,976,434
TRANSDUCER ASSEMBLY
George E. Henry, Schenectady, and Daniel I. Evans, Scotharle, N.Y., assignors to General Electric Company, a corporation of New York
Filed June 13, 1957, Ser. No. 665,487
2 Claims. (Cl. 310—9.4)



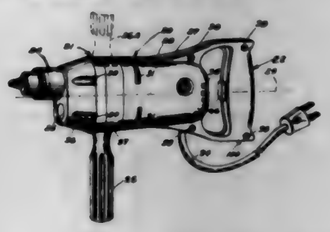
1. Apparatus for setting up ultrasonic compressional waves in a fluid medium including a container having an aperture therethrough and an ultrasonic transducer assembly positioned in said container to produce the compressional waves, said transducer assembly including a pair of resilient dish-shaped electrode means supported at their periphery in spaced relationship relative to each other with their dished-out portions facing outwardly away from each other and with the central areas thereof free to vibrate, one of said electrode means being positioned to seal the aperture in said container, pressure adjusting fluid disposed within said container and sealed therein by said electrode means said transducer element being positioned between said electrodes with the dished out portions of each one of said electrodes being in intimate contact with the entire surface of the respective side of the transducer element, and pressure adjusting means to adjust the spacing between said electrodes by adjusting the pressure of said fluid inside said container.

2,976,435
ELECTRIC WATCHES
John A. Van Horn, Lancaster, and Philip E. Bieuiller, Landisville, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1956, Ser. No. 631,687
11 Claims. (Cl. 310—39)



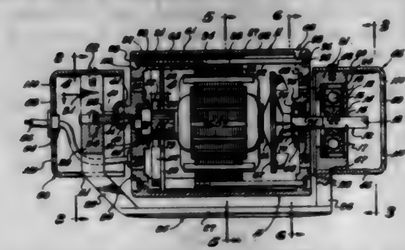
1. In a battery operated timepiece containing a balance wheel and staff assembly and having a movably mounted coil means for causing said balance wheel to oscillate, and means for periodically connecting said coil means to said battery to create a magnetic flux about the coil means; means attaching said coil means to said assembly so that it lies in a plane perpendicular to said staff and the entire coil means associated with said assembly is contained within a 180° area about said staff, said coil means having at least three spaced coil sides generally radially disposed with respect to said balance staff, means establishing a magnetic field having at least three spaced intensified regions having magnetic axes parallel to said staff, said sides being arranged to pass through said intensified regions simultaneously, said intensified regions being of such magnetic polarity that when current flows through said coil means to create said magnetic flux, the magnetic flux about said coil sides reacts with said intensified regions to produce three torque impulses in the same rotational direction, the intensified regions about said staff and the coil sides associated therewith being assymetrically located relative to said staff whereby the means establishing said magnetic field is localized at one area about said staff.

2,976,436
MULTI-SPEED DRILL
Nicholas Anton, 400 Dee Road, Park Ridge, Ill.
Filed July 12, 1957, Ser. No. 671,635
5 Claims. (Cl. 310—50)



1. In an electrically powered hand tool including an electric motor mounted within a casing and a handle affixed to said casing, a control switch comprising: a fixed contact member disposed within said handle and electrically connected to said motor; a movable contact element disposed within said handle in juxtaposition to said fixed contact member and movable between a normal position and an actuated position, said movable contact member having a lug of electrical insulating material affixed thereto; biasing means urging said movable contact element toward said normal position; a switch actuating member disposed partly within said handle and extending externally thereof, said actuating member being aligned with said movable contact member to engage said movable contact member and move said movable contact member to its actuated position in response to inward movement of said switch actuating member with respect to said handle; a latching member, mounted within said handle and extending externally thereof, in alignment with said lug when said movable contact member is in said normal position, said latching member being movable from a normal position free of said lug to a latching position in the path of return movement of said lug to engage said lug and maintain said movable contact member in its actuated position; and biasing means for urging said latching member toward its normal position to release said latching member from engagement with said lug when said switch actuating member is moved inwardly of said handle.

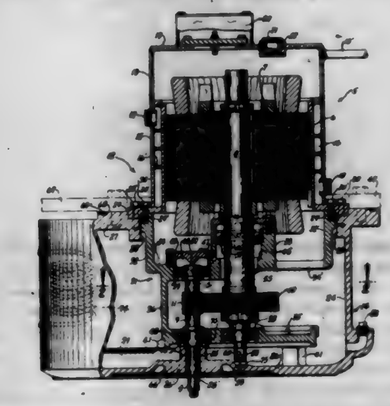
2,976,437
MASSAGE MACHINE
William N. Moxley, 3821 Don Tomaso Drive, Los Angeles 8, Calif.
Filed July 25, 1957, Ser. No. 674,103
6 Claims. (Cl. 310—63)



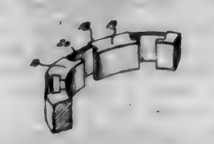
1. In a massage machine: a frame having a base and spaced arms extending inwardly from said base; an electric motor between said arms extending lengthwise of said base, said motor including a casing having forward and rearward end walls, a stator secured in said casing, a rotor, a shaft secured to said rotor and having a portion extending through said forward wall, a bearing on said shaft at each end wall, a pliant, elastic means engaging each bearing and end wall and disposed circumferentially around said bearing and between an end of said bearing and said end wall; eccentric means connecting said extending portion of said shaft to one of said arms; a flexible connection between said rearward wall and the other of said arms; said end walls having holes therethrough; said casing having longitudinally extending grooves in its inner wall disposed outwardly of said stator; and means for circulating air from the exterior of said motor through the holes in one end wall, through said grooves in contact with said casing and the holes in the other end wall to the exterior of said motor.

2,976,438
ELECTRIC GEAR-MOTOR DRIVE UNIT
Frederick G. Luber, Milwaukee, Russell I. Robinson, Thiensville, and Arthur M. G. Moody, La Crosse, Wis., assignors to The Louis Allis Company, Milwaukee, Wis., a corporation of Wisconsin
Filed July 9, 1958, Ser. No. 747,481
11 Claims. (Cl. 310—83)

1. An electric gear-motor drive unit comprising: a motor housing having a side wall portion and an end wall portion and being hermetically closed at its sides and at one end, the other end of the motor housing being open; a stator fixed in the motor housing; a rotor to coact with the stator; a motor shaft having the rotor fixed thereon and projecting from the open end of the motor housing; a bearing supporting structure having an imperforate side wall portion; means securing said side wall portion of the bearing supporting structure to the motor housing at the open end thereof so that the bearing supporting structure projects beyond the open end of the motor housing and the side wall portion of the bearing supporting structure forms substantially a continuation of the motor housing side wall portion; a pair of coaxial spaced apart motor shaft bearings, having the motor shaft journalled therein; means forming part of the bearing supporting structure mounting said bearings coaxially with the stator while leaving the motor housing open at its open end; said bearings constituting the sole support for the motor shaft; a drive gear fixed on the motor shaft between the bearings in which the shaft is journalled; an output shaft; a second pair of coaxial bearings carried by said bearing supporting structure and having the output shaft journalled therein; a driven gear fixed on the output shaft and meshing with the drive gear; and means on one of said side wall portions for mounting the entire unit on a supporting wall with a fluid tight connection at the juncture therebetween, and the interior of the motor housing in open communication with the space at one side of the wall and the motor housing coacting with said supporting wall to close off the space at said side of the wall from the space at the other side thereof.



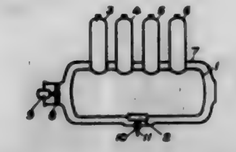
2,976,439
FLYWHEEL MAGNETO
Elmer Carl Kiekhaefer, 157 Western Ave., Cedarburg, Wis.
Filed Sept. 26, 1957, Ser. No. 686,483
2 Claims. (Cl. 310—153)



2. In a flywheel magneto assembly for an internal combustion engine, a flywheel of magnetizable material including a disc-like portion adapted to be secured to an engine shaft and an integral annular flange, a plurality of circumferentially spaced permanent magnets connected together by thin integral bands of the magnet material to form a magnet ring with the bands disposed outwardly of the circumferential centerline through the magnets and inwardly from the outer extremity of the magnets, said ring being disposed within the flywheel with the outer extremities of the magnets in engagement with the internal surface of the annular flange, and means for securing said magnet ring within the flywheel comprising nonmagnetic material cast between adjacent magnets, the

bands and the adjacent flange portions, and adapted to anchor the magnet ring to the adjacent flywheel portions between the magnet ring and the disc-like portion.

2,976,440
GAS FILLED RECTIFIER
Uno Lamm, Vasteras, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Feb. 26, 1959, Ser. No. 795,717
Claims priority, application Sweden Mar. 3, 1958
8 Claims. (Cl. 313—19)



1. A gas-filled rectifier comprising the combination of at least two separate anode units and at least one mercury cathode and a metal tank forming a common condensing chamber for said anode units, said tank having a substantially cylindrical shell, the axis of said shell being horizontal, said anode units being situated on the upper part of said shell and being arranged in at least one row extending longitudinally of the tank, said mercury cathode being arranged on the lower part of said shell of the tank.

2,976,441
ELECTRIC LAMP
Walter Stahl, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 23, 1956, Ser. No. 605,773
4 Claims. (Cl. 313—33)



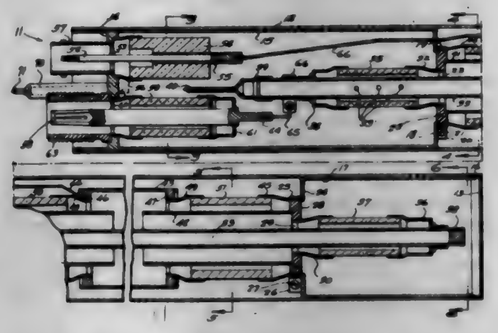
1. An electric lamp comprising an envelope containing a source of radiant energy and an inert gas fill, a stem sealed to said envelope and extending inwardly thereof, a press formed in said stem having at least one pressed surface which is substantially flat throughout its length and breadth and extends transversely of the stem axis, lead-in conductors sealed through said press and connected to said source, and a unitary heat deflecting member on said stem provided with a slit which extends inwardly from the periphery of said member for a substantial distance and communicates with an enlarged recess adapted to receive said press, a part of said member along an edge of said recess being displaced outwardly to form a longitudinal extension, the width of said slit being less than the thickness of said stem press, said heat deflecting member being disposed on said stem in a plane transverse to the stem axis with said enlarged recess receiving said stem press and the longitudinal extension seated against the pressed surface thereof, whereby said heat deflecting member is locked and stabilized in its assembled position on said stem.

2,976,442
PRESSURE RESPONSIVE TRANSDUCER FOR GASES UTILIZING RADIOACTIVE IONIZING SOURCE
Dale F. Rideout, Sierra Vista, Ariz. (767 Henrietta Ave., Sunnyvale, Calif.)
Filed July 7, 1958, Ser. No. 746,885
5 Claims. (Cl. 313—54)



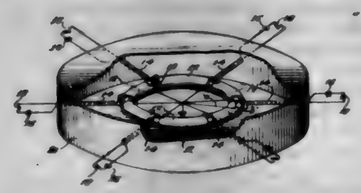
1. Apparatus for providing a variable electrical output corresponding to the dynamic pressure of a gas comprising an electrical, constant voltage, power source; a pair of output terminal means adapted to have an electrical meter coupled therebetween; an electrical impedance coupled between said terminal means; a pair of electrically conductive structures spaced and electrically insulated from each other and adapted to receive said gas therebetween; a quantity of radioactive substance disposed to direct radiations therefrom into the space between said structures; electrical circuit means coupling said power source in series between one of said structures and one of said terminal means; and electrical circuit means coupling the other of said structures with the other of said terminal means.

2,976,443
HIGH SENSITIVITY IONIZATION CHAMBER
Leslie E. Johnson, 168th and Kilpatrick Sts., R.R. 1, Tinley Park, Ill.
Filed Nov. 22, 1957, Ser. No. 698,227
6 Claims. (Cl. 313—61)



1. An ionization chamber comprising an elongated metal, sealed outer container, a metal electrode member extending longitudinally through said outer container, respective centrally apertured metal transverse partition members secured in said outer container and receiving the respective opposite end portions of said electrode member, rigid insulating means sealingly and supportingly connecting said opposite end portions to said partition members, respective metal guard sleeves secured to said partition members and extending inwardly towards each other and axially surrounding the portions of said electrode member adjacent said partition members, an elongated metal inner container surrounding the intermediate portion of said electrode member and overlapping said guard sleeves, rigid insulating means sealingly and supportingly connecting the opposite ends of said inner container to said partition members, said inner container, insulating means, and partition members being constructed and arranged to define a sealed inner compartment surrounding said electrode member and extending between the opposite end portions thereof, ionizable material sealed in said inner compartment and isolated from the outer container, a pair of terminal members extending through one end wall of said outer container, insulating means sealingly securing said terminal members to said one end wall, respective conductors electrically connecting the terminal members to said electrode member and said inner container, and inert material in the outer container substantially at the same pressure as the ionizable material in the inner compartment and acting as a pressure-balancing means to counteract pressure changes with temperature of the ionizable material in said inner compartment.

2,976,444
COUPLING DEVICE
Donald W. Kerst, La Jolla, and David F. Brower, Del Mar, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,817
8 Claims. (Cl. 313—62)



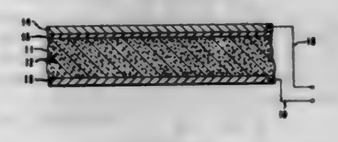
1. An electrical coupling device comprising an elongated secondary circuit, a plurality of elongated generally tubular conductors extending about and sequentially disposed along a portion of said secondary circuit, a source of voltage associated with each pair of adjacent conductors, said sources of voltage being in phase with each other, means for simultaneously connecting said sources of voltage to said associated pairs of adjacent conductors, said source of voltage being arranged to simultaneously provide a current flow in the same direction through each of said conductors, each conductor thereby providing a magnetomotive force which creates a flux that passes about the secondary circuit in the same direction, and a conducting shield which confines the flux created by the conductors within a defined volume in the vicinity of said portion of said secondary circuit.

2,976,445
RADIATION DETECTOR
Roy P. Mazzagatti, Bellaire, Tex., assignor to Texaco Inc., a corporation of Delaware
Continuation of application Ser. No. 439,083, June 24, 1954. This application Dec. 15, 1958, Ser. No. 780,621
13 Claims. (Cl. 313—93)



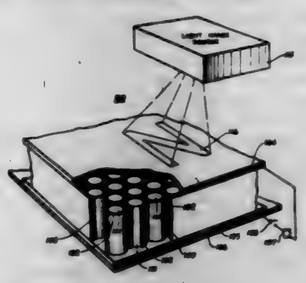
1. A detector of penetrative radiation such as gamma rays, of the gas amplification, electrical pulse producing type for use in logging a bore hole and which is adapted to be used under conditions of high temperature comprising a welded sealed housing, and cathode and anode electrodes within said housing, said housing containing an ionizable gas and being constructed entirely of stainless steel parts which are welded together.

2,976,446
ELECTROLUMINESCENT STRUCTURES
Daniel Thomas Meloon, East Amherst, and Robert Otto Osborn, Snyder, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,567
15 Claims. (Cl. 313—108)



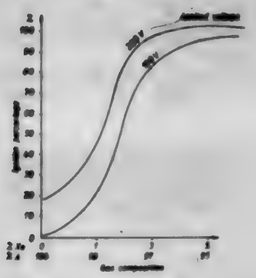
1. An electroluminescent structure comprising a layer of a dielectric material, particles of a phosphor material distributed throughout said dielectric layer and electrically conductive metallic layers on either side of said phosphor-containing dielectric layer, at least one of said metallic layers comprising a thin substantially transparent layer of copper having an equivalent thickness of 12–20 millimicrons in contact with said phosphor-containing layer, said metallic layer capable of transmitting at least 30% of all incident visible light and exhibiting a surface resistivity of not more than 1000 ohms per square.

2,976,447
IMAGE STORAGE APPARATUS
Joseph T. McNaney, La Mesa, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Mar. 12, 1959, Ser. No. 798,983
4 Claims. (Cl. 313—108)



1. In an image storage apparatus, a plurality of optical fibers arranged in an array, each of said fibers having a longitudinal surface and transverse ends, at least a portion of said longitudinal surface having a coating of photoconductive material substantially extending between said ends and in contact with the coating of the adjacent optical fibers of the array, a substantially continuous conductor layer making electrical contact with one of the transverse ends of the array and the coating of photoconductive material substantially extending to said one transverse end, an electroluminescent layer in contact with the other transverse ends of the array of optical fibers and the coating of photoconductive material substantially extending to said other transverse end, and means for securing said optical fibers into said array.

2,976,448
FLUORESCENT LAMP
Mihály Berhidi, Béla Simon, and Lajos Szendrey, Budapest, Hungary, assignors to Egyesült Izzólámpa és Villamossági Részvénytársaság, Budapest, Hungary, a Hungarian enterprise
Filed Feb. 16, 1960, Ser. No. 9,081
Claims priority, application Hungary Feb. 26, 1959
2 Claims. (Cl. 313—109)



1. A fluorescent lamp comprising an airtightly sealed phosphor-coated translucent vitreous envelope, an electrode in each end portion of said envelope, mercury in said envelope, and a gaseous mixture contained by said envelope at a pressure ranging between 2.5 and 4 millimeters of mercury, said gaseous mixture comprising a mixture of argon and xenon containing about 1 to 5 percent by volume of xenon chosen in a manner to ensure safe ignition of the lamp at low temperatures.

2,976,449
LAMP AND METHOD
Daniel A. Larson, Cedar Grove, and Lake Thorington, Berkeley Heights, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 10, 1957, Ser. No. 689,395
2 Claims. (Cl. 313—109)



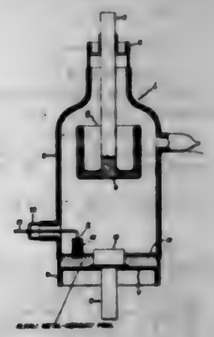
1. The method of operating with a positive volt-ampere characteristic a hydrogen-discharge lamp having, a thermionic cathode comprising a coil carrying an electron-emitting material directly thereon, an envelope at least a portion of which is light transmitting surrounding said cathode, a hydrogen gas fill having a pressure falling within the range of from about 200 microns to about 6 mm. within said lamp envelope, and an anode comprising phosphor material excitable to luminescence by electrons and ultraviolet radiations on the inner surface of said lamp envelope, which method comprises, applying a relatively low predetermined electric potential across said cathode to cause same to become strongly electron emitting and to form an electron space charge thereabout, simultaneously applying a relatively high predetermined electric potential between said cathode and said anode comprising phosphor material, and controlling the potential applied across said cathode with respect to the potential applied between said cathode and said anode to create therebetween a hydrogen gas-discharge only in the region of said anode.

2,976,450
FLICKERING ELECTRIC CANDLE
Osmond D. Benedict, 302 N. 35th St., and Jordan Tobias, 5218 Church St., both of Philadelphia, Pa.
Filed Aug. 22, 1957, Ser. No. 679,699
4 Claims. (Cl. 313—151)



1. A flickering electric candle comprising a gas filled lamp bulb, a fixed electrode supported within said bulb, and a bimetallic movable electrode of acuminated plan configuration supported within said bulb, said bimetallic electrode comprising a first leaf of a relatively high coefficient of thermal expansion material and a second leaf of a relatively low coefficient of thermal expansion, said first leaf being spaced closer to said fixed electrode than said second leaf whereby said movable electrode when heated will flex away from said fixed electrode, said bimetallic electrode diverging and converging with respect to said fixed electrode but maintaining spaced relationship therewith as an electrically energized arc is discharged between said electrodes wherby a flickering candle effect is simulated.

2,976,451
ELECTRIC DISCHARGE DEVICE
Gilbert H. Rolling, Schenectady, and Andrew O. Jensen, Guilderland, N.Y., assignors to General Electric Company, a corporation of New York
Filed June 8, 1959, Ser. No. 818,874
5 Claims. (Cl. 313—171)



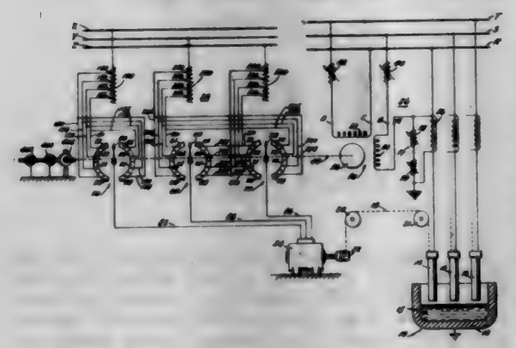
1. A cold cathode arc discharge device comprising an envelope, an anode in said envelope, a liquid cathode in said envelope in spaced insulated relation with respect to said anode, said cathode consisting of alkali metal in an amount between about .02% to about 20% and the remainder mercury, and means for initiating an arc discharge between said anode and cathode.

2,976,452
CERAMIC ROD SPACERS FOR USE IN MASS PRODUCIBLE ELECTRON TUBES
Mortimer E. Weiss, Flushing, and Craig M. Garretson, East Norwich, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Nov. 4, 1954, Ser. No. 466,888
5 Claims. (Cl. 313—257)



1. A stack comprised of a tightly held assembly including insulating rods, at least one of which has an electro-conductive core, and electrodes including a cathode, a grid, and an anode, the conductive core forming part of the electrical circuit to one of the electrodes, the grid being held against movement and spaced from said anode by said insulating rods, and means supporting the cathode adjacent the grid.

2,976,453
ARC FURNACE ELECTRODE CONTROL MEANS
Hermann Lünig, Duisburg, Germany, assignor to Demag-Elektrometallurgie G.m.b.H., Duisburg, Germany, a corporation of Germany
Filed May 28, 1959, Ser. No. 816,440
Claims priority, application Germany July 14, 1958
2 Claims. (Cl. 314—69)



2. Electrode positioning means for use in an electric arc furnace having electrode means and power supply means for energizing the same, the combination of signal comparison means connected to said electrode means for sensing the energy conditions therein and for producing an output signal whose magnitude and sense is a function of the deviation of said energy from a predetermined value, a source of three phase electrical energy, reversible three phase electroresponsive means connected to said energy source for positioning said electrodes, three resistance means each of which is connected to a different one of said phases of said electroresponsive means and each having a plurality of taps, a tap changing means associated with each of said resistance means and each of which has rotatable brush means and a plurality of contact means disposed on each side of a neutral center point and which are arranged for sequential engagement by their associated brush means upon rotation thereof, each of said brush means being electrically connected to one of the phases of said electroresponsive means and mechanically connected to said signal comparison means for simultaneous rotation by said output torque, circuit means connecting the taps on each of a pair of said resistance means to the contact means on one side of their individual associated tap changing means and also to the contact means on the other side of the tap changing means associated with the other resistance means of said pair, said circuit means also connecting the taps of the third one of said resistance means to the corresponding contact means on each side of its associated tap changing means, whereby the phase sequence of the energy flowing to said electroresponsive means is reversed as each of said brush means crosses its respective neutral point so that deviations from a predetermined value in the energy flow to said electrode will result in the movement of said electrode by said electroresponsive positioning means in a direction tending to minimize said deviation.

2,976,454
HIGH FREQUENCY ENERGY INTERCHANGE DEVICE
Charles K. Birdsall, Menlo Park, and Curtis C. Johnson, Los Altos, Calif., assignors to General Electric Company, a corporation of New York
Filed Apr. 8, 1958, Ser. No. 727,872
8 Claims. (Cl. 315—3.5)

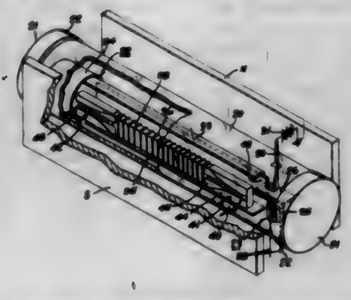


1. In a high frequency energy interchange device for producing amplification and oscillation in the microwave frequency spectrum, a first pair of spaced apart and parallel conductive electrodes defining an interaction region therebetween, means to establish an electric field in said interaction region having lines of force substantially normal to said electrodes, electron gun means for producing and directing a stream of electrons down the interaction region between said first pair of spaced apart electrodes, an evacuated envelope enclosing said first pair of electrodes and said electron gun, circuit means disposed outside said evacuated envelope on opposite sides of said interaction region and extending substantially the full length of the interaction region, said circuit means including at least one radio frequency slow wave transmission line for propagating electromagnetic waves down said interaction region, and means to produce a magnetic field in said interaction region having lines of force perpendicular to the lines of force of said electric field and transverse to said slow wave transmission line.

2,976,455
HIGH FREQUENCY ENERGY INTERCHANGE DEVICE
Charles K. Birdsall, Menlo Park, and Ward A. Harman, Palo Alto, Calif., assignors to General Electric Company, a corporation of New York
Filed Mar. 19, 1958, Ser. No. 722,494
14 Claims. (Cl. 315—3.6)

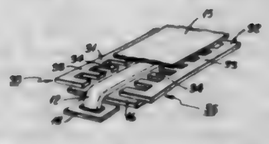
1. In a high frequency energy interchange device for producing amplification and oscillation in the microwave frequency spectrum, a first pair of spaced and parallel conductive electrodes defining an elongated interaction region therebetween, means to establish an electric field

in said interaction region having lines of force extending between and normal to said electrodes, means to produce a magnetic field in said interaction region having lines of force perpendicular to both the lines of force of said electric field and the length of the interaction region, circuit means disposed on opposite sides of said interaction region and said electrodes and extending substantially the full length thereof whereby the interaction



region is enclosed on two sides by said electrodes and on the opposite two sides by said circuit means, said circuit means including at least one radio frequency slow wave transmission line for propagating electromagnetic waves down said interaction region at a velocity less than the velocity of light, and electron gun means for producing and directing a stream of electrons down the interaction region at a velocity greater than the velocity of propagation of the electromagnetic waves therein.

2,976,456
HIGH FREQUENCY ENERGY INTERCHANGE DEVICE
Charles K. Birdsall, Menlo Park, and Curtis C. Johnson, Rolling Hills, Calif., assignors to General Electric Company, a corporation of New York
Filed Nov. 14, 1958, Ser. No. 773,866
14 Claims. (Cl. 315—3.6)



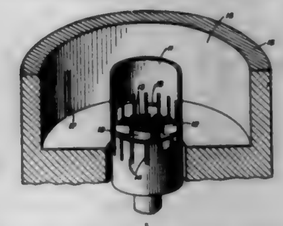
1. A high frequency energy interchange device of the type which depends on an interchange of energy between an electron stream and electromagnetic waves in a region of mutually perpendicular electric and magnetic fields including a substantially planar refetence electrode, a collector anode of the same general configuration disposed in spaced parallel relation with respect to said reference electrode, electron gun means for producing and directing a stream of electrons between said collector and reference electrodes and along the length of the interaction region defined therebetween, a slow-wave radio frequency transmission line having substantially planar portions disposed on opposite sides of the region between said electrodes occupying a common plane parallel to said electrodes and extending into the interaction region thereby defining a path therebetween for the electron stream, means for establishing a steady electric field having lines of force extending between said reference electrode and said collector electrode, and means for providing a magnetic field in the interaction region having lines of force extending substantially parallel to the plane of said electrodes and perpendicular both to the direction of travel of the electron stream and the lines of force produced by the electric field.

2,976,457
ELECTRON LENS
John H. Reisner, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 2, 1953, Ser. No. 389,625
3 Claims. (Cl. 315—31)



1. In electron optical apparatus including means for forming a beam of electrons, a lens for controlling said beam, said lens having an axis and comprising a pair of pole pieces supported adjacent each other in axially spaced relation, means for magnetically energizing said pole pieces to establish a lens field therebetween, means for correcting asymmetries of said lens field, said correcting means including a plurality of magnetic shim screws symmetrically spaced in radial array about said lens axis and between said pole pieces, a corresponding number of similarly arrayed electrostatic probe electrodes, said electrodes and shim screws being mechanically adjustable with respect to each other, and means for selectively energizing said electrodes.

2,976,458
MAGNETRON
Joseph Feinstein, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 29, 1958, Ser. No. 783,597
12 Claims. (Cl. 315—39.77)

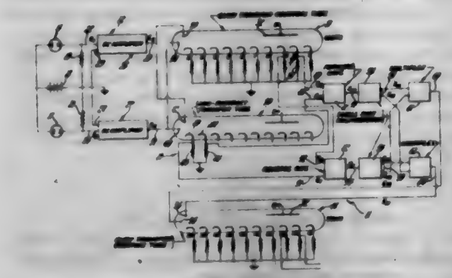


1. A magnetron comprising a wall member, a plurality of anode vanes positioned on said wall member and defining anode cavity resonators, a cathode positioned adjacent said vanes, means including said wall member defining an output cavity resonator, means comprising an array of slots extending through said wall member for coupling certain ones of said anode cavity resonators to said output cavity resonator, said slots giving rise to spurious slot modes, and means for suppressing said spurious slot modes comprising array non-uniformities in said array of slots.

2,976,459
DIGITAL COMPUTER
John M. Farrell and Edward F. Weller, Jr., Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 7, 1958, Ser. No. 747,867
13 Claims. (Cl. 315—84.6)

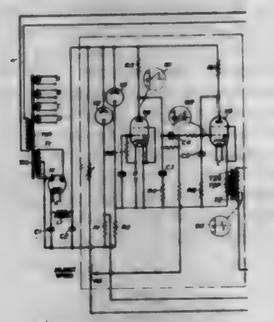
1. In a device of the class described, a first multicathode gaseous-discharge tube, having output electrodes, pulse means to cycle a discharge around said tube in either direction, control means for deriving a control

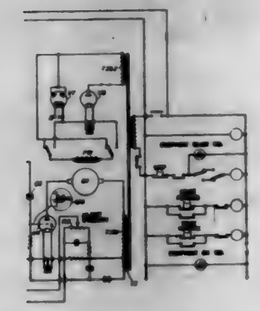
pulse whenever said discharge reaches an output electrode of said tube, a second multicathode gaseous-discharge tube, transfer means connected directly with said pulse means and with said control means, said transfer means being effective to cycle said second discharge



around said second tube in response to said control pulse and said pulse means in a direction corresponding to the direction of discharge transfer in said first tube.

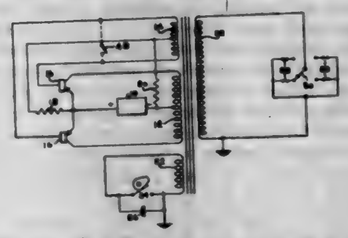
2,976,460
CONTROL CIRCUITS FOR GAS-FILLED, GRID-CONTROLLED DISCHARGE TUBES
Leslie Frederick Odd, Northaw Egbert Gardens, Wickford, England
Filed Jan. 12, 1959, Ser. No. 786,409
Claims priority, application Great Britain Jan. 13, 1958
8 Claims. (Cl. 315—294)





1. A control circuit for a unidirectional current-flow control device, said circuit comprising a unidirectional current-flow control device having supply electrodes and a control electrode, an A.C. supply connected between said supply electrodes, the control device being operable by a pulse applied to its control electrode only during alternate half cycles of the A.C. supply, a pulse generator, an input point and an output point for said pulse generator, a source of variable D.C. bias connected to said input point, a repetitive rising potential waveform generator also connected to said input point, the pulse generator producing an output pulse whose phase respective to the commencement of said alternate half cycles of the A.C. supply depends upon the magnitude of said D.C. bias, and pulse application means connected between said output point and the control electrode of said control device for applying a variable-phase output pulse to said control electrode to determine the instant during a said alternate half cycle of the A.C. supply at which said control device commences to conduct.

2,976,461
OSCILLATOR IGNITION SYSTEM
Le Roy E. Diiger and Sylvester A. Stuiber, Milwaukee, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Feb. 6, 1959, Ser. No. 791,562
12 Claims. (Cl. 315—205)



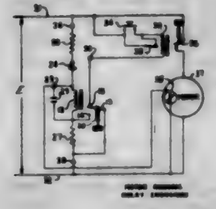
1. A transistor oscillator low tension ignition system having a step-up transformer with a secondary winding, said oscillator having a feed-back winding in inductive relation with said transformer, a storage-sparking capacitor and rectifier constantly connected to said secondary winding, and a distributor for intermittently connecting said capacitor to a spark plug, said oscillator ceasing to oscillate when said distributor connects to a spark plug.

2,976,462
PROTECTIVE SYSTEM
Arthur Miller, Brookline, Mass., assignor to Sanborn Company, Cambridge, Mass., a corporation of Massachusetts
Filed Nov. 13, 1956, Ser. No. 621,596
10 Claims. (Cl. 317—9)



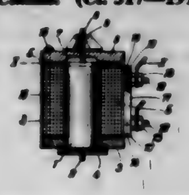
1. In an electric system in which signal voltages developed with respect to a reference terminal are to be transmitted along a conductor that, through failure and the like in the system, may assume a dangerous potential, the combination of an impedance connected in series with the conductor and a threshold-voltage-operated switching device connected in shunt between the conductor and the reference terminal, the switching device having a voltage-current characteristic provided with a discontinuity at a threshold voltage in excess of the signal voltages at which the device changes from a high to a low impedance and being adapted to pass currents up to a predetermined value without damage to the device, and the value of the series impedance being adjusted to limit the current that may pass through the switching device to values not exceeding the said predetermined value.

2,976,463
MOTOR-PROTECTING RELAY
Charles J. Adams, Bloomington, Ill., assignor to General Electric Company, a corporation of New York
Filed Feb. 1, 1957, Ser. No. 637,713
4 Claims. (Cl. 317—41)



1. An electric relay comprising a core member, a coil adapted to energize said core member, an armature movable toward and away from said core member between attracted and unattracted positions, biasing means biasing said armature away from said core member, an elongated resilient switching member mounted at one end on a support fixed relative to said core member and carrying a first contact adjacent its outer end, a relatively stationary contact adapted to be contacted by said first contact, operating means for said switching member comprising an elongated resilient operating member having two side portions extending parallel to and generally coplanar with said switching member and having one end thereof mounted on said fixed support adjacent said mounted end of said switching member, the outer ends of said side portions being interconnected and having an extension adapted to rest against said armature, said operating member having an inherent bias tending to move the outer end thereof toward said core member, said inherent bias of said operating member being weaker than the said armature biasing means whereby said operating member is normally maintained in a first position by said armature member when said armature member is in said unattracted position, said armature member when attracted by said core member permitting movement of said switching member under said inherent bias toward said core member to a second position, said interconnected ends of said side portions moving from one side to the other of said switching member as said operating member moves between said first and second positions, an overcenter compression spring connected between the outer end of said switching member and the interconnected side portions of said operating member whereby said switching member is moved into and out of engagement with said stationary contact with a snap action as said armature moves between said attracted and unattracted positions.

2,976,464
ELECTRO-MAGNET
Max Göpfert, Friedrichshafen, Germany, assignor to Zahnradfabrik Friedrichshafen, Friedrichshafen am Bodensee, Germany
Filed Sept. 19, 1955, Ser. No. 535,236
Claims priority, application Germany Oct. 14, 1954
2 Claims. (Cl. 317—191)



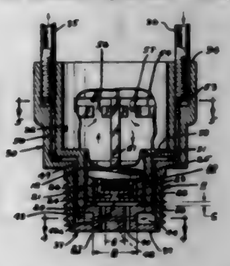
1. An electro-magnet having a solenoid surrounded by an external casing, said casing having large masses at predetermined points distributed about the periphery of said solenoid, said solenoid being substantially totally enclosed in said casing, said casing having a polygonal, cross sectional area diametrically in a plane transverse to the axis of said solenoid, said area being diminished only by the area of the solenoid therein within said casing, wherein said solenoid occupies the maximum possible space therein and wherein said casing has relatively thin, longitudinal walls extending between the relatively thick, generally triangular corners thereof, and a cover of magnetic material at one end, at least, of said casing to complete the magnetic circuit of said casing, and a magnetic plunger reciprocally movable within said solenoid.

2,976,465
SEMICONDUCTOR DEVICES
James Lee Jensen, St. Louis Park, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 17, 1959, Ser. No. 860,156
2 Claims. (Cl. 317—234)



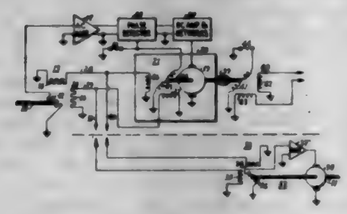
1. In a semiconductor assembly including a multi-electrode semiconductor apparatus having a plurality of electrode leads extending therefrom the semiconductor body having at least one relatively large junction arranged adjacent one surface thereof, said junction being mounted in good thermally conducting relationship with a heat conducting base member, said heat conducting base member having a flat mounting surface along a certain first plane, said flat mounting surface being particularly adapted for mounting onto a chassis member, said heat conducting base member being particularly characterized in that means are provided for insulatingly extending said leads through said base member along a certain second plane which is substantially elevated from said first plane.

2,976,466
SHIELDING DEVICE
Carl E. Grinstead, 386 Crosby Ave., Altadena, Calif.
Filed Sept. 8, 1958, Ser. No. 759,481
12 Claims. (Cl. 317—246)



1. In combination with a pressure measuring device having a diaphragm adapted to be exposed to pressure variations in a fluid, the diaphragm having a central area which undergoes substantial deflection in response to fluid pressure exerted on said diaphragm so as to provide an indication of the magnitude of the pressure, a shield device for said diaphragm comprising a body having an opening for receiving the device, and a shield having a planar inner face and an outer face, said shield extending across the opening with its inner face parallel to and facing toward the said diaphragm and spaced therefrom to form a chamber, the inner sidewall of said chamber formed by the body being imperforate, and the outer face of the shield facing toward the pressure being measured, said shield having a plurality of passages which extend from face to face, said passages being spaced from one another and lying outside a region which is directly opposed to said area leaving an imperforate portion of material impervious to radiant energy therebetween, and the perforations lying inside the region defined by the inner sidewall of the body, whereby the imperforate portion of the shield acts as a baffle to protect the area from direct impingement of radiant energy, the passages providing means for fluid communication between the outer and inner face whereby the fluid contacts the diaphragm so as to exert its pressure thereon.

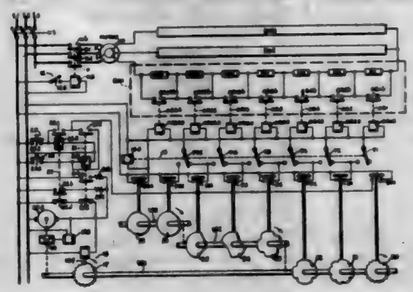
2,976,467
PRECISION SERVO POSITIONING SYSTEM
Rawley D. McCoy, Bronxville, N.Y., assignor to Reeves Instrument Corporation, Garden City, N.Y., a corporation of New York
Filed Sept. 29, 1958, Ser. No. 763,905
19 Claims. (Cl. 318—30)



1. A precision servo-positioning system comprising input means responsive to an applied positioning signal and to a positional feedback signal; an electromechanical feedback unit including a housing, a shaft mounted for rotation within said housing, motor means located within said housing having a rotor mounted on said shaft and a stator surrounding said rotor, positional feedback means having a rotating element mounted on said shaft adjacent said rotor and a stationary element located within said housing adjacent said rotating element, said positional feedback means producing a positional feedback signal corresponding to the angular position of said shaft; means coupling said positional feedback signal to said input means; and means coupling the output from said input means to said motor means.

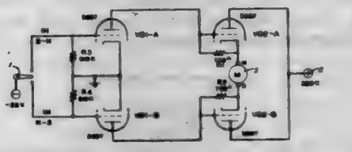
2,976,468
MULTI-POSITION ELECTRICAL CONTROL
William H. Rouse, Brookfield, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 14, 1958, Ser. No. 754,981
13 Claims. (Cl. 318—138)

1. In a control system for commutating resistance, in combination, a resistance network comprising a multiplicity of resistance units, a shaft, a pilot motor energizable to rotate said shaft, an electroresponsive clutch for connecting said motor to said shaft when said motor is energized, means for energizing said pilot motor and for deenergizing the same, an element on said shaft having means defining for said shaft a multiplicity of definite operating positions, a reciprocably movable member for engagement with said element, electroresponsive means for effecting movement of said member to accurately position said element and said shaft in any one of said operating positions upon deenergization of said pilot motor, a multiplicity of cams rotated by said shaft, and a switch adapted to be operated by each of said cams, certain of said switches adapted to effect commutation of said resistance units, and one of said switches adapted to maintain said pilot motor energized and for rendering said electroresponsive means ineffective to move said member upon initiation of deenergization of said pilot motor in



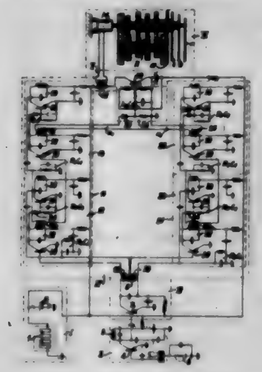
the event that said movable member is not in position with respect to said element to effect accurate positioning thereof, said one of said switches further adapted to effect deenergization of said pilot motor and to cause said electroresponsive means to move said member when said member is in position with respect to said element to effect accurate position thereof.

2,976,469
MOTOR CONTROL CIRCUIT
Edward J. Christiano, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Dec. 14, 1959, Ser. No. 859,390
5 Claims. (Cl. 318—293)



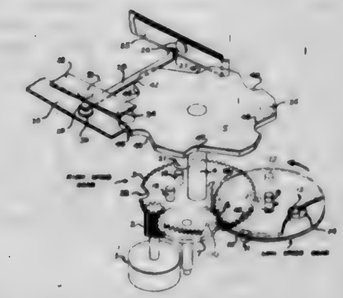
1. An electronic circuit network for driving a permanent field direct current motor from a source of positive current in either of two directions through the application of a negative potential to either of two corresponding input terminals, consisting of a symmetrically connected pair of driving electron tubes and a symmetrically connected pair of clamping tubes, switching means for alternatively applying a negative potential to the grid of either one of said driving tubes of a value to completely cut off the said tube and to leave the other of said driving tubes in conduction, the plate of each of said driving tubes being connected to the grid of a corresponding clamping tube, a bias resistor connected between the grid and the cathode of each said clamping tube, the plates of said clamping tubes being connected to said source of positive current and the cathodes thereof being connected to said motor, whereby the isolation of the plate of a said driving tube acts to clamp the grid of its said corresponding clamping tube to the cathode thereof to convert said clamping tube to a diode to freely conduct current through said motor to said source of positive current and whereby the said current flowing through the said bias resistor of the other one of said clamping tubes provides a comparatively negative potential to the grid thereof of a value sufficient to completely cut off said other one of said clamping tubes.

2,976,470
HORAL INSTRUMENT OF HIGH PRECISION
André Krasnoslevitch and Roger Brunner, Geneva, Switzerland, assignors to Ancienne Manufacture d'Horlogerie Patek, Philippe & Co. S.A., Geneva, Switzerland, a body corporate of Switzerland
Filed Nov. 20, 1958, Ser. No. 775,294
Claims priority, application Switzerland Dec. 28, 1957
5 Claims. (Cl. 318—341)



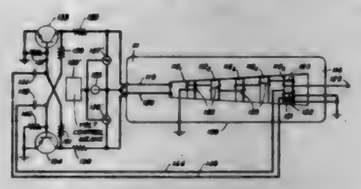
1. A horal instrument of high precision of the kind comprising a thermocompensated quartz oscillator the frequency of which is higher than 500 cycles, an electronic dividing device controlled by said quartz oscillator, a feeding device feeding said oscillator and said electronic dividing device with electrical energy, said electronic dividing device including two parallel branches of division stages, each of said branches having a different division factor and consequently different output frequencies, a mixing and filtering device fed by said two different output frequencies and delivering the low beat frequency of said two different output frequencies to a motor in said horal instrument, and horal indicating apparatus driven by said motor.

2,976,471
CONTROL DEVICE
John L. Harris, 4753 N. Newhall, Whitefish Bay, Wis.
Filed Jan. 22, 1959, Ser. No. 788,400
3 Claims. (Cl. 318—467)



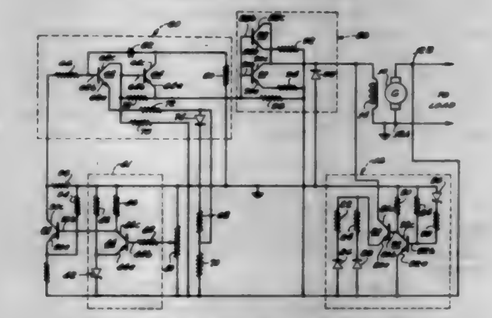
3. In a control device, a cam, a motor, a pinion driven by the motor, a gear for driving the cam, a first switch operated by one side of the cam, a second switch operated by the edge of the cam, said gear having teeth omitted for causing said cam to stop at predetermined points, and means driven by said motor for starting said cam at predetermined times.

2,976,472
MAGNETIC CONTROL CIRCUITS
Edmundo E. Newhall, Metuchen, and James R. Perucca, Sayreville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 4, 1960, Ser. No. 342
17 Claims. (Cl. 332—12)



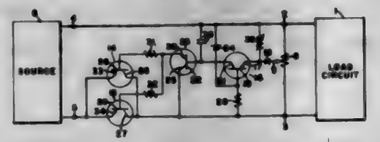
7. A frequency control circuit comprising a multi-apertured magnetic element having substantially rectangular hysteresis characteristics, said element presenting a common drive leg, a sequence of flux switching legs, and an error control leg, said flux legs and said control leg being flux limited to substantially the same flux magnitude, a drive winding coupled to said drive leg, first input means for applying a first constant frequency signal to said drive winding to cause successive flux reversals in one direction in said sequence of flux switching legs, a first control winding coupled to said error control leg energized responsive to flux reversals in said last-mentioned leg for generating a first error control signal, a first control circuit means energized responsive to said first error control signal for controlling said input means to adjust the amplitude of said first constant frequence drive signal, and output circuit means including an output winding coupled to each of said flux switching legs in alternating senses.

2,976,473
VOLTAGE REGULATOR FOR GENERATORS
Benjamin Chandler Shaw and Bernard M. Van Emden, Los Angeles, Calif., assignors to Crane Co., Burbank, Calif., a corporation of Illinois
Filed June 17, 1959, Ser. No. 820,997
6 Claims. (Cl. 322—28)



5. A voltage regulator for a generator having an armature with a pair of output terminals, and a shunt field winding comprising a starting circuit including a first transistor having an emitter, collector, and base electrode, a rectifier, a first resistor connected in series with said rectifier, means connecting said series-connected first resistor and rectifier between said first transistor-emitter electrode and one of said pair of armature output terminals, means connecting said first transistor-collector electrode to said field winding, a second transistor having emitter, collector, and base electrodes, means connecting said second transistor-collector to said first transistor base, a second resistor connecting said second transistor-collector to the other of said pair of armature output terminals, means connecting said second transistor emitter to said one of said pair of armature output terminals, a third resistor connecting said second transistor base to said other of said pair of armature terminals, a first Zener diode, and means connecting said Zener diode in parallel with said third resistor, a fourth resistor, a second Zener diode connected in series with said fourth resistor, means connecting said series-connected fourth resistor and second Zener diode between said armature pair of output terminals, a third transistor having emitter, collector, and base electrodes, means connecting said third transistor emitter to the connection between said second Zener diode and said fourth resistor, a fifth resistor connecting said third transistor collector to said other of said pair of armature terminals, potentiometric means connected to said pair of armature output terminals, means coupling said potentiometric means to said third transistor base, a variable pulse-width oscillator having a control input and an output, means coupling said third transistor collector to said control input, and means coupling said variable pulse-width oscillator output to said shunt field winding.

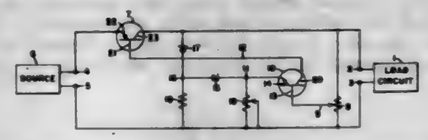
2,976,474
ELECTRONIC VOLTAGE REGULATOR
Paul A. Dodge, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 12, 1956, Ser. No. 615,645
5 Claims. (Cl. 323—9)



1. In combination, a voltage source, a load circuit, a regulating device coupling said source to said load circuit, said regulating device comprising a variable impedance element, said regulating device responsive to a first predetermined maximum level of load current established in said load circuit for maintaining the impedance of said device constant for any further increase in the load current, and said regulating device responsive to a second maximum level of load current to increase the resistance of said device in accordance with any further increase in said load current.

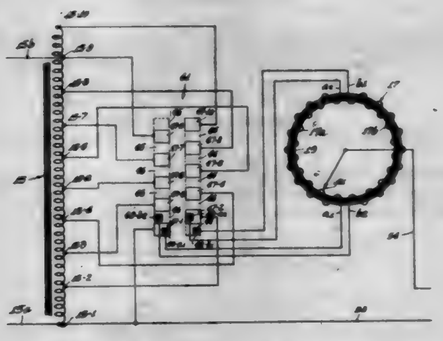
2,976,475
ELECTRICAL SIGNAL REGULATOR
Paul A. Dodge, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 8, 1957, Ser. No. 651,519
3 Claims. (Cl. 323—9)

1. In combination, a source of a direct current, a load circuit, a variable resistance device comprising a control element connected between said source and said circuit, a signal comparator comprising a first, second and third control electrode, a reference voltage device and an impedance element connected in series across said load circuit, means for maintaining the potential of said one electrode substantially constant comprising a unidirectional conducting device connected to the junction of said reference voltage device and said impedance element and comprising a load circuit connected to said one electrode, means for applying a signal to the second of said electrodes which varies in accordance with the voltage developed in said load circuit in response to current flow from said source to said load circuit, means responsive to a predetermined current flowing through said first electrode corresponding to load circuit impedance values below a predetermined minimum value for rendering said unidirectional conducting device nonconductive, and means responsive to a change in current flowing through said first electrode in response to said



unidirectionally conducting device becoming nonconductive for applying a signal to said control element to cause said variable resistance device to abruptly assume a high value of resistance.

2,976,476
VARIABLE VOLTAGE TRANSFORMER
Arthur E. Snowdon, Bristol, Conn., assignor to The Superior Electric Co., Bristol, Conn., a corporation of Connecticut
Filed Apr. 27, 1956, Ser. No. 581,107
6 Claims. (Cl. 323—43.5)

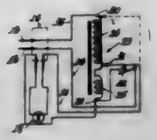


1. A variable voltage transforming unit comprising a first voltage transforming device having an output and an input connectible to a source of alternating current; means for providing voltage increments from the output; a second voltage transforming device having a winding formed into at least two separate coils wound in the same direction on a closed magnetic core; switch means for electrically connecting at least one of the coils to an increment of the output of the first voltage transforming device; a contactor for electrical engagement with a selective portion of the electrically connected coil; and means, forming an output of the unit, connected to the contactor and the first voltage transforming device.

2,976,477
VARIABLE AUTOTRANSFORMER
William P. Carpenter, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Feb. 11, 1957, Ser. No. 639,503
2 Claims. (Cl. 323—47)

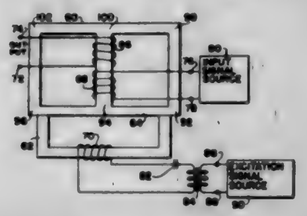
1. A control unit including a variable autotransformer for controlling the brilliance of an electric lamp between substantially no brilliance and maximum brilliance in minute increments comprising an annular core formed of permeable material; a winding wound on the core, said winding having a commutating portion constituting approximately 90 percent of the total number of turns in the winding and an exciting portion with the commutating portion being formed of larger wire than the exciting portion, and being wound in a single-layer of juxtaposed turns on the core, the exciting portion being wound in overlapping layers on a small portion of the core; a com-

mutating surface formed on the commutating portion; a brush carried by a rotatably mounted arm and adapted to ride on the commutating surface in engagement with at least one turn thereof; input leads connected to the ends of the winding; output leads, one connected to the brush and the other to the input lead connected to the end of the exciting portion of the winding of the auto-



transformer to which a lamp is adapted to be connected; and a normally closed switch electrically connected in an input lead and mounted to be engaged by a portion of the arm when the brush is adjacent the junction of the commutating and exciting portion of the winding to deenergize the input and mechanically prevent the brush from engaging the exciting portion of the winding.

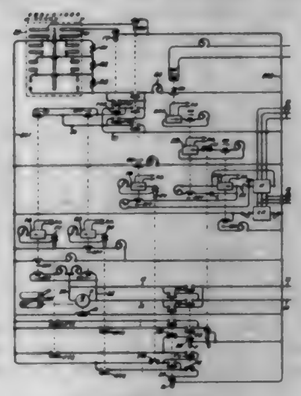
2,976,478
VARIABLE PERMEABILITY MAGNETIC CIRCUIT
Vernon Harold Aske, Huntington Station, N.Y.
(3415 Arbor Lane, Hopkins, Minn.)
Filed Mar. 16, 1956, Ser. No. 572,002
9 Claims. (Cl. 323—56)



1. A magnetic device comprising a first magnetic circuit, a second magnetic circuit having a portion in common with said first magnetic circuit, means for feeding a signal to said second magnetic circuit to vary the permeability of said first magnetic circuit, and windings coupled to said first magnetic circuit for input and output signals, said first magnetic circuit being arranged as a magnetic bridge to render flux coupled into said first magnetic circuit from said second magnetic circuit ineffective at said windings; said first magnetic circuit comprising a closed three-legged core of magnetic material.

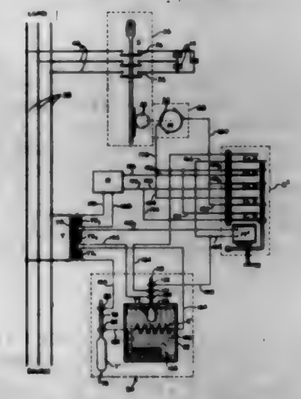
2,976,479
SATURABLE AMPLIFIER CONTROL AND SENSING COMBINATIONS
Burnette P. Chesnee, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed Aug. 23, 1956, Ser. No. 605,833
4 Claims. (Cl. 323—89)

4. In combination a first stage saturable core magnetic amplifier having "on" and "off" saturation control windings, means for adjustably energizing said "on" winding to initially oversaturate said amplifier in the flat region beyond the knee of its magnetization curve by a preselected amount to produce an initial output having a value which remains substantially constant for all values of oversaturation, a second stage magnetic amplifier provided with an "on" saturation control winding having electrical connections to the output of said first stage amplifier, means connected to be supplied from the output of said second stage amplifier for producing a voltage varying in magnitude with the output voltage thereof and electrical connections from said voltage producing means to said "off" winding of said first stage amplifier for



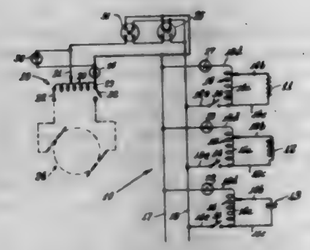
supplying said varying voltage to said first stage "off" winding thereby to limit the final magnitude of said variable voltage to a value related to the magnitude of initial oversaturation of said first stage amplifier.

2,976,480
AUTOMATIC CONTROL SYSTEM FOR DISTRIBUTION CIRCUIT CAPACITORS
Sterling C. Johnson, 1841 S. 13th St., Abilene, Tex.
Filed Feb. 19, 1958, Ser. No. 716,078
4 Claims. (Cl. 323—106)



1. In a switching system for connecting and disconnecting a capacitor to and from a distribution circuit respectively, the combination with a capacitor switch and a reversible electric actuator therefor, of control means for said actuator comprising a primary thermostat responsive to outdoor ambient temperature, a normally deenergized primary electric circuit for said thermostat, contact means for said thermostat operable when a predetermined maximum ambient temperature has been attained to effect energization of said primary circuit, a control circuit for said actuator, a reversing switch in said control circuit, a closed receptacle containing a thermally conductive body of a liquid having a relatively slow thermal response to changes in ambient temperature, a second thermostat responsive to temperature fluctuations in said thermally conductive body, means operatively connecting said second thermostat and reversing switch for actuating the reversing switch in a direction to connect the capacitor in the distribution circuit when said thermally conductive body attains a predetermined maximum temperature higher than said first mentioned maximum temperature and for actuating the reversing switch in the other direction to disconnect the capacitor from the distribution circuit when the temperature of said thermally conductive body falls below a predetermined minimum temperature lower than said first mentioned maximum temperature after having attained said predetermined higher maximum temperature, and a resistance heater in said primary circuit and disposed in heat exchange relation to the liquid of said thermally conductive body.

2,976,481
ADJUSTABLE IMPEDANCE CIRCUIT
William P. Carpenter, Bristol, Conn., assignor to The Superior Electric Co., Bristol, Conn., a corporation of Connecticut
Filed Apr. 9, 1956, Ser. No. 576,992
6 Claims. (Cl. 323—109)



1. An adjustable impedance circuit comprising a pair of terminals connectible to a source of alternating current; first means for forming a resistive load of fixed value and including a device for selecting the desired portion of the resistive load to be inserted in the circuit; second means for forming a substantially inductive load of fixed value and including a device for selecting the desired portion of the inductive load to be inserted in the circuit; third means for forming a substantially capacitive load of fixed value and including a device for selecting the desired portion of the capacitive load to be inserted in the circuit; and fourth means electrically connected between the devices in the means and the terminals for varying the magnitude of the sum of the portions of the loads inserted in the circuit.

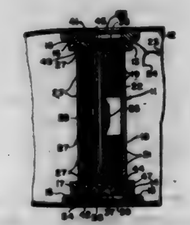
2,976,482
LONG LIFE LAMP DEMONSTRATOR
Francis Charles Richard Green, 641 Evergreen Place, North Vancouver, British Columbia, Canada
Filed June 26, 1958, Ser. No. 744,840
2 Claims. (Cl. 324—20)

1. A sales device to demonstrate the life and economy of an electric lamp by sequentially performed comparative current consumption tests, accelerated life voltage tests and surge current shock tests, comprising a casing, a line cord adapted to connect with a source of A.C. potential, a continuously adjustable transformer having input and output terminals respectively and adapted to step up the voltage at the output terminals to ultimately show the relative current consumption of lamps of different voltage design and also the lasting qualities of lamps of different voltage design, a single test socket connected with said output terminals and within which demonstration lamps are adapted to be inserted and retained while the transformer is adjusted to provide a steady voltage in excess of the rated voltage of the lamp or to apply surge voltage in excess of the rated voltage of the lamp being tested, an ammeter connected in series with said socket for comparing relative current consumption without comparing lamp brilliance, a volt meter connected in parallel with said socket for matching rated lamp voltages and determining breakdown voltage in the compara-



tive accelerated life voltage tests, a pilot lamp connected across said line, an upper panel in said casing to which said volt meter and ammeter and said variable transformer are secured, a lower panel in said casing and supporting said test socket, sides attached to said panels, said upper panel having apertures which open into storage areas defined by said lower panel and portions of said sides, and at least one compartment in said casing and within which to accommodate additional sales material.

2,976,483
GRADIOMETER FOR UNDERWATER MISSILE WARHEAD
William H. Moore, Upton, N.Y., and Donald P. Barcham, Kensington, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1956, Ser. No. 625,563
5 Claims. (Cl. 324—43)



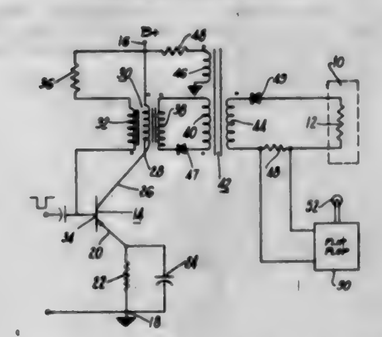
2. In a gradiometer unit for detecting distortions in a uniform magnetic field, the combination of a magnetic core arranged within said magnetic field and adapted to pick up a quantity of magnetic flux from said field, a pair of output terminals, a pair of opposedly and serially connected coils connected to said terminals and disposed on either extremity of said core for applying to said pair of terminals electrical signals generated in response to the difference in the rate of change of magnetic flux within said core as a distortion in the uniform magnetic field is detected by said unit, adjustable means for selectively varying the length of said core, electrically conductive members mounted at the extremities of said core, a filter network connected across said opposedly connected coils for rendering said coils frequency selective responsive to a difference of a predetermined rate of change of magnetic flux, an apertured electrically conductive elongated member centrally mounted on said core intermediate said pairs of coils, and a preselected number of ferromagnetic plates positioned within the aperture of said elongated member for compensating for asymmetries in the core.

2,976,484
CIRCUIT FUSE LOCATOR
Victor R. McClain, Philadelphia, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 30, 1957, Ser. No. 681,335
4 Claims. (Cl. 324—51)



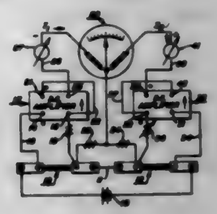
1. A circuit fuse locator, comprising means to connect the fuse locator to an electric circuit having a fuse therein, an electric circuit in series with said means, a switch in said second mentioned circuit, a fuse in said second mentioned circuit having a value higher than that of the first mentioned fuse, and a pilot light connected in parallel with said switch and second mentioned fuse.

2,976,485
CONTINUITY TESTING DEVICE FOR EXPLOSIVE IGNITING CIRCUITS
Melvin C. Bartz, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 30, 1959, Ser. No. 802,722
7 Claims. (Cl. 324—51)



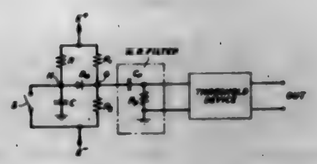
1. A device for testing continuity of an electrical circuit including a resistance element adapted to supply sufficient energy to ignite an associated combustible material, comprising a transformer having a core of substantially square loop material and an input winding, a reset winding and an output winding, a connection between said output winding and said resistance element including a unidirectional conducting device, a load device and indicating means connected across said load device, a second transformer having first and second windings and an output winding, and connections between said output winding and the input winding of said first named transformer including a unidirectional conduction device, a direct current voltage source, a normally conducting switching device connected through said first winding to said source, feedback means including resistance means and said second winding connected between said switching device and said voltage source, and a connection between said voltage source and said reset winding including resistance means of sufficiently high value as to prevent said core from being conditioned to induce a full amplitude pulse in the output winding of said first named transformer for a time period substantially equal to that required for an applied voltage of said amplitude to ignite said combustible material.

2,976,486
RESISTANCE COMPARATOR
Roswell W. Gilbert, East Orange, N.J., assignor to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey
Filed Jan. 16, 1958, Ser. No. 709,494
24 Claims. (Cl. 324—63)



1. In a potential comparator device for the comparison of a first potential source with a second potential source, the said first and second potential sources having a random potential therebetween, first and second direct-current amplifiers each having a pair of input and output terminals, first and second feedback resistors, means connecting the said first and second amplifier input terminals to the said first and second potential sources, respectively, means connecting one amplifier output terminal to one amplifier input terminal of each amplifier for negative feedback, a conductive output device, and means connecting each of the other output terminals to the other input terminals through the said conductive output device and the associated feedback resistors whereby the said other output terminals and other input terminals are conductively connected together, the said first and second potential sources being substantially balanced by the potential drop across the respective feedback resistors, and the current through the output device being independent of the said random potential.

2,976,487
STABILIZED TIMING CIRCUIT
Ezra Cohen, Brooklyn, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 7, 1958, Ser. No. 753,822
16 Claims. (Cl. 324—68)



1. A timing circuit comprising, in combination, a first source of nominally fixed potential E_1 and a second source of nominally fixed potential E_2, a first network comprising current-carrying elements of a first kind and of a second kind, respectively, interconnecting at a first common point, a second network, interconnecting said sources of potential, comprising at least one of the current carrying elements of said first network, means operative abruptly at the inception of a timing interval for determining an initial potential condition of said first common point, in dependence on at least one of said potentials E_1 and E_2, whereupon the potential of said first common point proceeds to change as time advances from said determined potential toward the other of said two potentials E_1 and E_2, following a course given by the relation

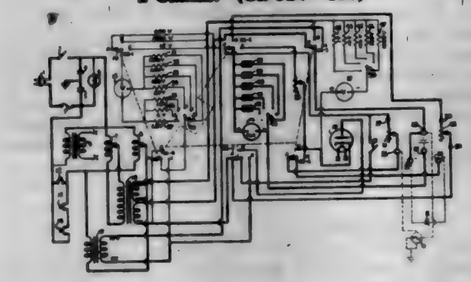
$$V_p = F_1(E_1,E_2) + F_2(E_1,E_2)f(t)$$

in which the first and second functions depend only on said potentials E_1, E_2 while the third function depends on the magnitudes and kinds of said elements, the potential of said first common point thus reaching, in said course and after a time interval T, a preassigned magnitude given by the relation

$$V_p = F_1(E_1,E_2) + F_2(E_1,E_2)f(T)$$

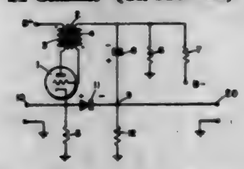
dependent on said elements and on said potentials E_1 and E_2, where $f(T)$ is the magnitude attained by $f(t)$ after said interval T, whereby the length of said interval T depends on said potentials E_1 and E_2, and means for balancing out the dependence of said interval T on said potentials E_1 and E_2 which comprises a third network comprising at least two current-carrying elements of a single kind interconnected at a second common point and interconnecting said sources of fixed potential, said two last-named elements being so proportioned that the ratio of the magnitude of one of them to the sum of the magnitudes of both of them is equal to $f(T)$, a utilization device and means responsive to the difference of potential between the first-named common point and the second-named common point, occurring at time $t=T$, for applying the changing potential of the first common point to said utilization device.

2,976,488
METALLIC RECTIFIER ANALYZER
Robert S. Page, 1224 Idaho Ave., Erie, Pa.
Filed Sept. 11, 1958, Ser. No. 760,494
2 Claims. (Cl. 324—158)



1. An analyzer for performing both dynamic and static tests on metallic rectifiers comprising an adjustable source of alternating current, a six pole three position selector switch, each pole having three fixed terminals and a common terminal, a first and a second external terminal for connecting a rectifier to be tested, an alternating current volt meter, multiplier means for said alternating current volt meter, an A.C. multiplier switch to select said multiplier values, the first pole of said selector switch having a common terminal connected to said alternating current volt meter, the first fixed said terminal on said first pole of said selector switch being connected to a six hundred volt terminal on said alternating current source and to a first fixed terminal on a third pole of said selector switch, the common terminal of said third pole being connected to a terminal for connecting the horizontal connection of an oscilloscope thereto and one side of said rectifier under test, the sixth pole of said selector switch having its common terminal connected to the second terminal of said rectifier under test and having its first fixed terminal connected to a terminal adapted to be connected to the vertical sweep terminal of an oscilloscope, a variable load resistor connected to the first fixed terminal of said sixth pole at one end and to the first fixed terminal of the second pole of said selector switch at the other end, the common terminal of said second pole of said selector switch being connected to one side of a D.C. milliammeter, a shunt switch for connecting predetermined values of shunt resistances to said milliammeter to the common terminal of a fifth pole of said selector switch and said common terminal of said second pole of said selector switch being connected through said D.C. milliammeter to a common terminal on said fifth pole of said selector switch, the first fixed terminal of said fifth pole of said selector switch being connected to the opposite side of said six hundred volt alternating current source, the second fixed terminal on said first pole of said selector switch being connected to a fifteen hundred volt terminal of said alternating current source and to a plurality of multiplier resistances, said multiplier resistances being selectively connected to a second volt meter, a rectifier tube, said second volt meter having its other side connected to the second fixed terminal on said sixth pole of said selector switch and to the cathode of said rectifier tube, the anode of said rectifier tube being connected to a second fixed terminal on said fifth pole of said selector switch, a second variable resistor, the second fixed terminal on said second pole of said selector switch being connected through said second variable resistor to said low side of said power source, the second fixed terminal on the fourth pole of said selector switch being connected to the low side of said alternating current source, the third fixed terminal on said first pole of said selector switch being connected to a fifteen volt alternating current supply of electricity and to a third fixed terminal on the third pole of said selector switch, the third fixed terminal on said fifth pole being connected to the low side of said fifteen volt supply of electricity, the third fixed terminal of said sixth pole of said selector switch being connected through a variable resistance to the third fixed terminal on said second pole, the second fixed terminal on the first pole of said selector switch being connected to the second fixed terminal on the third pole of said selector switch, the first fixed terminal on the fourth pole of said selector switch being connected to said low side of said power source, the third fixed terminal on said fourth pole of said selector switch being connected to the third fixed terminal on said fifth pole of said selector switch, the common terminal of said fourth pole of said selector switch being connected to the common terminal on said A.C. multiplier switch.

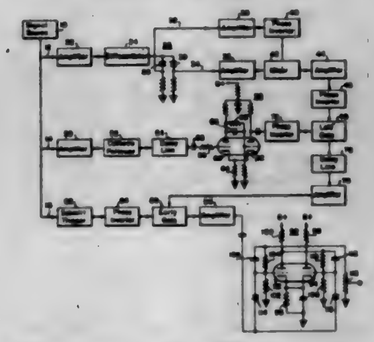
2,976,489
BLOCKING OSCILLATOR
Maurice R. Burns, Santa Ana, Calif., assignor to North American Aviation, Inc.
Filed Aug. 8, 1956, Ser. No. 602,755
11 Claims. (Cl. 328—55)



1. In an electronic circuit, an electronic valve, said valve comprising at least an anode, a cathode, and a control element, means for providing direct current operating potentials on said anode and cathode elements, said cathode element providing an electrode for initiating conduction of said valve, a unidirectional output current

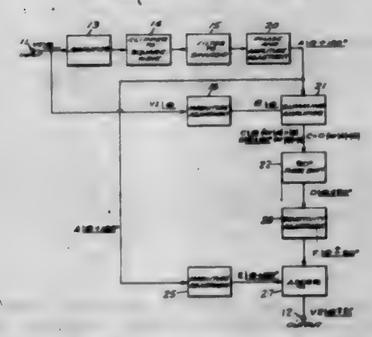
path connected to said electrode, said unidirectional current path poled in a direction so as to be nonconductive to signals initiating conduction but conductive upon a change in potential of said electrode upon commencement of conduction.

2,976,490
PULSE SEPARATION CIRCUIT
Russel L. Uphoff, Murrysville, and John F. Laycak, Duquesne, Pa., assignors to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 7, 1959, Ser. No. 832,228
7 Claims. (Cl. 328—110)



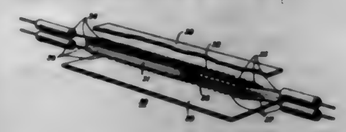
1. In combination with means for producing a train of relatively long voltage pulses having short voltage pulses superimposed thereon, circuit means for separating the short pulses from the relatively long pulses comprising, in combination, apparatus responsive to said train of voltage pulses for producing a spiked pulse at the leading and trailing edge of each pulse in said train of pulses, means for eliminating the spiked pulses due to the leading and trailing edges of the relatively long pulses in said train of pulses, and means responsive to the output of said last-named means for producing a pulse between the spiked pulses at the leading and trailing edges of each short pulse in said train of pulses.

2,976,491
CIRCUIT RESPONSIVE TO AMPLITUDE AND PHASE MODULATED WAVE AND CONVERTING AMPLITUDE MODULATION INTO SECONDARY PHASE MODULATION
Amos J. Carr, Jr., Lexington, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed May 21, 1958, Ser. No. 736,908
10 Claims. (Cl. 328—155)



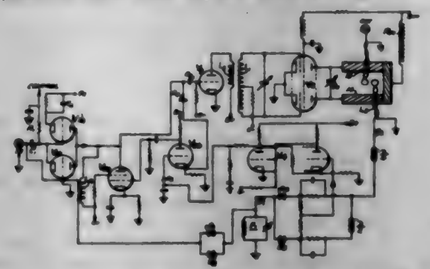
1. Phase modulation apparatus comprising, means responsive to an input signal for providing a reference signal of related phase and fixed amplitude, means for combining said input and reference signals to provide an intermediate signal, and means for combining said reference signal with a phase shifted portion of said intermediate signal to derive a phase modulated output.

2,976,492
SOLID STATE MASER
Harold Seidel, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 31, 1956, Ser. No. 631,643
1 Claim. (Cl. 330—4)



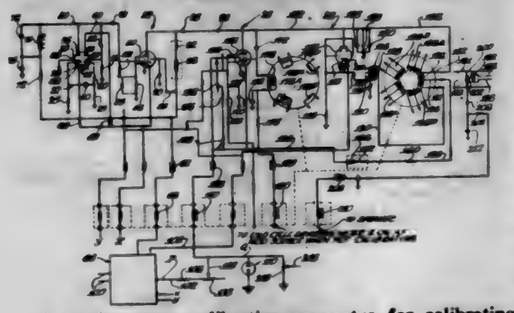
In combination, means forming a negative temperature medium comprising a paramagnetic solid whose energy level system is characterized by three energy levels of which the separation between an adjacent pair corresponds to a signal microwave frequency and the separation between the nonadjacent pair corresponds to a different microwave frequency, a first distributed wave retarding means supplied with wave energy of said different microwave frequency for applying said wave energy to the negative temperature medium for establishing a negative temperature therein comprising a first succession of parallel strip conductors forming an array which extends in the direction of the longitudinal axis of the negative temperature medium, each conductor oriented at an acute angle with respect to the longitudinal axis of the negative temperature medium and having approximately one-half the wavelength of said different microwave frequency, and a second distributed wave retarding means supplied with signal energy for propagating the signal wave through the negative temperature medium for amplification comprising a second succession of parallel strip conductors forming an array which extends in the direction of the longitudinal axis of the negative temperature medium, each conductor oriented at an acute angle with respect to the longitudinal axis of the negative temperature medium and being approximately one-half the wavelength of the signal frequency.

2,976,493
PHASE STABLE AMPLIFIER
Allan C. Schell, Lexington, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 3, 1958, Ser. No. 758,868
2 Claims. (Cl. 330—107)
(Granted under Title 35, U.S. Code (1952), sec. 266)



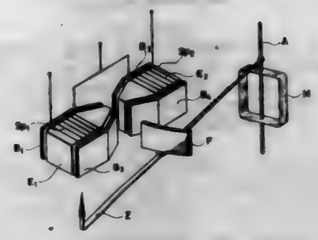
1. In apparatus for stabilizing the phase of electronically amplified signals, the combination of a first amplifying means having signal input and output circuits, second and third amplifying means having inter-linked inductance coils providing a tunable input to said third amplifying means, said third amplifying means also including dual output electrodes forming with said inter-linked inductance coils a resonant couple, and a tuning capacitor bridging said electrodes, a signal pick-up coil adjacent said resonant couple, a pair of oppositely-poled diodes in parallel circuits connected to said pick-up coil and also to the signal input circuit of said first amplifying means, and means for applying to the signal output circuit of said first amplifying means a phase correction voltage whose amplitude is proportional to the algebraic difference, if any, between the output voltages of said oppositely-poled diodes.

2,976,494
CALIBRATING MEANS FOR A VARIABLE FREQUENCY OSCILLATOR
Arthur H. Maciszewski, Julius J. Huppert, Richard Goldstein, and Tadeusz Szubski, all of River Forest, Ill., assignors to A.R.F. Products, Inc., River Forest, Ill., a corporation of Illinois
Original application May 13, 1954, Ser. No. 429,547, now Patent No. 2,881,315, dated Apr. 7, 1959. Divided and this application Apr. 21, 1958, Ser. No. 729,742
6 Claims. (Cl. 331—44)



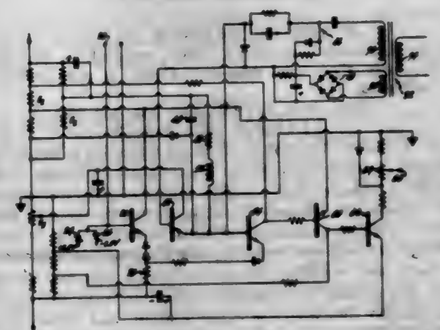
3. In frequency calibrating apparatus for calibrating the frequency of the working signal generated as the output from a variable frequency oscillator within a predetermined frequency range at first predetermined accurate frequencies throughout the predetermined frequency range and at second predetermined accurate frequencies at the mid-points between the first predetermined frequencies only in the lower half of the predetermined frequency range, wherein the variable frequency oscillator is operable to provide as the output therefrom the working signal at a desired fundamental frequency and the second harmonic thereof, comprising a calibrating oscillator operable to produce a first signal having an accurately controlled fundamental frequency corresponding to the interval between the first predetermined frequencies, an harmonic generator and amplifier for generating harmonics of the first signal within the predetermined frequency range, means for suppressing all harmonics of the first signal outside of the predetermined frequency range to provide equally spaced calibrating signals throughout the predetermined frequency range, a mixer for beating the working signal and the second harmonic thereof from the variable frequency oscillator against the appropriate calibrating signal, said mixer beating the fundamental frequency of the working signal from the variable frequecy oscillator against the calibrating signal having the frequency to which the working signal is to be adjusted when calibrating the variable frequency oscillator at one of the first predetermined frequencies, said mixer beating the second harmonic of the working signal from the variable frequency oscillator against the calibrating signal having twice the frequency to which the working signal is to be adjusted when calibrating the variable frequency oscillator at one of the second predetermined frequencies, and means for detecting the beat null when the working signal and the second harmonic thereof are properly adjusted to and beat against the appropriate calibrating signal.

2,976,495
INSTRUMENT MOVEMENT CONTROLLED HIGH FREQUENCY INDUCTOR
Erich Unger, Nuraberg, Germany, assignor to Metrawatt Aktiengesellschaft, Nuraberg, Germany
Filed Apr. 8, 1957, Ser. No. 657,996
1 Claim. (Cl. 331—181)



In a device for measuring a variable characteristic and for indicating when the variable characteristic being measured reaches a predetermined value as determined by the output voltage of a control oscillator, the output voltage being controlled by the variation of the mutual magnetic induction between spaced, serially connected and mutually inductive high frequency coils forming a part of the oscillator, the improvement which comprises a measuring meter movement having a pivotal pointer movable in response to a variable characteristic being measured, a metallic arcuate vane attached to and extending from either side of said pointer, a pair of spaced ferromagnetic cores having tapered adjacent ends forming rectangular and parallel core faces for concentrating the magnetic induction field between said serially connected mutually inductive coils positioned within the high frequency coils of the oscillator and on either side of the path of travel of the vane, the arcuate vane passing between the core faces when the pointer in response to the variable characteristic being measured exceeds the predetermined value, and metallic diaphragms shielding the tapered cores whereby the mutual induction between the high frequency coils is sharply reduced when the vane passes between the core faces.

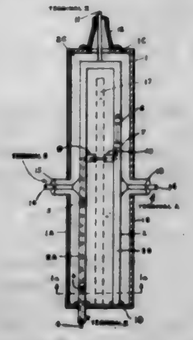
2,976,496
PULSE WIDTH MODULATOR
Ayhan Hakimoglu, Levittown, N.J., assignor, by mesne assignments, to American Bosch Arma Corporation, Hempstead, N.Y., a corporation of New York
Filed Apr. 24, 1959, Ser. No. 808,725
12 Claims. (Cl. 332—1)



1. A pulse concerter circuit for converting a pulse amplitude modulated signal into a corresponding pulse

width modulated signal comprising a charging circuit, means for charging said circuit to a predetermined voltage, means for linearly discharging said charging circuit, a comparison circuit including an output circuit, means for applying the output voltage from said charging circuit and said pulse amplitude modulated signal to said comparison circuit, said comparison circuit developing a pulse during the time that the voltage from said charging circuit discharges to a predetermined voltage level relative to said pulse amplitude modulated signal.

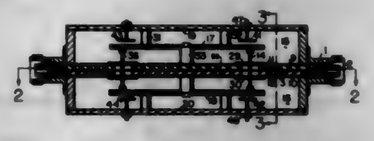
2,976,497
RADIO FREQUENCY NET-WORKS
Chester B. Watts, Jr., Winchester, Mass., assignor to Andrew Alford, Boston, Mass.
Filed Nov. 23, 1955, Ser. No. 550,242
6 Claims. (Cl. 333—9)



1. A structure having hybrid properties comprising, four terminal pairs, a U-shaped conductor with its legs generally parallel to and symmetrically disposed about the longitudinal axis of said structure, conducting means parallel to said axis defining a reference potential surface, one terminal of each of said pairs being connected to said conducting means, another conductor having at least one segment generally parallel and adjacent to one of said legs, said segment being much closer to said one leg than to the other of said legs, and means including another segment connected to said one segment and extending toward the other of said legs and a third segment connected to said another segment and extending generally parallel to and along but insulatedly separated from the other of said legs for coupling said one segment to the other of said legs, the remaining terminals of said pairs being respectively connected to an end of said another conductor, respective legs of said U-shaped conductor, and the bight of said U-shaped conductor.

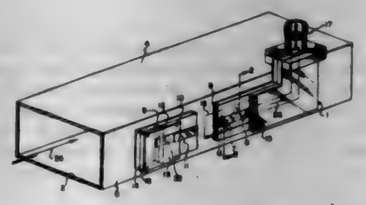
2,976,498
RADIO FREQUENCY FILTER
Silvan S. Lucas, Van Nuys, Calif., assignor to Electronic Specialty Co., Los Angeles, Calif., a corporation of California
Filed Aug. 3, 1959, Ser. No. 831,159
11 Claims. (Cl. 333—9)

1. A radio frequency filter comprising a conductive housing having more than two separate volumes, a one-quarter and a three-quarter wavelength transmission line within one of said plural volumes, plural half wavelength transmission line sections within plural volumes adjacent to said one volume, one half wavelength section to each said volume, means to couple one end of each said plural half wavelength section to said one-quarter wavelength line and the other end to said three-quarter wavelength line through a uniform impedance structure, a first active radio frequency device connected to said three-quarter wavelength line, a second active radio frequency device connected to said one-quarter wavelength line, and a common radio frequency element also connected to said one-quarter wavelength line, said filter having the electrical characteristic of high attenuation



between said first active device and said common element at all save certain frequencies adjacent to the frequency at which said half wavelength sections are resonant, and the characteristic of low attenuation between said second active device and said common element save at said certain frequencies.

2,976,499
WAVEGUIDE TO STRIP TRANSMISSION LINE DIRECTIONAL COUPLER
Peter J. Sferrazza, Wantagh, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed May 14, 1958, Ser. No. 735,269
3 Claims. (Cl. 333—10)



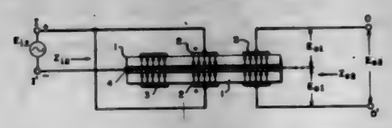
1. A microwave directional coupler comprising a section of rectangular waveguide transmission line having broad and narrow walls and adapted to propagate traveling waves of microwave energy in a transverse electric mode, a section of strip transmission line adapted to propagate traveling waves of microwave energy in the transverse electromagnetic mode, said strip transmission line having a strip conductor and a ground plane conductor, a narrow wall of said rectangular waveguide and said ground plane conductor being contiguous over portions of their respective lengths, the contiguous portions of said transmission lines having common successively spaced narrow elongated coupling apertures disposed therein for providing magnetic field coupling between said two transmission lines, said coupling apertures extending in a direction parallel to the direction of propagation of microwave energy in said rectangular waveguide and each of said coupling apertures having its longitudinal axis inclined at an oblique angle to the longitudinal axis of said rectangular waveguide, the round trip spacing between two of said spaced coupling apertures being substantially equal to 180 electrical degrees at the design frequency to provide cancellation of backward coupled waves, said round trip spacing including one traversal between apertures in each of said transmission lines.

2,976,500
TUNING SECTION
Lloyd A. Brockwell, Moorestown, and Joseph J. Matta, Audubon, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 29, 1957, Ser. No. 694,696
4 Claims. (Cl. 333—11)



1. A tuning section for a cavity resonator or a waveguide having at least one substantially flat wall, said wall having a circular opening therein, comprising a first circular plate having a diameter substantially equal to the diameter of said circular opening and being adapted to rotatably fit in said circular opening, said first plate having a circular opening eccentrically positioned therein, a second circular plate having a diameter substantially equal to the diameter of said circular opening in said first plate and being adapted to rotatably fit in said circular opening in said first plate, and means for attaching a probe-like element to said second plate so as to extend into the interior of said waveguide.

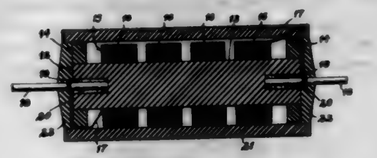
2,976,501
IMPEDANCE TRANSFORMER
Oskar E. Mattiat, Santa Barbara, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed July 30, 1959, Ser. No. 830,686
6 Claims. (Cl. 333—32)



1. In combination, a piezoelectric ceramic I-F impedance transformer comprising at least two mechanically coupled relatively thin disks, a conductive electrode sandwiched between two flat faces of said disks, a center electrode and a concentric ring electrode symmetrically secured to each of the remaining two flat faces of said disks, each of said disks having axially polarized portions, the polarization between the center electrodes being in opposite directions in the respective disks and between the ring electrodes in the same direction in both disks, input and output terminals, means for connecting said input terminals to said center electrodes and to said conductive electrode, means for connecting said output terminals to said ring electrodes; and means for applying a high frequency signal to said input terminals.

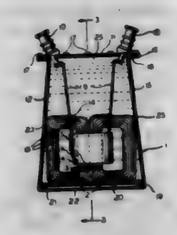
2,976,502
INDUCTIVE DEVICES
Lester E. Hill, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Mar. 13, 1958, Ser. No. 721,142
7 Claims. (Cl. 336—83)

2. A coil, comprising a rod-like magnetic core, a wire winding carried on said core, a pair of magnetic apertured members received over the opposite ends of said core, a magnetic sleeve surrounding said core, members, and winding, said core, members and sleeve being composed of bonded finely divided magnetic material, and magnetic masses of finely divided magnetic material carried in a



binder and sealing the ends of said sleeve and forming magnetic bridges between said members and said sleeve.

2,976,503
TRANSFORMER CONSTRUCTION
James G. Everhart, Macomb, Ill., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed July 5, 1957, Ser. No. 670,176
9 Claims. (Cl. 336—94)

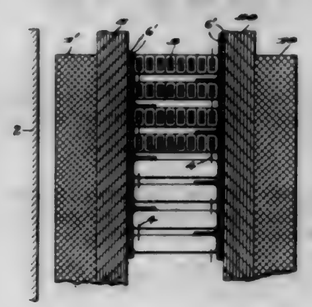


1. In a transformer, a generally rectangular magnetic core structure, transformer windings disposed on one or more vertical legs of the core structure to leave the upper and lower portions of the core structure unobstructed, a housing having opposed side wall portions spaced inwardly from the bottom portion of the housing and adapted to engage upper portions of said core structure in vertically spaced relation to said windings, and a bottom wall having a central surface portion matching the configuration of the lower end of the core structure and engaging the core structure in vertically spaced relation to said winding, said housing being wholly spaced from said transformer windings, and means to secure the bottom wall to the housing to wedge the core structure between said side wall portions and the central portion of said bottom wall to provide the housing and bottom wall as the sole support of the core structure and transformer windings within said housing.

2,976,504
ARRANGEMENT FOR PREVENTING DISCHARGES ALONG THE HIGH-VOLTAGE WINDINGS OF A HIGH-VOLTAGE TRANSFORMER
Martin Christoffel and Otto Wohlfahrt, Zurich, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 19, 1956, Ser. No. 623,029
Claims priority, application Switzerland Nov. 22, 1955
2 Claims. (Cl. 336—185)

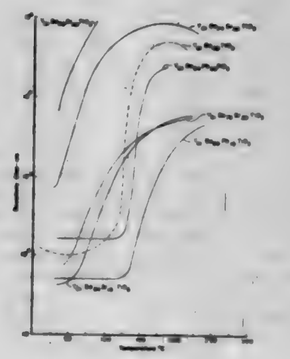
1. A transformer construction comprising an iron core, a tubular inner low voltage winding concentrically mounted upon said core, a high voltage winding concentrically mounted about said inner low voltage winding, a tubular

outer low voltage winding mounted concentrically about said high voltage winding, main insulation barrier sleeves positioned intermediate said high voltage winding and said low voltage windings, said high voltage winding consisting of a plurality of axially-spaced pancake-type coils electrically connected in series at alternate inner and outer end portions by electrical jumper means, and axially-overlapping insulating angle rings positioned inter-



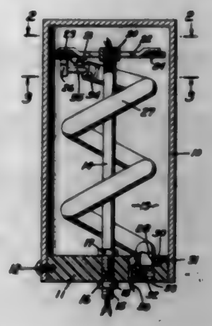
mediate each of said main insulation barrier sleeves and said high voltage winding, alternate ones of said angle rings having flange portions radially extending outwardly and inwardly, respectively, between said high voltage winding coils only at the end portions thereof opposite the end portions connected by said electrical jumper means.

2,976,505
THERMISTORS
Yoshio Ichikawa, Swissvale, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 24, 1958, Ser. No. 717,191
8 Claims. (Cl. 338—22)



1. A ceramic body having a positive temperature coefficient of electrical resistance over a selected range of temperatures, the body comprising the fired product composed essentially of 1.00 mol of titanium dioxide, and a total of one mol of (*a*) up to 0.999 mol of a barium oxide, barium strontium oxide, lead oxide, and barium lead oxide, and (*b*) a rare earth metal oxide selected from the group consisting of from 0.001 mol to 0.006 mol of cerium oxide and from 0.005 to 0.02 mol of yttrium oxide, the body being initially fired in an inert atmosphere to sinter it and thereafter fired in air at a temperature of at least 1000° C. for a period of hours.

2,976,506
PRESSURE RESPONSIVE ELECTRICAL INSTRUMENTS
Marlan E. Bourns, 2482 Carlton Place, Riverside, Calif. Continuation of application Ser. No. 497,878, Mar. 30, 1955. This application Apr. 25, 1960, Ser. No. 24,476
8 Claims. (Cl. 338—40)



1. A fluid pressure transducer comprising a base member, a helical Bourdon tube attached at one end to said base member, a wiper contact fixed to the free end of said helical Bourdon tube, and an elongated resistance element positioned to be wiped by said wiper contact, said resistance element being disposed with its longitudinal axis substantially parallel to the line of travel of said free end of said helical Bourdon tube.

2,976,507
ADJUSTABLE RESISTOR
Joseph Di Girolamo, Mishawaka, and Mervin B. Ariman, Elkhart, Ind., assignors, by mesne assignments, to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed July 28, 1958, Ser. No. 751,498
7 Claims. (Cl. 338—180)



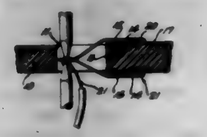
1. An adjustable resistor comprising: an elongated box-like body of non-conducting material having spaced parallel side walls, a bottom wall and end walls, the end walls projecting a substantial distance above the top edges of the side walls; means in the upper portions of the end walls providing coaxial shaft bearings; an actuator screw having smooth end portions freely rotatably received in said shaft bearings so that the screw extends from end wall to end wall and is located between the planes of the side walls and at an elevation above the upper edges of the side walls; a resistance element overlying the inner face of one of said side walls; a stationary contact overlying the inner face of the other side wall, opposite the resistance element; a contactor carrier of non-conducting material having a central body portion with a threaded hole in which the actuator screw is received, the cross section of the body portion on a plane normal to the axis of its threaded hole being substantially keystone-shaped; spaced apart parallel flanges projecting laterally from the body portion of the carrier, slidably engaging the upper edges of the side walls to hold the carrier against rotation and cause it to traverse the length of the screw as the screw is turned; and a bridging contactor having a U-shaped attaching portion embracing the central keystone-shaped body portion of the carrier with the arms thereof confined between said flanges, inturned portions on the extremities of said arms engaging over the upper edges of the sides of the keystone-shaped body portion, and contact fingers slidably engaging the resistance element and the stationary contact.

2,976,508
RECTILINEAR POTENTIOMETER
Robert A. Waters, Weston, Mass., assignor to Waters Manufacturing, Inc., Wayland, Mass., a corporation of Massachusetts
Filed Oct. 30, 1958, Ser. No. 770,889
1 Claim. (Cl. 338—180)



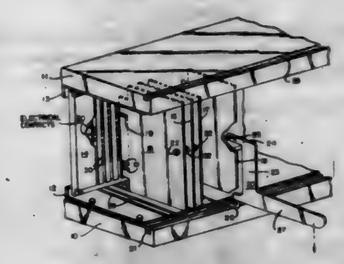
A potentiometer having a generally U-shaped base and an enclosing cover, said base including a pair of upstanding arms and a cross member connecting said arms, a longitudinally extending resistance element mounted on the cross member, a bus mounted on the cross member substantially parallel to the resistance element, a cylindrical cam supported by the arms substantially parallel to the resistance element, said cam having a continuous follower groove on the outer surface thereof, a follower block mounted on the cylindrical cam, a guide rod extending through said follower block, a follower pivotally mounted in the follower block and slidably engaging said cylindrical cam, and interconnected contacts electrically connecting the resistance element and the bus, whereby continuous rotation of the cylindrical cam in one direction moves the contact back and forth along the resistance element and the bus.

2,976,509
RESISTOR TERMINATION AND METHOD OF MANUFACTURE
Norman F. McFaddan, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 31, 1959, Ser. No. 837,997
7 Claims. (Cl. 338—329)



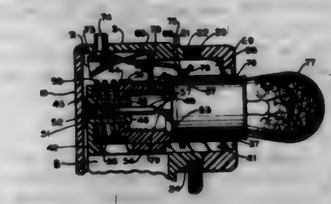
5. In a terminating structure for insulated wire wound about a base having an opening therethrough, said structure comprising: a metallic clip disposed through said opening; integral side portions on said clip disposed in contact with said base; struck out portions in said side portions for retaining said clip in position; a tapered tab disposed integrally from each of said side portions, said wire being wound on said base and continuously through a plurality of revolutions over said side portions of said clip, an area of said wire overlying said side portions, said wire area having insulation removed therefrom and secured to a surface of said tabs folded thereover by means of a heat cured conductive paste, ends of said tabs being welded together within said opening; and a lead secured to said tabs at said welded together ends thereof.

2,976,510
WRENCH FOR PRINTED CIRCUIT CARD LIBRARY RACK
Albert Blain, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 2, 1957, Ser. No. 656,538
10 Claims. (Cl. 339—17)



1. In a card library, a rack comprising first and second supporting members disposed substantially parallel to one another, a plurality of cards disposed in substantially parallel relation to one another between said supporting members, said plurality of cards being disposed substantially orthogonal to said supporting member, at least one of said supporting members including an elongated groove disposed substantially transverse to each of said cards, said cards each including an aperture therein between said first and second supporting members, and a wrench for selectively displacing said cards in said rack comprising an elongated arm removably inserted at one of its ends in said groove adjacent the card to be displaced, and removably connected at the other of its ends in said aperture of the card to be displaced, and a handle for moving said elongated arm about said one of its ends.

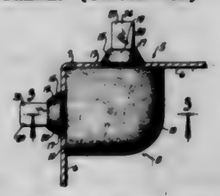
2,976,511
PHOTOGRAPHIC FLASH GUNS
Robert J. Lipsitz, Ladue, Mo., assignor to Kalimar, Inc., St. Louis, Mo., a corporation of Missouri
Filed Sept. 22, 1958, Ser. No. 762,631
5 Claims. (Cl. 339—33)



1. A flash gun comprising a housing having an open-ended recess adapted to receive the base of a photoflash bulb, an arm swingably mounted in the recess, detent means on the arm for engaging the base of the bulb and holding it in operative position within the recess, auxiliary socket-forming means slidably mounted within the recess and being adapted for receiving the base of a photoflash bulb which is smaller than the first-mentioned base, spring means for normally urging the auxiliary socket-forming means forwardly toward the open end of the recess, said recess having an axial slot with an upwardly and inwardly inclined bottom wall formed therein, contact means mounted in the auxiliary socket-forming means for engagement with the smaller bulb-base, catch-means on the auxiliary socket-means for optionally holding said auxiliary socket-means in an inwardly pushed position, and means associated with said

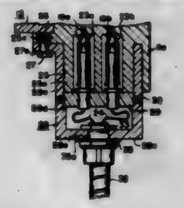
contact means and operatively riding against said inclined bottom wall whereby to shift said contact means into engagement with the smaller bulb-base as the latter is pushed into the auxiliary socket-forming means and thereby shifts said auxiliary socket-means rearwardly into engagement with the catch-means.

2,976,512
CORNER LIGHT SOCKET FOR REFRIGERATOR
Thomas A. Vallee, Oconomowoc, Wis., assignor to Unilectric, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 4, 1958, Ser. No. 759,824
2 Claims. (Cl. 339—59)



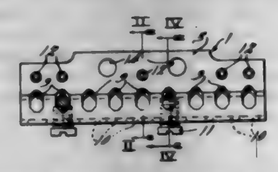
1. An electric light socket for installation in the interior of a refrigerator cabinet, comprising: a socket body of resiliently deformable insulating material having a pair of substantially flat faces disposed at an angle to one another such that their planes intersect, said flat faces being adapted to flatwise overlie the inner surfaces of a pair of adjacent refrigerator wall panels at a corner thereof; an integral resiliently deformable protuberant retaining member projecting from the medial portion of each of said flat faces on the body, with its axis substantially normal to the face from which it protrudes, said retaining members being engageable, by reason of their resilience and the resilience of the body, in holes in said adjacent refrigerator wall panels and being cooperable with one another and with the panels, by reason of the angular disposition of their axes, to hold the socket body in place with its flat faces overlying marginal edge portions of the panels around the holes therein, to provide a seal between the socket body and the panel; said socket body also having a well therein opening to an outer surface other than said angularly disposed faces; means in said well to receive and hold the base of an electric lamp; contacts mounted in the socket body and exposed at the interior of said well to be engagable by the terminals of an electric lamp received in the well; and terminals for said contacts extending therefrom through said protuberant retaining members.

2,976,513
LIGHT UNIT FOR VEHICLES
Curtis F. Sasserson, Warren, Pa., assignor to Pennsylvania Furnace and Iron Company, Warren, Pa., a corporation of Pennsylvania
Original application Jan. 14, 1957, Ser. No. 633,951, now Patent No. 2,883,520, dated Apr. 21, 1959. Divided and this application Feb. 3, 1959, Ser. No. 790,968
2 Claims. (Cl. 339—92)



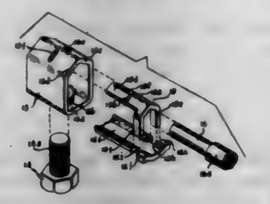
1. In a quickly detachable electrical connection for an electrical unit exteriorly mounted on a vehicle and that will withstand road shock and weather elements and wherein the electrical unit has a base member secured on the vehicle to project therefrom and electrical connections are embedded in the base member, a connector to be electrically connected to a source of electricity and having a pair of connector parts that are separable with respect to each other, one of said connector parts being integral with and extending substantially parallel to a mounting face of and from the base member, contact element sets for removable electrical connection in a fitted relationship with each other, one set being carried within the connector part that is integral with the base member and being connected to the electrical connections thereof, the other set being carried within the other connector part and connected to the source of electricity, one set having spring-like socket elements and the other set having plug elements to securely fit within said socket elements, one of said connector parts having a plug-shaped body provided with a forward open end portion about its contact element set and the other having a hood-shaped socket body provided with a forward open end portion about its contact element set to telescopically fit over said plug-shaped body of the one part and seal it off when said contact element sets are in a fitted relation to conduct current from the source of electricity to the electrical connections of the base member; said plug-shaped body having an outer wall extending about and forwardly along its open-end portion and having an intermediate partition wall extending forwardly along said outer wall and between the contact elements of the set of said plug-shaped body to define a pair of forwardly open-end slots along each contact element of the set carried thereby, a wall flange integral with said plug-shaped body and extending forwardly along a side of said outer wall in a spaced forwardly-open end-slot defining relation therewith, an integral mounting tab on an opposite side of said outer wall defining a forward abutment face that extends substantially perpendicular to said outer and partition walls and said wall flange adjacent inner bottom ends of the slots defined thereby, and said mounting tab having a threaded portion open forwardly of its abutment face; said hood-shaped body having an outer wall extending about and forwardly along its open-end portion to define a forwardly open-end socket along its contact element set, the outer wall of said hood-shaped body having an inner diameter substantially corresponding to the outer diameter of the outer wall of said plug-shaped body, the outer wall of said hood-shaped body having a thickness along a side thereof corresponding to the width of the slot defined by the outer wall and the wall flange of said plug-shaped body, so that said hood-shaped body will fit over the outer wall of said plug-shaped body in a tight sealing telescopic relation therewith and that the wall flange and the adjacent side of the outer wall of said plug-shaped body will have a sandwich-like sliding fit over the above-mentioned side of said hood-shaped body, the outer wall of said hood-shaped body having an integral fastening tab opposite the portion thereof having the sandwich-like fit, said fastening tab defining a forward abutment face that extends substantially perpendicular to the outer wall of said hood-shaped body adjacent the forward-open end of the socket defined thereby and parallel to the corresponding face of said mounting tab of said plug-shaped body, said fastening tab having a hole therethrough in alignment with the threaded portion of said mounting tab of said plug-shaped body, a transverse member secured within the outer wall of and extending across said hood-shaped body within the socket defined thereby and in a backwardly-spaced relation from its forward open end portion; the whole being constructed in such a manner that forward ends of the outer wall and the partition wall of said plug-shaped body have a sealing abutment with said transverse member, forward ends of the outer wall of said hood-shaped body having a sealing abutment with base portions of the slots defined by the outer wall and the partition wall and the wall flange of said plug-shaped body and with a connecting portion of said mounting tab, and the forward face of said fastening tab is in an aligned abutment with the forward face of said mounting tab; and a headed threaded stem means positioned to extend through the hole in said fastening tab to engage the threaded portion of said mounting tab and removably secure said hood-shaped body in its sealed-off telescopically mounted relationship over said plug-shaped body.

2,976,514
TERMINAL CONNECTOR
Harris I. Stanback and Ralph H. Kingdon, Birmingham, Mich., assignors to Square D Company, Detroit, Mich., a corporation of Michigan
Filed June 4, 1956, Ser. No. 589,088
8 Claims. (Cl. 339—272)



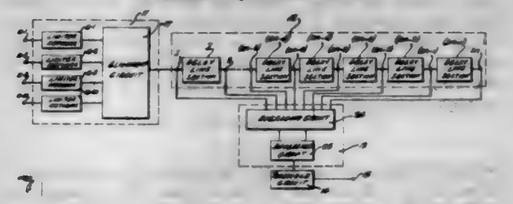
1. A terminal connector comprising a housing having spaced-apart top and bottom walls and at least one side wall extending therebetween, said side wall being provided with at least one conductor-receiving opening closely adjacent said top wall, said bottom wall being provided with at least one threaded opening which is vertically aligned with the axis of said conductor-receiving opening, and said top wall being provided with a downwardly-opening recess which extends transversely of said housing and is aligned with and intersects said conductor-receiving opening, and a threaded member received in said threaded opening and adapted to be advanced against said top wall whereby compression of a conductor received in said recess is limited by engagement of said threaded member with said top wall adjacent said recess, said recess being narrower than the diameter of said threaded member.

2,976,515
SOLDERLESS LUG TYPE TERMINAL CONNECTOR
Allan P. Charbonneau, Wauwatosa, and Eugene F. Duncan, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 3, 1958, Ser. No. 739,502
1 Claim. (Cl. 339—272)



In a solderless type connector for a terminal element including a tubular member interfitting with a reduced portion of the terminal element and having a V-shaped wall at one side and a clamping screw extending through a wall opposite thereto and engaging said reduced portion of the terminal element to slide said member transversely of said terminal element to removably retain an electrical conductor therebetween, the improvement comprising an adaptor for extending the range of sizes of conductors which may be secured and retained in place on the reduced portion of the terminal element by said tubular member, said adaptor comprising a generally V-shaped member seating against the inside of the V-shaped wall of said tubular member and having parallel depending legs at one end thereof fitting within notches in the sides of said reduced portion of the terminal element to prevent longitudinal movement therebetween, and said tubular member and said adaptor having complemental interfitting projections and recesses formed on their engaging surfaces to prevent longitudinal movement therebetween.

2,976,516
RECOGNITION CIRCUIT FOR PULSE CODE COMMUNICATION SYSTEMS
John Everett Taber, Gardena, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 6, 1954, Ser. No. 448,363
6 Claims. (Cl. 340—164)



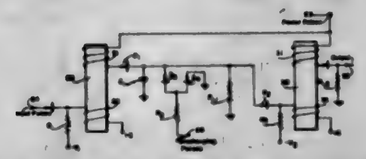
1. A recognition circuit for producing an output pulse in response to the application of a predetermined number of parallel trains of pulses, each of said trains having a maximum number of time-spaced pulses of equal amplitude and duration occurring in a selected time sequence, the pulses in each of said trains having a selected time and duration relation to the pulses of the other trains to define pulse groups, said circuit comprising: a plurality of limiter networks, each responsive to a different one of said parallel trains of pulses and limiting the noise signal carried therewith; a plurality of delay means connected in tandem, a resistive network coupling the individual ones of said limiter networks to selected points in the tandem connected delay means, the delays provided being selected to bring the pulses of said groups of pulses into time coincidence, such that the output provided from the tandem connected delay means is a single series of pulses, the values in said resistive network being selected such that the pulses are of equal weight; a plurality of series-connected delay line sections having predetermined delay periods, a first of said series connected delay line sections being coupled to the output of said delay lines connected in tandem, the delays in said series-connected delay line sections being selected to provide signals at taps between the delay lines which are in correspondence with the undelayed time sequence of the applied pulses and also in correspondence with signals delayed one pulse duration therefrom; averaging circuit means coupled to one group of taps within said series-connected delay line sections to combine pulses in synchronism with the undelayed time sequence of the applied pulses and also connected in like fashion to combine signals of the delayed sequence; a differencing circuit coupled to said averaging circuit means and responsive to both of the combined signals therefrom for providing a composite signal having an instantaneous amplitude dependent upon the difference in the amplitudes of the combined signals; and threshold means coupled to said differencing circuit for providing an output indication when the output of said differencing circuit exceeds a predetermined amount.

2,976,517
DATA READOUT SYSTEM
Harrison W. Fuller, Needham Heights, and Robert R. Evans, Bedford, Mass., assignors, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Jan. 28, 1957, Ser. No. 636,820
15 Claims. (Cl. 340—172.5)



1. Apparatus for interpreting an electrical waveform representing a sequence of binary digits, said waveform having polarity crossovers indicative of digital changes, comprising means responsive to said waveform for producing crossover pulses, means responsive to the application of said crossover pulses for deriving a clock pulse for each impressed crossover pulse, means for regeneratively reproducing the last occurring clock pulse, and means responsive to a later occurring crossover pulse for preventing the regenerative reproduction of said last occurring clock pulse.

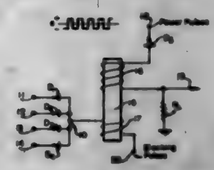
2,976,518
FORCIBLE CAPACITOR DISCHARGE SYSTEMS
John Prosper Eckert, Jr., Philadelphia, Pa., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Apr. 7, 1955, Ser. No. 499,904
3 Claims. (Cl. 340—173)



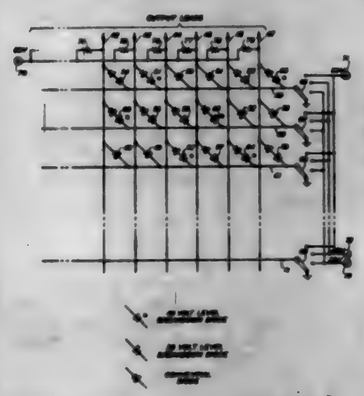
3. A pulse control circuit comprising a magnetic amplifier energized by regularly occurring spaced power pulses including positive-going, negative-going, and zero-dwell portions, a source of selective input signals coupled to said amplifier for selectively effecting spaced output signals therefrom, a capacitor coupled to the output of said amplifier for storing charge in response to occurrence of said spaced output pulses; and discharge means coupled to said capacitor, said discharge means including a clamp circuit and a source of regularly occurring spaced discharge pulses coupled to said clamp circuit for regularly bringing both terminals of said capacitor to substantially the same potential, said spaced discharge pulses occurring respectively in coincidence with each of said zero-dwell potential portions.

2,976,519
LOGICAL CIRCUITS EMPLOYING ALTERNATING NOTATION
Bruce K. Smith, Devon, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 1, 1956, Ser. No. 581,856
11 Claims. (Cl. 340—174)

1. In an information handling system using binary signals, and in which a plurality of stages are cascaded to perform certain logic operations, the combination of a plurality of at least three such stages, each of said stages including means for combining a plurality of said signals and a complementer for changing each form of said binary signals to the other of said binary signal forms, said complementer including a magnetic core having a rectangular hysteresis characteristic, an input winding, an output winding, and means for applying periodic power pulses to said output winding, each of said stages being substantially the same in signal response, and means for coupling said stages so that the output of a plurality of first ones of said stages is connected to the input of a second one of said stages, the output of said combining means of each stage being connected to the input winding of said complementer in a similar manner in said stages, means for applying input signals to one of said first stages and the complements thereof another of said first stages, whereby said cascaded stages alternate in logic function, and the binary representation of the output signal of said second stage is logically related to the binary representations of the inputs to said one first stage in accordance with the logic relation of either one or the other but not both.

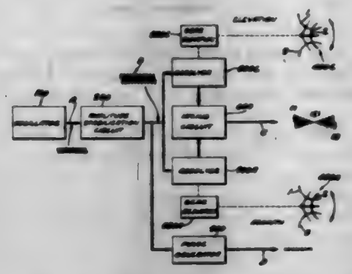


2,976,520
MATRIX SELECTING NETWORK
Willard A. Rosastra, Rutherford, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 20, 1955, Ser. No. 535,414
10 Claims. (Cl. 340—176)



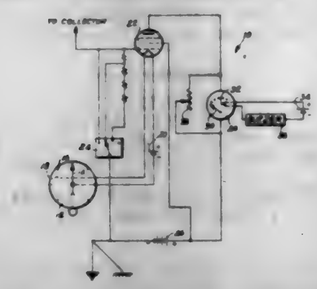
8. A network for enabling the selection of a unique output conductor by the coded energization of predetermined combinations of control conductors comprising a plurality of output conductors, a plurality of control conductors, source means for supplying potentials of different amplitudes, switching means for applying potentials from said source means to chosen combinations of said control conductors, and matrix means connected between said control and output conductors for responding to said potentials for selectively energizing the ones of said plurality of output conductors associated with predetermined combinations of said input conductors, said matrix means comprising a first plurality of crosspoints each consisting only of a conventional diode, and a second plurality of crosspoints each consisting of a conventional diode in series with a breakdown diode, said first and second crosspoints being individually connected between chosen ones of said control and output conductors.

2,976,521
PERIODIC REFERENCE SIGNAL MODULATION METHOD AND APPARATUS FOR REPRESENTING THE POSITION OF A DEVICE
Thomas J. Johnson, Jr., Los Angeles, Calif., assignor to Gilfillan Bros. Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 17, 1955, Ser. No. 488,795
14 Claims. (Cl. 340—196)



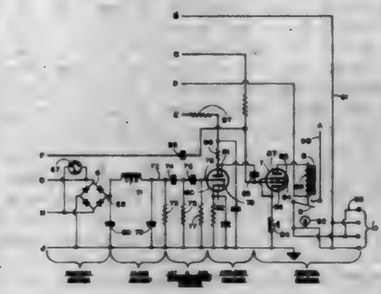
1. A circuit for translating the variable position of a device into a signal representing this position, said circuit comprising: means for generating a standard periodic signal of predetermined fixed amplitude; resolver means including an input circuit and an output circuit, said input circuit being adapted to receive said standard signal and produce a corresponding flux vector signal presented to said output circuit; means coupling said output circuit to said device providing a rotation of said output circuit by predetermined amounts for any motion of said device; said output circuit thereby producing a signal corresponding to said flux vector signal sinusoidally modulated by an amount representing the position of said device; and pulse generating means responsive to said standard periodic signal for producing a pulse for each period of said periodic signal, the relative position of each pulse in the corresponding period being constant.

2,976,522
SEVERE STORM AND TORNADO WARNER
Arthur J. Dowling, Oberlin, Kans.
Filed Aug. 7, 1959, Ser. No. 832,372
3 Claims. (Cl. 340—220)



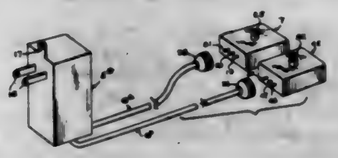
1. A storm warning instrument comprising, in combination, air pressure measuring means, means for measuring the intensity of static electricity, a signal device, first switch means for energizing said static electricity measuring means in response to a predetermined drop in air pressure, second switch means energizing said signal device in response to a predetermined increase in static electricity as determined by said energized static electricity measuring means, said air pressure measuring means comprising a barometer, said static electricity measuring means comprising an electrometer including a collector, an electronic tube, and a source of electrical energy, said storm warning instrument being responsive to the presence of static electricity to provide a visual and audible signal.

2,976,523
ELECTRONIC CIRCUIT FOR ANTICIPATING CHANGE OF MAGNITUDE OF A QUANTITY UNDER INVESTIGATION
Thomas H. Duffy, Fairfield, Conn., assignor to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Oct. 1, 1956, Ser. No. 613,316
6 Claims. (Cl. 340—231)



1. In combination in a device for anticipating bearing failure through temperature rise, a thermocouple for generating a direct current potential proportional to the temperature of the bearing, a balancing circuit for nulling the potential of said thermocouple when it is at a standard reference temperature, said circuit including a chopper and a transformer for generating an alternating current potential wave having an amplitude proportional to the potential of said thermocouple above the null point, an amplifier for amplifying the alternating current output wave of said balancing circuit, a rectifier for rectifying the alternating current wave from said amplifier to produce an amplified direct current potential proportional to the potential of said thermocouple above the null point, a cascaded double differentiating circuit for producing an acceleration potential proportional to the acceleration of the direct current potential output of said rectifier, an amplifier for amplifying the acceleration potential, and a thyratron control circuit trigged by the acceleration potential when it exceeds a predetermined value whereby indication is given of anticipated bearing temperatures dangerous to the bearing.

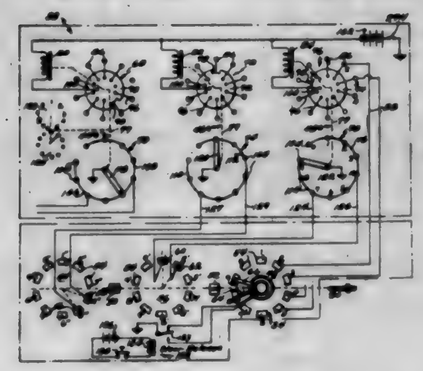
2,976,524
ELECTRIC SIGNALLING SYSTEM
Ivan H. Wall, 5900 Garden Ave., West Palm Beach, Fla.
Filed Sept. 2, 1958, Ser. No. 758,377
1 Claim. (Cl. 340—311)



A signalling system of the character described that comprises a main unit composed of a housing having therein a step-down transformer and an audible signal device, prongs connected to the high voltage side of the transformer and that projects through a rear wall of the housing for pronged engagement into a wall receptacle that constitutes the source of high voltage electrical energy, the said housing provided with two sets

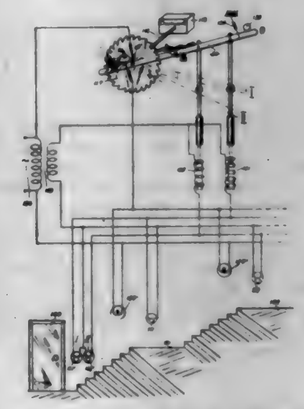
of three female plugs, a central plug of each group of female plugs being connected to the low voltage side of the transformer, a conductor connecting the two next adjacent female plugs of each group, a conductor leading from the low voltage side of the transformer to the signal device, a conductor leading from the opposite side of the signal device to an outer-most female conductor of one group, a pair of remote control devices that include each a housing, a circuit closing switch in each housing, means projected above the housings for actuating the switches, one remote control device also including an audible signal device, the last named control device being provided with three projecting prongs, the central prong being connected to one side of the adjacent switch device and to one side of the last named signal device, the said last named switch device being connected to one outer-most prong and the other outer-most prong being connected to the last named signal device, the other said control devices being provided with three projecting prongs, one outer-most prong and a central prong being connected to an adjacent switch device, the other said prongs being a blank lead, a pair of cable devices and with each cable having a length to extend between the main unit and the remote control devices, each of the cables embodying three conductors, each of the cables at one end being provided with a three-pronged plug and at its opposite end with a plug having three female sockets, the said pronged plugs having pronged engagement into the female sockets of the main unit and the female sockets of each cable having engagement with the respective prongs of each control device, the first named control device establishing a flow of electricity through the signal device of the main unit when the switch is closed, the second named control device establishing a flow of electricity from the transformer to the signal device of the first named control unit.

2,976,525
SYSTEM FOR CONVERTING ANALOG SHAFT ROTATIONAL POSITIONS TO DIGITAL DISPLAYS
John W. Bossung, Mount Vernon, N.Y., assignor to Sherman Fairchild & Associates, Inc., a corporation of New York
Filed June 19, 1956, Ser. No. 592,444
4 Claims. (Cl. 340—316)



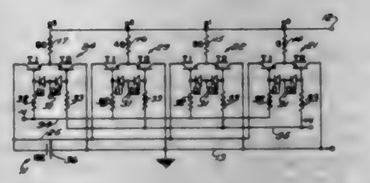
1. In a system for converting rotational shaft position analogs to digital presentations, a plurality of transmitting means corresponding to the successive places of the digital presentations, a corresponding plurality of receiver means coupled to said transmitter means, respectively, each of said transmitting means comprising a multicontact switch, each said receiver means comprising at least a pair of rotary switches having contacts corresponding to those of the associated transmitting switch, the first of the switches of each pair of receiving switches having means for positioning that pair of switches to conform to the position of the associated transmitting switch and the second of the switches of that pair having means responsive to its progression to a zero indication for advancing the position of the pair of receiving switches for the place of the next highest order.

2,976,526
SELECTIVE SIGNALING SYSTEM
Samuel Fialkoff, Roslyn, N.Y., assignor to Camin Laboratories, Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 21, 1959, Ser. No. 807,819
12 Claims. (Cl. 340—322)



1. A signaling system comprising a signaling device, a plurality of control units for said device, a plurality of controlled circuit elements respectively responsive to operation of said control units and independently actuatable thereby, an operating member displaceable over different distances by said controlled elements, restoring means for returning said operating member to a normal position at a controlled rate upon such displacement, and circuit means responsive to displacement of said operating member for actuating said signaling device during the return movement of said operating member and over an interval determined by the duration of said return movement.

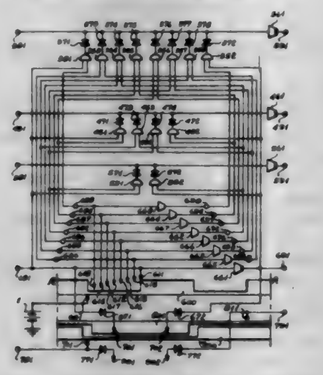
2,976,527
DIGITAL ATTENUATOR
Bruce K. Smith, Waltham, Mass., assignor to Epsco, Incorporated, Boston, Mass., a corporation of Massachusetts
Filed July 17, 1958, Ser. No. 749,116
1 Claim. (Cl. 340—347)



Signal translating apparatus for attenuating the amplitude of an input signal in accordance with a digital number having a plurality of binary bits comprising, a source of said input signal, first and second lines, means for applying said input signal across said first and second

lines, an output terminal, an impedance for each of said binary bits having one end coupled to said output terminal, the value of each said impedance being related to the weighting of the associated bit, pairs of complementary switching transistors for coupling the other end of each of said impedances to a selected one of said first and second lines to provide said input signal attenuated between said output terminal and a predetermined one of said lines, the impedance between said output terminal and said predetermined line being independent of the line to which said other ends are coupled, said complementary pairs of transistors comprising, PNP and NPN transistors each having base, emitter and collector electrodes with the emitters connected to said other end of an associated one of said impedances, sources of negative and positive potential, first and second current limiting resistances respectively connected from said PNP transistor base to said negative potential source and from said NPN transistor base to said positive potential source, a switching input terminal, first and second diodes connected from said switching input terminal to said PNP transistor base and said NPN transistor base respectively said first and second diodes being poled to be conductive and nonconductive respectively for one potential level at said switching input terminal and non-conductive and conductive respectively for another potential level at said switching input terminal, each of said diodes when rendered conductive clamping the associated base to prevent the associated transistor from conducting, and means for connecting said collectors to respective ones of said first and second lines.

2,976,528
MULTIPHASE ANALOG TO DIGITAL CONVERTER
Orville V. Greunke, Westport, Conn., and Frank S. Preston, Tarrytown, N.Y., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 3, 1958, Ser. No. 771,543
26 Claims. (Cl. 340—347)

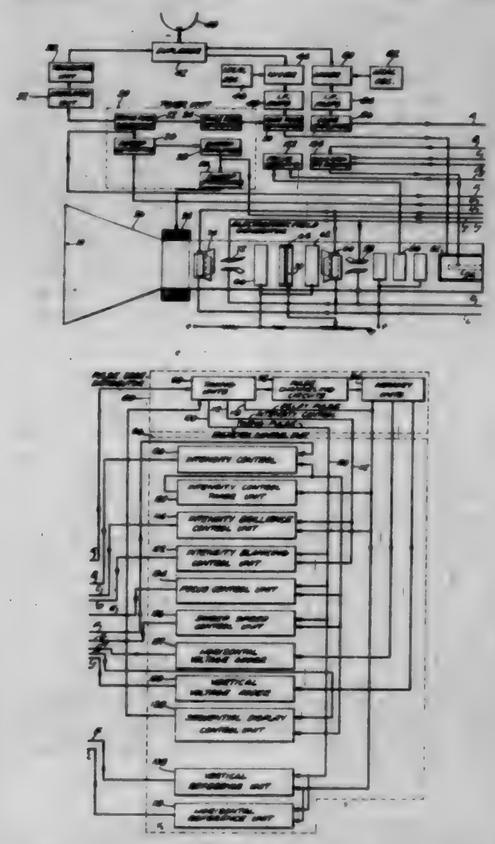


20. A multiphase analog-to-digital converter including in combination a source of alternating current input excitation voltage of a selected carrier frequency, a first and a second sector, means for capacitively coupling the input excitation voltage to the two sectors, means including the two sectors for obtaining a first and a second signal having a relative space phase displacement equal to an odd integral multiple of 90 degrees, an electrical phase shifting network having an input and providing an output shifted in time phase from its input by 90 degrees at the selected carrier frequency, means connecting one of the first and second signals to the input of the phase-shifter, means combining in equal proportions the output of the phase-shifter and the other of the first and second signals to provide a resultant signal of constant amplitude and variable time phase composed of two signals displaced both in time phase and in space phase by 90 degrees, a first and a second phase detector each having three inputs and an output, the first phase detector being linearly responsive to phase differences up to 360 degrees, the second phase detector being linearly responsive to phase differences up to 180 degrees, means connecting the resultant signal to a first input of each phase detector, means connecting the input excitation voltage to a second input of each phase detector, a source of reference voltage, means connecting the reference voltage to the third input of each phase detector, a first and a second digital to analog conversion device each having an output, the first conversion device having two inputs, the second conversion device having three inputs, means connecting the reference voltage to a first input of each conversion device, a first and a second and a third trigger circuit each having an input and an output, a first and a second comparator each having an output, the first comparator having three inputs, the second comparator having two inputs, means connecting the output of the first comparator to the input of the first trigger circuit, a sequentially operating system having an input and two outputs, means connecting one output of the sequential system to the input of the second trigger circuit, means connecting the other output of the sequential system to the input of the third trigger circuit, means connecting the output of the first trigger circuit to the second input of the first conversion device, means connecting the output of the second trigger circuit to a second input of the second conversion device, means connecting the output of the third trigger circuit to the third input of the second conversion device, means connecting the output of the second conversion device to a first input of each comparator, means connecting the output of the second phase detector to the second input of the second comparator, means connecting the output of the first phase detector to a second input of the first comparator, means connecting the output of the first conversion device to the third input of the first comparator, means connecting the output of the second comparator to the input of the sequential system, means responsive to the output of the first trigger circuit for providing a first output representative of a digit of a certain significance, means responsive to the output of the second trigger circuit for providing a second output representative of a digit of a lesser significance than the first output, means responsive to the output of the third trigger circuit for providing a third output representative of a digit of a lesser significance than the second output, and means responsive to the first output for providing a fourth output representative of a digit of a greater significance than the first output.

2,976,529
RADAR IDENTIFICATION SYSTEM
Joseph T. McNaney, La Mesa, Calif., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,776
2 Claims. (Cl. 343—6.5)

1. In a radar system of the type wherein in response to the transmission of a pulse there is received from an equipped target both a reflected pulse and a sequence of pulse-code groups each group representative of a character identifying said target, means for displaying said reflected pulse together with the associated characters comprising, in a radar receiver, target display means including a cathode-ray tube having in order electron-beam-generating means, beam-intensity-control means, beam-focus-control means, first deflecting means, a mask having a plurality of character-shaped apertures, an unshaped aperture and a reference location, second deflecting means, third deflecting means, and a screen, a target sweep gen-

erator having its ouput applied to said third deflecting means, means for separating a received reflected pulse from its associated pulse-code groups, first bias means coupled to said first and second deflecting means to deflect an electron beam through said unshaped aperture, means to apply said reflected pulse to said beam-intensity-control means to provide an indication of said target location on said screen, means responsive to a received pulse group to generate a set of reference deflection voltages, means for applying said reference deflection voltages to said first deflecting means for deflecting said electron beam to the reference location of said mask, means for generating from a code group a set of representative deflection voltages, said means including a first counter, means responsive to the first pulse of a pulse code group being



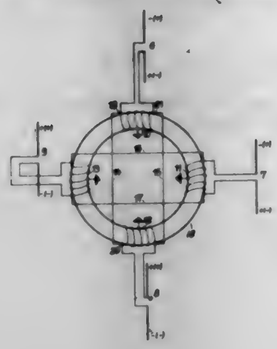
received to drive said first counter through a complete counting cycle, a plurality of flip-flops, means responsive to said counter output to sequentially set or reset each of said plurality of flip-flops in accordance with whether or not a pulse in a code group is received at the time of said count, and means to sum the set outputs of selected ones of said flip-flops to provide a set of representative deflection voltages, means for applying said representative deflection voltages to said first and second deflecting means for directing the electron beam through the one of said character-shaped apertures which shapes said electron beam cross-section into the character represented by the code group and then redirects said electron beam toward the center of said cathode-ray tube, means responsive to said received pulse code groups to cause said target sweep generator to retard its sweep output for the duration of the sweep interval during which said pulse code groups were received, means responsive to said received pulse code groups to apply a voltage to said beam-focus control to defocus the electron beam while it is directed through a character-shaped aperture, means responsive to said received pulse code groups to apply a voltage to said beam-intensity-control means to intensify said electron beam while it is directed through a character-shaped aperture, means responsible to the characters identifying a target having been displayed to prevent response to other target pulse code groups during the remainder of said sweep interval, and means responsive to the characters identifying a target having been displayed to prevent a redisplay of said target-identifying characters until after up to a predetermined number of other target-identifying characters have been displayed, said last means comprising a second counter having a count capacity equal to the number of characters identifying a target, means for applying the output of the final count state of said first counter to advance said second counter count, means responsive to a final count output of said second counter to hold inoperative said means to drive said first counter through a cycle, and means responsive to the termination of each sweep interval to render said means responsive to the final count of said second counter inoperative.

2,976,530
MULTIPLE-TARGET TRACKING SYSTEM
Robert V. Werner, La Mesa, and Walter J. Zable, William J. Thompson, and Arthur E. Noyes, San Diego, Calif., assignors to Cubic Corporation, San Diego, Calif., a corporation of California
Filed Aug. 8, 1958, Ser. No. 754,099
17 Claims. (Cl. 343—112)



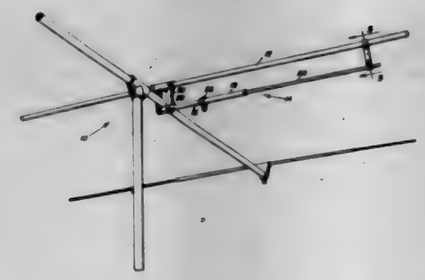
17. An electronic system for deriving continuous spatial coordinate information of the position of a vehicle, said vehicle transmitting a signal, said system comprising: a first crossed-baseline antenna system including first and second pairs of antennas for receiving the signal transmitted by said vehicle, the baselines of said first and second antenna pairs bisecting each other at right angles; first and second means coupled to said first and second antenna pairs, respectively, and responsive to the phase difference between the signals received on said first and second antenna pairs, respectively, for producing first and second direction cosine information, respectively, of the vehicle position, said first and second direction cosine information representing a first direction vector pointing to the vehicle; a second crossed-baseline antenna system including third and fourth antenna pairs for receiving the signal transmitted by said vehicle, the baselines of said third and fourth antenna pairs bisecting each other at right angles; and third and fourth means coupled to said third and fourth antenna pairs, respectively, and responsive to the phase difference between the signals received on said third and fourth antenna pairs, respectively, for producing third and fourth direction cosine information representing a second direction vector pointing to the target, the intersection of said first and second direction vectors representing spatial coordinate information of the vehicle position.

2,976,531
GONIOMETER
Georg Schmucker, Albert Troost, Gunter Ziehm, and Kurt Zehender, all of Ulm (Danube), Germany, assignors to Telefunken G.m.b.H., Berlin, Germany
Filed Oct. 6, 1958, Ser. No. 765,421
Claims priority, application Germany Oct. 18, 1957
8 Claims. (Cl. 343—124)



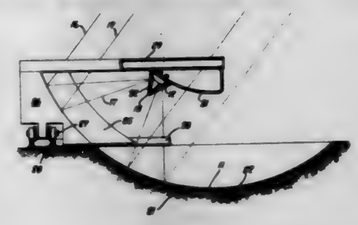
1. In a goniometer for connection with antenna means, said goniometer including a core ring and including at least two pairs of field windings wound in diametrically opposite locations on the core ring, and having terminals at the ends of the windings connected with said antenna means, means for short-circuiting the in-phase components of voltages across the paired windings while leaving the phase-opposition components undisturbed, comprising conductors joining between opposite windings the terminals at which the components of the voltages, which would generate a purely annular flux in the core ring, are of opposite polarity.

2,976,532
TELESCOPING GAMMA MATCH ANTENNA CONSTRUCTION
James D. Guest, P.O. Box 868, Duncan, Okla.
Filed Jan. 15, 1958, Ser. No. 709,036
5 Claims. (Cl. 343—722)



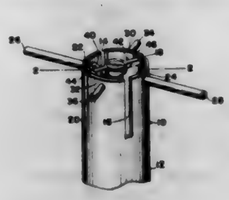
2. An antenna construction including the combination of a driven member comprising an elongated conductive rod and a tuning member comprising a variable capacitor including concentrically arranged telescopically related first and second elongated conductive tubes, and a tubular insulator concentrically secured to one of said tubes and slidably associated with the other of said tubes, said first conductive tube secured and electrically connected to an antenna mounting assembly said second conductive tube extending beyond said first tube remote from said mounting assembly, and conductive strap means connecting said second tube to said driven member, said strap means engaging said second tube remote from said first tube.

2,976,533
RADIO ASTRONOMY ANTENNA HAVING SPHERICAL REFLECTOR FORMED INTEGRAL WITH EARTH'S SURFACE
Winfield W. Salisbury, Lafayette, Calif., assignor, by mesne assignments, to Zenith Radio Corporation, a corporation of Delaware
Filed Nov. 12, 1954, Ser. No. 468,237
4 Claims. (Cl. 343—755)



3. In apparatus of the class described, a spherical reflector for receiving and reflecting electromagnetic energy, a spherical section forming a continuous surface with the said reflector and adapted to be moved about said reflector to thereby extend the viewing angle range, an electromagnetic lens placed near the principal focil of said reflector, said lens intercepting the reflected energy and being aspherically formed to correct aberrations introduced by the reflector, and a receiver located at the focus of the said lens.

2,976,534
CIRCULARLY POLARIZED ANTENNA
Abe Kampinsky, Belmar, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed July 2, 1959, Ser. No. 824,756
4 Claims. (Cl. 343—756)
(Granted under Title 35, U.S. Code (1952), sec. 266)



3. An antenna system comprising a coaxial feed line having an outer conductor with four longitudinal slots therein at substantially equal angular intervals forming a first and a second pair of inter-slot portions, the length of each of said slots being one-quarter wavelength of the desired operating frequency, a first dipole antenna having each of its elements extending radially outward from a respective inter-slot portion comprising said first opposing pair, a second dipole antenna spaced 90 degrees physically from said first dipole antenna and co-planar therewith, each element of said second dipole antenna extending radially outward from a respective inter-slot portion comprising said second opposing pair, the length of said first and second dipole antennas being greater than one-half wavelength and less than one-half wavelength, respectively, at the desired operating frequency,

and switch means for simultaneously short-circuiting either pair of mutually opposing slots in the plane of the dipole antennas.

2,976,535
COSECANT SQUARED ANTENNA-REFLECTOR SYSTEMS
Cassius C. Cutler, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 24, 1949, Ser. No. 83,108
10 Claims. (Cl. 343—779)



1. An antenna-reflector system for producing a cosecant directive pattern comprising a paraboloidal reflector, a primary antenna therefor comprising a wave guide extending longitudinally across the front of said reflector and having a plurality of irises facing said reflector said wave guide being positioned substantially on one side only of the axis of said reflector.

DESIGNS

MARCH 21, 1961

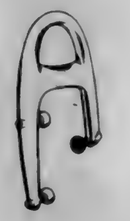
189,904
FAUCET FOR A BEVERAGE DISPENSER OR THE LIKE
Harold O. Seltzam, Rocky River, Ohio, assignor to Tomlinson Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 23, 1960, Ser. No. 60,690
Term of patent 14 years
(Cl. D2—3)



189,905
HOLDER FOR SEWING ACCESSORIES
Victor C. Murphy, 223 Date St. E., Anaheim, Calif.
Filed Nov. 19, 1959, Ser. No. 58,403
Term of patent 14 years
(Cl. D3—19)



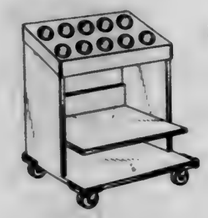
189,906
BATHTUB SAFETY BAR
Melvin H. Best, Pasadena, and Robert K. Fujioka, Los Angeles, Calif., assignors to De Jong-Caskey & Co., Pasadena, Calif., a partnership consisting of Hamilton C. de Jong and Kenneth E. Caskey
Filed Feb. 29, 1960, Ser. No. 59,552
Term of patent 14 years
(Cl. D4—4)



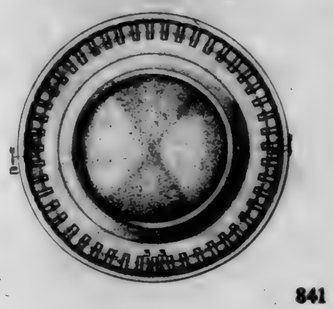
189,907
RUG CLEANING MACHINE
Sheldon David Hulsh, 530 Park Ave., New York, N.Y.
Filed Dec. 16, 1959, Ser. No. 58,684
Term of patent 14 years
(Cl. D9—2)



189,908
PORTABLE SERVICE CART FOR SILVERWARE AND DISHES OR THE LIKE
Delmar D. Rhoads, 3112 Oakwood Drive, Fort Wayne, Ind.
Filed June 9, 1958, Ser. No. 51,260
Term of patent 14 years
(Cl. D14—3)



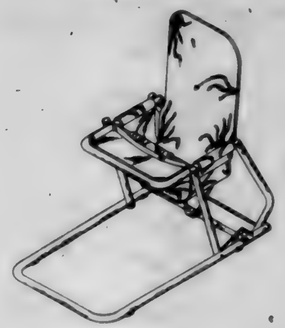
189,909
AUTOMOBILE WHEEL COVER
Donald J. Reid, Troy, and John E. Schwarz, Oak Park, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 11, 1960, Ser. No. 59,009
Term of patent 7 years
(Cl. D14—30)



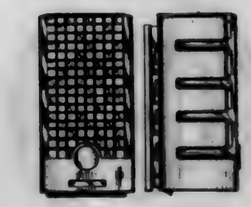
189,910
CHAIR
Theodore Hess, Chicago, Ill., assignor to Kuehne Manufacturing Co., Mattoon, Ill., a corporation of Illinois
Filed Nov. 16, 1959, Ser. No. 58,347
Term of patent 7 years
(Cl. D15—1)



189,911
BABY JUMPER
Daniel Berlin, 4424 Paul St., Philadelphia, Pa.
Filed Mar. 21, 1960, Ser. No. 59,797
Term of patent 14 years
(Cl. D15—1)



189,912
ELECTRICAL ROOM-DEODORANT VAPORIZER CASING
Carl B. Lien, 9229 W. Grand Ave., Franklin Park, Ill.
Filed June 1, 1960, Ser. No. 60,815
Term of patent 14 years
(Cl. D16—2)



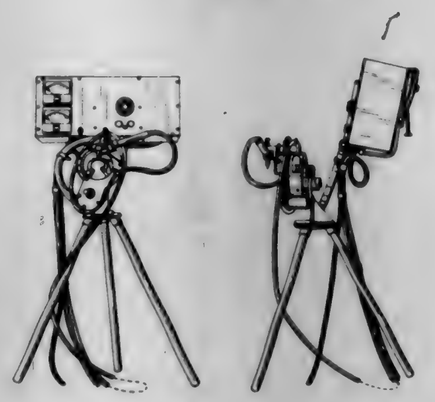
189,913
KNIFE
Jens H. Quistgaard, Copenhagen, Denmark, assignor to Dansk Designs, Inc., Great Neck, N.Y., a corporation of New York
Filed Mar. 30, 1960, Ser. No. 59,941
Term of patent 14 years
(Cl. D22—3)



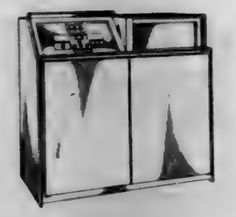
189,914
INDICATING DEVICE
Leonard B. Emerson, Framingham, and Richard P. Curtis, Marblehead, Mass., assignors to Raytheon Company, Waltham, Mass., a corporation of Delaware
Filed Nov. 27, 1959, Ser. No. 58,487
Term of patent 14 years
(Cl. D26—1)



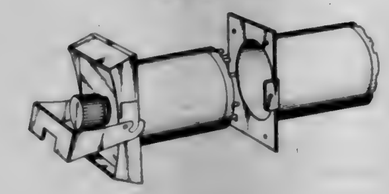
189,915
BUTT-WELDING APPARATUS
Oren B. Harmes, Algona, Iowa, assignor of one-half to Ladish Co., Tri-Clover Division, Kenosha, Wis., a corporation of Wisconsin
Filed Feb. 8, 1960, Ser. No. 59,297
Term of patent 14 years
(Cl. D26—1)



189,916
UNIVERSAL CONTROL AND TEST DEVICE OR THE LIKE
Richard D. Fullerton, Los Angeles, Calif., assignor to Pacific Automation Products, Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 11, 1960, Ser. No. 59,350
Term of patent 14 years
(Cl. D26—5)



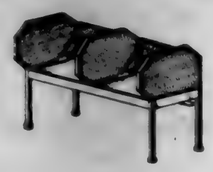
189,917
COMBINED ELECTRIC UNIT AND HOUSING THEREFOR OR SIMILAR ARTICLE
Ellis E. Weaver and Frank Arthur Pearson, Moline, Gentiel De Gryse, East Moline, and Vincent C. Blecker, Moline, Ill., assignors, by mesne assignments, to The Gamewell Company, Newton, Mass., a corporation of Delaware
Filed Feb. 25, 1959, Ser. No. 54,737
Term of patent 14 years
(Cl. D26—13)



189,918
COMBINED CLOTHES HOOK AND WALL BRACKET FOR SUPPORTING A CLOSET SHELF AND A HANGER BAR
Paul N. Nordemson, 4911 Excelsior Blvd., Minneapolis, Minn.
Filed Jan. 13, 1960, Ser. No. 59,040
Term of patent 14 years
(Cl. D33—3)



189,919
DUAL AUDIO-EDUCATION DESK
MacLean W. Briggs, Wichita, Kans., assignor to The Advance Furnace Company, Wichita, Kans., a corporation of Kansas
Filed Aug. 3, 1960, Ser. No. 61,622
Term of patent 14 years
(Cl. D33—7)



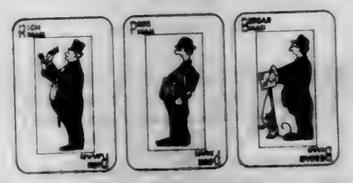
189,920
SHUTTLECOCK
William Charles Carlton, 14 Herbert Road, Hornchurch, England
Filed Mar. 21, 1960, Ser. No. 59,821
Term of patent 14 years
(Cl. D34—5)



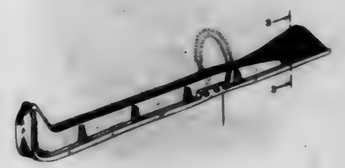
189,921
CHECKER GAME PIECE
Theodore Hyman, % Kentucon Corporation, 3110 N. 11th St., St. Louis, Mo.
Filed June 24, 1960, Ser. No. 61,110
Term of patent 14 years
(Cl. D34—5)



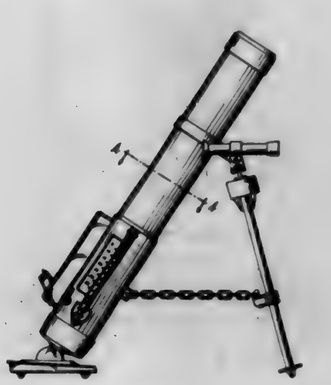
189,922
SET OF PLAYING CARDS
Dorothy W. Smith, 1496 Woodmont Blvd., Nashville, Tenn.
Filed May 25, 1960, Ser. No. 60,724
Term of patent 14 years
(Cl. D34—5)



189,923
SKATE SCABBARD
James B. Swett, Barrington, R.I., assignor to Brunswick Sports Products Company, Torrington, Conn., a corporation of Delaware
Filed Feb. 24, 1960, Ser. No. 59,496
Term of patent 14 years
(Cl. D34—5)



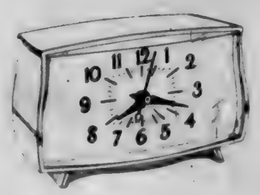
189,924
TOY MORTAR
Saul Robbins, 35 Mountain Way, West Orange, N.J., and Isaac Heller, 2880 Arrowwood Drive, Scotch Plains, N.J.
Filed Sept. 2, 1960, Ser. No. 61,994
Term of patent 14 years
(Cl. D34—15)



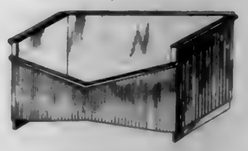
189,925
TOY GUN
Mahlon E. Hirsch, Fairview, Pa., assignor to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 14, 1960, Ser. No. 62,821
Term of patent 14 years
(Cl. D34—15)



189,926
CLOCK OR SIMILAR ARTICLE
Carl N. Johnson, Stratford, Conn., assignor to General Electric Company, a corporation of New York
Filed Oct. 17, 1960, Ser. No. 62,500
Term of patent 7 years
(Cl. D42—7)



189,927
VEGETABLE BIN
John W. Ebstein, Roslyn Heights, N.Y., assignor, by mesne assignments, to Federal Enameling & Stamping Co., Pittsburgh, Pa., a corporation of Michigan
Filed Feb. 10, 1960, Ser. No. 59,342
Term of patent 14 years
(Cl. D44—1)



189,928
FINGER RING
Valmore Guertin and Emile H. Guertin, both of 372 Main St., Hyannis, Mass.
Filed Nov. 7, 1960, Ser. No. 62,746
Term of patent 14 years
(Cl. D45—10)



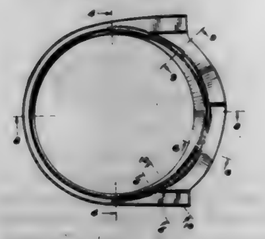
189,929
JEWELRY FINDING
Charles Letzo, 2105 Morningside Drive, Safety Harbor, Fla.
Filed July 19, 1960, Ser. No. 61,423
Term of patent 14 years
(Cl. D45—19)



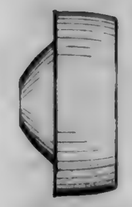
189,930
AUTOMOBILE TAIL LAMP BEZEL
Richard G. Macadam, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed July 5, 1960, Ser. No. 61,227
Term of patent 7 years
(Cl. D48—32)



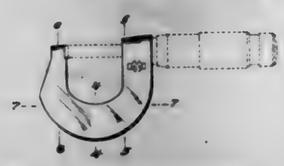
189,931
HEADLIGHT BEZEL FOR AUTOMOBILES OR THE LIKE
George W. Walker, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,343
Term of patent 7 years
(Cl. D48—32)



189,932
LAMP BEZEL FOR AUTOMOBILES OR THE LIKE
George W. Walker, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,351
Term of patent 7 years
(Cl. D48—32)



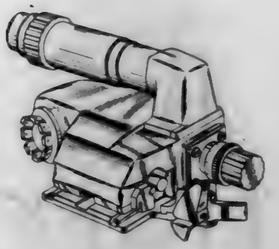
189,933
MICROMETER
George H. Soucy, Warwick, R.I., assignor to Brown & Sharpe Manufacturing Company, a corporation of Rhode Island
Filed Sept. 15, 1960, Ser. No. 62,310
Term of patent 14 years
(Cl. D52—6)



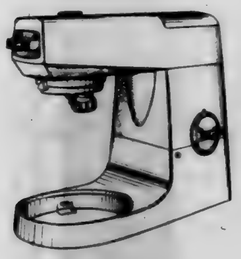
189,934
FUSIBLE LINK
Harry C. Allen, North Scituate, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Dec. 28, 1959, Ser. No. 58,824
Term of patent 14 years
(Cl. D54—11)



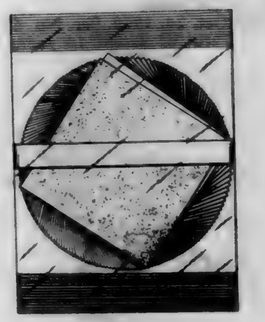
189,935
WIRE TYING MACHINE
Donald J. Behnk, Hampton Township, Allegheny County, and Robert O'Neil, Pittsburgh, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 17, 1959, Ser. No. 55,033
Term of patent 14 years
(Cl. D55—1)



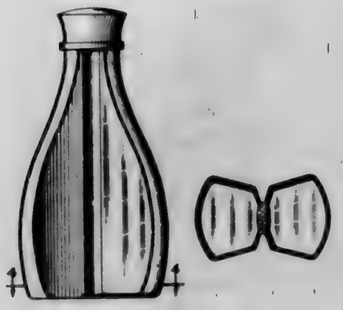
189,936
FOOD MIXING MACHINE
Kenneth Henry Grange, London, England, assignor to Kenwood Manufacturing (Woking) Limited, London, England, a corporation of Great Britain
Filed Mar. 25, 1960, Ser. No. 59,866
Term of patent 14 years
(Cl. D55—1)



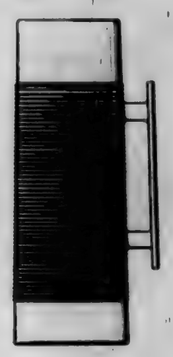
189,937
PACKAGE OF SQUARE-CUT PAPERS
David B. Dreiman, 2 Sherman Ave., White Plains, N.Y.
Filed Aug. 30, 1960, Ser. No. 61,942
Term of patent 14 years
(Cl. D58—2)



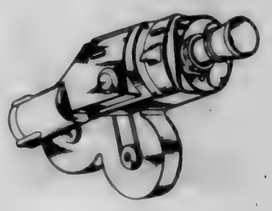
189,938
BOTTLE
Walter T. Helntze, Lewisboro, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
Filed May 3, 1960, Ser. No. 60,531
Term of patent 14 years
(Cl. D58—6)



189,939
VACUUM BOTTLE
Robert O. Burton, 441 St. James St., Chicago, Ill.
Filed Dec. 30, 1959, Ser. No. 58,857
Term of patent 14 years
(Cl. D58—11)



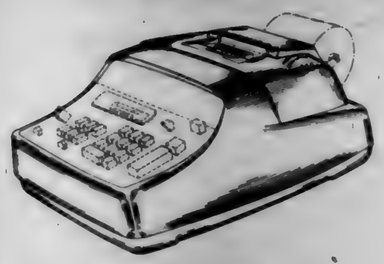
189,940
MOTION PICTURE CAMERA
Charles Allen Lotspeich, Granada Hills, Calif., assignor to Mitchell Camera Corporation, Glendale, Calif., a corporation of Delaware
Filed Oct. 24, 1960, Ser. No. 62,586
Term of patent 14 years
(Cl. D61—1)



189,941
COMBINATION CLOSURE AND DISPENSING CAP FOR AEROSOL CONTAINERS
Theodore P. Jakubowski, Clifton, N.J., assignor to Sheiton, Inc., Clifton, N.J., a corporation of New Jersey
Filed June 9, 1959, Ser. No. 56,277
Term of patent 14 years
(Cl. D62—2)



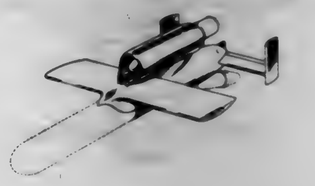
189,942
CALCULATING MACHINE
Richard Hollerith, Jr., Upper Montclair, Richard S. Dorner, Hanover, and Terry L. Barner, East Orange, N.J., assignors to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed July 5, 1960, Ser. No. 61,251
Term of patent 14 years
(Cl. D64—11)



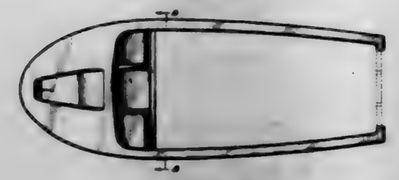
189,943
AIRSHIP
Alex A. Rommel, 4426 Brentwood Drive, Fresno, Calif.
Filed Jan. 11, 1960, Ser. No. 59,005
Term of patent 14 years
(Cl. D71—1)



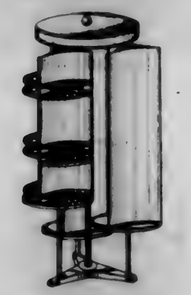
189,944
GUIDED MISSILE
Otho E. McCrackin, Overland, Mo., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 4, 1949, Ser. No. 2,422
Term of patent 3½ years
(Cl. D71—1)



189,945
PLEASURE BOAT DECK
Robert H. Madding, 914 Wallace Bldg., Little Rock, Ark.
Filed Feb. 1, 1960, Ser. No. 59,228
Term of patent 3½ years
(Cl. D71—1)



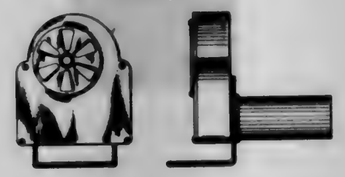
189,946
DISPLAY STAND FOR MECHANIC'S HAND TOOLS
Robert L. Daugherty, Oswego, Oreg., assignor to Pendleton Tool Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 7, 1960, Ser. No. 59,654
Term of patent 14 years
(Cl. D80—9)



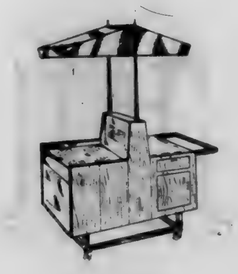
189,947
RING DISPLAY HOLDER
Abraham G. Sager, 910 W. Jackson Blvd., Chicago, Ill.
Filed Mar. 28, 1960, Ser. No. 59,920
Term of patent 14 years
(Cl. D80—9)



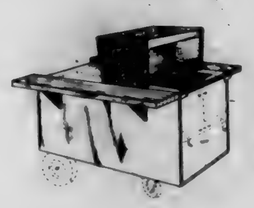
189,948
HOUSING FOR A POWER GAS BURNER
William H. Moore, 218 Dorchester Ave., Syracuse, N.Y.
Continuation of design applications Ser. No. 59,451, Feb. 19, 1960, and Ser. No. 62,031, Sept. 6, 1960. This application Jan. 12, 1961, Ser. No. 63,766
Term of patent 14 years
(Cl. D81—2)



189,949
PORTABLE RANGE AND FOOD SERVICE COMBINATION OR SIMILAR ARTICLE
Ving Smith, Westchester County, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 30, 1960, Ser. No. 59,959
Term of patent 14 years
(Cl. D81—10)



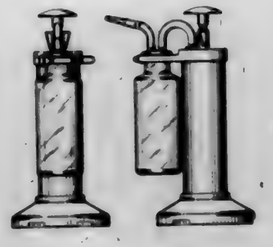
189,950
PORTABLE RANGE AND BARBECUE GRILL COMBINATION OR SIMILAR ARTICLE
Renor S. Faidy, Jefferson County, Ky., assignor to General Electric Company, a corporation of New York
Filed Mar. 30, 1960, Ser. No. 59,958
Term of patent 14 years
(Cl. D81—10)



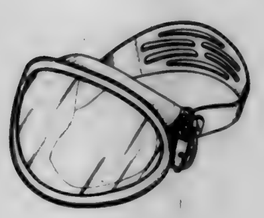
189,951
STEAM BATH CABINET
Dale L. Cooper, 710 N. Brookfield St., South Bend, Ind.
Filed Mar. 8, 1960, Ser. No. 59,669
Term of patent 14 years
(Cl. D83—1)



189,952
SUCTION PUMP FOR REMOVING FLUIDS FROM BODY CAVITIES
Tracy B. Tyler, 7936 Byron Ave., and Arthur F. Alders, 2530 Shelter Ave., both of Miami Beach, Fla.
Filed July 28, 1959, Ser. No. 56,960
Term of patent 3½ years
(Cl. D83—1)



189,953
SWIMMING MASK
Joseph V. Ferriot, Akron, Ohio, assignor to Auburn Rubber Company, Inc., Auburn, Ind., a corporation
Filed Mar. 4, 1960, Ser. No. 59,615
Term of patent 14 years
(Cl. D83—1)



189,954
CARD CASE OR SIMILAR ARTICLE
Paul B. Berry, Dallas, Tex., assignor to Tex Tan, Inc., Yoakum, Tex., a corporation of Texas
Filed July 5, 1960, Ser. No. 61,250
Term of patent 14 years
(Cl. D87—3)



189,955
CHILD'S HANDBAG
Alfred Kather, 740 S. Hoover St., Los Angeles, Calif.
Filed Aug. 5, 1960, Ser. No. 61,640
Term of patent 14 years
(Cl. D87—3)



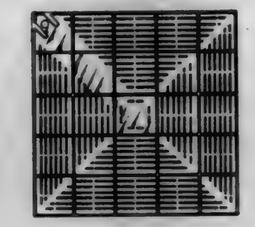
189,956
CHILD'S HANDBAG
Alfred Kather, 740 S. Hoover St., Los Angeles, Calif.
Filed Aug. 5, 1960, Ser. No. 61,641
Term of patent 14 years
(Cl. D87—3)



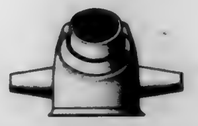
189,957
PLASTIC SHEET MATERIAL
John R. Ellefson, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 12, 1960, Ser. No. 62,458
Term of patent 14 years
(Cl. D87—3)



189,958
AQUARIUM FILTER
Henry Arak, Brooklyn, N.Y., assignor to The Wil-Nes Corporation, a corporation of New York
Filed June 27, 1960, Ser. No. 61,130
Term of patent 14 years
(Cl. D91—1)



FAUCET SPOUT
189,959
Robert W. Hyde, Cincinnati, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 60,242
Term of patent 14 years
(Cl. D91—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Clark, Eugene F., to Fieldcrest Mills, Inc. Method of and apparatus for weaving. Re. 24,949, 3–21–61, Cl. 139—46.
Fieldcrest Mills, Inc.: *See*—
Clark, Eugene F. Re. 24,949.
Hartbauer, Ellsworth A., to F. B. Redington Co. Tucking mechanism for packaging machine. Re. 24,951, 3–21–61, Cl. 53—376.
Hoe, R., & Co., Inc.: *See*—
Zuckerman, Adolph M. Re. 24,948.
Redington, F. B., Co.: *See*—
Hartbauer, Ellsworth A. Re. 24,951.
Richardson, Cecil H. Scraper cylinder improvement. Re. 24,952, 3–21–61, Cl. 37—126.
Wills, Leonard A. Sanitary sipping-straw dispenser. Re. 24,950, 3–21–61, Cl. 221—192.
Zuckerman, Adolph M., to R. Hoe & Co., Inc. Rotary web printing machine. Re. 24,948, 3–21–61, Cl. 270—6.

LIST OF PLANT PATENTEES

Amling-De Ver Nurseries, Inc.: *See*—
Lammerts, Walter E. 2,036.
Conard-Pyle Co., The: *See*—
Johnston, Stanley C. 2,037.
Flemer, William, III, to Princeton Nurserymen's Research Associates. Thornless honey locust tree. 2,038, 3–21–61, Cl. 47—59.
Johnston, Stanley C., to The Conard-Pyle Co. Rose plant. 2,037, 3–21–61, Cl. 47—61.
Lammerts, Walter E., to Amling-De Vor Nurseries, Inc. Rose plant. 2,036, 3–21–61, Cl. 47—61.
Princeton Nurserymen's Research Associates: *See*—
Flemer, William, III. 2,038.
Stark Bro's Nurseries & Orchards Co.: *See*—
Wellington, Richard. 2,035.
Wellington, Richard, to Stark Bro's Nurseries & Orchards Co. Crab apple tree. 2,035, 3–21–61, Cl. 47—62.

LIST OF DESIGN PATENTEES

Advance Furnace Co., The: *See*—
Briggs, MacLean W. 189,919.
Alders, Arthur F.: *See*—
Tyler, Tracy B., and Alders. 189,952.
Allen, Harry C., to Grinnell Corp. Fusible link. 189,934, 3–21–61, Cl. D54—11.
American Radiator & Standard Sanitary Corp.: *See*—
Hyde, Robert W. 189,959.
Arak, Henry, to The Wil-Nes Corp. Aquarium filter. 189,958, 3–21–61, Cl. D91—1.
Auburn Rubber Co., Inc.: *See*—
Ferriot, Joseph V. 189,953.
Barner, Terry L.: *See*—
Hollerith, Richard, Jr., Dormer, and Barner. 189,942.
Behnk, Donald J., and R. O'Neil, to United States Steel Corp. Wire tying machine. 189,935, 3–21–61, Cl. D55—1.
Berlin, Daniel. Baby jumper. 189,911, 3–21–61, Cl. D15—1.
Berry, Paul B., to Tex Tan, Inc. Card case or similar article. 189,954, 3–21–61, Cl. D87—3.
Best, Melvin H., and R. K. Fujioka, to De Jong-Caskey & Co. Bathtub safety bar. 189,906, 3–21–61, Cl. D4—1.
Blecker, Vincent C.: *See*—
Weaver, Ellis E., Pearson, De Gryse, and Blecker. 189,917.
Briggs, MacLean W., to The Advance Furnace Co. Dual audio-education desk. 189,919, 3–21–61, Cl. D33—7.
Bristol-Myers Co.: *See*—
Heintze, Walter T. 189,938.
Brown & Sharpe Mfg. Co.: *See*—
Soucy, George H. 189,933.
Brunswick Sports Products Co.: *See*—
Swett, James B. 189,923.
Burton, Robert O. Vacuum bottle. 189,939, 3–21–61, Cl. D58—11.
Carlton, William C. Shuttlecock. 189,920, 3–21–61, Cl. D34—5.
Chrysler Corp.: *See*—
Macadam, Richard G. 189,930.
Reid, Donald J., and Schwarz. 189,909.
Cooper, Dale L. Steam bath cabinet. 189,951, 3–21–61, Cl. D83—1.
Curtis, Richard P.: *See*—
Emerson, Leonard B., and Curtis. 189,914.
Dansk Designs, Inc.: *See*—
Quistgaard, Jens H. 189,913.
Daugherty, Robert L., to Pendleton Tool Industries, Inc. Display stand for mechanic's hand tools. 189,946, 3–21–61, Cl. D80—9.
De Gryse, Gentiel: *See*—
Weaver, Ellis E., Pearson, De Gryse, and Blecker. 189,917.
De Jong-Caskey & Co.: *See*—
Best, Melvin H., and Fujioka. 189,906.
Dormer, Richard S.: *See*—
Hollerith, Richard, Jr., Dormer, and Barner. 189,942.
Dreiman, David B. Package of square-cut papers. 189,937, 3–21–61, Cl. D56—2.
Du Pont de Nemours, E. I., and Co.: *See*—
Ellefson, John R. 189,957.
Ebstein, John W., to Federal Enameling & Stamping Co. Vegetable bin. 189,927, 3–21–61, Cl. D44—1.
Ellefson, John R., to E. I. du Pont de Nemours and Co. Plastic sheet material. 189,957, 3–21–61, Cl. D87—3.
Emerson, Leonard B., and R. P. Curtis, to Raytheon Co. Indicating device. 189,914, 3–21–61, Cl. D26—1.
Faidy, Renor S., to General Electric Co. Portable range and barbecue grill combination or similar article. 189,950, 3–21–61, Cl. D81—10.
Federal Enameling & Stamping Co.: *See*—
Ebstein, John W. 189,927.
Ferriot, Joseph V., to Auburn Rubber Co., Inc. Swimming mask. 189,953, 3–21–61, Cl. D83—1.
Ford Motor Co.: *See*—
Walker, George W. 189,931.
Walker, George W. 189,932.
Fujioka, Robert K.: *See*—
Best, Melvin H., and Fujioka. 189,906.
Fullerton, Richard D., to Pacific Automation Products, Inc. Universal control and test device or the like. 189,916, 3–21–61, Cl. D26—5.
Gamewell Co., The: *See*—
Weaver, Ellis E., Pearson, De Gryse, and Blecker. 189,917.
General Electric Co.: *See*—
Faidy, Renor S. 189,950.
Johnson, Carl N. 189,926.
Smith, Ving. 189,949.
Grange, Kenneth H., to Kenwood Mfg. (Woking) Ltd. Food mixing machine. 189,936, 3–21–61, Cl. D55—1.
Grinnell Corp.: *See*—
Allen, Harry C. 189,934.
Guertin, Emile H.: *See*—
Guertin, Valmore and E. H. 189,928.
Guertin, Valmore and E. H. Finger ring. 189,928, 3–21–61, Cl. D48—10.
Harmes, Oren B., ½ to Ladish Co., Tri-Clover Division. Butt-welding apparatus. 189,915, 3–21–61, Cl. D26—1.
Heintze, Walter T., to Bristol-Myers Co. Bottle. 189,938, 3–21–61, Cl. D58—6.
Heller, Isaac: *See*—
Robbins, Saul, and Heller. 189,924.
Hess, Theodore, to Kuehne Mfg. Co. Chair. 189,910, 3–21–61, Cl. D15—1.
Hirsch, Mahlon E., to Louis Marx & Co., Inc. Toy gun. 189,925, 3–21–61, Cl. D34—15.
Hollerith, Richard, Jr., R. S. Dormer, and T. L. Barner, to Monroe Calculating Machine Co. Calculating machine. 189,942, 3–21–61, Cl. D64—11.
Hulsh, Sheldon D. Rug cleaning machine. 189,907, 3–21–61, Cl. D9—2.
Hyde, Robert W., to American Radiator & Standard Sanitary Corp. Faucet spout. 189,959, 3–21–61, Cl. D91—3.
Hyman, Theodore. Checker game piece. 189,921, 3–21–61, Cl. D34—5.
Jakubowski, Theodore P., to Shulton, Inc. Combination closure and dispensing cap for aerosol containers. 189,941, 3–21–61, Cl. D62—2.
Johnson, Carl N., to General Electric Co. Clock or similar article. 189,926, 3–21–61, Cl. D42—7.
Kather, Alfred. Child's handbag. 189,955, 3–21–61, Cl. D87—3.

Kather, Alfred. Child's handbag. 189,936, 3-21-61, Cl. D87—3.
Kenwood Mfg. (Woking) Ltd.: *See*—
Grange, Kenneth R. 189,936.
Kuehne Mfg. Co.: *See*—
Hess, Theodore. 189,910.
Ladish Co., Tri-Clover Division: *See*—
Harmes, Oren B. 189,915.
Letzo, Charles. Jewelry finding. 189,929, 3-21-61, Cl. D43—19.
Lien, Carl B. Electrical room-deodorant vaporizer casing. 189,912, 3-21-61, Cl. D16—2.
Lotspeich, Charles A., to Mitchell Camera Corp. Motion picture camera. 189,940, 3-21-61, Cl. D61—1.
Macadam, Richard G., to Chrysler Corp. Automobile tail lamp bezel. 189,930, 3-21-61, Cl. D48—32.
Madding, Robert H. Pleasure boat deck. 189,945, 3-21-61, Cl. D71—1.
Marx, Louis, & Co., Inc.: *See*—
Hirsch, Mahlon E. 189,925.
McCrackin, Otho E., to United States of America, Navy. Guided missile. 189,944, 3-21-61, Cl. D71—1.
Mitchell Camera Corp.: *See*—
Lotspeich, Charles A. 189,940.
Monroe Calculating Machine Co.: *See*—
Hollerith, Richard, Jr., Dormer, and Barner. 189,942.
Moore, William H. Housing for a power gas burner. 189,948, 3-21-61, Cl. D81—2.
Murphy, Victor C. Holder for sewing accessories. 189,905, 3-21-61, Cl. D3—19.
Nordenson, Paul H. Combined clothes hook and wall bracket for supporting a closet shelf and a hanger bar. 189,918, 3-21-61, Cl. D33—3.
O'Neil, Robert: *See*—
Behnk, Donald J., and O'Neil. 189,935.
Pacific Automation Products, Inc.: *See*—
Fullerton, Richard D. 189,916.
Pearson, Frank A.: *See*—
Weaver, Ellis E., Pearson, De Gryse, and Blecker. 189,917.
Pendleton Tool Industries, Inc.: *See*—
Daugherty, Robert L. 189,946.
Quistgaard, Jens H., to Dansk Designs, Inc. Knife. 189,913, 3-21-61, Cl. D22—3.
Raytheon Co.: *See*—
Emerson, Leonard B., and Curtis. 189,914.
Reid, Donald J., and J. E. Schwars, to Chrysler Corp. Automobile wheel cover. 189,909, 3-21-61, Cl. D14—30.
Rhoads, Delmar D. Portable service cart for silverware and dishes or the like. 189,908, 3-21-61, Cl. D14—3.
Robbins, Saul, and I. Heller. Toy mortar. 189,924, 3-21-61, Cl. D34—15.
Rommel, Alex A. Airship. 189,943, 3-21-61, Cl. D71—1.
Sager, Abraham G. Ring display holder. 189,947, 3-21-61, Cl. D80—9.
Schwars, John E.: *See*—
Reid, Donald J., and Schwars. 189,909.
Seltsam, Harold O., to Tomlinson Industries, Inc. Faucet for a beverage dispenser or the like. 189,904, 3-21-61, Cl. D2—3.
Shulton, Inc.: *See*—
Jakubowski, Theodore P. 189,941.
Smith, Dorothy W. Set of playing cards. 189,922, 3-21-61, Cl. D34—5.
Smith, Vinz, to General Electric Co. Portable range and food service combination or similar article. 189,949, 3-21-61, Cl. D81—10.
Soucy, George H., to Brown & Sharpe Mfg. Co. Micrometer. 189,933, 3-21-61, Cl. D52—6.
Swett, James B., to Brunswick Sports Products Co. Skate scabbard. 189,923, 3-21-61, Cl. D34—5.
Tex Tan, Inc.: *See*—
Berry, Paul B. 189,954.
Tomlinson Industries, Inc.: *See*—
Seltsam, Harold O. 189,904.
Tyler, Tracy B., and A. F. Alders. Suction pump for removing fluids from body cavities. 189,952, 3-21-61, Cl. D83—1.
Unted States of America
Navy: *See*—
McGrackin, Otho E. 189,944.
United States Steel Corp.: *See*—
Behnk, Donald J., and O'Neil. 189,935.
Walker, George W., to Ford Motor Co. Headlight bezel for automobiles or the like. 189,931, 3-21-61, Cl. D48—32.
Walker, George W., to Ford Motor Co. Lamp bezel for automobiles or the like. 189,932, 3-21-61, Cl. D48—32.
Weaver, Ellis E., F. A. Pearson, G. De Gryse, and V. C. Blecker, to The Gamewell Co. Combine electric unit and housing therefor or similar article. 189,917, 3-21-61, Cl. D26—13.
Wil-Nes Corp., The: *See*—
Arak, Henry. 189,958.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Svenska Flaktfabriken: *See*—
Allander, Claes, Lunden, and Nilsson. 2,975,609.
A-P-D Co.: *See*—
Carlson, George E. 2,975,598.
A.R.F. Products, Inc.: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,976,494.
Abadjieff, Ivan V. Gauge device for drills. 2,975,525, 3-21-61, Cl. 33—185.
Abbey, Harold G. Mechanisms for individual carrier selection of processing cycle in conveyor systems. 2,975,882, 3-21-61, Cl. 198—19.
Abbott, Harold W., and L. D. Wechsler, to General Electric Co. Semiconductor circuits utilizing a storage diode. 2,976,429, 3-21-61, Cl. 307—88.5.
Aberer, Frank E., and H. J. Talge; said Aberer, assor. to said Talge. Reversible appliance mounting. 2,976,004, 3-21-61, Cl. 248—289.
Abolins, Andrew, to Strick Trailers of Philadelphia, Pa., a division of Fruehauf Trailer Co. Spacer pad for containers. 2,975,933, 3-21-61, Cl. 220—69.
Acheson Industries, Inc.: *See*—
Dawe, Harold J., and Youse. 2,976,257.
Acme Visible Records, Inc.: *See*—
Reid, Donald L., and Loyd. 2,975,537.
Acra Electric Corp.: *See*—
Browne, Donald W. 2,976,387.
Adams, Charles J., to General Electric Co. Motor-protecting relay. 2,976,463, 3-21-61, Cl. 317—41.
Advance Engineering Co.: *See*—
Totten, Gilbert vP. 2,975,937.
Agnello, Eugene J., B. M. Bloom, and G. D. Laubach, to Chas. Pfizer & Co., Inc. 16α-17α-epoxido-Δ⁴-pregnene-21-ol-3,20-dione derivatives and the 21-esters thereof. 2,976,283, 3-21-61, Cl. 260—239.55.
Aguirre, Everardo M. Air humidifier. 2,976,026, 3-21-61, Cl. 261—30.
Air Placement Equipment Co.: *See*—
Pro, George M. 2,976,025.
Aktiebolaget Grythyttans Stålmöbler: *See*—
Sjoblom, Eric A. 2,975,929.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
Christoffel, Martin, and Wohlfahrt. 2,976,504.
Kress, Herwig R. A. 2,976,014.
Aladdin Industries, Inc.: *See*—
Hill, Lester E. 2,976,502.
Alexander, Bruce: *See*—
Wurgaft, Robert L. 2,975,810.
Alexander, Melville F., to Thompson Ramo Wooldridge Inc. Gas pressurized fluid seal. 2,976,065, 3-21-61, Cl. 286—8.
Alford, Andrew: *See*—
Watts, Chester B., Jr. 2,976,497.
Allander, Claes, B. Lunden, and K. Nilsson, to AB Svenska Flaktfabriken. Air conditioning. 2,975,609, 3-21-61, Cl. 62—90.
Allen, Ely G., to General Electric Co. Turbine overspeed protective system. 2,976,012, 3-21-61, Cl. 253—52.
Allen, Herbert, to Cameron Iron Works, Inc. Valve apparatus. 2,975,795, 3-21-61, Cl. 137—315.
Allen, Robert W., to Henry Simon Ltd. Indicator or control mechanisms used with storage bins for cereal products or the like. 2,975,636, 3-21-61, Cl. 73—290.
Allen, Francis P., to E. I. du Pont de Nemours and Co. Photographic stripping film. 2,976,147, 3-21-61, Cl. 96—83.
Allied Chemical Corp.: *See*—
Cosby, John N., and Darley. 2,976,210.
Winstrom, Leon O., Samdahl, and Perch. 2,976,320.
Allimann, Georges. Drilling-head for the sinking of shafts, galleries and the like. 2,976,027, 3-21-61, Cl. 262—7.
Allis-Chalmers Mfg. Co.: *See*—
Wilson, Charles D. 2,975,600.
Allis, Louis, Co., The: *See*—
Luber, Frederick G., Robinson, and Moody. 2,976,438.
Allmanna Svenska Elektriska Aktiebolaget: *See*—
Lamm, Uno. 2,976,440.
Almor Corp.: *See*—
Foster, Allan D. 2,975,909.
Foster, Allan D. 2,976,003.
Aloia, Romeo R.: *See*—
Jen, Yun, Johnson, and Aloia. 2,976,263.
Alston, Paul W. Method for purifying sugar bearing beet diffusion juice. 2,976,180, 3-21-61, Cl. 127—48.
Aluminum Co. of America: *See*—
Eiland, Ehrlich M. 2,976,170.
Emery, Durward L., and Bennett. 2,976,230.
Amborski, Leonard E., to E. I. du Pont de Nemours and Co. Process for producing films. 2,975,484, 3-21-61, Cl. 18—48.
American Air Filter Co., Inc.: *See*—
Robson, Aubrey H. 2,975,828.
American Bed & Spring Co.: *See*—
Coopersmith, Rudolph, Lozano, and Greenblatt. 2,975,433.
American Bosch Arma Corp.: *See*—
Hakimoglu, Ayhan. 2,976,496.
American Cyanamid Co.: *See*—
Cohen, Elliott, and Vaughan. 2,976,289.
Dixon, James K., Smolin, and Saunders. 2,976,333.
Hardy, William B., Forster, and Coleman. 2,976,259.
Jen, Yun, and Johnson. 2,976,262.
Jen, Yun, Johnson, and Aloia. 2,976,263.
Selbin, Joel. 2,976,233.
Smolin, Edwin M., Dixon, and Saunders. 2,976,334.
American Metal Climax, Inc.: *See*—
Saarivirta, Matti J., Booth, and Burgmeister. 2,976,192.
American Radiator & Standard Sanitary Corp.: *See*—
Anderson, Maynard E., and Cooper. 2,975,945.
American Viscose Corp.: *See*—
Lytton, Marion R., and Wielicki. 2,976,266.
Milne, David T. 2,976,131.
Schlatter, Carl. 2,976,113.
Amos, Homer C.: *See*—
Strickland, Edward T., Amos, and Glass. 2,975,987.
Anaconda Wire and Cable Co.: *See*—
Lansch, John L. 2,976,343.
Anchor Hocking Glass Corp.: *See*—
Stover, Harry E. 2,976,200.
Anchor Post Products, Inc.: *See*—
Heyman, Benjamin. 2,976,019.
Stefan, Nicholas. 2,976,021.
Ancienne Manufacture d'Horlogerie Patek, Philippe & Co., S.A.: *See*—
Krassoievitch, Andre, and Brunner. 2,976,470.
Anda, William H.: *See*—
Stechbart, Bruno E., and Anda. 2,975,729.
Anderson, Arvid J. and E. W. Collapsible step stool. 2,975,856, 3-21-61, Cl. 182—161.
Anderson, Burton E. Automatic door stop and catch. 2,976,071, 3-21-61, Cl. 292—216.
Anderson, Donald W.: *See*—
Salem, Samuel, and Anderson. 2,976,202.
Anderson, Enfred W.,: *See*—
Anderson, Arvid J. and E. W. 2,975,856.
Anderson, Ivan, to W. W. Paulson & Co. Portable welder generator. 2,976,424, 3-21-61, Cl. 290—1.
Anderson, Maynard E., and L. B. Cooper, to American Radiator & Standard Sanitary Corp. Liquid agent dispenser for washing machine. 2,975,945, 3-21-61, Cl. 222—396.
Anderson, Raymond T., to Minnesota Mining and Mfg. Co. Visual-aid portfolio. 2,975,539, 3-21-61, Cl. 40—125.
Anderson, Stanley W. Bearing structure. 2,976,092, 3-21-61, Cl. 308—217.
Andrews, Theodore E., to General Electric Co. Percolator pump construction. 2,975,723, 3-21-61, Cl. 103—231.5.
Angeloff, George T., to Olin Mathieson Chemical Corp. Super pressure electrode-insulator. 2,976,195, 3-21-61, Cl. 148—135.
Anstey, Harris. Collapsible barricade. 2,976,020, 3-21-61, Cl. 256—64.
Anton, Nicholas. Multi-speed drill. 2,976,436, 3-21-61, Cl. 310—50.
Antoniades, Arthur J., and E. J. Bigelow, to North American Aviation, Inc. Compression type high temperature seal. 2,976,066, 3-21-61, Cl. 286—10.
Appeldoorn, John K.: *See*—
Ertelt, Henry R., Wythe, Furey, and Appeldoorn. 2,976,122.
Appleman, Mark J.: *See*—
Robinson, Edward N., Appleman, Miller, and Singer. 2,975,956.
Applied Research Corp.: *See*—
Hutselman, Howard E. 2,975,702.
Ardelyan, Michael. Hair ornament. 2,975,788, 3-21-61, Cl. 132—46.
Arenson, Simon W., 24½% to A. N. Geser, and 24½% to A. C. Schugam. Process for preparing potato chips. 2,976,153, 3-21-61, Cl. 99—100.
Arisman, Mervin B.: *See*—
Di Girolamo, Joseph, and Arisman. 2,976,507.
Armanini, Edward N., to North American Aviation, Inc. Transistor multivibrator. 2,976,427, 3-21-61, Cl. 307—88.5.
Armstrong, Charles F. Swimming instruction appliance. 2,975,749, 3-21-61, Cl. 115—22.2.
Arne, Christian, to Chicago Bridge & Iron Co. Storage tank. 2,975,927, 3-21-61, Cl. 220—1.
Aronson, Theodore F., and F. A. Lyon. Continuous feed banding device. 2,975,571, 3-21-61, Cl. 53—198.
Arthur, Wilfred J., to E. I. du Pont de Nemours and Co. Process for the treatment of cellulosic materials to prevent deterioration and decay. 2,976,183, 3-21-61, Cl. 117—138.5.
Ars, Walter, to Gesellschaft fuer Linde's Eismaschinen A.G. Zweigniederlassung Gueldner-Motoren-Werke in Aschaffenburg. Hydraulic transmission. 2,975,597, 3-21-61, Cl. 60—53.
Aske, Vernon H. Variable permeability magnetic circuit. 2,976,478, 3-21-61, Cl. 323—56.
Atalla, Anwar A., to The Torrington Mfg. Co. Blower unit and motor supporting means for use therein. 2,975,960, 3-21-61, Cl. 230—117.

Atalla, Anwar A., to The Torrington Mfg. Co. Blower unit. 2,976,352, 3–21–61, Cl. 230—117.

Atchison, Leonard W., to General Electric Co. Air conditioning arrangement for relatively high roofed building structures. 2,975,615, 3–21–61, Cl. 62—263.

Atlantic Refining Co., The: *See*—
Leum, Leonard N., and Connor. 2,976,332.

Aumuller, Walter: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Scholz, and Bander. 2,976,317.

Avco Mfg. Corp.: *See*—
Duffy, Thomas H. 2,976,523.
Parkhill, Douglas F., Redpath, and Ross. 2,976,428.

Avien, Inc.: *See*—
Rose, Stanley E. 2,975,634.

Babcock, David L., to United States of America, Navy. Method of molding a plastic jacket around a plurality of inserts. 2,975,482, 3–21–61, Cl. 18—47.5.

Babcock & Wilcox Ltd.: *See*—
Kayats, Karl-Heinz. 2,975,984.

Backer, William R., to Norton Co. Torque responsive control for regulating operation of a grinding machine. 2,975,566, 3–21–61, Cl. 51—105.

Bacon, Clare E., and M. T. Nemeyer, to Owens-Corning Fiberglas Corp. Glass fabric reinforcement for plastics. 2,975,503, 3–21–61, 28—78.

Bacon, Maurice W.: *See*—
Berlin, Frederick H., Jr., and Bacon. 2,975,519.

Bacon, William E., to The Lubrizol Corp. Preparation of phosphorodithioate triesters. 2,976,308, 3–21–61, Cl. 260—461.

Badger, Alfred E.: *See*—
Zellers, James T., Jr., Badger, and Lehr. 2,975,555.

Bailey Meter Co.: *See*—
Burlinson, Roy F., Brockman, Taylor, and Young. 2,975,630.

Bailey, William F., B. D. Loughlin, and C. E. Page, to Hazeltine Research, Inc. Electronic previewer for simulating image produced by photochemical processing. 2,976,548, 3–21–61, Cl. 178—5.2.

Baillie, Edward C., and L. F. Stevens, to Pittsburgh Plate Glass Co. Pesticidal composition. 2,976,206, 3–21–61, Cl. 167—20.

Baird, Norman F., to Westinghouse Electric Corp. Heat protective coating. 2,975,556, 3–21–61, Cl. 49—78.

Baker Brothers, Inc.: *See*—
Ninneman, Lawrence D., and Crayford. 2,975,809.

Baker Oil Tools, Inc.: *See*—
Keithahn, Julian D. 2,975,837.

Bakke, Laurence D., and R. A. Dittmer, to Continental Motors Corp. Exhaust mufflers. 2,975,854, 3–21–61, Cl. 181—49.

Baldridge, Ronald. Lapping machine. 2,975,564, 3–21–61, Cl. 51—124.

Bales, Jack J. Practice tether ball device. 2,976,040, 3–21–61, Cl. 273—26.

Balkus, Carl E., C. E. Balkus, Jr., and J. P. Balkus. Plant thinning machine. 2,975,579, 3–21–61, Cl. 56—25.4.

Balkus, Carl E., Jr.: *See*—
Balkus, Carl E., C. E. Balkus, Jr., and J. P. Balkus. 2,975,579.

Balkus, James P.: *See*—
Balkus, Carl E., C. E. Balkus, Jr., and J. P. Balkus. 2,975,579.

Ball, Frank J., and R. Pueschel, to West Virginia Pulp and Paper Co. Treatment of kraft black liquor and product. 2,976,273, 3–21–61, Cl. 260—124.

Balsiger, Harold E., to Landis Tool Co. Roller-type dressers for grinding wheels. 2,975,782, 3–21–61, Cl. 125—11.

Bander, Alfred: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Scholz, and Bander. 2,976,317.

Banning, Thomas A., Jr., and E. L. Ranseen, to Thomas A. Banning, Jr., as trustee. Tape recording and translating, and the like. 2,976,354, 3–21–61, Cl. 178—6.6.

Baran, John S., to G. D. Searle & Co. 19-hydroxypregnene-3,11,20-triones, derivatives and intermediate 1,19-isopropylidenedioxy steroids used in their preparation. 2,976,284, 3–21–61, Cl. 260—239.55.

Barden, Lyle G. Detachable hitch element. 2,976,060, 3–21–61, Cl. 280—491.

Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Guide arrangement for sliding doors in motor vehicles. 2,976,081, 3–28–61, Cl. 296—47.

Baril, Albert, Jr., and E. Klein, to Kalvar Corp. Photographic materials. 2,976,145, 3–21–61, Cl. 96—49.

Barnes, Harry M., L. T. Kremmer, and W. A. Mitchell, to General Foods Corp. Carbonated ice, process and product. 2,975,603, 3–21–61, Cl. 62—1.

Barnes, W. F. & John, Co.: *See*—
Smith, Clarence J., and Peterson. 2,975,740.

Barnett, Lawrence. Projectile. 2,976,042, 3–21–61, Cl. 278—106.5.

Bartels, Ernst A.: *See*—
Reese, Johannes, and Bartels. 2,976,305.

Barthelemy, Pierre: *See*—
Nomine, Gerald, Penasse, and Barthelemy. 2,976,276.

Barthlme, Anton: *See*—
Bauger, Louis J., and Barthlme. 2,975,593.

Barton, Leon M., to General Electric Co. Modulation of selected phases of carriers for simultaneous transmission through single delay means. 2,976,363, 3–21–61, Cl. 178—50.

Bartz, Melvin C., to The Bendix Corp. Continuity testing device for explosive igniting circuits. 2,976,485, 3–21–61, Cl. 324—51.

Bastian-Blessing Co., The: *See*—
Carlson, Clifford R. 2,976,391.

Bauger, Louis J., and A. Barthlme, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Jet propulsion units. 2,975,593, 3–21–61, Cl. 60—35.54.

Bausch & Lomb Optical Co.: *See*—
Sheldon, Gilbert J. 2,975,785.

Bayfield, William A., to North American Philips Co., Inc. Radiation monitor. 2,976,421, 3–21–61, Cl. 250—83.6.

Beagan, Michael A., Jr., to Joy Mfg. Co. Adjustable tool mounting. 2,975,998, 3–21–61, Cl. 248—2.

Beauchamp, Wilfred A., to The Youngstown Steel Door Co. Laterally movable doors for railway cars. 2,975,490, 3–21–61, Cl. 20—23.

Beaver Precision Products, Inc.: *See*—
Propst, Verle V. 2,975,649.

Becher, Elisabeth, K. Bernhauer, and G. Wilharm, to Hoffmann-La Roche Inc. Process for the conversion of benzimidazole-containing vitamin B₁₂ factors, particularly factor III, to vitamin B₁₂. 2,976,220, 3–21–61, Cl. 195—114.

Becher, Elisabeth, K. Bernhauer, and G. Wilharm, to Hoffmann-La Roche Inc. Process for conversion of purine-containing to benzimidazole-containing vitamin B₁₂ factors. 2,976,221, 3–21–61, Cl. 195—114.

Becher, Elisabeth, K. Bernhauer, and G. Wilharm, to Hoffmann-La Roche Inc. Process for the biosynthetic conversion of incomplete acid vitamin B₁₂ factors to vitamin B₁₂. 2,976,222, 3–21–61, Cl. 195—114.

Bedding Manufacturers Associates, Inc.: *See*—
Freeman, Morris M. 2,975,437.

Beene, Jones C., III. Self-leveling furniture leg. 2,975,846, 3–21–61, Cl. 45—187.

Beheler, Roy N.: *See*—
Lacy, Carl B. 2,975,872.

Beliveau, Oscar, and W. G. Spurrell, to Ross Engineering of Canada, Ltd. Corner lifting section for hood. 2,975,878, 3–21–61, Cl. 189—1.

Bell, George W., to Northwestern Steel & Wire Co. Apparatus for coating metal articles. 2,975,506, 3–21–61, Cl. 29—81.

Bell, James R. Safety recording device. 2,976,371, 3–21–61, Cl. 179—100.1.

Bell Telephone Laboratories, Inc.: *See*—
Bruce, Edmond, Reenstra, and Ritchie. 2,976,367.
Cohen, Ezra. 2,976,487.
Cutler, Cassius C. 2,976,535.
Egerton, Lawson, and Flaschen. 2,976,246.
Feinstein, Joseph. 2,976,458.
Gent, Edgar W., and Werring. 2,975,823.
Gray, Preston R. 2,976,368.
Newhall, Edmunde E., and Perucca. 2,976,472.
Reenstra, Willard A. 2,976,520.
Seidel, Harold. 2,976,492.
Terry, Noah S. 2,976,366.
Williams, George H., Jr. 2,975,487.
Young, William R., Jr. 2,976,365.

Bellamy, Russell J. Electric fence post. 2,976,346, 3–21–61, Cl. 174—158.

Bendix Corp., The: *See*—
Bartz, Melvin C. 2,976,485.

Bennett, Edward O., to Commercial Solvents Corp. Petroleum lubricants stabilized with nitroesters. 2,976,244, 3–21–61, Cl. 252—51.5.

Bennett, Edward O., and E. B. Hodge, to Commercial Solvents Corp. Process for the control of bacteria in water flooding operations. 2,976,236, 3–21–61, Cl. 252—8.55.

Bennett, Eugene W.: *See*—
Emery, Durward L., and Bennett. 2,976,230.

Bennett, Richard A., to Milton Roy Co. Pump with fluid transmission. 2,975,599, 3–21–61, Cl. 60—54.6.

Benoliel, Osmond D., and J. Tobias. Flickering electric candle. 2,976,450, 3–21–61, Cl. 313—151.

Bentham, Frank H. Reaping appliances and cutters. 2,975,504, 3–21–61, Cl. 29—78.

Bentley, Wallace. Toy scubas. 2,975,439, 3–21–61, Cl. 9—313.

Berhidi, Mihaly, B. Simon, and L. Szendrey, to Egyesult Izzolampa es Villamossagi Reszvenytarsasag. Fluorescent lamp. 2,976,448, 3–21–61, Cl. 313—109.

Berill, Joseph M., to Westinghouse Air Brake Co. Cut length detector. 2,976,401, 3–21–61, Cl. 246—1.

Berlin, Frederick H., Jr., and M. W. Bacon, ⅓ to J. W. Melville. Apparatus for automatically determining and recording dimensions of objects. 2,975,510, 3–21–61, Cl. 33—3.

Bernhauer, Konrad: *See*—
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,220.
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,221.
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,222.

Bernstein, Charles A., to George S. Leiner & Co. Cleaning implement formed of sponge rubber or the like. 2,975,454, 3–21–61, Cl. 15—244.

Bernstein, Irving: *See*—
Rothman, Martin, and Bernstein. 2,975,665.

Bessiere, Pierre E. Self-regulating reciprocating pumps, and in particular in internal combustion engine fuel injection pumps. 2,975,712, 3–21–61, Cl. 103—41.

Bethel, Robert L. Cable spacer. 2,976,344, 3–21–61, Cl. 174—146.

Biemiller, Philip E.: *See*—
Van Horn, John A., and Biemiller. 2,976,435.

Bigelow, Edward J.: *See*—
Antoniades, Arthur J., and Bigelow. 2,976,066.

Billingsley, Leonard, 50% to Robert L. Waterson. Boat stirrup. 2,975,858, 3–21–61, Cl. 182—196.

Bins, Elmer M.: *See*—
Ericson, John A., and Bins. 2,975,520.

Bird, John W., Jr., to Haloid Xerox Inc. Apparatus for developing electrostatic images. 2,975,758, 3–21–61, Cl. 118—637.

Bird Machine Co.: *See*—
Cannon, Madison M., Dick, and Salomon. 2,975,899.

Birdsall, Charles K., and C. C. Johnson, to General Electric Co. High frequency energy interchange device. 2,976,454, 3–21–61, Cl. 315—3.5.

Birdsall, Charles K., and W. A. Harman, to General Electric Co. High-frequency energy interchange device. 2,976,435, 3–21–61, Cl. 315—3.6.

Birdsall, Charles K., and C. C. Johnson, to General Electric Co. High frequency energy interchange device. 2,976,456, 3–21–61, Cl. 315—3.6.

Birrell, James G. Fishing float. 2,975,541, 3–21–61, Cl. 43—43.15.

Bishop, Arthur E. Double roller hourglass steering gear. 2,975,652, 3–21–61, Cl. 74—500.

Bishop, Carrie E. Window draft controller. 2,975,697, 3–21–61, Cl. 98—99.5.

Bissell Inc.: *See*—
Liddell, Robert E., Kuypers, and Yonkers. 2,975,449.
Yonkers, Robert A., and Lathrop. 2,975,462.
Yonkers, Robert A., and Lathrop. 2,976,112.

Bitting, Russell D., K. E. Jackson, and L. J. Nowacki, to Esso Research and Engineering Co. Emulsifying polymer oils. 2,976,163, 3–21–61, Cl. 106—141.

Bjorksten Research Laboratories, Inc.: *See*—
Cox, Robert P. 2,976,197.

Black, James F.: *See*—
Hill, Max W., and Black. 2,976,422.

Black, Sivalls & Bryson, Inc.: *See*—
Kindler, Herbert S., and Halsell. 2,975,635.

Black Hawk Co.: *See*—
Nelson, Permil N. 2,975,518.

Blackhawk Mfg. Co.: *See*—
Vallee, Wendell L. 2,975,803.

Blackwood, Robert K., to Chas. Pfizer & Co., Inc. Tetracycline derivatives and process of producing the same. 2,976,318, 3–21–61, Cl. 260—559.

Blain, Albert, to Sperry Rand Corp. Wrench for printed circuit card library rack. 2,976,510, 3–21–61, Cl. 330—17.

Blatt, Leland F., and J. M. Jatcko. Single action-quick return-tool and die cylinder assembly. 2,975,762, 3–21–61, Cl. 121—38.

Blats, Philip S., to E. I. du Pont de Nemours and Co. Method of coating a polymeric thermoplastic dielectric film and article produced thereby. 2,976,184, 3–21–61, Cl. 117—138.8.

Bloch, Herman S., to Universal Oil Products Co. Production of an aromatic fuel by solvent extraction of the reformate fractions. 2,976,231, 3–21–61, Cl. 208—96.

Block, Pedro. Package for cigarettes and matches. 2,975,890, 3–21–61, Cl. 200—48.

Blonchek, William F.: *See*—
Siebert, Allan H., and Blonchek. 2,975,980.

Bloom, Barry M.: *See*—
Agnello, Eugene J., Bloom, and Laubach. 2,976,283.

Bluestone, Henry, to Diamond Alkali Co. Halogeno-thiophene-1,1-dioxides. 2,976,297, 3–21–61, Cl. 260—332.1.

Boal, Walter H. Garment hanger. 2,975,573, 3–21–61, Cl. 53—241.

Bodine, Albert G. Method and apparatus for environmental noise generation. 2,975,761, 3–21–61, Cl. 116—137.

Bodine, Albert G., Jr. Acoustic method and apparatus for driving piles. 2,975,846, 3–21–61, Cl. 175—19.

Bodle, William W., to Conch International Methane Ltd. Revaporization of liquefied gases. 2,975,607, 3–21–61, Cl. 62—52.

Bonanno, Joseph L., to The Lionel Corp. Operating brakeman. 2,975,552, 3–21–61, Cl. 46—245.

Bond, Donald C., to The Pure Oil Co. Bacteriological method of oil recovery. 2,975,835, 3–21–61, Cl. 166—42.

Bond, Scott R.: *See*—
Lendle, Siegfried, and Bond. 2,975,932.

Booher, Harold E. Welding electrode holder. 2,976,396, 3–21–61, Cl. 219—138.

Booth, Archibald A. K., Jr.: *See*—
Saarivirta, Matti J., Booth, and Burgmeister. 2,976,192.

Booton, Herman, and H. Neil, to W. E. Booton, Ltd. Circular knitting machines. 2,975,622, 3–21–61, Cl. 66—149.

Booton, W. E., Ltd.: *See*—
Booton, Herman, and Neal. 2,975,622.

Boresch, Carl, and M. Quaedvlieg, to Farbenfabriken Bayer Aktiengesellschaft. Alkylamine reaction products. 2,976,316, 3–21–61, Cl. 260—501.

Borg-Warner Corp.: *See*—
Dahl, Elmar S. 2,976,982.

Boschc, Walwin J., Jr., to The Lawrence Paper Co. Chick boxes and spacing cleats. 2,975,951, 3–21–61, Cl. 229—6.

Bossung, John W., to Sherman Fairchild & Associates, Inc. System for converting analog shaft rotational positions to digital displays. 2,976,525, 3–21–61, Cl. 340—316.

Böttger, Josef. Internal combustion engine with direct fuel injection and compression ignition. 2,975,772, 3–21–61, Cl. 123—32.

Bourns, Marian E. Pressure responsive electrical instruments. 2,976,506, 3–21–61, Cl. 338—40.

Bovensiepen, Hans F. Driving arrangement for initiating and controlling rotary movements of two driven components together with and relative to each other. 2,975,563, 3–21–61, Cl. 51—111.

Bowman, Carlos M., to The Dow Chemical Co. Method for the preparation of trialkyl borates. 2,976,315, 3–21–61, Cl. 260—462.

Bowman, Carlos M., to The Dow Chemical Co. Preparation of 2,2-dialkoxypropanes. 2,976,328, 3–21–61, Cl. 260—615.

Bowman, Carlos M., and E. J. Watson, to The Dow Chemical Co. Method for the preparation of trimethyl borate. 2,976,313, 3–21–61, Cl. 260—462.

Bowman, Carlos M., and E. J. Watson, to The Dow Chemical Co. Method for preparation of trialkyl borates. 2,976,314, 3–21–61, Cl. 260—462.

Bowman, Lewis W.: *See*—
Leary, Robert F., Bowman, and Kelley. 2,976,252.

Boynton, Harry G.: *See*—
Edwards, William R., and Boynton. 2,976,336.

Branham, Martin. Cap block and gutter. 2,975,561, 3–21–61, Cl. 50—182.

Brannon, Edward O.: *See*—
Rynders, Robert D., and Brannon. 2,975,717.

Brauner, Frank J. Method of molding articles of manufacture. 2,975,488, 3–21–61, Cl. 18—59.

Braunwarth, John B., to The Pure Oil Co. Preparation of phenols. 2,976,329, 3–21–61, Cl. 260—621.

Bray, Sterling P. Smoke vaporizer. 2,975,586, 3–21–61, Cl. 60—30.

Bray, Walter O. Governor marble motor. 2,975,548, 3–21–61, Cl. 46—42.

Brechner, Hyman. Apparatus for payroll system. 2,976,062, 3–21–61, Cl. 282—29.

Bremerman, Eugene S. Portable electrolytic water treatment device. 2,975,769, 3–21–61, Cl. 122—4.

Brennan, Elmer W.: *See*—
Froncsak, Ernest T., Chapman, and Brennan. 2,976,160.

Brinro Ltd. S.A.: *See*—
Menke, Joseph F., and Doerpinghaus. 2,976,419.

British Iron and Steel Research Corp., The: *See*—
Morton, James S., and Savage. 2,975,493.

British Petroleum Co. Ltd., The: *See*—
Housam, Ernest C., and Lester. 2,976,336.

Brittain, Percy W. Vacuum operated hair cutter. 2,975,517, 3–21–61, Cl. 30—133.

Brockman, Donald A.: *See*—
Burlinson, Roy F., Brockman, Taylor, and Young. 2,975,639.

Brockwell, Lloyd A., and J. J. Matta, to Radio Corp. of America. Tuning section. 2,976,500, 3–21–61, Cl. 333—11.

Brodtkey, Robert S.: *See*—
Lippincott, Samuel B., Thomas, Oakley, Leary, and Brodtkey. 2,976,271.

Brokaw, George Y., and W. C. Lyman, Jr., to Eastman Kodak Co. Glycerol fatty acid partial ester gels. 2,976,251, 3–21–61, Cl. 252—316.

Brooker, Leslie G. S.: *See*—
Van Lare, Earl J., and Brooker. 2,976,151.

Brookshire, Robert R., to Hughes Aircraft Co. Method of silver plating by chemical reduction. 2,976,180, 3–21–61, Cl. 117—130.

Brookshire, Robert R., to Hughes Aircraft Co. Method of gold plating by chemical reduction. 2,976,181, 3–21–61, Cl. 117—130.

Bross, Warren C., to Camloc Fastener Corp. Retaining ring for rotary stud fastener. 2,975,667, 3–21–61, Cl. 85—36.

Brower, David F.: *See*—
Kerst, Donald W., and Brower. 2,976,444.

Brown, Calvin F., F. H. Young, and J. L. Walthall, Jr., to United States of America, Navy. Arming means for a fuse. 2,975,711, 3–21–61, Cl. 102—80.

Brown, Cicero C.: *See*—
Brown, Joe R. 2,975,836.

Brown, Dennis D., to Kem Mfg. Co., Inc. Bubble package. 2,975,889, 3–21–61, Cl. 206—45.34.

Brown, Jerome E.: *See*—
De Witt, Earl G., Brown, and Shapiro. 2,976,304.
Shapiro, Hymin, De Witt, and Brown. 2,976,303.

Brown, Joe R., to Cicero C. Brown. Dual string cross-over tool. 2,975,836, 3–21–61, Cl. 166—180.

Brown, Kenneth M., and W. K. T. Gleim, to Universal Oil Products Co. Purification of acid oils. 2,976,229, 3–21–61, Cl. 208—2.

Brown, Leo C., and D. Rusin, to Swift & Co. Whipped peanut product and method for producing same. 2,976,154, 3–21–61, Cl. 99—128.

Browne, Donald W., to Acra Electric Corp. Heater band. 2,976,387, 3–21–61, Cl. 219—19.

Bruce, Edmond, W. A. Reenstra, and W. J. Ritchie, to Bell Telephone Laboratories, Inc. Two-stage line concentrator system. 2,976,367, 3–21–61, Cl. 179—18.

Brueder, Antoine, to Societe Anonyme Andre Citroen. Brake control device for automotive vehicles. 2,976,084, 3–21–61, Cl. 303—6.

Brunner, Roger: *See*—
Krassoievitch, Andre, and Brunner. 2,976,470.

Brunswick-Balke-Callender Co., The: *See*—
Strickland, Edward T., Amos, and Glass. 2,975,987.

Buchanan, Rufus J.: *See*—
Coffey, Robert L., and Buchanan. 2,975,774.

Buchanan, William J., Jr., to Chain Belt Co. Device for adjusting screw take-ups. 2,975,646, 3–21–61, Cl. 74—242.14.

Budd Co., The: *See*—
Trimble, John O. 2,976,086.

Budreck, Frances, to Monarch Tool & Machinery Co. Separable two-part magnetic connector. 2,975,497, 3–21–61, Cl. 24—201.

Budreck, Frances, to Monarch Tool & Machinery Co. Magnetic pick-up device. 2,976,075, 3–21–61, Cl. 294—65.5.

Buehler, Edward G. Chlorinators for swimming pools. 2,976,120, 3–21–61, Cl. 23—267.

Buffalo Brake Beam Co.: *See*—
Busch, Charles R. 2,975,869.

Bunch, Walter V. Portable lantern stand. 2,975,999, 3–21–61, Cl. 248—121.

Burcham, Donald P.: *See*—
Moore, William H., and Burcham. 2,976,483.

Burdick, Glenn A., to Statewide Plumbing & Heating Co., Inc. Leak finder. 2,975,637, 3–21–61, Cl. 73—304.

Burger, Nicholas J., and J. J. Finn, to Electro-Therm, Inc. Electric baseboard heating unit. 2,976,389, 3–21–61, Cl. 219—34.

Burgmeister, John J.: *See*—
Saarivirta, Matti J., Booth, and Burgmeister. 2,976,192.

Burke, John E. Press. 2,975,476, 3–21–61, Cl. 18—17.

Burkhardt, Gisbert, to Telefunken G.m.b.H. Continuous article coding apparatus. 2,975,703, 3–21–61, Cl. 101—114.

Burlinson, Roy F., D. A. Brockman, P. M. Taylor, and L. Young, to Bailey Meter Co. Instrument with magnetic coupling. 2,975,639, 3–21–61, Cl. 73—407.

Burns, Maurice R., to North American Aviation, Inc. Blocking oscillator. 2,976,489, 3–21–61, Cl. 328—55.

Burns, William E., Jr. Semaphore signal instructor. 2,975,533, 3–21–61, Cl. 35—14.

Burroughs Corp.: *See*—
Howard, John H. 2,975,966.
Howard, John H. 2,976,174.

Burrows, Milford D., and W. F. Fieber, to Food Machinery and Chemical Corp. Detachable power unit for lawn and garden attachments. 2,975,839, 3–21–61, Cl. 172—125.

Busch, Charles R., to Buffalo Brake Beam Co. Railway car brake mechanisms. 2,975,860, 3–21–61, Cl. 188—59.

Buschman, E. W., Co., The: *See*—
Vogt, Rudolph B. 2,976,089.

Bushell, Charles H. G., and H. E. Jackson, to Nova Beaucage Mines Ltd. Flotation process. 2,975,895, 3–21–61, Cl. 209—166.

Bushway, George H. Roasting machine. 2,975,527, 3–21–61, Cl. 34—87.

Busquet, Jan C., to Koninklijke Machinefabriek Gebr. Stork & Co., N.V. Impellers for centrifugal fans. 2,975,962, 3–21–61, Cl. 230—127.

Bussard, Adrien H.: *See*—
Gruber, Helmut, Scheidig, Pieper, Mueller, and Bussard. 2,976,339.

Bussert, Jack F.: *See*—
Little, Randel Q., Jr., and Bussert. 2,976,207.

Butler, Frederick M. and J. T. Hospital patient lift attachment. 2,975,434, 3–21–61, Cl. 5—86.

Butler, George V., to Chance Vought Corp. Missile launching systems for aircraft. 2,975,676, 3–21–61, Cl. 89—1.7.

Butler, Jule T.: *See*—
Butler, Frederick M. and J. T. 2,975,434.

Buzzan, Murrel W. Rotating drum ammoniator with internal mechanical scraper. 2,976,125, 3–21–61, Cl. 23—259.1.

C.A.V. Ltd.: *See*—
Nicolls, Wilfrid E. W. 2,975,776.

CTS Corp.: *See*—
Di Girolamo, Joseph, and Arisman. 2,976,507.

Caldwell, John R., C. C. Dannelly, and E. H. Hill, to Eastman Kodak Co. Elastomeric vapor-permeable films and coatings. 2,976,182, 3–21–61, Cl. 117—135.5.

Caldwell, John R., and J. C. Martin, to Eastman Kodak Co. Substituted phosphonylidene diimino dibenzoic acids and polyesters therefrom. 2,976,267, 3–21–61, Cl. 260—75.

California Packing Corp.: *See*—
Kugler, Albert H. 2,975,811.

California Research Corp.: *See*—
Klein, Walter W., Jr., and Tilley. 2,976,107.

Call, Eugene H.: *See*—
Linskey, John J., and Call. 2,975,505.

Cameron Iron Works, Inc.: *See*—
Allen, Herbert. 2,975,795.

Camin Laboratories, Inc.: *See*—
Fialkoff, Samuel. 2,976,526.

Camloc Fastener Corp.: *See*—
Bross, Warren C. 2,975,667.

Cannon, Madison M., O. M. Dick, and S. M. Salomon, to Bird Machine Co. Screening device. 2,975,899, 3–21–61, Cl. 209—273.

Card, Joseph L., to Singer-Cobble, Inc. Loop shedder. 2,975,736, 3–21–61, Cl. 112—79.

Carlson, Clifford R., to The Bastian-Blessing Co. Food warmer. 2,976,391, 3–21–61, Cl. 219—35.

Carlson, George E., to A-P-D Co. Sealing ring. 2,975,598, 3–21–61, Cl. 60—54.6.

Carlson, Wilbur L., to General Motors Corp. Broaching method and apparatus therefor. 2,975,682, 3–21–61, Cl. 90—93.

Carothers, John N., and R. J. Hurka, Jr. Process for producing ammoniated phosphatic fertilisers. 2,976,140, 3–21–61, Cl. 71—40.

Carothers, John N., and R. J. Hurka, Jr. Process for the recovery of values from phosphate rock. 2,976,141, 3–21–61, Cl. 71—40.

Carpenter, William P., to The Superior Electric Co. Variable autotransformer. 2,976,477, 3–21–61, Cl. 323—47.

Carpenter, William P., to The Superior Electric Co. Adjustable impedance circuit. 2,976,481, 3–21–61, Cl. 323—109.

Carr, Amos J., Jr., to Raytheon Co. Circuit responsive to amplitude and phase modulated wave and converting amplitude modulation into secondary phase modulation. 2,976,491, 3–21–61, Cl. 328—155.

Carrier Corp.: *See*—
Hayes, Richmond S., Jr. 2,975,861.

Carroll, Frank E., to United Aircraft Products, Inc. Thermostatic valve. 2,975,973, 3–21–61, Cl. 236—34.5.

Carson, G. & W. H., Inc.: *See*—
Pregrave, Cyril. 2,975,897.

Cason, Paul B., to Hughes Aircraft Co. Apparatus for physically orienting electrically asymmetrical devices. 2,975,878, 3–21–61, Cl. 183—43.

Castrol Ltd.: *See*—
Elliott, John S., and Edwards. 2,976,238.

Centec Machine Tools Ltd.: *See*—
Samuel, Walter D. 2,975,657.

Centennial Mills, Inc.: *See*—
Lindley, Curtis P. 2,975,915.

Central Farmers Fertiliser Co.: *See*—
Seymour, James E. 2,976,126.

Chain Belt Co.: *See*—
Buchanan, William J., Jr. 2,975,646.

Chambers, Glenn M. Container attachment for pop bottles. 2,975,925, 3–21–61, Cl. 215—100.

Chance Vought Corp.: *See*—
Butler, George V. 2,975,676.

Chancellor, Forrest E. and R. O. Deep well pumping system. 2,975,721, 3–21–61, Cl. 103—179.

Chancellor, Robert O.: *See*—
Chancellor, Forrest E. and R. O. 2,975,721.

Chapman, Paul R.: *See*—
Fronczak, Ernest T., Chapman, and Brennan. 2,976,160.

Charbonneau, Allan P., and E. F. Duncan, to Cutler-Hammer, Inc. Solderless lug type terminal connector. 2,976,515, 3–21–61, Cl. 339—272.

Chatani, Kunju. Photographic camera. 2,975,689, 3–21–61, Cl. 95—31.

Chausse, Burnette P., to General Electric Co. Saturable amplifier control and sensing combinations. 2,976,479, 3–21–61, Cl. 328—89.

Chave, Donald M. Loudspeakers. 2,975,853, 3–21–61, Cl. 181—31.

Chemische Werke Albert: *See*—
Reese, Johannes, and Bartels. 2,976,305.

Cherubim, Justin, to Fairchild Engine and Airplane Corp. Variable pressure orifice. 2,976,087, 3–21–61, Cl. 308—122.

Chicago Bridge & Iron Co.: *See*—
Arne, Christian. 2,975,927.

Chodacki, Joseph, and R. Zdrojkowski. Traction device for automobile tires. 2,975,977, 3–21–61, Cl. 238—14.

Chorne, Daniel: *See*—
Furman, Edward, and D. and M. Chorne. 2,975,446.

Chorne, Martin: *See*—
Furman, Edward, and D. and M. Chorne. 2,975,446.

Chouinard, Gerald C. Trick tongue piercing device. 2,976,039, 3–21–61, Cl. 272—8.

Christ, Joseph A.: *See*—
Smith, Robert P., and Christ. 2,975,976.

Christiano, Edward J., to General Dynamics Corp. Motor control circuit. 2,976,469, 3–21–61, Cl. 318—293.

Christmann, Harold F., to Petro-Tex Chemical Corp. Catalytic dehydrogenation. 2,976,337, 3–21–61, Cl. 260—680.

Christoffel, Martin, and O. Wohlfahrt, to Aktiengesellschaft Brown, Boveri & Cie. Arrangement for preventing discharges along the high-voltage windings of a high-voltage transformer. 2,976,504, 3–21–61, Cl. 336—185.

Christy, Howard L. Fluorescent outdoor light. 2,976,399, 3–21–61, Cl. 240—11.4.

Chromalloy Corp.: *See*—
Lyons, Ernest H., Jr. 2,975,595.

Chromizing Corp.: *See*—
Commanday, Maurice R., and Darnell. 2,976,194.

Chyle, John J., to A. O. Smith Corp. Method of lining. 2,975,513, 3–21–61, Cl. 29—471.1.

Ciba Ltd.: *See*—
Kern, Fritz, and Schornstein. 2,976,114.
Maeder, Arthur, Weber, Sulser, Fatzer, and Guertler. 2,976,167.

Cimochowski, Anthony E.: *See*—
Rutter, Donald P., and Cimochowski. 2,975,821.

Clapeaddle, Dale C. Fibrous material dispenser. 2,975,914, 3–21–61, Cl. 214—83.14.

Clark Equipment Co.: *See*—
Conrad, Marcus L. 2,975,910.
Dodge, Raymond A. 2,975,922.

Clement, Milton A., to General Dynamics Corp. Method and apparatus for controlling trunk recorder playback. 2,976,364, 3–21–61, Cl. 179—7.1.

Cliff, Therlis L., to The Standard Oil Co. Tube-retaining bracket. 2,975,996, 3–21–61, Cl. 248—68.

Cluett, Peabody & Co., Inc.: *See*—
Pfeffer, Edward C., Jr., and McFalls. 2,975,428.

Cockman, Haggie I. Sprinkler. 2,975,961, 3–21–61, Cl. 239—383.

Coffey, Robert L., and R. J. Buchanan. Internal combustion engines. 2,975,774, 3–21–61, Cl. 123—59.

Cohen, Elliott, and J. R. Vaughan, Jr., to American Cyanamid Co. 1,2,3,4-tetrahydro-7-halo-6-sulfamyl-4 - quinazolinones and 7-trifluoromethyl analogues. 2,976,289, 3–21–61, Cl. 260—256.5.

Cohen, Ezra, to Bell Telephone Laboratories, Inc. Stabilised timing circuit. 2,976,487, 3–21–61, Cl. 324—68.

Colaguori, Albert C., to United States of America, Army. Synchronous selectivity receiver. 2,976,408, 3–21–61, Cl. 250—20.

Coleman, Gerald W.: *See*—
Gwinn, Joseph M., Jr., O'Brien, and Coleman. 2,975,913.

Coleman, James, to Coleman Machine Co., Inc. Drilling machines. 2,975,661, 3–21–61, Cl. 77—32.2.

Coleman Machine Co., Inc.: *See*—
Coleman, James. 2,975,661.

Coleman, Ralph A.: *See*—
Hardy, William B., Forster, and Coleman. 2,976,259.

Colgate-Palmolive Co.: *See*—
Miles, Gilbert D., McGhie, and Fries. 2,975,943.

Collins Bros. Machine Co.: *See*—
Makant, Joseph E., and Collins. 2,975,584.

Collins, Henry: *See*—
Makant, Joseph E., and Collins. 2,975,584.

Colodny, Samuel H., to Philco Corp. Saturable reactor tuning system. 2,976,412, 3–21–61, Cl. 250—40.

Colombo, Roberto, to S.A.S. Lavorazione Materie Plastiche (L.M.P.) di M.I. Colombo & C. Method and apparatus for blowing hollow plastic articles. 2,975,472, 3–21–61, Cl. 18—5.

Columbia-Southern Chemical Corp.: *See*—
Kovach, Malcolm, and Ridgeon. 2,976,223.

Comba, Virgil E., to Whirlpool Corp. Shelving arrangement for a refrigerator door. 2,976,098, 3–21–61, Cl. 312—214.

Commanday, Maurice R., and J. R. Darnell, to Chromizing Corp. Methods for improving the properties of refractory metals. 2,976,194, 3–21–61, Cl. 148—13.1.

Commercial Solvents Corp.: *See*—
Bennett, Edward O. 2,976,244.
Bennett, Edward O., and Hodge. 2,976,226.
Runge, Wallace F. 2,976,282.
Stengel, Leonard A. 2,976,137.

Commissariat a l'Energie Atomique: *See*—
Geller, Richard, and Mongodin. 2,975,957.

Compagnie du Filage des Metaux et des Joints Curty: *See*—
Sejournet, Jacques. 2,975,509.

Compo Shoe Machinery Corp.: *See*—
Dawson, Fred. 2,975,442.

Compur-Werk Friedrich Deckel C.H.G.: *See*—
Gebele, Kurt. 2,975,686.

Conch International Methane Ltd.: *See*—
Bodle, William W. 2,975,607.
Morrison, Willard L. 2,975,608.

Connor, James E., Jr.: *See*—
Leum, Leonard N., and Connor. 2,976,332.

Conrad, Marcus L., to Clark Equipment Co. Crane boom. 2,975,910, 3–21–61, Cl. 212—144.

Consolidated Controls Corp.: *See*—
Croy, Fred E. 2,976,064.

Consolidated Electrodynamics Corp.: *See*—
Robinson, Charles F. 2,976,413.

Consolidation Coal Co.: *See*—
Hotelling, Eric B. 2,976,280.

Constant, Irving: *See*—
Diehm, Kenneth F., and Leonard. 2,975,425.

Container Corp. of America: *See*—
Leavitt, James P. H. 2,975,892.
Muth, Richard J. 2,975,963.

Contant, Peter R., to General Motors Corp. End play device for dynamoelectric machine. 2,976,088, 3–21–61, Cl. 308—158.

Continental Can Co., Inc.: *See*—
Royce, Mark B. 2,975,926.
Stone, Orison W. 2,975,891.

Continental Carbon Co.: *See*—
Latham, Burton F., Jr. 2,976,127.
Latham, Burton F., Jr., and Ruble. 2,976,128.

Continental Motors Corp.: *See*—
Bakke, Laurence D., and Dittmer. 2,975,854.

Cooper, Lemuel B.: *See*—
Anderson, Maynard E., and Cooper. 2,975,945.

Cooper, Paul D., and Z. S. Zimny, to E. I. du Pont de Nemours and Co. Process for producing polymeric pellets by cutting surface cooled strands. 2,975,483, 3–21–61, Cl. 18—47.5.

Cooper, Ronald H., to The Dow Chemical Co. Foundry sand compositions and method of casting. 2,975,494, 3–21–61, Cl. 22—193.

Coopersmith, Rudolph, M. Lozano, and J. Greenblatt, to American Bed & Spring Co. Foldable lock for sofa beds. 2,975,433, 3–21–61, Cl. 5—55.

Coover, Harry W., Jr., and W. C. Wooten, Jr., to Eastman Kodak Co. Olefin polymerization using a transition metal halide and a reduced aromatic hydrocarbon as catalyst. 2,976,272, 3–21–61, Cl. 260—94.9.

Copes, Joseph P., to General Aniline & Film Corp. Esters of 1,4-butanediol and 1,2,4-butanetriol as rust inhibitors. 2,976,245, 3–21–61, Cl. 252—57.

Corbett, Marshall J., to Thompson Ramo Wooldridge Inc., Propulsion system. 2,975,746, 3–21–61, Cl. 114—20.

Corning Glass Works: *See*—
Smith, Rowland D. 2,976,161.

Corpening, Gene S. Board game apparatus. 2,976,044, 3–21–61, Cl. 273—134.

Corum, Clinton. Two position constant speed semi-automatic propeller pitch control. 2,975,838, 3–21–61, Cl. 170—160.16.

Cosby, John N., and M. M. Darley, to Allied Chemical Corp. Pest control compositions containing oxidized polyethylene wax. 2,976,210, 3–21–61, Cl. 167—42.

Costanzo, Frank X., and R. B. Frost, to Vietaulic Co. of America. Pipe grooving tool. 2,975,819, 3–21–61, Cl. 153—9.

Courtot, Louis B., to The Weatherhead Co. Ring pre-set tool. 2,975,662, 3–21–61, Cl. 78—15.

Cox, Earle F. Steering and drive mechanism. 2,975,655, 3–21–61, Cl. 74—710.5.

Cox, Robert P., to Bjorksten Research Laboratories, Inc. Process for laminating glass or plastic material. 2,976,197, 3–21–61, Cl. 154—2.75.

Cramer Posture Chair Co., Inc.: *See*—
Scherer, George J. 2,976,094.

Crane Co.: *See*—
Doelger, John P., and Fennema. 2,975,800.
Heuss, Henry C., and Zima. 2,975,510.
Shaw, Benjamin C., and Van Emden. 2,976,473.

Crayford, Robert M.: *See*—
Ninneman, Lawrence D., and Crayford. 2,975,809.

Creamery Package Mfg. Co., The: *See*—
Wakeman, Alden H. 2,975,817.

Creed, Sherman H.: *See*—
Freeman, Marshall E. C., Puccinelli, and Creed. 2,975,813.

Cronk, Don R.: *See*—
Eichhorn, Robert L., and Cronk. 2,975,623.

Croy, Fred E., to Consolidated Controls Corp. Flexible joint arrangements. 2,976,064, 3–21–61, Cl. 285—165.

Cubic Corp.: *See*—
Werner, Robert V., Zable, Thompson, and Noyes. 2,976,530.

Cunningham, Richard, Jr., to Vapor Heating Corp. Fire extinguishing system. 2,975,771, 3–21–61, Cl. 122—504.

Curtiss-Wright Corp.: *See*—
Doerries, George H. 2,975,648.

Cutler, Cassius C., to Bell Telephone Laboratories, Inc. Cosecant squared antenna-reflector systems. 2,976,535, 3–21–61, Cl. 343—779.

Cutler-Hammer, Inc.: *See*—
Charbonneau, Allan P., and Duncan. 2,976,515.
Rouse, William H. 2,976,468.

Cwerwin, Edward P., and R. S. Seidel, to E. I. du Pont de Nemours and Co. Process for applying a hydraulic cementitious material to a structural base and article produced thereby. 2,976,173, 3–21–61, Cl. 117—70.

Daffin Corp.: *See*—
Pollard, Ernest B. 2,975,582.

Dahl, Einar S., to Borg-Warner Corp. Fuel injection nozzle. 2,975,982, 3–21–61, Cl. 239—453.

Dahlman, Adam P. Roll-up vehicle load cover. 2,976,082, 3–21–61, Cl. 296—98.

Daimler-Benz Aktiengesellschaft: *See*—
Barenyi, Bela. 2,976,081.
Schoellhammer, Friedrich W. 2,975,720.

Daines, Geoffrey A., to Westinghouse Electric Corp. Filament conveyor. 2,976,033, 3–21–61, Cl. 269—189.

Daley, John L. S., to Union Carbide Corp. Elimination of formation of alkaline secondary cells. 2,976,341, 3–21–61, Cl. 136—34.

Dallenbach, Frederick, to The Garrett Corp. Gas turbine heater. 2,975,783, 3–21–61, Cl. 126—110.

D'Aloiso, Elio F., and M. De Haas, to The New Britain Machine Co. Infeed attachment for a machine tool. 2,975,876, 3–21–61, Cl. 192—150.

D'Amico, John J.: *See*—
Tung, Ching C., and D'Amico. 2,976,202.

D'Amico, John J., to Monsanto Chemical Co. 2-(2-cyclohexenylthio) benzimidasole. 2,976,293, 3–21–61, Cl. 260—309.2.

Dana Corp.: *See*—
Miller, Fred F., Jr. 2,976,091.

Dannelly, Clarence C.: *See*—
Caldwell, John R., Dannelly, and Hill. 2,976,182.

Darley, Merrill M.: *See*—
Cosby, John N., and Darley. 2,976,210.

Darling, L. O., Co.: *See*—
Huet, Edward C. 2,975,908.

Darnell, James R.: *See*—
Commanday, Maurice R., and Darnell. 2,976,194.

Davenport, Leon, ⅓₀ to Southern Developers, Inc. Cotton picking unit with suspension means. 2,975,577, 3–21–61, Cl. 56—14.

Davidson, William E., to General Electric Co. Vacuum cleaning nozzle attachment for high pile rugs. 2,975,456, 3–21–61, Cl. 15—246.

Dawe, Harold J., and E. L. Youse, to Acheson Industries, Inc. Re-dispersible dispersion of polytetrafluoroethylene. 2,976,257, 3–21–61, Cl. 260—14.

Dawson, Fred, to Compo Shoe Machinery Corp. Shoe pad boxes. 2,975,442, 3–21–61, Cl. 12—36.

Daystrom, Inc.: *See*—
Gilbert, Roswell W. 2,976,486.

De Claire, Alton G., Jr., to Holley Carburetor Co. Fuel metering and pumping device. 2,975,941, 3–21–61, Cl. 222—250.

Deere & Co.: *See*—
Ferguson, Henry A. 2,975,643.
Fox, Richard L., Troemner, and Jacklin. 2,975,651.
Cehler, William P. and Hansen. 2,975,841.
Cehler, William P., and Hansen. 2,975,844.
Sorensen, Knud B., and Martin. 2,975,840.
Youmans, Donald W., and Tone. 2,975,851.

De Haas, Max: *See*—
D'Aloiso, Elio F., and De Haas. 2,975,876.

De Jong, Jan L., to E. I. du Pont de Nemours and Co. Ethylene-sulfur dioxide polymerization and product thus obtained. 2,976,269, 3–21–61, Cl. 260—79.3.

Dellagala, Subato. Ornamental metal railing. 2,976,018, 3–21–61, Cl. 256—21.

Delponte, Gerardo, and D. Giannitrapani, to Ing. C. Olivetti & C., S.p.A. Type bar head with detachable type members for typewriters and the like. 2,975,881, 3–21–61, Cl. 197—36.

Demag-Elektrometallurgie G.m.b.H.: *See*—
Lunig, Hermann. 2,976,453.

De Maria, Irma and V., to Repro Design & Equipment Co., Inc. Direct positive photographic emulsion. 2,976,149, 3–21–61, Cl. 96—94.

De Maria, Vincent: *See*—
De Maria, Irma and V. 2,976,149.

Demer, Frederick M., and R. G. Mork, to International Business Machines Corp. Record comparing reader. 2,975,965, 3–21–61, Cl. 235—61.7.

Demuth, Johannes. Elevator for roofing material. 2,975,859, 3–21–61, Cl. 182—214.

De Mytt, Louis E., to The Gillette Co. Permanent waving agent. 2,976,216, 3–21–61, Cl. 167—87.1.

Denbe Engineering and Sales Co., Inc.: *See*—
Kauffman, Robert D. 2,975,481.

De Pasquale, Patrick J. Method of producing frozen comestibles. 2,975,732, 3–21–61, Cl. 107—54.

Detrick, M. H., Co.: *See*—
Hosbein, Louis H. 2,975,500.

Devine, Terence E. Card reference and posting file. 2,976,097, 3–21–61, Cl. 312—184.

De Witt, Earl G.: *See*—
Shapiro, Hymin, De Witt, and Brown. 2,976,303.

De Witt, Earl G., J. E. Brown, and H. Shapiro, to Ethyl Corp. Process for the preparation of cyclopentadienyl manganese compounds. 2,976,304, 3–21–61, Cl. 260—429.

Diamond Alkali Co.: *See*—
Bluestone, Henry. 2,976,297.

Diamond Oil Well Drilling Co.: *See*—
Stuart, Robert W. 2,975,849.

Dick, George M.: *See*—
Cannon, Madison M., Dick, and Salomon. 2,975,899.

Diehm, Kenneth F., and W. T. Leonard, to Irving Constant. Cutting and crimping tool. 2,975,425, 3–21–61, Cl. 1—220.

Di Girolamo, Joseph, and M. B. Arisman, to CTS Corp. Adjustable resistor. 2,976,507, 3–21–61, Cl. 338—190.

Dilger, Le Roy E., and S. A. Stulber, to Globe-Union Inc. Oscillator ignition system. 2,976,461, 3-21-61, Cl. 315—205.

Dinger, Frederick R.: *See*—
Kuypers, Harold A., MacLennan, and Dinger. 2,975,801.

Dinwiddie, James A., and W. A. Morgan, to Esso Research and Engineering Co. Fixed bed type reactor. 2,976,132, 3-21-61, Cl. 23—288.

Dittmer, Raymond A.: *See*—
Bakke, Laurence D., and Dittmer. 2,975,854.

Dixon, James K.: *See*—
Smolin, Edwin M., Dixon, and Saunders. 2,976,334.

Dixon, James K., E. M. Smolin, and K. W. Saunders, to American Cyanamid Co. Production of aromatic compounds. 2,976,333, 3-21-61, Cl. 260—669.

Dixon, Reginald J., and L. Jones, to Wickman Ltd. Feed mechanisms for screw thread-forming attachments for metal-working power-driven lathes. 2,975,440, 3-21-61, Cl. 10—139.

Dodge, Paul A., to General Electric Co. Electronic voltage regulator. 2,976,474, 3-21-61, Cl. 323—9.

Dodge, Paul A., to General Electric Co. Electrical signal regulator. 2,976,475, 3-21-61, Cl. 323—9.

Dodge, Raymond A., to Clark Equipment Co. Load handling device for straddle carriers. 2,975,922, 3-21-61, Cl. 214—394.

Doelger, John P., and R. Fennema, to Crane Co. Internal-cylinder-operated valve. 2,975,800, 3-21-61, Cl. 137—565.

Doerpinghaus, Ernst H.: *See*—
Manke, Joseph F., and Doerpinghaus. 2,976,419.

Doerries, George H., to Curtiss-Wright Corp. Electrically controllable spring clutch and brake for power transmitting device. 2,975,648, 3-21-61, Cl. 74—377.

Dohring, Hans M. Patty shell baking form. 2,975,699, 3-21-61, Cl. 99—442.

Dolphin, John R. V., to Hydraulic Developments Ltd. Collapsible road vehicle. 2,975,850, 3-21-61, Cl. 180—1.

Domagk, Gerhard: *See*—
Gauss, Walter, and Domagk. 2,976,279.

Donahoe, H. C.: *See*—
Haring, Ivan P. 2,975,580.

Donaldson, Raymond E.: *See*—
Thompson, Howard A., Donaldson, and White. 2,976,186.

Dondeville Products Co., Inc.: *See*—
Rippe, Dondeville M. 2,975,818.

Dorsky, Julian, and W. M. Easter, Jr., to The Givaudan Corp. Para-tertiary-butylhydrocinnamic aldehyde. 2,976,321, 3-21-61, Cl. 260—59.

Dorsky, Julian, and W. M. Easter, Jr., to The Givaudan Corp. Alpha-methylhydrocinnamic aldehyde dimethyl acetal. 2,976,327, 3-21-61, Cl. 260—611.

Doull, Roy D., and R. E. Magnuson, Dauber or the like. 2,975,452, 3-21-61, Cl. 15—209.

Dow Chemical Co., The: *See*—
Bowman, Carlos M., and Watson. 2,976,313.
Bowman, Carlos M., and Watson. 2,976,314.
Bowman, Carlos M. 2,976,315.
Bowman, Carlos M. 2,976,326.
Cooper, Ronald H. 2,975,494.
Finster, Kenneth C. 2,975,478.
Long, Samuel W., and Moss. 2,976,324.
Long, Samuel W., and Moss. 2,976,325.
Malin, Herbert. 2,976,270.
Parks, Christ F. 2,976,176.
Sturkey, Lorenzo, and Kurfman. 2,976,143.
West, Samuel R., Thompson, and Paul. 2,975,834.

Dowling, Arthur J. Severe storm and tornado warner. 2,976,522, 3-21-61, Cl. 340—220.

Dralle, Wilhelm: *See*—
Rudnicki, Mark I., and Dralle. 2,975,562.

Drauden, Floyd, and O. Lauterbach. Mowing, chopping and spreading apparatus. 2,975,578, 3-21-61, Cl. 56—23.

Dresser Industries, Inc.: *See*—
Thorson, Warren K. 2,975,601.

Drew, John J. Resilient shoe tree. 2,975,444, 3-21-61, Cl. 12—128.

Duchan, Benjamin, to Placket Closing Corp. of America. Machine for sewing concealed slide fasteners. 2,975,739, 3-21-61, Cl. 112—260.

Dudek, Ludwig. Jumping bellows. 2,975,855, 3-21-61, Cl. 182—137.

Dudley, Darle W.: *See*—
Shipley, Eugene E., and Dudley. 2,975,620.

Duffy, Thomas H., to Avco Mfg. Corp. Electronic circuit for anticipating change of magnitude of a quantity under investigation. 2,976,523, 3-21-61, Cl. 340—231.

Duncan, Edward T., to Harvey Hubbell Inc. Telephone operating device for handicapped persons. 2,976,370, 3-21-61, Cl. 179—90.

Duncan, Eugene F.: *See*—
Charbonneau, Allan P., and Duncan. 2,976,515.

Duncan, Theodore R., to Mattel Inc. Music comb with weighted cantilever. 2,975,664, 3-21-61, Cl. 84—94.

Dunn, Fred, and R. S. Hammett. Cleansing tool. 2,975,804, 3-21-61, Cl. 137—604.

Du Pont de Nemours, E. I., and Co.: *See*—
Alles, Francis P. 2,976,147.
Amboraki, Leonard E. 2,975,484.
Arthur, Wilfred J. 2,976,183.
Blatz, Philip S. 2,976,184.
Cooper, Paul D., and Zlinsy. 2,975,483.
Cserwin, Edward P., and Seidel. 2,976,173.
De Jong, Jan I. 2,976,269.
Firestine, John C. 2,976,294.
Gorton, Bert S., and Hauze. 2,976,218.
McBride, Richard T. 2,976,185.
Meloon, Daniel T., and Osborn. 2,976,446.
Milford, George N., Jr., and Wall. 2,976,268.
Paddison, Osborne H., and Sommers. 2,976,276.

Du Pont de Nemours, E. I., and Co.: *See*—Continued
Smith, James G. 2,975,474.
Smith, Thomas D. 2,976,150.
Streicher, Michael A. 2,976,169.
Whitmore, John C. 2,975,501.

Durel Inc.: *See*—
Glab, William T. 2,976,164.

Duriron Co., Inc., The: *See*—
Reiling, Victor G. 2,976,093.

Durrett, Devereaux A., III. Gearless transmission. 2,975,645, 3-21-61, Cl. 74—59.

Dust-Tex Corp.: *See*—
McPherson, Lewis W. 2,975,451.

Dworetzky, Lawrence H., to General Precision, Inc. Function generator. 2,975,972, 3-21-61, Cl. 235—186.

Dyson, Jos., & Sons Inc.: *See*—
Kopanski, Roman R. 2,975,924.

Easter, William M., Jr.: *See*—
Dorsky, Julian, and Easter. 2,976,321.
Dorsky, Julian, and Easter. 2,976,327.

Eastman, Du Bois, to Texaco Inc. Generation of power from ash-forming hydrocarbons. 2,975,594, 3-21-61, Cl. 60—39.2.

Eastman, Du Bois, to Texaco Inc. Generation of carbon monoxide and hydrogen from a liquid hydrocarbon. 2,976,135, 3-21-61, Cl. 48—215.

Eastman Kodak Co.: *See*—
Brokaw, George Y., and Lyman, Jr. 2,976,251.
Caldwell, John R., Dannelly, and Hill. 2,976,182.
Caldwell, John R., and Martin. 2,976,267.
Coover, Harry W., and Wooten. 2,976,272.
Harter, Paul G. 2,975,688.
Kenyon, Roger B. 2,975,486.
McKee, Edward S., and Sturm. 2,976,398.
Newland, Gordon C., and Tamblyn. 2,976,260.
Ort, Carl. 2,975,693.
Salminen, Ilmari F., and Van Allan. 2,976,146.
Sead, Charles D., and Peters. 2,976,205.
Thompson, Crayton B., and Pierce. 2,976,168.
Thompson, Howard A., Donaldson, and White. 2,976,186.
Tousy, George P., and Tamblyn. 2,976,277.
Van Lare, Earl J., and Brooker. 2,976,151.
Wright, Stanley E. 2,975,754.

Eckardt, Johannes: *See*—
Eckardt, Kurt, and J. 2,975,871.

Eckardt, Kurt, and J. Vehicle braking system. 2,975,871, 3-21-61, Cl. 188—140.

Eckel, Arthur F., to Lockheed Aircraft Corp. Optical scanning device. 2,975,668, 3-21-61, Cl. 88—1.

Eckert, John P., Jr., to Sperry Rand Corp. Magnetic quarter adders. 2,976,425, 3-21-61, Cl. 307—88.

Eckert, John P., Jr., to Sperry Rand Corp. Forcible capacitor discharge systems. 2,976,518, 3-21-61, Cl. 340—173.

Edelblut, Johann. Automatic clutch device. 2,975,875, 3-21-61, Cl. 192—3.5.

Eder, John A.: *See*—
Weinar, Roger N., and Eder. 2,976,074.

Edmunds, William H., to I-T-E Circuit Breaker Co. Circuit breaker for bolted and plug-in constructions. 2,976,385, 3-21-61, Cl. 200—168.

Edwards, Eric D.: *See*—
Elliott, John S., and Edwards. 2,976,238.

Edwards, Oliver D., to Phillips Petroleum Co. Protection of catalyst. 2,976,253, 3-21-61, Cl. 252—430.

Edwards, Roy Q., to Leon S. Gross. Automatic restacking mechanism for phonograph. 2,976,047, 3-21-61, Cl. 274—10.

Edwards, William B., and H. G. Boynton, to Esso Research and Engineering Co. Method of maintaining catalyst activity in preparation of methyl and ethyl-substituted benzenes. 2,976,335, 3-21-61, Cl. 260—671.

Egerton, Lawson, and S. S. Flaschen, to Bell Telephone Laboratories, Inc. Method of manufacture of potassium-sodium-niobate ceramics. 2,976,246, 3-21-61, Cl. 252—62.9.

Eglestoe, Harry B.: *See*—
Monroe, Charles Z., and Eglestoe. 2,975,570.

Egyesult Izzolampa es Villamossagi Reszvenytarsasag: *See*—
Berhidi, Mihaly, Simon, and Szendrey. 2,976,448.

Eichhorn, Robert L., and D. R. Cronk, to Whirlpool Corp. Heating means for combination washer-dryer. 2,975,625, 3-21-61, Cl. 68—12.

Eickmann, Karl. Rotary engine, in particular fluid transmission. 2,975,716, 3-21-61, Cl. 103—120.

Eiland, Ehrlich M., to Aluminum Co. of America. Method for improving coating receptivity of an aluminum surface and resultant article. 2,976,170, 3-21-61, Cl. 117—49.

Ekdahl, Wendell G., to Johns-Manville Corp. Briquetting granular material. 2,976,162, 3-21-61, Cl. 106—71.

Electronic Specialty Co.: *See*—
Locus, Silvan S. 2,976,498.

Electro-Therm, Inc.: *See*—
Burger, Nicholas J., and Finn. 2,976,389.

Elerts, Nicholas R.: *See*—
Pahl, Walter H., Sandholtz, Elerts, and Goggin. 2,976,178.

Ellerbeck, Grant C., to Friden, Inc. Calculating machine. 2,975,969, 3-21-61, Cl. 235—63.

Elliott, John S., and F. D. Edwards, to Castrol Ltd. Oil-based compositions. 2,976,238, 3-21-61, Cl. 252—32.5.

Ellis, Benjamin C., Jr., to Western Electric Co., Inc. Self-controlled strand annealer. 2,976,367, 3-21-61, Cl. 219—155.

Ellman, Irving A. Dental X-ray apparatus. 2,976,416, 3-21-61, Cl. 250—65.

Embree, Clifford A. Hitch. 2,976,061, 3-21-61, Cl. 280—509.

Emerald Distributors, Inc.: *See*—
Tallman, Paul L. 2,975,796.

Emery, Durward L., and E. W. Bennett, to Aluminum Co. of America. Tar vapor treatment. 2,976,230, 3-21-61, Cl. 208—8.

Epsco, Inc.: *See*—
Smith, Bruce K. 2,976,527.

Ericson, John A., and R. M. Bins. Tailor's marking device. 2,975,520, 3-21-61, Cl. 33—41.

Ertelt, Henry R., S. L. Wythe, M. J. Furey, and J. K. Appeldoorn, to Esso Research and Engineering Co. Analysis of heavy metal ions and metal chelates of dialkyl dithiophosphoric acids. 2,976,122, 3-21-61, Cl. 23—230.

Eskilson, Ewald O. P.: *See*—
Moser, Henry W., Grobman, and Eskilson. 2,975,706.

Esso Research and Engineering Co.: *See*—
Bitting, Russell D., Jackson, and Nowacki. 2,976,163.
Dinwiddie, James A., and Morgan. 2,976,132.
Edwards, William R., and Boynton. 2,976,335.
Ertelt, Henry R., Wythe, Furey, and Appeldoorn. 2,976,122.
Ford, Francis P., and Robison. 2,975,816.
Gilliland, Edwin R. 2,976,224.
Hill, Max W., and Black. 2,976,422.
Kimberlin, Charles N., Jr., and Mattox. 2,976,331.
Leary, Robert F., Bowman, and Kelley. 2,976,252.
Lippincott, Samuel B., Thomas, Oakley, Leary, and Brodkey. 2,976,271.
Mason, Ralph B., and Nicholson. 2,976,254.
Morway, Arnold J. 2,976,242.
Morway, Arnold J., and Matusnak. 2,976,241.
Morway, Arnold J., and Smith. 2,976,243.
Pappas, George F. 2,975,919.
Porter, Walter J., Jr., Smith, and Schernailder. 2,976,232.
Thomas, Telfer L. 2,976,338.
Webber, William O. 2,976,234.
Westlund, Roy A., Jr., and Furey. 2,976,179.

Ethyl Corp.: *See*—
De Witt, Earl G., Brown, and Shapiro. 2,976,304.
Shapiro, Hymin, De Witt, and Brown. 2,976,303.

Evans, Daniel I.: *See*—
Henry, George E., and Evans. 2,976,434.

Evans, Louis B.: *See*—
Thomas, David F., and Evans. 2,975,715.

Evans Products Co.: *See*—
Krokos, Raymond M., and Smith. 2,976,057.

Evans, Robert R.: *See*—
Fuller, Harrison W., and Evans. 2,976,517.

Everard, Joseph J., to Paragon Electric Co. Control means for defrosting refrigerators. 2,975,612, 3-21-61, Cl. 62—155.

Everhart, James G., to McGraw-Edison Co. Transformer construction. 2,976,503, 3-21-61, Cl. 336—94.

Ewing, Lynn H.: *See*—
Nelson, Permil N. 2,975,518.

Ex-Cell-O Corp.: *See*—
Monroe, Charles Z., and Egleston. 2,975,570.
Rudnicki, Mark I., and Dralle. 2,975,562.

Fallor, Charles W., and C. E. Staples, to Westinghouse Air Brake Co. Railway signaling systems. 2,976,404, 3-21-61, Cl. 246—33.

Fairchild Camera and Instrument Corp.: *See*—
Haines, Jesse H., and Tamaro. 2,976,358.
Levine, Samuel W. 2,976,355.

Fairchild Engine and Airplane Corp.: *See*—
Cherubim, Justin. 2,976,087.
Hunter, David U. 2,976,013.

Fairchild, William R. Driving hammer. 2,975,761, 3-21-61, Cl. 121—13.

Falco, Michele. Precision oil feed tap. 2,975,441, 3-21-61, Cl. 10—141.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Boresch, Carl, and Quaedvlieg. 2,976,316.
Schrader, Gerhard. 2,976,309.
Schrader, Gerhard. 2,976,311.
Schrader, Gerhard. 2,976,312.
Wagner, Kuno, and Muller. 2,976,261.
Warnecke, Heinz. 2,976,414.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Scholz, and Bander. 2,976,317.

Farley, David L., to Halliburton Co. Releasing overshot. 2,976,076, 3-21-61, Cl. 294—102.

Farrell, John M., and E. F. Weller, Jr., to General Motors Corp. Digital computer. 2,976,459, 3-21-61, Cl. 315—84.6.

Fastie, William G.: *See*—
Jarrell, Richard F., and Fastie. 2,975,669.

Fathauer, George H., to Thompson Ramo Wooldridge Inc. Slow sweep television system. 2,976,356, 3-21-61, Cl. 178—6.8.

Fatzer, Willy: *See*—
Maeder, Arthur, Weber, Sulzer, Fatzer, and Guertler. 2,976,167.

Faximile Inc.: *See*—
Stamps, George M. 2,976,361.
Stamps, George M. 2,976,362.

Fegert, Helmut, to Zeiss Ikon A. G. Stuttgart. Photographic camera with combined view finder and exposure meter. 2,975,685, 3-21-61, Cl. 95—10.

Feinstein, Joseph, to Bell Telephone Laboratories, Inc. Magnetron. 2,976,458, 3-21-61, Cl. 315—39.77.

Fennell, Charles H. Staple remover for strapping or the like. 2,976,016, 3-21-61, Cl. 254—28.

Fennema, Richard: *See*—
Doelger, John P., and Fennema. 2,975,800.

Ferguson, Henry A., to Deere & Co. Selective dual power take-off. 2,975,643, 3-21-61, Cl. 74—15.2.

Feucht, Jacob E., to Westinghouse Air Brake Co. Automatically operable rock drill dust collector. 2,975,847, 3-21-61, Cl. 175—170.

Fialkoff, Samuel, to Canin Laboratories, Inc. Selective signaling system. 2,976,526, 3-21-61, Cl. 340—322.

Fieber, Walter F.: *See*—
Burrows, Milford D., and Fieber. 2,975,839.

Field, Leonard D. Angle measuring device. 2,975,834, 3-21-61, Cl. 33—174.

Fillmore, William E., to Owens-Illinois Glass Co. Ball-type liquid applicators. 2,975,466, 3-21-61, Cl. 15—572.

Filper Corp.: *See*—
Perrelli, John. 2,975,812.

Finlayston, Frank B., and A. G. Swenson, to General Electric Co. Thermostat control. 2,976,388, 3-21-61, Cl. 219—35.

Finn, John J.: *See*—
Burger, Nicholas J., and Finn. 2,976,389.

Finn, Sidney J., to United Shoe Machinery Corp. Gun loading mechanisms. 2,975,678, 3-21-61, Cl. 89—45.

Finster, Kenneth C., to The Dow Chemical Co. Mixing nozzle. 2,975,478, 3-21-61, Cl. 18—30.

Firestine, John C., to E. I. du Pont de Nemours and Co. Dye intermediates. 2,976,294, 3-21-61, Cl. 260—310.

Firma Fr. Hesser, Maschinenfabrik-Aktiengesellschaft: *See*—
Stambera, Adolf. 2,976,006.

Fischer, Richard L., to United Aircraft Corp. Constant speed propeller governor having propeller speed and acceleration sensitivity. 2,975,794, 3-21-61, Cl. 137—48.

Fisher, Charles R., Jr., and F. A. Morris, to General Dynamics Corp. Telegraph switching system. 2,976,347, 3-21-61, Cl. 178—2.

Fisher, Joseph C. Archer's bow. 2,975,780, 3-21-61, Cl. 124—24.

Flanders, Robert N., and F. L. Moseley, to F. L. Moseley Co. Character printing graphical recorder. 2,976,103, 3-21-61, Cl. 346—29.

Flaschen, Steward S.: *See*—
Egerton, Lawson, and Flaschen. 2,976,246.

Flemming, Horst: *See*—
Van Schoor, Albert, Jacobi, Lust, and Flemming. 2,976,206.

Fletcher, David C., to United States of America, Army. Power system for firearms. 2,975,679, 3-21-61, Cl. 89—192.

Flynn, John, and Sons, Inc.: *See*—
Kokoras, James N. 2,975,727.

Foland, Howard L. Display rack. 2,975,905, 3-21-61, Cl. 211—60.

Folkins, Hillis O., E. Miller, and A. Kempf, to The Pure Oil Co. Preparation of methanethiol. 2,976,322, 3-21-61, Cl. 260—609.

Folkins, Hillis O., and E. L. Miller, to The Pure Oil Co. Process for the preparation of alkyl monosulfides. 2,976,323, 3-21-61, Cl. 260—609.

Food Machinery and Chemical Corp.: *See*—
Burrows, Milford D., and Fieber. 2,975,839.
Freeman, Marshall E. C., Puecinelli, and Creed. 2,975,813.
Funk, Welker W. 2,975,843.
Sheetz, Charles E. 2,976,007.
Stilwell, Robert E. 2,975,799.

Food Machinery and Chemical Corp., Chicago Pump Co. Division: *See*—
Nechine, Leonard M. 2,975,714.

Ford, Francis P., and S. B. Robison, to Esso Research and Engineering Co. Laminated structures. 2,975,816, 3-21-61, Cl. 152—330.

Ford Motor Co.: *See*—
Grace, Philip F. 2,975,763.
Jewell, Gordon R. 2,975,696.
Jordan, James C. 2,976,068.
Kuypers, Harold A., MacLennan, and Dinger. 2,975,801.
Macura, Joseph F. 2,975,775.
Moore, Charles D. 2,976,080.

Forrest, Effee E. Invalid transfer apparatus. 2,975,435, 3-21-61, Cl. 5—317.

Forster, Warren S.: *See*—
Hardy, William B., Forster, and Coleman. 2,976,269.

Foss, Burdette W.: *See*—
Wright, George W., Foss, and Kachuk. 2,975,765.

Foster, Allan D., to Almor Corp. Shelf construction. 2,975,909, 3-21-61, Cl. 211—150.

Foster, Allan D., to Almor Corp. End shelf bracket. 2,976,003, 3-21-61, Cl. 248—243.

Foster, Berry W. Back-to-back centrifugal compressor and centripetal turbine having an integral rotor disc. 2,975,959, 3-21-61, Cl. 230—116.

Fouike, Donald G., W. B. Stoddard, Jr., O. Kardos, and W. B. Kleiner, to Hanson-Van Winkle-Munning Co. Electrodeposition of nickel. 2,976,225, 3-21-61, Cl. 204—49.

Fox, Richard L., J. O. Troemner, and R. L. Jacklin, to Deere & Co. Vehicle transmission control. 2,975,651, 3-21-61, Cl. 74—473.

Fox, Zola, to Thiokol Chemical Corp. Conical injector for rocket motors. 2,975,591, 3-21-61, Cl. 60—35.6.

Fox, Zola, to Thiokol Chemical Corp. Rocket thrust chamber. 2,975,592, 3-21-61, Cl. 60—35.6.

Frank, Paul A., to National Rubber Machinery Co. Silent garbage grinder. 2,975,986, 3-21-61, Cl. 241—100.5.

Freeman, Arnold B., to Goodyear Aircraft Corp. Method of making tube-like articles and parts thereof. 2,976,196, 3-21-61, Cl. 154—81.

Freeman, J. William: *See*—
Linskey, John J., and Call. 2,975,505.

Freeman, Marshall E. C., S. Puccinelli, and S. H. Creed, to Food Machinery and Chemical Corp. Fruit processing machine. 2,975,813, 3-21-61, Cl. 146—43.

Freeman, Morris M., to Bedding Manufacturers Associates, Inc. Mattress. 2,975,437, 3-21-61, Cl. 5—351.

Freeman, Stephan T. Dental X-ray device. 2,976,417, 3-21-61, Cl. 250—65.

French, R. T., Co., The: *See*—
Westgate, Oscar L. 2,975,946.

Fretague, William J.: *See*—
Heinicke, John B., and Fretague. 2,976,340.

Frey, Edward J., to General Motors Corp. Washing machine having a centrifugal extractor and dryer. 2,975,626, 3-21-61, Cl. 68—19.

Fridax, Inc.: *See*—
Ellerbeck, Grant C. 2,975,968.
Friedrich, Hermann, and R. Gosswald, to Schenley Industries, Inc. Hyaluronidase with heparin or heparinoids in ointment compositions. 2,976,212, 3–21–61, Cl. 167—63.
Friend, Albert W. Sound absorbent translucent building block. 2,975,853, 3–21–61, Cl. 181—33.
Fries, Charles W.: *See*—
Miles, Gilbert D. W., McGhie, and Fries. 2,975,943.
Friesen, Wilmer J.: *See*—
Wood, Straud K., and Friesen. 2,975,585.
Fronczak, Ernest T., P. H. Chapman, and E. W. Brennan, to The Pure Oil Co. Emulsion concentrates. 2,976,160, 3–21–61, Cl. 106—38.24.
Frost, Raymond B.: *See*—
Costanzo, Frank X., and Frost. 2,975,819.
Fukuin Denka Kabushiki Kaisha: *See*—
Uchida, Saburo. 2,976,373.
Fukuin Electric Works, Ltd.: *See*—
Uchida, Saburo. 2,976,373.
Fuller, Harrison W. and R. R. Evans, to Laboratory for Electronics, Inc. Data readout system. 2,976,517, 3–21–61, Cl. 340—172.5.
Funk, Welker W., to Food Machinery and Chemical Corp. Apparatus for distributing powdered material. 2,975,543, 3–21–61, Cl. 43—148.
Furey, Michael J.: *See*—
Ertelt, Henry R., Wythe, Furey, and Appeldoorn. 2,976,122.
Westlund, Roy A., Jr., and Furey. 2,976,179.
Furman, Edward, D. and M. Chorne. Automobile tire washer. 2,975,446, 3–21–61, Cl. 15—21.
Fusco, Victor C.: *See*—
Leeper, Robert W., and Fusco. 2,976,139.
Gabrielsen, Christian, to Rowe Mfg. Co., Inc. Coin separator and slug ejector. 2,975,880, 3–21–61, Cl. 194—99.
Gallassi, Gustavo. Spool for endless film. 2,975,988, 3–21–61, Cl. 242—55.19.
Gadget-Of-The-Month Club, Inc.: *See*—
Helgeson, Andrew. 2,975,877.
McCarty, Robert F. 2,975,658.
Ganahl, Joseph F., to North American Aviation, Inc. Ducted nozzle testing apparatus. 2,975,632, 3–21–61, Cl. 73—116.
Gannon, John J., to Lancaster Engineering Co. Heat transfer fin. 2,976,022, 3–21–61, Cl. 257—262.16.
Gansser, Charles: *See*—
Schindler, Walter, and Gansser. 2,976,286.
Garapolo, Orlando, to Wilson & Co., Inc. Selective card dispensing tray. 2,975,576, 3–21–61, Cl. 53—391.
Garnett, Donald W., to The Olofsson Co. Packaging apparatus. 2,975,568, 3–21–61, Cl. 53—53.
Garretson, Craig M.: *See*—
Weiss, Mortimer E., and Garretson. 2,976,452.
Garrett Corp., The: *See*—
Dallenbach, Frederick. 2,975,783.
Gash, Virgil W., to Monsanto Chemical Co. Metal chelates and process of preparing same. 2,976,285, 3–21–61, Cl. 260—242.
Gauss, Walter, and G. Domagk, to Schenley Industries, Inc. 2,3,6-tris-aziridino-1,4 benzoquinone. 2,976,279, 3–21–61, Cl. 260—239.
Gauthier, Alfred, G.m.b.H.: *See*—
Rentschler, Waldemar T. 2,975,602.
Gbur, John, to The M.T. & D. Co. Wheels heights adjustment for lawn-mowers. 2,976,050, 3–21–61, Cl. 280—43.17.
Gebele, Kurt, to Compur-Werk Friedrich Deckel O.H.G. Photographic camera. 2,975,686, 3–21–61, Cl. 95—10.
Gebrüder Welger, Maschinenfabrik: *See*—
Matthies, Hans J. 2,975,581.
Geckle, William A., Jr., to United States of America, Navy. Stable-fast recovery transistorized multivibrator circuit. 2,976,432, 3–21–61, Cl. 307—88.5.
Gedris, Stanley J. and W. A., to Ideal Seating Co. Folding chair with folding seat. 2,975,825, 3–21–61, Cl. 155—142.
Gedris, William A.: *See*—
Gedris, Stanley J. and W. A. 2,975,825.
Geigy Chemical Corp.: *See*—
Schindler, Walter. 2,976,281.
Schindler, Walter, and Gansser. 2,976,286.
Geller, Richard, and G. Mongodin, to Commissariat a l'Energie Atomique. Diffusion pumps. 2,975,957, 3–21–61, Cl. 230—95.
Geliman Mfg. Co.: *See*—
Wertheimer, Milton A. 2,975,572.
General Analytics Associates: *See*—
Strickland, Edward T., Amos, and Glass. 2,975,987.
General Aniline & Film Corp.: *See*—
Copes, Joseph P. 2,976,245.
Levine, Harold A. 2,976,152.
Plue, Arnold F. 2,976,295.
Randall, David I., and Schmidt-Nickels. 2,976,287.
Walford, Raymond J. 2,976,148.
Walford, Raymond J. 2,976,250.
General Dynamics Corp.: *See*—
Christiano, Edward J. 2,976,409.
Clement, Milton A. 2,976,364.
Fisher, Charles E., Jr., and Morris. 2,976,347.
Kerst, Donald W., and Brower. 2,976,444.
McNaney, Joseph T. 2,976,447.
McNaney, Joseph T. 2,976,529.
Richards, Glenn L. 2,976,431.
General Electric Co.: *See*—
Abbott, Harold W., and Wechsler. 2,976,429.
Adams, Charles J. 2,976,463.
Allen, Ely G. 2,976,012.
Andrews, Theodore E. 2,975,723.
Atchison, Leonard W. 2,975,015.
Barton, Leon M. 2,976,363.
Birdsall, Charles K., and Johnson. 2,976,454.
General Electric Co.: *See*—Continued
Birdsall, Charles K., and Harman. 2,976,455.
Birdsall, Charles K., and Johnson. 2,976,456.
Chausse, Burnette P. 2,976,479.
Davidson, William E. 2,975,486.
Dodge, Paul A. 2,976,474.
Dodge, Paul A. 2,976,475.
Finlayston, Frank E., and Swenson. 2,976,388.
Henry, George E., and Evans. 2,976,434.
Lee, Thomas H. 2,976,382.
Perkins, Therold W. 2,976,201.
Pietsch, Joseph A. 2,975,611.
Pinder, James M. 2,975,902.
Reiling, Gilbert H., and Jensen. 2,976,451.
Shipley, Eugene E., and Dudley. 2,975,620.
Somes, Frederick J., Jr. 2,975,912.
Stoffert, Arnold C. 2,975,864.
Vdoviak, John W. 2,975,589.
General Fire Extinguisher Corp.: *See*—
Huthsing, Charles K., Sr. 2,976,010.
General Foods Corp.: *See*—
Barnes, Harry M., Kremsner, and Mitchell. 2,975,603.
General Mills, Inc.: *See*—
Kohl, Douglas A. 2,976,188.
General Motors Corp.: *See*—
Carlson, Wilbur L. 2,975,682.
Contant, Peter R. 2,976,068.
Farrell, John M., and Weller. 2,976,459.
Frey, Edward J. 2,975,626.
Heldorn, John H. 2,975,613.
Neff, Robert M. 2,975,817.
Pribonic, John F., and Karlgaard. 2,976,053.
Reindl, Harold J. 2,975,755.
Reindl, Harold J. 2,975,757.
Reindl, Harold J. 2,976,175.
Reindl, Harold J., and Marvin. 2,975,756.
Ryck, Francis M., and Ziegler. 2,975,458.
Saunders, Orson V. 2,975,616.
Saunders, Orson V. 2,975,619.
Shewmon, Ralph K. 2,975,526.
Vosler, Edward J., and Schults. 2,975,870.
Wojciechowski, Mieczyslaw. 2,975,459.
Zink, George A., and Taylor. 2,976,053.
General Precision, Inc.: *See*—
Dworetsky, Lawrence H. 2,975,972.
Hemstreet, Harold S. 2,975,670.
Hemstreet, Harold S. 2,975,671.
Hunt, John M. 2,975,532.
Malenich, George. 2,975,531.
General Railway Signal Co.: *See*—
Judge, Thomas J., and Swane. 2,976,402.
Preston, Neil D. 2,976,405.
General Tire & Rubber Co., The: *See*—
Salem, Samuel, and Anderson. 2,976,202.
Genetic Giant AG.-Products Co.: *See*—
Rousek, Ernest J. 2,975,936.
Gent, Edgar W., and W. W. Werring, to Bell Telephone Laboratories, Inc. Machine for embedding beads in a sheet. 2,975,822, 3–21–61, Cl. 154—1.
Gericke, Erich. Sheet feeder for printing and duplicating machines. 2,976,036, 3–21–61, Cl. 271—5.
Geschka, Hugo W., to Maschinenfabrik Peter Pfenningsberg G.m.b.H. Washing machines. 2,975,624, 3–21–61, Cl. 68—12.
Gesellschaft fuer Linde's Eismaschinen A.G. Zweigniederlassung Gueldner-Motoren-Werke in Aschaffenburg: *See*—
Ars, Walter. 2,975,597.
Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft: *See*—
Karwat, Ernst. 2,975,600.
Geser, Alvin N.: *See*—
Arenson, Simon W. 2,976,153.
Ghormley Engineering and Mfg. Co.: *See*—
Ghormley, James G., Jr., and Kitchens. 2,975,708.
Ghormley, James G., Jr., and C. T. Kitchens, to Ghormley Engineering and Mfg. Co. Means adjusting cylinder in printing press. 2,975,708, 3–21–61, Cl. 101—248.
Giannitrapani, Domenico: *See*—
Delponte, Gerardo, and Giannitrapani. 2,975,881.
Gilbert, Ronald A., to D. Napier & Son Ltd. Turbine stator blade rings. 2,976,015, 3–21–61, Cl. 253—78.
Gilbert, Roswell W., to Daystrom, Inc. Resistance comparator. 2,976,486, 3–21–61, Cl. 324—63.
Gilbert, William I., and A. C. Whitaker, to Gulf Research & Development Co. Foam-inhibited aqueous oil emulsions. 2,976,240, 3–21–61, Cl. 252—33.4.
Gilfillan Bros, Inc.: *See*—
Johnson, Thomas J., Jr. 2,976,521.
Gilkeson, David C.: *See*—
Tibbetts, Raymond E., and Gilkeson. 2,975,674.
Gillette Co., The: *See*—
De Mytt, L. E. 2,976,210.
Lerner, Louis L., and Safianoff. 2,975,465.
Gillick, Laurance H., and R. W. Maddocks, to Vapor Heating Corp. Radiator housing and guard structure. 2,976,023, 3–21–61, Cl. 257—295.
Gilliland, Edwin R., to Esso Research and Engineering Co. Vaporization by molten material. 2,976,224, 3–21–61, Cl. 202—74.
Gilman, Louis. Silk screen process press. 2,975,705, 3–21–61, Cl. 101—123.
Giordano, Joseph, and A. G. Russell, to The Sherwin-Williams Co. Metering dispensing valve. 2,975,942, 3–21–61, Cl. 222—380.
Givaudan Corp., The: *See*—
Dorsky, Julian, and Easter. 2,976,331.
Dorsky, Julian, and Easter. 2,976,327.
Glab, William T., to Durel Inc. Lignocellulose product and method. 2,976,164, 3–21–61, Cl. 106—163.

Glaser, Hans. Device for removing stains from fabrics by beating with simultaneous treatment with cleaning fluid. 2,975,448, 3–21–61, Cl. 15—22.
Glass, Billy M.: *See*—
Strickland, Edward T., Amos, and Glass. 2,975,987.
Gleim, William K. T.: *See*—
Brown, Kenneth M., and Gleim. 2,976,229.
Glicksman, Richard: *See*—
Morehouse, Clarence K., Lozier, and Glicksman. 2,976,342.
Globe-Union Inc.: *See*—
Dilger, Le Roy E., and Stuiber. 2,976,461.
Glodenis, Zenonas: *See*—
Landsverk, Ole G., Glodenis, and Merriner. 2,976,420.
Goddard, Robert W., to Lockheed Aircraft Corp. Acceleration responsive devices. 2,976,878, 3–21–61, Cl. 200—81.45.
Goerrig, Dieter: *See*—
Gund, Felix, Schubert, and Goerrig. 2,976,110.
Goggin, Richard E.: *See*—
Pahl, Walter H., Sandholtz, Elerts, and Goggin. 2,976,178.
Goldberg, Harry, to Modern Dust Bag Co., Inc. Cut and scored tabs in cardboard collar. 2,975,862, 3–21–61, Cl. 182—51.
Golding, William F. Printer's chases. 2,975,709, 3–21–61, Cl. 101—391.
Golding, William F. Printing or like machines. 2,975,917, 3–21–61, Cl. 214—65.
Goldstein, Richard: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,976,491.
Goilbach, Fred W. Latching mechanism. 2,976,070, 3–21–61, Cl. 292—25.
Goodman, Harold. Dispensing device. 2,975,979, 3–21–61, Cl. 194—69.
Goodrich-Gulf Chemicals, Inc.: *See*—
Walde, Robert A. 2,976,306.
Goodyear Aircraft Corp.: *See*—
Freeman, Arnold B. 2,976,196.
Postel, Carl E. 2,975,522.
Göpfert, Max, to Zahnradfabrik Friedrichshafen. Electromagnet. 2,976,464, 3–21–61, Cl. 317—191.
Gorton, Bert S., and N. L. Hause, to E. I. du Pont de Nemours and Co. Production of L-lysine from synthetic diaminopimelic acid. 2,976,218, 3–21–61, Cl. 195—29.
Goss, James W. Picture hanging bracket. 2,975,994, 3–21–61, Cl. 248—31.
Gosswald, Rudolf: *See*—
Friedrich, Hermann, and Gosswald. 2,976,212.
Grace, Philip F., to Ford Motor Co. Vacuum servo system. 2,975,763, 3–21–61, Cl. 121—41.
Grace, W. R., & Co.: *See*—
Harrison, John W. 2,975,931.
Rudner, Bernard. 2,976,319.
Willp, Elmar K. 2,976,326.
Graco Metal Products, Inc.: *See*—
Worthington, Robert M. 2,975,866.
Grant, Frank A.: *See*—
Jorgenson, Ralph J., and Grant. 2,975,574.
Gray, Preston R., to Bell Telephone Laboratories, Inc. Incoming trunk circuit for in-dialing service. 2,976,368, 3–21–61, Cl. 179—27.
Graybill, Clinton L., to Graybill Industries, Inc. Portable motor and separable power take-off coupling therefor. 2,975,644, 3–21–61, Cl. 74—16.
Graybill Industries, Inc.: *See*—
Graybill, Clinton L. 2,975,644.
Green, Donald W. Holder and guide means for grain spouts and the like. 2,976,002, 3–21–61, Cl. 248—226.
Green, Francis C. R. Long life lamp demonstrator. 2,976,482, 3–21–61, Cl. 324—20.
Green, Joseph, D. McHale, and P. Mamalis, to Vitamins Ltd. Triazine derivatives. 2,976,288, 3–21–61, Cl. 260—249.9.
Greenberg, Robert L., to National Equipment Corp. Confectionery depositors. 2,975,731, 3–21–61, Cl. 107—29.
Greenblatt, Julius: *See*—
Coopersmith, Rudolph, Lozano, and Greenblatt. 2,975,483.
Greenleaf, Nathaniel B., to Sponge Products Corp. Sponge mopping element for front presser mop. 2,975,455, 3–21–61, Cl. 15—244.
Greger, Paul, to Voigtlander A.G. Photographic camera. 2,975,687, 3–21–61, Cl. 95—10.
Greunke, Orville V., and F. S. Preston, to United Aircraft Corp. Multiphase analog to digital converter. 2,976,528, 3–21–61, Cl. 340—347.
Greve, Edward H. Toy. 2,975,847, 3–21–61, Cl. 46—11.
Griffith, Richard: *See*—
Klein, Howard C., and Griffith. 2,976,298.
Grinnell Corp.: *See*—
Sherburne, Philip C. 2,975,995.
Sherburne, Philip C., and Zollinger. 2,975,996.
Grinstead, Carl E. Shielding device. 2,976,466, 3–21–61, Cl. 317—246.
Grobman, William: *See*—
Moser, Henry W., Grobman, and Eskilson. 2,975,706.
Grogan, Leo E. Safety brake unit. 2,976,085, 3–21–61, Cl. 303—9.
Gross, Leon S.: *See*—
Edwards, Roy Q. 2,976,047.
Gruber, Helmut, H. Scheidig, W. Pieper, G. Muller, and A. H. Bussard, to W. C. Heraeus, G.m.b.H. Vacuum smelting furnace and method of operation. 2,976,339, 3–21–61, Cl. 13—31.
Gruendler Crusher and Pulverizer Co.: *See*—
Shelton, Harry J., Jr. 2,975,985.
Grundelman, Herman H., to Mercury Handling Systems, Inc. Office conveyor. 2,975,885, 3–21–61, Cl. 198—160.
Gudikunst, James B.: *See*—
Liggett, William H., and Gudikunst. 2,975,767.
Guérin, Jean, to Societe Anonyme dite: Societe d'Electro-Chimie d'Electro-Metallurgie et des Aciéries Electriques D'Ugine. Method of obtaining chlorinated derivatives. 2,976,330, 3–21–61, Cl. 260—650.
Guertler, Peter: *See*—
Maeder, Arthur, Weber, Sulser, Fatzer, and Guertler. 2,976,167.
Guest, James D. Telescoping gamma match antenna construction. 2,976,532, 3–21–61, Cl. 343—722.
Gulf Research & Development Co.: *See*—
Gilbert, William I., and Whitaker. 2,976,240.
Gund, Felix, F. Schubert, and D. Goerrig; said Gund and said Schubert assors. to said Goerrig. Process for printing with vat dyestuffs. 2,976,110, 3–21–61, Cl. 8—70.
Gunderson, Ralph R. Resilient supporting shank. 2,976,000, 3–21–61, Cl. 248—204.
Gunson, R. W. (Seeds) Ltd.: *See*—
Nelson, William B. 2,975,898.
Gustafsson, Carl J., to Yard-Man, Inc. Starter mechanism. 2,975,777, 3–21–61, Cl. 123—185.
Gwinn, Joseph M., Jr., A. J. O'Brien, and G. W. Coleman, to Gar Wood Industries, Inc. Refuse loader control mechanism. 2,975,913, 3–21–61, Cl. 214—83.3.
Hagen, Norbert: *See*—
Hagen, Reinold and N. 2,975,473.
Hagen, Reinold and N. Manufacture of hollow plastic articles. 2,975,473, 3–21–61, Cl. 18—5.
Haines, Jesse H., and F. Tamaro, to Fairchild Camera and Instrument Corp. Television pickup system. 2,976,358, 3–21–61, Cl. 178—7.2.
Hakimoglu, Ayhan, to American Bosch Arma Corp. Pulse width modulator. 2,976,496, 3–21–61, Cl. 332—1.
Halliburton Co.: *See*—
Farley, David L. 2,976,076.
Haloid Xerox Inc.: *See*—
Bird, John W., Jr. 2,975,758.
Halsell, Charles M.: *See*—
Kindler, Herbert S., and Halsell. 2,975,635.
Halstead, John H. Automotive vehicle lift. 2,975,867, 3–21–61, Cl. 187—8.41.
Hamilton Watch Co.: *See*—
Van Horn, John A., and Biemiller. 2,976,435.
Hammett, Robert L. Television slide projector. 2,976,357, 3–21–61, Cl. 178—7.2.
Hammett, Robert S.: *See*—
Dunn, Fred, and Hammett. 2,975,804.
Handforth, Stanley L., to United States of America, Atomic Energy Commission. Charging device. 2,975,912, 3–21–61, Cl. 214—17.
Hanna, Clinton R., to Westinghouse Electric Corp. Vehicle stabilizer, tilter and leveling means. 2,976,052, 3–21–61, Cl. 280—112.
Hansen, Clarence E., to Whirlpool Corp. Vacuum cleaner structure. 2,975,461, 3–21–61, Cl. 15—327.
Hansen, Harold V.: *See*—
Oehler, William P., and Hansen. 2,975,841.
Oehler, William P., and Hansen. 2,975,844.
Hansen, John. Softness gage for bakery products. 2,975,631, 3–21–61, Cl. 73—81.
Hanson-Van Winkje-Munning Co.: *See*—
Foulke, Donald G., Stoddard, Kardos, and Kleiner. 2,976,225.
Hardy, William B., W. S. Forster, and R. A. Coleman, to American Cyanamid Corp. 2,2'-dihydroxy-4-alkoxybenzophenones as ultraviolet light absorbers for resins. 2,976,259, 3–21–61, Cl. 260—45.95.
Haring, Ivan P., 25% to E. A. Kruse, 25% to H. T. Tellepsen, and 15% to H. C. Donahoe. Cotton picker bars. 2,975,580, 3–21–61, Cl. 56—50.
Haringhuizen, Pieter J., to Stamicarbon N.V. Process for purifying technical hydrogen. 2,975,605, 3–21–61, Cl. 62—13.
Harman, Ward A.: *See*—
Birdsall, Charles K., and Harman. 2,976,455.
Harper, Robert H.: *See*—
Trombly, Harvey H., and Harper. 2,976,120.
Harris-Intertype Corp.: *See*—
Seel, Howard J., and Royer. 2,976,037.
Harris, John L. Control device. 2,976,471, 3–21–61, Cl. 318—467.
Harrison, John W., to W. R. Grace & Co. Container. 2,975,931, 3–21–61, Cl. 220—24.
Harrison, Ralph C. Support for trailer tongue. 2,976,055, 3–21–61, Cl. 280—150.5.
Harter, Paul G., to Eastman Kodak Co. Locking means for the shutter actuating mechanism of a detachable lens mount camera. 2,975,688, 3–21–61, Cl. 95—11.
Hartmann, Gilbert L., to Milwaukee Faucets, Inc. Faucet. 2,976,000, 3–21–61, Cl. 251—332.
Harvel Research Corp.: *See*—
Harvey, Mortimer T., and Rosamilia. 2,976,264.
Harvey, Mortimer T., and P. L. Rosamilia, to Harvel Research Corp. Compositions of matter and methods and steps for making and using the same. 2,976,264, 3–21–61, Cl. 260—73.
Haumag Corp., The: *See*—
Jacobs, Arthur. 2,975,733.
Hause, Norman L.: *See*—
Gorton, Bert S., and Hause. 2,976,218.
Hautzenroeder, Richard W., to Massey-Ferguson Inc. Device for detecting slip in a torque converter. 2,975,633, 3–21–61, Cl. 73—116.
Haverlender, Karl. Change-speed gear unit for motor vehicles. 2,975,656, 3–21–61, Cl. 74—745.
Hayes, C. I., Inc.: *See*—
Westeren, Herbert W. 2,975,860.
Hayes, Kenyon J., and J. G. Michels, to The Norwich Pharmacal Co. Method of preparing methyl 5-nitro-2-furyl ketone. 2,976,300, 3–21–61, Cl. 260—347.5.

Hayes, Oliver W., to National Research Corp. Vacuum coating apparatus. 2,975,753, 3–21–61, Cl. 118—49.

Hayes, Richmond S., Jr., to Carrier Corp. Seal for a rotating eliminating device. 2,976,861, 3–21–61, Cl. 103—24.

Hayter, Stanley G., to Westinghouse Electric Corp. Movable-pen recording instruments. 2,976,109, 3–21–61, Cl. 346—140.

Haseltine Research, Inc.: *See*—
Bailey, William F., Loughlin, and Page. 2,976,348.
Loughlin, Bernard D. 2,976,351.
Loughlin, Bernard D. 2,976,409.
Richman, Donald. 2,976,350.
Richman, Donald. 2,976,359.

Hebel, Fred, to Fred Hebel Corp. Dispensing machine. 2,975,935, 3–21–61, Cl. 221—14.

Hebel, Fred Corp.: *See*—
Hebel, Fred. 2,975,935.

Hedberg, Carl W., and R. G. Streuber, to Research Corp. Gas-solid contactor. 2,976,130, 3–21–61, Cl. 23—284.

Hedgren, Arthur W., to H. H. Robertson Co. Wire distributing cellular metal floor. 2,975,589, 3–21–61, Cl. 50—70.

Heideman, Irvin L., to Pettibone Mulliken Corp. Safety-tank drill. 2,975,660, 3–21–61, Cl. 77—13.

Heidorn, John H., to General Motors Corp. Refrigerating apparatus with aspirator in a by-pass. 2,975,613, 3–21–61, Cl. 62—192.

Heil, Friedrich, and W. Muller, to Telefonbau und Normalzeit G.m.b.H. Token ticket dispensers. 2,975,970, 3–21–61, Cl. 235—101.

Heimbs, Ernst G. W., and W. C. Kangro, to Heimbs & Sons. Devices for heat treating kernels and seeds. 2,975,526, 3–21–61, Cl. 34—57.

Heimbs & Sons: *See*—
Heimbs, Ernst G. W., and Kangro. 2,975,526.

Heinicke, John B., and W. J. Fretague, to Whirlpool Corp. Refrigerating apparatus. 2,976,340, 3–21–61, Cl. 136—4.

Heiser, Bruce D.: *See*—
Herbert, Marjorie V., and Heiser. 2,975,792.

Heiskell, Raymond H. Composition for tracer unit. 2,976,136. 3–21–61, Cl. 52—2.

Helgeson, Andrew, ⅛ to Gadget-Of-The-Month Club, Inc. Handrail stairway ramp. 2,975,877, 3–21–61, Cl. 193—41.

Heller, Charles W., ⅛ to John Heller. Method of making frozen confection. 2,976,155, 3–21–61, Cl. 99—136.

Heller, John: *See*—
Heller, Charles W. 2,976,155.

Hemstreet, Harold S., to General Precision, Inc. Method and apparatus for producing visual display. 2,975,670, 3–21–61, Cl. 88—24.

Hemstreet, Harold S., to General Precision, Inc. Means for altering apparent perspective of images. 2,975,671, 3–21–61, Cl. 88—24.

Henry, Augustus P., to Kelsey-Hayes Co. Hydraulic rotary actuator with unrestrained vane and seal members. 2,975,766, 3–21–61, Cl. 121—99.

Henry, George E., and D. I. Evans, to General Electric Co. Transducer assembly. 2,976,434, 3–21–61, Cl. 310—9.4.

Henry, John D. Bicycle suspension system. 2,976,056, 3–21–61, Cl. 280—277.

Heraeus, W. C., G.m.b.H.: *See*—
Gruber, Helmut, Scheidig, Pieper, Muller, and Bussard. 2,976,339.

Herbert, John D., to The Patent and Licensing Corp. Test equipment for determining temperature change characteristics of materials. 2,975,629, 3–21–61, Cl. 73—15.

Herbert, Majorie V., and H. D. Heiser. Folding tent structure. 2,975,792, 3–21–61, Cl. 135—4.

Hester, Jackson B., to Suburban Propane Gas Corp. Stabilized trace element solutions for correcting soil deficiencies. 2,976,138, 3–21–61, Cl. 71—1.

Heston, Eugene E., to National Rubber Machinery Co. Sheeting die. 2,975,475, 3–21–61, Cl. 18—12.

Heuss, Henry C., and J. Zima, to Crane Co. Method of forming branched fittings. 2,975,510, 3–21–61, Cl. 29—157.

Heyck, Gerhard. Dry shaver head construction for cutting long and short hair. 2,975,516, 3–21–61, Cl. 30—34.

Heyer Inc.: *See*—
Springer, Edward M. 2,975,707.

Heyman, Benjamin, to Anchor Post Products, Inc. Fitting clip. 2,976,019, 3–21–61, Cl. 256—47.

Hiatt, Earl, Sr. Chuck for glass block machine. 2,976,034, 3–21–61, Cl. 269—189.

Hill, Edward H.: *See*—
Caldwell, John R., Dannelly, and Hill. 2,976,182.

Hill, John L., and R. R. Reisinger, to Telemeter Magnetics, Inc. Magnetic core handling device. 2,975,894, 3–21–61, Cl. 209—72.

Hill, Lester R., to Aladdin Industries, Inc. Inductive devices. 2,976,502, 3–21–61, Cl. 336—83.

Hill, Max W., and J. F. Black, to Esso Research and Engineering Co. Apparatus for irradiating chemical reactions. 2,976,422, 3–21–61, Cl. 250—106.

Hinman, Burton L., to Uarco, Inc. Mechanism for delearing carbon stripe. 2,975,980, 3–21–61, Cl. 242—56.6.

Hirsch, Herman A. Trouser rack. 2,975,907, 3–21–61, Cl. 211—96.

Hirsch, Siegried. Hydrocyclone for fibres suspension. 2,975,896, 3–21–61, Cl. 209—211.

Hodge, Edward B.: *See*—
Bennett, Edward O., and Hodge. 2,976,236.

Hodgson, Robert F., to The New York Air Brake Co. Engine. 2,975,718. 3–21–61, Cl. 105—126.

Hofer, Hermann: *See*—
Looman, Johannes, Hofer, and Thiemig. 2,975,781.

Hoffman, Robert L., to Western Machinery Co. Basket screens and improved mounting attachments therefor. 2,975,900, 3–21–61, Cl. 209—403.

Hoffmann-La Roche Inc.: *See*—
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,220.
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,221.
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,222.

Hoffmann, Otto, and A. Kryzytzky, to Lake Erie Machinery Corp. Metal forming machine. 2,975,742, 3–21–61, Cl. 113—53.

Holley Carburetor Co.: *See*—
De Claire, Alton G., Jr. 2,975,941.

Hollyday, James H., to Sperry Rand Corp. Engine control means. 2,975,650, 3–21–61, Cl. 74—472.

Holmes, Eugene C. Area measuring device. 2,975,521, 3–21–61, Cl. 33—76.

Hoppe, Otto F., to United Shoe Machinery Corp. Lock stitch sewing machine. 2,975,738, 3–21–61, Cl. 112—233.

Horn, John. Downspout extension. 2,975,805, 3–21–61, Cl. 137—615.

Hosbein, Louis H., to M. H. Detrick Co. Co-moulded bricks. 2,975,500, 3–21–61, Cl. 25—154.

Hostetler, Van B., to Eli Lilly and Co. Capsule machine dipping pan. 2,975,477, 3–21–61, Cl. 18—25.

Hotelling, Eric B., to Consolidation Coal Co. Hexamethylenimine phenols and their preparation. 2,976,280, 3–21–61, Cl. 260—239.

Housam, Ernest C., and R. Lester, to The British Petroleum Co. Ltd. Purification of benzene. 2,976,336, 3–21–61, Cl. 260—674.

Howard Foundry Co.: *See*—
Maxwell, Charles F. 2,976,142.

Howard, Fred: *See*—
Krebs, Samuel, Howard, Male, and Sumpter. 2,975,904.

Howard, John H., to Burroughs Corp. Coded document reader. 2,975,966, 3–21–61, Cl. 235—61.11.

Howard, John H., to Burroughs Corp. Oriented magnetic cores. 2,976,174, 3–21–61, Cl. 117—93.

Howell, John G., Jr., to Owens-Illinois Glass Co. Fuel oil burner. 2,975,829, 3–21–61, Cl. 158—76.

Hubbell, Harvey, Inc.: *See*—
Duncan, Edward T. 2,976,370.

Huber, Adam, to Metallgesellschaft Aktiengesellschaft. Sintering process and apparatus for producing hard pellets. 2,976,029, 3–21–61, Cl. 266—21.

Huet, André. Device for bending tubes. 2,975,820, 3–21–61, Cl. 153—48.

Huet, Edward C., to L. O. Darling Co. Modular shelf assembly. 2,975,908, 3–21–61, Cl. 211—136.

Hughes Aircraft Co.: *See*—
Brookshire, Robert R. 2,976,180.
Brookshire, Robert R. 2,976,181.
Cason, Paul B. 2,975,878.
Liggett, William H., and Gudikunst. 2,975,767.
McFaddan, Norman F. 2,976,509.
Taber, John E. 2,976,516.

Humble Oil and Refining Co.: *See*—
Kindler, Herbert S., and Halsell. 2,975,635.

Humphrey, Stanley A. Coarse aggregate depressing machine for concrete. 2,975,684, 3–21–61, Cl. 94—45.

Hunt, John M., to General Precision Inc. Aircraft flight simulating training apparatus. 2,975,532, 3–21–61, Cl. 35—12.

Hunter, David U., to Fairchild Engine and Airplane Corp. Turbine construction. 2,976,013, 3–21–61, Cl. 253—55.

Hupert, Julius J.: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski. 2,976,494.

Hurka, Rudolph J., Jr.: *See*—
Carothers, John N., and Hurka. 2,976,140.
Carothers, John N., and Hurka. 2,976,141.

Huthsing, Charles K., Sr., to General Fire Extinguisher Corp. Valve structure. 2,976,010, 3–21–61, Cl. 251—333.

Hydraulic Developments Ltd.: *See*—
Dolphin, John R. V. 2,975,850.

Hutzelman, Howard E., to Applied Research Corp. Check protector. 2,975,702, 3–21–61, Cl. 101—99.

I-T-E Circuit Breaker Co.: *See*—
Edmunds, William H. 2,976,385.

Ichikawa, Yoshio, to Westinghouse Electric Corp. Thermistors. 2,976,500, 3–21–61, Cl. 338—22.

Ida, Tadao, to Tanabe Seiyaku Co., Ltd. Sealing coat for tablets and similar articles. 2,976,214, 3–21–61, Cl. 167—82.

Ideal Industries, Inc.: *See*—
Whitehurst, Joe R. 2,975,480.

Ideal Seating Co.: *See*—
Gedris, Stanley J. and W. A. 2,975,825.

Illingworth, Alec R. Floor coverings, underfelts, underlays and the like. 2,976,393, 3–21–61, Cl. 219—46.

Imhof, Paul V., to Immie Corp. Applicator. 2,975,453, 3–21–61, Cl. 15—210.

Immie Corp.: *See*—
Imhof, Paul V. 2,975,453.

Impress-A-Key Corp.: *See*—
Robinson, Edward N., Appleman, Miller, and Singer. 2,975,956.

Independent Lock Co.: *See*—
Muttart, Vincent. 2,976,072.

International Business Machines Corp.: *See*—
Demer, Frederick M., and Mork. 2,975,965.
Martin, Harold P. 2,975,967.

International Minerals & Chemical Corp.: *See*—
Manning, Paul D. V., and Le Baron. 2,976,119.

Isaigonis, Alec A.: *See*—
Moulton, Alexander E., and Isaigonis. 2,975,621.

Jablonsky, Erich, to Zahnradfabrik Friedrichshafen, Aktiengesellschaft. Auxiliary power steering for motor vehicles. 2,975,764, 3–21–61, Cl. 121—42.

Jacklin, Roger L.: *See*—
Fox, Richard L., Troemner, and Jacklin. 2,975,651.

Jackson, Harry E.: *See*—
Bushell, Charles H. G., and Jackson. 2,975,895.

Jackson, Kenneth E.: *See*—
Bitting, Russell D., Jackson, and Nowacki. 2,976,163.

Jackson, Wilbur F., and J. W. Wright, to Robertshaw-Fulton Controls Co. Thermostatic control devices. 2,975,974, 3–21–61, Cl. 236—48.

Jacob, Robert M., and N. M. Joseph, to Societe des Usines Chimiques Rhone-Poulenc. Ethers of 2-piperidylphenylmethanols. 2,976,291, 3–21–61, Cl. 260—294.7.

Jacobi, Ernst: *See*—
Van Schoor, Albert, Jacobi, Lust, and Flemming. 2,976,296.

Jacobs, Arthur, to The Haumag Corp. Method for treating food items. 2,975,733, 3–21–61, Cl. 107—54.

Jacobs & Thompson Ltd.: *See*—
Paul, Bert B., and Petursson. 2,975,491.

Jarrell-Ash Co.: *See*—
Jarrell, Richard F., and Fastie. 2,975,669.

Jarrell, Richard F., and W. G. Fastie, to Jarrell-Ash Co. Crossed dispersion photographic spectrometer. 2,975,669, 3–21–61, Cl. 88—14.

Jatcko, Joseph M.: *See*—
Blatt, Leland F., and Jatcko. 2,975,762.

Jen, Yun, and J. L. Johnson, to American Cyanamid Co. Solid state polymerization. 2,976,262, 3–21–61, Cl. 260—72.

Jen, Yun, J. L. Johnson, and R. R. Aloia, to American Cyanamid Co. Solid state polymerization. 2,976,263, 3–21–61, Cl. 260—72.

Jensen, Andrew O.: *See*—
Relling, Gilbert H., and Jensen. 2,976,451.

Jensen, James L., to Minneapolis-Honeywell Regulator Co. Semiconductor devices. 2,976,465, 3–21–61, Cl. 317—234.

Jewell, Gordon R., to Ford Motor Co. Motor vehicle ventilation system. 2,975,696, 3–21–61, Cl. 98—2.

Johns-Manville Corp.: *See*—
Ekdahl, Wendell G. 2,976,162.
Rutter, Donald P., and Cimochowski. 2,975,821.

Johnson, Curtis C.: *See*—
Birdsall, Charles K., and Johnson. 2,976,454.
Birdsall, Charles K., and Johnson. 2,976,456.

Johnson, Dorothy M. Hose supporter. 2,975,432, 3–21–61, Cl. 2—306.

Johnson, Herbert G. Apparatus for consolidating particulate materials continuously without melting. 2,975,893, 3–21–61, Cl. 207—2.

Johnson, James F., to Sinclair Oil & Gas Co. Portable oscillograph. 2,976,108, 3–21–61, Cl. 346—109.

Johnson, Janet L.: *See*—
Jen, Yun, and Johnson. 2,976,262.
Jen, Yun, Johnson, and Aloia. 2,976,263.

Johnson, Leslie E. Gamma-compensated ionization chamber. 2,976,418, 3–21–61, Cl. 250—83.1.

Johnson, Leslie E. High sensitivity ionization chamber. 2,976,443, 3–21–61, Cl. 313—61.

Johnson, S. C. & Son, Inc.: *See*—
Pearce, John W. 2,976,265.

Johnson, Stanley N., to Motor Wheel Corp. Method of making tapered wheel disks. 2,975,511, 3–21–61, Cl. 29—159.01.

Johnson, Sterling C. Automatic control system for distribution circuit capacitors. 2,976,480, 3–21–61, Cl. 323—106.

Johnson, Thomas J., Jr., to Gilfillan Bros. Inc. Periodic reference signal modulation method and apparatus for representing the position of a device. 2,976,521, 3–21–61, Cl. 340—196.

Jones & Laughlin Steel Corp: *See*—
Uphoff, Russel L., and Laycak. 2,976,190.

Jones, Lewis: *See*—
Dixon, Reginald J., and Jones. 2,975,440.

Jones, Oliver R. Fuel valve for carburetors. 2,975,798, 3–21–61, Cl. 137—445.

Jordan, James C., to Ford Motor Co. Ball joint. 2,976,068, 3–21–61, Cl. 287—90.

Jordan, Richard H., to Kingston Products Corp. Switch construction and mechanism therefor. 2,976,377, 3–21–61, Cl. 200—88.

Jorgensen, Edward C. Distributor box bar assembly. 2,975,886, 3–21–61, Cl. 199—37.

Jorgenson, Ralph J., and F. A. Grant, to Pacific Coast Foil Co. Flexible cover applicator. 2,975,574, 3–21–61, Cl. 53—287.

Joseph, Nicole M.: *See*—
Jacob, Robert M., and Joseph. 2,976,291.

Joy Mfg. Co.: *See*—
Beagan, Michael A. Jr. 2,975,903.

Judge, Thomas J., and F. H. Swane, to General Railway Signal Co. Control circuit for a field start relay in a code type communication system. 2,976,402, 3–21–61, Cl. 246—5.

Kachuk, Paul T.: *See*—
Wright, George W., Foss, and Kachuk. 2,975,765.

Kahn, Leonard R. Automatic frequency control system suitable for single-sideband receivers, frequency modulation transmitters and the like. 2,976,411, 3–21–61, Cl. 250—20.

Kaiser Aluminum & Chemical Corp.: *See*—
Michel, Mathias. 2,975,991.

Kalimar, Inc.: *See*—
Lipsitz, Robert J. 2,976,511.

Kalopissis, Gregoire, and A. Viout, to Société Anonyme dite Societe Monsavon-l'Oreal. Permanent waving of hair. 2,976,215, 3–21–61, Cl. 167—87.1.

Kalvar Corp.: *See*—
Baril, Albert, Jr., and Klein. 2,976,145.

Kampinsky, Abe, to United States of America, Army. Circularly polarized antenna. 2,976,534, 3–21–61, Cl. 343—756.

Kane, Donald C., to Specialties Development Corp. Aspirating apparatus. 2,975,968, 3–21–61, Cl. 230—95.

Kangro, Walter C.: *See*—
Heimbs, Ernst G. W., and Kangro. 2,975,526.

Kaplan, Jack: *See*—
Wolf, Peter S., and Kaplan. 2,975,495.

Kardos, Otto: *See*—
Foulke, Donald G., Stoddard, Kardos, and Kleiner. 2,976,225.

Karlgaard, Wayne A.: *See*—
Pribonic, John F., and Karlgaard. 2,976,053.

Karwat, Ernst, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Procedure for the vaporization of liquid oxygen which contains hydrocarbons. 2,975,606, 3–21–61, Cl. 62—18.

Kauffman, Robert D., to Deabo Engineering and Sales Co., Inc. Mold. 2,975,481, 3–21–61, Cl. 18—42.

Kaufman, Samuel. Variable cam driven pump. 2,975,719, 3–21–61, Cl. 103—149.

Kayatz, Karl-Heinz, to Babcock & Wilcox Ltd. Pulverizing apparatus. 2,975,984, 3–21–61, Cl. 241—52.

Kayser, Allan J. Portable concrete batch plant. 2,975,884, 3–21–61, Cl. 198—53.

Keithahn, Julian D., to Baker Oil Tools, Inc. Friction drag devices. 2,975,837, 3–21–61, Cl. 166—241.

Kelco Co.: *See*—
McNeely, William H., and Lowe. 2,976,274.

Kelley, Joseph M., Jr.: *See*—
Leary, Robert F., Bowman, and Kelley. 2,976,252.

Kelly, John C. R., Jr., to United States of America, Navy. Gun barrel liner. 2,975,677, 3–21–61, Cl. 89—16.

Kelsey-Hayes Co.: *See*—
Henry, Augustus P. 2,975,766.

Kem Mfg. Co., Inc.: *See*—
Brown, Dennis D. 2,975,889.

Kempf, Adolph: *See*—
Folkins, Hillis O., Miller, and Kempf. 2,976,322.

Kennametal Inc.: *See*—
Saxman, Duane S. 2,976,028.

Kenyon, Roger B., to Eastman Kodak Co. Decorative sheeting and method for its manufacture. 2,975,486, 3–21–61, Cl. 18—57.

Kern, Fritz, and W. Schornstein, to Ciba Ltd. Process for separating niobium and tantalum from each other. 2,976,114, 3–21–61, Cl. 23—17.

Kerst, Donald W., and D. F. Brower, to General Dynamics Corp. Coupling device. 2,976,444, 3–21–61, Cl. 313—62.

Kiekhaefer, Elmer C. Flywheel magneto. 2,976,439, 3–21–61, Cl. 310—153.

Kimberlin, Charles N., Jr., and W. J. Mattox, to Esso Research and Engineering Co. Preparation of aromatics. 2,976,331, 3–21–61, Cl. 260—668.

Kindler, Herbert S., and C. M. Halsell, to Black, Sivalls & Bryson, Inc., and Humble Oil and Refining Co. Apparatus for directly measuring mass of fluid flow per unit of time. 2,975,635, 3–21–61, Cl. 73—194.

Kingdon, Ralph H.: *See*—
Stanback, Harris I., and Kingdon. 2,976,514.

Kingston Products Corp.: *See*—
Jordan, Richard H. 2,976,377.

Kirklees Ltd.: *See*—
Rose, Leslie, and Sparke. 2,976,105.

Kitchens, Clyde T.: *See*—
Ghormley, James G., Jr., and Kitchens. 2,975,708.

Klamp, Paul, to Mechanical Handling Systems, Inc. Conveyor dispatch system. 2,976,376, 3–21–61, Cl. 200—33.

Klank, Walter C., Jr., to United Aircraft Products, Inc. Liquid storage tank. 2,975,798, 3–21–61, Cl. 137—43.

Klein, Elias: *See*—
Baril, Albert, Jr., and Klein. 2,976,145.

Klein, Howard C., and R. Grimth, to Nopco Chemical Co. α-hydroxy-β,β-dimethyl-γ-butyrolactone and a process for producing same. 2,976,296, 3–21–61, Cl. 260—343.6.

Klein, Walter W., Jr., and A. E. Tilley, to California Research Corp. Seismic section plotter. 2,976,107, 3–21–61, Cl. 346—109.

Kleiner, Walter B.: *See*—
Foulke, Donald G., Stoddard, Kardos, and Kleiner. 2,976,225.

Knight, Emliee B. Safety light reflector. 2,975,675, 3–21–61, Cl. 88—81.

Kobler, Paul. Contact pieces. 2,976,383, 3–21–61, Cl. 200—166.

Koch, Lawrence K., to Louis A. M. Phelan. Continuous freezer. 2,975,618, 3–21–61, Cl. 62—342.

Kohl, Douglas A., to General Mills, Inc. Method of producing a humidity sensor. 2,976,188, 3–21–61, Cl. 117—212.

Kokenge, Elmer J., to Shulte Brass Mfg. Co., Inc. Wall fixture mounting means. 2,975,558, 3–21–61, Cl. 50—22.

Kokorus, James N., to John Flynn and Sons, Inc. Skin drying apparatus. 2,975,727, 3–21–61, Cl. 104—91.

Kollsman Instrument Corp.: *See*—
Nichinson, David B., and White. 2,975,642.

Kondrath, John A. Automatic resetting system for counters. 2,975,992, 3–21–61, Cl. 242—78.

Koninklijke Machinefabriek Gebr. Stork & Co. N.V.: *See*—
Busquet, Jan C. 2,975,962.

Kocanski, Roman R., to Jos. Dyson & Sons, Inc. Adjustable lift fork mounting. 2,975,924, 3–21–61, Cl. 214—731.

Koppers Company, Inc.: *See*—
Rudner, Bernard, and Moores. 2,976,307.

Korach, Malcolm, and W. H. Rideout, to Columbia-Southern Chemical Corp. Recovery of butadiene monoxide by extractive distillation. 2,976,228, 3–21–61, Cl. 202—39.5.

Korger, Gerhard: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Schois, and Bander. 2,976,317.

Koski, Oscar H., to United States of America, Atomic Energy Commission. Processing of cesium metal cyanides. 2,976,121, 3–21–61, Cl. 23—184.

Krassoievitch, Andre, and R. Brunner, to Ancienne Manufacture d'Horlogerie Patek, Philippe & Co., S.A. Heral instrument of high precision. 2,976,470, 3–21–61, Cl. 318—341.

Krebs, Samuel, F. Howard, C. Male, and J. W. Sumpter, to James Lees and Sons Co. Industrial apparatus. 2,975,904, 3-21-61, Cl. 211—46.

Kremzner, Leon T.: *See*—
Barnes, Harry M., Kremzner, and Mitchell. 2,975,603.

Krepa, Saul L., to Van Dyk & Co., Inc. Sunscreening agents. 2,976,217, 3-21-61, Cl. 167—90.

Kress, Herwig R. A., to Aktiengesellschaft Brown, Boveri & Cie. Blading for use in axial flow machines. 2,976,014, 3-21-61, Cl. 253—77.

Krokos, Raymond M., and N. B. Smith, to Evans Products Co. Bicycle trainer wheel attachment. 2,976,057, 3-21-61, Cl. 280—293.

Kruse, E. A.: *See*—
Haring, Ivan P. 2,975,580.

Krynytzky, Alexander: *See*—
Hoffmann, Otto, and Krynytzky. 2,975,743.

Kugler, Albert H., to California Packing Corp. Peach spooner. 2,975,811, 3-21-61, Cl. 146—28.

Kuhlman, Walter F. Coupling adapter. 2,976,063, 3-21-61, Cl. 285—119.

Kuhrmeyer, Carl A., to Minnesota Mining and Mfg. Co. Heat-sensitive copy paper. 2,976,415, 3-21-61, Cl. 250—65.

Kurfman, Virgil B.: *See*—
Sturkey, Lorenzo, and Kurfman. 2,976,143.

Kurtovich, Joseph. Motor assembly for a drill press. 2,975,647, 3-21-61, Cl. 74—242.10.

Kusek, Edwin F., to Mystik Adhesive Products, Inc. Tape dispenser. 2,975,950, 3-21-61, Cl. 225—26.

Kuypers, Harold A., A. S. MacLennan, and F. R. Dinger, to Ford Motor Co. Pump flow control means. 2,976,801, 3-21-61, Cl. 137—576.

Kuypers, Norbert T.: *See*—
Liddell, Robert E., Kuypers, and Yonkers. 2,975,449.

Laboratory for Electronics, Inc.: *See*—
Fuller, Harrison W., and Evans. 2,976,517.

Lacy, Carl B., ¼ each to R. N. Beheler, N. V. Nininger, Jr., and C. S. McNulty, Jr. Automatic air brake release. 2,975,872, 3-21-61, Cl. 188—152.

La Fonte Electrique S.A.: *See*—
Pahud, René. 2,976,117.
Pahud, René. 2,976,118.

Lake Erie Machinery Corp.: *See*—
Hoffmann, Otto, and Krynytzky. 2,975,743.

Lamm, Uno, to Allmanna Svenska Elektriska Aktiebolaget. Gas filled rectifier. 2,976,440, 3-21-61, Cl. 313—19.

Lancaster Engineering Co.: *See*—
Gannon, John J. 2,976,022.

Land, Elvin S. Can opener. 2,975,515, 3-21-61, Cl. 30—15.

Landis Tool Co.: *See*—
Balsiger, Harold E. 2,975,782.

Landsverk Electrometer Co.: *See*—
Landsverk, Ole G., Glodenis, and Merriner. 2,976,420.

Landsverk, Ole G., L. Glodenis, and D. L. Merriner, to Landsverk Electrometer Co. Dosimeter charging switches. 2,976,420, 3-21-61, Cl. 250—83.3.

Langston, Samuel M., Co.: *See*—
Moser, Henry W., Grobman, and Eskilson. 2,975,706.

Lansch, John L., to Anaconda Wire and Cable Co. Enclosure for cable-enclosing pipes. 2,976,343, 3-21-61, Cl. 174—18.

Lapp, Grover W. Ceramic tunnel kiln. 2,975,499, 3-21-61, Cl. 25—142.

Larsen, Robert F. Control handle means for powered tethered model airplanes. 2,975,549, 3-21-61, Cl. 46—77.

Larson, Daniel A., and L. Thorington, to Westinghouse Electric Corp. Lamp and method. 2,976,449, 3-21-61, Cl. 313—109.

Latham, Burton F., Jr., to Continental Carbon Co. Apparatus for making carbon black. 2,976,127, 3-21-61, Cl. 23—259.5.

Latham, Burton F., Jr., and T. A. Ruble, to Continental Carbon Co. Apparatus for making carbon black. 2,976,128, 3-21-61, Cl. 23—259.5.

Lathrop, Henry T.: *See*—
Yonkers, Robert A., and Lathrop. 2,975,462.
Yonkers, Robert A., and Lathrop. 2,976,112.

Lattin, Robert A. Garden tool. 2,975,843, 3-21-61, Cl. 172—370.

Laubach, Gerald D.: *See*—
Agnello, Eugene J., Bloom, and Laubach. 2,976,283.

Lauterbach, Oscar: *See*—
Dranden, Floyd, and Lauterbach. 2,975,578.

Lawn, Raymond J.: *See*—
Whittier, Fred, and Lawn. 2,976,256.

Lawrence Paper Co., The,: *See*—
Bosche, Walwin J., Jr. 2,976,951.

Laycak, John F.: *See*—
Uphoff, Russel L. and Laycak. 2,976,490.

Leahy, James F., to United Shoe Machinery Corp. Methods of heel attaching. 2,975,445, 3-21-61, Cl. 12—147.

Leary, Robert F.: *See*—
Lippincott, Samuel B., Thomas, Oakley, Leary, and Brodkey. 2,976,271.

Leary, Robert F., L. W. Bowman, and J. M. Kelley, Jr., to Esso Research and Engineering Co. Temperature-staged catalyst pretreatment. 2,976,252. 3-21-61, Cl. 252—429.

Leavitt, James P. H., to Container Corp. of America. Container for packaging yarn cones. 2,975,802, 3-21-61, Cl. 206—65.

Le Baron, Ira M.: *See*—
Manning, Paul D. V., and Le Baron. 2,976,119.

Le Bus, Franklin L., Sr., to Le Bus Royalty Co. Pressure bar for cable spooling drums. 2,976,017, 3-21-61, Cl. 254—190.

Le Bus Royalty Co.: *See*—
Le Bus, Franklin L., Sr. 2,976,017.

Lee, Thomas H., to General Electric Co. Arc extinguishing structure for an electric circuit interrupter. 2,976,382, 3-21-61, Cl. 200—144.

Leeper, Robert W., and V. C. Fusco, to Olin Mathieson Chemical Corp. Method for promoting the flowering of pineapple plants. 2,976,139, 3-21-61, Cl. 71—2.7.

Lees, James, and Sons Co.: *See*—
Krebs, Samuel, Howard, Male, and Sumpter. 2,975,904.

Lees, Sidney. Integrating accelerometer with viscous drag pump. 2,975,641, 3-21-61, Cl. 73—503.

Lehmer-Stirnemann, Max. System for the packing of eggs. 2,975,688, 3-21-61, Cl. 93—37.

Lehr, Glen J.: *See*—
Zellers, James T., Jr., Badger, and Lehr. 2,975,555.

Leiner, George S., & Co.: *See*—
Bernstein, Charles A. 2,975,454.

Leitz, Ernst, Canada Ltd., Optical Works: *See*—
Mandler, Walter, and Wagner. 2,975,673.

Lendle, Siegfried, and R. R. Bond, to Levolor Lorentzen, Inc. Box having removable and replaceable cover. 2,976,932, 3-21-61, Cl. 220—55.

Leonard, Lloyd H. Method of and apparatus for lifting preformed slabs. 2,975,560, 3-21-61, Cl. 50—80.

Leonard, William T.: *See*—
Diehm, Kenneth F., and Leonard. 2,975,425.

Lerner, Louis L., and A. Safianoff, to The Gillette Co. Liquid dispensing applicator. 2,975,465, 3-21-61, Cl. 15—569.

Lester, Ronald: *See*—
Housam, Ernest C., and Lester. 2,976,336.

Leum, Leonard N., and J. E. Connor, Jr., to The Atlantic Refining Co. Isomerization of xylenes and alkyl benzenes. 2,976,332, 3-21-61, Cl. 260—668.

Lever Brothers Co.: *See*—
Boylance, Alan, Paul, and Taylor. 2,976,156.

Levine, Harold A., to General Aniline & Film Corp. Photographic gelatin layers containing triazine hardeners. 2,976,152, 3-21-61, Cl. 96—111.

Levine, Samuel W., to Fairchild Camera & Instrument Corp. Carriage drive for selective size photoelectric image reproducing machine. 2,976,355, 3-21-61, Cl. 178—66.6.

Levolor Lorentzen, Inc.: *See*—
Lendle, Siegfried, and Bond. 2,975,932.

Lewis, Oliver N., to Olin Mathieson Chemical Corp. Receiver assembly. 2,975,540, 3-21-61, Cl. 42—75.

Libbey-Owens-Ford Glass Co.: *See*—
Zellers, James T., Jr., Badger, and Lehr. 2,975,555.

Liddell, Robert E., N. T. Kuypers, and R. A. Yonkers, to Bissell Inc. Carpet sweepers. 2,975,449. 3-21-61, Cl. 15—41.

Liddell, Thomas: *See*—
McFadden, Charles A., Mammel, and Liddell. 2,975,745.

Liggett, William H., and J. B. Gudikunst, to Hughes Aircraft Co. Servo actuator. 2,975,767, 3-21-61, Cl. 121—120.

Lilly, Eli, and Co.: *See*—
Hostetler, Van B. 2,975,477.

Lindell, Sigurd L., to S & C Electric Co. Circuit interrupter. 2,976,381, 3-21-61, Cl. 200—120.

Lindley, Curtis P., to Centennial Mills, Inc. Dispensing container for powdered materials. 2,975,915, 3-21-61, Cl. 214—83.26.

Lindner, Paul L., to Witco Chemical Co., Inc. Dispersant compositions and toxicant concentrates containing the same. 2,976,208, 3-21-61, Cl. 167—42.

Lindner, Paul L., to Witco Chemical Co., Inc. Dispersant compositions and toxicant concentrates containing the same. 2,976,209, 3-21-61, Cl. 167—42.

Lindner, Paul L., to Witco Chemical Co., Inc. Dispersant compositions and toxicant concentrates containing the same. 2,976,211, 3-21-61, Cl. 167—42.

Lindsey, L. E. Suspension clamp for conductors. 2,975,997, 3-21-61, Cl. 248—63.

Lindstein, Vigo W. Ciphering devices. 2,975,630, 3-21-61, Cl. 35—8.

Link-Belt Co.: *See*—
Stechbart, Bruno E., and Anda. 2,975,729.

Linskey, John J., and E. H. Call, to J. William Freeman. File holders. 2,975,505, 3-21-61, Cl. 29—80.

Lionel Corp., The: *See*—
Bonanno, Joseph L. 2,975,552.

Lippincott, Samuel B., R. M. Thomas, H. T. Oakley, R. F. Leary, and R. S. Brodkey, to Esso Research and Engineering Co. Propylene polymerization. 2,976,271, 3-21-61, Cl. 260—93.7.

Lipsitz, Robert J., to Kalimar, Inc. Photographic flash guns. 2,976,511, 3-21-61, Cl. 339—33.

Lisciani, Constantine, to The Protectoseal Co. Spray gun container. 2,975,790, 3-21-61, Cl. 134—155.

Little, Arthur D., Inc.: *See*—
McMahon, Howard O. 2,975,604.

Little, Hugh B. Method for polishing the balance pivots of a watch. 2,975,567, 3-21-61, Cl. 51—281.

Little, Randel Q., Jr., and J. F. Bussert, to Standard Oil Co. Dihydroxy-aminotriazine insecticides. 2,976,207, 3-21-61, Cl. 167—33.

Lloyd Brothers, Inc.: *See*—
Vaughan, Joseph B. 2,975,752.

Lockheed Aircraft Corp.: *See*—
Eckel, Arthur F. 2,975,668.
Goddard, Robert W. 2,976,378.

Locus, Silvan S., to Electronic Specialty Co. Radio frequency filter. 2,976,498, 3-21-61, Cl. 333—9.

Loferski, Joseph J.: *See*—
Rappaport, Paul, and Loferski. 2,976,423.

Logan, John W., Jr., and C. E. Staples, to Westinghouse Air Brake Co. Railway car weight registry apparatus. 2,976,407, 3-21-61, Cl. 246—162.

Long, John C. Elevator. 2,975,868, 3-21-61, Cl. 187—18.

Long, Samuel W., and R. D. Moss, to The Dow Chemical Co. Bisphenol sulfide. 2,976,824, 3-21-61, Cl. 260—609.

Long, Samuel W., and R. D. Moss, to The Dow Chemical Co. Substituted phenolic sulfides. 2,976,325, 3-21-61, Cl. 260—609.

Looman, Johannes, H. Hofer, and W. Thiemig, to Zahnradfabrik Friedrichshafen, Aktiengesellschaft. Diamond truing device for profiling grinding disks with a grinding of helical single curve spur gears. 2,975,781, 3-21-61, Cl. 125—11.

Loughlin, Bernard D.: *See*—
Bailey, William F., Loughlin, and Page. 2,976,848.

Loughlin, Bernard D., to Haseltine Research, Inc. Color-signal modifying apparatus. 2,976,351, 3-21-61, Cl. 178—5.4.

Loughlin, Bernard D., to Haseltine Research, Inc. Detector circuit. 2,976,409, 3-21-61, Cl. 250—20.

Lowe, Orville G.: *See*—
McNeely, William H., and Lowe. 2,976,274.

Loyd, Samuel A.: *See*—
Reid, Donald L., and Loyd. 2,975,537.

Lozano, Michael: *See*—
Coopersmith, Rudolph, Lozano, and Greenblatt. 2,975,433.

Lozier, Gerald S.: *See*—
Morehouse, Clarence K., Lozier, and Glickman. 2,976,342.

Luber, Frederick G., R. I. Robinson, and A. M. G. Moody, to The Louis Allis Co. Electric gear-motor drive unit. 2,976,438, 3-21-61, Cl. 310—83.

Lubrizol Corp., The: *See*—
Bacon, William E. 2,976,308.

Lukins, Richard H., to Union Special Machine Co. Sewing machine with looper thread retainer. 2,975,737, 3-21-61, Cl. 112—197.

Lunden, Bror: *See*—
Allander, Claes, Lunden, and Nilsson. 2,975,609.

Lundgren, Sven-Olof, to Stiftelsen Svensk Textilforskning. Apparatus for washing wool. 2,975,625, 3-21-61, Cl. 68—18.

Lunig, Hermann, to Demag-Elektrometallurgie G.m.b.H. Arc furnace electrode control means. 2,976,483, 3-21-61, Cl. 314—69.

Lust, Siegmund: *See*—
Van Schoor, Albert, Jacobi, Lust, and Flemming. 2,976,296.

Lutsky, Sidney. Suspension device for articles of wearing apparel. 2,975,949, 3-21-61, Cl. 223—91.

Lutterberg, Joseph. Magnetic book holder. 2,975,544, 3-21-61, Cl. 45—57.

Lutz, Harry A. Collapsible pattern head for hair cutting, waving or styling. 2,975,534, 3-21-61, Cl. 35—59.

Lyman, William C., Jr.: *See*—
Brokaw, George Y., and Lyman. 2,976,251.

Lynn Corp., Inc.: *See*—
Schilder, Albert W. 2,975,808.

Lyon, Floyd A.: *See*—
Aronson, Theodore F., and Lyon. 2,975,571.

Lyon, George A. Method for making wheel covers. 2,975,742, 3-21-61, Cl. 113—51.

Lyon, George A. Method of and means for making wheel covers. 2,975,744, 3-21-61, Cl. 113—116.

Lyons, Ernest H., Jr., to Chromalloy Corp. Pressure-operated systems with ignitable propellants. 2,975,595, 3-21-61, Cl. 60—39.47.

Lyons, Joseph F.: *See*—
Odell, Norman R., and Lyons. 2,976,237.

Lytton, Marion R., and E. A. Wielicki, to American Viscose Corp. Film-forming polyesters of bibenzoic acid. 2,976,266, 3-21-61, Cl. 260—75.

M. T. & D. Co., The: *See*—
Gbur, John. 2,976,050.

Machinery and Electrical Products Co., Inc.: *See*—
Roberts, Hugh. 2,975,848.

Maciszewski, Arthur H., J. J. Hupert, R. Goldstein, and T. Szubski, to A.B.F. Products, Inc. Calibrating means for a variable frequency oscillator. 2,976,494, 3-21-61, Cl. 331—44.

MacLennan, Alastair S.: *See*—
Kuypers, Harold A., MacLennan, and Dinger. 2,975,801.

MacLeod, Donald, to Tech-Art Inc. Filled container easer. 2,975,569, 3-21-61, Cl. 53—62.

Macura, Joseph F., to Ford Motor Co. Ball tipped push rod. 2,975,775, 3-21-61, Cl. 123—90.

Maddocks, Ronald W.: *See*—
Gillick, Laurance H., and Maddocks. 2,976,023.

Maeder, Arthur, T. Weber, G. Sulzer, W. Futzer, and P. Guertler, to Ciba Ltd. Process for improving fibrous material and composition therefor. 2,976,167, 3-21-61, Cl. 117—33.

Magee Carpet Co., The: *See*—
Rehm, Frank C. 2,975,502.

Magnani, Alessandro. Apparatus for manufacturing sheets of fibrous materials. 2,975,838, 3-21-61, Cl. 162—318.

Magnuson, Robert E.: *See*—
Doull, Roy D., and Magnuson. 2,975,452.

Magone, Roscoe. Swimming device. 2,975,438, 3-21-61, Cl. 9—307.

Maldi, Virgil M. Pullman camper truck attachment. 2,976,078, 3-21-61, Cl. 296—26.

Makant, Joseph E., and H. Collins, to Collins Bros. Machine Co. Automatic stop spindle mechanism. 2,975,584, 3-21-61, Cl. 57—98.

Makovski, Stephen A., to United Shoe Machinery Corp. Last jacks. 2,975,443, 3-21-61, Cl. 12—126.

Male, Carleton: *See*—
Krebs, Samuel, Howard, Male, and Sumpter. 2,975,904.

Malecki, George J., to Patent Protection Corp., as trustee. Preservation of color of canned green vegetables. 2,976,157, 3-21-61, Cl. 99—186.

Malenich, George, to General Precision Inc. Safety wire simulator. 2,975,531, 3-21-61, Cl. 35—8.

Malin, Herbert, to The Dow Chemical Co. Process for continuously metering catalyst into a polymerization system. 2,976,270, 3-21-61, Cl. 260—92.8.

Malinofsky, Walter W., to United States of America, Army. Method of preparation of barium titanate powder. 2,976,116, 3-21-61, Cl. 23—51.

Mamalis, Patrick: *See*—
Green, Joseph, McHale, and Mamalis. 2,976,283.

Mammel, Walter E.: *See*—
McFadden, Charles A., Mammel, and Liddell. 2,975,745.

Mandler, Walter, and E. Wagner, to Ernst Leitz, Canada Ltd., Optical Works. High aperture photographic objective. 2,975,673, 3-21-61, Cl. 88—57.

Manly, Donald G., to The Quaker Oats Co. Production of 2,3-dihydropyran. 2,976,290, 3-21-61, Cl. 260—345.1.

Manning, Paul D. V., and I. M. Le Baron, to International Minerals & Chemical Corp. Process for producing phosphatic materials. 2,976,119, 3-21-61, Cl. 23—109.

Marceau, William E.: *See*—
White, Robert E., and Marceau. 2,976,166.

Marfal, Joseph, Jr., to William J. Ruano. Can spout. 2,975,938, 3-21-61, Cl. 222—90.

Marquis, Duane E., to Phillips Petroleum Co. Subsurface hydraulic pump. 2,975,765, 3-21-61, Cl. 121—158.

Marsh, Glenn A., and E. Schaschl, to The Pure Oil Co. Corrosion-measuring apparatus. 2,976,123, 3-21-61, Cl. 23—253.

Martin, Harold F., to International Business Machines Corp. Photo-sensing mechanism and circuit for punched data cards. 2,975,967, 3-21-61, Cl. 235—61.11.

Martin, James. Apparatus servicing stands. 2,976,033, 3-21-61, Cl. 209—185.

Martin, James C.: *See*—
Caldwell, John E., and Martin. 2,976,267.

Martin, Joseph: *See*—
Spound, Albert M., and Martin. 2,975,826.

Martin, Waldo D.: *See*—
Sorensen, Knud B., and Martin. 2,975,840.

Martinek, Thomas W., to The Pure Oil Co. Apparatus for preparing colloidal dispersions. 2,976,024, 3-21-61, Cl. 259—4.

Marvin, John T.: *See*—
Reindl, Harold J., and Marvin. 2,975,756.

Marwal Products Corp.: *See*—
Uebelhoer, Walter. 2,975,748.

Maschinenfabrik Augsburg-Nurnberg A.G.: *See*—
Meurer, Siegfried. 2,975,773.

Maschinenfabrik Peter Pfenningsberg G.m.b.H.: *See*—
Geschka, Hugo W. 2,975,624.

Mason, Ralph B., and E. W. S. Nicholson, to Esso Research and Engineering Co. Aldehyde hydrogenation catalyst preparation. 2,976,254, 3-21-61, Cl. 252—439.

Mason, Robert D. Rocket to the moon game. 2,976,045, 3-21-61, Cl. 273—135

Massey-Ferguson Inc.: *See*—
Hautsenroeder, Richard W. 2,975,633.

Matheney, Richard. Water supply means for motor cars. 2,975,797, 3-21-61, Cl. 137—334.

Matta, Joseph J.: *See*—
Brockwell, Lloyd A., and Matta. 2,976,500.

Mattel Inc.: *See*—
Duncan, Theodore R. 2,975,664.

Matthies, Hans J., to Gebrüder Welger, Maschinenfabrik. Pick-up baler with cross conveyer. 2,975,581, 3-21-61, Cl. 56—341.

Mattiat, Oskar E., to United States of America, Army. Impedance transformer. 2,976,501, 3-21-61, Cl. 333—32.

Mattox, William J.: *See*—
Kimberlin, Charles N., Jr., and Mattox. 2,976,331.

Matussak, Alfred H.: *See*—
Morwey, Arnold J., and Matussak. 2,976,241.

Mauser, Alfons, to Mauser Kommandit-Gesellschaft. Chair frame structure. 2,975,827, 3-21-61, Cl. 155—194.

Mauser Kommandit-Gesellschaft: *See*—
Mauser, Alfons. 2,975,827.

Maxwell, Charles F., to Howard Foundry Co. Aluminum alloy for high temperature service. 2,976,142, 3-21-61, Cl. 75—142.

Mayer, Alfred, to Quebec Metallurgical Industries Ltd. Method for preparing oxides of niobium and tantalum. 2,976,115, 3-21-61, Cl. 23—22.

Mazzagatti, Roy P., to Texaco Inc. Radiation detector. 2,976,445, 3-21-61, Cl. 313—93.

McBride, Richard T., to E. I. du Pont de Nemours and Co. Coated polymeric thermoplastic dielectric film. 2,976,185, 3-21-61, Cl. 117—138.8.

McCarty, Robert F., Jr., to Gadget-Of-The-Month Club, Inc. Knife sharpener. 2,975,658, 3-21-61, Cl. 76—86.

McClain, Victor R., to Smith, Kline & French Laboratories. Circuit fuse locator. 2,976,484, 3-21-61, Cl. 324—51.

McClellan, Ralph E., to The Meilink Steel Safe Co. Self-stabilizing foot for retractable castered tables. 2,975,466, 3-21-61, Cl. 16—34.

McCoy, Rawley D., to Reeves Instrument Corp. Precision servo positioning system. 2,976,467, 3-21-61, Cl. 318—30.

McCullough, Lewell O., Jr. Golf club. 2,976,046, 3-21-61, Cl. 273—162.

McCurry, Thomas M., to Union Bag-Camp Paper Corp. Heat sealable stepped end bag. 2,975,955, 3-21-61, Cl. 229—55.

McDonald, William H. Combination closure device. 2,975,830, 3-21-61, Cl. 160—92.

McFaddan, Norman F., to Hughes Aircraft Co. Resistor termination and method of manufacture. 2,976,509, 3-21-61, Cl. 338—329.

McFadden, Charles A., W. K. Mammel, and T. Liddell, to Seias Corp. of America. Heat treating machine. 2,975,745, 3-21-61, Cl. 113—128.

McFalls, Richard J.: *See*—
Pfeffer, Edward C., Jr., and McFalls. 2,975,428.

McFeaters, Harry L., to Pennsylvania Engineering Corp. Furnace trunnion bearing construction. 2,976,090, 3-21-61, Cl. 308—207.

McGhie, Russell P.: *See*—
Miles, Gilbert D., McGhie, and Fries. 2,975,943.

McGowan, George F. Flask for making dentures. 2,975,479, 3-21-61, Cl. 18—53.
McGraw-Edison Co.: *See*—
Everhart, James G. 2,976,508.
Silverman, Robert M. 2,976,048.
McGraw, Gerald J., to W. J. McGraw. Closure device. 2,975,496, 3-21-61, Cl. 24—201.
McGraw, W. J.: *See*—
McGraw, Gerald J. 2,975,496.
McGuffey, James W., to Tranter Mfg., Inc. Mobile refrigeration systems. 2,975,614, 3-21-61, Cl. 62—230.
McHale, David: *See*—
Green, Joseph, McHale, and Mamalis. 2,976,288.
McKee, Edward S., and E. L. Sturm, to Eastman Kodak Co. Photographic flash holder. 2,976,398, 3-21-61, Cl. 240—1.3.
McKim, Jack W.: *See*—
Reed, Linwood L., and McKim. 2,976,920.
McMahon, Howard O., to Arthur D. Little, Inc. Method of distribution of condensable gases. 2,975,604, 3-21-61, Cl. 62—6.
McNaney, Joseph T., to General Dynamics Corp. Image storage apparatus. 2,976,447, 3-21-61, Cl. 313—108.
McNaney, Joseph T., to General Dynamics Corp. Radar identification system. 2,976,529, 3-21-61, Cl. 343—6.5.
McNeely, William H., and O. G. Lowe, to Kelco Co. Method of producing a high viscosity water-soluble gum product. 2,976,274, 3-21-61, Cl. 260—209.
McNutt, Charles S., Jr.: *See*—
Lacy, Carl B. 2,975,872.
McPherson, Lewis W., to Dust-Tex Corp. Collapsible mop support. 2,975,451, 3-21-61, Cl. 15—147.
Mechanical Handling Systems, Inc.: *See*—
Klamp, Paul. 2,976,376.
Mellink Steel Safe Co., The: *See*—
McClellan, Ralph E. 2,975,468.
Meloon, Daniel T., and R. O. Osborn, to E. I. du Pont de Nemours and Co. Electroluminescent structures. 2,976,446, 3-21-61, Cl. 313—108.
Melville, John W.: *See*—
Berlin, Frederick H., Jr., and Bacon. 2,975,519.
Menke, Joseph F., and E. H. Doerpinghaus, to Brinro Ltd. S.A. Apparatus for detecting sources of infra-red rays. 2,976,419, 3-21-61, Cl. 250—83.3.
Merck, E., Aktiengesellschaft: *See*—
Van Schoor, Albert, Jacobi, Lust, and Flemming. 2,976,-296.
Mercury Handling Systems, Inc.: *See*—
Grundelman, Herman H. 2,975,885.
Meredith, Eugene V. Dowel pin. 2,976,069, 3-21-61, Cl. 287—127.
Meriam Instrument Co., The: *See*—
Zrimec, John J. 2,976,067.
Merriner, Delbert L.: *See*—
Landsverk, Ole G., Gladenia, and Merriner. 2,976,420.
Metallgesellschaft Aktiengesellschaft: *See*—
Huber, Adam. 2,976,029.
Metrawatt Aktiengesellschaft: *See*—
Unger, Erich. 2,976,495.
Meurer, Siegfried, to Maschinenfabrik Augsburg-Nurnberg A.G. Combustion chambers for pistons. 2,975,775, 3-21-61, Cl. 123—32.
Meyer, Delbert H., to Standard Oil Co. Two step esterification process of terephthalic acid. 2,976,030, 3-21-61, Cl. 260—475.
Meyer, Leonard S., to Parallel Products Co. Archery arrow. 2,976,043, 3-21-61. Cl. 273—106.5.
Meyer, Louis C. Cigarettes. 2,976,190, 3-21-61, Cl. 131—17.
Michel, David D. Foam valve assembly. 2,975,944, 3-21-61, Cl. 222—394.
Michel, Frank, to Chas. Pfizer & Co., Inc. Tablet hardness tester. 2,975,630, 3-21-61, Cl. 73—76.
Michel, Mathias, to Kaiser Aluminum & Chemical Corp. Strip tension controller. 2,975,991, 3-21-61, Cl. 242—75.51.
Michels, Julian G.: *See*—
Hayes, Kenyon J., and Michels. 2,976,300.
Micro Balancing, Inc., a Subsidiary of Giannini Scientific Corp.: *See*—
Quell, Charles H. 2,975,640.
Miles, Gilbert D., R. P. McGhie, and C. W. Fries, to Colgate-Palmolive Co. Actuation assistant for aerosol dispenser valves. 2,975,943, 3-21-61, Cl. 222—394.
Milford, George N., Jr., and F. T. Wall, to E. I. du Pont de Nemours and Co. Polymer of a 2,6-disubstituted heptadiene-1,6. 2,976,268, 3-21-61, Cl. 260—77.5.
Miller, Arthur, to Sanborn Co. Protective system. 2,976,-462, 3-21-61, Cl. 317—9.
Miller, Elmer: *See*—
Folkins, Hillis O., Miller, and Kempf. 2,976,322.
Miller, Elmer L.: *See*—
Folkins, Hillis O., and Miller. 2,976,323.
Miller, Ervan H. Jumping toy. 2,975,550, 3-21-61, Cl. 46—116.
Miller, Fred F., Jr., to Dana Corp. Universal joint. 2,976,-091, 3-21-61, Cl. 308—212.
Miller, Leonard W.: *See*—
Robinson, Edward N., Appleman, Miller, and Singer. 2,975,956.
Miller, Max W., to Chas. Pfizer & Co., Inc. Miticidal agent. 2,976,301, 3-21-61, Cl. 260—346.
Miller, Paul W. Twin charcoal vertical broiler. 2,975,698, 3-21-61, Cl. 99—390.
Milne, David T., to American Viscose Corp. Continuous reaction vessel. 2,976,131, 3-21-61, Cl. 23—285.
Milwaukee Faucets, Inc.: *See*—
Hartmann, Gilbert L. 2,976,009.
Minneapolis-Honeywell Regulator Co.: *See*—
Jensen, James L. 2,976,465.
Morrison, Stanley R. 2,975,638.
Olson, Elwyn H. 2,975,610.
Minnesota Mining and Mfg. Co.: *See*—
Anderson, Raymond T. 2,975,530.
Kuhrmeyer, Carl A. 2,976,415.
Pahl, Walter H., Sandholtz, Eiertz, and Goggin. 2,976,-178.
Mitchell, William A.: *See*—
Barnes, Harry M., Kremsner, and Mitchell. 2,975,603.
Mobay Chemical Co.: *See*—
Wagner, Kuno, and Muller. 2,976,261.
Modern Dust Bag Co., Inc.: *See*—
Goldberg, Harry. 2,975,862.
Sosnowich, Michael. 2,975,863.
Moen, Alfred M. Body forming valve chamber and stem mounting. 2,975,806, 3-21-61, Cl. 137—625.17.
Monarch Tool & Machinery Co.: *See*—
Budreck, Frances. 2,975,497.
Budreck, Frances. 2,976,075.
Mongodin, Guy: *See*—
Geller, Richard, and Mongodin. 2,975,957.
Monroe, Charles Z., and H. B. Egleston, to Ex-Cell-O Corp. Sealing and stapling mechanism for container fabricating machine. 2,975,570, 3-21-61, Cl. 53—138.
Monsanto Chemical Co.: *See*—
D'Amico, John J. 2,976,293.
Gash, Virgil W. 2,976,285.
Tung, Ching C., and D'Amico. 2,976,292.
Vaughn, William A. 2,976,310.
Monson, Harry O., to United States of America, Atomic Energy Commission. Steam generator. 2,975,770, 3-21-61, Cl. 122—33.
Moody, Arthur M. G.: *See*—
Luber, Frederick G., Robinson, and Moody. 2,976,438.
Moore, Charles D., to Ford Motor Co. Motor vehicle body mounts. 2,976,080, 3-21-61, Cl. 296—35.
Moore, Mildred C. Artist's material holding device. 2,975,-545, 3-21-61, Cl. 45—129.
Moore, William H., and D. P. Burcham, to United States of America, Navy. Gradiometer for underwater missile warhead. 2,976,453, 3-21-61, Cl. 324—43.
Moores, Mead S.: *See*—
Rudner, Bernard, and Moores. 2,976,307.
Morehouse, Clarence K., G. S. Lozier, and R. Glicksman, to Radio Corp. of America. Fuel cells. 2,976,342, 3-21-61, Cl. 136—100.
Morey, William A. Adjustable trailer suspension. 2,976,051, 3-21-61, Cl. 280—81.
Morgan, Arthur L., Jr., and J. M. Randall, to United States of America, Agriculture. Production of instant coffee. 2,976,158, 3-21-61, Cl. 99—199.
Morgan, Walter A.: *See*—
Dingwiddie, James A., and Morgan. 2,976,132.
Mork, Ralph G.: *See*—
Demer, Frederick M., and Mork. 2,975,965.
Morris, Frank A.: *See*—
Fisher, Charles R., Jr., and Morris. 2,976,347.
Morris, William J. Fountain handle for conventional broomheads. 2,975,463, 3-21-61, Cl. 15—544.
Morrison, Stanley R., to Minneapolis-Honeywell Regulator Co. Electrical hygrometer device. 2,975,638, 3-21-61, Cl. 73—336.5.
Morrison, Willard L., to Conch International Methane Ltd. Transportation and use of liquefied natural gas. 2,975,-608, 3-21-61, Cl. 62—53.
Morrison, Willard L., to The Union Stock Yard and Transit Co. of Chicago. Self-service display counter. 2,976,099, 3-21-61, Cl. 312—267.
Morse, John F. Push-pull cable mounting bracket for marine engine control. 2,975,653, 3-21-61, Cl. 74—501.
Morton, James S., and J. Savage, to The British Iron and Steel Research Corp. Casting of metals. 2,975,493, 3-21-61, Cl. 22—139.
Morway, Arnold J., and A. H. Matuszak, to Esso Research and Engineering Co. Lubricating grease compositions containing novel soap-salt complexes. 2,976,241, 3-21-61, Cl. 252—33.6.
Morway, Arnold J., to Esso Research and Engineering Co. Lubricating grease compositions. 2,976,242, 3-21-61, Cl. 252—35.
Morway, Arnold J., and J. O. Smith, Jr., to Esso Research and Engineering Co. Stable calcium acetate-mineral oil dispersion. 2,976,243, 3-21-61, Cl. 252—40.7.
Moseley, F. L., Co.: *See*—
Flanders, Robert N., and Moseley. 2,976,103.
Moseley, Francis L.: *See*—
Flanders, Robert N., and Moseley. 2,976,103.
Moser, Henry W., W. Grobman, and E. O. P. Eskilson, to Samuel M. Langston Co. Printer-slotter machines. 2,975,-706, 3-21-61, Cl. 101—181.
Moss, Rodney D.: *See*—
Long, Samuel W., and Moss. 2,976,324.
Long, Samuel W., and Moss. 2,976,325.
Mostrong, Casey M. Plant bed shaper. 2,975,842, 3-21-61, Cl. 172—252.
Motor Wheel Corp.: *See*—
Johnson, Stanley N. 2,975,511.
Mouille, John T., Sr., to Schulte Brass Mfg. Co., Inc. Brackets for attaching wall fixtures. 2,975,557, 3-21-61, Cl. 50—22.
Moulton, Alexander E., and A. A. Isigonis, to Moulton Developments Ltd. Universal joints and couplings. 2,975,-621, 3-21-61, Cl. 64—17.
Moulton Developments Ltd.: *See*—
Moulton, Alexander E., and Isigonis. 2,975,621.
Mount Clemens Metal Products Co.: *See*—
Vigmostad, Trygve. 2,975,654.
Moxley, William N. Massage machine. 2,976,437, 3-21-61, Cl. 310—63.
Mucci, Ralph L.: *See*—
Nalbach, John R., Weston, and Mucci. 2,975,575.
Muller, Erwin: *See*—
Wagner, Kuno, and Muller. 2,976,261.

Muller, Gerhard: *See*—
Gruber, Helmut, Scheidig, Pieper, Muller, and Bussard. 2,976,329.
Müller, Heinrich, and F. Muth. Apparatus and a method of mixing leafy or fibrous materials. 2,975,787, 3-21-61, Cl. 131—108.
Muller, Wilhelm: *See*—
Heil, Friedrich, and Muller. 2,975,970.
Munschauer, Edwin A.: *See*—
Munschauer, Frederick E., Jr., G. E. Munschauer and E. A. Munschauer, Jr. 2,975,701.
Munschauer, Frederick E., Jr., G. E. Munschauer and E. A. Munschauer, Jr., to Niagara Machine & Tool Works. Power press with shiftable bolster means. 2,975,701, 3-21-61, Cl. 100—214.
Munschauer, George E.: *See*—
Munschauer, Frederick E., Jr., G. E. Munschauer and E. A. Munschauer, Jr. 2,975,701.
Murfin, Clifton H. Emblem and means for mounting it. 2,975,538, 3-21-61, Cl. 40—20.
Murphey, Robert S., to A. H. Robins Co., Inc. Injectable skeletal muscle relaxant. 2,976,213, 3-21-61, Cl. 167—65.
Musser, Clair O. Stringed musical instruments having a plastic housing. 2,975,666, 3-21-61, Cl. 84—285.
Muth, Frans: *See*—
Müller, Heinrich, and Muth. 2,975,787.
Muth, Richard J., to Container Corp. of America. Carton with cover lock. 2,975,953, 3-21-61, Cl. 229—45.
Muttart, Vincent, to Independent Lock Co. Lock assembly. 2,976,072, 3-21-61, Cl. 292—336.3.
Mystik Adhesive Products, Inc.: *See*—
Kusek, Edwin F. 2,975,950.
N.E.A. Services, Inc.: *See*—
Thompson, Louis A. 2,976,349.
N.V. Onderzoekingsinstituut Research: *See*—
Voigt, Jan L. 2,976,258.
N.V. Optische Industrie "De Oude Delft": *See*—
Zoglmann, Rudolf, and Nieuwenhoven. 2,975,691.
Nalbach, John R., L. G. Weston, and R. L. Mucci, to John R. Nalbach Engineering Co. Apparatus for securing and sealing a closure cap to a receptacle. 2,975,575, 3-21-61, Cl. 53—330.
Nalbach, John R., Engineering Co.: *See*—
Nalbach, John R., Weston, and Mucci. 2,975,575.
Napier, D., & Son Ltd.: *See*—
Gilbert, Ronald A. 2,976,015.
Nasu, Takuya. Tuning indicator system for intercarrier television. 2,976,353, 3-21-61, Cl. 178—5.8.
National Equipment Corp.: *See*—
Greenberg, Robert L. 2,975,731.
National Research Corp.: *See*—
Hayes, Oliver W. 2,975,753.
National Research Development Corp.: *See*—
Paul, John. 2,975,553.
National Rubber Machinery Co.: *See*—
Frank, Paul A. 2,975,986.
Heston, Eugene E. 2,975,475.
Neal, Herbert: *See*—
Booton, Herman, and Neal. 2,975,622.
Nechine, Leonard M., to Food Machinery and Chemical Corp., Chicago Pump Co. Division. Screw feed centrifugal pump. 2,975,714, 3-21-61, Cl. 103—98.
Neff, Robert M., to General Motors Corp. Corrugating machines. 2,975,817, 3-21-61, Cl. 153—2.
Nelson, Douglas J. Accessory for blow torch. 2,975,784, 3-21-61, Cl. 126—240.
Nelson, Fennil N., to Lynn H. Ewing, d.b.a. Black Hawk Co. Cutting tool. 2,975,518, 3-21-61, Cl. 30—263.
Nelson, William B., to R. W. Gunson (Seeds) Ltd. Apparatus for drying and cleaning seeds. 2,975,808, 3-21-61, Cl. 209—238.
Nemeyer, Matthew T.: *See*—
Bacon, Clare E., and Nemeyer. 2,975,503.
Netschert, Franz J.: *See*—
Russell, Fred J., and Netschert. 2,976,073.
New Britain Machine Co., The: *See*—
D'Aloiso, Elio F., and De Haas. 2,975,876.
Newhall, Edmunde E., and J. R. Perucca, to Bell Telephone Laboratories, Inc. Magnetic control circuits. 2,976,472, 3-21-61, Cl. 332—12.
Newland, Gordon C., and J. W. Tamblyn, to Eastman Kodak Co. Poly-a-olefins containing certain 4-alkoxy-2-hydroxybenzophenones and alkylene-bis-phenols. 2,976,260, 3-21-61, Cl. 260—45.95.
Newman, Donald J. Golf glove. 2,975,420, 3-21-61, Cl. 2—159.
New York Air Brake Co., The: *See*—
Hodgson, Robert F. 2,975,718.
Niagara Machine & Tool Works: *See*—
Munschauer, Frederick E., Jr., G. E. Munschauer and E. A. Munschauer, Jr. 2,975,701.
Nichinson, David B., and R. E. White, to Kollsman Instrument Corp. Precision tachometer system. 2,975,642, 3-21-61, Cl. 73—510.
Nichol, Wilbert G., to United States Steel Corp. Load retarding device. 2,975,730, 3-21-61, Cl. 105—360.
Nichols, E. Byron: *See*—
Wilder, Harvey H. 2,975,507.
Nicholson, Edward W. S.: *See*—
Mason, Ralph B., and Nicholson. 2,976,254.
Nickerson, Clarence E. Earth mover. 2,975,535, 3-21-61, Cl. 37—129.
Nicolls, Wilfrid E. W., to C.A.V. Ltd. Liquid fuel pumps for internal combustion engines. 2,975,776, 3-21-61, Cl. 123—139.
Niebling, Warren H. Garden hose safety valve. 2,975,983, 3-21-61, Cl. 239—547.
Nieuwenhoven, Hendricus J. C.: *See*—
Zoglmann, Rudolf, and Nieuwenhoven. 2,975,691.
Nilsson, Hans E., to Svenska Rotor Maskiner Aktiebolag. Rotor device. 2,975,963, 3-21-61, Cl. 230—143.
Nilsson, Karl: *See*—
Allander, Claes, Lunden, and Nilsson. 2,975,609.
Ninginger, Nathan V., Jr.: *See*—
Lacy, Carl B. 2,975,872.
Ninnemann, Lawrence D., and R. M. Crayford, to Baker Brothers, Inc. Loading and unloading apparatus. 2,975,-809, 3-21-61, Cl. 141—1.
Nippert Electric Products Co., The: *See*—
Nippert, Paul W. 2,975,859.
Nippert, Paul W., to The Nippert Electric Products Co. Boring machine or similar machine tool. 2,975,859, 3-21-61, Cl. 77—3.
Nomine, Gerard L. Penasse, and P. Barthelemy, to UCLAF. Pure vitamin B_{12} and method of making same. 2,976,276, 3-21-61, Cl. 260—211.5.
Nopco Chemical Co.: *See*—
Klein, Howard C., and Griffith. 2,976,298.
North American Aviation, Inc.: *See*—
Antoniades, Arthur J., and Bigelow. 2,976,066.
Armanini, Edward N. 2,976,427.
Burns, Maurice R. 2,976,489.
Ganahl, Joseph F. 2,975,632.
North American Philips Co., Inc.: *See*—
Bayfield, William A. 2,976,421.
Roovers, Wilhelmus A. 2,975,928.
Northwestern Steel & Wire Co.: *See*—
Bell, George W. 2,975,506.
Norton Co.: *See*—
Backer, William R. 2,975,566.
Norwich Pharmacal Co., The: *See*—
Hayes, Kenyon J., and Michels. 2,976,300.
Nova Beaucage Mines Ltd.: *See*—
Bushell, Charles H. G., and Jackson. 2,975,895.
Nowacki, Louis J.: *See*—
Bitting, Russell D., Jackson, and Nowacki. 2,976,163.
Noyes, Arthur E.: *See*—
Werner, Robert V., Zable, Thompson, and Noyes. 2,976,-530.
Nybakke, Clifford R., to Oregon Nut Growers, Inc. Wheeled vehicle for dispensing flowable material. 2,975,940, 3-21-61, Cl. 222—177.
Oakley, Howard T.: *See*—
Lippincott, Samuel B., Thomas, Oakley, Leary, and Brodkey. 2,976,271.
Oberinger, Joseph P. Magnetic toy. 2,975,551, 3-21-61, Cl. 46—239.
O'Brien, Angus J.: *See*—
Gwinn, Joseph M., Jr., O'Brien, and Coleman. 2,975,913.
Ocker, Charles. Valve structure. 2,976,008, 3-21-61, Cl. 251—175.
Odd, Leslie F. Control circuits for gas-filled, grid-controlled discharge tubes. 2,976,460, 3-21-61, Cl. 315—204.
Odell, Norman R., and J. F. Lyons, to Texaco Inc. Lubricating greases thickened with reaction products of arylamine dyes with phosphomolybdic, phosphotungstic and phosphotungstomolybdic acids in admixture with ultramarine blue. 2,976,237, 3-21-61, Cl. 252—28.
Oehler, William P., and H. V. Hansen, to Deere & Co. Planter marker mechanism. 2,975,841, 3-21-61, Cl. 172—126.
Oehler, William P., and H. V. Hansen, to Deere & Co. Planter mechanism. 2,975,844, 3-21-61, Cl. 172—484.
Olin Mathieson Chemical Corp.: *See*—
Angeloff, George T. 2,976,195.
Leeper, Robert W., and Fusco. 2,976,139.
Lewis, Oliver N. 2,975,540.
Olivetti, Ing. C., & C., S.p.A.: *See*—
Delponte, Gerardo, and Giannitrapani. 2,975,881.
Olofsson Co., The: *See*—
Garnett, Donald W. 2,975,568.
Olson, Elwyn H., to Minneapolis-Honeywell Regulator Co. Control apparatus. 2,975,610, 3-21-61, Cl. 62—139.
Op de Beeck, Joseph A. Roll film camera with focal plane shutter mechanism. 2,975,690, 3-21-61, Cl. 95—31.
Opie, John. Pontoon and boat construction. 2,975,747, 3-21-61, Cl. 114—61.
Oregon Nut Growers, Inc.: *See*—
Nybakke, Clifford R. 2,975,940.
Orr, Edgar K.: *See*—
Taylor, Ernest F., and Poe. 2,975,831.
Ort, Carl, to Eastman Kodak Co. Filter compensation for photographic cameras. 2,975,693, 3-21-61, Cl. 95—64.
Osborn, Robert O.: *See*—
Meloon, Daniel T., and Osborn. 2,976,446.
Osterkamp, Henry C., to Westinghouse Air Brake Co. Rotary machine. 2,975,964, 3-21-61, Cl. 230—152.
Otrhalek, Joseph V. to Wyandotte Chemicals Corp. Bottle washing composition and method. 2,976,248, 3-21-61, Cl. 252—106.
Oussani, James J. Fastener device. 2,975,424, 3-21-61, Cl. 1—101.
Owens-Corning Fiberglas Corp.: *See*—
Bacon, Clare E., and Nemeyer. 2,975,503.
Warthen, William P. 2,976,177.
Owens-Illinois Glass Co.: *See*—
Pillmore, William E. 2,975,466.
Howell, John G., Jr. 2,975,829.
Pellett, Fred G. 2,975,947.
Sherman, Orville B. 2,975,471.
Stutzke, William A., and Torok. 2,975,554.
Pacific Coast Foil Co.: *See*—
Jorgenson, Ralph J., and Grant. 2,975,574.
Paddison, Osborne H., and R. W. Sommers, to E. I. du Pont de Nemours and Co. Process for the manufacture of carboxymethyl cellulose involving 3-component, 2-phase liquid reaction medium. 2,976,278, 3-21-61, Cl. 260—231.
Pagan, Alberto. Girder made up of structural members. 2,975,874, 3-21-61, Cl. 189—37.
Page, Charles E.: *See*—
Bailey, William F., Loughlin, and Page. 2,976,348.

Page, Robert S. Metallic rectifier analyser. 2,976,486, 3–21–61, Cl. 324—158.

Pahl, Walter H., W. A. Sandholtz, N. R. Elerts, and R. E. Goggin, to Minnesota Mining and Mfg. Co. Gummed paper. 2,976,178, 3–21–61, Cl. 117—122.

Pahud, René, to La Fonte Electrique S.A. Process for the preparation of hypophosphites. 2,976,117, 3–21–61, Cl. 23—107.

Pahud, René, to La Fonte Electrique S.A. Method of preparing hypophosphites. 2,976,118, 3–21–61, Cl. 23—107.

Palmer, Benjamin F. Distance and speed recording device. 2,976,102, 3–21–61, Cl. 346—18.

Palmer, Harvey V. and R. H. Animal pelt processing machine. 2,975,628, 3–21–61, Cl. 69—46.

Palmer, Robert H.: *See*—
Palmer, Harvey V. and R. H. 2,975,628.

Panepinto, Anthony. Trouser supporting means. 2,975,431, 3–21–61, Cl. 2—301.

Pansini, Andrew L. Automatic swimming pool cleaner. 2,975,791, 3–21–61, Cl. 134—167.

Pappas, George F., to Esso Research and Engineering Co. Control of coarse solids flow. 2,975,919, 3–21–61, Cl. 214—152.

Paragon Electric Co.: *See*—
Everard, Joseph J. 2,975,612.

Parallel Products Co.: *See*—
Meyer, Leonard S. 2,976,043.

Parcell, Robert F., to Parke, Davis, & Co. Piperazine derivatives and methods for their production. 2,976,290, 3–21–61, Cl. 260—268.

Parke, Davis, & Co.: *See*—
Parcell, Robert F. 2,976,290.

Parkhill, Douglas F., D. C. Redpath, and T. C. Ross, to Avco Manufacturing Corp. Digital system of mechanically and electrically compatible building blocks. 2,976,428, 3–21–61, Cl. 307—88.5.

Parks, Christ F., to The Dow Chemical Co. Sealing porous metal surfaces. 2,976,176, 3–21–61, Cl. 117—97.

Patent and Licensing Corp., The: *See*—
Herbert, John D. 2,975,629.

Patent Protection Corp.: *See*—
Malecki, George J. 2,976,157.

Paul, Bert B., and S. Petursson, to Jacobs & Thompson Ltd. Frameless storm windows. 2,975,491, 3–21–61, Cl. 20—55.

Paul, James R.: *See*—
West, Samuel R., Thompson and Paul. 2,975,834.

Paul, John, to National Research Development Corp. Apparatus for culture of biological cells and tissues. 2,975,-553, 3–21–61, Cl. 47—1.

Paul, Stanley: *See*—
Roylance, Alan, Paul, and Taylor. 2,976,156.

Paull, Peter L., to Texaco Development Corp. Hydrocarbon conversion process. 2,976,134, 3–21–61, Cl. 48—215.

Paulson, Russell E. Method and machine for surfacing track ties. 2,975,725, 3–21–61, Cl. 104—9.

Paulson, Russell E. Method and machine for removing skewed track ties. 2,975,726, 3–21–61, Cl. 104—9.

Paulson, W. W., & Co.: *See*—
Anderson, Ivan. 2,976,424.

Paynton, Harold G., Sr. Archery package. 2,975,888, 3–21–61, Cl. 206—45.34.

Pearce, John W., to S. C. Johnson & Son, Inc. Process for preparing epoxide compositions using a dehydrated acid cation exchange resin catalyst. 2,976,265, 3–21–61, Cl. 260—75.

Pell, Kenneth M. Step and repeat apparatus. 2,975,694, 3–21–61, Cl. 95—77.

Pellett, Fred G., to Owens-Illinois Glass Co. Dispensing type closures. 2,975,947, 3–21–61, Cl. 222—540.

Pena, Bonifacio F. Device for the protection of bulls in simulated bullfights. 2,975,760, 3–21–61, Cl. 119—143.

Penasse, Lucien: *See*—
Nomine, Gerard, Penasse, and Barthelemy. 2,976,276.

Pennington, Charles A.: *See*—
Pennington, Davis W. and C. A. 2,975,930.

Pennington, Davis W. and C. A. Multi-purpose container. 2,975,930, 3–21–61, Cl. 220—23.4.

Pennsylvania Engineering Corp.: *See*—
McFeaters, Harry L. 2,976,090.

Pennsylvania Furnace and Iron Co.: *See*—
Sasserson, Curtis F. 2,976,513.

Perch, Philip S.: *See*—
Winstrom, Leon O., Samdahl, and Perch. 2,976,320.

Perkins, Therold W., to General Electric Co. Coated panel and method of making the same. 2,976,201, 3–21–61, Cl. 154—116.

Perrelli, John, to Filper Corp. Pitter for removing pits from drupe halves. 2,975,812, 3–21–61, Cl. 146—28.

Persson, Sven E. Windows with one or more metal section sashes for three window panes. 2,975,492, 3–21–61, Cl. 20—56.5.

Perucca, James R.: *See*—
Newhall, Edmunde E., and Perucca. 2,976,472.

Peters, Ralph W.: *See*—
Sead, Charles D., and Peters. 2,976,205.

Petersen, Jack A., to Radiation, Inc. Digital recording. 2,976,104, 3–21–61, Cl. 346—33.

Peterson, Adolphe C. Counter flow regenerative gas turbines. 2,975,596, 3–21–61, Cl. 60—39.51.

Peterson, Ralph M.: *See*—
Smith, Clarence J., and Peterson. 2,975,740.

Petrolite Corp.: *See*—
Waterman, Logan C., and Shirley. 2,976,228.

Petro-Tex Chemical Corp.: *See*—
Christmann, Harold F. 2,976,337.

Pettibone Mulliken Corp.: *See*—
Heideman, Irvin L. 2,975,660.

Petursson, Sigurdur: *See*—
Paul, Bert B., and Petursson. 2,975,491.

Pfaff, G. M., A.G.: *See*—
Schenkengel, Emerich. 2,975,824.

Pfeffer, Edward C., Jr., and R. J. McFalls, to Cluett, Peabody & Co., Inc. Collar stays. 2,975,428, 3–21–61, Cl. 2—132.

Pfizer, Chas., & Co., Inc.: *See*—
Agnello, Eugene J., Bloom, and Laubach. 2,976,283.
Blackwood, Robert K. 2,976,315.
Michel, Frank. 2,975,630.
Miller, Max W. 2,976,301.

Phelan, Louis A. M.: *See*—
Koch, Lawrence E. 2,975,618.

Philco Corp.: *See*—
Colodny, Samuel H. 2,976,412.

Phillips, Edward H. Machine for grinding and polishing lenses. 2,975,565, 3–21–61, Cl. 51—124.

Phillips Petroleum Co.: *See*—
Edwards, Oliver D. 2,976,253.
Marquis, Duane E. 2,975,768.
Piety, Raymond G. 2,976,106.
Welchon, James K. 2,975,724.

Picanol, Jaime. Tool for cutting bevel gears, hypoid gears and similar gears. 2,975,808, 3–21–61, Cl. 29—105.

Pieper, Werner: *See*—
Gruber, Helmut, Scheidig, Pieper, Muller, and Bussard. 2,976,339.

Pierce, George W.: *See*—
Thompson, Crayton B., and Pierce. 2,976,168.

Pietsch, Joseph A., to General Electric Co. Control system for air conditioning units. 2,975,611, 3–21–61, Cl. 62—151.

Piety, Raymond G., to Phillips Petroleum Co. Seismic signal recording apparatus. 2,976,106, 3–21–61, Cl. 346—109.

Plimbley, George H., to Purex Corporation, Ltd. Process and compositions for producing aluminum surface conversion coatings. 2,976,193, 3–21–61, Cl. 148—6.21.

Pinder, James M., to General Electric Co. Means for improving clothes distribution in a machine having a centrifugal liquid extraction step. 2,975,902, 3–21–61, Cl. 210—144.

Pittsburgh Chemical Co.: *See*—
Whittier, Fred, and Lawn. 2,976,256.

Pittsburgh Plate Glass Co.: *See*—
Baillie, Edward C., and Stevens. 2,976,206.
Ziegler, Harry L. 2,976,196.

Pizzi, Albert L., to Western Electric Co., Inc. Article ejecting fixture. 2,975,921, 3–21–61, Cl. 214—309.

Placket Closing Corp. of America: *See*—
Duchan, Benjamin. 2,975,739.

Platt, Raymond S., to Whirlpool Corp. Dispensing system. 2,975,627, 3–21–61, Cl. 68—207.

Plattner, Andrew J. Concrete column mold. 2,975,498, 3–21–61, Cl. 25—131.

Platzer, Franz G. Rolling mill. 2,975,663, 3–21–61, Cl. 80—38.

Plue, Arnold F., to General Aniline & Film Corp. p-(3,5-disubstituted and 3,5,5-trisubstituted-2-pyrazolin-1-yl)benzaldehydes. 2,976,295, 3–21–61, Cl. 260—310.

Poe, Ralph M.: *See*—
Taylor, Ernest F., and Poe. 2,975,831.

Pollard, Ernest B., to Daffin Corp. Front mounted rotary wheel side delivery rake. 2,975,582, 3–21–61, Cl. 56—377.

Politzer, Ernest L., to Universal Oil Products Co. Surface active compounds derived from carbohydrates. 2,976,275, 3–21–61, Cl. 260—211.

Ponnock, Abraham. Method of making hollow plastic balls and other hollow bodies. 2,975,823, 3–21–61, Cl. 154—16.

Pope, James K. Curved ball projecting device. 2,975,779, 3–21–61, Cl. 124—11.

Porter, Walter J., Jr., W. M. Smith, and R. E. Schexnailder, Jr., to Esso Research and Engineering Co. Platinum-alumina-ceria hydroforming catalyst and process. 2,976,-232, 3–21–61, Cl. 208—138.

Postel, Carl E., to Goodyear Aircraft Corp. Tooling bar. 2,975,522, 3–21–61, Cl. 33—125.

Poulsen, Ralph E. Extension cord reel. 2,976,374, 3–21–61, Cl. 191—12.4.

Powell, Truman W. Packaging carrier separable into individual and multiple carrier units. 2,975,934, 3–21–61, Cl. 220—112.

Precision Metal Workers: *See*—
Stell, George H. 2,976,005.

Presgrave, Cyril, to G. & W. H. Carson, Inc. Magnetic method for removal of finely divided magnetic materials. 2,975,-897, 3–21–61, Cl. 209—214.

Prest, Robert J., to Technical Operations, Inc. Manipulating radioactive material. 2,976,428, 3–21–61, Cl. 250—106.

Preston, Frank S.: *See*—
Greunke, Orville V., and Preston. 2,976,528.

Preston, Neil D., to General Railway Signal Co. Mechanical lock for railroad track switches. 2,976,406, 3–21–61, Cl. 246—161.

Pribonic, John F., and W. A. Karlgaard, to General Motors Corp. Height control valve for vehicle suspension. 2,976,-053, 3–21–61, Cl. 280—124.

Prior, William L.: *See*—
Snelson, Howard J., and Prior. 2,975,470.

Pro, George M., to Air Placement Equipment Co. Combined mixer and conveyor. 2,976,025, 3–21–61, Cl. 259—154.

Process Filters, Inc.: *See*—
Ulrich, Edward A. 2,975,903.

Propst, James P., III, to Superior Tank Corp. Manure handling devices. 2,975,978, 3–21–61, Cl. 235—148.

Propst, Verle V., to Beaver Precision Products, Inc. Ball screw assembly with internal ball return. 2,975,649, 3–21–61, Cl. 74—424.8.

Protectoseal Co., The: *See*—
Lisciani, Constantine. 2,975,790.

Pruyn, Leonard L.: *See*—
Pruyn, Marjorie G. and L. L. 2,975,514.

Pruyn, Marjorie G. and L. L. Opener for containers. 2,975,-514, 3–21–61, Cl. 30—6.1.

Puccinelli, Sylvio: *See*—
Freeman, Marshall E. C., Puccinelli, and Creed. 2,975,613.

Pueschel, Richard: *See*—
Ball, Frank J., and Pueschel. 2,976,279.

Pure Oil Co., The: *See*—
Bond, Donald C. 2,975,835.
Braunwarth, John B. 2,976,329.
Folkins, Hillis O., and Miller. 2,976,323.
Folkins, Hillis O., Miller, and Kempf. 2,976,322.
Froncsak, Ernest T., Chapman, and Brennan. 2,976,160.
Marsh, Glenn A., and Schaechl. 2,976,123.
Martinek, Thomas W. 2,976,024.

Purex Corp., Ltd.: *See*—
Pimbley, George H. 2,976,193.

Purvance, William T., to United States Steel Corp. Agricultural implement for conditioning soil. 2,975,735, 3–21–61, Cl. 111—8.

Pyle-National Co., The: *See*—
Steber, Clarence L. 2,976,400.

Quaedvlieg, Mathieu: *See*—
Boresch, Carl, and Quaedvlieg. 2,976,816.

Quaker Oats Co., The: *See*—
Manly, Donald G. 2,976,299.

Quebec Metallurgical Industries Ltd.: *See*—
Mayer, Alfred. 2,976,115.

Quell, Charles H., to Micro Balancing, Inc., a Subsidiary of Giannini Scientific Corp. Dynamic balancing means. 2,975,-640, 3–21–61, Cl. 73—466.

Rabb, Lionel. Integral one-piece folding optical frame. 2,975,426, 3–21–61, Cl. 2—13.

Racine Hydraulics & Machinery, Inc.: *See*—
Rynders, Robert D., and Brannon. 2,975,717.

Radiation, Inc.: *See*—
Petersen, Jack A. 2,976,104.

Radio Corp. of America: *See*—
Brockwell, Lloyd A., and Matta. 2,976,500.
Morehouse, Clarence E., Losier, and Glickman. 2,976,342.
Rappaport, Paul. 2,976,426.
Rappaport, Paul, and Loferski. 2,976,433.
Reisner, John H. 2,976,457.
Rose, Albert. 2,976,144.
Schoek, Robert E. 2,976,410.

Rae, Randolph S., to United States of America, Navy. Streamlined rings for assuring isentropic compression of supersonic stream through a conventional missile diffuser. 2,975,587, 3–21–61, Cl. 60—35.6.

Rand, Edward H., to Rand Rubber Co., Inc. Process for manufacture of baby pants. 2,976,199, 3–21–61, Cl. 154—85.

Rand Rubber Co., Inc.: *See*—
Rand, Edward H. 2,976,199.

Randall, David L., and W. Schmidt-Nickels, to General Aniline & Film Corp. Naphthofuranedione vat dyestuffs. 2,976,287, 3–21–61, Cl. 260—249.6.

Randall, John M.: *See*—
Morgan, Arthur L., Jr., and Randall. 2,976,158.

Ranseen, Emil L.: *See*—
Banning, Thomas A. Jr., and Ranseen. 2,976,354.

Rappaport, Paul, to Radio Corp. of America. Self-powered semiconductive device. 2,976,426, 3–21–61, Cl. 307—88.5.

Rappaport, Paul, and J. J. Loferski, to Radio Corp. of America. Radioactive battery employing semiconductors. 2,976,433, 3–21–61, Cl. 310—3.

Raven, Inc.: *See*—
Siebert, Allan H., and Bionchek. 2,975,980.

Raytheon Co.: *See*—
Carr, Amos J., Jr. 2,976,491.

Read, Ellis W., to United States of America, Army. Projectile. 2,975,710, 3–21–61, Cl. 102—66.

Redpath, Donald C.: *See*—
Parkhill, Douglas F., Redpath, and Ross. 2,976,428.

Reed, Linwood L., and J. W. McKim, to Union Steel Products Co. Machine for removing baked goods and the like from pans. 2,975,920, 3–21–61, Cl. 214—309.

Reenstra, Willard A.: *See*—
Bruce, Edmond, Reenstra, and Ritchie. 2,976,367.

Reenstra, Willard A., to Bell Telephone Laboratories, Inc. Matrix selecting network. 2,976,520, 3–21–61 Cl 340—176.

Reese, Johannes, and E. A. Bartels, to Chemische Werke Albert. Salts of dithiocarbamic acids derived from amino amides of dicarboxylic acids. 2,976,305, 3–21–61, Cl. 260—429.

Reeves Instrument Corp.: *See*—
McCoy, Rawley D. 2,976,467.

Rehm, Frank C., to The Magee Carpet Co. Yarn carrier for yarn selecting machines. 2,975,502, 3–21–61, Cl. 28—55.5.

Reid, Donald L., and S. A. Loyd, to Acme Visible Records, Inc. Visible record signal device. 2,975,537, 3–21–61, Cl. 40—18.

Relling, Gilbert H., and A. O. Jensen, to General Electric Co. Electric discharge device. 2,976,451, 3–21–61, Cl. 313—171.

Relling, Victor G., to The Duriron Co., Inc. Fabrication of plastic material. 2,976,093, 3–21–61, Cl. 308—238.

Reindl, Harold J., to General Motors Corp. Electrostatic paint spray apparatus. 2,975,755, 3–21–61, Cl. 118—626.

Reindl, Harold J., and J. T. Marvin, to General Motors Corp. Electrostatic paint spray. 2,975,756, 3–21–61, Cl. 118—627.

Reindl, Harold J., to General Motors Corp. Electrostatic paint spray. 2,975,757, 3–21–61, Cl. 118—627.

Reindl, Harold J., to General Motors Corp. Method and apparatus for coating electrostatically and mechanically. 2,976,175, 3–21–61, Cl. 117—93.

Reisinger, Robert R.: *See*—
Hill, John L., and Reisinger. 2,975,894.

Reisner, John H., to Radio Corp. of America. Electron lens. 2,976,457, 3–21–61, Cl. 315—31.

Rentschler, Waldemar T., to Alfred Gauthier, G.m.b.H. Photographic camera. 2,975,992, 3–21–61, Cl. 95—64.

Repro Design & Equipment Co., Inc.: *See*—
De Maria, Irma, and V. 2,976,149.

Research Corp.: *See*—
Hedberg, Carl W., and Streuber. 2,976,130.

Rettew, Harry W. Tire chain setup. 2,975,815, 3–21–61, Cl. 152—230.

Reustle, Walter C., to Westinghouse Air Brake Co. Railway traffic controlling apparatus. 2,976,403, 3–21–61, Cl. 246—26.

Revere Camera Co.: *See*—
Tibbetts, Raymond E., and Gilkeson. 2,975,674.

Rhodes, Chester R. Wiping contact rotary relay. 2,976,379, 3–21–61, Cl. 200—87.

Riblet Tramway Co.: *See*—
Sowder, Tony R. 2,975,728.

Richards, Glenn L., to General Dynamics Corp. Blocking oscillator controlled two-transistor bilateral switch. 2,976,431, 3–21–61, Cl. 307—88.5.

Richman, Donald, to Haseltine Research, Inc. Control apparatus for color synchronization in color television. 2,976,350, 3–21–61, Cl. 178—5.4.

Richman, Donald, to Haseltine Research, Inc. Keyed A.G.C. system with means for preventing signal lockout. 2,976,350, 3–21–61, Cl. 178—7.3.

Riddle, Grant C. Grid plate sequential scanning system. 2,976,360, 3–21–61, Cl. 178—7.3.

Ridenour, Dale F. Pressure responsive transducer for gases utilizing radioactive ionizing source. 2,976,442, 3–21–61, Cl. 313—54.

Rideout, Walker H.: *See*—
Korach, Malcolm, and Rideout. 2,976,223.

Ries, Elmer F., to The Ries Mfg. Co. Bed step. 2,975,436, 3–21–61, Cl. 5—317.

Ries Mfg. Co., The: *See*—
Ries, Elmer F. 2,975,436.

Rimbach, Henry W., and J. Van Broekhoven, to Westinghouse Electric Corp. Method for preparing calcium halophosphate phosphors. 2,976,249, 3–21–61, Cl. 252—301.4.

Ringold, Howard J., and Rosenkrans, to Syntex S. A. Process for the production of 2,2-dialkyl androstane compounds. 2,976,302, 3–21–61, Cl. 260—397.4.

Rippe, Dondeville M., to Dondeville Products Co., Inc. Shingle forming machine. 2,975,818, 3–21–61, Cl. 153—2.

Risberg, Eilif. Method of cathodic protection of tanks filled with sea-water using an applied voltage, and means for execution of the method. 2,976,226, 3–21–61, Cl. 204—147.

Ritchie, Wesson J.: *See*—
Bruce, Edmond, Reenstra, and Ritchie. 2,976,367.

Roberts, Hugh, to Machinery and Electrical Products Co. Inc. Portable power driven device for boring holes. 2,975,848, 3–21–61, Cl. 175—192.

Robertshaw-Fulton Controls Co.: *See*—
Jackson, Wilbur F., and Wright. 2,975,974.

Robertson, H. H., Co.: *See*—
Hedgren, Arthur W. 2,975,559.

Robins, A. H., Co., Inc.: *See*—
Murphey, Robert S. 2,976,213.

Robinson, Charles F., to Consolidated Electrodynamics Corp. Mass spectrometer. 2,976,413, 3–21–61, Cl. 250—41.9.

Robinson, Edward N., M. J. Appleman, L. W. Miller, and L. Singer, to Impress-A-Key Corp. Impression record envelope. 2,975,956, 3–21–61, Cl. 229—68.

Robinson, Russell I.: *See*—
Luber, Frederick G., Robinson, and Moody. 2,976,438.

Robison, Samuel B.: *See*—
Ford, Francis P., and Robison. 2,975,816.

Robson, Aubrey H., to American Air Filter Co., Inc. Air heater. 2,975,828, 3–21–61, Cl. 158—36.6.

Rodick, Raymond E., to The Steam-O-Matic Corp. Blower unit. 2,975,961, 3–21–61, Cl. 230—117.

Rodrigues, Pedro M. Film reeling magazine for movie cameras. 2,975,990, 3–21–61, Cl. 242—71.2.

Rohm & Haas Co.: *See*—
Young, Harold C., and Toy. 2,976,203.
Young, Harold C., and Toy. 2,976,204.

Roll, Bernard A. Tanning with furfural. 2,976,111. 3–21–61, Cl. 8—94.33.

Ronci, John J. Talking greeting card. 2,976,049, 3–21–61, Cl. 274—16.

Roneo Ltd.: *See*—
Smith, Leslie H. 2,975,704.

Rooney, William J. Drop guards for refrigerator door shelves. 2,976,101, 3–21–61, Cl. 312—300.

Roovers, Wilhelmus A., to North American Philips Co., Inc. Method of joining two metal parts in a vacuum-tight manner and object manufactured by the use of such method. 2,975,928, 3–21–61, Cl. 220—2.3.

Rosamilia, Peter L.: *See*—
Harvey, Mortimer T., and Rosamilia. 2,976,264.

Rose, Albert, to Radio Corp. of America. Electrophotography. 2,976,144, 3–21–61, Cl. 96—1.

Rose, Leslie, and H. Soarke, to Kirklees Ltd. Means for generating and controlling random effects. 2,976,105, 3–21–61, Cl. 346—33.

Rose, Stanley E., to Avien, Inc. Frequency-compensated flowmeter system. 2,975,634, 3–21–61, Cl. 73—194.

Rosenkrans, George: *See*—
Ringold, Howard J., and Rosenkrans. 2,976,302.

Ross Engineering of Canada, Ltd.: *See*—
Beliveau, Oscar, and Spurrell. 2,976,873.

Ross, Thaddeus C.: *See*—
Parkhill, Douglas F., Redpath, and Ross. 2,976,428.

Rothman, Martin, and I. Bernstein. Piano attachment. 2,975,665, 3–21–61, Cl. 84—224.

Rouse, William H., to Cutler-Hammer, Inc. Multi-position electrical control. 2,976,468, 3–21–61, Cl. 318—158.

Rousek, Ernest J., to Genetic Giant AG.-Products Co. Planting of seeds. 2,975,938, 3–21–61, Cl. 221—265.

Rowe Mfg. Co., Inc.: *See*—
Gabrielsen, Christian. 2,975,880.

Roy, Milton, Co.: *See*—
Bennett, Richard A. 2,975,599.

Royce, Mark R., to Continental Can Company, Inc. Ventilated shipping container for fruits and vegetables. 2,975,926, 3–21–61, Cl. 217—42.

Royer, Arthur G.: *See*—
Seel, Howard J., and Royer. 2,976,087.

Roylance, Alan, S. Paul, and H. J. Taylor, to Lever Brothers Co. Treatment of edible oils. 2,976,156, 3–21–61, Cl. 99—163.

Ruano, William J.: *See*—
Marfat, Joseph. 2,975,988.

Ruble, Theodore A.: *See*—
Latham, Burton F., Jr., and Ruble. 2,976,128.

Rudner, Bernard, and M. B. Moores, to Koppers Co., Inc. Ampholytic metal esters and the method of their preparation. 2,976,207, 3–21–61, Cl. 260—448.

Rudner, Bernard, to W. R. Grace & Co. Carbanilinoalkylhydrazinium salts. 2,976,319, 3–21–61, Cl. 260—562.

Rudnicki, Mark L. and W. Dralle, to Ex-Cello-O Corp. Crown grinder. 2,975,562, 3–21–61, Cl. 51—33.

Rueckert, Dean E., to Swift & Co. Article dispenser means. 2,976,090, 3–21–61, Cl. 312—71.

Ruffino, Gabriel G. Food product machine. 2,975,741, 3–21–61, Cl. 113—42.

Rumpel, Harvey H., to Smith Engineering Works. Jaw crusher lubrication. 2,975,865, 3–21–61, Cl. 184—7.

Runge, Wallace F., to Commercial Solvents Corp. Process for the production of lactams. 2,976,282, 3–21–61, Cl. 260—239.3.

Ruschig, Heinrich, W. Aumuller, G. Korger, H. Wagner, J. Schols, and A. Bander, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. N(alkyl-, cycloalkyl-, and cycloalkylalkylsulfonyl)-N'(alkyl-, alkenyl-, cycloalkyl, and cycloalkylalkyl)-ureas. 2,976,317, 3–21–61, Cl. 260—553.

Rusin, Daniel: *See*—
Brown, Leo C., and Rusin. 2,976,154.

Russell, Arthur G.: *See*—
Giordano, Joseph, and Russell. 2,975,942.

Russell, Arthur G., and G. N. Willis, to The Sherwin-Williams Co. Liquid dispensing apparatus. 2,975,939, 3–21–61, Cl. 222—142.

Russell, Fred J., and F. J. Netschert, said Netschert assor. to said Russell. Knob assembly. 2,976,073, 3–21–61, Cl. 292—352.

Rutter, Donald P., and A. E. Cimochowski, to Johns-Manville Corp. Apparatus for forming corrugations. 2,975,821, 3–21–61, Cl. 153—76.

Ryck, Francis M., and E. M. Ziegler, to General Motors Corp. Windshield wiping system. 2,975,458, 3–21–61, Cl. 15—250.27.

Rynders, Robert D., and E. O. Brannon, to Racine Hydraulics & Machinery, Inc. Flow governing hydraulic system. 2,975,717, 3–21–61, Cl. 103—120.

S.A.S. Lavorazione Materie Plastiche (L.M.P.) di M.I. Colombo & C.: *See*—
Colombo, Roberto. 2,975,472.

S & C Electric Co.: *See*—
Lindell, Sigurd I. 2,976,381.

Saarivirta, Matti J., A. A. K. Booth, Jr., and J. J. Burgmeister to American Metal Climax, Inc. Process for improving the quality of copper-zirconium alloy castings. 2,976,192, 3–21–61, Cl. 148—3.

Sabol, Albert R., to Standard Oil Co. Lubricant composition containing non-corrosive sulfurized terpenes. 2,976,239, 3–21–61, Cl. 252—32.7.

Safianoff, Albert: *See*—
Lerner, Louis L., and Safianoff. 2,975,465.

Sahagian, Edward H. Stabilizing means for the air springs of an automobile. 2,976,054, 3–21–61, Cl. 280—124.

Salem, Samuel, and D. W. Anderson, to The General Tire & Rubber Co. Method of bonding synthetic high polymers to polyurethane elastomers. 2,976,202, 3–21–61, Cl. 154—139.

Salisbury, Winfield W., to Zenith Radio Corp. Radio astronomy antenna having spherical reflector formed integral with earth's surface. 2,976,533, 3–21–61, Cl. 343—755.

Salminen, Ilmari F., and J. A. Van Allan, to Eastman Kodak Co. Novel cyan-forming couplers. 2,976,146, 3–21–61, Cl. 96—55.

Salomon, Salomon M.: *See*—
Cannon, Madison M., Dick, and Salomon. 2,975,899.

Salton, Lewis L. Electric food warmers. 2,976,386, 3–21–61, Cl. 219—19.

Salzer, Adolf. Field telephone. 2,976,869, 3–21–61, Cl. 179—84.

Samdahl, Roger D.: *See*—
Winstrom, Leon O., Samdahl, and Perch. 2,976,320.

Sampietro, Achilles C., to Thompson Ramo Wooldridge Inc. Hydro-pneumatic suspension strut. 2,976,032, 3–21–61, Cl. 267—64.

Sampson, Sidney O. Magnetic tape reproducing system. 2,976,372, 3–21–61, Cl. 179—100.2.

Samuel, Walter D., to Centec Machine Tools Ltd. Indexing mechanism for machine tools. 2,975,657, 3–21–61, Cl. 74—822.

Sanborn Co.: *See*—
Miller, Arthur. 2,976,462.

Sander, Wendell B., to Tasker Instruments Corp. Function generator circuits. 2,976,430, 3–21–61, Cl. 307—88.5.

Sandgren, John A. Draft hitch. 2,976,058, 3–21–61, Cl. 280—118.

Sandholtz, Willis A.: *See*—
Fahl, Walter H., Sandholtz, Elerts, and Goggin. 2,976,178.

Sarkes Tarzian, Inc.: *See*—
Valdettaro, Alarico A. 2,976,375.
Winston, John M. 2,976,384.

Sasserson, Curtis F., to Pennsylvania Furnace and Iron Co. Light unit for vehicles. 2,976,515, 3–21–61, Cl. 340—82.

Saunders, Kenneth W.: *See*—
Dixon, James K., Smolin, and Saunders. 2,976,333.
Smolin, Edwin M., Dixon, and Saunders. 2,976,334.

Saunders, Orson V., to General Motors Corp. Refrigerating apparatus. 2,975,616, 3–21–61, Cl. 62—291.

Saunders, Orson V., General Motors Corp. Refrigerator with meat storage receptacle. 2,975,619, 3–21–61, Cl. 62—419.

Savage, John: *See*—
Morton, James S., and Savage. 2,975,493.

Saxman, Deane S., to Kennametal Inc. Cutting tool bit and holder. 2,976,028, 3–21–61, Cl. 262—33.

Schaschl, Edward: *See*—
Marsh, Glenn A., and Schaschl. 2,976,122.

Scheidig, Helmut: *See*—
Gruber, Helmut, Scheidig, Pieper, Muller, and Bussard. 2,976,339.

Schell, Allan C., to United States of America, Air Force. Phase stable amplifier. 2,976,493, 3–21–61, Cl. 330—107.

Schenk, Gustav, to Werkzeugmaschinenfabrik Oerlikon Buhrle & Co. Calculating machine with digit keys and function control keys. 2,975,971, 3–21–61, Cl. 235—145.

Schenkengel, Emerich, to G. M. Pfaff A.G. Device for seam welding thermoplastic synthetic materials. 2,975,824, 3–21–61, Cl. 154—42.

Schenley Industries, Inc.: *See*—
Friedrich, Hermann, and Gosswald. 2,976,212.
Gauss, Walter, and Domagk. 2,976,279.

Scherer, George J., to Cramer Posture Chair Co., Inc. Vertically adjustable table. 2,976,094, 3–21–61, Cl. 311—17.

Schexnailder, Robert E., Jr.: *See*—
Porter, Walter J., Jr., Smith, and Schexnailder. 2,976,232.

Schilberg, Arnold G., to A. O. Smith Corp. Motor vehicle construction having increased rigidity at the dash area. 2,976,079, 3–21–61, Cl. 296—28.

Schilder, Albert W., to Lynn Corp, Inc. Conduit and fabricating material therefor. 2,975,808, 3–21–61, Cl. 138—74.

Schindler, Raymond G. Gate. 2,975,536, 3–21–61, Cl. 39—87.

Schindler, Walter, to Geigy Chemical Corp. N-substituted iminostilbenes. 2,976,281, 3–21–61, Cl. 260—239.

Schindler, Walter, and C. Ganesser, to Geigy Chemical Corp. Basically substituted phenothiazine derivatives. 2,976,286, 3–21–61, Cl. 260—243.

Schlatter, Carl, to American Viscose Corp. Process of producing viscose rayon. 2,976,118, 3–21–61, Cl. 18—54.

Schleesman, Carleton H., to United States of America, Navy. Relay device for controlling a servo motor. 2,976,380, 3–21–61, Cl. 200—102.

Schloemann Aktiengesellschaft: *See*—
Schnettker, Wilhelm. 2,975,883.

Schmidt, Hermann. Currency dispensing apparatus. 2,975,789, 3–21–61, Cl. 133—2.

Schmidt-Nickels, Wilhelm: *See*—
Randall, David L., and Schmidt-Nickels. 2,976,287.

Schmucker, Georg, A. Troost, G. Ziehm, and K. Zehender, to Telefunken G.m.b.H. Goniometer. 2,976,531, 3–21–61, Cl. 343—124.

Schnettker, Wilhelm, to Schloemann Aktiengesellschaft. Arrangement for the control of the motional actions on a cooling bed and a set of shears located before the cooling bed. 2,975,883, 3–21–61, Cl. 198—20.

Schock, Robert E., to Radio Corp. of America. Automatic frequency control system. 2,976,410, 3–21–61, Cl. 250—20.

Schoellhammer, Friedrich W., to Daimler-Benz Aktiengesellschaft. Gear unit or other movable mechanism. 2,975,720, 3–21–61, Cl. 103—162.

Scholz, Josef: *See*—
Ruschig, Heinrich, Aumuller, Korger, Wagner, Schols, and Bander. 2,976,317.

Schornstein, Waldemar: *See*—
Kern, Fritz, and Schornstein. 2,976,114.

Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of thiol-phosphoric acid esters. 2,976,309, 3–21–61, Cl. 260—461.

Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Dithiophosphoric acid esters. 2,976,311, 3–21–61, Cl. 260—461.

Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Process for making thionophosphoric acid esters of α-hydroxy-methyl-thioethers. 2,976,312, 3–21–61, Cl. 260—461.

Schubert, Friedrich: *See*—
Gund, Felix, Schubert, and Goerrig. 2,976,110.

Schugam, Alvin C.: *See*—
Arenson, Simon W. 2,976,153.

Schulte Brass Mfg. Co., Inc.: *See*—
Kokenge, Elmer J. 2,975,556.
Mouille, John T., Sr. 2,975,557.

Schultz, Abraham Y. Containers. 2,975,464, 3–21–61, Cl. 15—563.

Schultz, Harold W.: *See*—
Vosler, Edward J., and Schultz. 2,975,870.

Scinta, Anthony C., to Trico Products Corp. Windshield wiper arm. 2,975,457, 3–21–61, Cl. 15—250.21.

Sead, Charles D. and H. W. Peters, to Eastman Kodak Co. Preparation of webs and sheets from cellulose esters. 2,976,205, 3–21–61, Cl. 162—157.

Searle, G. D., & Co.: *See*—
Baran, John S. 2,976,284.

Seel, Howard J., and A. G. Royer, to Harris-Intertype Corp. Sheet handling sucker. 2,976,037, 3–21–61, Cl. 271—26.

Seidel, Harold, to Bell Telephone Laboratories, Inc. Solid state maser. 2,976,492, 3–21–61, Cl. 330—4.

Seidel, Richard S.: *See*—
Cserwin, Edward P., and Seidel. 2,976,173.

Sejournet, Jacques, to Compagnie du Filage des Metaux et des Joints Curty. Methods of extruding metals. 2,975,509, 3–21–61, Cl. 29—156.8.

Selas Corp. of America: *See*—
McFadden, Charles A., Mammel, and Liddell. 2,975,745.

Selbin, Joel, to American Cyanamid Co. Removal of vanadium from petroleum oils by oxidation. 2,976,233, 3–21–61, Cl. 208—251.

Seymour, James E., to Central Farmers Fertiliser Co. Apparatus for manufacturing mixed fertilisers. 2,976,126, 3–21–61, Cl. 23—259.2.

Sferrazza, Peter J., to Sperry Rand Corp. Waveguide to strip transmission line directional coupler. 2,976,499, 3–21–61, Cl. 333—10.

Shaffer, William R., to Wald Industries, Inc. Road striping machine. 2,975,979, 3–21–61, Cl. 239—150.

Shapiro, Hymin: *See*—
De Witt, Earl G., Brown, and Shapiro. 2,976,304.

Shapiro, Hymin, E. G. De Witt, and J. E. Brown, to Ethyl Corp. Process for the preparation of bis (cyclopentadienyl) manganese compounds. 2,976,303, 3–21–61, Cl. 260—429.

Sharp, Edward J. Loading attachment. 2,975,918, 3–21–61, Cl. 214—147.

Shaw, Benjamin C., and B. M. Van Emden, to Crane Co. Voltage regulator for generators. 2,976,473, 3–21–61, Cl. 322—28.

Sheetz, Charles E., to Food Machinery and Chemical Corp. Drive mechanism for a bagging machine. 2,976,007, 3–21–61, Cl. 249—62.

Sheldon, Gilbert J., to Bausch & Lomb Optical Co. Optical viewing instrument. 2,975,785, 3–21–61, Cl. 128—6.

Shelton, Harry J., Jr., to Gruendler Crusher and Pulverizer Co. Grinders. 2,975,985, 3–21–61, Cl. 241—86.

Sherbondy, Frank Y. Garment form retainer. 2,975,948, 3–21–61, Cl. 223—71.

Sherburne, Philip C., to Grinnell Corp. Pipe hanger clamp stop. 2,975,995, 3–21–61, Cl. 248—54.

Sherburne, Philip C., and A. Zollinger, to Grinnell Corp. Motor driven positioner. 2,975,996, 3–21–61, Cl. 249—58.

Sherman Fairchild & Associates, Inc.: *See*—
Bossung, John W. 2,976,525.

Sherman, Orville B., to Owens-Illinois Glass Co. Apparatus for severing plastic material. 2,975,471, 3–21–61, Cl. 18—5.

Sherwin-Williams Co., The: *See*—
Giordano, Joseph, and Russell. 2,975,942.
Russell, Arthur G., and Willis. 2,975,939.

Shewmon, Ralph K., to General Motors Corp. Prime mover for clothes drier. 2,975,528, 3–21–61, Cl. 34—133.

Shields, George B., to Webster Electric Co. Combined tape recorder and film projector. 2,975,672, 3–21–61, Cl. 88—28.

Shipley, Eugene E., and D. W. Dudley, to General Electric Co. Flexible coupling with torque-limiting means. 2,975,620, 3–21–61, Cl. 64—9.

Shirley, William L.: *See*—
Waterman, Logan C., and Shirley. 2,976,228.

Sick, Charles D. Shield. 2,975,427, 3–21–61, Cl. 2—14.

Siebert, Allan H., and W. F. Blonchek, to Raven, Inc. Shower heads. 2,975,980, 3–21–61, Cl. 239—316.

Silverman, Robert M., to McGraw-Edison Co. Carriage control mechanism for phonographs. 2,976,048, 3–21–61, Cl. 274—13.

Simon, Bela: *See*—
Berhidi, Mihaly, Simon, and Szendrey. 2,976,448.

Simon, Henry, Ltd.: *See*—
Allen, Robert W. 2,975,636.

Simpson, Henry A. Cultivating machine. 2,975,845, 3–21–61, Cl. 172—509.

Sinclair Oil & Gas Co.: *See*—
Johnson, James F. 2,976,108.

Singer-Cobble, Inc.: *See*—
Card, Joseph L. 2,975,736.

Singer, Leonard: *See*—
Robinson, Edward N., Appleman, Miller, and Singer. 2,975,956.

Sjoblom, Eric A., to Aktiebolaget Grythyttans Stålmöbler. Goods support for a loading foot or the like. 2,975,929, 3–21–61, Cl. 220—4.

Smith, A. O., Corp.: *See*—
Chyle, John J. 2,975,513.
Schilberg, Arnold G. 2,976,079.
Sullivan, James D. 2,976,171.

Smith, Bruce K., to Sperry Rand Corp. Logical circuits employing alternating notation. 2,976,519, 3–21–61, Cl. 340—174.

Smith, Bruce K., to Epsco, Inc. Digital attenuator. 2,976,527, 3–21–61, Cl. 340—347.

Smith, Clarence J., and R. M. Peterson, to W. F. & John Barnes Co. Can end seamer. 2,975,740, 3–21–61, Cl. 113—17.

Smith Engineering Works: *See*—
Rumpel, Harvey H. 2,975,865.

Smith, James G., to E. I. du Pont de Nemours and Co. Process and apparatus for preparing novelty yarns. 2,975,474, 3–21–61, Cl. 18—8.

Smith, John O., Jr.: *See*—
Morway, Arnold J., and Smith. 2,976,243.

Smith Kline & French Laboratories: *See*—
McClain, Victor E. 2,976,484.

Smith, Laird. Motorboat propelling and steering unit. 2,975,750, 3–21–61, Cl. 115—41.

Smith, Leslie H., to Ronco Ltd. Rotary duplicating machines. 2,975,704, 3–21–61, Cl. 101—116.

Smith, Loren C., to Wyandotte Chemicals Corp. Thermal monofuel reactor. 2,975,588, 3–21–61, Cl. 60—35.6.

Smith, Newman B.: *See*—
Krokos, Raymond M., and Smith. 2,976,057.

Smith, Robert P., and J. A. Christ, to Vapor Heating Corp. Electro pneumatic temperature control system. 2,975,976, 3–21–61, Cl. 236—78.

Smith, Rowland D., to Corning Glass Works. Glass batches and method of preparation. 2,976,161, 3–21–61, Cl. 106—47.

Smith, Thomas D., to E. I. du Pont de Nemours and Co. Preparation of silver halide emulsions. 2,976,150, 3–21–61, Cl. 96—94.

Smith, Warren M.: *See*—
Porter, Walter J., Jr., Smith, and Schexnailder. 2,976,232.

Smolin, Edwin M.: *See*—
Dixon, James K., Smolin, and Saunders. 2,976,333.

Smolin, Edwin M., J. K. Dixon, and K. W. Saunders, to American Cyanamid Co. Production of aromatic compounds. 2,976,334, 3–21–61, Cl. 260—669.

Snelson, Howard J., and W. L. Prior, to Tectum Corp. Apparatus for steam treating fibrous panels. 2,975,470, 3–21–61, Cl. 18—4.

Snowdon, Arthur E., to The Superior Electric Co. Variable voltage transformer. 2,976,476, 3–21–61, Cl. 323—43.5.

Societe Anonyme Andre Citroen: *See*—
Brueder, Antoine. 2,976,084.

Societe Anonyme dite: Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques D'Ugine: *See*—
Guérin, Jean. 2,976,330.

Societé Anonyme dite Societe Monsavon-l'Oreal: *See*—
Kalopissis, Gregoire, and Vlout. 2,976,215.

Societe des Usines Chimiques Rhone-Poulenc: *See*—
Jacob, Robert M., and Joseph. 2,976,291.

Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See*—
Bauger, Louis J., and Barthime. 2,975,593.

Somes, Frederick J., Jr., to General Electric Co. Method of installing an electrical system. 2,975,512, 3–21–61, Cl. 29—429.

Sommers, Roy W.: *See*—
Paddison, Osborne H., and Sommers. 2,976,278.

Sonnichsen, Arne. Method for the manufacturing of electrically welded tubes and improvement in means for such manufacture. 2,976,394, 3–21–61, Cl. 219—59.

Sorensen, Knud B., and W. D. Martin, to Deere & Co. Markers for planters. 2,975,840, 3–21–61, Cl. 172—128.

Sosnowich, Michael, to Modern Dust Bag Co., Inc. Mounting disposable vacuum cleaner bags, by means of rigid member with slotted corners. 2,975,863, 3–21–61, Cl. 183—51.

Soucy, George H., to Brown & Sharpe Mfg. Co. Micrometer frame. 2,975,523, 3–21–61, Cl. 33—164.

Southern Developers, Inc.: *See*—
Davenport, Leon. 2,975,577.

Sowder, Tony R., to Riblet Tramway Co. Self-energizing rope brake for aerial tramways. 2,975,728, 3–21–61, Cl. 104—178.

Sparke, Harry: *See*—
Rose, Leslie, and Sparke. 2,976,105.

Sparks, George C. Easy-opening setup box. 2,975,954, 3–21–61, Cl. 229—51.

Specialties Development Corp.: *See*—
Kane, Donald C. 2,975,958.

Spencer, Kenneth M., to Sylvania Electric Products Inc. Electrical welding apparatus. 2,976,395, 3–21–61, Cl. 219—108.

Sperry Rand Corp.: *See*—
Blain, Albert. 2,976,510.
Eckert, John P., Jr. 2,976,425.
Eckert, John P., Jr. 2,976,518.
Hollyday, James H. 2,975,650.
Sferrazza, Peter J. 2,976,499.
Smith, Bruce K. 2,976,519.

Sperry, Russell L. Drilling fluids containing synthetic resinous materials. 2,976,235, 3–21–61, Cl. 252—8.5.

Sponge Products Corp.: *See*—
Greenleaf, Nathaniel B. 2,975,455.

Spound, Albert M., and J. Martin; said Martin assor. to said Spound. Automatically actuated headrest for reclining chairs. 2,975,826, 3–21–61, Cl. 155—177.

Springer, Edward M., to Heyer Inc. Duplicating machine. 2,975,707, 3–21–61, Cl. 101—232.

Spurrell, William G.: *See*—
Bellveau, Oscar, and Spurrell. 2,975,873.

Square D Co.: *See*—
Stanback, Harris L., and Kingdon. 2,976,514.

Stahl, Walter, to Westinghouse Electric Corp. Electric lamp. 2,976,441, 3–21–61, Cl. 313—33.

Stalker Corp., The: *See*—
Stalker, Edward A. 2,976,011.

Stalker, Edward A., to The Stalker Corp. Fabricated bladed compressor wheels. 2,976,011, 3–21–61, Cl. 253—39.

Stambera, Adolf, to Firma Fr. Hesser, Maschinenfabrik-Aktiengesellschaft. Apparatus for feeding rod-shaped articles to automatic scales. 2,976,006, 3–21–61, Cl. 249—15.

Stamicarbon N.V.: *See*—
Haringhuizen, Pieter J. 2,975,605.

Stamps, George M., to Faximile Inc. Continuous scanner with warped mirror. 2,976,361, 3–21–61, Cl. 178—7.6.

Stamps, George M., to Faximile Inc. Continuous scanner. 2,976,362, 3–21–61, Cl. 178—7.6.

Stanback, Harris L., and R. H. Kingdon, to Square D Co. Terminal connector. 2,976,514, 3–21–61, Cl. 339—272.

Standard Oil Co. (Indiana): *See*—
Little, Randel Q., Jr., and Bussert. 2,976,207.
Meyer, Delbert H. 2,976,030.
Sabol, Albert R. 2,976,239.
Wilson, Alexander T. 2,976,172.

Standard Oil Co., (Ohio) The: *See*—
Cliff, Therlis L. 2,975,998.

Stansel, Victor. Applicator for liquids. 2,975,467, 3–21–61, Cl. 15—611.

Staples, Crawford E.: *See*—
Faller, Charles W., and Staples.
Logan, John W., Jr., and Staples.

Staples, Crawford E., to Westinghouse Air Brake Co. Automatic control system for railway car classification yards. 2,976,408, 3–21–61, Cl. 246—182.

Statewide Plumbing & Heating Co., Inc.: *See*—
Burdick, Glenn A.

Steam-O-Matic Corp., The: *See*—
Bodick, Raymond E.

Steber, Clarence E. Roller support for boat trailer. 2,975,916, 3–21–61, Cl. 214—84.

Steber, Clarence L., to The Pyle-National Co. Lighting fixture. 2,976,400, 3–21–61, Cl. 240—133.

Stechbart, Bruno E., and W. H. Anda, to Link-Belt Co. Power and free overhead trolley conveyor. 2,975,720, 3–21–61, Cl. 104—178.

Stefan, Nicholas, to Anchor Post Products, Inc. Universal angle coupling. 2,976,021, 3–21–61, Cl. 256—65.

Stell, George H., to Precision Metal Workers. Sliding mount for kitchen implements and the like. 2,976,005, 3–21–61, Cl. 248—208.

Stemp, Henry E. Electrically heated lunch box. 2,976,300, 3–21–61, Cl. 219—35.

Stengel, Leonard A., to Commercial Solvents Corp. Ammonium nitrate explosives. 2,976,137, 3–21–61, Cl. 52—14.

Stevens, Lewis F.: *See*—
Baillie, Edward C., and Stevens.

Stiftelsen Svensk Textilforskning: *See*—
Lundgren, Sven-Olof.

Stilwell, Robert E., to Food Machinery and Chemical Corp. Combination pipe coupling and automatic drain valve. 2,975,799, 3–21–61, Cl. 137—921.

Stoddard, William B., Jr.: *See*—
Foulke, Donald G., Stoddard, Kardos, and Kleiner.

Stoeckel, Albert L., and C. T. Zimmermann, to United States Steel Corp. Apparatus for feeding and counting billets. 2,975,969, 3–21–61, Cl. 235—98.

Stoffert, Arnold C., to General Electric Co. Fluid lubrication system. 2,975,864, 3–21–61, Cl. 184—6.

Stone, Orison W., to Continental Can Co., Inc. Locking construction for paperboard cartons. 2,975,891, 3–21–61, Cl. 206—65.

Stover, Harry E., to Anchor Hocking Glass Corp. Method of making a closure cap and closure cap made thereby. 2,976,200, 3–21–61, Cl. 154—89.

Streicher, Michael A., to E. I. du Pont de Nemours and Co. Immersion deposition of tin. 2,976,169, 3–21–61, Cl. 117—37.

Streuber, Rudolf G.: *See*—
Hedberg, Carl W., and Streuber.

Strick Trailers of Philadelphia, Pa., a division of Fruehauf Trailer Co.: *See*—
Abolins, Andrew.

Strickland, Edward T., H. C. Amos, and B. M. Glass; said Strickland and Amos assors. to General Analytics Associates, and said Glass assor. to The Brunswick-Balke-Collender Co. Polar wind apparatus. 2,975,987, 3–21–61, Cl. 242—2.

Stroburg, Glen O.: *See*—
Stroburg, John V. and G. O.

Stroburg, John V. and G. O. Press roll twine guard for roll-type balers. 2,975,700, 3–21–61, Cl. 100—6.

Stromberg, Sylvester V. Apparatus and method for placing and finishing concrete in ditches. 2,975,602, 3–21–61, Cl. 61—63.

Strombiad, Elmer S. Hens' nests. 2,975,759, 3–21–61, Cl. 119—50.

Stuart, Robert W., to Diamond Oil Well Drilling Co. Core disintegrating drill bit. 2,975,849, 3–21–61, Cl. 175—333.

Stueler, Henry V.: *See*—
Stueler, Marylin L.

Stueler, Marylin L., by H. V. Stueler, guardian. Artificial fuel composition. 2,976,133, 3–21–61, Cl. 44—24.

Stulber, Sylvester A.: *See*—
Diliger, Le Roy E., and Stulber.

Sturkey, Lorenzo, and V. B. Kurfman, to The Dow Chemical Co. Method of grain refinement of magnesium base alloys. 2,976,143, 3–21–61, Cl. 75—168.

Sturm, Edward L.: *See*—
McKee, Edward S., and Sturm.

Stutske, William A., and J. J. Torok, to Owens-Illinois Glass Co. Press mold and method of operation. 2,975,554, 3–21–61, Cl. 49—72.

Suburban Propane Gas Corp.: *See*—
Hester, Jackson B.

Sullivan, James D., to A. O. Smith Corp. Glass coated steel structure and method of making the same. 2,976,171, 3–21–61, Cl. 117—53.

Sulser, Georg: *See*—
Maeder, Arthur, Weber, Sulser, Fatzer, and Guertler.

Sumpter, James W.: *See*—
Krebs, Samuel, Howard, Male, and Sumpter.

Sundberg, Carl W., to Whirlpool Corp. Vacuum cleaner. 2,975,460, 3–21–61, Cl. 15—323.

Sunkist Growers, Inc.: *See*—
Swisher, Horton E.

Superior Electric Co., The: *See*—
Carpenter, William P.
Carpenter, William P.
Snowdon, Arthur E.

Superior Tank Corp.: *See*—
Propst, James P., III.

Suroff, Hyman and L. Extensible ladder constructions. 2,975,857, 3–21–61, Cl. 182—166.

Suroff, Leonard: *See*—
Suroff, Hyman and L.

Svenska Rotor Maskiner Aktieboleg: *See*—
Nilsson, Hans E.

Swane, Peter H.: *See*—
Judge, Thomas J., and Swane.

Swenson, Alfred G.: *See*—
Finlayston, Frank E., and Swenson.

Swift & Co.: *See*—
Brown, Leo C., and Rusin.
Rueckert, Dean E.
Trombly, Harvey H., and Harper.

Swisher, Horton E., to Sunkist Growers, Inc. Fibrous fruit product and process. 2,976,159, 3–21–61, Cl. 99—204.

Sylvania Electric Products Inc.: *See*—
Spencer, Kenneth M.
Weiss, Mortimer E., and Garretson.

Syntex S.A.: *See*—
Ringold, Howard J., and Rosenkrans.

Szendrey, Lajos: *See*—
Berhidi, Mihaly, Simon, and Szendrey.

Szubski, Tadeusz: *See*—
Maciszewski, Arthur H., Hupert, Goldstein, and Szubski.

Taber, John E., to Hughes Aircraft Co. Recognition circuit for pulse code communication systems. 2,976,516, 3–21–61, Cl. 340—164.

Takagi, Tatsuya. Vibration damper of air cushion for vehicles. 2,976,031, 3–21–61, Cl. 267—15.

Talge, Henry J.: *See*—
Aberer, Frank E., and Talge.

Tallman, Paul L., to Emerald Distributors, Inc. Irrigation pipe gate. 2,975,796, 3–21–61, Cl. 137—322.

Tamarin, Richard B. Container closure. 2,975,952, 3–21–61, Cl. 220—17.

Tamaro, Frank: *See*—
Haines, Jesse H., and Tamaro.

Tamblyn, John W.: *See*—
Newland, Gordon C., and Tamblyn.
Touey, George P., and Tamblyn.

Tanabe Seiyaku Co., Ltd.: *See*—
Ida, Tadao.

Tasker Instruments Corp.: *See*—
Sander, Wendell B.

Taves, Richard H. Bobby pin dispenser. 2,976,085, 3–21–61, Cl. 312—42.

Taylor, Ernest F., and R. M. Poe, to E. K. Orr. Rotary louver traverse blind. 2,975,831, 3–21–61, Cl. 160—176.

Taylor, Philip M.: *See*—
Burlinson, Roy F., Brockman, Taylor, and Young.

Taylor, Reginald J.: *See*—
Roylance, Alan, Paul, and Taylor.

Taylor, Walter E.: *See*—
Zink, George A., and Taylor.

Tech-Art Inc.: *See*—
MacLeod, Donald.

Technical Operations, Inc.: *See*—
Prest, Robert J.

Tectum Corp.: *See*—
Snelson, Howard J., and Prior.

Telefonbau und Normalzeit G.m.b.H.: *See*—
Heil, Friedrich, and Muller.

Telefunken G.m.b.H.: *See*—
Burkhardt, Gisbert.
Schmucker, Georg, Troost, Ziehm, and Zehender.

Telemeter Magnetics, Inc.: *See*—
Hill, John L., and Reisinger.

Tellepsen, Howard T.: *See*—
Haring, Ivan P.

Terry, Noah S., to Bell Telephone Laboratories, Inc. Telephone station identification system. 2,976,366, 3–21–61, Cl. 179—8.5.

Texaco Development Corp.: *See*—
Paull, Peter L.

Texaco Inc.: *See*—
Eastman, Du B.
Eastman, Du B.
Mazagatti, Roy P.
Odell, Norman R., and Lyons.
Truitt, James K.

Thiemig, Walter: *See*—
Looman, Johannes, Hofer, and Thiemig.

Thiokol Chemical Corp.: *See*—
Fox, Zola.
Fox, Zola.
Vonder Esch, Albert H.

Thomas, David F., and L. B. Evans, to Waterous Co. Crash truck pumps. 2,975,715, 3–21–61, Cl. 103—106.

Thomas, Robert M.: *See*—
Lippincott, Samuel B., Thomas, Oakley, Leary, and Brodkey.

Thomas, Telfer L., to Esso Research and Engineering Co. Process and catalyst for polymerization. 2,976,338, 3–21–61, Cl. 260—683.15.

Thompson, Crayton B., and G. W. Pierce, to Eastman Kodak Co. Method of applying antihalation layers to polyester film. 2,976,168, 3–21–61, Cl. 117—34.

Thompson, Howard A., R. E. Donaldson, and C. C. White, to Eastman Kodak Co. Treated textile fiber. 2,976,180, 3–21–61, Cl. 117—139.5.

Thompson, Jack C.: *See*—
West, Samuel R., Thompson, and Paul.

Thompson, Louis A., to N.E.A. Services, Inc. Method and apparatus for making color-corrected separations. 2,976,349, 3–21–61, Cl. 178—5.2.

Thompson Ramo Wooldridge Inc.: *See*—
Alexander, Melville F.
Corbett, Marshall J.
Fathauer, George H.
Sampietro, Achilles C.

Thompson, William J.: *See*—
Werner, Robert V., Zable, Thompson, and Noyes.

Thorington, Luke: *See*—
Larson, Daniel A., and Thorington.

Thorson, Warren K., to Dresser Industries, Inc. Handling of equipment laterally of a well location. 2,975,601, 3–21–61, Cl. 61—46.5.

Tibbetts, Raymond E., and D. C. Gilkeson, to Revere Camera Co. Convertible dual conjugate lens. 2,975,674, 3–21–61, Cl. 88—57.

Tilley, Aubra E.: *See*—
Klein, Walter W., Jr., and Tilley.

Tinnerman, George A. Plastic anchoring fastener with diverging shanks. 2,975,814, 3–21–61, Cl. 151—41.75.

Tischer, Ernst M. Combined liquid measure and filter. 2,975,901, 3–21–61, Cl. 210—132.

Tobias, Jordan: *See*—
Benoliel, Osmond D., and Tobias.

Tokheim Corp.: *See*—
Wright, George W.
Wright, George W., Foss, and Kachuk.

Tomado N. V.: *See*—
Van der Togt, Jan.

Tone, Melvin N.: *See*—
Youmans, Donald W., and Tone.

Tordorf, Kell. Window curtain supports. 2,975,832, 3–21–61, Cl. 160—330.

Torok, Julius J.: *See*—
Stutske, William A., and Torok.

The Torrington Manufacturing Co.: *See*—
Atalla, Anwar A.
Atalla, Anwar A.

Totten, Gilbert vP., to Advance Engineering Co. Metering vending dispenser. 2,975,937, 3–21–61, Cl. 222—70.

Totton, John M., Jr. Vehicle stabilizing means. 2,976,077, 3–21–61, Cl. 296—1.

Touey, George P., and J. W. Tamblyn, to Eastman Kodak Co. Method of preparing cellulose esters. 2,976,277, 3–21–61, Cl. 260—227.

Toy, Walter W.: *See*—
Young, Harold C., and Toy.
Young, Harold C., and Toy.

Tranter Manufacturing, Inc.: *See*—
McGuffey, James W.

Trico Products Corp.: *See*—
Scinta, Anthony C.

Trimble, John O., to The Budd Co. Gib, particularly for forming dies. 2,976,086, 3–21–61, Cl. 308—3.

Troemner, James O.: *See*—
Fox, Richard L., Troemner, and Jacklin.

Trombly, Harvey H., and R. H. Harper, to Swift & Co. System for the formation of an aqueous gas solution. 2,976,120, 3–21–61, Cl. 23—157.

Troost, Albert: *See*—
Schmucker, Georg, Troost, Ziehm, and Zehender.

Truitt, James K., to Texaco Inc. Corrosion inhibited antifreeze compositions. 2,976,247, 3–21–61, Cl. 252—78.

Tsuno, Hardy I. Automatic film developing mechanism. 2,975,695, 3–21–61, Cl. 95—89.

Tung, Ching C., and J. J. D'Amico, to Monsanto Chemical Co. p-nitroscanilino benzothiazoles. 2,976,292, 3–21–61, Cl. 260—305.

Turak, Anthony. Dispensing valve. 2,975,802, 3–21–61, Cl. 137—599.

UCLAF: *See*—
Nomine, Gerard, Penasse, and Barthelemy.

Uarco, Inc.: *See*—
Hinman, Burton L.

Uchida, Saburo, to Fukuin Denki Kabushiki Kaisha (known as Fukuin Electric Works, Ltd.). Omni-directional electro-acoustic converter of electro-magnetic type. 2,976,373, 3–21–61, Cl. 179—115.5.

Uebelhoer, Walter, to Marwal Products Corp. Anchor davit. 2,975,748, 3–21–61, Cl. 114—210.

Ulinski, Bronislaus I., to the Yale & Towne Mfg. Co. Swinging and extending forks. 2,975,925, 3–21–61, Cl. 214—730.

Ulrich, Edward A., to Process Filters, Inc. Filter. 2,975,903, 3–21–61, Cl. 210—236.

Underwood, Roland C., Sr. Animal trap. 2,975,542, 3–21–61, Cl. 43—76.

Unger, Erich, to Metrawatt Aktiengesellschaft. Instrument movement controlled high frequency inductor. 2,976,495, 3–21–61, Cl. 331—181.

Unilectric, Inc.: *See*—
Vallee, Thomas A.

Union Bag-Camp Paper Corp.: *See*—
McCurry, Thomas M.

Union Carbide Corp.: *See*—
Daley, John L. S.

Union Special Machine Co.: *See*—
Lukins, Richard H.

Union Steel Products Co.: *See*—
Reed, Linwood L., and McKim.

Union Stock Yard and Transit Co. of Chicago, The: *See*—
Morrison, Willard L.

United Aircraft Corp.: *See*—
Fischer, Richard L.
Greunke, Orville V., and Preston.

United Aircraft Products, Inc.: *See*—
Carroll, Frank E.
Klank, Walter C., Jr.

United Shoe Machinery Corp.: *See*—
Finn, Sidney J.
Hoppe, Otto F.
Leahy, James F.
Makovski, Stephen A.

United States of America
Agriculture: *See*—
Morgan, Arthur L., Jr., and Randall.

Air Force: *See*—
Schell, Allan C.

Army: *See*—
Colaguori, Albert C.
Fletcher, David C.
Kampinsky, Abe.
Malinofsky, Walter W.
Mattiat, Oskar E.
Read, Ellis W.

Atomic Energy Commission: *See*—
Handforth, Stanley L.
Koski, Oscar H.
Monson, Harry O.
Wheeler, John A.

Navy: *See*—
Babcock, David L.
Brown, Calvin P., Young, and Walthall.
Geckle, William A., Jr.
Kelly, John C. R., Jr.
Moore, William H., and Burcham.
Rae, Randolph S.
Schlesman, Carleton H.

United States Steel Corp.: *See*—
Nichol, Wilbert G.
Purvance, William T.
Stoeckel, Albert L., and Zimmermann.

Universal Oil Products Co.: *See*—
Bloch, Herman S.
Brown, Kenneth M., and Gleim.
Pollitzer, Ernest L.

Uphoff, Russel L., and J. F. Laycak, to Jones & Laughlin Steel Corp. Pulse separation circuit. 2,976,490, 3–21–61, Cl. 328—110.

Valdettaro, Alarico A., to Sarkes Tarzian, Inc. High frequency tuner. 2,976,375, 3–21–61, Cl. 200—14.

Vallee, Thomas A., to Unilectric, Inc. Corner light socket for refrigerator. 2,976,512, 3–21–61, Cl. 337—59.

Vallee, Wendell L., to Blackhawk Mfg Co. Pressure release and relief valve. 2,975,803, 3–21–61, Cl. 137—599.2.

Van Allan, James A.: *See*—
Salminen, Ilmari F., and Van Allan.

Van Broekhoven, Jacob: *See*—
Rimbach, Henry W., and Van Broekhoven.

Van der Lely, Ary: *See*—
Van der Lely, Cornelis and A.
Van der Lely, Cornelis and A.

Van der Lely, C., N.V.: *See*—
Van der Lely, Cornelis and A.

Van der Lely, C., N.V. Manufacturers: *See*—
Van der Lely, Cornelis and A.

Van der Lely, Cornelis and A., to C. van der Lely, N. V. Manufacturers. Side delivery rake. 2,975,583, 3–21–61, Cl. 56—377.

Van der Lely, Cornelis and A., to C. van der Lely, N. V. Agricultural implements having draw-bars. 2,976,050, 3–21–61, Cl. 280—456.

Van der Togt, Jan, to Tomado N.V. Rack. 2,975,906, 3–21–61, Cl. 211—74.

Van Dyk & Co., Inc.: *See*—
Kreps, Saul I.

Van Emden, Bernard M.: *See*—
Shaw, Benjamin C., and Van Emden.

Van Horn, John A., and P. E. Blemiller, to Hamilton Watch Co. Electric watches. 2,976,435, 3–21–61, Cl. 310—30.

Van Lare, Earl J., and L. G. S. Brooker, to Eastman Kodak Co. Azamerodicarbocyanine dyes and photographic emulsions sensitized therewith. 2,976,151, 3–21–61, Cl. 96—102.

Van Schoor, Albert, E. Jacobi, S. Lust, and H. Flemming, to E. Merck, Aktiengesellschaft. Derivatives of 1,4-dithiaanthraquinone and -hydroquinone. 2,976,296, 3–21–61, Cl. 260—327.

Vapor Heating Corp.: *See*—
Cunningham, Richard, Jr.
Gillick, Laurance H., and Maddocks.
Smith, Robert P., and Christ.

Vaughan, James R., Jr.: *See*—
Cohen, Elliott, and Vaughan.

Vaughan, Joseph B., to Lloyd Bros., Inc. Machine for making stabilized capsules. 2,975,752, 3–21–61, Cl. 118—13.

Vaughn, William A., to Monsanto Chemical Co. Multiple step continuous contacting of immiscible substances. 2,976,310, 3–21–61, Cl. 260—461.

Vdovjak, John W., to General Electric Co. Wide modulation range reheat fuel system. 2,975,589, 3–21–61, Cl. 60—35.6.

Vector Mfg. Co., Inc.: *See*—
Wulc, Stanley S.

Victaulic Co. of America: *See*—
Costanzo, Frank X., and Frost.

Vigmostad, Tryave, to Mount Clemens Metal Products Co. Brake lever assembly. 2,975,654, 3–21–61, Cl. 74—520.

Viout, André: *See*—
Kalopissis, Gregoire, and Viout.

Viscelosi, Louis A. Eviscerating machine. 2,975,409, 3–21–61, Cl. 17—11.

Vitamins Ltd.: *See*—
Green, Joseph, McHale, and Namalis.

Vogt, Rudolph B., to The E. W. Buschman Co. Roller wheel lubrication. 2,976,089, 3–21–61, Cl. 308—187.

Voght, William A. Furnace roof construction. 2,975,734, 3–21–61, Cl. 110—99.

Voigt, Jan L., to N.V. Ondersoekingsinstituut Research. Molding material comprising a polyamide and a nitrile of a higher fatty acid, and process of making. 2,976,258, 3–21–61, Cl. 260—32.4.

Voigtlander A.G.: *See*—
Greger, Paul.

Vander Esch, Albert H., to Thiokol Chemical Corp. Proportional coolant flow thrust chamber. 2,975,590, 3–21–61, Cl. 60—35.6.

Vesler, Edward J., and H. W. Schultz, to General Motors Corp. Brake wand. 2,975,870, 3–21–61, Cl. 188—77.

Vuchinas, Theodore. Tire cleaning device. 2,975,447, 3–21–61, Cl. 15—21.

Wabeitz, Richard. Fluid distributing apparatus. 2,976,302, 3–21–61, Cl. 219—30.

Wagner, Erich: *See*—
Mandler, Walter, and Wagner. 2,975,673.

Wagner, Hans: *See*—
Rauchig, Heinrich, Aumuller, Korger, Wagner, Schels, and Rempfer. 2,976,317.

Wagner, Kuno, and H. Muller, ¼ to Farbenfabriken Bayer Aktiengesellschaft and ¼ to Mobay Chemical Co. Ethers. 2,976,261, 3–21–61, Cl. 260—82.

Wakeman, Alden H., to The Creamery Package Mfg. Co. Aerating and refrigerating apparatus. 2,976,617, 3–21–61, Cl. 62—342.

Wald Industries, Inc.: *See*—
Shaffer, William R. 2,975,979.

Walde, Robert A., to Goodrich-Gulf Chemicals, Inc. Improvement in the process of transalkylating aluminum. 2,976,306, 3–21–61, Cl. 260—448.

Walford, Raymond J., to General Aniline & Film Corp. Antistatic backing layers for photographic film. 2,976,148, 3–21–61, Cl. 96—87.

Walford, Raymond J., to General Aniline & Film Corp. Matte-suspensions. 2,976,250, 3–21–61, Cl. 252—518.

Wall, Frederick T.: *See*—
Milford, George N., Jr., and Wall. 2,976,268.

Wall, Ivan H. Electric signalling system. 2,976,524, 3–21–61, Cl. 340—311.

Walthall, James L., Jr.: *See*—
Brown, Calvin F., Young, and Walthall. 2,975,711.

Waninger, Gilbert. Supply conveying means. 2,975,907, 3–21–61, Cl. 133—61.

Warnecke, Heins, to Farbenfabriken Bayer Aktiengesellschaft. Method of continuously analysing ethylene oxide in the presence of ethylene by infra-red absorption. 2,976,414, 3–21–61, Cl. 250—42.5.

Warthen, William P., to Owens-Corning Fiberglas Corp. Method and means for coating of filaments. 2,976,177, 3–21–61, Cl. 117—119.2.

Waterman, Logan C., and W. L. Shirley, to Petrolite Corp. Electric treater. 2,976,228, 3–21–61, Cl. 204—302.

Waterous Co.: *See*—
Thomas, David F., and Evans. 2,975,715.

Waters Mfg., Inc.: *See*—
Waters, Robert A. 2,976,506.

Waters, Robert A., to Waters Mfg., Inc. Rectilinear potentiometer. 2,976,508, 3–21–61, Cl. 338—180.

Waterson, Robert L.: *See*—
Billingsley, Leonard. 2,975,858.

Watson, Edward J.: *See*—
Bowman, Carlos M., and Watson. 2,976,313.
Bowman, Carlos M., and Watson. 2,976,314.

Watts, Chester B., Jr., to Andrew Alford. Radio frequency net-works. 2,976,497, 3–21–61, Cl. 333—9.

Weatherhead Co., The: *See*—
Cornet, Louis B. 2,975,662.

Webber, Jack C. Swab. 2,975,722, 3–21–61, Cl. 103—223.

Webber, William O., to Esso Research and Engineering Co. Control of fractionating columns. 2,976,224, 3–21–61, Cl. 208—350.

Weber, Erwin L. Automatic ventilators. 2,975,975, 3–21–61, Cl. 236—49.

Weber, Henri. Arrangement for the speedy drying of small amounts of linen. 2,975,529, 3–21–61, Cl. 34—151.

Weber, Theodor: *See*—
Maeder, Arthur, Weber, Sulzer, Futzer, and Guertler. 2,976,167.

Webster Electric Co.: *See*—
Shields, George R. 2,975,672.

Wechsler, Lawrence D.: *See*—
Abbott, Harold W., and Wechsler. 2,976,429.

Wedensky, Alexander V., to Westinghouse Electric Corp. Apparatus for unloading, orienting and feeding articles. 2,975,911, 3–21–61, Cl. 214—6.5.

Weinar, Roger N., and J. A. Eder. Combined holder and handle for cartons. 2,976,074, 3–21–61, Cl. 294—83.

Weingart, Richard I. N. Dispensing container. 2,975,887, 3–21–61, Cl. 206—42.

Weiss, Mortimer E., and C. M. Garretson, to Sylvania Electric Products, Inc. Ceramic rod spacers for use in mass producible electron tubes. 2,976,452, 3–21–61, Cl. 313—257.

Welchon, James K., to Phillips Petroleum Co. Intermittent gas-lift system. 2,975,724, 3–21–61, Cl. 103—232.

Weller, Edward F., Jr.: *See*—
Farrell, John M., and Weller. 2,976,459.

Wendt, Robert H. Methods and apparatus for conserving soap. 2,975,485, 3–21–61, Cl. 15—55.

Werkzeugmaschinenfabrik Oerlikon Buhrle & Co.: *See*—
Schenk, Gustav. 2,975,971.

Werner, Robert V., W. J. Zable, W. J. Thompson, and A. E. Noyes, to Cubic Corp. Multiple-target tracking system. 2,976,520, 3–21–61, Cl. 343—112.

Werring, Walter W.: *See*—
Gent, Edgar W., and Werring. 2,975,822.

Wertheimer, Milton A., to Gellman Mfg. Co. Apparatus for wrapping and heat-sealing packages. 2,975,572, 3–21–61, Cl. 53—206.

West, Samuel R., J. C. Thompson, and J. R. Paul, to The Dow Chemical Co. Treating wells by injection of metal and acid. 2,975,824, 3–21–61, Cl. 166—42.

Westaren, Herbert W., to C. I. Hayes Inc. Atmosphere drying apparatus. 2,975,860, 3–21–61, Cl. 183—4.7.

Western Electric Co., Inc.: *See*—
Mills, Benjamin C., Jr. 2,976,397.
Pond, Albert L. 2,975,921.

Western Machinery Co.: *See*—
Hoffman, Robert L. 2,975,900.

Westgate, Oscar L., to The R. T. French Co. Condiment dispenser. 2,976,944, 3–21–61, Cl. 222—480.

Westinghouse Air Brake Co.: *See*—
Bertill, Joseph M. 2,976,401.
Fallor, Charles W., and Staples. 2,976,406.
Feucht, Jacob R. 2,975,847.
Logan, John W., Jr., and Staples. 2,976,407.
Osterkamp, Henry C. 2,975,984.
Renstle, Walter C. 2,976,403.
Staples, Crawford R. 2,976,406.

Westinghouse Electric Corp.: *See*—
Baird, Norman F. 2,975,556.
Daines, Geoffrey A. 2,976,085.
Hanna, Clinton R. 2,976,052.
Hayter, Stanley G. 2,976,109.
Ichikawa, Yoshio. 2,976,506.
Larson, Daniel A. and Thorington. 2,976,449.
Rimbach, Henry W. and Van Broekhoven. 2,976,249.
Stahl, Walter. 2,976,441.
Wedensky, Alexander V. 2,975,911.

Westland, Roy A., Jr., and M. J. Furey, to Esso Research and Engineering Co. Rust Preventives. 2,976,179, 3–21–61, Cl. 117—127.

Weston, James C. Method of killing roots adjacent sewer line joints. 2,976,191, 3–21–61, Cl. 134—24.

Weston, Lawrence G.: *See*—
Naibach, John R., Weston, and Mucci. 2,975,575.

West Virginia Pulp and Paper Co.: *See*—
Ball, Frank J., and Pueschel. 2,976,273.

Wheeler, John A., to United States of America, Atomic Energy Commission. Neutronic reactor. 2,976,227, 3–21–61, Cl. 204—193.2.

Whirlpool Corp.: *See*—
Combs, Virgil E. 2,976,098.
Eichhorn, Robert L., and Croak. 2,975,623.
Hansen, Clarence E. 2,975,461.
Heinicke, John B., and Fretagne. 2,976,340.
Platt, Raymond S. 2,975,627.
Sundberg, Carl W. 2,975,460.

Whitaker, Arthur C.: *See*—
Gilbert, William I., and Whitaker. 2,976,240.

White, Charles C.: *See*—
Thompson, Howard A., Donaldson, and White. 2,976,150.

White, John G. Baseball practice standard. 2,976,041, 3–21–61, Cl. 273—26.

White, Robert E.: *See*—
Nichinson, David B., and White. 2,975,642.

White, Robert E., and W. E. Marceau. Metal oxide containing coatings. 2,976,166, 3–21–61, Cl. 117—23.

Whitehurst, Joe R., to Ideal Industries, Inc. Driving means for textile machines. 2,975,490, 3–21–61, Cl. 19—159.

Whitmore, John C., to E. I. du Pont de Nemours and Co. Apparatus and process for condensing a band of parallel continuous filaments. 2,975,501, 3–21–61, Cl. 28—1.

Whitso, Inc.: *See*—
Whitted, John B. 2,976,345.

Whitted, John B., to Whitso, Inc. Insulated electric terminal. 2,976,345, 3–21–61, Cl. 174—153.

Whittier, Fred, and R. J. Lawn, to Pittsburgh Chemical Co. Bituminous compositions containing epoxy ether resin and chlorinated rubber. 2,976,256, 3–21–61, Cl. 260—3.3.

Whyte, Fred. Feed mechanisms for printing and like machines. 2,976,038, 3–21–61, Cl. 271—60.

Wickman Ltd.: *See*—
Dixon, Reginald J., and Jones. 2,975,440.

Wielicki, Edward A.: *See*—
Lytton, Marion R., and Wielicki. 2,976,266.

Wigley, Ann K. Article storage assembly. 2,976,100, 3–21–61, Cl. 312—268.

Wilcox, Orland W. Fabricated cylinder head-en-block. 2,975,778, 3–21–61, Cl. 123—195.

Wilder, Harvey H., 50% to E. B. Nichols. Milling cutter. 2,975,507, 3–21–61, Cl. 29—105.

Wildhaber, Ernest. Method and apparatus for cutting toothed articles. 2,975,681, 3–21–61, Cl. 90—10.

Wilharm, Georg: *See*—
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,220.
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,221.
Becher, Elisabeth, Bernhauer, and Wilharm. 2,976,222.

Willp, Elmar K., to W. R. Grace & Co. Process for the manufacture of vinyl thioethers. 2,976,326, 3–21–61, Cl. 260—609.

Williams, Donald E., to Bissell Inc. Carpet sweeper with dustpan having a fixed bottom. 2,975,450, 3–21–61, Cl. 15—48.

Williams, George H., Jr., to Bell Telephone Laboratories, Inc. Molding of thermoplastic materials. 2,975,487, 3–21–61, Cl. 18—59.

Williams, L. G. Three-dimensional therapy. 2,975,786, 3–21–61, Cl. 128—65.

Willis, Grant N.: *See*—
Russell, Arthur G., and Willis. 2,975,930.

Wilson, Alexander T., to Standard Oil Co. Process for irradiating high hydrocarbon coatings on metal to form polymeric coatings and resultant article. 2,976,172, 3–21–61, Cl. 117—62.

Wilson, Charles D., to Allis-Chalmers Mfg. Co. Steam turbine installation. 2,975,600, 3–21–61, Cl. 60—95.

Wilson & Co., Inc.: *See*—
Carapolo, Orlando. 2,975,576.

Wilson, George A. Semiautomatic pistol with breech block forward of magazine chamber. 2,975,680, 3–21–61, Cl. 89—196.

Winston, John M., to Sarkes Tarzian, Inc. Switch. 2,976,384, 3–21–61, Cl. 200—166.

Winstrom, Leon O., R. D Samdahl, and P. S. Perch, to Allied Chemical Corp. Catalytic hydrogenation of the dinitro derivatives of toluene. 2,976,320, 3–21–61, Cl. 260—580.

Witco Chemical Co., Inc.: *See*—
Lindner, Paul L. 2,976,208.
Lindner, Paul L. 2,976,209.
Lindner, Paul L. 2,976,211.

Wittlin, Albert. Fluid indicator. 2,976,124, 3–21–61, Cl. 23—253.

Wohlfahrt, Otto: *See*—
Christoffel, Martin, and Wohlfahrt. 2,976,504.

Wojciechowski, Mieczyslaw, to General Motors Corp. Electrically conductive wiper blade. 2,975,459, 3–21–61, Cl. 15—250.36.

Wolf, Peter S., and J. Kaplan. Covered backwashers. 2,975,495, 3–21–61, Cl. 24—65.

Wood, Gar, Industries, Inc.: *See*—
Gwinn, Joseph M., Jr., O'Brien, and Coleman. 2,975,913.

Wood, Straud K., and W. J. Friesen; said Friesen assor. to said Wood. Timing meter. 2,975,585, 3–21–61, Cl. 58—142.

Wooten, Willis C., Jr.: *See*—
Coover, Harry W., Jr., and Wooten. 2,976,272.

Worthington, Robert M., to Graco Metal Products, Inc. Spring motors. 2,975,866, 3–21–61, Cl. 185—38.

Wright, George W., to Tokheim Corp. Liquid fuel supply apparatus. 2,975,713, 3–21–61, Cl. 103—87.

Wright, George W., B. W. Foss, and P. T. Kachuk, to Tokheim Corp. Fluid meter. 2,975,765, 3–21–61, Cl. 121—69.

Wright, John W.: *See*—
Jackson, Wilbur F., and Wright. 2,975,974.

Wright, Stanley E., to Eastman Kodak Co. Multiple coating apparatus. 2,975,754, 3–21–61, Cl. 118—407.

Wulc, Stanley S., to Vector Mfg. Co., Inc. Mounting rack and detachable frame. 2,976,001, 3–21–61, Cl. 248—224.

Wurgaft, Robert L., to B. Alexander. Citrus fruit juicer. 2,975,810, 3–21–61, Cl. 146—3.

Wyandotte Chemicals Corp.: *See*—
Otrhalek, Joseph V. 2,976,248.
Smith, Loren C. 2,975,588.

Wythe, Stephen L.: *See*—
Ertelt, Henry R., Wythe, Furey, and Appeldoorn. 2,976,122.

Yale and Towne Mfg. Co., The: *See*—
Ulinski, Bronislaus I. 2,975,923.

Yamada, Koichi. Method for increasing the production of starch-hydrolyzing enzymes. 2,976,210, 3–21–61, Cl. 195—62.

Yanush, Konstant. Apparatus for making felt boots. 2,975,480, 3–21–61, Cl. 18—34.

Yard-Man, Inc.: *See*—
Gustafsson, Carl J. 2,975,777.

Yonkers, Robert A.: *See*—
Liddell, Robert E., Kuypers, and Yonkers. 2,975,449.

Yonkers, Robert A., and H. T. Lathrop, to Bissell Inc. Apparatus for applying detergent to rugs and the like. 2,975,462, 3–21–61, Cl. 15—532.

Yonkers, Robert A., and H. T. Lathrop, to Bissell Inc. Method of applying detergent to rugs and the like. 2,976,112, 3–21–61, Cl. 8—150.

Youmans, Donald W., and M. N. Tone, to Deere & Co. Fluid pressure control system. 2,975,851, 3–21–61, Cl. 180—6.2.

Young, Felix H.: *See*—
Brown, Calvin F., Young, and Walthall. 2,975,711.

Young, Harold C., and W. W. Toy, to Rohm & Haas Co. Adhesive composition, methods of employing it, and laminated structures. 2,976,203, 3–21–61, Cl. 154—140.

Young, Harold C., and W. W. Toy, to Rohm & Haas Co. Adhesive compositions, methods of employing them, and laminated structures made therefrom. 2,976,204, 3–21–61, Cl. 154—140.

Young, Llewellyn: *See*—
Burlinson, Roy F., Brockman, Taylor, and Young. 2,975,639.

Young, William R., Jr., to Bell Telephone Laboratories, Inc. Automatic telephone traffic recorder employing magnetic tape. 2,976,365, 3–21–61, Cl. 179—6.

Youngstown Steel Door Co., The: *See*—
Beauchamp, Wilfred A. 2,975,490.

Youse, Earl L.: *See*—
Dawe, Harold J., and Youse. 2,976,257.

Zable, Walter J.: *See*—
Werner, Robert V., Zable, Thompson, and Noyes. 2,976,530.

Zahnradfabrik Friedrichshafen: *See*—
Göpfert, Max. 2,976,464.

Zahnradfabrik Friedrichshafen, Aktiengesellschaft: *See*—
Jablonsky, Erich. 2,975,764.
Looman, Johannes, Hofer, and Thiemig. 2,975,781.

Zalkind, Joseph. Multi-color writing transfer sheet. 2,976,165, 3–21–61, Cl. 117—15.

Zanger, Diana E. Convertible shadow-proof petticoat. 2,975,430, 3–21–61, Cl. 2—211.

Zdrojkowski, Roman: *See*—
Chodacki, Joseph, and Zdrojkowski. 2,975,977.

Zehender, Kurt: *See*—
Schmucker, Georg, Troost, Ziehm, and Zehender. 2,976,531.

Zeiss Ikon A.G. Stuttgart: *See*—
Fegert, Helmut. 2,975,685.

Zellers, James T., Jr., A. E. Badger, G. J. Lehr, to Libbey-Owens-Ford Glass Co. Treatment of glass batch. 2,975,555, 3–21–61, Cl. 49—77.

Zenith Radio Corp.: *See*—
Salisbury, Winfield W. 2,976,533.

Ziegler, Eugene M.: *See*—
Ryck, Francis M., and Ziegler. 2,975,458.

Ziegler, Harry L., to Pittsburgh Plate Glass Co. Apparatus for laminating. 2,976,196, 3–21–61, Cl. 154—2.71.

Ziehm, Gunter: *See*—
Schmucker, Georg, Troost, Ziehm, and Zehender. 2,976,531.

Zima, Joseph: *See*—
Heuss, Henry C., and Zima. 2,975,510.

Zimmermann, Carl T.: *See*—
Stoeckel, Albert L., and Zimmermann. 2,975,969.

Zimny, Zygmunt S.: *See*—
Cooper, Paul D., and Zimny. 2,975,483.

Zink, George A., and W. E. Taylor, to General Motors Corp. Integrally cast vehicle wheel and brake drum with heat sink. 2,976,083, 3–21–61, Cl. 301—6.

Zoglmann, Rudolf, and H. J. C. Nieuwenhoven, to N.V. Optische Industrie "De Oude Delft." Device for the supply and removal of film in mirror cameras. 2,975,691, 3–21–61, Cl. 95—31.

Zollinger, Alfred: *See*—
Sherburne, Philip C., and Zollinger. 2,975,996.

Zrimec, John J., to The Meriam Instrument Co. External seal. 2,976,067, 3–21–61, Cl. 286—39.

CLASSIFICATION OF PATENTS

ISSUED MARCH 21, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 101: 2,975,424
220: 2,975,425
2— 13: 2,975,426
14: 2,975,427
132: 2,975,428
159: 2,975,429
211: 2,975,430
301: 2,975,431
306: 2,975,432
5— 55: 2,975,433
86: 2,975,434
317: 2,975,435
U.S.: 2,975,436
351: 2,975,437
8— 70: 2,976,110
94.33: 2,976,111
150: 2,976,112
9— 307: 2,975,438
313: 2,975,439
10— 139: 2,975,440
141: 2,975,441
12— 38: 2,975,442
126: 2,975,443
128: 2,975,444
147: 2,975,445
13— 31: 2,976,339
15— 21: 2,975,446
2,975,447
22: 2,975,448
41: 2,975,449
48: 2,975,450
147: 2,975,451
209: 2,975,452
210: 2,975,453
244: 2,975,454
2,975,455
246: 2,975,456
250.21: 2,975,457
250.27: 2,975,458
250.36: 2,975,459
223: 2,975,460
227: 2,975,461
232: 2,975,462
244: 2,975,463
253: 2,975,464
259: 2,975,465
272: 2,975,466
311: 2,975,467
16— 34: 2,975,468
17— 11: 2,975,469
18— 4: 2,975,470
5: 2,975,471
2,975,472
2,975,473
8: 2,975,474
12: 2,975,475
17: 2,975,476
25: 2,975,477
30: 2,975,478
33: 2,975,479
34: 2,975,480
42: 2,975,481
47.6: 2,975,482
2,975,483
48: 2,975,484
84: 2,976,113
55: 2,975,485
57: 2,975,486
59: 2,975,487
2,975,488
19— 159: 2,975,489
20— 23: 2,975,490
55: 2,975,491
56.8: 2,975,492
22— 139: 2,975,493
193: 2,975,494
23— 17: 2,976,114
22: 2,976,115
51: 2,976,116
107: 2,976,117
2,976,118
109: 2,976,119
157: 2,976,120
184: 2,976,121
230: 2,976,122
253: 2,976,123
2,976,124
250.1: 2,976,125
250.2: 2,976,126
250.5: 2,976,127
2,976,128
23— 267: 2,976,129
284: 2,976,130
285: 2,976,131
288: 2,976,132
24— 95: 2,975,495
201: 2,975,496
2,975,497
25— 131: 2,975,498
142: 2,975,499
154: 2,975,500
26— 1: 2,975,501
55.5: 2,975,502
76: 2,975,503
29— 78: 2,975,504
80: 2,975,505
81: 2,975,506
105: 2,975,507
2,975,508
156.R: 2,975,509
187: 2,975,510
159.01: 2,975,511
429: 2,975,512
471.1: 2,975,513
30— 6.1: 2,975,514
15: 2,975,515
34: 2,975,516
133: 2,975,517
263: 2,975,518
33— 3: 2,975,519
41: 2,975,520
76: 2,975,521
125: 2,975,522
164: 2,975,523
174: 2,975,524
185: 2,975,525
34— 57: 2,975,526
87: 2,975,527
133: 2,975,528
151: 2,975,529
35— 3: 2,975,530
8: 2,975,531
12: 2,975,532
14: 6,975,533
50: 2,975,534
37— 126: Re.24,952
129: 2,975,535
39— 67: 2,975,536
40— 18: 2,975,537
20: 6,975,538
125: 6,975,539
42— 75: 2,975,540
43—43.15: 2,975,541
76: 2,975,542
148: 2,975,543
44— 24: 2,976,123
45— 67: 2,975,544
129: 2,975,545
157: 2,975,546
46— 11: 2,975,547
42: 2,975,548
77: 2,975,549
118: 2,975,550
220: 2,975,551
245: 2,975,552
47— 1: 2,975,553
59: P.P.2,038
61: P.P.2,036
P.P.2,037
62: P.P.2,035
48— 115: 2,976,134
2,976,135
49— 72: 2,975,554
77: 2,975,555
78: 2,975,556
50— 22: 2,975,557
2,975,558
70: 2,975,559
80: 2,975,560
182: 2,975,561
51— 33: 2,975,562
111: 2,975,563
124: 2,975,564
2,975,565
165: 6,975,566
291: 2,975,567
52— 2: 2,976,136
14: 2,976,137
53— 53: 2,975,568
69: 2,975,569
128: 2,975,570
198: 2,975,571
53— 200: 2,975,572
241: 2,975,573
287: 2,975,574
330: 2,975,575
376: Re.24,951
391: 2,975,576
56— 14: 2,975,577
23: 2,975,578
25.4: 2,975,579
50: 2,975,580
341: 2,975,581
377: 2,975,582
2,975,583
57— 88: 2,975,584
58— 142: 2,975,585
60— 30: 2,975,586
35.54: 2,975,593
35.6: 2,975,587
2,975,588
2,975,589
2,975,590
2,975,591
2,975,592
59.02: 2,975,594
59.47: 2,975,595
59.51: 2,975,596
53: 2,975,597
54.6: 2,975,598
2,975,599
95: 2,975,600
61— 46.5: 2,975,601
63: 2,975,602
62— 1: 2,975,603
9: 2,975,604
13: 2,975,605
18: 2,975,606
52: 2,975,607
53: 2,975,608
90: 2,975,609
139: 2,975,610
151: 2,975,611
155: 2,975,612
192: 2,975,613
230: 2,975,614
263: 2,975,615
291: 2,975,616
342: 2,975,617
2,975,618
419: 2,975,619
64— 9: 2,975,620
17: 2,975,621
66— 149: 2,975,622
68— 12: 2,975,623
2,975,624
18: 2,975,625
19: 2,975,626
207: 2,975,627
69— 46: 2,975,628
71— 1: 2,976,138
2.7: 2,976,139
40: 2,976,140
2,976,141
73— 15: 2,975,629
78: 2,975,630
81: 2,975,631
116: 2,975,632
2,975,633
194: 2,975,634
2,975,635
290: 2,975,636
304: 2,975,637
336.5: 2,975,638
407: 2,975,639
466: 2,975,640
503: 2,975,641
510: 2,975,642
74— 15.2: 2,975,643
16: 2,975,644
69: 2,975,645
242.14: 2,975,646
242.16: 2,975,647
377: 2,975,648
424.6: 2,975,649
472: 2,975,650
473: 2,975,651
500: 2,975,652
501: 2,975,653
520: 2,975,654
710.5: 2,975,655
745: 2,975,656
822: 2,975,657
75— 142: 2,976,142
168: 2,976,143
76— 86: 2,975,658
77— 3: 2,975,659
13: 2,975,660
32.2: 2,975,661
78— 15: 2,975,662
80— 38: 2,975,663
84— 94: 2,975,664
224: 2,975,665
285: 2,975,666
85— 36: 2,975,667
88— 1: 2,975,668
14: 2,975,669
24: 2,975,670
2,975,671
28: 2,975,672
57: 2,975,673
2,975,674
81: 2,975,675
89— 1.7: 2,975,676
16: 2,975,677
45: 2,975,678
192: 2,975,679
196: 2,975,680
90— 10: 2,975,681
93: 2,975,682
93— 37: 2,975,683
94— 45: 2,975,684
95— 10: 2,975,685
2,975,686
2,975,687
11: 2,975,688
31: 2,975,689
2,975,690
2,975,691
64: 2,975,692
2,975,693
77: 2,975,694
89: 2,975,695
96— 1: 2,976,144
49: 2,976,145
55: 2,976,146
93: 2,976,147
97: 2,976,148
98: 2,976,149
2,976,150
102: 2,976,151
111: 2,976,152
98— 2: 2,975,696
99.5: 2,975,697
99— 100: 2,976,153
128: 2,976,154
136: 2,976,155
163: 2,976,156
186: 2,976,157
199: 2,976,158
204: 2,976,159
390: 2,975,698
442: 2,975,699
100— 5: 2,975,700
214: 2,975,701
101— 99: 2,975,702
114: 2,975,703
116: 2,975,704
123: 2,975,705
181: 2,975,706
232: 2,975,707
248: 2,975,708
311: 2,975,709
102— 66: 2,975,710
80: 2,975,711
103— 41: 2,975,712
87: 2,975,713
88: 2,975,714
108: 2,975,715
120: 2,975,716
2,975,717
126: 2,975,718
149: 2,975,719
162: 2,975,720
179: 2,975,721
225: 2,975,722
231.5: 2,975,723
232: 2,975,724
104— 9: 2,975,725
2,975,726
91: 2,975,727
178: 2,975,728
2,975,729
105— 389: 2,975,730
106—39.34: 2,975,160
47: 2,975,161
71: 2,976,162
141: 2,976,163
163: 2,976,164
107— 29: 2,975,731
54: 2,975,732
2,975,733
110— 99: 2,975,734
111— 6: 2,975,735
112— 79: 2,975,736
197: 2,975,737
233: 2,975,738
260: 2,975,739
113— 17: 2,975,740
42: 2,975,741
51: 2,975,742
53: 2,975,743
116: 2,975,744
128: 2,975,745
114— 20: 2,975,746
51: 2,975,747
210: 2,975,748
115—22.2: 2,975,749
41: 2,975,750
116— 137: 2,975,751
117— 15: 2,976,165
23: 2,976,166
33: 2,976,167
34: 2,976,168
37: 2,976,169
40: 2,976,170
53: 2,976,171
62: 2,976,172
70: 2,976,173
93: 2,976,174
2,976,175
97: 2,976,176
119.2: 2,976,177
122: 2,976,178
127: 2,976,179
130: 2,976,180
2,976,181
135.5: 2,976,182
138.5: 2,976,183
138.6: 2,976,184
2,976,185
139.5: 2,976,186
212: 2,976,188
118— 13: 2,975,752
49: 2,975,753
407: 2,975,754
626: 2,975,755
627: 2,975,756
2,975,757
637: 2,975,758
119— 50: 2,975,759
143: 2,975,760
121— 13: 2,975,761
38: 2,975,762
41: 2,975,763
42: 2,975,764
69: 2,975,765
92: 2,975,766
120: 2,975,767
156: 2,975,768
122— 4: 2,975,769
23: 2,975,770
304: 2,975,771
123— 32: 2,975,772
2,975,773
59: 2,975,774
90: 2,975,775
139: 2,975,776
185: 2,975,777
195: 2,975,778
124— 11: 2,975,779
24: 2,975,780
125— 11: 2,975,781
2,975,782
126— 110: 2,975,783
240: 2,975,784
127— 48: 2,976,189
128— 6: 2,975,785
65: 2,975,786
131— 17: 2,976,190
108: 2,975,787
132— 46: 2,975,788
133— 2: 2,975,789
134— 24: 2,976,191
134— 155: 2,975,790
167: 2,975,791
135— 4: 2,975,792
136— 4: 2,976,340
34: 2,976,341
100: 2,976,342
137— 43: 2,975,793
48: 2,975,794
315: 2,975,795
322: 2,975,796
324: 2,975,797
445: 2,975,798
521: 2,975,799
566: 2,975,800
576: 2,975,801
599: 2,975,802
599.2: 2,975,803
604: 2,975,804
615: 2,975,805
625.17: 2,975,806
138— 61: 2,975,807
74: 2,975,808
139— 46: Re.24,949
141— 1: 2,975,809
146— 3: 2,975,810
28: 2,975,811
2,975,812
43: 2,975,813
140— 3: 2,975,192
6.21: 2,976,193
13.1: 2,976,194
135: 2,976,195
151—41.75: 2,975,814
152— 236: 2,975,815
330: 2,975,816
153— 2: 2,975,817
2,975,818
9: 2,975,819
45: 2,975,820
76: 2,975,821
154— 1: 2,975,822
2.71: 2,976,196
2.75: 2,976,197
16: 2,975,823
42: 2,975,824
81: 2,976,198
85: 2,976,199
89: 2,976,200
116: 2,976,201
139: 2,976,202
140: 2,976,203
2,976,204
155— 142: 2,975,825
177: 2,975,826
194: 2,975,827
158—36.6: 2,975,828
76: 2,975,829
160— 92: 2,975,830
176: 2,975,831
330: 2,975,832
162— 157: 2,976,205
318: 2,975,833
166— 42: 2,975,834
2,975,835
189: 2,975,836
241: 2,975,837
167— 20: 2,976,206
33: 2,976,207
42: 2,976,208
2,976,209
2,976,210
2,976,211
53: 2,976,212
65: 2,976,213
82: 2,976,214
87.1: 2,976,215
2,976,216
90: 2,976,217
170—180.16: 2,975,838
172— 125: 2,975,839
128: 2,975,840
2,975,841
252: 2,975,842
370: 2,975,843
494: 2,975,844
599: 2,975,845
174— 18: 2,975,343
140: 2,976,344
153: 2,976,345
158: 2,976,346
175— 19: 2,975,846

175— 170: 2,975,847
192: 2,975,848
333: 2,975,849
178— 2: 2,975,847
5. 2: 2,975,848
2,975,849
5. 4: 2,975,850
2,975,851
5. 8: 2,975,853
6. 6: 2,975,854
2,975,855
6. 8: 2,975,856
7. 2: 2,975,857
2,975,858
7. 3: 2,975,859
2,975,860
7. 6: 2,975,861
2,975,862
80: 2,975,863
179— 7. 1: 2,975,864
8: 2,975,865
8. 5: 2,975,866
18: 2,975,867
27: 2,975,868
84: 2,975,869
90: 2,975,870
100. 1: 2,975,871
100. 2: 2,975,872
115. 5: 2,975,873
190— 1: 2,975,850
6. 2: 2,975,851
181— 31: 2,975,852
32: 2,975,853
49: 2,975,854
182— 137: 2,975,855
161: 2,975,856
166: 2,975,857
196: 2,975,858
214: 2,975,859
183— 4. 7: 2,975,860
24: 2,975,861
51: 2,975,862
2,975,863
184— 6: 2,975,864
7: 2,975,865
185— 38: 2,975,866
187— 9. 41: 2,975,867
18: 2,975,868
188— 59: 2,975,869
77: 2,975,870
140: 2,975,871
152: 2,975,872
190— 1: 2,975,873
37: 2,975,874
191— 12. 4: 2,975,874
192— 3. 5: 2,975,875
150: 2,975,876
193— 41: 2,975,877
43: 2,975,878
194— 69: 2,975,879
99: 2,975,880
195— 20: 2,976,218
62: 2,976,219
114: 2,976,220
2,976,221
2,976,222
197— 36: 2,975,881
198— 19: 2,975,882
20: 2,975,883
53: 2,975,884
160: 2,975,885
199— 37: 2,975,886
200— 14: 2,976,375
33: 2,976,376
38: 2,976,377
61. 45: 2,976,378
87: 2,976,379
102: 2,976,380
120: 2,976,381
144: 2,976,382
168: 2,976,383
2,976,384
168: 2,976,385
202— 39. 5: 2,976,223
74: 2,976,224
204— 49: 2,976,225
147: 2,976,226
193. 2: 2,976,227
302: 2,976,228
206— 42: 2,975,887
45. 34: 2,975,888
2,975,889
48: 2,975,890
65: 2,975,891
2,975,892
207— 2: 2,975,893
208— 2: 2,976,229
8: 2,976,230
90: 2,976,231
138: 2,976,232
251: 2,976,233
350: 2,976,234
209— 72: 2,975,894
166: 2,975,895
211: 2,975,896
214: 2,975,897
238: 2,975,898
273: 2,975,899
403: 2,975,900
210— 122: 2,975,901
144: 2,975,902
236: 2,975,903
211— 46: 2,975,904
50: 2,975,905
74: 2,975,906
96: 2,975,907
126: 2,975,908
150: 2,975,909
212— 144: 2,975,910
214— 8. 5: 2,975,911
17: 2,975,912
83. 14: 2,975,914
83. 28: 2,975,915
83. 3: 2,975,913
84: 2,975,916
95: 2,975,917
147: 2,975,918
152: 2,975,919
209: 2,975,920
2,975,921
394: 2,975,922
720: 2,975,923
731: 2,975,924
215— 100: 2,975,925
217— 42: 2,975,926
219— 19: 2,976,386
2,976,387
28: 2,976,388
34: 2,976,389
35: 2,976,390
2,976,391
39: 2,976,392
46: 2,976,393
59: 2,976,394
108: 2,976,395
138: 2,976,396
155: 2,976,397
220— 1: 2,975,927
2. 3: 2,975,928
4: 2,975,929
23. 4: 2,975,930
24: 2,975,931
55: 2,975,932
69: 2,975,933
112: 2,975,934
221— 14: 2,975,935
192: Re.24,960
265: 2,975,936
222— 70: 2,975,937
90: 2,975,938
142: 2,975,939
177: 2,975,940
250: 2,975,941
380: 2,975,942
394: 2,975,943
2,975,944
396: 2,975,945
480: 2,975,946
546: 2,975,947
223— 71: 2,975,948
91: 2,975,949
225— 26: 2,975,950
229— 6: 2,975,951
17: 2,975,952
45: 2,975,953
51: 2,975,954
55: 2,975,955
68: 2,975,956
230— 95: 2,975,957
2,975,958
116: 2,975,959
117: 2,975,960
2,975,961
2,976,352
127: 2,975,962
143: 2,975,963
152: 2,975,964
235—61. 11: 2,975,965
2,975,967
61. 7: 2,975,965
63: 2,975,968
98: 2,975,969
325— 101: 2,975,970
145: 2,975,971
186: 2,975,972
326— 34. 5: 2,975,973
48: 2,975,974
49: 2,975,975
78: 2,975,976
228— 14: 2,975,977
229— 148: 2,975,978
150: 2,975,979
316: 2,975,980
353: 2,975,981
447: 2,975,982
453: 2,975,983
240— 1. 3: 2,976,398
11. 4: 2,976,399
123: 2,976,400
241— 82: 2,975,984
86: 2,975,985
100. 5: 2,975,986
242— 2: 2,975,987
55. 19: 2,975,988
56. 5: 2,975,989
71. 2: 2,975,990
75. 51: 2,975,991
78: 2,975,992
245— 1: 2,976,401
5: 2,976,402
26: 2,976,403
33: 2,976,404
161: 2,976,405
182: 2,976,406
2,976,407
248— 2: 2,975,993
31: 2,975,994
54: 2,975,995
58: 2,975,996
63: 2,975,997
68: 2,975,998
121: 2,975,999
204: 2,976,000
224: 2,976,001
226: 2,976,002
243: 2,976,003
289: 2,976,004
298: 2,976,005
249— 15: 2,976,006
62: 2,976,007
250— 20: 2,976,408
2,976,409
2,976,410
2,976,411
2,976,412
41. 9: 2,976,413
43. 5: 2,976,414
65: 2,976,415
2,976,416
2,976,417
83. 1: 2,976,418
83. 3: 2,976,419
2,976,420
83. 6: 2,976,421
106: 2,976,422
2,976,423
251— 175: 2,976,008
332: 2,976,009
333: 2,976,010
252— 8. 5: 2,976,235
8. 55: 2,976,236
28: 2,976,237
32. 5: 2,976,238
32. 7: 2,976,239
33. 4: 2,976,240
33. 6: 2,976,241
35: 2,976,242
40. 7: 2,976,243
51. 5: 2,976,244
57: 2,976,245
62. 9: 2,976,246
78: 2,976,247
156: 2,976,248
301. 4: 2,976,249
313: 2,976,250
316: 2,976,251
429: 2,976,252
430: 2,976,253
439: 2,976,254
253— 89: 2,976,011
52: 2,976,012
55: 2,976,013
77: 2,976,014
78: 2,976,015
254— 28: 2,976,016
190: 2,976,017
255— 21: 2,976,018
47: 2,976,019
256— 64: 2,976,020
65: 2,976,021
257—262. 16: 2,976,022
295: 2,976,023
258— 4: 2,976,024
154: 2,976,025
260— 3. 3: 2,976,256
14: 2,976,257
32. 4: 2,976,258
45. 95: 2,976,259
2,976,260
52: 2,976,261
72: 2,976,262
2,976,263
73: 2,976,264
75: 2,976,265
2,976,266
2,976,267
77. 5: 2,976,268
79. 3: 2,976,269
92. 8: 2,976,270
93. 7: 2,976,271
94. 9: 2,976,272
124: 2,976,273
209: 2,976,274
211: 2,976,275
211. 5: 2,976,276
227: 2,976,277
231: 2,976,278
259: 2,976,279
2,976,280
2,976,281
239. 3: 2,976,282
239. 55: 2,976,283
2,976,284
242: 2,976,285
243: 2,976,286
240. 6: 2,976,287
240. 9: 2,976,288
256. 5: 2,976,289
268: 2,976,290
294. 7: 2,976,291
305: 2,976,292
309. 2: 2,976,293
310: 2,976,294
2,976,295
327: 2,976,296
332. 1: 2,976,297
343. 6: 2,976,298
345. 1: 2,976,299
347. 8: 2,976,300
348: 2,976,301
397. 4: 2,976,302
429: 2,976,303
2,976,304
2,976,305
445: 2,976,306
2,976,307
461: 2,976,308
2,976,309
2,976,310
2,976,311
2,976,312
462: 2,976,313
2,976,314
2,976,315
475: 2,976,030
501: 2,976,316
553: 2,976,317
559: 2,976,318
562: 2,976,319
580: 2,976,320
599: 2,976,321
609: 2,976,322
2,976,323
2,976,324
2,976,325
2,976,326
611: 2,976,327
615: 2,976,328
621: 2,976,329
650: 2,976,330
668: 2,976,331
2,976,332
669: 2,976,333
671: 2,976,335
674: 2,976,336
680: 2,976,337
683. 15: 2,976,338
261— 30: 2,976 026
262— 7: 2,976,027
33: 2,976,028
266— 21: 2,976,029
267— 15: 2,976,031
64: 2,976,032
269— 185: 2,976,032
189: 2,976,034
Z,976,035
270— 5: Re.24,945
271— 5: 2,976,036
20: 2,976,037
60: 2,976,038
272— 8: 2,976,039
273— 26: 2,976,040
2,976,041
106. 5: 2,976,042
2,976,043
134: 2,976,044
135: 2,976,045
162: 2,976,046
274— 10: 2,976,047
13: 2,976,048
16: 2,976,049
280—43. 17: 2,976,050
81: 2,976,051
112: 2,976,052
124: 2,976,053
2,976,054
150. 5: 2,976,055
277: 2,976,056
283: 2,976,057
413: 2,976,058
456: 2,976,059
491: 2,976,060
809: 2,976,061
282— 29: 2,976,062
285— 119: 2,976,063
165: 2,976,064
286— 8: 2,976,065
10: 2,976,066
39: 2,976,067
287— 90: 2,976,068
127: 2,976,069
290— 1: 2,976,424
292— 25: 2,976,070
216: 2,976,071
336. 3: 2,976,072
352: 2,976,073
294— 33: 2,976,074
65. 5: 2,976,075
102: 2,976,076
296— 1: 2,976,077
20: 2,976,078
28: 2,976,079
35: 2,976,080
47: 2,976,081
98: 2,976,082
301— 6: 2,976,083
303— 6: 2,976,084
9: 2,976,085
307— 88: 2,976,425
88. 5: 2,976,426
2,976,427
2,976,428
2,976,429
2,976,430
2,976,431
2,976,432
308— 3: 2,976,086
122: 2,976,087
168: 2,976,088
187: 2,976,089
207: 2,976,090
212: 2,976,091
217: 2,976,092
228: 2,976,093
310— 3: 2,976,433
9. 4: 2,976,434
39: 2,976,435
50: 2,976,436
63: 2,976,437
83: 2,976,438
153: 2,976,439
311— 17: 2,976,094
312— 42: 2,976,095
71: 2,976,096
184: 2,976,097
214: 2,976,098
267: 2,976,099
268: 2,976,100
300: 2,976,101
313— 19: 2,976,440
33: 2,976,441
54: 2,976,442
61: 2,976,443
62: 2,976,444
93: 2,976,445
108: 2,976,446
2,976,447
109: 2,976,448
313— 109: 2,976,449
151: 2,976,450
171: 2,976,451
257: 2,976,452
314— 69: 2,976,453
315— 3. 5: 2,976,454
3. 6: 2,976,455
2,976,456
31: 2,976,457
39. 77: 2,976,458
84. 6: 2,976,459
204: 2,976,460
205: 2,976,461
317— 9: 2,976,462
41: 2,976,463
191: 2,976,464
234: 2,976,465
246: 2,976,466
318— 30: 2,976,467
138: 2,976,468
293: 2,976,469
341: 2,976,470
457: 2,976,471
322— 28: 2,976,473
328— 9: 2,976,474
2,976,475
43. 5: 2,976,476
47: 2,976,477
56: 2,976,478
89: 2,976,479
106: 2,976,480
109: 2,976,481
324— 20: 2,976,482
43: 2,976,483
51: 2,976,484
2,976,485
63: 2,976,486
68: 2,976,487
156: 2,976,488
328— 55: 2,976,489
110: 2,976,490
155: 2,976,491
330— 4: 2,976,492
107: 2,976,493
331— 44: 2,976,494
181: 2,976,495
332— 1: 2,976,496
12: 2,976,472
333— 9: 2,976,497
2,976,498
10: 2,976,499
11: 2,976,500
32: 2,976,501
336— 83: 2,976,502
94: 2,976,503
185: 2,976,504
338— 2: 2,976,505
40: 2,976,506
180: 2,976,508
190: 2,976,507
329: 2,976,509
339— 17: 2,976,510
33: 2,976,511
50: 2,976,512
92: 2,976,513
273: 2,976,514
2,976,515
340— 164: 2,976,516
172. 5: 2,976,517
173: 2,976,518
174: 2,976,519
176: 2,976,520
196: 2,976,521
220: 2,976,522
231: 2,976,523
311: 2,976,524
316: 2,976,525
322: 2,976,526
347: 2,976,527
2,976,528
343— 6. 5: 2,976,529
112: 2,976,530
124: 2,976,531
722: 2,976,532
755: 2,976,533
756: 2,976,534
779: 2,976,535
346— 18: 2,976,102
29: 2,976,103
33: 2,976,104
2,976,105
109: 2,976,106
2,976,107
2,976,108
140: 2,976,109

Classification of Designs

D 2— 3: 189,904
D 3— 19: 189,905
D 4— 4: 189,906
D 9— 2: 189,907
D14— 3: 189,908
20: 189,909
D15— 1: 189,910
189,911
D16— 2: 189,912
D22— 3: 189,913
D26— 1: 189,914
189,915
5: 189,916
13: 189,917
D33— 3: 189,918
7: 189,919
D34— 5: 189,920
189,921
189,922
189,923
D34— 18: 189,924
189,925
D42— 7: 189,926
D44— 1: 189,927
D45— 10: 189,928
19: 189,929
D48— 32: 189,930
189,931
189,932
D52— 6: 189,933
D54— 11: 189,934
D55— 1: 189,935
189,936
D58— 2: 189,937
6: 189,938
8: 189,939
D61— 1: 189,940
D62— 2: 189,941
D64— 11: 189,942
D71— 1: 189,943
189,944
189,945
D80— 9: 189,946
189,947
D81— 2: 189,948
10: 189,949
189,950
D82— 1: 189,951
189,952
189,953
D87— 3: 189,954
189,955
189,956
189,957
D91— 1: 189,958
2: 189,959

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TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189**, same, Nonalcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, filed Jan. 11, 1961, D.C.N.J. (Newark), Doc. 18/61, *The Coca-Cola Company* v. *Samuel P. Lasala*. Same, filed Jan. 18, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39/680, *The Coca-Cola Company* v. *Raymond H. Schlester*.

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 255,922 (BERRY BROS. & CO. AND DESIGN), Berry Bros. & Co., Wines, filed Feb. 12, 1959, D.C. Mass. (Boston), Doc. 59/130–W, *George F. Kelleric* v. *Norton Company*. Complaint dismissed for failure to comply with the 20-day order issued Dec. 29, 1960 (notice Jan. 24, 1961).

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 518,121 (MILFORD), The Milford Canning Company, Canned vegetables, filed Feb. 3, 1961, D.C., S.D. Fla. (Tampa), Doc. 4060–T, *Milford Canning Company* v. *Grand Union Supermarkets, Inc.*

Reg. No. 533,966 (HELENE CURTIS), Helene Curtis Industries, Inc., Cosmetics and perfumery and particularly permanent waving oil, etc., filed Feb. 2, 1961, D.C. Mass. (Boston), Doc. 61/92–C, *Helene Curtis Industries* v. *Sidney H. Gold, doing business as Helene Harrison et al.*

Reg. No. 548,248 (KING QUALITY), Quality Dairy Company, Packaged ice cream; **Reg. No. 674,682**, same, Packaged ice cream, butter, fresh cream, etc., filed Jan. 6, 1961, D.C., E.D. Mo. (St. Louis), Doc. 61–C–6(3), *Quality Dairy Company* v. *Schnuck Markets, Manchester, Inc. et al.*

Reg. No. 589,314 (SKI FREE), B. E. Berlenbach, Safety ski bindings; **2,966,787**, same, Safety binding for a ski runner, filed Oct. 10, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/456, *Bernard E. Berlenbach, etc.* v. *Sport Centre Distributing Company et al.* Patent and trademark held valid; defendants enjoined (notice Jan. 11, 1961).

Reg. No. 595,047 (CAR FRESHNER), J. C. Prentice, doing business as Car Freshner Company, Absorbent body impregnated with a perfumed air deodorant, filed Aug. 7, 1958, D.C. Md. (Baltimore), Doc. 10830, *Car-Freshner Corporation* v. *Marlenn Products Co., Inc.*

Reg. No. 618,013 (AVIS RENT A CAR SYSTEM AND DESIGN), W. E. Avis, The leasing and rental of automobiles and trucks to provide transportation; **Reg. No. 768,789** (AVIS), Avis, Inc., Vehicle rental and leasing service, filed Jan. 18, 1961, D.C.P.R. (San Juan), Doc. 6/61, *Avis, Inc.* v. *Commonwealth Car Rental System of Puerto Rico, Inc. et al.*

Reg. No. 621,111 (AUTO UNION DKW AND DESIGN), Auto Union G.m.b.H., Motorcycles; **Reg. No. 650,998** (DKW), same, Motorcycles and automobiles; **Reg. No. 667,366** (DKW-JUNIOR), Auto Union G.m.b.H., Automobiles including motorcars for personal use and trucks, and structural parts thereof including automobile heaters and ventilators,

CONDITION OF TRADEMARK APPLICATIONS AS OF JANUARY 31, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,236
Date of oldest new application	July 8, 1960
Date of oldest amended application	July 15, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-5-60	5-2-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-29-60	7-15-60
Renewals (All Classes)	1-5-61	-------
Sec. 12 (c) Publications (All Classes)	1-3-61	-------

Applications filed during the month of January 1961—1735

Registrations Issued	327—No. 712,657 to No. 712,983
Renewals Issued	60

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

locks and closures for automobile coolers and automobile safety locks, filed Jan. 17, 1961, D.C. Ariz. (Phoenix), Doc. 3517, *Auto Union G.m.b.H. et al. v. John T. Byrd.*

Reg. No. 643,945 (GALÆCOAT), The Alligator Company, Raincoats and topcoats, filed Feb. 6, 1961, D.C. Md. (Baltimore), Doc. 12/823, *The Alligator Company v. Bond Stores, Incorporated.*

Reg. No. 650,866. (See Reg. No. 621,111.)

Reg. No. 667,643 (APPLE RIDGE), S. B. Davis Company, Inc., Fresh apples, filed Jan. 26, 1960, D.C., W.D. Mich. (Grand Rapids), Doc. 3213, *Jack Brown Produce, Inc. v. Stanley B. Davis et al.* Consent decree; defendants enjoined Dec. 20, 1960.

Reg. No. 697,389. (See Reg. No. 621,111.)

Reg. No. 703,700. (See Reg. No. 615,013.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 2—Receptacles

SN 89,132. Thomas Carvel, Yonkers, N.Y. Filed Jan. 18, 1960.

CARVEL

Owner of Reg. Nos. 507,727, 687,695, and others.
For Containers Made of Cardboard or Plastic for the Reception of Frozen Foods Products.
First use July 1949.

SN 93,768. Dad's Root Beer Company, Chicago, Ill. Filed Mar. 28, 1960.

FOLD-A-RACK

For Fibre Display Stand for Beverages by the Case.
First use Dec. 28, 1959.

SN 95,574. S. Curtis and Son, Inc., Sandy Hook, Conn. Filed Apr. 22, 1960.

SEE SHELL

For Visual Display Packages.
First use on or before Apr. 4, 1960.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 101,869. Elmer D. Hart, Lincoln, Nebr. Filed Aug. 2, 1960.

HART CARVED

For Leather Purses.
First use June 1, 1945.

Class 4—Abrasives and Polishing Materials

SN 101,756. De Mert & Dougherty, Inc., Chicago, Ill. Filed Aug. 1, 1960.

OFF' N ON

For Floor Wax.
First use on or about May 27, 1960.

Class 6—Chemicals and Chemical Compositions

SN 55,424. Sindar Corporation, New York, N.Y. Filed July 16, 1958.

SATOL

For Oleyl Alcohol.
First use Nov. 8, 1948.

SN 78,030. Percy E. Harms, d.b.a. Perc. E. Harms Co., Northfield, Ill. Filed July 20, 1959.

SLIDE

For Layout Dyes, Rust Preventatives, and Mold Release Compounds.
First use Oct. 15, 1955.

SN 83,825. Reefer-Galler, Inc., New York, N.Y. Filed Oct. 22, 1959.

GALLER'S

Owner of Reg. No. 354,443.
For Aero-Spray Moth Proofer, Concentrated Natural Cedar Oils Deodorizing Spray, Insecticide, Air Sanitizer, Mildew Preventive, and Moth Preventive.
First use July 29, 1954.

SN 83,856. Ajem Laboratories, Inc., Livonia, Mich. Filed Oct. 23, 1959.

AJEM

Owner of Reg. Nos. 641,141, 678,288, and others.
For Chemicals in Granular, Powder or Liquid Form for Use in Air Washers, Gas Scrubbers, Paint Spray Booths, Washing, Paint Stripping, Paint Killing, Machining, Grinding, Honing, Fluidizing Wastes, Neutralizing Wastes, Treating Wastes for Subsequent Utilization or Disposal, Flotation of Solid Particles, Shot Blasting, Washing, Abrasive Scrubbing, Rust Inhibiting; Alkalies, Alkali Metal Salts, Carbonates, Phosphates, Borates, Alone and in Combinations; Organic Additives Such as Solvents, Surfactants, Foam Inhibitors, and Corrosion Inhibitors.
First use about May 1952.

SN 84,446. Parachlor Chemical Corporation, Long Island City, N.Y. Filed Nov. 2, 1959.

Para-Fluff

For Chemical Preparation in Liquid Form for Use as an Anti-Static Linen and Towel Softener.
First use on or about Jan. 15, 1958.

SN 86,873. Celanese Corporation of America, New York, N.Y. Filed Dec. 8, 1959.

DCPE

For Acetal of Pentaerythritol and Crotonaldehyde.
First use July 20, 1959.

SN 87,470. The Pure Oil Company, Palatine, Ill., assignee of W. H. Barber Company, Minneapolis, Minn. Filed Dec. 17, 1959.

VERSA-SOLV

For Solvent Naphtha.
First use Oct. 17, 1957.

SN 90,313. Corrosion Reaction Consultants, Inc., d.b.a. C.R.C. Corporation, as C.R.C., Inc., and as Corrosion Reaction Consultants, Philadelphia, Pa. Filed Feb. 4, 1960.

CRC SEAL COTE

Applicant disclaims "Seal Cote" apart from the mark as shown. Owner of Reg. No. 696,251.
For Liquid Corrosion Inhibiting Composition for Inhibiting Corrosion in Metals.
First use Nov. 20, 1959.

SN 90,314. Corrosion Reaction Consultants, Inc., d.b.a. C.R.C. Corporation, as C.R.C., Inc., and as Corrosion Reaction Consultants, Philadelphia, Pa. Filed Feb. 4, 1960.

CRC SEAL COAT

Applicant disclaims "Seal Coat" apart from the mark as shown. Owner of Reg. No. 696,251.
For Liquid Corrosion Inhibiting Composition for Inhibiting Corrosion in Metals.
First use Dec. 8, 1959.

SN 91,350. Dehydag Deutsche Hydrierwerke G.m.b.H., Duesseldorf, Germany. Filed Feb. 23, 1960.

FORLANON

Owner of German Reg. No. 616,156, dated Jan. 31, 1952.
For Wetting Agent for Hot Cyanide Copper Plating Baths.

SN 91,964. Oakite Products, Inc., New York, N.Y. Filed Mar. 1, 1960.

OAKITE ACALAID

Owner of Reg. Nos. 80,287, 680,005, and others.
For Chemical Preparation—Namely, a Solvent Wetting and Penetrating Material for Use With Industrial Cleaning Solutions To Increase Their Efficiency by Means of Physical Action.
First use Jan. 23, 1960.

SN 94,550. American Smelting and Refining Company, New York, N.Y. Filed Apr. 7, 1960.

NIMAX

For Nickel Brighteners in Liquid Form for Nickel Electroplating Baths.
First use Dec. 21, 1956.

SN 94,551. American Smelting and Refining Company, New York, N.Y. Filed Apr. 7, 1960.

LEVELMAX

For Nickel Brighteners in Liquid Form for Nickel Electroplating Baths.
First use Sept. 5, 1958.

SN 94,959. Boots Pure Drug Company Limited, Nottingham, England. Filed Apr. 13, 1960.

ALLISAN

Owner of British Reg. No. 613,544, dated Dec. 10, 1940.
For Fungicide for the Control of Botrytis on Lettuce and Also Used as a Seed Dressing.

SN 99,425. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 21, 1960.

SPECTRACIDE

For Insecticide.
First use June 3, 1960.

SN 101,306. J. W. Ayers & Co., Easton, Pa. Filed July 22, 1960.

KOLATE

For Chemical Compositions for Use Principally as Gelling Agents, Thickeners, Resin and Oil Modifiers, Acid Acceptors, Drying Aids and Stabilizers.
First use Nov. 11, 1954.

SN 101,307. J. W. Ayers & Co., Easton, Pa. Filed July 22, 1960.

CYLATE

For Chemical Compositions for Use Principally as Gelling Agents, Thickeners, Resin and Oil Modifiers, Acid Acceptors, Drying Aids and Stabilizers.
First use Nov. 11, 1954.

SN 101,569. Norda Essential Oil & Chemical Company, Inc., New York, N.Y. Filed July 27, 1960.

HERKOL

For Insecticide.
First use Apr. 7, 1958.

SN 101,687. Knickerbocker Biologicals, Inc., New York, N.Y. Filed July 29, 1960.

HUMAPLASTIN

For Laboratory Reagent Used Solely for Testing of Human Prothrombin Times.
First use June 30, 1960.

SN 101,716. Waverly Chemical Co., Inc., Mamaroneck, N.Y. Filed July 29, 1960.

TRIMAG

For Synthetic Magnesium Trisilicate Sold in Bulk Packaging to the Pharmaceutical Industry.
First use June 6, 1960.

SN 103,064. Union Carbide Corporation, New York, N.Y. Filed Aug. 19, 1960.

PRESTONE

Owner of Reg. Nos. 181,657, 653,857, and others.
For Refrigerants for Automotive Air Conditioners.
First use on or about Aug. 3, 1960.

SN 103,102. The Chemstrand Corporation, Decatur, Ala. Filed Aug. 22, 1960.

CHEMSTRAND

Owner of Reg. Nos. 588,210, 660,842, and 600,796.
For Synthetic Fiber-Forming Polymers.
First use June 19, 1952.

SN 104,771. Suburban Propane Gas Corporation, Whippany, N.J. Filed Sept. 19, 1960.

Suburban

Owner of Reg. Nos. 506,158, 612,882, and 659,678.
For Liquefied Petroleum Gas.
First use at least as early as 1945.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 64,656. Remington Arms Company, Inc., Bridgeport, Conn. Filed Dec. 19, 1958.

INNER-BELTED

For Ammunition—Namely, Rifle Bullets.
First use in or about January 1939.

Class 10—Fertilizers

SN 92,125. Star Enterprises, Inc., Caseopolis, Mich. Filed Mar. 3, 1960.

GROW B-LOW

For Soil Conditioner, Consisting of a Mixture of Clay, Peat Moss and Other Materials, for Use as a Dressing for Golf Greens, Sodded Areas, and the Like.
First use Jan. 3, 1960.

SN 103,716. Alvin M. Goldstein, d.b.a. Aldy Laboratories, Minneapolis, Minn. Filed Aug. 31, 1960.

FLORA-DEX

For Liquid Plant Food Concentrate.
First use June 4, 1959.

Class 12—Construction Materials

SN 93,332. Meier Electric and Machine Company, Inc., Indianapolis, Ind. Filed Mar. 21, 1960.

KA-NINE KASLE

For Prefabricated Animal Shelters Such as Dog Kennels.
First use on or about May 1, 1958.

SN 94,432. The Sivad Ceramic Corporation, Oak Hill, Ohio. Filed Apr. 5, 1960.

slaglox

For Refractory Fire Clay Brick Mortar.
First use March 1957.

SN 94,710. United States Mineral Wool Company, Stanhope, N.J. Filed Apr. 8, 1960.

HEAT-CHEX

For Mineral Fiber Insulation in Cube Form.
First use Mar. 14, 1960.

SN 97,716. Stockton Wire Products, Glendale, Calif. Filed May 23, 1960.

CORNER AID

For Wire Lath for Cementitious Materials Such as Plaster, Stucco, and the Like.
First use December 1959.

SN 99,342. Lone Star Steel Company, Dallas, Tex. Filed June 20, 1960.

LONE STAR

Owner of Reg. No. 610,555.
For Concrete Reinforcing Rods, Steel Plates and Pipe Used as Structural Members.
First use on or about Jan. 15, 1959, on steel pipe.

SN 100,291. Reynolds Aluminum Supply Company, Atlanta, Ga. Filed July 5, 1960.

step-trim

For Decorative Strip Material for Aluminum Awnings.
First use in or about March 1959.

SN 101,200. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed July 20, 1960.

CLADEX

For Refractory Brick.
First use Nov. 16, 1959.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 89,210. Spraying Systems Co., Bellwood, Ill. Filed Jan. 18, 1960.

MULTEEJET

Owner of Reg. No. 537,229.
For Plural Spray Nozzle Units for Spraying Liquids.
First use on or about Dec. 2, 1949.

SN 93,360. Richdel, Inc., North Hollywood, Calif. Filed Mar. 21, 1960.

Waterliner

For Control Valves and Control Units Therefor.
First use Jan. 31, 1959.

SN 93,490. Clay and Bailey Manufacturing Company, Kansas City, Mo. Filed Mar. 23, 1960.

CLAYSPUN

For Centrifugally Cast Metal Pipe.
First use Feb. 20, 1960.

SN 99,990. Ajax Hardware Corporation, City of Industry, Calif. Filed June 27, 1960.

KITCHEN JEWELRY

Applicant disclaims the word "Kitchen" apart from the mark.
For Kitchen Cabinet Hardware.
First use Dec. 10, 1959.

SN 101,625. The Halsey W. Taylor Company, Warren, Ohio. Filed July 28, 1960.

Halsey Taylor

Owner of Reg. No. 608,201.
For Water Drinking Fountains and Parts Thereof.
First use in or about December 1922.

SN 101,720. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed July 29, 1960.

POREEN

Owner of Reg. No. 680,618.
For Rinse Aid Injector, Especially for Apparatus for Retaining and Injecting a Rinse Aid Composition Into a Dishwashing Machine.
First use May 12, 1960.

SN 103,917. Flat Metal Manufacturing Company, Franklin Park, Ill. Filed Sept. 6, 1960.

PILOT

For Shower Cabinets.
First use Dec. 30, 1953.

SN 104,306. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Sept. 12, 1960.

RIDG-LOK

For Metal Couplings for Joining Tubes or Pipes Wherein One of the Coupling Parts Is Deformed Into Gripping Engagement With the Tube or Pipe.
First use March 1959.

SN 104,353. Wilmod Company, Inc., New York, N.Y. Filed Sept. 12, 1960.



For Nails.
First use October 1953.

Class 14—Metals and Metal Castings and Forgings

SN 99,340. Lone Star Steel Company, Dallas, Tex. Filed June 20, 1960.

LONE STAR

Owner of Reg. No. 610,555.
For Steel Plates, Skelp and Rods.
First use on or about June 15, 1959, on steel plates and skelp.

SN 102,082. All-State Welding Alloys Co., Inc., White Plains, N.Y. Filed Aug. 5, 1960.

GALVOVER

For Galvanizing Material in Rod Form.
First use Apr. 14, 1960.

SN 102,212. Erie Forge & Steel Corporation, Erie, Pa. Filed Aug. 9, 1960.

ERIE-VDOX

For Steel Forgings.
First use Dec. 15, 1959; 1905 as to "Erie."

SN 102,363. Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany. Filed May 11, 1960.



Owner of German Reg. No. 732,632, dated Jan. 11, 1960.
For Pre-Alloy for the Production of Cast Iron With Spheroidal Graphite.

Class 15—Oils and Greases

SN 97,989. Clark Oil and Refining Corporation, Milwaukee, Wis. Filed May 27, 1960.



The drawing is lined for orange; however, color is not a feature of the mark.
For Petroleum Products Including Gasoline, Oil, and Gasoline Additives.
First use May 26, 1953, in connection with gasoline.

SN 99,036. Ball of Wax, Inc., Birmingham, Mich. Filed June 15, 1960.



The representation of a candle is disclaimed apart from the mark as shown. The drawing is lined for red.
For Candles.
First use Mar. 31, 1960.

Class 16—Protective and Decorative Coatings

SN 96,525. Remington Chemical & Research Corporation, Verona, N.J. Filed May 5, 1960.

CHEMOLON

For Protective, Fire Retardant, Waterproofing, Decorative Liquid Coating for Walls.
First use Nov. 9, 1959.

SN 101,585. The Valspar Corporation, Ardmore, Pa. Filed July 27, 1960.

VAL-OIL

Owner of Reg. No. 341,882.
For Paints, Varnishes, Enamels, Undercoaters, Sealers, and Rust Inhibitors.
First use Mar. 7, 1936.

SN 101,656. Belknap Hardware and Manufacturing Company, Louisville, Ky. Filed July 29, 1960.

BELKNAP

Owner of Reg. No. 534,462.
For High Gloss Enamel for Use on Farm Implements, Trucks, Tractors and Tools; for Use on Interior or Exterior Floors; Enamel, Paint Primer, Wall Paint, House Paint, Shellac, Sealer, Oil Stain, Varnish, Varnish Stain, Paint Thinner, Water Repellent for Above Grade Masonry, Surface Conditioner and Waterproofing Compound and Copper Naphthenate Preservative for Treatment of Nets, Seines, Rope, Tarpaulins and Wood Such as Fence Posts for Prevention of Rot and Decay.
First use Jan. 2, 1951.

SN 102,743. Dean's Pride, Incorporated, Denver, Colo. Filed Aug. 16, 1960.



Owner of Reg. No. 676,450.
For Coating To Preserve and Beautify Plants and Leaves.
First use May 3, 1960.

SN 103,295. Pratt & Lambert-Inc., Buffalo, N.Y. Filed Aug. 23, 1960.

VERDURA

For Trim and Shutter Finish.
First use in early 1922.

SN 103,535. California Aerosol Company, Los Angeles, Calif. Filed Aug. 29, 1960.

KIT KOTE

For Paints.
First use Feb. 28, 1957.

Class 17—Tobacco Products

SN 81,131. General Cigar Co., Inc., New York, N.Y. Filed Sept. 10, 1959.

SMOKE-O-GRAM

For Gift Wrappers for Boxes of Cigars.
First use Aug. 26, 1959.

SN 81,132. General Cigar Co., Inc., New York, N.Y. Filed Sept. 10, 1959.

TOBACCO-GRAM

For Gift Wrappers for Boxes of Cigars.
First use Aug. 26, 1959.

Class 18—Medicines and Pharmaceutical Preparations

SN 67,564. Physicians Products Co., Inc., Petersburg, Va. Filed Feb. 11, 1959.

TRISTAMINE

Owner of Reg. No. 655,172.
For Antihistaminic Ingredient Incorporated in a Cold Preparation Which Is Sold Under Prescription.
First use Oct. 28, 1957.

SN 86,732. Albertha Christopher, New York, N.Y. Filed Dec. 7, 1959.



For Medicated Drink Made From Herbaceous Roots, Citrus Fruits, and Vegetables, To Be Used for Reducing Blood Pressure.
First use Sept. 11, 1950.

SN 90,637. Humphreys Medicine Company, Incorporated, New York, N.Y. Filed Feb. 9, 1960.

HEMO-PILE

For Ointment for Treating Hemorrhoids.
First use Jan. 11, 1960.

SN 91,084. Farbwerke Hoechst-Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany. Filed Feb. 17, 1960.

COPHYLAC

Owner of German Reg. No. 666,064, dated Nov. 8, 1954.
For Medicines, Pharmaceutical Drugs—e.g., Antitussive Preparations.

SN 91,347. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 23, 1960.

DRIACOL

For Preparation for the Relief of Nasal, Sinus, and Respiratory Disorders.
First use Jan. 22, 1960.

SN 94,158. Gides, Incorporated, Beverly Hills, Calif. Filed Apr. 1, 1960.

N. & L.

CHALLENGER

33

Owner of Reg. Nos. 612,468 and 659,532.
For Dietary Vitamin Food Supplements.
First use Mar. 18, 1960.

SN 94,761. G. C. Hanford Mfg. Company, Syracuse, N.Y. Filed Apr. 11, 1960.

HANFORD'S

For Medical Preparations for Veterinary Use.
First use 1846.

SN 95,982. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories, Stamford, Conn. Filed Apr. 28, 1960.

NICOBUF

For Pharmaceutical Preparation for the Treatment of Cardiovascular Disorders.
First use Apr. 4, 1960.

SN 96,164. Farbwerke Hoechst Aktiengesellschaft, vormals Meister Lucius & Brüning, Frankfurt am Main, Germany. Filed Apr. 28, 1960.

SEGONTIN

Owner of German Reg. No. 712,543, dated Mar. 31, 1958.
For Pharmaceutical Preparations for the Treatment of Angina Pectoris, Coronary Sclerosis, Organic and Functional Coronary Deficiencies, and Circulatory Disorders of the Central Nervous System.

SN 96,247. Northrup Pharmaceutical Co., Minneapolis, Minn. Filed May 2, 1960.

NEMASE

For Vasodilator Spasmolitic in Tablet Form Containing Niacin, Ascorbic Acid, Thiamine Monohitrate and Hyoscine.
First use Mar. 10, 1960.

SN 98,495. Laboratorios Terrier, Inc., Hato Rey, Puerto Rico. Filed June 6, 1960.

ZETALCIDE

For Antiseptic for the Human Body Which May Also Be Used for Disinfecting Inanimate Objects.
First use May 1, 1960.

SN 98,861. Carter Products, Inc., New York, N.Y. Filed June 13, 1960.

SOMACORT

Owner of Reg. No. 665,933.
For Pharmaceutical Preparation Used as an Aid To Relieve Pain and To Achieve Sleep.
First use Sept. 10, 1959.

SN 101,645. Helena Rubinstein, Inc., New York, N.Y. Filed July 28, 1960.

BIO-CLEAR

For Medicated Skin Cream for Treating Acne Pimples.
First use Jan. 19, 1960.

SN 101,803. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Aug. 1, 1960.

ORABASE

For Preparations for Temporary Relief of Minor Mouth Irritations or Amelioration of Lesions of the Mouth.
First use Apr. 5, 1960.

SN 102,701. Space, Inc., Washington, D.C. Filed Aug. 15, 1960.

SPACE

For Preparation for the Treatment of Dry Hair and Dandruff.
First use Aug. 4, 1960.

SN 104,008. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany. Filed Sept. 6, 1960.

JADIT

Owner of German Reg. No. 614,172, dated Nov. 23, 1951.
For Antimycotics.

SN 105,400. The Warren-Teed Products Company, Columbus, Ohio. Filed Sept. 28, 1960.

MODANE

For Preparation for the Relief of Constipation and Regulation of Bowel Action—i.e., a Deconstipant.
First use July 27, 1955.

SN 109,037. Carter Products, Inc., New York, N.Y. Filed Nov. 25, 1960.

MILURETIC

For Pharmaceutical Preparation for Use as an Aid To Relieve Pain and To Achieve Sleep.
First use Aug. 25, 1960.

SN 109,123. The Upjohn Company, Kalamazoo, Mich. Filed Nov. 25, 1960.

F-MEDROL

Owner of Reg. Nos. 694,836, 676,234, and others.
For Medicinal Preparation for the Treatment of Endocrine and Metabolic Diseases.
First use Oct. 12, 1960.

SN 109,124. The Upjohn Company, Kalamazoo, Mich. Filed Nov. 25, 1960.

GERIPET

For Veterinary Geriatric Preparation.
First use Aug. 3, 1960.

SN 109,218. United Laboratories, Ltd., Pasadena, Calif. Filed Nov. 28, 1960.

PETROMALT

Owner of Reg. No. 214,970.
For Veterinary Medicine Comprising an Emulsion of Liquid Petrolatum With Malt Extract.
First use Jan. 13, 1926.

SN 109,229. American Bio-Chemical Corporation, d.b.a. Bauer Pharmaceuticals, Los Angeles, Calif. Filed Nov. 29, 1960.

suplex-c

For Lipotropic Preparation.
First use Apr. 2, 1953.

SN 109,349. The Purdue Frederick Company, New York, N.Y. Filed Nov. 30, 1960.

SENOTAL

For Preparation for the Treatment of Constipation.
First use Nov. 15, 1960.

SN 109,436. Schering Corporation, Bloomfield, N.J. Filed Dec. 1, 1960.

CORIGEMS

For Antihistaminic-Analgesic Throat Lozenge.
First use Nov. 11, 1960.

SN 109,516. Chas. Pfizer & Co., Inc., Brooklyn, N.Y. Filed Dec. 2, 1960.

GEOPEN

For Penicillin Preparation.
First use Sept. 23, 1960.

SN 109,562. Damancy & Company Limited, Ware, England. Filed Dec. 5, 1960.

STERIPAQUE

Owner of British Reg. No. 794,079, dated Aug. 5, 1959.
For Radiological Contrast Media.

SN 109,758. Arrow Medical Co., Inc., Coral Gables, Fla. Filed Dec. 7, 1960.

HYSEPTIC

For Medicating Agent in the Form of a Germicidal Oil, Dusting Powder or Topical Ointment for Relief of Cuts, Burns, Scalds, Insect Bites, Poison Ivy and Similar Skin Irritations.
First use Aug. 29, 1935.

SN 109,790. Geigy Chemical Corporation, Ardsley, N.Y. Filed Dec. 7, 1960.

UTAPIREN

Owner of Reg. No. 559,913.
For Antirheumatic Preparation.
First use Nov. 25, 1960.

SN 109,869. Haug Drug Company, Milwaukee, Wis. Filed Dec. 8, 1960.

GLAUCON

For Ophthalmic Solution for the Treatment of Glaucoma.
First use on or about June 16, 1959.

SN 109,916. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 8, 1960.

ILOMEL

For Composition for Treatment of Gastrointestinal Disorders.
First use July 29, 1960.

SN 109,945. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

FERYL

For Preparation in the Treatment of Anemia Due to Iron Deficiencies.
First use Mar. 4, 1938.

SN 109,947. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

CENATHESIN

For Preparation for Symptomatic Relief From Itching Skin Conditions.
First use Aug. 27, 1952.

SN 109,961. Forest Laboratories, Inc., Brooklyn, N.Y. Filed Dec. 9, 1960.

METAMSUSTAC

For Appetite Depressant Action-Delayed Tablets, Especially Tablets Containing Desoxyephedrine Hydrochloride.
First use on or about Mar. 1, 1960.

SN 110,013. Abbott Laboratories, North Chicago, Ill. Filed Dec. 12, 1960.

DIOLEEN

For Dermatologic Preparation for Use in the Treatment of Skin Irritation in Animals.
First use Aug. 18, 1959.

SN 110,138. Bristol-Myers Company, New York, N.Y. Filed Dec. 13, 1960.

BELSERENE

For Hematinic Tonic.
First use Nov. 11, 1960.

SN 111,492. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 9, 1961.

IDOMIREN

For Hypnotic Preparation.
First use Nov. 25, 1960.

SN 111,716. A. H. Robins Company, Inc., Richmond, Va. Filed Jan. 12, 1961.

ROBANUL

For Anticholinergic Medicinal Preparation.
First use Jan. 5, 1961.

Class 19—Vehicles

SN 80,258. Nissan Jidosha Kabushiki Kaisha, Kanagawa-ku, Yokohama City, Japan. Filed Aug. 26, 1959.

Bluebird

Priority claimed under Sec. 44(d) on Japanese application filed Aug. 3, 1959; Reg. No. 560,583, dated Nov. 25, 1960.
For Motor Vehicles—Namely, Station Wagons, Passenger Cars, and Parts Thereof.
Subj. to Intf. with SN 81,715.

SN 80,259. Nissan Jidosha Kabushiki Kaisha, Kanagawa-ku, Yokohama City, Japan. Filed Aug. 26, 1959.

DATSUN *Bluebird*

Priority claimed under Sec. 44(d) on Japanese application filed Aug. 3, 1959; Reg. No. 560,584, dated Nov. 25, 1960.
For Motor Vehicles—Namely, Station Wagons, Passenger Cars, and Parts Thereof.
Subj. to Intf. with SN 81,715.

SN 81,715. Blue Bird Body Company, Fort Valley, Ga., assignee of Albert L. Luce, Fort Valley, Ga. Filed Sept. 21, 1959.

BLUE BIRD BODIES

The word "Bodies" is disclaimed as shown on the drawing.
For Steel Vehicle Bodies Used on Automobiles, Buses, Trucks, and Station Wagons.
First use July 1935.
Subj. to Intf. with SN 80,258 and SN 80,259.

SN 103,553. The Fabri-Form Company, Byesville, Ohio. Filed Aug. 29, 1960.

SNORKEE

For Air Scoop-Type Ventilator for Attachment to Fabric Boat Covers.
First use Aug. 10, 1960.

SN 106,586. Cushman Motor Works, Inc., Lincoln, Nebr. Filed Oct. 18, 1960.

TRAILSTER

For Motor Scooters.
First use Sept. 9, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 87,185. Bulova Watch Company, Inc., Flushing, N.Y. Filed Dec. 14, 1959.



For Phonographs and Radios.
First use Apr. 15, 1959.

SN 88,136. Chicago Aerial Industries, Inc., Melrose Park, Ill. Filed Dec. 29, 1959.

CAI

For Precision Electrical Mechanical Components—Namely, Electrical Servo Elements, Air Filters and Dehydraters for Use in Instrument Assemblies, Speed and Gear Reduction Controls for Use in Electrical and Electronic Equipment.
First use Oct. 28, 1954.

SN 89,890. Automatic Carillons, Inc., West Palm Beach, Fla. Filed Jan. 29, 1960.



The representation of the goods on the drawing is disclaimed apart from the mark as shown.
For Electrical Sound Systems—Namely, Sound Reproducers, Electrical Amplifiers and Pre-Recorded Tapes.
First use Jan. 12, 1960.

SN 92,029. McGraw-Edison Company, Milwaukee, Wis. Filed Mar. 2, 1960.

McGRAW EDISON

Owner of Reg. Nos. 237,380, 567,703, and others.
For Transformers, Switch Gear, Cutouts, Street Lighting Equipments, Fuses, Capacitors, Primary Batteries, Storage Batteries, Dictating Machines, Toasters, Electric Irons, Electric Fry Pans, Electric Mixers, Electric Heaters, Electric Waffle Bakers, Electric Fans, Electric Drills, Electrical Insulating, Electrical Windings, Electric Hot Water Heaters, and Electric Arc Furnaces.
First use June 9, 1958.

SN 93,304. General Electric Company, Schenectady, N.Y. Filed Mar. 21, 1960.

Air Cushion

The drawing is lined for red, but applicant disclaims said color as an integral part of the mark.
For Decks for Bake Ovens Used in the Commercial Preparation of Foods.
First use August 1950.

SN 94,706. Sperti Faraday Inc., Adrian, Mich. Filed Apr. 8, 1960.

FARADAY

Owner of Reg. No. 638,361.
For Chimes, Bells, Buzzers, Gongs, Sirens; Howlers; Horns, With and Without Projectors; Alarm and Sight Signals; Fuses; Battery Eliminators; Transformers; Electric Control Panels; Relays; Bell and Chime Tappers; Outlet Boxes; Push Buttons; Elevator Signal Systems; Electric Door Locks and Releases and Systems Embodying the Same; Electric Time Indicator Systems; Switches and Signals for Operating Fire Detectors; Electric Motors With Sequence and Indicator Controls; Switches and Mountings; and Parts of the Foregoing Equipment, Installations, and Devices, Together With Repair and Supply Parts Therefor, as Well as Parts Thereof.
First use 1914.

SN 95,352. Appalachian Electronic Instruments, Inc., Ronceverte, W. Va. Filed Apr. 19, 1960.



Applicant's mark comprises the letters "AEI" and diamond design in a fanciful design.
For Electronic Fabric Defect Detectors.
First use March 1955.

SN 98,810. Noble Company, Oakland, Calif. Filed June 10, 1960.

SELECTRON

For Electronic Batch Control Systems for Use in Concrete Plants.
First use May 9, 1960.

SN 99,061. Illum-A-Rail, Inc., Chicago, Ill. Filed June 15, 1960.

ILLUM-A-RAIL

For Electrically Illuminated Advertising Display Signs.
First use on or about Apr. 6, 1959.

SN 99,207. General Dynamics Corporation, Rochester, N.Y. Filed June 17, 1960.

Key-Phone

For Communication Apparatus Comprising Intercommunication Systems and Components and Parts Thereof.
First use at least as early as Aug. 21, 1958.

SN 100,782. International Geophysics, Inc., Newport Beach, Calif. Filed July 13, 1960.

AUTRONIC

For Automatic and Semi-Automatic Key and Switches for Use in Radio, Telegraphy, Wire Telegraphy and Cable Telegraphy.
First use May 25, 1959.

SN 101,739. Bell City Battery Manufacturing Company, Belleville, Ill. Filed Aug. 1, 1960.

BELL CITY

For Electric Storage Batteries.
First use June 27, 1960.

SN 101,740. Bell City Battery Manufacturing Company, Belleville, Ill. Filed Aug. 1, 1960.

MILLCO

For Electric Storage Batteries.
First use June 27, 1960.

SN 102,358. Societe d'Etudes et de Brevets, Tangier, Morocco. Filed Aug. 9, 1960.

MINIVOX

Owner of Tangier Reg. No. 2,581, dated Sept. 24, 1959.
For Portable Electro Acoustic and Electro Mechanical Apparatus for Recording and Mechanically Reproducing Sound, Together With the Component Parts Thereof.

SN 102,644. Forbes and Wagner, Inc., Silver Creek, N.Y. Filed Aug. 15, 1960.

TOROIDUCTOR

For Proprietary Electronic Components Known as Toroidal Inductors.
First use Feb. 19, 1960.

SN 103,520. The Bendix Corporation, Eatontown, N.J. Filed Aug. 29, 1960.

CERAMETERM

For Hermetically Sealed Electrical Terminals.
First use on or about Apr. 15, 1960.

SN 105,059. Dictaphone Corporation, Bridgeport, Conn. Filed Sept. 23, 1960.

DICTAMITE

For Hand Microphones for Electrically-Operated Sound Recording and Reproducing Machines.
First use on or before Aug. 11, 1960.

SN 105,738. General Electric Company, Schenectady, N.Y. Filed Oct. 4, 1960.

Polyseal

For Dynamoelectric Machines—Namely, Electric Motors, and Insulation, Insulated Coils, and Insulated-Protected Windings Used Therein.
First use Nov. 10, 1958, on insulation.

Class 22—Games, Toys, and Sporting Goods

SN 80,268. Remco Industries, Inc., Newark, N.J. Filed Aug. 26, 1959.

MOVIELAND

For Toy Comprising a Simulation of a Drive-in Theatre Including a Projector, a Screen, and Automobile Parking Area.
First use in May 1959.

SN 81,987. Eldon Manufacturing Company, Los Angeles, Calif. Filed Sept. 24, 1959.

RIDE' EM

For Vehicular Toys.
First use July 1959.

SN 93,825. Mattel, Incorporated, Hawthorne, Calif. Filed Mar. 28, 1960.

BURP GUN

Owner of Reg. Nos. 658,748 and 661,332.
For Toy Machine Guns.
First use Apr. 21, 1955.

SN 95,365. Mabel Gallagher, Chicago, Ill. Filed Apr. 18, 1960.

MERRY-GO-ROUND

For Toy Effigies of Human and Animal Figures.
First use June 18, 1959.

SN 95,514. Nocona Leather Goods Company, Nocona, Tex. Filed Apr. 21, 1960.

PROTECTO

For Vinyl Rubber Football Equipment—Namely, Shoulder Pads, Knee Pads, Thigh Guards, Arm Pads, Kidney Pads and Shin Pads.
First use in November 1958.
Subj. to Intf. with SN 104,477.

SN 95,597. Hassenfeld Bros., Inc., Central Falls, R.I. Filed Apr. 22, 1960.

BUBBLE-JET

For Toy Airplane.
First use on or about Feb. 22, 1960.

SN 96,932. Milton Bradley Company, Springfield, Mass. Filed May 12, 1960.

BALAROO

For Game Apparatus Comprising a Board, a Plurality of Movable Pieces Removably Supported Thereon, an an Actuating Member for Removing the Pieces.
First use Nov. 6, 1931.

SN 96,935. Milton Bradley Company, Springfield, Mass. Filed May 12, 1960.

SOMETHING TO DO

For Equipment Sold as Units for Playing by Children of Board Games and for Constructing Toys and for Painting.
First use Jan. 25, 1916.

SN 100,225. Coleman-Morrow, Inc., Old Greenwich, Conn. Filed July 5, 1960.

SLIP-A-CLIP

For Equipment Sold as a Unit for Playing a Travel Game.
First use June 13, 1960.

SN 100,970. Bar Zim Toy Mfg. Co., Inc., Jersey City, N.J. Filed July 18, 1960.

MAGIC TEACHER

For Toys for Playing Quiz Games.
First use Mar. 10, 1960.

SN 101,226. Adjust-A-Grip, Incorporated, Toledo, Ohio. Filed July 21, 1960.

AJUST-A-GRIP

For Adjustable Inserts for Use in Bowling Balls.
First use Apr. 11, 1960.

SN 101,393. Healthways, Los Angeles, Calif. Filed July 25, 1960.

HEALTHWAYS

Owner of Reg. No. 441,837.
For General Line of Skin Diving, Spear Fishing, Skiing, Exercising and Golf Equipment, Apparatus and Parts Therefor; Inflatable Toys, Floats and Sportsman's and Swimmer's Air Mattresses; and Pitching Horseshoes.
First use in September 1959.

SN 101,712. United Manufacturing Company, Chicago, Ill. Filed July 29, 1960.

BOWLARAMA

For Apparatus for Playing an Automatic Bowling Game.
First use May 4, 1960.

SN 101,833. W. J. Voit Rubber Corp., Los Angeles, Calif. Filed Aug. 1, 1960.

Explorer

For Swimming Fins, or Flippers, Swimming Masks and Pressure Regulators Used in Connection With the Self-Contained Underwater Breathing Apparatus.
First use February 1958.

SN 104,477. City Linen, Inc., Duncanville, Tex. Filed Sept. 14, 1960.

PROTECTO

For Protective Pads Used in Athletic Equipment.
First use in March 1957.
Subj. to Intf. with SN 95,514.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 77,659. Ed. Wüsthof, Dreisackwerk, Solingen, Germany. Filed July 14, 1959.

WÜSTHOF

Owner of German Reg. No. 711,037, dated Feb. 14, 1958.
For Cutlery, Especially Forks and Spoons, Knives of All Kinds, Scissors and Shears of All Kinds, Tools, Especially Tongs.

SN 84,965. Aerotec Industries, Inc., Greenwich, Conn. Filed Nov. 10, 1959.

For Centrifugal Separators.
First use Oct. 12, 1959.

SN 85,276. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Nov. 16, 1959.

PALL-RING

Owner of German Reg. No. 835,167, dated Mar. 3, 1953.
For Shaped Pieces Made of Ceramics, Metals, Plastics or Carbon for Use as Filler Bodies To Increase the Active Area in Columns or Towers During Chemical or Physical Processings.

SN 86,351. Union Tank Car Company, Chicago, Ill., assignee of Smith & Loveless, Inc., Lenexa, Kans. Filed Nov. 30, 1959.

VAC-O-JECT

For Sewage Treatment and Pumping Equipment and Parts Thereof.
First use Nov. 6, 1959.

SN 86,352. Union Tank Car Company, Chicago, Ill., assignee of Smith & Loveless, Inc., Lenexa, Kans. Filed Nov. 30, 1959.

VAC-O-LIFT

For Sewage Treatment and Pumping Equipment and Parts Thereof.
First use during February 1959.

SN 86,354. Union Tank Car Company, Chicago, Ill., assignee of Smith & Loveless, Inc., Lenexa, Kans. Filed Nov. 30, 1959.

"MON-O-JECT"

For Sewage Treatment and Pumping Equipment and Parts Thereof.
First use during October 1955.

SN 86,355. Union Tank Car Company, Chicago, Ill., assignee of Smith & Loveless, Inc., Lenexa, Kans. Filed Nov. 30, 1959.

"DU-O-JECT"

For Sewage Treatment and Pumping Equipment and Parts Thereof.
First use during October 1956.

SN 89,656. Dreier Brothers, Inc., Chicago, Ill. Filed Jan. 26, 1960.

JAB SAW

For Hand Saws.
First use Aug. 12, 1958.

SN 94,349. Ralph C. Robinson Company, North Sacramento, Calif. Filed Apr. 4, 1960.

ROBINSON

For Special Pliers for Twisting and Spinning Wires.
First use in 1944.

SN 94,851. Tecumseh Products Company, Tecumseh, Mich. Filed Apr. 11, 1960.

TECUMSEH

Owner of Reg. Nos. 573,213 and 660,341.
For Internal Combustion Engines and Parts Therefor.
First use on or about Oct. 1, 1957.

SN 94,897. King Machine & Manufacturing Company, Los Angeles, Calif. Filed Apr. 12, 1960.

BERKROY

For Metal Working Tools and Machinery.
First use October 1947.

SN 95,800. Aktiebolaget Separator, Stockholm Tull, Sweden. Filed Apr. 26, 1960.

SPIREX

Owner of Swedish Reg. No. 86,478, dated Feb. 13, 1960.
For Separators of the Gravity and Centrifugal Types, Fixed and Mobile Extractors, Especially Centrifugal Extractors, Pumps, Internal Combustion Engines, and Parts Thereof.

SN 100,232. Dymo Industries, Inc., Berkeley, Calif. Filed July 5, 1960.

TAPEWRITER

For Embossing Machines for Embossing Plastics, Metals and the Like.
First use June 20, 1960.

SN 100,795. Herbert M. Lightburn, d.b.a. Pacific Handy Cutter, South El Monte, Calif. Filed July 13, 1960.

PACIFIC HANDY CUTTER

The words "Handy Cutter" are disclaimed apart from the mark as a whole.
For Manually Held Household Cutting Tools.
First use Jan. 13, 1951.

SN 100,995. Hughes Tool Company, Houston, Tex. Filed July 18, 1960.

SEIS-BLAST

For Well Drills.
First use June 2, 1960.

SN 102,833. Harry L. Diamond, d.b.a. Harry L. Diamond Associates, Newburgh, N.Y. Filed Aug. 17, 1960.

MAGIC DIAMOND GRIP

For Weighted Holder With Pins on the Bottom Thereof for Holding Paper Patterns, Cloth, Leather and Similar Material on a Flat Surface of a Worktable.
First use Mar. 14, 1957.

SN 103,319. Battle Creek Packaging Machines, Inc., Battle Creek, Mich. Filed Aug. 24, 1960.

FLEXOPAKER

For Packaging Machines.
First use Dec. 10, 1955.

SN 103,382. Air Aid Export, Inc., Burbank, Calif. Filed Aug. 25, 1960.

For Aircraft Engines and Parts Thereof.
First use on or about June 15, 1952.

SN 103,386. Automagic Vendors, Inc., St. Louis, Mo. Filed Aug. 25, 1960.



For Coin-Operated Food and Beverage Vending Machines.
First use Sept. 30, 1959.

SN 103,388. The Bastian-Blessing Company, Chicago, Ill. Filed Aug. 25, 1960.

VIEWMATIC

For Soda Fountain Display Cases, Refrigerated and Non Refrigerated.
First use July 12, 1960.

SN 103,544. Chemineer, Inc., Dayton, Ohio. Filed Aug. 29, 1960.

CHEMSHEAR

Owner of Reg. No. 681,788.
For Fluid Mixing Equipment—Namely, Impellers and Agitators for Industrial Blending and Mixing Operations.
First use Oct. 28, 1959.

SN 103,578. Ernest E. Keene, d.b.a. Keene Engineering Co., Sun Valley, Calif. Filed Aug. 29, 1960.

GOLD SUCKER

For Dredging Machinery.
First use Aug. 12, 1959.

SN 103,845. The DoAll Company, Des Plaines, Ill. Filed Sept. 2, 1960.

Car-band

For Saw Bands.
First use on or before June 14, 1960.

SN 103,883. Vac-U-Max, Belleville, N.J. Filed Sept. 2, 1960.

VAC-U-MAX

Owner of Reg. No. 650,459.
For Air Operated Pneumatic Fluent Material Conveyor Systems Other Than Vacuum Cleaners Including Hopper Feeders, Feed Bins, and Portable and Built-In Air Operated Devices for Fluidizing Dry Pulverant Materials.
First use on or about May 15, 1959 on hopper feeders, feed bins, and fluidizing devices.

SN 103,902. Ralph B. Carter Company, Hackensack, N.J. Filed Sept. 6, 1960.

HUMDINGER

Owner of Reg. No. 645,706.
For Centrifugal, Diaphragm and Plunger Pumps and Parts Thereof, Including Engines and Drive Parts Therefor.
First use on or about Dec. 15, 1920.

SN 103,953. Pendleton Tool Industries, Inc., d.b.a. Proto Tool Company, Los Angeles, Calif. Filed Sept. 6, 1960.

POWER-TRACK

For Pliers.
First use July 29, 1960.

SN 106,241. American Drill Bushing Co., Los Angeles, Calif. Filed Oct. 12, 1960.

THERMA-GRIP

For Drill Bushings.
First use June 13, 1960.

SN 106,560. Wind-King Electric Manufacturing Company, Merrill, Iowa. Filed Oct. 17, 1960.

DIGZ-ALL

Owner of Reg. No. 603,257.
For Trenching Machines.
First use Oct. 31, 1959.

SN 106,668. Uster Corporation, Charlotte, N.C. Filed Oct. 18, 1960.

KNITROL

For Auxiliary Apparatus for Textile Equipment—Namely, a Clipper Attachment.
First use July 12, 1960.

Class 25 — Locks and Safes

SN 102,349. Sargent & Greenleaf, Inc., Rochester, N.Y. Filed Aug. 9, 1960.

ADJUSTA-LOC

For Combination Locks and Parts.
First use July 1, 1960.

Class 26 — Measuring and Scientific Appliances

SN 88,135. Chicago Aerial Industries, Inc., Melrose Park, Ill. Filed Dec. 29, 1959.

CAI

For Flight Information Equipment and Systems and Control Instruments and Systems—Namely, Aircraft Reconnaissance Systems, Drone Reconnaissance Systems, Passive Homing Devices, Helicopter Flight Blade Tracking Equipment, Camera Controls, Pyrotechnic Relief Controls, Airborne Illumination Night Photography Equipment, Airborne Data Displays, Optical Sighting Equipment, Reconnaissance Cameras and Magazines, Cathode Ray Tube Recording Cameras, Photographic Printers, Analog Computer Elements, Sensing Elements, Aircraft Camera Mounts and Electronic and Electro-Mechanical Test Equipment for Use in Airborne and Ground Support Reconnaissance and Control Systems and Associated Test Instrumentation.
First use Oct. 28, 1954.

SN 93,119. Aktiebolaget Almex, Stockholm, Sweden. Filed Mar. 18, 1960.

ALMEX

Owner of Swedish Reg. No. 77,069, dated Nov. 26, 1954.
For Calculating Machines and Apparatus, Tickets and Recording Counters, Automatically Operated Coin-Sorting and Coin-Issuing Apparatus, Automatic Slot Machines.

Class 28 — Jewelry and Precious-Metal Ware

SN 100,380. Moba Jewelry Corporation, New York, N.Y. Filed July 6, 1960.

MOBA

For Precious and Semi-Precious Jewelry—Namely, Charms, Bracelets, Earrings, Rings, Necklaces, Cuff Links and Ornamental Pins.
First use February 1957.

SN 100,727. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Sterling, Greenfield, Mass. Filed July 12, 1960.

GARNET ROSE

The word "Rose" is disclaimed apart from the mark as shown.
For Sterling Silver Flatware.
First use June 29, 1960.

Class 29 — Brooms, Brushes, and Dusters

SN 95,069. The J. E. Fricke Co., Philadelphia, Pa. Filed Apr. 14, 1960.

QUEEN

For Mops.
First use Oct. 13, 1914.

Class 31 — Filters and Refrigerators

SN 88,831. Wabash Corporation, Chicago, Ill. Filed Jan. 11, 1960.

MICRO-DRI

For Dryers for Fluid Systems.
First use Dec. 18, 1959.

SN 93,985. Construction Machinery Company, Waterloo, Iowa. Filed Mar. 30, 1960.

UNITROL

For Detachable Instrument Container for Refrigeration Units for Highway Trucks and Trailers.
First use Mar. 15, 1960.

SN 103,266. Chase Industries, Inc., Reading, Ohio. Filed Aug. 23, 1960.

STA-TITE, JR.

Owner of Reg. Nos. 419,845 and 430,548.
For Industrial Refrigerator Door Fasteners Operative Automatically Upon Closing the Door To Apply Force for Maintaining the Door in Tightly Closed Condition.
First use on or about June 1, 1933.

SN 103,267. Chase Industries, Inc., Reading, Ohio. Filed Aug. 23, 1960.

STA-TITE

Owner of Reg. Nos. 419,845 and 430,548.
For Industrial Refrigerator Door Fasteners Operative Automatically Upon Closing the Door To Apply Force for Maintaining the Door in Tightly Closed Condition.
First use on or about June 1, 1933.

SN 103,919. Fram Corporation, Providence, R.I. Filed Sept. 6, 1960.

FRAM

The drawing is lined to show orange letters on a black field of the general shape shown. However the letters may be white or black and the field may be a contrasting white or orange. Owner of Reg. No. 641,730.
For Filters and Filter Elements for Filtering Liquids and Gases and for Separating Liquids.
First use Aug. 3, 1960.

SN 104,051. Sabag und Baumaterial A.G., Biel, Switzerland. Filed Sept. 7, 1960.

NADIR

Owner of Swiss Reg. No. 179,350, dated Feb. 12, 1960.
For Refrigerators and Freezers.

Class 32 — Furniture and Upholstery

SN 65,932. Colonial Products Company of Pennsylvania, Dallastown, Pa. Filed Jan. 16, 1959.

Classic

For Kitchen Cabinets.
First use Oct. 24, 1958.

SN 79,606. Packard-Bell Electronics Corporation, Los Angeles, Calif. Filed Aug. 17, 1959.

PACKARD BELL

Owner of Reg. Nos. 611,359 and 690,498.
For Living Room Furniture.
First use Nov. 14, 1958.

SN 101,185. R. H. Macy & Co., Inc., New York, N.Y. Filed July 20, 1960.

PALAZZO

For Furniture—Namely, Bedroom Furniture Such as Beds, Night Tables, Powder Tables, Dressers, Chests, Chest-Desks,

and Benches; Dining Room Furniture Such as Tables, Room Chairs, Side Chairs, Cupboards, Buffets, Servers, Credenzas and Breakfronts; Upholstered Furniture Such as Sofas, Chairs, Sectional Pieces and Ottomans and Occasional Furniture Such as Desks, Cocktail Tables, End Tables, Step Tables, Library Tables and Console Tables.
First use at least as early as Feb. 8, 1960.

SN 106,315. Drexel Furniture Company, Drexel, N.C. Filed Oct. 13, 1960.

AMERICAN TREASURY

For Bedroom, Dining Room, Occasional and Upholstered Furniture.
First use in September 1960.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 104,413. Amana Refrigeration, Inc., Amana, Iowa. Filed Sept. 14, 1960.

CURTAIN WALL

For Room Air Conditioners and Parts Thereof.
First use July 21, 1960.

SN 104,480. Rival Manufacturing Company, Kansas City, Mo. Filed Sept. 14, 1960.

Rivalaire

Owner of Reg. No. 656,045.
For Air Conditioning Units and Air Circulating, Filtering and Purifying Units.
First use Mar. 21, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 106,484. Durkee-Atwood Company, Minneapolis, Minn. Filed Oct. 17, 1960.

DUR-A-WALL

For Automobile Heater Hose.
First use April 1960.

SN 106,485. Durkee-Atwood Company, Minneapolis, Minn. Filed Oct. 17, 1960.

DUR-A-VAC

For Home and Industrial Vacuum Cleaner Hose.
First use February 1958.

Class 36 — Musical Instruments and Supplies

SN 87,912. Ribbon Records, Inc., New York, N.Y. Filed Dec. 23, 1959.



The drawing is lined for red.
For Grooved Phonograph Records.
First use Dec. 2, 1959.

SN 98,223. Iorio Instruments, Inc., Jamaica, N.Y. Filed June 1, 1960.

Accorgan

For Accordions.
First use June 20, 1959.

SN 100,013. Conley Electronics Corporation, Chicago, Ill. Filed June 30, 1960.

MOODMASTER

For Electronic Recording Equipment—Namely, Recording and Playback Apparatus, Magnetic Tape, Cartridges and Associated Playback and Receiving Equipment.
First use Aug. 19, 1959.

SN 102,340. Pennino Music Company, Incorporated, Los Angeles, Calif. Filed Aug. 9, 1960.

PierreMaure

For Musical Instruments—Viz., Clarinets, Flutes, and Saxophones.
First use Sept. 14, 1956.

SN 106,200. H. & A. Selmer Inc., Elkhart, Ind. Filed Oct. 11, 1960.

SOLOIST

For Clarinets and Parts Thereof.
First use June 18, 1959.

SN 106,276. Raleigh Records, Inc., New York, N.Y. Filed Oct. 12, 1960.

CAMELOT

For Phonograph Records of the Circular Grooved Disc Type.
First use Sept. 30, 1960.

Class 37 — Paper and Stationery

SN 73,237. Hobby Stationery and Envelope Company, Inc., Colorado Springs, Colo. Filed May 8, 1959.

Pennmark

For Writing Paper and Envelopes.
First use Jan. 15, 1959.

SN 77,065. Bro-Dart Industries, Inc., Newark, N.J. Filed July 6, 1959.

PLASTI-JAC

For Protective Covers for Paper Book Jackets and Books.
First use January 1957.

SN 96,401. Fox River Paper Corporation, Appleton, Wis., assignee of Customark Corporation, Appleton, Wis. Filed Dec. 1, 1959.

PRESTON

For Writing Papers.
First use Nov. 10, 1959.

SN 91,186. W-S Sales Co., Inc., Skokie, Ill. Filed Feb. 18, 1960.

W-S

For Ball Point Pens.
First use Aug. 31, 1959.

SN 104,150. Eureka Specialty Printing Company, Scranton, Pa. Filed Sept. 9, 1960.

DUPLI-QUIK

Owner of Reg. Nos. 433,876, 625,021, and 629,542.
For Gummed Perforated Sheets of Typewriter Paper.
First use on or about Mar. 1, 1955.

SN 106,126. The Northwest Paper Company, Cloquet, Minn. Filed Oct. 10, 1960.

NORFAX

For Paper—Namely, Chemically Treated Paper for Reproducing Processes.
First use Aug. 25, 1960.

SN 106,342. The Parker Pen Company, Janesville, Wis. Filed Oct. 13, 1960.

V.I.P.

For Ballpoint Pens and Mechanical Pencils.
First use on or about July 13, 1951.

SN 106,361. Valley Paper Company, Holyoke, Mass. Filed Oct. 13, 1960.

ORBIT

For Writing, Typewriting and Printing Paper.
First use on or about Sept. 20, 1960.

Class 38 — Prints and Publications

SN 46,909. Cuisenaire Company of America Inc., New York, N.Y. Filed Mar. 3, 1958.



For Materials for the Teaching of Mathematics Comprising Colored Rods of Various Lengths and Colored Discs Sold as a Package With One or More of the Following Printed Items: Instruction Books, Wall Charts and Film Strips Describing the Use of the Rods and Discs; Problem Books Containing Problems Solvable Through the Use of the Rods and Discs; and Charts Bearing Various Geometrical Designs (Geo-Boards).
First use Jan. 24, 1958.

SN 67,245. Radio Shack Corporation, Boston, Mass. Filed Feb. 6, 1959.

GUIDE TO HIGH-FIDELITY BUYING

For Catalogs.
First use Sept. 1, 1957.

SN 67,246. Radio Shack Corporation, Boston, Mass. Filed Feb. 6, 1959.

GUIDE TO ELECTRONIC BUYING

For Catalogs.
First use Sept. 1, 1957.

SN 69,685. Sheler Publishing Company, Inc., Mishawaka, Ind. Filed Mar. 16, 1959.

RED BOOK

For Books Containing Appraisals for Outboard Boats and Motors, Published Annually.
First use December 1956.

SN 72,844. Henry W. Johnson, Kansas City, Mo. Filed May 4, 1959.

LAW ENFORCEMENT

For Magazine.
First use during 1935.

SN 78,325. Allied Western Distributors, Inc., San Francisco, Calif. Filed July 24, 1959.

GADGETLAND

For Merchandise Catalogs Published Twice Yearly.
First use Oct. 15, 1953.

SN 78,404. Allied Western Distributors, Inc., San Francisco, Calif. Filed July 27, 1959.

GIFTS 'N GADGETS

For Merchandise Catalogs Published Twice Yearly.
First use Oct. 15, 1950.

SN 79,560. Cynthia G. Diller, Lancaster, Pa. Filed Aug. 14, 1959.



Applicant disclaims the right to the exclusive use of the word "Book."
For Books.
First use June 19, 1959.

SN 84,298. The Conde Nast Publications Inc., New York, N.Y. Filed Oct. 30, 1959.

GLAMOUR INCORPORATING CHARM

For Monthly Publication.
First use Oct. 22, 1959.

SN 90,828. Chicago American Publishing Company, Chicago, Ill. Filed Feb. 12, 1960.

CHICAGO'S AMERICAN

For Newspaper.
First use Sept. 23, 1959; July 4, 1900, in titles in which both "Chicago" and "American" were included.

SN 91,602. Arthur O. Harris, Buffalo, N.Y. Filed Feb. 25, 1960.

DYNAMICS OF COMMUNICATION

Owner of Reg. Nos. 520,061 and 547,369.
For Photographic Slides, Films, and Printed Manuals for Use in Training Courses.
First use Feb. 19, 1960.

SN 92,480. McClatchy Newspapers, Sacramento, Calif. Filed Mar. 9, 1960.

VALLEY LEISURE

For Newspaper Magazine Supplement.
First use Jan. 4, 1958.

SN 92,574. The Church of Jesus Christ, Universal, Inc., Atlanta, Ga. Filed Mar. 8, 1960.

THE CHURCH OF JESUS CHRIST UNIVERSAL INC.

For Church Periodicals.
First use Jan. 20, 1960.

SN 94,217. Aerospace Industries Association of America, Inc., Los Angeles, Calif. Filed Mar. 21, 1960.

AEROSPACE YEAR BOOK

The use of the words "Year Book" is disclaimed apart from its use in the mark. Owner of Reg. No. 687,092.
For Annually Published Standard Reference of United States Aviation.
First use Feb. 15, 1960.

SN 94,639. Florida Grower Publications, Inc., Tampa, Fla. Filed Apr. 7, 1960.

FLORIDA trend

Applicant disclaims the word "Florida" apart from the mark as shown, but without jeopardizing its common law rights therein. Owner of Reg. No. 635,617.
For Monthly Magazine.
First use Mar. 1, 1958.

SN 95,024. Whitehill Systems, Inc., New York, N.Y. Filed Apr. 13, 1960.



For Publications.
First use Feb. 7, 1958.

SN 97,480. General Metal Products Company, St. Louis, Mo. Filed May 19, 1960.

INDUSTRY IN ACTION

For Magazine Published Periodically.
First use Feb. 1, 1960.

SN 97,633. Distributors' Promotions, Inc., Philadelphia, Pa. Filed May 23, 1960.

TOY CARNIVAL

For Catalogues Published Periodically.
First use in August 1959.

SN 98,369. Julian Loshin, d.b.a. Loshin's Costume Center, Cincinnati, Ohio. Filed June 3, 1960.

RECITAL MAGIC

For Catalog.
First use on or about Jan. 1, 1958.

SN 99,363. The Regents of the University of Michigan, Ann Arbor, Mich. Filed June 20, 1960.



For Books of the Cloth Bound Series Published by a Department of the University of Michigan Entitled "The University of Michigan Press."
First use Nov. 15, 1955.

SN 99,364. The Regents of the University of Michigan, Ann Arbor, Mich. Filed June 20, 1960.



For Books of the Paper Bound Series.
First use Sept. 28, 1956.

SN 101,001. Illuminating Engineering Society, New York, N.Y. Filed July 18, 1960.

ILLUMINATING ENGINEERING

For Magazine Issued Periodically for the Dissemination of Information of Interest to the Illumination Field.
First use 1906.

SN 101,879. Logetronics Inc., Alexandria, Va. Filed Aug. 2, 1960.

LOGETRACING

Owner of Reg. Nos. 629,118 and 703,571.
For Photographic Prints.
First use May 17, 1960.

SN 102,037. Meteor Publications, Inc., New York, N.Y. Filed Aug. 4, 1960.

MOVIE-TV TATTLER

For Monthly Magazine.
First use Oct. 23, 1959.

SN 102,601. Algar Industries, Inc., Chicago, Ill. Filed Aug. 15, 1960.

TOY REVUE

For Sales Catalog.
First use July 8, 1960.

SN 103,002. The American Metal Market Co., New York, N.Y. Filed Aug. 19, 1960.

METAL STATISTICS

For Publication (Issued Annually).
First use 1907.

SN 103,277. Interline Inc., New York, N.Y. Filed Aug. 23, 1960.

INTERLINE reporter

For Periodical.
First use Jan. 15, 1957.

SN 103,491. Sutton Publishing Company, Inc., White Plains, N.Y. Filed Aug. 26, 1960.

Industrial Electronics

The drawing is lined for black and red. Owner of Reg. No. 666,326.
For Industry Bulletin Published From Time to Time.
First use Aug. 8, 1960; Nov. 5, 1952, in another display.

Class 39 — Clothing

SN 74,805. Weldon Pajamas, Inc., New York, N.Y. Filed May 29, 1959.

SUDANAIRE

For Men's, Women's and Children's Pajamas and Underwear.
First use Oct. 6, 1958.

SN 75,810. Warren Sewell Clothing Company, Bremen, Ga. Filed June 15, 1959.



Owner of Reg. No. 382,267.
For Men's and Boys' Suits.
First use Jan. 1, 1931.

SN 75,811. Warren Sewell Clothing Company, Bremen, Ga. Filed June 15, 1959.



The lining on the drawing forms a part of the design and is not to show color. Owner of Reg. No. 382,279.
For Men's and Boys' Suits.
First use Jan. 1, 1934.

SN 84,863. Variety Supply Company, Clara City, Minn. Filed Oct. 30, 1959.

High Honor

For Hosiery.
First use Aug. 21, 1950.

SN 86,893. J. E. Morgan Knitting Mills, Inc., Tamaqua, Pa. Filed Dec. 8, 1959.

ZERO-MASTER

For Thermal Underwear.
First use Nov. 1, 1959.

SN 90,594. United Sheeplined Clothing Co., Inc., New York, N.Y. Filed Feb. 8, 1960.

TEEMAN

No claim is made to any specific color for the trademark.
For Coats and Jackets for Men and Boys.
First use Oct. 27, 1959.

SN 90,719. Veitel Hosiery Company, Le Roy, N.Y. Filed Feb. 10, 1960.

Veitel

Owner of Reg. No. 585,356.
For Ladies' Hosiery.
First use at least as early as Nov. 27, 1951.

SN 91,577. Acme Cut Sole Company Inc., Nashua, N.H. Filed Feb. 25, 1960.

BROC-TAN

For Shoe Insoles.
First use Feb. 1, 1956.

SN 93,205. Princess Jr. Sportswear Corp., New York, N.Y. Filed Mar. 18, 1960.

PRINCESS JUNIORETTES

For Ladies' Dresses.
First use Feb. 1, 1960.

SN 97,242. Nova Shoe Company Inc., New York, N.Y. Filed May 16, 1960.

Agnes Sorel

For Ladies' and Misses' Shoes.
First use November 1958.

SN 97,919. The Boss Manufacturing Company, Kewanee, Ill. Filed May 26, 1960.

TUF-GRIP

For Gloves and Mittens Made Up of Leather, Fabric, and/or Combinations of Such Materials.
First use Aug. 1, 1938.

SN 98,295. S. H. Kress and Company, New York, N.Y. Filed June 2, 1960.

BAR-K

Owner of Reg. No. 688,100.
For Bandanas and Western Style Dungarees.
First use Sept. 25, 1959.

SN 98,478. Hickok Manufacturing Co. Inc., Rochester, N.Y. Filed June 6, 1960.

BERMUDA TONES

Owner of Reg. No. 590,636.
For Apparel Belts.
First use Dec. 1, 1952.

SN 98,702. Delightform Foundations, Inc., Easton, Pa. Filed June 9, 1960.

INVISINET

For Brassieres and Girdles.
First use May 23, 1960.

SN 99,539. Quality Mills, Incorporated, Mount Airy, N.C. Filed June 22, 1960.



For Children's Knit and Woven Underwear and Outerwear—Namely, Knit Polo Shirts, Knit and Woven Shorts, Knit Shirts, Sweaters, and Woven Shirts; and Children's Hosiery—Namely, Socks.
First use May 2, 1960.

SN 101,474. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed July 26, 1960.



For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use Nov. 18, 1959.

SN 101,475. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed July 26, 1960.

VANITY Panama

Owner of Reg. Nos. 677,009 and 693,244.
For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.
First use May 19, 1960.

SN 102,140. Rugby Knitting Mills, Inc., Buffalo, N.Y. Filed Aug. 5, 1960.

Rugby
super miratwill

Owner of Reg. Nos. 234,386 and 699,033.
For Sportswear—Namely, Boys', Ladies', and Misses' Jackets.
First use May 16, 1958.

SN 102,937. Milsan Mills, Inc., Lebanon, Pa. Filed Aug. 18, 1960.



For Men's and Boys' Underwear—Namely, T-Shirts, Athletic Shirts, Briefs, Shorts, and Sport Shirts.
First use Aug. 12, 1960.

SN 103,137. Flexnit Company, Inc., Elizabeth, N.J. Filed Aug. 22, 1960.

PRETTY PUCKERS

For Foundation Garments.
First use Mar. 18, 1958.

SN 103,378. The Weifit Corporation, New Haven, Conn. Filed Aug. 24, 1960.

SUZETTE

Owner of Reg. No. 355,370.
For Corsets, Girdles, Combination Garments, Torsolettes, and Brassieres.
First use Aug. 2, 1960.

SN 103,454. Imperial Handkerchief Manufacturing Co., New York, N.Y. Filed Aug. 26, 1960.

SNEEZER'S

For Handkerchiefs.
First use June 9, 1960.

SN 103,665. The H. W. Gossard Co., Chicago, Ill. Filed Aug. 30, 1960.

ECHO

For Brassieres.
First use June 1956.

SN 103,915. Exclusivities Ltd., New York, N.Y. Filed Sept. 6, 1960.

Exclusivities

For Raincoats.
First use Aug. 1, 1960.

SN 103,966. Rosenblatt & Kahn, Inc., New York, N.Y. Filed Sept. 6, 1960.

BAMBURY

Owner of Reg. No. 635,241.
For Children's Coats, Suits, Dresses, Pajamas and Playsuits.
First use Apr. 2, 1937.

SN 104,462. Lane Bryant, Inc., New York, N.Y. Filed Sept. 14, 1960.

Cushion-Mates

For Women's Shoes.
First use Aug. 10, 1960.

SN 104,577. A. S. Beck Shoe Corporation, New York, N.Y. Filed Sept. 16, 1960.



Owner of Reg. Nos. 365,306, 695,709, and others.
For Men's Shoes.
First use Aug. 1, 1960; in December 1920 as to "Beck."

SN 104,590. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Sept. 16, 1960.

DURA-CREASE

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use Aug. 9, 1960.

SN 104,649. Stedman Manufacturing Company, Inc., Asheboro, N.C. Filed Sept. 16, 1960.

HUNTINGTON

For Men's and Boys' Underwear, Including Girdle Type Undergarments.
First use Sept. 7, 1960.

SN 104,693. Craddock-Terry Shoe Corporation, Lynchburg, Va. Filed Sept. 19, 1960.

DRIFTERS

For Shoes for Men, Women, and Children.
First use Sept. 9, 1960.
Subj. to Intf. with SN 106,770.

SN 106,770. Texas Harvest Hat Company, Laredo, Tex. Filed Oct. 19, 1960.



For Men's and Boys' Hats.
First use Aug. 22, 1960.
Subj. to Intf. with SN 104,693.

SN 107,361. Ray McDonald, Thomasville, N.C. Filed Oct. 28, 1960.

FLORIDA GOLFER

For Men's and Women's Golf Socks.
First use May 10, 1960.

SN 107,546. A. S. Beck Shoe Corporation, New York, N.Y. Filed Nov. 1, 1960.

PIN-toe BY A. S. BECK

Owner of Reg. Nos. 365,306 and 696,475.
For Shoes and Slippers.
First use Sept. 15, 1960; in December 1920 as to "Beck."

SN 107,590. Roberta Underwear Co., New York, N.Y. Filed Nov. 1, 1960.

KUDDLE KING

For Infants' Sleep Wear—Namely, Blouses, Bottoms, Booties.
First use Sept. 1, 1960.

SN 107,865. The Lovable Brassiere Co., Atlanta, Ga. Filed Nov. 4, 1960.

DANCE-TIME

For Brassieres.
First use 1956.

SN 107,866. The Lovable Brassiere Co., Atlanta, Ga. Filed Nov. 4, 1960.

HEARTLINE

For Brassieres.
First use Oct. 14, 1960.

SN 107,867. The Lovable Brassiere Co., Atlanta, Ga. Filed Nov. 4, 1960.

DANCE-DUET

For Brassieres.
First use August 1960.

SN 107,990. Dwight S. Williams Co., Inc., New York, N.Y. Filed Nov. 7, 1960.



Owner of Reg. Nos. 88,775 and 292,406.
For Hosiery.
First use on or about June 1, 1943.

SN 107,991. Wundies Products, Inc., Williamsport, Pa. Filed Nov. 7, 1960.

PRANTS

For Underwear—Namely, Panties.
First use Sept. 30, 1960.

Class 40—Fancy Goods, Furnishings, and Notions

SN 103,636. Tye-Rite, Inc., Des Moines, Iowa. Filed Aug. 29, 1960.



The word "Laces" is disclaimed apart from the mark as shown. The drawing is lined for green, but color is not claimed as a part of the mark. Owner of Reg. Nos. 699,474 and 699,476.
For Shoe Laces.
First use July 29, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 92,145. The Dow Chemical Company, Midland, Mich. Filed Mar. 4, 1960.

ZEFRAN

Owner of Reg. Nos. 647,642 and 675,129.
For Fabrics of Artificial Fibers and/or Filaments for Making Coats, Suits, and Other Wearing Apparel.
First use Feb. 15, 1960.

SN 101,186. R. H. Macy & Co., Inc., New York, N.Y. Filed July 20, 1960.

PALAZZO

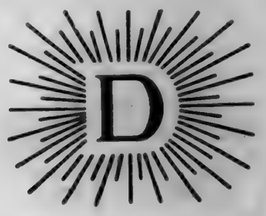
For Textiles—Namely, Towels, Table Linens, Curtains, Drapery Fabrics, Draperies, Upholstery Fabrics, Bedspread Fabrics, Bedspreads, Pillow Cases, Sheets, and Blankets.
First use at least as early as Feb. 18, 1960.

SN 106,075. Everfast Fabrics, Inc., New York, N.Y. Filed Oct. 10, 1960.

EVERFRESH

Owner of Reg. No. 383,411.
For Piece Goods of Cotton, Rayon, and Linen.
First use Sept. 1, 1939.

SN 107,143. Philadelphia Carpet Company, Philadelphia, Pa. Filed Oct. 25, 1960.



For Soft Floor Coverings—Namely, Wilton, Velvet and Tufted Carpets.
First use Apr. 10, 1938.

SN 107,447. Louis Hand, Incorporated, New York, N.Y. Filed Oct. 31, 1960.

VERSA-TIER

For Window Curtains.
First use Sept. 17, 1960.

Class 44—Dental, Medical, and Surgical Appliances

SN 102,944. Osakis Industries, Inc., Osakis, Minn. Filed Aug. 18, 1960.

DIAL-A-THERM

For Container for Sterilizing and Dispensing Clinical Thermometers.
First use May 26, 1960.

SN 104,951. Resiflex Laboratory, Los Angeles, Calif. Filed Sept. 21, 1960.

RESIFLEX

For Molded and Extruded Plastic Products for Medical and Surgical Use and the Like.
First use May 24, 1956.

SN 105,290. Kimberly-Clark Corporation, Neenah, Wis. Filed Sept. 27, 1960.

FEMS-ULTRA

Owner of Reg. Nos. 154,296, 689,578, and others.
For Sanitary Napkins.
First use Sept. 20, 1960.

SN 105,678. Securitone Corporation of America, New York, N.Y. Filed Oct. 3, 1960.



For Electrical Tranquilizer Adapted to Simulate Heartbeat Rhythm to Pacify Humans and Animals.
First use Sept. 19, 1960.

SN 105,725. Conco Surgical Products, Inc., Bridgeport, Conn. Filed Oct. 4, 1960.

PATIENT AIRE

For Aerated Bands, Pads, Strips, Wrappings and Covers for Therapeutic Use in Relation to a Patient's Body.
First use on about Aug. 25, 1960.

SN 105,792. Cellulose Products Corporation, Milltown, N.J. Filed Oct. 5, 1960.

LORET

For Sanitary Napkins.
First use Aug. 3, 1954.

SN 110,009. Vivadent Corporation, Woburn, Mass. Filed Dec. 9, 1960.



For Reinforced Filling Material for Anterior Teeth.
First use in October 1952.
Subj. to Intf. with Reg. No. 708,783.

SN 110,010. Vivadent Corporation, Woburn, Mass. Filed Dec. 9, 1960.

ACHATITE

For Reinforced Filling Material for Anterior Teeth.
First use at least as early as Feb. 10, 1955.
Subj. to Intf. with Reg. No. 708,784.

Class 45—Soft Drinks and Carbonated Waters

SN 74,265. Sun-Glo Packers, Inc., Biloxi, Miss. Filed May 21, 1959.

Sun-Glo

The drawing is lined for red. Owner of Reg. No. 703,629.
For Syrups and Concentrates for Making Soft Drinks and Flavoring Compounds for Use With Syrups.
First use Nov. 1, 1958.

SN 99,799. Sunkist Growers, Inc., Los Angeles, Calif. Filed June 27, 1960.

FLAVOR TREAT

For Lemonade and Concentrate for Making the Same.
First use May 10, 1960.

Class 46—Foods and Ingredients of Foods

SN 37,223. The Chun King Corporation, Duluth, Minn., assignee of Chun King Sales, Inc., Duluth, Minn. Filed Sept. 16, 1957.



The oriental characters constituting a part of the mark mean "Chun King." Owner of Reg. Nos. 422,687 and 501,448.
For Canned Vegetable Chow Mein, Chop Suey Rice, Beef Chop Suey, Meatless Chow Mein, Subgum Chicken Mushroom Chow Mein, Chow Mein Needles, Chop Suey Vegetables, Chinese Vegetables, Select Bean Sprouts, Chicken Chow Mein;

and a Frozen Unitarily Packed Complete Oriental Dinner Consisting of Chicken Almond Chop Suey, Rice and Egg Rolls; Frozen Chicken Chop Suey Dinner, Consisting of Chicken Chop Suey, Egg Rolls and Oriental Rice; Frozen Beef Chop Suey Dinner Consisting of Beef Chop Suey, Oriental Rice and Cherry Dessert Rolls; Frozen Shrimp Chop Suey Dinner Consisting of Shrimp Chop Suey, Fried Rice and Dessert Fruit Rolls; Frozen Egg Foo Young, Frozen Fried Rice, and Frozen Fruit Rolls.

First use on or about Jan. 1, 1948.

SN 37,224. The Chun King Corporation, Duluth, Minn., assignee of Chun King Sales, Inc., Duluth, Minn. Filed Sept. 16, 1957.

CHUN KING

Owner of Reg. Nos. 422,687 and 501,448.

For Various Canned Unitarily Packed Foods.

First use on or about Jan. 1, 1948.

SN 37,225. The Chun King Corporation, Duluth, Minn., assignee of Chun King Sales, Inc., Duluth, Minn. Filed Sept. 16, 1957.

CHUN KING

Owner of Reg. Nos. 422,687 and 501,448.

For Canned Bean Sprouts, Chop Suey or Chow Mein Vegetables, Bean Sprouts With Sliced Mushrooms and Pimentos, Chow Mein Noodles, Soya Sauce, Chow Mein Chicken Style, Chop Suey Beef Style, Meatless Beef Style Chop Suey, Vegetable Chow Mein With Gravy, Brown Sauce, Select Bean Sprouts, Water Chestnuts, Bamboo Shoots, Chop Suey Rice, Meatless Chow Mein, Chicken Chow Mein, and Frozen Chicken Chow Mein With Mushrooms (Without Noodles).

First use on or about Jan. 1, 1948.

SN 61,826. Maison Prunier, Paris (Seine), France. Filed Nov. 3, 1958.

PRUNIER

Applicant's mark, when translated into the English language, means plum tree. Priority claimed under Sec. 44(d) on French Reg. No. 472,104, dated May 2, 1958 (Seine); Natl. Inst. No. 107,156.

For Ice Cream and Canned Meats, Fish, Soups, Caviar, Poultry, Vegetables, and Cakes.

SN 63,374. Wilson & Co., Inc., Chicago, Ill. Filed Nov. 28, 1958.

MENU PAK

Applicant claims exclusive use of the word "Pak" as a part of its trademark, but not otherwise.

For Precooked Frozen Packaged Food Products—Namely, Sliced Turkey Meat, Chicken a la King, Spanish Rice, Diced Dried Beef in Cream Sauce, Turkey a la King, Ham a la King, Beef Stew, American Chop Suey, Yankee Pot Roast of Beef With Vegetables, Gravy and Buttered Rolls, Chili Con Carne With Beans, Chicken Chow Mein, Ham With Orange-Raisin Sauce, Welsh Rarebit, Pot Roast of Beef With Gravy, Chicken Pie Filling, Loin of Pork With Gravy, Brown Beef Hash and Beef With Barbecue Sauce.

First use Aug. 14, 1958.

SN 69,650. Hijos de José Sabater, Reus, Tarragona, Spain. Filed Mar. 16, 1959.

COLON

Owner of Spanish Reg. No. 228,734, dated Dec. 20, 1949.

For Olive Oils.

SN 71,397. Manley, Inc., Kansas City, Mo. Filed Apr. 13, 1959.



The term "Fresh-R-Nuts" and the representation of the goods are disclaimed apart from the mark as shown. Owner of Reg. Nos. 581,743, 633,271, and 633,273.

For Roasted Nuts.

First use Jan. 19, 1958.

SN 72,136. Manor Morsels, Inc., Briarcliff Manor, N.Y. Filed Apr. 23, 1959.

CHEEZ DOPPS

The word "Cheez," which is the phonetic equivalent of the word "cheese," is disclaimed.

For Cheese Hors d'Oeuvres.

First use Apr. 7, 1959.

SN 73,878. M. Elizabeth Bartlett and Charles Martin, co-executrix and co-executor of the estate of George Maurice Bartlett, deceased, d.b.a. G. M. Bartlett Kevo Company, Azusa, Calif. Filed May 18, 1959.

KEVO

For Cocoa Flavored Concentrated Dehydrated Food Product in Both Powder and Tablet Form for Making a Milk Beverage and Other Non-Alcoholic Food Drinks.

First use Oct. 15, 1935.

SN 74,691. Vernard A. Sayre, d.b.a. Cake Box Bakery, Gainesville, Ga. Filed May 28, 1959.

FANTAIL

For Loaf Bread.

First use in or about 1949.

SN 87,767. Eleanora S. Waddell, d.b.a. Tropical Freeze, Memphis, Tenn. Filed Dec. 4, 1959.



For Sherbet; Ice Cream; Frozen Dessert—viz., Frozen Flavored and/or Fruit-Containing Milk Products of Low Butter-Fat Content; and Concentrate With Fruit (Being an Unfrozen Mixture of Concentrated Flavoring Materials and Preserved Fruits, for Admixture With Sherbets, Ice Creams, and Frozen Desserts).

First use March 1957.

SN 89,435. Java-Mate, Inc., Los Angeles, Calif., by change of name from Java Mix, Inc., Los Angeles, Calif. Filed Jan. 21, 1960.

JAVA MATE

For Liquid Substitute for Dairy Cream Consisting Principally of Vegetable Fat Base, Food Additives, Water, and Stabilizing Ingredients; Also a Powder Blend of the Stabilizing Ingredients for Such Liquid Cream Substitute.

First use Dec. 11, 1959.

SN 89,668. Franco-Italian Packing Company, Terminal Island, Calif. Filed Jan. 26, 1960.

SUPERIOR

For Canned Fish.

First use Jan. 7, 1924.

SN 89,786. Morgan Packing Company, Inc., d.b.a. American Belle Canned Food Products, Austin, Ind. Filed Jan. 27, 1960.

AMERICAN BELLE

Owner of Reg. No. 575,642.

For Canned Spaghetti.

First use Dec. 2, 1959.

SN 91,435. Pet Milk Company, St. Louis, Mo. Filed Feb. 23, 1960.



The wording of the drawing is lined for blue, but no claim to color is made.

For Frozen Pies.

First use Jan. 16, 1960.

SN 92,077. The Biochemical Corporation of America, Salem, Va. Filed Mar. 3, 1960.

SILO-ZYME

For Enzymatic Concentrate for Silage Fermentation.

First use June 3, 1952.

SN 95,222. Allied Canners and Packers, Inc., d.b.a. Clara-Val Packing Co., San Francisco, Calif. Filed Apr. 18, 1960.

Clara-Val

Owner of Reg. No. 405,044.

For Canned Fruits, Canned Vegetables, Canned Fish, Canned Fruit Juices, Canned Fruit Nectars, Canned Fruit Concentrates, Dried Fruits, Jams, Honey, and Tomato Catsup.

First use 1941.

SN 95,393. Rosarita Mexican Foods, Inc., Mesa, Ariz. Filed Apr. 19, 1960.



Owner of Reg. Nos. 609,222, 613,264, and 629,257.

For Canned and Frozen Mexican Type Foods—Namely, Refried Beans; Red Chili Sauce; Enchilada Sauce; Tortillas; Chili Noodles; Taco Filling; Chili Con Carne With Beans; Pinto Beans With Cheese; Beef Tamales; Beef Tacos; Cocktail Tacos; Cheese and Onion Enchiladas; Beef Enchiladas; Enchiladas With Onions and Cheese; Enchiladas and Refried Beans; Enchilada Dinner, Composed of Enchiladas and Refried Beans; Mexican Style Dinner, Composed of Cheese Enchiladas, Refried Beans, Spanish Rice and Tamale; Combination Plate Composed of Cheese Enchiladas, Refried Beans and Beef Tacos; Beef Enchilada Dinner, Composed of Beef Enchilada, Refried Beans, Spanish Rice and Chili Relleno; Mexican Dinner, Composed of Canned Tortillas, Enchilada Sauce, Refried Beans and Taco Filling; Taco Sauce and Hot Sauce.

First use May 15, 1949.

SN 95,711. Foremost Dairies, Inc., New York, N.Y. Filed Apr. 25, 1960.

Cherry Cherie

Applicant disclaims any exclusive right to the word "Cherry" apart from the mark.

For Ice Cream.

First use Jan. 8, 1960.

SN 97,974. H. D. Applegate and Sons, Inc., Kirkwood, Ohio. Filed May 27, 1960.



The word "Kirkwood" is disclaimed apart from the mark as shown.

For Prepared Bottled Horseradish.

First use October 1945.

SN 98,249. Waterman Fruit Products, Inc., Ontario Center, N.Y. Filed June 1, 1960.

WATERMAN'S

For Frozen Fruits.
First use 1947.

SN 98,885. Foremost Dairies, Inc., d.b.a. Western Condensing Company, New York, N.Y. Filed June 13, 1960.

Peebles'
M-N-C

Owner of Reg. Nos. 547,694, 578,375, 667,233, and others.
For Dried Whey Containing Whey Fermentation Solubles for Use as a Feed Additive for Hogs and Cattle.
First use on or about June 15, 1951; Mar. 15, 1930, as to "Peebles."

SN 98,886. Foremost Dairies, Inc., d.b.a. Western Condensing Company, New York, N.Y. Filed June 13, 1960.

Peebles' 55

Applicant disclaims any exclusive right to the designation "55" apart from the mark as shown. Owner of Reg. Nos. 547,694, 576,160, 667,233, and others.
For Dried Whey Particularly Useful as a Hog Food Additive.
First use on or about Feb. 10, 1961; Mar. 15, 1930, as to "Peebles."

SN 98,887. Foremost Dairies, Inc., d.b.a. Western Condensing Company, New York, N.Y. Filed June 13, 1960.

Peebles'

Applicant disclaims any exclusive right whatsoever to the word "Feed." Owner of Reg. Nos. 547,694, 561,302, 667,233, and others.
For Poultry Feed, Consisting of Condensed Whey and Other Ingredients.
First use Mar. 20, 1950; Mar. 15, 1930, as to "Peebles."

SN 99,325. Charles Gulden, Inc., Saddle Brook, N.J. Filed June 20, 1960.

DIABLO

An English translation of the Spanish word "Diablo" is "devil."
For Prepared Mustard.
First use May 21, 1960.

SN 99,439. Marubeni-Iida (America), Inc., New York, N.Y. Filed June 21, 1960.

MARIDA

For Frozen, Canned and Glassed Fruits, Fish and Shellfish.
First use Feb. 3, 1960.

SN 99,470. Van Camp Sea Food Company, d.b.a. West Coast Packing Corp., Port of Long Beach, Calif. Filed June 21, 1960.

ROYAL DISH

Owner of Reg. No. 384,498.
For Canned Fish.
First use Aug. 5, 1929.

SN 99,540. Ranson Fruit Co., Inc., Ranson, W. Va. Filed June 22, 1960.

R.F.C. BRAND

Applicant disclaims all rights to the word "Brand."
For Frozen Fruits.
First use June 1954.

SN 103,085. Arrow Lettuce Co., Salinas, Calif. Filed Aug. 22, 1960.

ARROW

For Fresh Lettuce and Celery.
First use Mar. 6, 1946.

SN 104,011. The Al-Chem Laboratory, Inc., Bloomington, Ill. Filed Sept. 7, 1960.

COZEEN

For Food Glaze Compositions.
First use June 26, 1958.

SN 106,289. C. J. Van Houten & Zoon, N.V., Weesp, Netherlands. Filed Oct. 12, 1960.

COCOPLUS

Owner of Dutch Reg. No. 60,931, dated Feb. 20, 1931.
For Cocoa, Baking Chocolate and Chocolate Candy, Cocoa-butter (for Foods), Chocolate Bars, Chocolate Squares, Chocolate Lozenges, Chocolate Bonbons and Other Assorted Chocolates.

Class 49 — Distilled Alcoholic Liquors

SN 97,076. London & Company, Inc., Elizabeth, N.J. Filed May 13, 1960.

LOND-BROOK

For Whiskey.
First use July 10, 1957.

Class 50 — Merchandise Not Otherwise Classified

SN 98,659. O. E. Linck Co., Inc., Clifton, N.J. Filed June 8, 1960.

GLITTERBROIDERY

For Tracing Kits Comprising Drawing Tubes, Outline Pictures and Framing Material.
First use May 19, 1960.

SN 98,660. O. E. Linck Co., Inc., Clifton, N.J. Filed June 8, 1960.

GLITTER MAGIC

For Drawing Tubes and Tracing Kits Comprising Drawing Tubes, Outline Pictures and Framing Material.
First use May 19, 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 63,371. Rupert I. Waddell, d.b.a. Townsend Limited, Santa Monica, Calif. Filed Nov. 28, 1958.

For After Shave Lotions, Perfumes and Colognes.
First use Aug. 30, 1958.

SN 82,539. Maurice B. Schwartz, Miami Beach, Fla. Filed Oct. 1, 1959.

BUDDY MAURICE

For Facial Cleansers, Astringents and Moisturizers, Liquid Facial Make-Up, Face Powder, Lipsticks, Rouge, Mascara, Eye Shadow, Liquid Eye Liner, Eyebrow Pencils, Eyelash Liner Pencils, Perfumes, Toilet Waters and Colognes.
First use 1948.

SN 102,094. Colonial Dames Company, Ltd., d.b.a. Colonial Dames, Montebello, Calif. Filed Aug. 5, 1960.

CYNERGIC

For Cosmetic Skin Lotion.
First use Feb. 16, 1950.

SN 102,700. Space, Inc., Washington, D.C. Filed Aug. 15, 1960.

SPACE

For After-Shave Lotion.
First use Aug. 15, 1960.

SN 102,968. George H. Weyer, Inc., d.b.a. Affiliated Laboratories, Kansas City, Mo. Filed Aug. 18, 1960.

Swing

For Wave Set Lotion.
First use 1937.

SN 103,617. Stylors, Inc., Jacksonville, Fla. Filed Aug. 29, 1960.

NaturaCurl

For Hair Wave Lotions.
First use on or about July 21, 1960.

SN 105,140. Clairol Incorporated, New York, N.Y. Filed Sept. 26, 1960.

Owner of Reg. No. 553,548.
For Hair Tinting, Dyeing and Coloring Preparations.
First use November 1958.

Class 52 — Detergents and Soaps

SN 79,311. Wade, Wenger and Associates, Inc., Chicago, Ill. Filed Aug. 10, 1959.

Owner of Reg. Nos. 583,083 and 579,205.
For Cleaning and Renovating Preparations in Solid and Liquid Form for Use in Cleaning and Renovating Textile Furnishings, Walls, Ceilings, Windows, Woodwork, and Furniture for Household, Office and Institutional Maintenance.
First use Sept. 15, 1958.

SN 83,892. London Chemical Company, Inc., Melrose Park, Ill. Filed Oct. 23, 1959.

LONCO

For Soldering and Printed Circuit Chemicals—Namely, Alkali Cleaners, Degreasing Solvents, Flux Remover, Metal Cleaner, Paint Strippers, and Varnish Remover.
First use Jan. 13, 1948.

SN 86,320. Para-Chem, Incorporated, Philadelphia, Pa. Filed Nov. 30, 1959.

PARASYN

For Synthetic Detergents and Dispersing Agents Used for Scouring and Dyeing Assistants.
First use Oct. 29, 1956.

SN 92,221. Colgate-Palmolive Company, New York, N.Y. Filed Mar. 7, 1960.

CHOICE

For Soap.
First use Feb. 26, 1960.

SN 99,337. Lestoil Products, Inc., Holyoke, Mass. Filed June 20, 1960.

GREAT

For Powdered Household Detergent.
First use June 8, 1960.

SN 104,159. Imperial Type Metal Company, Philadelphia, Pa. Filed Sept. 9, 1960.

VITASCUMOUT

For Descumming Solution.
First use Apr. 14, 1960.

SERVICE MARKS

Class 100 — Miscellaneous

SN 63,399. Anchor Serum Company, St. Joseph, Mo. Filed Dec. 1, 1958.



For Services of Biological Experimentation for Others Including Research and Testing of Human and Veterinary Biologics and Pharmaceuticals.
First use Aug. 28, 1958.

SN 86,621. Hotel Corporation of America, New York, N.Y. Filed Nov. 18, 1959.

Childs
Plain AND Fancy

Owner of Reg. No. 582,086.
For Restaurant and Bar Services.
First use May 3, 1957.

SN 88,137. Chicago Aerial Industries, Inc., Melrose Park, Ill. Filed Dec. 29, 1959.

CAI

For Technical Services—Namely, Research, Development, Engineering, Installing and Monitoring of Technical Apparatus and Systems for Use in Air-Borne and Ground Support Equipment.
First use Oct. 28, 1954.

SN 90,901. A & W Root Beer Co., Santa Monica, Calif. Filed June 30, 1960.

A & W

For Drive-in Restaurant Services.
First use Aug. 15, 1955.

Class 101 — Advertising and Business

SN 49,753. Farmers Union Grain Terminal Association, St. Paul, Minn. Filed Apr. 16, 1958.



Applicant disclaims exclusive use of the term "Farmers Union." Owner of Reg. Nos. 543,419, 707,564, and others.
For the Receiving, Purchasing, Storing, Handling, Grading, Processing, Shipping, Selling, and Otherwise Dealing in and Acting as a Commission Merchant With Reference to Grain, and Any Other Farm Products Produced by Its Members and Patrons for the Benefit of Its Members and Patrons.
First use on or about Jan. 1, 1945; June 1, 1938, as to "GTA."

SN 59,105. Gold Bond Stamp Company, Minneapolis, Minn. Filed Sept. 18, 1958.



Owner of Reg. Nos. 506,080, 572,435, and 584,413.
For Services Promoting the Sale of the Goods and Services of Others by Means of an Audience-Participation Type Radio Program.
First use January 1958.

SN 65,077. Erickson Petroleum Corporation, Minneapolis, Minn. Filed Dec. 30, 1958.

HOLIDAY

For Promoting the Sale of Certain Goods and Products by the Provision of Trading Stamps and Books Therefor Which Display the Mark, and the Provision of a Redemption Service for Said Stamps.
First use Aug. 29, 1958.

SN 70,592. Gifts for Industry, Inc., Chicago, Ill. Filed Mar. 31, 1959.



For Promoting the Sale of the Goods of Others by Selecting Gifts for Designated Donors and Packaging and Delivering Same to Designated Donees.
First use Mar. 12, 1955.

SN 97,799. Rapid Copy Service, Inc., d.b.a. RCS Offset Printers, Chicago, Ill. Filed Apr. 28, 1960.

PHOTO-KROME

For Printing Service—Namely, Reproducing Prints by a Lithographic Process.
First use Jan. 14, 1960.

SN 101,055. The United States Trademark Association, New York, N.Y. Filed July 18, 1960.



For Protection of the Interests of the Public and of the Rights of All Trademark Owners in the Use of Trademarks and for the Preservation and Promotion of the Concept of Trademarks.
First use June 20, 1960.

Class 102 — Insurance and Financial

SN 7,607. Jack W. Londen, d.b.a. Jack W. Londen Agency, Boulder, Colo. Filed May 3, 1956.

GREEN SHIELD

For Insurance Services—Namely, the Writing of Policies of Life Insurance, and Life Insurance Agency Services.
First use Apr. 10, 1956.

Class 103 — Construction and Repair

SN 83,997. Midas, Inc., Chicago, Ill. Filed Oct. 26, 1959.
Owner of Reg. Nos. 620,322, 681,974, and others.



For Inspection of Automotive Exhaust Systems and Installation of Automotive Mufflers and Exhaust System Parts.
First use on or about July 1, 1957; on or about Nov. 15, 1955, as to "Midas."

SN 84,000. Midas, Inc., Chicago, Ill. Filed Oct. 26, 1959.

MIDAS MUFFLER SHOPS

Applicant claims the exclusive right to the use of the words "Muffler Shops" as a part of its service mark, but not otherwise. Owner of Reg. Nos. 620,322, 681,974, and others.
For Inspection of Automotive Exhaust Systems and Installation of Automotive Mufflers and Exhaust System Parts.
First use on or about July 1, 1957; on or about Nov. 15, 1955, as to "Midas."

SN 85,602. Mr. Maintenance, Inc., Nashville, Tenn. Filed Nov. 18, 1959.



The drawing is lined for blue, which is a material part of the mark. It is also lined for brown, which color is not claimed as a feature of the mark.
For Repair and Maintenance Services for Homes.
First use Feb. 25, 1959.

SN 92,978. Ronald S. Forsythe, Minneapolis, Minn. Filed Mar. 16, 1960.

ARCTICWELD

For Repairing and Rebuilding of Cracked Castings, Motor Blocks and Cylinder Heads.
First use on or about Jan. 1, 1960.

SN 97,964. Wilson G. Taylor, d.b.a. The Taylor System, Los Angeles, Calif. Filed May 26, 1960.



The applicant disclaims the representation of the map of the United States apart from the mark shown. Owner of Reg. No. 605,065.
For Removal of Foreign Matter, Such as Cement, Spray Paint and Stains, From Automobile Finishes.
First use October 1955.

Class 104 — Communication

SN 92,037. Storer Broadcasting Company, Miami Beach, Fla. Filed Mar. 15, 1960.

TOTAL INFORMATION RADIO

Applicant disclaims the word "Radio" apart from the mark as used.
For Radio Program Broadcasting Services.
First use Sept. 4, 1959.

Class 105 — Transportation and Storage

SN 37,908. Railway Express Agency, Incorporated, New York, N.Y. Filed Sept. 26, 1957.



The drawing is lined for red.
For Shipping of Freight Over Airlines, Including All Surface Transportation Incidental Thereto.
First use December 1936.

SN 99,571. Capital Airlines, Inc., Washington, D.C. Filed June 23, 1960.



The drawing is lined for blue. Applicant makes no claim to the term "Airlines" apart from the mark shown.
For Transportation of Persons, Property and Mail by Air.
First use Jan. 7, 1960; on or about September 1944 as to "Capital Airlines."

Class 106 — Material Treatment

SN 98,584. Jones & Presnell Studios, Charlotte, N.C. Filed June 7, 1960.



For Photographic Services—Namely, Taking, Developing and Printing Photographs.
First use Mar. 28, 1958.

SN 99,069. Martin Corporation, Bridgeton, N.J. Filed June 15, 1960.

FUNGIFOIL

Owner of Reg. No. 364,107.
For Dyeing and Finishing Piece Goods of Others.
First use June 15, 1938.

SN 99,070. Martin Corporation, Bridgeton, N.J. Filed June 15, 1960.

E-Z-SO

Owner of Reg. No. 346,783.
For Dyeing and Finishing Piece Goods of Others.
First use Dec. 1, 1936.

Class 107 — Education and Entertainment

SN 87,342. Fair Lanes, Inc., Baltimore, Md. Filed Dec. 15, 1959.

BOWLING'S A BALL AT FAIR LANES

Owner of Reg. No. 693,640.
For Maintenance and Operation of Bowling Alleys and Bowling Schools.
First use Sept. 13, 1959.

SN 96,520. Oral Roberts Evangelistic Association, Inc., Tulsa, Okla. Filed May 5, 1960.

HAPPYTIME BIBLE STORIES

No claim is made to the words "Bible Stories" apart from the mark.
For Title of a Television Program Devoted to Bible Stories.
First use Mar. 6, 1960.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

712,657. SUPER TETRA. W. Atlee Burpee Company. SN 58,697. Pub. 1–3–61. Filed 9–10–58.

712,658. HI-GOAL. Charles G. Keferstein, d.b.a. Hi-Goal Products Corporation. SN 61,633. Pub. 1–3–61. Filed 10–30–58.

712,659. RICHFOAM. E. R. Carpenter Co., Inc. SN 87,837. Pub. 7–12–60. Filed 12–22–59.

712,660. PALMER NURSERIES AND DESIGN. Gordon Palmer, d.b.a. Palmer Nurseries. SN 91,431. Pub. 1–3–61. Filed 2–23–60.

712,661. TYRECELL. International Paper Company. SN 91,543. Pub. 9–27–60. Filed 2–24–60.

712,662. NORTHWOOD NURSERIES. Charles Newell. SN 93,201. Pub. 1–3–61. Filed 3–18–60.

712,663. TRU-FLO. The Dayton Rubber Company. SN 93,504. Pub. 1–3–61. Filed 3–23–60.

712,664. JENTAN. George O. Jenkins Company. SN 94,771. Pub. 1–3–61. Filed 4–11–60.

712,665. SCOTCHTITE. Minnesota Mining and Manufacturing Company. SN 95,842. Pub. 1–3–61. Filed 4–26–60.

712,666. ELIOLENE. Elio Mallzia. SN 96,842. Pub. 1–3–61. Filed 5–3–60.

712,667. LAWN HOUSE. Missouri Farmers Association, Inc. SN 97,774. Pub. 1–3–61. Filed 5–24–60.

712,668. MIRA-LAWN. Stern's Nurseries, Inc. SN 97,962. Pub. 1–3–61. Filed 5–26–60.

712,669. CEL BAK. Southern Latex Corporation. SN 98,680. Pub. 1–3–61. Filed 6–8–60.

712,670. WEAR GREEN. Eastern States Farmers' Exchange, Incorporated. SN 99,313. Pub. 1–3–61. Filed 6–20–60.

712,671. VERTAL. Vermont Talc Company. SN 99,381. Pub. 1–3–61. Filed 6–20–60.

712,672. FIBRENIER. Rayonier Incorporated. SN 100,157. Pub. 1–3–61. Filed 7–1–60.

712,673. CARB-O-FIL SHAMOKIN AND DESIGN. Shamokin Filler Co., Inc. SN 100,305. Pub. 1–3–61. Filed 7–5–60.

712,674. TERRACE KING. Larus & Brother Company. SN 100,373. Pub. 1–3–61. Filed 7–6–60.

712,675. KENOLITE. Keno Plastic Processing Corporation. SN 101,008. Pub. 1–3–61. Filed 7–18–60.

712,676. TERAFILM. Terafilm Corporation. SN 101,051. Pub. 1–3–61. Filed 7–18–60.

712,677. CLIFFCHAR. Cliffs Dow Chemical Company. SN 101,079. Pub. 1–3–61. Filed 7–19–60.

712,678. FROSTY CALF. A. F. Gallun & Sons Corporation. SN 101,253. Pub. 1–3–61. Filed 7–21–60.

712,679. BEETLE. American Cyanamid Company. SN 101,298. Pub. 1–3–61. Filed 7–22–60.

712,680. SUPERIOR. Cliffs Dow Chemical Company. SN 101,748. Pub. 1–3–61. Filed 8–1–60.

712,681. HYDRAC. Ciba Limited. SN 101,930. Pub. 1–3–61. Filed 8–3–60.

712,682. TUFFY TOP. Henry Leather Company. SN 101,945. Pub. 1–3–61. Filed 8–3–60.

Class 2 — Receptacles

712,683. GENIE. House of Westmore, Inc. SN 84,225. Pub. 1–3–61. Filed 10–29–59.

712,684. PILLOW. The Goodyear Tire & Rubber Company. SN 102,471. Pub. 1–3–61. Filed 8–11–60.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

712,685. XC ETC. AND DESIGN. The National Exchange Club. SN 77,943. Pub. 1–3–61. Filed 7–17–59.

712,686. TRI-TAPER. American Luggage Works, Inc. SN 84,969. Pub. 1–3–61. Filed 11–10–59.

712,687. BANNER AND BANNER DESIGN. Banner Leather Goods Co., Inc. SN 95,806. Pub. 1–3–61. Filed 4–26–60.

Class 5 — Adhesives

712,688. US RUBBER AND DESIGN. United States Rubber Company. SN 97,790. Pub. 1–3–61. Filed 5–24–60.

712,689. ASTROLITE. James Fraser Rae, d.b.a. Industrial Plastics & Chemicals. SN 102,870. Pub. 1–3–61. Filed 8–17–60.

Class 6 — Chemicals and Chemical Compositions

712,690. RISOL. Comet Rice Mills. SN 74,991. Pub. 1–3–61. Filed 6–3–59.

712,691. B–D. Becton Dickinson and Company. SN 78,770. Pub. 1–3–61. Filed 7–31–59.

712,692. REP. C.R.C. Corporation. SN 79,091. Pub. 1–3–61. Filed 8–6–59.

712,693. CHEMICLAVE. American Cyanamid Company. SN 81,863. Pub. 1–3–61. Filed 9–23–59.

712,694. VU-LIGHTER. Scripto, Inc. SN 82,154. Pub. 1–3–61. Filed 9–25–59.

712,695. TRAPEX. Schering Aktiengesellschaft. SN 83,133. Pub. 1–3–61. Filed 10–12–59.

712,696. DARROW RED. The Matheson Company, Inc. SN 86,437. Pub. 1–3–61. Filed 12–1–59.

712,697. MERIX. Eric O. Sonneman, d.b.a. Merix Chemical Co. SN 86,522. Pub. 1–3–61. Filed 12–2–59.

712,698. WHITEFROST. Hayes-Sammons Chemical Co. SN 87,227. Pub. 1–3–61. Filed 12–14–59.

712,699. PRIME. Cook Chemical Company. SN 90,012. Pub. 1–3–61. Filed 2–1–60.

712,700. PRE-PRIMER BONDERITE. Tropical Paint Company. SN 90,282. Pub. 1–3–61. Filed 2–3–60.

712,701. STA-PINE. Sta-Pine Products, Inc. SN 90,456. Pub. 1–3–61. Filed 2–5–60.

712,702. PAX ACTION. Utah Cooperative Association, d.b.a. Pax Company. SN 93,229. Pub. 1–3–61. Filed 3–18–60.

712,703. PAX PUNCH. Utah Cooperative Association, d.b.a. Pax Company. SN 93,230. Pub. 1–3–61. Filed 3–18–60.

712,704. MUDFLOC. Mud Control Laboratories, Inc. SN 94,998. Pub. 1–3–61. Filed 4–13–60.

712,705. PALO. De Paul Chemical Co., Inc. SN 98,575. Pub. 1–3–61. Filed 6–7–60.

712,706. ROLTITE. Minnesota Mining and Manufacturing Company. SN 98,669. Pub. 1–3–61. Filed 6–8–60.

712,707. TANZ. Crown Zellerbach Corporation. SN 99,842. Pub. 1–3–61. Filed 6–28–60.

712,708. BLOCK M AND DESIGN. Mueller Brass Co. SN 99,946. Pub. 1–3–61. Filed 6–29–60.

Class 7—Cordage

712,709. TUF-BOY. L. J. Kingsley Co., Inc. SN 98,797. Pub. 1–3–61. Filed 6–10–60.

Class 9—Explosives, Firearms, Equipments, and Projectiles

712,710. CH. Charles R. Heckman, d.b.a. C.H. Die Company. SN 98,474. Pub. 1–3–61. Filed 6–6–60.

712,711. PLAINSMAN. Healthways. SN 100,600. Pub. 1–3–61. Filed 7–11–60.

Class 10—Fertilizers

712,712. PAX SNAP BAK. Utah Cooperative Association, d.b.a. Pax Company. SN 93,231. Pub. 1–3–61. Filed 3–18–60.

712,713. LAWN HOUSE. Missouri Farmers Association, Inc. SN 97,776. Pub. 1–3–61. Filed 5–24–60.

712,714. COASTAL AND DESIGN. Coastal Chemical Corporation. SN 100,691. Pub. 1–3–61. Filed 7–12–60.

Class 12—Construction Materials

712,715. PINE MOUNTAIN TIDAL GREY. Davidson Granite Co., Inc. SN 56,539. Pub. 1–3–61. Filed 8–4–58.

712,716. SYNTHANITE. Morris de Leval Limited. SN 61,729. Pub. 1–3–61. Filed 10–31–58.

712,717. LITHE. Theodore Rusley, d.b.a. Specialty Supply Co. SN 70,167. Pub. 1–3–61. Filed 3–24–59.

712,718. S-T-R-E-T-C-H-E-D W-O-O-D TILE AND DESIGN. General Flooring Company, Inc., assignee of Higgins Industries, Inc. SN 70,798. Pub. 1–3–61. Filed 4–3–59.

712,719. HANCO AND DESIGN. Emil W. Hansen, assignee of Hansen Door Frame Mfg. Co. SN 75,480. Pub. 1–3–61. Filed 6–10–59.

712,720. GRANITE BOARD. National Starch and Chemical Corporation. SN 79,269. Pub. 1–3–61. Filed 8–10–59.

712,721. EAGLE. Harris Manufacturing Company. SN 83,090. Pub. 1–3–61. Filed 10–12–59.

712,722. GLAMOURAMA. Pionart Plastics Corporation. SN 83,180. Pub. 1–3–61. Filed 10–13–59.

712,723. TRIP-L-SEAL. Trip-L-Seal, Inc. SN 83,190. Pub. 1–3–61. Filed 10–13–59.

712,724. REPRESENTATION OF HEAD OF BULLDOG AND DESIGN. Gregory Industries, Inc. SN 83,551. Pub. 1–3–61. Filed 10–19–59.

712,725. PERMA-KORE. Great Lakes Carbon Corporation. SN 87,871. Pub. 1–3–61. Filed 12–23–59.

712,726. DEXON. The Dexon Company. SN 90,237. Pub. 1–3–61. Filed 2–3–60.

712,727. SKYDOME. Wasco Products, Inc. SN 91,043. Pub. 1–3–61. Filed 2–16–60.

712,728. PRIMEROC. The Ruberoid Co. SN 93,949. Pub. 1–3–61. Filed 3–29–60.

712,729. LOMA STONE. Lomastone Sales Co., Inc. SN 94,783. Pub. 1–3–61. Filed 4–11–60.

712,730. PAN-L-ART. Tectum Corporation. SN 96,762. Pub. 1–3–61. Filed 5–9–60.

712,731. VISE AND DESIGN. Cast-O-Brick Corporation, d.b.a. Vise Wall Glaze Division. SN 97,455. Pub. 1–3–61. Filed 5–19–60.

712,732. ORELITE. American Block Company, Inc. SN 97,805. Pub. 1–3–61. Filed 5–25–60.

712,733. BESTWOOD. Hardboard Fabricators Corp. SN 98,086. Pub. 1–3–61. Filed 5–31–60.

712,734. RITE-WOOD. Hardboard Fabricators Corp. SN 98,087. Pub. 1–3–61. Filed 5–31–60.

712,735. SCOTCHRAP. Minnesota Mining and Manufacturing Company. SN 99,222. Pub. 1–3–61. Filed 6–17–60.

712,736. TEN POINT TRIM. Ten Point Trim Corporation. SN 99,804. Pub. 1–3–61. Filed 6–27–60.

712,737. M AND DESIGN. Mueller Brass Co. SN 99,948. Pub. 1–3–61. Filed 6–29–60.

712,738. 3M. Minnesota Mining and Manufacturing Company. SN 100,145. Pub. 1–3–61. Filed 7–1–60.

712,739. SURFASTAL. Surfastal Limited. SN 102,064. Pub. 1–3–61. Filed 8–4–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

712,740. M-F LOCK-TIGHT. MacLean-Fogg Lock Nut Co., assignee of MacLean-Fogg Lock Nut Company. SN 68,922. Pub. 1–3–61. Filed 3–4–59.

712,741. BOMARINE AND DESIGN. The Bowman Products Company. SN 76,916. Pub. 1–3–61. Filed 7–2–59.

712,742. AQUA-CUSHION. Ra-Rich Mfg. Corp. SN 89,298. Pub. 1–3–61. Filed 1–19–60.

712,743. ALIGN E-Z. Ra-Rich Mfg. Corp. SN 89,299. Pub. 1–3–61. Filed 1–19–60.

712,744. FLOODJET. Spraying Systems Co. SN 89,885. Pub. 1–3–61. Filed 1–20–60.

712,745. KENNALOY. Kennatrack Corporation. SN 91,805. Pub. 1–3–61. Filed 2–29–60.

712,746. A-H AND DESIGN. Ajax Hardware Corporation. SN 99,698. Pub. 1–3–61. Filed 6–27–60.

712,747. AS AND DESIGN. "Automatic" Sprinkler Corporation of America. SN 100,003. Pub. 1–3–61. Filed 6–30–60.

Class 14—Metals and Metal Castings and Forgings

712,748. MIRODIZED. Colonial Alloys Company. SN 39,589. Pub. 1–3–61. Filed 10–28–57.

712,749. XC ETC. AND DESIGN. The National Exchange Club. SN 77,944. Pub. 1–3–61. Filed 7–17–59.

712,750. MIRACOIL. National Steel Corporation. SN 86,513. Pub. 1–3–61. Filed 12–2–59.

712,751. CONFLEX. Texas Instruments Incorporated. SN 88,822. Pub. 1–3–61. Filed 1–11–60.

712,752. SCRIBE-IT (SCRIPT FORM). The Marshall Steel Company, by assignment and change of name from Marshall Steel Co. SN 95,380. Pub. 10–25–60. Filed 4–19–60.

712,753. SCRIBE-IT. The Marshall Steel Company, by assignment and change of name from Marshall Steel Co. SN 95,381. Pub. 10–25–60. Filed 4–19–60.

712,754. HYDROSTAL AND DESIGN. Koninklijke Nederlandsche Hoogovens en Staalfabrieken N.V. SN 96,507. Pub. 1–3–61. Filed 5–5–60.

712,755. ADAPTALOY. American Smelting and Refining Company. SN 98,258. Pub. 1–3–61. Filed 6–2–60.

712,756. ALKROTHAL. Aktiebolaget Kanthal. SN 98,323. Pub. 1–3–61. Filed 6–3–60.

712,757. WAIMET. Misco P.C., Inc. SN 98,382. Pub. 1–3–61. Filed 6–3–60.

712,758. Rx. Misco P.C., Inc. SN 98,383. Pub. 1–3–61. Filed 6–3–60.

Class 15—Oils and Greases

712,759. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 83,308. Pub. 11–1–60. Filed 10–15–59.

712,760. SIGMA. Gulf Oil Corporation. SN 87,873. Pub. 1–3–61. Filed 12–23–59.

712,761. M MACMILLAN. Macmillan Petroleum Corporation. SN 94,322. Pub. 1–3–61. Filed 4–4–60.

Class 18—Medicines and Pharmaceutical Preparations

712,762. ASMA-KETS. Rexall Drug Company. SN 5,478. Pub. 9–17–57. Filed 3–28–56.

712,763. MY-T-FORT. Imperial Drug Exchange Inc., d.b.a. New York Drug Concern. SN 49,037. Pub. 5–5–59. Filed 4–18–58.

712,764. SUPER VITA-KING AND DESIGN. World Wide Products, Inc. SN 53,450. Pub. 5–10–60. Filed 6–12–58.

712,765. GGF GEREX ETC. AND DESIGN. General Nutrition Corporation, d.b.a. Vitamin Sales Company, by change of name from Lacksoom Company, d.b.a. Vitamin Sales Company. SN 68,280. Pub. 1–3–61. Filed 2–24–59.

712,766. BREETH AGAIN. Vitamin Council Inc. SN 85,186. Pub. 1–3–61. Filed 11–12–59.

712,767. KAPSEALS. Parke, Davis & Company. SN 92,291. Pub. 1–3–61. Filed 3–7–60.

712,768. KREST. Kresge-Newark, Inc. SN 92,539. Pub. 1–3–61. Filed 3–10–60.

712,769. VIT-A-BLOK. Vit-A-Way, Inc. SN 92,572. Pub. 1–3–61. Filed 3–10–60.

712,770. PROTEEN-9. Carter Products, Inc. SN 101,156. Pub. 1–3–61. Filed 7–20–60.

712,771. FABAHISTIN. Farbenfabriken Bayer Aktiengesellschaft. SN 102,013. Pub. 1–3–61. Filed 8–4–60.

712,772. ALPHAREDISOL. Merck & Co., Inc. SN 102,329. Pub. 1–3–61. Filed 8–9–60.

712,773. KLOT. The Warren-Teed Products Company. SN 102,712. Pub. 1–3–61. Filed 8–15–60.

712,774. DPL AND DESIGN. Delaware Poultry Laboratories, Inc. SN 103,764. Pub. 1–3–61. Filed 9–1–60.

712,775. DECALEXIN. Irwin, Neisler & Co. SN 104,160. Pub. 1–3–61. Filed 9–9–60.

712,776. CYTOGEN. Jensen-Salsbery Laboratories, Inc. SN 104,277. Pub. 1–3–61. Filed 9–12–60.

Class 19—Vehicles

712,777. BOMARINE AND DESIGN. The Bowman Products Company. SN 76,917. Pub. 1–3–61. Filed 7–2–59.

712,778. UNITGLAS. Pacific Car and Foundry Company. SN 98,788. Pub. 1–3–61. Filed 6–9–60.

712,779. NEEZ-BEE. Harold F. Ryder. SN 101,980. Pub. 1–3–61. Filed 8–3–60.

712,780. LUXURY RIDE. Heckethorn Manufacturing & Supply Co. SN 102,024. Pub. 1–3–61. Filed 8–4–60.

712,781. KAMAN AND DESIGN. The Kaman Aircraft Corporation. SN 102,396. Pub. 1–3–61. Filed 8–10–60.

Class 20—Linoleum and Oiled Cloth

712,782. WONDERTOP. Congoleum-Nairn Inc. SN 88,843. Pub. 1–3–61. Filed 1–12–60.

712,783. GOLD VEIN. Congoleum-Nairn Inc. SN 95,482. Pub. 1–3–61. Filed 4–21–60.

Class 21—Electrical Apparatus, Machines, and Supplies

712,784. ROBOLITE. Robolite Company. SN 68,733. Pub. 1–3–61. Filed 3–2–59.

712,785. SWISS GOLDEN BEACON. Swiss Harmony, Inc. SN 76,756. Pub. 1–3–61. Filed 6–29–59.

712,786. BOMARINE AND DESIGN. The Bowman Products Company. SN 76,919. Pub. 1–3–61. Filed 7–2–59.

712,787. SYNTRON. Syntron Company. SN 83,186. Pub. 1–3–61. Filed 10–13–59.

712,788. TRI-FILL. Cities Service Oil Company. SN 83,589. Pub. 1–3–61. Filed 10–19–59.

712,789. BOSCH GERMANY AND DESIGN. Robert Bosch Gesellschaft mit beschrankter Haftung. SN 87,007. Pub. 1–3–61. Filed 11–4–59.

712,790. CYCL-O-MAGIC. Cyclo-Magic, Inc. SN 88,143. Pub. 1–3–61. Filed 12–29–59.

712,791. IMPERIAL. Eldon Industries, Inc., assignee of Ungar Electric Tools, Inc. SN 89,976. Pub. 1–3–61. Filed 12–31–59.

712,792. VULCAN. Ebsco Industries, Inc. SN 96,642. Pub. 1–3–61. Filed 5–11–60.

712,793. SIDE A LITE. Jerry M. Pearring, d.b.a. Side A Lite. SN 97,327. Pub. 1–3–61. Filed 5–17–60.

712,794. HOBBY PAL. Thompson Tool and Manufacturing Co. SN 97,428. Pub. 1–3–61. Filed 5–18–60.

712,795. LITE-FRY. Sunbeam Corporation. SN 97,887. Pub. 1–3–61. Filed 5–25–60.

712,796. TRANSENSOR. Wintriss, Inc. SN 100,081. Pub. 1–3–61. Filed 6–24–60.

712,797. NORTHERN. Northern Electric Company. SN 100,628. Pub. 1–3–61. Filed 7–11–60.

712,798. PEER. Peer Incorporated. SN 100,635. Pub. 1–3–61. Filed 7–11–60.

712,799. SLEEP-DRI. Functional Products, Inc. SN 100,695. Pub. 1–3–61. Filed 7–12–60.

712,800. ALLEN-BRADLEY. Allen-Bradley Company. SN 103,889. Pub. 1–3–61. Filed 9–6–60.

Class 22—Games, Toys, and Sporting Goods

712,801. XC ETC. AND DESIGN. The National Exchange Club. SN 77,941. Pub. 1–3–61. Filed 7–17–59.

712,802. FALCON. Papa-Guy-Yo, Inc. SN 84,008. Pub. 1–3–61. Filed 10–26–59.

712,803. BRANDEX ETC. AND DESIGN. Brandex Co. SN 97,811. Pub. 1–3–61. Filed 5–25–60.

712,804. D-STIX. Geodesic Structures, Inc., d.b.a. Geodestix. SN 96,465. Pub. 1–3–61. Filed 6–6–60.

712,805. ELECTRA-MATIC 50. The Hubley Manufacturing Company. SN 99,855. Pub. 1–3–61. Filed 6–28–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

712,806. DEMERSIBLE. The Deming Company. SN 67,592. Pub. 1–3–61. Filed 2–12–59.

712,807. BOMARINE AND DESIGN. The Bowman Products Company. SN 76,918. Pub. 1–3–61. Filed 7–2–59.

712,808. CHRONICOTE. Eaton Manufacturing Company. SN 78,622. Pub. 1–3–61. Filed 7–29–59.

712,809. AUTO-BLOW. Auto-Blow Corporation. SN 89,494. Pub. 1–3–61. Filed 1–22–60.

712,810. CURTISS-WRIGHT POWER HINGE. Curtiss-Wright Corporation. SN 89,558. Pub. 1–3–61. Filed 1–25–60.

712,811. CONTIMAC. Hamac A.G. SN 89,850. Pub. 1–3–61. Filed 1–28–60.

712,812. GOES A LONG WAY AND DESIGN. Great Neck Saw Manufacturers, Inc. SN 90,250. Pub. 1–3–61. Filed 2–3–60.

712,813. ECONOMIST. Minnesota Mining and Manufacturing Company. SN 93,194. Pub. 1–3–61. Filed 3–18–60.

712,814. MAN AND GUN DESIGN. Pyles Industries, Inc. SN 94,345. Pub. 1–3–61. Filed 4–4–60.

712,815. RAVIOLI-CHEF. Italian Imports Company. SN 97,063. Pub. 1–3–61. Filed 5–13–60.

712,816. URANIA. Italian Imports Company, assignee of Industria Prodotti Stampati. SN 98,287. Pub. 1–3–61. Filed 6–2–60.

712,817. KOOLTORR. The Torrington Company. SN 104,868. Pub. 1–3–61. Filed 9–20–60.

Class 24 — Laundry Appliances and Machines

712,818. BOSCH GERMANY AND DESIGN. Robert Bosch Gesellschaft mit beschränkter Haftung. SN 87,008. Pub. 1–3–61. Filed 11–4–59.

712,819. LAUNDRA-MITT. Jessie Pearl Kinyon. SN 91,806. Pub. 1–3–61. Filed 2–29–60.

Class 26 — Measuring and Scientific Appliances

712,820. CLUBMAN. Art-Craft Optical Company, Inc. SN 53,006. Pub. 1–3–61. Filed 6–6–58.

712,821. ELECTRO-TECH AND DESIGN. Mandrel Industries, Inc. SN 58,358. Pub. 1–3–61. Filed 9–4–58.

712,822. MEMCOR. Model Engineering & Manufacturing, Inc. SN 72,645. Pub. 1–3–61. Filed 4–30–59.

712,823. HELLFAX. Dr. Ing. Rudolf Hell. SN 82,827. Pub. 1–3–61. Filed 10–7–59.

712,824. FLEXILETTE. Agfa Aktiengesellschaft. SN 90,612. Pub. 1–3–61. Filed 2–9–60.

712,825. EASY-EDIT. Sawyer's Inc. SN 91,849. Pub. 1–3–61. Filed 2–29–60.

712,826. TEMPLA-GUIDE. Fox River Paper Corporation. SN 98,987. Pub. 1–3–61. Filed 6–14–60.

712,827. NEPTUNE AND DESIGN. Neptune Meter Company. SN 100,718. Pub. 1–3–61. Filed 7–12–60.

712,828. ANSCOSET. General Aniline & Film Corporation. SN 101,255. Pub. 1–3–61. Filed 7–21–60.

712,829. GC DESIGN. Graphic Controls Corporation. SN 101,261. Pub. 1–3–61. Filed 7–21–60.

712,830. B & W. B & W Associates. SN 102,089. Pub. 1–3–61. Filed 8–5–60.

712,831. PROJECT-O-WEIGHT. The Hobart Manufacturing Company. SN 102,846. Pub. 1–3–61. Filed 8–17–60.

712,832. STRESSTECTOR. Houston Oil Field Material Company, Inc. SN 103,338. Pub. 1–3–61. Filed 8–24–60.

712,833. THROMBITRON. Clay-Adams, Inc. SN 103,704. Pub. 1–3–61. Filed 8–31–60.

712,834. SWIMCON. Doctors Bernard S. Abrams and Neal J. Bailey. SN 103,765. Pub. 1–3–61. Filed 9–1–60.

712,835. PLASTI-WELD. Chicago Eye Shield Company. SN 103,836. Pub. 1–3–61. Filed 9–2–60.

712,836. ALLEN-BRADLEY. Allen-Bradley Company. SN 103,890. Pub. 1–3–61. Filed 9–6–60.

Class 27 — Horological Instruments

712,837. WYCOFLEX. Wyler Watch Factory, Ltd. SN 76,449. Pub. 1–3–61. Filed 6–24–59.

712,838. CHALET. Mayer Bros. SN 100,277. Pub. 1–3–61. Filed 7–5–60.

712,839. MAGNACLOCK. Glass Laboratories, Inc. SN 101,321. Pub. 1–3–61. Filed 7–22–60.

Class 28 — Jewelry and Precious-Metal Ware

712,840. COLTURA. Arke Inc. SN 101,303. Pub. 1–3–61. Filed 7–22–60.

Class 29 — Brooms, Brushes, and Dusters

712,841. LITE-N-TITE. Brooklyn Fibre Broom Co., Inc. SN 98,498. Pub. 1–3–61. Filed 3–23–60.

712,842. HI-LO. Osrow Products Company, Inc. SN 96,871. Pub. 1–3–61. Filed 5–11–60.

Class 30 — Crockery, Earthenware, and Porcelain

712,843. REPRESENTATION OF A CREST. Steelmasters, Inc. SN 76,899. Pub. 1–3–61. Filed 7–1–59.

Class 31 — Filters and Refrigerators

712,844. BOSCH GERMANY AND DESIGN. Robert Bosch Gesellschaft mit beschränkter Haftung. SN 87,009. Pub. 1–3–61. Filed 11–4–59.

Class 32 — Furniture and Upholstery

712,845. EDGE GARD. Sealy, Incorporated. SN 83,244. Pub. 1–3–61. Filed 10–14–59.

712,846. TOPIC. Hooker Furniture Corporation. SN 97,055. Pub. 1–3–61. Filed 5–13–60.

712,847. ADVENT. Hooker Furniture Corporation. SN 97,056. Pub. 1–3–61. Filed 5–13–60.

712,848. FOOT LOOSE AND FANCY FREE. Helen Stevens. SN 97,585. Pub. 1–3–61. Filed 5–20–60.

712,849. VULCAN AND DESIGN. Ebsco Industries, Inc., d.b.a. Vulcan Industries. SN 96,070. Pub. 1–3–61. Filed 5–31–60.

712,850. HANDEE CASE-SAVER AND DESIGN. Anthony J. Cornetta. SN 98,444. Pub. 1–3–61. Filed 6–6–60.

712,851. LEISUREST. A. D. Radinsky & Sons. SN 101,339. Pub. 1–3–61. Filed 7–22–60.

712,852. SPACESETTER. Arrow Metal Products Corp. SN 101,536. Pub. 1–3–61. Filed 7–27–60.

712,853. AIR-SUPPORT. The Englander Company, Inc. SN 101,856. Pub. 1–3–61. Filed 8–3–60.

712,854. AIR-SMOOTH. The Englander Company, Inc. SN 101,857. Pub. 1–3–61. Filed 8–2–60.

Class 33 — Glassware

712,855. CRINKLE GLASS. Carbone, Incorporated. SN 80,053. Pub. 1–3–61. Filed 8–24–59.

Class 34 — Heating, Lighting, and Ventilating Apparatus

712,856. ZEPHYR. The Roberts Co. SN 99,255. Pub. 1–3–61. Filed 6–17–60.

712,857. PARTIO CART. General Electric Company. SN 101,093. Pub. 1–3–61. Filed 7–19–60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

712,858. CROMWELL AND DESIGN. Mercantile Stores Company, Inc. SN 88,408. Pub. 1–3–61. Filed 1–4–60.

712,859. GOLDEN FALCON. The Abel Corporation. SN 102,527. Pub. 1–3–61. Filed 8–12–60.

Class 36 — Musical Instruments and Supplies

712,860. ELECTRACHORD. Lee L. Von Gunten. SN 92,129. Pub. 1–3–61. Filed 3–3–60.

712,861. LEGACY. Columbia Broadcasting System, Inc. SN 96,674. Pub. 1–3–61. Filed 5–9–60.

712,862. BUCKEYE. Buckeye Recording Company. SN 100,832. Pub. 1–3–61. Filed 7–14–60.

712,863. PARKWAY. Parkway Records, Inc. SN 100,860. Pub. 1–3–61. Filed 7–14–60.

712,864. RICO. Rico Products. SN 101,070. Pub. 1–3–61. Filed 6–27–60.

Class 37 — Paper and Stationery

712,865. MAGIC MARKER AND DESIGN. Speedry Chemical Products, Inc., by merger from Speedry Products, Inc. SN 50,655. Pub. 4–26–60. Filed 4–29–58.

712,866. NETLON. Plastic Textiles Accessories Limited. SN 60,250. Pub. 1–3–61. Filed 10–7–58.

712,867. AMBI-DEX. Sondon Systems Corporation. SN 71,895. Pub. 1–3–61. Filed 4–20–59.

712,868. XC ETC. AND DESIGN. The National Exchange Club. SN 77,940. Pub. 1–3–61. Filed 7–17–59.

712,869. ST. REGIS SEMINOLE CYPRESS LINERBOARD ETC. AND DESIGN. St. Regis Paper Company. SN 85,403. Pub. 1–3–61. Filed 11–16–59.

712,870. RAPIT-SEAL. Orchard Paper Co. SN 86,316. Pub. 1–3–61. Filed 11–30–59.

712,871. PREMOID ENGINEERED PAPERS. Premoid Corporation. SN 88,086. Pub. 1–3–61. Filed 12–28–59.

712,872. CONTIMAC. Hamac A.G. SN 89,849. Pub. 1–3–61. Filed 1–28–60.

712,873. INK-AWAY. Ink-Away. SN 95,172. Pub. 1–3–61. Filed 4–15–60.

712,874. PPP. The Paterson Parchment Paper Company. SN 99,169. Pub. 1–3–61. Filed 6–16–60.

712,875. QUIKS. The Joseph Dixon Crucible Company, d.b.a. The American Crayon Company. SN 99,619. Pub. 1–3–61. Filed 6–24–60.

712,876. WEBFLEX. Crocker, Burbank Papers Inc. SN 103,107. Pub. 1–3–61. Filed 8–22–60.

712,877. THE CROSSROADS AND DESIGN. Weber Lithographing Company. SN 103,235. Pub. 1–3–61. Filed 8–22–60.

Class 38 — Prints and Publications

712,878. XC ETC. AND DESIGN. The National Exchange Club. SN 77,945. Pub. 1–3–61. Filed 7–17–59.

712,879. SOUTHCO. The Southard Company. SN 87,514. Pub. 1–3–61. Filed 12–17–59.

712,880. N AND DESIGN. Norcross, Inc. SN 97,240. Pub. 1–3–61. Filed 5–16–60.

712,881. DRI-APPLI. Allied Decals, Inc. SN 97,803. Pub. 1–3–61. Filed 5–25–60.

712,882. ENGINEER ETC. AND DESIGN. Engineers Joint Council, Inc. SN 97,904. Pub. 1–3–61. Filed 5–27–60.

712,883. NUFRUM. Norcross, Inc. SN 98,611. Pub. 1–3–61. Filed 6–10–60.

712,884. TRANSPATENT. Transpatent G.m.b.H. SN 98,949. Pub. 1–3–61. Filed 6–13–60.

712,885. TEMPLA-KIT. Fox River Paper Corporation. SN 98,988. Pub. 1–3–61. Filed 6–14–60.

712,886. THE M REPORT. The Bragley Publishing Corporation. SN 99,040. Pub. 1–3–61. Filed 6–15–60.

Class 39 — Clothing

712,887. SCAPOVER. Carol B. Sullivan, d.b.a. Lynn Carol Creations. SN 73,456. Pub. 1–3–61. Filed 5–11–59.

712,888. XC ETC. AND DESIGN. The National Exchange Club. SN 77,939. Pub. 1–3–61. Filed 7–17–59.

712,889. REPRESENTATION OF A SEAHORSE SUPERIMPOSED ON A MAP OF UNITED STATES. Burbrooke Manufacturing Co., Inc. SN 82,477. Pub. 10–18–60. Filed 10–1–59.

712,890. FIXED-CROWN. Mine Safety Appliances Company. SN 88,246. Pub. 1–3–61. Filed 12–30–59.

712,891. DIVA. Diva— Fabbrica Cravatte e Tessuti per Cravatte S.p.A. SN 88,900. Pub. 1–3–61. Filed 1–13–60.

712,892. LINE-O-JAC. Some's Uniforms, Inc. SN 89,304. Pub. 1–3–61. Filed 1–19–60.

712,893. DESIGN OF GROTESQUE FIGURE PUSHING SHOPPING CART. Speedy-Shopper Sales Corp. SN 90,115. Pub. 1–3–61. Filed 2–1–60.

712,894. ADASTRA AND DESIGN. Adastra (Glenny & Hartley) Ltd. SN 90,805. Pub. 1–3–61. Filed 2–12–60.

712,895. ADASTRA. Adastra (Glenny & Hartley) Ltd. SN 90,806. Pub. 1–3–61. Filed 2–12–60.

712,896. ADJUST O MAGIC. Singing Needles, Inc. SN 92,931. Pub. 1–3–61. Filed 3–15–60.

712,897. TWINKLE-DON. J. M. McDonald Co. SN 98,531. Pub. 1–3–61. Filed 3–23–60.

712,898. BURGI AND DESIGN. Burkey Underwear Company, Inc. SN 94,461. Pub. 1–3–61. Filed 4–6–60.

712,899. NIPTAL. Niptal, Inc. SN 94,682. Pub. 1–3–61. Filed 4–8–60.

712,900. ZUIDER ZEE EXCLUSIVE AND DESIGN. Ullian & Karofsky, Inc. SN 94,867. Pub. 1–3–61. Filed 4–18–60.

712,901. RICH LASE. Rich's, Inc. SN 95,199. Pub. 1–3–61. Filed 4–15–60.

712,902. NEW DIMENSION. The Warner Brothers Company. SN 96,774. Pub. 1–3–61. Filed 5–9–60.

712,903. DUBBLE-WARE. M. Hoffman & Co., Inc. SN 96,959. Pub. 1–3–61. Filed 5–12–60.

712,904. FLITE TOP. Murphy, Brill and Sahner, Incorporated. SN 97,407. Pub. 1–3–61. Filed 5–18–60.

712,905. BON VIVANT. Portis Style Industries Co. SN 97,517. Pub. 1–3–61. Filed 5–19–60.

712,906. AQUA SEAL. Stuglow, Inc. SN 97,718. Pub. 1–3–61. Filed 5–23–60.

712,907. HELMSMAN AND DESIGN. C. C. Valentine & Company, Inc. SN 97,791. Pub. 1–3–61. Filed 5–24–60.

712,908. HOSPITALITY. Hospitality Uniforms, Inc. SN 98,462. Pub. 1–3–61. Filed 6–6–60.

712,909. PAMELA YOUNG. Barlin Knitting Mills, Inc. SN 98,567. Pub. 1–3–61. Filed 6–7–60.

712,910. CHAMONIX. Style Trends, Inc. SN 98,600. Pub. 1–3–61. Filed 6–7–60.

712,911. CUSTOMITE. Style Trends, Inc. SN 98,601. Pub. 1–3–61. Filed 6–7–60.

712,912. MOBIL-SOX. Childers Hosiery Mill, Inc. SN 98,638. Pub. 1–3–61. Filed 6–8–60.

712,913. WAVE-LENGTH. Kops Bros., Inc. SN 98,712. Pub. 1–3–61. Filed 6–9–60.

712,914. MARCE-ETTE AND DESIGN. Pachter Garment Co., Inc. SN 98,737. Pub. 1–3–61. Filed 6–9–60.

712,915. HOPS/FORD. Bero of New Haven, Inc. SN 98,938. Pub. 1–3–61. Filed 6–13–60.

712,916. FUGUE. Maidenform, Inc., by change of name from Maiden Form Brassiere Company, Inc. SN 99,066. Pub. 1–3–61. Filed 6–15–60.

712,917. CHROME-FLEX. The Goodyear Tire & Rubber Company. SN 99,138. Pub. 1–3–61. Filed 6–16–60.

712,918. BANKS DUALS. Banks Bros. Corp. SN 99,707. Pub. 1–3–61. Filed 6–27–60.

712,919. TRIPSTER. Pendleton Woolen Mills. SN 99,776. Pub. 1–3–61. Filed 6–27–60.

712,920. BIG RED. Blue Gem Manufacturing Company. SN 99,837. Pub. 1–3–61. Filed 6–28–60.

712,921. LA BOHEME. The Mayer Company, Inc. SN 99,865. Pub. 1–3–61. Filed 6–28–60.

712,922. TIME TESTED AND DESIGN. A. S. Beck Shoe Corporation. SN 100,215. Pub. 1–3–61. Filed 7–5–60.

712,923. ARCH DUKE AND DESIGN. A. S. Beck Shoe Corporation. SN 100,216. Pub. 1–3–61. Filed 7–5–60.

712,924. SOX-GALORE. Danny Gilbert. SN 102,230. Pub. 1–3–61. Filed 8–8–60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

712,925. NYLOSUEDE. Martin Fabrics Corporation. SN 67,950. Pub. 1–3–61. Filed 2–18–59.

712,926. BRACUSHON. Eastern Foam Fabric Company. SN 71,825. Pub. 1–3–61. Filed 4–20–59.

712,927. XC ETC. AND DESIGN. The National Exchange Club. SN 77,938. Pub. 1–3–61. Filed 7–17–59.

712,928. CRIMPLAN. Imperial Chemical Industries Limited. SN 82,119. Pub. 1–3–61. Filed 9–25–59.

712,929. VERSAFAB. M. Lowenstein & Sons, Inc. SN 87,442. Pub. 1–3–61. Filed 12–16–59.

712,930. FRAGONARD. Thomas Somerset and Company Limited. SN 91,866. Pub. 1–3–61. Filed 2–29–60.

712,931. SLUMBERWARM. Slumberest Company. SN 94,101. Pub. 1–3–61. Filed 3–31–60.

712,932. LAN BE ETC. AND DESIGN. Lanificio Bevilacqua S.p.A. SN 97,166. Pub. 1–3–61. Filed 5–16–60.

712,933. PLYHYDE. Plymouth Rubber Company, Inc. SN 98,236. Pub. 1–3–61. Filed 6–1–60.

712,934. PRESTINIZED. Courtaulds, Inc. SN 98,972. Pub. 1–3–61. Filed 6–14–60.

712,935. INVEL. J. B. Martin Company. SN 102,127. Pub. 1–3–61. Filed 8–5–60.

Class 43 — Thread and Yarn

712,936. KNICKER. Spinnerin Yarn Co., Inc. SN 56,360. Pub. 1–3–61. Filed 7–30–58.

712,937. MULTI-CUPIONI. Beaunit Mills, Inc. SN 101,848. Pub. 1–3–61. Filed 8–2–60.

712,938. SPACE-SPUN. Prescott Textile Company, Inc. SN 102,136. Pub. 1–3–61. Filed 8–5–60.

Class 46 — Foods and Ingredients of Foods

712,939. CHEF WHIZ AND DESIGN. Edward Starrett Cumbie, d.b.a. Chef-Whiz of Denver. SN 49,253. Pub. 11–3–59. Filed 4–8–58.

712,940. SAMBAND AND DESIGN. Iceland Products, Inc. SN 68,262. Pub. 1–3–61. Filed 2–24–59.

712,941. DE ZAAN. Naamloze Vennootschap Cacaofabriek "de Zaan." SN 74,535. Pub. 1–3–61. Filed 5–26–59.

712,942. REGGIE BRAND. George Ash, d.b.a. George Ash Packing Co. SN 80,946. Pub. 1–3–61. Filed 9–8–59.

712,943. SWISSROSE. Swissrose, Inc. SN 85,418. Pub. 5–10–60. Filed 11–16–59.

712,944. JUDY ANN AND DESIGN. Wine & Schuls Distributing Company. SN 86,085. Pub. 1–3–61. Filed 11–25–59.

712,945. FIRST CHOICE. Faut Milling Company, assignee of Gladiola Biscuit Co. SN 93,796. Pub. 1–3–61. Filed 3–28–60.

712,946. GEOMETRIC DESIGN. Osaka Kombu Kaiso Kabushiki Kaisha. SN 93,847. Pub. 1–3–61. Filed 3–28–60.

712,947. JANE LOGAN. Abbotts Dairies, Incorporated. SN 93,961. Pub. 1–3–61. Filed 3–30–60.

712,948. ARIZONA ROSE AND REPRESENTATION OF A ROSE. Hayden Flour Mills. SN 95,280. Pub. 1–3–61. Filed 4–18–60.

712,949. ROSARITA AND DESIGN. Rosarita Mexican Foods, Inc. SN 95,392. Pub. 1–3–61. Filed 4–19–60.

712,950. QUEEN ESTHER. Levin Bros. Poultry Co., Inc. SN 101,410. Pub. 1–3–61. Filed 7–25–60.

712,951. ELK FORK. Anderson & Bichetts. SN 101,462. Pub. 1–3–61. Filed 7–26–60.

712,952. HARVEST QUEEN. Peter Condakes Company, d.b.a. Harvest Queen Packing Co. SN 101,665. Pub. 1–3–61. Filed 7–29–60.

712,953. FLO-MATIC. Hardy Salt Company. SN 101,867. Pub. 1–3–61. Filed 8–2–60.

Class 48 — Malt Beverages and Liquors

712,954. AMSTEL AND TWIN GLOBE DESIGN. Amstel Brouwerij N.V. SN 88,199. Pub. 1–3–61. Filed 12–30–59.

Class 49 — Distilled Alcoholic Liquors

712,955. KLOSTERHAGER. Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei. SN 78,590. Pub. 1–3–61. Filed 6–15–59.

712,956. KLOSTERJAGER. Klosterbrennerei A.G., Erste Badische Wein- und Edelbranntweinbrennerei. SN 78,594. Pub. 1–3–61. Filed 6–15–59.

712,957. KING ALBERT XII. Continental Distilling Corporation. SN 97,290. Pub. 1–3–61. Filed 5–17–60.

Class 50 — Merchandise Not Otherwise Classified

712,958. XC ETC. AND DESIGN. The National Exchange Club. SN 77,937. Pub. 1–3–61. Filed 7–17–59.

712,959. BARTOLINI. Alter Rubber Corporation. SN 83,763. Pub. 1–3–61. Filed 10–22–59.

712,960. PARTI-KING. Parti-King, Inc. SN 88,334. Pub. 1–3–61. Filed 12–31–59.

712,961. ALL-AMERICAN. M. Greenebaum & Sons, Inc. SN 89,631. Pub. 1–3–61. Filed 1–26–60.

712,962. SHO-BRITE SIGNS AND DESIGN. Frank M. Schwab, d.b.a. Schwab Advertising System. SN 95,322. Pub. 1–3–61. Filed 4–18–60.

712,963. STURDI-BILT. Union Asbestos & Rubber Company. SN 96,768. Pub. 1–3–61. Filed 5–9–60.

712,964. CHICKEN LADDER. Dale B. Prescott, d.b.a. Prescott Sales Co. SN 100,154. Pub. 1–3–61. Filed 7–1–60.

712,965. ARMOR TOUGH AND DESIGN. H. Wensel Tent & Duck Co. SN 100,325. Pub. 1–3–61. Filed 7–5–60.

712,966. ROYAL GUARDSMAN. American Mat Corporation. SN 100,411. Pub. 1–3–61. Filed 7–7–60.

Class 51 — Cosmetics and Toilet Preparations

712,967. GESTE FOR MEN. Picaso-Anstalt. SN 95,011. Pub. 1–3–61. Filed 4–13–60.

712,968. GOP-TIMISM. Harold C. Blankenbiller, d.b.a. House of Hampton. SN 95,244. Pub. 1–3–61. Filed 4–18–60.

712,969. SNUG. Midland Pharmacal Corp. SN 96,019. Pub. 1–3–61. Filed 4–28–60.

712,970. TOUCH OF SPRING. Mary E. Lynne Weenink, d.b.a. Mary Lynne. SN 96,162. Pub. 1–3–61. Filed 4–14–60.

712,971. GYPSY VIOLIN. Mary E. Lynne Weenink, d.b.a. Mary Lynne. SN 96,163. Pub. 1–3–61. Filed 4–14–60.

Class 52 — Detergents and Soaps

712,972. WHEE! Texize Chemicals, Inc. (Delaware corporation), assignee of Texize Chemicals, Inc. (South Carolina corporation). SN 44,135. Pub. 9–6–58. Filed 1–16–58.

712,973. A'BL. The Paxton Wholesale Grocery Co. SN 78,811. Pub. 1–3–61. Filed 7–31–59.

712,974. DITON. The Diversey Corporation. SN 96,682. Pub. 1–3–61. Filed 5–9–60.

712,975. TIK-ET. The Diversey Corporation. SN 96,683. Pub. 1–3–61. Filed 5–9–60.

712,976. TRIPEL. The Diversey Corporation. SN 96,684. Pub. 1–3–61. Filed 5–9–60.

712,977. JETSOL. The Savogran Company. SN 100,058. Pub. 1–3–61. Filed 6–30–60.

712,979. D-PLAN. The Diversey Corporation. SN 77,084. Pub. 1–3–61. Filed 7–6–59.

712,980. RTI. Research Triangle Institute. SN 94,189. Pub. 1–3–61. Filed 4–1–60.

Class 106 — Material Treatment

712,981. MAY-O-LITE. May Research, Inc. SN 89,691. Pub. 1–3–61. Filed 1–26–60.

Service Marks

Class 100 — Miscellaneous

712,978. QUALITY BUILT ETC. AND DESIGN. National Bureau for Lathing and Plastering, Inc. SN 69,753. Pub. 1–3–61. Filed 3–17–59.

Collective Membership Mark

Class 200

712,982. M-R-S ETC. AND DESIGN. Marine Rescue Squadron of America, Inc. SN 77,121. Pub. 1–3–61. Filed 7–6–59.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 28 — Jewelry and Precious-Metal Ware

712,983. Shields Inc. of Attleboro, Mass., Attleboro, Mass. SN 51,749. Filed P.R. 5–15–58; Am. S.R. 11–29–60.

WORLD'S FAIR OF FASHION

For Men's Jewelry, Especially Cuff Links, Tie Bars, Collar Pins and Pinettes.

First use May 9, 1958.

TRADEMARK REGISTRATIONS RENEWED

134,063. TODD BRAND HAM. Cl. 46. 8–10–20.
136,353. WINSOME. Cl. 46. 11–2–20.
136,354. SKY PILOT. Cl. 46. 11–2–20.
136,355. C-V BEST AND DESIGN. Cl. 46. 11–2–20.
136,356. INVADER. Cl. 46. 11–2–20.
138,059. MAGNAVOX. Cl. 21. 12–14–20.
138,490. MOKI. Cl. 18. 12–28–20.
138,719. DAMON. Cl. 46. 1–4–21.
139,019. CADUM. Cl. 51. 1–18–21.
139,220. TIFFANY & CO. Cl. 32. 1–25–21.
139,417. PURETEST. Cl. 18. 2–1–21.
140,804. FIRESTONE. Cl. 35. 3–29–21.
140,845. INTERNATIONAL. Cl. 23. 3–29–21.
141,058. BUSTER BRAND. Cl. 46. 4–5–21.
141,390. QUELQUES FLEURS AND DESIGN. Cl. 51. 4–19–21.
141,512. GOLD DROP. Cl. 46. 4–26–21.
141,695. TEPEE BRAND. Cl. 46. 4–26–21.
142,467. C-XX AND DESIGN. Cl. 1. 5–17–21.
143,067. FURNASEAL AND DESIGN. Cl. 12. 5–24–21.
144,343. BEAR CREEK. Cl. 46. 7–5–21.
378,231. PRIMUS ORIGINAL AND DESIGN. Cl. 34. 6–4–40.
378,908. REPRESENTATION OF THE CLOTH-TWO STRANDS. Cl. 42. 6–25–40.
382,230. LUSTRATHERM. Cl. 33. 10–22–40.
383,461. IDYLBROOK. Cl. 46. 12–10–40.
384,140. AMORAY. Cl. 51. 1–7–41.
384,341. STETSONETTE. Cl. 39. 1–14–41.
384,349. HALLMARK. Cl. 29. 1–14–41.
384,421. 7955 FLORCOTE. Cl. 16. 1–21–41.
384,459. BLACK MAGIC. Cl. 46. 1–21–41.
384,465. BLACK MAGIC AND DESIGN. Cl. 46. 1–21–41.
384,563. BLOXMENT AND DESIGN. Cl. 12. 1–21–41.
384,658. BRUSH DESIGN. Cl. 20. 1–28–41.
384,659. BRUSH DESIGN. Cl. 20. 1–28–41.
384,669. PROLON. Cl. 29. 1–28–41.
385,212. QUILTEE. Cl. 32. 2–18–41.
385,304. GREEN DIAMOND AND DESIGN. Cl. 46. 2–25–41.
385,358. ARMORWALL. Cl. 12. 2–25–41.
385,365. FABRON. Cl. 42. 2–25–41.
385,391. MV. Cl. 13. 2–25–41.
385,496. PIN-BOTTLE. Cl. 49. 3–4–41.
385,553. CIRCULAR DESIGN. Cl. 46. 3–11–41.
386,161. GUARDS. Cl. 18. 3–25–41.
386,293. CRAIG. Cl. 39. 4–1–41.
386,415. PONTOON. Cl. 46. 4–8–41.
386,555. HEXACON. Cl. 21. 4–15–41.
386,556. SOLDER MASTER. Cl. 21. 4–15–41.
386,704. THERMOPANE. Cl. 12. 4–22–41.
386,794. ALCOVE. Cl. 37. 4–22–41.
387,049. SHAN-O-LIN. Cl. 42. 4–29–41.
387,283. SURGE. Cl. 31. 5–6–41.
387,468. DOLE AND DESIGN. Cl. 46. 5–20–41.
387,700. ROD-TILLER. Cl. 23. 5–27–41.
387,726. SURGE. Cl. 21. 5–27–41.
387,818. ALL STAR AND DESIGN. Cl. 46. 6–3–41.
387,982. ECLIPSE. Cl. 37. 6–10–41.
388,113. CHAMPION. Cl. 22. 6–10–41.
388,231. AMPRO. Cl. 26. 6–17–41.
388,266. SHANDRA. Cl. 42. 6–17–41.
388,721. POLAROID. Cl. 20. 7–8–41.
388,722. POLAROID. Cl. 21. 7–8–41.

TRADEMARK REGISTRATIONS CANCELED

Section 6

104,643. KNO-BURN. Cl. 12. 6–6–15.
125,173. ROSINA. Cl. 46. 4–15–19.
221,164. THE THOMSON ONE-MAN LOAF MOULDER AND DESIGN. Cl. 23. 11–23–26.
318,649. DERMA SKIN. Cl. 44. 10–30–34.
385,225. LUBRITEX. Cl. 6. 2–18–41.
386,047. LUBRIFAT. Cl. 6. 3–25–41.
424,476. MINI-FILTER AND DESIGN. Cl. 31. 10–8–46.

The following registrations issued Feb. 1, 1955

601,470. KLORO BAG AND DESIGN. Cl. 2.
601,472. PETI AND DESIGN. Cl. 2.
601,479. BRILLIUM GIFT WARE AND DESIGN. Cl. 2.
601,480. THE WHIMSY BIN. Cl. 2.
601,481. MEDALLIST AND WREATH DESIGN. Cl. 2.
601,482. E.T.O. Cl. 2.
601,484. 'QUAD.' Cl. 2.
601,486. BUCCANEER. Cl. 3.
601,495. SCR BRICK TYPE SM. Cl. 12.
601,496. PERMA LOX. Cl. 12.
601,497. BONNIE BEVEL. Cl. 12.
601,501. TRI-SEAL AND DESIGN. Cl. 12.
601,502. CORU-PLY AND DESIGN. Cl. 12.
601,508. DAL-DURA. Cl. 12.
601,537. PLASTIK 707. Cl. 16.
601,560. RUSSBEN. Cl. 18.
601,563. PENNANT. Cl. 19.
601,565. PUTTER-BUG. Cl. 19.
601,566. CASA MANANA. Cl. 19.
601,574. INSECTOMATIC. Cl. 21.
601,576. FERRO-DYNAMIC. Cl. 21.
601,577. SPIN A BRUSH. Cl. 21.
601,583. MUL-T-FUSE. Cl. 21.
601,586. BELMAR. Cl. 21.
601,592. RADIANT-FEET. Cl. 21.
601,598. SIGHTMASTER. Cl. 21.
601,606. RIKI. Cl. 23.
601,618. ESCORT. Cl. 23.
601,620. LOBSTIX. Cl. 23.
601,626. STEAK MATE. Cl. 23.
601,630. RIVAL. Cl. 24.
601,636. GOLDE JET 300 AND DESIGN. Cl. 26.
601,637. DIALATELL. Cl. 26.
601,639. TRU-CHROME. Cl. 26.
601,641. FLAME. Cl. 26.
601,650. TIDY TOT AND DESIGN. Cl. 32.
601,652. PANDEX AND DESIGN. Cl. 32.
601,654. INFLATA. Cl. 32.
601,658. KUR-MOR. Cl. 34.
601,661. AIRLINE. Cl. 34.
601,664. JONN-E-VENT. Cl. 34.
601,666. MAMCO. Cl. 34.
601,679. ECONOMIZER FARM PLAN. Cl. 37.
601,683. PRIME-RITE. Cl. 37.
601,686. SEAL-O-BIBS AND DESIGN. Cl. 37.
601,687. EMBROCADE. Cl. 37.
601,690. CHEFS OF THE TROPICS AND DESIGN. Cl. 38.
601,691. FAMILY A DIGEST FOR BETTER HEALTH. Cl. 38.
601,692. FILMWOOD. Cl. 38.
601,693. EUREKA SPECIALTIES ESPCO AND DESIGN. Cl. 38.
601,694. SCIENZA SELEZIONE. Cl. 38.
601,696. SP AND REPRESENTATION OF A SEAHORSE. Cl. 38.
601,698. HORROR ON OUR HIGHWAYS. Cl. 38.
601,701. PENNSALT PROFILE. Cl. 38.
601,702. BETTY WORTH. Cl. 39.
601,703. BREECHETTE. Cl. 39.
601,704. WINSHIP. Cl. 39.
601,705. WINJAC. Cl. 39.
601,706. GLEN-CRAFT. Cl. 39.
601,708. LUSTARA DESIGN. Cl. 39.
601,712. TRUVAL AND DESIGN. Cl. 39.
601,714. DURAIR. Cl. 39.
601,716. TRELLIS. Cl. 39.
601,721. BY SARINI. Cl. 39.
601,724. OLYMPIA. Cl. 42.
601,725. FURLEEN. Cl. 42.
601,726. 'BISTINT.' Cl. 42.
601,730. NYLORUG. Cl. 42.
601,732. WHITTALL REVERIE. Cl. 42.
601,734. COMBI-QUILT. Cl. 42.
601,738. SYLPH AND DESIGN. Cl. 45.
601,739. GOLDIE G. AND DESIGN. Cl. 46.
601,740. PRAIRIE STAR. Cl. 46.
601,746. MARIO BRAND. Cl. 47.
601,753. HANNIS MILLS. Cl. 49.
601,770. MACHINE TOOL ELECTRICIANS AND DESIGN. Cl. 103.
601,773. TEXTRALIZED. Cl. 106.
601,778. REPRESENTATION OF A PENCIL, A WING AND AN HOURGLASS. Cl. 107.
601,783. SPRED-ALL AND DESIGN. Cl. 23.
601,787. FIFTH AVENUE JEWELS. Cl. 28.
601,788. "POUR 'N' BAKE." Cl. 46.

Section 18

388,152. WINDHAM FABRICS. Cl. 42. 6–10–41.
418,156. HI-PEP. Cl. 45. 12–4–45.
619,613. LADY GAY'S. Cl. 51. 1–17–56.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

312,768. CHEF. Cl. 46. 5–8–34. The Berdan Company. American Home Products Corporation, New York, N.Y. Amended: In the statement, column 1, lines 7 through 46 and column 2, lines 1 through 27, the description of goods, is deleted and *canned fish and products prepared therefrom; fresh, dried and canned and bottled vegetables; vegetable products—namely, juices for food purposes; food products prepared therefrom—namely, soups and mixed vegetables with or without meats for preparing soups and stews; mince meat; pork and beans, chili con carne; prepared meats—namely, dried beef and cured pork; dressed poultry and products prepared therefrom—namely, canned and smoked poultry including combinations thereof with vegetables; sour and pepper relishes and sweet, sour and pepper sauces for food, catsup, chili sauce; cheese and food products prepared therefrom; wheat flour, alimentary paste products; pies* is inserted.

371,096. PICUS AND DESIGN. Cl. 12. 9–19–39. Naamloose Vennootschap Houtindustrie "Picus" Voorheen J. Bruning & Zoon, Eindhoven, Netherlands. Amended to appear:



379,979. HAMILTON. Cl. 23. 8–6–40. Hamilton Watch Company, Lancaster, Pa. Amended: In the statement, column 1, lines 19 through 21, "swaging dies, punching

dies, stamping dies, engraving dies, special abrading cutters," line 23, "burring machines," line 28, "steel balls for bearings," line 31, "ratchet hob cutters," line 32, "shaving dies," line 33, "blanking dies," lines 34, 35 and 36, "machinery repair tools—namely, pliers and assembly bars," line 37, "pullers," and in column 2, line 2, "knives," are deleted.

558,209. ORONITE. Cl. 6. 4–29–52. Oronite Chemical Company, California Chemical Company, San Francisco, Calif. Amended: In the statement, column 2, lines 5 and 6 are deleted, and the drawing is amended to appear:

ORONITE

597,290. PERMA-STAMP. Cl. 23. 10–26–54. Perma-Stamp Products Corporation. S. C. Johnson & Son, Inc., Racine, Wis. Amended to appear:

PERMA-STAMP

615,100. MIRA-FLO. Cl. 16. 11–1–55. Aldens, Inc., Chicago, Ill. Amended: In the statement, column 2, lines 4 through 6 are deleted, and the drawing is amended to appear:

mira-flo

636,706. LION AND DESIGN. Cl. 15. 11–6–56. Monsanto Chemical Company, St. Louis, Mo. Amended: In the statement, column 2, line 5 is deleted, and the drawing is amended to appear:



658,958. BASEAL. Cl. 12. 3–4–58. Servicised Products Corporation, Chicago, Ill. Amended: In the statement, column 2, line 1, "rubber" is deleted and *plastic* is inserted.

664,157. DARI-LAC. Cl. 46. 7–8–58. H. C. Christians Co., Chicago, Ill. Corrected: In the statement, column 1, line 1, "Illinois" should be deleted and *Wisconsin* should be inserted.

690,301. IGLOO. Cl. 39. 12–22–59. C. & J. Clark Limited. Clarks Overseas Shoes Limited, London, England. Amended: In the statement, column 2, lines 2 and 3, ", and socks for use in all the aforesaid goods" is deleted and *all for adults* is inserted.

INDEX OF REGISTRANTS

MARCH 21, 1961

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbotts Dairies, Inc., Philadelphia, Pa. 712,947, pub. 1–3–61. Cl. 46.
Abel Corp., The, Columbus, Ohio. 712,859, pub. 1–3–61. Cl. 35.
Abrams, Bernard S., and Neal J. Bailey, Doctors, Columbus, Ohio. 712,834, pub. 1–3–61. Cl. 26.
Adastra (Glenny & Hartley) Ltd., London, England. 712,894–5, pub. 1–3–61. Cl. 39.
Aero Laboratories, Inc., Vandalia, Ohio. 601,574, canc. Cl. 21.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 712,824, pub. 1–3–61. Cl. 26.
Ajax Hardware Corp., City of Industry, Calif. 712,746, pub. 1–3–61. Cl. 13.
Aktiebolaget Bahco: *See*—
Hjorth, A/B B. A., & Co.
Aktiebolaget Kanthal, Hallstahammar, Sweden. 712,756, pub. 1–3–61. Cl. 14.
Aldens, Inc., Chicago, Ill. 615,100. Am. 7(d). Cl. 16.
Allen-Bradley Co., Milwaukee, Wis. 712,800, pub. 1–3–61. Cl. 21.
Allen-Bradley Co., Milwaukee, Wis. 712,836, pub. 1–3–61. Cl. 26.
Allied Decals, Inc., Cleveland, Ohio. 712,881, pub. 1–3–61. Cl. 38.
Alsdorf, William H.: *See*—
Mohler, Edwin R.
Alter Rubber Corp., New York, N.Y. 712,959, pub. 1–3–61. Cl. 50.
American Block Co., Inc., Rich Creek, Va. 712,732, pub. 1–3–61. Cl. 12.
American Crayon Co., The: *See*—
Dixon, Joseph, Crucible Co., The.
American Cyanamid Co., New York, N.Y. 712,679, pub. 1–3–61. Cl. 1.
American Cyanamid Co., New York, N.Y. 712,693, pub. 1–3–61. Cl. 6.
American Home Products Corp.: *See*—
Berdan Co., The.
Bisodol Co., The.
American Luggage Works, Inc., Warren, R.I. 712,686, pub. 1–3–61. Cl. 3.
American Mat Corp., Toledo, Ohio. 712,966, pub. 1–3–61. Cl. 50.
American Optical Co., Southbridge, Mass. 601,641, canc. Cl. 26.
American-Saint Gobain Corp.: *See*—
American Window Glass Co.
American Smelting and Refining Co., New York, N.Y. 712,755, pub. 1–3–61. Cl. 14.
American Window Glass Co., to American-Saint Gobain Corp., Pittsburgh, Pa. 382,230, ren. 3–21–61. Cl. 33.
Ampro Corp., Chicago, Ill., to Graflex, Inc., Rochester, N.Y. 388,231, ren. 3–21–61. Cl. 26.
Anderson & Ricketts, Harrisonville, Mo. 712,951, pub. 1–3–61. Cl. 46.
Arke Inc., New York, N.Y. 712,840, pub. 1–3–61. Cl. 28.
Arrow Metal Products Corp., Haskell, N.J. 712,852, pub. 1–3–61. Cl. 32.
Art-Craft Optical Co., Inc., Rochester, N.Y. 712,820, pub. 1–3–61. Cl. 26.
Ash, George, d.b.a. George Ash Packing Co., Chicago, Ill. 712,942, pub. 1–3–61. Cl. 46.
Ash, George, Packing Co.: *See*—
Ash, George.
Astraka Ltd., London, England. 601,725, canc. Cl. 42.
Atkinson Milling Co.: *See*—
Cannon Valley Milling Co.
Atlas Alarm Corp., Dallas, Tex. 601,618, canc. Cl. 23.
Auto-Blow Corp., Bridgeport, Conn. 712,809, pub. 1–3–61. Cl. 23.
"Automatic" Sprinkler Corp. of America, Youngstown, Ohio. 712,747, pub. 1–3–61. Cl. 13.
B & W Associates, Michigan City, Ind. 712,830, pub. 1–3–61. Cl. 26.
Babson Bros. Co., Chicago, Ill. 387,223, ren. 3–21–61. Cl. 31.
Babson Bros. Co., Chicago, Ill. 387,726, ren. 3–21–61. Cl. 21.
Banks Bros. Corp., New York, N.Y. 712,918, pub. 1–3–61. Cl. 39.
Banner Leather Goods Co., Inc., New York, N.Y. 712,687, pub. 1–3–61. Cl. 3.
Barlin Knitting Mills, Inc., Brooklyn, N.Y. 712,909, pub. 1–3–61. Cl. 39.
Beam, James B., Distilling Co.: *See*—
Beam, James B. Distilling Co., Inc.
Beam, James B. Distilling Co., Inc., Clermont, Ky., to James B. Beam Distilling Co., Chicago, Ill. 385,496, ren. 3–21–61. Cl. 49.
Bear Creek Orchards, to Harry and David, Medford, Oreg. 144,343, ren. 3–21–61. Cl. 46.
Beaunit Mills, Inc., New York, N.Y. 712,937, pub. 1–3–61. Cl. 43.
Beck, A. S., Shoe Corp., New York, N.Y. 712,922–3, pub. 1–3–61. Cl. 39.
Belmar Electric Corp., Tilton, N.H. 601,586, canc. Cl. 21.
Berdan Co., The, American Home Products Corp., New York, N.Y. 312,768. Am. 7(d). Cl. 46.
Bird & Son, Inc., East Walpole, Mass. 385,356, ren. 3–21–61. Cl. 12.
Bisodol Co., The, Jersey City, N.J., to American Home Products Corp., New York, N.Y. 386,161, ren. 3–21–61. Cl. 18.
Blank, Frederic, & Co., Inc., New York, N.Y. 385,365, ren. 3–21–61. Cl. 42.
Blankenbiller, Harold C., d.b.a. House of Hampton, East Hampton, Conn. 712,968, pub. 1–3–61. Cl. 51.
Blue Gem Mfg. Co., Greensboro, N.C. 712,920, pub. 1–3–61. Cl. 39.
Bondorchuk, John, d.b.a. Russben Medicine Co., Chicago, Ill. 601,560, canc. Cl. 18.
Borg-Warner Corp., Chicago, Ill. 601,661, canc. Cl. 34.
Bosch, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 712,789, pub. 1–3–61. Cl. 21.
Bosch, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 712,818, pub. 1–3–61. Cl. 24.
Bosch, Robert, Gesellschaft mit beschrankter Haftung, Stuttgart, Germany. 712,844, pub. 1–3–61. Cl. 31.
Bowman Products Co., The, Cleveland, Ohio. 712,741, pub. 1–3–61. Cl. 13.
Bowman Products Co., The, Cleveland, Ohio. 712,777, pub. 1–3–61. Cl. 19.
Bowman Products Co., The, Cleveland, Ohio. 712,786, pub. 1–3–61. Cl. 21.
Bowman Products Co., The, Cleveland, Ohio. 712,807, pub. 1–3–61. Cl. 23.
Bragley Publishing Corp., The, New York, N.Y. 712,880, pub. 1–3–61. Cl. 38.
Brandex Co., Winchester, Mass. 712,803, pub. 1–3–61. Cl. 22.
Briddell, Chas. D., Inc., Crisfield, Md. 601,626, canc. Cl. 23.
Brillium Metals Corp., Long Island City, N.Y. 601,479, canc. Cl. 2.
Brooklyn Fibre Broom Co., Inc., Brooklyn, N.Y. 712,841, pub. 1–3–61. Cl. 29.
Brouwerij, Amstel, N.V., Amsterdam, Netherlands. 712,954, pub. 1–3–61. Cl. 48.
Buckeye Recording Co., Canton, Ohio. 712,862, pub. 1–3–61. Cl. 36.
Burbrooke Mfg. Co., Inc., New York, N.Y. 712,889, pub. 10–18–60. Cl. 39.
Burkey Underwear Co., Inc., Hamburg, Pa. 712,898, pub. 1–3–61. Cl. 39.
Burley Burner Co., Lexington, Ky. 601,658, canc. Cl. 34.
Burlington Industries, Inc.: *See*—
Southern Brighton Mills.
Burpee, W. Atlee, Co., Philadelphia, Pa. 712,657, pub. 1–3–61. Cl. 1.
Butler Brothers, Chicago, Ill. 601,563, canc. Cl. 19.
C. & E. Chapal Freres & Cie., Inc., Brooklyn, N.Y., to Societe Anonyme des Anciens Etablissements C. & E. Chapal Freres & Cie., Montreuil-sous-Bois (Seine) France. 142,467, ren. 3–21–61. Cl. 1.
C. H. Die Co.: *See*—
Heckman, Charles R.
C.B.C. Corp., Baltimore, Md. 712,692, pub. 1–3–61. Cl. 6.
Cabler, Charles T., Richmond, Va. 601,565, canc. Cl. 19.
California Chemical Co.: *See*—
Oronite Chemical Co.
Calkins Mfg. Co., Spokane, Wash. 387,700, ren. 3–21–61. Cl. 23.
Cameron, June, d.b.a. Lady Gay, New York, N.Y. 619,613, canc. Cl. 51.
Cannon Valley Milling Co., to Atkinson Milling Co. and Samuel R. Strisik, Minneapolis, Minn. 136,353–6, ren. 3–21–61. Cl. 46.
Carbone, Inc., Boston, Mass. 712,855, pub. 1–3–61. Cl. 33.
Carpenter, E. R., Co., Inc., Richmond, Va. 712,659, pub. 7–12–60. Cl. 1.
Carter Products, Inc., New York, N.Y. 712,770 pub. 1–3–61. Cl. 18.
Cast-O-Brick Corp., d.b.a. Vise Wall Glaze Division, Des Moines, Iowa. 712,731, pub. 1–3–61. Cl. 12.
Centennial Mill Co., Seattle, Wash., to Centennial Mills, Inc., Portland, Oreg. 141,512, ren. 3–21–61. Cl. 46.
Centennial Mills, Inc.: *See*—
Centennial Mill Co.
Tacoma Grain Co.
Chef-Whis of Denver: *See*—
Cumble, Edward S.
Chicago Eye Shield Co., Chicago, Ill. 712,835, pub. 1–3–61. Cl. 26.
Childers Hosiery Mill, Inc., Hildebran, N.C. 712,912, pub. 1–3–61. Cl. 39.
Christians, H. C., Co., Chicago, Ill. 664,157, cor. Cl. 46.
Ciba Ltd., Basel, Switzerland. 712,681, pub. 1–3–61. Cl. 1.
Cities Service Oil Co., New York, N.Y. 712,788, pub. 1–3–61. Cl. 21.
Clark, C. & J., Ltd. Clarks Overseas Shoes Ltd., London, England. 690,301. Am. 7(d). Cl. 39.
Clarks Overseas Shoes Ltd.: *See*—
Clark, C. & J., Ltd.
Clay-Adams, Inc., New York, N.Y. 712,833, pub. 1–3–61. Cl. 26.

Cliffs Dow Chemical Co., Marquette, Mich. 712,677, pub. 1–3–61. Cl. 1.
Cliffs Dow Chemical Co., Marquette, Mich. 712,680, pub. 1–3–61. Cl. 1.
Costal Chemical Corp., Yazoo City, Miss. 712,714, pub. 1–3–61. Cl. 10.
Colgate-Palmolive Co.: *See*—
Omega Chemical Co., The
Colonial Alloys Co., Philadelphia, Pa. 712,748, pub. 1–3–61. Cl. 14.
Columbia Broadcasting System, Inc., Bridgeport, Conn. 712,561, pub. 1–3–61. Cl. 36.
Comet Rice Mills, Houston, Tex. 712,690, pub. 1–3–61. Cl. 6.
Condakes, Peter, Co., d.b.a. Harvest Queen Packing Co., Boston, Mass. 712,952, pub. 1–3–61. Cl. 46.
Congoleum-Nairn Inc., Kearny, N.J. 712,782–3, pub. 1–3–61. Cl. 20.
Continental Distilling Corp., Philadelphia, Pa. 712,957, pub. 1–3–61. Cl. 49.
Continental Silver Co. Inc., Brooklyn, N.Y. 601,563, canc. Cl. 21.
Cook Chemical Co., Kansas City, Mo. 712,699, pub. 1–3–61. Cl. 6.
Cornell Paperboard Products Co., Milwaukee, Wis. 601,451, canc. Cl. 2.
Cornetta, Anthony J., Baltimore, Md. 712,850, pub. 1–3–61. Cl. 32.
Coru-ply Corp., North Augusta, Ga. 601,502, canc. Cl. 12.
Courtauld, Inc., New York, N.Y. 712,934, pub. 1–3–61. Cl. 42.
Crocker, Burbank Papers Inc., Fitchburg, Mass. 712,676, pub. 1–3–61. Cl. 37.
Crown Zellerbach Corp., San Francisco, Calif. 712,707, pub. 1–3–61. Cl. 6.
Cumble, Edward S., d.b.a. Chef-Whiz of Denver, Denver, Colo. 712,939, pub. 11–3–59. Cl. 46.
Curtiss-Wright Corp., Caldwell, N.J. 712,810, pub. 1–3–61. Cl. 23.
Cyclo-Magic, Inc., Milwaukee, Wis. 712,790, pub. 1–3–61. Cl. 21.
Dallas Ceramic Co., Dallas, Tex. 601,508, canc. Cl. 12.
Davidson Granite Co., Inc., Lithonia, Ga. 712,715, pub. 1–3–61. Cl. 12.
Dayton Rubber Co., The, Dayton, Ohio. 712,603, pub. 1–3–61. Cl. 1.
Delaware Poultry Laboratories, Inc., Millsboro, Del. 712,774, pub. 1–3–61. Cl. 18.
De Laval, Morris, Ltd., London, England. 712,716, pub. 1–3–61. Cl. 12.
De Lisser Extract Co., Inc., New York, N.Y. 601,738, canc. Cl. 45.
Dell, Samuel M., & Co., Inc., Baltimore, Md. 384,658–9, ren. 3–21–61. Cl. 29.
Deming Co., The, Salem, Ohio. 712,806, pub. 1–3–61. Cl. 23.
De Paul Chemical Co., Inc., Long Island City, N.Y. 712,705, pub. 1–3–61. Cl. 6.
Dexon Co., The, Massillon, Ohio. 712,726, pub. 1–3–61. Cl. 12.
Dickinson, Becton, and Co., Rutherford, N.J. 712,691, pub. 1–3–61. Cl. 6.
Diva-Fabbrica Cravatte e Tessuti per Cravatte S.p.A., Milan, Italy. 712,891, pub. 1–3–61. Cl. 39.
Diversey Corp., The, Chicago, Ill. 712,974–6, pub. 1–3–61. Cl. 52.
Diversey Corp., The, Chicago, Ill. 712,979, pub. 1–3–61. Cl. 100.
Dixon, Joseph, Crucible Co., The, d.b.a. The American Crayon Co., Jersey City, N.J. 712,875, pub. 1–3–61. Cl. 37.
Dole Corp.: *See*—
Hawaiian Pineapple Co., Ltd.
East Coast Paper Products Corp., Brooklyn, N.Y. 601,470, canc. Cl. 2.
Eastern Foam Fabric Co., Oceanside, N.Y. 712,926, pub. 1–3–61. Cl. 42.
Eastern States Farmers' Exchange, Inc., West Springfield, Mass. 712,670, pub. 1–3–61. Cl. 1.
Eaton Mfg. Co., Cleveland, Ohio. 712,808, pub. 1–3–61. Cl. 23.
Eberhardt Mfg. Co., St. Louis, Mo. 601,630, canc. Cl. 24.
Ebeco Industries, Inc., Birmingham, Ala. 712,792, pub. 1–3–61. Cl. 21.
Ebeco Industries, Inc., d.b.a. Vulcan Industries, Birmingham, Ala. 712,849, pub. 1–3–61. Cl. 32.
Eclipse Sleep Products, Inc., Brooklyn, N.Y. 385,212, ren. 3–21–61. Cl. 32.
Eldon Industries, Inc., from Ungar Electric Tools, Inc., Los Angeles, Calif. 712,791, pub. 1–3–61. Cl. 21.
Engineers Joint Council, Inc., New York, N.Y. 712,882, pub. 1–3–61. Cl. 38.
Englander Co., Inc., The, Chicago, Ill. 712,853–4, pub. 1–3–61. Cl. 32.
Eureka Specialty Printing Co., Scranton, Pa. 601,693, canc. Cl. 38.
Family Digest, Inc., New York, N.Y. 601,891, canc. Cl. 38.
Fant Milling Co., Sherman, from Gladiola Biscuit Co., Dallas, Tex. 712,945, pub. 1–3–61. Cl. 46.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 712,771, pub. 1–3–61. Cl. 18.
Fasano Bakeries: *See*—
Fasano, Joseph F.
Fasano, Joseph F., from Fasano and Sons, Inc., d.b.a. Fasano Bakeries, Chicago, Ill. 601,788, canc. Cl. 46.
Fasano and Sons, Inc.: *See*—
Fasano, Joseph F.
Filmwood Corp., Camden, N.J. 601,692, canc. Cl. 38.
Firestone Tire and Rubber Co., The, Akron, Ohio. 140,804, ren. 3–21–61. Cl. 35.
Foundation Worsted Mills to Oregon Worsted Co., Portland, Oreg. 378,908, ren. 3–21–61. Cl. 42.
Fountain Service Co.: *See*—
Price, Robert I.
Fox River Paper Corp., Appleton, Wis. 712,826, pub. 1–3–61. Cl. 28.
Fox River Paper Corp., Appleton, Wis. 712,885, pub. 1–3–61. Cl. 38.
Fruitvale Canning Co., Oakland, Calif. 387,816, ren. 3–21–61. Cl. 46.
Frymann & Fletcher Ltd., Nottingham, England. 601,726, canc. Cl. 42.
Fuller, W. P., & Co., San Francisco, Calif. 384,421, ren. 3–21–61. Cl. 16.
Functional Products, Inc., Warsaw, Ind. 712,799, pub. 1–3–61. Cl. 21.
Futch, J. L., d.b.a. Safety Advertising Co., Valdosta, Ga. 601,696, canc. Cl. 38.
Gallun, A. F., & Sons Corp., Milwaukee, Wis. 712,678, pub. 1–3–61. Cl. 1.
General Aniline & Film Corp., New York, N.Y. 712,828, pub. 1–3–61. Cl. 26.
General Electric Co., Schenectady, N.Y. 712,857, pub. 1–3–61. Cl. 34.
General Flooring Co., Inc., from Higgins Industries, Inc., New Orleans, La. 712,718, pub. 1–3–61. Cl. 12.
General Nutrition Corp., d.b.a. Vitamin Sales Co., by change of name from Lacksoom Co., d.b.a. Vitamin Sales Co., Pittsburgh, Pa. 712,765, pub. 1–3–61. Cl. 18.
General Wall Products, Inc., Cleveland, Ohio. 601,497, canc. Cl. 12.
Geodesic Structures, Inc., d.b.a. Geodestix, Yardley, Wash. 712,804, pub. 1–3–61. Cl. 22.
Geodestix: *See*—
Geodesic Structures, Inc.
Gilbert, Danny, New York, N.Y. 712,924, pub. 1–3–61. Cl. 39.
Gilbert, Jack, Miami, Fla. 601,690, canc. Cl. 38.
Gladiola Biscuit Co.: *See*—
Fant Milling Co.
Glass Laboratories, Inc., Brooklyn, N.Y. 712,839, pub. 1–3–61. Cl. 27.
Glen-More Clothing Co., Knoxville, Tenn. 601,706, canc. Cl. 39.
Gluck, Lew L., Inc., to Litt Gluck Co., New York, N.Y. 386,293, ren. 3–21–61. Cl. 39.
Gluck, Litt, Co.: *See*—
Gluck, Lew L., Inc.
Golde Mfg. Co., Chicago, Ill. 601,636, canc. Cl. 26.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 712,684, pub. 1–3–61. Cl. 2.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 712,917, pub. 1–3–61. Cl. 39.
Graflex, Inc.: *See*—
Ampro Corp.
Graphic Controls Corp., Buffalo, N.Y. 712,829, pub. 1–3–61. Cl. 26.
Great Lakes Carbon Corp., New York, N.Y. 712,725, pub. 1–3–61. Cl. 12.
Great Neck Saw Manufacturers, Inc., Mineola, N.Y. 712,812, pub. 1–3–61. Cl. 23.
Greenebaum, M., & Sons, Inc., Baltimore, Md. 712,961, pub. 1–3–61. Cl. 50.
Gregory Industries, Inc., Lorain, Ohio. 712,724, pub. 1–3–61. Cl. 12.
Grossman Clothing Co., New York, N.Y. 601,708, canc. Cl. 39.
Gulf Oil Corp., Pittsburgh, Pa. 712,760, pub. 1–3–61. Cl. 15.
Hamac A.G., Zug, Switzerland. 712,811, pub. 1–3–61. Cl. 23.
Hamac A.G., Zug, Switzerland. 712,872, pub. 1–3–61. Cl. 37.
Hamburger, Frank, Co.: *See*—
Hamburger, Frank M.
Hamburger, Frank M., d.b.a. Frank Hamburger Co., New York, N.Y. 388,152, canc. Cl. 42.
Hamilton Watch Co., Lancaster, Pa. 379,979. Am. 7(d). Cl. 23.
Hansen Door Frame Mfg. Co.: *See*—
Hansen, Emil W.
Hansen, Emil W., from Hansen Door Frame Mfg. Co., Tucson, Ariz. 712,719, pub. 1–3–61. Cl. 12.
Hardboard Fabricators Corp., Newark, N.J. 712,753–4, pub. 1–3–61. Cl. 12.
Hardesty, W. C., Co., Inc., New York, N.Y. 385,225, canc. Cl. 6.
Hardesty, W. C., Co., Inc., New York, N.Y. 386,047, canc. Cl. 6.
Hardy Salt Co., St. Louis, Mo. 712,953, pub. 1–3–61. Cl. 46.
Harris Mfg. Co., Johnson City, Tenn. 712,721, pub. 1–3–61. Cl. 12.
Harris, P. E., Co., Inc.: *See*—
Thinket Packing Corp.
Harry and David: *See*—
Bear Creek Orchards.
Harvest Queen Packing Co.: *See*—
Condakes, Peter, Co.
Hawaiian Pineapple Co., Ltd., Honolulu, Hawaii, and San Francisco, Calif., to Dole Corp., Honolulu, Hawaii. 387,468, ren. 3–21–61. Cl. 46.
Hayden Flour Mills, Tempe, Ariz. 712,948, pub. 1–3–61. Cl. 46.
Hayes-Sammons Chemical Co., Mission, Tex. 712,698, pub. 1–3–61. Cl. 6.
Healthways, Los Angeles, Calif. 712,711, pub. 1–3–61. Cl. 9.
Heckethorn Mfg. & Supply Co., Dyersburg, Tenn. 712,780, pub. 1–3–61. Cl. 19.
Heckman, Charles R., d.b.a. C.H. Die Co., El Monte, Calif. 712,710, pub. 1–3–61. Cl. 9.

Heero Mfg., Roselle, Ill. 601,664, canc. Cl. 34.
Heil, Dr. Ing. Rudolf, Kiel-Dietrichsdorf, Germany. 712,823, pub. 1–3–61. Cl. 26.
Henry Leather Co., Peabody, Mass. 712,682, pub. 1–3–61. Cl. 1.
Henslee: *See*—
Henslee, C. C.
Henslee, C. C., d.b.a. Henslee, Arlington, Tex. 601,566, canc. Cl. 19.
Hexacon Electric Co.: *See*—
Johnson, Arthur L.
Higgins Industries, Inc.: *See*—
General Flooring Co., Inc.
Hi-Goal Products Corp.: *See*—
Keferstein, Charles G.
Hjorth, A/B B. A., & Co., to Aktiebolaget Bahco, Stockholm, Sweden. 378,231, ren. 3–21–61. Cl. 34.
Hobart Mfg. Co., The, Troy, Ohio. 712,831, pub. 1–3–61. Cl. 26.
Hoffman, M., & Co., Inc., Boston, Mass. 712,903, pub. 1–3–61. Cl. 39.
Hooker Furniture Corp., Martinsville, Va. 712,846–7, pub. 1–3–61. Cl. 32.
Hospitality Uniforms, Inc., New York, N.Y. 712,908, pub. 1–3–61. Cl. 39.
Houbigant, Inc.: *See*—
Parfumerie Houbigant.
House of Hampton: *See*—
Blankenhiller, Harold C.
House of Westmore, Inc., New York, N.Y. 712,683, pub. 1–3–61. Cl. 2.
Houston Oil Field Material Co., Inc., Houston, Tex. 712,832, pub. 1–3–61. Cl. 26.
Hubley Mfg. Co., The, Lancaster, Pa. 712,805, pub. 1–3–61. Cl. 22.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 712,759, pub. 11–1–60. Cl. 15.
Iceland Products, Inc., New York, N.Y. 712,940, pub. 1–3–61. Cl. 46.
Idylbrook Farms Inc.: *See*—
Moffett, Frank W., Jr.
Imperial Chemical Industries Ltd., London, England. 712,928, pub. 1–3–61. Cl. 42.
Imperial Drug Exchange Inc., d.b.a. New York Drug Concern, New York, N.Y. 712,763, pub. 5–5–59. Cl. 18.
Industria Prodotti Stampati: *See*—
Italian Imports Co.
Industrial Plastics & Chemicals: *See*—
Rae, James F.
Ink-Away, Woodbridge, N.J. 712,673, pub. 1–3–61. Cl. 37.
International Harvester Co., Chicago, Ill. 140,845, ren. 3–21–61. Cl. 23.
International Paper Co., New York, N.Y. 712,661, pub. 9–27–60. Cl. 1.
Irwin, Neisler & Co., Decatur, Ill. 712,775, pub. 1–3–61. Cl. 18.
Italian Imports Co., Cleveland, Ohio. 712,815, pub. 1–3–61. Cl. 23.
Italian Imports Co., Cleveland, Ohio, from Industria Prodotti Stampati, Torino, Italy. 712,816, pub. 1–3–61. Cl. 23.
Jenkins, George O., Co., Bridgewater, Mass. 712,664, pub. 1–3–61. Cl. 1.
Jensen-Salsbery Laboratories, Inc., Kansas City, Mo. 712,776, pub. 1–3–61. Cl. 18.
Johnson, Arthur L., d.b.a. Hexacon Electric Co., to Hexacon Electric Co., Roselle Park, N.J. 386,585–6, ren. 3–21–61. Cl. 21.
Johnson, S. C., & Son, Inc.: *See*—
Perma-Stamp Products Corp.
Kaman Aircraft Corp., The, Bloomfield, Conn. 712,781, pub. 1–3–61. Cl. 19.
Keferstein, Charles G., d.b.a. Hi-Goal Products Corp., New York, N.Y. 712,658, pub. 1–3–61. Cl. 1.
Kennatrack Corp., Elkhart, Ind. 712,745, pub. 1–3–61. Cl. 13.
Keno Plastic Processing Corp., Milwaukee, Wis. 712,675, pub. 1–3–61. Cl. 1.
Kent Vegetable Growers' Association, The, to S. T. Produce, Kent, Wash. 386,415, ren. 3–21–61. Cl. 46.
King Morpheus Products: *See*—
Sobel, Henry.
Kingsley, L. J., Co., Inc., Binghamton, N.Y. 712,709, pub. 1–3–61. Cl. 7.
Kinyon, Jessie P., New York, N.Y. 712,810, pub. 1–3–61. Cl. 24.
Klosterbrenneret A.G., Erste Badische Wein-und Edelbranntweinbrenneret, Emmendingen, Germany. 712,955–6, pub. 1–3–61. Cl. 49.
Koninklijke Nederlandsche Hoogovens en Staalfabrieken N.V., Ijmuiden, Velsen, Netherlands. 712,754, pub. 1–3–61. Cl. 14.
Kops Bros., Inc., New York, N.Y. 712,913, pub. 1–3–61. Cl. 39.
Kresge-Newark, Inc., Newark, N.J. 712,768, pub. 1–3–61. Cl. 18.
Kurts Bros., Clearfield, Pa. 387,962, ren. 3–21–61. Cl. 37.
Lackzoom Co.: *See*—
General Nutrition Corp.
Laclede-Christy Clay Products Co., St. Louis, Mo., to H. K. Poster Co., Inc., Pittsburgh, Pa. 143,067, ren. 3–21–61. Cl. 12.
Lady Gay: *See*—
Cameron, June.
Landers Corp., The, Toledo, Ohio. 601,724, canc. Cl. 42.
Landscape Structures, Inc., New York, N.Y. 601,652, canc. Cl. 32.
Lane-Branch Co.: *See*—
Lane, Thomas D.
Lane, Thomas D., d.b.a. Lane-Branch Co., San Jose, Calif. 601,592, canc. Cl. 21.
Lanificio Bevilacqua S.p.A., Verano Brianza, Italy. 712,932, pub. 1–3–61. Cl. 42.
Larus & Brother Co., Richmond, Va. 712,674, pub. 1–3–61. Cl. 1.
Lear, Inc., Grand Rapids, Mich. 601,576, canc. Cl. 21.
Levin Bros. Poultry Co., Inc., Wellston, Mo. 712,950, pub. 1–3–61. Cl. 46.
Libbey-Owens-Ford Glass Co., Toledo, Ohio. 386,704, ren. 3–21–61. Cl. 12.
Lillian Knitting Mills Co., d.b.a. Trellis Hosiery Co., Albemarle, N.C. 601,716, canc. Cl. 39.
Linen Thread Co., Inc., The, New York, N.Y. 388,113, ren. 3–21–61. Cl. 22.
Linton Publishing Co., Reno, Nev. 601,778, canc. Cl. 107.
Lomastone Sales Co., Inc., Sun Valley, Calif. 712,729, pub. 1–3–61. Cl. 12.
Lowenstein, M., & Sons, Inc., New York, N.Y. 712,929, pub. 1–3–61. Cl. 42.
Lynn Carol Creations: *See*—
Sullivan, Carol B.
MacLean-Fogg Lock Nut Co., from MacLean-Fogg Lock Nut Co., Chicago, Ill. 712,740, pub. 1–3–61. Cl. 13.
MacMillan Petroleum Corp., Los Angeles, Calif. 712,761, pub. 1–3–61. Cl. 15.
Madison Products Ltd., New York, N.Y. 601,806, canc. Cl. 23.
Magnavox Co., The, San Francisco, Calif., to The Magnavox Co., Fort Wayne, Ind. 138,059, ren. 3–21–61. Cl. 21.
Maiden Form Brassiere Co., Inc.: *See*—
Maidenform, Inc.
Maidenform, Inc., by change of name from Maiden Form Brassiere Co., Inc., New York, N.Y. 712,916, pub. 1–3–61. Cl. 39.
Majestic Mfg. Co., St. Louis, Mo. 601,666, canc. Cl. 34.
Malizia, Elio, Milan, Italy. 712,666, pub. 1–3–61. Cl. 1.
Mandrel Industries, Inc., Houston, Tex. 712,821, pub. 1–3–61. Cl. 26.
Marine Rescue Squadron of America, Inc., Tybee Island, Ga. 712,962, pub. 1–3–61. Cl. 200.
Marquette Paper Corp., Chicago, Ill. 601,683, canc. Cl. 37.
Marshall Steel Co.: *See*—
Marshall Steel Co., The.
Marshall Steel Co., The, by assignment and change of name from Marshall Steel Co., La Grange, Ill. 712,762–3, pub. 10–25–60. Cl. 14.
Martin Fabrics Corp., New York, N.Y. 712,925, pub. 1–3–61. Cl. 42.
Martin, J. B., Co., Norwich, Conn. 712,935, pub. 1–3–61. Cl. 42.
Mary Lynne: *See*—
Weenink, Mary E. L.
Matheson Co., Inc., Cincinnati, Ohio. 712,696, pub. 1–3–61. Cl. 6.
May Research, Inc., Minneapolis, Minn. 712,961, pub. 1–3–61. Cl. 106.
Mayer Bros., Seattle, Wash. 712,838, pub. 1–3–61. Cl. 27.
Mayer Co., Inc., The, New York, N.Y. 712,921, pub. 1–3–61. Cl. 39.
McDonald, J. M., Co., Hastings, Nebr. 712,897, pub. 1–3–61. Cl. 39.
Mercantile Stores Co., Inc., Wilmington, Del. 712,858, pub. 1–3–61. Cl. 35.
Merck & Co., Inc., Rahway, N.J. 712,772, pub. 1–3–61. Cl. 18.
Merix Chemical Co.: *See*—
Sonneman, Eric O.
Midland Pharmacal Corp., New York, N.Y. 712,969, pub. 1–3–61. Cl. 51.
Milwaukee Valve Co., Inc.: *See*—
Milwaukee Valve Co.
Milwaukee Valve Co., to Milwaukee Valve Co., Inc., Milwaukee, Wis. 385,391, ren. 3–21–61. Cl. 13.
Mine Safety Appliances Co., Pittsburgh, Pa. 712,890, pub. 1–3–61. Cl. 39.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 712,665, pub. 1–3–61. Cl. 1.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 712,706, pub. 1–3–61. Cl. 6.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 712,735, pub. 1–3–61. Cl. 12.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 712,736, pub. 1–3–61. Cl. 12.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 712,813, pub. 1–3–61. Cl. 23.
Misco P. C., Inc., New York, N.Y. 712,767–8, pub. 1–3–61. Cl. 14.
Missouri Farmers Association, Inc., Columbia, Mo. 712,667, pub. 1–3–61. Cl. 1.
Missouri Farmers Association, Inc., Columbia, Mo. 712,713, pub. 1–3–61. Cl. 10.
Missouri Portland Cement Co., St. Louis, Mo. 384,563, ren. 3–21–61. Cl. 12.
Model Engineering & Mfg., Inc., Huntington, Ind. 712,822, pub. 1–3–61. Cl. 26.
Moffett, Frank W., Jr., d.b.a. Idylbrook Farms, to Idylbrook Farms Inc., Rochester, N.Y. 383,461, ren. 3–21–61. Cl. 46.
Mohler, Edwin R., to Elmer S. Strause, Jr., and William H. Alsdorf, Reading, Pa. 138,490, ren. 3–21–61. Cl. 18.
Monarch Mfg. Co., Milwaukee, Wis. 601,714, canc. Cl. 39.
Monsanto Chemical Co., St. Louis, Mo. 636,706. Am. 7(d). Cl. 15.
Mud Control Laboratories, Inc., Oklahoma City, Okla. 702,704, pub. 1–3–61. Cl. 6.
Mueller Brass Co., Port Huron, Mich. 712,708, pub. 1–3–61. Cl. 6.
Mueller Brass Co., Port Huron, Mich. 712,737, pub. 1–3–61. Cl. 12.
Murietta Farms Co., Firebaugh, Calif. 601,739–40, canc. Cl. 46.

Murphy, Brill and Sahner, Inc., New York, N.Y. 712,904, pub. 1–3–61. Cl. 39.
Naamloose Vennootschap Houtindustrie "Ficus" Voorheen J. Bruning & Zoon, Eindhoven, Netherlands. 371,096. Am. 7(d). Cl. 12.
Naamloose Vennootschap Cacaofabriek "de Zaan," Zaandijk, Koog aan de Zaan, Netherlands. 712,941, pub. 1–3–61. Cl. 46.
National Bureau for Lathing and Plastering, Inc., Washington, D.C. 712,978, pub. 1–3–61. Cl. 100.
National Distillers Products Corp., New York, N.Y. 601,753, canc. Cl. 49.
National Exchange Club, The, Toledo, Ohio. 712,686, pub. 1–3–61. Cl. 3.
National Exchange Club, The, Toledo, Ohio. 712,749, pub. 1–3–61. Cl. 14.
National Exchange Club, The, Toledo, Ohio. 712,801, pub. 1–3–61. Cl. 22.
National Exchange Club, The, Toledo, Ohio. 712,868, pub. 1–3–61. Cl. 37.
National Exchange Club Ohio Corp., The, Toledo, Ohio. 712,878, pub. 1–3–61. Cl. 38.
National Exchange Club, The, Toledo, Ohio. 712,888, pub. 1–3–61. Cl. 39.
National Exchange Club, The, Toledo, Ohio. 712,927, pub. 1–3–61. Cl. 42.
National Exchange Club, The, Toledo, Ohio. 712,958, pub. 1–3–61. Cl. 50.
National Starch and Chemical Corp., Goffstown, N.H. 712,720, pub. 1–3–61. Cl. 12.
National Steel Corp., Pittsburgh, Pa. 712,750, pub. 1–3–61. Cl. 14.
Neptune Meter Co., New York, N.Y. 712,827, pub. 1–3–61. Cl. 26.
Newell, Charles, New York, N.Y. 712,662, pub. 1–3–61. Cl. 1.
New Process Wire Co., Inc., Bridgeport, Conn. 601,654, canc. Cl. 32.
New York Drug Concern: *See*—
Imperial Drug Exchange Inc.
Niptal, Inc., Mill Valley, Calif. 712,899, pub. 1–3–61. Cl. 39.
Norcross, Inc., New York, N.Y. 712,880, pub. 1–3–61. Cl. 38.
Norcross, Inc., New York, N.Y. 712,883, pub. 1–3–61. Cl. 38.
Norman, John, Inc., New York, N.Y. 601,480, canc. Cl. 2.
Northern Electric Co., Chicago, Ill. 712,797, pub. 1–3–61. Cl. 21.
Northwestern Expanded Metal Co., Chicago, Ill. 104,643, canc. Cl. 12.
Omega Chemical Co., The, to Colgate-Palmolive Co., New York, N.Y. 139,019, ren. 3–21–61. Cl. 51.
Orchard Paper Co., St. Louis, Mo. 712,870, pub. 1–3–61. Cl. 37.
Oregon Worsted Co.: *See*—
Foundation Worsted Mills.
Oronite Chemical Co. California Chemical Co., San Francisco, Calif. 558,200. Am. 7(d). Cl. 6.
Osaka Kombu Kaiso Kabushiki Kaisha, Nishi-ku, Osaka City, Japan. 712,946, pub. 1–3–61. Cl. 46.
Osrow Products Co., Inc., Glen Cove, N.Y. 712,842, pub. 1–3–61. Cl. 29.
Oxford Neckwear Co., Inc., New York, N.Y. 601,721, canc. Cl. 39.
Pachter Garment Co., Inc., Kansas City, Mo. 712,914, pub. 1–3–61. Cl. 39.
Pacific Car and Foundry Co., Renton, Wash. 712,778, pub. 1–3–61. Cl. 19.
Palmer, Gordon, d.b.a. Palmer Nurseries, Osprey, Fla. 712,660, pub. 1–3–61. Cl. 1.
Palmer Nurseries: *See*—
Palmer, Gordon.
Papa-Guy-Yo, Inc., Baltimore, Md. 712,802, pub. 1–3–61. Cl. 22.
Parfumerie Houbigant, Paris, France, to Houbigant, Inc., New York, N.Y. 141,390, ren. 3–21–61. Cl. 51.
Parke, Davis & Co., Detroit, Mich. 712,767, pub. 1–3–61. Cl. 18.
Parkway Records, Inc., Philadelphia, Pa. 712,863, pub. 1–3–61. Cl. 36.
Parti-King, Inc., West Warwick, R.I. 712,960, pub. 1–3–61. Cl. 50.
Paterson Parchment Paper Co., The, Bristol, Pa. 712,874, pub. 1–3–61. Cl. 37.
Patrick-Young, F. E., Co., to E. M. Todd Co., Richmond, Va. 134,063, ren. 3–21–61. Cl. 46.
Pax Co.: *See*—
Utah Cooperative Association.
Paxton Wholesale Grocery Co., The, Danville, Ill. 712,973, pub. 1–3–61. Cl. 52.
Pearring, Jerry M., d.b.a. Side A Lite, Alhambra, Calif. 712,793, pub. 1–3–61. Cl. 21.
Peer Inc., Benton Harbor, Mich. 712,798, pub. 1–3–61. Cl. 21.
Pendleton Woolen Mills, Portland, Oreg. 712,919, pub. 1–3–61. Cl. 39.
Pennsylvania Salt Mfg. Co., The, Philadelphia, Pa. 601,701, canc. Cl. 38.
Penola Oil Co.: *See*—
Humble Oil & Refining Co.
Perma Lox Aluminum Shingle Corp., Portland, Oreg. 601,496, canc. Cl. 12.
Perma-Stamp Products Corp. S. C. Johnson & Son, Inc., Racine, Wis. 597,299. Am. 7(d). Cl. 23.
Picasso-Anstalt, Vaduz, Liechtenstein. 712,967, pub. 1–3–61. Cl. 51.
Pionart Plastics Corp., Hialeah, Fla. 712,722, pub. 1–3–61. Cl. 12.
Pioneer Suspender Co., Darby, Pa. 601,486, canc. Cl. 3.
Plastic Textiles Accessories Ltd., Blackburn, England. 712,-966, pub. 1–3–61. Cl. 37.
Plymouth Rubber Co., Inc., Canton, Mass. 712,933, pub. 1–3–61. Cl. 42.
Polaroid Corp., Cambridge, Mass. 388,721–2, ren. 3–21–61. Cl. 26.
Portable Electric Tools, Inc., Chicago, Ill. 601,577, canc. Cl. 21.
Portis Style Industries Co., Chicago, Ill. 712,905, pub. 1–3–61. Cl. 39.
Poster, H. K., Co., Inc.: *See*—
Laclede-Christy Clay Products Co.
Premoid Corp., West Springfield, Mass. 712,871, pub. 1–3–61. Cl. 37.
Prescott, Dale B., d.b.a. Prescott Sales Co., Ferndale, Mich. 712,964, pub. 1–3–61. Cl. 50.
Prescott Sales Co.: *See*—
Prescott, Dale B.
Prescott Textile Co., Inc., Worcester, Mass. 712,939, pub. 1–3–61. Cl. 43.
Price, Robert L., d.b.a. Fountain Service Co., New York, N.Y. 418,156, canc. Cl. 45.
Pro-Phy-Lac-Tic Brush Co., Northampton, to Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 384,669, ren. 3–21–61. Cl. 29.
Pyles Industries, Inc., Detroit, Mich. 712,814, pub. 1–3–61. Cl. 23.
Quaker Oats Co., The, Chicago, Ill. 601,482, canc. Cl. 2.
Radinsky, A. D., & Sons, Denver, Colo. 712,851, pub. 1–3–61. Cl. 32.
Rae, James F., d.b.a. Industrial Plastics & Chemicals, Oakland, Calif. 712,689, pub. 1–3–61. Cl. 5.
Randall, C. Ray, Mfg. Co., North Attleboro, Mass. 601,787, canc. Cl. 28.
Ra-Rich Mfg. Corp., Holtsville, N.Y. 712,742–3, pub. 1–3–61. Cl. 13.
Rayonier Inc., New York, N.Y. 712,672, pub. 1–3–61. Cl. 1.
Research Triangle Institute, Durham, N.C. 712,980, pub. 1–3–61. Cl. 100.
Rexall Drug and Chemical Co.: *See*—
United Drug Co.
Rexall Drug Co., Los Angeles, Calif. 712,762, pub. 9–17–57. Cl. 18.
Rice, Wendell G., Coulee Dam, Wash. 601,637, canc. Cl. 26.
Rich's, Inc., Atlanta, Ga. 712,901, pub. 1–3–61. Cl. 39.
Rico Products, Hollywood, Calif. 712,864, pub. 1–3–61. Cl. 36.
Roberts Co., The, City of Industry, Calif. 712,850, pub. 1–3–61. Cl. 34.
Robolite Co., Chicago, Ill. 712,764, pub. 1–3–61. Cl. 21.
Rochester Folding Box Co., The, Rochester, N.Y. 601,484, canc. Cl. 2.
Rosarita Mexican Foods, Inc., Mesa, Ariz. 712,949, pub. 1–3–61. Cl. 46.
Rowntree and Co. Ltd., York, England. 384,459, ren. 3–21–61. Cl. 46.
Rowntree and Co. Ltd., York, England. 384,465, ren. 3–21–61. Cl. 46.
Ruberoid Co., The, New York, N.Y. 712,728, pub. 1–3–61. Cl. 12.
Rubinstein, Helena, Inc., New York, N.Y. 318,649, canc. Cl. 44.
Rueley, Theodore, d.b.a. Specialty Supply Co., San Leandro, Calif. 712,717, pub. 1–3–61. Cl. 12.
Russben Medicine Co.: *See*—
Bondorchuk, John.
Ryder, Harold F., Wheaton, Ill. 712,779, pub. 1–3–61. Cl. 19.
S. T. Produce: *See*—
Kent Vegetable Growers' Association, The.
S & W Mfg. Co., Burlington, Mass. 601,620, canc. Cl. 23.
Safety Advertising Co.: *See*—
Futch, J. L.
St. Regis Paper Co., New York, N.Y. 712,809, pub. 1–3–61. Cl. 37.
San Fernando Canning Co., San Francisco, Calif. 125,173, canc. Cl. 46.
Savogran Co., The, Norwood, Mass. 712,977, pub. 1–3–61. Cl. 52.
Sawyer's Inc., Portland, Oreg. 712,825, pub. 1–3–61. Cl. 26.
Schering Aktiengesellschaft, Berlin, Germany. 712,695, pub. 1–3–61. Cl. 6.
Schwab Advertising System: *See*—
Schwab, Frank M.
Schwab, Frank M., d.b.a. Schwab Advertising System, Iowa City, Iowa. 712,962, pub. 1–3–61. Cl. 50.
Science Digest, Inc., Chicago, Ill. 601,694, canc. Cl. 38.
Scripto, Inc., Atlanta, Ga. 712,694, pub. 1–3–61. Cl. 6.
Seahorse Press, Inc., The, Pelham, N.Y. 601,696, canc. Cl. 38.
Sealy, Inc., Chicago, Ill. 712,845, pub. 1–3–61. Cl. 32.
Sero of New Haven, Inc., New Haven, Conn. 712,915, pub. 1–3–61. Cl. 39.
Servicised Products Corp., Chicago, Ill. 658,958. Am. 7(d). Cl. 12.
Shamokin Filler Co., Inc., Shamokin, Pa. 712,673, pub. 1–3–61. Cl. 1.
Shields Inc. of Attleboro, Attleboro, Mass. 712,983. Cl. 28.
Side A Lite: *See*—
Pearring, Jerry M.
Sightmaster Corp., New Rochelle, N.Y. 601,598, canc. Cl. 21.
Singing Needles, Inc., Leola, Pa. 712,896, pub. 1–3–61. Cl. 39.
Slumberest Co., Georgetown, Ky. 712,931, pub. 1–3–61. Cl. 42.
Smith, Alexander, Inc.: *See*—
Smith, Alexander, & Sons Carpet Co.
Smith, Alexander, & Sons Carpet Co., now by change of name Alexander Smith, Inc., Yonkers, N.Y. 601,773, canc. Cl. 106.

Sobel, Henry, d.b.a. King Morpheus Products, New York, N.Y. 601,734, canc. Cl. 42.
Societe Anonyme des Anciens Etablissements C. & E. Chapal Freres & Cie.: *See*—
C. & E. Chapal Freres & Cie., Inc.
Somerset, Thomas, and Co. Ltd., Belfast, Northern Ireland. 712,930, pub. 1–3–61. Cl. 42.
Some's Uniforms, Inc., Paramus, N.J. 712,892, pub. 1–3–61. Cl. 39.
Sondon Systems Corp., Rutherford, N.J. 712,767, pub. 1–3–61. Cl. 37.
Sonneman, Eric O., d.b.a. Merix Chemical Co., Chicago, Ill. 712,697, pub. 1–3–61. Cl. 6.
Southard Co., The, Columbus, Ohio. 712,879, pub. 1–3–61. Cl. 38.
Southern Brighton Mills, Shannon, Ga., to Burlington Industries, Inc., Greensboro, N.C. 387,040, ren. 3–21–61. Cl. 42.
Southern Brighton Mills, Shannon, Ga., Burlington Industries, Inc., Greensboro, N.C. 388,266, ren. 3–21–61. Cl. 42.
Southern Latex Corp., Austell, Ga. 712,669, pub. 1–3–61. Cl. 1.
Specialty Supply Co.: *See*—
Rusley, Theodore.
Speedry Chemical Products, Inc., by merger from Speedry Products, Inc., Richmond Hill, N.Y. 712,865, pub. 4–26–60. Cl. 37.
Speedry Products, Inc.: *See*—
Speedry Chemical Products, Inc.
Speedy-Shopper Sales Corp., Greensboro, N.C. 712,893, pub. 1–3–61. Cl. 39.
Spiegel, Inc., Chicago, Ill. 601,639, canc. Cl. 26.
Spinnerin Yarn Co., Inc., South Hackensack, N.J. 712,936, pub. 1–3–61. Cl. 43.
Spraying Systems Co., Bellwood, Ill. 712,744, pub. 1–3–61. Cl. 13.
Spred-All, Inc., Bellevue, Ohio. 601,783, canc. Cl. 23.
Standard Milling Co., New York, N.Y., to Standard Milling Co., Kansas City, Mo. 385,304, ren. 3–21–61. Cl. 46.
Standard Milling Co., New York, N.Y., to Standard Milling Co., Kansas City, Mo. 385,553, ren. 3–21–61. Cl. 46.
Sta-Pine Products, Inc., Shreveport, La. 712,701, pub. 1–3–61. Cl. 6.
Starrett, John S.: *See*—
United Technical Laboratories.
Steelmasters, Inc., New York, N.Y. 712,843, pub. 1–3–61. Cl. 30.
Stern's Nurseries, Inc., Geneva, N.Y. 712,668, pub. 1–3–61. Cl. 1.
Stetson, John B., Co., Philadelphia, Pa. 384,341, ren. 3–21–61. Cl. 39.
Stevens, Helen, New York, N.Y. 712,848, pub. 1–3–61. Cl. 32.
Straubel Paper Co., Green Bay, Wis. 386,794, ren. 3–21–61. Cl. 37.
Strause, Elmer S., Jr.: *See*—
Mohler, Edwin R.
Strisik, Samuel R.: *See*—
Cannon Valley Milling Co.
Structural Clay Products Research Foundation, Chicago, Ill. 601,495, canc. Cl. 12.
Stuglow, Inc., Hamden, Conn. 712,906, pub. 1–3–61. Cl. 39.
Style Trends, Inc., New York, N.Y. 712,910–11, pub. 1–3–61. Cl. 39.
Sullivan, Carol B., d.b.a. Lynn Carol Creations, New York, N.Y. 712,887, pub. 1–3–61. Cl. 39.
Sunbeam Corp., Chicago, Ill. 712,795, pub. 1–3–61. Cl. 21.
Surfastal Ltd., Birmingham, England. 712,739, pub. 1–3–61. Cl. 12.
Swiss Harmony, Inc., Chicago, Ill. 712,785, pub. 1–3–61. Cl. 21.
Swissrose, Inc., New York, N.Y. 712,943, pub. 5–10–60. Cl. 46.
Syntron Co., Homer City, Pa. 712,787, pub. 1–3–61. Cl. 21.
Tacoma Grain Co., Tacoma, Wash., to Centennial Mills, Inc., Portland, Oreg. 138,719, ren. 3–21–61. Cl. 46.
Taylor Electric, Inc., Detroit, Mich. 601,770, canc. Cl. 103.
Taylor, Veronica D., Miami, Fla. 601,650, canc. Cl. 32.
Tectum Corp., Columbus, Ohio. 712,730, pub. 1–3–61. Cl. 12.
Tempesta Import Corp., Long Island City, N.Y. 601,746, canc. Cl. 47.
Ten Point Trim Corp., Indianapolis, Ind. 712,786, pub. 1–3–61. Cl. 12.
Terafilm Corp., Stamford, Conn. 712,676, pub. 1–3–61. Cl. 1.
Texas Instruments Inc., Dallas, Tex. 712,751, pub. 1–3–61. Cl. 14.
Texize Chemicals, Inc., from Texize Chemicals, Inc., Greenville, S.C. 712,972, pub. 9–9–58. Cl. 52.
Thermwell Products Co. Inc., New York, N.Y. 601,730, canc. Cl. 42.
Thlinket Packing Corp., Portland, Oreg., to P. E. Harris Co., Inc., Seattle, Wash. 141,058, ren. 3–21–61. Cl. 46.
Thlinket Packing Corp., Portland, Oreg., to P. E. Harris Co., Inc., Seattle, Wash. 141,695, ren. 3–21–61. Cl. 46.
Thompson Tool and Mfg. Co., Franklin Park, Ill. 712,794, pub. 1–3–61. Cl. 21.
Thomson Machine Co., Belleville, N.J. 221,164, canc. Cl. 23.
Tiffany & Co., New York, N.Y. 139,220, ren. 3–21–61. Cl. 32.
Todd, E. M., Co.: *See*—
Patrick-Young, F. E., Co.
Torrington Co., The, Torrington, Conn. 712,817, pub. 1–3–61. Cl. 23.
Transpatent G.m.b.H., Dusseldorf, Germany. 712,884, pub. 1–3–61. Cl. 38.
Trellis Hosiery Co.: *See*—
Lillian Knitting Mills Co.
Tropical Paint Co., Cleveland, Ohio. 712,700, pub. 1–3–61. Cl. 6.
Trip-L-Seal, Inc., Washington, D.C. 712,723, pub. 1–3–61. Cl. 12.
Tri-Seal Storm Windows, Inc., Philadelphia, Pa. 601,501, canc. Cl. 12.
Truval Manufacturers, Inc., New York, N.Y. 601,712, canc. Cl. 39.
Ullian & Karofsky, Inc., Boston, Mass. 712,900, pub. 1–3–61. Cl. 39.
Ungar Electric Tools, Inc.: *See*—
Eldon Industries, Inc.
Unfon Asbestos & Rubber Co., Chicago, Ill. 712,963, pub. 1–3–61. Cl. 50.
United Drug Co., Boston, Mass., to Rexall Drug and Chemical Co., Los Angeles, Calif. 139,417, ren. 3–21–61. Cl. 18.
United States Rubber Co., New York, N.Y. 712,688, pub. 1–3–61. Cl. 5.
United Technical Laboratories, to John S. Starrett, Morristown, N.J. 601,537, canc. Cl. 16.
Utah Cooperative Association, d.b.a. Pax Co., Salt Lake City, Utah. 712,702–3, pub. 1–3–61. Cl. 6.
Utah Cooperative Association, Salt Lake City, Utah. 712,712, pub. 1–3–61. Cl. 10.
Valentine, C. C., Co., Inc., New York, N.Y. 712,907, pub. 1–3–61. Cl. 39.
Vermont Talc Co., Chester, Vt. 712,671, pub. 1–3–61. Cl. 1.
Vise Wall Glaze Division: *See*—
Cast-O-Brick Corp.
Vitamin Council Inc., St. Paul, Minn. 712,766, pub. 1–3–61. Cl. 18.
Vitamin Sales Co.: *See*—
General Nutrition Corp.
Vit-A-Way, Inc., Fort Worth, Tex. 712,760, pub. 1–3–61. Cl. 18.
Von Gunten, Lee L., New York, N.Y. 712,860, pub. 1–3–61. Cl. 36.
Vulcan Industries: *See*—
Ebsco Industries, Inc.
Waldron, John, Corp., Highland Park, N.J. 601,687, canc. Cl. 37.
Walgreen Co., to Walgreen Laboratories, Inc., Chicago, Ill. 384,140, ren. 3–21–61. Cl. 51.
Walgreen Laboratories, Inc.: *See*—
Walgreen Co.
Wallace & Tiernan Co., Inc., Belleville, N.J. 424,476, canc. Cl. 31.
Warner Brothers Co., The, Bridgeport, Conn. 712,902, pub. 1–3–61. Cl. 39.
Warren-Teed Products Co., The, Columbus, Ohio. 712,773, pub. 1–3–61. Cl. 18.
Wasco Products, Inc., Cambridge, Mass. 712,727, pub. 1–3–61. Cl. 12.
Weber Lithographing Co., Chicago, Ill. 712,877, pub. 1–3–61. Cl. 37.
Weenink, Mary E. Lynne, d.b.a. Mary Lynne, Cleveland, Ohio. 712,970–1, pub. 1–3–61. Cl. 51.
Wenzel, H., Tent & Duck Co., St. Louis, Mo. 712,965, pub. 1–3–61. Cl. 50.
Westersund, Frank V., Walla Walla, Wash. 601,679, canc. Cl. 37.
Whittal, M. J., Associates, Inc., Worcester, Mass. 601,732, canc. Cl. 42.
Wine & Schulz Distributing Co., Louisville, Ky. 712,944, pub. 1–3–61. Cl. 46.
Winship-Bolt Co., Wakefield, Mass. 601,703–5, canc. Cl. 39.
Wintriss, Inc., New York, N.Y. 712,796, pub. 1–3–61. Cl. 21.
Wohl, L., & Co., Inc., New York, N.Y. 601,702, canc. Cl. 39.
World Wide Products, Inc., Littleton, Colo. 712,764, pub. 5–10–60. Cl. 18.
Woronock, David, and William Ansen, to Louis Aisenstein & Bros., Inc., New York, N.Y. 384,349, ren. 3–21–61. Cl. 29.
Wyler Watch Factory, Ltd., Bienne, Switzerland. 712,837, pub. 1–3–61. Cl. 27.
Young & Peti, Inc., New York, N.Y. 601,472, canc. Cl. 2.
Zeca Corp., New York, N.Y. 601,686, canc. Cl. 37.

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March 28, 1961 Volume 764 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1961

Examiner affirmed	150
Examiner affirmed in part	23
Examiner reversed	49
Total	222

Registers of Attorneys and Agents

Names of Registered Attorneys and Agents Retained on the Active Register

In the March 10, 1959, issue of the OFFICIAL GAZETTE, volume 740, number 2, page 282, there was published a list of names and addresses of persons whose names had been or were being removed from the registers of patent attorneys and patent agents pursuant to the provisions of Rule 347 of the Rules of Practice of the United States Patent Office in Patent Cases.

The following persons, whose names appeared in that list, have been restored to or retained on the Active Register of Attorneys and Register of Agents in view of information which they have furnished to the Committee on Enrollment.

ARTHUR W. CROCKER,
Feb. 28, 1961. *Chairman, Committee on Enrollment.*

List of Names Restored to Active Registers

Abberly, Nicholas Rippen, % Young, 4203 Junius St., Dallas 10, Tex.
Bestic, Gordon Frank, 575 Post St., San Francisco 9, Calif.
Bowen, Heridon H., 135 S. La Salle St., Chicago 3, Ill.
Buchwalter, Nicholson Edw., 1109 Barnett National Bank Bldg., Jacksonville 2, Fla.
Erkkila, A. Victor, 1051 S. Park Ave., Buffalo 6, N.Y.
Farley, David L., Jr., 15 Broad St., New York 5, N.Y.
Hogencamp, Harold C., 3927 Austin Drive, Columbus, Ga.
Kirkwood, Robert H., 2308 Jameson St., Hillcrest Heights, Md.
Knauf, Albert E., 933 Atlantic St., Waukegan, Ill.
Langford, G. Frank, 312 S. Crawford, Detroit 17, Mich.
Lundquist, George A., 8012 Piney Branch Road, Silver Spring, Md.
Nordhaus, Raymond Charles, 200 S. Michigan Ave., Chicago 4, Ill.
Orlinger, Samuel L., 15 Butler Place, Brooklyn 38, N.Y.
Parsons, Richard A., 609 Prudden Bldg., Lansing, Mich.
Paulson, Paul M., 3066 du Pont Bldg., Wilmington 98, Del.
Peck, David B., % Sprague Electric Co., North Adams, Mass.
Peterson, Wesley R., 900 Bush Ave., St. Paul 6, Minn.
Ray, Hugo, 2754 W. 4th Ave., Vancouver 8, British Columbia, Canada.
Schaffer, Murray, American Machine & Foundry Co., 260 Madison Ave., New York 16, N.Y.
Shildneck, Paul R., % A. E. Staley Mfg. Co., Decatur, Ill.
Szekely, George E., Rockwell St., Fort Atkinson, Wis.
Upham, Preston, 1903 Lincoln Drive, Sarasota, Fla.
Wayne, Milton J., 10 Columbus Circle, New York 19, N.Y.
Zarwell, Elwin J., 756 N. Milwaukee St., Milwaukee 2, Wis.

First Assistant Commissioner of Patents

DELEGATION OF AUTHORITY TO SERVE AS ACTING COMMISSIONER OF PATENTS

Acting under the provisions of section 3 of Title 35 United States Code and of section 2 of Reorganization Plan No. 5 of 1950, I hereby authorize Mr. Arthur W. Crocker, First Assistant Commissioner of Patents, to be and serve as Acting Commissioner of Patents, beginning with the opening of business of the United States Patent Office on March 2, 1961. This authorization shall remain in force until a new Commissioner of Patents to fill the vacancy that will exist in that office as of March 2, 1961, is appointed and takes office.

(R.S. 161; 5 U.S.C. 22; 35 U.S.C. 3; Reorganization Plan No. 5 of 1950, 15 F.R. 3174).

LUTHER H. HODGES,
Mar. 1, 1961. *Secretary of Commerce.*

[F.R. Doc. 61-2091; Filed, Mar. 7, 1961; 8:54 a.m.]

Published in 26 F.R. 2039, March 8, 1961

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Pat. 2,774,193, C. J. Thatcher et al., Tools for ultrasonic cutting, decided Nov. 15, 1960, Interference No. 89,160, claims 5, 6, 7, 9, 10, 11 and 15.

Pat. 2,835,836, H. Hsu, Gas discharge device, decided Feb. 24, 1961, Interference No. 90,737, claims 1, 2, 8 and 12.

Pat. 2,868,752, C. Frazier et al., Stable emulsion containing an acrylate, an acrylic acid and an acrylonitrile, decided Feb. 6, 1961, Interference No. 90,811, claims 1, 2, 3, 4, 5, 6 and 7.

Pat. 2,896,106, J. Burns et al., Storage tube, decided Feb. 9, 1961, Interference No. 90,794, claims 1, 2, 4, 5, 7 and 8.

Pat. 2,915,293, E. J. Justus et al., Drying drum and method, decided Feb. 27, 1961, Interference No. 91,403, claims 1, 2, 3 and 4.

New Applications Received During January 1961

Patents	6,370
Designs	369
Plant Patents	5
Reissues	29
Total	6,773

Issue

Patents	1,062—No.	2,976,536 to No.	2,977,597, incl.
Designs	56—No.	189,960 to No.	190,015, incl.
Plant Patents	1—No.	2,039	
Reissues	7—No.	24,953 to No.	24,959, incl.
Total	1,126		

Patents Available for Licensing or Sale

2,949,629. Device for Molding Meat Balls. Michele Falco, 296 Liberty St., Painesville, Ohio.

2,965,951. Boarding Element for the Boarding of Iron-Concrete Plate-Ceilings. Bedrich Novak et al., Czechoslovakia. Correspondence to: Richard Low, 1060 Broad St., Newark, N.J.

2,965,972. Marking Tool. James Robert Hunt, 47 Ashmont St., Warwick, R.I.

General Electric Company is prepared to grant non-exclusive licenses under the following 12 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 9 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville 1, Ky.

2,809,509. Cabinet Construction.

2,914,819. Refrigerator Door Construction.

2,920,469. Control System for Wash Water Storage and Re-Use System.

2,946,212. Control System for Wash Water Storage and Re-Use System.

2,955,448. Clothes Washer With an Improved Water Level Control System.

2,955,608. Valve.

2,959,042. Control System for Wash Water Storage and Re-Use System.

2,961,776. Clothes Dryer With Reversible Blower.

2,963,159. Laundry Machine.

Applications for license under the following 3 patents may be addressed to: Patent Counsel, Heavy Military Electronics Department, General Electric Company, Legal Section, Bldg. 1, Room 36, Court St. Plant, Syracuse, N.Y.

2,945,158. Signal Processing Arrangement.

2,945,208. Compressional Wave Transducer.

2,949,585. Delay Line for Angular Modulation.

Foreign Patents Received in the Scientific Library as of February 28, 1961

Country	Date received	Highest number
Australia:		
(*Abstracts*)	Feb. 14, 1961	52,489
(*Patents*)	Feb. 17, 1961	229,638
Austria	Feb. 2, 1961	212,700
Belgium	Jan. 3, 1961	569,000
Canada	Feb. 9, 1961	614,306
Denmark	Feb. 1, 1961	89,675
East Germany	Feb. 24, 1961	20,740
Egypt	Feb. 10, 1961	2,063
Finland	Jan. 3, 1961	30,890
France:		
(*Patents*)	Feb. 14, 1961	1,243,800
(*Additions*)	Feb. 14, 1961	73,750
Germany:		
(*Auslegeschriften*)	Feb. 15, 1961	1,095,760
(*Patents*)	Feb. 15, 1961	1,084,206
	Feb. 17, 1961	860,420
Great Britain	Nov. 1, 1960	66,101
India	Feb. 13, 1961	22,550
Ireland	Dec. 2, 1960	573,900
Italy	Feb. 7, 1961	50/61
Japan	Feb. 14, 1961	96,807
Netherlands	Feb. 6, 1961	97,273
Norway	Apr. 17, 1959	107,298
Pakistan	Jan. 23, 1961	44,004
Poland	Oct. 10, 1960	41,277
Rumania	Jan. 10, 1961	173,347
Sweden	Feb. 17, 1961	350,941
Switzerland	Feb. 13, 1961	133,422
U.S.S.R.		

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Latest 81,300/1952
East Germany: First received 18,927/1961
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: Missing 1–10,000
Italy: First 243,000 incomplete
Philippine Republic: Latest 217/1956
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1953
Latest 16,461/1941

CONDITION OF PATENT APPLICATIONS AS OF JANUARY 31, 1961

Total number of pending applications (excluding Designs)	190,233
Total number of pending Design applications	5,565
Total number of applications awaiting action (excluding Designs)	86,571
Total number of Design applications awaiting action	1,561
Date of oldest new application	September 2, 1959
Date of oldest amended application	September 1, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 43, 46, 50, 55, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 13, 18, 14, 31, 36, 57, 58, 61, 81, 83.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 58, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29, 33, 36, 45, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 23, 28, 48, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 49, 56, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	7-18-60	7-7-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	7-19-60	6-29-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	5-20-60	5-13-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	4-29-60	4-28-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	1-4-60	1-4-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	3-31-60	4-13-60
7. (IV) ANDERSON, E. O., Optics	3-28-60	4-11-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	7-7-60	7-8-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	6-8-60	5-10-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	5-14-60	5-7-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	5-2-60	4-11-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	5-2-60	5-3-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	3-14-60	4-11-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	4-4-60	2-3-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	5-4-60	5-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	12-18-59
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	5-5-60	5-4-60
18. (VI) BLUM, A., Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	5-2-60	5-1-60
19. (VII) PATRICK, F. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-10-60	5-9-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	5-5-60	5-5-60
21. (III) MADER, R. C., Textiles	5-25-60	5-24-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	6-6-60	4-25-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	9-2-59	9-1-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	6-2-60	6-1-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	4-4-60	4-4-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	4-7-60	3-9-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	6-13-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-11-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	5-2-60	5-5-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	7-20-60	7-15-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	6-6-60	6-6-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	6-6-60	5-25-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-4-60	3-7-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	4-5-60	4-18-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Shearing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	6-3-60	5-17-60
36. (V) EVANS, R. L., Measuring and Testing (part)	4-18-60	3-25-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	3-21-60	3-17-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	3-21-60	3-17-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	5-20-60	5-18-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	7-1-60	7-18-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	3-1-60	1-15-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	4-28-60	3-3-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	5-2-60	5-2-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-16-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-15-60	6-6-60
46. (I) WILES, W. O. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part).	3-25-60	3-8-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	7-6-60	7-15-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	3-24-60	3-21-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-3-60	4-11-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	3-4-60	3-14-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-1-60	4-4-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	7-11-60	7-1-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	7-19-60	7-11-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers.	4-13-60	5-1-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	5-5-60	5-5-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-16-60	5-3-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	4-4-60	4-5-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	6-3-60	6-3-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	2-5-60	12-23-59
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	5-1-60	5-19-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	5-23-60	5-27-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	5-1-60	5-1-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	3-29-60	3-10-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	4-1-60	3-4-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	5-18-60	5-24-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	1-5-60	1-4-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	5-31-60	5-3-60
81. (III) MONCURE, J. A., Industrial Arts	11-7-60	11-15-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	11-15-60	11-21-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	6-27-60	6-30-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	8-30-60	9-26-60
93. WAHL, R. A., Wire Working	9-7-60	9-22-60
94. BERLOWITZ, W., Gas Separation	7-5-60	7-20-60
98. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	5-1-60	5-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes—Butadiene	5-11-60	5-25-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during March 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents	Numbers 2,943,227 to 2,945,549, inclusive
Plant Patents	Numbers 169 to 621, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

Supreme Court of the United States

ARO MANUFACTURING CO., INC., ET AL. *v.* CONVERTIBLE TOP REPLACEMENT CO., INC.

No. 21. Decided February 27, 1961

[— U.S. —; 128 USPQ 354]

1. PATENT—PROTECTION—CLAIMS.

In connection with the Mackie-Duluk patent, No. 2,569,724, covering the combination, in an automobile body, of a flexible top fabric, supporting structures, and a mechanism for sealing the fabric against the side of the automobile body in order to keep out the rain, *Held* that "Since the patentees never claimed the fabric or its shape as their invention, and the claims made in the patent are the sole measure of the grant, the fabric is no more than an unpatented element of the combination which was claimed as the invention, and the patent did not confer a monopoly over the fabric or its shape."

2. INFRINGEMENT—DIRECT—CONTRIBUTORY.

". . . petitioners' manufacture and sale of the fabric is not a *direct* infringement under 35 U.S.C. § 271(a). . . . But the question remains whether petitioners' manufacture and sale of the fabric constitutes a *contributory* infringement of the patent under 35 U.S.C. § 271(c). It is admitted that petitioners know that the purchasers intend to use the fabric for replacement purposes on automobile convertible tops which are covered by the claims of respondent's combination patent, and such manufacture and sale with that knowledge might well constitute contributory infringement under § 271(c), if, but only if, such a replacement by the purchaser himself would in itself constitute a *direct* infringement under § 271(a), for it is settled that if there is no *direct* infringement of a patent there can be no *contributory* infringement."

3. SAME—SAME—SAME—35 U.S.C. § 271(c).

"It is plain that § 271(c)—a part of the Patent Code enacted in 1952—made no change in the fundamental precept that there can be no contributory infringement in the absence of a direct infringement. That section defines contributory infringement in terms of direct infringement—namely, the sale of a component of a patented combination or machine for use 'in the infringement of such patent.'"

4. SAME—SAME—35 U.S.C. § 271(a)—CASE LAW.

Held that 35 U.S.C. § 271(a), defining "infringement," "left intact the entire body of case law on direct infringement."

5. SAME—SAME—"RECONSTRUCTION" OR "REPAIR."

The determinative question coming down to whether the car owner would infringe the combination patent by replacing the worn-out fabric element of the patented convertible top on his car, or more specifically, whether such a replacement by the car owner is infringing "reconstruction" or permissible "repair," *Held* that the decisions of the Supreme Court "specifically dealing with whether the replacement of an unpatented part, in a patented combination, that has worn out, been broken or otherwise spent, is permissible 'repair' or infringing 'reconstruction,' have steadfastly refused to extend the patent monopoly beyond the terms of the grant."

6. SAME—SAME—SAME.

In disagreement with the rule contended for by respondent: That when an element of a patented machine or combination is relatively durable—even though not so durable as the entire patented device which the owner purchased—relatively expensive, relatively difficult to replace, and is an "essential" or "distinguishing" part of the patented combination, any replacement of that element, when it wears out or is otherwise spent, constitutes infringing "reconstruction," and, therefore, a new license must be obtained from, and another royalty paid to, the patentee for that privilege, *Held* that ". . . if anything is settled in the patent law, it is that the combination patent covers only the totality of the elements in the claim and that no element, separately viewed, is within the grant"; that the "basic fallacy in respondent's position is that it requires the ascribing to one element of the patented combination the status of patented invention in itself"; and that there is no legally recognizable or protected "essential" element, "gist" or "heart" of the invention in a combination patent.

7. SAME—SAME—SAME.

"No element, not itself separately patented, that constitutes one of the elements of a combination patent is entitled to patent monopoly however essential it may be to the patented combination, and no matter how costly or difficult replacement may be. . . . We hold that maintenance of the 'use of the whole' of the patented combination through replacement of a spent, unpatented element does not constitute reconstruction."

8. SAME—SAME—SAME.

"The decisions of this Court require the conclusion that reconstruction of a patented entity, comprised of unpatented elements, is limited to such a true reconstruction of the entity as to 'in fact make a new article' . . . after the entity, viewed as a whole, has become spent. . . . In order to call the monopoly, conferred by the patent grant, into play for a second time, it must, indeed, be a second creation of the patented entity, as, for example, in *American Cotton Tie Co. v. Simmons* [106 U.S. 89]. Mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property. Measured by this test, the replacement of the fabric involved in this case must be characterized as permissible 'repair,' not 'reconstruction.'"

ON WRIT of certiorari to Court of Appeals for the First Circuit.

REVERSED.

David Wolf (*Charles Hieken* and *George L. Greenfield*, of counsel) for petitioners.

J. Lee Rankin (*Robert A. Bicks*, *Charles H. Weston*, and *Richard H. Stern*, of counsel) for United States, amicus curiae.

Elliott I. Pollack (*Paul V. Power*, of counsel) for respondent.

MR. JUSTICE WHITTAKER delivered the opinion of the Court.

On April 17, 1956, respondent, Convertible Top Replacement Co., Inc., acquired a "Territorial Grant" (coextensive with "the Commonwealth of Massachusetts") of all rights in Letters Patent No. 2,569,724, commonly known as the Mackie-Duluk patent, and 10 days later commenced this action against petitioners, Aro Manufacturing Co., Inc., and several of its officers, to enjoin the alleged infringement and contributory infringement of the patent and for an accounting of profits.

The patent—one for a "Convertible Folding Top With Automatic Seal at Rear Quarter"—covers the combination, in an automobile body, of a flexible top fabric, supporting structures, and a mechanism for sealing the fabric against the side of the automobile body in order to keep out the rain. Tops embodying the patent have been installed by several automobile manufacturers in various models of convertibles. The components of the patented combination, other than the fabric, normally are usable for the lifetime of the car, but the fabric has a much shorter life. It usually so suffers from wear and tear, or so deteriorates in appearance, as to become "spent," and normally is replaced, after about

three years of use. The consequent demand for replacement fabrics has given rise to a substantial industry, in which petitioner, Aro Manufacturing Co., is a national leader. It manufactures and sells replacement fabrics designed to fit the models of convertibles equipped with tops embodying the combination covered by the patent in suit.

After trial without a jury, the court held that the patent was valid, infringed and contributorily infringed by petitioners. It accordingly enjoined them from further manufacture, sale or use of these replacement fabrics, and appointed a master to hear evidence concerning, and to report to the court on, the matter of damages. The Court of Appeals affirmed, 270 F.2d 200, and we granted certiorari, 362 U.S. 902.

The Court of Appeals, after holding that the patent was valid, stated that the "basic question" presented was whether petitioners' conduct constituted "making a permissible replacement of a part [the fabric] which expectedly became worn out or defective sooner than other parts of the patented combination" or whether such replacement constituted "a forbidden reconstruction of the combination." It then held that replacement of the fabric constituted reconstruction of the combination and thus infringed or contributorily infringed the patent. It reached that conclusion principally upon the ground that "the life of the fabric is not so short, nor is the fabric so cheap, that we can safely assume that an owner would rationally believe that in replacing it he was making only a minor repair to his top structure." 270 F.2d, at 205.

Validity of the patent is not challenged in this Court. The principal, and we think the determinative, question presented here is whether the owner of a combination patent, comprised entirely of unpatented elements, has a patent monopoly on the manufacture, sale or use of the several unpatented components of the patented combination. More specifically, and limited to the particular case here, does the car owner infringe (and the supplier contributorily infringe) the combination patent when he replaces the spent fabric without the patentee's consent?

The fabric with which we deal here is an unpatented element of respondent's combination patent,[1] which covers only the combination of certain components, one of which is "a flexible top material."[2] The patent makes no claim to invention based on the fabric or on its shape, pattern or design. Whether the fabric or its shape might have been patentable is immaterial,[3] for the fact is that neither the fabric nor its shape has been patented. No claim that the fabric or its shape, pattern or design constituted the invention was made in the application or included in the patent.

[1] Since the patentees never claimed the fabric or its shape as their invention, and the claims made in the patent are the sole measure of the grant,[4] the fabric is no more than an unpatented element of the combination which was claimed as the invention, and the patent did not confer a monopoly over the fabric or its shape. In *Mercoid Corp.* v. *Mid-Continent Co.*, 320 U.S. 661, 667, this Court ruled the point as follows:

"The patent is for a combination only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly."

And in *Mercoid Corp.* v. *Minneapolis-Honeywell Co.*, 320 U.S. 680, 684, the Court said:

"The fact that an unpatented part of a combination patent may distinguish the invention does not draw to it the privileges of a patent. That may be done only in the manner provided by law. However worthy it may be, however essential to the patent, an unpatented part of a combination patent is no more entitled to monopolistic protection than any other unpatented device."

See also *McClain* v. *Ortmayer*, 141 U.S. 419, 423–424; *Pennock* v. *Dialogue*, 2 Pet. 1, 16.

[2][3][4][5] It follows that petitioners' manufacture and sale of the fabric is not a *direct* infringement under 35 U.S.C. § 271(a).[5] *Cimiotti Unhairing Co.* v. *American Fur Co.*, 198 U.S. 399, 410; *Eames* v. *Godfrey*, 1 Wall. 78, 79; *Prouty* v. *Draper*, 16 Pet. 336, 341; *U.S. Industries, Inc.*, v. *Otis Engineering Co.*, 254 F.2d 198, 203 (C.A. 5th Cir.). But the question remains whether petitioners' manufacture and sale of the fabric constitutes a *contributory* infringment of the patent under 35 U.S.C. § 271(c).[6] It is admitted that petitioners know that the purchasers intend to use the fabric for replacement purposes on automobile convertible tops which are covered by the claims of respondent's combination patent, and such manufacture and sale with that knowledge might well constitute contributory infringement under § 271(c), if, but only if, such a replacement by the purchaser himself would in itself constitute a *direct* infringement under § 271(a), for it is settled that if there is no *direct* infringement of a patent there can be no *contributory* infringement. In *Mercoid* v. *Mid-Continent*, supra, it was said: "In a word, if there is no infringement of a patent there can be no contributory infringer," 320 U.S. 26, 677, and that "if the purchaser and user could not be amerced as an infringer certainly one who sold to him . . . cannot be amerced for contributing to a non-existent infringement." *Id.*, at 674.[7] It is plain that § 271(c)—a part of the Patent Code enacted in 1952—made no change in the fundamental precept that there can be no contributory infringement in the absence of a direct infringement. That section defines contributory infringement in terms of direct infringement—namely the sale of a component of a patented combination or machine for use "in the infringement of such patent." And § 271(a) of the new Patent Code, which defines "infringement," left intact the entire

[1] There are 10 claims in the patent. Claims 1 through 9 of the patent each specifically begin: "In a convertible automobile body, the combination of . . ." Claim 10 does not contain the word "combination" but nevertheless equally claims only a combination.

[2] Among other elements in the claims are the automobile body structure or tonneau, a folding bow structure, a sealing strip, and a wiping arm.

[3] *Graver Mfg. Co.* v. *Linde Co.*, 336 U.S. 271, 277; *Universal Oil Co.* v. *Globe Oil & Refining Co.*, 322 U.S. 471, 484; *Milcor Steel Co.* v. *Fuller Co.*, 316 U.S. 143, 145–146.

[4] *Mercoid Corp.* v. *Mid-Continent Co.*, 320 U.S. 661, 667; *Mercoid Corp.* v. *Minneapolis-Honeywell Co.*, 320 U.S. 680, 684; *McClain* v. *Ortmayer*, 141 U.S. 419, 423–424; *Pennock* v. *Dialogue*, 2 Pet. 1, 16.

[5] Section 271(a) provides:

"Except as otherwise provided in this title, whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent."

[6] Section 271(c) is as follows:

"Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer." (Emphasis added.)

[7] Although these statements were made in the dissenting opinions of Mr. Justice Frankfurter and Mr. Justice Roberts, respectively, there is nothing in the majority opinion remotely suggesting any disagreement with the fundamental conclusion that there can be no contributory infringement in the absence of direct infringement.

body of case law on direct infringement.[8] The determinative question, therefore, comes down to whether the car owner would infringe the combination patent by replacing the worn-out fabric element of the patented convertible top on his car, or even more specifically, whether such a replacement by the car owner is infringing "reconstruction" or permissible "repair."

This Court's decisions specifically dealing with whether the replacement of an unpatented part, in a patented combination, that has worn out, been broken or otherwise spent, is permissible "repair" or infringing "reconstruction," have stendfastly refused to extend the patent monopoly beyond the terms of the grant. *Wilson* v. *Simpson*, 9 How. 109—doubtless the leading case in this Court that deals with the distinction—concerned a patented planing machine which included, as elements, certain cutting knives which normally wore out in a few months' use. The purchaser was held to have the right to replace those knives without the patentee's consent. The Court held that, although there is no right to "rebuild" a patented combination, the entity "exists" notwithstanding the fact that destruction or impairment of one of its elements renders it inoperable; and that, accordingly, replacement of that worn-out essential part is permissible restoration of the machine to the original use for which it was bought. 9 How., at 123. The Court explained that it is "the use of the whole" of the combination which a purchaser buys, and that repair or replacement of the worn-out, damaged or destroyed part is but an exercise of the right "to give duration to that which he owns, or has a right to use as a whole." *Ibid.*[9]

The distilled essence of the *Wilson* case was stated by Judge Learned Hand in *United States* v. *Aluminum Co. of America*, 148 F.2d 416, 425 (C.A. 2d Cir.): "The [patent] monopolist cannot prevent those to whom he sells from . . . reconditioning articles worn by use, unless, they in fact make a new article." Instead of applying this plain and practical test, the courts below focused attention on operative facts not properly determinative of the question of permissible repair *versus* forbidden reconstruction. The Court of Appeals found that the fabric "is not a minor or relatively inexpensive component" of the patented combination, or an element that would expectedly wear out after a very short period of use—although its "expectable life span" is shorter than that of the other components—and, for these reasons, concluded that "an owner would [not] rationally believe that . . . he was making only a minor repair" in replacing the worn-out fabric, but that, instead, the replacement "would be counted as a major reconstruction." We think that test was erroneous.

[6] Respondent has strenuously urged, as an additional relevant factor, the "essentialness" of the fabric element to the combination constituting the invention. It argues that the particular shape of the fabric was the advance in the art—the very "heart" of the invention—which brought the combination up to the inventive level, and it, therefore, argues that its patent should be held to grant it a monopoly on the fabric. The rule for which respondent contends is: That when an element of a patented machine or combination is relatively durable—even though not so durable as the entire patented device which the owner purchased—relatively expensive, relatively difficult to replace, and is an "essential" or "distinguishing" part of the patented combination, any replacement of that element, when it wears out or is otherwise spent, constitutes infringing "reconstruction," and, therefore, a new license must be obtained from, and another royalty paid to, the patentee for that privilege.

We cannot agree. For if anything is settled in the patent law, it is that the combination patent covers only the totality of the elements in the claim and that no element, separately viewed, is within the grant. See the *Mercoid* cases, supra, 320 U.S., at 667; 320 U.S., at 684.[10] The basic fallacy in respondent's position is that it requires the ascribing to one element of the patented combination the status of patented invention in itself. Yet this Court has made it clear in the two *Mercoid* cases that there is no legally recognizable or protected "essential" element, "gist" or "heart" of the invention in a combination patent. In *Mercoid Corp.* v. *Mid-Continent Co.*, supra, the Court said:

"That result may not be obviated in the present case by calling the combustion stoker switch the 'heart of the invention' or the 'advance in the art.' The patent is for a combination only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly." 320 U.S., at 667.

And in *Mercoid Corp.* v. *Minneapolis-Honeywell Co.*, supra; the Court said:

"The fact that an unpatented part of a combination patent may distinguish the invention does not draw to it the privileges of a patent. That may be done only in the manner provided by law. However worthy it may be, however essential to the patent, an unpatented part of a combination patent is no more entitled to monopolistic protection than any other unpatented device." 320 U.S., at 684.

[7] No element, not itself separately patented, that constitutes one of the elements of a combination patent is entitled to patent monopoly however essential it may be to the patented combination, and no matter how costly or difficult replacement may be. While there is language in some lower court opinions indicating that "repair" or "reconstruction" depends on a number of factors, it is significant that each of the three cases of this Court, cited for that proposition, holds that a license to use a patented combination includes the right "to preserve its fitness for use so far as it may be affected by wear or breakage." *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, 213 U.S. 325, 336;

[8] The reviser's note on § 271(a) specifically stated that it is "declaratory only." 35 U.S.C.A., following § 271.

"The prior statute had no section defining or dealing with what constitutes infringement of a patent," and § 271(a) was adopted "for completeness." Federico, Commentary on the New Patent Act, 35 U.S.C.A., preceding § 1, at p. 51.

[9] None of this Court's later decisions dealing with the distinctions between "repair" and "reconstruction" have added to the exposition made in *Wilson* v. *Simpson*, supra, and that opinion has long been recognized as the Court's authoritative expression on the subject. *Morgan Envelope Co.* v. *Albany Paper Co.*, 152 U.S. 425, and *Heyer* v. *Duplicator Mfg. Co.*, 263 U.S. 100, held that an owner or licensee of a patented machine or combination does not infringe the patent by replacing an unpatented element of the combination which has only a temporary period of usefulness, so that replacement is necessary for continued utilization of the machine or combination as a whole. Those cases came clearly within the *Wilson* case. *Cotton-Tie Co.* v. *Simmons*, 106 U.S. 89, the only other repair-reconstruction case decided by this Court since *Wilson*, found infringement by one who bought up, as scrap metal, patented metal straps, used in tying cotton bales, after the straps had been used and severed (in unbinding the bales), and who then welded or otherwise reconnected the straps at the severed point and resold them for further use in bailing cotton. The case is distinguishable on its facts, and the fact that the ties were marked "Licensed to use once only," was deemed of importance by the Court. Cf. *Henry* v. *A. B. Dick Co.*, 224 U.S. 1.

[10] Although the *Mercoid* cases involve the doctrine of patent misuse, which is not an issue in this case, they also specifically delimit the character of a combination patent monopoly and it is upon that matter that they are relevant here.

Heyer v. *Duplicator Mfg. Co.*, supra, at 108; and *Wilson* v. *Simpson*, supra, at 123. We hold that maintenance of the "use of the whole" of the patented combination through replacement of a spent, unpatented element does not constitute reconstruction.

[8] The decisions of this Court require the conclusion that reconstruction of a patented entity, comprised of unpatented elements, is limited to such a true reconstruction of the entity as to "in fact make a new article," *United States* v. *Aluminum Co. of America*, supra, at 425, after the entity, viewed as a whole, has become spent. In order to call the monopoly, conferred by the patent grant, into play for a second time, it must, indeed, be a second creation of the patented entity, as, for example, in *American Cotton Tie Co.* v. *Simmons*, supra. Mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property. Measured by this test, the replacement of the fabric involved in this case must be characterized as permissible "repair," not "reconstruction."

REVERSED.

MR. JUSTICE BLACK, concurring:

I fully concur in the judgment of reversal and with the opinion of the Court but want to express some additional views because of the concurring opinion of my Brother BRENNAN and the dissenting opinion of my Brother HARLAN. The latter two opinions, in my judgment, attempt to introduce wholly unnecessary and undesirable confusions, intricacies and complexities into what has been essentially a very simple question under the opinions of this Court, and that is: How can a court decide whether a person who has bought and owns a patented commodity composed of a combination of unpatented elements is actually making a new one so as to infringe the patent, rather than merely replacing a worn-out part or parts necessary to continue the use of the commodity, which does not constitute patent infringement? I put the question as one of direct infringement because I agree with the other three opinions in this case that the petitioner here who cut out and sold fabrics to replace worn-out covers in patented automobile tops can be guilty of *contributory* infringement only if automobile owners who buy the fabrics and use them in their own cars are themselves guilty of *direct* infringements and liable for treble damages.[1] The crucial question here therefore is one of direct, not contributory, infringement. For this reason it seems to me that most of the talk in the case about contributory infringement and misuse of patents is confusing and beside the point. For the same reason the emphasis in this Court, the District Court and the Court of Appeals on the recodification[2] of the patent laws in 1952 seems to me to be out of place. The language and history of that Act show plainly: (1) that Congress wanted to continue in force, but not expand, the judge-made doctrine of contributory infringement under which a person who knowingly aids, encourages or abets the direct infringement of a patent is to be held liable as a contributory infringer;[3] (2) that Congress did not want patentees to be barred from prosecuting their claims for direct infringement merely because they exercised their right to assert a claim in or out of court for contributory infringement;[4] (3) that the long-existing scope of a patentee's

[1] This elementary principle was brought to the attention of Congress by Mr. Giles S. Rich, the chief draftsman of the provisions on contributory infringement in the 1952 recodification:

"Mr. RICH. . . . I should state at the outset that wherever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed. It is a very different thing from a concept like contributory negligence." Hearings before Subcommittee of House Judiciary Committee on H.R. 3760, 82d Cong., 1st Sess. 151 (1951).

[2] If anyone is inclined despite other evidence to the contrary to attribute to Congress a purpose to accomplish any far-reaching changes in the substantive law by this enactment, he should take note that just before the bill was passed in the Senate, Senator Saltonstall asked on the floor, "Does the bill change the law in any way or only codify the present laws." Senator McCarran, Chairman of the Judiciary Committee which had been in charge of the bill for the Senate, replied, "It codifies the present patent laws." 98 Cong. Rec. 9323 (July 4, 1952).

[3] To this end, the 1952 Act provides (35 U.S.C. § 271):

"(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

"(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer."

The hearings and committee reports show that the only purpose of these provisions was to prevent this Court's decision in *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661, from being treated as having obliterated the law of contributory infringement:

"Mr. ROGERS. Then I take it from your statements, that there is some difference of opinion among those engaged in the practice of patent law as to whether or not the Supreme Court in its decisions has done away with contributory infringement.

* * * * * * * *

"Mr. RICH. There is a great difference of opinion on the part of the bar and also apparently on the part of the judiciary.

"Mr. ROGERS. Then in effect this recodification, particularly as to section 231 [from which came the present § 271], would point out to the court, at least that it was the sense of Congress that we remove this question of confusion as to whether contributory infringement existed at all, and state in positive law that there is such a thing as contributory infringement, or at least it be the sense of Congress by the enactment of this law that if you have in the *Mercoid* case done away with contributory infringement, then we reinstate it as a matter of substantive law of the United States and that you shall hereafter in a proper case recognize or hold liable one who has contributed to the infringement of a patent.

"That is the substantive law that we would write if we adopted this section 231 as it now exists. Is that not about right?

"Mr. RICH. That is a very excellent statement, . . ." Hearings, supra, note 1, at 159.

* * * * * * *

"Considerable doubt and confusion as to the scope of contributory infringement has resulted from a number of decisions of the courts in recent years. The purpose of this section is to codify in statutory form principles of contributory infringement and at the same time eliminate this doubt and confusion." House Judiciary Committee Report No. 1923 on H.R. 7794, 82d Cong., 2d Sess. 9.

[4] To protect a patentee's right to sue for contributory infringement, the 1952 Act provides:

"(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement." 35 U.S.C. § 271(d).

This provision was designed specifically to prevent the *Mercoid* case from being interpreted to mean that any effort to enforce a patent against a contributory infringer in itself constitutes a forfeiture of patent rights:

"Mr. RICH. . . .

"Other decisions following Mercoid have made it quite clear that at least some courts are going to say that any effort whatever to enforce a patent against a contributory infringer is in itself misuse. The cases are cited in the old hearings. Therefore, we have always felt—we who study this subject particularly—that to put any measure of contributory infringement into law you must, to that extent and to that extent only, specifically make exceptions to the misuse doctrine, and that is the purpose of paragraph (d)." Hearings, supra, note 1, at 161–162.

"The last paragraph of this section provides that one who merely does what he is authorized to do by statute is not guilty of misuse of the patent." House Judiciary Committee Report, supra, note 3, at 9.

monopoly rights was not to be expanded beyond what it had always been, that is, the exclusive right to make, use or sell a patented invention during the life of the patent.[5] The present case, therefore, narrows down to this and no more: Is the making or the use of a new piece of fabric to replace the worn-out fabric cover of an automobile top attached to an automobile that the owner has bought and paid for as his own an infringement of a patent on that top? Note immediately that if it is an infringement it must be because the owner of the top, in doing nothing but replacing the worn-out fabric, "makes" the patented invention which is the top with all its parts. Common sense and prior decisions of this Court require us to hold that an automobile owner does not "make" a whole top when he merely replaces its worn-out fabric cover.

Let us first take a quick look at the top described in the patent. It is composed first and foremost of a metal frame, no part of which is, or could have been, patented. It also includes several other pieces of metal, one of them called a "wiper," which is simply a plain piece of metal that is not and could not have been patented. Again, there is a piece of fabric cut in a certain shape to fit and cover the unpatented frame. Of course this fabric could not be patented unless it had some peculiar novel quality of its own, but no such characteristic is or could have been claimed. The District Court held that this aggregation of nonpatentable parts was patentable as achieving a new result. The Court of Appeals, without passing on this question at all, merely took it for granted that a patentable "discovery" had been made. I shall also act on that assumption although I am not sure in just what respect the aggregation of these common components could possibly have served a new purpose or have been the result of anything more than the simplest childlike mechanical skill. In fact, the patentee must have known all about the old-fashioned surrey with the fringe on top and with isinglass curtains you could roll right down in case of a change in the weather. The top is also reminiscent of the tops of Model T Fords which began to scare horses on country roads nearly half a century ago. A reading of the record indicates that the new discovery might be thought to inhere in the fact that (*a*) this top protects from rain better than any that had previously been manufactured, (*b*) it could be made rainproof from the inside rather than requiring some one to get outside and manipulate snaps, or (*c*) the folding material is fastened "below the top of the tonneau" and "a wiping arm automatically operated by the bow structure [is used] for wiping the inside of the folding material as the top is raised and pressing it against the top of the tonneau." None of these alleged additions to the present stock of surrey and Tin Lizzie knowledge, however, gives us much aid in determining the real issue being decided here, which is whether replacing the fabric amounts to the "making" of a new top and thus a direct infringement of the patent. It is of importance in considering this question that the District Court found, and the Court of Appeals agreed, that the only thing the defendant made was "the fabric portions of convertible tops." Certainly I suppose it would not be claimed that the sale of unshaped woolen fabric—a staple article of commerce—would make a tailor or merchant guilty of contributory infringement if he sold it to the owner of a pair of patented trousers for patching purposes. But evidently the contention is that when petitioner here put his scissors or whatever cutting instrument he used on the fabric and shaped it so that it would fit the top, he was thereby aiding the top's owner to "make" a new top, or at least to "reconstruct" one from the ground up. Nothing in any of the prior cases of this Court indicates that such a contention should be sustained.

The case that may well be classified as the leading one on the subject of "making" or "reconstruction" as distinguished from "repair" is *Wilson* v. *Simpson*, 9 How. 109, decided in 1850. That case involved a patent on a planing machine composed of unpatented parts described as the frame, the cogwheels, the shaft, and other elementary parts, which, when put together, constituted what was known as the "Woodworth planing-machine." Able counsel argued for the patentee that the cutting knives, which had to be replaced from time to time, could not be replaced without thereby infringing the patent. The contention was that the machine ceased to exist or have any "material existence" the moment its knives wore out, and that for this reason replacement of the knives amounted to a "making" of the whole patented invention which infringed the patentee's exclusive right to "make, use and vend." The Court refused to accept this conceptualistic and misleading argument as to when a tangible machine ceases to have a "material existence." It did agree that "when the material of the combination ceases to exist, in whatever way that may occur, the right to renew it depends upon the right to make the invention. If the right to make does not exist, there is no right to rebuild the combination." *Id.*, at 123. But the Court then went on to enunciate what has been the accepted rule in this Court ever since with respect to component parts of the combination: "When the wearing or injury is partial, then repair is restoration and not reconstruction. . . . And it is no more than that, though it shall be a replacement of an essential part of a combination." *Ibid.*

In further explanation the Court pointed out that "[f]orm may be given to a piece of any material,—wood, metal, or glass,—so as to produce an original result, or to aid the efficiency of one already known, and that would be the subject for a patent." It went on to say that if that patented article should happen to be broken so that its parts could not be readjusted or so worn out and beyond repair as to be wholly useless, then a purchaser could not make another to replace it without infringing, but would have to buy a new one. This because the Court said that would amount to an "entire reconstruction" of the patented article. "If, however," and this is of crucial importance with reference to the combination patent in the

[5] The 1952 Act carried out this purpose by providing:

"(a) Except as otherwise provided in this title, whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a).

Although there was no statutory provision defining infringement prior to 1952, the definition adopted is consonant with the long-standing statutory prescription of the terms of the patent grant, which was contained in § 4884 of the Revised Statutes as follows:

"Every patent shall contain a short title or description of the invention or discovery, correctly indicating its nature and design, and a grant to the patentee . . . of *the exclusive right to make, use, and vend the invention or discovery* throughout the United States. . . ." (Emphasis supplied.)

This provision is now contained without substantial change in 35 U.S.C. § 154.

present case, "this same thing is a part of an original combination, essential to its use, then the right to repair and replace recurs." *Id.*, at 124.

The common-sense rule of *Wilson* v. *Simpson* was followed in *Heyer* v. *Duplicator Mfg. Co.*, 263 U.S. 100. Involved there was a combination patent, a multiple copying machine, "one element of which," the Court said, "is a band of gelatine to which is transferred the print to be multiplied and which yields copies up to about a hundred. This band is attached to a spool or spindle which fits into the machine. Anyone may make and sell the gelatine composition but the ground of recovery was that the defendant made and sold bands of sizes fitted for use in the plaintiff's machine and attached them to spindles, with intent that they should be so used. The main question is whether purchasers of these machines have a right to replace the gelatine bands from any source they choose. If they have that right the defendant in selling to them does no wrong." *Id.*, at 101. A unanimous Court, speaking through Mr. Justice Holmes, recognized that the rule of *Wilson* v. *Simpson* disposed of this question, saying that "[s]ince *Wilson* v. *Simpson*, 9 How. 109, 123, it has been the established law that a patentee has not 'a more equitable right to force the disuse of the machine entirely, on account of the inoperativeness of a part of it, than the purchaser has to repair, who has, in the whole of it, a right of use.'" 263 U.S., at 101. Like the bands of gelatine in *Heyer*, the fabric in the present case is a common article of commerce, and also like the gelatine it has to have a special form to fit into the combination.

None of this Court's cases relied upon by my Brothers HARLAN and BRENNAN justifies adoption of the supposed guides and standards referred to in their opinions. Deciding whether a patented article is "made" does not depend on whether an unpatented element of it is perishable, or how long some of the elements last, or what the patentee's or a purchaser's intentions were about them, regardless of whether the application of such standards is considered a question of law, as it is by MR. JUSTICE BRENNAN, or a question of fact, as it is by MR. JUSTICE HARLAN. The holdings of prior cases in this Court have not actually rested on such minor and insignificant factors in determining when an article has been "made" and when it has not. A case in which only a minimal component has been omitted from a "making" of the combination, such as the extreme example of omission of a single bolt from a patented machine or a button from a patented garment, might call upon this Court to articulate some rather obvious refinements to this simple test of "making."[6] But this is by no means such a case and it is dangerously misleading to suggest that so clear a case as this one requires the application of a Pandora's flock of insignificant standards, especially when it is recognized, as it must be upon analysis, that consistent application of the standards suggested would actually change the basic test from "making" to something not satisfactorily defined but indisputably different. And surely the scope of a patent should never depend upon a psychoanalysis of the patentee's or purchaser's intentions, a test which can only confound confusion.[7] The common sense of the whole matter is as recognized in the *Wilson* case and again in the opinion of the Court today, that in none but the most extraordinary case—difficult even to imagine—will a court ever have to invoke specially contrived evidentiary standards to determine whether there has actually been a new "making" of the patented article.

Neither *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, 213 U.S. 325, nor *Cotton-Tie Co.* v. *Simmons*, 106 U.S. 89, nor any other cases of this Court that have treated this subject, depart from this common-sense rule of *Wilson* v. *Simpson*. In fact, as Mr. Justice Holmes pointed out in *Heyer* v. *Duplicator Mfg. Co.*, supra, the question in *Leeds & Catlin* did not concern "a right to substitute worn out parts" and "[t]he authority of *Wilson* v. *Simpson* and the cases that have followed it was fully recognized [in *Leeds & Catlin*] and must be recognized here." 263 U.S., at 102. The *Cotton-Tie* case likewise contains no support for holding that replacing the fabric in this top amounts to a "making" or even a "remaking" of the whole convertible top. The patent involved there was a cotton bale tie. Marked on each, for whatever it was worth, was "Licensed to use once only." After these ties had been used once and broken off the cotton bales, the old tie material, along with the buckles, was sold as scrap, then re-rolled, straightened, riveted together, and cut into proper lengths and attached to an old buckle. It was this making of completely new ties out of the discarded scrap material that was held to amount to a making of the patented device and therefore an infringement.[8] Cf. *Morgan Envelope Co.* v. *Albany Paper Co.*, 152 U.S. 425, 433–434. *Morgan Envelope*, in addition to its distinction of the *Cotton-Tie* case, is notable for its explicit reaffirmance of *Wilson* v. *Simpson* and for its statement by a unanimous Court that "[t]he true distinction" is whether the component part of the combination is "the subject of a separate patent." 152 U.S., at 485. I agree with my Brother WHITTAKER that this remains the true distinction today.[9]

In my judgment it would create mischievous results for a majority of this Court to create or approve ambiguous evidentiary standards which could only obfuscate the simple fact of whether a person is "making" a patented article composed of old unpatentable elements. For example, there should be no attempt to decide whether there is a making by comparing the time that the different elements of such a patent normally will exist if let alone. The owner is under no obligation to let them alone. Every owner has the right to repair and patch each part of the property he bought and paid for in order to make it last as long as he can. Everyone knows that this patented top is likely to last as long as the car itself if it is repaired from time to time. An accident might wholly destroy the entire top and then it might have to be replaced by a new one, which if done without the patentee's consent would of course be an infringement. I cannot suppose, however, that if the bows upon which the fabric rests at the top, or the metal frames upon which it stands, or the metal wiper which helps to level off the curtain folds, or the snaps that may have to be used, should happen to become worn out or destroyed, that anyone could reasonably come to the conclusion that a replacement of one of these worn-out parts would be a complete rebuilding of the old top or the "making" of a new one and therefore an infringement of the patent. Such a contention would seem little short of fantastic to me, and the same is true as to replacement of the fabric.

This case is of great importance in our competitive economy. The record shows that petitioner is but one of many small business enterprises filling a useful place in manufacturing the comparatively smaller parts of larger products like automobiles. It is quite right and in keeping with our patent system that small business enterprises should no more than large enterprises be allowed to infringe the patents of others. But businessmen are certainly entitled to know when they are committing an infringement. It is for that reason that the patent statutes require applicants to define with particularity and claim without ambiguity the subject matter which is regarded to be an invention. 35 U.S.C. §§ 112, 154. In the absence of suits like this how could a businessman even suspect that he might be infringing a patent by marketing an unpatented and unpatentable part of a combination like this fabric top? It has long been settled with respect to combination patents that the monopoly rights extend only to the patented combination as a whole and that the public is free to appropriate any unpatented part of it, "however important." *Special Equipment Co.* v. *Coe*, 324 U.S. 370, 376, and cases cited. And in the 1952 recodification Congress was very careful, in what is now 35 U.S.C. § 271(c), to specify that a vendor is liable as a contributory infringer only if he has sold the component part "knowing" that it is to be used in an infringement.[10] But to what avail these congressional precautions if this Court, by its opinions, would subject small businessmen to the devastating uncertainties of nebulous and permissive standards of infringement under which courts could impose treble damages upon them for making parts, distinct, separable, minor parts, or even major parts of a combination patent, upon which parts no patent has been or legally could have been issued. The fact that subjection of a small business enterprise to treble damages for such activities can have disastrous or even lethal consequences is suggested by the observation of the District Court in this very case that petitioner had not made a supersedeas bond, whether because unable or unwilling to do so the court said it was not informed. The efforts of Congress to help small business enterprises keep their heads above water in the Small Business Act of 1953,[11] which was enacted almost contemporaneously with the recodification of the patent laws, could be frustrated at least in large part by subjecting those engaged in industrial activities to the constantly overhanging threat of suits for patent infringements for the sale of unpatented articles. And I think it is indisputable that the unpredictability in any given case of the resolution of the intricate standards suggested by my Brothers HARLAN and BRENNAN would deter small businessmen from engaging even in activities that all members of this Court would ultimately agree do not constitute contributory infringement. In our own case these standards led to opposite conclusions when applied by three distinguished judges of the Court of Appeals and when applied by MR. JUSTICE BRENNAN.

The established policy in this Nation for more than a century has been that when an article described in a patent is sold and "passes to the hands of the purchaser, it is no longer within the limits of the monopoly. It passes outside of it, and is no longer under the protection of the act of Congress. . . . Contracts in relation to it are regulated by the laws of the State, and are subject to State jurisdiction."[12] In this day of advanced technology and mechanical appliances upon which so many people depend, this wise policy against permitting patentees to expand their control of commodities after they reach the hands of bona fide purchasers is all the more important. Congress surely did not intend for it to be left within the sole discretion of the patent monopolist whether an unpatented component part will be separately available to the purchaser for replacement in the combination or whether, when that part wears out, the purchaser will be forced to replace a larger subcombination of the patented product or perhaps even the entire aggregation. I have an idea it would greatly surprise and shock the owners of convertible automobiles throughout this country to learn that there is a serious contention made that if they buy a new fabric to replace the worn-out fabric on their convertible top, loose legal formulas like those suggested by my Brothers HARLAN and BRENNAN can be applied to make them liable for treble damages, attorneys' fees and heavy costs. No such doctrine should be allowed to gain a foothold through judicial decisions. If bona fide purchasers of goods throughout the Nation are to be subjected to any such phenomenal expansion of the right of patentees, Congress, not this Court, should do it. One royalty to one patentee for one sale is enough under our patent law as written. And this proposition can be stated with knowledge that there is not a single sentence, clause, phrase or word in the entire legislative history of the 1952 recodification which could have led Congress to believe that it was being asked by means of the provisions enacted to enlarge the scope of a patentee's exclusive right to "make, use and vend" the thing patented.

[6] This point was made by Mr. Rich in the course of the hearings as follows: "If the part he is supplying is *in substance the very thing which was invented*, it seems to me personally, that he is an infringer, and he should not be let off on some little technicality that there is *something minor in the whole apparatus that he is not supplying*." Hearings, supra, note 1, at 153. (Emphasis supplied.) Of course, as Mr. Rich well knew, "the very thing" which is invented in any combination patent is the combination itself and not any unpatented component part of it—in this case, the whole convertible top, not the fabric used in it.

[7] Cf. *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661, 679–680 (Jackson, J. dissenting on other grounds).

[8] See Transcript of Record, pp. 29–33, *Cotton-Tie Co.* v. *Simmons*, 106 U.S. 89.

[9] I am perfectly content with the dissenting opinion's denomination of our interpretation as a "reconstruction" of the cases in the sense in which I understand that term to be applied in these cases. I regret to say, however, that we cannot claim this interpretation to be a "discovery" in the patent sense. It was anticipated by Judge Learned Hand's citation of *Wilson* v. *Simpson* for the proposition that "[t]he [patent] monopolist cannot prevent those to whom he sells from . . . reconditioning articles worn by use, unless they in fact make a new article." *United States* v. *Aluminum Co. of America*, 148 F.2d 416, 425.

[10] If the wording of the statutory provision be thought to leave any doubt on this point, the intent of Congress is made manifest by the fact that the position of the word "knowing" (originally "knowingly") in subsection (c) was changed after the hearings for this very purpose. See Hearings, supra, note 1, at 13, 142, 164, 176.

[11] 67 Stat. 282, as amended, 15 U.S.C. §§ 631–651.

[12] *Bloomer* v. *McQuewan*, 14 How. 539, 549–550; see *United States* v. *Univis Lens Co.*, 316 U.S. 241, 251, and cases collected in *General Talking Pictures Corp.* v. *Western Electric Co.*, 305 U.S. 124, 128, note 1 (dissenting opinion). This century-long mandate cannot be set aside because of what my Brother HARLAN now conceives to be a more enlightened policy in this field of law.

A fundamental error underlying the misleading standards suggested by my Brothers HARLAN and BRENNAN is the notion that in a case of this kind a court is obliged to search for the alleged "heart" or "core" of the combination patent. This misconception, which has unequivocally been rejected in our prior decisions,[10] is nothing but an unwarranted transformation and expansion of a combination patent, which was correctly described by MR. JUSTICE JACKSON as conferring only a ". . . right in an abstruse relationship between things in which individually there is no right."[11] A patented combination is no more than that, a novel relationship brought to bear on what presumably are familiar elements already in the public domain. Such familiar elements are not removed from the public domain merely because of their use, however crucial, in the novel combination. Of course, if novelty should inhere in one of the parts as well as in the whole, then that novel "heart" or "core" can be separately patented and separately protected. But in the absence of such a separate patent, which in this case would presumably be some sort of patent on the utility of the shape of the fabric, the public has the right to make, use and vend each part subject only to the established limitation of contributory infringement: that a part may not be knowingly supplied for use by an unauthorized person in a new making of what is in effect the whole combination.

Finally, petitioner points out that there is a serious constitutional question involved in the claim that automobile owners can be mulcted for damages for replacing the worn-out fabric in their convertible tops. Article I, § 8 of the Constitution provides:

"The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

I have no doubt of the wide powers of the States to govern the sale of fabrics, clipped or unclipped, cut or uncut, cloth, oilcloth, isinglass or plastic. But it is difficult for me to think that shaping up a common piece of fabric with a common pair of scissors or other cutter can be exalted to that important category of "Discoveries" that the Constitution authorizes Congress to promote by special federal legislation. Nor do I believe that a purpose should be attributed to Congress to allow the courts, by means of an incalculable weighing of a complex of nebulous standards, to divine whether persons should be given monopoly rights on account of the way they trim ordinary fabrics. If there is anything sure about the 1952 recodification it is that the purpose was to clarify not to confuse the law. The test applied in the opinion of the Court today will not confuse, is in accord with our prior decisions endorsed by Congress and, most important, is in keeping with the general purposes of this Nation to retain an economy in which competition is a general law of trade except where actual "Discoveries" have been made.

MR. JUSTICE BRENNAN, concurring in the result:

I agree that the replacement of the top was "repair" and not "reconstruction," but I cannot agree that the test suggested by my Brother WHITTAKER for determination of that question is the correct one. My Brother HARLAN's dissent cogently states the reasons why I also think that is too narrow a standard of what constitutes impermissible "reconstruction." For there are circumstances in which the replacement of a single unpatented component of a patented combination short of a second creation of the patented entity may constitute "reconstruction." *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, 213 U.S. 325; *Davis Electrical Works* v. *Edison Electric Light Co.*, 60 F. 276; cf. *Williams* v. *Hughes Tool Co.*, 186 F.2d 278. These holdings applied the long established standard for determination of "repair" or "reconstruction." Under that standard there is no single test to which all must yield; rather the determination is to be based upon the consideration of a number of factors. *Wilson* v. *Simpson*, 9 How. 109; *Heyer* v. *Duplicator Mfg. Co.*, 263 U.S. 100.[1] Appropriately to be considered are the life of the part replaced in relation to the useful life of the whole combination,[2] the importance of the replaced element to the inventive concept,[3] the cost of the component relative to the cost of the combination,[4] the common sense understanding and intention of the patent owner and the buyer of the combination as to its perishable components,[5] whether the purchased component replaces a worn-out part or is bought for some other purpose,[6] and other pertinent factors.[7]

It is true that some decisions of this Court in patent misuse cases[8] raised doubt as to the continuing vitality of this standard in actions such as this one for relief from contributory infringement. But the Congress swept away that doubt when it gave the standard statutory sanction in 1952.[9] My Brother WHITTAKER's test that "[m]ere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property" plainly would not heed the congressional mandate. Instead Congress meant, as I read the legislative history of the 1952 Act, that the courts should recognize, in actions for contributory infringement, the distinction between components stated in *Wilson* v. *Simpson*, supra, the leading case in this field:

"The other constituent parts of this invention, though liable to be worn out, are not made with reference to any use of them which will require them to be replaced. These, without having a definite duration, are contemplated by the inventor, to last so long as the materials of which they are formed can hold together in use in such a combination. No replacement of them at intermediate intervals is meant or is necessary. They may be repaired as the use may require. With such intentions, they are put into the structure. So it is understood by a purchaser, and beyond the duration of them a purchaser has not a longer use." 9 How. 125–126.

Giles S. Rich, the chief draftsman of § 271(c), when told that manufacturers of replacement parts for automobiles, tractors, and other machines had protested against the section in fear of being held contributory infringers under it, replied: "Whether or not they would be liable would depend on the facts in each particular case. And I think that the best way to clear that up is to take up section (c) and deal with the matter specifically and point out to you the limitations that are there, which have to be met before anybody is held liable, and then leave it to you to decide whether a parts supplier should be held liable or not, *depending on the kind of a part he may be supplying. If the part* he is supplying is *in substance the very thing which was invented*, it seems to me personally, that he is an infringer, and he should not be let off on some little technicality that there is something minor in the whole apparatus that he is not supplying." Hearings, H.R. 3760, 82d Cong., 1st Sess., supra, p. 158. He added: "in each case you would have to look at the details and see what was invented, and in effect whether the alleged infringer is appropriating somebody else's invention, or whether he is not." Hearings, supra, p. 157.

However, I disagree with my Brother HARLAN that we should refrain from making an independent application of the proper standard in this case because of the conclusion of both lower courts that the replacement of the top constituted "reconstruction." I would suppose that "repair" or "reconstruction" is so far a question of law as to relieve appellate review from the restraints of Federal Rule of Civil Procedure 52(a). See *United States* v. *E. I. du Pont de Nemours & Co.*, 353 U.S. 586, 598. In no previous case presenting the question of "repair" or "reconstruction" has this Court believed itself restrained from making an independent determination. *Wilson* v. *Simpson*, supra; *American Cotton-Tie Co.* v. *Simmons*, supra; *Morgan Envelope Co.* v. *Albany Perforated Wrapping Paper Co.*, 152 U.S. 425; *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, supra; *Heyer* v. *Duplicator Mfg. Co.*, supra. And here the error of the two courts below is manifest. The life of the top was approximately three years in contrast to the several times longer life of the other components of the combination. The top was replaceable at a cost of from $30 to $70 depending on the fabric; in contrast the cost of other elements of the combination was approximately $400. These considerations of themselves suggest that the replacement was mere "repair" of the worn component and not "reconstruction" of the patented combination. Surely they support the inference that all concerned knew that the fabric of the top would become weather-beaten or unable to perform its protective function long before those components, not so exposed and more durable as well, wore out. Its perishable nature coupled with its fractional cost as compared to the whole combination and its ready replaceability all point to the conclusion reached here. And particularly persuasive, I think, that this replacement was mere "repair," is the role of the top relative to other components in the inventive concept. Patentable novelty inhered not merely in the shape of the fabric; the record shows that a wiping arm which pressed the material in such way as to create a seal at the belt line of the vehicle played a significantly important role in the inventive concept. The claim for the combination is that it made possible an automatic top, made the top weather-tight and prevented unauthorized access to the vehicle. The wiper arm, rather than the shape of the material alone, accomplished the inventive purposes of providing a top which was weathertight and prevented unauthorized access.[10] The shape of the fabric was thus

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[1] The standard has been variously expressed. See, e.g., "Whether the bounds of legitimate repair have been exceeded must be determined upon the facts of each case as it is presented." *Morris* v. *Robert White Engineering Works*, 143 F. 519, 520. "In the absence of a crucial test to which all must yield, the only aid comes from various minor or incidental considerations, and their combined effect." *Davis Electrical Works* v. *Edison Electric Light Co.*, 60 F. 276, 280. "The right, in our view, must depend in every case upon the special facts of the case as they show the relation of the two classes of parts—those supplied and those remaining in the original construction—to the patented unit. . . . there might be a structure where the putting in of a certain number of new parts would be 'reconstruction,' whereas the putting in of a smaller number would be 'repair,' or even where the putting in of one new part would be reconstruction but the putting in of two or three would not be, depending in each case upon whether, after the replacement, the structure as a whole could reasonably be said to be a new structure or the old one." *Automotive Parts Co.* v. *Wisconsin Axle Co.*, 81 F.2d 125, 127. "Each case, as it arises, must be decided in the light of all the facts and circumstances presented, and with an intelligent comprehension of the scope, nature, and purpose of the patented invention, and the fair and reasonable intention of the parties." *Goodyear Shoe Machinery Co.* v. *Jackson*, 112 F. 146, 150. "The dividing line between repairs and a making over cannot be verbally located. What has been done can with more or less confidence be pronounced to be one or the other, but neither the one nor the other can be defined." *Hess-Bright Mfg. Co.* v. *Bearings Co.*, 271 F. 350, 352.

[2] *Wilson* v. *Simpson*, supra; *Heyer* v. *Duplicator Manufacturing Co.*, supra; *Williams* v. *Barnes*, 234 F. 339; *Microtomatic Home Corp.* v. *Mid-West Abrasive Co.*, 177 F.2d 934; *Payne* v. *Dickinson*, 109 F.2d 52; *El Dorado Foundry, Machine & Supply Co.* v. *Fluid Packed Pump Co.*, 81 F.2d 782; *Blocomb & Co., Inc.* v. *Layman Machine Co.*, 227 F. 94, affirmed, 230 F. 1021. In the *Blocomb* case the Court said, 227 F., at p. 98: "If . . . patented mechanism be composed of various parts and elements the most expensive of which have an average life of twenty years, and other parts or features of comparatively trifling cost are subjected in the operation of the mechanism to such wear as to require renewal or replacement within a period of a few months, or of a year or two, it would seem reasonable and sensible to treat such renewal or replacement as involving repairs in contradistinction to reconstruction."

[3] *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, supra; *Davis Electrical Works* v. *Edison Electric Light Co.*, supra, "in certain stages of use the essence of a device, though in appearance only a small portion of it, may be lost, and its renewal amount to reconstruction." Pp. 279–280. *Morris* v. *Robert White Engineering Works*, supra, p. 519.

[4] *Heyer* v. *Duplicator Mfg. Co.*, supra; *American Safety Razor Corp.* v. *Fringe Bros. Co.*, 62 F.2d 416; *El Dorado Foundry, Machine & Supply Co.* v. *Fluid Packed Pump Co.*, supra; *Blocomb & Co., Inc.*, v. *Layman Machine Co.*, supra.

[5] *Westinghouse Elec. & Mfg. Co.* v. *Heaser*, 131 F.2d 406, 410: "Where the perishable nature of the parts are recognized by the patentee, and where the parts are adapted to be removed from the patented combination and, from time to time, replaced, replacement of such parts is repair and not reconstruction."

And as regards indicia of an understanding see *El Dorado Foundry, Machine & Supply Co.* v. *Fluid Packed Pump Co.*, supra; *Blocomb & Co., Inc.*, v. *Layman Machine Co.*, supra.

[6] See *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, supra; *Connecticut Telephone & Elec. Co.* v. *Automotive Equipment Co.*, 14 F.2d 957, affirmed, 19 F.2d 990.

[7] Is the replaced part the dominant structural element of the combination? *Southwestern Tool Co.* v. *Hughes Tool Co.*, 98 F.2d 42; *Automotive Parts Co.* v. *Wisconsin Axle Co.*, supra, p. 127: "if the new parts so dominate the structural substance of the whole as to justify the conclusion that it has been made anew, there is a rebuilding or reconstruction; and conversely, where the original parts, after replacement, are so large a part of the whole structural substance as to preponderate over the new, there has not been a reconstruction but only repair."

Has there been physical destruction of the combination from use of the component? *Cotton-Tie Co.* v. *Simmons*, 106 U.S. 89.

[8] See, e.g., *Mercoid Corp.* v. *Mid-Continent Investment Co.*, 320 U.S. 661, 669: "The result of this decision, together with those which have preceded it, is to limit substantially the doctrine of contributory infringement. What residuum may be left we need not stop to consider."

[9] 35 U.S.C. § 271. The purpose of (c) of this section appears in the House Judiciary Committee Report, H.R. Rep. No. 1923 on H.R. 7794, 82d Cong., 2d Sess., p. 9. "The doctrine of contributory infringement has been part of our law for about 80 years. It has been applied to enjoin those who sought to cause infringement by supplying someone else with the means and directions for infringing a patent. One who makes a special device constituting the heart of a patented machine and supplies it to others with directions (specific or implied) to complete the machine is obviously appropriating the benefit of the patented invention. It is for this reason that the doctrine of contributory infringement, which prevents appropriating another man's patented invention, has been characterized as 'an expression both of law and morals'. Considerable doubt and confusion as to the scope of contributory infringement has resulted from a number of decisions of the courts in recent years. The purpose of this section is to codify in statutory form principles of contributory infringment and at the same time eliminate this doubt and confusion." The legislative history makes it clear that paragraph (d) complements (c) with the view to avoid the application of the patent misuse doctrine to conduct such as that of the patent owner in the present case. See Hearings, H.R. 3760, 82d Cong., 1st Sess., Subcommittee of the House Judiciary Committee, 1951, pp. 161–162, 169–175.

[10] This appears from the patent claims and from the testimony of respondent's patent and engineering experts. The following representation was made in connection with amended claims: "The real invention is fastening the folding material considerably below the top of the tonneau and then using a wiper arm automatically operated by the bow structure for wiping the inside of the folding material as the top is raised and pressing it against the top of the tonneau."

[11] See *Mercoid Corp.* v. *Mid-Continent Inv. Co.*, 320 U.S. 661, 667–668, and cases cited.

[12] *Id.*, at 679 (dissenting opinion).

not the essence of the device and in all the circumstances it seems reasonable and sensible to treat the replacement of the top as "repair."

I, therefore, think that the judgment of the Court of Appeals must be reversed, except, however, as to the relief granted respondent in respect of the replacements made on Ford cars before July 21, 1955.

MR. JUSTICE HARLAN, whom MR. JUSTICE FRANKFURTER and MR. JUSTICE STEWART join, dissenting:

For more than a hundred years it has been the law that the owner of a device covered by a combination patent can, without infringing, keep the device in good working order by replacing, either himself or through any source he wishes, unpatented parts, but that he may not, without rendering himself liable for infringement, reconstruct the device itself, whether because of its deterioration or for any other reason, and even though all of the component parts of the device are themselves unpatented. *Wilson* v. *Simpson*, 9 How. 109; *American Cotton-Tie Co.* v. *Simmons*, 106 U.S. 89; *Morgan Envelope Co.* v. *Albany Perforated Wrapping Paper Co.*, 152 U.S. 425; *Leeds & Catlin Co.* v. *Victor Talking Machine Co.*, 213 U.S. 325; *Heyer* v. *Duplicator Mfg. Co.*, 263 U.S. 99. The underlying rationale of the rule is of course that the owner's license to use the device carries with it an implied license to keep it fit for the use for which it was intended, but not to duplicate the invention itself. Correlatively, one who knowingly participates in an impermissible reconstruction of a patented combination is guilty of contributory infringement. "Direct" and "contributory" infringements are now codified in § 271 of the Patent Act of 1952. 35 U.S.C. § 271.[1]

In this case the District Court and the Court of Appeals upon full consideration have concurred in finding that Aro's replacement-supplying of the fabric portion of respondent's convertible automobile tops contributorily infringed the latter's territorial rights under the valid Mackie-Duluk combination patent, in that such activity constituted a deliberate participation on Aro's part in a forbidden reconstruction of the patented combination. In reversing, the Court holds that there can be no direct infringement (and hence, of course, no contributory infringement) of a combination patent by replacement of any of the components of the patented entity unless (1) such component is itself separately patented or (2) the *entire* entity is rebuilt at one time. Since the fabric cover component of the Mackie-Duluk top was not itself separately patented, and since it constituted but one part of the patented combination, the Court concludes that Aro's supplying of such covers for replacement on cars equipped with respondent's tops did not as a matter of law constitute contributory infringement.[2]

My Brother BRENNAN's opinion, while disagreeing with that conclusion would reverse because on its view of the record, untrammeled by the contrary findings and conclusions of the two lower courts, it is concluded that what here took place constituted "repair" and not "reconstruction" of the Mackie-Duluk tops.

I am unable to subscribe to either of these views.

I.

I believe that the narrow concept of what constitutes impermissible reconstruction, reflected in the opinion of the Court, departs from established principles—principles which, it will be shown, were approved by Congress when it enacted § 271 of the new Patent Act, over objections of the Department of Justice altogether comparable to the position which it now advances as *amicus* in the present case.

The all-important thing is to determine from the past decisions of this Court what the proper test of "reconstruction" is, for I agree that 35 U.S.C. § 271(c) limits contributory infringement to that which would be direct infringement, and that § 271(a), dealing with direct infringement, leaves intact the pre-existing case law. The cases cited above amply demonstrate that there is no single yardstock for determining whether particular substitutions of new for original unpatented

[1] "(a) Except as otherwise provided in this title, whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent.

"(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

"(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use, shall be liable as a contributory infringer."

[2] The Mackie-Duluk invention was described by the Court of Appeals as follows:

"Folding tops for vehicles consisting of bows of wood or metal covered with a flexible waterproof fabric . . . are, of course, as old as the automobile art which in the beginning only adopted with necessary modifications the much older art of collapsible tops for chaises, buggies and some other horse drawn vehicles. The rear panels of the folding tops of earlier days were fastened permanently at the bottom to the outside of the top of the rear portion of the body of the vehicle, and the quarters, the rear portions of the sides of the vehicle, if protected at all, were protected with flaps or curtains, sometimes integral with the top and sometimes not, fastened at the bottom to the outside of the top of the body with buttons, snaps or some equivalent means of fastening. Naturally, to prevent tearing, these quarter flaps had to be unfastened by hand when the top was lowered and when the top was put up fastened again by hand for neat appearance and also to prevent the entrance of rain. This manual fastening and unfastening of the bottoms of the quarter flaps presented no great problem until the advent of the so-called convertible automobile with a folding top operated mechanically rather than manually. The problem presented by the quarter flaps of tops of this kind was first partially solved by fastening the bottom of the flap to the outside of the top of the body of the vehicle with 'releasable fastening means,' that is to say, with some sort of slide fastening device which would detach automatically when the top was lowered. The major part of the problem remained, however, for when the top was put up the flaps had to be fastened manually, which meant that the operator was required to get out of the car altogether, or at least to reach out, often, of course, in the rain. The object of the Mackie-Duluk patent was 'to provide an automatic fastening and sealing means at the top and sides of the tonneau of the convertible' which 'never has to be operated or touched by the driver of the car.' And, as we have already indicated, the District Court found that the patentees succeeded in attaining their object by devising a patentable combination of elements.

"The Mackie-Duluk device consisted of providing an elongated flap integral with the quarter sections of the fabric top adapted to be permanently fastened at the bottom deep within the body of the car, at or perhaps below, but certainly not in front, of the axis of rotation of the bows, to a trough welded to the body of the car and provided with a drain to carry off water entering between the flap and the car body. In addition, to minimize the entrance of water between the body and the flap, they provided a 'wiper arm' so-called, which in effect acted as an additional, low, rearward bow pressing the downwardly extending flap outwardly against the top of the body of the vehicle as the top is raised from its folded position to close, or substantially to close, any gap there might be between the inside of the top of the body of the car and the flap extending downward into the interior of the automobile body." 270 F.2d, at 202–203.

The District Court said:

"Mackie-Duluk was a substantial and enlightened step, filling a long-felt want, in a field in which defendants have produced with one exception, only paper patents, the most emphasized being foreign, which did not even purport to do what Mackie-Duluk accomplished." *Id.*, at 201.

parts of a patented combination amount to permissible repair or forbidden reconstruction. The matter is to be resolved "on principles of common sense applied to the specific facts" of a given case, *Heyer*, supra, at 102. The single simple rule of "reconstruction" which the Court finds in those cases can, in my view, only be divined at the expense of reconstructing the decisions themselves.

The leading case is *Wilson* v. *Simpson*, supra. There, in holding that the owner of a planing machine covered by a combination patent could replace from any source he desired the unpatented cutting knives thereof, the Court said, p. 125:

"The right of the assignee [the owner of the machine] to replace the cutter-knives is not because they are of perishable materials, but because the inventor of the machine has so arranged them as a part of its combination, that the machine could not be continued in use without a succession of knives at short intervals. Unless they were replaced, the inventions would have been but of little use to the inventor or to others. The other constituent parts of this invention, though liable to be worn out, are not made with reference to any use of them which will require them to be replaced. These, without having a definite duration, are contemplated by the inventor to last so long as the materials of which they are formed can hold together in use in such a combination. No replacement of them at intermediate intervals is meant or is necessary. They may be repaired as the use may require. With such intentions, they are put into the structure. So it is understood by a purchaser, and beyond the duration of them a purchaser of the machine has not a longer use. But if another constituent part of the combination is meant to be only temporary in the use of the whole, and to be frequently replaced because it will not last as long as the other parts of the combination, its inventor cannot complain, if he sells the use of his machine, that the purchaser uses it in the way the inventor meant it to be used, and in the only way in which the machine can be used."

In the *Cotton Tie* case, supra, the question was whether combination patents for the making of ties for cotton bales, consisting of a metal buckle and band, were infringed by one who bought as scrap metal such ties and bands after severance from cotton bales, and resold them for further use as bailing ties after piecing together several segments of the old bands and reconnecting the resulting single band with the original buckle. In holding that this was in impermissible reconstruction of the patented combination,[3] the Court said:

"Whatever right the defendants could acquire to the use of the old buckle, they acquired no right to combine it with a substantially new band, to make a cotton-bale tie. They so combined it when they combined it with a band made of the pieces of the old band in the way described. What the defendants did in piecing together the pieces of the old band was not a repair of the band or the tie, in any proper sense. The band was voluntarily severed by the consumer at the cotton-mill because the tie had performed its function of confining the bale of cotton in its transit from the plantation or the press to the mill. Its capacity for use as a tie was voluntarily destroyed. As it left the bale it could not be used again as a tie. As a tie the defendants reconstructed it, although they used the old buckle without repairing that. The case is not like putting new cutters into a planing-machine in place of those worn out by use, as in *Wilson* v. *Simpson*, 9 How. 109. The principle of that case was, that temporary parts wearing out in a machine might be replaced to preserve the machine, in accordance with the intention of the vendor, without amounting to a reconstruction of the machine."

In *Morgan Envelope*, supra, the Court found no contributory infringement on the part of one supplying toilet paper rolls specially designed for use in a patented combination, comprising a dispenser and the paper rolls themselves. Remarking (p. 433) that there "are doubtless many cases to the effect that the manufacture and sale of a single element of a combination, with intent that it shall be united to the other elements, and so complete the combination, is an infringement," the Court found the situation before it distinguishable in that "the element [paper roll] made by the alleged infringer is an article of manufacture perishable in its nature, which it is the object of the mechanism [the dispenser] to deliver, and which must be renewed periodically, whenever the device is put to use." *Ibid.* On similar grounds the Court in *Heyer*, supra, found no contributory infringement in the intentional supplying of unpatented gelatine bands for use in a duplicating machine covered by a combination patent, of which one element was the gelatine band.

On the other hand, in *Leeds & Catlin*, supra, the intentional supplying of phonograph records for use on respondent's talking machines, which were protected by a combination patent covering both machine and records, was held to be contributory infringement, it being found that records were the "operative ultimate tool of the invention," that respondent's records were not inherently "perishable" in nature, and that the supplying of the competitor's records was not to replace records "deteriorated by use" or which had suffered "breakage." (P. 336.)

These cases destroy the significance of two factors on which the Court heavily relies for its conclusion in the present case: first, that the fabric top was an unpatented element of the Mackie-Duluk invention, and, second, that Aro's tops constituted a replacement of but one part of the patented combination. For as was said in *Leeds & Catlin* (p. 333), "[i]t can make no difference as to the infringement or non-infringement of a combination that one of its elements or all of its elements are unpatented"; and in all of these cases the claimed infringing replacement involved only *one* of the elements of the patented combination. Further, the different results reached in the cases, two finding "reconstruction" and three only "repair," also vitiates the reasoning of the Court, in that they show that the issue of reconstruction *vel non* turns not upon any single factor, but depends instead upon a variety of circumstances, differing from case to case. The true rule was well put by this same Court of Appeals in its earlier decision in *Goodyear Shoe Machinery Co.* v. *Jackson*, 112 F. 146, 150:

"It is impracticable, as well as unwise, to attempt to lay down any rule on this subject, owing to the number and infinite variety of patented inventions. Each case, as it arises, must be decided in the light of all the facts and circumstances presented, and with an intelligent comprehension of the scope, nature, and purpose of the patented invention, and the fair and reasonable intention of the parties. Having clearly in mind the specification and claims of the patent, together with the condition of decay or destruction of the patented device or machine, the question whether its restoration to a sound state was legitimate repair, or a substantial reconstruction or reproduction of the patented invention, should be determined less by definitions or technical rules than by the exercise of sound common sense and an intelligent judgment."

More particularly, none of the past cases in this Court or in the lower federal courts remotely suggests that "reconstruction" can be found only in a situation where the patented combination has been rebuilt *de novo* from the ground up.[4]

The reference which the Court makes to the *Mercoid* cases, 320 U.S. 661, 320 U.S. 680, is, in my opinion, entirely inapposite, since those cases, as the Court recognizes, p. —, n. 10, supra, dealt with the issue of patent misuse, an issue which specifically is not before the Court at this time.[5] I realize that some of the

[3] While, as the Court remarks (*ante*, pp. —, —), the Court there did refer to the fact that the original ties were stamped "Licensed to use once only," it is manifest that nothing really turned on that point.

[4] Compare note 7, *infra*.

[5] The District Court found against Aro's claim of patent misuse based on respondent's acquisition of territorial rights in the Mackie-Duluk patent. Aro did not appeal that finding.

language in the first *Mercoid* case (320 U.S., at 667–669), and more particularly its disapproving remarks about *Leeds & Catlin* (*id.*, 668), may be said to cast doubt on what it appears to me the contributory infringement cases plainly establish. Yet I cannot believe that *Mercoid* is properly to be read as throwing into discard all the teaching of the repair-reconstruction cases. What was said in *Mercoid* about contributory infringement must be read in the context of Mercoid's claim, found to have been established, that Mid-Continent had misused its combination patent by attempting in effect to wield it as a weapon to *monopolize* the sale of an unpatented element, a claim which is not here made.

I think it significant that in stating (p. 688) that the doctrine of the *Leeds & Catlin* case "must no longer prevail against the defense that a combination patent is being used to protect an unpatented part from competition," the Court went on to say, at 668–669:

"That result obtains here though we assume for the purposes of this case that Mercoid was a contributory infringer and that respondents could have enjoined the infringement *had they not misused the patent for the purpose of monopolizing unpatented material.* Inasmuch as their misuse of the patent would have precluded them from enjoining a direct infringement [citing the *Morton Salt* case] they cannot stand in any better position with respect to a contributory infringer. Where there is a collision between the principle of the *Carbice* case and the conventional rules governing either direct or contributory infringement, the former prevails." (Italics supplied.)

Thus *Mercoid*, far from modifying the doctrine of the *Wilson* line of cases as to what constitutes contributory infringement, assumed that doctrine and defined the special circumstances when the court would refuse to give a patentee the benefit of that doctrine.[6] Those circumstances are not present in this case.

As for my Brother BLACK's opinion, the congressional action of 1952, reaffirming what I consider must be taken as the doctrine of the *Wilson* line of cases, also requires rejection of what he now conceives to be a more enlightened policy in this field of law.[7]

II.

My Brother BRENNAN's opinion for reversal rests, as I understand it, not upon the view that the two court's below applied wrong legal standards in reaching their conclusion, but that "'repair' or 'reconstruction' is so far a question of law as to relieve appellate review from the restrains of Federal Rule of Civil Procedure 52A" and to allow the "making [of] an independent *application* of the proper standards" to the facts in this case. (Italics supplied.) For reasons larger than this particular litigation I cannot agree that it is either necessary or appropriate for us to substitute our particular judgment on this particular application of correct standards to the facts.

We do not sit in judgment on the decisions of the lower federal courts because we are endowed with some special measure of discernment, but because it is imperative that on matters of general concern, that is on matters of principle, there should be one authoritative and unifying expositor of federal law. I need not join issue on whether Rule 52(a) serves to constrict appellate review in cases like this, cf. *Graver Tank & Mfg. Co., Inc.*, v. *Linde Air Products Co.*, 336 U.S. 271, 275, 279. for the rule which I believe should limit us is based on the purposes which this Court can and should fulfill.

In this case there is no question but that the two courts below adverted to all the relevant standards but, having done so, they concluded that on the facts before them there was contributory infringement. I cannot see what else my Brother BRENNAN is doing but reaching a different conclusion of his own. I cannot understand how such a conclusion, even were it accepted by a majority of the Court, could provide greater guidance to either courts or litigants than would a mere statement of approbation for the standards espoused by the courts below.

Because the question of "repair" or "reconstruction" must be a mixed question of law and fact, it does not follow that we should review other than gross misapplications (certainly not present here), when the legal ingredient of this mixture is concededly correct. In the analogous area of determining the issue of patentable novelty, Courts of Appeal have consistently deferred to the judgment of the District Court (see the excellent statement of Judge Fahy in *Standard Oil Development Co.* v. *Marzall*, 181 F.2d 280, 283–284), and where they have departed from this judgment the reason has generally been because the District Court had failed to reach its conclusions by reference to correct standards. See *Kwikset Locks, Inc.* v. *Hillgren*, 210 F.2d 483; cf. *Great Atlantic and Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, 153, 154. Whether this practice be considered as compelled by the dictates of good sense or by Rule 52(a), surely particular judgments fairly and reasonably reached in two lower courts in light of correct legal standards deserve at least that same deference from us.

I would affirm.

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[6] It seems clear from the legislative history of the 1952 Act that Congress intended (1) to reaffirm the doctrine of contributory infringement as laid down in *Wilson* v. *Simpson* and reasserted in cases like *Leeds & Catlin*, (2) give that doctrine precedence against a claim of patent misuse as conceived in the *Mercoid* cases, at least where the misuse is said to inhere simply in assertion of patent rights. Both the proponents of the statute and the Department of Justice which opposed it assumed that contributory infringement, as defined in the *Wilson* line of cases was one thing, and misuse, as then most recently defined in *Mercoid*, another. See H.R. 3866, 81st Cong., 1st Sess. 53–59 (1949); H.R. 3760, 82d Cong., 1st Sess. 168–175 (1951). The opinion of the Court seems to reconfirm *Mercoid* to fuller effectiveness than it had even before the 1952 Act by treating it as if the test of whether there was contributory infringement at all was to be found in its language.

[7] This policy was before the Committee in the form of an objection to the proposed codification of the *Wilson* line of cases and its doctrine in the 1952 Act. Despite the objection Congress passed § 271 without amendment.

"MR. CRUMPACKER: We have received protests from manufacturers of replacement parts for such things as automobiles, farm tractors and the like, who evidently feel that the language used in this H.R. 3760 would make them contributory infringers of patents on the original article, the tractor or something of that sort.

* * * * * * *

"Mr. RICH [who was the principal spokesman for the group which drafted the present statute]: Those were the most vociferous objectors to the old bills on the subject. Whether or not they would be liable would depend on the facts in each particular case. . . ." H.R. 3760, 82d Cong., 1st Sess., at p. 153 (1951).

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act. of 1952

2,276,718, H. M. Crosby, Method for producing half-tone reproductions, **filed** Jan. 7, 1960, D.C., E.D.N.Y. (Brooklyn), Doc. 60–C–6, *Harold M. Crosby* v. *Garden Photo-Engraving Co., Inc.*, Contingent dismissal order filed Jan. 5, 1961.

2,283,154, Markus and Buehler, Jr., Refrigeration apparatus, **filed** Jan. 26, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c141, *Frick Company* v. *Peter Hand Brewery Company.*

2,284,721, C. R. Brown, Greenhouse, **filed** Jan. 24, 1961, D.C., N.D. Ohio (Cleveland), Doc. 36/667, *Anne Brown, Administratrix for the Estate of Clifford R. Brown* v. *Ohio Pipe & Supple Company.*

2,436,542, John F. Biaski, Roof construction; **2,536,323**, same, **filed** June 7, 1955, D.C., N.D. Ill. (Chicago), Doc. 55c835, *MPH Manufacturing Corporation, Inc. et al.* v. *Inland Steel Products Company et al.* Remanded to D.C., E.D. Wis. (Milwaukee) Sept. 20, 1960.

2,485,395, A. J. Larson, Pack of abrasive coated sheets, **filed** Jan. 16, 1959, D.C., E.D. Wis. (Milwaukee), Doc. 59–C–9, *Pres-On Abrasives, Inc.* v. *Coated Abrasives, Inc. et al.* Dismissed Jan. 27, 1961.

2,537,980, P. J. Warmath, Tag holder and protector, **filed** May 16, 1956, D.C., S.D. Calif. (Los Angeles), Doc. 19/941–TC, *Fit-All Pricing Corporation* v. *Field Plastic & Field Mfg. Co.* Order dismissing action with prejudice (notice Jan. 23, 1961). **Same**, **filed** Feb. 14, 1957, D.C., S.D. Calif. (Los Angeles), Doc. 243/57–Y (now 243/57–K), *Fit-All Pricing Corporation* v. *Kerr Industries et al.* Decree as above.

2,536,223. (See 2,436,542.)

2,613,106, G. F. Kraus, Fluid dispensers, **filed** Nov. 4, 1960, D.C., S.D. Calif. (Los Angeles), Doc. 1261/60–WB, *B.D. Products Corporation* v. *Syncro-Mist Controls, Inc.* Consent motion of dismissal (notice Jan. 17, 1961).

2,616,952, G. E. P. Smith, Jr., Reclaiming rubbers, **filed** Jan. 19, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c116, *General Binding Corporation* v. *Herbert W. Grassow et al.*

2,665,877, J. E. Krepps, Jr., Universal tuning system for television receivers, **filed** Apr. 29, 1960, D.C., S.D. Ind. (Indianapolis), Doc. 60–C–124, *Barkes Tarzian, Inc.* v. *Sylvania Electric Products, Inc. et al.* Dismissed by stipulation without prejudice Dec. 16, 1960. **Same**, **filed** Feb. 26, 1960, same, Doc. 60–C–70, *Barkes Tarzian, Inc.* v. *Westinghouse Electric Supply Company.* Decree as above Jan. 23, 1961.

2,675,062, J. H. Clarin, Chair and tablet arm assembly, **filed** May 10, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c731, *Clarin Manufacturing Company* v. *Bela B. Junkung, doing business as J. & J. Tool & Machine Company.* Complaint dismissed by agreement without prejudice Jan. 17, 1961.

2,788,141, J. H. McKee, Overhead doors, **filed** Jan. 19, 1961, D.C., W.D.N.Y. (Buffalo), Doc. 9024, *McKee Door Company* v. *Morrison Steel Products, Inc.*

2,712,586, H. T. Sherman, Binaural Radio Systems, **filed** Feb. 24, 1960, D.C., District of Columbia, Doc. 536/60, *Sherman Binaural Systems, Inc.* v. *Kitt Music Company, Inc.* Stipulation of dismissal Feb. 1, 1961.

2,754,510, J. Cauchois, Frequency modulated radar system, **filed** Jan. 31, 1961, D.C., N.D. Okla. (Tulsa), Doc. 5112, *BJ Service, Inc.* v. *Oklahoma Fracturing Service, Inc.*

2,765,988, Whittier and Lawn, Coating compositions containing coal tar pitch and an epoxy ether resin, **filed** Apr. 27, 1959, D.C., E.D. Mo. (St. Louis), Doc. 59–C–128(1), *Pittsburgh Coke & Chemical Company* v. *The Carboline Company.* Consent decree; patent held valid Jan. 5, 1961.

2,768,018, A. A. Armstrong, Cast iron valve seat insert, **filed** Jan. 25, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c136, *Thompson Ramo Wooldridge Inc.* v. *Wausau Motor Parts Company.*

2,781,864, Jahn and Scott, Fluid separation process, **filed** Sept. 24, 1958, D.C. N. Mex. (Albuquerque), Doc. 3995, *Petroleum Engineering & Tool Company of Houston, Inc.* v. *American Tank and Steel Corporation.* Plaintiff's complaint and defendant's counterclaim dismissed with prejudice (notice Jan. 25, 1961).

2,836,540, G. F. Keeleric, Method and apparatus for electrolytic cutting, shaping, and grinding, **filed** Jan. 28, 1961, D.C. Conn. (New Haven), Doc. 8672, *Anocut Engineering Company* v. *Connecticut Special Machine, Inc.*

2,848,789, E. J. Friedline, Cutting tools, **filed** July 28, 1960, D.C., E.D. Mich. (Detroit), Doc. 20/339, *General Electric Company* v. *Kennametal, Inc.* Order of dismissal Jan. 23, 1961.

2,865,117, M. C. Davis et al., Earth scraper with retractable scarifier, **filed** Jan. 27, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 93/61–T, *Earthcovator Company, Inc.* v. *Hydraulic Tool & Equipment Company.*

2,910,137, I. Victor, Method and apparatus for the recovery of solvent vapors, **filed** Jan. 28, 1961, D.C., E.D. Mo. (St. Louis), Doc. 61–C–34(1), *Little Scot, Inc.* v. *Vic Manufacturing Company Profit Sharing Trust et al.*

2,917,841, Ott and Higgins, Plastic bases for shoes, **filed** Jan. 26, 1961, D.C. Mass. (Boston), Doc. 61/81–J, *Weinbrenner Corporation* v. *Brockton Cut Sole Corporation.*

2,921,487, B. W. Schabot, Indexing fixture, **filed** Jan. 25, 1961, D.C.N.J. (Newark), Doc. 42/61, *Bernard W. Schabot* v. *Wadell Equipment Company, Inc.*

2,931,333, H. E. Handley, Curb box having locating magnet therein, **filed** Jan. 24, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c134, *Handley Industries, Inc.* v. *Perfex Plastics, Inc.*

2,933,056, E. Martin, Roof construction, **filed** Oct. 1, 1954, D.C., N.D. Ill. (Chicago), Doc. 54c1449, *Inland Steel Products Company* v. *MPH Corp. Inc. et al.* Complaint and counterclaim dismissed with prejudice upon stipulation Oct. 13, 1960.

Re. 24,454, K. H. Wilson, Folding sectional table, **filed** Feb. 9, 1959, D.C., S.D.N.Y., Doc. 142/391, *Kermit H. Wilson* v. *Howe Folding Furniture, Inc.* Stipulation and order of dismissal without prejudice Jan. 24, 1961.

REISSUES

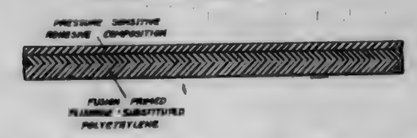
MARCH 28, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,953
CHEMICALLY RESISTANT PRESSURE-SENSITIVE ADHESIVE TAPE AND METHOD OF MAKING THE SAME

Henry N. Homeyer, Milford, and John J. McCarthy, New Haven, Conn., assignors to Connecticut Hard Rubber Company, New Haven, Conn., a corporation of Connecticut

Original No. 2,824,026, dated Feb. 18, 1958, Ser. No. 470,533, Nov. 22, 1954. Application for reissue Mar. 7, 1958, Ser. No. 719,985
18 Claims. (Cl. 117—122)

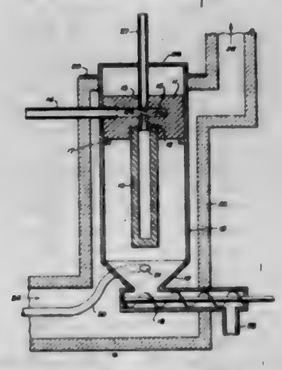


11. Pressure-sensitive adhesive composition comprising a mixture of dimethyl silicone rubber and oxidized dimethyl silicone oil.

24,954
APPARATUS FOR FILTERING SOLIDS FROM GAS-SOLIDS SUSPENSIONS

Howard Church, Los Gatos, Calif., assignor, by mesne assignments, to American-Marietta Company, Chicago, Ill., a corporation of Illinois

Original No. 2,804,168, dated Aug. 27, 1957, Ser. No. 238,595, July 26, 1951. Application for reissue Oct. 9, 1958, Ser. No. 768,518
15 Claims. (Cl. 183—61)

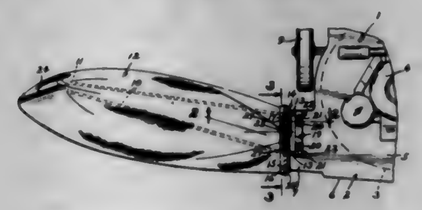


1. An apparatus for filtering solids from gases, comprising a porous filter unit, an outlet conduit for conducting filtered gas away from the filter unit, a venturi conduit interposed between and connecting said outlet conduit with said porous filter unit and a backwashing conduit arranged transversely to said outlet conduit and aligned with but spaced from said venturi conduit, said backwashing conduit also being in open communication with both said outlet and venturi conduits whereby said backwashing conduit is adapted to deliver a surge of gas to and through said venturi conduit and toward the filter unit oppositely to the flow of gas toward the exterior surface of said filter unit during the normal filtering operation.

24,955
GRASS CATCHER FOR ROTARY MOWERS

Edwin P. Campbell, 2200 E. Franklin Ave., Minneapolis, Minn.

Original No. 2,932,146, dated Apr. 12, 1960, Ser. No. 763,979, Sept. 29, 1958. Application for reissue Oct. 20,1960, Ser. No. 63,936
12 Claims. (Cl. 56—202)

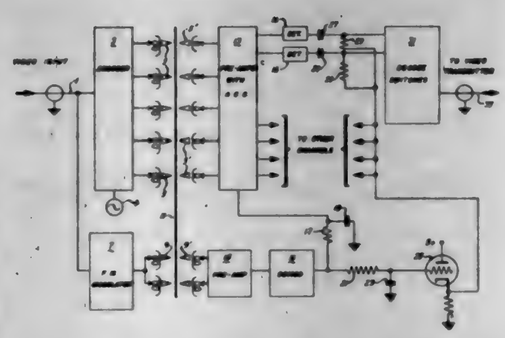


1. A grass catching attachment for lawn mower housing having a lateral grass discharge opening, said attachment comprising an opening defining frame for an elongated bag having an open neck end adapted to embrace said frame, bag supporting means connected to one side of said frame and extending laterally therefrom, and attaching means connected to said frame and extending laterally thereof oppositely to said bag supporting means, said attachment means being adapted to be connected to said mower housing, and said [bag] supporting means being adapted [to be inserted within and] to support said bag.

24,956
MAGNETIC-TAPE DROP-OUT COMPENSATOR

Wayne R. Johnson, Los Angeles, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original No. 2,816,162, dated Dec. 10, 1957, Ser. No. 393,844, Nov. 23, 1953. Application for reissue Feb. 12, 1959, Ser. No. 792,937
18 Claims. (Cl. 178—6.6)

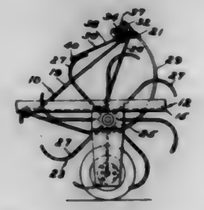


11. In a reproducing system for compensating wide band amplitude-modulated television signals for effects caused by imperfections in a recording medium upon which the amplitude-modulated signals are recorded to represent information and upon which frequency-modulated signals are recorded to represent a portion of the information represented by the amplitude-modulated signals, first means responsive to the frequency-modulated signals recorded on the medium for reproducing such signals, second means responsive to the amplitude-modulated signals recorded on the medium for reproducing such signals, demodulating means coupled to the first means for converting the frequency-modulated signals from the first means into signals modulated in amplitude in accordance with the modulation in frequency of the frequency-modulated signals, and means coupled to the second means and to the demodulating means for substituting the amplitude-modulated signals from the demodulating means for the corresponding portion of the amplitude-modulated signals from the second means to obtain composite signals having information derived from both the frequency-modulated signals and the amplitude-modulated signals recorded on the medium.

24,957
ADJUSTABLE DRAG FOR TEDDER

Arthur Raymond Cunningham, Chicago, Ill., assignor to Cunningham & Sons, Chicago, Ill., a partnership

Original No. 2,899,795, dated Aug. 18, 1959, Ser. No. 717,345, Feb. 25, 1958. Application for reissue Oct. 5, 1959, Ser. No. 844,602
12 Claims. (Cl. 56—370)



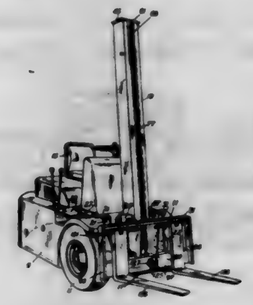
1. An adjustable drag to control spin of a tedder or like field implement having a frame rotatively supporting an axial series of tine carrying wheels, comprising a cross support carried by said frame and extending across the said tine wheels, and a flexible sheet-like drag member having means securing the same to said support to extend therefrom to a position in the path of movement of said tine wheels to be successively frictionally engaged from beneath by the tines of said wheels to control spin thereof.

24,958
LIFT TRUCK WITH SINGLE TELESCOPIC MAST

Leslie G. Ehmann, Portland, Oreg., assignor, by mesne assignments, to Hyster Company, a corporation of Nevada

Original No. 2,915,210, dated Dec. 1, 1959, Ser. No. 459,492, Sept. 30, 1954. Application for reissue Sept. 30, 1960, Ser. No. 60,282
10 Claims. (Cl. 214—674)

1. A lift truck having a single tubular mast at the front end thereof, said mast including inner and outer telescoped tubular uprights, each upright having four sides and being rectangular in cross section, a mount fixedly connected to the lower end of said inner upright and pivotally connected to said truck, means for tilting said uprights relative to said truck, a load carriage, means mounting said carriage on said outer upright for movement therealong but preventing said carriage from turning about said outer upright, said mounting means including guide elements engaging the four sides of said outer upright, power means separate from said uprights and operable independently of tilting movement thereof for elevating said load carriage along said outer upright and for elevating said outer upright relative to said inner upright, said power means including a vertical ram disposed within said inner upright and having a part in fixed relation to said mount and a part movable upwardly when said ram is supplied with fluid under pressure, said inner upright being open at its upper end through which said movable ram part is projected, flexible lift means connected at one end to said carriage and secured at its



opposite end in fixed relation to said mount, reeving means at the upper end of said outer upright over which said flexible lift means is trained, means providing a thrust connection between said reeving means and said movable ram part, and means providing a thrust connection between said outer upright and said movable ram part upon upward movement of the latter.

24,959
COMPARTMENTED DUMP TRUCK

Edward John Trubinski, 2848 Lindenmere Drive, Merrick, N.Y.

Original No. 2,914,205, dated Nov. 24, 1959, Ser. No. 688,529, Oct. 7, 1957. Application for reissue Oct. 19, 1960, Ser. No. 63,708
6 Claims. (Cl. 214—518)



1. In a dump truck comprising a chassis, a waste material storage body tiltably mounted on said chassis for dumping of material therefrom, a tail gate pivoted to the rear end of said body for swinging movement away from said body to release material therefrom, said tail gate being formed with a loading hopper extending transversely of said body and communicating therewith, and packing means operable to move material from said hopper into said body; the improvement comprising fixed partition means dividing said hopper into compartments for separation of salable waste material from non-salable waste material; at least one partition extending longitudinally and vertically of said body, fixedly secured therein, in substantial longitudinal alignment with the hopper partition means to divide said body into corresponding compartments; [and closure means selectively attachable to the rear end of said body to selectively block discharge of material from at least one selected body compartment during tilting of said body to dump material] *and closure means at the rear end of the body for selectively blocking discharge of material from one of the body compartments during tilting of said body to dump material.*

PLANT PATENTS

GRANTED MARCH 28, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,039
ROSE PLANT
Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York
Filed June 28, 1960, Ser. No. 37,538
1 Claim. (Cl. 47—61)

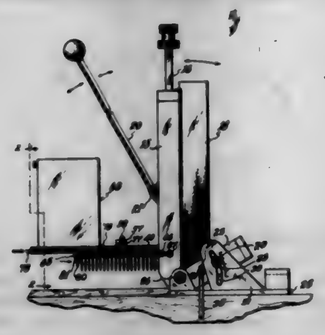
A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of full and vigorous habits of plant growth, a free blooming-habit, large bloom size, a distinctive bud color corresponding to light Rosolane Purple, lightly overcast with Tyrian Pink, and a distinctive open flower color corresponding to Rosolane Pink, lightly overcast with Pale Rosolane Purple in the center of the flower, and with Rosolane Purple on their outer petals.

PATENTS

GRANTED MARCH 28, 1961

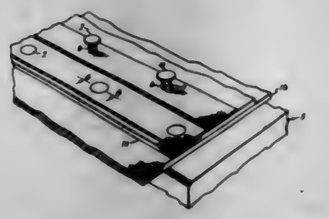
GENERAL AND MECHANICAL

2,976,536
NAILING MACHINE
Thomas Critchley, 24 Lake Ave., Ocean Grove, N.J.
Filed Oct. 9, 1957, Ser. No. 689,231
3 Claims. (Cl. 1—6)



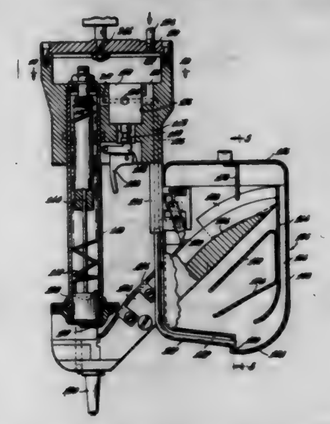
1. In a nailing machine, means for feeding nails to the machine comprising a straight nail track from which nails may be suspended, a nail magazine on the track comprising a linear series of vertical cells to hold nails stacked singly and endwise, a slidable element at the lower end of each cell adapted to hold the nails in the cells when pushed inwardly, said elements being forked to allow descent of the nails from the cells onto said track when pulled outwardly, and means for pushing a series of nails on said track, said means comprising a bar transverse to and under said track and a tensioned coiled spring connected to each end of said bar and attached to the machine.

2,976,537
FASTENER ASSEMBLY FOR JOINT FOR PAPER-MACHINE DRIER FELTS
Oscar D. Hart, 114 W. 74th St., Savannah, Ga.
Filed Aug. 2, 1955, Ser. No. 525,884
1 Claim. (Cl. 1—36)



A fastener assembly for paper-machine felt joints comprising a flat strip of flexible, soft, cushioning tape of substantial wear resistance, a plurality of double-pronged rivets upstanding from and adhesively attached to said tape by their prong tips only, substantially the complete length of said rivets being exposed above said tape, said rivets being arranged in a row substantially along the axis of said tape and each said rivet being spaced from the next along said tape.

2,976,538
IMPLEMENT FOR DRIVING FASTENERS
Jacob S. Kamborian, West Newton, Mass. (% International Shoe Machine Corp., 292 Main St., Cambridge, Mass.)
Filed Feb. 26, 1958, Ser. No. 717,587
20 Claims. (Cl. 1—106)

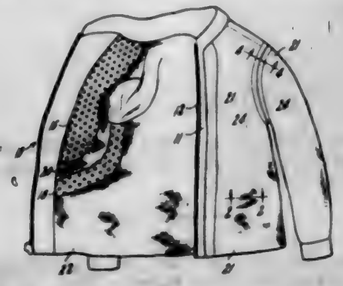


1. An implement for driving fastening elements comprising in combination an elongate support adapted to be held upright in the hand, a nozzle at the lower end of the support, a driver operable in the support to drive fastening elements from the nozzle, a hopper fastened to the support for holding a mass of fastening elements for delivery one at a time to the nozzle ahead of the driver, a port in the hopper below the mass of elements through which air may be delivered under pressure to separate elements from the mass, means for catching and conducting separated ones of the elements in single file to the nozzle, a single valve at the upper end of the support operable to admit air under pressure to both the driver and the hopper, and a sleeve slidably mounted on the support, said sleeve being operable by downward movement relative to the support when the nozzle is pressed against the work to actuate the valve.

2,976,539
COLD WEATHER CLOTHING
Nasberras H. Brown, Jr., South Bend, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 8, 1953, Ser. No. 396,816
10 Claims. (Cl. 2—2)

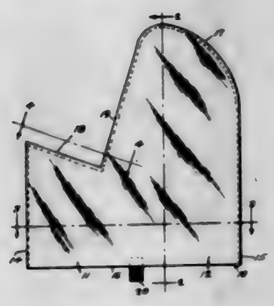
2. Cold weather clothing, comprising two layers of expanded closed cell cellular material secured together near their marginal edges only, each of said layers having a plurality of uniformly spaced openings there-

through, said layers having their surfaces adjacent each other and disposed with the openings in the two layers



in substantially non-registering relation, and a fabric sandwiched between these layers.

2,976,540
PHYSICIAN'S EXAMINATION HAND MITT
Lyndon C. Sutherland, 118 Congress St., Rushville, Ill.
Filed July 12, 1956, Ser. No. 597,462
1 Claim. (Cl. 2—161)



A physician's examination hand mitt comprising a one-piece seamless tubular body, said body being generally flat with opposed straight parallel smooth seamless edge portions, said tubular body being heat sealed together at one end, said one end being cut along an arcuate line and a straight line inclined relative to the parallel edge portions to form a relatively wide finger portion adapted to encompass all the fingers, said inclined line terminating in an acutely angled straight edge portion forming the top edge of a narrower thumb portion, one of said straight parallel edge portions forming the end of said thumb portion, the other end of said tubular body being open and of a width equal to the maximum width of said body, and a tab centrally secured to one side of said body adjacent the open end and extending beyond said end to facilitate removal of said mitt, said tab and said open end equal to the maximum width of the mitt permitting removal of the mitt after use without touching the soiled outer surface of said mitt.

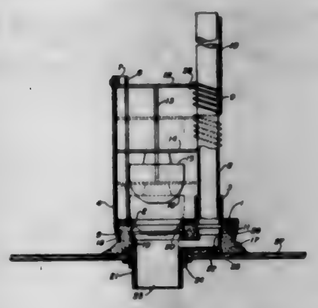
2,976,541
UTILITY BELT
Clara S. Williams, 1606 Priest Ave., Boise, Idaho, and Lynn H. Williams, P.O. Box 736, Stayton, Oreg.
Filed May 26, 1958, Ser. No. 737,653
1 Claim. (Cl. 2—300)

A ladies' and girls' utility receptacle of kidney shape in cross-section and belt assembly of the class described comprising, a smooth elongated flexible strap of uniform rectangular cross-section having a buckle embodying a pintle at one end thereof and a plurality of laterally spaced holes in the opposite end thereof, said pintle adapted to engage one of said laterally spaced holes, an elongated receptacle having an arcurate shaped front wall with a convex exterior surface, an arcuate shaped rear wall with a concave exterior surface, an arcurate shaped closed bottom wall with a convex exterior surface and an open top portion defining an upwardly open compartment of kidney shape in cross-section and adapted to accommodate sundry articles therein, said receptacle having a substantially vertical longitudinal strip integrally secured to its concave exterior surface adjacent its upper and lower extremities thereof providing a passageway for slidably receiving said strap therethrough, the entire inner vertical wall surface of said strip being corrugated within said passageway for frictionally contacting the exterior sur-



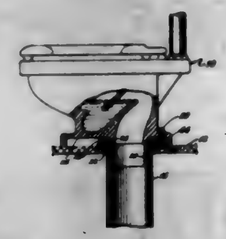
face of said flexible strap for securing said receptacle in a selected position along said flexible strap, the inner vertical wall of said said strap within said passageway fitting the concave area adjacent said concave exterior surface of said receptacle rear wall whereby the vertical axis of said belt extends in a vertical plane common to the upper and lower extremities of the rear wall of said receptacle, said receptacle being located lengthwise with respect to said strap, whereby it may be moved and arranged in any desirable selected location on the flexible strap and provide a belt with a receptacle of kidney shape in cross-section for accommodating sundry articles therein without bulging of the concave rear wall of said receptacle due to its shape and due to said strap substantially reinforcing said rear wall in said passageway.

2,976,542
REPLACEMENT FLUSH VALVES
Philip J. Brewington, 106 E. 46th St., Austin 5, Tex.
Filed May 29, 1959, Ser. No. 816,799
4 Claims. (Cl. 4—57)



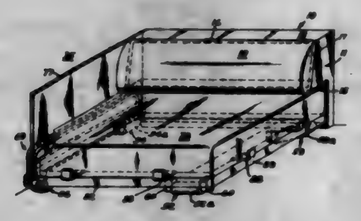
1. A replacement valve unit for use over a tank bottom having secured thereto a discharge pipe and a connected water course, comprising a flat base having a valve seat therein, a conical flange extending downwardly and inwardly from the base, an overflow pipe, means extending upwardly from the base to receive and support the overflow pipe, a curved guiding vane extending upward from the base diametrically opposite the overflow pipe, a flush ball, a spool comprising two parallel disks connected by a vertical rod threaded at its lower end and extending through the lower disk to provide a threaded stud to receive the flush ball, said spool being slidable vertically above the seat and guided by the edges of the vane and by the overflow pipe, and a helix of wire loosely slidable on the overflow pipe to engage the spool to raise the flush ball off of its seat.

2,976,543
GASKET FERRULE
Horace J. Turner and George F. Smyth, Los Angeles, Calif., assignors, by mesne assignments, to DeBost Manufacturing Co., Inc., Gardena, Calif., a corporation of California
Filed Jan. 10, 1958, Ser. No. 708,093
6 Claims. (Cl. 4—252)



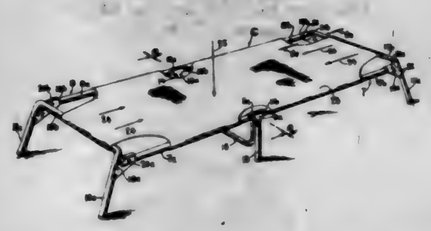
1. A sealing assembly for sealing the connection between a toilet bowl outlet and a soil pipe nipple extending upwardly through flooring and terminating substantially flush with the upper surface of said flooring, said assembly comprising: an annular member of wax-like material having its lowermost inner diameter less than the inner diameter of the nipple and having its outer diameter substantially in excess of the outer diameter of said nipple; a ferrule of chemically-inert yieldable plastic material having a substantially constant inner diameter, the outer diameter of said ferrule being less than the inner diameter of said nipple; an out-turned annular flange carried by the upper end of said ferrule, said flange being imbedded in said annular member; and a plurality of spaced apart annular sealing elements integrally carried exteriorly by said ferrule, each of said sealing elements having a diameter greater than the inner diameter of said nipple, whereby insertion of the ferrule in said nipple forces said sealing elements into compression sealing engagement with the inner surface of said nipple, thereby holding water against movement upwardly of said ferrule between the same and said nipple.

2,976,544
PIECE OF FURNITURE USABLE AS SOFA OR BED
Charles M. Mugler, 8467 Melrose Place, Los Angeles 45, Calif.
Filed Mar. 24, 1958, Ser. No. 723,384
7 Claims. (Cl. 5—53)



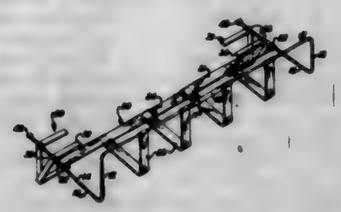
2. An article of furniture adapted to be placed on the floor comprising: a frame adapted to support a mattress; a swivel joint supporting one portion of said frame and comprising a sink member and a pivot member, one of said members being attached to the frame and the other one of said members being adapted to rest on the floor, said swivel joint having the property of permitting the frame to tip in any plane vertical to the floor around said joint; a plurality of roller supports attached to the frame at locations spaced from the swivel joint, which roller supports are adapted to rest on the floor and support the frame therefrom, each of said roller supports including a roller, a pair of yokes attached to the frame, a shaft projecting from each end of each roller and into one of said yokes each yoke forming a vertical inner guide of greater length than the corresponding dimension of the shaft which projects therein, so that each shaft is vertically reciprocable within said yoke, and springing means within each yoke in opposition between the respective shaft and the frame, so as to bias the roller away from the frame and to support the frame upon the rollers through the springing means when the article of furniture is loaded with less weight than required to overcome the springing means, and in which the springing means are overcome by a greater weight and permit the frame to lower relative to the rollers so as to immobilize the roller supports; headboard support means attached to said frame for providing a track thereon; a headboard disposed in said track; structure stationary relative to the floor and adjacent to the frame and overhanging the frame, whereby said headboard, when placed in said track adjacent to the structure, engages the structure and restrains the frame against rotation in at least one direction, and whereby said headboard is movable from said adjacency to permit rotation of said frame in said direction.

2,976,545
FOLDING CAMP COT
Robert D. Vandermeiden, Granville, N.Y., assignor to The Telescope Folding Furniture Co., Inc., Granville, N.Y., a corporation of New York
Filed Aug. 7, 1959, Ser. No. 832,281
3 Claims. (Cl. 5—111)



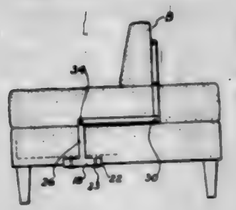
1. In a folding cot, substantially parallel side rails of approximately equal length pivoted substantially half way along their lengths and terminating at each extremity in a pair of spaced apart outer ends, one piece substantially U-shaped end pieces each having a rail portion and leg portions, one of said end pieces being positioned proximate to one pair of said outer ends, the other of said end pieces being positioned proximate to the other pair of said outer ends, brackets comprising side plates joined across the top by an arched portion, a bracket having its said side plates rigidly secured to a leg portion proximate to said rail portion for each of said end pieces with its arched portion extending inwardly and over-lying an outer end of a side rail and with said side plates pivotally secured to the side rail proximate to the end the arched portion overlies, one of said side plates being on each side of said side rail, the top of said rail portions of each end piece lying above the pivot axes of said side plates when the said leg portions are in a normally extended position for use, and a bed material, said bed material fastened to and between the rail portions of said end pieces and to said side rails.

2,976,546
BED RACK
Louise R. Owens, 5451 Newton St., Hyattsville, Md.
Filed Jan. 16, 1959, Ser. No. 787,219
1 Claim. (Cl. 5—318)



A bed rack applicable to the foot of a bed of the kind which includes a box spring and a superposed mattress, the rack consisting of a pair of clamping members proportioned to fit over and frictionally engage the sides of the box spring adjacent the foot thereof, each of said clamping members carrying spaced track means at the points where said members pass over the top of said box spring, a frame member consisting of a rod having a pair of ends bent into spaced parallel relationship and a central upstanding portion approximately the width of the said mattress, said rod ends being slidably carried by said track means, means carried by said rod ends to deter removal from said track means, and a flexible web having marginal loops carried by said frame member, said loops and said web being transferable to said upstanding portion of said frame member when the latter is moved into out-of-use position against said mattress.

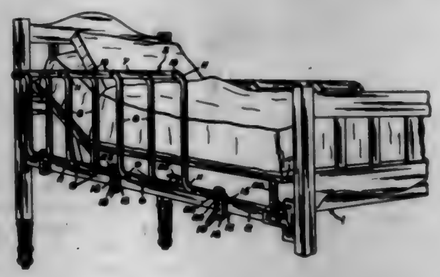
2,976,547
AUXILIARY BED FRAME FOR CONVERTING A BED TO A COUCH
Marion O. Wyatt, 3425 E. Anaheim St., Long Beach 2, Calif.
Filed Oct. 26, 1959, Ser. No. 848,834
5 Claims. (Cl. 5—327)



1. An auxiliary frame for use on a standard bed having a box spring and a mattress on said box spring, comprising: supporting arms attachable to the ends of said box spring; substantially L-shaped frame ends pivotally attached to said arms; and cross members connecting said frame ends in a manner to rest on said mattress and support said frame in a couch-defining back rest position.

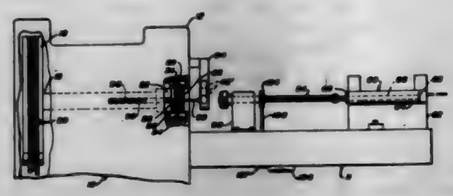
2,976,548
MEANS FOR MOUNTING A FOLDING SIDE GUARD ON A BED FRAME
Gustave R. Maertins, 395 Washington St., Hyannis, Mass.
Filed Nov. 25, 1957, Ser. No. 698,437
1 Claim. (Cl. 5—331)

The combination with a bed frame having a side rail, a bed spring member supported thereby, and a folding side guard having a bottom rail, a top rail, and a plurality of parallel connecting members each of which is pivotally connected to both the bottom rail and the top rail, of means mounting said side guard on said side rail, said means comprising a U shaped clamp member embracing said side rail and having one leg longer than the other, the shorter leg being on the inside of the side rail and the longer leg being on the outside thereof, clamping means to clamp the clamp member to the said side rail with the longer leg of said clamp member projecting above the side rail, an intermediate member separate from both the clamp member and the side guard, said intermediate member being in the form of an elongated flat plate, the two opposite sides of which form flat faces extending from one end to the other thereof and each end of which is a duplicate in shape and size of the other end, said intermediate member having a length dimension somewhat longer than that of the longer leg of the clamp member, means to secure the intermediate member to the upper end of said longer leg of the clamp member at a point above the side rail and in either a position in which the upper end portion of the intermediate member projects above the side rail and the upper end of the longer leg of the clamp member, or in a position in which the lower end of the intermediate member extends below the clamp member, and means to secure the bottom rail of the folding side guard to the upper end of the intermediate member when the latter is mounted on the clamp member with its upper end projecting above the clamp member, thereby to locate the side guard in a position in which when it is folded the top rail thereof will be flush with the bed spring member if the bed frame is one in which said bed spring member is located a considerable distance above said side rail, and to the lower end of the intermediate member when the latter is mounted on the clamp member with its lower end depending below said clamp member thereby to locate the side guard in another position in which when the side guard is folded the top rail thereof will be flush with the bed spring member if the bed frame is one in which the said bed spring member is located closely adjacent to the said side rail.



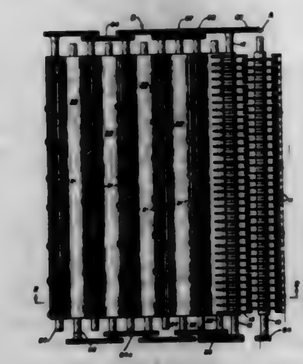
2,976,549
HOLLOW METAL ARTICLE AND METHOD AND APPARATUS FOR FORMING SAME
Gorman C. Burd, Toledo, Ohio, assignor to Neo Products Corporation, Erie, Mich., a corporation of Michigan
Filed Mar. 12, 1956, Ser. No. 570,956
8 Claims. (Cl. 10—153)

1. Apparatus of the character disclosed, in combination, a frame, a member journaled on the frame, means for rotating the member, a pair of dies associated with the member arranged for rotation with the member and reciprocation radially of the axis of rotation of the member, means for causing radial reciprocating movements of said dies during rotation of said member, an arbor formed with a peripheral recess adapted to support a hollow metal workpiece, yieldable means connected with and forming the sole support for the arbor, means for advancing the arbor and workpiece into engagement with the dies whereby the moving dies force the metal of the member into the recess in the arbor and for retracting



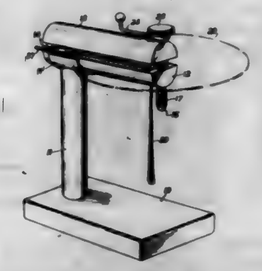
the arbor and workpiece, said yieldable means providing the sole connecting means between the arbor and the arbor advancing and detracting means, and rotatable means adapted upon retraction of the workpiece from the dies for removing the workpiece from the arbor.

2,976,550
GRAB-ROLL SCREEN
Harold F. Silver, Clarence R. Steele, and James C. Wright, Denver, and Frank B. Price, Jefferson County, Colo., assignors to Silver Engineering Works, Inc., Denver, Colo., a corporation of Colorado
Filed July 23, 1956, Ser. No. 599,526
17 Claims. (Cl. 15—3.11)



6. In beet screening apparatus, the combination of at least two screening units, each mounted and arranged to pass clods and leaves of variable size and to reject beets of variable size, each unit comprising an elongated rotary member having a smooth surface, and a second elongated rotary member having at least two oppositely wound helical projections on its exterior surface so placed that beets moved away from one said projection are intercepted by an oppositely wound projection so as to reverse the direction of their movement, said members being mounted on substantially horizontal axes transverse to the flow of beets being screened by said units and having their peripheral surfaces spaced to pass earth and leaves and to reject substantially all beets in said flow, said projections being constructed and arranged as a result of rotation of said second rotary member to enter downwardly into said space during said rotation and at the same time impart an oscillatory agitation to the beets lengthwise of said members while impacting clods and leaves and directing a following downward movement thereto due to the placement of said projections, and means for driving the members having said helical surfaces.

2,976,551
GRAMOPHONE RECORDS CLEANING MACHINE
Cecil Ernest Watts, Sunbury-on-Thames, England, assignor to Cecil E. Watts Limited, Kingston-on-Thames, Surrey, England, a company of Great Britain
Filed Mar. 25, 1958, Ser. No. 723,838
Claims priority, application Great Britain Mar. 28, 1957
5 Claims. (Cl. 15—4)

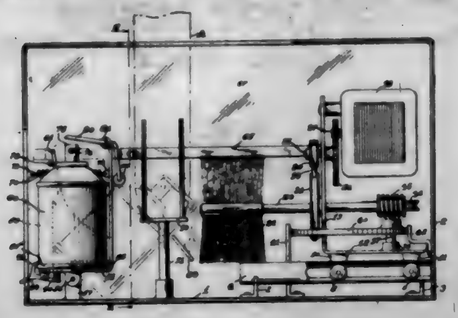


1. In a machine for treating a record disc having a central disc hole, with each of the opposite disc surfaces having spiral record grooves separated by spiral ridges surrounding the disc hole, a support, a record-supporting structure revolvably mounted in said support and having a spigot member engaging the disc hole and also clamping elements releasably clamping opposite sides of the disc in the region adjacent the disc hole, two elongated, relatively stiff treating members extending generally radially to said spigot member and opposite to each other for engaging respectively the opposite major surfaces of the disc, at least one of said treating members having an exterior porous abrading layer holding therein an electrically conductive liquid substance for abrading the disc ridges and applying a coating of said liquid substance upon the abraded disc portions as they are abraded by relative movement between the disc and the treating member, an elongated brush carried by and extending radially along each of said treating members, each brush having bristles holding between them said liquid substance for removing dust from and applying a coating of said liquid substance to the disc grooves moving past said treating members, force means for releasably and yieldingly forcing and pressing said two elongated treating members and their respective brushes with substantial pressure against facing opposite surface regions of the disc, and driving means for forcibly rotating said record-supporting structure and thereby rotating the clamped disc between said treating members and their respective brushes while the disc is held under pressure between them, whereby the ridges of the disc are abraded and roughened by the overlying pressed treating body and the disc is enabled to retain for a prolonged time the liquid coating which removes electric charges from the disc surface as the brushes remove dust from the record grooves.

2,976,552
HAIR CLIPPER CLEANING AND STERILIZING DEVICE
Edmund J. Loeffler, 1106 Green St., Glendale, Calif.
Filed Nov. 12, 1957, Ser. No. 695,576
7 Claims. (Cl. 15—21)

1. An electric clipper cleaning and sterilizing device comprising, a casing, a cradle in the casing adapted to receive the head of the clipper, a platform mounted for horizontal reciprocation in the casing, brushes on the platform, means for moving the platform and brushes across the head of the clipper, a frame mounted for tilting movement within the casing, a sprayer can removably seatable in the frame, the can having a de-

pressible valve at the upper end thereof, a member extending from the platform engaging the frame to tilt the frame on the return movement of the platform, and



a lever in the frame engaging said member during the tilting movement of the frame to depress and open the can valve.

2,976,553
MOP
Samuel Sinsell, 41 Ave. I, Farmingdale, N.Y., and John Vitkevich, 57 Gridley St., West Islip, N.Y.
Filed Jan. 21, 1960, Ser. No. 3,837
2 Claims. (Cl. 15—147)



1. A cleaning mop consisting essentially of a solid mop handle having substantially in the center of said handle a spiral slot therethrough of suitable length, a tubular sleeve of substantially twice the slot length slidably disposed over said handle slot, said sleeve having a pair of diametrically opposed apertures centrally located in said sleeve, a tubular roller collar disposed in said slot with the hole of the collar in line with the apertures of said sleeve, a rivet pin disposed through said pair of apertures in said sleeve and said tubular collar securing said sleeve and said collar to said handle, a dowel pin fixedly secured to the top end of said handle, a tubular handle element rotatably mounted on said dowel pin, a cap having a cavity therein fixedly secured to the other end of said dowel pin, a mop retaining bridge element secured to the other end of said handle and a mop head secured to said bridge element whereby seizure of said rotatable handle element in one hand and seizure of the sleeve in the other with movement of the handle element toward and away from said sleeve effects rotation clockwise and counterclockwise of said mop head, mop handle and dowel pin with the cap thereon.

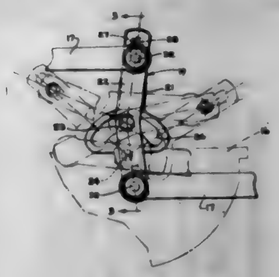
2,976,554
BRUSH
John Hromoko, Lodi, and Anthony F. Verdesca, Fairview, N.J.
Filed Nov. 18, 1957, Ser. No. 697,188
2 Claims. (Cl. 15—167)

1. A brush comprising, in combination, an elongated body of flexible resilient material formed with an elongated cavity extending longitudinally along said body between and terminating at the ends of said body, said body having a plurality of portions spaced from each other and arranged in a row extending longitudinally along said body, and said cavity of said body being defined at



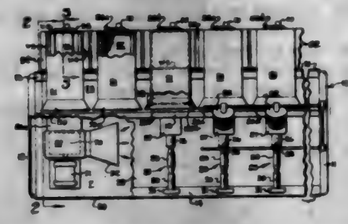
least in part by said body portions so that a material in said cavity may move from said body; and an elongated handle fixed to and carrying said body, said handle having a free end portion extending into one end of said cavity and closing the latter at said one end thereof.

2,976,555
WINDSHIELD WIPER MOTOR TRANSMISSION SYSTEM
George O. Bartoo, Eden, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed Mar. 18, 1957, Ser. No. 646,780
2 Claims. (Cl. 15—250.27)



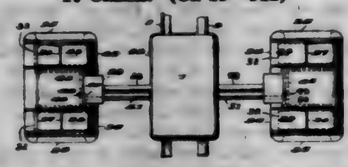
1. A cleaner for a curved windshield having a frontal area merging into a lateral area, comprising in combination therewith, a wiper, a rockshaft journaled adjacent the lower edge of the windshield, a wiper carrying arm on the outer end of the rockshaft and movable thereby form the frontal area out over onto the lateral area and back up the lateral area over onto the frontal area, driving means having a rockable power shaft, and transmission means connecting the power shaft to the rockshaft and including an oscillating driven arm pivoted off-center from the power shaft, and a longer driving arm oscillatable by said power shaft, and a motion transmitting connection betwen the outer ends of the driving and driven arms, the driving and driven arms in their intermediate position being in substantial registry and the pivot axis of the driven arm being located between the axis of the power shaft and the outer end of the longer arm, and a reciprocatory driving member connecting the outer end of the shorter driven arm to the rockshaft to oscillate the wiper, said motion transmitting connection playing radially on the outer end of the longer driving arm as the latter moves from its intermediate position to carry the wiper over onto and down the lateral area in the direction of airflow to reduce the inertia of the shorter driven arm and the structure connecting the shorter driven arm to the descending wiper at its point of reversal to a minimum at which time the driven arm has a greater angularly displaced position than the longer driving arm.

2,976,556
APPARATUS FOR THE REMOVAL OF DUST
Ferdinand Retterer, Rueil Malmaison, France, assignor, by direct and mesne assignments, to Parks-Cramer Company, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 27, 1959, Ser. No. 802,470
Claims priority, application France Apr. 1, 1958
17 Claims. (Cl. 15—301)



1. A dust removing apparatus for textile machinery comprising an elongate duct connected to a source of suction and being provided with a plurality of open suction mouths, a valve interposed between each suction mouth and said duct, said valves being normally closed, and means for successively opening all of said valves in a pre-established sequence while subsequently closing said valves in said sequence, but while overlapping the intervals during which successive valves are open whereby suction is produced in each successive mouth for a part of the time during which suction is produced in an immediately preceding mouth.

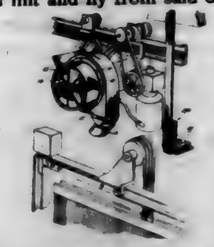
2,976,557
TRAVELLING CLEANER FOR TEXTILE MACHINERY
James F. King, Jr., Winston-Salem, N.C., assignor to The Bahnson Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Mar. 12, 1956, Ser. No. 570,895
10 Claims. (Cl. 15—312)



1. Apparatus for cleaning textile machinery such as a spinning frame or the like comprising a carriage adapted to travel longitudinally of the frame above the same, support means extending laterally outward in opposite directions from said carriage and frame, a motor mounted upon each outer end of said support means, a centrifugal fan rotatable by each said motor about a substantially horizontal axis parallel to the direction of carriage travel, a substantially vertical rotatably mounted casing around each said fan, each said casing having at least one outlet nozzle directed tangentially of the fan casing associated therewith, and means effecting rotational movement of said casings and hence said nozzles to direct air streams therefrom towards opposite sides of said frame as said carriage moves along said frame.

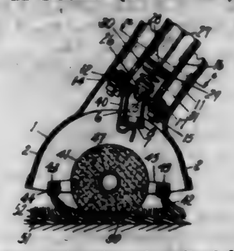
2,976,558
AIR CLEANER
Mitchell S. Fain, Salisbury, N.C., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed June 24, 1959, Ser. No. 822,652
5 Claims. (Cl. 15—312)

1. A cleaning and conditioning system for removing lint from looms and their surrounding atmosphere in a textile weave room and for conditioning said atmosphere, said system comprising a motor driven loom cleaner blower movably mounted on a track for periodically blowing lint and fly from machinery beneath said track, said blower having a casing with an inlet and a depending outlet and containing a centrifugal impeller, a filter drum rotatably mounted on the exterior of said casing over said inlet, means for rotating said drum as the air passes through, and means fastened adjacent said track for periodically removing a portion of said retained lint and fly from said drum and for per-



mitting the unremoved portion of said lint and fly to remain on said drum in an evenly distributed layer, said layer of lint and fly being water absorbent whereby said layer as it is carried by said drum on said blower through portions of said weave room will absorb moisture from the air of those portions of the room with excessive moisture in the atmosphere and distribute it by evaporation aided by the linear movement of the blower and the rotary movement of the drum to other portions of said weave room with insufficient moisture in the atmosphere.

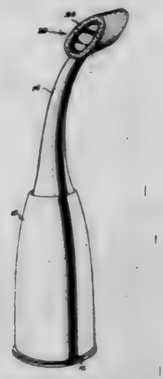
2,976,559
APPARATUS FOR APPLYING DETERGENT TO RUGS AND THE LIKE
Robert A. Yonkers and Henry T. Lathrop, Grand Rapids, Mich., assignors to Bissell Inc., a corporation of Michigan
Filed Oct. 17, 1957, Ser. No. 690,722
11 Claims. (Cl. 15—532)



11. In a device of the class described for treating rugs, a body member, a rug treating roller comprised of a rigid central core and a surface of resilient compressible synthetic sponge material of substantial radial thickness, substantially fixed end bearings of said body member mounting said roller in said member and thereby supporting the member in reciprocal forward and backward movement over a rug, a brush carried by said body member both fore and aft of said roller and having downwardly facing bristles to engage a rug over which said body member is transalted, and handle means rigidly secured to said body member for manual translation of the same and of said roller over the rug in pressure roller deforming engagement with the rug to effect treatment of the rug by both said roller and said brush, said roller normally extending downwardly beyond the bristles of said brush and yielding under pressure of said handle to provide for engagement of said brush with the rug, and said rigid handle securement to said body member providing tilting

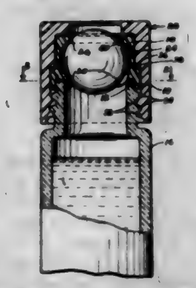
control of said member upon said roller to control the treatment of the rug by the fore and aft portions of said brush.

2,976,560
CLEANSING APPLICATOR FOR LIQUIDS
Wesley Turner, Portland, Oreg., assignor to Rid-Ring Chemical Company, Los Angeles, Calif., a corporation of California
Continuation of abandoned application Ser. No. 287,157, May 10, 1952. This application Aug. 24, 1955, Ser. No. 530,236
16 Claims. (Cl. 15—569)



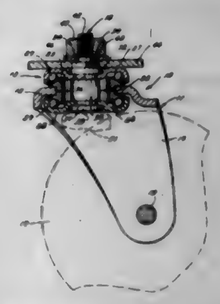
10. An applicator for liquids comprising an elongated head, a liquid supply conduit extending transversely of said head, conduit means in the head connecting the outer surface of said head with the liquid supply conduit, and a tubular sponge jacket surrounding said head and having a transverse opening therein for receiving the supply conduit, the pores of the sponge communicating with the conduit means in the head.

2,976,561
SEAL FOR BALL APPLICATORS
Robert M. Calver, Hillside Ave., P.O. Box 35, Flanders, N.J.
Filed Feb. 17, 1958, Ser. No. 715,811
3 Claims. (Cl. 15—572)



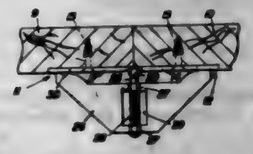
3. In a ball applicator having a resilient ring with lugs supporting a ball within the ring and with a zone bearing surface of the ring confronting the ball above the equator of the ball and in position to seal the ball when the lugs are distorted to raise the ball into contact with the zone bearing surface, and a cap with an inside abutment surface that causes a distortion of the lugs to raise the ball into contact with the zone bearing surface when the cap is moved downward on the ring, the improvement which comprises a second abutment surface on the cap located above the end of the ring and above the zone bearing surface for restraining distortion of the ring and stretching of the zone bearing surface by the ball, said second abutment surface being spaced from the first abutment surface by a distance that brings the second abutment surface into contact with the top of the ring at the same time that the first abutment surface causes the ball to rise into firm contact with the zone bearing surface of the ring.

2,976,562
CASTER SPINDLE ASSEMBLY AND METHOD OF FORMING SAME
John W. Black, Prairieville Township, Barry County, Mich., assignor to Pemco Wheel Company, Kalamazoo, Mich., a corporation of Michigan
Filed Nov. 10, 1958, Ser. No. 773,012
3 Claims. (Cl. 16—21)



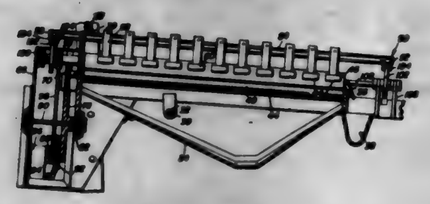
1. A spindle construction for mounting a caster upon a support plate having an out-of-round opening, said caster having a wheel supporting yoke including a swivel plate engaged by anti-friction swivel bearings and having an opening therethrough, comprising: a bearing assembly including a pair of bearing ball retainer rings on opposite sides of said swivel plate and coaxial with said opening therethrough, said rings having parallel, radially inner edge portions; a spindle extending through said retainer rings, said spindle having a pair of spaced, annular grooves in which said inner edge portions are respectively disposed and rigidly held, and an out-of-round portion between the upper end of the spindle and the adjacent one of said grooves, said out-of-round portion defining an inscribed circle of less diameter than the diameter of the spindle between said out-of-round portion and said adjacent groove, said out-of-round portion being of substantially the same shape as said out-of-round opening and being snugly and non-rotatably disposable within said out-of-round opening; and means engageable with said upper end of said spindle for holding same against axial movement with respect to said member, whereby said retainer rings are positively held and positioned with respect to each other and said support plate.

2,976,563
HINGE
Joseph E. Crisera, 7902 16th Ave., Brooklyn 14, N.Y.
Filed Aug. 12, 1959, Ser. No. 833,235
6 Claims. (Cl. 16—146)



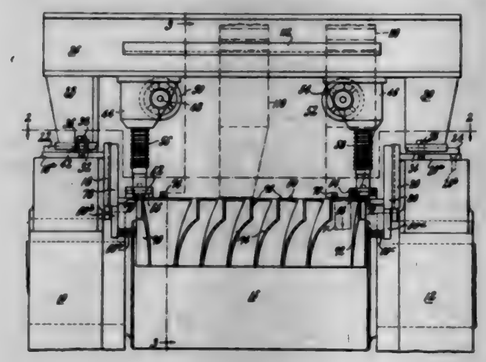
1. A hinge comprising: a pair of leaves, a pintle pivotally connecting said leaves, a shaft mounted for swinging movement on said pintle, and a bracket journaled on said shaft to rotate about the longitudinal axis thereof and engageable with the leaves for locking same in open position.

2,976,564
ASSISTER PEELER FOR SHRIMP PEELING MACHINES
Raphael Q. Skrmetta, Deepsouth Packing Co., 3636 Lowerline St., New Orleans, La.
Filed Jan. 2, 1958, Ser. No. 706,806
30 Claims. (Cl. 17—2)



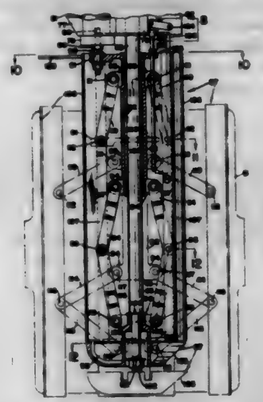
1. A shrimp treating machine comprising a member having a flat, reversibly moving surface upon which shrimp are supported and conveyed, a peeling element operatively associated with said surface for peeling shrimp conveyed thereto by said surface, an assister peeler disposed above and cooperating with said surface and being positioned in spaced relation to said peeling element, means for causing movement of said assister peeler toward and from said surface in timed relation to movement of said surface toward said peeling element to thereby press shrimp between said assister peeler and said surface and rotate said shrimp about their longitudinal axes and loosen their shells while temporarily halting travel of said shrimp by said moving surface to said peeling element.

2,976,565
MIXING APPARATUS AND METHOD
Eugene E. Gyana, Flower Hill, N.Y., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed May 23, 1958, Ser. No. 737,243
15 Claims. (Cl. 18—2)



2. A mill for mixing plastic material comprising a pair of mixing rolls journaled for rotation in closely spaced relation; means for rotating said rolls convergently; and means comprising a progression member extending longitudinally of said rolls and positioned in the nip of said rolls with the apex of said member near the apex of the nip and having longitudinally spaced helical flights on the face of said member adjacent the material-carrying roll for cutting the material on said material-carrying roll and for reorienting circumferential filaments along non-circumferential lines to form a rolling bank of material progressing longitudinally of said rolls, said progression member and said material-carrying roll having non-concentric curved faces forming, in conjunction with said flights, converging entering wedge-shaped channels for the material causing a hydrodynamic pressure build-up in the material as it approaches the nip, whereby improved mixing action is provided.

2,976,566
GREEN TIRE LOADING AND CENTERING MECHANISM
Leslie E. Soderquist, Silver Lake, Ohio, assignor to The McNeil Machine & Engineering Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 28, 1959, Ser. No. 787,886
3 Claims. (Cl. 18—4)

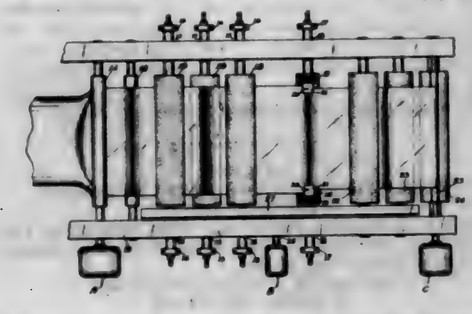


1. In a tire press for shaping and curing unvulcanized tire bands within separable upper and lower mold sections, said press being adapted when open to receive an uncured band in registry with a lower mold section and having upright members on opposite sides of said lower mold section, a rotatable support extending between said upright members above said lower mold section, a transfer device carried by said support radially thereof and having a chuck thereon to hold a band in cylindrical form, said chuck having a plurality of radially movable tire band engaging segments and a nose portion which is movable axially of said chuck to an extended position such that the distance between the lower mold section and the nose portion is less than the length of said tire band to allow said chuck to guide said band into seating engagement in said lower mold section, means to rotate said support and to move said chuck into registry with said lower mold section, and means to contract said chuck segments to release said band when so registered and to retract said nose portion from said band.

2,976,567
PROCESS AND APPARATUS FOR UPGRADING THERMOPLASTIC FILM
William C. Jones and Walter A. Klein, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 16, 1957, Ser. No. 690,578
5 Claims. (Cl. 18—10)

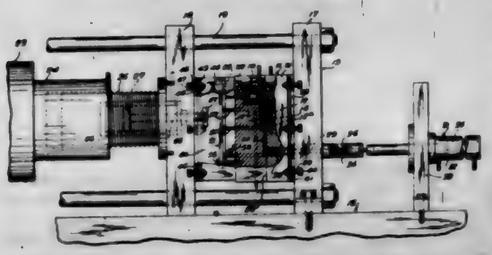
1. In the process for preparing clear, transparent, thermoplastic film wherein a thermoplastic normally crystalline vinylidene chloride polymer is thermally extruded through an annular orifice to form a tube which

is supercooled, and subsequently biaxially distended to cause orientation therein, the improvement consisting of (1) embossing the so-formed oriented film to a surface roughness of from 400 to 500 root mean square inches



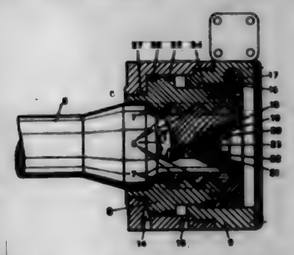
without destroying the orientation and whereby the transparency of said film is not substantially altered, (2) chilling said film, and (3) winding up said film, while maintaining constant tension on said film from the orienting step to the wind-up step.

2,976,568
MOLD CAVITY VENTING DEVICE
Sam J. Foti, Warrensville Heights, Ohio, assignor to The Auto-Diesel Piston Ring Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 18, 1959, Ser. No. 800,205
1 Claim. (Cl. 18—30)



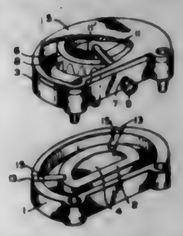
In mold apparatus, a closable and openable mold containing a mold cavity for injection of fluid molding material thereinto, said mold comprising co-operating mold members at least one of which is movable relative to a parting plane for opening and closing said cavity, means including an ejector plate mounted upon and movable relative to said movable mold member for ejecting a molded article from said cavity, unitary means for moving said movable mold member to closed and open positions and simultaneously moving said ejector plate to idle and active positions, respectively, said movable mold member having a chamber therein provided with an open end lying substantially in said parting plane, said chamber at its open end being in communication with said cavity for receiving ventable fluid comprising air and the like displaced from said cavity by the injected molding material, a single plunger freely slidable in said chamber in a direction away from said open end in full response to the ventable fluid thereagainst, the other end of said chamber being closed except for an air-venting passage provided therein to permit such freely slidable movement of said plunger, said plunger being free for movement in the opposite direction fully to the open end of said chamber for ejecting the ventable fluid from said chamber, and atcuating means operatable to move said plunger in such opposite direction upon opening of the mold, said actuating means comprising a stem projecting from said plunger and beyond said movable mold member and being disengageable and re-engageable by said ejector plate according to the position of said movable mold member, said plunger stem being engageable by said ejector plate upon opening of said movable mold member, and said ejector plate being disengageable from said plunger stem upon closing of said mold so as to leave said plunger free at the open end of said chamber preparatory to receiving ventable fluid therinto from said cavity.

2,976,569
DIE CASTING MACHINE OF HIGH PRESSURE INJECTION MOULDING DEVICE
Hendrik K. Queré, 8 Kookoekweg, and Bartholomeus J. Helders, 45 Gortelaweg, both of Vaassen, Netherlands
Filed June 1, 1959, Ser. No. 817,188
Claims priority, application Netherlands June 5, 1958
4 Claims. (Cl. 18—30)



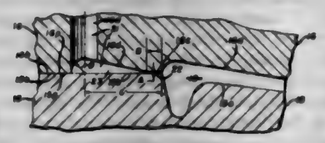
1. Material forming apparatus comprising mould sections adapted to be slidably displaced with respect to each other, a hydraulic pressure mechanism including a plurality of pressure cylinders, said pressure mechanism being adapted to draw the mould sections together under high pressure, releasable coupling rods and intermediate coupling means adapted to effect a selective coupling between the pressure cylinders and one of the mould sections, a driving mechanism working independently of the pressure cylinders and adapted to drive said rods and intermediate coupling means so that a selective coupling can be effected in unloaded condition of the coupling means, said coupling means including a plurality of claws on each coupling rod, and coupling sleeves carried by the other of said mould sections and internally including claws for engaging the first said claws, the coupling sleeves and the coupling rods being adapted for rotation with respect to each other by means of said driving mechanism, each pressure cylinder of the pressure mechanism being arranged adjacent the associated coupling means which are rotatable in the driving means.

2,976,570
MOLDING APPARATUS FOR AND METHOD OF FORMING A PROSTHESIS AND THE LIKE
Morris Ettenberg, 17 Shepherd Park, Woban 68, Mass.
Filed Aug. 15, 1958, Ser. No. 755,250
3 Claims. (Cl. 18—34.1)



1. Molding apparatus for forming a prosthesis and the like, comprising a dental flask with its side wall separated along a plane of division to form an upper inverted cup-shaped section and a lower cup-shaped section, said upper and lower sections receiving molding material forming upper and lower mold parts defining therebetween a cavity at said plane of division shaped to simulate the prosthesis and the like, the side wall of one of said sections having an inlet passage therethrough adapted to communicate with one side of said cavity through a passage in the molding material, and the side wall of one of said sections having at least one metering groove therethrough at said plane of division adapted to communicate with another side of said cavity through a passage in the molding material, whereby plastic material may be injected through said inlet into said cavity and out of said metering groove.

2,976,571
MOLD VENTING STRUCTURE
Ernest P. Moslo, Lakewood, Ohio (Moslo Machinery Company, 2443 Prospect Ave., Cleveland 15, Ohio)
Filed Nov. 14, 1958, Ser. No. 773,874
2 Claims. (Cl. 18—43)

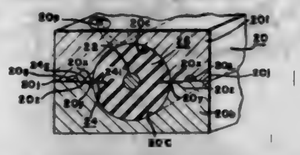


1. In a mold for molding articles of plastic material of the type giving off condensible volatile material as molded, said mold having separable mold sections which are relatively recessed to provide a plastic material receiving cavity at their mutually engaging faces; means for venting said cavity comprising a passageway in said mold communicating with said cavity and leading to a vacuum source connection, said passageway having a narrow transverse dimension immediately adjacent said cavity between approximately 0.00075" and 0.0015" with this dimension maintained generally constant for a distance approximately 1/16" to 1/8" only downstream, and said passageway immediately downstream from the termination of said narrow transverse dimension increasing in said transverse dimension quickly to a size to clear a plug of condensed volatile material released from said passageway portion of narrow transverse dimension.

2,976,572
METHOD FOR PREPARING A MOLDING MATERIAL FROM HIGH MOLECULAR WEIGHT SUBSTANCES AND THE RESULTING PRODUCTS
Jacob Christoffel Ferdinand Kessler, Velp, Arnhem, Netherlands, assignor to N.V. Onderzoekingsinstituut Research, Arnhem, Netherlands, a corporation of the Netherlands
Filed May 17, 1957, Ser. No. 659,987
Claims priority, application Netherlands May 22, 1956
9 Claims. (Cl. 18—47.5)

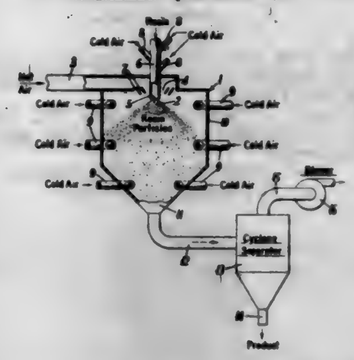
1. A method for the preparation of shaped articles comprising the steps of heating crystallizable synthetic linear polyamides of relatively low monomer content from the solid phase to above their melting point but below the point of incipient thermal degradation thereof, subjecting the heated polymeric material to intensive mechanical working including rubbing and shearing forces sufficiently great such that upon cooling the polymeric material only a disturbed spherulitic structure is formed, cooling the polymeric material, finely dividing the same, remelting the polymeric material, shaping said remelted material, and cooling said shaped material whereby a body is obtained having a homogeneous disturbed spherulitic structure.

2,976,573
METHOD OF MOLDING A STEERING WHEEL
Raymond C. Davis, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 22, 1958, Ser. No. 737,871
7 Claims. (Cl. 18—47.5)



7. In a steering-wheel-making method, the steps, comprising, providing a reinforcing metal core for the steering wheel in a mold having complementary parts, fitting the complementary mold parts relative to each other such that relatively soft resilient material can be supplied thereto, holding a preformed member of relatively harder material along an outer edge thereof to abut the complementary parts along a mating edge thereof such that flash of the relatively soft resilient material will be located immediately adjacent to the member of relatively harder material, filling the relatively soft resilient material around the reinforcing metal core and at least a portion of the preformed member of relatively harder material, and trimming flash of the molded soft material away from joints along opposite sides of the member serving as backing of harder material which is only partially removed though provided to facilitate removal of relatively soft material.

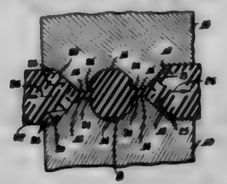
2,976,574
CHEMICAL PROCESS AND PRODUCT
William A. Kentgen, Martinsville, Charles R. Duvall, Somerville, and Rupert S. Daniels, Union, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed July 31, 1956, Ser. No. 601,137
8 Claims. (Cl. 18—48)



1. A process which comprises propelling and dispersing dry, ground, fusible heat-hardenable phenol-aldehyde resin particles by means of a cool, turbulent substantially inert gas feed functioning at a temperature substantially below the melting point of the said resin into a mixing chamber at one end thereof and at which point therein the said particles are entrained in a hot turbulent substantially inert gas stream the temperature of which is above the melting point of the resin and heat polished to form spheres the heat and time of entrainment being insufficient to cause appreciable advancement of the resin, said spheres passing to the periphery and opposite end of said chamber wherein a counterrotating cool, turbulent, substantially inert gas of a temperature substantially below the point of melting of said resin is

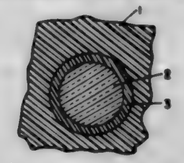
again supplied to said chamber and entraining and cooling said spheres therein to form fusible, rounded microspheres.

2,976,575
METHOD FOR MOLDING O-RINGS AND THE LIKE
Charles J. Dambenberger, Pacific Palisades, Calif., assignor to Plastic and Rubber Products Company, Los Angeles, Calif., a corporation of California
Filed Jan. 28, 1957, Ser. No. 636,773
9 Claims. (Cl. 18—55)



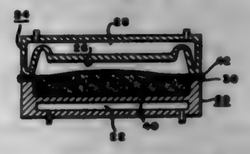
1. A process for molding and curing a curable rubber material, comprising the steps of: (1) providing a blank of said rubber material in its uncured state; (2) alternately compressing the material of said blank and allowing it to expand in rapid succession to cause internal frictional heating of the blank and simultaneously heating the blank externally whereby to place the center of the blank in a semi-fluid state and drive entrapped gases in the material inwardly away from the surface to the center of the blank whereby a gas-filled void is formed at the center of the blank; and (3) confining said internally heated blank in a mold cavity having a volume greater than that of the blank and applying external heat to the blank while the latter is so confined to cause expansion of the gases at the center of the blank and outward expansion of the material of the blank to fill the cavity, subsequent inward expansion of the material of the blank to close said void and disperse the entrapped gases in the void throughout the center portion of the blank, and curing of the material while the latter is undergoing said outward and inward expansion.

2,976,576
PROCESS FOR PRODUCING SHAPED ARTICLES FROM THREE-DIMENSIONAL HYDROPHILIC HIGH POLYMERS
Otto Wichterle, 2 Vaclavkova, Prague XIX, Czechoslovakia, and Drahoslav Lím, 57 Senohraby, near Ricany, Czechoslovakia
Filed Apr. 24, 1956, Ser. No. 580,411
11 Claims. (Cl. 18—58)



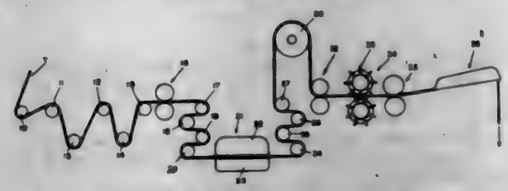
7. A method of preparing a sparingly cross-linked polymeric hydrogel structure, comprising mixing in aqueous solution a water soluble monoester of an olefinic acid selected from the group consisting of acrylic acid and methacrylic acid and of a bifunctional alcohol having an esterifiable hydroxyl group and at least one additional hydrophilic functional group, with a water-soluble diester of an olefinic acid selected from said group and of an alcohol having at least two esterifiable hydroxyl groups, said diester being present in an amount not to exceed one mol percent of said monoester; immersing an elongated insert in the aqueous mixture so produced; causing said mixture to react so as to form a shape-retaining body of a cross-linked copolymer of said monoester and said diester about said insert, said insert being coated with a coating of said copolymer prior to being immersed in said mixture; and removing said insert so as to form an elongated opening in said body of copolymer.

2,976,577
PROCESS OF MAKING FOAM CORED LAMINATES
Richard E. Gould, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 14, 1958, Ser. No. 728,449
2 Claims. (Cl. 18—59)



1. The process of making an article having foamed material provided with a surface of a plastic resin sheet comprising the steps of confining on one side of an unformed thermoplastic resin sheet requiring heat to soften and render it conformable, a sufficient amount of liquid unpolymerized foam forming materials capable of reacting exothermically to produce heat sufficient to soften and render the sheet conformable and to expand sufficiently to push the sheet toward the opposite side, and permitting the foam forming materials to react and expand whereby the thermoplastic resin sheet becomes softened sufficiently to render it conformable by the heat developed and the expansion pressure pushes the sheet while softened to the opposite side, and confining and regulating the temperature of substantially the entire surface of the opposite side of said sheet in the contour desired during such softening and expansion of the sheet and also during the cooling of the sheet to achieve the desired contour, said expansion pressure being sufficient to push said sheet to the limits of confinement.

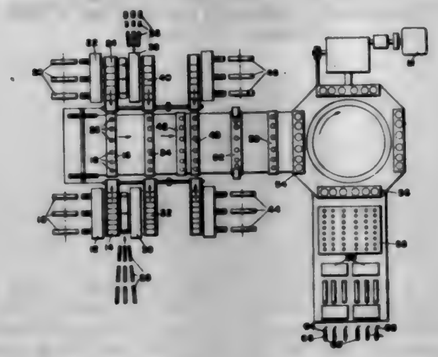
2,976,578
METHOD AND APPARATUS FOR TREATING ACRYLIC FIBERS
Richard Virgil, Flushing, N.Y., assignor to Tempion Spinning Mills, Inc., Mooresville, N.C., a corporation
Filed Jan. 29, 1958, Ser. No. 712,087
7 Claims. (Cl. 19—37)



2. In the method of converting monofilaments of acrylic fiber to staple, the steps of simultaneously stretching and heating the fibers to a temperature of from about 250 to about 400° F., immediately thereafter quickly cooling the stretched and heated fibers to a temperature of from about 75 to about 85° F and thereafter breaking the fibers to form staple.

2,976,579
METHOD FOR MAKING TAMPONS
William H. Rabell, 2105 Montclair Drive, Fort Worth, Tex.
Filed Apr. 9, 1958, Ser. No. 727,337
8 Claims. (Cl. 19—144.5)

1. The method of making a tampon comprising laying down a rectangular piece of absorbent cotton in generally flat condition, superimposing a layer of gauze flatly thereon, rotating the cotton and gauze 90°, in the plane of the cotton and gauze, laying a second rectangular piece of absorbent cotton upon the so rotated cotton and gauze,

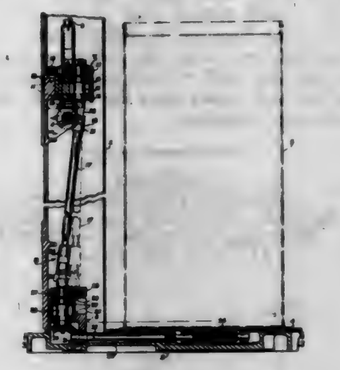


so that the second piece of cotton is at right angles to the first piece, and applying a cord to the multi-layered member, pursing the latter and heating and radially compressing the same while heated to provide a permanent pursed shape for the tampon.

2,976,580
DEVICE FOR PREPARING A FLEECE, SLIVER OR YARN, IN PARTICULAR OF GLASS
Johann Christoph Riedel, Burggasse 4, Veitsberg, Austria
Filed July 16, 1953, Ser. No. 368,310
3 Claims. (Cl. 19—150)

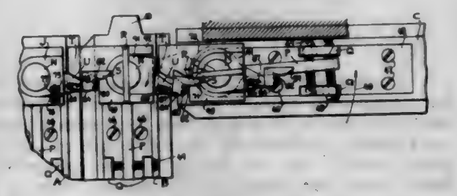
1. A device for forming a fleece, sliver or yarn from filaments of glass rods comprising a rotatable drum on which continuous filaments are deposited to be drawn off by the rotation of the drum from a source, inlet and outlet guide plates disposed concentric to the drum around a portion of the circumference thereof and radially spaced therefrom to guide the wind of filaments along the periphery of the drum, a baffle plate mounted normal to the tangential direction of the periphery of the drum and spaced from the periphery thereof and arranged transversely of the wind of filaments and spaced circumferentially of the drum from the discharge end of the outlet guide plate and a guide plate disposed at the outer end of the baffle plate and spaced therefrom and forming a guide prolongation thereof, said drum producing upon rotation an air stream over the faces of the baffle plate and guide plate facing the outlet guide plate and moving radially outward from the periphery of the drum to strip the filaments from the drum without damaging the filaments and filament collecting means arranged at the outer end of said guide plate.

2,976,581
COILER MECHANISM
George S. Van Deusen, Lyndhurst, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 9, 1959, Ser. No. 858,519
10 Claims. (Cl. 19—159)



8. In a coiler mechanism, a coiler head, a base, a hollow column carried by the base and extending upwardly therefrom for supporting the coiler head at its upper end, a turntable rotatable about a vertical axis for supporting a sliver can beneath the coiler head, a first rotatable shaft, a first gear fixed to said first shaft, a rotatable idler shaft, an idler gear fixed to the idler shaft meshing with the first gear, a second rotatable shaft to be driven from an input shaft, a drive shaft intermediate said first and second shafts, separate joints pivotally connecting the ends of the drive shaft respectively to the first and second shafts to provide a driving connection between the first and second shafts, the joint connecting the drive shaft to the first shaft being detachable from the first shaft to permit the selective connection of the drive shaft to the first shaft and the idler shaft, a worm gear carried by the turntable, a worm shaft driven from the first shaft and extending horizontally with its worm in meshing engagement with the worm gear, and means carried by the base mounting the turntable for adjustment relative to the coiler head in a direction parallel to the axis of the worm shaft.

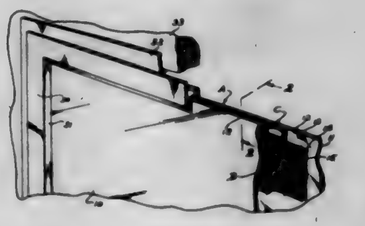
2,976,582
DOOR LATCH ARRANGEMENT
Joseph Rosenthal, 1811 Phelan Ave., Bronx 57, N.Y.
Filed July 22, 1957, Ser. No. 673,383
4 Claims. (Cl. 20—16)



1. In combination with a plurality of slidably mounted and pivotally mounted independently swinging doors of the type having tracks at the floor and ceiling extendable to form a partition and collapsible to be nested against one another, a latch arrangement for said plurality of independently swinging doors, each door carrying said

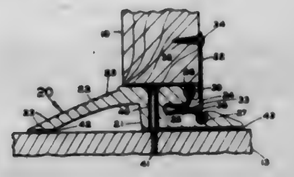
arrangement at one corner thereof, said latch arrangement including a vertical pivot rod, a lever fixed to said pivot rod extending along the top of each door to adjust the position of the rod, a horizontal plate mounted on the upper end of the pivot rod carrying a fixed outwardly projecting latch hook at one side and a swinging latch hook at the other side mounted in the horizontal plate and a fixed vertical plate on the pivot rod, said fixed latch hook engaging the swinging latch hook of the next adjacent door when the doors are nested against one another and said vertical plate causing disengagement of the latch hooks when the doors are rotated and moved to form a partition.

2,976,583
WINDOW CONSTRUCTION
Dan C. McCarthy, 1215 North Pass Ave., Burbank, Calif.
Filed Aug. 4, 1958, Ser. No. 752,923
11 Claims. (Cl. 20—56.5)



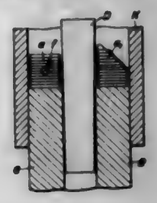
1. A window pane having a metallic screen related thereto and means securing the screen to the window and normally yieldingly holding said screen in tension, said means including, a pair of hangers engaged with the opposite side edges of the screen, and bodies of resilient material bonded to the pane adjacent the said side edges of the screen and bonded to the hangers and yieldingly coupling the hangers to the window pane with the screen taut therebetween.

2,976,584
THRESHOLD
Lee Roy Ghormley, 2970 NW. 65th St., Miami, Fla.
Filed June 12, 1959, Ser. No. 819,874
2 Claims. (Cl. 20—64)



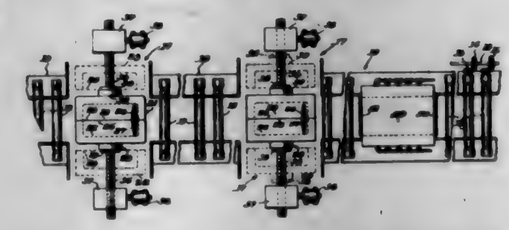
1. A threshold comprising an elongated member having a main body portion, a bridge portion connected to said main body portion, said main body portion having a slot extending substantially the full length of said elongated member, said slot having arcuate portions at an upper, lower and inner portion thereof, each of said arcuate portions being greater than semi-circular in cross section, an elongated flexible sealing member having a flat mid-portion and a bulbous portion mounted along each edge of said flat mid-portion, said flat mid-portion of said flexible sealing member being folded upon itself and received by said inner arcuate portion and said bulbous portions received by said upper and lower arcuate portions of said slot.

2,976,585
CONTINUOUS CASTING APPARATUS
Erwin Schoenfeld, Duisburg-Hochfeld, Hans Schrewe, Duisburg-Ungelsheim, and Fritz Taube, Duisburg-Buchholz, Germany, assignors to Mannesmann Aktiengesellschaft, Duesseldorf, Germany, a German company
Filed Jan. 6, 1959, Ser. No. 785,270
Claims priority, application Germany Jan. 6, 1958
4 Claims. (Cl. 22—57.2)



1. A starting device for the continuous casting of hollow bodies by means of a mandrel located within a vertical through-flow mould open at both ends, the space between said mandrel and the mould wall being closed before casting is started by means of a starting head against which the casting is initially formed and which casting head is gradually withdrawn as casting progresses, said starting head having at least two plates upwardly directed from the face thereof against which casting is initially formed to provide at least two initially separate portions in the initially-formed portion of the casting, said plates extending radially from the mandrel to the mould wall.

2,976,586
METHOD OF AND MEANS FOR PRODUCTION OF STEEL INGOTS
John O. Griggs, 1815 Halsted St., Chicago Heights, Ill.
Filed Aug. 8, 1957, Ser. No. 676,983
6 Claims. (Cl. 22—61)



1. In combination with a roller bed, sectional ingot molds thereon, means associated with the roller bed whereby sections of the mold may be moved toward each other thereby forming a complete mold for receiving molten steel and moved away from each other thereby stripping the mold sections from the ingot formed therein and permitting the ingot thus formed to drop onto the said roller bed, and a movable molten steel ladle over the said mold whereby molten steel may be deposited in the said molds.

2,976,587
METHOD AND DEVICE FOR CASTING STEELS AND OTHER FERROUS COMPOUNDS IN INGOT MOULDS
Henri Jean Dansens, 9 Ave. Leclerc de Hautecloque, Metz, France
Filed Jan. 28, 1958, Ser. No. 711,661
Claims priority, application France Feb. 26, 1957
8 Claims. (Cl. 22—73)

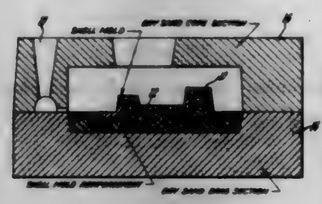
1. An improved process of casting a ferrous product in an ingot mould, said process comprising the steps of:

placing in the mould a sheath capable of being destroyed progressively but with a slight delay by a molten metal bath, closing the top of the ingot mould around the sheath, creating a high vacuum within said sheath and also in the ingot mould, then pouring said product into the mould by means of a pouring jet passing inside the sheath, maintaining said high vacuum at the start of the



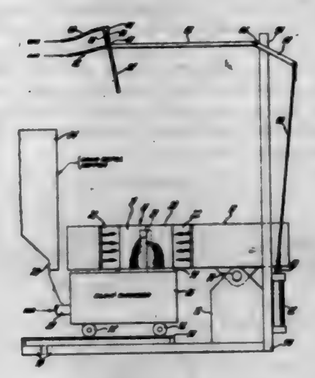
pouring, and finally, during subsequent pouring and during the setting of the ingot, effecting separate controlled exhaust in said sheath and in the ingot mould to degasify the molten metal by regulating separately the pressures of the gaseous mixtures emanating from said pouring jet and product, respectively, in the sheath and the mould between which the sheath which is being destroyed insures a seal due to the delay in its destruction.

2,976,588
SHELL MOLD AND METHOD OF MANUFACTURE
Raymond S. Amala, Oak Park, and Royal E. Schroeder, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 3, 1958, Ser. No. 712,796
8 Claims. (Cl. 22—193)



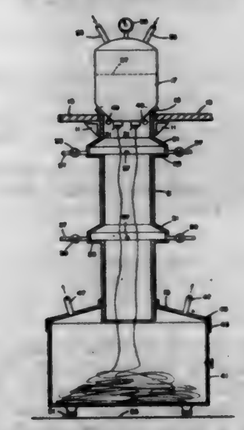
1. A mold for use in precision casting relatively heavy articles comprising sand cope and drag members, at least one of said members being molded about an insert forming at least a portion of said mold cavity surface, said insert comprising a composite mold structure having a first facing layer formed of a major proportion of sand and a minor proportion of thermo-setting resin and a second supporting layer formed of a major proportion of sand and a minor proportion of thermo-setting resin, the resin content of said second layer being substantially less than the resin content of said first layer, said first and second layers being simultaneously cured and bonded together while said first layer is in contact with a metal pattern.

2,976,589
METHOD OF MAKING HOLLOW SHELL CORES
William S. Hackett and Merton L. Bartsch, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 7, 1958, Ser. No. 746,731
1 Claim. (Cl. 22—193)



A process for producing a hollow shell-type foundry core comprising heating a metal core box to a temperature of about 250° F. to 800° F., depositing a sand-resin mix onto the interior surfaces of said core box to form thereon an adherent sand-resin layer of predetermined thickness, inserting a nozzle into said core box and forcibly blowing a substantially uniform stream of hot gas through said nozzle and into said layer for a time sufficient to cure said layer while simultaneously applying heat through said core box to the surfaces of said layer which abut said core box, said gas being at a temperature of about 350° F. to 1300° F. when blown into said layer.

2,976,590
METHOD OF PRODUCING CONTINUOUS METALLIC FILAMENTS
Robert B. Pond, Westminster, Md., assignor to Marvaland, Inc., a corporation of Maryland
Filed Feb. 2, 1959, Ser. No. 791,903
3 Claims. (Cl. 22—200.1)



1. A method of forming metallic filaments of a specific cross-sectional configuration comprising the steps of heating the metal to a range of from 0 to 100 degrees F. superheat, extruding the molten metal through a nozzle having a cross-sectional configuration identical to the desired filament cross-sectional configuration, said nozzle

having an orifice size of from .0005 to .030 inch at a velocity sufficient to maintain a continuous stream up to a maximum of 20 feet per second, passing the molten stream through a quiescent gaseous atmosphere in a chamber completely enclosing the nozzle, maintaining the gaseous atmosphere at a temperature not greater than one half the melting point of the metal, solidifying the molten metal while in a continuous stream within 40 inches of the extrusion nozzle prior to distortion of the cross-sectional shape of molten metal stream by surface tension from the cross-sectional configuration of the nozzle, the environment fo the molten metal stream being maintained under completely controlled conditions from the point of departure through said nozzle until solidified into a continuous filament.

2,976,591
TIE KNOT SUPPORT
Lawrence Edward Arnim, 516 W. Main, Houston, Tex.
Filed Jan. 20, 1958, Ser. No. 710,120
3 Claims. (Cl. 24—56)



3. In a tie knot support and projector, a body member formed of wire having subetantially parallel sides and the ends of the wire being bent inwardly and in abutting relation, forming the tie projecting end of the body member, the other end of the body member being bent, forming a button-thread receiving member projecting at a right angle from the body, and said body member being bent outwardly adjacent said button-thread receiving member, forming laterally extended button receiving wings in which a collar button may seat.

2,976,592
CLIP FOR BINDING TOGETHER ELEMENTS OF ELONGATED SHAPE
Georges Christin, Boulogne-sur-Seine, France, assignor to Etablissements Bertrand Faure, Puteaux (Seine), France, a society of France
Filed Mar. 11, 1957, Ser. No. 645,341
Claims priority, application France Mar. 15, 1956
3 Claims. (Cl. 24—129)



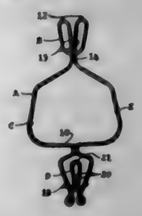
1. A clip for binding together at least two elements of elongated shape by wrapping of said clip around said elements juxtaposed to each other, said clip consisting of a plate of a thin deformable material bent along a line of bending to form two branches making a small angle with each other so that said clip, seen from a direction parallel to said line of bending has the form of a V with a rounded apex, said branches being punched at points so as to form, at each of these points, a circular boss on one face of the branch and a circular recess in the other face, said points being distributed by pairs each disposed along a line at right angles to said line of bending, one of the points of each pair being at a distance from said line of bending smaller than the distance between the two points of each pair and the bosses at the two points of each pair being on the same face of the branch on which they are located, whereby two such clips nested in each other can be held together by mutual engagement of the punched points of two corresponding pairs of said respective clips located at different distances from their corresponding lines of bending, the dimensions of the boss at the point of a pair located nearer to said line of bending than the other being larger than those of the recess at said other point of said pair.

2,976,593
CLOTHESPIN CLOTHESLINE-HOOK ASSEMBLY
Norman Exton, Sands Point, N.Y., assignor to Atlantic Wire and Cable Corporation, College Point, N.Y., a corporation of New York
Filed Mar. 4, 1959, Ser. No. 797,136
3 Claims. (Cl. 24—137)



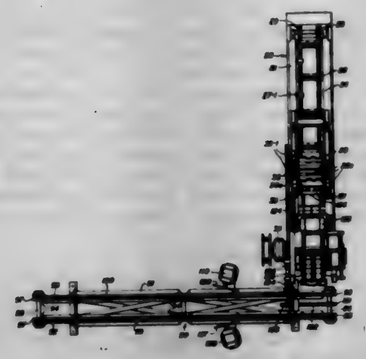
1. A clothespin assembly adapted to be mounted on a clothesline comprising a clothespin body having resilient legs adapted to engage a clothesline and exert a clamping action thereon, said legs merging into a clothespin head, said head being provided with a cavity in a face thereof, said cavity having a back wall and having an opening extending through said back wall, said head having a second opening in the top thereof leading into the top of said cavity, a relatively elongated flexible hook member having on one end a button adapted to be disposed within said cavity in locking engagement with said first-mentioned opening, said hook member passing through said second-mentioned opening, and having at the other end thereof a self-closing hook in the form of a coil providing an interior cylindrical bearing surface through which said clothesline passes.

2,976,594
CLOTHES PINS
Henri Andre Fauteux, R.R. 2, Hawkesbury, Ontario, Canada
Filed Apr. 15, 1957, Ser. No. 652,715
1 Claim. (Cl. 24—139)



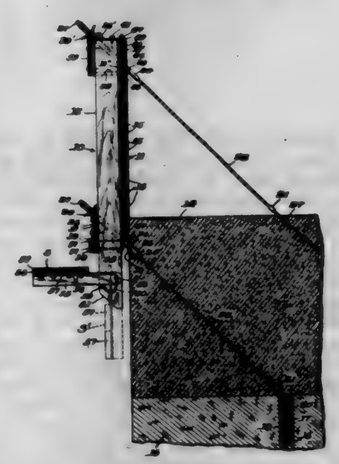
A one-piece wire clothes pin comprising a plane skeleton frame having a rigid horizontally disposed member of appreciable length for supporting an article of wash passed thereover, a hook connected to the frame, a resilient clip depending from the horizontal member, said clip consisting of a skeleton of generally triangular shape with its apex downwardly disposed, and an inverted U-shaped article of wash gripping member extending upwardly from the said apex into the confines of the triangle, the U-shaped gripping member having a flared opening at its lower end and being formed with a looped upper end, the gripping member being formed with a constricted passageway between the flared open end and the looped upper end, whereby the end of an article of wash passed over and supported by said horizontal member may be securely held by said inverted U-shaped gripping member in automatic self-tightening grip.

2,976,595
TRANSFER MECHANISM FOR TILE-MAKING MACHINE
Clifford C. Cook and James E. Howard, Pocatello, and Dale Thompson, Boise, Idaho, assignors to National Ro-Tile Corporation, Boise, Idaho, a corporation of Idaho
Filed Jan. 27, 1958, Ser. No. 711,230
4 Claims. (Cl. 25—43)



1. In a tile-making machine, which includes a substantially horizontal, power-driven, pallet conveyor; means directly above said pallet conveyor for depositing wet aggregate on the pallets and for forming tile shapes thereon; and a take-away conveyor whose receiving end is close to the discharge end of the pallet conveyor; a power-driven transfer mechanism located at the discharge end of the pallet conveyor for picking up the loaded pallets from the pallet conveyor and setting them down on the receiving end of the take-away conveyor without change in directional orientation, said transfer mechanism comprising a parallel-motion linkage that is swingable in a vertical plane offset laterally from the pallet conveyor and includes a pair of parallel links pivotally mounted at their lower ends for back and forth swinging movement longitudinally of the pallet conveyor and a horizontal link pivotally interconnecting the upper ends of said parallel links; a pallet-carrying mechanism supported by said horizontal link of the parallel-motion linkage, said pallet-carrying mechanism overhanging the pallet conveyor in one extreme position of the parallel-motion linkage and the take-away conveyor in the other extreme position thereof and comprising a pair of inwardly positioned, mutually spaced hooks mounted to swing in respective vertical planes and a single outwardly positioned opposing hook mounted to swing in a vertical plane midway between said respective vertical planes, thereby providing three-point engagement and suspension for a loaded pallet, a rockshaft mounting said spaced hooks, and drive linkage intermediate the hooks of said pair for operating the rockshaft and said single hook in common; drive mechanism for said drive linkage, comprising a slide mounted on and operable longitudinally along one of the parallel links of said parallel-motion linkage, said slide having an arm projecting therefrom, lost motion mechanism including a swing shaft pivotally attached at its upper end to the horizontal link of said parallel-motion linkage and extending downwardly between the parallel links of the latter, an elongate slide mounted on the swing shaft for upward and downward movement therealong and having a closed ends slideway affixed thereto, the arm of the parallel-motion linkage slide engaging said slideway for lost motion between said closed ends and for moving said elongate slide upwardly and downwardly as the reciprocative stroke of said linkage slide exceeds the length of said slideway, a drive bell crank pivotally mounted intermediate its arms on the upper end portion of said shaft for lateral swinging movement therewith and having one of its arms rotatably connected in drive relationship with said drive linkage, an actuating bell crank pivoted intermediate its arms to said shaft within the reciprocative stroke of said elongate slide, one of its arms projecting into the path of the latter for actuation thereby, a link interconnecting the other of its arms with the other arm of said drive bell crank, and a return spring biasing said single hook against the urge of said drive linkage; and means synchronized with the drive of said conveyors for reciprocating said linkage slide.

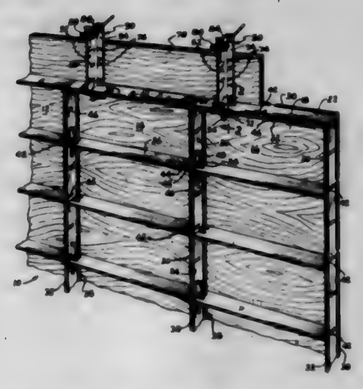
2,976,596
SUPPORT PLATES FOR TIE DOWN SYSTEM FOR CONCRETE FORMS
Chester I. Williams, 751 NE. Lombard St., Portland, Oreg.
Filed Mar. 15, 1955, Ser. No. 494,377
14 Claims. (Cl. 25—131)



1. The combination with a concrete form construction including studding and sheathing therefor, of detachable means for affixing the concrete form construction to supporting means for mounting and positioning the concrete form construction, said detachable means comprising a dummy she-bolt and a regular she-bolt spaced apart with respect to the height of the concrete form construction and said she-bolts inclined at an angle with respect to the face of the form less than 90°, an angle-shaped bracket affixed to the sheathing contiguous to the upper end thereof, a U-shaped bracket affixed to the studding contiguous to the bottom edge of the sheathing, said dummy she-bolt extending through the sheathing and the angle-shaped bracket, clamping means for affixing the outer end of the dummy she-bolt to the upper end of the stud-

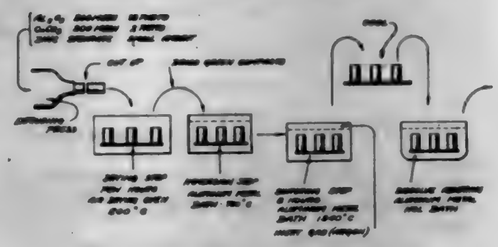
ding contiguous thereto, a regular she-bolt extending below the sheathing and through the U-shaped bracket, clamping means for affixing the outer end of the regular she-bolt to the front face of the studding, said supporting means including tie means to which the she-bolts are affixed embedded within successive layers, the tie rod to which the regular she-bolt is attached being fully embedded in the prior lift and the tie rod to which the dummy she-bolt is connected being exposed prior to the pouring of the concrete for the next successive lift, and said tie rods so arranged upon setting of the poured lift that the concrete form construction can be detached, raised, and assembled for pouring a subsequent lift of concrete.

2,976,597
CONCRETE WALL FORM EXTENSION
Bert Elam, Hazelwood, Mo., assignor to Symons Clamp & Mfg. Co., Chicago, Ill., a corporation of Delaware
Filed Nov. 3, 1958, Ser. No. 771,339
3 Claims. (Cl. 25—131)



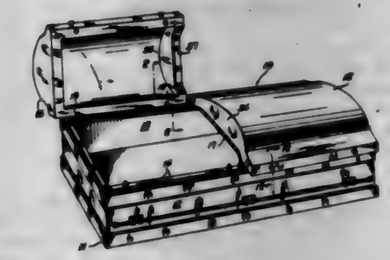
1. In a concrete wall form structure, in combination, laterally spaced form walls each including rectangular panel units disposed in edge-to-edge relation, each of said panel units comprising a facing and inside and outside marginal vertical and horizontal frame bars extending along the vertical and horizontal edges respectively of the panel unit facing, the horizontal frame bars in the upper region of the wall form structure being disposed in longitudinal alignment, each of said uppermost horizontal frame bars being generally channel shape in cross section and presenting upstanding inner and outer marginal ribs respectively and a connecting flat web, there being a hole in said web intermediate said ribs, the various holes in the webs of said uppermost frame bars extending in longitudinal alignment in the wall form structure, an extension bracket for each hole, said extension bracket comprising an elongated vertically disposed angle bar including diverging side flanges extending at a right angle to each other, the lower end of said angle bar being seated upon the upper face of the frame bar web with one flange extending transversely and the other flange extending longitudinally of the frame bar, an attachment finger on the lower edge of one of said flanges and projecting downwardly through said hole, clamping means cooperating with said finger on the underneath side of the frame bar for clamping the lower edge of the extension bracket hard against the frame bar, there being a series of nail holes in the longitudinally extending flange of the extension bracket, a form extension board bridging the distance between adjacent brackets, said board having an inside face flush with the adjacent panel unit facings, and a series of attachment nails extending through said nail holes and secured in said board.

2,976,598
METHOD OF SINTERING
Edward C. Creutz, Rancho Santa Fe, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 30, 1959, Ser. No. 809,930
5 Claims. (Cl. 25—157)



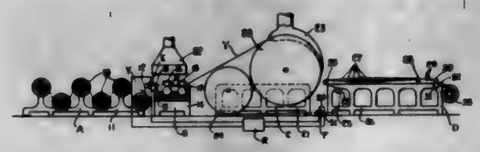
1. A method of producing a fired ceramic object having prescribed linear dimensions and shape which comprises first preparing a plastic, ceramic mix, working a portion of the mix to form a compact having the prescribed dimensions and shape which are desired for the final product, then immersing the compact in a bath of molten metal having a specific gravity approximating that of the compact, said metal being inert to the material in said compact when the latter is heated to a sintering temperature in the bath, and keeping the compact in said bath for a sufficient length of time and at a high enough temperature to convert said compact into a sintered ceramic product having said prescribed dimensions and shape.

2,976,599
CASKET
John S. Overland and James T. Hill, Chicago, Ill., assignors to F. H. Hill Company, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 10, 1959, Ser. No. 805,510
5 Claims. (Cl. 27—17)



1. In a casket of the type having a body, separate top lid sections connected by hinge means to said body at the rear longitudinal side thereof and covering when closed the head and foot portions of said body, sealing means extending around the upper marginal edges of said body and engageable by said lid sections when closed and cooperating clamping means carried by said top lid sections and by said body at the front side thereof for drawing said lid sections into tight sealing engagement with said sealing means and into lateral engagement with one another; a transverse seal extending between the adjacent ends of said lid sections when closed and comprising an end plate on the adjacent end of each of said lid sections and extending transversely of said body, a sealing gasket carried by one of said end plates and laterally engageable by the other of said end plates when said lid sections are closed; said hinge means comprising cooperating cam means and hinge pin means connected to said body and one of said lid sections respectively, said one of said top lid sections being shiftable longitudinally of said body by said cam means and hinge pin means toward said other top lid section during closing whereby said gasket is horizontally compressible between said end plates, and said clamping means being adapted to permit longitudinal shifting of said one top lid section while drawing said one top lid section into said tight sealing engagement.

2,976,600
TEXTILE YARN SIZING APPARATUS AND METHOD
Kenneth K. Edgar, 24 W. Prentiss Ave., Greenville, S.C.
Filed Aug. 19, 1958, Ser. No. 756,036
10 Claims. (Cl. 28—28)



1. In a textile machine having means feeding a plurality of aligned ends of yarn therethrough, means imparting size to the yarn, means varying the amount of size retained by the yarn, and means taking the sized yarn up upon a loom beam and the like, the improvement including, electrical measuring means providing a standard of weight measurement for unsized yarn positioned adjacent the yarn prior to the entry of the yarn into the means imparting size to the yarn, electrical measuring means providing a standard of weight measurement for the sized yarn positioned adjacent the yarn after passage through the means imparting size to the yarn, means controlling said means varying the amount of sizing retained by the yarn, and electrically operable means utilizing the difference in weight measurements actuating said means controlling said means varying the amount of sizing retained by the yarn.

2,976,601
PRODUCTION OF A CELLULOSE STAPLE FIBER BATTING
Edward T. Powers, Old Greenwich, Conn., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Oct. 7, 1955, Ser. No. 539,291
6 Claims. (Cl. 28—76)

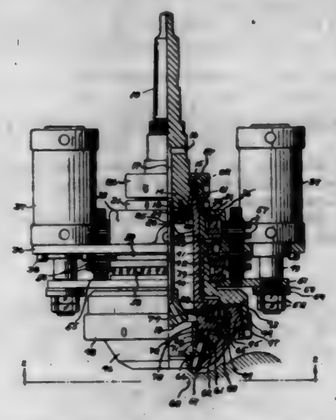
1. Process for the production of a batting of cellulose staple fibers, which comprises treating a batting consisting essentially of mechanically interlocked organic acid ester of cellulose staple fibers with a saponifying agent to convert the fibers to cellulose fibers, said treatment converting said batting to a material similar to wool felt.

2,976,602
ABRADING TOOL HANDLE
Sterrett Graham Nelson, 1425 E. 5th Ave., Mount Dora, Fla.
Filed Apr. 25, 1958, Ser. No. 730,845
1 Claim. (Cl. 29—78)



As an article of manufacture, an abrading tool for operating on surfaces located in a relatively inaccessible limited space and hidden from view by surrounding parts, comprising, in combination, an elongated abrading body having abrading surfaces on opposite sides and an opening at one end through said body, a rigid handle at the end opposite the opening, and a flexible guiding and manipulating handle of a length to be grasped by the hand of the user and slidably fitted in said opening, and an abutment at each free end of the flexible handle to engage the related side of the opening to positively effect reciprocation of the selected abrading surface of the tool under augmented pressure in the direction of its length and across the hidden surface of the edge to be sharpened.

2,976,603
BURNISHING TOOL
Willis F. Tibbetts, Reading, Mass., assignor to Flighlex Fabrics, Inc., Providence, R.I., a corporation of Rhode Island
Filed Dec. 23, 1957, Ser. No. 704,715
6 Claims. (Cl. 29—90)

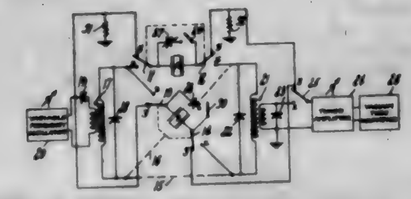


1. In a burnishing tool for cylindrical work, a drive spindle including a body, a sleeve slidably splined to said body for axial movement relative thereto and including a mandrel, a rotatable set of burnishing rolls arranged with their axes forwardly and inwardly inclined with respect to the spindle axis for engagement with the work by corresponding end portions, said rolls being axially slidable relative to said mandrel to enbale their spacing relative to the spindle axis to vary on such sliding movement between a first position in which their work engaging end portions are operatively positioned relative to the work and a second position in which said work engaging end portions are inoperatively positioned with respect thereto, an anti-friction thrust coupling between the other end portions of said rolls and said body, means resiliently maintaining said other end portions of said rolls in engagement with said thrust coupling, and means yieldably opposing relative axial movement between said body and said sleeve.

2,976,604
MEASUREMENT OF PIEZOELECTRIC CRYSTAL CHARACTERISTICS
David L. Kosowsky, West Newton, Mass., assignor to Research Corporation, New York, N.Y., a corporation of New York
Filed Apr. 13, 1956, Ser. No. 578,124
1 Claim. (Cl. 29—155.5)

In a method of manufacturing a crystal filter with predetermined transmission characteristics, including at least a first piezoelectric element of known resonant frequency and a second piezoelectric element of known

resonant frequency different from the resonant frequency of said first element and having its series capacitance related to that of said first element in a predetermined ratio, the steps of forming with each of said elements a test network having the transmission characteristics of a symmetrical lattice network, said transmission characteristics differing from those of said filter, measuring the frequencies of maximum attenuation of the network for relation with the resonant frequencies to determine the series capacitance ratio between said elements, adjusting the series capacitance of at least one of said elements to obtain said predetermined ratio, and forming with said elements said filter with said predetermined characteristics.



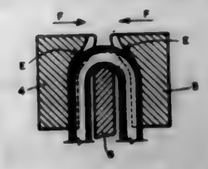
2,976,605
PROCESS FOR MAKING LAMINATED MAGNETIC CORES
Jacques Lemaire, Le Havre, France, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 14, 1957, Ser. No. 696,489
Claims priority, application France Nov. 14, 1956
11 Claims. (Cl. 29—155.61)



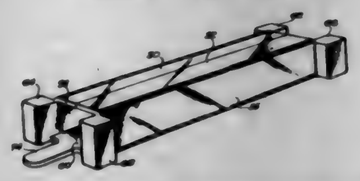
1. Process for making a generally cylindrical laminated magnetic core comprising the steps of pre-bending plane sheets of magnetic material to involute curvature, assembling the inner edges of said involutely curved sheets about an inner cylindrical mandrel into a hollow cylindrical form, applying a radially inward pressure to said assembly to compress the same to the desired final diameter for the core, subjecting said assembly while under said pressure to an annealing treatment to relieve mechanical stresses and restore the magnetic properties of the sheet material temporarily lost due to the bending operation, and thereafter removing said radially applied pressure.

2,976,606
FORMATION OF BIFURCATED TUBING
André Huet, Paris, France, assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed June 14, 1955, Ser. No. 515,488
Claims priority, application France June 16, 1954
3 Claims. (Cl. 29—157.6)

1. The method of forming a tubular bifurcate comprising: providing a tube bend having the tube legs that merge into the crotch and elbow region of the bend spaced apart a distance greater than the desired spacing of the tube legs of the bifurcate; heating the bend in the outer elbow region to a higher temperature than in the opposite crotch region; applying forces acting in opposite directions on the outer side of the tube legs contiguous to the elbow by means of an instrumentality having work faces shaped to contour of tube legs and partially embracing the latter, said faces being inclined outwardly away from the axes of the tube legs so that the application of said forces in addition to reducing the spacing of the tube legs effects a displacement of the heated material in a direction outwardly of the elbow to create a bulge on said elbow; laterally confining the said bulge formed on the elbow by members contacting it at the sides and shaping it to form a tubular cylindrical protuberance extending outwardly from the elbow.



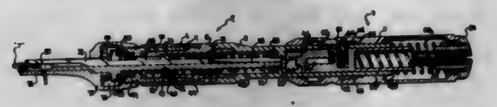
2,976,607
METHOD OF MAKING TELESCOPIC BRACELET INNER BOX ELEMENTS
Charles J. Obst, Barrington, R.I.
Filed Feb. 16, 1959, Ser. No. 793,537
4 Claims. (Cl. 29—160.6)



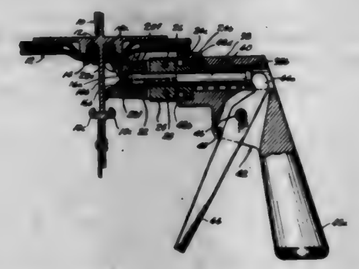
1. A method of making a telescopic bracelet inner box element comprisings the steps of feeding a thin, flat strip of metallic stock having a pair of longitudinally extending, parallel ribs of rectangular cross-section projecting from one surface thereof through a series of stations, punching a series of holes in the strip for guiding and step feeding the stock through the series of stations, periodically completely removing longitudinal portions of the ribs corresponding in length to the desired width of the top wall of the box element at transversely aligned locations on the strip, transversely scoring the stock from rib to rib at locations spaced sufficiently to provide stock therebetween for the top and side walls of the inner box element, punching out transverse sections of stock so as to leave generally rectangular blanks wider than said score lines by the desired width of the flaps for the bottom of the box element and joined to the sides of the stock by narrow joinder portions aligned with the rib cutaway portions and so as to remove corner sections of the blanks which are transversely coincidental with the ribs and longitudinally equivalent to the width of the flaps, folding transverse portions of the blank including the bottom flaps and side walls with the remaining rib portions while holding the top section so that the flaps and side walls are at right angles to the top section, then folding the flaps over parallel to the top section and finally severing the completed box element from the strip of stock.

2,976,608
TAPER PIN EXTRACTING TOOL
Willard L. Bauler, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg Pa.
Filed Jan. 6, 1960, Ser. No. 876
3 Claims. (Cl. 29—254)

1. A tool for taper pin electrical connectors comprising, a rod, means on one end of said rod for holding a taper pin, a tool barrel in surrounding relationship to said rod, with said one end extending beyond said tool barrel, means within said tool barrel for delivering an impact blow to the opposite end of said rod, a collet in surrounding relationship to said rod adjacent said one end, an extension on said collet extending along said rod, resilient means acting between said rod and said collet and normally urging said collet towards said barrel, and means in said collet for moving said collet relatively away from said tool barrel against the force of said resilient means thereby to move said extension beyond said one end and to permit removal of a taper pin from a receptacle by relative movement of said rod away from the receptacle.



2,976,609
INSTALLING TOOLS FOR TOGGLE-ACTION RETAINER ELEMENTS
Burrell R. Bredberg and William L. Golden, Seattle, Wash., assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Sept. 30, 1955, Ser. No. 537,752
7 Claims. (Cl. 29—270)



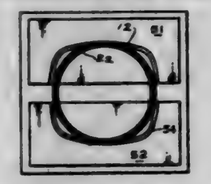
4. A tool for installing in a support having generally parallel opposing grooves, a two-part toggle-action retainer element having two separate parts with mutually engageable hinging edges and with opposite or outer edges adapted to lodge in the respective grooves, said tool comprising handle means, an operating head projecting from said handle means and including two socket members mounted hingedly on said handle means for movement together and apart, in a direction transverse to the direction of projection of the operating head from the handle means, said socket members holding the respective retainer element parts releasably thereon with the hinging edges of the retainer element parts positioned adjacent each other and with such parts disposed in mutually divergent relationship endwise from the operating head, and with said hinging edges of the retainer element parts being disposed parallel to the hinging axes of said socket members, lug means on the mutually outer edges of the socket members adapted to engage in the respective grooves of the support, an actuator mounted on said handle means and operable at will, and means moved by operation of said actuator, including a plunger element reciprocatively mounted in said head and normally retracted therein but guided for engaging the hinging edges of the retainer element parts for ejecting such parts from the socket members endwise of the operating head, thereby to press the retainer element parts into the opposing support grooves, said last mentioned means further including means operable simultaneously with ejection of said retainer element parts to spread apart said socket members in order to lodge the lugs thereof in the respective grooves for locating the operating head operatively in relation to said grooves.

2,976,610
METHOD OF FORMING BALL POINT PENS
Anthony G. Schaack, Alhambra, Calif., assignor, by mesne assignments, to John M. Lee, Los Angeles, Calif.
Filed July 31, 1953, Ser. No. 371,650
3 Claims. (Cl. 29—441)



1. In a method of producing a desired clearance between a ball and the inner walls of a cavity in the nose of a member in which said ball is held the improvement which eliminates marring of the surface of the ball and maintains a smooth lip on the rim of said nose consisting of the steps of: applying pressure at spaced points about the rim of said nose by direct contact through pressure applying surfaces with said rim alone; rotating said pressure applying surfaces about an axis which is non-planar with the longitudinal axis of said nose; and simultaneously revolving all of said pressure applying surfaces about said axis in a direction to expand said rim away from said ball and resist the flow of rim material towards said lip.

2,976,611
METAL FRAME MANUFACTURE
James W. Giffen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 2, 1955, Ser. No. 550,657
3 Claims. (Cl. 29—553)

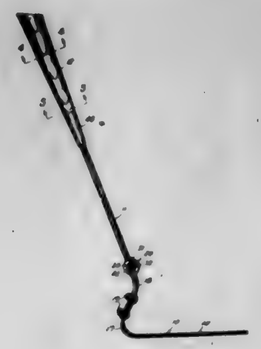


1. The method of forming a metal frame which includes forming an endless hoop of sheet metal with a passage therethrough parallel to the plane of the broad surfaces thereof, closing die sections about such hoop to impart to it the outline of the desired frame, outwardly flaring one lateral margin thereof to impart to it rigidity, thereafter directing the unflared edge of the hoop into the entrance of a confined space within the die extending inward from about its entire perimeter toward the center of the hoop passage, and exerting pressure on the edge of the flared portion of the hoop and on a broad surface thereof toward the unflared edge to extrude the unflared edge portion progressively into a flange within such space.

2,976,613
CUTTING IMPLEMENT
Joseph F. March, Waterbury, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Apr. 10, 1959, Ser. No. 805,525
2 Claims. (Cl. 30—318)

1. A cutting implement of the type manually swung in an arcuate path to cut weeds and the like comprising an

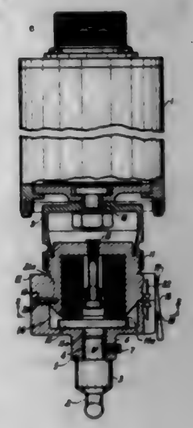
elongated cutting blade having cutting edges on opposite sides thereof, said blade having an upwardly and forwardly bent heel portion; a shank secured to said heel portion and extending upwardly therefrom, the upper portion thereof extending rearwardly and upwardly of the heel and terminating in a centrally apertured flat circular end spaced substantially upwardly from the plane defined by the cutting edges at a distance greater than one-half the length of said cutting edges, said flat end having one surface provided with a plurality of radially extending grooves and having the axis of its aperture extending transversely of said blade, the axis of the rearwardly extending upper portion of the shank intersecting the blade at a point rearwardly of the center thereof and at an acute angle thereto; an elongated shaft having a centrally apertured flat end overlying said flat end of the shank with the apertures in registry, the overlying surface of the flat end



of the shaft having radial grooves cooperating with the radial grooves in the flat end of the shank for firm interlocking engagement in a plurality of angular positions; a handle secured to the other end of the shaft; and bolt and nut means extending through said apertures and clamping the grooved surfaces of the flattened ends together in firm interlocking engagement, said means being releasable to permit relative rotation of said flattened ends about an axis extending transversely of the blade to orient said shaft and handle at a plurality of angular positions with respect to the blade for adjustment of the implement to the height of the user and to vary the cutting angle, said handle being displaced substantially upwardly from the plane defined by the cutting edges when the axis of the handle is substantially parallel to the plane of the cutting edges to enable cutting movement close to the ground and obstructions without risk of injury to the hand of the user.

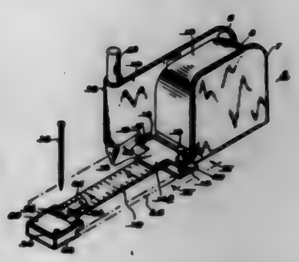
2,976,613
RELEASABLE STYLUS HOLDER FOR DUPLICATOR OR TRACER MECHANISM
William D. Shields, Sewickley, Pa., assignor to Voss Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 13, 1958, Ser. No. 708,468
2 Claims. (Cl. 33—23)

1. In a sensing mechanism for duplicating machines, a follower having a sleeve of cylindrical shape with a peripheral flange, a socket for a stylus having a flange for seating on the flange of said sleeve a permanent magnet of hollow cylindrical shape disposed centrally in said sleeve and secured against movement therein, said stylus socket having a depending portion with a central bore, a stylus having a shank extending into said bore and being fastened therein, and a disc of magnetic steel having a shank extending into the upper end of the bore of said



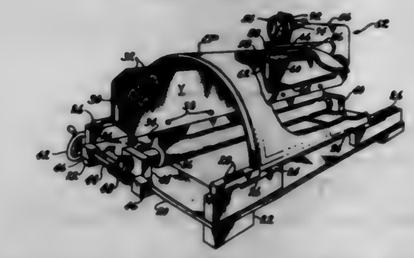
depending portion to center the same with said magnetic sleeve.

2,976,614
MEASURING TAPE REEL HOLDER
Sylvester Matuszewski and Elizabeth Matuszewski, both of R.D. 3, Slippery Rock, Pa.
Filed Sept. 28, 1959, Ser. No. 842,626
3 Claims. (Cl. 33—27)



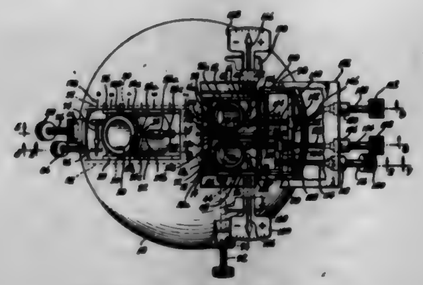
1. A holder for a measuring tape of the spring reel type, that comprises a reel upon which a tape is wound and a housing therefor, a U-shaped casing enclosing at least two sides of said housing, said housing having an opening at its front side through which the tape may be withdrawn from the reel, a forwardly-extending guide plate carried by the casing at a plane below the opening, a clamping plate hinged at one end to the casing, on a horizontal axis and normally in overlying relation to the tape and the guide plate, a releasable connection between the other end of the clamping plate and the guide plate, for gripping the tape between the clamping plate and the guide plate, a forwardly-extending relatively narrow lip on the clamping plate, a block secured to the forward end of the tape, the block having a shallow recess in its uppersurface in position to receive the said lip when the tape is fully retracted toward the housing, an extension on the block in position to be gripped between the clamping plate and the guide plate, when the tape is retracted, a scribing tool holder on the casing, and a pointed anchoring member on the block.

2,976,615
APPARATUS FOR CHECKING DIMENSIONAL CHARACTERISTICS OF PRINTING PLATES
Arnold L. Insabaug, Brookwood, Montague, Mass.
Filed May 13, 1957, Ser. No. 659,343
16 Claims. (Cl. 33—147)



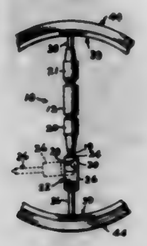
13. Apparatus for checking dimensional characteristics of printing plates, said apparatus comprising a base and means for supporting a printing plate in an elevated position spaced above said base, measuring means for checking the accuracy of the supported plate, a support located below said elevated position of a printing plate mounted on said supporting means and on which said measuring means is removably positioned, said measuring means extending upwardly above the surface of a plate so mounted, and way and guide means on said support disposed in a direction generally parallel to surface portions of the plate to be measured, said measuring means being freely slidable in said way and guide means for passing rectilinearly over said surface portions of a plate.

2,976,616
BOWLING BALL GRIP GAUGES
Elmer W. Doyle, 919 S. 182nd, Tacoma, Wash.
Filed Oct. 26, 1959, Ser. No. 848,585
14 Claims. (Cl. 33—174)



1. In a bowling ball grip gauge, a casing of at least partial spherical hollow form having two digit unit apertures therein substantially aligned on a great circle, an outwardly open generally radially disposed digit stall bushing holder, carriage means mounting said holder within said casing and guided thereon to permit holder translational movement along an arcuate path in registry with one such aperture, pivot means in the movable portion of the carriage means supporting the holder therein to tilt variably in a plane extending parallel to said great circle, holder tilting means on the carriage, operable at will to vary the holder tilt angle in any translational position thereof, a bored digit bushing removably insertable to varying depths in the holder to form a tiltable, translatable digit stall, and referencing means on the carriage and reacting on the casing to move lengthwise of the holder by tilting of the latter, said referencing means being engageable with the bushing and thereby limiting penetration of the bushing into the holder at a depth referencing the rim of such bushing to the casing at the side of the bushing adjacent the other digit aperture.

2,976,617
PIPE FLANGE GAUGE
James M. Wilson, Jr., 1503 NW. 8th, Oklahoma City, Okla.
Filed July 14, 1958, Ser. No. 748,279
2 Claims. (Cl. 33—199)

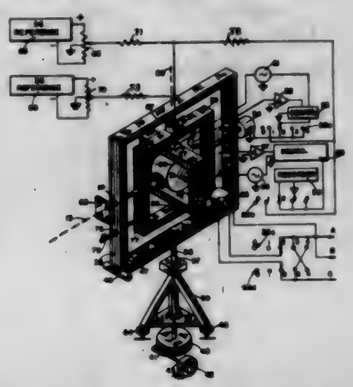


2. A pipe flange and thread gauge, comprising: an elongated body having aligned bores in its respective ends, the respective ends of said body being transversely slotted, one end of said body having internal threads in its bore; a collet threadedly engaged with each said slotted end, respectively; a first rod-like contact member carried by the end of said body opposite the internally threaded end, said first contact member having a conical free end portion; a mandrel threadedly engaged with the threaded bore of said body, said mandrel having an enlarged, substantially square, bifurcated free head end portion; a substantially square block forming a continuation of said head end portion, said block having a lip end portion interdigitately received by said head end portion; a hinge pin transversely connecting said lip end portion with said head end portion, said hinge pin being positioned in lateral offset relation with respect to the axis of said body, said block having a central bore in its free end in axial alignment with respect to the bores in said body; a thumb screw threadedly carried transversely by one side of the bifurcated end of said head end portion for releasably contacting one side surface of said lip end portion; a second rod-like contact member carried by the bore in said block, said second contact member having a conical free end portion; a transverse setscrew threadedly carried by said block in contact with said second contact member for securing the latter.

2,976,618
GYRO-COMPASS
Mark E. Campbell, Whittier, and George E. O'Brien, West Covina, Calif., assignors to North American Aviation, Inc.
Filed Jan. 2, 1959, Ser. No. 784,731
7 Claims. (Cl. 33—226)

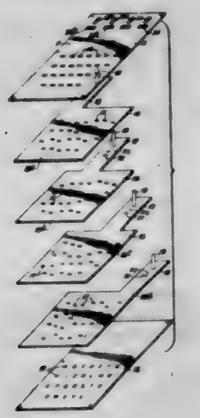
1. A gyro-compass including a two axis gyroscope having a rotor adapted to be rotated in either direction, bearings supporting said rotor and defining the gyro spin axis, a gimbal mounting said rotor bearings and rotatably supported by bearings which define the gyro output axis, a gyro case supporting the bearings in which the gimbal is mounted, bearings supporting said case and defining a gyro input axis orthogonal to both said spin axis and said output axis, a frame mounting said case supporting bearings, first detecting means for detecting rotational displacement of the gimbal with respect to the case about said output axis, means responsive to said first detecting means for applying a torque to the gimbal about said input axis to reduce the rotational displacement between said case and said gimbal to substantially zero, means for

measuring and applying a torque to the gimbal about the output axis to balance the error torque acting on the gimbal about the output axis when the gyro rotor is rotating as well as when said rotor is non-rotating, second detecting means for detecting rotational displacement of



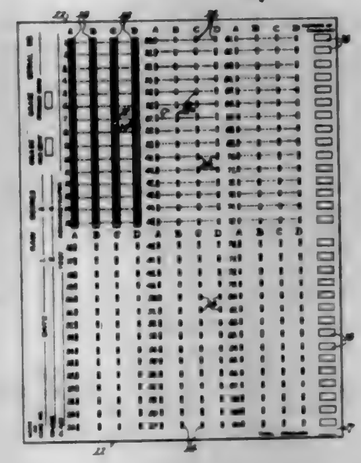
said case with respect to said frame about said input axis, frame mounting means for supporting said frame rotatably about an azimuth axis and means for adjusting said frame in azimuth relative to said frame mounting means so as to aline said input axis with a true east-west cardinal azimuth.

2,976,619
DEVICE FOR TEACHING MORSE CODE
Victor W. Bolie, Stanford, Calif., assignor to Iowa State College Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Dec. 11, 1958, Ser. No. 779,659
3 Claims. (Cl. 35—8)



2. In a device for decoding Morse code, a top plate and a bottom plate secured together in spaced-apart, parallel, aligned relation, said top plate being equipped with at least twenty-six apertures, one for each letter of the alphabet, the letters of the alphabet being positioned on the interior of the bottom plate for view through the top plate apertures, at least four masking plates movably mounted between said top and bottom plates, each of said masking plates also being equipped with at least twenty-six apertures, the apertures in said masking plates being so arranged that for any given position arrangement thereof only one alphabet letter thereof is visible, each of said masking plates being equipped with an extension, with each extension being free of any over-lapping relation with the other extensions, a portion of each extension projecting beyond said top plate to permit confined slidable movement of the extension relative to the top plate, each extension carrying dot and dash symbols and a blank space, and viewing means on said top plate, said symbols and blank space on said extensions being selectively alignable with said viewing means to permit view of any one alphabet letter for any given position arrangement.

2,976,620
TESTING AND SCORING DEVICE
Richard H. Schoning, United States Army
Filed Sept. 30, 1957, Ser. No. 687,305
2 Claims. (Cl. 35—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)

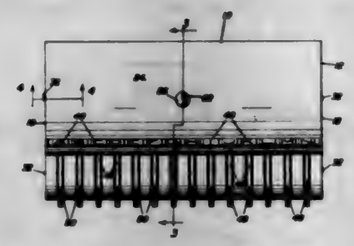


1. A unitary testing and scoring device comprising a base sheet having a plurality of vertically and horizontally disposed predetermined areas, a series of said predetermined areas corresponding to a single test item, a plurality of randomly distributed symbols, said symbols being printed in electrically conductive ink, one of said plurality of symbols in one of a preselected number of said predetermined areas, an inert, erasable material overlaying each of said predetermined areas and joining groups of said predetermined areas to form a continuous strip, a plurality of defined areas on said base sheet removed from said predetermined areas, said defined areas correlated with said predetermined areas for recording attempted trials to select a correct answer by removal of said erasable material, indicia means in at least one corner of said base sheet for determining testee's total test score, and a preselected portion of said base sheet removed from said predetermined and defined areas for recording test data.

2,976,621
EDUCATIONAL DEVICE FOR TEACHING SPELLING
Newton W. Lowe, Jr., Miami, Fla.
(Rte. 2, Box 180, Naples, Fla.)
Filed Apr. 7, 1959, Ser. No. 804,823
11 Claims. (Cl. 35—77)

1. An educational device comprising a casing, an axle member mounted in said casing, a plurality of aligned letter wheels rotatably mounted on said axle, indicia formed on the outer peripheral edge of each of said letter wheels, a window parallel to said axle in said casing

for viewing the indicia on said letter wheels, positioning means engageable with each of said letter wheels wherein the latter may be adjusted in rotated positions, retaining means engageable with said positioning means for retaining said letter wheels in adjusted positions, said axle



member being mounted in upstanding slots formed in opposite sides of said casing, the upper end of said slots being a greater distance from said positioning means than the lower ends of said slots, means operatively connected to said axle for raising said axle in said slots and disengaging the letter wheels from said positioning means.

2,976,622
ILLUMINATED HEEL FOR LADY'S SHOE
Frederick M. Shearouse, 510 Monk St., Brunswick, Ga.
Filed May 7, 1958, Ser. No. 733,585
5 Claims. (Cl. 36—1)



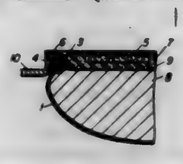
1. A lady's shoe comprising, a heel made of light transmitting material, said heel having a bore therein, an electric lamp mounted in said bore, a battery slidably mounted in said bore, said battery having a centrally disposed terminal and a peripherally disposed terminal, said lamp having a centrally disposed terminal and a peripherally disposed terminal, said centrally disposed terminals and said pheripherally disposed terminals respectively of said battery and said lamp respectively being held in registering alignment by said bore of said heel, and electrically conductive biasing means extending between said peripherally disposed terminals of said lamp and said battery respectively urging said centrally disposed terminal of said battery away from said centrally disposed terminal of said lamp.

2,976,623
SANDAL WITH REMOVABLE UPPER THEREFOR
Thomas L. Galloway, 31 E. 72nd St., New York, N.Y.
Filed June 20, 1958, Ser. No. 743,243
4 Claims. (Cl. 36—11.5)



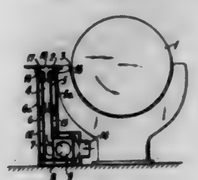
2. An article of footwear comprising foot retaining means, a sole, a shank secured to said sole and extending laterally to a side edge thereof, a tube extending in substantial parallelism with the aforementioned side edge of said sole, means for hingedly connecting said tube to said shank, said means providing a rectangular aperture which is disposed outwardly with respect to said sole and which extends in substantial parallelism therewith, said foot retaining means including a strap, said strap being of such cross-sectional size and shape as to permit of its being received in said aperture, and means carried by one end of said strap for telescopic engagement with said tube.

2,976,624
FOOTWEAR WITH SOLES CONTAINING RUBBER
Ernest E. Rollman, Waynesville, N.C., assignor to Re-Search, Inc., Waynesville, N.C., a corporation of North Carolina
Original application June 24, 1952, Ser. No. 295,247, now Patent No. 2,789,295, dated Apr. 23, 1957. Divided and this application Nov. 6, 1956, Ser. No. 620,699
3 Claims. (Cl. 36—14)



1. A shoe comprising material forming a shaped upper, said upper having a lower inturned marginal portion and an outwardly extending welt joined to said lower marginal portion, and a sole layer of rubber molded and vulcanized in situ directly to the inner portion of said welt and to said lower marginal portion of said upper, said sole constituting the only structural element secured to said upper and welt at the region of their joinder and holding in position opposite sides of said lower marginal portion of said upper to maintain said upper in its given shape.

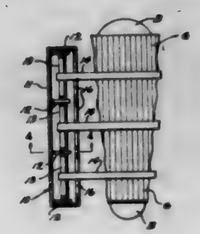
2,976,625
DEVICES FOR REMOVING CREASES FROM INDIVIDUAL PIECES OF FABRIC BY MEANS OF A CURRENT OF AIR
Wilhelmus J. C. M. Bezelmans, 122 Providencialweg, Meerveldhoven, Netherlands
Filed Oct. 28, 1958, Ser. No. 770,134
Claims priority, application Netherlands Nov. 1, 1957
8 Claims. (Cl. 38—3)



1. In combination with a mangle, a device for smoothing laundered articles, said device comprising a box-like outer container having a horizontally extended base and a vertically extended narrow upper section, said upper section having a top with a long, narrow inlet-outlet opening for the insertion of a laundered article except for an edge of said article which is led to said mangle, an inner box-like container similar in shape to said outer box-like container, said inner container having its upper section open at the top to receive said part of article inserted in the inlet-outlet opening of said outer container, and an air moving means connected to said inner container and adapted to move air down said vertical upper section of

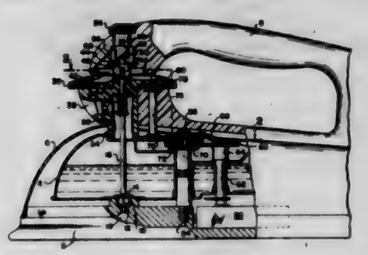
said inner container, said air moving in the opposite direction to that in which said article moves, out through said inlet-outlet opening to said mangle, whereby said laundered article is stretched and smoothed by said passage of air.

2,976,626
PLEAT HOLDER FOR PRESSING MACHINES
George W. Plantier, Sr., 24 Grove Ave., Wolcott, Conn.
Filed Sept. 25, 1959, Ser. No. 842,479
1 Claim. (Cl. 38—12)



A pleat holder for a steam pressing machine having a lower buck, said machine including an elongated hollow box-like housing member secured in parallel relation to said lower buck, a plurality of spring ratchet and catch rollers journalled in coaxial disposition within said housing member, flexible tapes secured to each of said rollers and operative to be wound on said rollers, respectively, weights secured to the outer ends of each of said tapes for keeping said tapes taut, said tapes being adapted to overlie a pleated garment for holding it flat upon said lower buck during the pressing operation, said housing having a hinged front cover provided with elongated slots which permit the free passage of said tapes therethrough and the angular swinging thereof from side to side.

2,976,627
STEAM IRON
Merrill Muller Kistner and Edward G. Temmer, St. Petersburg, Fla., assignors to Steam Iron Corporation, St. Petersburg, Fla., a corporation of Florida
Filed Nov. 4, 1958, Ser. No. 771,819
5 Claims. (Cl. 38—77)



1. In an electric steam iron comprising a sole-plate having a steam generating chamber, steam delivery channels in the sole-plate and outlet openings in its lower face, a water reservoir over the sole-plate, a handle over the reservoir, said handle comprising front and rear legs and a gripping portion, the sole-plate, reservoir and handle being operatively connected to each other to form a unitary structure, a valve controlling delivery of water from the reservoir to the steam generating chamber, a valve stem connected to the valve, a thermostat to control the temperature of the sole-plate, and a thermostat control rod associated with the thermostat, that improvement which comprises a control disc mounted in the front leg of the handle, a gear carried by the disc, means operatively connecting the thermostat control rod to the gear to regulate the thermostat, a series of cams arranged on the disc, a valve control member surrounding the valve stem and having a portion thereof riding on said cams to raise said member when the disc is rotated, said member being operatively keyed to the valve stem so that the stem is raised and the valve is opened when said member is raised by the cams.

2,976,628
ADHESIVE ATTACHED LABEL
Leon Breslow, 185 E. 162nd St., New York, N.Y.
Filed Oct. 8, 1959, Ser. No. 845,279
1 Claim. (Cl. 40—2)



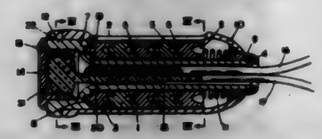
An adhesively attached fabric tape label having cut ends folded inwardly toward each other over the back of the label and concealing the cut ends in back of the label and providing finished uncut folds forming the extreme ends of the finished label, adhesive coating on the back of the label extending into the folds behind said turned back ends of the label, the face of the label being free of adhesive, the fold lines of said turned back ends of the label being immediately adjoining the cut ends of the label providing short folds and locating the cut ends immediately adjacent the folded ends and the adhesive on the back being extruded from the creases of the folds across and around the cut ends into position in back of the uncoated faces of the folded back ends and whereby said label free of adhesive on the face of the same will have the narrow and uncoated folded back ends adhesively secured in place on the supporting structure.

2,976,629
IDENTIFYING DEVICE
Gerald G. Brixius, 3522 Arabella St., and Jack Lubis, 3289 Woodruff, both of Long Beach, Calif.
Filed Apr. 30, 1959, Ser. No. 810,026
4 Claims. (Cl. 40—11)



1. An identifying device capable of being removably affixed to the neck of a bottle, comprising: a substantially planar circular plate adapted to receive identifying indicia thereon; engaging means adapted to engage the neck of said bottle to support said plate therefrom, said engaging means being arcuate in configuration with an inside diameter mateable with the outside diameter of said plate, means for pivotally affixing said engaging means to said plate at a peripheral point thereon, said engaging means being pivotable from a first position substantially in the plane of said plate to a second position substantially transverse thereto, said affixing means defining a radially inwardly extending resilient leg juxtaposed to one surface of said plate and substantially parallel thereto.

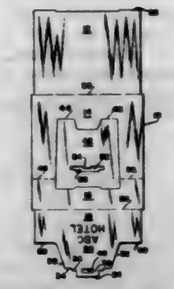
2,976,630
KEY-RING-TRINKET
Robert Marie Montfort, 27 Rodocanachi St., Marseilles, France
Filed Mar. 3, 1958, Ser. No. 719,949
Claims priority, application France Mar. 7, 1957
1 Claim. (Cl. 40—68)



The combination of a key-ring and numerical indicator comprising a tubular body having a window-forming aperture therein, a plurality of rings arranged rotatively internally of said body, said rings having a plurality of numerals arranged around the peripheries thereof, a hollow central axle passing through said rings and having an outwardly extending flange at one end thereof, each said ring having parallel end surfaces normal to its axis, the flange having its end surface adjacent the rings plane and normal to its axis, said rings and said flange including a plurality of recesses opening at a plane end surface and spaced symmetrically on a circle coaxial with the axis, each ring having on its other plane end surface at least one axially projecting tenon disposed at the same radius as the recesses and dimensioned for engagement into a selected recess, a collar arranged about said axle at the end thereof remote from said flange, a compression spring arranged between said collar and the last ring for urging said rings into frictional engagement with one another and with said flange, an annulus extending axially from said flange and forming a recess, a hollow plug closing in said recess, and a cord, the two ends of which pass through the bore in said hollow axle, one cord end being provided with a plurality of notches and the other cord end being provided with a corresponding plurality of tenons for engagement in said notches, one cord end being provided with an anchor arranged to seat in said hollow plug, whereby, to release a key or keys retained on said key-ring, it is necessary to slide said cords axially through said hollow axle in a direction away from the looped portion of the cords, whereafter it is possible to disengage the tenons and notches provided on said cords in order that one cord may then be passed axially in the reverse direction through said hollow axle to open said looped portion.

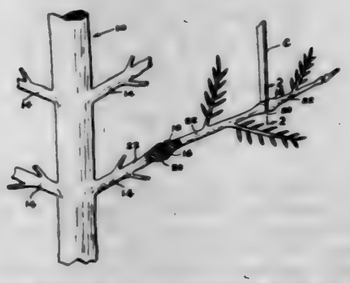
2,976,631
DISPLAY MOUNTS FOR CALENDAR PADS OR THE LIKE
Don F. Paschal, St. Charles, Ill., assignor to Chronicle Publishing Company, St. Charles, Ill., a corporation of Illinois
Filed Feb. 8, 1960, Ser. No. 7,203
3 Claims. (Cl. 40—120)

1. A display mount for a calendar or the like comprising a single piece of stiff board having first, second, third and fourth body panels, each panel being joined to the adjacent panel by a scored hinge line, said first panel being folded on a hinge line to lie in surface contact with said second panel and said fourth panel being folded on a hinge line to lie in surface contact with said third panel, the edge portions of said first panel and said fourth panel being disposed closely adjacent the hinge line between said second and third panels, said fourth panel having a locking tongue projecting therefrom beneath said first panel, a leg connected to said second panel by a hinge parallel to the score line joining said first and second panels and between the score line joining said first and second panels and the end of said tongue and having a portion opposite said tongue whereby when said third and fourth panels are swung about the hinge line joining said third panel to said second panel,



said tongue will move said leg into mount supporting position, and cooperating locking formations on said leg and said tongue engageable to retain said leg in said supporting position.

2,976,632
CARD-SUPPORTING ARTIFICIAL CHRISTMAS TREES FOR CHRISTMAS CARD DISPLAYS
Nicholas Phillips, 6 Allonsius Drive, Toronto, Ontario, Canada
Filed Oct. 8, 1959, Ser. No. 845,193
2 Claims. (Cl. 40—124)

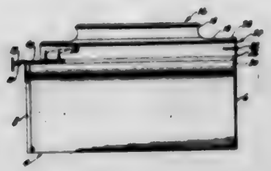


1. In an artificial tree, an elongated limb of a resilient form retaining material having a general longitudinal axis, and article-engaging and clamping means formed integrally in said limb for receiving a card or the like and supporting the same in a plane generally normal to the longitudinal axis of said limb, said clamping means comprising a transverse slit extending inwardly of said limb from a side thereof for a depth not substantially more than half the thickness of said limb at the slitted portion, said slit at its bottom merging into a slot formed in said limb and extending away from a side of said slit in a direction longitudinally of said limb, the slit portion of said limb providing opposed card-clamping jaws and said slot providing at its end remote of said slit a fulcruming area at which flexing of the limb takes place to open said clamping jaws with a lever-like action when adjacent limb portions are relatively bent to the required degree in a direction oppositely to said slit.

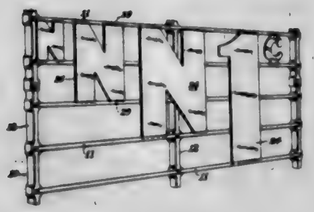
2,976,633
MAILBOX SIGN
Fred B. Squire, 303 Stambaugh, Redwood City, Calif.
Filed Nov. 28, 1958, Ser. No. 777,105
1 Claim. (Cl. 40—125)

A fixed sign for application to a mailbox of conventional design having a door at one end and a bead at the opposite end and having a snap bar as a fastening element for the door, comprising an elongated sign having a long

side adapted to lie in contact with the top of the box, a first fastening member at one end of said sign said member comprising a strap lying flat on the bottom of the sign and being adjustable relative to the sign and terminating in a slot adapted to pass over the snap bar of the mailbox and a clip at the opposite end of said sign, said clip comprising a flat metal bar having inturned ends adapted to pass over the bead of a mailbox.



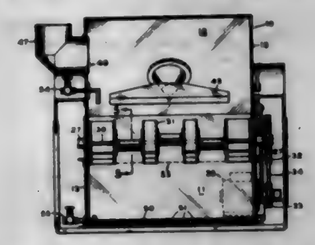
2,976,634
CHANGEABLE DISPLAY SIGN
Howard J. Ashley, 28 Mirabel Ave., Mill Valley, Marin County, Calif.
Filed Apr. 13, 1959, Ser. No. 806,024
4 Claims. (Cl. 40—125)



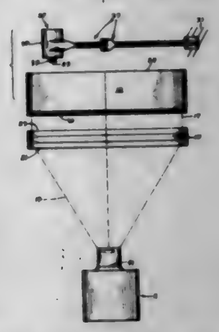
1. In a display sign, a plurality of laterally spaced upright supporting members arranged in substantially parallel relationship to each other, the said supporting members each having a plurality of vertically spaced horizontal apertures arranged in corresponding positions with respect to one another, a plurality of vertically spaced substantially horizontal rails detachably supported by and extending between the upright supporting members, the rails each having resilient tenons extending from its ends at substantially right angles to such rails, the tenons extending through the apertures of the supporting members and the tenons having enlarged locking members at their outer ends engaging with the supporting members externally thereof, the rails each having longitudinal open grooves extending along its upper and lower sides, and a plurality of indicia-bearing plates detachably supported on and between the rails and having upper and lower projecting portions extending into the grooves of the rails.

2,976,635
ETCHING MACHINE AND PADDLE ELEMENT THEREFOR
Charles S. Martz, Aurora, Mo., assignor to The Tasope Company, Aurora, Mo., a firm or partnership
Filed Mar. 24, 1958, Ser. No. 723,532
10 Claims. (Cl. 41—9)

10. In an etching machine, an etching tank for holding a supply of etchant, a paddle in said tank, means for rotating said paddle, said paddle including a body member having a trailing lip at one end and an angularly related leading lip in the same plane of rotation to provide an end-open pocket between said lips, the leading lip being adapted to dip into the etchant and deposit it on the work piece, and an air tube in said tank for agitating the etchant to raise the level so that the following trailing lip is adapted to scoop etchant into said pocket.

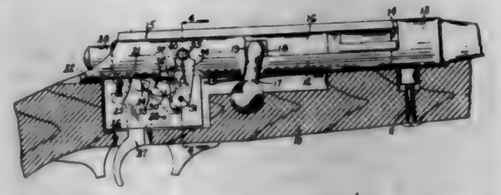


2,976,636
THREE-DIMENSIONAL OPTO-ROUTER
William R. Lange, 39 Rooney Lane, Westbury, N.Y.
Filed Nov. 22, 1955, Ser. No. 548,554
(Granted under Title 35, U.S. Code (1952), sec. 266)
9 Claims. (Cl. 41—25)



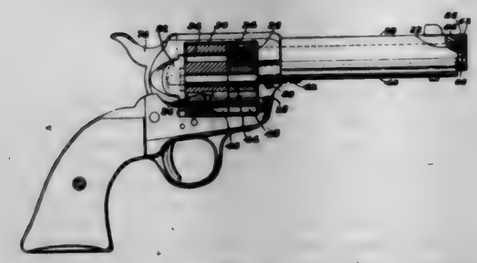
8. The method of producing a three dimensional representation of a two dimensional object comprising projecting a collimated image of said object upon a face of a transparent material and routing in the face of said material opposite the face into which said object is projected along paths corresponding to the salient features of the object delineated.

2,976,637
SEAR SAFETY ACTUATED BY ROTATION OF BOLT
Thomas R. Robinson, Jr., New Haven, Conn., assignor to The Marlin Firearms Company, New Haven, Conn., a corporation of Connecticut
Filed Oct. 27, 1958, Ser. No. 769,894
6 Claims. (Cl. 42—70)



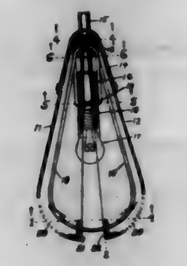
1. A firearm comprising a receiver, a bolt mounted in the receiver for longitudinal movement and for rotative movement to and from locked position, a striker reciprocably carried by the bolt, a sear member controlling the release of the striker, a trigger member to actuate the sear, a safety lever pivoted to the receiver to engage and prevent movement of one of said members and manually movable to "off" position, and means to prevent such manual movement of the safety lever until the bolt is rotated to locked position, said means comprising an opening through the receiver wall, an element movably received in said opening in position to be engaged by a part of the bolt upon its rotation and projecting outwardly therefrom to actuate said safety lever to safety position when the bolt is rotated to unlocked position.

2,976,638
SUBCALIBER CONVERSION ASSEMBLY FOR REVOLVERS
John G. Owens, 540 N. Louise, Shawnee, Okla.
Filed June 13, 1958, Ser. No. 741,801
11 Claims. (Cl. 42—77)



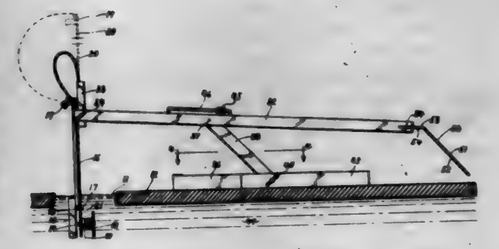
5. An assembly for converting a revolver to use sub-caliber ammunition comprising: a sub-caliber cylinder having a barrel support at its discharge end, said cylinder and support being adapted to replace the larger caliber cylinder of the revolver with said sub-caliber cylinder having a central aperture to receive the cylinder spindle of the revolver and said support having a threaded opening adapted to receive the threaded rear end of a sub-caliber barrel insertable in the revolver barrel; a recoil plate adapted to replace the recoil plate of the revolver and having a central firing pin opening and an off-center firing pin opening adapted, respectively, for use with center-fire and rim-fire cartridges; and a firing pin assembly adapted to replace the firing pin of the revolver, said latter assembly including a firing pin pivoted to move between two positions corresponding respectively to said firing pin openings.

2,976,639
SNAP PIERCE FISH HOOK ASSEMBLY
Clyde O. King, 2120 K St., San Diego 2, Calif.
Filed Sept. 24, 1957, Ser. No. 685,987
2 Claims. (Cl. 43—17.6)



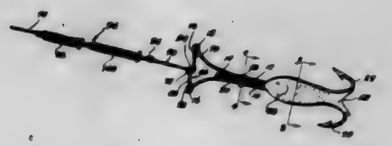
1. A fish lure comprising a body portion including two half shells the upper end of each being secured in an anchor block, the said shells also being connected adjacent their upper ends by an inverted U-shaped hair spring, the said shells being provided with two aligned centrally disposed elongated slots adjacent their lower ends, two fish hooks mounted within the shells in overlying relationship with their shanks disposed generally parallel to the inner side walls of the shells and with their points facing in opposite directions, the bight and points of the said hooks being adapted to be forced through the said slots in the shells, the upper portion of the hooks being connected by an intermediate section also mounted in the block and being defined by a plurality of U-shaped bends affording a spring action between the hooks of such nature as to bias the said hooks apart, the lower portion of each of the hooks in the bight section being provided with a sawtooth like projection and recess, the projection of one being adapted to be engaged in the recess of the other to thus lock the hooks in "set" position within the confines of the shell, each of the lower inside terminal portions of the shells being provided with a centrally disposed, narrow upstanding pin adapted to be located between and in contact with the two hooks outward of the projections, the arrangement being such that in set position, a bite on the lure will occasion a slight movement of the shells and their pins toward each other and result in a camming action of the pins on the hook projections to force the said hooks out of engagement with each other, the said hooks then being projected outwardly through the slots in the shells.

2,976,640
FISHING DEVICES
Michael E. Sensenbrenner, Wittenberg, Wis.
Filed Dec. 12, 1955, Ser. No. 552,544
5 Claims. (Cl. 43—19.2)



5. A fishing device, which comprises a support, post means secured to the support at the lower end of the post means and extending upwardly from the support, an arm mounted pivotally intermediate the ends thereof on the upper end of the post means, a plunger member, means securing the plunger member to one end of the arm in a position in which the plunger member extends downwardly from said one end of the arm into the water and adapted to push the plunger member farther into the water when said one end of the arm is moved downwardly toward the water, wind responsive means secured to the other end of the arm for pivoting the arm on the post means, the plunger member and the arm and the wind responsive means being so constructed and arranged that in the absence of wind the arm assumes a normal position in which only a predetermined portion of the plunger means is immersed in the water and in the presence of wind the wind responsive means moves the arm from said normal position and vary the immersed portion of the plunger member, whereby the plunger member will tend to return the arm to its normal position, and a fishing line supported by said one end of the plunger and depending into the water.

2,976,641
FISH HOOK ASSEMBLY
Giuseppe P. Carnevino, 5934 W. Addison St., Chicago, Ill.
Filed July 2, 1959, Ser. No. 824,703
4 Claims. (Cl. 43—35)



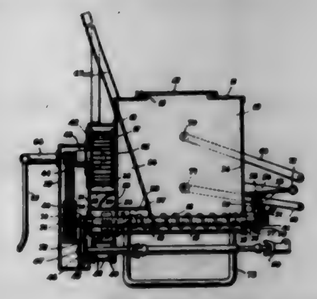
1. A fish hook assembly comprising a pair of elongated shanks each having a curved portion at the forward end and a hook at the rear end extending generally to the same side as said curved portion, a releasable first pivot means interconnecting said shanks at a portion intermediate their ends, with the curved forward portion of the interconnected shanks being disposed in laterally diverging relation and with the hooks on the other end of said shanks being directed outwardly, a link turnably connected with the forward end of each of said shanks, an additional releasable pivot means interconnecting the free ends of said links at a position intermediate said forward ends of said shanks, means associated with said additional pivot means providing for attachment of a fishing line thereto, and bait means connected to said first pivot means and extending rearwardly therefrom, whereby tension on said bait means is effective to produce outward movement of said hooks and whereby said releasable pivot means provide for separation of said shanks to afford independent manipulation of said hooks in their removal from a fish.

2,976,642
FISH LINE SUBMERGING DEVICE
Robert J. Wickman, 719 Kadota Ave., and George R. Kamm, 1545 Spruce Ave., both of Atwater, Calif.
Filed Jan. 15, 1960, Ser. No. 2,777
4 Claims. (Cl. 43—43.13)



1. A fish line submerging device comprising a vertical plate-like main body member, a flat plate-like vane member rotatably secured to the forward end portion of said main body member perpendicularly thereto for rotation around a horizontal transverse axis, a detent member movably mounted on said main body members rearwardly of said vane member, yieldable means urging said detent member forwardly into locking engagement with said vane member, means to attach a fishing lure to said detent member, whereby a rearward pull on said lure retracts said detent member and releases said vane member, and means to attach a fishing line to said vane member.

2,976,643
MACHINE FOR SPRAYING POWDERED MATERIALS
Charles Littlewood Chafer, Doncaster, England, assignor to J. W. Chafer Limited, Doncaster, England, a company of Great Britain and Northern Ireland
Filed May 8, 1959, Ser. No. 811,986
Claims priority, application Great Britain May 28, 1958
9 Claims. (Cl. 43—148)



1. A machine for spraying powdered materials comprising, a hopper for containing the material to be sprayed, a suction duct alongside and exteriorly of the hopper, an agitating chamber between the hopper and the suction duct and communicating with the outlet of said hopper and with the inlet of said suction duct, a delivery chamber communicating with the suction duct and having an outlet opening, a rotary spindle extending through the agitating chamber and the hopper at the base of said hopper, a tubular feed worm rotatably mounted on the spindle and extending part way into the agitating chamber through the inlet end thereof, agitating members fixed to the length of spindle within the agitating chamber, co-operating means on said spindle and said feed worm exteriorly of the hopper and remote from the agitating chamber for intermittently rotating the worm on continuous rotation of the spindle, means in the delivery chamber comprising a multi-blade blower for creating a suction in the suction duct and a forced draught through said delivery chamber, a spraying arm fitted to the outlet opening of the delivery chamber, power driven means for operating the spindle remote from the feed worm and transmission means on the spindle for operating the means for creating a suction in the suction duct and a forced draught in the delivery chamber.

2,976,644
TOY MISSILE
Louis C. Criscl, Fulton St. and Howard Ave., Brooklyn 33, N.Y.
Filed July 2, 1959, Ser. No. 824,596
5 Claims. (Cl. 46—81)



3. A toy comprising a holder and a missile for use therewith, said holder consisting of a handle, a trigger, sear, and a missile guiding shaft on said handle, said missile consisting of a nose portion having a bore partially therethrough, and a fuselage portion having a bore completely therethrough, a sear notch in said fuselage portion resilient means resiliently joining said nose and fuselage portions, said resilient joining means comprising corresponding lugs on the sides of said nose portion and lugs on the sides of said fuselage portion, and rubber bands engaging said lugs, said nose and fuselage portions adapted, when placed over the end of said shaft remote from said handle, fuselage portion first, to have said nose portion remain immobile and said fuselage portion to be drawn towards said handle on said holder when launching is desired until said sear engages said sear notch, said fuselage portion, when released by withdrawing said sear from said notch, being pulled towards said nose portion, under tension of said stretched resilient means, contacting said nose portion and carrying said nose portion with it as it leaves the end of said shaft in flight.

2,976,645
WHEEL AND WHEEL STICK COMBINATION
Paul K. Hight and Thomas F. Nicoloff, Santa Monica, Calif., assignors to The Original Jerl Wheel, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 22, 1958, Ser. No. 782,283
5 Claims. (Cl. 46—228)



1. A wheel adapted to be propelled by a stick applied to the rim of said wheel, said wheel comprising an outer crowned rim, a web within said rim, a plurality of bosses having openings therein, weights positioned in certain of said openings to make said wheel eccentric, and means within said openings for holding said weights within said openings.

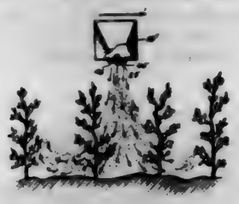
2,976,646
GRASS-GROWING FABRIC
Paul E. Hansen, North St. Paul, and Ralph J. Osce, East Oakdale Township, Washington County, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 1, 1958, Ser. No. 725,532
5 Claims. (Cl. 47—56)



1. A thin lightweight porous seed-containing grass-growing fabric adapted for use as herein described, consisting of a nonwoven porous compacted fibrous tissue web of nonbundled interlaced water-insoluble hydrophilic water-absorptive regenerated cellulosic staple fibers of at least one inch length, having grass seeds distributed within the fibrous body of the web, the seed-containing web being sized with a water-softenable film-forming colloidal agglutinant that provides extremely thin coatings on the fibers and seeds and temporarily binds the fibers to each other and the seeds to the fibers so as to unify the porous fabric product in its initial dry state.

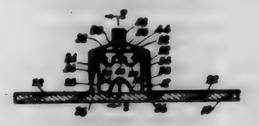
2,976,647
AGRICULTURAL SPRAYING
John W. Pickrell, 829 W. Hollyhock, Scottsdale, Ariz.
Filed Apr. 7, 1958, Ser. No. 726,918
11 Claims. (Cl. 47—58)

1. Method of applying agricultural chemicals and the like in liquid form to plants, comprising discharging the liquid as droplets downward toward the ground from plant level from a plurality of aligned liquid discharge locations and blowing air downward from air locations immediately adjacent and parallel to the line of liquid



discharge locations while moving the liquid discharge locations unidirectionally over the ground.

2,976,648
METAL ROOF CONSTRUCTION
Robert C. Lieck, Mount Pleasant and Panorama Roads, Villanova, Pa.
Filed July 3, 1957, Ser. No. 669,885
2 Claims. (Cl. 50—311)

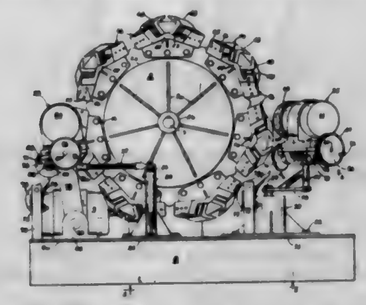


1. A sheet metal roof construction to be applied to roof sheathing and comprising in combination, elongated metallic channel-shaped battens having substantially parallel planar sides terminating at the outer edges thereof in terminal flanges coextensive in length therewith and extending inward and downward therefrom, the bases of said battens being attachable to the roof sheathing in spaced parallel relationship to each other and said planar sides extending substantially vertically from said bases when in use, whereby the terminal flanges are uppermost, anchor clips positionable selectively in longitudinally spaced positions along said battens and engaging the terminal flanges thereof, a saddle member for each anchor clip extending across and having opposite down-turned edges respectively overlying the upper edges of said battens to secure said anchor clips adjustably to said battens, metallic roof sheets extending between said spaced battens and the terminal edges thereof being flanged upwardly and overlying the sides of said battens, elongated channel-shaped batten covers disposed in inverted position over said battens and the sides of said covers extending downwardly over said terminal edges of said roof sheets in close engagement to render the engagement of said roof sheets with said battens water-tight, single bolts extending through each of said anchor clips and saddle members and extending above the same and through holes in said batten covers, a nut on each bolt engaging said saddle member to secure the same to said anchor clip and clamp said clip securely against the flanges of said battens, and a cap nut secured to the outer end of each bolt against the outer surface of the batten covers to secure said covers to said battens.

2,976,649
CHIPPER KNIFE GRINDER
George M. Standal, Chemainus, British Columbia, Canada
Filed May 15, 1959, Ser. No. 813,393
4 Claims. (Cl. 51—55)

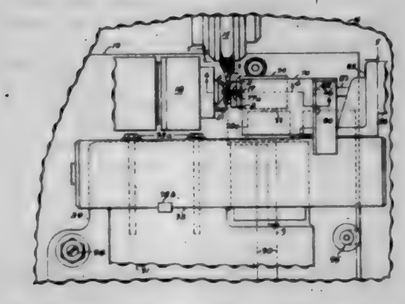
1. A grinder for chipper knives comprising in combination, a base, a knife carrying head, a shaft supported for rotation on said base and carrying said head, a plurality of knife carrying blocks on said head equally spaced

from the shaft axis, each block including means to clamp thereon a knife having a planar portion and an upturned nose thereon with the cutting edges of the planar portions of the knives in a plane perpendicular to the shaft and the noses of the knives facing outwardly and receding from said plane, a first grinding unit mounted on



said base for reciprocal movement in a direction perpendicular to said shaft, and having a grinding wheel facing toward said head, means to reciprocate said grinding unit, a second grinding unit mounted on said base for reciprocating movement about an axis substantially tangent to the path of rotation of the blocks and means to reciprocate said second grinding unit.

2,976,650
MACHINE TOOL WORKPIECE LOADING MECHANISM
Bertram H. Steinhard, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 22, 1959, Ser. No. 841,557
8 Claims. (Cl. 51—103)



1. In a grinding machine having a headstock with a rotatable driver and workpiece supporting means to hold a workpiece in grinding position at the driver, the combination of storage means to hold unoperated workpieces, a swingable housing, a spindle rotatably mounted in the housing and having means at one end to receive a workpiece, means to transfer a workpiece from the storage means to the spindle, means to swing the housing to deposit said workpiece on the workpiece supporting means, and means to axially shift the spindle to urge a workpiece deposited on the workpiece supporting means into driving engagement with the driver.

2,976,651
RAZOR BLADE HONING MACHINE
Theodore Boneff, 4144 W. Adams St., Chicago, Ill.
Filed June 24, 1958, Ser. No. 744,201
7 Claims. (Cl. 51—111)

1. A sharpening device for cutting blades comprising a frame having a pair of spaced, parallel disks journalled thereon, means for imparting contra-rotary motion to said disks and each being provided with abrading means on its inner surface to effect a sharpening action on a cutting blade, a cutting blade holder carried by said frame and extending radially inwardly between said disks and being journalled about its longitudinal axis, spring tensioned pull means carried by said frame and operatively connected to said holder biasing said holder about its longitudinal axis to engage a blade held thereby against said abrading means, said holder including a mounting

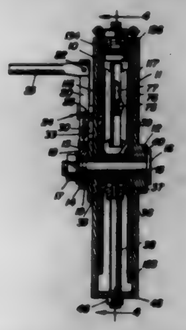
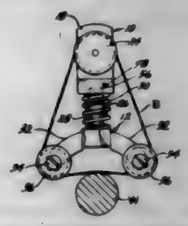


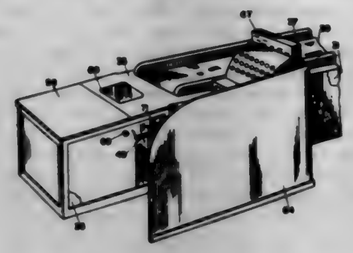
plate rotatable about an axis perpendicular to its longitudinal axis and to which a blade may be affixed such that oscillation of the plate between positions displaced 180° from each other will effect the engagement of all cutting edges of the blade against said abrading means, means for periodically oscillating said mounting plate in response to rotation of said disks, and coacting cam means on said disks and holder for overcoming said biasing means in response to rotation of said disks when the oscillating means is operative.

2,976,652
BELT SANDER
Lawrence T. Bedortha, Simsbury, and John W. Halliwell, Windsor Locks, Conn., assignors to Halortha Engineering Company, Inc., Hartford, Conn., a corporation of Connecticut
Filed July 30, 1959, Ser. No. 830,540
6 Claims. (Cl. 51—170)



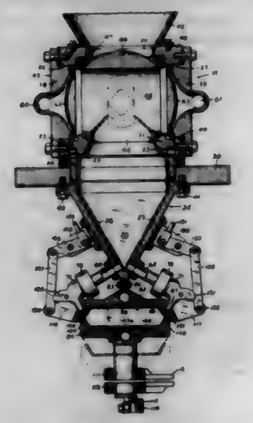
1. A belt sander attachment for an electric drill or other portable power tool of the type having a chuck, the said attachment comprising a vertical post having an extending bottom end, a shaft rotatably supported in the post and projecting forwardly and rearwardly therefrom with its rearwardly projecting end adapted to be gripped in a chuck, a drive pulley secured to the forwardly projecting end of the shaft, a bifurcated fork having its stem slidably engaged with the bottom end of the post for relative movement therebetween, and a pair of driven pulleys respectively rotatably mounted on the ends of the furcations of the fork so as to receive an abrasive belt driven by the drive pulley whereby the attachment is adapted to sand a convex surface engaging the belt between the driven pulleys and displacing it to apply tension to the belt.

2,976,653
SYSTEM OF MERCHANDISING AND EQUIPMENT THEREFOR
W. Jerome Peterson, 16 Wright Road, Wethersfield, Conn.
Filed Oct. 10, 1955, Ser. No. 539,336
29 Claims. (Cl. 53—3)



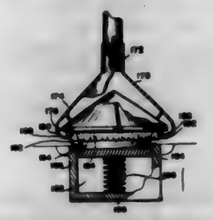
1. A method of packaging articles of random characteristics which comprises forming a carton around the articles by providing a bottom member and a side wall which when joined form the permanent carton, the interior of said side wall having a shape and size into which the bottom member can be placed with the outer edges of said bottom member disposed adjacent the bottom of the interior of said side wall, first placing the random articles upon said bottom member, then disposing said bottom member with the articles thereupon within the interior of said side wall with the bottom edges of said side wall adjacent the outer edges of said bottom member, and joining said edges of said wall and said edges of said bottom member thereby completing said carton and said packaging.

2,976,654
METHOD AND APPARATUS FOR FILLING GUSSETED CONTAINERS
Clarence W. Vogt, Weston, Conn.
(Rte. 4, Westport, Conn.)
Filed Aug. 8, 1957, Ser. No. 677,113
15 Claims. (Cl. 53—37)



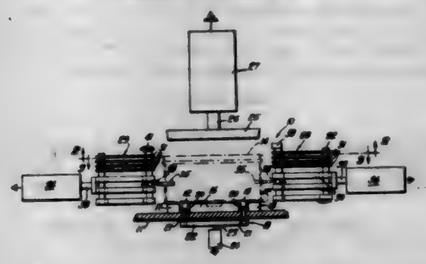
1. A method of filling open-ended tubular containers having top and bottom panels extending lengthwise of said container, comprising inserting said container in collapsed condition in a mold cavity with the ends of the container extending out of said cavity, forcing fluent material under pressure into said ends of said container to fill said container with said material and to expand the container to fill said cavity and closing the ends of said container.

2,976,655
PACKAGING METHOD AND APPARATUS
Robert L. Dreyfus, Arlington, and John W. Harrison, Winchester, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Aug. 20, 1959, Ser. No. 835,960
7 Claims. (Cl. 53—42)



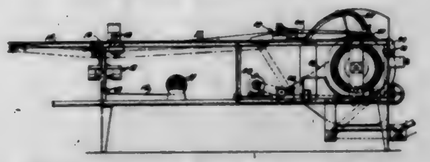
1. A method of forming a cover having an elastic edge comprising positioning a film of a high shrink energy polymer over and beyond the lip of a container, maintaining pressure on the film over the container, forcing the excess film downwardly around the container to form a gathered skirt and heating a band of said skirt briefly to shrink the skirt and provide a gathered but relatively elastic edge.

2,976,656
AUTOMATIC HAM PRESS
Patrick John Gardner, Ottumwa, Iowa, assignor to John Morrell & Co., Ottumwa, Iowa, a corporation of Maine
Filed Dec. 8, 1959, Ser. No. 858,276
6 Claims. (Cl. 53—70)



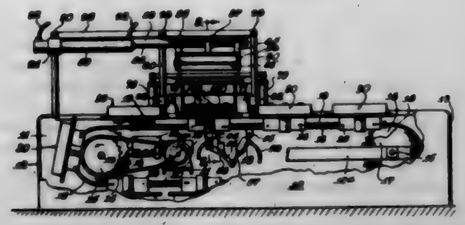
1. Apparatus for canning meat and like solid material comprising a base for positioning an upwardly opening can with its bottom on said base and having a press station at which the can is to be located for compressing meat therein, conveyor means passing through the press station for delivering cans in succession to the press station, drive means for said conveyor, movable means shiftable transversely of the conveyor means to encompass the sides of the cans to prevent deformation thereof, first reciprocation means for said movable means to project the same into engagement with the can sides and withdraw the movable means therefrom, a plunger movable into and out of the open top of the can when the can occupies the press station, the plunger covering substantially all of the open area of the can with slight clearance space between its periphery and the interior surfaces of the can sides, second reciprocating means for said plunger for shifting the plunger downwardly into the can and withdrawing the plunger therefrom, cyclic control means for said conveyor drive means and said first and second reciprocating means including cycle initiating means responsive to registry of the cans on said conveyor means with said press station to successively interrupt movement of the conveyor, shift said movable means into engagement with the can sides, reciprocate said plunger into and out of the can, withdraw said movable means form engagement with the can sides, and resume movement of the conveyor means.

2,976,657
PACKAGING WITH VARIATIONS OF PACKAGE LENGTH
Charles E. Cloud, Wilmette, Ill., assignor to William S. Cloud, Wilmette, Ill.
Filed Oct. 16, 1958, Ser. No. 767,615
19 Claims. (Cl. 53—75)



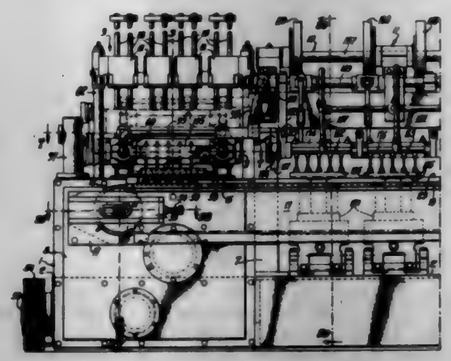
1. Wrapping apparatus including means for continuously forming a tube of heat sealable wrapping material with articles to be wrapped distributed therein in longitudinally spaced relationship, and means for heat sealing and severing the tube between articles including a turret adjacent the path of the tube and having a plurality of end-clamp assemblies vriably associated therewith; each assembly including means for releasably seizing the turret to rotate therewith, and means for clamping and heat sealing the tube as it moves with the turret; and said means for severing the tube severing it intermediate the heat sealed zone to leave a sealed end on the package preceding the end-clamp assembly and on the package trailing the end-clamp assembly; stop means for releasing the seizing means of an end-clamp assembly in a predetermined position of rest and retaining the end-clamp assembly in said position, and means for rendering said stop means ineffective in said function in coordination with the approach of a portion of the tube between successive articles being wrapped to cause said end-clamp assembly to seize upon the turret and move therewith in the proper position for clamping said portion.

2,976,658
MACHINES FOR AUTOMATICALLY SKIN PACKAGING MERCHANDISE ARTICLES AND FOR CUTTING INTO SEPARATE PACKAGES
J. Edward Kostur, Elmhurst, Ill.
Filed Dec. 7, 1959, Ser. No. 857,820
8 Claims. (Cl. 53—112)



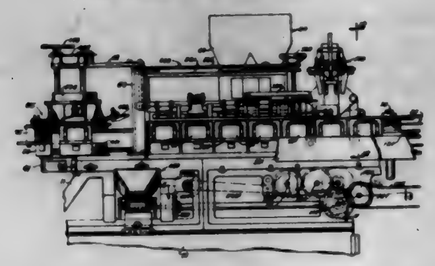
1. In an automatic machine for skin packaging merchandise articles; elongated frame; a pair of transverse shafts journaled on said frame; a pair of spaced apart sprockets mounted on each of said shafts; a pair of endless link chains mounted on said sprockets respectively; a plurality of hollow foraminated platens having their lower portions pivotally connected to said chains respectively; each of said platens having an air chamber opening through holes in the upper panel of said platens; each of said platens having a passaged socket-like fitting connected thereto; a pair of longitudinal fixed guide rails; shafts and rollers connected to said platens, said rollers normally riding in said guide rails; a brake motor for driving said chains to selectively move said platens; automatically controlled switch means for energizing said motor; mechanism for selectively stopping said chains to selectively position said platens; a slidably mounted passaged plunger communicatively connected to an air valve and a vacuum pump and an air compressor; a motor driven mechanism for selectively moving said plunger into sealing engagement with said socket whereby a partial vacuum will be created in said platens; a clamping frame for supporting plastic sheet film; an upper frame pivotally mounted on said frame member; air operated slidable mechanism for selectively lowering and raising said clamping frames to impinge and hold plastic sheets; a plurality of upwardly extending posts; a pair of horizontal rails on said posts; a movable oven rollably mounted on said last mentioned rails whereby said oven may be selectively positioned over said frame and said plastic sheet; the downward movement of said clamping frame being adapted to position said plastic sheet over articles supported on a board on one of said platens; the partial vacuum in said platens being adapted to draw and drape said plastic sheet over said articles and secure said sheet to a backing board; motor driven mechanism for outwardly moving an article-carrying board from said platens; a plurality of air-actuated cutters mounted above said last mentioned motor driven mechanism; said cutters being movable to cutting position to slit said article-carrying board in one direction as said board is moved from a platen; an auxiliary cutting table connected to the frame to one side of said machine frame; a pair of bracket-supported rails mounted above said auxiliary table; a horizontal rackbar secured on said brackets; a rollable carriage movable on said rails of said auxiliary table; motor operated gear mechanism coacting with said rack bar for moving said carriage horizontally above said auxiliary table; a manifold pipe on said carriage; a plurality of spaced apart movable cutters mounted on said carriage; air-operated mechanism connected to said manifold and adapted to selectively lower said cutters into engagement with said table, said mechanism including springs for elevating said cutters; said cutters on said carriage, when lowered, being adapted to cut transversely the strips of board on said auxiliary table to thereby form individual packages.

2,976,659
ARTICLE PACKING APPARATUS
James R. Flanagan, Marlton, N.J., and Penrose R. Hoopes, Philadelphia, Pa., assignors to Stephen F. Whitman and Son, Incorporated, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 17, 1958, Ser. No. 761,561
40 Claims. (Cl. 53—237)



1. A packing machine comprising, a frame, means on the frame defining a tray path, a receptacle accumulating and assembly station adjacent the path, an article loading station adjacent the path, means for advancing trays along the path to bring the trays to the receptacle accumulating and assembly and article loading stations, a plurality of sources of supply of receptacles, means at the receptacle accumulating and assembling station movable successively to each of the sources of receptacle supply and to the tray path to receive receptacles successively from the sources of supply in desired numbers and assemble the receptacles in predetermined order and deliver them to trays on the tray path, a source of supply of articles, and means at the article loading station to transfer articles from the source of article supply to receptacles in trays on the tray path.

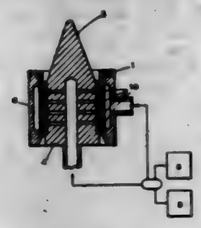
2,976,660
CONTAINER FILLING AND CLOSING MACHINE
Thomas E. Pierce, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 22, 1959, Ser. No. 808,112
23 Claims. (Cl. 53—166)



15. In a bag closing and sealing machine having a continuously traveling endless horizontal conveyor on which the bags are carried in spaced relation in an upright position and means for flat folding the tops of filled bags, mechanism for cross sealing the flattened tops of the filled bags comprising a vertically adjustable frame extending along said conveyor, a plate-like carriage mounted for horizontal reciprocating movement on said frame, two heat sealing and pressing devices mounted in spaced relation on said carriage and a fold forming device mounted on said carriage between said sealing and pressing devices, each of said sealing and pressing devices having cooperating sealing bar members which are mounted for movement relative to each other for clamping engagement with the tops of bags carried on the conveyor beneath said devices, one of said sealing bars being fixed on a bracket extending laterally of said carriage, the other sealing bar being mounted on a bracket which is slidable transversely of said carriage, a cam roller on said slidable bracket, a cooperating cam bar mounted on a cam shaft, means for horizontally reciprocating said carriage in timed relation to the movement of the conveyor so that said carriage advances with the conveyor for a predetermined portion of the travel of the conveyor and at the same speed, and means for simultaneously oscillating said cam shaft to move said sealing bars into bag top sealing relation while the carriage is advancing with the conveyor and thereafter to move said sealing bars out of engagement with the bag tops for return movement of said carriage.

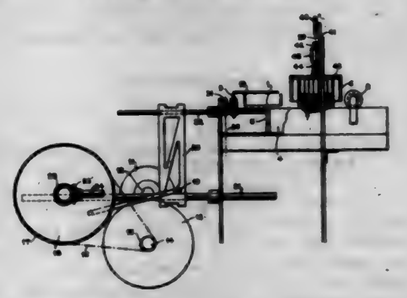
2,976,661
DEVICES FOR APPLYING SEALING BANDS TO ARTICLES
Arthur Harold Bagnalls, Waltham Cross, England, assignor to Alfred Fillers & Engineering Company Limited, Ponders End, England, a British company
Filed Aug. 11, 1958, Ser. No. 754,465
Claims priority, application Great Britain Aug. 16, 1957
4 Claims. (Cl. 53—282)

1. An apparatus of the character described for applying sealing bands, rings, capsules or like tubular devices to bottles or other articles, comprising a head member including a substantially cylindrical inner face having inwardly directed first ports formed therein, a former member provided with a substantially cylindrical side face having outwardly directed second ports formed therein, said former member being movable between a telescopic registering position within said head member and a position external of said head member and adapted to engage one of said tubular devices in a former member embracing position, means connecting some of said second ports to a source of negative pressure while said former member is out of registry with said head member to draw said tubular device carried thereby into snug



embracement therewith and connecting some of said second ports to a source of positive pressure when said tubular device carrying former member is in its full head member registering position, and connecting some of said first ports to a source of negative pressure upon the full registry of said tubular device carrying former member with said head member whereby to effect the radial expansion of said tubular device and its transfer from said former member to said head member, and connecting some of said first ports to a source of positive pressure upon the retraction of said former member from said head member and the insertion of said article therein to effect the transfer of said tubular device from said head member to said article.

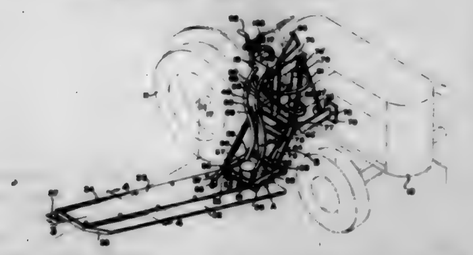
2,976,662
MACHINE FOR WELDING THE WRAPPINGS OF CHEESES
Jacques Raymond Roger Bertrand, Roquefort-sur-Soulzon, Aveyron, France, assignor to Societe Anonyme des Caves et des Producteurs Reunis de Roquefort, Roquefort-sur-Soulzon, France, a body corporate of France
Filed Apr. 26, 1960, Ser. No. 24,799
Claims priority, application France Aug. 5, 1959
12 Claims. (Cl. 53—388)



1. A machine for welding the wrapping applied to bodies of triangular or sector shapes, such as portions of cheese, said wrappings including a coating of thermowelding material, the machine comprising a feed table for receiving the wrapped bodies placed on one edge thereof, means for moving said bodies across said table, a heating station arranged on the path of said bodies to

heat the wrapping on the edge resting on the table, a V-shaped chute for receiving the bodies from the table, a welding station located along the chute and comprising a vertically reciprocable platen and heating means therefor, the lower edge of said platen being profiled to the shape of the base of the triangular or sector shaped bodies, driving means comprising a reciprocable piston movable inside the chute for presenting bodies received by the chute to the welding station and advancing the bodies beyond said station.

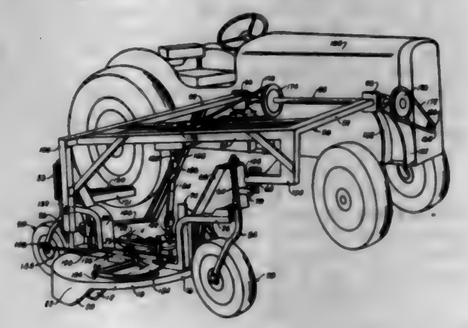
2,976,663
UNDER TREE HOE MOWER
Alexander Smith, P.O. Box 1460, and Burton D. Baggs, Jr., 2429 Laurel Ave., both of Sanford, Fla.
Filed Apr. 19, 1956, Ser. No. 579,348
6 Claims. (Cl. 56—25.4)



1. A mower and hoe unit for attachment to a vehicle having a rear axle, a power plant having a power takeoff and a source of fluid pressure connected to said power takeoff, said unit comprising frame structure including a cutter-bar-mounting-portion movable toward and from the earth, an elongated cutter bar hinged to said cutter-bar-mounting-portion in a manner to move toward and from and to follow the contour of the earth over which the cutter travels during which its ends may be disposed at different elevations, rotary cutter means carried by said cutter bar along the same and extending to the outer end thereof, said cutter bar being disposed to an acute angle relative to the longitudinal axis of said vehicle and having its outer end located substantially in line with said axle so that said cutter bar and cutter means can be caused to travel in a substantially circular path with the outer end of said cutter means moving in a relatively small circular path and the opposite end in a substantially larger path whereby said cutter means can be operated closely around a relatively small tree or other obstruction, and means interconnecting said source of fluid pressure with said cutter bar mounting portion and said cutter means for actuating said cuter-bar-mounting-portion and said cutter means.

2,976,664
ROTARY MOWER
Joseph B. Monroe, 1216 S. Grand, Cherokee, Okla.
Filed Apr. 14, 1958, Ser. No. 728,263
14 Claims. (Cl. 56—25.4)

1. In a mower for cutting vegetation around posts and the like, the combination of: rotary cutting means, housing means supporting and guarding the cutting means; driving means pivotally connected to one end of the housing means for moving the housing means over the vegetation, with the housing means extended at various angles with respect to the path of movement of the driving means; castor means pivotally supporting the opposite end of the housing means, trigger means pivotally carried by the housing means in a position to extend forwardly of one side portion of the housing means for contacting a post prior to contact thereof by the respective side of the housing means; linkage means connected between the trigger means and castor means for turning the castor means in a direction away from the post when the trigger means is pivoted by the post; and spring means connected be-



tween the housing means and driving means for urging the housing in a direction opposite to the first-mentioned direction, whereby said side of the housing means is guided around the post.

2,976,665
ROTARY MOWER
Clifford H. Speckman, Cobbs Hill, Aurora, Ind.
Filed July 14, 1959, Ser. No. 827,115
2 Claims. (Cl. 56—255)

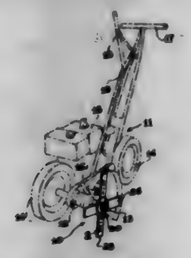


1. In a rotary mower, a support, vertically disposed rotatable shaft carried by said support, a first horizontally disposed disc circumposed about said shaft and connected to said shaft for rotation with the latter, said disc having cutter blades projecting from the periphery thereof, a second horizontally disposed disc superimposed upon said first disc and circumposed about said shaft, said second disc having cutter blades projecting from the periphery thereof, and means embodying a pinion carried by said shaft and in meshing engagement with a plurality of pinions rotatably mounted upon said support, and a ring gear formed on said second disc and in meshing engagement with said plurality of pinions, connecting said second disc to said shaft so that said second disc rotates at a slower speed than and in an opposite direction to said first disc.

2,976,666
ROTARY BLADE ASSEMBLY
Fred J. Machovec, 63 N. Meridith Ave., Pasadena, Calif.
Filed Aug. 5, 1958, Ser. No. 753,375
5 Claims. (Cl. 56—295)

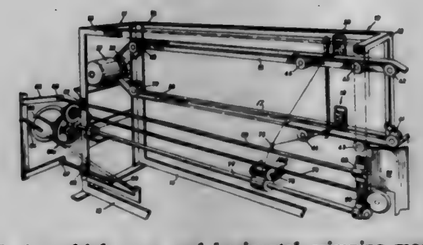
1. An article of manufacture comprising a one-piece sheet metal stamping for use in anchoring a pair of criss-cross blades to a rotary shaft with the blades rigidly supported in the same general plane and with their ends circumferentially spaced, said stamping having only a central opening for receiving a single threaded fastener, the rim edges of said stamping being offset from the plane of said plate to provide aligned shallow wide channels substantially at right angles to one another and sufficiently

wide to receive and seat therebetween a pair of flat strip blades, the bottom surface of one channel lying in a plane



parallel to the surface of the other channel but spaced therefrom by approximately the thickness of one of the blades to be seated therein.

2,976,667
MULTIPLE END HORIZONTAL CRIMPING MACHINE
Aimé Joseph Racicot, 9 Drew Ave., Galt, Ontario, Canada
Filed Dec. 28, 1957, Ser. No. 704,165
7 Claims. (Cl. 57—34)

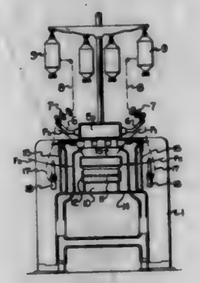


7. A multiple yarn end horizontal crimping machine for simultaneously crimping and paralleling a plurality of thermoplastic yarn ends and comprising in combination: a plurality of yarn package support means for each yarn end; a horizontal frame including a plurality of longitudinally extending parallel superposed support bars; an endless drive belt extending horizontally substantialy the full length of said frame and having a plurality of drive belt portions in parallel spaced apart superposed relation, each being disposed parallel to and adjacent one of said support bars; at least one vertical group of yarn twist spindles, each of said spindles being adapted to extend horizontally above one of said belt portions for driving engagement therewith; a mounting block for each twist spindle; means vertically slidably mounting each mounting block on a support bar adjacent the drive belt portion for the spindle thereof to effect driving of said spindle by said belt portion under the action of gravity and disposing said spindles of said vertical group in vertical superposed relationship; a single take-up spool for said vertical group of spindles mounted on said frame and operatively related to said belt for drive relation therewith; means on said frame between said spool and said spindles of said group for paralleling all yarn ends from said spindles to said take-up spool; yarn heating means in the form of a thermostatically controlled heating block disposed adjacent each twist spindle of said vertical group between the latter and the yarn package therefor, and having a yarn heating surface including guide means for surface contact heating of a yarn end passing thereover from said yarn package to its adjacent twist spindle; controllable tensioning means between said guide means and said yarn package effectively isolating said yarn package from twist imparted to the yarn end by the twist spindle therefor; a vertical actuating rod on said frame for each group of vertical spindles; means on said actuating rod for simultaneously raising all mounting blocks of said vertical group of spindles upon effecting vertical motion of said actuating rod thereby to disengage said twist spindles from driving relation with said belt.

ERRATUM

For Class 57—56 see:
Patent No. 2,977,181

2,976,668
METHOD AND APPARATUS FOR THE SUCTION OF BROKEN ENDS AND DUSTING OF TEXTILE MACHINES
Ferdinand Reiterer, Rueil Malmaison, France, assignor, by direct and mesne assignments, to Parks-Cramer Company, Worcester, Mass., a corporation of Massachusetts
Filed July 23, 1959, Ser. No. 829,008
Claims priority, application France July 25, 1958
26 Claims. (Cl. 57—56)



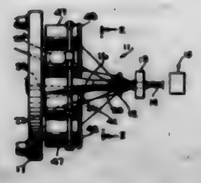
8. A method of cleaning textile machines having means for processing ends of yarn which comprises continuously producing suction currents of air in restricted areas adjacent the path of the ends being processed and intermittently producing suction currents of air at each of a plurality of other and different relatively large zones adjacent the machine while successively producing said suction currents of all of said zones in a predetermined sequence, and moving the continuous suction currents and the intermittent suction currents through separate filtering compartments and to a common source of suction.

23. A suction apparatus for cleaning textile machines having drafting rolls; comprising channel means extending longitudinally of each machine, suction heads disposed adjacent the drafting rolls and in continuous communication with said channel means, a plurality of open-mouthed suction chambers communicating with said channel means, a single fan for producing suction in said channel means, valve means in each suction chamber for opening and closing the suction mouths to the inward flow of air, electromagnetic means for operating each of said valve means, and means for intermittently actuating said electromagnetic means in a predetermined sequence.

2,976,669
APPARATUS FOR THE PRODUCTION OF CABLES
Svend A. Petersen, Charlotte, N.C., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed July 14, 1955, Ser. No. 522,099
19 Claims. (Cl. 57—64)

1. Apparatus for the processing of filamentary material, comprising means for mounting a package of fila-

mentary material for movement in a path, means for drawing the filamentary material from said package during the movement thereof, and means responsive to said movement for engaging said filamentary material adjacent to said package to restrain the movement of said



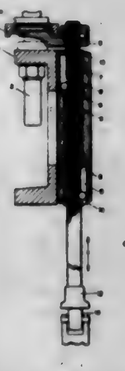
filamentary material when the movement of said package is stopped, said responsive means permitting free movement of said filamentary material and being disengaged therefrom during the movement of said package in said path.

2,976,670

DEVICE FOR GUIDING THE MOVEMENT OF THE RING RAIL IN SPINNING MACHINES

Luigi Vella, Province of Brescia, Cogozzo Valtrompia, Italy

Filed Apr. 21, 1958, Ser. No. 729,963
Claims priority, application Italy May 7, 1957
1 Claim. (Cl. 57—137)



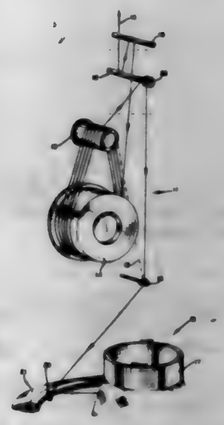
In a spinning machine including a ring rail, lifting and guiding means for said ring rail lying in a plane displaced from the plane of the center of gravity of said ring rail, said means comprising a vertical support, a vertical bore through said support, a lifter rod slidably mounted in said bore, said lifter rod being provided with diametrically positioned longitudinal grooves, a first groove in said bore near the upper end thereof on the side of said bore toward the center of gravity of said ring rail and of approximately half the length of the distance of vertical movement of said lifter rod, a ball bearing seated in said first groove in said bore extending into and bearing in one of said grooves in said lifter rod, a second groove in said bore on the side of said bore remote from the center of gravity of said ring rail near the lower end thereof of approximately half the length of the distance of vertical movement of said lifter rod, said second groove being on the diametrically opposite side of said bore from said first groove, a ball bearing seated in said second groove and bearing in the other of said grooves in said lifter bar, and said first groove and said second groove lying in a plane normal to the plane of the center of gravity of the said ring rail.

2,976,671

METHOD OF THREADING DRAWTWISTER

John B. Steen, Asheville, N.C., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Oct. 30, 1958, Ser. No. 776,849
3 Claims. (Cl. 57—157)



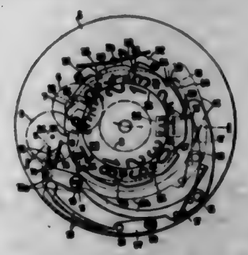
1. In a drawtwisting process for treating artificial yarn having an elongated cross-sectional shape including the steps of delivering said yarn at a first rate of speed to a drawing zone, withdrawing said yarn from said drawing zone at a second rate of speed considerably greater than the said first rate, localizing the draw point of yarn drawn in said drawing zone by passing the same in contact with at least one curved surface, and collecting drawn yarn while imparting twist and twist torque thereto, the improvement comprising the steps of passing the drawn yarn after withdrawal from said drawing zone back into contact with said curved surface, and restricting any lateral movement of said yarn relative to said surface which is induced by the aforesaid twist torque imparted during collection.

2,976,672

TIMEPIECE WITH DATE INDICATOR

Georges Ducommun, Grenchen, Switzerland, assignor to Geneva Sport Watch Ltd., Geneva, Switzerland

Filed Sept. 24, 1956, Ser. No. 611,561
Claims priority, application Switzerland Oct. 21, 1955
4 Claims. (Cl. 58—58)



1. In a timepiece with a date indicator of the type including a powered movement driving a twenty-four hour wheel adapted to turn a pair of concentric discs by use of a common pawl engaging a deep-notch transfer mechanism, the improvement wherein two notched elements are used for the transfer mechanism, one of the notched elements bearing the numerals of the units of the date, the other of the notched elements bearing two series

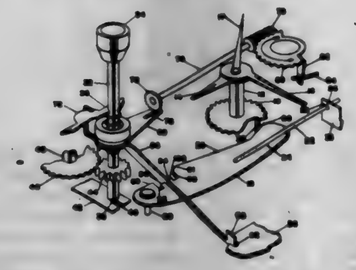
of three of the numerals of the tens of the date and a space (space, 1, 2, 3, 3, space, 1, 2, 3, 3), said one element having nine shallow notches and one deeper notch, said other element having on its periphery six notches positioned inwardly from the periphery of said one element, two notches superposed to the shallow notches of said one element and two notches positioned outwardly from the periphery of said one element, so that upon the rotation of the one element ten notches the other element is rotated one notch and likewise upon the second rotation of ten notches of the one element the other element is rotated one notch and upon the third rotation of the one element of ten notches the other element is rotated one notch, while upon the next one notch rotation of the one element the other element is likewise rotated on notch and upon the following one notch rotation of the other element the one element is not rotated whereby composite successive numerals of 1–31 are repetitively presented.

2,976,673

CLOCK SETTING AND AUTOMATIC REGULATION

Oscar R. Potters, Columbia, and Harwell B. Thompson, Lancaster, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania

Filed July 30, 1957, Ser. No. 675,108
20 Claims. (Cl. 58—109)



1. In a timepiece having an automatic regulator, a timepiece frame, a setting shaft mounted in said frame for rotation and limited axial motion therein, a first wheel in the train of said timepiece mounted in said frame adjacent said shaft, a setting pinion on said shaft and engageable with said wheel on movement of said shaft in one axial direction, clutch means rotationally mounted on said shaft and having fingers thereon engageable by said setting pinion on further axial movement of said shaft in the same direction, a regulation lever carried by said clutch means and frictionally held thereby by the clutch action, an indexing wheel mounted in said frame, an indexing means on said regulation lever engageable with said indexing wheel when said setting pinion engages said fingers and rotates said clutch means and regulation lever, a regulator mounted in said frame, means driven by said indexing wheel for moving said regulator, and means preventing movement of said regulator more than once per revolution of the slowest moving wheel in the train of said timepiece.

2,976,674

OPEN-FACE CLOCK

Arthur W. Hayden, Milford, Conn., assignor to The Sessions Clock Company, Forestville, Conn., a corporation of Connecticut

Filed Feb. 11, 1959, Ser. No. 792,494
5 Claims. (Cl. 58—126)

1. An open-face clock assembly comprising a first rotatable member, a rotatable sleeve surrounding the first rotatable member, drive means for rotating the member and sleeve at different speeds, a first indicator carried by the rotatable member, means forming a second indicator carried by the sleeve, and enclosure means carried by the



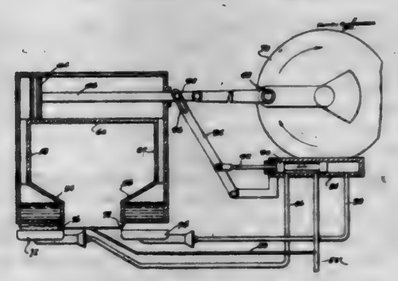
sleeve and substantially totally enclosing the first indicator, the enclosure means including a transparent portion through which the first indicator may be viewed.

2,976,675

VOLATILIZABLE GAS DRIVEN ENGINE

Edward C. Bonner, 377 Bayview Ave., Apt. 8, Toronto, Ontario, Canada; Mary Bonner, administratrix of said Edward C. Bonner, deceased

Filed Nov. 28, 1958, Ser. No. 776,894
2 Claims. (Cl. 60—25)



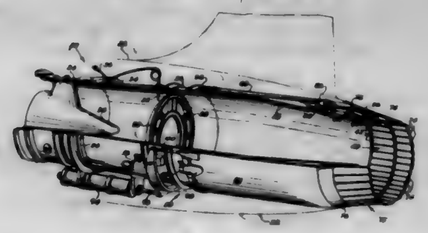
1. In a power plant, a first closed chamber, a second closed chamber, a charge of volatilizable material in each of said chambers, a cylinder adjacent said chambers, a passageway connecting said first chamber with one end of said cylinder, another passageway connecting said second chamber with the other end of said cylinder, a piston slidable within said cylinder between the ends of the latter, a piston rod extending out of said other end of said cylinder and having one end secured to said piston and having the portion adjacent the other end exteriorly of said cylinder, said other end of said piston being adapted for connection to an element to be driven, a first burner exteriorly of said first chamber and arranged so as to apply heat to said first chamber, a second burner exteriorly of said second chamber and arranged so as to apply heat to said second chamber, a source of gaseous fuel, a conduit connecting said source to said first and second burners, a control valve movable in said conduit between a position opening said conduit to said first burner and closing said conduit to said second burner and a position closing said conduit to said first burner and opening said conduit to said second burner, means connecting said other end portion of said piston rod to said control valve so that said valve is moved to the last-named position responsive to movement of said piston from said one end of said cylinder to said other end of said cylinder and said valve is moved to the first-named position responsive to movement of said piston from said other end of said cylinder to said

one end of said cylinder, said charges in said first and second chambers while alternatingly being heated by the gaseous fuel emitted from said first and second burners generating volatile fumes in said passageways of such volume as to provide the driving force to shift said piston from said one end of said cylinder to said other end of said cylinder and from said other end of said cylinder to said one end of said cylinder, and means to ignite said first and second burners when the gaseous fuel is directed thereto by said control valve.

2,976,676
VARIABLE JET NOZZLE WITH COACTING SHROUD

Ralph Kress, La Mesa, Calif., assignor to Solar Aircraft Company, San Diego, Calif., a corporation of California

Filed Oct. 27, 1952, Ser. No. 317,005
25 Claims. (Cl. 60—35.6)

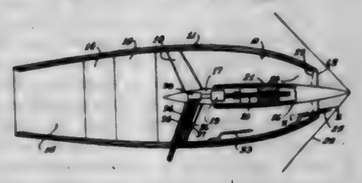


1. A variable area nozzle assembly for a jet engine, said nozzle assembly comprising a plurality of interconnected members forming a circular jet nozzle orifice, a variable area shroud nozzle comprising a plurality of coacting flap elements forming a second circular nozzle orifice surrounding said jet nozzle orifice, actuating means for said nozzles movable axially of said engine, and means operatively connecting said actuating means and each of said nozzles whereby axial movement of said actuating means is effective to simultaneously vary the sizes of said nozzle orifices, the shape of said orifices remaining substantially circular for all sizes thereof.

2,976,677
VARIABLE GEOMETRY DIFFUSER CONTROL FOR JET ENGINES

John E. Taylor, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio

Filed Oct. 20, 1954, Ser. No. 463,531
2 Claims. (Cl. 60—35.6)

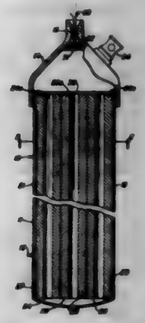


1. Apparatus for sensing the position of an abrupt pressure change taking the form of a shock wave formed at the transition point of air slowing from a supersonic to a subsonic velocity while moving along a predetermined longitudinally extending path, comprising a longitudinally extending member, a second member substantially parallel to said first member in close proximity thereto, air streamlining cone means secured at the upstream ends of said first and second members for smoothly deflecting the air flow around said members, the space between said members permitting free transverse circulation between the members while said streamlining cone prevents substantial longitudinal movement of air between said members whereby the air between said members reflects the average air pressure along the longitudinal length of said members without relation to its velocity, first means applying a voltage across said members and second means associated with said members for modifying the flow of current between said members in direct relation to the average density of the air between said members, said second means comprising an alpha particle emitting substance extending along the length of one of said members for ionizing the space between said members.

2,976,678
RESTRICTED SOLID PROPELLANT

Don E. Kennedy, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 19, 1955, Ser. No. 553,767
1 Claim. (Cl. 60—35.6)



An apparatus adapted for the production of high pressure gas from the burning of a solid propellant which comprises a chamber provided with a gas discharge opening and positioned within said chamber, an igniter assembly containing a gas-producing material the burning of which affords a sustained burning of a solid propellant grain positioned within said chamber, said assembly containing an igniter means for actuating the burning of said gas-producing material, wherein said solid propellant comprises a tubular body portion comprising ammonium nitrate, oxidizable thermoplastic binder and a combustion catalyst, permanent restrictor coatings applied to the annular ends of said tubular body portion which remain on the unburned surface of the grain until that surface is substantially burned away and a short-term restrictor coating applied to the external cylindrical surface of said body portion immediately adjacent the periphery of one of said permanent restrictor coating which short-term restrictor coating is adapted to restrain burning of the body material beneath said short-term coating for a time at least substantially equal to the burn-out time of said gas-producing material and not more than 2 seconds in excess of said burn-out time and wherein said short-term restrictor coating consists of a combustible pressure sensitive tape having a thickness of about 0.006 inch.

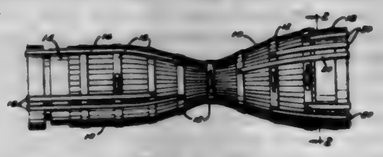
2,976,679
TUBULAR ROCKET COMBUSTION CHAMBER

John E. Dalgleish, Cleveland, Ohio, assignor, by mesne assignments, to Robert C. Veit, doing business as Vest Industries, Warren, Mich.

Filed Dec. 10, 1956, Ser. No. 627,215
8 Claims. (Cl. 60—35.6)

3. A rocket combustion chamber comprising a plurality of tubes in side-by-side relationship to form a shell of circular cross section and varying diameters, said tubes having uniform dimensions in a radial direction relative to the axis of the chamber, and varying dimensions in a

circumferential direction relative to the axis of the chamber whereby the cross-section of the tube is reduced at the minimum diameter of the combustion chamber to

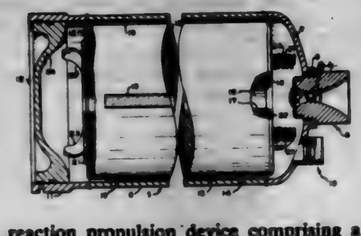


increase the velocity of the contents of the tube flowing therethrough, the center line of each tube being coplanar with the center line of the chamber.

2,976,680
COMBINATION IGNITER AND NOZZLE

Donald D. Kobbeman, McGregor, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 21, 1956, Ser. No. 629,998
6 Claims. (Cl. 60—35.6)



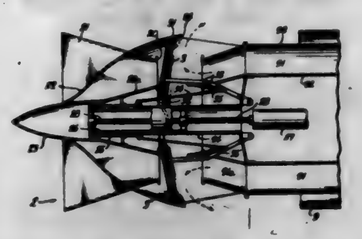
1. A reaction propulsion device comprising a tubular casing defining a combustion chamber, said combustion chamber being loaded with a solid propellant charge, said propellant charge having a longitudinally axial perforation extending substantially through the center thereof, nozzle means secured to said casing and having a Venturi type passage, said passage having an inlet opening communicating with said chamber and an outlet opening for the discharge of gaseous products, a perforate member positioned across said inlet opening and sealing the same, said perforate member being in substantial axial alignment with said axial perforation in the said propellant, said axial perforate member having a plurality of small openings normally closed with a coating material adapted to fail when subjected to heat, an imperforate ejectable disc-like obturating member positioned solely across the converging section of said passage and removably secured at its periphery to the walls of said nozzle means defining said passage, said obturating member completely sealing said passage and adapted to be displaced and open said passage to said chamber when a predetermined pressure is attained within said chamber, a disc-like ignition sustainer member positioned across said passage adjacent the inner face of said obturating member, ignition material completely filling that portion of said passage between said perforate member and said sustainer member, and electro-responsive means to provide ignition of said ignition material.

2,976,681
CLAM SHELL THRUST REVERSERS WITH NOISE SUPPRESSORS

Harold L. Bennett, Byron K. Bohm, and Wendell H. Pearson, Seattle, Wash., assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware

Filed Sept. 17, 1957, Ser. No. 684,488
2 Claims. (Cl. 60—35.54)

1. In a jet engine for propulsion of an aircraft or the like, a composite exterior housing including a generally annular main portion, a rear terminal element spaced in all its positions rearwardly of said main portion, and generally semi-annular elements disposed intermediate the housing and the terminal element, and shaped to close the gap between the two other parts when all are in their normal positions, and all complementally shaped externally to constitute a streamlined whole, said housing enclosing an annular duct terminating at the terminal element, and the latter having a communicating jet nozzle, for normal rearward exit of combustion gases, a tailcone fixed with relation to the terminal element, an axially disposed supporting tube fixed with relation to the housing

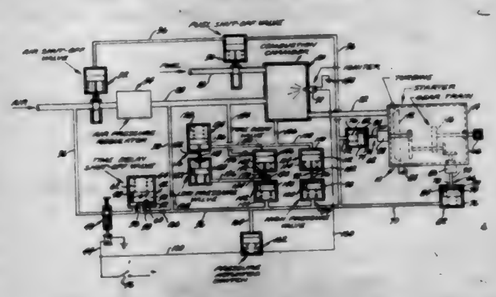


and telescopingly interconnected with the tailcone to support and guide the latter and the terminal element for bodily rearward movement relative to the housing from the normal position to a rearward position wherein the gap between the housing and the terminal element is increased, means supporting and guiding said intermediate elements from the housing for pivotal movement inwardly from their normal position into a blocking position within the gap, straddling the tailcone, spaced to the rear of and disposed transversely of said duct, and actuator means for moving the intermediate elements and the terminal element between their respective positions.

2,976,682
PNEUMATIC CONTROL SYSTEM FOR FUEL-AIR STARTER

Carl A. Erickson, Oil City, Pa., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

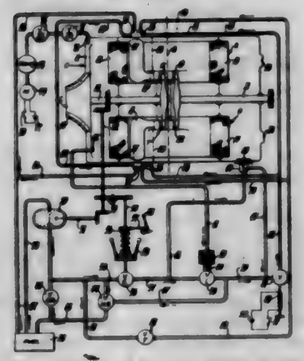
Filed Apr. 9, 1958, Ser. No. 727,487
10 Claims. (Cl. 60—39.14)



1. In a gas propelled starter for an aircraft engine or the like, the combination comprising a gas generator adapted to burn fuel, a pair of supply conduits connected with the generator and respectively connectible with pressurized sources of fuel and air, a normally closed valve disposed in each of said supply conduits, pneumatically operated means for opening each of said valves, and a control system for the starter comprising a valve control conduit connected to said pneumatically operated valve opening means and connectible with a source of pressurized air, normally closed valve means disposed in the valve control conduit and operable selectively to permit a flow of pressurized air therethrough for actuating said

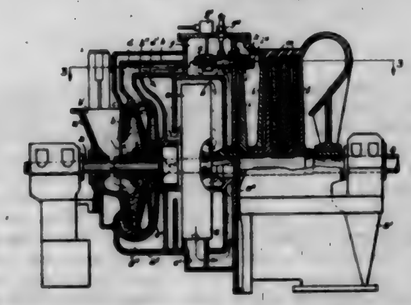
pneumatically operated means and opening said fuel and air valves, and normally closed speed responsive means operated by the starter for venting the valve control conduit at a predetermined starter speed whereby to close said fuel and air valves.

2,976,683
GAS TURBINE FUEL SYSTEM WITH REGENERATOR TEMPERATURE COMPENSATION
Eugene E. Flanigan, Detroit, and Richard M. Zeek, Utica, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 8, 1958, Ser. No. 759,689
6 Claims. (Cl. 60—39.28)



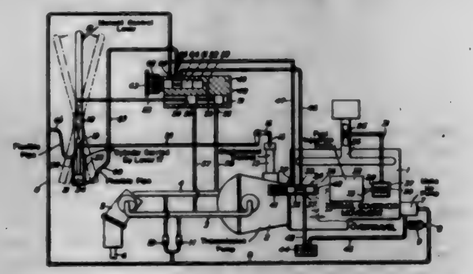
1. A fuel system for a regenerative gas turbine engine comprising a compressor, combustion apparatus, a regenerator having high heat storage capacity, a turbine, and an exhaust duct, the motive fluid circulating from the compressor through the regenerator and combustion apparatus to the turbine and from the turbine through the regenerator to the exhaust duct, the turbine being connected to drive the compressor; the fuel system comprising, in combination, a fuel pump, fuel metering valve means responsive to conditions indicative of normal engine fuel requirements connecting the fuel pump to the combustion apparatus, means connected to the engine sensitive to a condition indicative of regenerator temperature, and a thermal compensating throttling valve operated by the sensitive means connecting the fuel pump to the combustion apparatus.

2,976,684
IMPROVEMENTS IN GAS TURBINES
Emil Richard Wirth, 1574 Melba Court, Mountain View, Calif.
Filed Dec. 26, 1951, Ser. No. 263,262
Claims priority, application Germany May 10, 1951
5 Claims. (Cl. 60—39.75)



1. A gas turbine, comprising in combination, a rotor shaft with a plurality of bladed rotor wheels thereon, a driving wheel on said shaft arranged upstream of said rotor wheels and having blades thereon forming mixing chambers tapering in the manner of nozzles in the direction towards the said rotor wheels, an air compressor in driving relationship with the rotor shaft, a conduit connected to said air compressor and having a nozzle outlet arranged to deliver compressed air to said mixing chambers, a hot gas chamber having an outlet arranged forwardly of said nozzle outlet in the direction of rotation of the driving wheel so as to register with and deliver hot gases to said mixing chambers subsequently to the delivery of compressed air thereto through said nozzle outlet, and stationary baffle means interposed between said driving wheel and rotor wheels and extending between said nozzle outlet and outlet of the hot gas chamber and adapted to obstruct the outflow of compressed air from the mixing chambers until the hot gases have been admitted thereto and mixed with the compressed air therein.

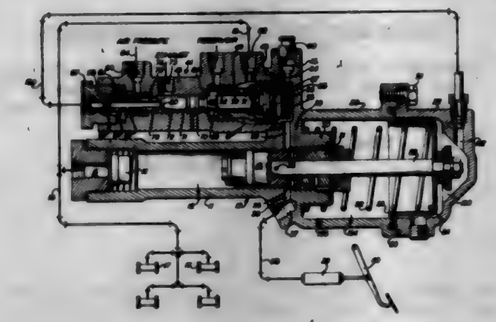
2,976,685
VARIABLE HYDRAULIC POWER TRANSMISSIONS
Oswald Thoma, Grunwald uber Munich, Germany, and Donovan Arthur Follows, Charlton Kings, Cheltenham, and Bertram Carl Kempson, St. Marks, Cheltenham, England, assignors to Dowty Hydraulic Units Limited, Tewkesbury, England
Filed Nov. 30, 1959, Ser. No. 856,837
Claims priority, application Great Britain Dec. 2, 1958
14 Claims. (Cl. 60—53)



1. For use with a hydraulic transmission comprising a variable positive displacement transmission pump hydraulically connected to a positive displacement hydraulic transmission motor, a power source driving the pump and a load driven by the motor, a control system comprising a displacement control for the pump normally operable to select pump displacement to drive the motor at any desired speed, overriding means for the displacement control so arranged as to be capable only of reducing selected displacement, and overload sensing means for the power source operative on occurrence of an overload to reduce pump displacement in an overriding manner to the extent necessary to remove the overload from the power source.

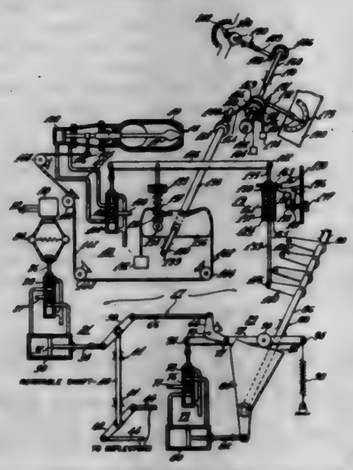
2,976,686
BOOSTER BRAKE MECHANISM
William Steiner, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Feb. 7, 1958, Ser. No. 713,981
10 Claims. (Cl. 60—54.6)

9. A booster brake mechanism comprising a hydraulic pressure chamber, a plunger movable thereinto to displace fluid therefrom, a fluid pressure motor having a pressure responsive unit connected to said plunger and at one side of which is a variable pressure chamber, a valve mechanism between said variable pressure chamber and sources of different pressures and normally connecting said variable pressure chamber to one of said sources, a casing having a control chamber therein, pedal operable means for supplying hydraulic fluid to said control chamber, an axially movable reaction plunger in said casing having an axial opening therethrough, a diaphragm spanning one end of said reaction plunger and exposed to pressure in said control chamber, an axially movable valve operating stem projecting through said opening in said reaction plunger and having one end mechanically engageable with said diaphragm to be operated thereby



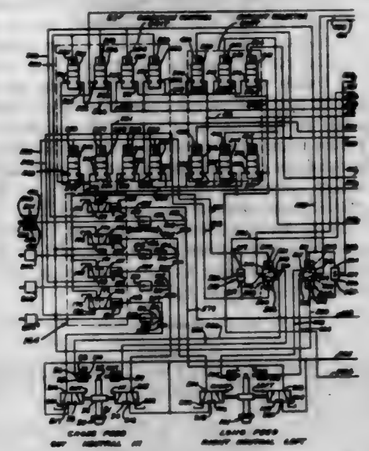
upon movement thereof by pressure in said control chamber and having its other end operatively connected to said valve mechanism, said casing having a reaction chamber to which are exposed surfaces of said plunger facing away from said control chamber, means biasing said reaction plunger away from said control chamber, and a fluid connection between said hydraulic pressure chamber and said reaction chamber.

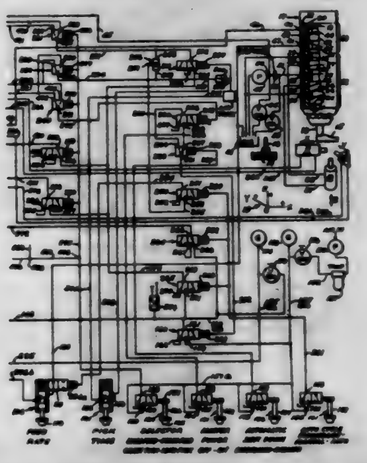
2,976,687
CONTROL FOR MULTIJET IMPULSE TURBINE
Beverly R. Nichols, Elm Grove, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed July 16, 1956, Ser. No. 598,121
11 Claims. (Cl. 60—97)



9. A control system comprising; individual power devices, a speed responsive arrangement, said speed responsive arrangement connected to each power device to operate each power device, a main shaft carried by a support, a rotatable member for each power device carried by said main shaft, said rotatable members rotatable relative to said main shaft, an individual means connecting a power device and a rotatable member, each individual means moved by a power device to move a rotatable member in response to movement of its power device, and an individual indicator means connected to each rotatable member to be moved by each rotatable member to indicate the position of each of said individual power devices.

2,976,688
MACHINE TOOL CONTROL
Paul J. Weaver, Downey, Calif., assignor, by mesne assignments, to Bendix Industries, Inc., Los Angeles, Calif., a corporation of Connecticut
Filed May 18, 1959, Ser. No. 814,014
11 Claims. (Cl. 60—97)





1. A control for a machine tool of the type which has a member reciprocably movable along a pair of angularly related axes, a first and a second motor providing power for moving said member along a respective first and second of said axes, and a source of power for said motors, said control comprising: a control element for the first motor which is adapted to selectively control the connection of said motor to said source of power so as to determine the direction the motor is to move the member, said control element comprising a pair of conduits, means for selectively placing said conduits under fluid pressure one at a time, a pressure-responsive valve with an actuator, there being one of said pressure-responsive valves and actuators for each conduit, the actuator being connected to the conduit, so that power is passed to the motor when the actuator of a selected one of said pres-

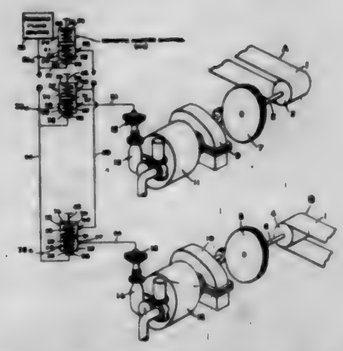
sure-responsive valves is actuated by pressure in its respective conduit, a first-axis trip device in each of said conduits, which trip devices are so disposed and arranged as to open and discharge fluid from their respective conduits when the member reaches a pre-selected position along said first axis, and thereby deactuate the respective pressure-responsive valve so as to stop movement of the member in the respective direction; and reversal means disposed on the second axis and responsive to the position of the member on the second axis for reversing the condition of the control element so as to reverse the direction of movement of the member along the first axis when the member reaches a preselected position along said second axis, said reversal means comprising a second-axis trip device adapted to be opened when a pre-selected position along the second axis is reached, a pair of block valves, each of which has an actuator and a pair of ports which are connected when the actuator is actuated, the actuator and a first of said ports of both block valves being connected to said second-axis trip device, the actuator and second port of the individual block valves being connected to a different one of said conduits, whereby the second axis trip device has a like effect on the pressure-responsive valves as their respective first axis trip devices, thereby providing for reversal of movement along the first axis as a function of member position along the second axis.

2,976,689

REMOTE CONTROL MEANS FOR CONTROLLING OPERATION OF PRIME MOVERS IN A CONTINUOUS PROCESS

Robert B. Dodds and Aarne A. Luoma, Wellsville, N.Y., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Sept. 20, 1954, Ser. No. 457,285
8 Claims. (Cl. 60—102)



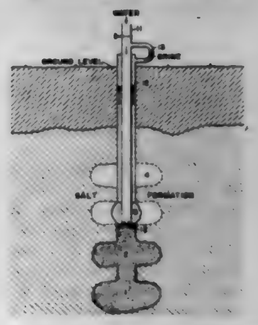
1. The combination with at least two independent governor controlled prime movers operative in a continuous process to drive a series of operations, said governors each including resetting control means operatively connected thereto for resetting the governor to a predetermined speed setting, of control means compriaing a regulating system which includes a first regulator operatively connected to one of said resetting control means, a second regulator operatively connected to the other resetting control means, a master regulator adapted to produce a single output control pressure and operatively connected to each of said first and second regulators, a pressure fluid supply source communicating with each of said regulators, individual adjusting means for said first and second regulators whereby upon manipulation thereof flow from said pressure fluid source through each of said regulators to each of said resetting control means can be individually adjusted to set each of the governors to a desired speed setting, and an individual adjusting means for said master regulator whereby upon manipulation thereof said single output control pressure is varied and the variation is applied simultaneously and directly to said first and second regulators to thereby signal the first and second resetting control means to reset each of the governors to a new speed setting.

2,976,690

FORMING SUBTERRANEAN CAVITIES BY SOLUTION MINING

Raymond C. Allred, D'Arcy A. Sheck, and John D. Sudbury, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed May 7, 1959, Ser. No. 811,634
10 Claims. (Cl. 61—5)



1. A method of cavity formation in subterranean salt beds which comprises: (1) providing inlet and outlet conduits to the salt bed; (2) forming a cavity by the steps of: introducing water via said inlet conduit into the salt bed and dissolving salt therefrom to form brine and the beginning of a cavity, removing brine from the forming cavity via said outlet conduit and repeatedly recirculating brine via the inlet conduit to the forming cavity, the total amount of water used being sufficient to form a cavity of the desired diameter, continuing said recirculation until all of the water has been introduced and the recirculated brine has become saturated with respect to salt, thereafter discontinuing said recirculation and permitting saturated brine to remain in the cavity which has been formed; (3) elevating within the salt bed said inlet and outlet conduits to points above the level of the saturated brine in the formed cavity and forming at least one other cavity above the previously formed cavity by the steps set forth in (2) herein; and (4) removing saturated brine from the cavities formed whereby a plurality of connected superposed subterranean cavities are formed in the salt bed.

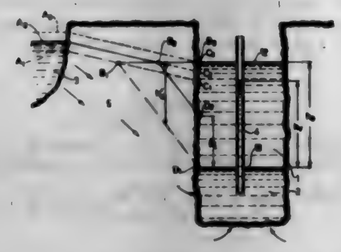
2,976,691

STORAGE OF OIL AND OTHER WATER-IMMISCIBLE FLUIDS

Harald Edholm, Solsidan, Saltsjobaden, Sweden

Continuation of application Ser. No. 520,326, July 6, 1955. This application Dec. 14, 1959, Ser. No. 859,456
Claims priority, application Sweden Nov. 2, 1954
10 Claims. (Cl. 61—5)

1. A method of controlling the storage of oil in a column above a water bed in an arrangement comprising a container provided by a cavity in a subsoil water-bearing pervious formation, in which container the water bed is maintained in equilibrium by a water column communicating therewith and essentially separated from the oil column and from the subsoil water and serving for the control of the oil column, and in which container the oil is in direct contact with the water pervious walls thereof and characterized by the fact that the pressure head of the water column is less than that of the subsoil water adjacent said walls so that the oil pressure at the lower end of he oil column is less than the pressure of the subsoil water whereby to allow subsoil water to seep into the oil, and so that the oil pressure above said lower end oil column portion is greater than the pressure of the subsoil water adjacent said walls whereby to allow oil to penetrate the wall of the cavity, comprising increasing the pressure head of the water column relative to that of the subsoil water when the oil quantity stored is increased, and reducing said pressure head when the oil quantity stored is reduced, said changes of said pressure head being to such an extent as to cause the rate of flow of seepage water to be maintained approximately constant for varying quantities of oil and less than a predetermined maximum value.

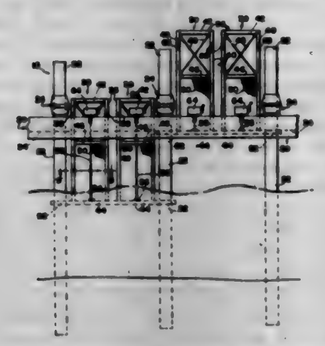


2,976,692

MOBILE BREAKWATER

George E. Suderow, New York, N.Y., assignor to De Long Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 21, 1956, Ser. No. 629,879
11 Claims. (Cl. 61—5)



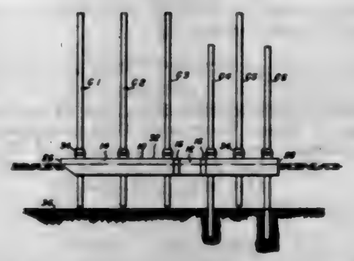
1. A mobile breakwater arranged off-shore and in a body of water, said breakwater including a buoyant body having a plurality of supporting legs associated therewith; said legs extending downwardly from said body into engagement with a marine bottom and supporting said body above and out of contact with the surface of water; breakwater structure disposed adjacent one of said legs and including baffle means for reducing the energy of waves pounding thereagainst; mounting means for said breakwater structure provided on said body adjacent said one of said legs, said breakwater structure being slidably engaged to said mounting means for vertical movement of said breakwater structure relative to said body; guiding means below said body engaged for sliding vertical movement on said one of said legs and fixedly secured to said breakwater structure; said mounting means and said guiding means restraining horizontal movement of said breakwater structure relative to said body and said legs; and means for disposing and holding said breakwater structure in operative position at the mean water level when said body is elevated.

2,976,693

METHOD OF OPERATING MARINE STRUCTURES

Robert N. Showalter, Mukilteo, and Leon B. De Long, Seattle, Wash., and George E. Suderow, Staten Island, N.Y., assignors to De Long Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 11, 1954, Ser. No. 461,454
11 Claims. (Cl. 61—46.5)



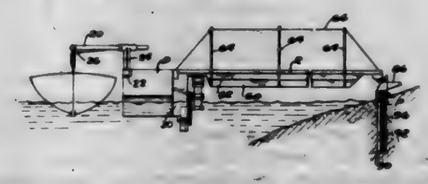
1. The method of erecting a platform at a soft-bottom marine location of predetermined water depth, the steps comprising: floating to the location a barge having a buoyant hull, a plurality of upstanding elongated hull-supporting members mounted generally symmetrically on the hull and guided for substantially vertical relative linear movement therebetween, the length of each of the members being greater than the water depth at the location plus the height of the hull and all the members being held up off the marine bottom while the barge is floated to the location; moving the members down into engagement with the marine bottom; raising the hull on the members until substantially the entire weight of the hull is supported thereon, i.e., the bottom of the hull is substantially at water level; releasing the support of certain of said members so that substantially the entire weight of the hull is supported stably and generally symmetrically on less than all of the members in order to load each of the members which are then supporting the hull with a weight greater than its proportional share of the total hull weight when all of the members are supporting the hull; re-engaging the support of the hull on said certain members; repeating the releasing and re-engaging operation with other members until each of the members has been so loaded; and raising the hull on the members to an elevation above wave action.

2,976,694

BOAT BEACHER AND LAUNCHER

Eric L. C. Stamford, deceased, late of 2015 Military, Port Huron, Mich., by Marie Taft Stamford, executrix, Port Huron, Mich.

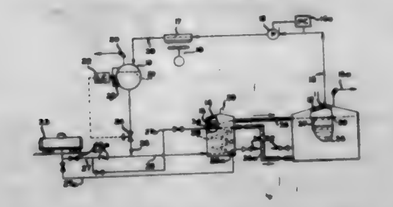
Filed Apr. 10, 1957, Ser. No. 651,907
4 Claims. (Cl. 61—67)



1. A device for launching and beaching water craft which comprises a land anchor to be mounted in the ground adjacent a waterway, a dock pontoon, means on

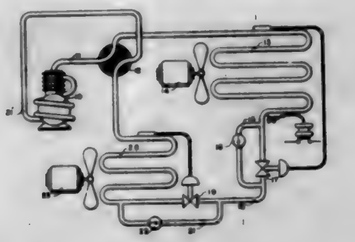
said pontoon to fasten to a boat at water level, means operably secured to said pontoon for propelling said pontoon on land and in the water, and ramp means connecting said pontoon with said land anchor to permit access from land to the boat when the pontoon is waterborne, said land anchor submerged in soil adjacent a waterway, said land anchor comprising a pair of vertically spaced plates connected to vertical reinforcements, an anchor cap member on said land anchor pivotally connected to said anchor on a vertical axis and a bracket member connecting said ramp means and said anchor cap wherein the two may be related for movement on a horizontal axis, the anchor cap having a saddle recess and the bracket connecting the anchor cap with the ramp means having a ring member, a portion of which is received in said saddle formation on said anchor cap.

2,976,695
SYSTEM FOR REFRIGERATED LPG STORAGE
Leonard P. Meade, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 22, 1959, Ser. No. 808,156
11 Claims. (Cl. 62—54)



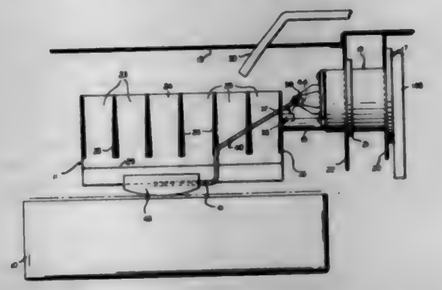
1. A liquefied gas storage system comprising, in combination, a storage vessel having an outlet, a spray in said storage vessel, a refrigeration vessel, a first heat exchange coil in said refrigeration vessel, a first conduit communicating said first coil with said spray, a second heat exchange coil, a second conduit communicating said outlet with said second heat exchange coil, a compressor in said second conduit for compressing vapor from said outlet, a third conduit communicating said second heat exchange coil with said first heat exchange coil, and an expansion valve in said third conduit.

2,976,696
HEATING AND COOLING APPARATUS
Hal H. Rhea and Edward J. Burke, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 2, 1957, Ser. No. 687,763
4 Claims. (Cl. 62—115)



4. The method of defrosting the frost accumulating coil of a heat pump including a liquification coil and frost accumulating coil and means for interchanging the heat transfer function of each coil which consists in the steps of delivering liquid refrigerant to the frost accumulating coil from the liquification coil through an expansion device for metering liquid refrigerant to the frost accumulating coil while bypassing an automatic expansion device regulating flow of refrigerant to the liquification coil when the heat transfer functions of the coils are interchanged, reversing flow of refrigerant through said coils to supply hot gaseous refrigerant to the frost accumulating coil whereby the frost is removed from the surface of the coil and the gaseous refrigerant is liquified, and continuously supplying the liquified refrigerant to the liquifaction coil served by the automatic expansion device in an amount sufficient to maintain the suction temperature at a predetermined minimum level.

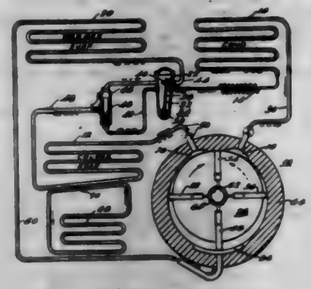
2,976,697
AUTOMATIC ICEMAKER
Robert R. Dahl, Lincolnwood, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed May 4, 1959, Ser. No. 810,716
10 Claims. (Cl. 62—137)



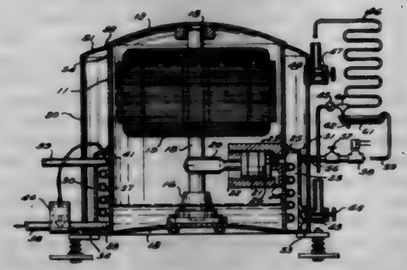
1. In an automatic icemaker, an oscillatable tray having oppositely facing ice molds in heat transfer relation with respect to each other, metering means for filling the upwardly facing molds with a measured volume of water and loosening the ice pieces in the downwardly facing molds by the heat of the water filling the upwardly facing molds, power means actuated by the pressure of the water filling said metering means for moving said tray to bring the upwardly facing molds and the ice pieces therein in a downwardly facing release position, switch means controlling the filling of said metering means, a thermally responsive element for operating said switch means to effect filling of said metering means upon certain low temperature conditions and to effect emptying of said metering means upon certain high temperature conditions, an overfill arm sensing the level of ice pieces discharged from said molds, and means operated by said overfill arm for holding said switch means from movement to complete a circuit to effect filling of said metering means upon the discharge of a predetermined level of ice pieces.

2,976,698
REVERSIBLE REFRIGERATING SYSTEMS
Glenn Muffly, 1541 Crestview Drive, Springfield, Ohio
Original application Sept. 19, 1951, Ser. No. 247,239, now Patent No. 2,844,945, dated July 29, 1958. Divided and this application Sept. 11, 1957, Ser. No. 683,335
15 Claims. (Cl. 62—160)

1. In a refrigerating system employing a volatile refrigerant, a compressor, means for starting said compressor in either direction of rotation, a valve for controlling flow of said refrigerant, a seat for said valve, and means associated with said valve for moving it relative to its seat, said means comprising a mass which is movable relative to the main body of said compressor and thus caused by its own inertia to move the valve in one direction relative to its seat when the compressor is started in one direction of rotation and in the opposite direction when the compressor is started in the reverse direction of rotation.



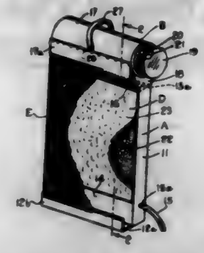
2,976,699
REFRIGERATION UNIT
Hugo C. Smith, Brecksville, Ohio, assignor to Hugo C. Smith Corp., Cleveland, Ohio, a corporation of Ohio
Filed July 13, 1959, Ser. No. 826,583
13 Claims. (Cl. 62—278)



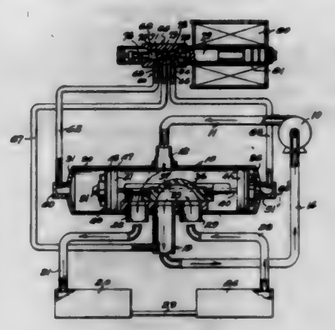
13. A refrigeration unit comprising a motor and a compressor, a housing surrounding said motor and compressor, said compressor having an intake port in communication with the interior of said housing, a second member joined to and surrounding said housing and providing an annular chamber constituting a receiver for refrigerant, said receiver being connected to the high pressure side of said compressor, a third member joined to and surrounding said housing and having a portion surrounding said receiver providing an annular chamber constituting an accumulator in heat exchange relation with said receiver, an evaporator, connections between said evaporator and said receiver and between said evaporator and said accumulator, a by-pass conduit for conducting refrigerant gas at high pressure directly from said compressor to said evaporator before said gas is condensed into a liquid, a passageway connecting said accumulator to the interior of said housing, said passageway being disposed at a level substantially above the lower part of said accumulator and spaced from the connection between said accumulator and said evaporator.

2,976,700
SEAT STRUCTURE
William L. Jackson, 101 Argonne Drive, Greenville, S.C.
Filed May 14, 1958, Ser. No. 735,341
2 Claims. (Cl. 62—313)

1. A seat structure including, a container for storing a liquid coolant, a relatively shallow imperforate frame having connection with said container, a flat wicking element carried by said frame communicating with said container so that liquid from said container may be received by the wicking element, said wicking element having an exposed surface on one side thereof, a second frame carried by the above mentioned frame, and a perforate portion carried by the second frame in the spaced relation to the exposed surface of the wicking element to prevent direct contact of the user with the exposed surface of the wicking element.

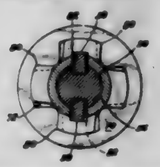


2,976,701
REVERSING VALVE FOR REFRIGERATING SYSTEMS
Frederick A. Greenawalt, Fort Lauderdale, Fla., assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Dec. 30, 1957, Ser. No. 705,893
5 Claims. (Cl. 62—324)



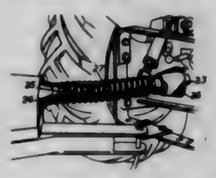
1. In a reversible-cycle refrigerating system having a compressor, a condenser and an evaporator connected in a refrigerating circuit including a valve mechanism to selectively reverse the order of flow of refrigerant through the condenser and evaporator, said valve mechanism including a tubular chamber having the interior thereof connected with the discharge and the intake of the compressor and with the condenser and evaporator respectively, valve means shiftable in said chamber between two positons to reverse the order of flow of refrigerant through the condenser and evaporator, piston means in said chamber operable to shift said valve means from one of said two positions to the other in response to a decrease in pressure at one end of said piston means relative to the other end, means forming restricted passages from the discharge of the compressor to opposite ends of said chamber, bleed lines connecting the respective ends of said chamber with the intake of the compressor, control valve means for said bleed lines to selectively open and close said lines alternatively and thereby reduce the pressure in one end or the other of said chamber for causing movement of said piston means to the end of said chamber having the open bleed line, and shut-off valve means in said chamber operated by movement of said piston means to close the outlet of the bleed line toward which the piston means is moved.

2,976,702
ROLLING MILL POWER TRANSMISSION LOCKING ARRANGEMENT
Leonard C. Pietsch, Joliet, Ill., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 18, 1959, Ser. No. 800,227
8 Claims. (Cl. 64—1)



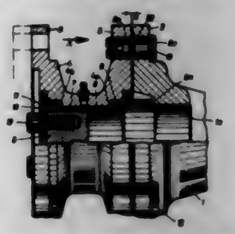
1. In a power transmission arrangement, a first driving shaft element, a second driven shaft element, means providing a power transmission connection between the elements comprising a first member having a positive driving connection to one of said elements, a second member, a positive driving connection between said members, a lost motion driving connection between said second member and the other of said elements accommodating a limited relative movement therebetween, and abutments on said other element and said first member movable from a neutral position into an interfering position in response to said limited relative movement between the second member and said other element.

2,976,703
MACHINERY GUARDS
Richard Leslie Atkinson, Bolton-by-Bowland, near Clitheroe, England, assignor to Atkinson's Agricultural Appliances Limited, Clitheroe, England, a company of Great Britain
Filed Sept. 9, 1959, Ser. No. 838,993
4 Claims. (Cl. 64—4)



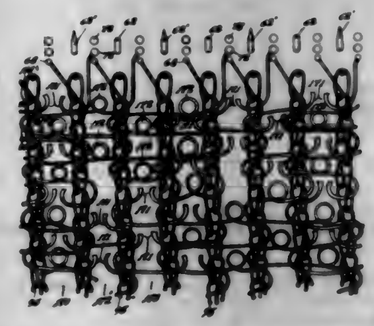
1. For machinery including a shaft coupling comprising a telescopic shaft provided adjacent each of its ends with a universal joint from which extend stub shafts which mate with driving and driven parts whereby the coupling provides for variation in the inter-spacing and other positional relationship of said parts, a tubular safety guard including a continuous envelope adapted floatingly to encompass the shaft coupling throughout its length, said envelope being of elastic material at least at its ends, whereby it is capable of longitudinal compression and expansion, two circumferential crests at each end of said envelope defining therebetween an external groove, a frustro-conoidal end piece at each end of said continuous envelope, a ring secured internally to each end piece near its smaller end, and having a diameter intermediate that of the base of said groove and that of either crest defining the groove, said ring being located in said groove and the increasing diameter portions of each end piece extending away from said envelope, each said end piece being of such internal volume that it can fit, with clearance, over one of said universal joints, and a thrust bearing located within each of said end pieces, each said thrust bearings being disposed coaxially with the envelope and with its bearing surface facing the mouth of the end piece wherein it is located, so as to prevent binding of the end pieces on the universal joints when the shaft shortens.

2,976,704
SHEARING COUPLING, ESPECIALLY FOR UNIVERSAL JOINT SHAFTS
Hans-Joachim Kleinschmidt, Essen, Germany, assignor to Gelenkwellenbau G.m.b.H., Essen, Germany
Filed Jan. 18, 1960, Ser. No. 2,893
Claims priority, application Germany Jan. 17, 1959
2 Claims. (Cl. 64—28)



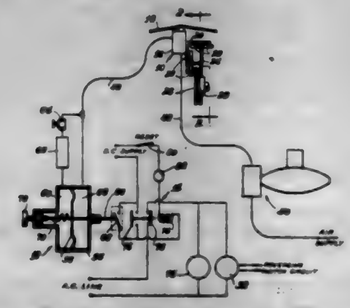
1. In combination: a universal joint shaft having a flange provided with a plurality of bores therethrough, a supporting shaft supported by said universal joint shaft and extending in substantially axial alignment therewith beyond the flange of said universal joint shaft, that portion of said supporting shaft which extends beyond the flange of said universal joint shaft being provided with a collar, a coupling member rotatably journalled on said supporting shaft and provided with a first flange having bores therethrough corresponding to and adapted to be axially aligned with the bores of the flange of said universal joint shaft, said coupling member comprising axially spaced shoulders near said supporting shaft and also comprising a second flange spaced from said first flange for connection with a structural element to be drivingly connected by said coupling member to said universal joint shaft, disc means connected to that end face of said supporting shaft which is remote from the flange of said universal joint shaft, thrust bearing means mounted on said supporting shaft between the shoulders of said coupling member and said collar and said disc means, thrust bearing means between said shoulders and mounted on said supporting shaft, said thrust bearing means maintaining said first flange in slightly spaced relationship to the flange of said universal joint shaft, and shearing pins extending at least through some of said bores in said first flange and the flange of said universal joint shaft.

2,976,705
WARP KNITTING METHOD
Rex S. MacCaffray, Jr., Boiling Springs, Pa., assignor to C. H. Masland and Sons, Carlisle, Pa., a corporation of Pennsylvania
Filed May 6, 1958, Ser. No. 733,372
20 Claims. (Cl. 66—85)



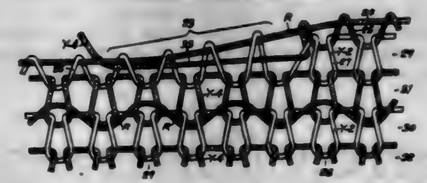
1. The method of warp knitting a pile fabric on a warp knitting machine having a trick plate, a gang of united latch needles on one side of the trick plate having an advanced position and a retracted position, a gang of united plush points of a plurality of different characters on the opposite side of the trick plate having an advanced position and a retracted position and operable independently of the needles, a sinker comb having an advanced position above the needles and the plush points and a retracted position out of line with the needles and the plush points, and having a pile yarn guide bar, a backing yarn guide bar, and a knitting yarn guide bar, all of which guide bars are supplied with suitable warp yarn and swing together over the needles and plush points from the needle side to the plush point side and vice versa, and also shog in the direction of the line of needles and plush points, which comprises advancing and then retracting the needles and forming walewise extending parallel chains of knitted stitches by swinging and shogging the knitted yarn guide bar to place knitting yarn in the hook of each needle when advanced, shogging the backing yarn guide bar to inlay backing yarn sinuously in the knitted stitches, advancing the plush points, swinging and shogging the pile yarn guide bar to cross lines of chain stitches while the stitches are being formed and from loops of pile yarn around only certain selected plush points of the gang, which selected plush points are of a selected character, and forming an inlay of the base legs of the pile loops thus formed into the stitches of the knitting chain, thus producing from each yarn end of the pile yarn pile projections each having characteristics produced by the selected plush points around which the pile projections were formed, and retracting the plush points to release the loops, and then repeating the knitting procedure as above set forth in the next succeeding course except that the loops of pile yarn are formed over other selected plush points in the gang which have different characteristics from the plush points used in forming loops in the preceding course, and thus producing pile projections in this succeeding course which conform to the characteristics of the plush points used in said succeeding course, the character of pile produced in a particular wale and course being different from the character of pile produced in the same wale in a succeeding course.

2,976,706
FLAW DETECTOR FOR KNITTING MACHINES AND THE LIKE
Raymond G. Reip, Clarendon Hills, Ill., assignor to GPE Controls, Inc., Chicago, Ill., a corporation of Illinois
Filed June 12, 1959, Ser. No. 819,965
8 Claims. (Cl. 66—166)



1. A detector for a knitting machine, comprising a nozzle formed to provide a passageway having an opening on a surface of the nozzle over which the fabric being formed in the machine is moved, means to supply pressurized fluid to said passageway, said fabric and the condition thereof determining the rate of fluid flow from said opening, a diaphragm assembly including a diaphragm arranged to partially define enclosed chambers of substantially equal volumes one on each side of the diaphragm, fluid conducting lines interconnecting said passageway and said chambers, means associated with said diaphragm for stopping said machine in response to a given movement of said diaphragm due to a pressure differential thereupon, and means to provide unlike fluid flow resistance in the aforesaid lines leading to said chambers.

2,976,707
HOSIERY
Nathan Levin, 722 Edgewood Ave., Trenton, N.J.
Filed Apr. 4, 1958, Ser. No. 726,417
6 Claims. (Cl. 66—172)



1. Hosiery having a simulated rib top formed of an elastic yarn and of at least one body yarn, said top having a selvage formed of said yarns wherein said elastic yarn is incorporated in stitch formations of said body yarn, said body yarn having its terminal portion incorporated with said elastic yarn in said stitch formations.

2,976,708
KNITTED GARMENT WITH BREAST CUPS
Barnett D. Gordon, Brookline, Mass.
(186 Essex St., Boston 11, Mass.)
Original application Feb. 2, 1959, Ser. No. 790,669. Divided and this application Dec. 24, 1959, Ser. No. 861,878
2 Claims. (Cl. 66—176)



1. A Jersey-knitted front panel for a woman's swimsuit, said panel having a flat 2-dimensional lower body portion and 3-dimensional breast cups and comprising two parts joined by a central vertical seam, each said part having a domed bulge for a breast cup made by knitting only and characterized by the formation of successive new wales along transfer lines which diverge upwardly in the lower portion of the breast cup area, and by the merging of successive wales in the upper portion of the breast cup area along transfer lines which converge upwardly.

2,976,709
OVERPLAID HOSIERY AND METHOD OF MAKING SAME
Nathan Levin, 722 Edgewood Ave., Trenton, N.J.
Filed June 10, 1958, Ser. No. 741,824
8 Claims. (Cl. 66—179)

1. A method of knitting including the step of forming a first course of stitches of a body yarn by knitting in

one direction while forming a float of said yarn in one of the wales thereof, the step of forming a first and a second stitch of a design yarn by knitting in a single direction so that said first stitch is in said first course in said one wale and said second stitch is in a wale next



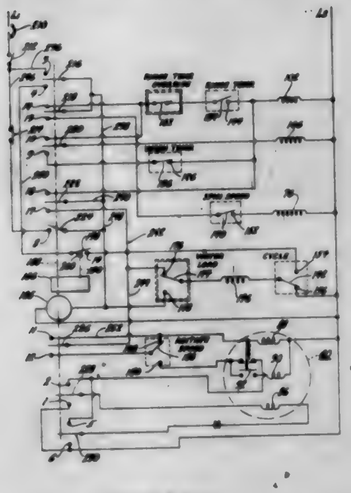
thereto, and the step of forming a second course of stitches of said body yarn by knitting in the direction opposite to said one direction while forming a float of said body yarn in said next wale so that said second stitch is in said second course in said next wale.

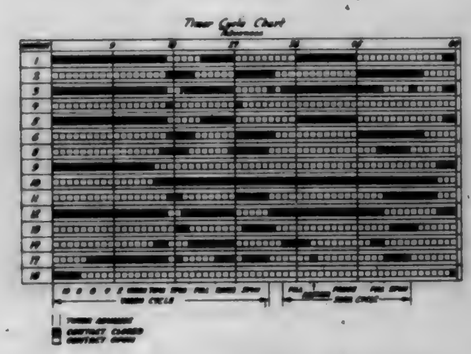
2,976,710

AUTOMATIC CLOTHES WASHING MACHINE

Kenneth O. Sisson and Charles K. Billings, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 14, 1958, Ser. No. 748,412
14 Claims. (Cl. 68—12)





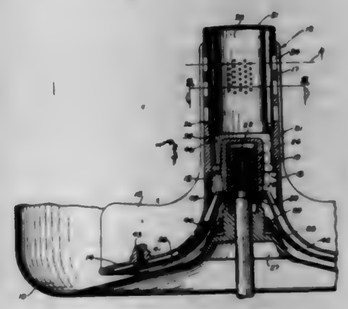
1. In a control system for a washing machine having consecutively actuated periods of agitation and spin, prime mover means rotatable in one direction during said agitation period and in a reverse direction during said spin period, timing means for advancing said machine through said periods in a plurality of timed pulsed increments of one duration, speed changing means for causing said timing means to advance said machine through said periods in timed pulsed increments of a second duration, and means for reversing said prime mover means to initiate a spin period in an interval less than one of said timed increments.

2,976,711

WASHING AGITATOR WITH FLUID PUMPING MEANS, FILTER, AND DISPENSER

Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware

Continuation of application Ser. No. 684,690, Sept. 18, 1957. This application Dec. 8, 1958, Ser. No. 778,999
9 Claims. (Cl. 68—17)



9. In an agitator assembly adapted to be oscillated in a body of washing fluid to effect a cleansing of fabrics placed in said fluid comprising an upstanding hollow centerpost, an outwardly flared base portion connected to said centerpost, agitating vanes carried on said flared base portion for agitating said fabrics within said fluid, a hub portion positioned within said hollow centerpost, at least one web interconnecting said centerpost and said hub portion and defining at least one internal aperture between said centerpost and said hub portion, a pump shroud secured juxtaposed to the underside of said flared base portion, a plurality of pumping vanes positioned between said flared base portion and said pump shroud to define a plurality of passageways communicating with said hollow centerpost through said internal aperture, opening means defined in said agitator assembly to complete a circulatory path for said washing fluid through said passageways and said hollow centerpost, said agitator assembly having means to receive an agitator shaft for oscillating said agitator vanes and said pumping vanes to produce a unidirectional fluid flow through said assembly by way of said opening means and said passageways.

2,976,712

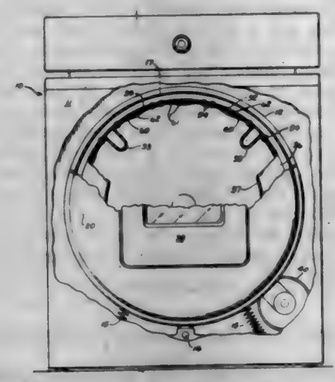
ANTI-ADHESIVE DEVICE FOR COMBINATION WASHER-DRIER

Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware

Filed Feb. 2, 1959, Ser. No. 790,466
2 Claims. (Cl. 68—19)

2. In a laundry machine, the combination comprising a drum mounted for rotation about a nonvertical axis and having a rigid cylindrical side wall structure, a plurality of openings in said rigid side wall structure, means for rotating said drum at tumbling and centrifuging speeds, and flexible inner wall member sections secured at spaced intervals to said rigid side wall structure for flexing movements between said securing intervals away from said cylindrical side wall as said drum is rotated at tumbling speeds and for flexing movement toward said side

wall as said drum is rotated at centrifuging speeds, and a plurality of openings in said flexible inner wall mem-



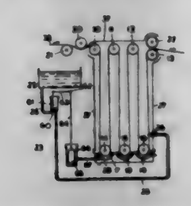
ber sections in communication with said openings in said rigid side wall structure.

2,976,713

APPARATUS FOR COLORING TEXTILE MATERIALS

Ralph James Mann, Spondon, near Derby, and James Adam Grant, Wollaton Park, Nottingham, England, assignors to British Celanese Limited, a corporation of Great Britain

Filed Aug. 7, 1957, Ser. No. 676,763
Claims priority, application Great Britain Aug. 23, 1956
1 Claim. (Cl. 68—22)



Apparatus for treatment of textile fabrics with a dye liquor, said apparatus comprising a series of driven upper rolls, a series of lower rollers, means for feeding a fabric over the upper rollers in succession with intervening passage under a lower roller, a roller co-acting with the last of the upper rollers to squeeze liquid from fabric passing over the latter, a series of troughs, one for each lower roller, each fitting closely around the lower portion of the associated lower roller, means for causing liquid fed into the last trough to overflow into and fill the preceding troughs in turn, a conduit for feeding dye liquor into the last trough, and a valve in said conduit, said valve being operated by means responsive to the level of the liquid in the first trough whereby said level may be maintained substantially constant.

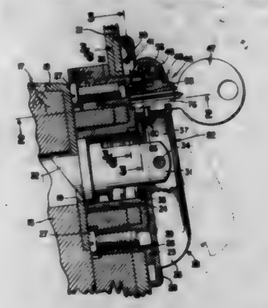
2,976,714

LOCK FOR LATCHES

William Hofgesang, Avenel, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey

Filed Oct. 8, 1958, Ser. No. 765,984
2 Claims. (Cl. 70—63)

1. A lock and latch for the cover of a sewing machine carrying case comprising in combination an apertured escutcheon, said escutcheon being adapted to be secured to the cover of the carrying case; a sleeve secured to said escutcheon and adapted to pass through an aperture in said cover; a bolt housed in said sleeve; a spring biasing said bolt away from said escutcheon; an apertured operating lever; a curved hook, having an end formed on said lever, the curved portion of said hook passing through an aperture in said escutcheon to position the end of said hook below the inner surface of said escutcheon and thereby hingedly mounting said lever on said escutcheon, a lock mounted on said escutcheon adjacent to said aperture in said escutcheon; a connection between



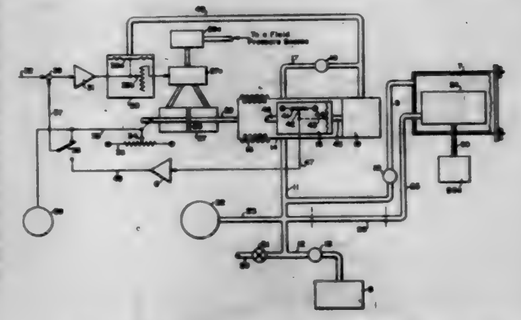
said bolt and said lever; a dog formed as part of said lock, said dog having a cutaway portion and an uncutaway portion, and means for turning said dog to either of two selected positions, one of said positions moving the uncutaway portion of said dog to a position adjacent to the free end of the said hook formed on said lever to lock said lever, and the other of said positions moving the cutaway portion of said dog to a position adjacent to the free end of the said hook formed on said lever to unlock said lever.

2,976,715

DYNAMIC PRESSURE SIMULATOR

David W. Roese, Catonsville, and Arne P. Rasmussen, Millersville, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

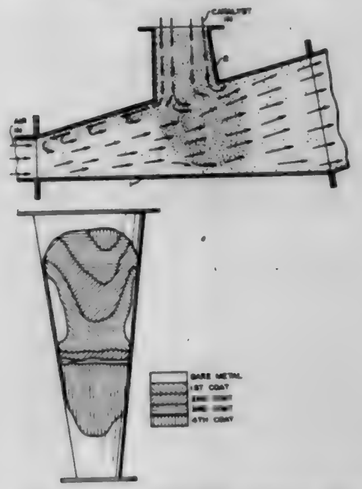
Filed Feb. 28, 1957, Ser. No. 643,032
5 Claims. (Cl. 73—4)



1. A dynamic pressure simulator comprising an environmental-pressure-simulation chamber for enclosing fluid pressure responsive equipment to be tested for reaction to changes in environmental pressure conditions, a source of fluid under pressure for providing steady state pressures in said environmental-pressure-simulation chamber, a dynamic pressure change means, conduit means for establishing fluid pressure communication from said dynamic pressure change means to the fluid pressure responsive equipment to be tested, actuating means operatively connected to said dynamic pressure change means to effect changes in dynamic pressure in said conduit means,

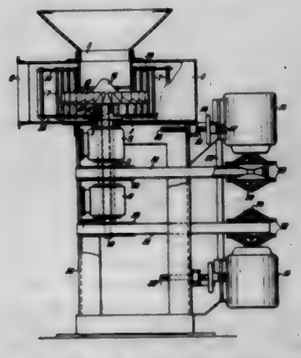
control means for selectively controlling said actuating means, and feedback means responsive to a comparison of said dynamic pressure and said steady state pressure for neutralizing the effect of said control means upon equality with an input thereto.

2,976,716
METHOD OF DETERMINING WEAR PATTERNS
Clark G. De Haven, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 24, 1958, Ser. No. 751,255
6 Claims. (Cl. 73—7)



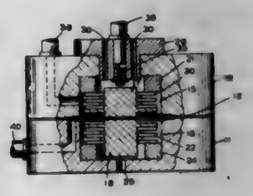
1. A method for determining in advance, areas of high erosion of a surface to be contacted by an erosive medium which comprises painting said surface with successive uniform coats of paint of contrasting colors, and exposing said surface to conditions causing erosion by said erosive medium for a time sufficient to wear through at least one of said colored coats, whereby the areas of high erosion are worn through the most layers of said coats of paint.

2,976,717
MANUFACTURE OF MATCHES
Oskar R. Davoust, Jonkoping, Sweden, assignor to Svenska Tändsticks Aktiebolaget, Jonkoping, Sweden, a Swedish joint-stock company
Filed Mar. 28, 1956, Ser. No. 574,434
4 Claims. (Cl. 73—12)



2. Mechanism for testing match splints, comprising a casing having an upper inlet opening for the supply of match splints and having a lateral discharge opening, a vertical rotatable shaft extending from below into said casing, a circular disk on the upper end portion of said shaft having an elevated central portion opposite to said inlet opening and a horizontal peripheral portion with projecting radial walls for receiving the match splints and throwing them substantially in their longitudinal direction by means of centrifugal force off from said disk, an impact wheel mounted on a tubular shaft and having a series of axially extending impact rods spaced laterally from and opposite to and at a sufficient distance from said circular disk to allow the splints to pass freely through the air toward said impact rods, said rods having a curved convex edge surface facing in the direction of rotation for striking the splints passing through said bars to a free space between the bars and the casing.

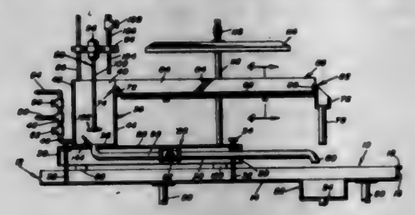
2,976,718
GAGING APPARATUS FOR DIMENSIONS AND THE LIKE
Ralph C. Baker, Dayton, Ohio, assignor, by mesne assignments, to The Sheffield Corporation, a corporation of Delaware
Filed Mar. 9, 1956, Ser. No. 570,454
8 Claims. (Cl. 73—37.5)



5. An apparatus for obtaining a gaging signal variable in accordance with the relationship between pressures at two points in an air leakage type gaging system comprising, a pressure regulator adapted for connection to a source of fluid under pressure, a gaging head for obtaining fluid flow in accordance with product dimensions and the like, means providing a flow path between said regulator and said gaging head, restriction means in said flow path, a housing, flexible wall means in said housing providing first and second oppositely acting expansible chambers, passage means connected between the flow path downstream of said restriction means and the first of said chambers to provide a gaging pressure therein varying with the gaged characteristic, passage means connected between the flow path upstream of said restriction means and the second of said chambers to provide a substantially constant pressure in opposition to the gaging pressure, a movable member in said housing positioned in response to the relationship between the chamber pressures, and gaging means controlled by movement of said movable member to provide a gaging signal in accordance therewith.

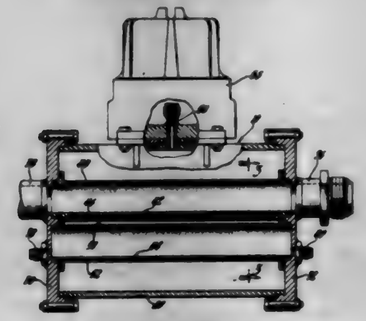
2,976,719
PAPER CONTAMINATION CLASSIFIER
Donald Rushmore, Wanakena, N.Y.
Filed Oct. 23, 1956, Ser. No. 617,759
5 Claims. (Cl. 73—61)

1. A contamination classifier for paper stock comprising an inspection tank, an inlet dam and an outlet dam at opposite ends of said inspection tank, said inspection tank being in the form of a shallow horizontally disposed tray having a continuous upstanding border, said dams being lower than said upstanding border, a mixing tank for supplying a paper stock sample to said inspection tank, said inlet dam connecting said mixing tank and said inspection tank and forming an upper overflow rim of the mixing tank, a water inlet in the lower part of said mixing tank for floating a paper stock sample therein, whereby



said paper stock may overflow from said mixing tank into said inspection tank in a thin layer, and a discharge pipe adjacent said outlet dam.

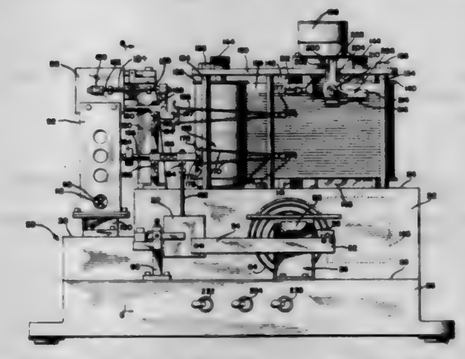
2,976,720
APPARATUS FOR MEASURING THE VAPOR CONTENT OF FLUIDS
Thomas P. Callahan, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 9, 1959, Ser. No. 805,202
6 Claims. (Cl. 73—61)



1. A sensing device for measuring the relative quantities of vapor and liquid in a test fluid, said device comprising a tubular metallic housing including a pair of end covers on opposite ends of the housing and defining two pairs of aligned openings, a test fluid conduit of insulating material extending between said covers in registry with one of the pairs of aligned openings, a first condenser including a pair of flat conductive plates disposed on opposite sides of said test fluid conduit, a reference fluid conduit of insulating material extending between said end covers in registry with the other of the pairs of aligned openings, a second condenser including a pair of flat conductive plates disposed on opposite sides of said reference fluid conduit, and connector means in said housing to permit electrical connection of said condensers to an external circuit.

2,976,721
TWO COMPONENT PALLOGRAPH
Jesse E. Stern, Hyattsville, Md., and Gabriel L. Santore, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 14, 1956, Ser. No. 628,473
1 Claim. (Cl. 73—71)
(Granted under Title 35, U.S. Code (1952), sec. 266)

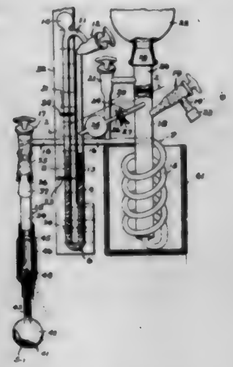
A vibration measuring and recording instrument for measuring and recording steady state vibrations comprising, a base member, a substantially horizontal lever having one end thereof pivotally connected to said base by means of a plurality of flexure members having their respective ends attached to said lever and said base, a first seismic mass fixedly connected to the opposite end of said horizontal lever, a substantially vertical post having one end pivotally connected to said base by means of a plurality of flexure members having their respective ends attached to said base and said post respectively, a second seismic mass fixedly attached to said post adjacent the other end thereof, said first and second seismic masses being adapted respectively to respond to vertical and horizontal steady state vibrations; a record receiving tape movably mounted on said base, means for moving said tape at a substantially constant speed, a first scriber supporting lever pivotally connected to said base by a frictionless flexure member having its opposite ends connected to said base and said first supporting lever respectively, a scriber fixedly attached to said first scriber supporting lever and in scribing contact with said tape, linkage means pivotally connecting said first scriber supporting lever to said first seismic mass by means of frictionless flexure members, a second scriber supporting lever pivotally connected to said base by a frictionless flexure member having its opposite ends connected to said base and said second supporting lever respectively, a scriber fixedly attached to said second scriber supporting lever and in scribing contact with the tape, linkage means pivotally connecting said second scriber supporting lever to said second seismic mass by means of frictionless flexure members, whereby movement of said seismic masses imparts movement to said first and second scribers respectively, thereby rendering the vibration measuring and recording instrument capable of producing a record of vertical and horizontal steady state vibrations to which the instrument may be subjected; and means for adjusting the first and second scriber supporting levers and the linkage means interconnecting said levers and the respective seismic masses relative to said base member and said respective seismic masses in a manner whereby the pressure of said respective scribers against the record receiving tape may be adjusted.



2,976,722
WATER-CONTENT TESTING DEVICE
Robert J. Heckly, 1156 Oxford St., Berkeley, Calif.
Filed Oct. 22, 1956, Ser. No. 617,631
6 Claims. (Cl. 73—76)

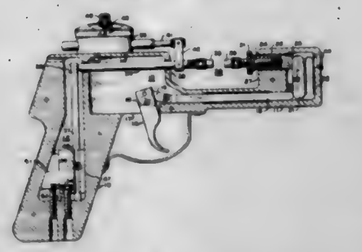
1. The method of ascertaining the moisture content of a test body of a material which is subject to composition changes under higher than normal temperature conditions therefor, which comprises sealedly enclosing the body of material in a container at a normal temperature for the material, sealedly connecting the container space with a closed exhausted evaporation space for the evaporation escape of moisture from the body into the space while the temperature of the body is thereafter maintained at substantially its initial temperature, effecting a condensation in said closed evaporation space of

the vapor received therein from the body, sealing off the evaporation space from the container space, re-evaporating the condensate in the evaporation space, and



gauging the resulting vapor pressure in said space as indicating the mass of the moisture evaporated from the body.

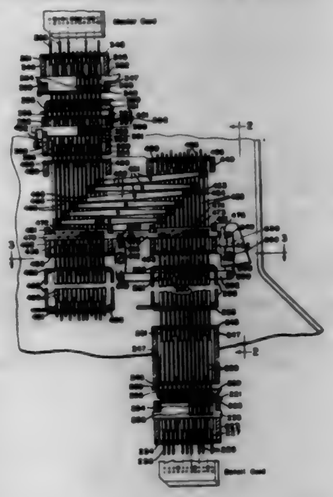
2,976,723
APPARATUS FOR TESTING MATERIALS FOR RESISTANCE TO CRUSHING
William R. Eddy, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 26, 1956, Ser. No. 630,645
9 Claims. (Cl. 73—94)



1. Apparatus for testing materials for resistance to crushing which comprises: a frame; an arm projecting from said frame; a bar spring fixed at one end to said frame; a first compression member slidably carried by said frame and said arm, with its axis transverse the axis of said spring, and connected at one end to said spring; a second compression member slidably carried by said arm, and aligned with but spaced apart from said first compression member; means connected to said second compression member for urging same toward said first compression member; and means connected to said first compression member for indicating the amount of deflection of said spring.

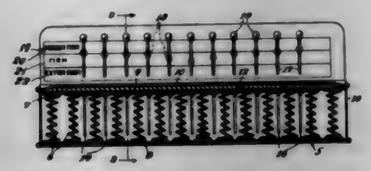
2,976,724
INCLUSIVE MATCHING DEVICE
Clifford J. Maloney and Clifford P. Weber, Frederick, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed June 24, 1957, Ser. No. 667,722
6 Claims. (Cl. 73—156)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a machine for sensing master and detail records and including a comparing mechanism for sensing comparisons and non-comparisons between perforation patterns in preselected portions of said records and including a master card feeding mechanism and detail card feeding mechanism each of such feeding mechanisms being operative to feed a record to its respective sensing station during each machine cycle, including means for sensing the perforations in the master and detail card to set up a mechanical pattern of such perforations and means for comparing such patterns, the improvement which comprises slide means for registering a matching condition on the basis of a comparison of such patterns, when the



perforation pattern of the detail card is contained within but is not coextensive with the perforation pattern of the master card, said slide means including front and rear comparing slides in the detail and master card comparing units respectively, said slides being blocked by the presence of excess card perforations in either the master or detail card comparing units, means for checking the blocking of one of said comparing slides independent of the checking of the blocking of the other slide.

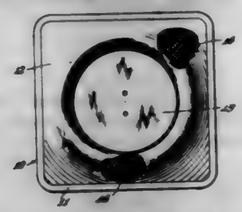
2,976,725
WEIGHT DISTRIBUTION MEASURING DEVICE
Jonah J. Byer, 59 Hilldale Road, West Hartford, Conn.
Filed May 22, 1958, Ser. No. 737,063
1 Claim. (Cl. 73—172)



A weight distribution measuring device including a mattress having a plurality of vertically compressible springs therein arranged in longitudinally spaced transverse rows, an indicator rod connected to the upper ends of at least two of said springs in each of a plurality of said transverse rows, said rods being movable vertically with said springs upon deflection thereof under the weight of a person lying on said mattress, a stationary indicating panel secured to said mattress and having slots therein in register with said indicator rods, said indicator rods extending transversely from said mattress through said slots and having vertical portions disposed behind said panel and horizontal terminal portions extending through said slots to the front of said panel, said panel having indicia on the front surface thereof providing a vertical scale

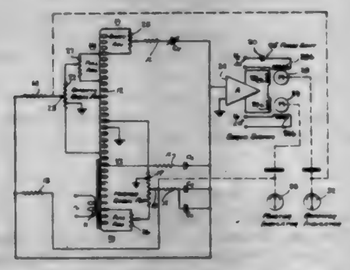
including a plurality of zones denoting the different degrees of mattress firmness, the terminal portions of said indicator rods being movable relatively to said scale upon deflection of their respective springs to indicate by their positions in said ones the weight distribution of the person lying on said mattress.

2,976,726
GAS IMPERVIOUS DIAPHRAGM
Theodore A. St. Clair, Fairfield, and Ernest L. Greenhill, Milford, Conn., assignors to The Sprague Meter Company, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 13, 1959, Ser. No. 833,611
7 Claims. (Cl. 73—279)



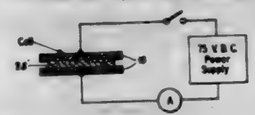
1. A stroke-through gas meter diaphragm comprising a frame member, a flexible gas impervious fabric diaphragm having a square weave within said frame member and adapted to be flexed back and forth therethrough and a rigid centerplate carried by said fabric diaphragm, said centerplate having its periphery unequally spaced from said frame, said fabric diaphragm being oriented so that the diagonals of the squares thereof are normal to the portions of the periphery of said centerplate closest to said frame.

2,976,727
LIQUID QUANTITY GAUGE AND REPEATER SYSTEM
Stephen Prigozy, New York, N.Y., assignor to Simmonds Aerocessories, Inc., Tarrytown, N.Y., a corporation of New York
Filed Sept. 5, 1958, Ser. No. 759,279
7 Claims. (Cl. 73—304)



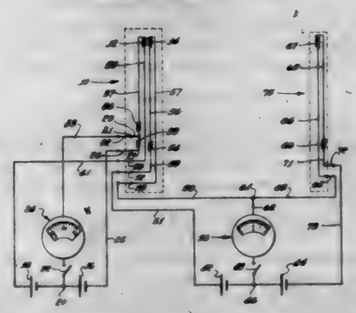
5. A liquid quantity gauge and repeater system comprising a capacitance bridge circuit and a resistance bridge circuit, both of said circuits being provided with a reference current source, said capacitance bridge circuit and said resistance bridge circuit having a common node terminal, a sensing capacitor immersed in the liquid to be measured, said capacitance bridge circuit and said resistance bridge circuit yielding first and second currents respectively, said first current having a value which varies in accordance with changes in said sensing capacitor in response to variations in the quantity of said liquid to be measured, said first current having a phase which is in quadrature relative to said second current, said second current having a phase which is in opposition to a reference current from said source, master indicating and rebalancing means responsive solely to said first current to effect rebalance of said capacitance bridge circuit thereby to indicate the liquid quantity, circuit means in said resistance bridge circuit to vary said second current in proportion to the rebalancing of said capacitance bridge circuit, and repeater indicating and rebalancing means responsive solely to said second current to effect rebalance of said resistance bridge circuit likewise to indicate liquid quantity whereby said repeater indicating means is controlled by said master indicating means.

2,976,728
ELECTROLYTIC MOISTURE MEASURING APPARATUS
Norman B. Brogan, Dunbar, and Herbert N. Hill, Jr., South Charleston, W. Va., and Franklin O. Smith, Los Angeles, Calif., assignors to Union Carbide Corporation, a corporation of New York
Filed Jan. 20, 1958, Ser. No. 710,019
7 Claims. (Cl. 73—336.5)



1. In moisture content measuring apparatus, a cell comprising a body section, at least two porous electrodes, at least one layer of hygroscopic material which shows a change in conductance upon the absorption of water and which becomes an electrolyte for the electrolysis of absorbed water, an inlet cap, and an outlet cap; means positioned in said body section whereby said hygroscopic material and said porous electrodes are held in alternating, interjacent relationship; inlet means positioned in said inlet cap for the admission of a sample fluid; outlet means positioned in said outlet cap whereby sample fluid entering the cell through the inlet means in the inlet cap and passing through the porous electrodes and hygroscopic material therebetween is expelled from said device; and means for connecting said electrodes to a direct current electrical circuit.

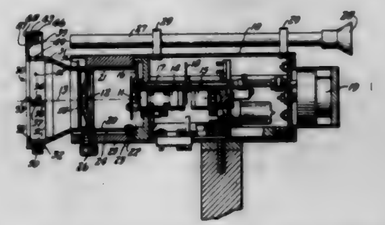
2,976,729
VOLTAGE COMPARATOR CIRCUITRY
James L. Smith, Lakewood, Calif., assignor to Leonard Electronics, Inc., Montebello, Calif., a corporation of California
Filed June 30, 1958, Ser. No. 745,682
8 Claims. (Cl. 73—342)



1. In a temperature responsive device, in combination: a temperature-measuring circuit comprising first and second E.M.F. sources connected in series; a first resistor and a first electrical indicating device in series across the first source; second and third resistors in series across the indicating device and second source, said first and second resistors having relatively small tem-

perature coefficients and said third resistor having a temperature coefficient of relatively large absolute value; a temperature comparing circuit comprising third and fourth E.M.F. sources connected in series, fourth and fifth resistors and a second electrical indicating device across said third source, and sixth and seventh resistors across said second indicating device and fourth source, said fourth and sixth resistors having relatively small temperature coefficients and said fifth and seventh resistors having temperature coefficients of relatively large absolute value, said third and fifth resistors being disposed together and constituting together a first temperature-sensing means, said seventh resistor constituting a second temperature-sensing means.

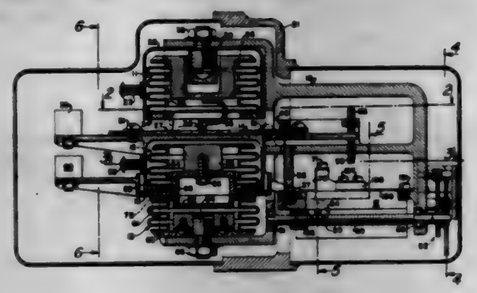
2,976,730
PYROMETER CONSTRUCTION
Sabert N. Howell, Huntington, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York
Filed June 7, 1957, Ser. No. 664,349
6 Claims. (Cl. 73—355)



1. In a radiation pyrometer, an elongated housing containing an infrared-responsive element and having at one end an optical system collecting infrared radiant energy on an optical axis and focusing collected energy on said element, said optical system being removably secured in said housing and said housing being adapted to removably receive a selected one of a plurality of similar optical systems of different focal lengths for focus on said element, a visual sighting mechanism comprising a telescopic member having an alignment axis generally parallel with said optical axis but offset therefrom, and a separate detachably removable periscopic offsetting assembly carried by the front part of said optical system, said periscopic assembly being generally open in the path of energy collected by said optical system and including a relatively small first inclined mirror on said optical axis and a second inclined mirror generally aligned with the telescope axis and spaced from said telescopic member, both said mirrors being inclined to an extent such that their respective reflections from said axes are aligned with each other.

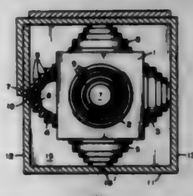
2,976,731
PRESSURE RATIO INDICATING INSTRUMENT
Sydney Edward Westman, Inglewood, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 15, 1957, Ser. No. 690,370
9 Claims. (Cl. 73—407)

1. An instrument for determining the ratio between two pressures, comprising: a housing; an evacuated bellows mounted in said housing and connected to a first auxiliary beam; said first auxiliary beam having a fixed pivot point and in addition being connected to a main beam; a first pressure responsive bellows connected to said first auxiliary beam at a point aligned with the point of attachment of said evacuated bellows, said first bellows in addition being connected to a second auxiliary beam; said second auxiliary beam having a fixed pivot point and in addition being connected to said main beam; a second pressure responsive bellows mounted in said housing and connected to said second auxiliary beam at a point aligned with the point of attachment of said first bellows; means forming a movable



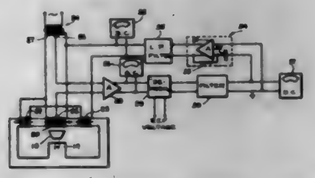
fulcrum for said main beam and means responsive to the unbalance of said main beam for moving said movable fulcrum to rebalance said main beam.

2,976,732
MEANS FOR RECORDING FORCES TO WHICH SHIPPED ARTICLES ARE SUBJECTED
Rudolph F. Hautly, 630 Kirkshire, Kirkwood, Mo.
Filed Sept. 30, 1958, Ser. No. 764,346
3 Claims. (Cl. 73—492)



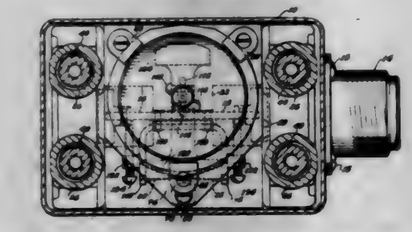
1. In an instrument for printing with ink a record of the forces to which the instrument is subjected, an inertial block of relatively large mass in the form of a cube, a plurality of compressible inked printing indicators provided with concentric ridges, an indicator mounted at the center of each face of said cube, and a box in the form of a hollow cube provided with inner surfaces, the ridges of said printing indicators being supported by and spaced from the inner surfaces of the box and ink on the ridges immediately adjacent the inner surfaces of the box, so that the ridges, according to the degree of impact, compress telescopically to mark the inner surfaces of the box.

2,976,733
ACCELEROMETER
Bernard Litman, Wantagh, Melvin Pavalow, Hicksville, Paul H. Savet, Westbury, and Joseph Statsinger, Bayside, N.Y., assignors to American Bosch Arma Corporation, a corporation of New York
Filed Apr. 29, 1955, Ser. No. 504,762
7 Claims. (Cl. 73—503)



1. An accelerometer having a weight responsive to accelerations, pickoff means for obtaining an electrical signal indicative of the displacement of said weight, electromechanical forcing means for applying a counterforce to said weight, an operational amplifier adapted to differentiate with respect to time, electrical connections between the output of said pickoff means and the input to said operational amplifier, and electrical connections between the output of said operational amplifier and said forcing means for sole energization of said forcing means in response to displacement of said weight, said weight being magnetic, means for producing a first magnetic field perpendicular to the plane of the movement of said weight, said weight being located in said first magnetic field, means for producing a second magnetic field substantially perpendicular to said first magnetic field and in the plane of movement of said weight, said forcing means being adapted to modify said first magnetic field by said second magnetic field.

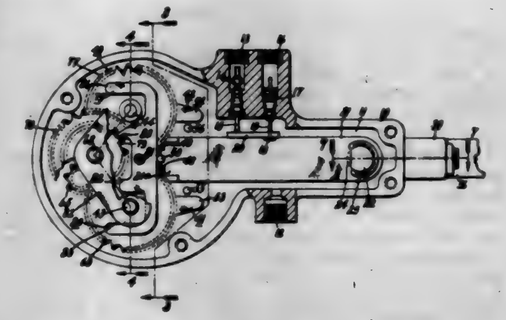
2,976,734
ACCELEROMETER
Philip Gindes, Los Angeles, and Arthur C. Hughes, Jr., Pacific Palisades, Calif., assignors to Genisco, Inc., Los Angeles, Calif., a corporation
Filed Dec. 18, 1957, Ser. No. 703,543
4 Claims. (Cl. 73—514)



3. In an accelerometer, the combination of: a support structure; a sensing mass resiliently mounted on said support structure to reciprocate along a given path relative thereto; indicating means including a rotary signal-controlling component; a rotary operating member connected to said rotary component for actuation thereof, said member having an arcuate surface substantially concentric to its axis of rotation; a bracket fixedly mounted on said mass, said bracket having two spaced arms with threaded bores therein; two oppositely extending flexible filaments operatively connecting said two arms respectively of the bracket with said member for actuation thereof in response to reciprocation of the mass, said filaments overlapping and being anchored to opposite portions of said arcuate surface and extending substantially tangentially of the arcuate surface for wrapping action against the surface; and screws in said threaded bores of said two bracket arms respectively engaging said mass to flex the arms for adjustment of the tension of the two filaments.

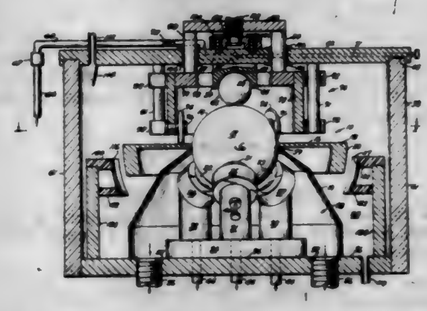
2,976,735
MECHANICAL TIME DELAY MECHANISM
Roy Witte, West Hartford, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,763
7 Claims. (Cl. 74—1.5)

1. A mechanical time delay mechanism, comprising, actuating arm means having a center static position and supported on pivot means for operation of one end thereof in either direction from said center position on application of a force thereto in either of opposite directions, gear train means operably connected with said arm means for rotation thereby in one common rotary movement on operation of said arm means in either direction of oscillation of said end from the said center static position, the said operable connection of said gear train means with said arm means comprising motion translating means between said arm means and said gear train means to drive said gear train means and translate oscillation of the said arm means to said one common rotary movement in the gear train means on movement of the said arm means in either direction of movement from said center static position, spring means operably connected with said motion translating means continuously urging the same to return said actuating arm means to said center static position, and escapement mechanism including an escapement wheel connected to and driven



by said gear train means with the said escapement wheel being driven in one common direction of rotation from the said gear train means on movement of the said arm means in either direction of movement thereof to control the speed of rotation of the said gear train means by the said escapement mechanism and thereby control rate of oscillation of said arm means in either direction of movement of the said arm means to damp movement thereof at the same rate of movement in either direction of movement of the said arm means relative to said center static position.

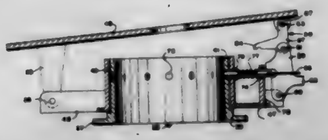
2,976,736
MECHANICAL-PNEUMATICAL SUSPENSION AND REFERENCE SYSTEM
George W. Cook, Washington, D.C., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Oct. 12, 1959, Ser. No. 845,883
20 Claims. (Cl. 74—5.6)



1. A suspension system comprising a plurality of cups each having a substantially identical hemispherical socket therein, the axes of said sockets being inclined inwardly toward a common center, a plurality of identical, spherical supporting balls, each of said sockets having one spherical supporting ball therein with its surface adapted to be in close conformity with but spaced slightly away from the socket, each of said cups having passage means communicating with the space between ball and socket, a round rotatable supported member in rolling engage-

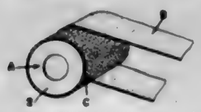
ment with said supporting balls and having a diameter larger than the diameter of said supporting balls, and gas supply means adapted to supply a gaseous medium to said passage means.

2,976,737
INDEXING AND MOUNTING MEANS
Charles Evans, Rte. 1, Burden, Kans.
Filed July 7, 1958, Ser. No. 747,870
5 Claims. (Cl. 74—16)



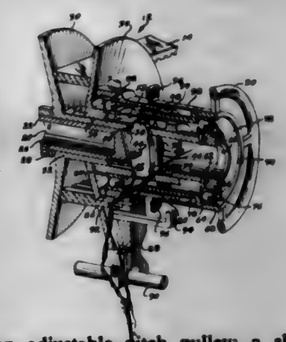
1. Indexing and mounting means for a power unit having a motor with a power pulley and a pulley belt therefor and operatable to power one of a plurality of stationary power tools and/or equipment spaced around, over and/or under a table and each having a drive pulley to operatively receive said belt, comprising, in combination, a base member rigidly mountable on said table and having a cylindrical neck portion projecting upwardly when said base member is mounted on said table, a cylindrical collar member rotatably mounted on said neck portion of said base member, a pair of spaced and projecting arm members attached to said collar member to turn therewith and an oppositely mounted and projecting arm member so attached to said collar member, a mounting plate tiltably mounted on said arm members to turn with said collar member, said plate constructed to receive and mount a motor to tilt therewith and having a pair of leg members attached thereto pivotally connected to said pair of arm members, a plurality of pivotally joined linking members pivotally connected to said mounting plate and said oppositely mounted arm member, an operator connected to said linking members to operate same and to move said plate from a tilted position to approximately a horizontal position and vice versa upon operation, a row of spaced indexing apertures around said neck portion of said base member and an aperture in said collar member alignable with said indexing apertures, pin means slidably mounted in said last-named aperture and on said last-named arm member and extendable into said indexing apertures to lock said collar member relative to said base member, spring means mounted on said pin and engaging said last-named arm member and urging said pin means into said indexing apertures, and said linking members constructed to engage said pin means upon operation of said operator to retract said pin means from said indexing apertures.

2,976,738
CONVEYOR PULLEYS
Hollis H. Bascom, Livermore, Calif., assignor to California Industrial Development Co., Livermore, Calif., a corporation of California
Filed Nov. 26, 1957, Ser. No. 699,098
1 Claim. (Cl. 74—230.7)



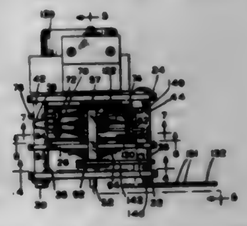
A conveyor belt pulley construction comprising a cylindrical pulley body and an external surfacing therefor comprising an admixture of solid particles consisting solely of rubber; and a synthetic rubber-phenolic resin in which the resin is formed in a film binding the particles in spaced apart relationship onto the pulley with the rubber particles projecting outwardly to form an uneven mat wherein both said resin film and said solid particles are completely and permanently resilient.

2,976,739
ADJUSTABLE PULLEY
Emmons F. Lewellen and Rodman H. Lewellen, both % The Lewellen Manufacturing Company, Columbus, Ind.
Filed July 1, 1959, Ser. No. 824,257
9 Claims. (Cl. 74—230.17)



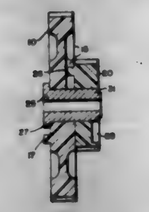
1. In an adjustable-pitch pulley; a sleeve member adapted for being attached to a shaft, a first cone disc mounted on said sleeve member, a second cone disc mounted on the first cone disc, means on the sleeve member engaging the cone discs to cause equal and opposite movement thereof relative to the plane of a belt drivingly engaging the pulley when the cone discs are adjusted to vary the pitch of the pulley, housing members journalled on said cone discs, means holding one housing member against rotation, and means connecting the housing members for infinite adjustability relative to each other axially for varying the pitch of the pulley.

2,976,740
TELEMETRIC RECEIVER
Wilbur H. Frazel, East Providence, R.I., assignor to B-I-F Industries, Inc., Providence, R.I., a corporation of Rhode Island
Filed May 11, 1959, Ser. No. 812,203
8 Claims. (Cl. 74—319)



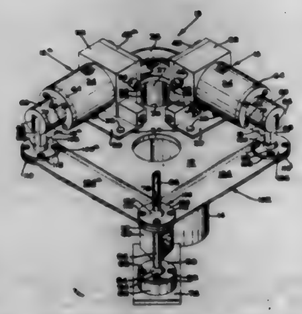
1. A remote controlled indicator comprising an indicating element movable back and forth and adapted to remain positioned, a positioning member operatively connected to said element and movable between two predetermined points for positioning said element, a first driving mechanism for driving said member from the first of said predetermined points toward the second of said predetermined points, a second driving mechanism for driving said member from said second point toward said first point, means connected to said first driving mechanism for driving said first driving mechanism at a constant speed, and means for selectively disconnecting said driving means from driving engagement with said first driving mechanism and for connecting said driving means to said second driving mechanism for driving said second driving mechanism at a constant speed.

2,976,741
CLUSTER GEAR
Louis D. Martin, 67 Lake Breeze Park, Rochester 22, N.Y.
Filed Mar. 2, 1959, Ser. No. 796,632
3 Claims. (Cl. 74—432)



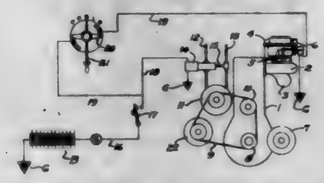
1. A cluster gear comprising a plurality of separate components which are respectively of different diameters and two, at least, of which are plastic, and two, at least, of which, are gears having peripherally arranged teeth each of said components having an axial bore, a bushing extending through the bores of all said components to mount them for rotation on a common axis, each of said components having a plurality of elongated, radially-extending recesses formed in one side face and spaced angularly about its axis and a plurality of axially-extending projections integrally formed on its opposite side face, said projections being equal in number to said recesses and being spaced angularly about its axis at the same angles as said recesses, the projections of one component fitting into the recesses of an adjacent component to transmit torque between the components, and means securing said components together against relative axial motion.

2,976,742
CONTROL APPARATUS FOR MULTI-VALVES AND THE LIKE
John A. Miscovich, Fairbanks, Alaska, assignor, by mesne assignments, to John A. Miscovich, Los Angeles, Calif., and Paul E. Fillio and J. M. Gauntlett Co. Inc., a corporation of Washington, both of Seattle, Wash.
Filed Nov. 4, 1957, Ser. No. 694,202
2 Claims. (Cl. 74—471)



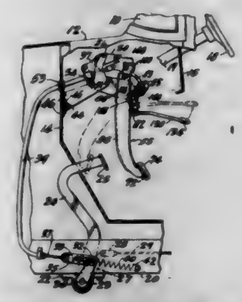
1. In a control apparatus for a pair of rotary valves each including a member rotatable to effect operation of the valve, and with the axes of the members perpendicular to each other in a plane including both of said axes, an actuating arm projecting radially from each of said rotary members and mounted thereon for movement therewith about said axis of rotation of the associated rotary member and for pivotal movement relative thereto in a plane including said axis of the associated rotary member, an actuating lever mounted for universal pivotal movement, a link structure, means pivotally connecting said link structure to said lever for universal substantially planar movement by the lever, and means pivotally connecting each of said actuating arms to the link structure for pivotal movement thereby.

2,976,743
CARBURETOR THROTTLE CONTROL
Dwight M. Gordon, Detroit, and Alfred E. Majewski, Livonia, Mich.; said Majewski assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware; said Gordon assignor, by mesne assignments, to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Mar. 30, 1953, Ser. No. 345,299
16 Claims. (Cl. 74—472)



1. In a motor vehicle, an engine, devices separately connected to be driven from said engine, control instrumentalities for each of said devices, a carburetor for said engine, a throttle for said carburetor, a manual operator for said throttle, and an independent throttle adjustor including a movable throttle stop for varying the degree of throttle closing actuated from said control instrumentalities.

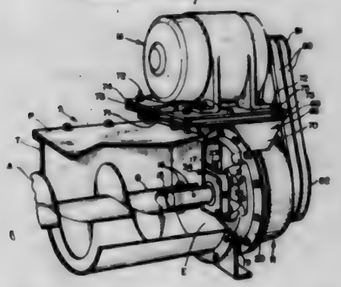
2,976,744
MECHANISM CONTROL
Robert S. Hinsey, Toledo, Ohio, assignor to The Bingham-Herbrand Corporation, Toledo, Ohio, a corporation of Ohio
Filed June 10, 1957, Ser. No. 664,664
1 Claim. (Cl. 74—531)



Mechanism control including, in combination, a relatively stationary support, a foot-operated lever fulcrumed on the support, a bar connected with the support, a block mounted by the lever, a roller arranged for cooperative engagement with said bar and block for retaining the foot-operated lever in various positions of adjustment, a control member pivotally supported on the foot-operated lever, a supplemental lever construction for actuating the control member including a lever element pivoted upon the support at a region spaced from the fulcrum of the foot-operated lever, a hand grip associated with said element, a link pivotally connected with the lever ele-

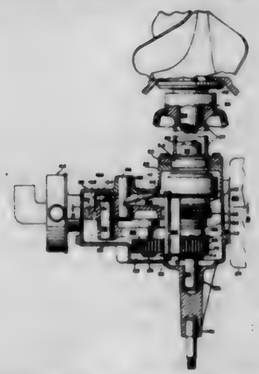
ment and the control member, and resilient means for biasing the control member in a direction to urge the roller into engaging relation with the bar and block.

2,976,745
MOUNTING ASSEMBLY FOR MACHINERY DRIVE
Alfred G. Bade, Brookfield, Wis., assignor to The Falk Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 3, 1959, Ser. No. 837,939
8 Claims. (Cl. 74—606)



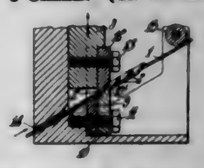
1. In a machinery drive assembly for a machine having a rotatable shaft and a stationary support member surrounding said shaft, said assembly including a speed reducer unit including a housing, an input shaft and an output shaft and gearing interconnecting said shafts; a motor and drive means arranged to operatively connect said motor with said reducer input shaft, the output shaft of said reducer being arranged for drive connection with said rotatable machine shaft; the combination therewith of a mounting pad arrangement for one side of said reducer housing and providing a relatively flat mounting surface engageable with the outer surface of said stationary machine support member, and a series of tapped openings adapted for receiving foundation mounting bolts from said support member and being radially and angularly spaced from one another about the axis of said reducer output shaft, whereby said reducer may be positioned at several angularly relative positions about the axis of said output shaft.

2,976,746
WASHING MACHINE TRANSMISSION
John P. Flannery, Syracuse, N.Y., assignor to The Murray Corporation of America, Syracuse, N.Y., a corporation of Delaware
Filed Jan. 28, 1957, Ser. No. 636,706
14 Claims. (Cl. 74—665)



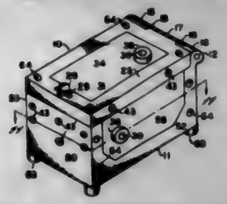
1. In a transmission for washing machines, a transmission casing, a reversible motor driven shaft extending transversely therethrough, means for driving said shaft at constant speed in either direction, concentric vertical axis tub and agitator shafts extending from said casing for driving a centrifugal tub and an agitator respectively, means for driving said agitator shaft from said motor driven shaft on rotation in one direction, means for driving said tub shaft from said motor driven shaft on opposite rotation thereof, said last named means including a constant torque friction drive coaxially disposed about said tub shaft.

2,976,747
METHOD FOR FORMING FILING TOOLS
Adolf Schatzschock, Rotenhofgasse 59, Vienna X, Austria, and Alois Weltzel, Hartmanngasse 15, Vienna V, Austria
Original application Aug. 25, 1953, Ser. No. 376,448. Divided and this application Oct. 14, 1958, Ser. No. 767,127
Claims priority, application Austria Aug. 29, 1952
6 Claims. (Cl. 76—101)



1. A method of forming a filing tool from a flat metal sheet comprising making a succession of cuts in the sheet in a direction oblique to the plane of the sheet to form a succession of narrow strips joined at their ends to the remainder of the sheet and of rhomboidal cross section having parallel planar side faces and longitudinal edges oblique to said side faces, and twisting said strips relative to the plane of the sheet to incline the strips at an acute angle to the sheet with the longitudinal edges of the strips extending outwardly beyond the opposite sides of the metal sheet and with the outermost extremity of each strip being the acute cutting edge formed by the intersection of the longitudinal edge with the outer side face of the strip.

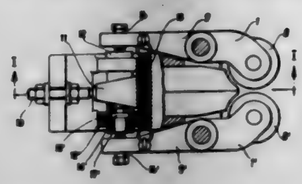
2,976,748
TUMBLE DRILL JIG
Carl F. Quick and Leslie B. Rice, Chula Vista, Calif., assignors to Rohr Aircraft Corporation, Chula Vista, Calif., a corporation of California
Filed Aug. 10, 1959, Ser. No. 832,788
15 Claims. (Cl. 77—62)



1. In a drill jig, in combination, a drill bushing-supporting insert, a part-nesting insert, and a jig frame for receiving and holding said inserts in operative relation for drilling of the part by a drill guided in the bushing.

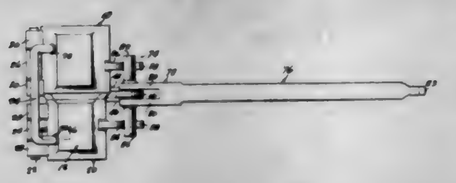
2,976,749
ROLLER GUIDE FOR ROLLING MILLS
Karl Hermann Albedyhl, St. Ingbert-Saar, Germany, assignor to Moeller & Neumann G.m.b.H., St. Ingbert-Saar, Germany, a German firm
Filed Nov. 8, 1957, Ser. No. 695,375
Claims priority, application Germany Nov. 12, 1956
8 Claims. (Cl. 80—51)

1. A roller guide for rolling mills, which comprises two pivot pins arranged symmetrically with respect to the pass axis, two rigid levers each of which is pivotally mounted on one of said pivot pins, two guide rollers each of which is carried by one of said levers, a common adjusting device simultaneously operatively connected to both of said levers and operable to cause a joint symmetrical movement of said rollers in the same sense relative to the pass axis, said adjusting device comprising two



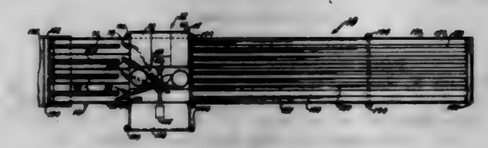
engaging members and an adjusting member operatively connected to said engaging members each of which acts upon one of said levers, spring means arranged between said levers to urge them against said engaging members, further spring means arranged between each of said levers and each of said engaging members to urge said rollers against opposite sides of the material to be rolled.

2,976,750
MULTIPLE PIVOTED JAW PIPE WRENCH
Leo A. Matthies, Box 353, Glenrock, Wyo.
Filed Jan. 8, 1960, Ser. No. 1,222
7 Claims. (Cl. 81—53)



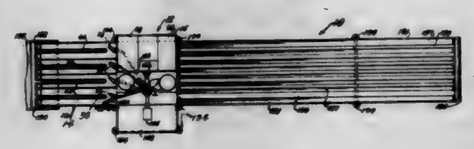
1. A coupling and uncoupling pipe tongs comprising a first one-piece jaw assembly, a second sectional jaw assembly, each of said assemblies having an arcuate pipe coupling engaging jaw and a smaller diameter arcuate pipe engaging jaw, the jaws of the sectional assembly being unconnected with each other, means hinging the separate jaws of the sectional assembly to the one-piece assembly, and lever-operated eccentric means mounted on one assembly and operatively engageable with the other jaw assembly.

2,976,751
PROCESS OF SPLITTING AND HANDLING SURGICAL GUT
George A. Duba, Chicago, Ill., assignor to Carl G. Bjorkman, Hinsdale, Ill.
Original application July 27, 1955, Ser. No. 524,790, now Patent No. 2,920,520, dated Jan. 12, 1960. Divided and this application Feb. 24, 1959, Ser. No. 795,041
6 Claims. (Cl. 83—24)



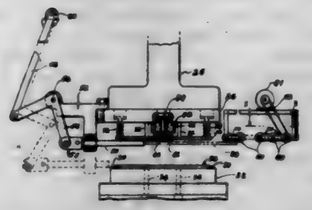
1. In the art of splitting gut by passing the gut over a guide peg and against cutting means in alignment with the path of gut movement defined by the guide peg, the improved method of splitting the gut which includes the steps of applying one end of the gut over the peg to dispose the inceptive end of the guide peg within the gut, angularly directing a substantially uniform liquid jet flow against a localized circumferential area of the portion of the gut that is received over the gut peg, about a substantial portion of said area and in the direction required to train the remainder of the gut over the guide peg, and feeding said localized portion of the gut, under the impetus of the jet flow, against a rectilinear cutting edge disposed substantially at right angles to the path of gut movement over the guide peg.

2,976,752
MACHINE FOR HANDLING GUT RIBBONS
George A. Duba, Chicago, Ill., assignor to Carl G. Bjorkman, Hinsdale, Ill.
Original application July 27, 1955, Ser. No. 524,790, now Patent No. 2,920,520, dated Jan. 12, 1960. Divided and this application Feb. 24, 1959, Ser. No. 795,168
5 Claims. (Cl. 83—98)



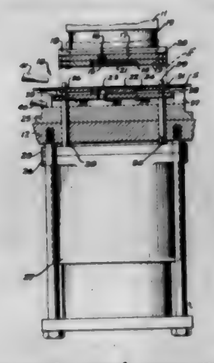
1. A device for handling gut comprising means for splitting the gut, conduit means for receiving the split gut, means for supplying a flowing liquid bath to said conduit means for conveying the split gut through said conduit means, and means mounted in said conduit means for catching one end of the split gut to immobilize same within said conduit means, whereby the flowing bath maintains the split gut in stretched out relation.

2,976,753
PRESS UNLOADER INCLUDING MAGNETIC LIFT MEANS AND MAGNETIC DELIVERY ROLLERS
Alexander Fowler and Evelyn R. Fowler, both of 334 Westover Road, Stamford, Conn.
Filed June 5, 1956, Ser. No. 589,456
6 Claims. (Cl. 83—82)



2. In a metal fabricating system in which a punch press has a stationary bed carrying a stationary bottom die and has a vertically reciprocable ram carrying a movable top die, and in which the press and die operate on ferrous material, the combination with the said press and die, of a magnetic means associated with the top die to lift ferrous material with the top die, a magnetic feed roller located laterally of and immediately adjacent the top die in its upper position, said roller being exposed at the bottom in order to receive and support the said ferrous material beneath the roller, and a motor for rotating said feed roller in proper direction to feed the ferrous material laterally out of the press and die.

2,976,754
BLANKING DIE MEANS WITH RESILIENTLY SUPPORTED STRIPPER PLATE MEANS
Stephen B. Wessas, Minneapolis, Minn., assignor to Dayton Rogers Manufacturing Co., Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 21, 1958, Ser. No. 729,842
1 Claim. (Cl. 83—139)



Apparatus for use in punch press machines and the like for producing apertured parts from sheet metal and the like, said apparatus comprising a downwardly facing blanking die having a die opening, a downwardly facing piercing punch in the die opening, means mounting the blanking die and piercing punch on the ram of the machine, stripper means in the blanking die opening and ejecting the blanked parts downwardly from the die opening, an upwardly facing blanking punch below the blanking die and in alignment therewith and having an upwardly facing piercing punch-receiving die opening extending vertically therethrough in alignment with the piercing punch, a punch-holding plate underlying the punch and secured thereto and having a material ejecting opening vertically therethrough and in alignment with the die opening in the blanking punch, a stripper plate surrounding the blanking punch at the upper cutting edge thereof, rigid blanking punch-supporting means stationary with the bed of the machine, a plurality of upright punch and stripper plate-supporting pins slidably mounted in the punch-supporting means and having shoulder surfaces and upper end portions vertically slidably mounting the punch-holding plate and also having means at their upper ends supporting the stripper plate, and resiliently yieldable means supporting the pins with the shoulder surfaces and punch-holding plate spaced above the punch-supporting means, the resiliently yieldable pin-supporting means continuously urging the pins upwardly, and stop means limiting upward movement of the stripper plate and pins, whereby the punch and stripper plate, after having been driven downwardly by the die, will be resiliently urged upwardly to strip the material from the punch and to allow additional material to fall downwardly through the die opening in the blanking punch and through the opening in the punch-holding plate whereupon the material may be easily removed.

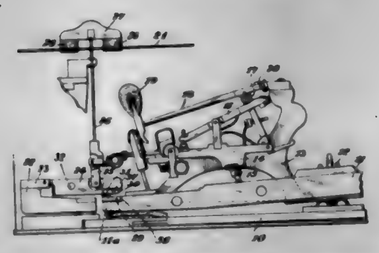
2,976,755
ELECTROMAGNETIC PICKUP FOR LUTE-TYPE MUSICAL INSTRUMENT
Clarence L. Fender, 2212 E. Revere, Fullerton, Calif.
Filed Jan. 6, 1959, Ser. No. 785,283
14 Claims. (Cl. 84—1.16)

1. An electrical musical instrument of the string type, including a plurality of electromagnetic type pick-ups operatively associated with the strings of said instrument and lying in a plane spaced from the common plane of said strings, each of said strings being disposed in a plane extending through a space between two adjacent ones of said pick-ups, four of said pick-ups being operatively associated with two of said strings, said two strings being adjacent each other, two of said four pick-ups being disposed between said planes in which said two adjacent



strings are disposed and being respectively operatively associated with said two adjacent strings, the remaining two of said four pick-ups being disposed on opposite sides of said planes in which said two adjacent strings are disposed and being respectively operatively associated with said two adjacent strings.

2,976,756
MAGNETIC CONTROL MEANS FOR PIANO DAMPERS
Julius Schwarzbaur, 516 E. 80th St., New York 21, N.Y.
Filed Oct. 22, 1957, Ser. No. 691,700
11 Claims. (Cl. 84—216)



1. In a piano action, in combination, a string; a damper; damper operating means cooperating with said damper for moving the same into contact with and away from the string; a key movable between a depressed and a released position; key-operated means cooperating with said damper operating means for actuating the latter to move the damper away from the string when the key is moved to its depressed position; a first permanent magnet carried by said damper operating means; and a second permanent magnet carried by said key-operated means adjacent to said first permanent magnet, said magnets maintaining therebetween a magnetic field acting in a direction to constantly urge said damper into contact with the string at least when the key is in said released position.

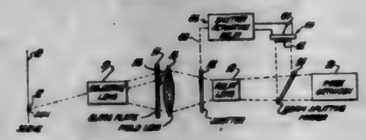
2,976,757
PROCESS FOR FILLING TUBES
William E. Schulz, Wenonah, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 12, 1959, Ser. No. 786,285
2 Claims. (Cl. 86—20)

2. A process for filling plastic tubes of very small diameter with a finely divided granular explosive which comprises collecting a plurality of plastic tubes into a bundle, surrounding one end of said bundle by a solidifiable composition which is liquid at a temperature below the melting temperature of said tubes, solidifying said composition, cutting said solidified composition in a plane which is essentially normal to the axis of said tubes and



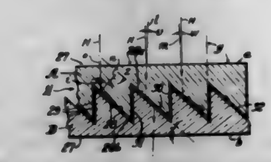
passes through said tubes to expose open ends on said tubes, introducing a mass of a finely divided granular explosive adjacent to said open ends of said tubes, and vibrating the assembly thus produced to cause said granular explosive to flow into said tubes.

2,976,758
PROTECTIVE SYSTEM AGAINST DAMAGING RAYS
Donald J. Parker, Camden, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 2, 1957, Ser. No. 632,199
6 Claims. (Cl. 88—1)



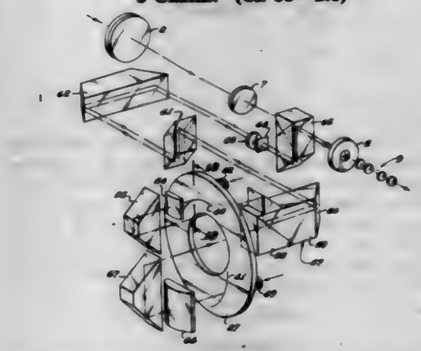
1. In a system in which a scene projected by an optical system onto an image receiving surface includes a high intensity image, in combination, a support with respect to which said image receiving means remains fixed; a movable masking means in the optical system having an area slightly larger than that of said high intensity image; means for initially positioning the masking means over said high intensity image and thereby preventing said high intensity image from reaching the image receiving surface; means including photocell means for producing output currents in response to movement of said high intensity image relative to the masking means; and driving means fixed to said support and responsive to said currents for driving said masking means with respect to said support and said image receiving surface in the correct sense and amount to reduce said currents to zero.

2,976,759
ANTI-GLARE DEVICE FOR VEHICLES
Keith T. Bleser, Roselle, Ill.
(1042 Kalfahs St., Neenah, Wis.)
Filed July 30, 1958, Ser. No. 752,069
1 Claim. (Cl. 88—1)



An angular discriminating light shield comprising a pair of plates of light transmitting material, each of said plates having a flat surface on one side and a series of flat prism faces on the other side at angles to the first named flat surface and connected by connecting faces extending generally transversely to the plate, said plates being interfitted together so that the prism faces of the plates lie face to face having an air space therebetween so as to transmit light through the shield from one direction and to reflect light on to said connecting faces from certain other directions, said connecting faces also lying face to face, and having a frosted, light diffusing finish for substantially reducing specular reflection from and also reducing specular light transmission through these faces, regardless of angle of incidence of light thereon.

2,976,760
AUTOMATIC TACHEOMETER
Ezra Leo Callahan, 3906 W. 111th Place, Inglewood, Calif.
Filed Oct. 31, 1955, Ser. No. 543,910
5 Claims. (Cl. 88—2.6)

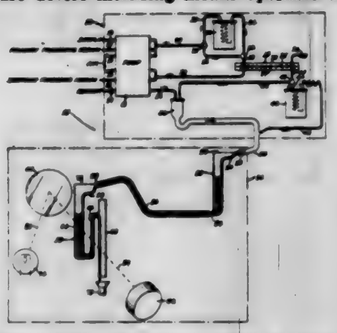


1. The combination in an automatic tacheometer, of a telescope having a horizontal axis and a reticle with a horizontal cross hair on the optical axis of the telescope, a standard for mounting the telescope to rotate about its horizontal axis, a diagram provided with an opaque background broken by a non-arcuate light transmitting curve, said diagram being fixedly mounted on said standard so as to be unaffected by the rotation of the telescope about its horizontal axis and to remain normal to the horizontal axis of the telescope and parallel to the plane in which the longitudinal axis of the telescope moves, a source of light to one side of the diagram and movable with the telescope, a first group of optical means for transmitting light from said source to said light transmitting curve as a straight line radial to the horizontal axis of the telescope to produce a pin point of light on the opposite side of the diagram moving along said light transmitting curve as the telescope rotates and a second group of optical means for transmitting said pin point of light to the reticle as a phantom line parallel to and in the same plane as the horizontal cross hair in the reticle, said optical means all being mounted to rotate with the telescope as the latter turns about its horizontal axis, said light transmitting curve being of calibrated shape so that the phantom line varies in position as the telescope is rotated, moving uninterruptedly and continually in the focal plane and field of view of the telescope, whereby when the tacheometer is used with a suitable stadia rod, the rod can be read at any point in the field of view.

2,976,761
APPARATUS FOR USE IN ANALYZING FLUIDS
Edwin C. Whitehead, Crestwood, and Andres Ferrari, Jr., Scarsdale, N.Y., assignors, by mesne assignments, to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York
Filed Aug. 30, 1956, Ser. No. 607,122
7 Claims. (Cl. 88—14)

1. In apparatus for effecting the colorimetric examination of a flowing stream of fluid constituted by successive

segments of fluid comprising alternate liquid and gaseous fluid segments and wherein the successive liquid segments may differ in color concentration, a device for exposing said stream for colorimetric examination, means to blend said liquid segments prior to the exposure thereof in said device, whereby to obviate irregular color transitions in said exposure device including means operable to elimi-



nate air bubbles from said stream before the latter enters said device, said blending means comprising a chamber having an inlet for said fluid and a outlet connected to said blending means, and means adjacent the inlet of said chamber and extending transversely of the path of flow of the fluid from said inlet to said outlet for disrupting air bubbles which may be present in the fluid as it flows through the inlet of said chamber.

2,976,762

DEPTH MEASURING APPARATUS FOR PRINTING PLATES AND LIKE ARTICLES

Arnold L. Imshaug, Brookwood, Montague, Mass.

Filed June 11, 1957, Ser. No. 665,083
4 Claims. (Cl. 88—14)



1. Apparatus for measuring the accuracy of surface configuration of curved printing plates and like articles, said apparatus comprising a depth reading microscope, a mounting plate to which the microscope is secured, a base on which a curved printing plate may be positioned in predetermined relation, a beam parallel with and rotatable about the axis of the curved printing plate, a slide on said beam, said mounting plate being pivotally mounted on said slide about an axis parallel to the axis of the curved plate, and means to clamp the mounting plate in a pivotal position with respect to said plate and said curved printing plate to bring the sight of said microscope normal to the portion of the printing surface being viewed.

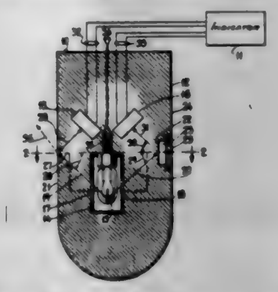
2,976,763

MATERIAL LEVEL DETECTOR

Malcolm F. McKeag, Wallingford, Conn., assignor to Revere Corporation of America, Wallingford, Conn., a corporation of New Jersey

Filed Sept. 16, 1957, Ser. No. 684,143
6 Claims. (Cl. 88—14)

1. A measuring probe comprising: a housing comprising portions of light-pervious material, each portion having a surface, one said surface being unobstructed and forming a portion of the exterior surface of said housing and the other said surface having a standard abutting thereagainst, said standard being formed at the interface of said other surface and of a second material having a different index of refraction than said material of said surface whereby said standard has an index of refraction different from that of said material, means including a light source within said housing for directing a first light beam into one of said portions at such an angle as will cause said beam to be reflected by said one surface with a first predetermined material thereagainst having a predetermined index of refraction different from that of said material of said portions and for directing a second light



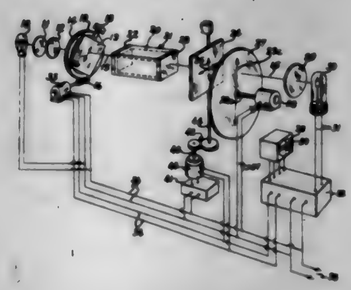
beam into the other of said portions at such an angle as will cause said second beam to be reflected by said other surface, a first light sensitive device disposed within said housing to receive light reflected by said one surface and a second light sensitive device disposed within said housing to receive light reflected by said other surface whereby the amount of light reflected by said one surface will be altered and the amount of light reflected by said other surface will be substantially unaltered when said housing is surrounded by a second material having an index of refraction different from that of said first material.

2,976,764

POLARIMETERS

Walter Lewis Hyde, East Woodstock, Conn., and Eldred F. Tubbs, Palo Alto, Calif., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Dec. 4, 1958, Ser. No. 778,159
9 Claims. (Cl. 88—14)



4. A device of the character described embodying an optical system having a single optical path comprising a light source at one end of said path adapted to project light therealong, photoelectric light-receiving means at the opposite end of said path adapted to ultimately receive light from said source and convert the same into an electrical signal characterized in accordance with the characteristics of the light received thereby, light polarizing means in said path adjacent the end thereof near said light source to intercept light from said source and linearly polarize the same, light-retardation means in

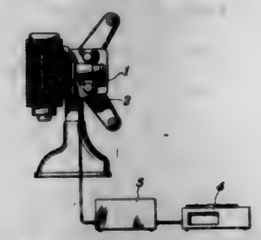
said optical path through which said polarized light is passed, means for supporting a specimen to be tested in axial alignment with said optical path so as to cause said linearly polarized light to pass through said specimen before reaching said light-retardation means when said specimen is supported in said path, rotatable polarized light-analyzing means also in said optical path between said light-retardation means and said photoelectric light-receiving means through which polarized light from said light-retardation means passes to said photoelectric light-receiving means, means for continuously rotating said analyzing means, means associated with said photoelectric light-receiving means for interpreting said electrical signal produced by said photoelectric light-receiving means, adjustable means for altering the axis of said linearly polarized light in accordance with certain characteristic changes in said signal which may be brought about by said specimen and means for indicating the extent of said adjustment.

2,976,765

SYSTEM FOR SYNCHRONOUSLY OPERATING CINEFILM PROJECTOR AND MAGNETIC TAPE RECORDER

Toshiaki Banno, Suwa, Japan, assignor to Kabushiki-Kaisha Sankyo Seiki Seisakusho, Suwa, Japan, a corporation of Japan

Filed Mar. 11, 1958, Ser. No. 720,651
Claims priority, application Japan June 29, 1957
1 Claim. (Cl. 88—16.2)



In a system for synchronously operating a motion picture projector and a tape recorder and playback apparatus and the like, the motion picture projector having a source of radiant energy, a traveling film, and a shutter operable in timed relationship with the traveling film to control intermittent irradiation of said traveling film to project successive individual frames on said film successively, the recorder having a frequency-responsive driving motor operable at a speed corresponding to the frequency of the input thereto, the improvement which comprises a radiation-responsive element mounted on said projector cooperative with said shutter for generating photo-current, said element being disposed on said projector for receiving intermittent radiations from said source under control of said shutter at a frequency representative of the speed of travel of said film and for periods corresponding to periods of irradiation of the individual film frames and electrical connections between the radiation-responsive element and said motor including amplifying means to apply photo-current generated in said element as an amplified input to the motor.

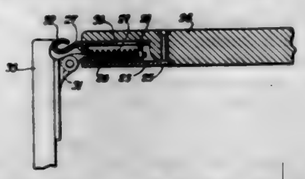
2,976,766

SPECTACLE FRAME HAVING TEMPLES CAPABLE OF ELASTIC DIVARICATION

Antonio Bianchi, Milan, Italy, assignor to F.I.O.C. Fabbrica Italiana Occhiali Cibiana-Bianchi, Genova & C.

Filed Oct. 7, 1957, Ser. No. 688,741
Claims priority, application Italy Oct. 8, 1956
2 Claims. (Cl. 88—41)

1. A spectacle frame comprising, in combination, a frontal member having two lateral end portions, each end portion having a free outer end, two temples, each temple having a forward end portion, an oblong cavity in said forward end portion extending longitudinally of the temple, an oblong hollow element fitted in said cavity and rigidly connected to the temple, an oblong member longitudinally movably inserted in the hollow of each of said hollow elements and having an end protruding therefrom, parts individually connected to the end portions of said frontal member inside of the free ends of said end portions and individually pivotally connected to the ends of said oblong members protruding from said hollow elements, each of said hollow elements having an extension



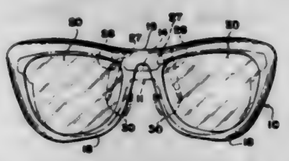
projecting beyond the forward end of the temple into the cavity of which the hollow element is fitted, said extensions being adapted to individually abut against the free outer ends of said lateral end portions of said frontal member, and a spring placed entirely inside each of said hollow elements and having an end engaged by the respective hollow element and having a second end connected to the respective oblong member for urging the latter into said hollow element and said extension against said frontal member to yieldably hold the respective temple at the desired angle with respect to said frontal member.

2,976,767

AUXILIARY SPECTACLES

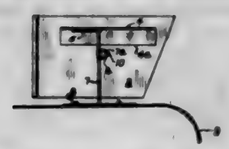
Albert G. McNeill, Maple Glen, Pa., assignor to Bachmann Bros., Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed May 26, 1958, Ser. No. 737,956
2 Claims. (Cl. 88—41)



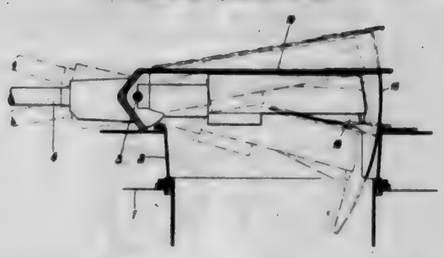
1. Auxiliary spectacles for attachment to primary spectacles, said auxiliary spectacles comprising a frame including a pair of laterally spaced lens loops and a bridge extending between the adjacent upper regions of said loops, said loops and bridge being integrally fabricated solely from soft resiliently yieldable material, said lens loops being normally disposed in rearwardly diverging relationship with said bridge in undistorted condition and being displaceable into substantial coplanarity upon resilient deflection of said bridge, and a pair of laterally spaced hooks on said frame adjacent to opposite ends of said bridge, said hooks being integral with and formed as a single unit with said frame and fabricated of soft resiliently yieldable material, each of said hooks including an upper portion extending rearwardly from said frame and a rearward portion depending from said upper portion spaced rearward from the adjacent loop, each of said rearward portions having a downwardly and rearwardly obliquely extending lower edge, said lower edges terminating at their lower ends spaced rearward beyond the rearwardmost region of said frame in a horizontal plane through said lower ends, for cam engagement of said lower edges over primary spectacles upon flexing and downward movement of said auxiliary spectacles.

2,976,768
MIRROR ASSEMBLY FOR VEHICLE USE
Marcus A. Anderson, 20815 Reimanville, Ferndale, Mich.
Filed Nov. 17, 1958, Ser. No. 774,481
1 Claim. (Cl. 88—87)



A mirror assembly for vehicle use, comprising two mirrors, each having a reflecting front face, such faces converging at an angle approximating ninety degrees, and said mirrors having mutually confronting rear faces, a plate transverse to and rigidly interconnecting said mirrors, a bracket for installation on the forward end portion of a vehicle, a second bracket extending rigidly downward from said plate, means for mounting the second bracket at its lower end on the first bracket to pivot about an axis transverse to the plane bisecting said angle, and means for maintaining selective pivotal positions of the mirrors and second bracket about said axis, said plate occupying a covering relation to said brackets and mounting means.

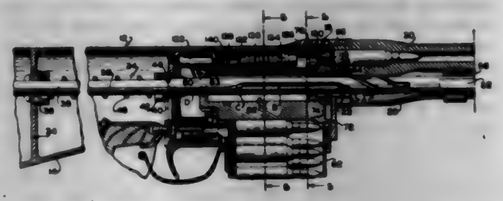
2,976,769
ARMOURED CAR WITH A ROTATABLY ARRANGED GUN TURRET
Franz Horn, Dusseldorf, Germany, assignor to Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed June 3, 1958, Ser. No. 739,509
Claims priority, application Germany June 8, 1957
4 Claims. (Cl. 89—36)



1. An armoured car comprising a rotatable gun turret having an open forward end in which a gun is pivotally mounted on trunnions, a roof for said turret located immediately above a barrel of the gun when the latter is in a horizontally disposed position and having an opening therein, and a shutter for covering said opening in the roof of the turret, said shutter extending the length of the opening of the turret and having a part movable upwardly therewith to screen the rear portion of the gun barrel when the latter is in lowered position and the shutter projects out through the opening in the roof of the turret.

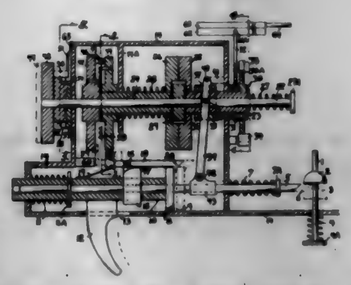
2,976,770
OPERATING MECHANISM FOR A PLURAL BARREL RIFLE WITH A FEEDING ROTOR
David C. Fletcher, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 9, 1956, Ser. No. 621,487
12 Claims. (Cl. 89—126)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A rifle having a receiver with an attached magazine for supplying cartridges thereto, a plurality of barrels with cartridge chambers mounted to said receiver, a rotor rotatably mounted in said receiver and provided with secondary chambers alignable with respective chambers in said barrels for receiving cartridges from said magazine when said rotor is rotated, bolt means slidable in said rotor between a battery and a retracted position for moving the cartridges simultaneously between said secondary chambers and said cartridge chambers, an operating rod movable between a forward and a rearward position in



response to the firing of the rifle, cam means cooperating with said rotor and said operating rod for rotating said rotor to load said secondary chambers and aligning said secondary chambers with their respective cartridge chambers, and lug means on said operating rod engageable with said bolt means for transferring movement of said operating rod to said bolt when said secondary chambers are rotated into alignment with their respective cartridge chambers.

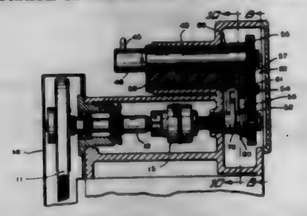
2,976,771
BURST CONTROL FOR AUTOMATIC RIFLES
Chandley W. Lambert, 6325 Mackenzie Road, North Olmsted, Ohio
Filed Mar. 27, 1959, Ser. No. 802,370
3 Claims. (Cl. 89—129)



2. In an automatic rifle, a burst control mechanism comprising a spring actuated sear rod and a spring actuated sear bar; a trigger secured to a sleeve slidable on said sear bar; a disconnectable spring latch connecting said sleeve to said sear bar; a rotatable cam cooperating with said latch; a manually operable hand wheel and attached indicating pointer positionally cooperating with an adjusting wheel and attached lug; said lug cooperating with a second lug attached to said cam; a spring secured to said adjusting wheel and to said cam; a rotatable ratchet wheel connected by a clutch to said rotatable cam; and a clutch operating lever connected to said clutch and to said sear bar, said hand wheel and said adjusting wheel being secured to a central coaxial adjusting shaft.

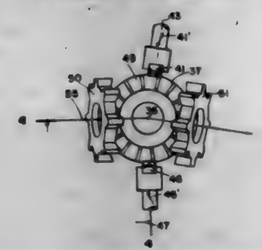
2,976,772
MACHINE TOOL
Jesse H. Straw, Brookville, Ohio, assignor, by mesne assignments, to The Sheffield Corporation, a corporation of Delaware
Filed Dec. 19, 1955, Ser. No. 553,961
12 Claims. (Cl. 90—1.4)

1. An apparatus for chamfering toothed parts, comprising a base, work holding and driving means on said base, a cutter holder, a sleeve rotatably carried in the base, a cutter shaft rotatably mounted eccentrically in said sleeve and supporting said holder, power means including a drive shaft in said base operatively connected to said work driving means first actuating means connected between said drive shaft and said cutter shaft for continuous, full rotation of said cutter shaft in timed relationship



to work drive movement, second actuating means operated by said drive shaft and connected to said sleeve for repeated cyclic back and forth oscillation of said sleeve, restraining means cooperating between said base and said sleeve for restraining said sleeve against oscillation for a first cutter path, and means operative to release said restraining means to render said second actuating means operative to obtain a second cutter path.

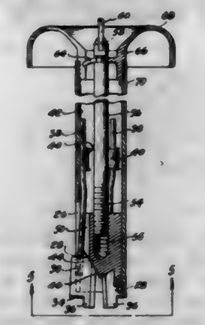
2,976,773
METHOD FOR FORM-CUTTING TEETH ON NON-CYLINDRICAL BLANKS
Ernest Wildhaber, Brighton, N.Y.
(124 Summit Drive, Rochester 20, N.Y.)
Filed Mar. 21, 1956, Ser. No. 573,034
17 Claims. (Cl. 90—10)



1. The method of cutting a tooth side of a member whose teeth extend in a ring-shaped zone of varying diameter, which comprises moving a tool across the face of said member while simultaneously tilting said tool on an axis that is inclined to a plane tangent to the engaged tooth zone at an angle smaller than the angle at which said axis is inclined to the direction perpendicular to said plane, and thereby describing said entire tooth side in a single traverse across the face.

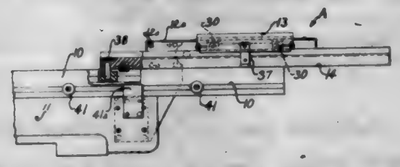
2,976,774
VALVE RESEATING TOOL
Robert F. W. Hess, 3525 Cass Ave., Detroit 1, Mich.
Filed June 16, 1958, Ser. No. 742,282
6 Claims. (Cl. 90—12.5)

1. A valve reseating tool comprising an elongated tubular support having a plurality of circumferentially-spaced longitudinally-directed recesses at the forward end thereof, each recess having opposite longitudinal edges with substantially parallel jaw guide surfaces extending longitudinally therealong, a plurality of cutting jaws movably mounted in said recesses in sliding guiding engagement with said longitudinally-extending jaw guide surfaces, said jaws having outer ends with cutting teeth thereon projecting forwardly from said forward end of said support, elongated longitudinally-extending spring jaw carriers secured to their forward ends to said jaws and at their rearward ends to said support, said spring jaw carriers resiliently urging said jaws laterally toward one another, a cutting jaw expander reciprocably mounted within said support with its forward end engaging the rearward ends of said jaws, the forward end of said expander and the rearward ends of said jaws having thereon inter-



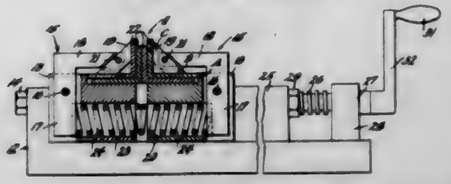
engaging surfaces disposed obliquely to the axis of rotation of said expander and cooperably responsive to the forward motion of said expander during reciprocation thereof for moving said jaws laterally away from one another in guided engagement with said longitudinally extending jaw guide surfaces of said recesses, and mechanism for reciprocating said expander within said support.

2,976,775
REVERSE IMAGE ATTACHMENT
Allen D. Gundersen and Guenter Kuehl, Racine, Wis., assignors to George Gorton Machine Co., Racine, Wis., a corporation of Wisconsin
Filed May 25, 1959, Ser. No. 815,649
1 Claim. (Cl. 90—13.1)



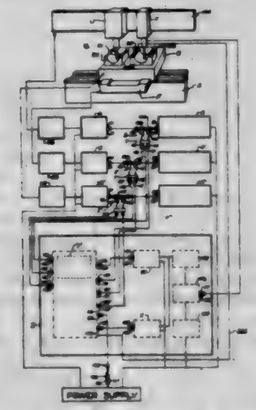
The combination in a duplicating machine having a machine tool table and a saddle, a reverse image assembly, said assembly including an image attachment base and an image table, spaced elongated strips mounted on said image attachment base, permanently fixed rollers and adjustable rollers one of said strips fixed in position and held thereon by said permanently fixed rollers, the other strip adjustable through said adjustable rollers, spaced rollers mounted on the undersurface of said image table and adaptable to roll on said strips, said adjustable strip providing a base for said spaced rollers to travel in a straight path, means to temporarily lock said image table to said image attachment base and means to lock said image attachment base to said machine tool table, a timing bracket, said bracket secured to said saddle, spaced pins, said pins mounted in said bracket, timing pulleys, each pulley rotatably mounted on one of said pins, an endless belt wound about said pulleys, belt clamps, one of said clamps mounted on said image table, another of said clamps mounted on said image attachment base, said machine tool table, image attachment base and said image table moving in the same direction when clamped together with said belt unclamped, said machine tool table and image attachment base moving in one direction and said image table moving in an opposite direction when said belt is clamped to said image attachment base and said image table and said image table is unlocked from said image attachment base.

2,976,776
CLAMPING DEVICES FOR HOLDING WORKPIECES
William R. Ramsey, Burlington, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 25, 1958, Ser. No. 756,919
8 Claims. (Cl. 90—60)



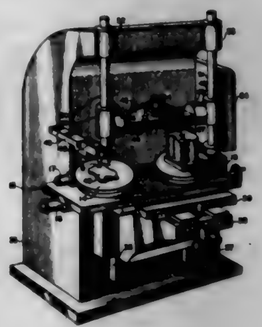
1. A clamp vise which comprises a frame, a fixed jaw block having a vertical surface mounted on the frame, an adjustable jaw block mounted in the frame with a vertical surface parallel with the vertical surface of the fixed jaw block, the adjustable jaw being movable in a path toward and away from the fixed jaw block, means for adjusting the position of the movable jaw block on the frame, a tiltable lever pivotally connected to each block, a swingable work contacting member having an inner face and a lower face pivotally connected to each lever, the work contacting members being attached to the levers such that the lower faces of the member are vertically spaced above the blocks and the member inner faces lie in a vertical plane which includes the longitudinal centerline of the clamp vise, each block having formed therein a spring bore extending through the vertical surface of the block and in communication with the lever, and a compression spring engaged within the spring bore engaging the lever to tilt the lever and the work engaging member attached to the lever, the opposed blocks when adjusted toward each other forcing the spring portions extending through the vertical surface of the blocks together in a manner to compress each spring to urge its associated lever outwardly.

2,976,777
PATTERN FOR TRACER CONTROLLED MACHINE TOOL
Hallis N. Stephan, Cleveland Heights, Ohio, assignor to The New Britain Machine Company, Cleveland, Ohio, a corporation of Ohio
Original application Jan. 19, 1949, Ser. No. 71,624, now Patent No. 2,718,819, dated Sept. 27, 1955. Divided and this application July 1, 1955, Ser. No. 519,465
1 Claim. (Cl. 90—62)



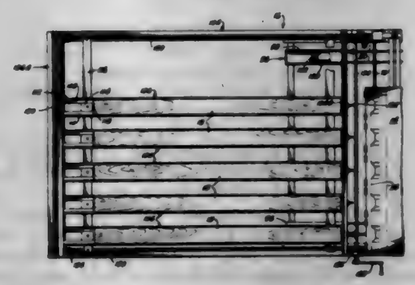
A pattern for use with a pattern controlled machine tool having tool and work support means relatively movable in three directions at right angles to one another and means for operatively connecting a tracer with one of said means and a pattern with the other of said means, said pattern comprising a non-planar surface to be traced by the tracer surrounded at least in part by a second surface, one of said surfaces being an electrical insulator and the other an electrical conductor.

2,976,778
FEELER CONTROLS
Wolfgang Karl Schmid, Gagny, France
(% Anna Pasolat, Kirchweg 78, Kassel, Germany)
Continuation of application Ser. No. 396,045, Dec. 3, 1953. This application Sept. 24, 1959, Ser. No. 842,836
5 Claims. (Cl. 90—62)



1. A mechanism for precision control of the movements of a tool performing a predetermined operation on a workpiece in accordance with the scanning of a template, comprising a main feeler element for scanning the contour of said template, an auxiliary feeler in registry with said main feeler element and rotatable about the axis of said main feeler, a tool, adjusting means in registry with said auxiliary feeler and said tool, said adjusting means being responsive to the movements of said auxiliary feeler relative to said main feeler to automatically adjust said tool to assume an orthogonal position with respect to the surface of a workpiece.

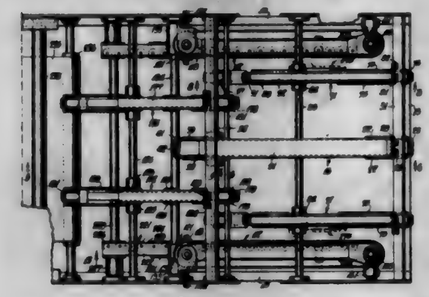
2,976,779
PALLET MAKING MACHINE AND PROCESS
Joseph Portola Hamilton, Oakland, and George C. Burkhardt, South San Francisco, Calif., assignors to Charles Dreifus, Jr.
Filed Dec. 3, 1956, Ser. No. 625,976
5 Claims. (Cl. 93—1)



1. An apparatus for assembling pellets from pre-cut blanks of foldable sheet material having transversely aligned openings formed therein and elongated stringers proportioned for engagement through such openings com-

prising, frame means, a plurality of forming devices mounted in parallel spaced rows on said frame means, each of said forming devices including opposed members movable between an open position for receiving a blank and a closed position forming and retaining such blank in folded condition, a plurality of guideways mounted on said frame means in parallel spaced relation perpendicular to said rows of forming devices, said guideways being formed for supporting a plurality of stacks of stringers in alignment, with the openings in said blanks, a pusher member positioned adjacent to said guideways and having a portion projecting into the latter for engaging and advancing one of the stringers in a stack endforemost along said guideway and through said openings in said blanks when the latter are in said folded condition.

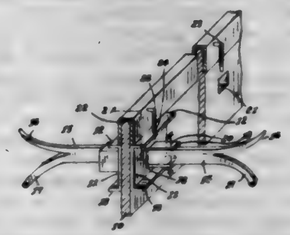
2,976,780
FOLDING BOX SQUARING MACHINE
John P. Lopez, Westfield, and Alfred C. Monaghan, Union, N.J., assignors to Universal Corrugated Box Machinery Corporation, Linden, N.J., a corporation of New York
Filed Nov. 7, 1956, Ser. No. 620,841
18 Claims. (Cl. 93—36)



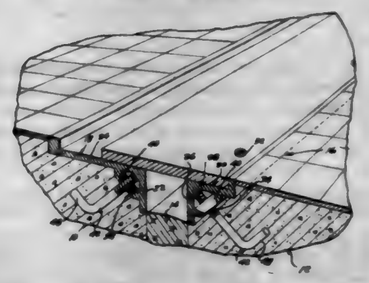
11. Equipment for squaring flap cut folded box blanks having narrow and wide side flaps, comprising a channel having a pair of side walls and an inlet and outlet end, a conveyor to advance such box blank longitudinally through said channel from said inlet through said outlet, said outlet end of said channel being of predetermined width substantially equal to that of such box blank, whereby the walls of said channel, at least at the outlet end thereof, will engage the side edges of said box blank to square the latter, a deflector member associated with each of said side walls and spaced inwardly therefrom, said deflector member having a vertical portion adapted to be engaged by the wider flaps of the moving box blanks to deflect said flaps downwardly and a horizontal portion adapted to be engaged by the side edges of the narrower flaps to urge the latter inwardly in substantially a horizontal plane.

2,976,781
CONCRETE EXPANSION JOINTS
John Nicholas Heltzel, deceased, late of Warren, Ohio, by Union Savings and Trust Co. and Carl J. Heltzel, co-executors, both of Warren, Ohio
Application July 23, 1948, Ser. No. 40,328, now Patent No. 2,788,149, dated Feb. 5, 1957, which is a division of application Ser. No. 553,857, Sept. 7, 1944, now Patent No. 2,452,462, dated Oct. 26, 1948. Divided and this application Dec. 17, 1956, Ser. No. 628,898
2 Claims. (Cl. 94—18)

1. In an expansion joint structure comprising plates adapted to be embedded in opposed slab faces, a parting strip between the plates and adapted to have its upper edge lying in a plane adjacent the planes of the top surfaces of the slabs to be poured, a functionally integral dowel and socket provided by each plate, the socket of each plate slidably receiving the dowel of the other plate, rearward extensions provided by each dowel at the slab side of the related plates and having subgrade engaging portions spaced from the latter, said subgrade-engaging dowel portions supporting said plates to dispose the top portions of the latter below but adjacent the plane of the top edge of said parting strip, a lateral projection functionally integral with the slab side of each plate adjacent the top edge thereof and having an upwardly opening aperture, a removable inverted U-form member seated on the upper edge of the parting strip and engaging opposite side portions of the latter, and depending rigidly carried outwardly offset pin means provided by said member at each side and engaging in said plate projection-provided apertures for holding the parting strip and adjacent plates against outward separation during the pouring of the slabs, said member being removable for re-use after slab-pouring and while the concrete is soft.



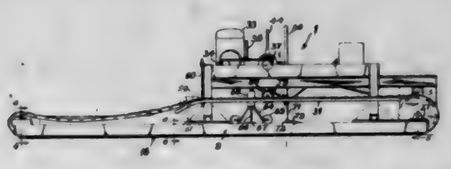
2,976,782
FLOOR EXPANSION JOINT
Wenzel W. Thom, 1033 N. Terrace Drive, Wichita, Kans., assignor of one-half to Cecil D. Jones, Wichita, Kans.
Filed July 26, 1957, Ser. No. 674,427
1 Claim. (Cl. 94—18)



An expansion joint for location between adjacent structural sections comprising a pair of separated angle members each having first and second flanges provided with opposed, outer and inner faces, the first flanges of said angle members being disposed in spaced, substantially parallel relationship and said second flanges thereof being directed away from each other, a tread plate positioned on the outer faces of said first flanges, secured to at least one of said first flanges, engaging the other of said first flanges and bridging the space therebetween, and means for anchoring each of said angle members to respective structural sections, said means including an elongated rib integral with and extending outwardly from each of said inner faces of said first and second flanges of each angle member, said ribs extending substantially the full length of respective first and second flanges of the angle members and disposed with the outer margins thereof on corresponding angle members in substantially uniformly spaced relationship throughout the lengths thereof, the inner opposed surfaces of said ribs on respective angle members converging as said outer margins thereof are ap-

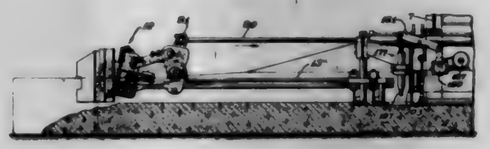
proached and configured to present a slideway therebetween of uniform configuration throughout the length of corresponding angle members, a securing element slidable in each of said slideways, each of said securing elements having a pair of angularly disposed faces complementally engaging corresponding inner surfaces of proximal ribs and each provided with a threaded bore therein in alignment with respective spaces between said margins of corresponding ribs, and an anchoring component for each of said securing elements, each of said anchoring components being provided with a threaded portion and an elongated anchor portion adapted to be embedded in a respective, structural section, said threaded portion of each of the components being removably threaded into the bore of a respective securing element with the inner extremity of each of the components engaging the corner between said first and second flanges of corresponding angle members with sufficient pressure to force a respective securing element into frictional engagement with said inner surfaces of corresponding proximal ribs and thereby precluding shifting movement of the securing elements relative to respective angle members until said inner extremities of corresponding components are shifted out of frictional engagement with respective corners of said first and second flanges of the angle members.

2,976,783
SLIP-FORM PAVING MACHINE
Glen E. Perkins, 1428 40th Ave., and George W. Dale, 1919 16th St., both of Rock Island, Ill.
Filed Oct. 14, 1954, Ser. No. 462,309
1 Claim. (Cl. 94—44)



A concrete road making machine comprising, in combination, a main unit including a rigid frame comprising generally transverse frame members and elongate longitudinally extending members rigidly secured to the opposite sides of said transverse members and extending forwardly and rearwardly therefrom, said longitudinally extending members including inner vertical faces serving as slip forms and defining opposite lateral sides of a concrete road to be formed, an endless articulated track mounted for movement on each longitudinal frame member in surrounding relation thereto, each of said tracks having upper and lower passes of substantially the same length as said longitudinal frame members, said longitudinal frame members resting on the lower passes of said tracks throughout their lengths with the inner slip form faces thereof extending downwardly to a point substantially in alignment with the ground engaging surfaces of said tracks, means mounted on said main unit frame for moving said tracks to propel said machine forwardly, the forward extension of said longitudinally extending frame members being of sufficient length whereby said longitudinal frame members adjacent their forward ends laterally define an area in which concrete may be initially deposited, a plurality of concrete working instrumentalities each mounted at least in part on said frame and extending transversely of said longitudinal frame members substantially at right angles thereto, said instrumentalities including a strike-off blade disposed rearwardly of the forward end portions of said longitudinal frame members, adjustable support means adjustably mounting said strike-off blade on said frame for vertical adjustment relative thereto, said strike-off blade comprising the forwardmost one of said instrumentalities for spreading deposited concrete uniformly between the forward end portions of said longitudinal frame members and for pushing forwardly thereof any excess concrete, means for adjusting said strike-off blade for crown, said instrumentalities also including a concrete vibrator unit spaced rearwardly from said strike-off blade and comprising the secondmost forward concrete working instrumentality, and surface finishing means spaced rearwardly from said vibrator unit, said vibrator unit extending between the lateral extremities of said longitudinal frame members and supported by said main unit and at least one trail form unit connected to the rearward end of said main unit, each trail form unit comprising a pair of auxiliary slip forms connected at their forward ends to the rearward ends of the preceding unit and disposed respectively with the inner faces thereof in substantial alignment with the inner slip form faces of said longitudinal frame members and forming respective continuations thereof, and a rigid cross beam disposed above and extending transversely between and secured at its opposite ends to the rearward ends of said auxiliary slip forms.

2,976,784
ROAD MAKING MACHINE
Glen E. Perkins, 1428 40th Ave., and George W. Dale, 1919 16th St., both of Rock Island, Ill.
Filed Oct. 22, 1957, Ser. No. 691,729
6 Claims. (Cl. 94—45)



4. A road machine for movement along a road site upon which road material is to be spread comprising, in combination, a machine frame, longitudinally extending rails mounted on the forward portion of said machine frame and extending forwardly thereof, a strike-off frame translatably reciprocatingly movable along the length of said rails, a strike-off mechanism pivotally mounted on a transverse axis upon said strike-off frame, stop means mounted on said strike-off frame in the path of pivotal movement of said strike-off mechanism for limiting pivotal movement of said strike-off mechanism forwardly and rearwardly relative to said strike-off frame, and longitudinally reciprocable drive means mounted on said machine frame and operatively connected to said strike-off mechanism in spaced relation to said transverse axis for sequentially forwardly rocking said strike-off mechanism to its forward limited position upon said strike-off frame and translatably moving said strike-off frame forwardly upon said rails, and rearwardly rocking said strike-off mechanism to its rearward limited position upon said strike-off frame and translatably moving said strike-off frame rearwardly upon said rails.

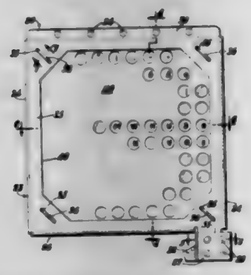
2,976,785
ITALIC-FORMING ANAMORPHOTIC DEVICE FOR USE IN PHOTO-COMPOSITION
Raymond Boutflih and Charles Savigny, Paris, France, assignors to Société Anonyme dite: Ateliers Barlquand & Marre, Arcueil (Seine), France
Filed Sept. 18, 1956, Ser. No. 610,448
Claims priority, application France Sept. 23, 1955
1 Claim. (Cl. 95—4.5)

An optical anamorphotic device for use in photocomposition, which is adatped to transform roman-style characters into italic-style characters without altering either the line length or the heights of these characters, said device comprising at least two cross-cylindrical lenses each provided with two cylindrical surfaces, the one concave and the other convex, having their generatrices disposed at right angles, said two cross-cylindrical lenses being disposed one after another so that the generatrices of the concave surface of the first cross-cylindrical lens are parallel to the generatrices of the convex surface of the other cross-cylindrical lens and, conversely, that the generatrices of the convex surface of the first cross-cylindrical lens are parallel to the generatrices of the concave surface of the other cross-cylindrical lens, the generatrices of the cross-cylindrical lens assembly being set



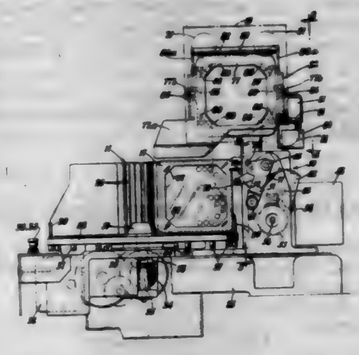
at an angle approximating 45 degrees with respect to the direction of the line to be anamorphosized, said lenses being adapted to provide a magnification greater than 1 in one direction and inferior to 1 in a direction at right angles to said one direction and the optical characteristics of said lenses being such that the images of the vertical lines and those of the horizontal lines are formed on a same plane which is at the same time the plane in which the non-anamorphosized images are formed when the anamorphotic device is retracted from the photographic field, and a prism adapted to cause a rotation of the anamorphosized image in order to re-align the horizontals of the anamorphosized characters with those of the non-modified characters.

2,976,786
CHARACTER FONT PLATE UNIT FOR PHOTO-TYPOGRAPHICAL MACHINES
Wolfgang O. Grube, Leonia, and Richard K. Walker, Convent, N.J., assignors to Mergenthaler Linotype Company, a corporation of New York
Filed Nov. 23, 1956, Ser. No. 624,135
3 Claims. (Cl. 95—4.5)



1. As an article of manufacture, a character font plate unit for use in a photocomposing machine, said unit comprising a rigid glass plate having a plurality of light transmitting character images thereon against an opaque background, a single rectangular mounting frame in which the glass plate is immovably secured and having an opening which exposes all of the character images, said frame having a top horizontal reference edge for contact with a positioning element in the photocomposing machine, a tab depending from the lower edge of the frame at one corner thereof, a hook-shaped lug attached to said tab and presenting a vertical reference edge beyond the adjacent edge of the frame to contact with another positioning element in the photocomposing machine, and four needle bearing spacer elements disposed in diagonal slots cut through the front wall of the mounting frame at the four corners thereof and projecting beyond both the front and rear faces of said front wall, said needle bearing spacer elements being contacted by the front face of the glass plate and arranged for contact with still another positioning element in the photocomposing machine.

2,976,787
FONT PLATE MAGAZINE FOR PHOTO-TYPOGRAPHICAL MACHINE
Daniel H. Robbins, Bronxville, N.Y., assignor to Mergenthaler Linotype Company, a corporation of New York
Filed Dec. 3, 1958, Ser. No. 778,003
20 Claims. (Cl. 95—4.5)



1. A font plate magazine for a photocomposing machine comprising a movably mounted storage member which accommodates a plurality of font plates, means for moving said storage member to bring any selected one of the font plates into an index position, means for arresting the storage member in said index position, and means for transferring the selected font plate from the storage member to its photographic position in the machine and for subsequently restoring it to its place in the storage member, characterized in that said storage member comprises a rotatable turret provided with a plurality of font plate storage slots.

2,976,788
PHOTOGRAPHIC INTRA-LENS SHUTTER WITH COUPLED EXPOSURE METER
Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Sept. 26, 1956, Ser. No. 612,190
Claims priority, application Germany Oct. 15, 1955
3 Claims. (Cl. 95—10)



1. In a photographic camera, in combination, an intra-lens shutter structure; a shutter housing for said struc-

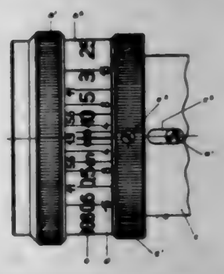
ture; an adjustable setting ring concentric with and rotatable relative to said housing, said ring being turnable to alter an exposure factor; a light-responsive exposure indicator carried by the camera, having a movable and adjustable tracing member and a movable indicator member separate from said tracing member and cooperable therewith, said exposure indicator including scale means associated with the indicator member and tracing member and calibrated in values of another exposure factor; a turnable cam ring in said shutter housing; means disposed partially within said housing, coupling the cam ring to said tracing member of the exposure indicator to operate the tracing member; another setting ring rotatable with respect to the said housing, for altering said other exposure factor, said other setting ring being independent of the tracing member and of the first-mentioned setting ring; and adjustable, releasable coupling means including a member disposed exteriorly of said housing, connecting said cam ring and first-mentioned setting ring for simultaneous turning movement, said coupling means providing for coupling of the said rings in different relative positions to take into account still another exposure factor.

2,976,789
CAMERAS HAVING A PHOTOMETER WITH A PHOTOELECTRIC CELL
Michel Zimmer, Yverdon, Switzerland, assignor to Paillard S.A., Sainte-Croix, Switzerland, a corporation of Switzerland
Filed May 19, 1959, Ser. No. 814,263
Claims priority, application Switzerland June 11, 1958
3 Claims. (Cl. 95—10)



1. A camera having an objective, said camera comprising a photometer and including a photoelectric cell carried by a movable support arm from a retracted position to a measuring position in the luminous beam behind the objective, spring means normally urging said photoelectric cell into its retracted position, a release device for said camera, a slide in mechanical connection with said release device, a locking lever controlled by said release device having its one extremity hinged to said slide and its other free end bearing on a stationary stop pin, said lever having a nose adapted to hold back a projection on said support arm to retain said cell in the measuring position and for releasing said cell when said release device is operated to set said camera in operation, an inclined stop surface on said locking lever adjacent said nose whereby movement of said photoelectric cell from its measuring position to an extreme advanced position past said objective causes said projection to ride upon said inclined surface to depress the nose of said lever away from the trajectory of said support arm projection, and retaining means to hold said lever in this depressed position in order to permit of the return of said support arm to its retracted position.

2,976,790
PHOTOGRAPHIC OR CINEMATOGRAPHIC LENS MOUNT
Waldemar Ewald, Kreuznach, Rhineland, Germany, assignor to Jos. Schneider & Co., Optische Werke, Kreuznach, Rhineland, Germany, a corporation of Germany
Filed May 8, 1958, Ser. No. 733,957
Claims priority, application Germany May 29, 1957
4 Claims. (Cl. 95—45)



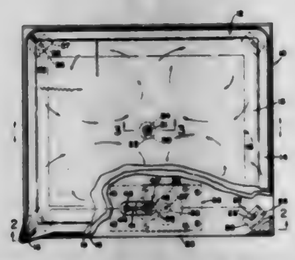
1. A lens mount for an optical objective, comprising a lens barrel, a tubular element non-rotatably connected with said barrel, a focusing ring rotatably connected with said barrel in a fixed axial position relative to said element, and a light-transmissive member secured to said ring for rotation therewith, said member overlying at least part of an annular zone of said element and bearing a first set of angularly spaced markings, said annular zone bearing a second set of angularly spaced markings registering with said first set of markings, the markings of one set constituting a distance scale, the markings of the other set constituting a scale of relative apertures duplicated on opposite sides of a reference point and co-operating with said distance scale in indicating depth of field between like markings of said other set.

2,976,791
MULTIPLE CAMERA SUPPORT
Leo D. Larson, 27 Hattie St., San Francisco, Calif.
Filed Oct. 13, 1958, Ser. No. 766,776
1 Claim. (Cl. 95—86)



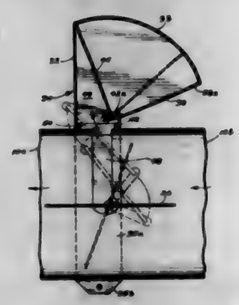
A support for a pair of cameras comprising: a substantially horizontally disposed plate having a pair of adjoining side edges defining a corner portion and having a medial portion extending away from said corner portion, a vertical post secured at its lower end to said corner portion and having means at its upper end coaxial therewith for releasably securing a camera on and over the upper end of said post, a plurality of openings formed in said medial portion disposed along a straight line offset to one side of said post and progressively spaced at greater distances from said post for respectively receiving therethrough the conventional screw on a tripod head for securing different sized cameras thereto and against the upper side of said medial portion and directly over such tripod head in a position with the lateral, forward and rear sides of such camera free from interference by said post and by a camera on said post, means for rotatably securing said post to said plate whereby said post and a camera on its upper end may be rotated to different positions about the axis of said post free from interference with a camera secured on said medial portion.

2,976,792
PHOTOGRAPHIC DEVELOPING TABLE
William L. Chambers, 461 S. Sycamore St., Ravenna, Ohio
Filed Mar. 7, 1958, Ser. No. 719,828
7 Claims. (Cl. 95—99)



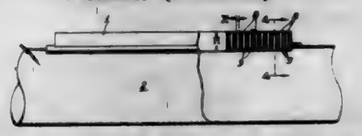
1. Apparatus for treating a sheet of photographic paper immersed in a chemical solution comprising, a rectangular container for said solution, a rectangular table having a top surface for supporting said container, a support underlying said table having means rotatably supporting said table at its center, bearing means between said table and said support at each corner of said table, each said bearing means being movable substantially arcuately of said means rotatably supporting said table, and means mounted on said support for imparting pivotally oscillating movement to said table.

2,976,793
AIR PRESSURE REGULATOR FOR AIR CONVEYING CONDUITS
Arthur D. Cole, % Cole-Sewall Engineering Co., 2288 University Ave., St. Paul 14, Minn.
Filed Jan. 16, 1958, Ser. No. 709,241
1 Claim. (Cl. 98—33)



An air supply system having in combination, a conduit for the passage of air therethrough, an inlet at one end of said conduit communicating with a source of air under pressure, an outlet at the other end of said conduit, a damper in said conduit normally in opened position, a plurality of registers, conduits respectively connecting said registers with said outlet for communication therebetween, a vane housing having an upstanding rear wall of some height, an upstanding front wall of substantially lesser height and depending side strap-like portions adapted to be disposed about said conduit for the removable mounting of said vane housing on said conduit substantially in vertical alinement with said damper, sector-shaped side portions forming sides for said front and rear walls of said vane housing and extending forwardly of the same, said side portions, having an open front, said conduit having an opening adjacent the side of said damper facing the outlet end of said conduit for direct and constant communication of air from the outlet end of said conduit with said vane housing, a vane in said vane housing, linkage connecting said vane and said damper and a balance means connected to said vane to stabilize the position of said vane in relation to a given magnitude of back pressure directly from said registers whereby said damper will be moved by said vane toward a given correspondingly closed position to permit the passage of an amount of air that will maintain the pressure at the registers constant and the resultant back pressure against said vane in said housing at a value to stabilize the new partially closed position of said vane.

2,976,794
HIGH-VELOCITY PRIMARY AIR NOZZLE
Claes Allander, Sodra Angby, and Birger Lärkfeldt, Jonkoping, Sweden, assignors to Aktiebolaget Svenska Flaktfabriken, Kungsgatan, Stockholm, Sweden
Filed Apr. 25, 1958, Ser. No. 731,045
Claims priority, application Sweden Apr. 30, 1957
3 Claims. (Cl. 98—38)

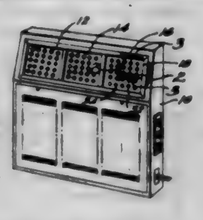


1. In an air conditioning room unit having a conduit for the supply of high-velocity primary air, means to admit secondary room air into said unit, and means to exhaust a mixture of primary and secondary air from said unit; an elongated nozzle element within said unit comprising a generally rectangular hollow frame connected at its inner end to the conduit and having a substantially plane outer surface, and a plurality of spaced parallel narrow partitions disposed transversely of said frame across its full width and coextensive in depth with said frame, said partitions defining a plurality of transverse spaced parallel narrow flow passages connected at their inner ends to said conduit, extending through said frame with uniform cross section throughout and terminating at their outer end in a like number of spaced parallel outlet openings creating a like number of flat streams of primary air flowing into said unit, said partitions creating cavities of sub-atmospheric pressure between said streams into which the secondary air is drawn and mixed with said primary air, the partitions being spaced apart relative to the width of said hollow frame to produce in said passages a hydraulic diameter considerably less than the depth of the frame, and when multiplied by the velocity of the primary air flowing therethrough and divided by the kinetic viscosity of the air producing a Reynold's number below 2,000, whereby the flow through said passage is laminar without reducing the velocity of primary and thereby the quantity of secondary air drawn into and mixed with said primary air in said unit.

2,976,795
AIR OUTLET GRILLE
Richard L. Bruglet, Trotwood, Ohio, assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Feb. 11, 1959, Ser. No. 792,578
5 Claims. (Cl. 98—40)

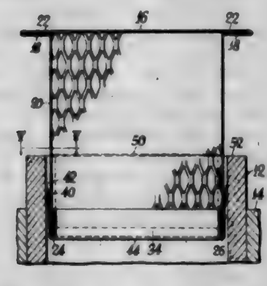
1. An air outlet grille comprising front and rear plates and a supporting structure retaining said plates in nested

relation with the front plate positioned in parallel relationship relative to the rear plate and with said plates having adjacent surfaces, said supporting structure including means accommodating sliding movement of one plate relative to the other, said plates having cooperating apertures therein each of which has all of its sides converging to define a tapered aperture adapted to accommodate the discharge of air therethrough, said supporting structure further including means limiting relative sliding move-



ment of said plates within limits such that at least a portion of each aperture of one plate is in registry with its cooperating aperture in the other plate in all relative positions of said plates, the apertures of said rear plate each having a cross section at its said adjacent surface that is smaller than the cross section of the corresponding aperture in said front plate at its adjacent surface so that substantial relative movement of said plates within the above mentioned limits is accommodated.

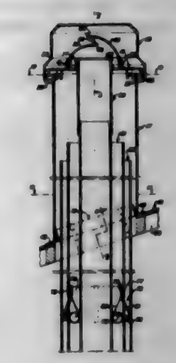
2,976,796
CHIMNEY CAP
Albert W. Anthony, 53 Fernhill Ave., Buffalo, N.Y., and John G. Miller, 1007 Quaker Road, East Aurora, N.Y.
Filed Feb. 16, 1959, Ser. No. 793,327
6 Claims. (Cl. 98—67)



1. The combination with a chimney flue, of a chimney cap comprising a rectangular box-like structure comprising a top, four perforated side walls connected thereto, a separate rigid rectangular rim structure on the lower edge of said side wall for insertion into said flue, and attachment means mounted on said rim structure and comprising an upwardly and outwardly extending locking flange secured at the lower edge thereof to the lower edge of said rim structure and adapted to act as a stiffly resilient barb-like hook part for engaging the interior wall of said chimney flue for preventing movement of said cap outwardly therefrom, and said cap comprising stop means adapted to bear on the top of the chimney for preventing movement of said cap inwardly thereof.

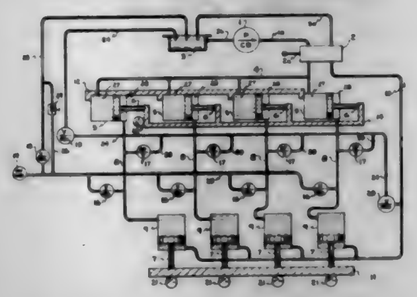
2,976,797
CHIMNEY CONSTRUCTION
William S. Newbill, 2227 County St., Portsmouth, Va.
Filed Sept. 22, 1958, Ser. No. 762,448
14 Claims. (Cl. 98—84)

1. In a chimney construction, a vertically extending outer casing adapted to enclose an opening in a roof, said casing terminating at its upper end in a peripheral margin disposed in a horizontal plane, an imperforate rain shield having a horizontally disposed peripheral margin, means to support the rain shield to position the peripheral margin of the rain shield spaced above the peripheral margin of the casing to provide a peripheral opening therebetween adjacent the upper end of the casing, said rain shield having an opening to provide a substantially air tight connection with a flue means extending vertically



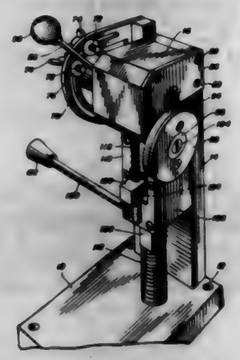
upward through the interior of the outer casing and terminating at its upper end above the rain shield, a top enclosure open at the top and bottom adapted to surround the flue outlet and having a lower horizontally extending peripheral margin of a greater dimension than that of the rain shield, and means to support said top enclosure to position said lower margin of the top enclosure spaced peripherally outwardly of the margin of the rain shield.

2,976,798
LEVEL OPERATING MULTIPLE RAM PRESS
Arnold Christianson, 6630 Forest Ave., Hammond, Ind.
Filed Mar. 9, 1959, Ser. No. 798,122
7 Claims. (Cl. 100—258)



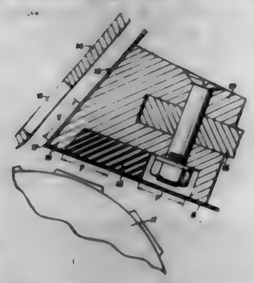
1. In a hydraulic press having a movable platen and a plurality of rams symmetrically disposed about the center of the platen and to which pressure fluid is applied for causing the platen to move, a pump, a like number of axially aligned cylinder-piston assemblies, means for applying pressure fluid from said pump to each aligned cylinder at one side of the pistons therein, means causing the pistons in said cylinders to move as a unit, means for applying the discharge pressure fluid from the opposite side of the pistons of each cylinder to a single corresponding ram to cause said platen to move, the discharge pressure fluid from said cylinders being controlled as to volume and rate of flow by the related movement of said pistons.

2,976,799
IMPRINTING MACHINE
Abraham G. Seger, Chicago, Ill., assignor to Paramount Wedding Ring Co. Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 9, 1957, Ser. No. 682,685
17 Claims. (Cl. 101—6)



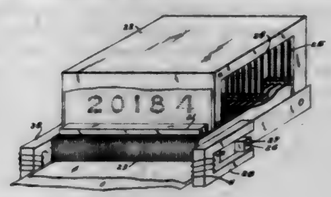
1. An imprinting machine comprising a support, a die member rotatably mounted in the support and projecting at one side thereof, a pressure head movable in the support toward and from the die member, resilient means tending to press the head toward the die member and to confine a part to be imprinted between the pressure head and with one side in contact with the die member, the die member imprinting only the surface in contact with the part by rotation of the die member, a resistant yielding backing carried by the head to protect a decorated surface in contact therewith, and operable means for opposing said resilient means to withdraw the head from engaging the part and releasing it from the die member.

2,976,800
PRINTING MECHANISMS
Henry Gross and Samuel Gross, both of Gross Business Machines Ltd., N. Circular Road, London, England
Filed Feb. 19, 1958, Ser. No. 716,150
Claims priority, application Great Britain Mar. 12, 1957
6 Claims. (Cl. 101—93)



1. In an adding machine, in combination, a casing, a window in said casing, item printing mechanism within said casing comprising a relatively movable platen and type elements, the platen having a resilient printing surface cooperating with the type elements during each operational cycle of the machine, means to feed a detail strip unidirectionally and in stepwise manner over said resilient surface to enable the items set up on the type elements to be successively printed on said strip, said platen having an angular portion providing a corner about which the strip is guided in direct engagement therewith from the resilient printing surface to a position at which the item printed on said strip during any said operational cycle of the machine is located in a viewing position opposite the said window before commencement of the next following operational cycle of the machine, one surface of said angular portion extending from said resilient printing surface and the other surface of said angular portion extending past said window located in the viewing position thereof, said resilient printing surface being spaced from said item-viewing position by a distance not substantially greater than two and one-half times the length of the characters on the type elements.

2,976,801
PRINTING AND OTHER REPRESENTATION OF CHARACTERS
Gerhard Dirks, Moerfelder Landstrasse 44, Frankfurt am Main, Germany
Continuation of application Ser. No. 432,297, May 25, 1954, which is a continuation-in-part of application Ser. No. 101,032, June 24, 1949. This application May 21, 1959, Ser. No. 814,874
Claims priority, application Germany Oct. 1, 1948
11 Claims. (Cl. 101—93)



1. A printing apparatus comprising, in combination, a series of printing levers arranged side by side and having printing surfaces at one end; operating means acting on an intermediate part of each of said levers for imparting a reciprocating movement to said printing levers intermediate the ends thereof; first and second magnetic restraining means for selectively restraining the ends of said levers against said reciprocating movement so that the restrained ends of said printing levers respectively constitute fulcrums for pivotal reciprocating movement of said levers under the action of said operating means; and control means adapted to be controlled by signals representing the characters to be printed for counteracting said first restraining means when said second restraining means is to be effective.

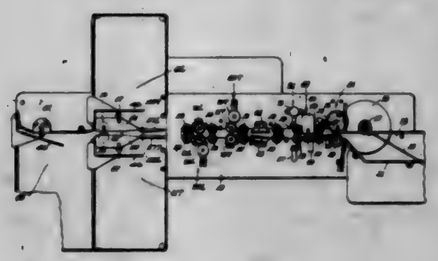
2,976,802
RECORD SHEET AND STENCIL ASSEMBLY
Jack H. Mason, Princess Anne, Va., assignor to The Multistamp Company, Norfolk, Va., a partnership
Filed Mar. 26, 1958, Ser. No. 724,155
1 Claim. (Cl. 101—128.1)



A manifold record sheet pack comprising a plurality of relatively thin record sheets joined together along one

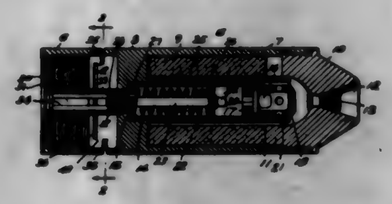
edge of the pack with transfer medium intervening between said record sheets, said record sheets being formed with weakened portions extending parallel to and transversely spaced from said one edge of said pack; a stencil device including a stencil sheet and a relatively thick stencil frame on which said stencil sheet is mounted, said frame having a weakened portion extending between one outer edge of said frame and the adjacent inner edge of said frame to separate said frame into a body portion to which said stencil sheet is marginally connected and a relatively thick attaching strip portion from which said body portion with said stencil sheet attached thereto may easily be detached by severance along said frame weakened portion; and means securing said attaching strip portion, between said frame weakened portion and said outer edge of said frame, to the top record sheet of said pack with said one outer edge of said frame closely adjacent to and parallel to the weakened portion of said top record sheet on the side of said last named weakened portion opposite said one edge of said pack, said relatively thick attaching strip portion being finger graspable together with said record sheets when detaching said stencil frame body portion from said attaching strip portion while leaving said relatively thick attaching strip portion secured to said top record sheet, said attaching strip portion, because of its thickness, enabling said record sheets to be finger held so firmly during detaching of said stencil frame body portion from said top record sheet as to reinforce said top record sheet against being torn, the distribution of finger pressure by said relatively thick stencil frame attaching strip portion preventing such localized squeezing of said record sheets together as would cause record sheet smudging by unintended transferring of said transfer medium.

2,976,803
ARTICLE MARKING AND ORIENTING MACHINE
Frederick Van Marle, The Hague, Netherlands, assignor to N.V. Technische Maatschappij Marchand-Andriessen, The Hague, Netherlands, a limited-liability company of the Netherlands
Filed Jan. 15, 1957, Ser. No. 634,211
3 Claims. (Cl. 101—336)



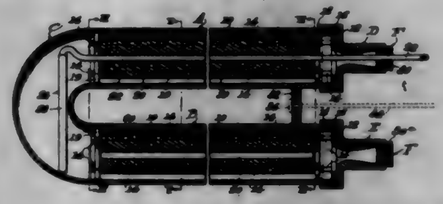
1. A device for working on articles carrying a designator adjacent one end or the other, in accordance with their endwise positioning when presented to the device, which comprises means for feeding articles one at a time along a predetermined path straight through the machine from their presented position; means for detecting the designator and means for detecting a predetermined end of the article in a given sequence depending upon the positioning of the designator with respect to the predetermined end of the article, both of said means being arranged adjacent said path in a predetermined relationship; and means responsive to detection of said designator prior to detection of said predetermined end for working on said article in one manner while advancing straight through said path, and responsive to detection of said predetermined end prior to detection of said designator for working on said article in another manner while advancing straight through said path.

2,976,804
SEPARATION MEANS
Clarence N. Hickman, Jackson Heights, N.Y., assignor to the United States of America as represented by the Secretary of War
Continuation of application Ser. No. 594,241, May 17, 1945. This application Oct. 18, 1945, Ser. No. 623,108
5 Claims. (Cl. 102—49)



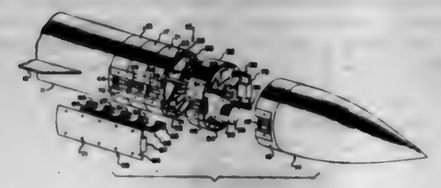
1. Means for securing a rocket type driver to the nose end of a muzzle loaded type mortor shell adapted to be propelled by a propellent charge, said means comprising a sleeve with a plurality of slots provided therein and extending therearound, said slots having a combined length at least 95 percent of the length of the periphery of said sleeve, and said slots separating said sleeve into two sections having integrally interconnecting portions at the ends of said slots by the sleeve material therebetween, said interconnecting portions of said two sleeve sections having a sufficient mechanical strength to withstand the driving force of the rocket type driver but insufficient strength to withstand the set back force delivered by the propellent charge for the motor shell, whereby said integral interconnection fails as the mortar shell attached thereto leaves a mortar barrel so as to permit the rocket type driver to become separated from the mortar shell.

2,976,805
ROCKET CONSTRUCTION
Alfred Africano, Caldwell, N.J., George Daniel Brewer, Redondo Beach, Calif., and Walter J. Harrington, Ithaca, N.Y., assignors to the United States of America as represented by the Secretary of War
Filed Feb. 11, 1947, Ser. No. 727,910
6 Claims. (Cl. 102—49)



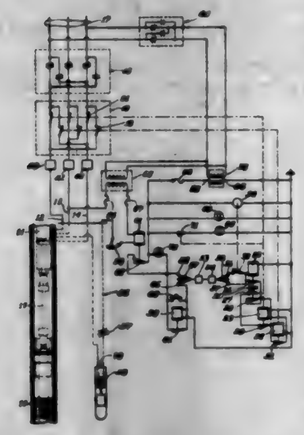
5. A rocket construction comprising, in combination, a plurality of substantially parallel rocket tubes, U-shaped connecting means connecting the rocket tubes, the said rocket tubes being connected with full diameter through the U-shaped connecting means, means for propelling the rocket, a connecting web joining the said rocket tubes rearwardly thereof, and a cable centrally connected to said web, the cable being connected to the web in horizontal and vertical alignment with the center of gravity of the rocket, whereby the cable stabilizes the rocket during flight while obviating any tendency of the rocket to become deflected from its predetermined course.

2,976,806
MISSILE STRUCTURE
Donald L. Rink and Bruce E. Geddes, West Covina, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Mar. 5, 1958, Ser. No. 719,346
9 Claims. (Cl. 102—92.5)



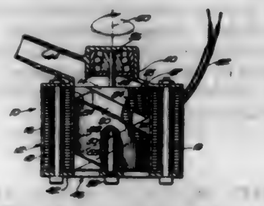
1. In a missile structure, an electronics section including a plurality of modules, each of said modules comprising a substantially circular frame having an outer surface flush with the outer surface of said missile structure, a web connecting opposite interior sides of said circular frame, fillets at the junctions of said web and said circular frame, means for fastening electronic circuit components to said web and said frame, and securing means cooperating with said fillets for mechanically fastening said modules to one another, thereby forming a load bearing portion of said missile structure.

2,976,807
ELECTRIC MOTOR-DRIVEN PUMP INSTALLATION
Robert H. Hill, Fort Wayne, Ind., assignor to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana
Filed Oct. 2, 1956, Ser. No. 613,518
1 Claim. (Cl. 103—11)



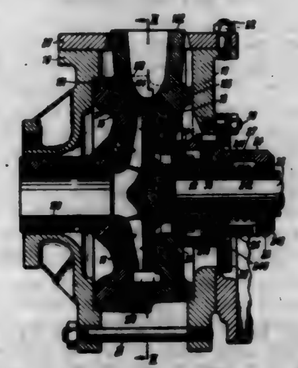
In combination, a well pump of the Moineau type having a movable part and a complementary stationary part and in which said movable part tends to adhere to said stationary part when the pump is idle, a submersible motor connected to said movable part for driving the same, said motor and pump being adapted to be located adjacent the bottom of a well, and means controlling said motor and pump, said controlling means including means for momentarily starting said motor and pump in the reverse direction and immediately thereafter starting and operating said motor and pump in the forward direction each time said motor and pump are started, whereby any fluid above said pump aids said motor in loosening said movable part from said stationary part.

2,976,808
ROTARY THRUST PUMP
Bert W. Whitehurst, North Hampton, N.H., assignor to Hawkridge Metals Corporation, Boston, Mass., a corporation of Massachusetts
Filed June 6, 1958, Ser. No. 740,230
11 Claims. (Cl. 103—87)



1. A pump comprising an outer cylinder unit and an inner impeller unit, said cylinder unit including a first casing and an induction stator core, said first casing being composed of an electrically non-conducting material and presenting an internal fluid conducting periphery, said stator being capable of producing a rotating magentic field within said periphery when energized by an alternating current, said impeller unit including a second casing and an induction rotor core, said second casing being composed of an electrically non-conducting material and presenting an external periphery articulated by a convoluted channel, said external periphery and said internal periphery being contiguous except at portions thereof articulated by said channel, said internal periphery of said cylinder unit and said external periphery of said impeller unit having a common axis, said stator core and said rotor core including laminae disposed in planes that are substantially perpendicular to said axis, said convoluted channel being disposed between said stator core and said rotor core, said laminae of said rotor core providing reentrant boundaries in contiguity with said channel.

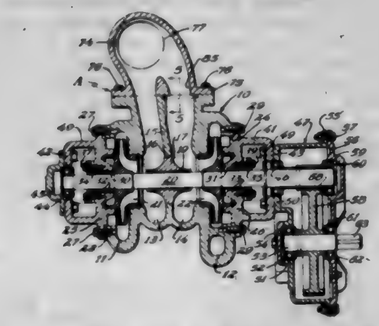
2,976,809
CENTRIFUGAL PUMP AND METHOD OF ITS PRODUCTION
Walther Buschhorn, 11 Buchauerberg, and Walter Hans Deutschmann, 12 Lessingstrasse, both of Pegnitz, Upper Franconia, Germany
Filed Aug. 9, 1955, Ser. No. 527,328
Claims priority, application Germany Aug. 11, 1954
2 Claims. (Cl. 103—103)



1. A centrifugal pump comprising, in combination, a housing, a casing in said housing consisting of synthetic material defining an annular central space, a pressure connection forming a unitary structure with said casing, said pressure connection defining a channel widening

continually along all portions of its circumference to its discharge end and being deflected from a direction being tangential to the annular central space of said casing to a direction extending radially of said annular central space, an impeller arranged rotatably in said casing, a shaft supporting said impeller, an annular projection defined by said casing and arranged concentrically with said shaft, a cylindrical sleeve centered by said annular projection, a collar mounted on said housing supporting leak proof pressure engagement between said cylindrical counter member for said ring in a manner providing for der presented by said cylindrical sleeve and forming the said cyindrical sleeve, a packing ring, and an outer shoulsleeve and said casing.

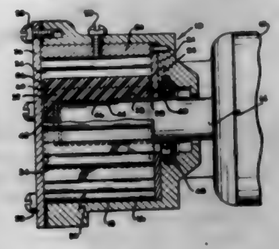
2,976,810
COMPACT SERIES-PARALLEL, TWO STAGE CENTRIFUGAL PUMPS
Louis B. Evans, Hastings, and Richard C. Ewing, St. Paul, Minn., assignors to Waterous Company, St. Paul, Minn., a corporation of Minnesota
Filed Oct. 29, 1958, Ser. No. 770,335
7 Claims. (Cl. 103—106)



1. A centrifugal pump including a pump housing, said housing including a body including a pair of axially spaced impeller chambers and an intermediate partition, said body having intake chambers on opposite sides of said partition inwardly of said impeller chambers, said body having a pair of volutes communicating with said impeller chambers, said body also including a transfer valve chamber in communication with one said volute, and said body having passages extending from said transfer valve chamber to the other said volute and from said transfer valve chamber to the intake chamber of the impeller chamber of said other volute, a shaft extending through said impeller chambers and said partition, means on said body for supporting said shaft, impellers on said shaft in said impeller chambers, a transfer valve in said transfer valve chamber selectively connecting either of said passages to said one volute, a flat upper surface forming the top of said body, said surface having a discharge port therethrough communicating with said other volute, a discharge manifold connected to said surface in communication with said discharge port, said surface having ports therethrough communicating with said intake chambers, and a common intake manifold secured to said surface in communication with said last named ports.

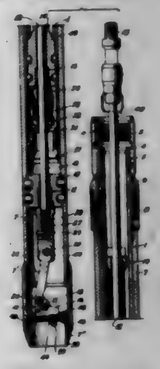
2,976,811
IMPELLER WITH INDEPENDENT ELASTOMERIC BLADES AND SEALING MEANS
Frank H. P. Sully, La Mirada, Calif., assignor to Jabsco Pump Company, Burbank, Calif.
Filed July 28, 1958, Ser. No. 751,310
7 Claims. (Cl. 103—117)

1. In a pump, the combination of: a pump housing providing an impeller chamber having axially spaced end walls; a shaft extending through one of said end walls into said chamber; an impeller in said chamber and including a hub telescoped over said shaft, said impeller further including flexible, elastomeric vanes which are separate from each other and from said hub, said vanes extending generally radially outwardly from said hub and having inner edges in engagement with said hub, the length of said hub being less than the spacing of said end walls of said chamber so that the ends of said hub are out of engagement with said end walls, respectively, when said hub is centered relative to said end walls, the



length of each of said vanes being at least equal to the spacing of said end walls so that the ends thereof are in engagement with said end walls, respectively; means removably connecting said inner edges of said vanes to said hub; two annular seals within said chamber and respectively engaging said end walls, said ends of said hub and said ends of each of said vanes adjacent said inner edge thereof, said seals maintaining said ends of said hub out of engagement with said end walls; and means interconnecting said hub and said shaft for transmitting rotation of said shaft to said hub.

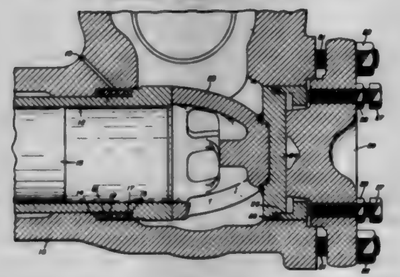
2,976,812
HEAVY OIL FEED PUMP
Friedrich Wilhelm Pleuger, Juthornstrasse 80, and Heinz Göhring, Hamburg-Wandsbek, Germany; said Göhring assignor to said Pleuger
Filed Sept. 9, 1958, Ser. No. 759,927
Claims priority, application Germany Sept. 10, 1957
13 Claims. (Cl. 103—179)



1. In pumping apparatus for an oil well the combination of a riser, a piston rod, a hollow cylinder secured to the riser, a hollow piston slidably mounted on the outer surface of the cylinder, a cross head for the piston rod secured to the inner wall of the hollow piston, said piston rod being mounted to project through and slide with respect to the cross head, an enlargement secured to the piston rod below the cross head, which enlargement is adapted to be moved away from the cross head on the downward stroke of the piston rod and to be returned to engage the cross head on the upward stroke of the piston

rod, whereby the hollow piston is supported by the piston rod, a flap valve pivoted in said hollow piston below said cross head upon a transverse axis at one side of the longitudinal axis of the hollow piston, operating linkage means between the piston rod and the flap valve, said linkage means including a lost motion coupling and said flap valve having an axially movable valve ring, and a seating ring carried by the inner wall of the hollow piston in position to cooperate with said valve ring, the flap valve being adapted to be moved by the linkage means to effect partial closing of the hollow piston and said valve ring being adapted to be moved by the hydrostatic pressure of the oil contained in the hollow piston to seat upon said cooperating seating ring and thereby complete the closure of the hollow piston during upward movement thereof.

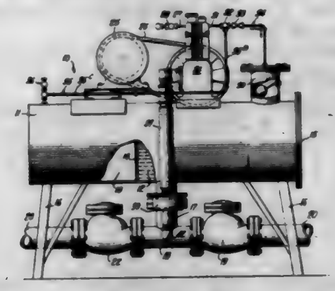
2,976,813
LINER ASSEMBLY
William J. Redman, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 13, 1958, Ser. No. 721,163
1 Claim. (Cl. 103—216)



In a reciprocating mechanism which includes a cylinder, a liner within said cylinder, said cylinder and liner having spaced apart confronting shoulders, packing in the space between said shoulders furnishing a seal between the cylinder bore and liner, a cylinder head closing the end of said cylinder; and additional packing furnishing a seal at the end of said cylinder, the combination therewith of a retainer assembly for said liner comprising a spacer abutting the end of said liner, a disk fixed to the end of said spacer and being closely received in the cylinder bore and abutting the inner face of said cylinder head, a plurality of screw-threaded studs fixed to the end of said cylinder, said cylinder head having an outwardly projecting circumferential flange through which said studs extends, nuts threadedly engaged with the respective studs and adapted to be tightened against said flange for transmitting force directly through said disk, spacer and liner to compress said first named packing independently of said additional packing, said disk having a recess around its outer edge receiving said additional packing, a gland in the end portion of said cylinder bearing against said additional packing and having an inwardly projecting circumferential flange, and a plurality of tightening screws threadedly engaged with said cylinder head and bearing against said last named flange for compressing said additional packing, said tightening screws being situated inwardly of said studs to permit the inclusion of a full complement of studs.

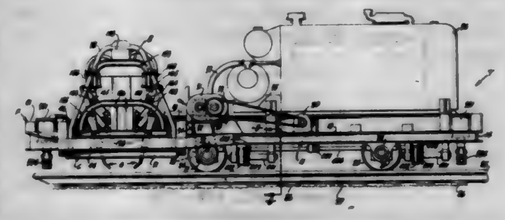
2,976,814
LIQUID PUMPING SYSTEM
James W. Ver Planck, 3509 Palmira St., Tampa 9, Fla., and Robert E. Simon, Tampa, Fla. (4998 Deauville Drive, Orlando, Fla.)
Filed Dec. 24, 1958, Ser. No. 782,975
6 Claims. (Cl. 103—235)

1. A repetitive cycling liquid pumping apparatus for elevating liquids from a lower level body of liquid comprising a liquid receiver, an air receiver, a liquid intake conduit communicating said liquid receiver with the body of liquid, a liquid output conduit for said liquid receiver, an air compressor having a suction intake and a high pressure outlet, means for establishing a liquid intake phase and a liquid expulsion phase of operation comprising a means including a first conduit connecting said suction inlet with said liquid receiver having a first valve therein normally conditioned to apply vacuum to said liquid receiver to elevate liquid from the body of liquid into said liquid receiver and cause the compressor to concurrently compress the air drawn from said liquid receiver in establishing the vacuum therein, means including a second conduit connecting said air receiver with said high pressure outlet for delivering air drawn



from said liquid receiver and compressed by said compressor to said air receiver for storing the same during said liquid intake phase, third conduit means for communicating said air receiver with said liquid receiver in by-passing relation to said compressor, second valve means for closing said third conduit means during said liquid intake phase, means for opening said second valve means during said liquid expulsion phase to apply the stored compressed air from said air receiver to said liquid receiver, means for closing said first valve during said liquid expulsion phase and venting said suction inlet to atmosphere, and means communicating said high pressure outlet direct with said liquid receiver during said liquid expulsion phase to apply compressed air from said air compressor to said liquid receiver.

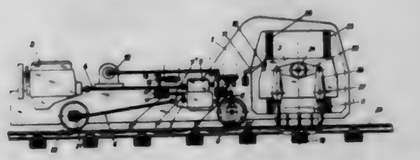
2,976,815
BALLAST TAMPER
Theodore S. Bean, 1537 Graff Ave., Oakland, Calif.
Filed Nov. 18, 1957, Ser. No. 697,105
11 Claims. (Cl. 104—12)



1. A ballast tamper comprising: a truck; a carriage mounted on said truck for transverse movement thereon; a first cylinder mounted on said carriage; a first piston operatively disposed in said first cylinder; a piston rod secured at its lower end to said first piston and extending upwardly through the upper end of said first cylinder; a first elevator frame secured to said first piston rod intermediate its ends; a second piston mounted on the upper end of said piston rod; a second cylinder operatively mounted on the said second piston; a second elevator frame secured to said second cylinder; a first link

pivoted at its inner end to said first elevator frame; a tamping gun pivoted at its upper end to the outer end of said first link; a pneumatic jack pivoted at one end to said second elevator frame and at its other to said first link at a point intermediate the ends thereof; and means operatively connected between said first elevator frame and said tamping gun for constraining the lower end of said tamping gun to move in an arcuate path in response to the operation of said pneumatic jack.

2,976,816
MOBILE RAILWAY BALLAST TAMPING MACHINE
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna I, Austria, and Gerhard Schramm, Frankfurt am Main, Germany; said Schramm assignor to said Plasser and Theurer
Continuation of application Ser. No. 666,728, June 19, 1957, and Ser. No. 590,769, June 11, 1956. This application July 7, 1958, Ser. No. 746,980
Claims priority, application Austria June 26, 1956
9 Claims. (Cl. 104—12)



1. A ballast tamping machine mounted on a chassis with wheels for mobility on a railroad track which is mounted on spaced ties, comprising means for driving at least some of said wheels, said driving means being mounted on the chassis, connecting means mounted between the driving means and the latter or driven wheels for operating said wheels, clutch means mounted in said connecting means for selectively disconnecting the driving means from the driven wheels, brake means mounted for stopping the wheels, mobility control means for effecting intermittent stopping of the wheels by operating the brake means to stop the wheels and disconnecting the driving means from the driven wheels by operating the clutch means, and stop control means supported on the chassis for operative contact with said ties and operatively connected to the mobility control means for operating the mobility control means to operate the brake and clutch operating means to stop the tamping machine in a ballast tamping position upon operation of said stop control means, the stop control means including tie-probing means mounted on the machine and responsive to contact with said ties and any tie element in the same vertical plane as the tie for the operation of said stop control means.

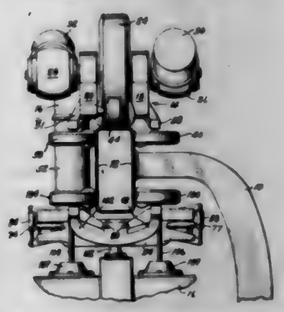
2,976,817
MECHANISM FOR SWITCHING, CLASSIFYING AND SEGREGATING RAILROAD CARS
Henry Edwin Stapp, 459 Wayne Ave., Oakland, Calif.
Filed Nov. 20, 1956, Ser. No. 623,419
3 Claims. (Cl. 104—26)

1. In a yard switching apparatus for making up a second train from a first train composed of freight cars carrying billing cards on their sides respectively designating them indiscriminately to different destinations, the combination of a receiving track comprising two permanent track ends with a gap between the same, said gap having a width measured longitudinally of the receiving track equal to a plurality of car lengths, a delivery track parallel to the receiving track, and having permanent track ends alongside the first-named track-ends and approximately parallel to the same, said last-named permanent track-ends having a gap between the same equal in width to the first-named gap; a plurality of laterally shiftable transfer tables alongside of each other so that their total width fills the said gaps between the permanent track-ends; track rail sections laid upon the said tables of the same gauge as the permanent track-ends; means for holding the transfer tables in a fixed position with a pair of the track rail sections on said transfer tables in longitudinal alinement with the rails of the permanent track-ends of the receiving track; each of said transfer tables also having a second pair of track rails laid so that the same will aline longitudinally with the pair of track rails of the permanent track-ends of the delivery track when the



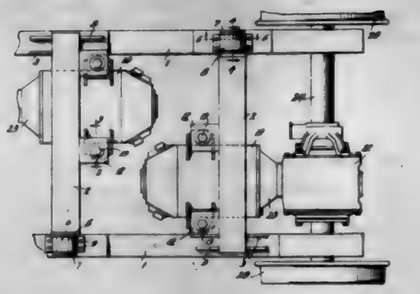
first-named track rails on the transfer tables are in alinement with the rails on the permanent track-ends of the receiving track; means for guiding said transfer tables in a lateral direction with respect to longitudinal axes of said permanent track-ends, and power developing means operatively connected with said transfer tables for shifting the transfer tables independently of each other to transfer a car on the rail sections that are alining with the track rails of the receiving track and aline the some with the corresponding permanent track-ends of the delivery track; and means for holding any transfer table fixed in its new position of alinement of its rail sections with the track-ends of the delivery track.

2,976,818
MONORAIL TRUCK AND HANGING CAR
Sidney H. Bingham, 109 E. 35th St., New York 16, N.Y.
Filed Oct. 23, 1958, Ser. No. 769,139
11 Claims. (Cl. 104—93)



1. A monorail car and truck assembly comprising a generally rectangular open sided carriage lying in a vertical plane, main supporting wheels journaled on said carriage at its upper end, a vehicle body, means for suspending said body from and below said carriage, and means forming a universal pivoting guide for said body with respect to said carriage at the lower end of said carriage.

2,976,819
RAIL TRUCK
William T. Rossell, New York, N.Y., assignor to Transit Research Corporation, New York, N.Y., a corporation of New York
Filed Aug. 21, 1958, Ser. No. 756,482
8 Claims. (Cl. 105—138)



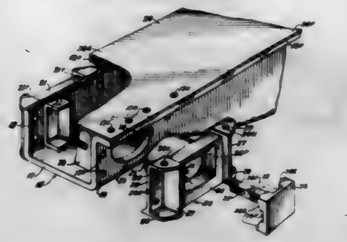
1. A railway truck comprising truck side frames, two spaced cross members connecting said side frames intermediate the ends of said side frames, each of said side frames being resiliently connected to one of said cross members and rigidly connected to the other thereof, said cross members and their connections to said side frames being of sturdy construction and maintaining said side frames in tram, each of said side frames having a circular opening at each end thereof, a journal bearing positioned in each of said circular openings and separated from the walls thereof by a ring of rubber, and axles connecting said journal bearings in pairs.

2,976,820
MONO-RAIL RAILROAD
Erich Schaar, Brussels, Belgium
(Achenerstrasse 16, Koln, Germany)
Filed May 12, 1955, Ser. No. 507,929
Claims priority, application Germany May 13, 1954
18 Claims. (Cl. 105—141)



1. In a railroad, in combination, an elongated single rail having a circular cross section; carriage means including pairs of opposite rollers located in a plane passing through the axis of said rail, each of said rollers having a peripheral rim engaging said rail and formed with a peripheral groove having a curved cross section whose radius of curvature corresponds substantially to the radius of the cross section of said rail so that said carriage means is supported for lateral turning movement in a transverse plane about the axis of said rail, said carriage means including movable supporting means supporting the rollers of each pair of opposite rollers for movement towards and away from said rail, stop means on said carriage means engaging and blocking said supporting means in a position in which said rollers are spaced a predetermined distance in which said peripheral grooves in the same at least partly embrace said rail for holding said carriage means on said rail, hydraulic pressure means engaging said movable supporting means and urging said opposite rollers into engagement with said rail; a car fixedly connected to the carriage means and laterally turnable with the same in said transverse plane for movement between a normal upright position and opposite tilted positions; airfoil means mounted on said car for turning movement about an axis transverse to said rail and adapted to produce at high speed a lifting force; and operating means located in said car for turning said airfoil means in opposite directions about said transverse axis.

2,976,821
METHOD AND APPARATUS FOR MODIFYING FABRICATED BOLSTERS TO PROVIDE RIDE STABILIZATION
Cal W. Wulff, Elmhurst, Ill., and Arthur H. Carlson, Three Oaks, Mich., assignors to Holland Company, a corporation of Illinois
Filed July 1, 1958, Ser. No. 745,953
4 Claims. (Cl. 105—197)

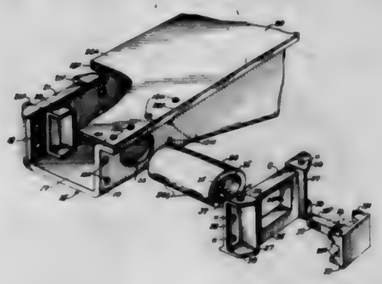


4. In a railway car truck of the type having a side frame provided with a bolster opening defined in part by a side frame column: the combination with a bolster of undamped construction resiliently supported in said bolster opening for cushioned movement therein, said bolster being of a fabricated type comprising a plurality of structural members formed separately and secured together by riveting or equivalent means, said structural members including a lower body member of generally U-shaped configuration forming bottom and vertical walls and a one-piece cast steel bolster guide overlying and secured to one of said vertical walls for cooperation with said columns in limiting lateral movement of the bolster; of damping means mounted on said one vertical wall in place of said guide for frictionally engaging the column to dampen movement of the bolster, the vertical wall mounting said device having an opening therein at a point adjacent and facing said column, said damping means comprising a rigid housing open at its outer end and projecting inwardly into said bolster through said wall opening to terminate in a transverse wall, supporting frame structure integrally connected to said housing to surround said open end thereof and projecting beyond said open end to form a friction block pocket, spaced apart vertical guide flanges integrally connected to and flanking said supporting structure and carrying attachment webs disposed inwardly of said guide flanges for securement to said bolster, a friction block mounted in said friction block pocket, and spring means in said housing reacting between said transverse wall and said friction block to urge said friction block into engagement with said column.

2,976,822
APPARATUS AND METHOD FOR MODIFYING FABRICATED BOLSTERS TO PROVIDE RIDE STABILIZATION
Cal W. Wulff, Elmhurst, Ill., and Arthur H. Carlson, Three Oaks, Mich., assignors to Holland Company, a corporation of Illinois
Filed July 1, 1958, Ser. No. 745,970
3 Claims. (Cl. 105—197)

1. In a railway car truck of the type having a side frame provided with a bolster opening defined in part by a side frame column: the combination with a bolster

of undamped construction resiliently supported in said bolster opening for cushioned movement therein, said bolster being of a fabricated type comprising a plurality of structural members formed separately and secured together by riveting or equivalent means, said structural members including a lower body member of generally U-shaped configuration forming bottom and vertical walls; of damping means mounted on one of said vertical walls at a location adjacent and facing said column for frictionally engaging the column to dampen movement of the bolster, the wall mounting said device having an opening therein at a point adjacent and facing said column, said damping means comprising wall structure fixed with-



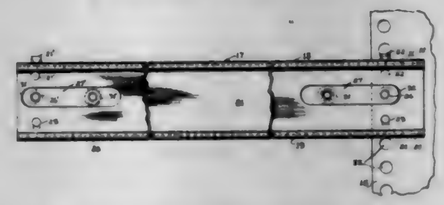
in said bolster to form a rigid housing having an open outer end in register with said opening, a one-piece bolster casting secured to said bolster and having an open-centered frame overlying the exterior of said one vertical wall in registering relation to said opening and including vertically extending guide flanges flanking said opening and carrying attachment webs disposed inwardly of said guide flanges for engagement with said one vertical wall at points flanking said opening, and a damping device comprising a friction block mounted at the open end of said housing, and spring means in said housing reacting at one end against a spring seat and reacting at its other end against the friction block to urge the friction block into engagement with said column.

2,976,823
SHORING CLAMP
William S. Dodge, San Francisco, Calif., assignor to Matson Navigation Company, San Francisco, Calif.
Filed May 2, 1958, Ser. No. 732,488
5 Claims. (Cl. 105—369)



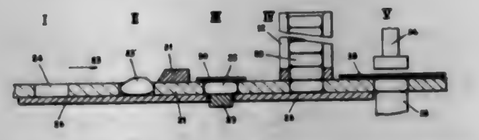
4. In combination with a deck supporting beam and a deck below said beam, a beam shoring clamp having a pair of opposed clamping jaws between which said beam is positioned, means connected with said jaws and disposed below said beam for tightening said jaws against said beams, a downward extension on and rigid with one jaw of said pair having a lateral projection rigid therewith extending to the side of said one jaw that is opposite to the other jaw of said pair, said projection having a vertically directed opening formed therein and a vertical stud supported on said deck extending at its upper end into said opening.

2,976,824
FREIGHT LOADING APPARATUSES
Charles Richard Johnston, Chicago, Ill., assignor to Transportation Specialties Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 3, 1959, Ser. No. 831,200
10 Claims. (Cl. 105—369)



1. In a rail-like freight supporting member for use in a freight car having a freight holding system including freight retaining cross bars, means for detachably connecting said rail-like supporting member horizontally with respect to vertically extending structural members of the freight car, said means including a plurality of pins extending laterally from said rail-like supporting members, with said pins being insertable into a selected plurality of apertures formed in the vertical faces of the structural members of the freight car, means for yieldably connecting one of said pins to said rail-like supporting member so that it may be moved out of and into a selected one of the plurality of apertures formed in the structural members so as to detachably connect said rail-like supporting members horizontally to the structural members throughout the freight car.

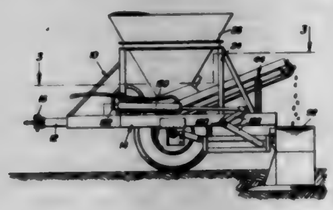
2,976,825
MECHANISMS FOR DELIVERING ARTICLES INTO A MACHINE, PARTICULARLY ADAPTED TO DELIVER CARAMELS INTO WRAPPING MACHINES
Ariosto Seragnoli, Via Indipendenza 56, Bologna, Italy
Filed Apr. 10, 1957, Ser. No. 651,947
Claims priority, application Italy Apr. 12, 1956
5 Claims. (Cl. 107—4)



1. A mechanism for delivering articles into a machine, comprising intermittently advancing conveying means provided with a series of spaced holes and a plurality of spaced work stations arranged thereover, said stations comprising in sequence a filling station, a testing station, an auxiliary filling station and a removal station, each hole being so located in the means as to receive and to entirely contain an article to be carried to the removal station, a stationary support provided under the holes in the conveying means to support said articles in said holes, an auxiliary storage means disposed above the conveying means at the auxiliary filling station for filling an article into any empty hole passing thereunder, a counter plate for the testing station and arranged above the conveying means in contact therewith, the stationary support being interrupted and projecting only at two stationary and diagonally opposite points of abutment under the article

which stops at said testing station in registry with the respective hole, a small tongue for the abutments adapted to be inserted into the interruption to ensure a sufficient continuity of the abutments when the conveying means is moving, whereas, if the conveying means is stopped, said tongue is withdrawn from underneath the article, permitting it to abut on only the two stationary and diagonally opposite points of abutment, so that, if the size of the article is smaller, it drops down and is discarded, the testing station being provided between the filling station and the auxiliary filling station, and a scraping knife located between the filling station and the testing station to remove excess material from the article.

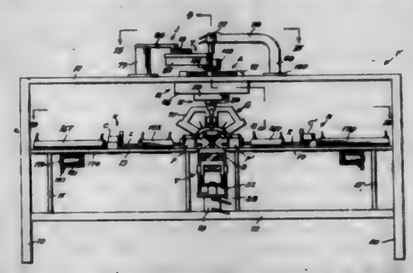
2,976,826
GRAVEL LAYING MACHINE
Albert H. Sievers, Carl J. Sievers, and Elmer T. Sievers, all of Fieldon, Ill.
Filed Oct. 13, 1958, Ser. No. 766,929
3 Claims. (Cl. 111—67)



1. In a gravel laying machine, a main frame, an axle having ground wheels thereon and an axle housing, means mounting said main frame on said housing, a gravel laying hopper having a trench digging means thereon and being open to lay gravel in a trench dug by said trench digging means, an endless conveyor mounted on said main frame above said hopper for conveying gravel to said hopper and discharging the same into said hopper, a supporting frame for said hopper fixed thereto and including sides, means pivotally mounting said sides of the supporting frame on said housing for movement about a horizontally disposed transversely extending axis whereby said hopper and trench digging means may be raised and lowered, a U-shaped crank underlying said sides of the supporting frame, pivotally mounted on said housing and engageable with said sides for raising and lowering said supporting frame, hydraulic means on said main frame operatively connected to said U-shaped crank, friction drive means on said main frame for said conveyor mounted for movement into and out of engagement with one of said ground wheels, a push rod operatively connected to said drive means for effecting movement of the latter into and out of engagement with said one ground wheel, and means on said U-shaped crank operatively engaging said push rod to disengage said drive means in response to raising of said U-shaped crank.

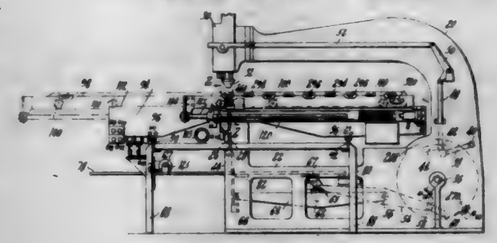
2,976,827
BASEBALL-STITCHING MACHINE
William M. Bauder, Jr., 507 Greenwood Ave., Riverside, N.J.
Filed Apr. 21, 1958, Ser. No. 729,577
12 Claims. (Cl. 112—2)

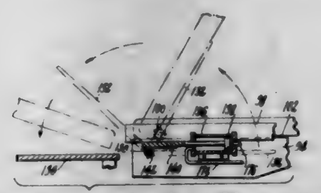
5. In a baseball-stitching machine, a supporting framework including spaced table elements providing an opening therebetween, a pair of forwardly disposed guides on said table elements at opposite sides of said opening, a pair of piercing carriers mounted for reciprocating movement on said guides, a pair of rearwardly disposed guides on said table elements at opposite sides of said opening, a pair of draw carriers mounted for reciprocating movement on said rearwardly disposed guides, a needle clamp included in each of said carriers adapted to grippingly engage a needle carrying a length of thread, a pair of hydraulic cylinders fixedly mounted on said table elements for actuating said piercing carriers, a second pair



of hydraulic cylinders movably mounted on said table elements for actuating said draw carriers, and means for automatically adjusting the position of said last-mentioned hydraulic cylinders upon the completion of each stitch to accommodate the shortening of the threads caused by the completion of a stitch.

2,976,828
HYDRAULICALLY OPERATED TABLE
Frederick E. Kalning, Quincy, and Howard E. Redman, Weymouth, Mass., assignors to United Mattress Machinery Co., Inc., Quincy, Mass., a corporation of Maine
Filed July 2, 1957, Ser. No. 669,558
9 Claims. (Cl. 112—3)



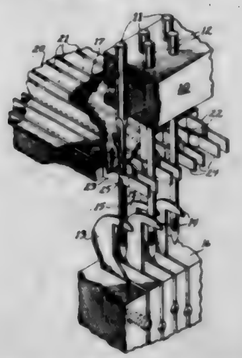


1. For use in a machine for tufting mattresses and similar articles having a tufting mechanism operable to insert a tuft through the article, a table movable transversely with relation to the tufting mechanism between limit positions, an article retaining frame supported for forward and back movement on the table between limit positions, means for actuating the tufting mechanism in a series of tuft inserting operations, a hydraulic cylinder connected between the machine and the table and of a length for driving the table in a transverse direction between said limit positions, a second hydraulic cylinder connected between the table and retaining frame and of a length for moving the retaining frame with relation to the table in a forward and back direction between said limit positions, means for supplying fluid under pressure to said cylinders, valves shiftable between run and lock stop positions to control the supply and exhaust of said fluid under pressure to the two cylinders, automatic control means for said valves for shifting said table and

retaining frame with relation to said tufting mechanism in accordance with a pattern including a manual control for operating said tufting mechanism in a first tufting cycle, a cam and follower means actuated by said tufting mechanism to actuate said valves to initiate selected movements of said table and frame, and additional cam and follower devices on the table assembly actuated by successive movements of said table and retaining frame to arrest said movements and to initiate a next succeeding cyclical movement of said tufting mechanism.

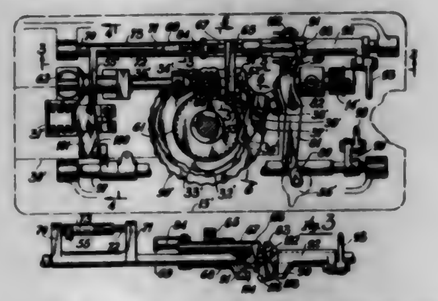
3. In a machine for tufting mattresses and like articles having a tufting mechanism operable to insert a tuft through the article, an article supporting table assembly including a table having an article supporting surface with recesses formed therein mounted on said machine for transverse movement with relation to the tufting mechanism, and an article retaining frame mounted for forward and back movement on the table, said table and frame being movable in said directions to move an article mounted on the table assembly from a loading position in which the article is apart from the tufting machine to a first tufting position and thereafter with relation to the tufting mechanism for the insertion of tufts in adjacent rows over the length and width of the article, the combination of mechanism for discharging the article from the table comprising a rocker shaft extending transversely of the table adjacent the rear edge thereof, and rocker arms attached to the rocker shaft normally buried in recesses in the table, a hydraulic cylinder mounted on the table, and operating connections between the cylinder and the rocker shaft arranged to be actuated by said cylinder to rock the shaft to discharge a mattress rearwardly from the table assembly when in said loading position.

2,976,829
TUFTING MACHINE WITH NEEDLE PLATE
Roy T. Card, Chattanooga, Tenn., assignor, by mesne assignments, to Singer-Cobble, Inc., a corporation of Delaware, and a subsidiary of the Singer Manufacturing Company
Filed June 24, 1959, Ser. No. 822,632
7 Claims. (Cl. 112—79)



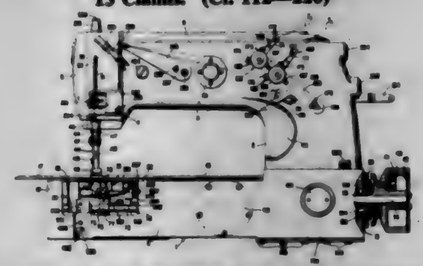
1. In a multiple needle tufting machine having first and second transverse rows of reciprocable needles for carrying yarn through a base fabric, the needles in said first row being staggered with respect to the needles in said second row, a needle plate for supporting said fabric having spaced fingers, each finger extending between a needle in said first row and an adjacent needle in said second row, each finger having a bent portion between adjacent needles, said bent portions alternately extending in opposite directions to provide sufficient transverse spacing between adjacent fingers across the path of each reciprocable needle to permit the free passage of each needle and the yarn carried thereby without binding between adjacent fingers.

2,976,830
ORNAMENTAL STITCH SEWING MACHINE
Arnaldo Vigorelli, 1 Viale Lungo Ticino Visconti, Pavia, Italy
Filed Mar. 29, 1955, Ser. No. 497,636
Claims priority, application Italy Apr. 5, 1954
2 Claims. (Cl. 112—158)



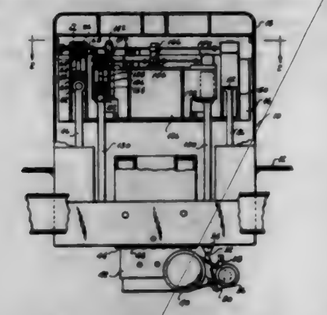
2. A feeding means for a zigzag sewing machine having a first lateral oscillating means operatively connected to a needle carrying means for laterally oscillating the latter; feed dog means for feeding the material to be stitched; support means; a shaft supported for oscillatory turning movement about its axis by said support means and operatively connected to said feed dog means for longitudinally oscillating the latter when said shaft oscillates about its axis; a cam disc supported for rotation about its axis by said support means and having an outer camming periphery and a side face formed with an endless camming groove; a pair of tubes through which said shaft slidably extends, said tubes being spaced from each other and respectively having ends directed toward each other; second lateral oscillating means cooperating with said groove and operatively connected to said feed dog means for laterally oscillating the latter; first longitudinal oscillating means operatively connected to one of said tubes for oscillating the same about the axis of said shaft; second longitudinal oscillating means cooperating with said camming periphery and operatively connected to the other of said tubes for oscillating the same about the axis of said shaft; and clutch means carried by said shaft between said tubes for placing said shaft selectively in driving engagement with one or the other of said ends of said tubes.

2,976,831
SEWING MACHINES
Hans Hacklander, Warren Township, N.J., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Sept. 14, 1956, Ser. No. 609,836
13 Claims. (Cl. 112—220)



1. In a sewing machine having a bed, a standard rising from one end of said bed, a bracket-arm carried by said standard and terminating in a head overhanging said bed, a main shaft journaled longitudinally in said bed, said bracket-arm having two sets of aligned bearings therein arranged on axes parallel to said main shaft, a pair of attachment shafts journaled in said bearings internally of said bracket arm and extending from said head to a point above said standard, means connecting said attachment shafts at the head ends thereof to an attachment actuating mechanism, a pair of actuating elements on said main shaft, and means operatively connecting said actuating elements and said attachment shafts and including actuating elements for said attachment shafts extending through said standard for imparting oscillation individually to said attachment shafts upon rotation of said main shaft.

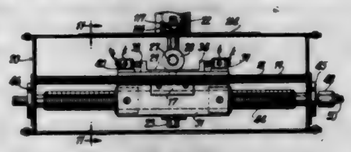
2,976,832
POWER PRESS SLIDE INTERFERENCE PREVENTION ASSEMBLY
Daniel T. Kennedy, La Grange Park, Ill., assignor to Danly Machine Specialties, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 22, 1956, Ser. No. 573,252
7 Claims. (Cl. 113—38)



1. In a power press having a frame, a first slide mounted for reciprocating movement on said frame, a second slide mounted for reciprocating movement on said frame and respective drives for reciprocating said slides, a slide interference prevention assembly including means comprising a motor and a circuit for energizing said motor for adjusting the position of said first slide with respect to the frame, means comprising a second motor and a second circuit for energizing said second motor for adjusting the position of said second slide with respect to the frame, means for producing a first electrical signal proportional to the position of adjustment of said first slide on said frame, means for producing a second electrical signal proportional to the position of adjustment of said second slide on the frame, means for comparing said signals to produce a difference signal, means for producing a predetermined electrical signal corresponding to a desired minimum separation of said slides, means for comparing said predetermined signal and said difference signal to produce a control signal and means responsive to said control signal for interrupting said motor circuits for disabling said adjusting means when said slides approach each other under the action of said position adjusting means within a distance corresponding to a predetermined minimum separation of said slides in operation of the press.

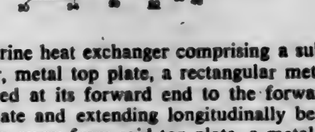
2,976,833
CONTROL MECHANISM FOR ACTUATING RUDDERS
Charles T. Dye, Jr., New Orleans, La., assignor to John L. Fitzhugh, New Orleans, La.
Filed Nov. 4, 1958, Ser. No. 771,835
7 Claims. (Cl. 114—144)

1. A controller for actuating a rudder comprising in combination, a controller box, a post mounted for rotary movement in said box, a tiller arm secured to said post for rotating it, a follower-rod carried by said post and movable therewith, an actuating slide block communicably connected with said follower-rod, a follower block having a threaded opening therein, a controller screw mounted for rotation in said box and in threaded engagement with said follower block, a pair of switches on said follower block, the individual switches of said pair being disposed on opposite sides of said actuator slide block, one of said switches being arranged to be closed when said slide block is moved in one direction and the



other of said switches being arranged to be closed when said actuator slide block is moved in the opposite direction, means for actuating said rudder and means communicably connecting said controller screw with said rudder actuating means to effect movement of said screw to move said follower block to open the switch of said pair of switches which has been closed by said actuating slide block.

2,976,834
MARINE HEAT EXCHANGER
Paul H. R. Waldron, % Mitchell College, and Sam Schleifer, 37 Fowler Court, both of New London, Conn.
Filed Dec. 4, 1958, Ser. No. 778,226
3 Claims. (Cl. 115—.5)

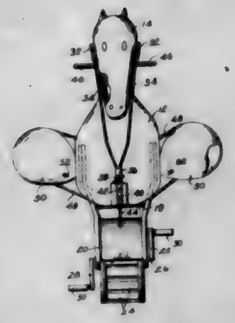


1. A marine heat exchanger comprising a substantially rectangular, metal top plate, a rectangular metal bottom plate secured at its forward end to the forward end of said top plate and extending longitudinally beneath and downwardly away from said top plate, a metal end plate connected between the rear end of said bottom plate and the rear end of said top plate, a pair of parallel side plates connected between said top plate and said bottom plate, said top plate, bottom plate, end plate, and side plates forming an enclosed chamber, baffles means extending between said side plates and forming a labyrinth passage which extends longitudinally back and forth through the chamber from the forward end of said top plate to the rear end of said bottom plate so that a liquid flowing through said passage must flow adjacent to said bottom plate at spaced points along said bottom plate, and a pair of longitudinal spaced ports through said top plate, one of said ports opening into one end of said passage and the other port opening into the other end of said passage.

2,976,835
PEDAL PONEY
Willard D. Germick, P.O. Box 459, Doylestown, Pa., assignor of one-tenth to Gadget-Of-The-Month Club, Inc., North Hollywood, Calif., a corporation of California
Filed Apr. 8, 1959, Ser. No. 804,948
2 Claims. (Cl. 115—26)

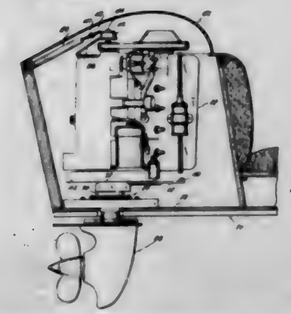
1. A pedal-operated water toy, comprising, in combination, a buoyant main body member including an elongated cylindrical member having a simulated head portion extending upwardly and forwardly from one end thereof, a pedal-operated drive means depending from said main body member and including a pair of rigid side arms, a pair of plates, with one secured to each side of said main body members slidably receiving the upper

end of each of said arms therewithin, a paddle wheel rotatably supported upon the opposite ends of said arms, and pedal crank means carried by said paddle wheel for effecting rotation thereof, a substantially cylindrical casing carried by said opposite ends of said side arms and substantially enveloping said paddle wheel, a peripheral portion of said cylindrical casing defining a downwardly opening compartment providing access of said paddle wheel to the water supporting said buoyant main body member, manually adjustable rudder means carried by said main body member and including a bearing por-



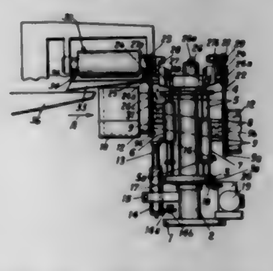
tion integral with said one end of said main body member, a rudder having a rudder stem rotatably supported within said bearing portion, a yoke having a pair of arms releasably engaged with said head portion of said main body member at one end, the opposite end of said arms being releasably secured to said rudder stem, and a pair of laterally outwardly extending handles with one secured to each of said arms for controlling the position of said rudder beneath said main body member, and auxiliary stabilizing float means carried by said main body member for providing lateral stability.

2,976,836
VERTICAL SHAFT INBOARD MARINE POWER PLANT INSTALLATIONS
Louis J. Fageol, Kent, Ohio
Filed May 24, 1956, Ser. No. 586,949
3 Claims. (Cl. 115—35)



1. A motorboat comprising a boat hull having an opening in the bottom thereof, a power plant, a mount assembly, a frame at one end of said mount assembly, means detachably securing one end of said power plant to said frame, a socket assembly mounted in the floor of said boat adjacent said opening, a shock mount interposed between said socket assembly and the floor of said boat hull, a ball assembly carrying said mount assembly and received in said socket for universal movement therein, a propeller drive assembly, means on said ball assembly projecting through said opening for supporting said propeller drive assembly below the bottom of said boat whereby said power plant and said propeller drive assembly are connected for co-movement by said ball assembly, a pivot assembly connected to the power plant at its upper end and to said boat hull, means for adjustably positioning said pivot assembly to thereby adjust the angular disposition of said power plant and said propeller drive assembly with respect to said boat hull, and a yoke construction rigid with said frame and projecting outwardly a substantial distance from the axis of said socket assembly adapted to be connected to steering cables for swinging said power plant and said propeller drive assembly about the axis of said pivot assembly and said socket assembly.

2,976,837
APPARATUS FOR POURING VARNISH UPON BODIES
Bernhard Glaus, St. Gallen, Switzerland, assignor to Ulrich Steinemann Aktiengesellschaft, St. Gallen-Winkeln, Switzerland
Filed Mar. 25, 1958, Ser. No. 723,776
Claims priority, application Switzerland July 5, 1957
8 Claims. (Cl. 118—319)

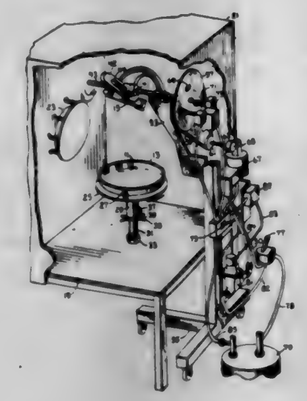


1. In an apparatus including a varnish discharging vessel for discharging varnish upon a non-cylindrical work piece to be varnished: rotatable supporting means adapted to receive and rotate a non-cylindrical work piece to be varnished and to move the same below said vessel in spaced relationship thereto, a cam mounted on said supporting means for rotation therewith about the axis of rotation of said supporting means and having a cam surface corresponding in contour to the outer contour of the surface of the work piece to be varnished, driving means in driving engagement with said cam surface for rotating said cam and thereby said supporting means, said work piece being mountable on said supporting means so as to be coaxial with the axis of rotation of said supporting means, and means for varying the distance between said varnish discharging vessel and the axis of rotation of said supporting means during the rotation of the latter for maintaining the distance between said vessel and the respective work piece surface to be varnished substantially constant during the rotation of said work piece.

2,976,838
APPARATUS FOR THE FABRICATION OF IMAGE DISPLAY SCREENS
Thaddeus V. Rychlewski and Robert F. Wilson, Seneca Falls, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed July 29, 1957, Ser. No. 674,970
1 Claim. (Cl. 118—321)

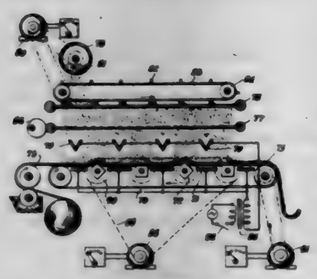
An apparatus for spray coating an article having a concave surface with a given average radius of curvature comprising a fixed vertical support, a horizontal holder rotatably mounted on the support, a spray device mounted on a horizontal shaft above the support for oscillatory move-

ment about the shaft, the spacing between the spray device and the holder approximately the radius of curvature of said concave surface and the position of the spray device on the horizontal shaft being eccentric to the vertical



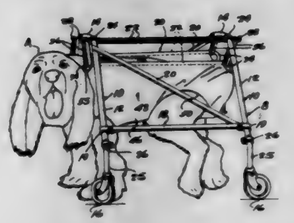
axis of the support, reversible means for driving said spray device through the oscillatory movement, and means for limiting the travel of said reversible driving means in each direction.

2,976,839
APPARATUS FOR MAKING PILE FABRICS
Clarence Okma, Prospect Park, Henry Udes, Paterson, and Edwin L. Donahue, Hawthorne, N.J., assignors, by mesne assignments, to D. & S. Processing Company, Inc., Clifton, N.J., a corporation of Delaware
Filed Aug. 29, 1955, Ser. No. 531,142
1 Claim. (Cl. 118—624)



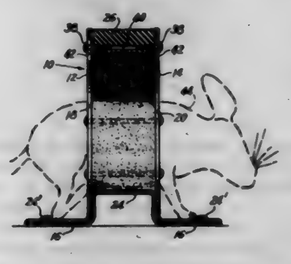
In an apparatus for the production of a uniform pile-surface on rapidly moving adhesive coated web material having a lower electrode adapted for connection to one terminal of an A.C. voltage source, a plurality of work bar electrodes above and spaced from said lower electrode having upwardly facing channel shape and being adapted for connection to the opposite terminal of the A.C. voltage source whereby adhesive coated material may be passed between said upper and lower electrodes and the electrical field therebetween, with a flock dispensing device mounted above said upper electrodes, a flock distributing mesh screen movably mounted between said dispensing device and said work bar electrodes, a vibrator operatively connected to said distributing screen and a beater bar positioned adjacent said lower electrode to engage and beat the coated material whereby the flock is implanted in the adhesive coating of the material by the combined effect of gravity and the beater bar and the electric field between said electrodes, the improvement which comprises the combination of a flock spreading and rate of flow controlling means intermediate said dispensing device and said distributing screen including a stationary flock spreader mesh screen mounted intermediate said dispensing device and said electrodes and having a flock flow controlling pattern thereon, wiper means movably mounted for motion across said flock spreader screen, and drive means for said wiper means whereby flock dispensed from said device is spread over and passes through said spreader screen at a controlled rate.

2,976,840
SUSPENSORY SLING FOR ANIMALS
John W. Hugus, 610 Humboldt, Richmond, Calif.
Filed Sept. 26, 1958, Ser. No. 763,651
5 Claims. (Cl. 119—1)



1. A sling for animals comprising a rollable support frame including a pair of roller-equipped end frames formed to an inverted U-shape so as to extend over an animal, said frame further including means connecting the end frames in spaced relation; and a flexible sling assembly suspended from said frame and adapted to support an animal with selected legs of the animal in an elevated position, said flexible sling assembly including a flexible body part having leg openings, and strap means for connecting the body part about the animal, said sling assembly further including suspension loops adapted for being detachably connected to the support frame adjacent the respective end frames, the support frame including a pair of longitudinally extending, transversely spaced upper connecting rods extending between the upper portions of the end frames and formed with longitudinal, lipped extensions projecting beyond the respective end frames, said loops being engageable over the extensions for effecting the suspension of the sling assembly from the support frame.

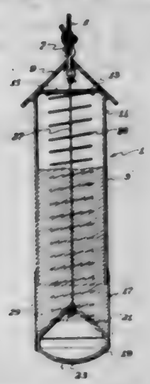
2,976,841
LIVE CHINCHILLA FUR BRUSHING APPARATUS
Ervin B. Scheffer, Box 125, Valley Springs, S. Dak.
Filed Oct. 16, 1959, Ser. No. 846,881
12 Claims. (Cl. 119—83)



1. A live chinchilla pelt builder fur brushing apparatus comprising a base of chinchilla teeth resistant material,

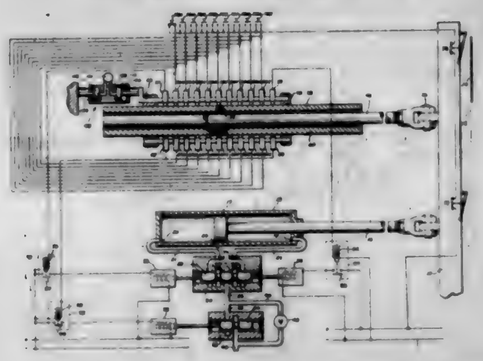
a pair of upstanding spaced apart plates of similar material on said base, said plates having aligned apertures of a size providing a passageway to permit a live fur bearing chinchilla to pass therethrough, and fur brush means secured to said plates therebetween, said brush means having bristles extending into the passageway between said plates to brush the fur of a live chinchilla passing therethrough.

2,976,842
ANIMAL DUSTER
Elbert C. Hagar, Tulsa, Okla. (Rte. 1, Claremore, Okla.)
Filed Dec. 2, 1958, Ser. No. 777,720
8 Claims. (Cl. 119—159)



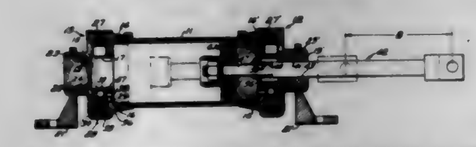
2. An animal duster comprising an elongated relatively rigid sleeve, means for suspending the sleeve from its upper end, a flexible sleeve of porous material at the lower end of the relatively rigid sleeve, apd a relatively rigid ejector member at the lower end of and closing the flexible sleeve.

2,976,843
POSITION CONTROL APPARATUS
Oscar Weibel, Port Alberni, British Columbia, Canada, assignor to Yarrows Limited, Victoria, British Columbia, Canada
Filed Apr. 13, 1959, Ser. No. 805,993
7 Claims. (Cl. 121—38)



1. Means for preselecting a desired position and moving an object thereto comprising: a commutator bar attached to such object and longitudinally slidable in the desired direction of movement of the object, means for moving said object in such longitudinal direction, said bar comprising a forwardly and a rearwardly arranged length of conducting material separated by an insulating spacer of predetermined width, a series of commutator brushes longitudinally arranged beside the path of said commutator bar to slidably contact it, means for electrically energizing a selected one of said brushes, the forward conducting portion of said commutator bar being electrically connected to a control for said object moving means, said control being arranged when energized to move said object in the forward direction, and the rearward conducting portion of said commutator bar being electrically connected to a control for said object moving means, said control being arranged when energized to move said object in the rearward direction.

2,976,844
STROKE ADJUSTMENT FOR DRIVE CYLINDERS AND THE LIKE
John E. Goldring, San Leandro, Calif., assignor to Modernair Corporation, San Leandro, Calif., a corporation of California
Filed Oct. 16, 1959, Ser. No. 846,862
7 Claims. (Cl. 121—38)



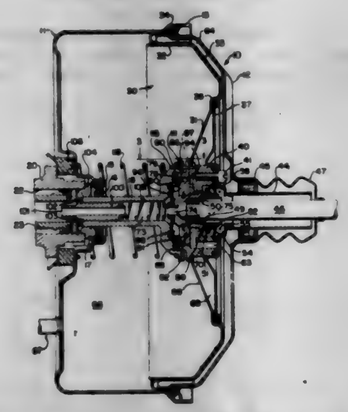
3. A mechanism for adjusting piston travel in fluid powered drive cylinders and the like, comprising, in combination, a linear piston rod having an end portion of reduced diameter thereby forming a shoulder at an intermediate point on said rod, an annular piston having a central opening conforming in diameter to said end portion of said rod, said piston being mounted on said end portion of said rod in coaxial relationship therewith and being slidable along said end portion to a selected position thereon, a first plurality of annular spacers having a central opening conforming in diameter to said end portion of said rod, a selected number of said first plurality of spacers being mountable on said end portion of said rod against said piston and having a diameter exceeding that of said remainder of said rod whereby the effective length of said piston may be increased by a selected amount, a second plurality of annular spacers having a central opening conforming in diameter to said end portion of said rod, said second plurality of spacers being mountable on said rod between said piston and said shoulder and having a diameter limited by that of said remainder of said rod whereby said second plurality of spacers do not effect the stroke of said piston, and an annular fastener securable to said end portion of said rod to lock said piston and said spacers thereon in a selected arrangement.

2,976,845
PNEUMATIC-HYDRAULIC DRIVE CYLINDER
John E. Goldring, San Leandro, Calif., assignor to Modernair Corporation, San Leandro, Calif., a corporation of California
Filed Dec. 18, 1959, Ser. No. 860,397
9 Claims. (Cl. 121—38)



1. In a pneumatic drive mechanism, the combination comprising an outer cylinder having an air inlet at a first end, an inner cylinder of lesser diameter than said outer cylinder, said inner cylinder being disposed coaxially within said outer cylinder and having an air inlet at a first end, an annular first piston disposed within said outer cylinder, a cylindrical second piston disposed within said inner cylinder, means providing a fluid passage between the second ends of said inner and outer cylinders, a quantity of hydraulic fluid disposed within said inner and outer cylinders at said second ends thereof, and means connecting with at least one of said pistons for transmitting motion thereof to a load.

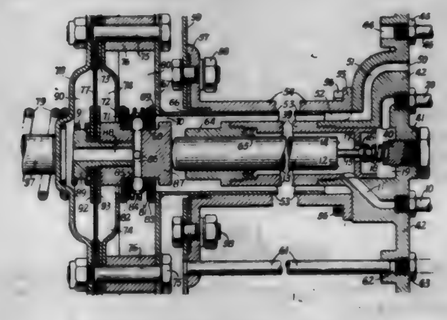
2,976,846
FLUID MOTOR MECHANISM
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Jan. 28, 1960, Ser. No. 5,294
12 Claims. (Cl. 121—41)



1. A fluid pressure motor mechanism comprising a casing, a pressure responsive unit therein having a variable pressure chamber at one side thereof, a member to be operated mounted for movement axially relative to said pressure responsive unit and provided with a space, a resilient reaction element arranged in and filling said space and having an exposed working face, said pressure responsive unit having a portion engaging said working face, a rigid reaction member having a portion engageable with said working face, said portions of said rigid reaction member and said pressure responsive unit having combined areas engageable with said working face substantially equal to the area of the latter, and a valve mechanism normally balancing pressures on opposite sides of said pressure responsive unit and operable for connecting said variable pressure chamber to a source of pressure different from the atmosphere, said valve mechanism having a manually operable member to which said rigid reaction member is connected, whereby operation of said manually operable member to operate said valves moves said portion of said rigid reaction member into engagement with said working face and movement of said pressure responsive unit causes said portion thereof to deform said resilient reaction element to cause it to exert pressure against said portion of said rigid reaction member to oppose valve operating movement of said manually operable member.

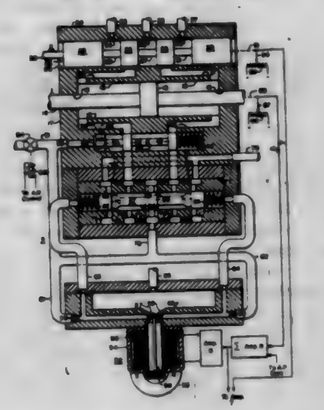
2,976,847
RESERVOIR BRAKE INTENSIFIER APPARATUS
Edward A. Rockwell, Shaker Heights, Ohio (167 Ashdale Place, Los Angeles 49, Calif.)
Filed June 2, 1955, Ser. No. 512,709
14 Claims. (Cl. 121—41)

1. A power unit for a control system having a source of pressure differing from atmosphere, comprising: a casing including a differential pressure operated movable wall, resilient means opposing work producing movement of the wall, said casing and wall defining a variable pressure chamber on one side of said wall, the opposite side of said wall being connected so as to be subject to a constant pressure, valve means for controlling the pressure in the variable pressure chamber, including a valve assembly carried by said wall having a hollow grommet comprised of at least one annular resilient disc, a flexible annular pressure responsive reaction diaphragm mounted on said movable wall and carrying said grommet, means for conveying pressure from said source to the valve assembly terminating in a ring-like member mounted coaxially of the grommet and defining a circular valve seat engageable with the face of one disc of the grommet, said latter disc and valve seat beinng movable relative to each other to form a first valve for controlling the supply of pressure from said source to the variable pressure chamber, said grommet being arranged such as to have one side adjacent said one disc subjected to the pressure in the variable pressure chamber, means supported by said movable wall defining an air passage connected to atmosphere and terminating in a circular valve seat mounted coaxially of and spaced from the ring-like member and engageable with the face of one disk of the grommet to form an air valve for controlling the supply of air to the



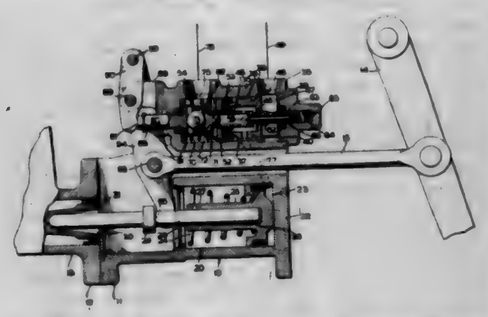
variable pressure chamber, a selectively movable valve operator mounted coaxially of the grommet for straight line movement relative thereto, means including said valve operator defining a passage communicating with the hollow center of the grommet and connecting one side of the reaction diaphragm with the variable pressure chamber, said reaction diaphragm having the other side subject to a constant pressure such that in the power applied position of the valve means the reaction diaphragm is subjected to the differential pressure acting on the movable wall, said reaction diaphragm providing a follow-up connection between said movable wall and the valve means, one of said valves being normally closed, said valve operator being operatively engageable with the grommet upon initial increment of straight line movement acting directly and positively against the other of said valves seating the latter so as to provide a lapped position of the valve assembly, a further increment of straight line movement of the valve operator in the same direction causing directly and positively relative movement between the grommet and the valve seat of the normally closed valve to open the latter providing a power applied position of the valve means while the pressure differential builds up on the opposite sides of the movable wall, said follow-up connection shifting the latter valve to the lapped position upon movement of the movable wall to the applied position.

2,976,848
LINEARIZED PARALLEL CONTROL VALVE FOR CONTROL SYSTEMS
Mark I. Place, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 28, 1957, Ser. No. 649,241
6 Claims. (Cl. 121—41)



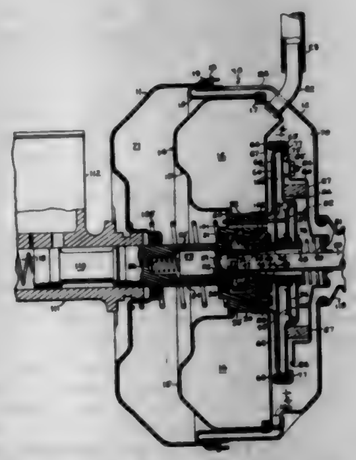
1. A power actuator control comprising a first continuously variable control valve of a first capacity level, a second continuously variable control valve having a capacity level substantially higher than said first control valve, a power actuator, said first and second valves being connected in parallel to said power actuator, said first valve causing said power actuator to respond immediately upon first valve actuation, said second valve causing said power actuator to continue uninterrupted continuous operation beyond the capacity level of said first valve.

2,976,849
POWER MECHANISM
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed May 20, 1957, Ser. No. 660,305
4 Claims. (Cl. 121—41)



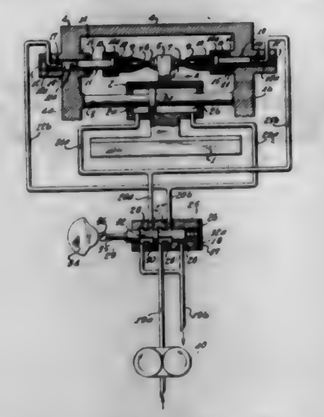
1. A power mechanism comprising a motor having a piston therein and having a pressure chamber, a rod having connection with said piston to be movable thereby, a valve mechanism connected between said pressure chamber and a source of pressure and normally occupying a position disconnecting said chamber from said source, a manually operable element, said valve mechanism being laterally offset from said motor and having valve elements movable parallel to the axis of said motor, a first lever pivotally connected intermediate its ends to said manually operable element and having one end mechanically engaging said rod, a second lever pivotally supported intermediate its ends on a pivot axis and having one end pivotally connected to the other end of said first lever, the other end of said second lever engaging said valve mechanism whereby, upon operation of said manually operable element, said first-named end of said first lever will transmit a force to said rod and the other end of said first lever will swing said second lever about its pivot to operate said valve mechanism and connect said pressure chamber to said source, reaction means exposed to and movable by the pressure of fluid supplied to said pressure chamber when said valve mechanism is operated, means opposing movement of said reaction means until pressure in said pressure chamber increases to a predetermined point, and means for transmitting pressure from said reaction means to said second lever to oppose turning movement thereof on its pivot axis.

2,976,850
FLUID PRESSURE OPERATED MOTOR
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Aug. 7, 1959, Ser. No. 832,287
11 Claims. (Cl. 121—41)



1. A fluid pressure motor mechanism comprising a casing and a pressure responsive unit therein forming with said casing a control chamber, a valve mechanism having connection with said control chamber and with sources of different pressures and normally connecting such chamber to one of such pressure sources, said valve mechanism comprising a manually operable member movable to operate said valve mechanism to disconnect said control chamber from said one source and connect it to the other source, a first pressure responsive means comprising a reaction member fixed to said manually operable member and subject to pressures affecting said pressure responsive unit to tend to oppose movement of said manually operable member, a second pressure responsive means movable relative to said pressure responsive unit and movably connected to said first pressure responsive means and subject to differential pressures affecting said pressure responsive unit to oppose pressures affecting said first pressure responsive means to tend to prevent the latter from opposing movement of said manually operable member, and means rendering said second pressure responsive means ineffective for opposing said first pressure responsive means when differential pressures affecting said pressure responsive unit increase to a predetermined point.

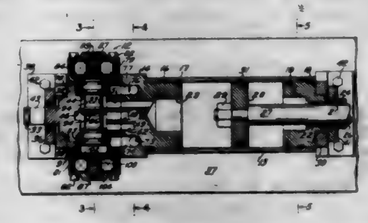
2,976,851
AUTOMATIC HYDRAULIC POSITIONING DEVICE FOR MACHINE PARTS
Helmut Keil, Zeulenroda, Karl Wagner, Dortendorf, Günter Feige and Kurt Söllner, Langenwolschendorf, and Eberhard Rüdiger, Weckersdorf, Germany, assignors to VEB Werkzeugmaschinenfabrik, Zeulenroda, Thuringia, Germany
Filed Feb. 12, 1958, Ser. No. 714,902
Claims priority, application Germany Feb. 28, 1957
13 Claims. (Cl. 121—45)



1. A hydraulic positioning device for displacing the tool carrier of an automatic machine tool, comprising a source of pressure medium provided with a feed conduit and a return conduit, master piston-and-cylinder means coupled to said source of pressure medium, the master piston of said master means being mounted in the master cylinder of said master means for relative reciprocating movement of said cylinder and said piston between a first and a second terminal position in response to the pressure of said medium; and supplementary piston-and-cylinder means coupled to said source of pressure medium, the supplementary cylinder of said supplementary means being formed with a port near one end thereof for passage of said medium, and the supplementary piston of said supplementary means being reciprocable in said supplementary cylinder between a position obstructing said port and a position remote from said port, said supplementary means being connected to said master means for coordinate movement therewith; said supplementary piston being positioned to gradually obstruct said port as said master piston approaches said first terminal position within said master cylinder, movement of said supplementary piston being impeded by the restriction of the flow of medium through said port, and a braking action being exerted by said supplementary piston on said master means.

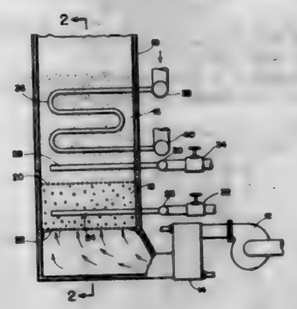
2,976,852
VALVE-IN-HEAD PNEUMATIC CYLINDER
John E. Goldring, San Leandro, Calif., assignor to Modernair Corporation, San Leandro, Calif., a corporation of California
Filed Sept. 21, 1959, Ser. No. 841,133
7 Claims. (Cl. 121—46.5)

1. In a pneumatic drive cylinder, the combination comprising a cylindrical air-tight casing having an axial opening at a first end and having a valve housing disposed at the opposite end which housing is transpierced by a cylindrical chamber directed transversely with respect to the axis of said casing, said housing having an air inlet communicating with the central region of said chamber and having a pair of air outlets spaced one on each side of said inlet and each communicated with a separate end of said casing, said housing further having a pair of air vents spaced one on each side of said outlets and further having a pair of selectively closable passages one connecting each end of said chamber with said air inlet, a valve cylinder disposed coaxially in said chamber for longitudinal movement between two positions therein, said cylinder having a pair of circumferential grooves spaced one on each side of the center thereof which grooves have a width at least equal to the spacing between said inlet and said outlets and said outlets and said vents whereby movement of said cylinder between said two positions alternately connects said inlet with each of said outlets and



simultaneously vents the outlet which is disconnected from said inlet, a pair of closure plates each attached to a separate end of said housing and sealing said chamber therein and each having an air outlet communicating with the adjacent end of said chamber, means for controlling air flow through said outlets of said plates whereby a pressure differential may be established between ends of said chamber to move said cylinder between said two positions, a piston disposed within said casing which piston is movable in response to differences of pressure between the ends of said casing, and a drive rod projecting through said axial opening in said casing and being secured to said piston for transferring motion thereof to an external load.

2,976,853
STEAM GENERATION
Arthur T. Hunter, New York, N.Y., and Robert C. Patterson and Everett C. Lewis, Chattanooga, Tenn., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 31, 1959, Ser. No. 803,305
4 Claims. (Cl. 122—4)



1. The method of steam generation through oxidation of a working fuel and transfer of heat to water which comprises heating a stream of air to a temperature below the ignition temperature of the working fuel but above the ignition temperature of an ignition fuel which has an ignition temperature well below that of the working fuel, passing said air upwardly through a body of discrete material at a sufficiently low velocity so that the material does not fluidize and thereby heating the same to a temperature above the ignition temperature of the ignition

fuel, thereafter introducing said ignition fuel into said body of material and oxidizing the same therewithin, utilizing a portion of the heat thus liberated to heat a body of discrete material to a temperature well above the ignition temperature of the working fuel, and where the material will effect substantially complete oxidation of a mixture of the working fuel and air that is introduced thereinto, after this body of material attains this desired temperature introducing such a mixture into and passing it upwardly through this body of material and terminating the flow of said ignition fuel, regulating the gas flow through the body of material so as to fluidize the same and completely oxidize the working fuel within said fluidized body of material, and converting water to steam by passing it in indirect heat exchange relation with this fluidized body of material.

2,976,854

FLUID COOLED FURNACE STRUCTURE

Harry E. Vogell, Alliance, Ohio, assignor to Salem-Brosius, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Oct. 9, 1957, Ser. No. 689,118
5 Claims. (Cl. 122—6)



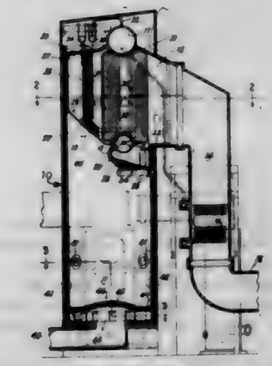
1. Furnace structure comprising walls, including generally upright walls, defining a furnace chamber, a pipe extending through at least one of the generally upright walls so as to be partly within and partly outside the space between opposed generally upright walls, means outside said space supporting the pipe, strengthening means disposed entirely within the wall of the pipe bridging the pipe, means for passing a coolant through the pipe and refractory material supported by the pipe inside said space for protection against heat therein.

2,976,855

COMBUSTION APPARATUS FOR LOW HEAT VALUE FUEL

Albert O. Downs, Jr., Lynbrook, N.Y., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 8, 1957, Ser. No. 688,856
4 Claims. (Cl. 122—7)



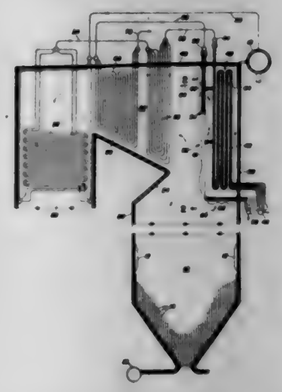
1. Apparatus for burning fuel which comprises walls defining an upright furnace, burner means positioned in the wall and intermediate the height of said furnace for the introduction of high heat value fuel, and fuel inlet means in the bottom of said furnace for the introduction of low heat value fuel into said furnace, said fuel inlet means being positioned adjacent the inner surface of said furnace wall, and means for discharging said fuel initially upwardly through said inlet means parallel to the furnace wall including walls defining fuel flow passageways each opening to a corresponding fuel inlet means, each passageway having a circumferential portion with an upwardly inclined lower surface beneath said inlet means.

2,976,856

VAPOR GENERATOR

Richard A. McCormack, Bayside, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 12, 1958, Ser. No. 780,883
4 Claims. (Cl. 122—478)



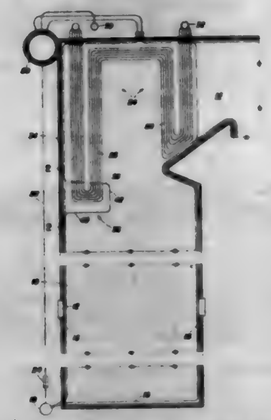
1. A vapor generator comprising in combination an elongated upright furnace having an outlet for combustion gases extending laterally through one of its walls adjacent the upper end thereof and being fired with fuel at a location remote from said upper end with the furnace walls being lined with heat exchange tubes, superheating means operative to heat the vapor generated by the vapor generator and comprising a low temperature section in the path of the gases issuing from the furnace and a high temperature section with this latter section being disposed across the upper region of the furnace adjacent the wall opposite said one wall, an inlet header for and connected with this latter section and disposed above said furnace in the region of this section and an outlet header therefor outwardly of said opposite wall at the lower end of the latter superheater section and extending horizontally across the wall, a group of heat exchange tubes disposed across the furnace and forming a portion of the heat exchange surface of the boiler, said group of tubes extending vertically down from the upper end of the furnace in adjacent relation with said high temperature superheater section but between this section and said one wall and being laterally bent at the lower end of this high temperature superheater section to extend therebelow and out said opposite furnace wall, the tubes having their opposite end connected with headers adjacent the headers for the high temperature superheater section, the upper region of this group of tubes and the transversely extending portion thereof being comprised of groups of tubes in spaced relation across the furnace and the portion intermediate these portions being comprised of tangent side by side tubes forming a generally imperforate wall.

2,976,857

VAPOR GENERATOR WITH PANEL SUPERHEATING MEANS

Conrad J. Herold, New York, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 3, 1958, Ser. No. 777,968
1 Claim. (Cl. 122—478)



A vapor generator including an upright furnace of generally rectangular transverse section having front, rear and side walls with the furnace exit for combustion gases being in the upper end of said rear wall, burner means operative to fire the furnace in the lower region thereof, vapor generating tubes extending verticaly along the inner surface of said front wall and disposed in side by side relation, means for superheating the vapor generated therein including tubular panels extending down into the furnace from the upper end thereof with the panels being adjacent and normal to said front wall and disposed in spaced relation thereacross, each of the panels being formed of a plurality of immediately adjacent tubes that extend vertically down into the furnace from the top thereof to a predetermined distance where they are reversely bent in interested fashion and extend upwardly of the furnace, means protecting the return bend of the panels from radiant heat from the burning fuel in the lower portion of the furnace and providing a lateral support for the lower end of the panels comprising a pair of front wall tubes adjacent each panel having adjacent portions bent in unison from the wall and extending into the furnace to form generally a loop with the lower leg of each pair being in adjacent relation to and below the lower end of the panel while the upper leg of the pair forms an envelope that snugly but slidably receives the lower end of the panel, the outer end of the pair of loops extending slightly beyond the panel with fins being provided on the tube portions forming the outer end of the loops with the fins being in abutting relation and welded together, the wall tubes adjacent each of the pair of tubes bent to extend into the furnace being finned at the location of the bent tube portion to fill the space left thereby.

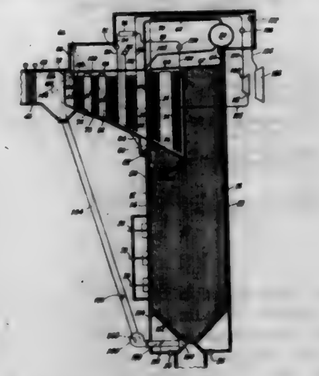
2,976,858

METHOD OF AND APPARATUS FOR CONTROLLING SUPERHEAT AND REHEAT TEMPERATURES OVER A WIDE RANGE OF RATE OF STEAM GENERATION

Charles R. Chan, St. Petersburg, Fla., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 3, 1955, Ser. No. 492,001
6 Claims. (Cl. 122—479)

1. In a vapor generating, superheating and reheating unit, means forming a fuel fired combustion chamber, means forming a convection gas pass leading from the gas outlet of said chamber, a secondary vapor superheater, a vapor reheater, and a primary vapor superheater arranged in the convection pass; means within the convection gas pass constituting a dampered gas by-pass around the primary superheater only; a gas recirculation system including a fan and dampered ductwork leading from an inlet positioned within the gas flow path beyond the primary superheater to an outlet positioned within the combustion chamber for withdrawing lower temperature gases from the inlet and introducing those gases into the combustion chamber; means for increasing the flow of recirculated gases in response to a reduction in reheated vapor temperature from a selected standard temperature as modified by an indication of a reduction in vapor generating rate and a reduction in the product of gas mass flow and gas temperature in said convection gas pass, and vice versa, the increased use of recirculated gas in sufficient quantity to maintain a desired reheated vapor temperature tending to raise the superheater vapor temperature above a felected desired value, and means for regulating the gas flow through said by-pass around said primary superheater to maintain the superheat temperature at a desired value, said regulating means operative to position the damper in an opening direction in said by-pass in response to increased superheat temperatures as modified by the product of gas mass flow and gas temperature in said convection pass.

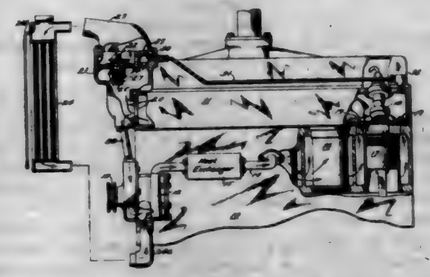


2,976,859

APPARATUS FOR PURGING AIR FROM ENGINE COOLING SYSTEMS

Erwin J. H. Bentz, Washington, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

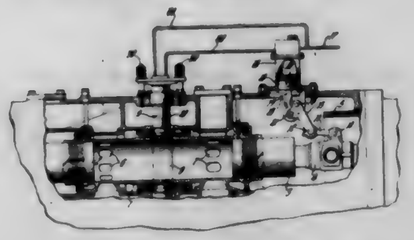
Filed Apr. 28, 1960, Ser. No. 23,555
4 Claims. (Cl. 123—41.54)



1. The combination with an engine having passages for the circulation of a coolant, a radiator with a vented top tank, a pump for circulating coolant through said

passages and radiator, and a wall which restricts flow between said passages and the vented top tank, means to purge air from the upper portions of said passages comprising a cell extending through said wall and communicating between opposite sides thereof through restricted orifices, and a passage connecting the interior of said cell and the upper portions of said passages.

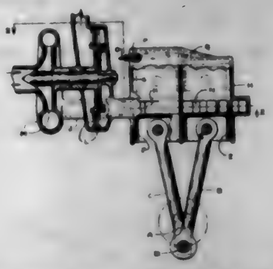
2,976,860
GAS FUEL INJECTION SYSTEM
Robert J. Bayer, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 31, 1959, Ser. No. 830,813
5 Claims. (Cl. 123—46)



1. In a gas fuel injection reciprocating piston engine, an engine cylinder including a combustion chamber, a power piston reciprocable in the cylinder, means for introducing combustion air into and exhausting combustion products from the combustion chamber, a gas fuel injection port communicating with the combustion chamber, a source of gas fuel under pressure, gas fuel injection means between said source and said port including a compressor cylinder supplied by said source and a gas fuel passage connecting said compressor cylinder to said port, a valve controlling said port, resilient means biasing the valve closed, piston means operable in the compressor cylinder for supercharging the gas fuel pressure in the passage, said valve being operable inwardly of the combustion chamber and against the biasing force of said resilient means in response to compressor supercharged gas fuel pressure in the passage, and means drivingly connecting said compressor piston means to said power piston for actuating said piston means on its compression stroke during the compression stroke of the power piston, said connecting means providing a mechanical advantage in favor of the power piston during a first portion of its compression stroke, whereby the rate of compression in the compressor cylinder exceeds that in the combustion chamber by an amount sufficient to effect opening of the valve in advance of the power piston completing its stroke.

2,976,861
FUEL INJECTION ENGINE
Stanley M. Udale, 893 Lothrop Ave., Detroit 2, Mich.
Filed Jan. 8, 1958, Ser. No. 707,729
3 Claims. (Cl. 123—53)

1. In a fuel injection engine of the two-cycle type, a pair of adjacent cylinders having a common combustion chamber located entirely in the first cylinder, a first piston in said cylinder, exhaust ports in said cylinder located so as to be uncovered by said first piston, a second cylinder, a second piston therein, inlet ports in said cylinder uncovered by said second piston, said ports being designed to cause the entering air to rotate, means for supplying air under pressure, a crankshaft having a throw, a connecting rod for each piston connected to the said throw, a relatively small clearance space for the second cylinder, a much larger clearance space for the first cylinder, a fuel injection nozzle located entirely in the clearance space of the first cylinder, a tangential passage connecting the downstream flow of rotating air in said second



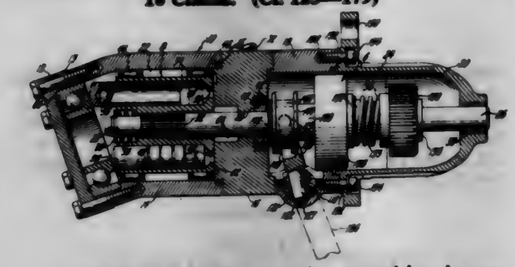
cylinder to the larger clearance space in the first cylinder so as to rotate the air therein, means for igniting the fuel therein.

2,976,862
ENGINE VALVE ACTUATING MECHANISM
Everett W. Allen, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,904
4 Claims. (Cl. 123—90)



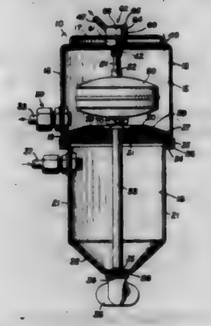
1. In an engine having a block with a cylinder formed therein and a head for said cylinder and a valve mounted in said head and controlling said cylinder, a rocker arm operating said valve, an opening extending through said rocker arm transversely of the valve operating movement of said rocker arm, a shaft extending through said opening, openings extending through said shaft and through said rocker arm on the inside and the outside of said shaft and intersecting said shaft opening, said intersecting openings in said rocker arm being larger than said intersecting opening in said shaft and being elongated in the plane of said valve operating movement of said rocker arm, a support for said rocker arm having a reduced end extending through said intersecting opening in said shaft and closely fitting said intersecting opening in said shaft and providing a shoulder adjacent said reduced end engaging a plane annular surface on said shaft at the inner extremity of said intersecting opening in said shaft, a nut engaging the outer end of said reduced end and having a part projecting into the outside one of said elongated intersecting openings and engaging an annular plane surface on said shaft at the outer end of said intersecting opening in said shaft, said elongated intersecting openings being of sufficient length transversely of said shaft to permit said valve operating movement of said rocker arm on said shaft, said elongated intersecting opening in said rocker arm on the inside of said shaft being narrow enough longitudinally of said shaft to provide bearing engagement with said support inwardly of said reduced end, and means for operating said rocker arm for operating said valve.

2,976,863
HYDRAULIC ENGINE-STARTING DEVICE
Morris J. Deer, Dayton, Ohio, and Clyde W. Truxell, Franklin, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of abandoned application Ser. No. 545,186, Nov. 7, 1955. This application Dec. 1, 1958, Ser. No. 777,528
16 Claims. (Cl. 123—179)



1. A starting device for an engine comprising, in combination, a housing having a first chamber adapted to house a hydraulic motor and a second chamber adapted to house a starter drive mechanism; a shaft rotatably supported by said housing and having one end extending into said first chamber, a cylinder barrel slidably mounted on the end of said shaft within said first chamber, said cylinder barrel being restrained from rotation relative to its mounting on said shaft, bearing means carried by said housing adjacent each end of said cylinder barrel and rotatably journalling said cylinder barrel, said bearing means restraining said cylinder barrel from angular movement relative to its mounting on said shaft and to said housing, a plurality of bores extending longitudinally of the cylinder barrel, each of said bores having an axis spaced from and parallel to the axis of said shaft, a piston reciprocably supported in each of said cylinder bores and extending outwardly therefrom, the ends of said pistons extending outwardly of said bores being adapted to engage a thrust member rotatably mounted by said housing about an axis of rotation angularly disposed to and intersecting the axis of rotation of the cylinder barrel, a portion of said housing intermediate said chambers and remote from said rotatable thrust member having fluid passages through which hydraulic fluid is adapted to be sequentially delivered to the bores in said cylinder barrel and having fluid passages through which hydraulic fluid is adapted to be sequentially discharged from the bores in said cylinder barrel, means balancing the fluid pressures acting on said cylinder barrel and tending to shift said barrel axially of said chamber, and means biasing said cylinder barrel axially of said chamber into sealing engagement with said intermediate housing portion, the biasing action of said last-mentioned means being limited to that required for effecting a sealing engagement between said cylinder and said intermediate housing portion permitting limited leakage for the maintenance of a lubricating film therebetween; starter drive mechanism including a pinion gear slidably mounted on said shaft within said second chamber and adapted to rotate therewith, said pinion gear being adapted to engage an engine-driven ring gear normally axially spaced from said pinion gear upon sliding movement of said starter drive mechanism on said shaft; valve means including an inlet chamber adapted to communicate with a source of high pressure fluid, an outlet chamber adapted to communicate with a hydraulic fluid delivery passage in said intermediate housing portion, and a valve member having passage means therein for interconnecting said chamber, said valve member being adapted upon movement into one extreme position to interconnect said inlet and outlet chambers, upon movement into an intermediate position to permit the metering of hydraulic fluid from said inlet to said outlet chamber, and upon movement into another extreme position to prevent the flow of fluid therebetween; and lever means for simultaneously shifting said valve member and for sliding said pinion gear into engagement with said ring gear, and means associated with said starter drive mechanism for preventing movement of said valve member by said lever means beyond said intermediate position until said pinion gear engages said driven gear.

2,976,864
OIL PURIFYING APPARATUS
Frank M. Ford, 530 E. Main St., Bradford, Ohio, assignor of thirty-five percent to John Ford, Versailles, Ohio
Filed Nov. 13, 1957, Ser. No. 696,277
5 Claims. (Cl. 123—196)

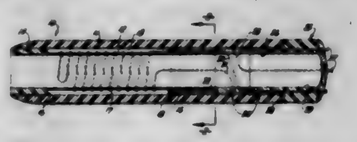


1. An oil purifier for an internal combustion engine having a crankcase forming a reservoir adapted to hold a quantity of oil to be cleaned and having a manifold developing a negative pressure during operation, comprising a container having a closed upper and a closed lower chamber interconnected through an oil filter, a supply connection for the flow of oil from the reservoir into said lower chamber, a return connection for the flow of clean oil from said upper chamber back to the reservoir, a one-way check valve in said return connection preventing reverse flow therethrough, a fitting in the upper portion of said upper chamber, said fitting having a passage therein, the wall of said passage including a port, means adapted to connect the engine manifold with said passage for transmitting the negative pressure to be effective in both said chambers with resultant flow of oil from the reservoir through said supply connection into said lower chamber and upwardly through said filter into said upper chamber, a float in said upper chamber, a sleeve carried by said float and operable in response to the rising of said float to a predetermined level to close said port and shut off said passage from the negative pressure in the engine manifold, and means operable in response to the further rising of said sleeve beyond the port closing position thereof for admitting atmospheric air pressure to said chambers to provide for return flow of clean oil from said upper chamber through said return connection to the reservoir.

2,976,865
CYLINDRICAL STRAIN GAUGE
Richard Edwin Shipley, 400 Hazel Ave., Millbrae, Calif.
Filed Oct. 21, 1958, Ser. No. 768,644
5 Claims. (Cl. 128—2.05)

1. A cylindrical strain gauge comprising a first tubular member consisting of a unitary self-supporting relatively

rigid but flexible insulating element capable of circumferential expansion and contraction and adapted to have fluid pressure exerted on the interior thereof, a length of strain gauge wire disposed around the exterior of said first tubular member, means securing said strain gauge wire throughout its length to said tubular member so that



circumferential expansion and contraction of said tubular member will vary the length of said strain gauge wire, a relatively rigid second tubular member disposed coaxially around said first tubular member and spaced therefrom to form an annular space therebetween, and means sealing the ends of said first tubular member to said second tubular member.

2,976,866
VIBRATOR
Victor A. Kalish, 12927 Hamilton Ave., Highland Park, 3, Mich., assignor of fifty percent to Max Harley, Detroit, Mich.
Filed Feb. 11, 1959, Ser. No. 792,489
2 Claims. (Cl. 128—33)



2. A vibrator comprising a rectangular shaped central body portion and a pair of end extensions connected to opposite ends of the body portion and being of the same width of the body portion; said body portion being formed of a frame including a pair of identical elongated side members arranged parallel to but spaced apart from one another with their corresponding edges being coplanar, and being interconnected by cross-members located between their respective ends, a vibrator motor means secured to one of the cross members and arranged completely within the frame and arranged to vibrate the frame at predetermined uniform vibrations; said extensions each being formed of U-shaped frames, each having a pair of legs having corresponding ends connected together by a base member and free ends arranged closely adjacent to and in end to end alignment with a pair of corresponding ends of the frame side rails, and each adjacent leg and side rail being pivotally interconnected by a rigid, metal strip rigidly secured to one and pivotally connected to the other, and spring means pressing against the strip at its pivotal connection for frictionally holding the strip against pivoting so that the end extensions may be pivoted relative to the body portion only upon the application of considerable force and the vibrations on the body frame are transmitted through the strips to the extension frames, and each of the frames being covered by a padding.

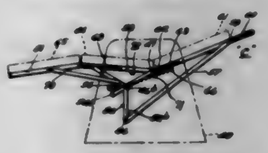
2,976,867
MASSAGING DEVICE
Bernarr C. Schaeffer, 90 E. Willard St., Battle Creek, Mich., assignor to said Bernarr C. Schaeffer and Ruth Andereggs Schaeffer, Battle Creek, Mich.
Filed Feb. 6, 1959, Ser. No. 791,682
10 Claims. (Cl. 128—57)

1. A massaging device comprising a stand, two side arms extending forwardly from and supported solely at their rear end on said stand, means pivotally mounting said side arms on said stand for vertical swinging in unison to different positions, means for releasably holding said side arms in selected position, a barrel roller extending horizontally between the front ends of the said arms and rotatably mounted thereon, said barrel roller having end members and a multiplicity of individual rollers ex-



tending from end member to end member in a circular pattern thereon with each individual roller having its own rotary pivot mounting means connecting it to said end members in position substantially perpendicular thereto, and means for rotatably driving said barrel roller regardless of the operating position of same.

2,976,868
BACK-SUPPORTING APPARATUS
Frances Weissenberg, Darlington Apt. 1210, Rio Piedras, Puerto Rico
Original application Oct. 8, 1953, Ser. No. 384,043, now Patent No. 2,904,039, dated Sept. 15, 1959. Divided and this application Feb. 26, 1959, Ser. No. 795,854
1 Claim. (Cl. 128—71)



An apparatus for supporting a person when sitting in either substantially erect or reclined positions and effecting stretching of the spine of such a person when the latter is in such a substantially reclined position, said apparatus comprising side members, a back frame pivotally mounted on said side members for movement about a first axis, a seat frame pivotally mounted for movement about said first axis, a leg frame pivotally mounted on said seat frame for movement about a second axis spaced from said first axis, a first lever having one end thereof pivotally connected to said back frame for movement about a third axis disposed beneath said first axis and the other end of said first lever being in slidable engagement with said seat frame, a second lever having one end thereof pivotally connected to said first lever intermediate the ends thereof and the other end thereof pivotally connected to said leg frame at a point spaced from said second axis, a third lever having the ends thereof offset with respect to one another, said third lever being pivotally connected intermediate the offset ends thereof for rotation about said third axis, a fourth lever having one end thereof pivotally connected to one of the offset ends of said third lever and having the other end of said fourth lever slidably engaging said back frame at a point spaced from said seat frame and on the opposite side of said first axis with respect to said third axis, an adjustable stop mounted on said side members for contacting the other free offset end of said third lever, only when said back frame is pivoted in one direction about said first axis, to effect relative movement of the slidably engaging end of said fourth lever in a direction away from said seat frame, and a slidable back-contacting member

mounted on said back frame for movement therewith and independently thereof and operatively connected to the slidably engaging end of said fourth lever to effect slidable independent movement of said back-contacting member with respect to said back frame.

2,976,869
PERSONAL SANITARY CONVENIENCES
Joseph Silverstone, Marple Bridge, Marple, and Rex Stanley Smith, Rock Ferry, England, assignors to P. Frankenstein & Sons (Manchester) Limited, Manchester, England, and Joseph Silverstone, Marple, England
Filed Jan. 13, 1958, Ser. No. 708,599
Claims priority, application Great Britain Jan. 12, 1957
6 Claims. (Cl. 128—295)



1. A urination device comprising an impervious liquid-tight pouch adapted to contact the wearer's person around the urinary tract, a first disk of impervious material attached to and closing the upper end of said pouch, said first disk having a central opening of a size sufficient to admit the penis, a second disk of impervious material adjacent to the outer face of said first disk and having an opening therein in substantial alinement with the opening in said first disk, said disks being secured to each other around their peripheries, said second disk being adjacent to the body of the wearer, the opening in said first disk being insufficiently large to admit the genitals, the opening in said second disk being sufficiently large to admit the genitals so that the wall of said opening grips around the root of the genitals, whereby the genitals are held between said disks and the penis is held beyond said disks against contraction of the penis.

2,976,870
BREAST SUPPORTING GARMENTS
Joseph Verreault, Quebec, Quebec, Canada, assignor to Dominion Corset Company Limited, Quebec, Quebec, Canada
Filed Nov. 3, 1958, Ser. No. 771,663
4 Claims. (Cl. 128—510)



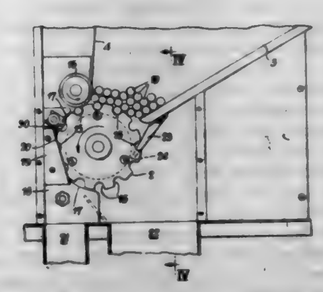
1. A breast supporting garment including preformed breast receiving pockets, shoulder straps, a front diaphragm panel and side sections extending from the outer sides of the pockets and diaphragm band and adapted to secure the garment about the body of the wearer, the upper section of each breast pocket being provided with two darts starting from the apex of the pocket to which the forward end of a shoulder strap is secured, one of said darts extending toward the left side and the other toward the right side of the centre of said pocket section, said darts being cut and folded along pleats tapering radially from the apex of the pocket to contour said upper breast pocket section, characterized in that said pleats cause the shoulder strap to exert a plurality of radial pulling forces on the pocket section between the two side margins of the upper breast pocket section.

2,976,871
LOOSE LEAF BINDER
John Potts, Chicago, Ill., assignor to Wilson-Jones Company, Chicago, Ill., a corporation of Massachusetts
Filed Sept. 27, 1957, Ser. No. 686,668
9 Claims. (Cl. 129—17)



1. A loose leaf binder comprising two inner back plates, a hinge pintle securing said inner back plates in pivotal relationship, two outer back plates secured to said inner back plates, a flexible binding material connecting said outer back plates, and an equalizing plate secured to said hinge pintle and each of said outer back plates to keep said outer back plates spaced equally from said hinge pintle when said inner back plates are moved pivotally about said hinge pintle to open or close said binder.

2,976,872
RECOVERY OF TOBACCO FROM DEFECTIVE CIGARETTES
Bentham Ravenscroft Morphet and John Henry Mungo, London, England, assignors to British-American Tobacco Company Limited, London, England
Filed May 26, 1959, Ser. No. 815,890
Claims priority, application Great Britain June 25, 1958
7 Claims. (Cl. 131—96)

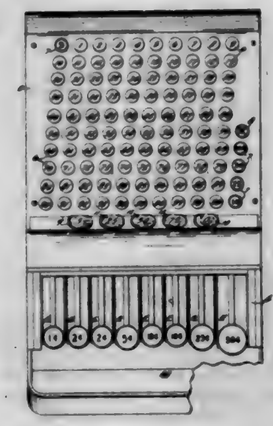


1. Apparatus for removing tips from cigarettes, comprising a rotatable drum with cigarette-receiving grooves provided in its cylindrical surface extending parallel to its axis and a stationary breaker member disposed in close proximity to but beyond one end face of said drum, the grooves being shorter than the cigarettes by substantially the length of the tips thereof so that cigarettes held therein project freely from the grooves at the said end face by substantially the length of the tips, which are carried into striking engagement with and sheared off by the breaker member on rotation of the drum.

2,976,873
TOBACCO SHEET
Andrew Eugene Carmellini, Mount Vernon, N.Y., and Eric Bell Hotelling, Westport, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
No Drawing. Original application Apr. 6, 1959, Ser. No. 804,873, now Patent No. 2,949,117, dated Aug. 16, 1960. Divided and this application Feb. 16, 1960, Ser. No. 12,892
3 Claims. (Cl. 131—140)

2. A method of making a tobacco sheet comprising in combination the steps of providing a viscous paste in a liquid organic solvent from a water insoluble adhesive and a material selected from the group consisting of polyesters, aminomethyl phenols and hydroxymethyl phenols, mixing said paste with finely divided tobacco to form a tobacco slurry, forming said slurry into a thin film and thereafter evaporating said solvent to form a tobacco sheet.

2,976,874
COIN CHANGER APPARATUS
Arnold R. Buchholz, Watertown, Wis., assignor to Brandt Automatic Cashier Company, Watertown, Wis., a corporation of Wisconsin
Filed Oct. 30, 1957, Ser. No. 693,327
4 Claims. (Cl. 133—2)



1. In a coin changing machine comprising a keyboard having a plurality of change keys numbered from 1 to 99, coin channels for pennies, nickels, dimes, quarters and half dollars, a reciprocatory power operated ejector methanism having an ejector finger associated with each coin channel and capable of movement to an operative position, power operated means selectively controlled by said change keys for setting ejector fingers in an operative position by which change from said channels can be effected on a dollar basis, the combination with a pair of solenoids, means operated by one of said solenoids for positioning the ejector finger for the nickel channel in its operative position, independently of the positioning of said selectively controlled power operated means, for operating on tenders of less than a dollar in connection with change keys 1 to 95, means operated by the other of said solenoids for moving the ejector finger for the nickel channel to an inoperative position for certain change requirements, special keys including a zero key and a five key, and control means for said solenoids including an electrical circuit, control switches in said circuit for said solenoids, means operable by either said zero or five key for operating certain of said switches in making change on a tender of less than a dollar other than tenders of twenty-five, fifty and seventy-five cents for energizing the said first named of said solenoids, and means thereafter operable by certain of said change keys to operate others of said control switches to energize the other of said solenoids to satisfy the change requirements of said certain keys.

2,976,875
ANCHORING MEANS
Robert Michael Hoffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 16, 1958, Ser. No. 742,208
1 Claim. (Cl. 135—1)



An inflated structure comprising an inflated tent attached along its bottom by a substantially air-impermeable seal to a substantially air-impermeable flexible sheet material larger in surface area than the largest plan projected area of the inflated tent, the sheet material lying flat upon the ground, a substantially air-tight compartment intermediate the sheet material and the ground containing air at a pressure sufficiently less than atmospheric pressure to hold the entire structure firmly to the ground.

2,976,876
STAY-ROD FOR TENTS
Jarl Reinholdt Lönnqvist, Eriksgatan 15, Helsingfors, Finland
Filed Dec. 11, 1957, Ser. No. 702,184
Claims priority, application Finland Dec. 17, 1956
7 Claims. (Cl. 135—3)

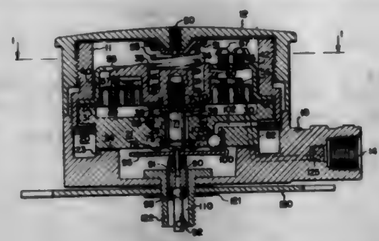


1. A frame member for a tent comprising at least two elongated elements adapted for being braced in end-to-end relationship and means for the engagement of said elements; said means comprising a threaded portion on the end of one of the elements, a socket portion on the end of the other element for accommodating and loosely encircling the threaded portion, a threaded member mounted on said one of the elements and adjustably and threadably accommodating said threaded portion to adjust the penetration of the threaded portion into the socket portion, and a stop in said other element to engage said threaded portion in abutting relationship to limit the penetration of the threaded portion into the socket portion.

2,976,877
PNEUMATIC CONTROL DEVICE HAVING RANGE ADJUSTMENT
Richard C. Mott, Harwood Heights, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 25, 1959, Ser. No. 815,620
7 Claims. (Cl. 137—85)

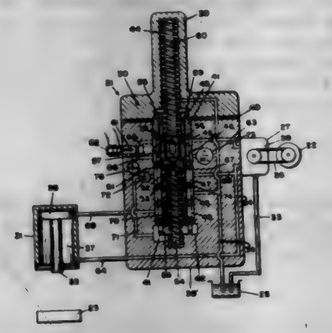
1. A pneumatic relay comprising a casing having a recess therein, an annular convoluted diaphragm positioned in said recess and attached at its outer periphery to said casing to define a pilot chamber therein which is variable in volume, inlet means extending through said casing to said chamber to provide a passage for control air pressure thereto, means connected to the inner periphery of said convoluted diaphragm to seal said chamber, valve means mounted on said casing remote from said chamber and having movable means to sequentially

open and close a pair of valving members connected to supply, outlet and exhaust passages positioned in said casing, means connecting said means on said diaphragm to said movable valve means to operate said valve means with movement of said diaphragm, a plurality of concentric rings positioned in said convolutions of said diaphragm, flange means connected to said casing above said



diaphragm, adjustment means positioned on said flange means and overlying said plurality of rings being adapted to be positioned against said rings to restrain movement of portions of said diaphragms wherein said rings are positioned, and biasing means bearing against a portion of said casing and resting against a diaphragm means to urge said diaphragm towards said pilot chamber.

2,976,878
HYDRAULIC CONTROL MEANS
Robert Smiges, Buffalo, N.Y., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Original application Jan. 16, 1956, Ser. No. 559,438, now Patent No. 2,927,558, dated Mar. 8, 1960. Divided and this application Apr. 15, 1957, Ser. No. 652,925
7 Claims. (Cl. 137—108)



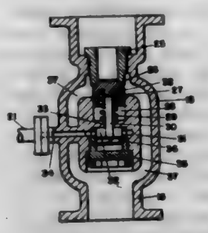
1. A valve for directing the flow of two separate volumes of hydraulic liquid from two sources including a body having a first and a second inlet means and a first and a second outlet means, means forming a bore in said body, means forming a plurality of ports spaced axially along said bore including ports connected with said inlet and outlet means and a drain port, spool means in said bore for selectively interconnecting said port means, said spool means when in one position in said bore interconnecting ports to direct said separate volumes of liquid to said first outlet means, means for causing an increase in the pressure of one of said volumes of liquid to shift said spool means to a different position in said bore thereby directing both of said volumes of liquid to the second of said outlet means, means responsive to the pressure of liquid at said second outlet means for causing said spool means to shift to another position in said bore for directing said one volume of liquid to said second outlet means and the other volume of liquid to said drain port, and means responsive to a further increase in pressure of said one volume of liquid to shift said spool means again to direct said volumes of liquid to said first outlet means.

2,976,879
DISPENSER FOR LAUNDRY MACHINE
Raymond P. De Lisle, Benton Harbor, and William G. Gilchrist, St. Joseph, Mich., assignors to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Dec. 4, 1957, Ser. No. 700,576
1 Claim. (Cl. 137—132)



A laundry machine comprising in combination a tub for a laundering fluid which is applied to articles to be laundered, an open container having a bottom and side walls for containing an agent to be added to fluid for the tub, a siphon conduit leading from the container to the tub to admix the agent with the laundering fluid and for removing and draining the contents, and an overflow trough on each of the side walls and positioned on the outside of the container to receive a flow of contents from said container in the event of filling of the container to overflow conditions, each of said troughs defining a discharge passage leading to the tub to admix the container contents with the fluid for the tub.

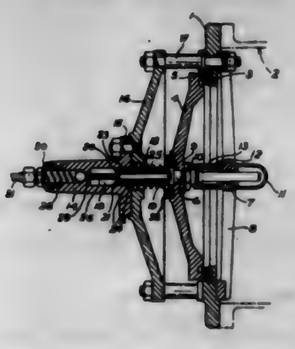
2,976,880
VERTICAL EXHAUST PILOT ACTUATED SAFETY VALVE
Sebastian J. Cassarino, 9504 Wadsworth Drive, Bethesda, Md., and James L. Mershon, 5912 Grayson St., Springfield, Va.
Filed Feb. 20, 1959, Ser. No. 794,779
1 Claim. (Cl. 137—219)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A relief valve comprising a valve body having an inlet end portion for connection to a main fluid conduit and an exhaust end portion aligned with the inlet end portion and providing a central chamber therewith, a tubular insert having one end secured in said exhaust end portion and extending longitudinally inward to provide an open end within the central chamber forming a valve seat, a cylinder disposed within and spaced from the walls of the central chamber providing for the passage of fluid thereabout and longitudinally through the valve body from the main fluid conduit, a centrally apertured transverse partition in said cylinder providing a first cup-shaped housing having an open end facing said valve seat and a second cup-shaped housing having an open end facing the inlet end portion of the valve body, a longitudinally mov-

able guide shaft extending through the aperture in said transverse partition and having one end disposed in said first cup-shaped housing and its other end disposed in said second cup-shaped housing, a first hollow plug secured to said one end of the shaft having an open end extending into said first cup-shaped housing in telescoping and movable relation therewith and a closed end for cooperating with said valve seat, a second hollow plug secured in the second cup-shaped housing and having a closed end providing a pressure compartment, a piston mounted at the other end of the guide shaft and disposed in said pressure compartment, coil spring means about said one end of the shaft and normally in compression for urging the closed end of said first hollow plug in seated relation with said valve seat and an auxiliary fluid conduit in communication with said pressure compartment and extending to a point exteriorly of the valve body and being operative to increase pressure in said compartment to overcome the spring resistance for unseating the valve plug and permitting fluid to exhaust from the valve body.

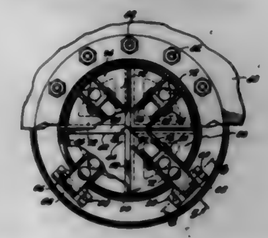
2,976,881
PRESSURE RELIEF VALVE
John Lamb, London, England; Albert Briggs and William Edward Holden, executors of said John Lamb, deceased, assignors to John Lamb Publications and Inventions Limited, London, England, a British company
Filed May 21, 1958, Ser. No. 736,745
5 Claims. (Cl. 137—488)



1. A relief valve comprising a valve seat circumscribing a relief port, a disc normally seated in closed position on said seat, and held in the closed position by external atmospheric pressure, an external plunger fixedly carried by said disc to move with the disc, an external cylinder fixed relative to said seat and slidably receiving said plunger, a valve in the cylinder operable by the plunger to control the admission of loading air to the cylinder to close the relief valve after it has been opened, and means to delay the action of the loading air until the relief valve has been fully opened.

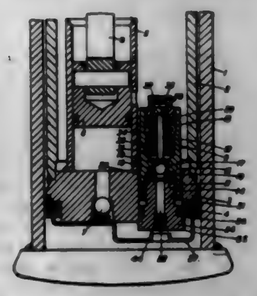
3. A relief valve for an electric furnace or other chamber, said relief valve comprising a valve seat adapted to be fixed relative to a chamber wall circumscribing a relief port through the wall, a disc normally seated on said seat closing said port and mounted for movement away from said seat responsive to excess pressure in the chamber to open said port and relieve said pressure, an external cylinder mounted in fixed relation with said seat and adapted for connection to an external source of fluid under pressure, a control valve connected in said cylinder for communication between the latter and said source of fluid under pressure and normally closed by the pressure of said fluid source, an external plunger carried by said disc and slidable in said cylinder upon opening movement of said disc to open said control valve, said control valve thereby communicating said fluid source to said plunger to urge the latter toward the closed position of said disc, an internal projection on said disc extending in spaced relation through said port, mounting means fixed relative to said seat internally thereof slidably receiving said projection, and telescopic shields carried by said disc and mounting means protectively enclosing said projection.

2,976,883
CHECK VALVE
Arnold A. Cowan, Los Angeles, Calif., assignor to Bobrick Manufacturing Corporation, Los Angeles, Calif., a corporation of Delaware
Filed July 25, 1957, Ser. No. 674,106
2 Claims. (Cl. 137—512.1)



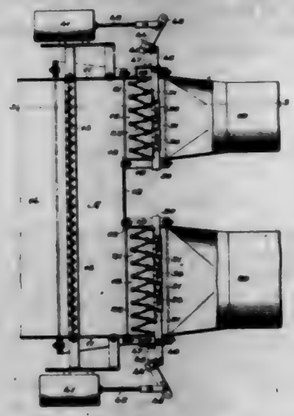
1. In a fluid control valve, the combination of: a housing incorporating a chamber; a valve seat member in said housing including a circular portion projecting into said chamber in spaced relationship with the wall of said chamber, said circular portion incorporating a plurality of fixed, intersecting, diametrical bars of uniform semi-elliptical cross section having flat surfaces thereupon which provide, in conjunction with the flat end of said circular portion, four valve seats disposed in the same plane; mounting brackets supported in said chamber in the space between said circular portion and said wall; radially oriented mounting arms pivotally secured to said brackets; and four sector shaped valve members each pivotally secured to said mounting arms and movable by fluid in said chamber into seating relationship with said valve seats to prevent flow of fluid from said chamber.

2,976,883
RELIEF VALVES
Colin Michael Frye, St. Andrews, Milton, near Tewkesbury, England, assignor to Dowty Mining Equipment Limited, Tewkesbury, England, a British company
Filed Mar. 28, 1958, Ser. No. 724,677
4 Claims. (Cl. 137—539.5)



1. A relief valve comprising a housing having opposite ends respectively with coaxial high pressure and low pressure bores therein, a transverse wall intermediate said bores having a port coaxial with said bores and communicating with each thereof, means including guide means slidably and closely received in said port for axial movement therein, passage means formed between said guide means and said port to afford communication between said bores, a valve element closely carried within said guide means and guided by the latter for accurate axial movement in said port, spring means in the low pressure bore urging said guided valve element in the direction toward the high-pressure bore, an annular valve seat positioned against the high-pressure side of said wall and engageable by the valve element extending through said port, said valve seat having a planar face normal to the axes of the bores and the transverse wall having a complemental planar face at its high pressure side whereon the valve seat is transversely shiftable for adjustment in different transverse directions for precise axial alignment of said valve seat with said guided valve element and thereby accurate seating of said valve element, and a clamp member received and guided for axial movement within the high-pressure bore into engagement with said annular valve seat and thereby to clamp and hold the latter against the wall in the adjusted axially aligned position of such valve seat.

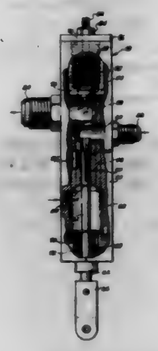
2,976,884
VALVE STRUCTURES
Franz J. Kurth, Mamaroneck, N.Y., and Leonard R. Phillips, West Hartford, Conn., assignors to Anemostat Corporation of America, New York, N.Y., a corporation of Delaware
Filed May 19, 1958, Ser. No. 736,373
6 Claims. (Cl. 137—606)



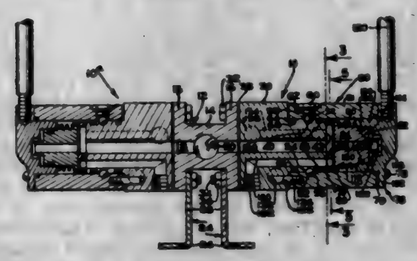
1. In a valve structure, a plurality of pivoted vanes, a bar extending transversely relative to said vanes and having therein and opening through an edge thereof slots in which free edge portions of said vanes are disposed whereby said bar is connected to said vanes for swinging them by longitudinal movement of said bar, and spring clips having their medial portions secured to said bar and their ends secured to the free edge portions of said vanes so as to retain said free edge portions in said slots when said vanes are in either open or closed position.

2,976,885
FUEL CONTROL VALVES
George H. Garraway, Darien, Conn., and Richard P. Kirkup, Packanack Lake, N.J., assignors to Orr & Sembower, Inc., Reading, Pa., a corporation of Pennsylvania
Filed July 8, 1955, Ser. No. 520,694
2 Claims. (Cl. 137—608)

1. In a fuel supply system for a fluid fuel burner, a fuel flow control valve comprising a body structure having formed therein a first inlet chamber, first and second outlet chambers and a second inlet chamber spaced in that order serially along the length thereof, a first passage means in said body structure interconnecting said first and second inlet chambers, a second passage means in said body structure interconnecting said first inlet chamber and said first outlet chamber, means providing a selectively variable orifice in said second passage means, means selectively operative independently of the pressure of the fluid in any of said chambers for actuating said variable orifice providing means to vary the size of the orifice in said second passage, and means for maintaining the fluid pressure at the upstream side of said variable orifice providing means in a predetermined relation to a second pressure at all settings of said variable orifice providing means, said last named means comprising a third passage means in said body structure interconnecting said second inlet and said second outlet chamber and providing a valve passage, a valve member in said second inlet chamber cooperating with said valve passage to control fuel flow to said second outlet chamber, and movable wall means defining at least a portion of the wall of said second inlet chamber and subjected at one side to the pressure in said second inlet chamber and on the other side to said second pressure and operatively connected to said valve member to modify the proportional flow of fuel through said second and third passage means.



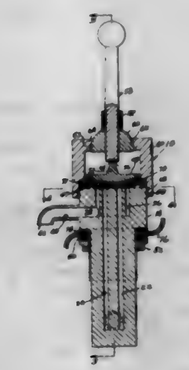
2,976,886
HYDRAULIC CONTROL APPARATUS
John A. Miscovich, Fairbanks, Alaska, assignor, by mesne assignments, to John A. Miscovich, Los Angeles, Calif., and Paul E. Fillio and J. M. Gaunlett Co. Inc., a corporation of Washington, both of Seattle, Wash.
Filed Nov. 4, 1957, Ser. No. 694,245
4 Claims. (Cl. 137—624)



1. A rotary valve comprising a cylindrical valve body terminating in an end surface and having a fluid supply duct formed coaxially therein and a working fluid duct spaced radially from the supply duct, each of said ducts

terminating in said end surface, a cylindrical sleeve encompassing the valve body and projecting axially beyond the body to present a valve chamber within the sleeve, anti-friction means rotatably mounting the sleeve on the body and retaining the sleeve and body against axial movement with respect to each other, means closing the projecting end of the sleeve, a valve core floating within the valve chamber in the sleeve and having an axial duct therethrough to impose the hydrostatic pressure prevailing within said fluid supply duct upon the end of the valve core remote from said body to press the valve core into sliding, fluid sealing engagement with said end surface of the valve body, said valve core having a fluid passage therein in position to interconnect said ducts when the valve core is in a certain position of rotational adjustment relative to the valve body, means connecting the valve core to the sleeve for rotation therewith, and means for rotating the sleeve.

2,976,887
MIXING AND VOLUME CONTROL VALVE FOR HOT AND COLD WATER
Jack J. Wilson, P.O. Box 1511, Colorado Springs, Colo.
Filed May 7, 1958, Ser. No. 733,772
9 Claims. (Cl. 137—625.4)



1. A mixing and volume control valve comprising an elongated member having a pair of laterally spaced elongated passages extending longitudinally therein from an end thereof, said member having a recess extending inwardly from said one end and surrounding said passages, said member having a fluid discharge passage extending transversely therethrough with an end thereof in open communication with said recess, means connecting each of said passages, respectively, with a source of fluid under pressure, said fluids having differing temperatures, a resilient valve supported on said one end of said member in spaced relation relative thereto, a rockable valve actuator having a convex side thereof normally engaging and depressing said valve towards the adjacent ends of said passages and said recess to seal said valve thereacross, said valve actuator being rockable on said resilient valve, and manually operable means engaging said valve actuator to impart a rocking movement to said valve actuator whereby a portion of said resilient valve moves away from one or the other of said adjacent ends of said passages or away from both of said ends of said passages in accordance to the preselected direction of movement of said last named means whereby one or the other or both of said fluids may pass between the raised portion of said valve and the adjacent portions of said one end of said member and into said recess for discharge through said discharge slot.

2,976,888
COUPLING FOR TUBE EXPANDER
Henry H. Merriman, 751 W. Washington Ave., Jackson, Mich.
Filed May 24, 1957, Ser. No. 661,506
13 Claims. (Cl. 137—784)



1. An actuator adapted to be connected to a source of fluid pressure, said actuator being in the form of a section of collapsible-expansible flexible hose, means for closing the ends of said hose to form a fluid chamber including an end fitting, said hose having a flexible wall which assumes cylindrical shape under fluid pressure yet the wall is readily collapsible into a flattened tubular shape to present an elongated bore to receive an elongated end fitting with a snug fit, said end fitting being elongated transversely of the hose and having a fluid passage defined therein and communicating with said chamber, and means for effecting relative displacement between said end fitting and said hose end to bring the walls of said fitting and said hose end into intimate fluid sealing relation.

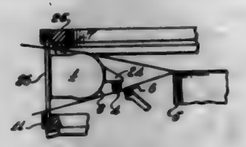
2,976,889
RESINOUS COMPOSITIONS AND TUBULAR MEMBERS PREPARED THEREFROM
Daniel L. Cannady, Jr., Allendale, S.C., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 25, 1958, Ser. No. 776,275
2 Claims. (Cl. 138—141)



1. A sound homogeneous thick-walled tubular member having high strength and good electrical properties comprising a plurality of layers of fibrous sheet material with a thermoset resin composition impregnating each of the layers, the thermoset resin also uniting the layers, said thermoset resin composition being the heat-treated product of a resinous composition consisting essentially of (*a*) from 98% to 88% by weight of a thermosettable resinous product derived by reacting one mol of phenol and from 0.9 mol to 1.7 mols of formaldehyde in the presence of an alkali catalyst under reflux conditions for at least one hour, and then vacuum dehydrated at a temperature not exceeding 100° C., and (*b*) from 2% to 12% by weight of a glycidyl polyether derived from a dihydric phenol and an epihalohydrin.

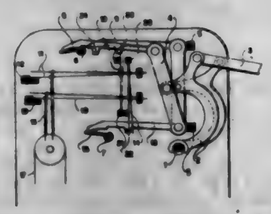
2,976,890
CIRCULAR LOOM
Jean Rabeux, Paris, and Raymond Jacob, Esubonne, France, assignors to Societe d'Applications Generales d'Electricite & de Mecanique, Paris, France
Filed May 29, 1956, Ser. No. 587,982
Claims priority, application France June 3, 1955
11 Claims. (Cl. 139—13)

1. In a circular loom having a circular track and a circular funnel interiorly placed from said circular track and concentric therewith and having a shed of spaced sets of warp threads supported at the apex of converging threads by said circular funnel, said warp threads being woven with weft threads to form a cloth, the improvement comprising at least one shuttle movable along said track around a longitudinal axis of said loom, driving means for propelling said shuttle operatively connected thereto, means on the upper portion of said shuttle slidably supported against said track, a projecting support member extending from said shuttle toward the longitudinal axis of said loom within the shed for slidably



abutting against the lower set of said warp threads and urging said shuttle away from the lower set of said warp threads, and a support member connected to said loom outside said shed of warp threads and abutting against the lower set of warp threads from outside the shed, said support member being spaced further away from the longitudinal axis of said loom than said circular funnel.

2,976,891
DOBBIES
Walter Wicker, Oberrieden, Switzerland, assignor to Gebr. Stäubli & Co., Horgen, Switzerland, a Swiss company
Filed Jan. 24, 1958, Ser. No. 711,074
Claims priority, application Switzerland Aug. 22, 1957
7 Claims. (Cl. 139—71)



1. In a dobby comprising a pattern card, at least one draw knife having an engagement surface, draw hooks associated with said knife and controlled for engagement with the knife according to the pattern, supporting members for said draw hooks, single means for taking all the draw hooks associated with the knife out of engagement with the engagement surface of the knife, whereby some of the hooks, in accordance with the pattern, need only be supported by the supporting members, respectively, associated with them for the purpose of the next control of the hooks according to the pattern.

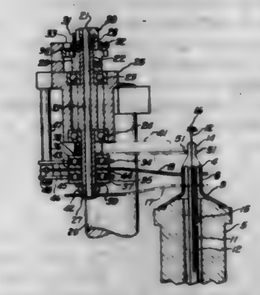
2,976,892
LOOM
Joseph A. Morin, Galt, Ontario, Canada, assignor to Textile Development and Machinery Limited, Galt, Ontario, Canada
Filed Aug. 5, 1957, Ser. No. 676,344
17 Claims. (Cl. 139—126)

1. In a loom a lay, means for imparting reciprocating motion to said lay, means for achieving warp feed, a shuttle, means for driving said shuttle across said lay through the shed of warps, a reed, supply means for supplying at least one filling yarn adjacent each end of said lay, a carrier for filling yarns normally in said shuttle but being removable therefrom, a receiver for said carrier at each end of said lay for removing said carrier from said shuttle near the end of its flight in use, in either direction, means carried by said shuttle for permitting transfer of said carrier from one receiver to the other and vice versa as said shuttle is driven across the lay, said carrier having retaining means for a filling yarn, filling yarn fixing means for engagement with said carrier, means at each end of said lay, each operable when said carrier is at the one of said receivers at its respective end of said lay, for moving said filling yarn fixing means and carrier relatively to each other to cause inter engagement thereof whereby to operate said filling yarn re-



taining means to fix an end of a filling yarn supplied at its respective end of said lay in said retaining means of said carrier and to release an end of filling yarn from said retaining means supplied at the other end of said lay and carried through the shed by said carrier.

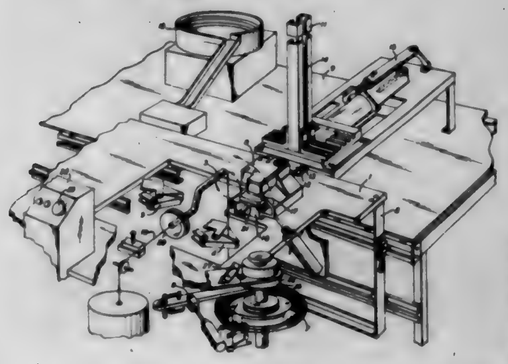
2,976,893
LAMP MAKING MACHINERY
Elmer G. Fridrich, Cleveland, Ohio, assignor to General Electric Company, a corporation of New York
Filed Feb. 4, 1955, Ser. No. 486,068
1 Claim. (Cl. 140—71.6)



An orienting mechanism adapted for operation at a station of an indexing type lamp making machine for orienting mounts indexed to said station upstanding on mount spindles of said machine comprising a pair of mount centralizing jaws normally spread apart and having notched forward ends adapted to encircle the stem tube of a mount when said jaws are pivoted together, and a pivotally mounted arm carrying at its swinging end an arcuate hairpin having resilient wire legs spread apart at their forward ends with a spacing therebetween corresponding to the narrow dimension of the flattened press portion of the mount, a vertical hollow spindle supporting said arm and a vertical shaft extending therethrough supporting one of said centralizing jaws, a spring coupling between said spindle and said shaft causing the shaft to rotate in unison with the spindle during initial rotation thereof and means restraining said shaft from further rotation after said jaws have been pivoted to a centralizing position, means supporting said second jaw indirectly from said spindle and causing it to pivot in a reverse direction to said first jaw, and means for pivot-

ing said spindle with a momentary reversal of swing subsequent to the initial engagement of the hairpin with the press of the mount whereby to repeat the orienting effect of the engagement of the hairpin with the mount.

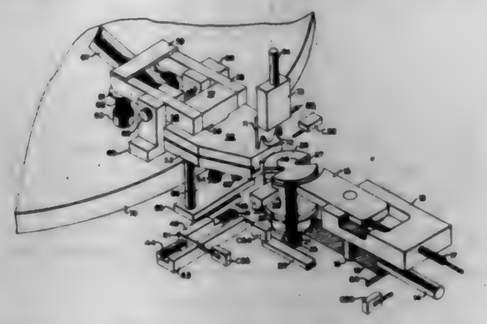
2,976,894
WIRE STRINGING MACHINE
George O. Philip, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1958, Ser. No. 784,307
19 Claims. (Cl. 140—93)



1. In a machine for stringing a plurality of piece parts, a supply of wire means for repeatedly winding said wire at equally distant points along the length of said wire about a given part of each of a plurality of said piece parts comprising means for successively feeding said piece parts to a stringing station, means for clamping each piece part with its said given part in a given spatial position in cooperative relationship with a wire winding means at said station, means for tautening said wire in close proximity to said given part of said clamped piece part, said winding means consisting of an orbital winder terminating in a nose driven over a circular path and having said wire threaded therethrough, means for gripping said wire below said given part of said piece part for tautening said wire from the said nose of said winder to the said gripper, means for driving the said nose of said orbital winder through its said circular path for winding said gripped wire about said given part, means for thereafter releasing said clamped part to allow movement thereof from said given spatial position, and a second means for thereafter gripping said wire at a point above said given part of said piece part and for releasing said gripping means and for moving said second gripping means to said point below said given part of said piece part whereby another length of wire is extracted from the said nose of said orbital winder and positioned in cooperative relationship with a said given part of a said clamped piece part ready for a succeeding winding operation.

2,976,895
WIRE CUTTING AND ORIENTING APPARATUS
Raymond E. Durham, Jr., Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 11, 1957, Ser. No. 664,980
17 Claims. (Cl. 140—102)

1. A device for cutting and orienting wire from a supply of wire comprising: a wire rotating member provided with gripper elements adapted to grip the leading end of the wire and to orient said leading end of wire in an opposite direction to that of the wire extending from the supply, means for rotating said wire rotating member after one of said gripper elements has gripped the leading end of the wire so as to orient said leading end in said opposite direction, means for feeding a predetermined amount of wire from said supply with said gripped leading end of wire in its oriented position so as to form a loop of wire, guiding means for guiding the loop of wire being formed, means for cutting said wire fed from said



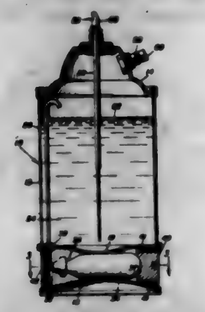
supply in a manner that a predetermined length of wire will be formed with the ends facing in the same direction, and means for causing said one of said gripper elements of said wire rotating member just prior to the cutting of the wire to release the oriented end of the wire and for causing another of said gripper elements to establish a grip on the end of the wire from the supply to be formed by the cutting of the wire.

2,976,896
SPOUTS FOR THE DISCHARGE OF VISCOUS MATERIALS AND IN METHODS AND DEVICES FOR LIBERATING THE SPOUT FOR THE DISCHARGED VISCOUS MATERIAL
Hans Gram, Vojens, Denmark
Filed Sept. 10, 1957, Ser. No. 683,107
Claims priority, application Denmark Sept. 19, 1956
6 Claims. (Cl. 141—1)



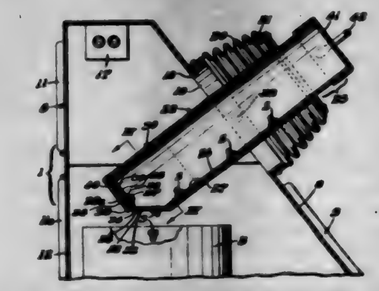
5. In a method of conveying a number of measured amounts of a swelled moldable mass adapted for freezing from a filling device for separating measured amounts from said mass down into a corresponding number of pockets arranged each to receive a separate one of said amounts through a separate spout having a collapsible portion supported by said device and providing a collapsible portion, the steps of lowering said device to a position in which each of said spouts extends deeply into an individual one of said pockets, then subjecting measured amounts of the moldable mass in said device to pressure and subsequently elevating said device gradually as the discharge of said amounts through said spouts proceeds due to the action of said pressure until the mouthends of the spouts are elevated to a level being not lower than the level to which said pockets are to be filled by the said measured mass and finally collapsing each of said spouts automatically in dependence of a continuation of the elevation of said device in order to liberate the spouts from the mass discharged therethrough.

2,976,897
REUSABLE PRESSURIZED CANISTER
Dixie Beckworth, Portola Valley, Calif.
(987 Commercial Ave., Palo Alto, Calif.)
Filed Feb. 10, 1959, Ser. No. 792,337
11 Claims. (Cl. 141—17)



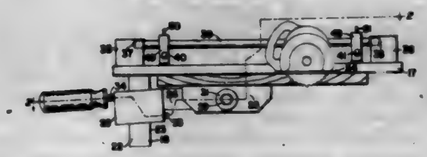
1. A reusable pressurized canister comprising a cylindrical body, top and bottom walls fixedly secured thereto, a partition spaced between said top and bottom walls forming an upper liquid receiving section and a lower pressure gas reservoir receiving section, said top wall having first and second openings therein, a delivery tube extending through said first opening and secured to said top wall, said tube extending downwardly in said upper section to a point slightly above said partition, a control valve secured to the top of said tube, said second opening affording passage of liquid therethrough, a closure for said second opening, a pressure release valve disposed in the said closure, means for opening the release valve from the exterior of the canister, a connecting conduit for conveying pressure from said pressure reservoir to the top portion of said upper section whereby said pressure will force any fluid in said canister downward and up through said delivery tube upon the opening of said valve.

2,976,898
APPARATUS FOR APPLYING CLOSURES TO CONTAINERS
Michael G. Coody, Broomall, and William C. Kohnle, Jr., Philadelphia, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
Filed Jan. 19, 1959, Ser. No. 787,458
10 Claims. (Cl. 141—346)



1. In apparatus for feeding articles from one zone into another zone, such zones being separated by a barrier, the combination which comprises means forming an opening in said barrier, magazine means extending through said opening and sealed to said barrier, and an elongated closures container which is slidable into and out of said magazine means, said closures container including a plurality of relatively turnable members each having an aperture which is adapted to come into and out of registry with the other, and control means operative in response to turning movement of said container for effecting relative movement of said relatively turnable members to bring the respective apertures into and out of registry with one another.

2,976,899
POWER TOOL GUIDE WITH CLAMPING AND INDICATOR MEANS
Joseph H. Lane, 745 S. 85th East Ave., Tulsa 12, Okla.
Filed Feb. 16, 1959, Ser. No. 793,597
6 Claims. (Cl. 143—47)



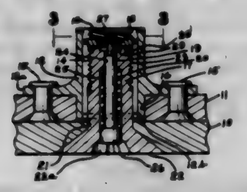
6. An aid for positioning cuts made by a power hand tool comprising, an elongated bar having a straight guide edge, an element slidably attached to said guide bar, a clamping mechanism on said element, an indicator bar having a reference to indicate the position of a line at a measured distance from said guide edge, a shaft journally attached to said element, said indicator bar being slidable through a hole in said shaft, means on said shaft for securing said indicator bar in said hole.

2,976,900
SAW CHAINS
Wade H. Mills, Kosmos, Wash.
Filed July 21, 1958, Ser. No. 749,855
9 Claims. (Cl. 143—135)



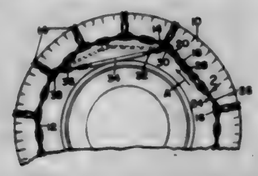
1. A chain saw chain comprising cutter links and links serially interconnecting said cutter links in successive spaced relationship, said cutter links comprising an upstanding link plate, a relatively wide and elongated block carried by said link plate and extending lengthwise along the upper portion thereof, a transversely disposed router carried by said block and projecting transversely beyond the opposite sides thereof, at a location intermediate the ends of such block, said router having an elongated cutting edge extending across substantially the full width of the router at the upper forward edge, said block having a portion extending forwardly from the router, with an upper guide face extending across substantially the width of said forward block portion which curves downwardly and forwardly at progressively decreasing longitudinal slope angle from its rear, upper end located in the vicinity of said cutting edge to a forward end located materially forwardly of and beneath the cutting edge.

2,976,901
BOLT CARRIED TILTING LOCKING BAR
Ernest Heyworth, Cheshire, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Jan. 2, 1958, Ser. No. 706,810
1 Claim. (Cl. 151—11)



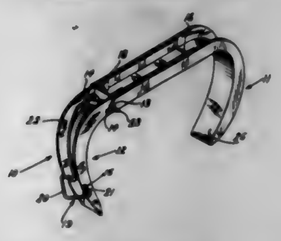
A fastener of the class described comprising an internally threaded socket adapted for attachment to an inner plate, a threaded stud adapted to project through a hole in an outer plate and engage the internally threaded bore of said socket, said bore having diametrically opposed channels parallel to the axis of the bore, a locking bar extending across the inner end of said stud with the ends of said bar adapted to extend into said channels to prevent relative rotation between said bar and the socket member while permitting relative sliding movement, means for yieldingly holding said bar against the end of said stud comprising a plunger having a reduced neck and opposed shoulders on its inner end between which said locking bar is movably confined, said plunger extending into an axial bore of said stud and a spring in said bore surrounding said plunger, radial ratchet teeth on the end face of said stud around the periphery thereof and complemental ratchet teeth on the adjacent faces of the said locking bar whereby relative rotation between said stud and locking bar and thus between the stud and socket is resisted when said bar is held against the stud by said spring and plunger, said locking bar having an elongated conical hole opening on the toothed side of said bar to permit tilting action of said bar in one plane, the teeth on one side of the locking bar being staggered relative to or out of diametrical alignment with those on the opposite side of the locking bar and wherein by reason of the tilting action of said bar at least one complemental set of ratchet teeth on one end of the locking bar will have selective locking engagement with adjacent teeth on the end of the stud.

2,976,902
AUTOMATIC TIGHTENER FOR TIRE CHAINS
Henry St. Pierre, 50 Frank St., Worcester, Mass.
Filed Apr. 15, 1958, Ser. No. 732,758
1 Claim. (Cl. 152—217)



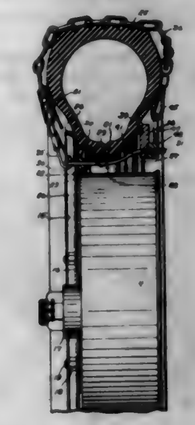
Traction chain for vehicles comprising side chains and cross chains, and automatic means connecting the ends of one side chain and applying tension thereto for maintaining tension on the chain, said automatic means including a link chain disposed between the ends of the side chain, resilient means normally urging the link chain in traction chain tightening direction, and means latching the link chain in traction chain tightening position, said latching means acting uni-directionally to provide for motion of the link chain in the tightening direction only, and comprising a shouldered loop through which the link chain extends, the link chain being reversed at the loop, the loop including rounded surfaces at one side only thereof on the shoulders to guide the link chain through the loop in traction chain tightening direction, the other side of the loop being flat and engaging the link chain and preventing passage of the link chain in the opposite direction.

2,976,903
TIRE ATTACHMENTS
Anthony F. Verdesca, Fairview, N.J., assignor to Ver-Sa-Parts Mfg. Corp., Fairview, N.J.
Filed Feb. 17, 1959, Ser. No. 793,871
4 Claims. (Cl. 152—225)



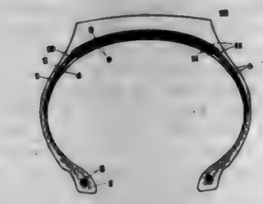
2. A tire attachment comprising, in combination, an elongated substantially straight channel member having a pair of side walls and a third wall interconnecting said side walls and formed with a plurality of slots extending transversely thereof; a pair of substantially L-shaped members also of channel shaped configuration respectively having at their ends a pair of tongues adapted to be selectively placed in a pair of said slots, respectively, so that said pair of L-shaped members provide with the slotted member a substantially U-shaped assembly whose length may be regulated by selectively placing said tongues in selected slots; and means cooperating with said L-shaped members and slotted member for releasably holding the same together in a position where they form a substantially U-shaped assembly.

2,976,904
TIRE CHAINS AND ATTACHING MEANS THEREFOR
John O. Cameron, 11 Hoover Ave., Quincy 69, Mass.
Filed Nov. 5, 1958, Ser. No. 772,048
8 Claims. (Cl. 152—237)



1. A tire chain anchor for use with a cross chain unit having hooks at its ends and a tire mounted on the rim of wheel of the type having a central body part, a flange extending inwardly with respect thereto in parallel with the wheel axis and to which the rim is attached, and an intermediate annular curved shoulder provided with arcuately spaced holes, said rim having its sides terminating in flanges, each curving away from the tire, said anchor comprising an element to be passed through one of said holes and including, at its outer end, an eye for one of said chain hooks and a shoulder engaging anchor member, the other end of said element being threaded, a second anchor member having a hole through which said threaded end freely extends and which includes a hook engageable with the inner rim flange, and a nut threaded on said anchor end against said second member and including an eye for the other chain hook.

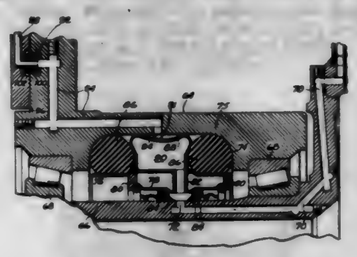
2,976,905
PNEUMATIC TIRE
Richard Beckadolph, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed July 1, 1957, Ser. No. 668,953
Claims priority, application Germany July 2, 1956
2 Claims. (Cl. 152—354)



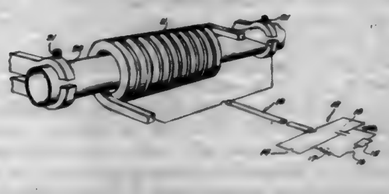
1. In combination in a belted tire having beads and a tread area: a plurality of plies of substantially parallel cords located in planes passing through the axis of rotation of said tire and having their cords under prepulling stress anchored to said beads, and a plurality of layers of annular belt-shaped reinforcements interleaved with said plies of cords in such a way that between each two adjacent plies of cords there is located one layer only of said annular belt-shaped reinforcements, all of said belt-shaped layers of reinforcements being in close contact with the respective adjacent plies of cords, said annular belt-shaped reinforcements being located in the zenith portion of said tire and forming an angle with the circumferential direction of rotation of said tire and extending substantially over the width of said tread area.

2,976,906
TIRE PRESSURE CONTROL DEVICE
Wunibald L. E. Kamm, Stuttgart, Germany, Kurt Staiger, Indianapolis, Ind., and Willy F. Krautter, Portland, Pa., assignors to the United States of America as represented by the Secretary of the Army
Original application Sept. 10, 1958, Ser. No. 760,277, now Patent No. 2,944,579, dated July 12, 1960. Divided and this application Nov. 3, 1959, Ser. No. 856,884
5 Claims. (Cl. 152—417)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a tire pressure control system for a vehicle mounting an axle and a wheel hub rotatable thereon; a conduit formed in said axle terminating in an orifice formed in the surface thereof, sealing structure contained within a recess of said wheel hub, said sealing structure including a set of annular sealing rings encompassing said axle and axially positioned on both sides of said orifice, lips formed on said sealing rings projecting toward said orifice, holding rings positioning said sealing structure within said recess, a coupling within the wheel supporting flange of said hub and a conduit connecting said coupling with said recess whereby compressed gas may flow through said axle to said coupling.



2,976,907
METAL FORMING DEVICE AND METHOD
George W. Harvey, La Jolla, and David F. Brower, Del Mar, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 28, 1958, Ser. No. 757,867
11 Claims. (Cl. 153—10)



1. A magnetic metal forming device comprising a conductor shaped to provide a predetermined magnetic field, means for applying at least one predetermined current pulse through said conductor, a die located adjacent said conductor, and means for positioning a metallic work piece between said conductor and said die, said current pulse being of such strength and being effective for a sufficient length of time to transfer the necessary energy to the metallic work piece to cause it to conform to the surface of said die.

2,976,908
METHOD OF AND APPARATUS FOR MANUFACTURING PIPE BENDS
James MacKay Ferguson, Hirta Buchanan Drive, Bearsden, Scotland
Filed May 14, 1957, Ser. No. 659,001
9 Claims. (Cl. 153—32)



1. A method of manufacturing pipe bends including the operations of separately radially compressing and expanding eccentrically a pipe section by substantially equal amounts to increase the wall thickness at one side and reduce the wall thickness at the side diametrally opposite while restoring substantially the original diameter of the pipe section, and bending the pipe to shorten the expanded side and lengthen the compressed side whereby to store substantially the original wall thickness.

2,976,909
TOOL FOR AFFIXING LININGS TO BRAKE SHOES
Warren H. Parker, 2851 Morgan Ave., Oakland, Calif., assignor of one-third to Charles W. Butler, and one-third to Charles Berk, both of Oakland, Calif.
Filed Mar. 21, 1960, Ser. No. 17,732
9 Claims. (Cl. 154—1)



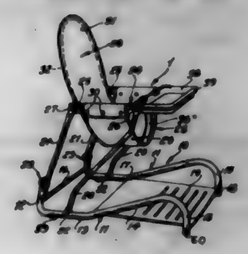
1. A tool of the character described including a pair of opposed brake shoe holders arranged to engage an annular backing band, each of said holders having a rigid arcuate peripheral flange extending for approximately 180 degrees of arc and a rigid cross member interconnecting the ends of said arcuate flange, a pair of spaced diametrically extending web members interconnecting said flange and member medially of the widths thereof, said arcuate flange further having a continuous slot communicating with the space between said web members whereby a brake shoe web may be inserted through said slot and between said webs, spacer means provided adjacent the distal ends of said arcuate flanges and extending generally radially outwardly therefrom a distance substantially equal to the thickness of a brace shoe flange and lining therefor and adapted to engage portions of the band, and extensible means interconnecting the central portions of the cross members of each holder.

2,976,910
METHOD AND MATERIAL FOR RETREADING PNEUMATIC TIRE CASINGS
Bernhard Nowak, Bad Schlangenbad, Georgenborn, Germany, assignor to Bandag Incorporated, Muscatine, Iowa, a corporation of Iowa
Filed Dec. 19, 1958, Ser. No. 781,573
6 Claims. (Cl. 154—14)



1. A method for retreading the road engaging surface of a rubber tire comprising preforming a tread strip from rubber material by completely vulcanizing said material under a molding pressure of at least about 300 pounds per square inch, peripherally applying said preformed tread strip to said road engaging surface, interposing between said road engaging surface and said preformed tread strip a bonding medium capable of vulcanizing at temperatures below about 150° C., said bonding medium comprising a binding composition including at least two components that are normally in a stabilized condition and that must be kept apart until just prior to use for preventing premature vulcanization thereof, uniting the terminal ends of said preformed tread strip to form a retread tire assembly, and subjecting said retreaded tire assembly to an external pressure of at least normal tire operating pressure, and an elevated drying temperature below about 150° C. in order to accelerate the vulcanizing reaction of said binding composition and obtain a uniform bond between said road engaging surface and said preformed tread strip.

2,976,911
INFANT'S CHAIR
Paul L. Barker, Detroit, Mich., assignor to National Production Company, Detroit, Mich., a corporation of Michigan
Filed June 19, 1958, Ser. No. 743,194
4 Claims. (Cl. 155—18)

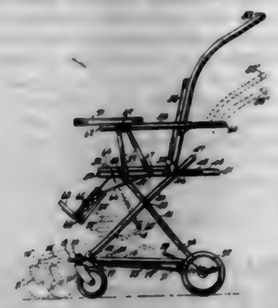


1. An infant's chair comprising a generally rectangular base, a pair of arms comprising a front and rear arm at each side of said chair, a seat, means for pivoting the upper ends of each arm in each pair of said arms to spaced points on said seat for swinging movement about generally horizontal axes extending transversely of said seat, said arms extending downwardly and rearwardly from said seat, means for pivoting the lower ends of the front arms to said base at a point intermediate the ends of the sides of said base for swinging movement about a generally horizontal axis extending transversely of said base, and torsion rubber means for pivoting the lower end of each said rear arm to said base for swinging movement about a generally horizontal axis extending transversely of said base, each said torsion rubber means comprising a body of rubber, a pair of spaced support elements bonded to said body of rubber, said elements being axially aligned and being spaced from one another by a mass of rubber, means on the lower end of each said rear arm non-rotatably engaging one of said support elements and means on said base non-rotatably engaging the other of said support elements with the axes of said support elements extending transversely of said base, said base comprising spaced side members to which the lower ends of said arms are pivoted, each said side member comprising an upwardly extending rear end portion, a short horizontal portion extending forwardly from the lower end of the rear end portion, an upwardly and forwardly extending portion connected to the horizontal portion and a downwardly extending portion which is adapted to engage the ground, said horizontal portion also adapted to engage the ground, the lower ends of said front arms being pivoted to said horizontal portions of the side members, the lower ends of said rear arms being pivoted to the upper ends of said rear end portions of said side members.

2,976,913
COMBINATION HIGH CHAIR, STROLLER AND TODDLER
Virgil F. Dias, 823 Folger Ave., Berkeley, Calif.
Filed Feb. 3, 1958, Ser. No. 712,968
4 Claims. (Cl. 155—38)

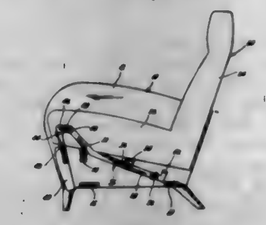
4. In a height adjustable vehicular chair, a seat frame having side members each having a front end and a rear portion and each having an elongated slot formed lengthwise in the rear portion, a chassis consisting of a pair of telescopic side members, a front cross member fixed to the forward ends of said telescopic side members, and an axle pivoted in the rearward ends of said telescopic

side members, casters mounted in said front cross member, and wheels mounted on said axle, tension spring means cooperative between the forward end of said chassis and said axle for normally retracting said telescopic members, a pair of X-frames each consisting of two rods intermediately pivoted together and having forward upper and lower ends and rearward upper and lower ends, with



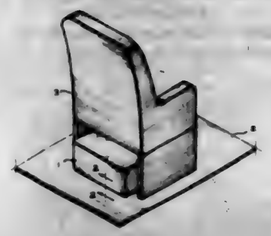
the forward upper ends pivoted to the front of said seat frame and the forward lower ends pivoted to the forward end of said chassis, and the rearward upper ends pivotally connected in said slots for pivotal and sliding movement, and the rearward lower ends pivotally supported on said axle, and releasable locking means locking the telescopic side members in selective extended positions for various elevations of the seat frame.

2,976,913
RECLINING CHAIR OF MULTIPLE-POSITION TYPE
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz
Filed Aug. 11, 1959, Ser. No. 832,975
8 Claims. (Cl. 155—106)



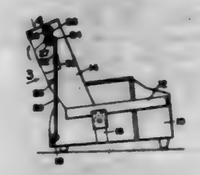
1. In a multiple position reclining chair having a support frame, a carrier unit movably mounted on the support frame, and a body-supporting unit including a rigidly-formed seat and back-rest mounted on the carrier unit for rearward movement relative to the carrier unit during a first motion phase, the carrier unit and body-supporting unit being then movable relative to the support frame during a second motion phase; a leg-rest structure including a leg-rest swingably mounted on the forward end portion of the seat, and leg-rest actuating means for moving the leg-rest from a retracted position beneath the seat to an extended position forwardly of the seat in response to movement of the body-supporting unit during said first motion phase, said actuating means including a member pivotally mounted intermediate its ends on one of said units, said member having a first arm depending from its pivotal mount on said one unit and a second arm projecting in a different direction from said pivotal mount, the first arm being operatively connected to the leg-rest, and a pin-and-slot connection coupling the second arm to the other unit.

2,976,914
FLOOR CUSHIONS FOR AIRPLANE USE AND THE LIKE
Jacob E. Miller, Baltimore, Md., assignor to C. R. Daniels, Inc., Daniels, Md., a corporation of New York
Filed May 6, 1959, Ser. No. 811,459
2 Claims. (Cl. 155—170)



2. In combination, a footrest for use in an airplane, said airplane having a pile fabric covering on the interior floor surface thereof, said footrest being of relatively shallow depth and having a hooked pile strip attached to the lower surface thereof, said hooked pile fabric engaging the pile fabric of the floor covering to hold the footrest in place but readily movable thereon when desired.

2,976,915
PROJECTING HEADREST
Albert M. Spound, % Charlton Company, Inc., Fitchburg, Mass.
Filed Mar. 11, 1958, Ser. No. 720,628
2 Claims. (Cl. 155—177)

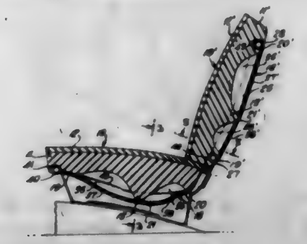


1. An article of furniture comprising a chair frame, a seat and a backrest thereon, said backrest having a recess therein at the rear and top thereof, said recess being concealed from view at the front of the backrest, and means providing for tilting of the backrest from a seating to a reclining position of the chair frame, a pivoted headrest normally located within the recess in said backrest, said headrest being concealed from view from the front of the chair, means for pivoting said headrest from its position within the recess to an exposed useful condition thereof at the top of the backrest in juxta-position therewith, and automatic means for actuating said means for moving said headrest at will from its position in the recess to the projected position thereof upon inclination of the backrest with respect to the chair frame, said last-named means including a driving member pivoted at one end to the chair frame, and interengaging geared means between the driving member and the headrest.

2,976,916
SPRINGLESS CUSHION
Peter Schladermundt, Bronxville, Henry A. Holzwarth, Levittown, and John D. Wark, Freeport, N.Y., assignors to Hewitt-Robins Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 15, 1958, Ser. No. 709,013
7 Claims. (Cl. 155—178)

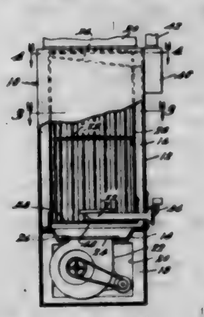
1. A cushioned structure comprising a rigid pan incorporating front and rear support surfaces and an inter-

vening, depressed section, a cushion unit seated front and rear on said support surfaces and having on its nether side opposite to the maximum load zone of the unit a transversely extending rib of outwardly tapering section, with the apex of the rib engaging the depressed section of the pan, the remainder of the nether side of the cushion unit between the rib and the support surfaces being spaced from the depressed section of the pan, the said support surfaces of the pan and the surfaces of the unit seated thereon having interengaging portions, said por-



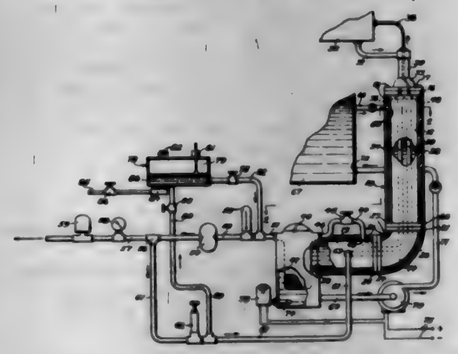
tions positioning the cushion unit on the pan and restraining said unit against sliding movement relative to the pan and the cushion unit being of foam material yieldable under load to compress the rib against the depressed section of the pan and thereby, due to the tapering section of the rib, to offer progressively increasing resistance to penetration of the cushion unit by the load, the said pan having openings therein to vent the voids between the pan and those nether surfaces of the cushion unit which are spaced therefrom.

2,976,917
HOT AIR FURNACE
Paul W. Wyckoff and Robert P. Wonka, Dayton, Ohio, assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,653
1 Claim. (Cl. 158—7)



In a hot air furnace a hollow heat exchanger of rectangular horizontal section having vertical side walls and a bottom wall, and a gas burner mounted in close proximity to said bottom wall and within said heat exchanger, said burner including a generally horizontal inspirator tube having an axis extending normal to one of said vertical side walls and upwardly directed orifice means located above a central region of said bottom wall with the marginal portion of said orifice means located substantially in a horizontal plane, said burner further including a spreader plate overlying and having a greater width than the above mentioned orifice means, said spreader plate including a flat main body portion which is substantially rectangular in plan view with its major axis parallel to said side walls and aligned with the axis of said inspirator tube and with one end portion thereof extending transversely of said inspirator tube, said flat main body portion of said spreader plate lying in a horizontal plane spaced slightly above the marginal portion of said orifice means with the above mentioned end portion of said spreader plate and said inspirator tube being operatively connected throughout the entire width of said inspirator tube, the remaining end portion and both side portions of the rectangular spreader plate body portion cooperating with the marginal portion of said orifice means to provide a continuous slot adapted to serve as one uninterrupted port of uniform section extending around three sides of the rectangular spreader plate body portion to accommodate the escape of an air and gas mixture in horizontal directions therefrom, said spreader plate also being provided with a downwardly inclined peripheral portion on each of its last mentioned three sides serving to direct the escaping gas and air mixture toward said bottom wall.

2,976,918
PREHEATERS FOR HEAVY FUEL OIL
Orria Leach, 172—90 Highland Ave., Jamaica, N.Y.
Filed Sept. 17, 1956, Ser. No. 610,291
5 Claims. (Cl. 158—36)

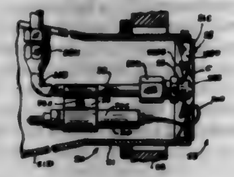


1. A fuel oil supply system for fuel oil fired furnaces comprising, in combination, a hot water tank, a fuel oil supply tank, a fuel pump having an inlet and an outlet for delivering fuel to a burner, a fuel oil delivery line adapted to deliver oil from said tank to said pump, a fuel oil preheater associated in heat transferring relationship with said delivery line between said tank and said pump, said hot water tank including duct means for supplying hot water heat to said preheater, a return line connected at one extremity to said delivery line on the outlet side of said pump and at the opposite extremity to said fuel oil supply tank, the intermediate portion of said return line passing in heat transferring relationship through said preheater, an auxiliary fuel oil tank having a fuel oil supply line communicating with said return line, an inlet line for delivering fuel from said auxiliary tank communicating with said inlet of said pump, and means for supplying heat to said auxiliary tank independently of said heat supply means for said preheater.

2,976,919
OIL BURNERS
William L. Sanborn, Milwaukee, Wis., assignor to Bell & Gossett Company, a corporation of Illinois
Filed May 29, 1956, Ser. No. 588,075
3 Claims. (Cl. 158—76)

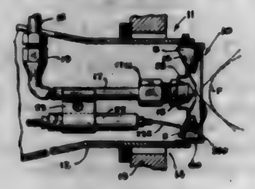
1. In an oil burner of the gun type having an air tube terminating in a forward end and through which air is fed forwardly for discharge from said forward end, an oil feed line extending through said tube and terminating in a liquid atomization oil discharge nozzle disposed co-

axially of the tube for discharging oil in a hollow conical spray beyond the forward end of the nozzle, said nozzle having an axial discharge orifice and a truncated, conical forward face terminating at its smaller end close to the axis of said orifice, and a swirler unit through which air may pass and including a truncated cone member mounted in fixed position on said nozzle within and in a coaxial relation to the forward end of said tube and surrounding the forward portion of said nozzle at substantially the most forward portion thereof and having swirler blades extended from its outer edge for directing



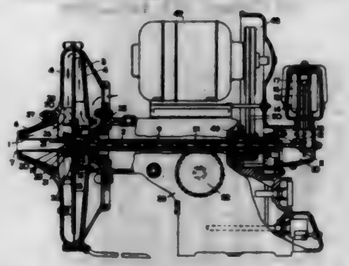
the forwardly moving air from an outer annular zone of the tube with a swirling movement into and about the spray of oil to provide combustion air, and said truncated cone member cooperating with the forward portions of said nozzle for directing the forwardly moving air from the innermost annular zone of said tube in an inward direction across and against the conical forward face of said nozzle and toward the axis of the spray to supply flame propagation air at the nozzle tip and build up a point of pressure at said tip to maintain the flame close to said tip and in a stable and minimized burning zone.

2,976,920
OIL BURNER WITH AIR DIRECTING MEANS
William L. Sanborn, Milwaukee, Wis., assignor to Bell & Gossett Company, a corporation of Illinois
Filed Sept. 4, 1957, Ser. No. 681,930
4 Claims. (Cl. 158—76)



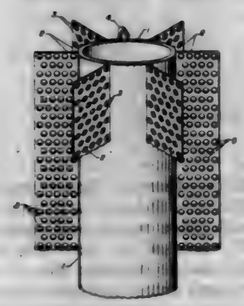
1. In an oil supply and air control unit for use in a liquid atomization type oil burner having an air tube through which low pressure air is directed in a forward direction toward an open forward end of the tube, an oil supply pipe adapted to be mounted in the tube through which oil may be forced at a predetermined pressure, a liquid atomization nozzle connected to said pipe at the forward end of an air tube for receiving oil under pressure from the pipe, said nozzle including an outer nozzle tip having an axial discharge orifice for spraying oil forwardly from said nozzle and having an outer forward face formed as a concentric, truncated conical surface from the smaller forward end of which a small cylindrical projection extends and terminates in a flat tip face normal to and through which said discharge orifice opens, a cone-shape air directing member disposed forwardly of said conical face and extended radially outwardly beyond said nozzle to direct air inwardly along said conical face for discharge as a forwardly moving sleeve along said cylindrical projection and past the edge of said tip face at right angles to said tip face to carry any oil present at the edge of the tip face directly forwardly into the oil spray, a mounting spider supporting said air directing member on said nozzle, an annular series of radially disposed air directing blades formed as outward extensions of said cone-like air directing member and arranged in uniformly spaced relation in a circumferential sense for directing air with a swirling action direction against the divergingly sprayed oil.

2,976,921
OIL BURNERS
Lewis Motley, Wenlock Abbey, Much Wenlock, England, assignor to Redbourn Iron & Steel Company Limited, Durham, England, a British company
Filed Apr. 4, 1957, Ser. No. 650,629
Claims priority, application Great Britain Apr. 6, 1956
3 Claims. (Cl. 158—77)



1. An oil burner of the rotary atomizing type comprising an atomizing cup having an external annular groove, a rotary hollow drive shaft for supplying a fuel to said cup with the fuel in direct contact with the bore of said shaft, mounting means securing said cup coaxially to the forward end of said shaft for joint rotation of said cup with said shaft, said mounting means including complementary smooth conical surfaces formed at the rear end of said cup and the forward end of said shaft coaxially with the longitudinal cup axis respectively, a shoulder on said drive shaft, a resilient split ring sprung into the annular groove around said cup, a thrust ring surrounding said cup and engaging the side of said split ring remote from said shoulder, two clamping parts respectively surrounding said shaft and said cup, screw means drawing said clamping parts towards each other, whereby said clamping parts respectively press against said thrust ring and said shoulder and draw said conical surfaces into tight engagement with each other, thereby securing said cup and said shaft coaxially with the shaft axis, and a fan mounted fast on one of said clamping parts.

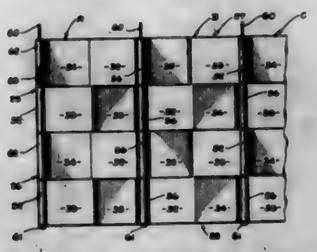
2,976,922
FLARE
Donald J. Bergman, Kenilworth, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Apr. 29, 1959, Ser. No. 809,793
3 Claims. (Cl. 158—99)



1. A flare comprising a vertical stack, ignition means at the upper discharge end of the stack, and a plurality

of perforated vertical vanes connected along a vertical edge thereof to and extending outwardly from the upper portion of the stack, said vanes being spaced around the external periphery of the stack and extending downwardly from substantially the top of the stack a distance equal to at least three times the diameter of the stack.

2,976,923
FOLDABLE TRAVERSE CURTAIN AND CONSTRUCTION UNITS THEREFOR
James Hirschfeld, 2629 S. Hacienda Ave., Los Angeles 18, Calif.
Filed Sept. 25, 1958, Ser. No. 763,321
19 Claims. (Cl. 160—229)



1. Block means for use in a traversable curtain made up of a series of articulated panels with each panel being made up of a series of similar stacked blocks, said block means comprising: a structure having a pair of laterally spaced, parallel, end strips, rigid web means carried by and extending between said end strips, said web means having adjacent portions lying in different planes, said adjacent web portions having a top edge and a bottom edge, the top edge of said one web portion and the bottom edge of the said adjacent web portion being spaced in a substantially horizontal direction whereby ventilating air passages are provided and direct light transmission is minimized through the block means; and hinge means attached to each of said end strips, the axis of the hinge means attached to one end strip being disposed forward of a median vertical plane of the block means, and the axis of the hinge means attached to the other end strip being disposed rearward of such median plane.

2,976,924
PAPER MACHINERY
Joseph Baxter, Jr., Franklin, Ohio, assignor to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Original application Dec. 29, 1951, Ser. No. 264,888, now Patent No. 2,760,411, dated Aug. 28, 1956. Divided and this application Apr. 25, 1956, Ser. No. 580,595
2 Claims. (Cl. 162—273)



1. A Fourdrinier paper machine comprising a frame, a traveling continuous forming wire supported on said frame, a first roll and a second roll mounted in spaced relation in said frame on the same side of the wire, a third roll located on the opposite side of the wire from said first and second rolls, mounting means supporting said third roll for swinging advancing and retracting movement toward and away from the wire respectively, said mounting means having a range of said swinging movement providing a predetermined advanced position of said third roll wherein the path of the wire from said third roll to said second roll is at substantially right angles to a line connecting the axes of said third roll and said first roll and wherein also said movement of said third roll is substantially directly in line with the path of the wire from said third roll to said second roll, reversible drive means for said mounting means, sensing means connected with said mounting means for continuously sensing the torque load thereon caused by the tension in the wire, said sensing means having a neutral position corresponding to a predetermined wire tension, said wire being of predetermined length developing said predetermined tension in response to swinging movement of said third roll to said predetermined advanced position, and means including a reversing switch controlled by said sensing means in response to variations in the wire tension and operative to actuate said drive means to swing said mounting means in the direction to restore said predetermined tension.

2,976,925
REINFORCED SUCTION BOX COVER
Casper E. Youngchild, Appleton, Wis., assignor to Appleton Wood Products Co., Appleton, Wis.
Filed Feb. 3, 1958, Ser. No. 712,711
4 Claims. (Cl. 162—374)

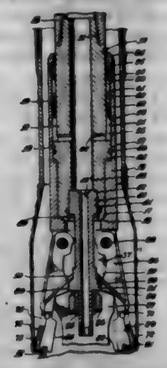


1. A suction box for Fourdrinier and like machines having a cover comprising a plurality of independent sections, said suction box having side and end walls providing an open top, each of the sections including a main body portion having an upper exposed wear face and lower non-active face, said sections extending across the suction box and resting upon the side walls of the box and a reinforcing rib possessing strength and rigidity embedded in the body portion from the lower face and terminating decidedly short of the upper exposed face and extending from one end of the body to the other and resting upon the upper edges of the side walls of the box.

2,976,926
PRODUCTION OF PETROLEUM BY WATER FLOODING
George P. Maly, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Aug. 19, 1957, Ser. No. 679,189
19 Claims. (Cl. 166—9)

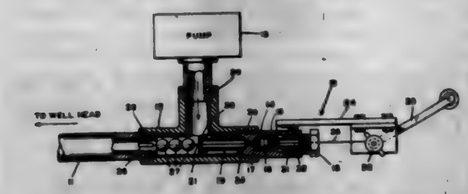
1. The method of producing petroleum from a subterranean petroleum-bearing formation which is penetrated by a well bore, wherein the flow of petroleum into said well bore is caused by the flow of water through said formation towards said well bore, said formation being comprised of closely adjacent strata of different permeabilities, which method comprises introducing into said well bore a hydrocarbon oil having a permanent viscosity at least about 20 times the viscosity of the petroleum connate to said formation but not greater than about 2000 centipoises, said hydrocarbon oil being miscible with said connate petroleum and substantially free from agents which cause emulsification of oil and water; applying to said hydrocarbon oil a pressure sufficient to force the same into said formation but insufficient to fracture said formation; and thereafter releasing said pressure and placing the well on production.

2,976,927
ROTARY DRILL BITS AND CUTTERS
Archer W. Kammerer, Jr., Fullerton, and David E. Lamphere, Orange, Calif., assignors, by direct and mesne assignments, to Rotary Oil Tool Company, Buena Park, Calif., a corporation of California
Filed May 8, 1958, Ser. No. 733,995
6 Claims. (Cl. 166—55.8)



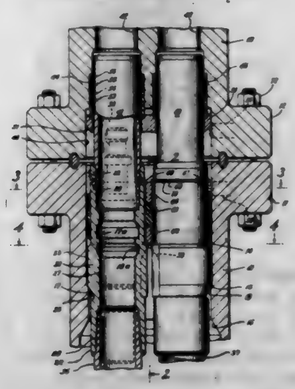
5. In a rotary drill bit to be lowered in a well bore to mill away a portion of a well conduit in the well bore: a body; a plurality of circumferentially spaced drag cutter means on said body; each of said cutter means having a preformed groove extending upwardly from its lower end to receive the conduit and center said cutter means relative to the axis of the well conduit; and means positioning said cutter means on said body wherein said grooves are equidistant from the common axis of the conduit and body and wherein said cutter means rest upon the upper end of the conduit with the conduit received within said grooves; the base of each groove providing a cutting face.

2,976,928
METHOD AND APPARATUS FOR INJECTING PERFORATION SEALERS
Bruce Gilbert, Dallas, Tex., assignor to The Western Company of North America, a corporation of Delaware
Filed June 7, 1957, Ser. No. 664,297
3 Claims. (Cl. 166—75)



1. Apparatus for injecting well-casing perforation sealing elements into a well during treatment of said well with fluid under pressure, which comprises a hollow injector assembly having one end thereof adapted to communicate with a well treating means, reel means attached to the other end of said injector assembly, a source of fluid pressure communicating with the interior of the injector assembly through an inlet opening in said injector assembly, a wire having a first end passing through the interior of said injector assembly and a second end attached to said reel means, well-casing sealing elements strung on said wire adjacent to said first end, said injector assembly having means to position said sealing elements with respect to said inlet opening so as to be expelled by fluid pressure from said source of fluid pressure, and releasable restraining means attached to the first end of said wire adapted to prevent premature release of said well-casing sealing elements into said well.

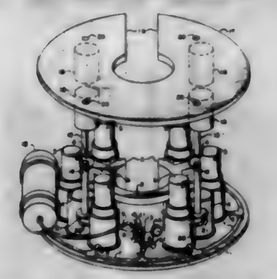
2,976,929
MULTIPLE PIPE SUPPORT
John Bosco, Houston, Tex., assignor, by mesne assignments, to McEvoy Company, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 641,677, Feb. 21, 1957. This application Nov. 30, 1959, Ser. No. 856,296
8 Claims. (Cl. 166—75)



1. Well completion apparatus for multiple completion wells comprising a casing head having a vertical passage therethrough from the well, a tubing head surmounting and said casing head and having a vertical opening therethrough in axial alignment with said vertical passage through the casing head, an upwardly facing annular shoulder around said opening for supporting a plurality of hangers within said tubing head, lateral support means disposed above said shoulder and dividing said shoulder into equal circumferential segments each having one of said lateral support means at each end thereof, a plurality of hangers each supported upon a said segment of said shoulder and each held thereon against lateral movement off of the shoulder by said lateral support means at each end of the segment, hangers supported upon adjacent of said shoulder segments being spaced by said lateral support means, each of said hangers having a horizontal cross-sectional area which is less than the area obtained by dividing the horizontal cross-sectional area of said opening by the number of hangers constituting said plurality of hangers, said hangers being spaced horizontally one from the other in said opening so that when one said hanger is removed a horizontal cross-sectional area of said opening is cleared which is greater in area than the horizontal cross-sectional area of the removed hanger whereby oversize equipment having a horizontal cross-sectional area greater than the horizontal cross-sectional area of the removed hanger may be run therethrough, each said hanger including an intermediate flange seated on said shoulder segments and upper and lower tubular extensions therefrom, a passage through each said flange providing communication between the said upper and lower tubular extensions thereof, said shoulder being spaced below the top of said tubing head so that said hanger flanges supported thereon are spaced below said tubing head top, means for sealing said tubing head opening above said hanger flanges disposed to overlie said flanges and the spaces between said hangers and sealingly about said upper tubular extensions of said hangers and sealingly within said opening above said flanges, said lower tubular extensions of said hangers each including

means for supporting a pipe in the well, the said spaced disposition of said hangers in said opening being permitted because of said disposition of said sealing means to overlie said flanges and spaces.

2,976,930
DRILL PIPE SHOCK ABSORBER
Dunne E. Marquis, Bartlesville, Okla., Glenn F. Miller, Odessa, Tex., and Hugh W. Patterson, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 1, 1958, Ser. No. 752,523
8 Claims. (Cl. 166—85)



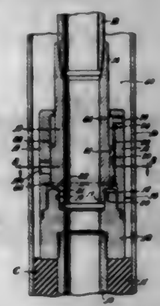
1. An apparatus for absorbing shocks from a well string being moved within a bore hole comprising, in combination, a base plate provided with a central opening for said string, a cover plate provided with a central opening for said string, and hydraulic shock absorbing means between said plates comprising cylinder and piston assemblies, said assemblies being operably connected to hydraulic accumulator means to receive hydraulic fluid from said assemblies when a load is applied to said cover plate.

2,976,931
WELL CONNECTOR DEVICE
Douglas E. Dollie, Pasadena, Tex., assignor to Cameo, Incorporated, Houston, Tex., a corporation of Texas
Filed Feb. 28, 1956, Ser. No. 566,646
5 Claims. (Cl. 166—125)



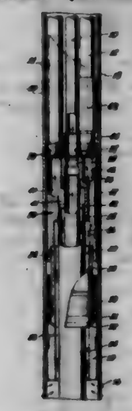
1. In combination, a tubing string having vertically spaced apart nipples, an internal rib in one of the nipples, a latch dog keeper in a nipple spaced below the nipple having said internal rib, a tool hanger body to be passaged through the tubing string for removable mounting in the nipple having said keeper, said body having a laterally projectable latch dog mounted therein and receivable within the keeper and a dog actuating plunger slidable in the body, and a running tool comprising an outer tube, releasable connections joining the outer tube to said plunger and to said body, a force transmitting plunger slidable in said tube and engageable with the dog actuating plunger for concurrent slide travel of said plungers to effect latch dog projection, a first spring blade having a laterally depressible free end and being fixed at its other end to said outer tube, a lug on the blade free end projected outwardly therefrom and engageable with said internal rib on passage thereby to laterally depress said blade free end, a second spring blade adjacent and outwardly of the first blade and having a laterally depressible free end terminating below the free end of the first blade, means slidably mounting the opposite end of the second blade on said outer tube, a spring interposed between the outer tube and said second spring blade and biasing the blade upwardly and a lug enlargement on the free end of the second blade bearing upwardly on the free end of the first blade in the undepressed position of the latter and which blocks spring biased travel of the first blade and bearing rearwardly on the free end of the first blade in the laterally depressed position of the latter and upon upward spring biased travel of the first blade, said lug enlargement having outward projection for engagement with and depression by said internal rib on passage therethrough and for engagement with the nipple having said latch dog keeper as a limit stop to downward passage of the running tool outer tube in said tubing string.

2,976,932
SUBSURFACE WELL BORE VALVE APPARATUS
Reuben C. Baker, Coalinga, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 23, 1957, Ser. No. 654,594
12 Claims. (Cl. 166—226)



1. In apparatus adapted to be disposed in a well bore on a tubular running-in string: an outer tubular member; an inner tubular member telescopically arranged within said outer member and extending axially therefrom; one of said members having a connection whereby said one member can be secured to a tubular running-in string; means for securing the other of said members in the well bore against longitudinal movement therewithin; one of said members having a side port through which fluid can flow between the interior and exterior of said members when said members occupy one telescoped position with respect to each other; one of said members having a valve seat and the other of said members having a valve head engaging said seat when said members occupy another telescoped position with respect to each other to prevent such flow of fluid; coengageable means on said members for transmitting longitudinal force between said members in one direction with said head engaging said seat to maintain said other of said members secured in the well bore; and shear means releasably securing said members together with said valve head engaging said seat and releasable in response to a predetermined longitudinal force imposed on said members in the opposite direction by the tubular running-in string to permit disengagement between said valve head and seat; said shear means being free from the longitudinal force transmitted in said one direction when said coengageable means are engaged.

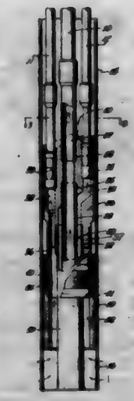
2,976,933
MULTIPLE TUBING STRING PRODUCTION APPARATUS
Waldo W. Hensley, Jr., Houston, Tex., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 23, 1957, Ser. No. 704,649
5 Claims. (Cl. 166—243)



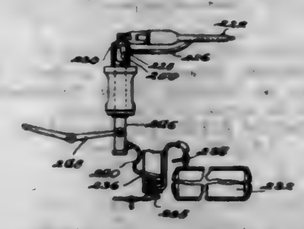
1. In subsurface well production apparatus adapted for use with first, second and third tubular strings extending to the top of a well bore: a head adapted to be disposed in the well bore and having first, second and third passages therein; said head having first means in said first passage for receiving the first tubular string which extends to the top of the well bore; said head having second means in said second passage for receiving the second tubular string which extends to the top of the well bore; said head having a tubular receptacle in said third passage for receiving the third tubular string which extends to the top of the well bore; a first track section curved arcuately with respect to the axis of the head and secured to said head and extending arcuately in one direction from said second passage, past said first passage to said receptacle; said first track section having an upper end inclinded in a downward direction from a location adjacent said second passage to a location adjacent said receptacle; a track section curved arcuately with respect to the axis of the head and secured to said head and extending arcuately in the opposite direction from said second passage to said receptacle, said second track section having an upper end inclined in a downward direction from a location adjacent said second passage to a location adjacent said receptacle; the lower ends of the inclined upper ends of said track sections terminating above the upper end of said receptacle, whereby engagement of either of said inclined upper ends by the third tubular string will direct the third tubular string into said receptacle.

2,976,934
SUBSURFACE MULTIPLE ZONE PRODUCTION APPARATUS
Hartley K. Tedco, Houston, Tex., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 24, 1957, Ser. No. 704,914
5 Claims. (Cl. 166—243)

1. In subsurface well production apparatus adapted for use with first, second and third tubular strings extending to the top of a well bore: a head adapted to be disposed in the well bore and having first, second and third passages therein; said head having means in said first passage for receiving the first tubular string which extends to the top of the well bore; said head having an upper tapered surface through which said passages open, said second passage having a greater entrance diameter than said third passage, whereby engagement of said tapered surface by the second tubular string extending to the top of the well bore will direct the second tubular string into said second passage and engagement of said tapered surface by the third tubular string extending to the top of the well bore will direct the third tubular string into said third passage.

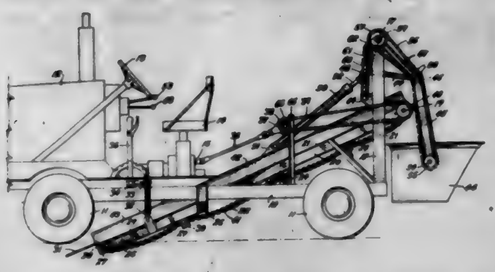


2,976,935
JET DRIVE ROTARY WING SYSTEM
Edward F. Andrews, 105 15th St., Belleair Beach, Fla. Original application Dec. 29, 1941, Ser. No. 424,756, now Patent No. 2,511,687, dated June 13, 1950. Divided and this application June 4, 1957, Ser. No. 663,593
9 Claims. (Cl. 170—135.4)



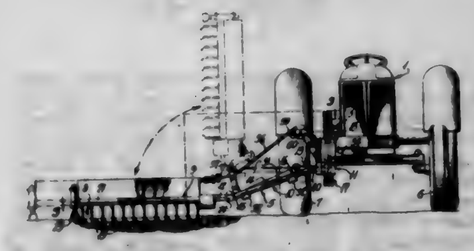
1. A rotating wing aircraft having power means adapted to supply power for a limited period during takeoff and landing, said power means comprising a pressure-resistant reservoir having a small external surface relative to its internal volume, substantially all of its external surface being heat insulated so as to minimize heat flow between the inside and outside thereof, the entire inner surface of which operates at a higher temperature than the outer surface, said reservoir containing a supply of liquid superheated without the application of heat to the exterior of said reservoir and adapted to provide expanding fluid pressure when released from said reservoir, a rotating blade having an orifice for the rearward discharge of fluid adjacent the blade tip, a fluid conduit connecting said orifice to said reservoir, and means to release said expanding fluid pressure from said reservoir into said fluid conduit.

2,976,936
VEHICLES FOR CLEANING BEACH SANDS
Lyle L. Fry, Gering, Nebr., assignor to Lockwood Graders, a corporation of Nebraska
Filed Aug. 11, 1959, Ser. No. 833,112
1 Claim. (Cl. 171—126)



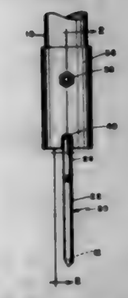
Means for receiving material from the discharge extremity of an inclined elevating conveyor and raising the received material to an elevated position above said conveyor, thence dumping the elevated material comprising: a substantially vertical post positioned at each side of said discharge extremity; a horizontal shaft rotatably supported between said posts and over said extremity; a hinge tube rotatably surrounding said shaft; frame members welded to said hinge tube at their one extremities and extending normally rearwardly and downwardly from said hinge tube at their free extremities; a material receiving bucket; pivot studs mounted on said bucket and rotatably suspending the latter between the free extremities of said frame members; a driven chain sprocket mounted on one of said pivot studs; a drive chain sprocket mounted on said horizontal shaft; an endless sprocket chain trained about said sprockets; and a first hydraulic means mounted on one of said posts and connected with and arranged to rotate said shaft so as to rotate said bucket through the medium of said chain; a lever arm fixedly projecting from said hinge tube; and a second hydraulic means connected to said lever for rotating said hinge tube about said shaft to swing said frame members and said chain about the axis of said shaft to raise and lower said bucket.

2,976,937
CULTIVATOR ATTACHMENT FOR TRACTORS
Harold D. Maguire, Orlando, Fla., assignor, by mesne assignments, to Maguire Power Implements, Inc., Ocoee, Fla., a corporation of Florida
Filed Oct. 8, 1957, Ser. No. 688,951
3 Claims. (Cl. 172—98)



1. A cultivator attachment for tractors having a power lift arm at the rear and a side power take-off comprising, a rotary ground-working implement, a telescopic main frame to support said implement, a rocker arm frame having one end pivotally connected to one end of the main frame to permit free relative vertical movement of the main and rocker arm frames, a frame supporting arm pivotally connected to the other end of the rocker arm frame to permit vertical pivotal movement of the rocker arm frame, a drive shaft section for the rotary implement journalled on the main frame, a drive shaft section journalled in said frame supporting arm, a telescopic drive shaft section intermediate the previously mentioned drive shaft sections and connected thereto by universal joints, a belt drive from the drive shaft section on the frame supporting arm to the tractor power take-off, a plate for rigid attachment to a tractor and having pivotal connection to the frame supporting arm so that the frame supporting arm can move vertically parallel to the path of travel of the tractor, means to limit the swinging movement of the frame supporting arm toward the power take-off, said frames connected to the frame supporting arm to extend at right angles to the path of tractor travel when the plate is connected to the tractor means to bias the telescopic main frame to extended position, and means to retract the telescopic main frame to draw the ground-working implement toward the tractor to which the attachment is connected.

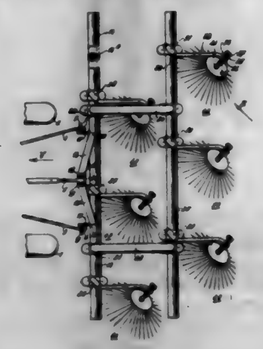
2,976,938
HOE BLADE AND HANDLE ATTACHMENT
Robert P. Rapp, 5185 Edgeware Road, San Diego, Calif.
Filed Apr. 28, 1958, Ser. No. 731,372
4 Claims. (Cl. 172—376)



1. A hoe blade and means for attachment thereof, comprising: a horizontal blade of triangular cross-sectional shape; a blade-supporting yoke comprising opposed arms, each unitary, at the lower end thereof, with one end of said blade; the maximum cross-sectional dimension of the blade being approximately equal to that of said arms, and the axes of said blade and arms being substantially coplanar, whereby said blade and arms are formable from a single section of bar stock with multiple bending thereof in a single plane; said arms having convergent intermediate reaches, slightly spaced, parallel portions, and in-turned coaxial terminals; said blade being disposed between the planes of the front and rear faces of the yoke; a handle having coaxial bores extending transversely into the handle adjacent one end thereof, and opposed channels communicating with and extending from said coaxial bores to said one end of the handle; said coaxial terminals being engaged in the coaxial bores and said slightly spaced parallel portions of the arms being engaged in said channels; and means to clamp said portions in said channels.

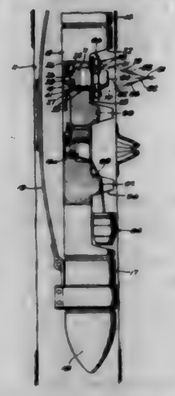
2,976,939
DEVICE FOR WEEDING WEEDS
Cornelis van der Lely and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited company
Filed May 9, 1956, Ser. No. 583,685
Claims priority, application Netherlands May 11, 1955
1 Claim. (Cl. 172—522)

A weeding device operative in a determinable direction of travel comprising a mobile frame, at least one freely rotatable weeding wheel adapted to be supported by said frame, tines on said wheel for rotation therewith, a crank on and connecting said wheel to said frame, said crank including an axle coupled to said wheel and defining a center line angularly disposed relative to the direction of travel, means on said frame defining an axis of rotation relative to said frame and supporting the crank in freely rotatable relation about said axis of rotation, the



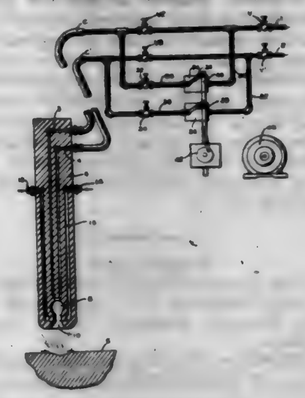
axis of rotation being perpendicular to a vertical plane through said center line, and being disposed at an acute angle relative to said direction, relatively movable discs for supporting the wheel on said crank, one of the discs being connected to the crank, and means for fixing the discs relatively to each other, said axle being radially connected to the other of said discs and lying in the plane thereof.

2,976,940
FORMATION SAMPLER
Milo Surbatovich, South Chicago, Ill., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Nov. 27, 1957, Ser. No. 699,246
7 Claims. (Cl. 175—4)



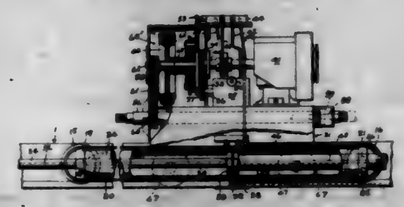
1. A sidewall sampler comprising: shaped charge means arranged for penetrating a sidewall formation to form an annular ruptured pattern around a portion thereof to be sampled; cup-like sampling projectile means associated with the shaped charge means and arranged to be propelled axially in the same general direction as the direction of penetration of said shaped charge means for penetration of said formation within the annular ruptured pattern; propulsion means associated with the sampling projectile means for propelling the same into such sidewall portion; means for discharging the shaped charge means and actuating the propulsion means of the sampling projectile means; and means for retrieving the sampling projectile and sidewall sample contained therein after the projectile has been propelled into such sidewall portion.

2,976,941
METHOD FOR THERMAL MINERAL PIERCING
William B. Horton, Concord, Mass., assignor to H. E. Fletcher Co., West Chelmsford, Mass., a corporation of Massachusetts
Filed May 25, 1956, Ser. No. 587,328
2 Claims. (Cl. 175—14)



1. Method of flame working a spallable mineral body which comprises burning a confined mixture of fuel and oxidant at super atmospheric pressure to produce a flame of predetermined energy, directing the flame against the said material and periodically varying the flow of fuel and oxidant to alter the energy characteristics of the flame in a predetermined manner while the flame is in contact with the said spallable mineral body.

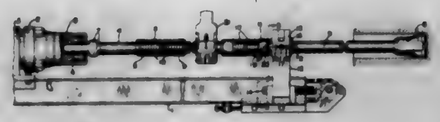
2,976,942
APPARATUS FOR DRILLING HORIZONTALLY EXTENDING HOLES IN EMBANKMENTS AND WALLS
John N. Pitcher, 2852 Adeline Drive, Burlingame, Calif.
Filed Aug. 12, 1957, Ser. No. 677,686
2 Claims. (Cl. 175—127)



1. Apparatus for drilling generally horizontally extending holes in embankments and walls comprising: a horizontally elongated frame having opposite ends, a carriage, wheels mounting said carriage on said frame for movement of said carriage longitudinally of said frame, a rod extending longitudinally of said frame between said ends thereof and means rigidly securing the ends of said rod to said ends of said frame with said rod below said carriage, a horizontally elongated hydraulic cylinder, wheels mounting said cylinder on said frame for reciprocable movement of said frame, a piston rigid with said rod positioned within said cylinder intermediate the ends of the latter, a pair of sprocket wheels carried by said cylinder at the ends thereof, a sprocket chain extending over said wheels having an upper horizontally extending

run and a lower horizontally extending run extending between said sprocket wheels, means connecting said upper run with said carriage and means connecting said lower run with said frame, rotatable drill supporting means on said carriage adapted to support a horizontally elongated drill rod in a position projecting generally horizontally from one end of said frame and to carry said drill for movement with said carriage, power means on said carriage connected with said rotatable drill supporting means for rotating said drill and hydraulic power means including conduits respectively opening into said cylinder at points adjacent to opposite sides of said piston for admitting fluid under pressure into said cylinder at one side or the other for moving said cylinder in one direction or the other according to the side of said piston into which such fluid is admitted, and control means for so admitting said fluid and ground wheels for supporting said frame for movement to and from a drilling location, means for driving said ground wheels from said power means including an axle secured to said wheels and driving means detachably connected with said power means and with said axle.

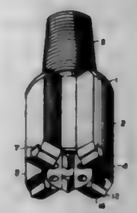
2,976,943
DEVICE FOR USE IN UNCOUPLING DRILL STEELS
John C. Curtis, Newport, N.H., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1957, Ser. No. 696,250
6 Claims. (Cl. 175—223)



1. In a rock drill having a frame which supports a drill steel centralizer member having open and closed positions which is closed during the starting of drilling to axially guide an elongated sectional drill steel the adjacent sections of which drill steel are joined together by coupling members, respectively, the improvement comprising, locking means on said centralizer member and cooperating locking means on said respective coupling members to provide an interlock between the centralizer member and a selected one of said coupling members when said centralizer member is closed and said locking means are engaged to hold said one coupling member from rotation so that a drill steel section is rotatable relative to said one coupling member to release the joint between adjacent drill steel sections coupled by said one coupling member.

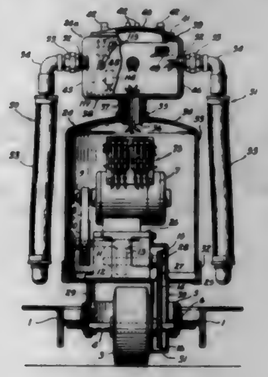
2,976,944
PERCUSSION DRILL BIT
Ross Bassinger, San Antonio, Tex., assignor to Bassinger Tool Company, San Antonio, Tex.
Filed Sept. 27, 1957, Ser. No. 686,689
6 Claims. (Cl. 175—410)

1. An impact drill bit having a body with a main forward portion having a cross-section with a generally cruciform shape of wings formed in pairs aligned across the longitudinal axis of the body to form a pair of opposite acute angles and a pair of opposite obtuse angles, a groove formed in the face of each wing, and a passageway formed centrally and longitudinally through the body for fluid to be distributed over cuttings of the bit in sweeping them from the hole and having a counter-bore from the plane of the wing faces; a removable plug positioned in the counter-bore of the body passageway and having a groove formed in the front face of the plug for receiving an insert, an insert structure mounted in the groove in the front face of the plug, the plug being positioned in the counter-bore so the centerline of the insert structure passes between the obtuse angles of the body wings, and branch passageways longitudinally through the plug to register with the central passageway



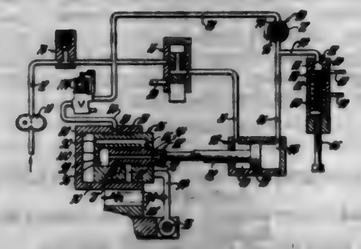
of the body and opening into the areas between the pair of acute angles of the body wings, to jet fluid of the cuttings formed under the wings; and cutting inserts fastened in each wing face groove to form the main cutting surfaces of the bit.

2,976,945
EXPLOSION PROOF INDUSTRIAL TRUCK
Irvin F. Schreck, South Euclid, Ohio. (% The Moto Truc Co., 1953 E. 59th St., Cleveland 3, Ohio)
Filed Oct. 23, 1958, Ser. No. 769,208
7 Claims. (Cl. 180—19)



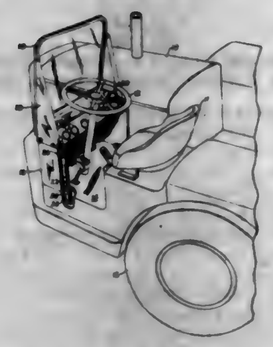
2. An explosion proof industrial truck comprising a body having rear supporting wheels, a steering and propelling unit supporting the front end of said body and mounted to turn with respect to said body about a vertical axis, said unit including a traction wheel and an electric motor, means for turning said unit to steer the truck, a flame proof housing forming an enclosure for said motor and having a bottom wall above said wheel, a gear box mounted on said base and having a side wall with an exterior face outside said enclosure and an opposite side with its exterior face within said enclosure, shafts extending through bearings in said side walls which are the only openings to the interior of said gear box, a driving connection from said motor to one of said shafts, gearing in said box connecting said shafts and a driving connection from the other of said shafts to said traction wheel outside said enclosure, a motor control switch in said housing, means for actuating said switch, a battery compartment on said body, a flexible conduit connected at one end to said compartment and at the other to said housing, and means for supplying current to said switch and said motor including conductors extending through said conduits.

2,976,946
HYDRAULIC ROAD SPEED CONTROL
Stephen A. Denman, Piqua, and Ward Bunker, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 684,154
3 Claims. (Cl. 180—82.1)



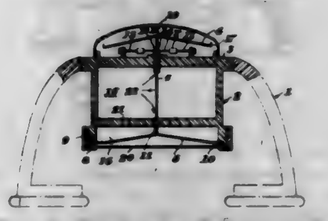
1. In a road speed control for a vehicle powered by an internal combustion engine having a throttle, power actuated means for controlling said throttle, a pilot control for said power actuated means, and hydraulic positioning means for said pilot control, said hydraulic positioning means including a closed cylinder, means dividing said cylinder into a first chamber and a second chamber and movable to position said pilot control under influence of fluid pressures in said chambers, said first chamber having a vehicle speed sensitive pressure therein and said second chamber having a predetermined constantly applied pressure therein exerting a constant force on said dividing means in any position of said dividing means.

2,976,947
PIVOTED DASH ASSEMBLY FOR TRACTORS AND THE LIKE
Robert D. Crethis, Thomas E. Hrodey, and Alfred W. Sieving, Decatur, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Jan. 22, 1959, Ser. No. 788,356
1 Claim. (Cl. 180—90)



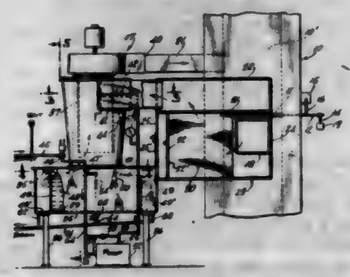
In a tractor or the like which comprises an engine compartment, an operator's platform which is formed as a part of the tractor disposed alongside and extending outwardly from the engine compartment, an operator's seat and control means supported by the platform, and a dash assembly which includes a shield rising from the forward edge of the platform, an instrument panel supported by the shield, and a windshield structure also supported by the shield and extending upwardly therefrom all adjacent the engine compartment, the improvement which comprises a vertical pivotal connection between said dash assembly and said platform at a point disposed outwardly and forwardly of said platform to enable the dash assembly to be swung to a position entirely away from the engine compartment, said pivotal connection comprising a vertically disposed tubular bearing supported by the platform and a tubular pivot pin carried by the dash assembly and received in said bearing, and flexible conducting members extending through said tubular pivot pin and leading to the instrument panel.

2,976,948
MECHANICAL DEVICE FOR DISTANCE DISCRIMINATION OF SOUNDS
George Jacob Thiessen and Tony Frederick Wallace Embleton, Ottawa, Ontario, Canada, assignors to The National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
Filed Jan. 3, 1958, Ser. No. 706,994
8 Claims. (Cl. 181—33)



1. A device for discriminating between a desired signal and unwanted background noise, comprising: an acoustically insulating wall comprising a rigid cup member adapted to enclose the ear; an aperture in said wall, said aperture providing an air column extending through said wall; a detector diaphragm on one side of said wall, said detector diaphragm having a pressure gradient sensitive characteristic; a second diaphragm on the other side of said wall; and link means connecting said detector diaphragm to said second diaphragm, said link means passing freely through said aperture; and filter means associated with said aperture for attenuating sound transmitted by the air column.

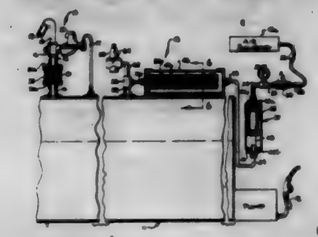
2,976,949
APPARATUS FOR CLEANING AND PURIFYING GASEOUS PRODUCTS OF COMBUSTION
Thomas F. Murphy, Howard Beach, and James M. Horn, New York, N.Y., assignors to J. L. Murphy, Inc., New York, N.Y., a corporation of New York
Filed Oct. 8, 1956, Ser. No. 614,646
6 Claims. (Cl. 183—3)



2. An apparatus for cleaning and purifying gaseous products of combustion comprising conduit means leading tangentially into an outer housing of circular cross section, said conduit having disposed therein a means for retaining, and comminuting solid combustible materials, said retaining and comminuting means being arranged to facilitate ignition of the solid combustible material, said conduit means also being provided with at least one spray nozzle, an inner housing disposed within said outer hous-

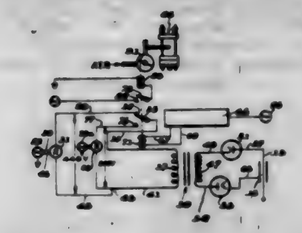
ing and provided with an exhaust means for aiding in the removal of the combustion gases introduced therein, a reservoir vessel disposed below the terminus of the lower edge of the outer housing said reservoir vessel being disposed within a larger vessel, means for removing sludge from the reservoir vessel and means for removing overflowed solids from the larger vessel.

2,976,950
METHOD AND APPARATUS FOR PREVENTING MOISTURE ACCUMULATION IN TANKS
Oscar C. Smith, Box 287, Newton, N.C.
Filed Jan. 17, 1958, Ser. No. 709,699
5 Claims. (Cl. 183—4.3)



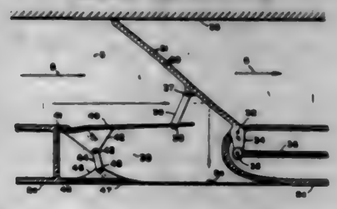
3. The combination with a tank having a vent therein of an apparatus for preventing moisture accumulation within said tank, said apparatus comprising means serving as a source of compressed air, means for removing the moisture content from the compressed air, and means to direct the dry compressed air into the tank for providing a pressure therein at least substantially equal to atmospheric pressure, the intake of moisture-laden atmospheric air by said tank through the vent therein being eliminated upon the tank pressure being maintained at least substantially equal to atmospheric pressure.

2,976,951
ELECTROSTATIC PRECIPITATOR
John S. Lagarias, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Oct. 17, 1958, Ser. No. 767,967
10 Claims. (Cl. 183—7)



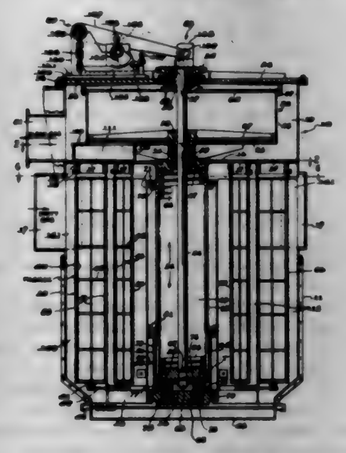
1. Apparatus for cleaning electrodes in an electrostatic precipitator having first and second electrodes suspended therein on which particles are deposited from a dirty gas comprising a source of high current flow for supplying a predetermined first direct electrical voltage of one polarity to said first electrodes to produce a potential difference between said first and second electrodes which is just below the level at which excessive sparking occurs between said first and second electrodes and which is great enough to ionize said gas and to transmit electrical current between said first and second electrodes, said particles being charged when said current is transmitted so that said particles migrate to said electrodes and are deposited thereon, a source of low current flow for supplying a predetermined second direct electrical voltage of the same polarity to said first electrodes to produce a potential difference between said first and second electrodes which is just below the level which produces current to be transmitted between said first and second electrodes by means of said ionized gas, means for automatically and alternately connecting said high and low source of current flow so as to cause said first and second direct electrical potential differences to be selectively supplied between said first and second electrodes, and vibrating means connected to said first and second electrodes operative when said second direct electrical potential difference is supplied between said first and second electrodes for vibrating said electrodes so as to remove particles deposited thereon.

2,976,952
ANTI-INGESTION MEANS FOR TURBOJET AIRCRAFT
Raymond Prunty Holland, Jr., 204 W. College Blvd., Roswell, N. Mex.
Filed July 9, 1956, Ser. No. 596,577
9 Claims. (Cl. 183—42)



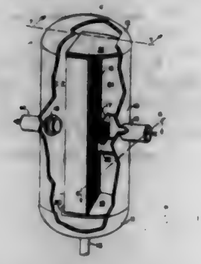
1. In an aircraft on the ground, a cowling containing a substantially horizontal duct conveying a propulsive airstream to a turbojet engine, an inlet mouth on said duct, at least one stationary vane attached within said inlet mouth, said vane having a sharp leading edge, said vane having a shape and position such that all of its longitudinal cross sections are substantially straight lines and are aligned substantially parallel to the central axis of said duct, said vane being attached to the wall of said duct in the region of said duct closest to the surface of the ground.

2,976,953
FILTER
James P. Hass and Gordon L. Morgret, Baltimore, Md., assignors to Koppers Company, Inc., a corporation of Delaware
Filed May 16, 1958, Ser. No. 735,741
5 Claims. (Cl. 183—61)



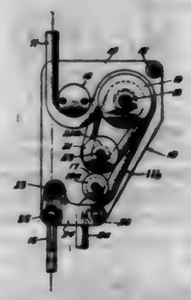
1. In a filter comprising, porous filter means having an up stream side and a down stream side means for conducting the particle laden gas stream under pressure to said up stream side, a piston chamber communicating with said filter means, and a piston mounted in said chamber for puffing air under pressure greater than and counter to the flow of the particle laden air stream through said filter, the improvement comprising; a housing depending from said piston chamber having a closed end remote from said chamber, a piston shaft connected to said piston and disposed within said piston chamber, a buffering means including an oil filled section and a resiliently mounted plate located in said casing adjacent said closed end for cushioning the shock of said piston when the latter is operative to puff air through said filter, and means connected to said piston shaft for periodically reciprocating said piston.

2,976,954
COMPRESSED AIR PURIFIER
Frank M. Irwin, 4005 Bristol Road, Durham, N.C., assignor of fifty percent to R. Henry Pope, Durham, N.C.
Filed June 4, 1959, Ser. No. 818,882
2 Claims. (Cl. 183—113)



1. In a gas and liquid separator adapted for initial and secondary separations, a closed vertical tank having a cylindrical body, top and bottom end walls; a mixture inlet and gas outlet oppositely located in said cylindrical body intermediate of the height thereof; a liquid outlet leading from the bottom of said tank; initial liquid separating baffle means comprising a vertically disposed plate supported from the inside of said tank in front of and normal to the axis of said inlet and having mounted thereon normal to the face thereof and on the side thereof facing said inlet, a series of narrow width laterally spaced bands symmetrically arranged with respect to said inlet and covering an area on said plate in excess of the area of said inlet, each of said bands having an open section in its lower extremity; a secondary liquid separating element located within said tank between said baffle means and gas outlet and comprising a vertical box-like structure having side, top and bottom walls and open front and back faces facing respectively said mixture inlet and gas outlet, said structure side walls being in sealing contact with said cylindrical body, said structure being of the height and width of said cylindrical body at the location of said element and including plate connections between said structure and said cylindrical body arranged to close the space between said cylindrical body and said structure's top and bottom walls on the inlet side thereof whereby the entire cross section of said body is utilized by said element and the entire influent received by said mixture inlet is compelled to flow through said structure, said structure including for secondary separating purposes a plurality of laterally spaced vertically disposed thin walled scrubbing vanes having a plurality of abrupt turns and protruding edges and forming within said structure a series of narrow parallel passageways including said turns and edges between said front and back faces.

2,976,955
VELOCITY CONTROL MECHANISM FOR ROPE DEVICE
John Richard Huber, Hellcong, Pa., assignor to Eastern Rotorcraft Corporation, Doylestown, Pa., a corporation of Pennsylvania
Filed June 16, 1958, Ser. No. 742,298
4 Claims. (Cl. 188—65.1)

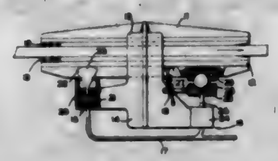


1. A device for engaging a rope and controlling its movement with respect thereto, said device having a frame from one edge of which the loaded end of the rope extends, a rotatable shaft supported near said edge of the frame and having a double grooved pulley connected thereto, a second shaft rotatably supported on said frame, further from said edge than said first shaft in parallel relationship to said first shaft having a single grooved pulley connected thereto, a rope guide of cylindrical configuration attached to said frame alongside said first shaft at approximately the same distance from said frame edge as said double pulley and located to approximately reverse the direction of a rope extending from the double grooved pulley around said guide, a third shaft supported in said frame parallel to and displaced from said first shaft, a centrifugal brake mechanism attached to said third shaft, step-up gearing between said first shaft and said third shaft, load transfer means attached to said frame at a point near the end opposite said rope guide and a rope engaging element for deflecting the unloaded end of the rope and applying a slight pressure thereon, said element being located on said frame further from said edge than said double pulley, the location of said rope guide, double pulley, single pulley and engaging element thereby providing for guiding the rope from the loaded end around said guide, then over one of said double pulley grooves approximately 180 degrees, thence around said single groove pulley approximately 180 degrees, back over the other groove of the double pulley approximately 180 degrees, then to the rope engaging element, the unloaded end of the rope extending out of said frame at a point remote from the edge from which the loaded end extends.

2,976,956
SELF-ENERGIZING BRAKE SYSTEM
Franz G. F. Bohles, Stuttgart-Untertürkheim, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Feb. 24, 1958, Ser. No. 716,920
Claims priority, application Germany Feb. 28, 1957
28 Claims. (Cl. 188—72)

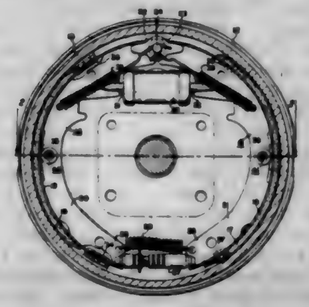
1. A self-energizing brake for vehicles comprising relatively stationary brake shoe means and relatively movable brake shoe means, said movable brake shoe means being rotatable, a movable member to be braked and disposed between said brake shoe means, said brake shoe means being provided with friction means forming a braking surface adapted to frictionally engage said member, and means for actuating said relatively mov-

able brake shoe means to obtain a braking effect on said movable member including first actuating means transmitting braking force to said movable member in a constant direction and second actuating means including self-adjusting variable force transmitting means for



transmitting the actuating force from said second actuating means to said relatively movable brake shoe mean, said variable force-transmitting means including means to transmit said actuating force in directions dependent upon the friction value of said friction means.

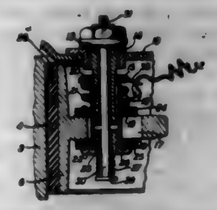
2,976,957
BRAKE STRUCTURE
Frank W. Brooks, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 3, 1958, Ser. No. 746,456
3 Claims. (Cl. 188—78)



1. A brake comprising a vertically positioned backing plate, said plate having a plurality of open faced vertically extending and circumferentially positioned brake shoe support wear surface areas, a brake shoe having a rim having a longitudinally extending wear and support edge and a web positioned on said plate with said rim edge engaging and supported on said open faced support areas, said support areas each having a plurality of depressions in the surface thereof distributed over the surface of the support area open in the plane of reciprocation of the shoe rim on the support area over the depressions and retaining therein a lubricant to provide thereby for lubrication between the said vertically positioned support areas and said rim edge on reciprocal movement of the rim edge on said open faced support areas with the said reciprocal movement of the rim edge effecting continuous redistribution of the lubricant between the depressions to retain the lubricant in the depressions for extended re-use on the vertically positioned support surface areas.

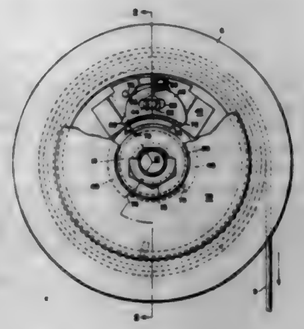
2,976,958
SHOE BRAKE CONSTRUCTION
Walther Scholl, Stuttgart-Kreis, Böblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Feb. 12, 1958, Ser. No. 714,876
Claims priority, application Germany Feb. 14, 1957
11 Claims. (Cl. 188—79.5)

1. A shoe brake construction provided with a brake shoe having an adjusting slot and including an automatic adjusting mechanism, comprising a relatively stationary brake member, a bolt member secured to said relatively stationary member, an adjusting sleeve mounted on said bolt member with play, said bolt member and said sleeve extending through said slot, friction disk means arranged



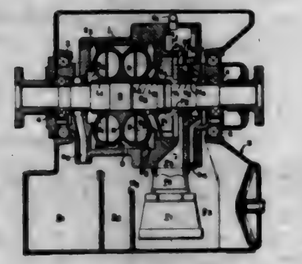
on said adjusting sleeve, means urging said friction disk means against said brake shoe, and return spring means connected at one end thereof to said relatively stationary member and at the other end thereof to said adjusting sleeve.

2,976,959
RATCHET DEVICE
Lawrence E. Husted, Fairhill, Pa., assignor, by mesne assignments, to American Machine and Metals, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 29, 1957, Ser. No. 655,613
3 Claims. (Cl. 188—82.7)



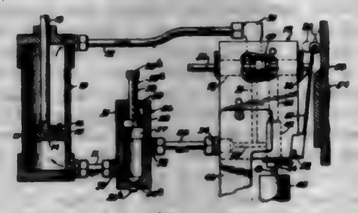
1. A stationary ratchet member in the form of a disc having formed in the outer periphery thereof at least one radially inwardly extending recess terminating at opposite ends in circumferentially widely spaced opposed ratchet tooth defining shoulders, a member revolvable about the axis of said ratchet member, a pawl having a length exceeding the distance between said shoulders and an elongated opening formed therein, a pivot element mounted upon said revolvable member and freely projected through said opening, said pawl being shiftable relative to said pivot element within the limits of said elongated opening, and being disposed radially outwardly from said ratchet member, and spring means reacting between said revolvable member and said pawl and adapted for pivoting said pawl for urging one end portion of said pawl into engagement with one of said shoulders when said pivot element is accommodated by one end portion of said elongated opening, and for urging the opposite end portion of said pawl into engagement with the other of said shoulders when said pivot element is accommodated by the other end portion of said elongated opening.

2,976,960
DYNAMOMETERS
William Neville Bathurst, Worcester, England, assignor to Heenan & Froude Limited, Worcester, England, a British company
Filed Aug. 28, 1957, Ser. No. 680,878
Claims priority, application Great Britain Aug. 30, 1956
6 Claims. (Cl. 188—98)



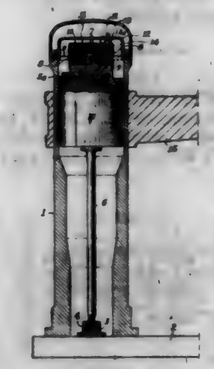
1. A hydraulic dynamometer comprising a housing, a casing rotatably supported by said housing for rotation about a horizontal axis, a pair of half-stators fixedly mounted in said casing and spaced along the said axis of rotation, a working compartment enclosed by the said half-stators and the peripheral wall of the casing, a shaft journalled in said casing and coaxial with the said axis of rotation, a rotor mounted on said shaft for rotation in said working compartment, a compartment in the lower portion of the housing below the said casing for containing operating liquid for the dynamometer, a pump chamber formed in said casing surrounding the shaft and separated from said working compartment by one of said stators, an impeller mounted on the shaft for rotation in said pump chamber, inlet duct means connecting the pump chamber with the working compartment for supplying liquid thereto, duct means extending downwardly from the casing into the said lower compartment and communicating with the pump chamber, whereby rotation of the impeller draws liquid from the lower compartment and discharges it to the working compartment at a rate proportional to the speed of the rotor, an outlet orifice positioned in a lower portion of the casing wall for discharging liquid from the working compartment to the said lower compartment, and annular throttled passages surrounding the shaft between the shaft and each half-stator and providing further discharge means for discharging liquid from the working compartment, said outlet orifice and throttled passages being formed to permit a combined outflow therethrough proportional to the square root of the pressure developed in the working compartment.

2,976,961
PRESSURE FLUID CONTROL DEVICE
Theodore E. Mead, 1006 Michigan Ave., Wilmette, Ill.
Filed Apr. 28, 1958, Ser. No. 731,173
3 Claims. (Cl. 188—97)



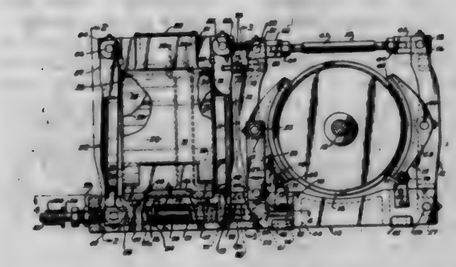
1. In a closed pressurized hydraulic fluid control system for regulating the movement of a reciprocating work piece, a fluid pressure cylinder and unit, said unit being equipped with a piston rod moving inwardly and outwardly of the cylinder to vary the volume of the system, the piston of said unit being equipped with a one-way valve, means connecting the piston rod portion of said unit with said work piece, flow ports at each end of said unit, an external pressure circuit communicating the ends of said unit to circulate fluid from one end of said unit to the other, said unit including a casing having a valve passage and a by-pass passage, the valve passage having a portion of small diameter and a portion of large diameter communicating with each other, a screw member in said passage portion of small diameter and providing with the walls thereof an elongated frictional flow passage, means for moving said screw member longitudinally of both valve passage portions, said casing providing a cross passage between said valve passage and said by-pass passage, a slidable shaft in said cross passage, a valve carried by said shaft for opening said by-pass when the valve is in one position and closing said by-pass when the valve is in another position, a spring urging said shaft in one direction and a cam-operated part on said work piece engageable with said shaft to move it in the opposite direction, and a compensator housing interposed in said circuit between said casing and said unit.

2,976,962
VIBRATION DAMPING DEVICE
Pierre Pegard, Courbevoie, France, assignor to Ateliers G.S.P., Courbevoie, France, a French society
Filed Apr. 13, 1956, Ser. No. 578,106
Claims priority, application France Apr. 15, 1955
13 Claims. (Cl. 188—98)



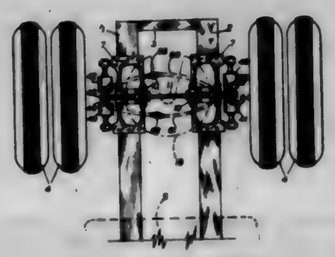
1. A damping device for damping vibrations of a vibratory member, the vibration of which is to be damped comprising, in combination, an inert mass disposed in a static condition of equilibrium, means movably supporting said mass in equilibrium, an extensible and contractible bellows connected to said member and to said mass for extension and contraction thereof in dependence upon vibrational movement between the vibratory member and the mass, means defining a first liquid-filled chamber in conjunction with said bellows in which the volume thereof is increased or deceased in dependence upon the extension and contraction of said bellows, and including means defining a second chamber of constant volume and a flow path between said chambers having a calibrated orifice for providing controlled flow between said chamber in dependence upon an increase or decrease of the volume of said first chamber as a function of contraction and extension of said bellows.

2,976,963
ELECTROMAGNETICALLY APPLIED AND RELEASED BRAKE
John D. Leitch, Grosse Pointe Park, Mich., assignor to Square D Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 30, 1957, Ser. No. 656,036
7 Claims. (Cl. 188—105)



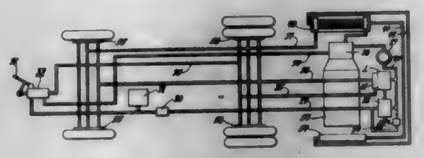
1. A braking device comprising brake applying means movable towards and away from brake applying position, first motive means electrically energizable to move said brake applying means towards said brake applying position, force exerting means urging said brake applying means towards said brake applying position, second motive means electrically energizable to restrain said force exerting means, support means supporting said first and second motive means in a flux conductive relationship in which at least some of the flux from one of said motive means may thread the other of said motive means, and a flux conductive means carried by the support means and interposed between said first and second motive means to shunt the flux from one motive means away from the other motive means.

2,976,964
FIFTH WHEEL MOUNT
Theodore F. Thompson, 409 E. 12th St., Davenport, Iowa
Filed July 6, 1959, Ser. No. 825,244
10 Claims. (Cl. 188—112)



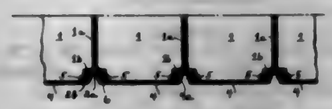
1. A mount for a fifth wheel for mounting on a tractor for supporting semi-trailers and the like, comprising a pair of supports arranged to be carried on a tractor frame, an upright rocker arm pivotally mounted on each said support, a shaft mounted adjacent its ends in said rocker arms and supported to pivot forwardly and rearwardly relative to the supports in response to differential movement between a tractor and semi-trailer, stop means on each said support for limiting forward and rearward pivotal movement of said shaft, means mounted on opposed ends of said shaft and carried by said frame for maintaining parallel movement of both ends thereof in said supports, and means interconnecting said shaft and a brake system for activating the same on pivotal movement of said shaft.

2,976,965
HYDRAULIC COOLING SYSTEM FOR A MULTIPLE DISK BRAKE
Hans O. Schjolin, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 14, 1958, Ser. No. 721,548
5 Claims. (Cl. 188—264)



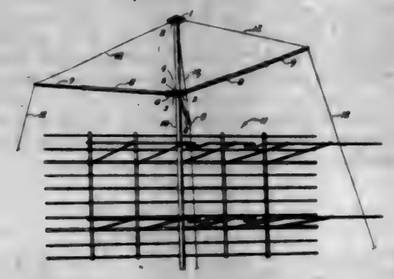
1. A hydraulic fluid actuating and cooling brake system, comprising in combination; a hydraulic fluid brake actuating circuit including, a hydraulic fluid pump for creating a pressure within a hydraulic fluid actuating circuit, a by-pass circuit connected to the inlet and outlet sides of said hydraulic fluid pump having a by-pass valve, a check valve and an accumulator in communication with the outlet side of said hydraulic fluid pump to provide a residual pressure, a pedal control valve in communication with said check valve, conduit means connecting said pedal control valve to a plurality of vehicle wheel brakes, a second conduit means leading from said pedal control valve to a control means for a brake cooling fluid by-pass valve, a hydraulic fluid brake cooling circuit including a reservoir, a hydraulic cooling fluid pump, conduit means connecting said cooling fluid pump to said cooling fluid by-pass valve and said vehicle brakes, fluid conduit means leading from said vehicle brakes to a heat exchanger, said heat exchanger having return conduit means leading to said reservoir, conduit means leading from said reservoir to the inlet side of said actuating fluid pump and said cooling fluid pump, said hydraulic fluid system thereby providing a brake fluid actuating circuit interconnected to control the circulation of cooling fluid through a brake cooling fluid circuit for cooling of said vehicle brakes when said brakes are actuated.

2,976,966
SHEET-STEEL ENCLOSED SWITCHGEAR ASSEMBLY FOR OUTDOOR ERECTION
John Alexander Latzko, Baden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland
Filed Dec. 30, 1955, Ser. No. 556,741
Claims priority, application Australia Jan. 5, 1955
2 Claims. (Cl. 189—2)



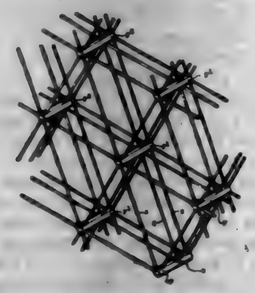
1. A plurality of normally indoor switchgear sheet metal cubicles arranged for outdoor use comprising a plurality of said cubicles disposed in side-by-side relation, the front edges of the side walls of adjacent cubicles being disposed in a common vertical plane, and means for weatherproofing the vertical junction lines between the side walls of adjacent cubicles comprising a U-shaped channel member extending vertically along and bridging the junction between the front edges of said side walls of adjacent cubicles from the top to the bottom thereof, the flange portions of said U-shaped members facing outwardly and the web portions thereof being adjacent said front edges of adjacent side walls, angle members extending horizontally between and secured to the upper and lower ends of said U-shaped members, said angle members each having a horizontal flange portion facing outwardly, said outwardly facing flange portions of said angle members and said outwardly facing flange portions of said U-shaped members forming a rectangular frame for each cubicle, a panel covering each said frame, each said panel having an inturned peripheral flange fitting over said outwardly facing flange portions of said U-shaped members at opposite sides of the frame and fitting over said outwardly facing flange portions of said angle members at the top and bottom of the frame, and means securing said panels to said frames.

2,976,967
GUYING TELEVISION ANTENNAS
Cecil F. Adickes, Mountainburg, Ark.
Filed Sept. 17, 1956, Ser. No. 610,220
3 Claims. (Cl. 189—31.5)



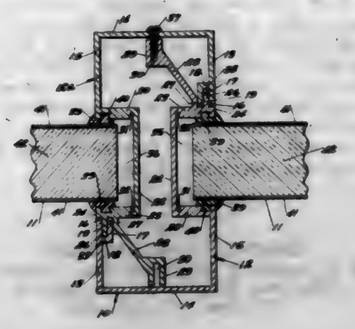
1. A device for improved guying of television antennas, comprising a plurality of equally, circumferentially spaced, rectangular, box sectioned, telescoping metal arms, each arm with means flexibly coupling to an antenna mast, at a selected point above the top of the antenna structure, with means attaching guy wires at the outer ends of each of the said arms; which guy wires, after the said attachment, extend upward and inward to the extreme top of the mast, at which point on the mast are provided means securing the said wires, to permit of rotatability of the antenna and the mast within both the upper and the lower mast connections.

2,976,968
WALL CONSTRUCTION
Arthur E. Festiman, Ottawa, Ontario, Canada, assignor, by mesne assignments, to Clarence Frank Festiman, Arthur Edward Festiman, and Harold Gordon Festiman, trading as Triodetic Structures, Ottawa, Ontario, Canada
Filed Jan. 18, 1956, Ser. No. 559,988
4 Claims. (Cl. 189—34)



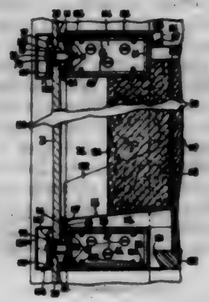
1. A multiple wall structure comprising a plurality of spaced skeleton walls each formed of a plurality of adjacent triangular areas bounded by side members, each pair of adjacent triangular areas having a common side member, the ends of each said side member terminating at equidistantly spaced loci, the common side members of adjacent triangular areas converging to associated loci, an integer connector at each locus removably secured to the converging common side members of adjacent triangular areas, each connector extending transversely across all the skeleton walls constituting the multiple wall structure and maintaining the skeleton walls in parallel and preselected spaced relation, with the ends of the connectors lying in the planes of the outer skeleton walls of the multiple wall, said integer connectors comprising hubs of substantial length and having peripheral radially disposed keyways extending the whole length of the hub, permitting the positioning of a skeleton wall between the outer skeleton walls of the multiple wall in any preselected intermediate position and in parallelism with the outer skeleton walls, each of the skeleton walls being self-aligning, with their triangular areas lying in the same plane.

2,976,969
CURTAIN WALL MULLION
Russell A. Gillespie, Indianapolis, Ind., assignor to Engineering Metal Products Corporation, Indianapolis, Ind., a corporation of Indiana
Filed May 5, 1958, Ser. No. 733,857
3 Claims. (Cl. 189—34)



1. A curtain wall mullion between two adjacent panels comprising two identically shaped front and back members, each one reversed in respect to the other, each having an outer face web; a leg extending rearwardly from each of opposite edge portions of said face web; one of said legs terminating with a groove therealong opening therefrom oppositely from said face web; the second of said legs having an inturned length turned therefrom over and spaced from said face web; a spacer length extending from an inner end portion of said inturned length; a first arm outturned from said spacer length spaced from said inturned length completing a cavity entering from a side of said mullion, closed from three sides and open from said mullion side; a tongue extending rearwardly from an outer end portion of said arm; a leg extending from said first arm along, inside of and spaced from said tongue; a second arm extending inwardly and rearwardly from said first arm; said two members being interfitted with the tongue of the front member inserted within said one leg groove of the other member and with said second arm ends oppositely directed respectively toward the face webs; and means carried by at least one of said members interengaging said second arm; the assembled mullion presenting a closed box with a reentering cavity along opposite sides receiving therein ends of said panels.

2,976,970
FRAME SUPPORT FOR A PANEL
Edward F. Toney, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1957, Ser. No. 700,891
17 Claims. (Cl. 189—75)



1. In a frame support for a panel, an integral channel member comprising a web having flat rearmost surface portions, a pair of flanges extending forwardly from the web with at least one of said flanges having a flat outside surface normal to said flat rearmost surface portions of said web and forming with the adjacent longitudinal edge of the web a flat surface substantially devoid of projections, longitudinal flanges extending angularly from said pair of forwardly extending flanges with each having a flat surface at the most forwardly extending portion of its front face, said flat surfaces being parallel to each other and to said flat rearmost surface portions of said web, and a flange extending forwardly from the web between said pair of flanges, spaced from said longitudinal flanges and having a front face parallel to and substantially forward of said flat front surfaces of said longitudinal flanges.

2,976,971
CEILING CONSTRUCTION
George A. Lundberg, 102 Devoe Ave., Yonkers, N.Y.
Filed May 13, 1955, Ser. No. 508,176
3 Claims. (Cl. 189—85)



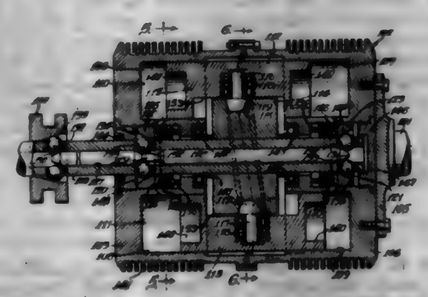
1. In a ceiling construction, a plurality of ceiling supports, a carrier channel carried by the ends of said ceiling supports and having a portion constituting an inverted vertical U-shaped channel, a flange portion forming a horizontal U-groove, and a vertical portion interconnecting said portions, and an auxiliary flange plate extending into said U-groove and having an inturned flange extending under said U-groove and parallel thereto.

2,976,972
CLIP
Albert V. Raymond, 129 Cours Berriat, Grenoble, France
Filed Jan. 21, 1958, Ser. No. 710,235
Claims priority, application France Jan. 29, 1957
1 Claim. (Cl. 189—88)

An assembly for a molding strip and the like comprising, in combination, a body portion having an upstanding flange portion, a flexible sealing strip engaging said flange portion, a molding strip having opposed inturned flanges, said molding strip engaging said body portion and said sealing strip covering a joint between them and a fastener device mounted on said flange portion and holding said molding strip in position, said fastening device including a U-shaped flange gripping portion having two opposed legs connected by a bight portion and in gripping engagement with opposite faces of the flange portion of the body portion, a connecting portion extending from one of the legs opposite the bight portion and connecting with a leg of a second U-shaped portion opposite the bight portion thereof, the free end of the other leg being curled over and forming a rolled edge engaged within an inturned flange on one side of the molding strip while the other inturned flange of the molding strip is hooked over the bight portion of said second U-shaped portion, the said U-shaped portions being substantially parallel and spaced from each other.

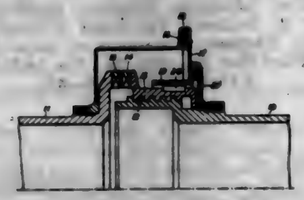


2,976,973
TORQUE CONVERTER
Hamill Stansfield and James Edge, Allentown, Pa., assignors to Carney-Stansfield Co., a corporation of Pennsylvania
Filed Feb. 12, 1957, Ser. No. 639,805
6 Claims. (Cl. 192—59)



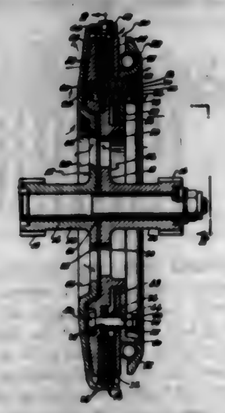
1. In a hydraulic transmission, the combination comprising a rotatable outer casing, a driveshaft rotatably journaled in said casing, a driven shaft non-rotatably fixed on said casing, a plurality of pairs of aligned cylinders arranged in said casing in circumferentially spaced relation about said driveshaft and having chambers adjacent the ends thereof, double acting pistons reciprocably mounted in each pair of cylinders and acting on fluid in said chambers, means for reciprocating said pistons incident to relative rotation between said casing and said driveshaft, means at each end of the casing defining a restricted annular passage radially inward of the cylinders and surrounding the driveshaft, and means defining uninterrupted passages of small cross section connecting the chambers at the ends of each cylinder with the adjacent annular passage providing for flow through said uninterrupted passages in either direction to and from the chambers so that said pistons are restrained against movement upon rotation of the driveshaft by the restricted circulation of fluid between said chambers developing torque to turn the driven shaft.

2,976,974
UNI-DIRECTIONAL TRANSMISSION DEVICES
Jack Vallis Blyth, Ewell, England, assignor to D. Napier & Son Limited, London, England, a British company
Filed May 1, 1959, Ser. No. 810,275
Claims priority, application Great Britain May 20, 1958
6 Claims. (Cl. 192—67)



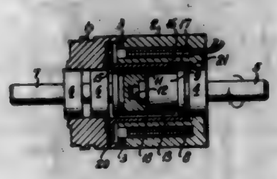
1. A uni-directional transmission device comprising driving and driven members, driving and driven positive clutch elements connected respectively to said driving and driven members, and arranged to be engaged and disengaged by axial movement of one clutch element relatively to the other, one clutch element being connected to a first one of the two members by a helical coupling such that relative rotation between this element and the said first member causes relative axial movement of said movable clutch element, and including an auxiliary frictional transmission device transmitting limited torque between the two clutch elements to initiate the said rotation of the one clutch element, comprising a pair of co-operating frictional elements, one of which is connected to the respective clutch element so as to rotate therewith, while being free to move longitudinally thereon, a cam connected to this friction element, and a mating cam secured to the member to which said clutch element is connected, such that relative rotation between the two cams tending to cause the clutch elements to engage, causes the said friction element to move axially in a direction to increase the friction loading between the two friction elements.

2,976,975
CLUTCH
Lewis D. Thostenson, Inglewood, and Louis C. Gallcher, Alhambra, Calif., assignors to Salsbury Corporation, Los Angeles, Calif., a corporation of California
Filed July 5, 1957, Ser. No. 670,114
2 Claims. (Cl. 192—69)



1. In a clutch, the combination of: coaxial driving and driven rotary members; means for coupling said rotary members together so as to transmit rotation of said driving member to said driven member, including two driving clutch elements and a driven clutch element arranged in alternating relation in the direction of the axis of rotation of said rotary members and relatively movable in the axial direction, said driving clutch elements being carried by and being rotatable with said driving member, and said driven clutch element being carried by and being rotatable with said driven member, at least one of said clutch elements having radial passages therethrough which have inner and outer ends and which communicate with the atmosphere at their outer ends; means providing elongated spring cavities in said driving member which communicate with the inner ends of said radial passages, said spring cavities being spaced apart circumferentially and the axes thereof being parallel to the axis of rotation of said rotary members, each of said spring cavities having end walls respectively connected to said driving clutch elements; compression coil springs respectively disposed in said spring cavities and engaging said end walls thereof to bias said driving clutch elements apart; and means spacing said rotary members apart axially and providing therebetween an annular air inlet which communicates with said spring cavities through apertures in said driving rotary member and which extends radially inwardly from said apertures toward the axis of rotation of said rotary members and which communicates radially inwardly of said apertures with the atmosphere through openings in at least one of said rotary members, whereby cooling air may flow radially outwardly through said openings, said air inlet, said apertures, said spring cavities and said radial passages.

2,976,976
ELECTRO-MAGNETIC CLUTCH MECHANISM
Sydney R. Parker, 38 Browne's Terrace, Englewood, N.J., assignor of fifteen percent to Albert C. Nolte, Jr., New York, N.Y.
Filed Oct. 7, 1957, Ser. No. 688,533
12 Claims. (Cl. 192—84)

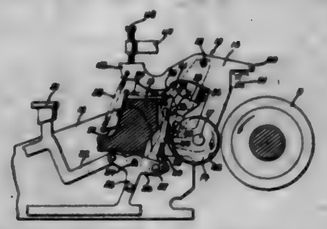


1. In a device of the character described for coupling a rotatable driving member with a rotatable driven member, yieldable means interconnecting said members and frictionally bearing on said driving member, said means being wound in a direction so as to compress into winding engagement with said driving member upon the rotation thereof, electromagnetic means, and a rotatably mounted electromagnetic element disposed in the field of said electromagnetic means and driven by said yieldable means, said element when under the influence of said electromagnetic means rendering said yieldable means ineffective for transmitting torque from said driving member.

2,976,977
POWER MECHANISM FOR NOISELESS TYPEWRITER
Evert G. Israelson, Rowayton, and John C. Morris, East Norwalk, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 14, 1959, Ser. No. 813,159
14 Claims. (Cl. 197—17)

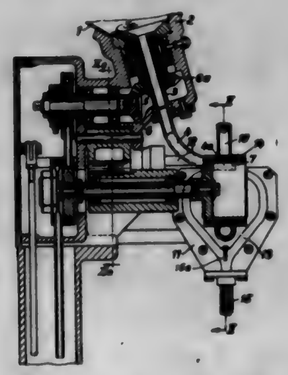
2. In a power driven typewriter the combination with key lever means, type bar means and a power driven roll; of a power mechanism for operating said type bar means in printing action including an oscillatable power arm connected to the type bar means, an eccentric cam

on the power arm for engaging the roll to oscillate said power arm, latch means coacting with said power arm to maintain the cam out of engagement with the roll, trigger means controlled by said key lever means for



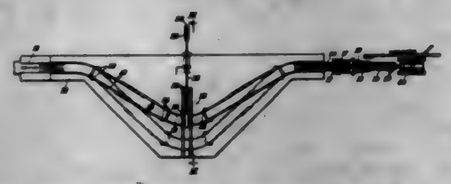
operating the latch means and freeing said power arm for engagement of said cam with the power roll and means in said cam for restoring said latch means to coacting relation with said power arm.

2,976,978
DEVICE FOR FEEDING TAPERED ROLLERS OR THE LIKE INTO GRINDING DEVICES
Karl Hüller, Ludwigsburg, Germany, and Franz Geiger, Steyr-Munichholz, Austria, assignors to Karl Hüller G.m.b.H., Ludwigsburg, Germany
Filed Jan. 13, 1959, Ser. No. 786,519
Claims priority, application Germany Jan. 16, 1958
9 Claims. (Cl. 198—33)



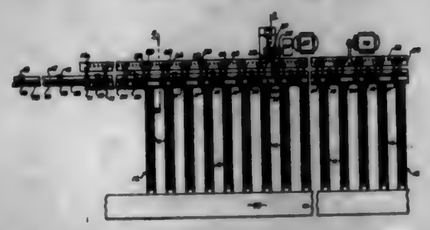
1. In a device for feeding conical work pieces to a machine tool in such a way that the conical work piece enters said machine tool with the smaller diameter end first: a funnel for receiving the conical work pieces to be fed to said machine tool, combined turning and conveying means arranged at a level lower than said funnel, first conduit means leading from said funnel to said turning and conveying means for conveying the work pieces from said funnel into said turning and conveying means, said turning and conveying means including two drums adjustable relative to each other for varying the bite therebetween, said drums having their axes in spaced parallel arrangement to each other, means for rotating said two drums in the same direction, a charging valve over the space between the drums at the end of said first conduit means to receive work pieces therefrom, a pusher associated with the charging valve operable for pushing work pieces intermittently from the valve to the space between the drums, assorting means arranged adjacent said drums for receiving work pieces therefrom, said assorting means including a heart-shaped tube system comprising two branches joined to a discharge at a point remote from said drums, said branches being substantially symmetrically arranged with regard to a vertical plane through said drums transverse to the axes of rotation thereof, and second conduit means leading from said discharge to a desired point of said machine tool.

2,976,979
HANDLING OF BISCUITS AND THE LIKE
Robert Henry Morrison, Woodley, Reading, England, assignor to Packman Machinery Limited, Twyford, Berkshire, England, a company of Great Britain
Filed Mar. 21, 1960, Ser. No. 16,222
8 Claims. (Cl. 198—45)



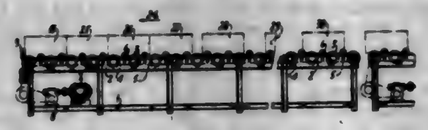
1. Apparatus for feeding a column of biscuits standing on edge to a transfer station, comprising a horizontal or nearly horizontal supporting surface for the column along which the biscuits are fed forward by pressure from behind, an input conveyor for feeding the biscuits continuously on to the supporting surface, mechanism at the transfer station for arresting the head of the column and periodically transferring batches of biscuits from the head of the column, the transfer mechanism removing the biscuits at a rate slightly greater than the rate of supply of biscuits to the supporting surface, a flexible biscuit reservoir which serves to confine a portion of the column of biscuits on the supporting surface and is free to expand laterally to accommodate additional biscuits at the times when the head of the column is arrested, and power means for applying yielding pressure to the reservoir during the intervening periods to contract it and thereby to feed the biscuits positively forward towards the transfer station at predetermined times.

2,976,980
ROTARY KICK-OFF FOR COOLING BEDS
William Rodder, Poland, Ohio, assignor, by mesne assignments, to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 19, 1959, Ser. No. 787,431
4 Claims. (Cl. 198—104)



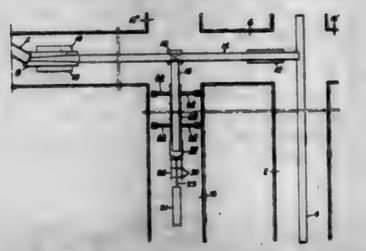
1. In an apparatus of the type described having a longitudinal conveyor comprising a series of driven rolls adapted to convey successive lengths of pipe or the like in a path aligned with the axes of the lengths, a series of helical cams alternating with said rolls at one end of said longitudinal conveyor, and a transverse screw conveyor disposed adjacent said cams adapted to convey successive lengths of pipe transversely of their axes and transversely of said longitudinal conveyor, said cams each having a hub portion and a single continuous thread extending outwardly therefrom, said thread having flange portions in one position defining both sides of an unobstructed path in alignment with said longitudinal conveyor and having a helical portion extending between said flange portions, the pitch of said helical portion being such that upon rotation of the cam in a direction opposed to the longitudinal movement of the lengths, said helical portion moves into said path and engages a length of pipe disposed in said path and moves it toward said transverse conveyor, and power means for rotating said cams through a single revolution in said direction.

2,976,981
ROLLER-TYPE CONVEYOR FOR TRANSPORTING LOADS
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Apr. 4, 1956, Ser. No. 576,619
Claims priority, application France Apr. 7, 1955
4 Claims. (Cl. 198—127)



1. A roller-type conveyor for handling mechanical parts and the like comprising, in combination, a frame, a plurality of spindles fixedly supported by said frame, and a plurality of driven rollers rotatably mounted upon said fixed spindles, each of said rollers comprising a cylindrical sleeve element and a pair of unitary end members each having integral portions extending partially into said sleeve element in frictional engagement therewith, at least one of said end members having an integral sprocket adapted to receive driving means to rotate said rollers, each of said end members being a single wholly integral unit and being formed from a material selected from the group consisting of plastic material and fritted metals, and said sleeve element being normally rotatable by said integral end portions of said end members but being adapted to remain stationary during continued rotation of said end portions when the frictional engagement between said sleeve element and its associated end portions is overcome by the weight of the load acting upon said sleeve element when said load is stopped.

2,976,982
CONVEYOR APPARATUS
Donald D. Murphy, New Philadelphia, Ohio, assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 25, 1958, Ser. No. 731,015
22 Claims. (Cl. 198—139)



1. Conveyor apparatus comprising, an elongated loop portion of a continuously movable conveyor belt having its closed end movably supported by support means which is reciprocable along an elongated path axially of said loop portion to vary the length of said loop portion, said loop portion having its ends remote from said closed end adapted to be connected to apparatus whereby a variable force is exerted upon said support means axially of said path through the runs of said loop portion, said support means including means constantly urging said loop portion in the direction of maximum length whereby an approximately uniform axial tension is maintained in said loop portion, a plurality of pivotable means each located in part laterally outwardly of said path and in part to extend laterally across said path which latter part supports one run of said loop portion in spaced relationship to the other run of said loop portion, said plurality of pivotable means being spaced longitudinally of said path to support the entire length of said one run, and means on said support means successively engageable upon said reciprocable movement thereof with a portion of said longitudinally spaced pivotable means to successively pivotably displace said latter parts thereof from said path to permit variations in the length of said loop portion.

2,976,983
POULTRY CONVEYOR
Ralph S. Zoberth, Hickman Mills, Mo., assignor, by mesne assignments, to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri
Filed Oct. 29, 1956, Ser. No. 619,856
1 Claim. (Cl. 198—177)

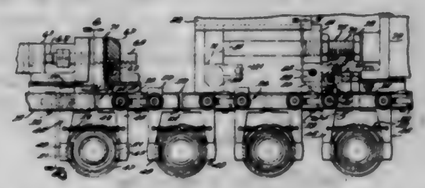


In combination with an overhead poultry conveyor having a track, a plurality of spaced carriages supported by the track for movement therealong and each provided with a rigid, downwardly extending stem, and a first continuous chain having a series of links, each stem extending through a link in the first chain and thereby attached to the latter to maintain said stems in upright, generally parallel relationship, a poultry supporting assembly comprising an eye attached to each stem respectively at the lowermost end of the latter below said first chain; an elongated, vertical bar for each of said stems respectively, said bars being of substantially equal length; a plurality of first hooks, each of said first hooks swingably securing the upper end of a respective bar to the eye of a corresponding stem whereby the bars are suspended from said stems; a poultry receiving shackle beneath each bar respectively; a series of second hooks, each of said second hooks swingably suspending a respective shackle from a corresponding bar; and a second continuous chain having a series of links and disposed in vertically spaced, generally parallel relationship to said first chain, said second hooks extending through links of the second chain to maintain said bars in substantially equidistant relationship and thereby restricting relative movement in a direction longitudinally of the track while permitting relatively free movement thereof in directions transverse to the longitudinal length of said track.

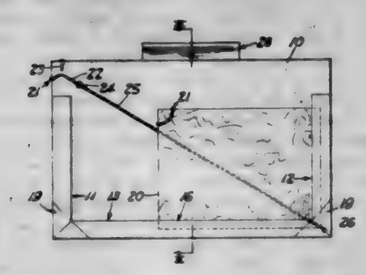
2,976,984
AUTOMATIC CONVEYOR FOR GEAR FINISHING MACHINES
Alexander D. F. Moncrieff, Detroit, Mich., assignor to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Original application Feb. 20, 1950, Ser. No. 145,140, now Patent No. 2,736,238, dated Feb. 28, 1956. Divided and this application July 28, 1955, Ser. No. 525,034
2 Claims. (Cl. 198—179)

1. Conveyor mechanism for conveying circular workpieces into and out of position for engagement by a work-

engaging element, including a conveyor movable past the work-engaging element, means movably supporting said conveyor, said conveyor including a pair of spaced jaw elements having opposed arcuate relatively smooth and generally concave faces adapted to engage and rotatably support the arcuate surfaces of a circular workpiece therebetween, means pivotally supporting said jaw elements about spaced pivotal axes so that the faces thereof adapted to engage the workpiece may pivot into and out of engagement with the workpiece, resilient means normally urging said jaws toward each other for retaining said jaws in yieldable engagement with the arcuate surfaces of said circular workpiece, each of said jaws including means offset from the pivots thereof and adapted to be actuated for pivoting the workpiece engaging faces of said jaws away from each other, and means supported adjacent said jaws for engaging said offset jaw means and actuating the latter so as to pivot said jaws apart, and means for actuating said jaw-engaging and actuating means.

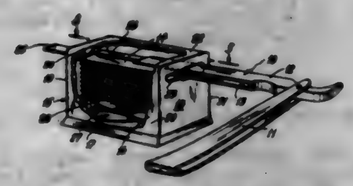


2,976,985
CARRYING CASE FOR WET PAINTINGS
Philip J. Kraus, R.D. 1, Brainard Road, Fredonia, N.Y.
Filed Aug. 11, 1960, Ser. No. 49,006
8 Claims. (Cl. 206—1)



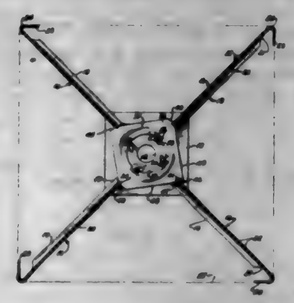
1. In a carrier for wet paintings and like objects, a relatively flat rectangular case, a rectangular base panel of self-sustaining material fitting the length and width of the interior of said case, marginal rail members attached to two adjacent edges of said panel and projecting from one surface of said panel, said panel and said rails jointly being of a thickness to fit the interior thickness of said case, said rail members having inner edge surfaces extending obliquely from the panel surface to form V-shaped grooves with said panel surface whereby a painting or like relatively thin flat object placed against said panel surface and moved against said rail members is automatically held against said panel surface by said obliquely extending rail surfaces, and an elongate resiliently extensible member anchored to said base panel at one end in the vicinity of the juncture of said rail members and having a loop member at its other end for engagement over the diagonally opposite corner of a painting to retain the same in said V-shaped grooves and flat against the base panel with the extensible member lying between the panel member and the painting.

2,976,986
MAGAZINE FOR APPLYING RAZOR BLADES TO A HOLDER
Stanley W. Linn, 73—58 192nd St., Flushing, N.Y.
Filed Apr. 25, 1958, Ser. No. 730,888
1 Claim. (Cl. 206—16)



A razor blade magazine and dispenser comprising a casing, a quantity of substantially rectangular razor blades in said casing, a spacer member, narrower than the razor blades, between each of said blades, spaced end and side walls, a top and a bottom on said casing, a first slot in one of the end walls adjacent the top of said casing, said slot being of a size to permit the passage of a razor blade therethrough, a second slot in the other end wall substantially in the plane of the first slot, said second slot being of a size which will not permit the passage of a razor blade but will permit a spacer to be ejected therethrough, and spring means in the bottom of the casing to urge the blades in the direction of the first and second slots.

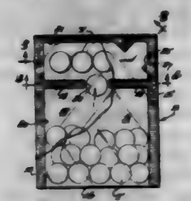
2,976,987
REEL FOR PILE FABRICS
Theodore P. Kemler, 122 Bridge St., Rancocas, N.J.
Filed July 16, 1958, Ser. No. 747,761
13 Claims. (Cl. 206—51)



1. A frame end for a pile goods reel comprising a main plate and four hook strips extending radially from the plate at right angles to each other, each strip at its outer end being bent in the same direction through an angle of 135 degrees to form four stop members defining a square of which the four strips are diagonals, each stop member being outwardly ribbed at its junction with its integral strip, whereby the frame end will fit inside of a carton square in cross section with each stop member engaging both sides of the carton at the proximate corner.

2,976,988
UNIT DISPENSING CONTAINER
William S. Schneider, 2520 San Fernando Road, Los Angeles 65, Calif.
Filed June 25, 1957, Ser. No. 667,888
5 Claims. (Cl. 206—56)

1. A flexible, dispensing package, comprising: a plurality of tablets to be dispensed; two thin, flexible wall members having thermo-plastic characteristics and joined together around their periphery, at least a portion of their periphery being joined by a sealed area formed by application of heat and pressure, to define an interior space between the wall members; a pair of transversely extending sealed areas extending inwardly from opposite margins of the wall members to divide said interior space into a relatively larger first chamber adapted to hold said plurality of tablets and a relatively smaller second chamber adapted to hold a smaller plurality of tablets amounting to a fraction of the tablets in the first chamber, the two transversely extending sealed areas being apart to define a transfer passage communicating with the first and second chambers and of a size to pass a single tablet at a time; and a discharge passage open at one end to the second chamber and closed at the other end by the marginal sealed area, said discharge passage being of a size to pass a single tablet at a time.



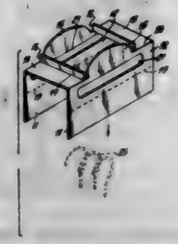
2,976,989
LIGHT-TIGHT FILM PACKS FOR DAYLIGHT DEVELOPMENT
Max Wiesner, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft, a corporation of Germany
Filed Aug. 28, 1956, Ser. No. 606,620
Claims priority, application Germany Sept. 28, 1955
3 Claims. (Cl. 206—62)



1. A photographic package comprising an inner sheath completely enclosing a light-sensitive photographic material, said inner sheath being inserted within a light-opaque intermediate enclosure, said intermediate enclosure being inserted within an outer cover which is impervious to both water and light, said inner sheath being completely sealed about said photographic material and being made from a material which is substantially light-tight and inherently semi-permeable to usual photographic film-treating baths to permit said sheath to remain in protective relationship about said photographic material while and during the time that it is inserted into said film-treating bath thereby minimizing the time required for the transfer from said package to said bath and permitting said substantially light-tight material to completely protect said photographic material from light because of the brief time required for such transfer, and said intermediate enclosure being provided with a metal foil along one side thereof.

2,976,990
RETAINING SLEEVE FOR HANGER SETS
Bela B. Noval, 169 Wykagyl Terrace, New Rochelle, N.Y.
Filed July 16, 1959, Ser. No. 827,576
3 Claims. (Cl. 206—65)

3. A retaining sleeve for hanger sets comprising imperforate end panels constituting a bottom, windowed panels constituting sides and having elongated apertures through which the hangers are visible and uniting portions constituting the top of the sleeve, upright semi-circular flaps rising from the windowed panels between the uniting portions and a cut-out portion between the flaps and the uniting portions to provide passage for hanger hooks through the top of the sleeve, a set of hangers having their hooks extending through the cut-out portion and having their body portions within said sleeve and partially visible through the windowed panels for retaining and packaging the hangers as a merchandisable set, the end panels being secured together in overlapping relationship on the underside of the hanger body portions.



2,976,991
DUMMY BLOCK DETECTOR FOR EXTRUSION PRESSES
Adolph J. De Matteo, Berkeley Heights, N.J., assignor to Farrel-Birmingham Company, Inc., Ansonia, Conn., a corporation of Connecticut
Filed Dec. 21, 1956, Ser. No. 629,982
3 Claims. (Cl. 207—1)

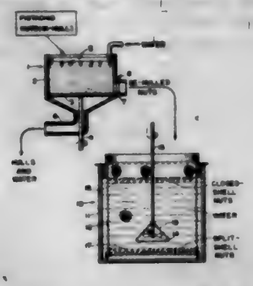


1. An extrusion press comprising a container having a bore, a loader adapted to elevate a billet and a dummy block formed of magnetic material from a lower receiving position into registration with the bore to be acted upon by a ram, and protective apparatus for detecting the presence or absence of the dummy block on the loader, said apparatus including first and second electromagnetic coils mounted relative to said loader at positions thereon at which in the absence of said dummy block said coils are inductively decoupled and in the presence of said block said coils are inductively coupled through said block, means to apply an alternating voltage to said first coil, and means coupled to said second coil and responsive to the voltage induced therein to control the operation of said loader so as to prevent elevation thereof in the absence of said dummy block.

2,976,992
PROCESS OF SORTING PISTACHIO NUTS
Felix Bloch, Oakland, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
Filed Dec. 3, 1958, Ser. No. 778,838
2 Claims. (Cl. 209—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

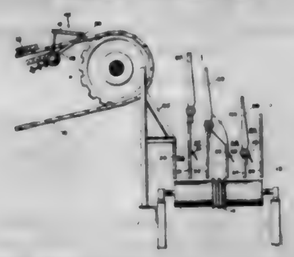
1. A process of sorting a lot of pistachio nuts containing split nuts and unsplit nuts which comprises introducing said lot of nuts into a body of water, applying centrifugal action to the mixture of nuts and water to an extent sufficient to displace air trapped within the shells of the split nuts, discontinuing the application of the centrifugal action to permit the nuts to separate into a floater fraction and a sinker fraction and separately removing said fractions from the body of water, the said floater fraction having an increased proportion of

unsplit nuts as compared with their proportion in the original lot, said sinker fraction having an increased pro-



portion of split nuts as compared with their proportion in the original lot.

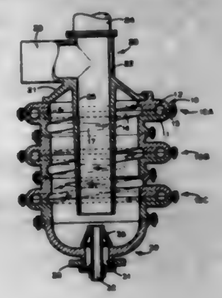
2,976,993
LUMBER SORTER
Lionel H. Wheeler, Houston, Tex., assignor to H. E. Bovay, Jr., Consulting Engineers, Houston, Tex., a partnership
Continuation of application Ser. No. 452,344, Aug. 26, 1954. This application Apr. 15, 1960, Ser. No. 22,448
7 Claims. (Cl. 209—88)



6. Sorting apparatus comprising continuous conveying means for transporting boards in a direction transverse to their lengths, actuating means adjacent said conveying means, said actuating means comprising a pair of arms adapted to be moved apart by a board passing therebetween to form a gap therebetween having a width equal to the thickness of said board, means resiliently connecting said arms to each other and urging them toward each other, said arms being movable together to a variety of positions upon the passage of a board therebetween while maintaining the width of the said gap, and sorting means adapted to sort said boards according to their respective thickness in response to actuation by said actuating means.

2,976,994
MINERAL CONCENTRATING AND SEPARATING APPARATUS
Norman H. A. Rodman, Virginia, and Arthur Arbetman, Mount Iron, Minn., assignors, by mesne assignments, to Oreclone Concentrating Corporation, New York, N.Y., a corporation of New York
Filed Feb. 6, 1958, Ser. No. 713,641
6 Claims. (Cl. 209—211)

1. Mineral concentrating and separating apparatus comprising, in combination, a plurality of structurally identical annular units superposed in coaxial relation to define a substantially cylindrical upright concentrating chamber; tailings discharge means closing the upper end of said chamber; concentrate discharge means at the lower end of said chamber; means providing an air flow through the bottom of said chamber upwardly toward said tailings discharge means; each of said units having a separate spirally disposed passage therein having a tangentially extending outer end; an initial part of said passage spiralling around the unit exteriorly of its inner surface in a substantially diametric plane of the unit for at least 360 degrees, an intermediate and continuing part of said passage circling axially at an incline along the inner periphery of the unit, a terminal and continuing part of said passage spiralling along the inner periphery of the unit in a substantially diametric plane of the unit; said passage, at a point intermediate the ends of said intermediate part, gradually opening through the inner periphery of the unit from zero opening to full extent at the inner terminal end of said passage, and gradually decreasing in depth to zero at the inner terminal end of said passage to form a flat; the topmost unit having an orientation such that the intermediate part of its said passage spirals downwardly within the chamber; said topmost unit being constructed and arranged to have a supply of water at a predetermined pressure connected to its tangentially extending outer end; the intermediate unit immediately beneath the topmost unit

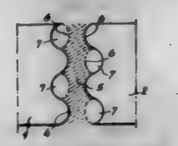


having the same orientation as the topmost unit so that the intermediate part of its said passage spirals downwardly within the chamber; the lower unit immediately beneath said intermediate unit having an orientation reversed with respect to the orientation of said topmost and intermediate units so that the intermediate part of its said passage spirals upwardly within the chamber; the flats of the intermediate and lower unit being aligned; the lower unit being constructed and arranged to have a supply of unclassified feed at a predetermined pressure connected to its tangentially extending outer end; the unclassified feed passing along the passage of the lower unit with separation of concentrate from tailings by centrifugal force, with tailings being carried by the air flow to the tailings discharge and the concentrate moving along the outer wall of the passage of the lower unit, upwardly of said chamber, and then along the outer wall of the passage of the intermediate unit with further separation of concentrate and tailings by centrifugal force; the spiral spray of water from the topmost unit washing tailings from the concentrate passing along the inwardly open parts of the passages of the lower and intermediate unit.

2,976,995
MAGNETIC SEPARATOR OPERATING IN AN AQUEOUS MEDIUM
Robert Charles Ferrer, 4 Rue de l'Université, Strasbourg, France
Filed Jan. 10, 1957, Ser. No. 633,489
Claims priority, application France Jan. 19, 1956
4 Claims. (Cl. 209—223)

1. An apparatus for separating particles of different magnetic characteristics forming a suspension in an aqueous fluid, said apparatus comprising, in combination, two pole pieces the cross-sections of which throughout their height and in a direction perpendicular to that intended

for the flow of the suspension have meandering outlines, said pole pieces defining therebetween a gap comprising a median part and comparatively small recess bounded by said outlines whereby a non-uniform magnetic field of a high intensity is produced in said median part, the portions of the magnetic field in said recesses being weaker and more uniform than the portion of the magnetic field in the median part of said gap, said last mentioned portion of the magnetic field constituting a magnetic channel and



two magnetic barriers being formed between said channel and the portions of the magnetic field in said recesses whereby the magnetic particles already located in said channel remain in the channel and the magnetic particles located in said recesses are attracted into said channel; and means for causing the suspension to flow through said gap whereby the paramagnetic and weakly ferromagnetic particles accumulate in and are discharged from the median part of said gap and only the weakly magnetic particles are discharged from said recesses.

2,976,996
APPARATUS AND METHOD FOR WET SCREENING
Freerk J. Fontein, Heerlen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed June 18, 1956, Ser. No. 591,929
Claims priority, application Netherlands June 17, 1955
2 Claims. (Cl. 209—355)



1. An apparatus for separating particles according to size comprising first and second separating bodies each having a feed end, a discharge end, a separating surface generally conforming to a surface generated by moving a line parallel to itself so that a given point on the line moves in a plane perpendicular to the moving line, and surfaces spaced in the direction of movement of said line defining a plurality of separating apertures in said separating surface, the width of the separating apertures of said first separating body measured in the direction of movement of said line being at most 1.9 times the width of the apertures of said second separating body, means for feeding solid particles and a suspending liquid in layer formation to the feed end of said first separating body at a predetermined minimum initial velocity in the direction of the separating surface thereof substantially perpendicular to the line generating the same so that the aperture defining surfaces of said first separating body facing in the direction of the feed end will block successive layers of a thickness substantially one-fourth the width of the associated separating apertures and particles in the block layers of a size less than twice the thickness thereof and hence less than one-half the width of the associated separating apertures will pass therethrough and the remaining particles will pass onto the discharge end of said first separating body, and means for collecting an undersize fraction passing through the apertures of said first separating body and feeding the same in layer formation to the feed end of said second separating body at a predetermined minimum initial velocity in the direction of the separating surface thereof substantially perpendicular to the line generating the same so that the aperture defining surfaces of said second separating body facing in the direction of the feed end will block successive layers of a thickness substantially less than the width of the associated apertures and particles in said block layers of a size less than twice the thickness thereof and substantially less than the width of the associated separating apertures will pass therethrough and the remaining particles will pass on to the discharge end of said second separating body.

2,976,997
MEANS FOR SEPARATING HEAVY PARTICLES FROM SANDS
Trevlyn W. Miller, Cape Morgan, P.O. Kei Mouth, Union of South Africa
Filed Oct. 8, 1957, Ser. No. 688,923
Claims priority, application Union of South Africa Oct. 9, 1956
10 Claims. (Cl. 209—454)

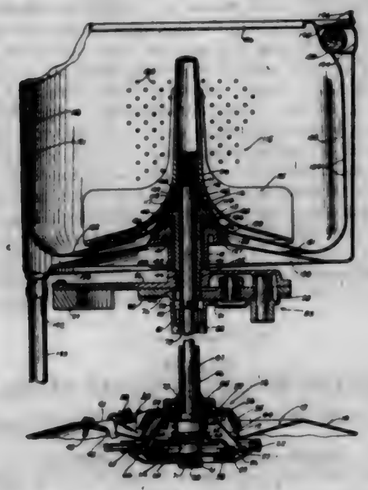


1. A sluice box comprising a floor, discharge apertures spaced at intervals along the length of said floor, means for maintaining the outlets of said apertures at a gas pressure higher than the ambient pressure in the upper part of the sluice box, said floor being in the shape of adjacent parallel channels extending parallel to the length of said floor and communicating with the apertures and the latter each having a diameter substantially equal to the width of the corresponding channel.

2,976,998
DAMPING SYSTEM FOR A WASHING MACHINE
Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Dec. 3, 1956, Ser. No. 625,875
13 Claims. (Cl. 210—78)

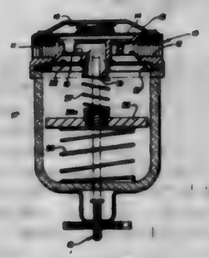
3. The method of centrifugally extracting fluid from fabrics immersed in a body of fluid within a revoluble container whose weight and fluid contents are supported by a damping surface resisting gyratory movements of said container relative to said damping surface so as to provide varying degrees of damping of said gyratory movements dependent upon the combined weight of said container and its fluid contents, comprising, rotating said container and said fabrics in said body of fluid from rest to speeds exceeding the critical speed of rotation of said container, damping said gyratory movements directly proportional to the combined weight of said container and its fluid contents, discharging said fluid from said container during its acceleration to said speeds, and coordinating said fluid discharge with the rotational speed of said container so that substantially all of the fluid discharged from said container is discharged from said container

and the weight of said discharged fluid removed therefrom after said container has surpassed its critical speed



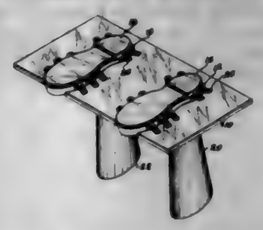
so that a minimum degree of damping of said container is produced at said speeds exceeding said critical speed.

2,976,999
MAGNETIC FILTER FOR FUEL SYSTEMS AND MOUNTING THEREFOR
Sidney F. Paton, 65 Rockaway Ave., San Francisco, Calif.
Filed Dec. 5, 1958, Ser. No. 778,413
2 Claims. (Cl. 210—223)



2. A filtering device comprising: a top body member having fuel inlet and fuel outlet flow passages; a bowl supported by and below said body; a filter element mounted on said body adjacent and in advance of said fuel outlet to prevent the access of unfiltered fuel thereto, the fuel inlet passage being centrally disposed with respect to said body and adapted to direct the flow of fuel downwardly into said bowl, a magnetic element positioned in a central zone in said bowl and having a substantially flat horizontal surface and a centrally disposed aperture therein, said fuel inlet passage adapted to introduce fuel into said zone and to direct the fuel flow from said passageway downwardly in said bowl and across the flat surfaces of said magnet in relatively close proximity thereto, said magnet being so positioned that it creates a field of magnetic influence and means for supporting said magnet at a predetermined position in said bowl comprising a pair of springs, one of said springs supporting said magnet from the bottom and resting on said bowl and extending upwardly through said aperture and the other of said springs engaging the top of said magnet and that portion of the said first spring which extends through said aperture and engaging said body adjacent said filter.

2,977,098
ADJUSTABLE BOOT HOLDER
Ferd J. Stimson, R.R. 1, Bethel, Ohio
Filed Nov. 13, 1959, Ser. No. 852,886
6 Claims. (Cl. 211—34)



1. In a holder for boots or the like; a support member, notches formed in the support member from the edge generally the shape of the foot of a boot, clip elements mounted on said member in spaced relation about the peripheries of said notches, said clip elements being adjustable inwardly and outwardly of said notches for supporting engagement with the foot ends of boots of different sizes, and means carried by said support member for clamping said clips in adjusted positions thereon.

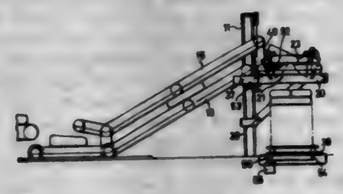
2,977,001
PORTABLE DRYING RACK
Anna Vitale, 1077 New York Ave., Brooklyn 31, N.Y.
Filed July 14, 1958, Ser. No. 748,415
2 Claims. (Cl. 211—113)



1. A portable drying rack comprising, in combination, a main support member, a plurality of rigid garment hangers individually supported in spaced apart parallel relationship upon said main support member, a plurality of auxiliary garment hangers supported upon said main support member one intermediate said rigid garment hangers, means for suspending said main support member from a stationary object, said main support member comprising a plurality of rod sections, coupling members securing said rod sections together in longitudinal axial alignment with each other, each of said rigid garment hangers comprising a pair of bars one extending outwardly from the opposite sides of each of said coupling members substantially perpendicular to said rod sections, said auxiliary garment hangers each comprising a hook, and a sleeve rotatably supported upon each rod section pivotally supporting each said hook.

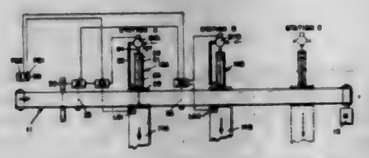
2,977,003
APPARATUS FOR AUTOMATICALLY LOADING BAGS ON A PALLET
Nils Axel Rudolf Asp, Svedala, Sweden, assignor to Aktiebolaget Aljorn Andersson, Svedala, Sweden, a corporation of Sweden
Filed Aug. 29, 1958, Ser. No. 758,189
Claims priority, application Sweden Sept. 2, 1957
3 Claims. (Cl. 214—6)

1. An apparatus for automatically loading bags onto a pallet, comprising a frame, a carriage guided for vertical movement in said frame, means for moving the carriage in the frame, an endless lifting conveyor inclined in its longitudinal direction having its upper end mounted in said carriage for pivotment about a horizontal transverse axis, said upper end being vertically movable together with said carriage, a support for the lower end of the lifting conveyor, said lower end being substantially horizontally movable on said support to permit the vertical movement of the upper end, a substantially horizontal endless conveyor on the carriage, joining the upper end of the lifting conveyor, said horizontal conveyor being arranged



for conveying bags from the upper end of the lifting conveyor longitudinally thereof, a substantially horizontal table on the carriage, disposed laterally of the substantially horizontal conveyor and having a supporting surface which is substantially coplanar with the supporting surface of that conveyor and is openable to deposit at least one bag from the table onto a pallet beneath said table, means on the carriage for transferring bags from the substantially horizontal conveyor transversely thereof to said table, and means for shifting the pallet after a predetermined number of bags have been deposited thereon.

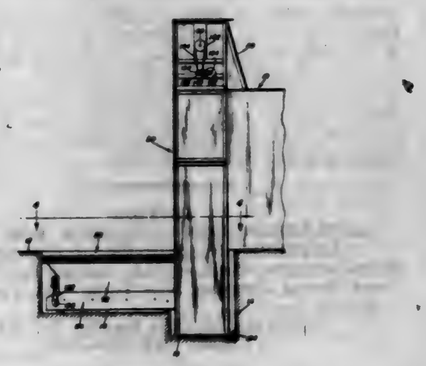
2,977,003
CONVEYOR
Donald C. Muller, Whittier, Calif., assignor to A. J. Bayer Company, Los Angeles, Calif., a corporation of California
Filed Mar. 15, 1954, Ser. No. 416,157
12 Claims. (Cl. 214—11)



1. In apparatus of the type described, a conveyor for moving articles, means for driving the conveyor, article-detecting means at a given point along said conveyor for signaling the passage thereby of the front and rear of an article on the conveyor, a timing mechanism operatively associated with and actuated by said article-detecting means for determining when the article reaches a position such that the center of the article, as measured from front to rear, is at a centering point along the conveyor a predetermined distance beyond said article-detecting means, and means for performing a given operation when the article reaches and is centered at a given station point along the conveyor, said last-mentioned means being operable in response to actuation by said timing mechanism.

2,977,004
ENSILAGE ELEVATOR
Steve J. Sess, 111 Jefferson St., Perth, N.J., assignor of one-third to Fred Popovitch, Point Pleasant, and Tibor Vigh, Woodbridge, N.J.
Filed Jan. 7, 1957, Ser. No. 632,778
3 Claims. (Cl. 214—17)

1. The combination of an ensilage storehouse resting on the ground and provided in one side adjacent the top thereof with a loading opening, a pit provided in the ground adjacent said storehouse and substantially contiguous with said one side of the storehouse, and an ensilage elevator mounted in said pit and including a vertically elongated housing extending upwardly from the bottom of said pit alongside said one side of the storehouse to a point above said loading opening, a hopper disposed in the pit at one side of the bottom portion of said housing, the top of said hopper being substantially flush with the ground level, horizontal conveyor means provided in the bottom of said hopper and discharging into the bottom of said housing, vertical conveyor means provided in said housing and extending from the bottom thereof to discharge into said loading opening, and means for actuating said conveyor means, oscillatable ensilage agitating means in said horizontal hopper for insuring downward delivery of ensilage to said horizontal conveyor means, a pitman drive for oscillating said agitator means, operating connections between one end of said horizontal conveyor means and said pitman drive, said oscillatable means comprising a pair of rock shafts, radial agitator fingers on each rock shaft staggered longitudinally on each shaft relative to those on the other shaft



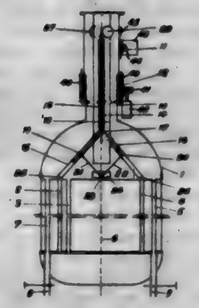
whereby ensilage will be agitated downwardly through said horizontal conveyor with little breakage and mutilation of said ensilage, said horizontal conveyor including an endless carrier having a plurality of longitudinally spaced, transversely extending and laterally projecting ensilage engaging members, said endless carrier comprising an endless flexible member disposed into vertically spaced and horizontally disposed reaches, one end of said horizontal conveyor communicating with said vertical conveyor, a horizontal bottom plate in said conveyor closely underlying said ensilage engaging members and terminating at the other end of said horizontal conveyor in an upwardly curving end wall extending into the hopper above said horizontal conveyor, said ensilage engaging members passing in closely spaced relation to said end wall during movement from the lower reach to the upper reach of said horizontal conveyor, said vertical conveyor being in the form of a plurality of buckets mounted on an endless carrier, a boot mounted in the lower part of said housing, the outer free edges of said buckets passing in closely spaced relation relative to said boot to insure the loading of said buckets with little breakage and mutilation of said ensilage.

2,977,005

ARRANGEMENT FOR INTRODUCING ARTICLES INTO A CLOSED CHAMBER AND FOR REMOVING SAME

Yvan Robert Marcel Teste and Jean-Pierre Theophile Roux, Paris, France, assignors to Electricite de France-Service National, Paris, France, a national French organization

Filed Aug. 20, 1957, Ser. No. 679,250
Claims priority, application France Aug. 21, 1956
6 Claims. (Cl. 214—17)



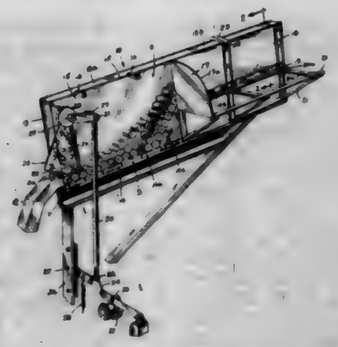
1. An arrangement for introducing articles into and removing the same out of a chamber, comprising a closed chamber, at least one tube extending inside said chamber having an end thereof communicating with the outside of said chamber, a plurality of tubes housed inside said chamber and entirely contained therein, at least one trough movably mounted inside said chamber with an end thereof capable of being brought into register with an end of any of said tubes, means for shifting said trough in two orthogonal directions, and flexible driven means extending through said trough and capable of extending in any of said tubes with which said trough is aligned for moving into and out of said trough articles to and from said first mentioned tube to be introduced through said trough into and out of said tubes.

2,977,006

AGITATOR-HOPPER ASSEMBLY FOR SPOOL LABELERS, MACHINES OR THE LIKE

Malcolm Carry, Flanders, N.J., assignor to The American Thread Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 28, 1959, Ser. No. 789,594
5 Claims. (Cl. 214—301)



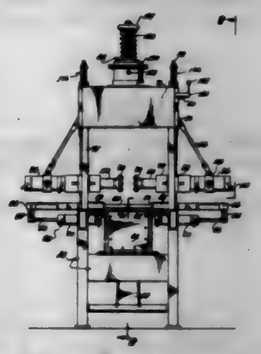
1. A hopper assembly of the character described for effecting orderly delivery of rollable articles to a runway entrance, comprising a hopper having an unbroken rear wall, a parallelly disposed front wall coextensive with a portion of the rear wall, a sloping floor at the bottom of said two walls, an end opening between said walls adjacent the leading end of said floor and communicating with said entrance and whose dimensions permit successive individual passage of articles therethrough, a second sloping floor at an elevated position relative to the first-named sloping floor, a steeply sloping floor joining the said first-named and said second-named floors, a platform for the hopper mounted to swing pivotally about an axis adjacent said second-named floor from a first position parallel with said rear wall to a second position substantially at right angles to said rear wall and onto which in the second of its pivotal positions a rollable article carrying container may be temporarily placed for unloading of its rollable articles thereon and then removed, said platform then being movable to its first pivotal position to introduce the articles loaded thereon onto the second floor of said hopper whence they may roll rapidly and directly down said steeply sloping floor onto said first-named floor toward said end opening, means for preventing arching over of said articles within said hopper adjacent said end opening and their jamming thereof, agitator means in said hopper, means for oscillating said agitator means, and means including an arcuate wall on said agitator means movable therewith in proximity to the entrance to define a passageway leading to said entrance dimensioned to limit transit therethrough of articles from the hopper as a single layer.

2,977,007

APPARATUS FOR DISMANTLING ELECTRIC STORAGE BATTERIES

Kay A. Richardson, Bell, and Edward E. Gullette, Inglewood, Calif., assignors to Morris P. Kirk & Son, Inc., Los Angeles, Calif., a corporation of Nevada

Filed July 22, 1957, Ser. No. 673,529
15 Claims. (Cl. 214—306)



9. In battery dismantling apparatus: a framework; upright guide means on said framework; a reciprocatory structure slidable vertically on said guide means; opposed gripping jaw means; horizontal jaw-carrying means carrying said jaw means and rotatably mounted on said slidable structure; power means mounted on said jaw-carrying means to move said jaw means horizontally between gripping and non-gripping positions; means to rotate said jaw-carrying means about its axis and invert a battery between said jaw means; and vibrator means connected with said reciprocatory structure to vibrate the latter vertically with its jaw means and jaw-carrying means.

2,977,085

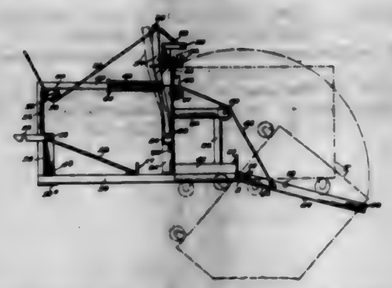
LIFT TRUCK SCRAP LOADING ATTACHMENT

Dale Edgar Hammond, Portland, Oreg., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 13, 1957, Ser. No. 696,279
6 Claims. (Cl. 214—315)

4. An attachment for a fork lift truck comprising an elongated open frame structure, means on one end of said

of said structure for releasable engagement with the lift member of said truck for movement of the attachment with the truck, means on the opposite end of said structure removably receiving opposite ends of an axle on the bottom of a scrap filled tub and wherein said axle is disposed off transverse center of the tub for automatic dumping of the tub when not restrained, latch means on said structure normally engageable with an upper corner of said tub for holding same in horizontal transport position, spring means on said structure biasing said tub to said horizontal transport position, lever means for releasing said latch means for swinging movement of the scrap



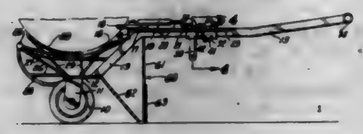
filled tub about said axle for dumping the scrap, and means engageable by said tub for compressing said spring means in its swinging dumping action and said compressed spring means returning to normal position and returning the empty tub to its normal horizontal transport position, said spring means including a pair of elongated coil springs, said frame structure including a pair of laterally spaced horizontal bars disposed within said coil springs, a ball member engageable by said tub and pivotally connected to said frame structure on the axis of said axle and cable connections between said springs and said ball member.

2,977,009

TRUCK FOR HANDLING DRUMS

Albert M. Evans, 3816 Lago Ave., Lynwood, Calif., and Clarence W. Johnson, 5703 Candor St., Lakewood, Calif.

Filed May 18, 1959, Ser. No. 813,795
9 Claims. (Cl. 214—379)



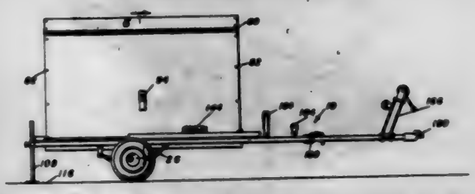
1. A truck for handling drums comprising a horizontally directed wheel mount, a pair of wheels carried by and extending downwardly from said wheel mount, an elongated handle member attached at one end adjacent the midportion of said wheel mount and extending transversely thereto, an elongated crossbar attached to said handle member, said crossbar extending parallel to and being spaced from said wheel mount, a pair of pivotally mounted hook members carried by the opposite ends of said crossbar, a sleeve slidably mounted on said handle member on the opposite side of said crossbar from said wheel mount, link means connecting said hook members to said sleeve for pivotal movement of said hook members upon sliding movement of said sleeve along said handle member, an arcuate drum cradle disposed above said wheel mount, said drum cradle extending transversely to said wheel mount and being offset to one side from said handle member, said drum cradle being disposed so as to engage the side of a drum extending horizontally above said wheel mount with its longitudinal axis parallel to said wheel mount, said hook members and drum cradle holding said drum on said truck, a pair of drum supports extending between said wheel mount and said crossbar, said drum supports being disposed so as to engage and support the side of said drum only when said handle member is disposed in substantially horizontal position, a convexly curved rocking member extending transversely from said wheel mount in the opposite direction from said handle member, a pivot foot carried by the opposite end of said rocking member, and a guide cradle extending at an angle between said pivot foot and the side of said crossbar remote from said drum cradle, said guide cradle being curved downwardly and twisted outwardly toward the adjacent side of said truck.

2,977,010

BOAT TRAILER AND COLLAPSIBLE SHELTER CONSTRUCTION

Joseph A. Okay, 106 Albright Ave., Graham, N.C.

Filed Aug. 19, 1959, Ser. No. 834,753
7 Claims. (Cl. 214—506)



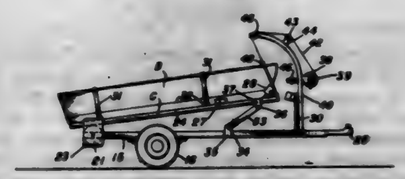
1. A boat trailer and collapsible shelter construction comprising a frame having a pair of spaced ground wheels defining a longitudinal axis therebetween, at least one bar carrying rollers thereon pivotally connected to said frame and pivotal between a first position extending parallel to said longitudinal axis and a second position extending transverse to said longitudinal axis, said frame defining an enclosed area, Z-shaped structural members supported from said frame and having a lower flange extending into said area about the perimeter thereof, said area being rectangular and being defined by spaced side frame members, said side frame members bridged by front and rear cross frame members, shelter side walls pivoted to said Z-shaped members adjacent said side frame members, shelter front and rear walls pivoted to said Z-shaped members adjacent said front and rear cross frame members.

2,977,011

BOAT TRAILER

Charles L. Okerlund, 1030 Easum Drive, Napa, Calif.

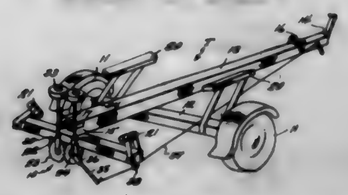
Filed Apr. 1, 1957, Ser. No. 649,889
7 Claims. (Cl. 214—505)



2. A boat trailer, including: a trailer frame; a boat-supporting cradle normally horizontal on said frame; rollers on the rear end of said frame normally supporting the rear end of said cradle; links permanently pivoted to said frame and to said cradle at points forwardly of the pivot of said links to said frame whereby, upon lifting the forward end of said cradle it will be tilted upwardly and rearwardly about said rollers and said links actuated

to cause said cradle to be moved rearwardly on said rollers so as to project the rear end of said cradle downwardly from the rear end of said frame; a boom fixed on said frame; a winch drum mounted on the boom; a sheave mounted on said boom; a pair of flexible members connected at spaced points to the front end of said cradle; a spreader bar connected to said members; and a cable connected to said spreader bar, movably mounted on said boom, and wound on said drum whereby, through rotation of said drum in one direction the cable can be actuated to elevate said bar and said members to so lift said cradle, and when said drum is rotated in the other direction and the cable is reaved about the sheave to pull said cradle forwardly on said rollers and restore it to horizontal position on said frame.

2,977,012
LOADING GUIDE FOR BOAT TRAILERS
Otto A. Mannola, 413 Gilbert Ave., Menlo Park, Calif.
Filed Apr. 30, 1959, Ser. No. 810,000
4 Claims. (Cl. 214—505)



1. A guide apparatus for a boat trailer of the type including an elongated tongue carried by a centrally positioned wheeled supporting frame comprising a bracket depending from the rear end of said tongue, a pair of plates rotatably secured to said bracket, means on said plates interengaging to rotate said plates equally and oppositely of each other, a pair of shafts mounted on said plates, and a pair of guide wheels journalled on said shafts.

2,977,013
NIPPLE CONSTRUCTION
John A. Clemens, Warwick, R.I., assignor to Davol Rubber Company, a corporation of Rhode Island
Filed Mar. 3, 1958, Ser. No. 718,558
1 Claim. (Cl. 215—11)



In a nurser combination, a nursing bottle having a neck portion terminating in a rim, a flexible, resilient nipple having an outwardly extending circular base flange, said nipple being positioned on said bottle rim with the marginal portion of said flange making supporting engagement thereon, said nipple further comprising a substantially cylindrical hollow body portion extending integrally from said base flange and terminating in a feeding tip having at least one flow passage extending therethrough, said hollow body portion comprising a first wall section extending substantially perpendicularly upward from said base flange, and an intermediate wall section, the inner and outer surfaces of which curve gently outward from the upper edge of said first section and then merging inwardly and upwardly with said feeding tip, said intermediate wall section being thinner at its lower extremity and becoming gradually thicker, the combination further comprising a retaining cap having a central opening substantially equal in diameter to the outer diameter of said first wall section, said cap being superimposed over said base flange with the nipple body portion snugly received within said opening, and means for securing said cap to said bottle with the said base flange clamped therebetween, the thickness of said cap being less than the height of said first wall section.

2,977,014
AMPOULE TYPE CONTAINER AND METHOD OF PRODUCING THE SAME
Friedrich August Heinz Koch, Sophienterrasse 8, Hamburg 13, Germany
Filed Jan. 5, 1960, Ser. No. 553
Claims priority, application Germany Sept. 1, 1959
8 Claims. (Cl. 215—12)



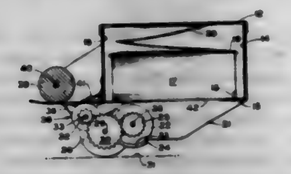
1. A safe-opening ampoule package comprising an ampoule having a fluid containing body portion and neck, bulb and tip portions, a sheath of protective material surrounding the body portion, a thimble covering the neck and having substantial clearance with respect to the neck, bulb and tip portions, neck severing means supported by said thimble normally disposed in spaced relation to the neck, the thimble being capable of lateral motion to permit the severing means to press against the neck and to score it when the thimble is rotated, the severing means being so arranged as to engage the bulb when the thimble is tilted and thereby break the ampoule at the scored neck.

2,977,015
CAP CLOSURE FOR BOTTLES AND TUBES
Flora S. Bartlett, The Fairmont Hotel, San Francisco, Calif.
Filed July 21, 1958, Ser. No. 749,678
2 Claims. (Cl. 215—76)



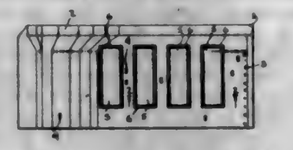
1. In combination with a container that includes a body having a neck of circular cross sectional contour projecting from said body, said neck having a coaxial cylindrically sided through bore therein, a cylindrical plug secured within said bore, said plug having a groove formed in one side thereof extending from end to end of said plug axially thereof providing a passageway eccentrically positioned relative to the axis of said bore having a discharge end at the outer end of said neck relative to said body, a cap swivelly secured to said neck for rotation relative thereto about the axis of said bore, said cap including a wall extending over said plug and the outer end of said neck formed with an opening positioned eccentrically of the outer open end of said passageway for movement into and out of registration with said open outer end upon rotating said cap relative to said neck about the axis of said bore.

2,977,016
GUMMED LABEL APPLYING DEVICE
Theodore F. Aronson, 60 Crescent Beach Road, Glen Cove, N.Y.; Albert F. Kronman, Box 237, Lattingtown Harbor, N.Y.; and Floyd A. Lyon, Old Wheatley Road, Brookville, N.Y.
Filed Dec. 18, 1958, Ser. No. 781,227
6 Claims. (Cl. 216—37)



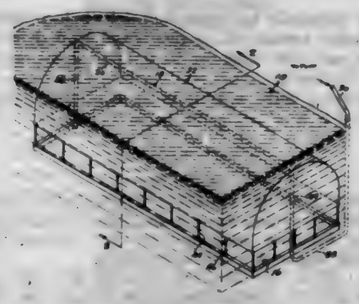
1. A gummed label moistening and applying device comprising, a housing, a magazine to receive a quantity of individual gummed labels in the housing, an opening in the bottom of the magazine, a flange-like stop member extending across the rear of the said opening, a needlelike member carried by the stop and extending into the magazine to engage the labels therein, a drive wheel carried by the housing beneath the magazine, a shaft for said drive wheel, a drive gear secured to the drive wheel shaft and rotatable with the drive wheel and shaft, a first driven gear in mesh with the drive gear, a shaft for said first driven gear carried by the housing beneath the magazine, label feed means including a label feed wheel secured to the first driven gear shaft, and a resilient rim on the feed wheel engageable with the labels in the magazine, a second driven gear in mesh with the drive gear, a shaft secured to the second driven gear carried by the housing, a moistening roller on the second driven gear shaft and rotatable therewith, a label affixing roller above and in front of the moistening roller, a shaft for the affixing roller, said roller being freely journaled thereon and guide means in contact with the moistening roller to lead the labels from the magazine across the moistening roller and beneath the affixing roller.

2,977,017
MICROFILM RECORD CARD
Leonard A. Herzig, Malva, N.Y., assignor to P.C.I. Incorporated, Long Island City, N.Y., a corporation of Delaware
Filed July 28, 1958, Ser. No. 751,225
2 Claims. (Cl. 216—62)



2. Method of preforming a record card for mounting rectangular films for use in card classification systems, which comprises forming a plurality of spaced aligned rectangular depressions in said card each of an area and depth depending upon the area and thickness of a film to be mounted, applying a heat-sensitive coating to a narrow perimetral portion of each of said depressions, blanking out the rectangular area surrounded by the adhesive-coated perimeter of a depression as required to leave a narrow adhesive-coated depressed perimetral ledge surrounding the resulting rectangular aperture, mounting a rectangular film on said perimetral ledge, and applying heat and pressure to seal the edge of said film upon said ledge.

2,977,018
UNDERWATER FUEL STORAGE
Filmore O. Frye, 42 W. Blaine St., McAdoo, Pa.
Filed Mar. 4, 1960, Ser. No. 12,799
2 Claims. (Cl. 220—13)

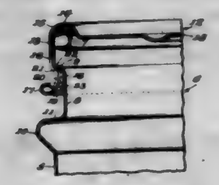


1. Apparatus for underwater storage of liquid fuel lighter than water, comprising a reservoir containing water, said reservoir having a sidewall and a bottom wall, an open bottom flexible walled fuel container spacedly positioned within the reservoir, anchoring means extending between the container and the bottom wall and spacing the open bottom of the container from the bottom wall, and conduit means opening within the container and leading out of the container and to the top of the reservoir above the water therein, said container being rectangular and having first and second end walls, sidewalls, and a transversely curved top wall, said conduit means comprising a longitudinally elongated ridge pipe within the container having a horizontal bight portion and first and second depending legs anchored at their lower ends to said bottom wall, and an upstanding pipe outside of the container end connected to said second leg and rising above the reservoir, said bight portion being supportably engaged with the underside of the top wall of the container and said first and second legs being supportably and severally engaged with the inner sides of said first and second end walls of the container.

2,977,019
EASY OPENING CAN AND COVER ASSEMBLY
John Henchert, River Forest, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 19, 1957, Ser. No. 684,912
5 Claims. (Cl. 220—60)

1. In a re-closable container, a side wall having an outwardly stepped upper portion including an uppermost wall part and a next upper wall part disposed inwardly of said uppermost wall part and connected thereto by a downwardly facing inwardly directed external shoulder, a sheet metal cover having a skirt closely surrounding said uppermost wall part and projecting downwardly below said shoulder, said skirt having a multiplicity of circumferentially spaced openings transversing said shoulder and extending from a plane above said shoulder to a plane below said shoulder, said skirt having a con-

tinuous lower edge portion restraining skirt expansion under said openings, the metal between said openings being inwardly offset under said shoulder to provide resilient detents which normally hold said cover engaged in telescoped relation over said side wall, said detents and shoulder having abutting surfaces which coact in tem-



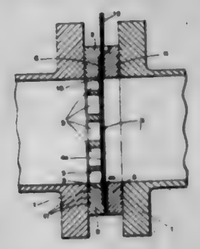
porarily outwardly springing said detents to released positions during prying off of the cover, said detents being resilient and self-returning to normal shape upon complete cover removal, whereby said detents may snap into reengagement with said shoulder when the cover is reapplied to tightly retain the cover in place.

2,977,020

FLUID PRESSURE OVERLOAD RELIEF DEVICES

Charles Henry Victor Sawyer and Peter Edmund Landeg, Hayes, England, assignors to C.D. Patents Limited, London, England, a British company

Filed May 25, 1959, Ser. No. 815,611
Claims priority, application Great Britain June 4, 1958
7 Claims. (Cl. 220—89)



2. A fluid pressure overload relief valve comprising a main holder member in the form of a circular plate having a first recess providing an annular seating, an outwardly extending annular border surrounding said recess, a number of holes leading through the plate and together constituting a passage, and a second recess leading out of said first recess and surrounding said passage; a carbon bursting disc which is flat on one side but has an annular raised portion on the other side, said bursting disc fitting in said main holder member with the marginal portion of said flat side engaged on said annular seating; an annular gasket secured on said annular raised portion; and an annular holder member which fits on said gasket, said gasket being sandwiched between said annular border and said holder member.

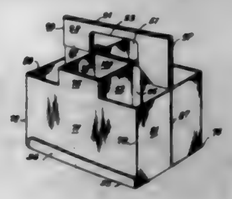
2,977,021

COMPARTMENTED BOTTLE CARRIERS

Thomas E. Shiels, Jr., Dallas, Tex., assignor to Fleming & Sons, Inc., Dallas, Tex., a corporation of Texas

Filed Aug. 11, 1958, Ser. No. 754,331
3 Claims. (Cl. 220—115)

1. A compartmented bottle carrier formed from a single blank of sheet material including bottom, end and side walls, center and cross partitions, the center partition being continuous from end to end of the carrier and of greater height than the walls and cross partitions so as to project thereabove and provide a handle, an end panel hinged to each end of each side wall and forming one-half of one of the end walls, center panels greater in each dimension than the end panels hinged to the adjacent edges of the end panels at one end of the carrier and having upstanding extensions and secured in face-to-face relationship to form said center partition and handle, a pair of spaced panels extending transversely between said center



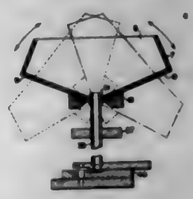
partition and each side wall and forming the cross partitions, one of each pair of transverse panels having its inner end hinged to the end of each center panel opposite its end panel connection, the other transverse panel of each pair having its inner end secured to the adjacent center panel, and a reinforcing panel hinged to the outer ends of each pair of transverse panels and secured in face-to-face relation to the medial portion of the adjacent side wall, the reinforcing and transverse panels being of substantially the same width as said end panels.

2,977,022

AUTOMATIC FEED APPARATUS

Donald R. Vinson, Tamaqua, Pa., assignor to Atlas Powder Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 29, 1956, Ser. No. 625,137
4 Claims. (Cl. 221—68)



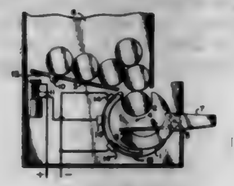
1. An automatic feed apparatus comprising an elongated hopper including a lower portion of generally V-shaped transverse cross section, said lower portion having an elongated, longitudinally-extending slot defined by transversely-spaced, substantially parallel edges extending longitudinally along said lower portion at opposite sides of the projected apex of said V-shaped lower portion; an elongated tube support member positioned longitudinally in said slot and having a convex upper surface with its axis of curvature parallel to the axis of said tube support member and below said slot, the radius of curvature of said surface being slightly less than the distance from said axis of curvature to the longitudinal edges which define said slot, said tube support member and said convex upper surface having at least one aperture passing therethrough; a downwardly directed drop tube operatively attached to said tube support member with its upper end communicating with said aperture; means mounting said hopper for oscillation with respect to said tube support member and aperture about said axis of curvature of said convex upper surface; and means for oscillating said hopper about said axis.

2,977,023

APPARATUS FOR RELEASING CONSUMER ARTICLES

Moshe Norbert Meyer, Block 88, Kfar Ata, Shikun Oleh Chadash, Israel

Filed May 9, 1958, Ser. No. 734,291
1 Claim. (Cl. 221—285)



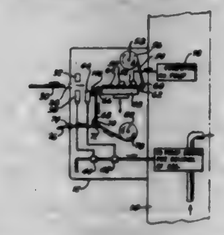
Apparatus for individually dispensing elongated articles of cylindrical cross-section comprising a receptacle for retaining a supply of said articles, said receptacle including a bottom floor member pivotally mounted for angular displacement about a horizontal axis, a cylindrical drawer mounted for rotation about its longitudinal axis, said last-named axis being spaced from and parallel to said first-named axis, said drawer having an axially extending groove formed therein, said groove being adapted to receive a single one of said articles from said floor member, manually operable means for rotating said drawer through a limited angle whereby said groove will be positioned to receive a single one of said articles from said floor member at one limit of said angle and will release the same by gravity exteriorly of said receptacle at the other limit thereof, restoring means for rotating said drawer from said other limit to said one limit, an electromagnet acting on said floor member for causing pivotal movement of said floor member between a downwardly inclined position wherein an article will be delivered to said groove by gravity and a raised position, an energizing circuit for said electromagnet, and switching means actuated by rotation of said drawer and included in said energizing circuit for repeatedly making and breaking said energizing circuit and thereby causing said floor member to move through a series of angular displacements between said downwardly inclined position and said raised position during said rotation of said drawer through said limited angle.

2,977,024

GASOLINE VENDING APPARATUS

Bennett C. Harris, 4 Stonewall Lane, Mamaroneck, N.Y.

Filed Dec. 4, 1958, Ser. No. 778,108
2 Claims. (Cl. 222—2)



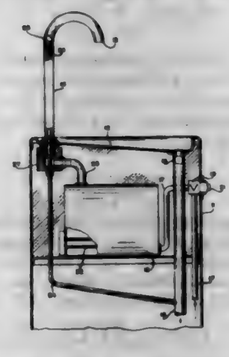
1. A gasoline vending apparatus comprising an electrically operated pump, switch means for actuating said pump, a housing having an opening therein, said switch means including a handle extending outwardly of said housing, a check having a graduated film strip therein, a check switch in said housing further controlling said pump, a source of illumination in said housing, a photoelectric cell connected to said check switch in close proximity to said opening so that light passing from said source and through said film strip of said check introduced through said opening will impinge on said photoelectric cell to actuate said check switch, computer means on said pump for metering gasoline delivered by said pump and calculating the cost thereof, a printer in said housing connected to and driven by said computer means to print the cost on an invoice and on a receipt, and means for retaining said invoice and delivering said receipt through said housing, said check having raised printing type thereon, said printing type being employed by said printer to print indicia corresponding to said printing type on said receipt and said invoice, a micro-switch in said housing and adjacent said opening, said micro-switch being actuated by physical contact with raised type on said check.

2,977,025

WATER DISPENSER

Eugene W. Scott, Upper Arlington, Franklin County, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 8, 1957, Ser. No. 677,023
2 Claims. (Cl. 222—108)



1. In apparatus for dispensing hot liquid, a cabinet, a liquid discharge conduit extending from the interior to the exterior of said cabinet and terminating in an open discharge end, a liquid heating tank in said cabinet, means connecting said discharge conduit to said tank, whereby said discharge conduit provides substantially unrestricted communication between the interior of said tank and the atmosphere, means for heating said tank and its contents, supply conduit means for connecting said tank to a source of pressurized liquid, a shut-off valve for controlling the flow of liquid into said tank, said valve when open permitting the displacement of heated liquid from said tank through said discharge conduit, and an overflow pipe having one end disposed within said discharge pipe, said overflow pipe entering said discharge conduit in a region of the conduit disposed interiorly of said cabinet and terminating in a region of the conduit disposed exteriorly of said cabinet.

2,977,026

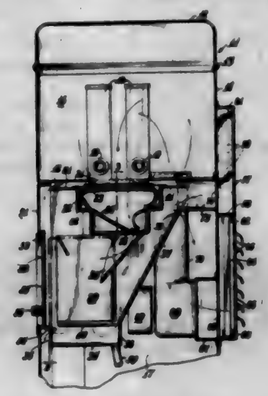
HOT BEVERAGE MIXING AND VENDING MACHINES

Manuel M. Delgado, Los Angeles, Calif., assignor, by mesne assignments, to The Vendo Company, Kansas City, Mo., a corporation of Missouri

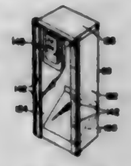
Continuation of application Ser. No. 446,049, July 27, 1954. This application Feb. 21, 1957, Ser. No. 642,328
14 Claims. (Cl. 222—129.4)

1. In a machine for mixing and vending a hot beverage, a housing, a partition dividing said housing into upper and lower compartments, a dry ingredient container located in the upper compartment, means to dispense a measured quantity of dry ingredient from said container

terminating above said partition, said partition having an opening beneath said container through which said dispensed ingredient passes, a mixing bowl located in the lower compartment in position to receive the dispensed dry ingredient, said bowl being spaced from said partition, means to deliver a measured quantity of hot liquid to the mixing bowl, and means operable to deliver outside air into the upper compartment to maintain the air in the upper compartment at a higher pressure than the air in the lower compartment.



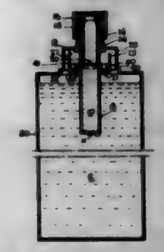
2,977,027
DISPENSER FOR HANDLING COMPONENTS
Milton Alden, P.O. Box 115, Wellesley, Mass.
Original application June 22, 1954, Ser. No. 438,451, now Patent No. 2,860,404, dated Nov. 18, 1958. Divided and this application Sept. 19, 1958, Ser. No. 762,183
4 Claims. (Cl. 222—156)



1. For use in a manufacturing operation a dispenser for components required during the operation, comprising an elongated rectilinear housing one elongated wall of which is movable lengthwise of the housing, a declivous bottom piece which extends transversely from the lower end of the movable wall to the opposite wall of the housing to form a V-shaped recess in the bottom of the housing, a mounting foot adapted to be attached to a supporting surface, the foot having a corresponding declivous portion which removably engages the V-shaped recess to hold the housing with its elongated walls in a vertical position and conjointly engages the lower edge of the movable wall to lift the wall upwardly to permit the components in the dispenser to flow downwardly and outwardly along the bottom piece under the force of gravity.

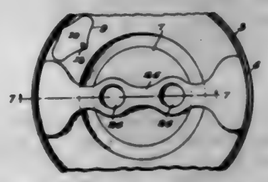
2,977,028
DISPENSER FOR MEASURED AMOUNTS OF FLUID
Edward J. Joffe, Summit, N.J., assignor to Park Plastics Co., Inc., Linden, N.J., a corporation of New Jersey
Filed Dec. 4, 1958, Ser. No. 778,129
4 Claims. (Cl. 222—442)

3. In a dispenser of the class described, a container having a main body for containing fluid, means forming a dispensing chamber closed at its bottom end and having an upper open end extending above the main body of said container when said container is righted, means forming a reservoir surrounding a portion of said dispensing chamber and providing open communication for the flow of fluid between said main body and said reservoir together with a permanently open passage between said reservoir and said dispensing chamber, means forming a vertical vent passage extending from said reservoir to said main body to allow fluid to flow from the said main body into said reservoir when said container is inverted,



and the main portion of said permanently open passage being above the lower end of the vent passage when said container is inverted whereby fluid will not reach the level of the main portion of said permanently open passage and will therefore not flow into said dispensing chamber when the container is inverted, the righting of said container bringing the main portion of said permanently open passage as well as said dispensing chamber below the level of the fluid in said reservoir whereby said fluid then flows through said passage into said dispensing chamber.

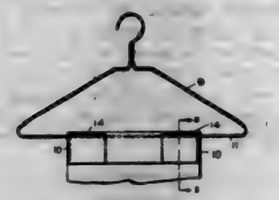
2,977,029
CAN PUSH-OUT PANEL AND SLIDE THEREFOR
John Henchert, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 16, 1957, Ser. No. 678,631
7 Claims. (Cl. 222—548)



6. A can having an upper end member, a countersink in said upper end member and a discharge opening in said end member, and a rotatable slide mounted on said end member for closing said discharge opening thereof, said slide having a portion spanning said countersink and narrower than the countersink and to be gripped with the fingers when said slide is to be turned, said countersink being of sufficient diameter to accommodate the finger tips when gripping at each side of the countersink spanning portion.

2,977,030
ATTACHMENT FOR A GARMENT HANGER
Howard T. Garrison, 444 Lakewood Circle, Virginia Beach, Va.
Filed June 6, 1958, Ser. No. 740,229
1 Claim. (Cl. 223—88)

The combination of a garment hanger having a horizontal rod-shaped member supported by and between two sloping members and a pair of substantially similar spaced wire clips disengageably mounted on said horizontal rod-shaped member, each clip comprising two generally parallel central elements, said elements having at their ends two adjacent U-shaped portions, the tops of the intermediate arms of each of said adjacent U-shaped portions being joined to form an inverted U-shaped portion between said U-shaped portions, the space between said joined arms being narrower at the juncture thereof than the diameter of said horizontal rod-shaped member, said joined arms receiving in frictional engagement the horizontal rod-shaped member of said garment hanger, said wire clips being engageable on said garment hanger at various points along the length of said horizontal rod-shaped member to accommodate garments having various widths, said clips being adapted to receive and retain the turned over portions of said garments.

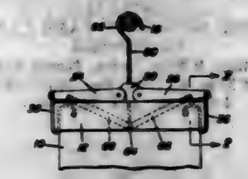


2,977,031
TROUSER STRETCHERS
Martin Wagner, Pramboch, near Pfaffenhofen, Germany
Filed Nov. 10, 1958, Ser. No. 772,973
Claims priority, application Germany Nov. 23, 1957
8 Claims. (Cl. 223—95)



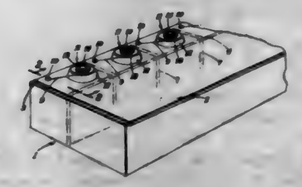
1. A trouser stretcher comprising two elongated supporting members of non-circular cross-section each having a forked member at one end thereof directed downwardly approximately at right angles to the longitudinal axis of the related supporting member, a middle piece having aligned spaced apart openings for said supporting members, said supporting members extending slidably through said openings of the middle piece in parallel, laterally spaced apart relation to each other so as to be independently guided by said middle piece, said supporting members having said one ends thereof extending in opposed directions, said middle piece having a length measured in the direction of said longitudinal axis of each supporting member which is a multiple of the lateral dimension of the supporting member, means on each supporting member adjacent said one end thereof defining a spring bearing, a helical compression spring extending around each supporting member between said middle piece and said means defining a spring bearing to urge the related supporting member in the direction moving said one end of the latter away from said middle piece, a suspension hook extending from said middle piece, and means defining an abutment at the other end of each of said supporting members which is larger than said openings of the middle piece to prevent withdrawal of the supporting members from said middle piece.

2,977,033
TROUSERS HANGER
Frank C. Metzger, Lewes, Del.
(1824 Lamont St. NW., Washington 10, D.C.)
Filed July 13, 1959, Ser. No. 826,614
1 Claim. (Cl. 223—95)



In an adjustable hanger adapted to suspend a pair of trousers by the cuffs, the combination comprising a rod having a hook portion on its upper end adapted to engage a stationary support, a longitudinally bored body member slidably disposed on said rod for vertical movement intermediate the ends thereof, a pair of oppositely disposed links pivotally mounted at their inner ends to said body member, a pair of oppositely disposed toggle members pivoted at their inner ends to said rod at its lower end, said toggle members having their outer ends extending toward said links, a pivot on each of said links being disposed offset from a center point between its inner and outer ends toward the outer end, each of said toggle members having its outer end connected to the pivot on the respective link, said body member being vertically movable on said rod away from said hook portion causing pivotal movement of said links about said body member and outward movement away from said rod of the pivots on said links, said toggle members being pivoted about the lower end of said rod in response to the outward movement of said pivots, and wire means attached to the outer ends of said links and adapted to engage the cuffs of trousers, said wire means each including a transverse bar rotatably mounted on the outer end of the respective link for relative movement thereto, a pair of U-shaped elements integral with said bar, one each extending downwardly on each side of said respective link, and each of said U-shaped elements terminating in a reversely bent portion disposed at a level lower than the level of said respective link whereby said body member is positioned at a level above said U-shaped elements for manual manipulation when said hook portion is in an operative position.

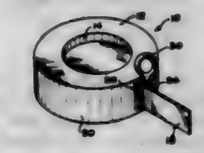
2,977,033
THREAD HOLDING AND CUTTING DEVICE
Melvin L. Jones, 8805 E. Valley Blvd., Rosemead, Calif., assignor of eighty-seven and one-half percent to Stanley F. Triplett and Doris W. Triplett, as joint tenants with right of survivorship
Filed Mar. 31, 1958, Ser. No. 725,261
2 Claims. (Cl. 225—6)



1. A thread holding and cutting device comprising, as a unit, a base, a disc secured on the base, the adjacent surface of the base and disc being angularly related to define a relatively narrow but deep inwardly tapering circular groove for wedging engagement with a portion of a

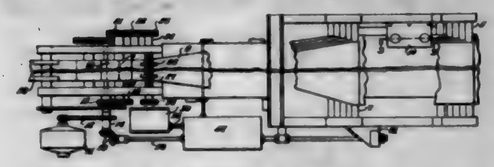
thread wound-in by manipulation of a free length of such thread, and a cutter mounted on the unit adjacent the disc with its cutting edge exposed and facing radially out relative to the disc and disposed radially cut from the bottom of the groove.

2,977,034
PRESSURE SENSITIVE TAPE CAN AND DISPENSER
William Bartlett, 9 Pace Drive, North Babylon, N.Y.
Filed Mar. 9, 1959, Ser. No. 798,865
2 Claims. (Cl. 225—47)



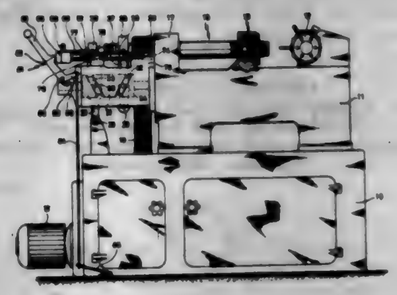
1. A combination pressure sensitive tape can and dispenser comprising, in combination, a cylindrical container, a tape spool mounting integral with said container, a peripheral portion of said container defining an access opening for withdrawing a web of tape from a spool carried within said container upon said integral tape spool mounting, a flap integral with said peripheral portion of said container in sealed engagement with said opening, key means for retracting said flap out of said opening, a knife mounted upon the inside of said flap for movement outwardly from the interior of said container along with said flap, said container comprising a pair of spaced apart upper and lower walls, a circular side wall connecting said upper and lower walls together, said tape spool mounting comprising inwardly offset circular wall means integral with each of said upper and lower walls, said access opening being of generally rectangular configuration, and said flap overlapping the opening defining portions of said access opening and being in sealed engagement therewith, said knife comprising a plate having a cutting edge mounted upon the inside of said flap within said access opening, and said knife being bendable outwardly from the interior of said container in response to displacement of said flap out of sealed engagement with said circular side wall of said container.

2,977,035
COMPENSATING MEANS FOR WEB FEEDER
William J. Tilton and Kenneth N. Moore, Middletown, Ohio, assignors to Raymond Bag Corporation, Middletown, Ohio, a corporation of Virginia
Filed Dec. 18, 1957, Ser. No. 704,226
15 Claims. (Cl. 226—31)



1. In a web feeding device having means to operate on a web of material at a predetermined location with relation to each of a series of apertures in the web, a web feeding means, and variable speed mechanism operatively connected to said web feeding means for selectively altering the feeding speed of said web, compensating means for maintaining the apertures in said web in proper registry with said operating means, said compensating means comprising a selector having a pair of control switches, means for sequentially opening and closing said control switches in predetermined timed relation to the movement of said operating means, one of said control switches comprising a part of a starting circuit for actuating said variable speed mechanism and the other of said control switches comprising a part of a circuit for stopping said variable speed mechanism, and a detector having a first sensing means forming a part of the starting circuit and acting through the apertures in the web to complete the starting circuit when the said apertures assume an abnormal position with respect to said operating means and said first named switch is closed, and a second sensing means forming a part of the stopping circuit and acting through the apertures in the web to complete the stopping circuit when the said apertures reassume their proper position relative to said operating means and said other control switch is closed.

2,977,036
WORK FEEDING MEANS FOR MACHINE TOOLS
Edward Harter, Birmingham, Mich., assignor to Index-Werke K.G. Hahn & Tessky, Esslingen (Neckar), Germany
Filed Sept. 23, 1957, Ser. No. 685,510
3 Claims. (Cl. 226—89)



1. In a machine tool, in combination, an elongated feed tube having a front end provided with a plurality of springy fingers which resiliently grip a rod to feed the latter; elongated spreader tube means arranged within said feed tube coaxial therewith and through which the rod which is being worked upon passes, said spreader tube means being movable between a rear rest position and a forward operating position where said spreader tube means spreads the springy fingers of said feed tube apart from each other to allow insertion of a new rod into said feed tube without subjecting the rod during insertion to any buckling forces, said spreader tube means extending rearwardly beyond said feed tube and having a free rear end portion; and actuating means operatively connected with said rear free end portion of said spreader tube means for shifting the latter axially between said positions thereof, said actuating means including a motion transmitting member connected to said rear end portion of said spreader tube means, a movable member accessible to the operator so as to be movable by the operator and cooperating with said motion transmitting member for transmitting the movement of said movable member to said motion transmitting member and through the latter to said spreader tube means, and a bearing connecting said spreader tube means to said motion transmitting member and supporting the spreader tube means for free rotation with respect to said motion transmitting member.

ERRATUM

For Class 226—185 see:
Patent No. 2,977,112

2,977,037
CLOSURE MEANS FOR STORAGE BOX
John E. Fellowes, Wheaton, Ill., assignor to Bankers Box Company, Franklin Park, Ill., a corporation of Illinois
Filed May 7, 1958, Ser. No. 733,586
8 Claims. (Cl. 229—47)



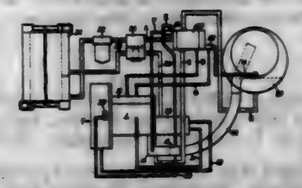
1. A closure for a receptacle having an opening thereinto defined in part by an end wall, said opening being closed in part by a flap constructed to swing into proximity to the end wall, said closure comprising sheet material of a hardness substantially greater than that of the material of the flap secured to the free edge of the flap and of a length substantially coextensive therewith, said sheet material being formed with a longitudinal offset region to provide rigidity for the sheet material in one direction, a catch member disposed in the offset region, a boss in the offset region in proximity to the catch member for deflecting moving objects in the offset region over the catch member and for providing rigidity for the sheet material in another direction, means supporting the catch member on the end wall, and interlocking means on the catch member and sheet material in the offset region for locking the sheet material and said flap to the end wall.

2,977,038
INSERT FOR BAG VALVES
Francis G. La Fave, Pensacola, Fla., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Jan. 22, 1958, Ser. No. 710,530
3 Claims. (Cl. 229—62.5)



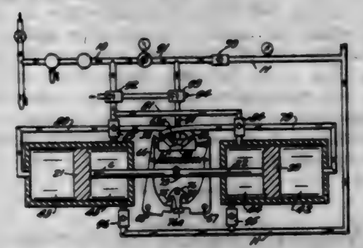
1. In a valve construction formed in a valve bag adapted to be filled by a filling spout extending into such valve, such construction including a valve opening and a flap for closing said opening, supplemental sheet means having an exterior edge lying adjacent the surface of said flap, said sheet means extending from said exterior edge towards the interior of the bag and being formed with longitudinally extending edges which are spaced apart from one another and which are secured to such valve flap, such spaced apart longitudinal edges being located along a selected path of such valve construction to leave a longitudinally extending central region of said valve flap uncovered by said sheet means, such path thus offering no obstacle to the passage therealong of such filling spout.

2,977,039
CONTROL CIRCUIT
Willard E. Green, Olean, N.Y., and Ernest H. Stark, Michigan City, Ind., assignors to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 10, 1958, Ser. No. 747,784
13 Claims. (Cl. 230—2)



1. A control circuit for isolating a compressor having a discharge line with a high pressure medium flowing therethrough, a control means, a control line connecting said control means and said discharge line, a vent line operatively connected to said control line by said control means wherein said vent line has a means at a portion thereof remote from said control means to slowly vent the pressure therein to a lower pressure, said vent line having means intermediate said control means and said portion thereof connected to said discharge line for closing said discharge line in response to flow of a pressurized medium therethrough at a pressure above said lower pressure while flow through said control line continues, and said control means connecting said control line to said vent line when said means intermediate said control means and said portion thereof is actuated to close said discharge line.

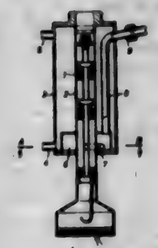
2,977,040
PNEUMATIC PRESSURE BOOSTING APPARATUS
David H. Dalebout and Robert M. Gold, Minneapolis, Minn., assignors to Dayton Rogers Manufacturing Co., Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 9, 1957, Ser. No. 677,271
6 Claims. (Cl. 230—52)



1. A pump for increasing shop line air pressure and the like, comprising a pair of double ended, interconnecting cylinders having reciprocable pistons therein, a rigid interconnection between said pistons producing simultaneous movement thereof, said cylinders and pistons defining a first pair of pressure chambers having air therein tending to move the pistons in a first direction, and said cylinders and pistons defining a second pair of pressure chambers having air therein tending to move the pistons in a second direction opposite to said first direction, one chamber of each of said pairs of chambers having inlets connected with a source of air pressure and having outlets connected with a high pressure discharge conduit, check valve means at said inlets and outlets preventing reverse flow therethrough, the other chamber of each pair of chambers having a flow conduit connected thereto for alternately supplying and discharging air, a pressure-reducing means connected with the source of air pressure and supplying air at regulated pressure, and

valve means connecting, alternately, said flow conduits one at a time with the pressure reducing means to receive air at regulated pressure therefrom and also connecting alternately, the conduits one at a time to atmospheric air for exhausting the corresponding chamber, and said valve being operable to alternate the connections of said flow conduits, whereby said valve means may be operated at the end of the piston strokes to cause air to be discharged at said outlets at a pressure substantially exceeding shop line pressure.

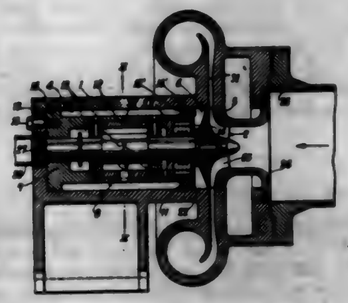
2,977,841
HIGH-VACUUM DIFFUSION PUMP
Hans-Georg Nöller and Werner Bächler, Köln, Germany, assignors to E. Leybold's Nachfolger, Köln-Bayental, Germany
Filed Dec. 1, 1958, Ser. No. 777,378
Claims priority, application Germany Dec. 9, 1957
4 Claims. (Cl. 230—101)



1. A mercury ejector diffusion pump utilizing a pumping fluid and comprising, in combination: pumping means having diffusion and vapo.-stream stages and a condensing jacket surrounding said stages, said condensing jacket having an inlet at the upper end and an outlet near the lower end; an annular pre-vacuum separating box surrounding said condensing jacket including said outlet thereof; a cooling jacket surrounding said condensing jacket and said pre-vacuum separating box; a curved outlet pipe having two orifices, said outlet pipe being connected at one orifice thereof to said outlet of said condensing jacket and opening at the other orifice within said separating box for producing a circular flow of the pumping fluid while the same passes from said outlet through said outlet pipe and into said separating box; and a pre-vacuum connecting pipeline arranged within said cooling jacket and communicating with the interior of said pre-vacuum separating box.

2,977,842
ONE-STAGE RADIAL COMPRESSOR
Kurt Jaussiker, Winterthur, Switzerland, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Nov. 26, 1958, Ser. No. 776,529
Claims priority, application Switzerland Dec. 13, 1957
4 Claims. (Cl. 230—127)

1. A one-stage single-inlet radial compressor comprising, in combination, a one-piece outer casing having a cylindrical cavity, said outer casing having a wall portion closing one end of said cavity and having an aperture, an inner casing fitting into said cavity, a shaft extending through said inner casing coaxially of said cavity and having ends projecting from said inner casing, one of the projecting shaft ends extending into said aperture, bearings for said shaft mounted on said inner casing, an impeller mounted on the second of said projecting shaft ends adjacent to said inner casing and having an inlet side for the fluid to be compressed, said inlet side being distant from said inner casing, said cavity having an open inlet portion for admitting fluid to be compressed by the compressor, said impeller being located in said inlet portion and having an outer diameter equal to the diameter of said cavity minus a clearance for eliminating frictional contact between the impeller and said outer casing, sealing means connected to said inner casing and abutting against said impeller for sealing the interior of said inner casing against the outside thereof, a discharge passage for the fluid compressed by said impeller located



entirely in said outer casing, and an annular inlet member fitted in said inlet portion and having an inside diameter substantially corresponding to the diameter of said impeller at the inlet side thereof, said inner casing, said bearings, said sealing means, said shaft and said impeller forming a self-contained structural unit adapted to be inserted into and removed from said cavity as a whole through said inlet portion after removal of said inlet member.

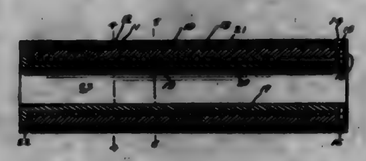
2,977,843
HERMETIC COMPRESSOR UNIT MOUNTING MEANS
Owen H. Scheldorf, Fern Creek, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 11, 1958, Ser. No. 779,767
3 Claims. (Cl. 230—235)



1. A vibration absorbing mounting for a resiliently supported motor compressor unit positioned within a casing comprising a spring member adapted to be secured to the top of said casing and having a pair of spaced spring fingers extending on each of two opposed sides of said unit, said fingers having hook-shaped end portions arranged in spaced relation with said casing and said unit, a stranded wire cable, fastening means for securing said cable to said unit to form a loop on each of said opposed sides of said unit, an inflexible sleeve enclosing each of said loops and having end portions disposed in the hooked end portions of the adjacent pair of said fingers, said pairs of said fingers subjecting said loops to horizontal tension forces to position said unit laterally in said casing, each of said sleeves including tabs extending between the spaced fingers of each of said pairs of fingers and in contact therewith for preventing axial displacement thereof relative to said fingers thereby to limit horizontal rotational movement of said unit relative to said casing, the hooked end portions of said fingers in their unstressed positions being spaced from said casing a distance less

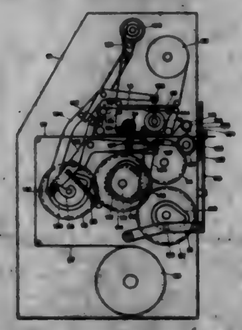
than the diameter of said sleeves to prevent disengagement of said sleeves from said fingers upon displacement of said unit to a position in which some of said fingers are unstressed.

2,977,844
POCKET CALCULATOR
Willis A. Reid, South San Francisco, Calif. (19426 C St., Chowchilla, Calif.)
Filed Oct. 16, 1957, Ser. No. 690,497
5 Claims. (Cl. 235—67)



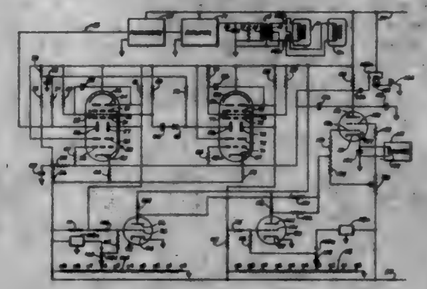
1. In a pocket calculator of the class described, the combination of a transparent outer cylinder having internal longitudinally positioned ridges therein forming a guide spline, an intermediate transparent cylinder threaded externally and internally having pairs of parallel rows of indicia around its outer circumference with each pair comprised by a series of real numbers and a series of aligned logarithmic numbers positioned within the outer cylinder, an indicating slide movable in the guide spline on the outer cylinder and engaged between the external threads on the intermediate cylinder, an inner cylinder having a longitudinally positioned guide in its external surface positioned within the intermediate cylinder, a second slide positioned in said guide in the inner cylinder and engaged between the internal threads on the intermediate cylinder, and means for rotating each of said cylinders relatively to the others to translate the relative positions of said slides and move the latter into aligned positions with said rows of indicia.

2,977,845
MACHINE FOR PRINTING AND ISSUING CASH REGISTER TICKETS
Carlo Pandozy, Milan, Italy, assignor to G. Pandozy & Figli S.r.l., Milan, Italy
Filed Jan. 4, 1956, Ser. No. 557,365
Claims priority, application Italy Sept. 15, 1955
8 Claims. (Cl. 235—94)



1. The combination with apparatus for dispensing liquid fuel having a pump for pumping said fuel, an electric motor for driving said pump, a switch for controlling said motor, separate computing means, operated by delivery of fuel, for registering the quantity and cost, respectively, of the fuel delivered, and a movable member for closing said switch and actuating said separate computing means, of an attachment for said apparatus comprising a first set of printing discs for printing the quantity of fuel delivered, a second set of printing discs for printing the cost thereof, an identifying printing disc having different indicia around its periphery to denote, respectively, different possible purchasers of fuel, key-operated means for locking said movable member against movement, said last-named means being releasable upon insertion into and rotation in the attachment of a removable key belonging to a purchaser of fuel, said identifying printing disc being positioned to be rotatably advanced upon rotation of said key to bring into operative position the indicia identifying the purchaser simultaneously with the release of said locking means, a recording medium, means for driving said first and second sets of printing discs from and simultaneously with said separate computing means, respectively, to advance into operative position symbols for printing the quantity and cost of the fuel delivered, and means for causing said two sets of printing discs and said identifying printing discs to print upon said recording medium when the delivery operation is completed.

2,977,846
CALIBRATION TRANSLATING DEVICE
Allen L. Dobner, Jr., El Cajon, and George A. Dyer, San Diego, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Oct. 20, 1955, Ser. No. 541,616
13 Claims. (Cl. 235—132)

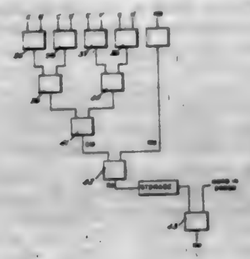


1. Apparatus for providing a quantitative indication of fluid flow, said apparatus comprising flow meter means for producing impulses representing a measure of fluid flow, counting means for registering said impulses, a gate connected with said counting means, control means for selectively conditioning said gate to produce an output indication at different impulse conditions registered by said counting means, a reset circuit responsive to said output indication for resetting said counting means to a predetermined condition, and an output circuit responsive to said output indication for delivering a quantitative indication of fluid flow.

2,977,847
ERROR DETECTING AND CORRECTING APPARATUS
Richard M. Bloch, Newton, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 13, 1957, Ser. No. 703,448
26 Claims. (Cl. 235—153)

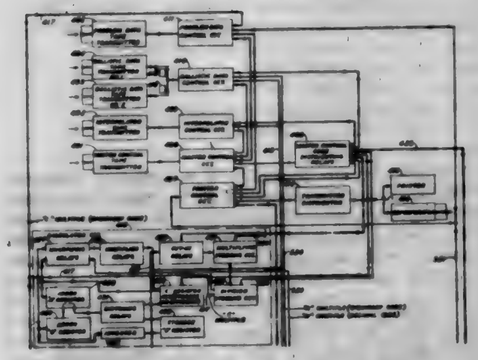
1. A digital data restoration system for a plurality of groups of information, each group of which has a plurality of information bits and a check monitor bit representing a first selected summing of the bits in each group, means connected to sense all of said groups and generating a group of restoration monitor bits corresponding

to a second selected summing of bits from all of said groups, error sensing means connected to sense the monitor bit of each group of information and produce an error indication if an error is detected in an information group, means activated by said error sensing means



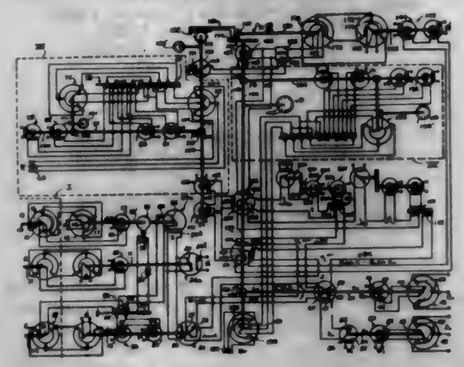
connected to sense said plurality of restoration monitor bits, and means including said last named means generating a restored group of information bits which represents the data in correct form to replace that group wherein an error was detected.

2,977,048
AUTOMATIC CALCULATOR
Ernest G. Andrews, Baldwin, and Edward L. Vibbard, Jackson Heights, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 17, 1946, Ser. No. 716,680
12 Claims. (Cl. 235—162)



1. In a calculator, means for multiplying a multidigit multiplicand by a multidigit multiplier consisting of a plurality of decimal code registers, said plurality of registers including one register acting as the augend element and another acting as the addend element of a summing device, a first storage register and a second storage register functioning alternatively as sum elements of the said summing device, a multiplier grid consisting of a set of digit relays for each denominational order of a multiplicand and a network connected to the contacts of said relays selectively responsive to different multiplier digits, a progress circuit for controlling the multiplication of said multiplicand by one digit of said multiplier on each step of said progress circuit, said progress circuit additionally controlling the columnar registration of values in the addend element of said summing device.

2,977,049
TARGET POSITION COMPUTER
Richard Y. Miner and Edmund Donald Gittens, Port Washington, Charles D. Bock, Long Island City, and Quentin J. Evans, Floral Park, N.Y., assignors to American Bosch Arma Corporation
Filed June 4, 1953, Ser. No. 359,592
4 Claims. (Cl. 235—186)

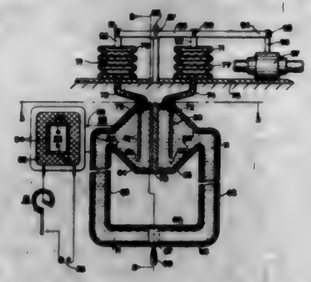


1. In a device for continuously determining the position *a* of moving target vessel, means adapted to receive continuous indications of speed, course and course curvature of the target vessel, speed and course of own ship and intermittent indications of true range and relative bearing of the target, said means combining the inputs of speed, course and curvature to provide rectangular coördinates of relative speed and direction of target and means for transforming said coordinates to another set of rectangular axes indicative of time rate of change of range and bearing, first integrating means for determining the change in range from said indicated time rate of change of range, means for adding the change in range to the initial range, a second integrating means having the output of said adding means applied thereto, motor means for driving said second integrating means, a third integrating means for integrating said indicated time rate of change of bearing, means for comparing the outputs of said second and third integrating means and means for energizing said motor means according to the difference in the outputs of said second and third integrating means, means for adding the output of said motor means to an initial bearing value, the said transforming means being controlled according to the sum thereof, means for adding own course to said sum, second comparing means for comparing the total of said own course and sum with the input relative bearing and means for adjusting the initial bearing value according to the output of said second comparing means.

2,977,050
THERMOELECTRICALLY ENERGIZED CONTROL APPARATUS
Hubert T. Sparrow, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed July 8, 1957, Ser. No. 670,519
15 Claims. (Cl. 236—1)

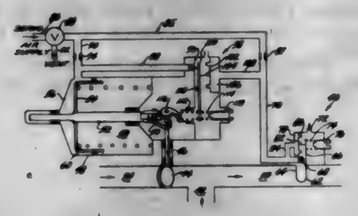
11. A thermocouple pilot safety control of the class described: a device to be operated; thermocouple means including metal enclosure means containing a conductive liquid metal; said enclosure means having two electrically independent junctions formed between said metals; current conduction means; heat means applied to one of said junctions to generate a potential between said electrically independent junctions; said potential causing a current to flow through said current conduction means between said

junctions and in said liquid metal; thermostatically controlled magnetic flux generating means adjacent said enclosure means and passing a flux across said liquid metal perpendicular to said current flow; a plurality of variable volume chambers connected to said enclosure means and containing said liquid metal; said chambers being biased to a first volume; and linkage means connecting at least



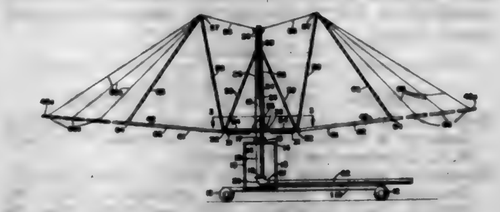
one of said chambers and said device; said current and said flux creating a force in said liquid metal to propel said liquid metal in said enclosure; said movement of said liquid metal differentially changing the volume of said variable volume chambers to operate said device; said variable volume chambers further returned to said first volume by said bias upon loss of said force.

2,977,051
TEMPERATURE RESPONSIVE CONTROL VALVE
Thomas P. Farkas, Bloomfield, Otus E. Zuiderbock, Glastonbury, and Maurice D. Meader, Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Original application Nov. 30, 1955, Ser. No. 549,946. Divided and this application Nov. 8, 1957, Ser. No. 695,247
5 Claims. (Cl. 236—82)



2. Flow control means for a fluid conduit comprising a throttle valve disposed in the conduit, valve operating means having an air chamber and means connected with said valve and responsive to pressure in said chamber to move the valve in one direction, means biasing said pressure responsive means in the opposite direction, means for introducing air under pressure to said chamber, means for controlling pressure in said chamber including outlet means and a pivoted armature movable toward and away from said outlet means to reduce and enlarge the effective opening thereof, means resiliently biasing said armature to enlarge the said effective opening, variable force means arranged to respectively decrease and increase force on the armature to reduce the said effective opening when the pressure responsive means moves in said one direction and the opposite direction, respectively, additional pressure responsive means for biasing said armature to reduce the said effective opening, and temperature sensing means for varying the pressure to said additional pressure responsive means responsive to temperature in the said conduit.

2,977,052
IRRIGATING SPRINKLER
Albert C. Spann and Elmer F. Spann, Atkinson, Nebr.
Filed Dec. 6, 1957, Ser. No. 701,042
1 Claim. (Cl. 239—253)



An irrigating sprinkler comprising a rotatable vertical pipe carrying a water supply under pressure, a framework secured to said pipe, said frame work including longitudinally positioned straps, transverse bars journalled within the extremities of said straps, said transverse bars including centrally positioned water connections, lengthened spray pipes attached to said water connections, outer short pipes attached to said water connections, inner short pipes attached to said vertical pipe, cylinders positioned between said outer and inner short pipes, said cylinders including end walls having openings for receiving said short pipes whereby said water supply will pass through said cylinders and outwardly through said lengthened spray pipes, said end wall openings including annular resilient gaskets attached therein, said short pipes snugly engaging the inner opening of said gaskets, means for changing the angularity of said spray pipes including gin-poles attached to said transverse bars, cables attached to the upper ends of said gin-poles and to said spray pipes, a plate attached to said vertical pipe, winches attached to said plate, further cables wound on said winches and attached to the top of said gin-poles.

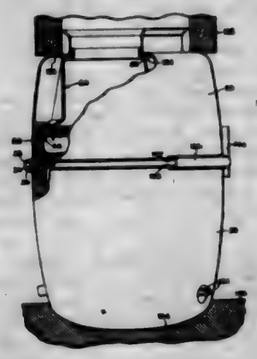
2,977,053
CAP AND SPOUT COMBINATION
Lawrence Katzman, 11 Riverside Drive, New York, N.Y., and Meyer L. Block, 51 Birch St., Port Washington, N.Y.
Filed July 1, 1959, Ser. No. 824,406
2 Claims. (Cl. 239—585)



1. A steam directing cap and spout combination comprising a cover plate, a cylindrical flange depending from said cover plate inwardly from the periphery thereof, said cover plate having a raised central portion, an H-shaped body extending upwardly from said central portion, and a spout head extending upwardly from said central portion and having three sides thereof surrounded by said H-shaped body with a U-shaped groove between said spout head and said H-shaped body, said spout head having a fourth side provided with a spout orifice, said central portion having a depression therein outwardly of said spout head, said cover plate having a drain hole therethrough in alignment with said depression, said drain hole being inwardly spaced from said flange, a spout comprising a tapered channel member having an end wall, the bottom edge of said end wall and the bottom edge of said channel member seating on said

central portion within said groove, said spout being spaced from said cover plate by said central portion whereby condensate droplets will be delivered to said depression so as to be returned through said drain hole, said depression forming a locking shoulder, said spout engaging said locking shoulder for retention in said U-shaped groove.

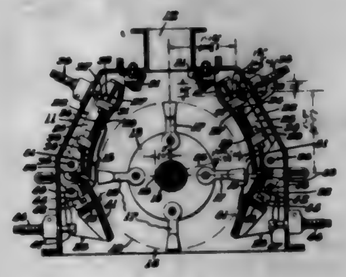
2,977,054
HOUSING FOR GARBAGE DISPOSER
Robert W. Hyde, Cincinnati, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Division of application Ser. No. 392,873, Nov. 18, 1953. Continuation of abandoned application Ser. No. 262,626, Dec. 20, 1951. This application May 26, 1959, Ser. No. 815,991
4 Claims. (Cl. 241—46)



1. A garbage disposer unit comprising a body casting which is circular as seen from the top thereof, a shaft journalled in the center of said body casting for rotation about a vertical axis, a circular cutter disc disposed above said body casting and in driving connection with said shaft, an electrical motor in driving connection with the lower end of said shaft, said motor being supported by said body casting at the underside thereof, a frusto-conical casing seated on top of said body casting, said casing being disposed with its central axis in alignment with the axis of said drive shaft and the wall thereof tapering inwardly and upwardly to enclose the sides of said cutter disc and define therewith a comminuting chamber, a bead extending around said body casting circumferentially thereof, a lower housing shell adapted to enclose said motor and the lower portion of said body casting, said lower housing shell having an outwardly turned lip at the upper rim thereof, an upper housing shell adapted to enclose the upper portion of the body casting and the casing above said body casting, an outwardly turned lip at the lower rim of said upper housing shell, the lips on said shells adapted respectively to seat against the upper and lower sides of said bead, and a snap-on ring adapted to engage over the outwardly turned lips on the respective upper and lower housing shells to lock said shells to one another at said bead.

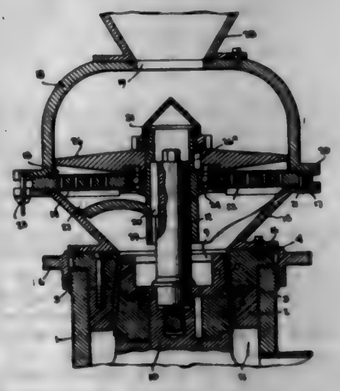
2,977,055
APPARATUS FOR PULVERIZING COAL AND THE LIKE
Frank A. Fawcett, Gladwyne, Pa., assignor to Bath Iron Works Corporation, Bath, Maine, a corporation of Maine
Filed July 2, 1958, Ser. No. 746,118
2 Claims. (Cl. 241—86)

1. In a pulverizer for coal and the like, having a frame, the combination of a hammer rotor rotatably supported in the frame and defining a hammer circle when rotated; a smooth-surfaced curved upper breaker block concavely rounded on an arc of which the center is displaced laterally from the axis rotation of the hammer rotor, said block being pivotally supported at its lower end within the frame and positioned to form a gradually downwardly narrowing upper throat with the hammer circle around an upper quadrant of said circle substantially down to the horizontal plane through the axis of the hammer rotor; a lower breaker block pivotally supported at its upper end



in the frame adjacent the pivot of the upper block, said lower block having a flat smooth-surfaced upper portion forming with the hammer circle, a lower throat shorter and more abruptly narrowed downwardly than the upper throat, and a lower flat-surfaced receding portion in wide obtuse angular relation to said smooth upper portion provided with small perforations; and separate means for independently adjusting the upper and lower blocks about their respective pivots toward or away from the hammer circle to vary the taper of the upper and lower throats.

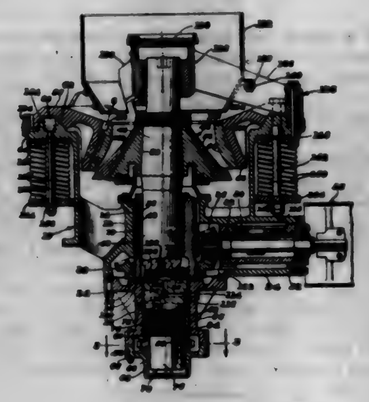
2,977,056
COLLOID MILL WITH PRE-CUTTING ATTACHMENT
Klaus Herbert Gustke, Rastatt, Baden, Germany, assignor to Probst & Class, Rastatt, Baden, Germany, a firm of Germany
Filed Nov. 8, 1956, Ser. No. 621,141
Claims priority, application Germany Nov. 16, 1955
2 Claims. (Cl. 241—101)



1. A mill comprising, in combination, a mill housing, a stationary frusto-conical annular milling element axially slidably mounted in said mill housing, a rotary frusto-conical milling element mounted within said annular milling element, a comminuting gap being formed between

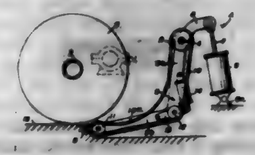
said milling elements, the rotary milling element defining a central inlet cavity for material to be ground in said comminuting gap, the material being centrifugally thrown into said gap through apertures in the rotary milling element upon rotation of the rotary milling element, shaft means journalled in said mill housing for rotatably mounting the rotary milling element, an extension shaft fixedly connected to said shaft means and rotatable therewith, rotary adjusting means connecting the stationary milling element with said mill housing for regulating the axial position of said element thereby to control the width of the comminuting gap, a stationary casing mounted on said stationary milling element above said adjusting means, a cover removably mounted on said casing, the casing and cover forming a housing, said extension shaft extending through the inlet cavity into the housing, a removable sleeve member keyed to the extension shaft for rotation therewith, a non-rotatable apertured base plate mounted on the sleeve member between the casing and the cover, knife means keyed to said sleeve above the base plate for rotation with the sleeve, and knife means keyed to the sleeve below the base plate for rotation with the sleeve, both knife means cooperating with the base plate for shearing action therebetween.

2,977,057
GYRATORY CRUSHER
Edward H. Beyhl, Allentown, Pa., assignor, by mesne assignments, to Fuller Company, Catasauqua, Pa., a corporation of Delaware
Filed May 16, 1958, Ser. No. 735,757
7 Claims. (Cl. 241—213)



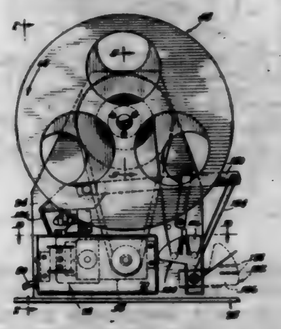
1. In a gyratory crusher having a frame, an upstanding gyratory shaft carried by the frame, a crushing head on the shaft, and a concave carried by the frame in opposition to the head, the combination comprising: a step bearing supporting the lower end of the shaft and threadedly engaged with the frame for effecting vertical adjustment of said bearing by rotation thereof relative to the frame, vertical adjustment of said bearing effecting like adjustment of the shaft and head to vary the size of the product of the crusher; and a bearing-rotating member rotatably mounted on the frame and engaged with said bearing for rotating the latter, said bearing-rotating member also being engaged with said bearing to permit relative axial movement therebetween, whereby rotation of said member effects vertical adjustment of the shaft and the step bearing transmits the downward thrust of the shaft to the frame independently of said bearing-rotating member.

2,977,058
APPARATUS FOR UNWINDING A SUPPLY ROLL IN PAPER PROCESSING MACHINES
Victor Hornstein, Duesseldorf-Lohausen, Erich Lohrmann and Max Schneider, Duesseldorf, and Ernst Kissel, Duesseldorf-Lohausen, Germany, assignors to Jagenberg-Werk A.G., Duesseldorf, Germany
Filed Dec. 15, 1958, Ser. No. 780,319
Claims priority, application Germany Dec. 18, 1957
4 Claims. (Cl. 242—55.1)



1. An apparatus for unwinding the supply roll of paper processing machines such as roll cutting or rewinding machines, comprising a frame means, roller means journalled in the frame means, at least one endless belt means trained about said roller means with the roller means being so positioned on the frame means as to provide a supporting trough portion in the belt means for receiving the supply roll, means operably connected to the frame means to impart an upward movement to the frame means whereby the trough portion engages the supply roll from beneath to elevate the same during upward movement of the frame means, and means for driving said belt means to rotate the supply roll.

2,977,059
TAPE WINDING APPARATUS
Peter G. S. Mero, Winnetka, Ill., assignor to Comptometer Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 24, 1958, Ser. No. 775,861
8 Claims. (Cl. 242—55.11)



1. Apparatus for winding tape comprising: a reel; a stand; mounting means for rotatably mounting said reel to said stand; drive means for rotating said reel; and tape guiding means defining a tape path, said guiding means including a plate and a plurality of tensioning fingers, said plate being pivotally mounted on the free end of one of said plurality of fingers and having a channel adapted to accept another of said fingers in such a position that said plate prevents the tape from slipping from the free ends of said plurality of fingers.

2,977,060
FILM SPOOL
Alfred Berning, Schwelm, and Emil Schuster, Ludenscheid, Germany, assignors to Gustav Raffenbeul, Schwelm, Westphalia, Germany
Filed June 19, 1957, Ser. No. 666,712
2 Claims. (Cl. 242—71.8)

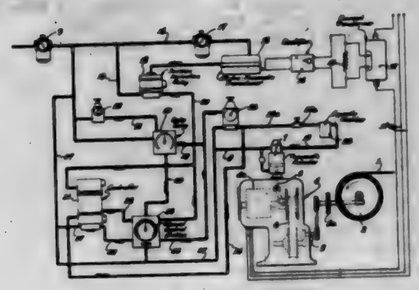
1. An all plastic injection moulded film spool comprising, a spool body having a tubular shell portion of

substantially uniform wall thickness formed with an end socket at each end and with a pair of longitudinal slots provided in the wall of such shell portion opposite to each other, a pair of substantially parallel guide wall portions disposed within said shell portion integral therewith to interconnect the longitudinal edges of one slot with the respective longitudinal edges of the opposite slot; a pair of terminal flanges integral with respective ends of said tubular shell portion; and at least one plug mem-



ber inserted into one of said end sockets of said shell portion and having a first transversely notched end portion adapted for engagement with a drive member for rotating the spool, said plug member having a second transversely notched end portion opposite said first end portion, and said one of said end sockets being formed with engagement means for engaging said second notched end portion for securing said plug member against rotation in said one of said end sockets.

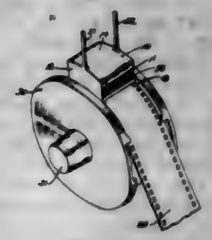
2,977,861
SYSTEM FOR MAINTAINING SUBSTANTIALLY CONSTANT TENSION FOR REWIND DRIVES
Clive Lawler-Wilson, Los Angeles, Calif., assignor to U.S. Electrical Motors, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 20, 1958, Ser. No. 709,829
11 Claims. (Cl. 242—75.51)



1. In combination: an electric motor; an adjustable ratio transmission mechanism driven by the motor, and adapted to operate a load; means for adjusting said mechanism as a function of applied pressure; means applying pressure to said adjusting means; and fluid pressure comparison means responsive to a deviation of the load current of the motor from a desired value for correspondingly changing the pressure applied to said adjusting means.

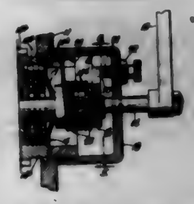
2,977,862
REEL LOADER FOR PHOTO FILM
Anthony W. Sroka, Horse Cave, Ky.
(Hq. USAFE, DCS/INTEL, APO 12, New York, N.Y.)
Filed Apr. 30, 1959, Ser. No. 809,954
7 Claims. (Cl. 242—77.1)

1. In a device for the feeding of exposed photographic film having edge perforations in endwise relation onto the spiral track of a reel for developing and fixing the film, a feeder comprising a body of a width to enter the space between the sides of the reel and of a length to be grasped by a hand and spanning a number of film perforations, first prongs extending from one face of the body for entry into the film perforations, the first prongs being of a length engageable only with one turn of the film on the reel, and second prongs extending from an-



other face of the film and being of a length engageable with all the turns of film on a partially filled reel.

2,977,863
FISHING REEL DRAG MECHANISM
Joseph M. Holahan, Jr., Abington, Pa., assignor to True Temper Corporation, a corporation of Ohio
Filed Dec. 10, 1957, Ser. No. 701,853
3 Claims. (Cl. 242—84.54)

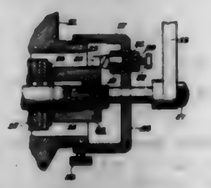


1. In a fishing reel having a pair of end plates rotatably mounting therebetween a spool, a gear sleeve drivably connected to the spool and operable to cause rotation of the spool, and pressure actuated drag mechanism positioned about the gear sleeve and operable to exert a drag on the spool upon application of pressure on the drag mechanism in a direction axially inward of the gear sleeve, the improvement comprising; a handle member connected to the gear sleeve operable to cause rotation of said gear sleeve and actuation of the drag mechanism, a cup carried by an end plate and positioned about the gear sleeve, adjustable stop means mounted on the face of said cup, a collar threaded on the gear sleeve for axial movement therealong between inner and outer limit positions, said collar being operable upon rotation of the gear sleeve relative to said collar in one direction to be moved toward the inner limit position to increase pressure on the drag mechanism to thereby increase drag on the spool, a lug formed on the collar and engageable with the stop means to cause movement of the collar along the gear sleeve from the outer limit position to the inner limit position upon rotation of the gear sleeve in said one direction, the lug disengaging the stop means at said inner limit position whereby the collar is rotatable with the gear sleeve, and means interconnected with the collar operable to engage the collar to prevent rotation of said collar and cause movement of the collar axially of the gear sleeve toward the outer limit position upon rotation of the gear sleeve in the other direction.

2,977,864
DRAG FOR FISHING REELS
John W. Logan, Jr., Abington, Pa., assignor to True Temper Corporation, a corporation of Ohio
Filed Dec. 10, 1957, Ser. No. 701,914
1 Claim. (Cl. 242—84.54)

In a fishing reel having a pair of end plates rotatably mounting therebetween a spool with a rotatable gear

sleeve drivably connected to the spool operable to cause rotation of the spool and pressure actuated drag mechanism positioned about the gear sleeve operable to exert a drag on the spool upon application of pressure on the drag mechanism in a direction axially inward of the gear sleeve, the improvement comprising; an actuating handle secured to the gear sleeve for rotating said gear sleeve, a collar threaded on the gear sleeve and having one end thereof engageable with the drag mechanism, said collar being axially movable along the gear sleeve between inner and outer limit positions upon actuation of the handle relative to the collar, a cup carried by one of the end plates and positioned about said gear sleeve and collar, a boss formed integrally with the cup and having its terminal end extending inwardly thereof, a spring loaded pin within the boss and normally biased axially toward the collar, a lug projecting from the other end of the collar and operable to engage the boss to preclude rotation of the collar with the gear sleeve whereby when the handle is rotated in a direction to move the collar



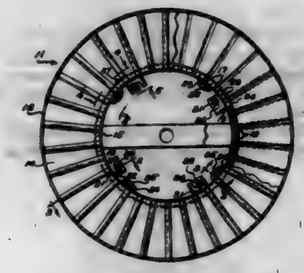
from its outer limit position toward its inner limit position said collar will move axially inwardly along the gear sleeve to progressively increase the pressure on the drag mechanism until said lug passes the terminal end of said boss, said pin having a bevelled end face engageable with said lug, means adjustably mounting the cup on said one of the end plates for axial movement relative to the collar for adjusting the inner and outer limit positions of said collar, the lug disengaging the terminal end of the boss at the inner limit position and engaging said bevelled end face of said pin to thereby rotate with the gear sleeve, said terminal end of said boss having an undercut portion thereon whereby when the handle is rotated in the opposite direction to move the collar from its inner limit position toward its outer limit position the lug will engage a side of said pin to preclude rotation of the collar with the gear sleeve whereby said collar will move axially along said gear sleeve toward the outer limit position until said lug abuts the undercut portion of said boss.

2,977,865
DRAG FOR FISHING REELS
Joseph M. Holahan, Jr., Abington, Pa., assignor to True Temper Corporation, a corporation of Ohio
Filed Dec. 24, 1957, Ser. No. 705,038
1 Claim. (Cl. 242—84.54)



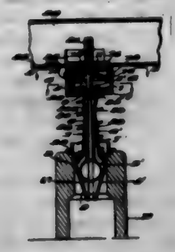
In a fishing reel having a pair of end plates rotatably mounting therebetween a spool with a shaft drivably connected to the spool operable to cause rotation of the spool and pressure actuated drag mechanism positioned about the shaft operable to exert a drag on the spool upon application of pressure on the drag mechanism in a direction axially inward of the shaft, comprising; a collar slidably mounted on the shaft adjacent said drag mechanism and operable to exert pressure on said drag mechanism in a direction axially inward of said shaft, said collar having an outer circumferential wall with a series of cam surfaces spaced thereon, each of said surfaces extending laterally outward in graduated steps, means restraining said collar from rotation relative to said shaft, a hub rotatably positioned about the shaft extending partially within said cirmumferential wall and having at least one pin extending transversely of the outer circumference of the hub in engagement with the collar, a handle positioned about the shaft and connected with the hub to cause rotation of said hub upon rotation of said handle, said pin operable upon rotation of the handle in one direction to move along one of said cam surfaces to thereby cause the collar to be moved axially inward along the shaft and operable during rotation of the handle in the opposite direction to move in an opposite direction along said one of said cam surfaces whereby the collar may be moved axially outward along the shaft, and adjustable means for positioning the pin within any one of the graduated cam surfaces to thereby provide a range over which drag can be varied.

2,977,866
KNOCK-DOWN REEL
Frank E. Kimmel, North Riverside, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 13, 1956, Ser. No. 628,046
4 Claims. (Cl. 242—115)



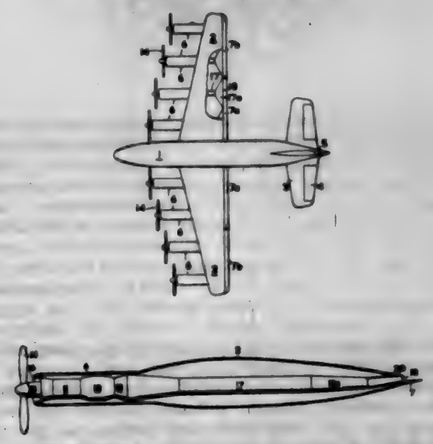
1. A knock-down reel designed for rapid assembly and disassembly, which comprises a pair of annular reel heads, each of said reel heads having a plurality of radially extending, laterally projecting, spaced stiffening portions defining a series of radial channels therebetween and an annular, reinforcing portion forming a cylindrical flange disposed coaxially with respect to a central opening in the reel head and arranged to close the inner end of each of said channels to form series of circumferentially spaced pockets, a plurality of slats of equal lengths extending between the pair of reel heads and having opposite end portions thereof projecting into corresponding aligned pockets in the pair of reel heads arranged in parallel juxtaposition, each end of each of said slats being confined between adjacent stiffening portions and overlapping the flange-like reinforcing portion so that the slats define a substantially cylindrical reel drum interposed between the reel heads, a plurality of flexible straps closely surrounding and drawn tightly about the cylindrical array of slats to clamp them radially against the flange-like reinforcing portions of the reel heads, and tie means interconnecting said reel heads and urging the reel heads toward one another in abutting relationship with the opposite end portions of said slats.

2,977,867
BOBBIN HOLDER
James F. King, Jr., Winston-Salem, N.C., assignor to The Bahnson Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Mar. 26, 1957, Ser. No. 648,453
2 Claims. (Cl. 242—130.3)



2. In a holder for a bobbin, the combination comprising a pair of structurally separate and relatively rigid depending confronting jaws, means pivotally connecting said jaws together at their upper ends for movement towards and away from each other, the lower portions of said jaws being bowl-shaped to establish external shouldered portions for cooperation with an internal shouldered portion in the bore of a bobbin, and spring means inserted between said jaws and urging the same apart, said spring means including a multi-turn helical coil section disposed between said bowl-shaped portions of said jaws and a pair of arms extending upwardly from the opposite end of said helical coil section and which bear outwardly respectively against the inner faces of said jaws above said bowl-shaped portions.

2,977,868
JET PROPELLED AIRCRAFT
Ivor Macaulay Davidson and Brian Stapleton Stratford, Farnborough, England, assignors to Power Jets (Research and Development) Limited, London, England, a British company
Filed Sept. 12, 1956, Ser. No. 609,437
Claims priority, application Great Britain Sept. 28, 1955
3 Claims. (Cl. 244—15)



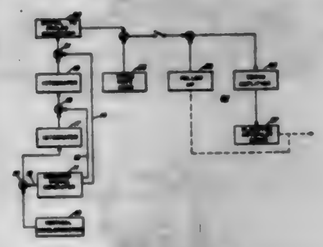
1. An aircraft comprising a wing; a plurality of turboprop engines mounted on and distributed along the span of the wing; means defining a plurality of long shallow rearwardly directed jet nozzles which are contiguous at their ends and together extend continuously spanwise of the wing, said engines being connected to discharge their exhaust gas streams through said nozzles and said nozzles being shaped and directed so that the combined streams leave the wing in a rearward direction as a long thin jet sheet extending continuously span-wise along the wing trailing edge; a jet deflector operable to deflect the jet sheet downwardly from the rearward direction; each said engine having a propeller, said propellers being so arranged in relation to the wing and of such a size that the slipstreams therefrom flow rearwardly over the wing and together extend spanwise along the wing trailing edge to at least the same extent as the jet sheet.

2,977,869
BALLOON LAUNCHING METHOD AND APPARATUS
William F. Hoch and John R. Winckler, St. Paul, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 4, 1955, Ser. No. 538,548
8 Claims. (Cl. 244—31)



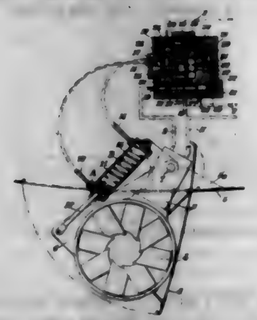
1. In a balloon launching apparatus, the combination with a balloon having at one end a lift gas containing bubble portion extending upward and a gathered uninflated portion extending laterally from the bottom of the bubble portion during the preparation for launching the balloon, of means tethering the free end of the uninflated portion, means including a line tethering the juncture of said portions, said bubble portion holding said line taut, and means connected with said line and responsive to the stress imposed by said bubble portion on said line for measuring the lift of said bubble portion, the second tethering means comprising a band and an annular inflated tube between which said juncture is clamped, said bubble portion being operative on expansion of the lower part thereof pursuant to soaring of the balloon to free said juncture from said band and tube.

2,977,870
AUTOMATIC FLIGHT CONTROL SYSTEM
Edwin F. Barner, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 30, 1959, Ser. No. 810,194
4 Claims. (Cl. 244—77)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In an aircraft navigation system, the combination comprising means for providing an acceleration signal, velocity signal and displacement signal to command said aircraft to fly in a predetermined path, means for providing a signal proportional to the acceleration of said aircraft, means for comparing said commanded acceleration signal and said actual acceleration signl to produce an acceleration error signal, first integrator means for integrating said acceleration error signal to provide a signal portional to velocity, means for comparing said velocity signal and said commanded velocity signal to provide a velocity error signal, second integrating means for integrating said velocity error signal to provide a signal proportional to displacement, means for comparing said displacement signal and said commanded displacement signal to provide a displacement error signal, and means responsive to said displacement error signal to control the flight of said aircraft to reduce said error signals to zero.

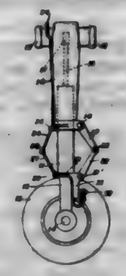
2,977,871
HYDRAULIC CONTROL SYSTEM FOR AIRCRAFT
Joseph Piotkowiak, Chatou, and Claude Georges Daniel Julien Pelissou, Paris, France, assignors to Societe d'Exploitation des Materiels Hispano-Suiza, Bois-Colombes, France, a society of France
Filed Jan. 20, 1958, Ser. No. 710,069
Claims priority, application France Jan. 23, 1957
3 Claims. (Cl. 244—58)



1. A system for feeding the hydraulic control system of an aircraft, said system comprising: a windmill mounted on said aircraft and movable to a plurality of positions between two end positions, one of said end positions being one where most of the surface of said windmill is exposed to the airstream of the aircraft and the other of said end positions being a retracted position where said windmill is shielded against the airstream, a liquid pump driven by said windmill, means for connecting the output of said pump with the hydraulic control circuit of the aircraft, means for varying the position of said windmill between said two end positions, and valve means connected with said hydraulic control circuit for controlling said windmill position varying means in response to variations of the delivery rate of flow and delivery pressure of said pump.

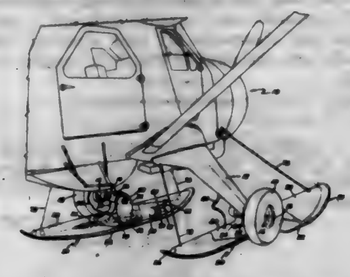
2,977,872
AIRCRAFT UNDERCARRIAGE
Edward James Nicholl, Charlton Kings, Cheltenham, England, assignor to Dowty Rotol Limited, London, England
Filed June 18, 1958, Ser. No. 742,794
Claims priority, application Great Britain June 21, 1957
3 Claims. (Cl. 244—103)

1. An aircraft undercarriage component comprising an upper leg part adapted for fixing to the aircraft, a wheel-carrying lower leg part connected with the upper leg part for guided movement relative thereto, a liquid spring shock absorber including a pressure chamber and operatively interposed between the upper and lower leg parts to resist their approach under normal ground loads through a normal range of operation, and to effect their separation beyond such normal range by its internal pressure when the aircraft is airborne and the pressure chamber is unloaded, a conduit leading from said pressure chamber for connection with a liquid pressure source external to the undercarriage component and of a pressure value less than that within the pressure chamber while the leg parts parts are operating in such normal range, an isolating valve interposed in said conduit, and including a self-closing non-return valve element arranged to close under a pressure in the pressure chamber exceeding the



source pressure, and valve-operating means including a plunger operatively connected to a leg part and arranged for movement therewith to engage and unseat said valve element upon relative extension of the upper and lower leg parts beyond such normal range, and to disengage said valve element to enable its reseating upon approach of the leg parts into such normal range.

2,977,873
AIRCRAFT SKI AND ACTUATING MECHANISM THEREFOR
Francis J. Ditter and Emmett J. Boucher, Minneapolis, Minn., assignors to Federal Industries, Inc., a corporation of Minnesota
Filed June 21, 1956, Ser. No. 592,943
1 Claim. (Cl. 244—108)



In combination with an aircraft provided with a landing gear having a wheel rotatably carried thereon, an aircraft ski associated with said wheel provided with a bottom runner portion, a bell crank having an upper end pivotally connected to said landing gear, an intermediate portion pivotally connected to a portion of said ski above said runner portion and having its lower end directed toward said runner portion, a cylinder extending generally longitudinally of the ski having a normally closed end pivotally anchored to a portion of the ski nearer the forward end of said ski, a reciprocable piston within the cylinder having a piston rod projecting from the other end of said cylinder, the projecting end of said piston rod being pivotally connected to said lower end of said bell crank, first shock cord rigging connected at one end to said lower end of said bell crank and at its other end to the aircraft, means directing said shock cord rigging longitudinally of the ski toward the rear of the ski and then upwardly to said aircraft, second shock cord rigging connected at one end to the forward end of the ski and at its other end to the aircraft, and means for introducing liquid under pressure into said other end of

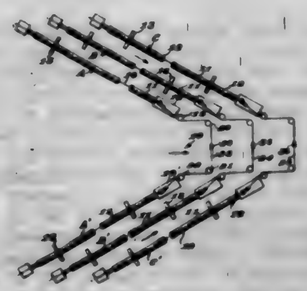
the cylinder to cause said lower end of the bell crank to traverse an arc so as to raise said ski relative to said wheel, whereby release of liquid pressure will permit return of said ski to its lowered position relative the wheel when sufficient air is confined between said piston and the closed end of said cylinder, said air being compressed when said piston moves toward said closed end.

2,977,074
OVER-RUN SPRING TYPE BARRIERS
Robert B. Cotton, Media, Pa., and Charles J. Daniels, Wilmington, Del., assignors to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 15, 1956, Ser. No. 571,728
2 Claims. (Cl. 244—110)



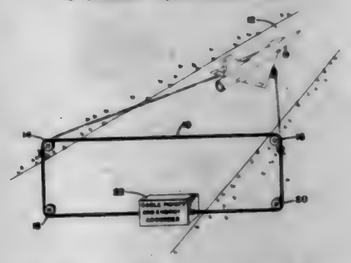
1. An over-run barrier comprising a horizontally disposed arresting cable and a horizontally disposed actuating cable normally disposed vertically above said arresting cable in substantially parallel relation thereto, said arresting cable being normally disposed in engagement with a runway and having its opposite ends engaged with energy absorbing means, a normally vertical stanchion disposed adjacent each side of the runway, said actuating cable having its opposite ends releasably connected to said stanchions, and elongatable endless bands of woven metallic corrugated wire extending around the arresting cable and the actuating cable, and said endless bands being equally spaced lengthwise of the barrier, whereby said actuating cable upon being engaged by the forward strut of an aircraft is released from said stanchions and upon continued movement of said aircraft transmits load to said bands and causes same to elongate and therewith lift said arresting cable retrogressively into the path of the main landing gear of the aircraft.

2,977,075
AIRCRAFT ARRESTING MEANS
Robert J. Haber, Graylyn Crest, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed July 10, 1958, Ser. No. 747,707
2 Claims. (Cl. 244—110)



1. An arresting means for aircraft comprising pairs of arresting units including an elongated housing filled with static fluid and having a front end and a rear end, a piston having a front end and a rear end movably supported in said housing and being normally disposed adjacent the rear end thereof, an arresting cable having one end thereof connected to said piston and extending through and from the front end of said housing across a landing surface for engagement by an aircraft, a plurality of perforated discs normally disposed in axial spaced relation in said housing between the front end thereof and said piston said discs each having varying quantities of perforations therein, and means cooperating with said housing and said discs for restraining the latter against movement from said axial spaced relation toward the rear end of said housing while permitting movement of the successive discs toward the front end of the housing upon engagement of the innermost disc by the front end of said piston, and the successive engagement of the discs for effecting successively increased resistance to movement of the piston in an arresting operation and means for retrieving said piston to the rear end of said housing, said means being connected to the rear end of said piston.

2,977,076
AIRCRAFT ARRESTING SYSTEM
John J. Byrne and Robert W. Cruger, Philadelphia, Pa., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,220
4 Claims. (Cl. 244—110)



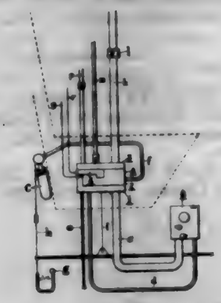
1. In an aircraft arresting device including a runway pendant, a sheave on each side of said pendant, an energy absorber, and pendant payout means said energy absorber connected to said pendant payout means, the improvement comprising: a woven tape of synthetic fibers connected at each end of said pendant to pass over said sheaves and to engage said payout means.

2,977,077
CARGO AIRPLANES
Raymond E. Pearson, Bellevue, Wash., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Aug. 10, 1959, Ser. No. 832,699
2 Claims. (Cl. 244—118)



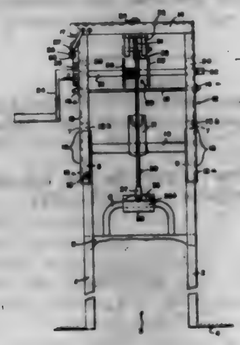
1. A cargo airplane comprising a fuselage having a main cargo compartment terminating aft in an open end, a tail section constituting in flight a rearward continuation of, but separate from, said fuselage, hinge means at one side of the common meeting plane of the fuselage and tail section, joining the two for swinging of the tail section relative to the fuselage, means to lock the tail section in its flight position, means reacting between the fuselage and the tail section for swinging the latter between its flight position and an open position, wherein it clears the open end of the cargo compartment, control surfaces mounted upon and movable with respect to said tail section, control cables extending uninterruptedly from the fuselage to said control surfaces, and control cable guide means, including guide sheaves mounted generally coaxially of the hinge means, for the support and guidance of the control cables.

2,977,078
QUICK DISCONNECT COUPLINGS
Peter William Fitt, West Headford, Yeovil, England, assignor to Normalair Limited, Yeovil, England
Filed Apr. 9, 1957, Ser. No. 651,763
Claims priority, application Great Britain Apr. 12, 1956
2 Claims. (Cl. 244—122)



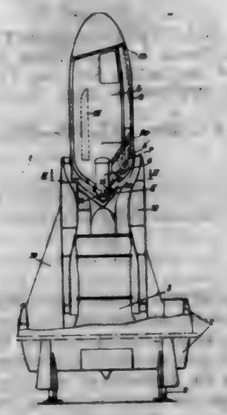
1. A quick release coupling for breathing and electrical services of an aircraft's crew member having an ejection seat and comprising: a supply coupling anchored to the aircraft's structure and detachably engaging a complementary face of an intermediate coupling member attached to the ejector seat and provided with fluid and electrical conducting means therethrough to a second complementary face, a self contained supply of pressurised breathable gas on the seat, means operable to release said gas upon ejection of the seat, flow conducting means between the self contained supply of breathable gas and the fluid conducting means of the intermediate coupling member, and a crew member's receiving coupling detachably engaging the second complementary face of the intermediate coupling member, releasable when said crew member leaves said ejection seat after ejection.

2,977,079
HOIST, AIRCRAFT SEAT REMOVAL
Thomas M. Calandra, Box 69, Rosamond, Calif.
Filed Dec. 18, 1959, Ser. No. 860,611
5 Claims. (Cl. 244—122)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. In combination with a downward ejection seat structure comprising spaced parallel U-shaped guide tracks facing each other disposed in a substantially vertical direction and a downward ejection seat slidably mounted in said guide tracks for free vertical movement, an inverted rectangular U-shaped winch frame comprising spaced U-shaped side channel members facing each other in parallel relation receiving the upper end portions of the guide tracks therein in telescopic fashion, stop means in said side channels thereon for limiting telescoping action to limit the downward telescopic movement of the U-shaped side channels over the guide tracks, said winch frame including a U-shaped channel end frame member connecting the upper ends of the side frame channel members together, clamp means on the lower end of one of the side frame channel members for clamping engagement with one of said guide tracks for securing the same on the guide tracks, a winch shaft having cable drum means fixed thereon intermediate the ends thereof, winch shaft journal brackets fixed to and projecting from one face of said winch frame mounting said winch shaft for rotation therein with its axis offset at one side of said frame normal to said side frame channel members in a plane parallel to said frame and disposed downwardly from the end frame connecting member, a pulley bracket depending downwardly from said end frame connecting member substantially midway between the side frame channel members in a median plane through the side frame channel members, an ejection seat raising and lowering cable dead ended on said cable drum, a cable pulley journalled on said pulley bracket having a periphery extending beyond the plane of the side faces of said winch frame, said cable extending from said cable drum over said cable pulley and downwardly substantially midway between the side frame channel members, and separable securing means on the live end of said cable removably secured to the ejection seat for raising the ejection seat when said winch shaft rotated in one direction and lowering said ejection seat when said winch shaft is rotated in the opposite direction, and means for controlling rotation of said winch shaft in said opposite directions.

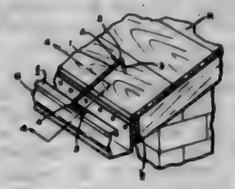
2,977,080
AIRCRAFT HAVING A DETACHABLE CABIN
Helmut Ph. G. A. R. von Zborowski, Chateau de Bonnay-St. Antoine par Brunoy, France
Filed Apr. 12, 1956, Ser. No. 577,862
Claims priority, application France May 4, 1955
4 Claims. (Cl. 244—140)



1. In an aircraft, the combination of a main body, a cabin, means for detachably securing said cabin to said body, a parachute fixed to said cabin, a rocket device carried by said cabin and having a rearward

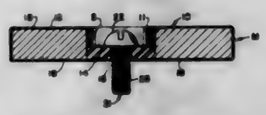
nozzle at the rear end of said cabin to deliver a jet capable of propelling said cabin in flight, means carried by said device for varying the direction of said jet, and control means operable from the inside of said cabin and operatively connected with said jet directed varying means for actuating said last means for varying the direction of the jet selectively through a variety of angles after detachment of the cabin from the body, whereby said cabin, when detached from said body, can be piloted by means of said control means.

2,977,661
EAVES TROUGH BRACES
George Don Austin, Denver, Colo., assignor to Western Wire Products Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 21, 1955, Ser. No. 489,511
7 Claims. (Cl. 248—48.1)



1. An eaves trough brace for supporting an eaves trough which has an outer flange with a hole contained therein, said brace comprising an elongated straight shank bent upwardly at an oblique angle at one end in the provision of a straight divergent offset portion, a spike-like portion integrally formed on the outer end of said offset portion and being adapted to be driven into a roof, said spike-like portion being perpendicular to said shank and lying in the plane formed by said shank and divergent offset portion, a second offset portion integrally formed on the other end of said shank, said offset portion extending downwardly at an obtuse angle to the shank and having its longitudinal axis lying in said plane, and an elongated terminal member integrally connected directly to the free end of said second offset portion and being substantially perpendicular throughout its length to said plane, said terminal member being adapted for insertion in a hole formed in the outer flange of an eaves trough.

2,977,662
MAGNETIC SUPPORT
Arthur L. Harris, Le Claire Hotel, Moline, Ill.
Continuation of application Ser. No. 775,429, Nov. 21, 1958. This application Aug. 1, 1960, Ser. No. 46,681
8 Claims. (Cl. 248—206)



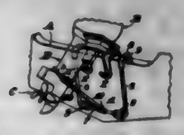
1. An article support comprising a base that includes a ring magnet having an opening, an insert of hard rubber material or the like having a generally central opening therethrough and an external diameter substantially no smaller than the diameter of said ring magnet opening so that when the insert is forced into said magnet opening the insert is frictionally retained therein, said insert being located in the magnet substantially flush with one face of said ring magnet but appreciably below the opposite face of the magnet, thereby providing a space, a relatively thin layer of substantially homogeneous rubber-like material completely surrounding said ring magnet, said insert and the walls of the central opening in the latter, a member having a head and a threaded shank, the latter being threaded completely from head to end and adapted to be screwed into said latter opening and thereby removably carried by the magnet through said insert, the threads of said member being embedded into the adjacent layer of rubber-like material, said insert opening being unthreaded, the head of said member being disposed in the space between the insert and said opposite face of the magnet, the threaded shank of said member having such length as to extend outwardly from said one face of the magnet and forming an article-receiving support for an article connected therewith and bearing through said interposed layer against said one face of the magnet and the side of the insert that is flush therewith.

2,977,683
SCAFFOLD STIRRUP
Bernard S. Kulam, Rochester, N.Y., assignor to Lev-L-It Stirrup Company, Inc., Rochester, N.Y., a corporation of New York
Filed Apr. 9, 1958, Ser. No. 727,470
3 Claims. (Cl. 248—324)



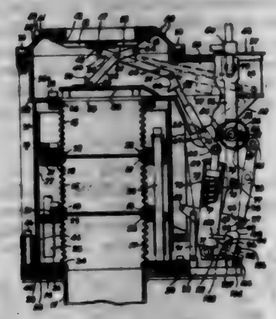
1. A scaffold supporting member adapted to be used in pairs, one adjacent each end of a scaffold, for supporting said scaffold, said supporting member comprising a generally triangular-shaped stirrup, the base of which is adapted to receive and support the platform of said scaffold, support means for said stirrup slidably engaging said stirrup at the underside of its apex portion and projecting upwardly above said apex portion, and locking means to hold said stirrup at different angular positions relative to said support means comprising a toothed segment secured to said stirrup on the upper side of said apex portion, and a loop-shaped locking member slidably mounted on the upwardly projecting portion of said support means detachably to engage in spaced tooth spaces of said segment to hold said stirrup in different angular positions, said locking member being movable to and being held in locking position by gravity.

2,977,684
OUTBOARD MOTOR TILT-UP RACK
David G. Brown, 13531 Rangoon St., Pacoima, Calif., and Harold N. Windblad, 4900 7th Ave., Los Angeles, Calif.
Filed May 11, 1959, Ser. No. 812,242
2 Claims. (Cl. 248—351)



1. The combination with the transom of a boat, an outboard motor assembly embodying a housing, clamp brackets attached to said transom, and a pivotal connection between said housing and said brackets; of a U-shaped frame having a pair of side members and a connecting end member and end hangers on said side members engageable with said transom to suspend said frame from said transom in a dependent position with said end member lowermost, an arm pivoted on the end member of said frame having an outer end, and a saddle on said outer end adapted to receive and support said housing in a tilted position.

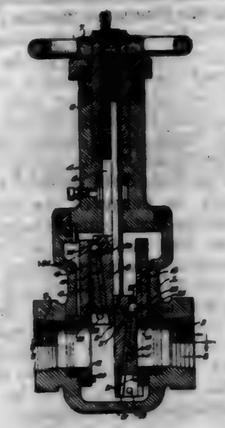
2,977,685
AUTOMATICALLY CLOSING VALVES
Henry Roberts, Winton, Bournemouth, England, assignor to Flight Refuelling Limited, Blandford, England, and A.E.I.-John Thompson Nuclear Energy Company Limited, London, England
Filed Jan. 13, 1958, Ser. No. 708,693
Claims priority, application Great Britain Jan. 14, 1957
6 Claims. (Cl. 251—149)



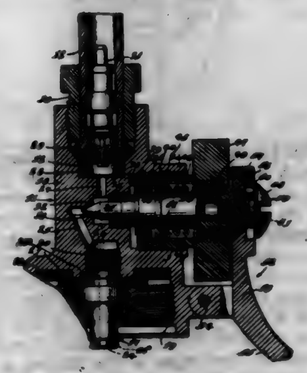
1. An automatically closing valve comprising a tubular casing axially deformable between an extended and retracted position, a head mounted on one end of said casing, said head having an orifice, a valve closure member adapted to close said orifice in said head and movable to a position at one side of said orifice to leave a clear passage through said casing, means to apply an extending force to said tubular casing to move it to said extended position, means responsive to extension of said tubular casing beyond a predetermined length to effect automatic movement of said valve closure member from its open to its closed position, and means when said tubular casing is in retracted position manually to effect opening and closing of said valve member.

2,977,686
GATE TYPE DUAL SEAL VALVE
Irving J. Heinen, 2817 Cherry Ave., Long Beach, Calif.
Filed June 23, 1958, Ser. No. 743,716
3 Claims. (Cl. 251—167)

1. A gate type dual seal valve comprising a valve body having an inlet and an outlet port therein, fixed seats separably mounted in each of said inlet and outlet ports, a vertical plate rising from each of said seats and within the body, a stem extending into said body and a wedge on the lower end of said stem, said wedge having tapered surfaces thereon, seal seats, means mounting the seal seats on said wedge surfaces for limited sliding movement on the wedge, a ball mounted in each of the seal seats, said wedge having recesses therein to receive a portion of the balls in one position of the parts and couple the seal seats to the wedge, each of said first named seats having a recess therein to receive said balls in another position of the parts to releasably couple the seal seats to the first named seats.



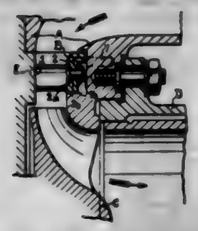
2,977,687
MANUALLY OPERABLE CONTROL VALVE
William L. Lindgren and William H. Penn, Sycamore, Ill., assignors to Turner Corporation, a corporation of Illinois
Filed Nov. 25, 1957, Ser. No. 698,630
8 Claims. (Cl. 251—240)



1. A torch control valve, comprising, a valve body having a fluid passage therein and an annular valve seat in the passage, the needle valve member axially movable in the valve body relative to the valve seat between a valve closed position and valve open positions, means forming a first abutment on the valve member facing away from the valve seat, an outwardly extending annular flange on the valve member having one side forming a second abutment spaced from and facing toward the first abutment, a concentric sleeve threadably adjustable in the valve body and having an inwardly directed annular flange movable between the abutments, engageable with the first abutment to move the valve member toward the valve closed position and engageable with the second abutment to move the valve member toward valve open positions, said sleeve having an outwardly directed flange outside of said valve body forming a manually accessible part for rotating the sleeve to adjust the valve member from a valve closed position, to a partially open position, and to a fully open position, said

annular flange on the valve member having an opposite side forming a third abutment, a spring seat in the sleeve facing said third abutment, a coiled compression spring in the sleeve encircling the valve member, bearing against the spring seat and transmitting its force through the flange on the valve member to urge the valve member toward valve closed position, manually accessible trigger lever means pivoted on said valve body and connected to said valve member outwardly of said outwardly directed flange for temporarily moving the valve member quickly in opposition to said spring to a full flame position, from a partially open position with the second abutment engaging the flange on the sleeve to a fully open position with the first abutment engaging the flange on the sleeve, the lost motion of said flange between the first and second abutments permitting said spring to seat said valve member on valve closing adjustment of the sleeve before the flange engages said first abutment to positively close the valve, and an annular antifriction washer between the spring and the third abutment to permit rotation of the spring relative to the valve member after the valve member is seated by the spring on valve closing adjustment of the sleeve.

2,977,088
MEANS FOR INTERCHANGING ROTORS IN TURBINES
Alfred J. Buchi, Archstrasse 2, Winterthur, Switzerland
Filed Mar. 9, 1959, Ser. No. 798,111
1 Claim. (Cl. 253—39)



In a radial hot gas turbine the combination of a rotor provided with driving blades on the front side thereof having free edges, a casing in which said rotor is housed comprising an inlet and an outlet of the driving medium and duct means providing at least one passage via which driving gas is conducted from a source outside the casing into an annular chamber for the rotor, said annular chamber being disposed between a ring-like front closure member and a back closure member of said casing, the front closure member defining the outlet side of the rotor on the side of the free edges of the blading, a stationary guide vane ring in said annular chamber radially outside of the rotor guiding the driving gas into the rotor blading, means for detachably securing said guide vane ring to said front closure member, and means for detachably securing said front closure member to the casing part enclosing said duct means, whereby provision is made for access to the rotor and said guide vane ring.

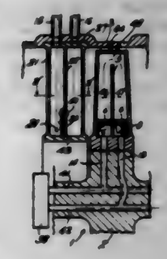
2,977,089
HEAT RESPONSIVE MEANS FOR BLADE COOLING
Daniel J. McCarty, Drexel Hill, and Edward H. Lutz, Norwood, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application June 12, 1956, Ser. No. 591,002, now Patent No. 2,906,494, dated Sept. 29, 1959. Divided and this application July 31, 1959, Ser. No. 841,425
3 Claims. (Cl. 253—39.15)

1. In a turbine having a hollow, fluid-cooled blade with said blade having a tip portion and a root portion, a partition wall in said hollow blade extending substantially longitudinally thereof from said root portion and thereby forming a pair of compartments within said hollow blade, said partition wall terminating in advance of said tip portion of said hollow blade to thereby provide a passageway between said pair of compartments, said hollow blade having a fluid inlet in said root portion to accommodate the entry of cooling fluid into one of said compartments and having a fluid outlet in said root



portion to accommodate the discharge of cooling fluid from the other of said compartments, a magnetic valve seat carried within said one compartment, and a spring biased valve member carried with said one compartment and being movable between open and closed positions relative to said magnetic valve seat in response to changes in the temperature of the cooling fluid flowing through said hollow blade to thereby maintain said blade at a substantially constant predetermined temperature.

2,977,090
HEAT RESPONSIVE MEANS FOR BLADE COOLING
Daniel J. McCarty, Drexel Hill, and Edward H. Lutz, Norwood, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application June 12, 1956, Ser. No. 591,002, now Patent No. 2,906,494, dated Sept. 29, 1959. Divided and this application July 31, 1959, Ser. No. 841,426
4 Claims. (Cl. 253—39.15)



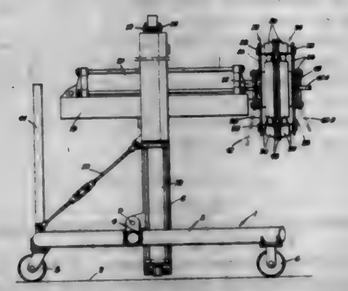
1. In a turbine having a hollow, fluid-cooled blade with the blade having a root portion and a tip portion, a wall in said hollow blade extending substantially longitudinally thereof from said root portion to said tip portion and thereby forming a pair of compartments within said hollow blade, said wall having a passage therein providing communication between said pair of compartments, said hollow blade having a fluid inlet in said root portion to accommodate the entry of cooling fluid into one of said compartments and having a fluid outlet in said root portion to accommodate the discharge of cooling fluid from the other of said compartments, and a bimetallic valve member carried by said wall and being moveable between a plurality of flow controlling positions relative to said passage therein in response to changes in the temperature of said cooling fluid flowing through said hollow blade to thereby maintain said blade at a substantially constant predetermined temperature.

2,977,091
BUCKET WHEEL
Georg Geppert, Innsbruck, Austria, assignor to Technica Etablissement, Vaduz, Liechtenstein
Filed Aug. 19, 1957, Ser. No. 678,921
6 Claims. (Cl. 253—116)



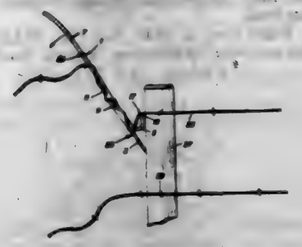
4. A bucket wheel comprising a carrier disc, open buckets having substantially the same wall thickness throughout disposed in staggered arrangement at the periphery of said carrier disc and alternately directed to the right and left with respect to the middle plane of said carrier disc normal to the wheel axle, each bucket being in immediate connection with the back of the following one, the connection of each bucket to the back of the following bucket substantially extending along the entire radial length of said back, the region of strongest curvature of the bucket inner surfaces being at the outer parts of the buckets, the inner parts of said buckets being but slightly inclined towards said middle plane, the bucket inner parts having peripheral edges whereas the bucket outer parts are sloped outwardly.

2,977,092
MOBILE TIRE SPREADER
Arnold Duerksen, Lodi, Calif., assignor to Super Mold Corporation of California, Lodi, Calif., a corporation of California
Filed May 31, 1957, Ser. No. 662,629
5 Claims. (Cl. 254—50.3)



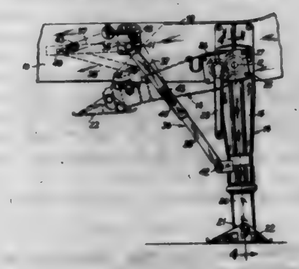
1. A tire spreader comprising a support, a pair of axially alined initially adjacent radially adjustable chuck units, means mounting the chuck units in connection with the support for relative axial movement from an adjacent position to a separated position, the chuck units being initially contracted and exposed for entry into a tire, and means on the chuck units adapted to engage the tire beads from the inside upon expansion of said chuck units and relative axial separating movement thereof; each such chuck unit including a hub, circumferentially spaced spokes radiating in slidable relation from the hub, a chuck jaw on the outer end of each spoke, said chuck jaws being spaced in circumferential alinement, pullback springs connected between the hub and chuck jaws yieldably urging the same inwardly, a control ring turnable on the hub clear of the spokes, a pivoted stand-off element connected between each chuck jaw and the control ring, and means to part-circle rotate the control ring in one direction or the other to cause said elements to thrust the chuck jaws outwardly to expand the chuck unit or to permit inward movement of the chuck jaws to contract the chuck unit, respectively.

2,977,093
WIRE STRETCHER
Charles H. Vaughn, Rte. 1, Mount Sterling, Ky.
Filed May 26, 1958, Ser. No. 737,921
3 Claims. (Cl. 254—81)



1. A wire stretching tool comprising an elongated lever having a pointed front end portion forwardly tapered and straight for fulcruming of the lever thereon against a fence post, and a rear handle portion on the lever for grasping to fulcrum the lever, a rearwardly turned hook joined to one side of the lever at a point spaced away from said front end portion longitudinally of the lever and having a terminal rearwardly opening claw for extension of a fence wire therethrough and swingable outwardly of a post by fulcruming of the lever to pull and stretch a wire alongside a post when the wire is attached to the lever and a fixed part, said hook forming at its juncture with said lever a forwardly opening notch through which the wire may be extended from said claw and wound around the lever between said hook and said handle portion to attach the wire to the lever, said lever and hook at the juncture thereof being round in cross-section to obviate sharp bends in the wire extended from the claw through the notch.

2,977,094
LANDING GEAR FOR TRAILERS
Harry M. McKay, Warrenton, Mo., assignor, by mesne assignments, to Binkley Landing Gear Sales Co., a corporation of Missouri
Filed Nov. 8, 1957, Ser. No. 695,254
13 Claims. (Cl. 254—86)



3. A landing gear for a trailer, comprising a supporting leg including a first leg section hingedly connected to the trailer, and a second leg section telescopically interfitted with the first leg section, the second leg section having ground-engaging means on its lower end, rotatable means operatively connected to said second leg section for extending and retracting said second leg section, a toggle brace connecting the said supporing leg

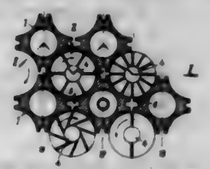
and said trailer, means fixedly attached to said toggle brace, and an operative drive connection between the last said means and said rotatable means so that the said means fixedly attached to the brace swings the brace for raising and lowering said leg about said hinge connection upon actuation of said rotatable means.

2,977,095

APPARATUS FOR HEATING OR EVAPORATING LIQUID MEDIA OR FOR HEATING GASES

Roland Kommetmüller, Vienna, Austria, assignor to Wagner-Biró Aktiengesellschaft, Vienna, Austria, an Austrian firm

Filed May 8, 1956, Ser. No. 583,409
Claims priority, application Austria June 8, 1955
13 Claims. (Cl. 257—241)



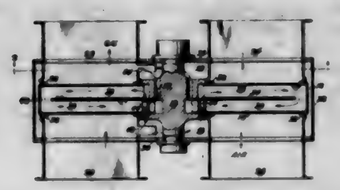
1. In a heat exchange apparatus, a plurality of conduit means of tubular form through which a first fluid medium is adapted to flow, the said conduit means being so arranged and supported as to provide substantially cylindrical components therebetween through which a second fluid medium is adapted to flow countercurrent to the first fluid medium, guide means in each of said substantially cylindrical components functioning to impart twisting movement to the second fluid medium, the axis of which is parallel to the direction of flow of the first fluid medium, and means cooperable with the entire length of the cylindrical components to continuously withdraw the boundary layers forming in the twisting currents of the second fluid medium at the heat transferring surfaces into passages in the conduit means parallel to the axis to augment the film coefficient of heat transfer and to reduce the resistance to flow.

2,977,096

ROTARY REGENERATIVE HEAT EXCHANGER

Ted C. Evans, Wellsville, N.Y., assignor to The Air Preheater Corporation, New York, N.Y., a corporation of New York

Filed Mar. 26, 1958, Ser. No. 724,184
2 Claims. (Cl. 257—267)



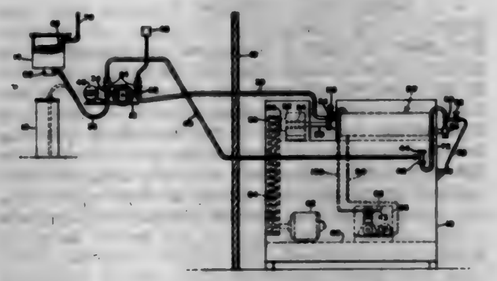
1. Regenerative heat exchange apparatus or the like including a cylindrical housing having inlet and outlet ducts for a heating fluid and a fluid to be heated, a rotor mounted concentrically within said housing including a cylindrical shell joined to a pivotally mounted rotor post by hollow diaphragms to form sectoral compartments that carry heat transfer material, partition means in each diaphragm forming radial passageways adjacent the inlet and outlet ducts connected at their radial outer ends, annular cavities formed at opposite ends of the rotor post to permit the circulation of said heating fluid therearound, duct means carried by said rotor post connecting each of said annular cavities to the radial passageways remote therefrom, and port means in the inlet and outlet ducts for the heating fluid adapted to permit communication with adjacent annular cavities whereby a portion of the heating fluid flowing through the rotor is directed through the hollow diaphragm.

2,977,097

REFRIGERATION APPARATUS

Henry F. Cobrt, R.R. 2, Box 167, Huron, S. Dak.

Original application July 10, 1958, Ser. No. 747,640, now Patent No. 2,961,853, dated Nov. 29, 1960. Divided and this application June 15, 1959, Ser. No. 820,228
3 Claims. (Cl. 259—9)



1. In apparatus of the class described, the combination of: means affording a mixing chamber having an inlet and an outlet; a pump having intake and discharge sides; means connecting the discharge side of the pump to the chamber inlet; a source of mixable material; a source of washing fluid; means connected to the pump intake and connectible selectively to either of said sources; air inlet means connected to the intake side of the pump; means for selectively opening and closing said air inlet means and operative to open said air inlet means when the pump intake is connected to the source of mixable material and to close said air inlet means when the pump intake is connected to the source of washing fluid; and means capacitating the chamber outlet selectively to dispense mixed material or for connection to the pump intake for circulating washing fluid when the pump intake is connected to the source of washing fluid.

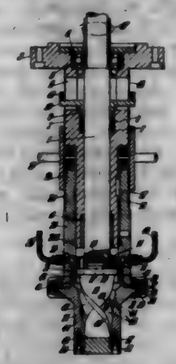
2,977,098

MIXING MACHINES FOR RUBBERS AND PLASTIC SUBSTANCES

William Ferguson Watson and Darrell Wilson, Welwyn Garden City, England, assignors to Baker Perkins Limited, Peterborough, England

Filed June 18, 1958, Ser. No. 742,929
Claims priority, application Great Britain June 21, 1957
11 Claims. (Cl. 259—108)

1. A mixing machine for adherent substances comprising support means; a housing member mounted on said support means and forming a mixing chamber of basically circular cross-section having helically fluted walls and at least one closed end; a substantially laminar mixing blade member having a length corresponding substantially to the length of said chamber and having a diametric dimension corresponding substantially to the diametric dimension of said chamber; means mounting said blade member coaxially with and concentrically within said chamber and for rotation relative thereto; and means connected with at least one of said members for rotating it, the flutes of said chamber being inclined to the axis of said chamber in a direction such that relative rotation of said blade member and said housing member causes a substance in said chamber to have a component of movement towards the closed end of the latter.

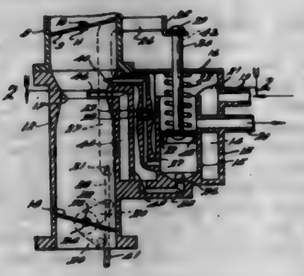


2,977,099

FLOATLESS CARBURETOR

Thomas M. Ball, Bloomfield Hills, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed May 26, 1959, Ser. No. 815,845
13 Claims. (Cl. 261—36)



1. In a carburetor for an internal combustion engine, a fuel bowl in communication with a source of fuel, an overflow chamber, means for maintaining the fuel in said bowl at a predetermined level comprising an overflow weir separating said bowl and chamber, said chamber being adapted to receive excess fuel overflowing said weir from said bowl after the fuel in said bowl attains said predetermined level, fuel pumping means defined in part by said chamber, means for supplying fuel to said pumping means, means for conducting fuel from said pumping means to said engine upon actuation of said pumping means, means operatively connected with said pumping means to actuate the latter, and fuel return means in communication with said chamber to drain fuel therefrom upon overflow of fuel from said bowl into said chamber.

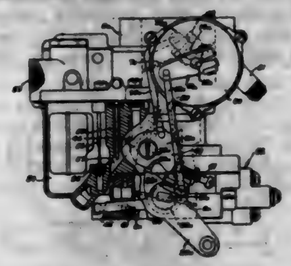
2,977,100

THROTTLE OPERATED STARTER SWITCH

Harold A. Carlson, Brentwood, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Jan. 24, 1958, Ser. No. 710,902
8 Claims. (Cl. 261—39)

1. Charge forming means for an internal combustion engine comprising a mixture conduit, choke and throttle valves therein, a thermostat for affecting the action of said choke valve, a device operatively connecting said throttle valve and said thermostat and adapted to adjust said thermostat in accordance with positioning of said throttle valve, mechanism including a stop movable to a position to engage and prevent thermostat adjusting action of said device when the choke valve is closed for



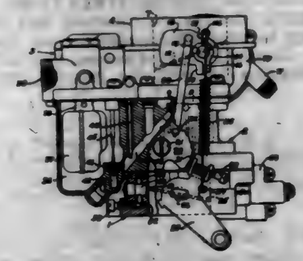
cold starting, and means responsive to operation of the engine for shifting said stop away from said position to release said device for thermostat adjusting action thereby.

2,977,101

AUTOMATIC CHOKE

Harold A. Carlson, Brentwood, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Mar. 5, 1958, Ser. No. 719,278
10 Claims. (Cl. 261—39)



1. A carburetor for an internal combustion engine comprising a mixture conduit, a choke shaft pivotally mounted therein, a throttle shaft pivotally mounted in said mixture conduit, a choke valve and a throttle valve mounted on said shafts respectively for regulating fluid flow through said conduit, venturi means in said mixture conduit, a main fuel supply system and an idle fuel supply system for supplying fuel to said mixture conduit, a thermostatic device responsive to engine temperature operatively connected to said choke valve and tending to close said choke valve with a force that decreases with increase in engine temperature, a suction device responsive to engine vacuum operatively connected to said choke valve tending to open said choke valve when said engine is running, a tension spring operatively connected to said choke shaft and defining a line of force with respect to said choke shaft, said choke shaft being over dead center with respect to said line of force in a direction to urge said choke valve closed when said choke valve is substantially closed and being over dead center with respect to said line of force in a direction to open said choke valve when said choke valve is substantially opened.

2,977,102

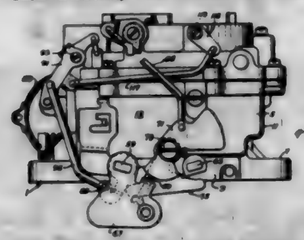
THROTTLE-OPERATED INSIDE CARBURETOR VENTE

Arthur L. Rowe and Albert W. Zeh, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed July 6, 1959, Ser. No. 825,229
13 Claims. (Cl. 261—42)

1. In a carburetor having a fuel bowl, an open outside vent for continuously venting the bowl to atmos-

phere, a mixture conduit and a throttle for the mixture conduit, means for venting the bowl to the mixture conduit comprising a pair of relatively movable coaxial vent tubes, one inside the other, extending transversely from the upper part of the bowl through the mixture conduit anterior to said throttle, and means for effecting rela-



tive movement of the tubes in response to movement of the throttle, said tubes having openings which are out of register when the throttle is at idle to block communication through the tubes from the bowl to the mixture conduit and which come into register as the throttle is opened from idle to establish communication through the tubes from the bowl to the mixture conduit.

2,977,103

COOLING TOWER STRUCTURE

Lewis R. Smith, McLean A. Ambrose, and Walter M. Hauenstein, Jackson, Mich., assignors to Acme Industries, Inc., Jackson, Mich., a corporation of Delaware

Filed Nov. 25, 1957, Ser. No. 698,637
1 Claim. (Cl. 261—111)



In a cooling tower, a deck comprising a plurality of horizontally spaced parallel vertical plates, said plates being formed from a planar sheet of chemically inert plastic material, and being of planar configuration, a plurality of narrow, parallel, horizontal ribs of arcuate cross section formed on one side of said plate abruptly projecting from the plane thereof, embossed planar plate portions intermediate said ribs whereby liquid flowing down over said plates alternately moves over said embossed planar portions and the arcuate surface of said ribs, the vertical width of said embossed planar portions being substantially greater than the vertical width of said ribs, spacing protuberances formed in vertical columns and horizontal rows on said plates projecting from said one side thereof adapted to maintain spacing between adjacent plates, each row of spacing protuberances centrally projecting from a common rib and extending a distance from the plane of the plate substantially greater than that of the ribs, and a plurality of concave-convex aligning lugs formed on said one side of said plate arranged in a substantially centrally located vertical column whereby the convex portion of said lugs will nest within the concave portion of the aligning lugs of the adjacent plate, said columns of spacing protuberances being asymmetrically related to said columns of lugs on the opposite sides thereof.

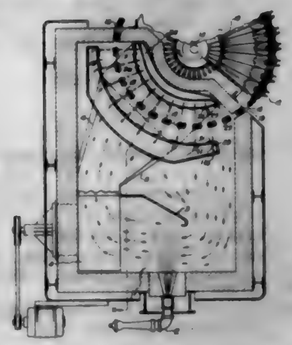
2,977,104

LAMP MAKING MACHINE

George E. Ott, Eastlake, Ohio, assignor to General Electric Company, a corporation of New York

Filed Aug. 7, 1958, Ser. No. 753,754
3 Claims. (Cl. 263—7)

1. In combination, a machine having a carrier provided with heads for gripping and advancing a series of elongated lamps along a path of movement, a heating oven having walls forming a combustion chamber located in the path of movement of the lamps, said walls being provided with openings to permit movement of the lamps through the combustion chamber, air ducts in said chamber located in spaced apart relationship on opposite sides of said path of movement, said ducts having side walls facing said path and each being provided with a series of elongated openings adapted to direct air from within the ducts toward substantially the full length of both opposite sides of the lamps along the path of lamp movement, said elongated openings being formed in said walls to extend substantially the



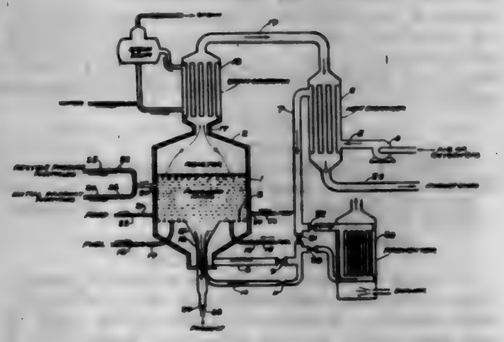
full vertical length thereof at predetermined spaced points thereon such that each elongated opening in one duct wall faces an elongated opening in the other duct wall, said openings being disposed at predetermined spaced points along the length of said duct walls, air heating means in said combustion chamber, a plurality of blowers in said chamber, and means to connect one of said blowers to one duct and the other blower to the other duct to convey heated air to said ducts, the ends of said ducts being spaced from the walls of the oven to permit flow of air from the area defining the path of lamp movement to other parts of said combustion chamber.

2,977,105

APPARATUS FOR CEMENT MANUFACTURE

Robert Pyzel, New York, N.Y., assignor to Pyzel-Fitzpatrick, Incorporated, New York, N.Y., a corporation of Delaware

Original application Mar. 16, 1954, Ser. No. 416,693, now Patent No. 2,874,950, dated Feb. 24, 1959. Divided and this application June 6, 1958, Ser. No. 740,497
3 Claims. (Cl. 263—21)



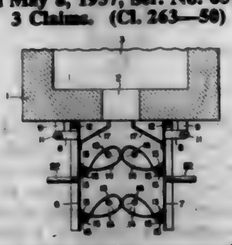
1. Apparatus for carrying out reactions in a fluidized bed comprising a reaction vessel having a space for the carrying out of reactions, the bottom of said reaction space being defined in part by an annular gas-permeable member having its outer periphery adjacent the walls of the vessel, a discharge tube extending downwardly from the reaction space for the discharge of the reaction product, the upper portion of said discharge tube being connected to the annular gas-permeable member adjacent its inner periphery, the upper portion of said discharge tube converging downwardly to a tube section of smaller diameter, a plenum chamber directly beneath said gas-permeable member and surrounding the upper portion of the discharge tube, means for introducing pulverulent material to be reacted into the reaction space of said vessel, a heat exchanger, a conduit connecting the upper portion of the reaction chamber with said heat exchanger for the passage of hot gases from said reaction vessel to said heat exchanger, means for passing an oxygen-containing gas through said heat exchanger in indirect heat exchange with the hot gases passing through the heat exchanger from the reaction vessel, conduit means for conducting preheated oxygen-containing gas from said heat exchanger, a pair of branch pipes communicating with said conduit means at one end, one of said branch pipes communicating at its other end with said plenum chamber, the other of said branch pipes communicating at its other end with said discharge conduit, whereby preheated oxygen-containing gas may be introduced into said reaction space through both said discharge tube and from said plenum chamber, and means for introducing fuel into the reaction space of said vessel for combustion with the oxygen of the preheated oxygen-containing gas introduced into said reaction space.

2,977,106

FURNACE CLOSURE

John Duff, Willow Grove, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania

Filed May 8, 1957, Ser. No. 657,929
3 Claims. (Cl. 263—50)



2. Apparatus for closing the entrance of a furnace comprising a pair of flaps each being made of a rectangle of flexible material with parallel edges folded together to leave a loop between them, means to mount one of said flaps on each side of the entrance, said mounting means engaging said folded edges and being so spaced that the loop portions of said flaps engage each other at an angle, a pipe having a row of perforations therein extending through each loop, said perforations being directed toward the engaging portions of said loops, and means to supply air under pressure to each pipe, the force of the air escaping from the perforations holding said loops in engagement with each other.

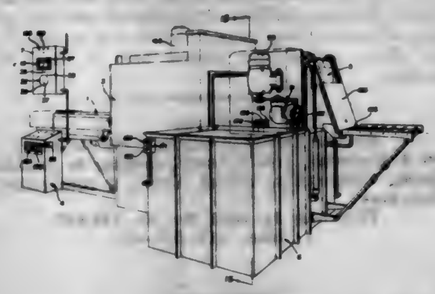
2,977,107

HEAT TREATING FURNACE

Harold E. Meecher, Rivera, Calif., assignor to Pacific Scientific Company, San Francisco, Calif., a corporation of California

Filed Oct. 8, 1957, Ser. No. 688,954
12 Claims. (Cl. 266—4)

1. A heat-treating furnace comprising a furnace heating chamber having entrance and exit doors at opposite ends thereof and slide rails therewith over which work may be passed from the entrance door through the heating chamber and out through the exit door, a loading rack in front of said furnace entrance door provided with two pairs of vertically and horizontally movable push rods for engaging work placed upon said loading rack, one pair of push rods serving to push the work along said loading rack automatically into the furnace upon the opening of said entrance door and the other pair of push rods serving to push the work out of the furnace through said exit door after a heat-treating operation, a cooling chamber adjoining the exit door of said heating chamber,



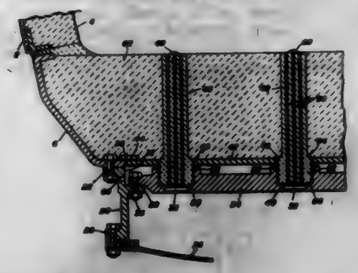
said second pair of push rods serving to move the heat-treated load from said heating chamber past said exit door and into said cooling chamber, motive means for moving said pairs of push rods vertically and horizontally to effect the desired movement of the load through the furnace, said cooling chamber having an unloading door for enabling the removal of the work load therefrom, and flame curtain protective means at said furnace entrance and at said cooling chamber unloading door for preventing cold atmosphere detonation of controlled atmosphere gases within the furnace and cooling chambers.

2,977,108

TUYERE ASSEMBLY FOR A BESSEMER CONVERTER

Godfrey J. Cegelja, Gary, and Paul J. Martin, Chesterton, Ind., assignors to United States Steel Corporation, a corporation of New Jersey

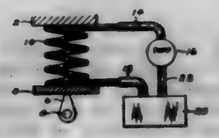
Filed Apr. 10, 1958, Ser. No. 727,571
2 Claims. (Cl. 266—35)



1. A bottom assembly for a Bessemer Converter comprising a detachable bottom ring having an opening through the bottom thereof, a wind box attached to the bottom of said bottom ring, said wind box having an opening through the top thereof aligned with the opening in said bottom ring, a tuyere plate mounted in alignment with said openings adjacent the top of said wind box, said tuyere plate having a plurality of vertical openings therethrough, a shoulder in each of said last named openings, the cross section of each of said last named openings having greater dimensions above said shoulder than

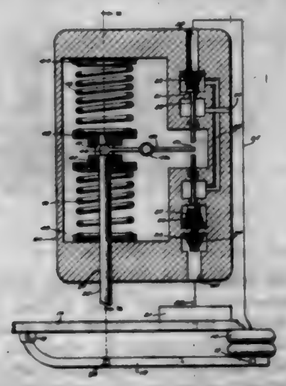
below said shoulder, a false plate arranged above said tuyere plate in spaced relationship therewith, said false plate having a flat upper surface and openings therein aligned with the openings in said tuyere plate, a tuyere for each of said openings in said tuyere plate and false plate, each of said tuyeres having an elongated refractory body with a plurality of generally vertical holes therethrough; the outside dimensions of the bottom portion of said body being greater than those of the remaining portion so as to provide a shoulder therebetween, the said bottom portion of each of said tuyeres being received in the openings in said tuyere plate and false plate and resting on the shoulder of said tuyere plate with the tuyere shoulder positioned at least at the top of said false plate, and a refractory filling in said bottom ring on top of said false plate around said tuyeres and on said tuyere shoulders.

2,977,109
FLUID COOLED SPRING DEVICE
John B. Beckwith, Bristol, Conn., assignor to Associated Spring Corporation, Bristol, Conn., a corporation of Delaware
Filed May 11, 1955, Ser. No. 507,647
1 Claim. (Cl. 267—1)



A spring device comprising a spring formed of a hollow rod of heat conducting material and having a passage through the material having open ends, a source of cooling medium, and means for passing cooling medium from said source through said passage while the spring is in use; thereby to permit the operation of the spring in an elevated ambient temperature at which the material of which the spring is formed would lose its spring properties.

2,977,110
CONTROL VALVE
Charles R. Kilgore, Cleveland, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Aug. 22, 1957, Ser. No. 679,675
5 Claims. (Cl. 267—15)



1. In combination in a vehicle having a frame member and a wheel supporting axle member pivotally supported thereon, a housing secured to one of said members, actuating means movable in said housing upon a change in the relative positions of said members and normally centered when said members are positioned at their desired relative positions, a pneumatic spring between said members, valve means controlling the gas pressure in said spring and actuated by said actuating means, a pair of pre-loaded spring means between said actuating means and said housing for resiliently operating said actuating means upon relative movement of said members away from said desired relative positions, and means to compress one spring away from said actuating means to permit the other spring to operate said valve means, and substantially constant viscosity time delay means for retarding movement of said actuating means independently of variations in temperature, said last named means comprising at least one plate movable relative to another plate adjacent thereto within a body of substantially constant viscosity liquid whereby the viscous drag of said plates in said liquid determines said time delay.

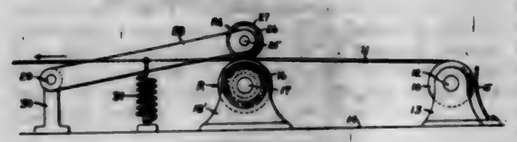
2,977,111
HYDRO-PNEUMATIC TELESCOPIC SHOCK DAMPERS
Franz Emil Tucnak, Forster Strasse 38, Weyerbof, Ettorf (Sieg), Germany
Filed Jan. 17, 1957, Ser. No. 634,765
Claims priority, application Germany Jan. 28, 1956
8 Claims. (Cl. 267—64)



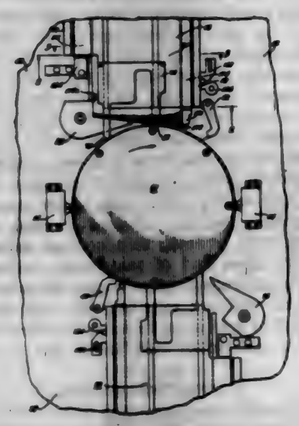
1. A hydro-pneumatic telescopic shock damper comprising in combination a piston, a cylinder housing said piston, a piston rod, a cover on the cylinder through which the piston rod projects, a portion of said cover extending into the cylinder, a quantity of working fluid in the cylinder incompletely filling it, a piston rod guide formed by said cover, a packing holder on the end of said cover portion, a packing in said holder sealing a joint between said rod and the said holder a substantial distance from the said guide and below the fluid level, a first sealing surface formed on said holder, and a second sealing surface facing said first sealing surface formed on said cover portion so that under the pneumatic pressure within the damper said holder is pressed axially and a seal is made at the said sealing surfaces.

2,977,112
PAPER DRIVE
Franklin F. Offner, 4360 Marine Drive, Chicago, Ill.
Filed July 15, 1957, Ser. No. 672,682
7 Claims. (Cl. 226—189)

1. In a device for feeding a strip of thin flexible material longitudinally of itself, a drive roll for pulling said strip under tension from a supply source and means for applying pressure between said strip and said drive roll, said drive roll being constituted by a plurality of coaxial roll sections arranged along a line of contact extending transversely across substantially the entire width of said strip and being in simultaneous contact respectively with different surface portions of said strip along said contact line, and means including slippable driving means cooperative with said roll sections for driving said roll sections in an independent manner.

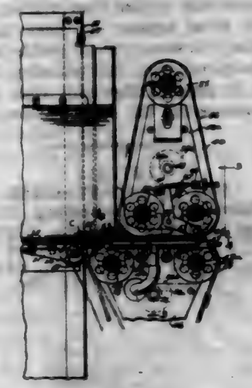


2,977,113
CARD PROCESSING APPARATUS
Herman J. Malin, Culver City, and Donald H. Westermoier, North Hollywood, Calif., assignors to Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed June 29, 1959, Ser. No. 823,690
15 Claims. (Cl. 271—11)



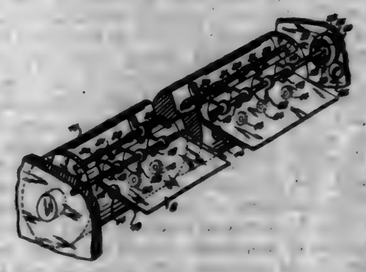
1. In apparatus for processing data on a plurality of information storage elements, the combination of: transport means for the information storage elements, a magazine for holding the storage elements in a stacked relationship and movable to a position in operatively coupled relationship to the transport means, means in the magazine for biasing the storage elements in the plurality forwardly in the magazine for a sequential transfer of the storage elements from the magazine to the transport means in the operatively coupled relationship of the magazine and the transport means, locking means disposed in a first position in an engaged relationship with the biasing means to hold the biasing means against movement in the magazine when the magazine is disposed out of operatively coupled relationship with the transport means, and means coupled to the locking means for causing said locking means to be moved to a second position out of engaged relationship with the locking means when the magazine is moved into operatively coupled relationship with the transport means.

2,977,114
DOCUMENT FEEDING APPARATUS
Walter J. Hansen and Robert E. Schmeck, Old Greenwich, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Aug. 5, 1956, Ser. No. 602,191
8 Claims. (Cl. 271—32)



8. A device for rapidly separating checks stacked on edge and sequentially feeding them endwise, comprising continuously running frictional surfaced belts each having a localized feature providing for periodic forceful attachment to a contacted check and spaced edge to edge with their frictional faces aligned with the path of the checks, one end surface of each of said belts providing a lead-in surface in frictional engagement with the lead surface of the foremost check of the stack, and reversely moving frictional surfaced means coacting with said belts at the lead edge position of the foremost check and opposite the spaces between the belts to prevent the advance of the check until its preventive effect is overcome by the forceful attachment of the lead portion of the foremost check to the lead-in surface of the belts, whereby the said check is advanced while the next succeeding check is retained at the position of the reversely moving means.

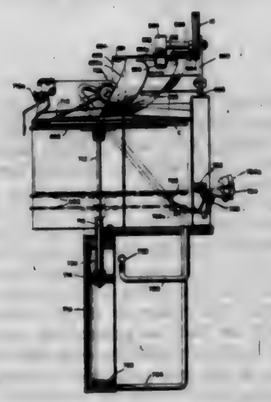
2,977,115
FRONT REGISTER MECHANISM
Jack E. Vandeman, Berea, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 10, 1958, Ser. No. 741,443
15 Claims. (Cl. 271—63)



1. In the method of feeding sheet material to a rotating cylinder having grippers adapted to hold a sheet after it has been registered against a pair of spaced gauge pins mounted on the cylinder and wherein a sheet moving toward the cylinder is stopped and preliminarily front and

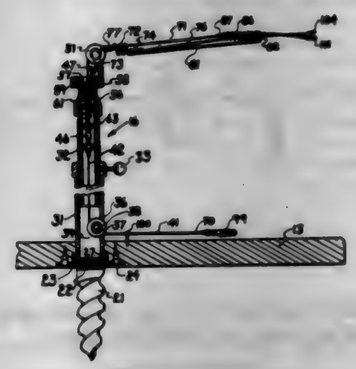
side registered and the stopped sheet is then gripped top and bottom at a plurality of spaced points across its width and near its front edge and moved toward the gauge pins on the cylinder to feed the sheet, the steps comprising releasing the grip on said sheet at all points across its width not generally aligned with said gauge pins in the direction of feed before the front edge reaches the gauge pins, completing the feeding of the sheet to the gauge pins at a speed relatively higher than cylinder speed at that time to finally front register the sheet against the gauge pins by gripping the sheet only at points in general alignment with the gauge pins, and releasing the sheet at the latter points in general alignment with the gauge pins after finally registering the sheet against the gauge pins.

2,977,116
DOCUMENT STACKER
Robert E. Edmaister, St. Petersburg, Fla., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 4, 1957, Ser. No. 663,423
1 Claim. (Cl. 271—88)



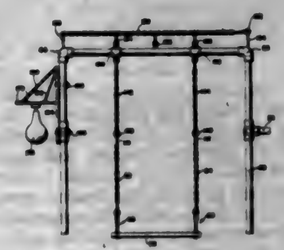
Apparatus for receiving and stacking horizontally traveling horizontally positioned documents, comprising means forming a receptacle having vertical sides positioned below and extending substantially transversely to the direction of said horizontal travel, means for deflecting the leading edge of a said horizontally traveling document downwardly and into said receptacle, a twisted curved plate positioned to receive a said downwardly deflected leading edge of a traveling document and directing said leading edge first downwardly and thereafter horizontally into said receptacle subtantially transversely of said first mentioned direction of horizontal travel, said document being inverted during travel into said receptacle, a vertically movable platform in said receptacle for receiving documents, successive documents being directed into said receptacle to form a stack, servo-responsive support means for said platform, a pivotally mounted lever movable within a predefined range and having an operating end positioned adjacent said platform and an uppermost document of said stack for actuation by said documents, the degree of actuation being dependent upon the number of documents in said stack and the relative position of said platform with respect to said lever, and servo means actuated in response to the movement of said lever through a preselected portion of said predefined range for operating said support means to maintain said uppermost document of said stack at a desired constant level with respect to said deflecting means and said curved plate.

2,977,117
CONTROL FOR MODEL AIRCRAFT
William H. Taylor, 2418 Watson St., Sacramento 21, Calif.
Filed July 31, 1957, Ser. No. 675,448
3 Claims. (Cl. 272—31)



1. A control for model aircraft comprising a hollow vertical pylon, an anti-friction bearing mounted coaxially on the upper end of said pylon, a lower pulley rotatably mountd on said pylon, an upper pulley rotatably mounted on the outer race of said bearing, a helical tension spring mounted on said upper pulley and extending toward a model aircraft, a tether cable having one end secured to said spring and the other end secured to the model aircraft, an extension rod mounted on said spring and projecting away therefrom in parallel relation to the axis of said spring, an outer resilient member mounted on the distal end of said rod and extending inwardly toward said spring in substantially coaxial alignment therewith, an inner resilient member mounted on said outer race of said bearing and extending downwardly into said pylon, a control lever rockably mounted on the ground at a location remote from said pylon, a control cable attached at one end to said control lever and at the other end to the model aircraft, the intermediate portion of said control cable being reeved over said pulleys, said control cable being attached to the inner end of said outer resilient member, and a swivel interposed in said control cable intermediate said inner resilient member and said lower pulley, the lower end of said inner resilient member being affixed to the upper portion of said swivel for rotation therewith.

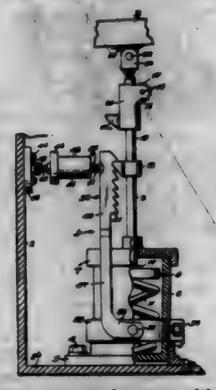
2,977,118
GYMNASTIC APPARATUS
Lucien L. Farkas, 7001 Cano Hills Circle, Orlando, Fla.
Filed Sept. 9, 1959, Ser. No. 838,893
8 Claims. (Cl. 272—60)



1. In a gymnastic apparatus comprising a frame including an exercise bar; supports secured to said exercise bar for supporting said exercise bar at a position above a surface located beneath the gymnastic apparatus; means

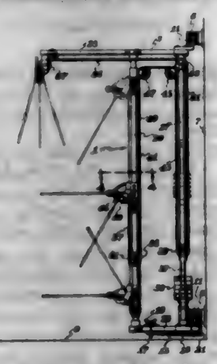
positioned on said exercise bar for suspending exercise devices from said bar, said suspending means being movable along the length of said exercise bar to various positions; and means for locating said suspending means at positions along the length of said exercise bar; the improvement wherein said locating means includes a positioning element extending substantially parallel to said exercise bar, and a releasable fastener connected by an interlocking connection both to said positioning element at a point therealong and to said suspending means; whereby the position of said suspending means along the length of said exercise bar is substantially fixed in a releasable manner.

2,977,119
SPRING DIVING APPARATUS
Henry J. Leibfeldt, 4631 SW. 5th Terrace, Miami 44, Fla., and Arthur O. Leibfeldt, 62 Miracle Mile, Coral Gables, Fla.
Filed July 13, 1959, Ser. No. 826,540
11 Claims. (Cl. 272—66)



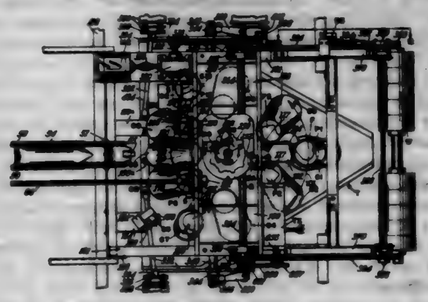
1. In a diving apparatus for use with a diving board, compressible resilient means, compressing means operated by and in response to successive, discrete oscillations of the board to store progressively increasing energy in said resilient means, and means responsive to the final one of a preselected number of oscillations of said board, to instantaneously release to the board, energy stored in said resilient means.

2,977,120
EXERCISING DEVICE
Wesley B. Morris, 6510 Edgevale Road, Kansas City, Mo.
Filed June 30, 1959, Ser. No. 823,893
2 Claims. (Cl. 272—81)



1. An exercising device comprising first vertical guide means, a support for a weight mounted for vertical movement on the first guide means, a cord supporting the weight support for vertical movement on the first guide means, second vertical guide means beside the first vertical guide means, a first pulley mounted for vertical movement on the second guide means, means for releasably securing the first pulley in any of a plurality of positions of vertical adjustment along the second guide means, a second pulley mounted for vertical movement on the second guide means below the first pulley, means for releasably securing the second pulley independently of the first pulley in any of a plurality of positions of vertical adjustment along the second guide means below the first pulley, and a third pulley mounted on the device adjacent the upper ends of the first and second guide means, the cord being reeved over the first pulley, under the second pulley and over the third pulley to the weight support.

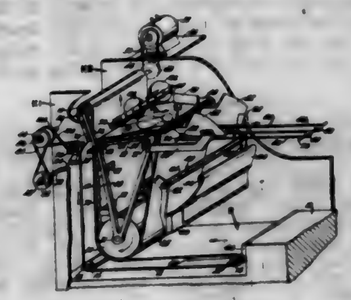
2,977,121
BOWLING PIN SPOTTING AND RESPOTTING MACHINE
Thomas Flint, Concord, Mass., and John M. Fluke, Seattle, Wash., assignors to American Machine & Foundry Company, a corporation of New Jersey
Original application Nov. 12, 1948, Ser. No. 59,706, now Patent No. 2,736,554, dated Feb. 28, 1956. Divided and this application May 3, 1954, Ser. No. 427,166
8 Claims. (Cl. 273—43)



8. In a bowling pin spotting machine, the combination of delivery means operative to deliver pins successively to a discharge point; a pin distributor comprising a frame mounted for rotation in a horizontal plane about a vertical axis spaced from said discharge point, and a plurality of generally tubular pin cups mounted on said frame and spaced in a closed series surrounding said axis of rotation, said cups having open-ended lower portions spaced to generally define a triangle lying transversely of said axis of rotation, said cups extending upwardly to open upper pin entry portions via which the pins enter the cups, said pin entry portions all being spaced from said axis by substantially the same distance and said distance being such that said cups are brought successively to said discharge point as said frame is rotated; means operatively associated with said frame and effective to rotate the same about said axis in timed relation to delivery of pins by said delivery means to present said pin entry portions of the cups successively at said discharge point to receive pins as they are delivered by said delivery means; a pin spotting table disposed beneath said distributor and mounted for vertical movement, said table comprising a plurality of upwardly extending pin guides spaced generally triangularly and provided with open tops disposed for registry with the lower portions of said distributor pin cups when said distributor has been filled with pins, said pin guides slanting downwardly and outwardly to terminate in discharge portions spaced to define a triangle similar to but larger than the triangle defined by the lower portions of said distributor

pin cups; and means responsive to the delivery of a predetermined number of pins to said distributor operative to condition said distributor to discharge its full set of pins simultaneously and directly into said pin guides of said table.

2,977,122
BALL AND PIN HANDLING MECHANISM
Robert L. Holloway, Snyder, N.Y., assignor to American Machine & Foundry Co., a corporation of New Jersey
Filed May 14, 1957, Ser. No. 658,987
16 Claims. (Cl. 273—43)



10. Pin and ball elevating apparatus for bowling alleys having a pit at the rear of said alley for receiving pins and balls from the playing surface of said alley, comprising opposed elongated pin and ball holding and lifting members for delivering pins and balls removed from said playing surface to an elevated point of discharge, support means normally biasing one of said members into predetermined operative position with the other member, including means mounting said support means to effect conjoint vertical and lateral displacement of one of said members relative to the other in response to the pressure exerted by balls and/or pins between said members to accommodate and hold said balls and/or pins for delivery by said members to said point of discharge, and means for driving said opposed holding and lifting members.

2,977,123
TOY
William F. Bub, Jr., Waukegan, Ill., assignor to Marvin I. Glass, Chicago, Ill.
Filed July 27, 1959, Ser. No. 829,654
5 Claims. (Cl. 273—98)



1. A juggling toy which comprises a length of resilient flexible cylindrical tube formed of a series of convolutions of a material which is flexible and resilient, but relatively incompressible and inextensible, said material being so wound around the axis of the tube that the edges of adjacent convolutions substantially contact each other, but without requiring the application of any significant axial longitudinal pull to separate the convolutions, a ball capable of being seated on one end of said tube, a tether loosely connecting said ball to said one end of said tube, and a handle in the form of a sleeve adjustable on the outside of said length so as to vary the spacing from said one end of said tube, the length and flexibility of said tube being such that when held by said handle the upper portion thereof bends when said tube is not in a vertical position.

2,977,124
PHONOGRAPH APPARATUS
Marcel Jules Helene Staar, 30 Square du Solbosch, Brussels, Ixelles, Belgium
Filed Dec. 22, 1955, Ser. No. 554,690
Claims priority, application Belgium Jan. 4, 1955
15 Claims. (Cl. 274—9)

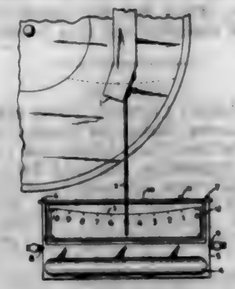


1. In a phonograph apparatus having a motor driven stepped driving pulley, a record turntable, an idler wheel engageable with said stepped pulley and said record turntable, and a frame supporting the record turntable and said motor driven stepped driving pulley in fixed relation, the combination of a pin mounted on the frame, a lever supporting said idler wheel pivoted on said pin for horizontal movement and slidable on said pin for vertical movement, an arm pivotally supported on said pin, said arm being engageable with said lever for pivoting said lever horizontally, a control member supported on said frame for rotation about a horizontal axis, a stud carried by said control member offset from the axis of rotation thereof and forming a cam, said lever being provided with a horizontal slot for receiving said stud and forming a cam follower, rotation of said control member producing vertical movement of said lever through said stud and slot cam connection, camming mechanism comprising a cam carried by said control member and a cam follower carried by said arm adapted to pivot said arm in a horizontal direction to engage said lever and move said lever horizontally, whereby movement of said control member adjusts said lever horizontally and vertically simultaneously to shift the idler wheel out of relation with said driving stepped pulley and from level to level for engagement with a different step of said stepped pulley.

2,977,125
REPEATING MECHANISM
Rudolph F. Mallina, Hastings on Hudson, N.Y., assignor to Thompson Ramo Woolridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 16, 1959, Ser. No. 787,388
4 Claims. (Cl. 274—14)

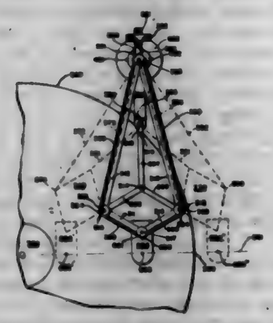
1. In a repeat mechanism, for use in connection with a sound reproducer machine having a movable sound carrier and a movable arm positioned above the carrier to reproduce sound therefrom, the combination of an extension secured to said arm and projecting beyond the orbit of said sound carrier, a crossbar positioned outside the path of said carrier and disposed below said extension, means suspending said crossbar comprising a stationary base, a support tiltably journalled on said base and laterally slidably holding said crossbar, said support being manually tiltable for raising said crossbar

to lift said extension, said crossbar with said support being operable to be lowered by gravity upon manual release for releasing said extension, and a pin and slot connection between said base and said crossbar guiding the crossbar upwardly and laterally and downwardly, said slot having a rhomboid shape including two opposite vertical straight edges guiding the raising and lowering of the crossbar and two opposite inclined edges parallel to each other and disposed between the vertical edges and operable to guide the crossbar through oppo-



site lateral shifting movements, whereby said crossbar will first be raised upon manual tilting of said support and thereby will lift said extension, will subsequently be displaced laterally in the raised position and thereby will shift said extension sidewardly of the carrier, will thereafter be lowered upon manual release and thereby will release for lowering said extension at a point laterally shifted from the point at which the extension had been lifted, and will subsequently be returned laterally to its initial position.

2,977,126
PHONOGRAPH PICKUP ARM
Norman Leonard Chalfin, Culver City, Calif. (460 San Juan Place, Pasadena, Calif.)
Filed Mar. 26, 1956, Ser. No. 573,786
4 Claims. (Cl. 274—23)



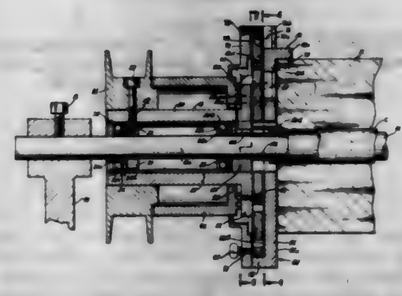
1. A phonograph pickup arm comprising the combination of a Peaucellier cell straight line motion generator having a pivot end and a moving end; a fixed mounting base adapted to receive said pivot end of said cell, said pivot end of said cell being pivotally mounted on said base, said moving end of said cell being constrained thereby to describe a straight line of motion as said cell is pivoted on said base; a phonograph record reproducing head pivotally attached to said moving end of said cell; and a driving mechanism including a first pulley fixedly attached to said phonograph record reproducing head, said first pulley being centered at the point of pivotal attachment of said head to said cell, a second pulley fixedly attached to said base, said second pulley being centered at a point of pivotal attachment of said cell to said base, and a continuous belt attached to a predetermined point respectively of each of said pulleys and coupled between them to maintain said head perpendicular to the straight line described by said moving end of said cell.

2,977,127
DEVICE FOR CLEANING PHONOGRAPH RECORDS, PARTICULARLY SYNTHETIC RESIN PHONOGRAPH RECORDS
Leo Mertes, 13 St. Josephstrasse, Saarbrucken, Germany
Filed Apr. 9, 1956, Ser. No. 577,989
Claims priority, application Germany May 24, 1955
3 Claims. (Cl. 274—47)



1. A device for simultaneously cleaning both sides of phonograph records, particularly records of synthetic resin having microgroove recording thereon, comprising a pair of elongated flat bases, a hinge pivoting the two bases to each other at one end so that the bases may lie aligned upon each other, an aperture in the free end region of one base, a projection at the free end of the other base and adapted freely to enter the aperture when the bases lie on each other, the projection being of a diameter less than the inner diameter of the standardized central aperture of phonograph records, the distance between the base end aperture and the hinge being at least equal to the radius of the records to be cleaned, a pad of absorbent and resilient synthetic resin foam on each base, the pads facing each other, and a liquid impregnant in each pad of low evaporation tendency and capable of removing electrostatic charge from the record.

2,977,128
CHUCK FOR ROTARY KNIFE CUTTING MACHINE
David N. Judelshon, New York, N.Y., assignor to Oscar L. Judelshon, Inc., New York, N.Y., a corporation of New York
Filed Mar. 19, 1959, Ser. No. 800,413
12 Claims. (Cl. 279—110)



1. A chuck for turning a roll of material which is adapted to be supported on a shaft comprising an annular actuating member journaled for rotation on said shaft, a face plate adapted to abut an end face of said roll, said face plate being formed with a group of radially extending slots, a gripping jaw slidably mounted in each of said slots and movable inwardly and outwardly of said face plate, a back plate, means contiguous to the outer peripheries of said face and back plates for securing said plates together, said plates cooperating to form an annu-

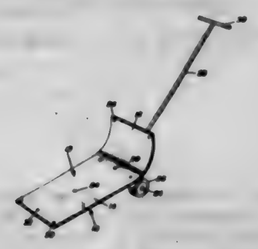
lar seat therebetween, said actuating member disposed within said annular seat for turning movement relative to said plates, said plates being supported by said actuating member, releasable securing means between said plates and said actuating member to releasably prevent movement therebetween, and interengaging means between said actuating member and said gripping jaws for coupling said gripping jaws to said actuating member, turning movement of said actuating member relative to said plates being effective to simultaneously move said gripping jaws inwardly and outwardly into and out of engagement with said roll.

2,977,129
CABLE HOLDER FOR SKI-FASTENING CABLES
Hannes Marker, 39 Kleinfeldstrasse, Garmisch-Partenkirchen, Germany
Filed Mar. 25, 1959, Ser. No. 801,862
Claims priority, application Germany Mar. 31, 1958
4 Claims. (Cl. 280—11.35)



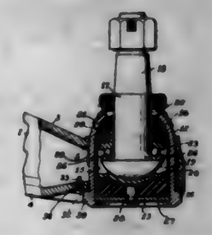
1. A cable holder for ski fastening cables having a selected diameter comprising, in combination, an elongated base plate having a top edge and a bottom edge and being adapted to be fixedly attached to a side face of a ski in a direction substantially parallel to longitudinal edges of said side face; a guide arch integral with said base plate and having a guide portion projecting laterally from said top edge of said base plate and a hook portion projecting downwardly from said guide portion spaced from said base plate toward said bottom edge thereof, said hook portion having a free edge extending forwardly and upwardly inclined under an acute angle to said direction; and an elongated holding projection located beneath said free edge and projecting substantially parallel to said free edge from said base plate integral therewith at a distance from said free edge substantially equal to said diameter of said cable, said holding projection having an upper end curved away from said free edge.

2,977,130
CONVERTIBLE SNOWPLOW AND WHEELED CART
Joseph R. Jordan, 2645 E. 28th, Kansas City, Mo.
Filed July 14, 1959, Ser. No. 826,976
7 Claims. (Cl. 280—47.18)



1. A convertible cart comprising a one-piece generally L-shaped platform of rigid sheet material with the short leg of the platform being curved, an axle supported transversely at the outside of the apex of the platform, a wheel on each end of the axle, a handle detachably connected to the platform and extending selectively from the end edges thereof with the device forming a two wheeled hand cart when the handle extends from the free edge of the elongated leg of the platform and forming a snowplow when the handle extends from the free edge of the short leg of the platform, a generally U-shaped bracket supporting said axle from the platform, the axle being supported from the legs of the U-shaped bracket, the bight portion of the U-shaped bracket being secured to the apex of the platform by three bolts whereby the two outer bolts may be removed and the axle and support bracket pivoted about the center bolt, said handle being mounted on the center bolt for orientating the handle selectively under the short and long leg of the platform.

2,977,131
BALL JOINT CONNECTING MEANS
Milton A. Moskovitz, Richmond Heights, Mo., and John E. Collier, Highland Park, Mich.; said Collier assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware, and said Moskovitz assignor of one-half to Harry Frankel, St. Louis, Mo.
Continuation of application Ser. No. 408,777, Feb. 8, 1954. This application Aug. 21, 1957, Ser. No. 679,805
13 Claims. (Cl. 280—96.2)



4. In a vehicle, first and second eye-equipped members, and a preassembled ball and socket cartridge unit for interconnecting said members comprising a hollow casing and a ball stud assembly; said casing having a wrench engaging head portion at one end thereof too large to fit through the eye in said one member, an externally threaded central portion threadable in the eye in said first member, and a portion at the other end thereof the exterior of which converges from the size of said central portion to a smaller size at the end of said casing most remote from said one end, said one end of said casing serving to prevent said cartridge unit from being pulled through the eye of said first member, said other end of said casing fitting through the eye in said one member during the assembly of said preassembled cartridge unit to said first member and extending beyond the eye and on the opposite side of said first member from said one end of said casing when said cartridge unit is assembled to said first member, said hollow casing having an opening through said other end and having an interior surface which converges towards and to said opening; said ball stud assembly being tiltable and rotatable in said casing and including a ball portion within said casing and a shank projecting freely through the opening in said casing, the effective center of rotation of the ball lying on the axis of said shank and on the axis of the eye in said one member, said shank having a portion coaxial with the remainder thereof and adapted to fit into and be secured in the eye of said second member, said second member being too large to fit through the eye on said one member, said cartridge unit being threadable into the eye in said one member and removable therefrom for replacement as a preassembled unit, said unit serving to connect said first and second members in tiltable and rotatable relation and coacting therewith to prevent dropping out or being pulled through the eye of said first member.

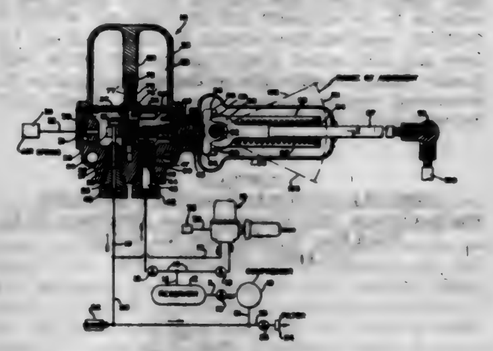
2,977,132
FLAT BAR TORSION SPRING SUSPENSION ASSEMBLY FOR TRAILERS
Frank Raymond Bainbridge, 1344 N. 5th St., Springfield, Oreg.
Filed Apr. 19, 1960, Ser. No. 23,310
1 Claim. (Cl. 280—124)



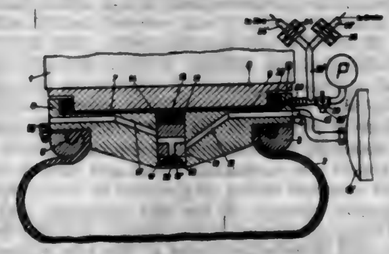
In combination with a trailer frame having a transverse member, a pair of spaced lugs dependingly secured to each end of said transverse member, each pair of lugs having aligned apertures therein, a bearing in each of said apertures, a stub axle rotatably journalled in the bearings of each pair of lugs, a wheel supporting arm secured at one end to each stub axle, an additional stub axle carried by the other end of each arm, a wheel carried by each additional stub axle, the end of each of said first-mentioned stub axles extending interiorly toward the center of said transverse member beyond the innermost of its associated lugs, an adapter carried by each inwardly extending end, each said adapter comprising a cylindrical member having a bore in one end and a transverse normally horizontal slot in the other end, the extending end of a first-mentioned stub axle extending in each bore, crossed bolts extending through aligned bores in each adapter and its associated extending end securing said end in said bore, a relatively flat normally horizontal torsion bar having one end seating in each slot, said one end of each said torsion bar having a slot therein, bores in each said adapter perpendicular to said slot in said adapter and aligned with said slot in said one end of said torsion bar, a clamping bolt extending through said last-mentioned bores and said slots in said adapter and said one end of said torsion bar clampingly to hold said one end of said torsion bar in said slot in said adapter, an inverted T-shaped lug centrally positioned in depending relation on said transverse member, each flange of the head of said T-shaped lug having a pair of spaced bolt holes therein, the other end of each torsion bar having a bolt hole therein aligned with a bolt hole in the head of said T-shaped lug, said other end of each torsion bar terminating beneath the head of said T-shaped lug, the ends of said torsion bars being in abutting relation, a clamping plate having bolt holes therein aligned with the bolt holes in the head of said T-shaped member, and said torsion bar, and bolts extending through the aligned bolt holes clampingly and releasably securing said other ends of said torsion bars to said T-shaped lug.

2,977,133
AIR SUSPENSION SYSTEM AND LEVELLING VALVE FOR MOTOR VEHICLES
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Mar. 10, 1958, Ser. No. 720,153
18 Claims. (Cl. 280—124)

1. A vehicle air spring leveling system comprising an air spring, a valve mechanism having a control chamber separate from and communicating with said air spring, said mechanism being provided with an exhaust valve for exhausting pressure from said control chamber, and being provided with an inlet valve connected between said control chamber and a source of pressure and operable for admitting air pressure into said control chamber, a control device having a portion in said control chamber normally disengaged from said valves, said control device having a portion projecting externally of said valve mechanism and having means for connecting it with the running gear of the vehicle, said control device being operable to tend to engage it with said inlet valve upon movement of said control device incident to relative upward movement of the vehicle running gear and being operable to tend to open said exhaust valve upon relative downward movement of the running gear, and pressure responsive means subject to variations in pressure in said control chamber for momentarily preventing said control device from opening either of said valves.



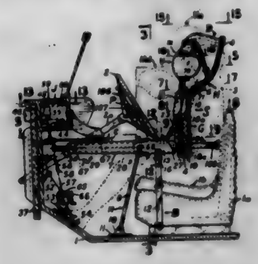
2,977,134
DEVICE FOR CONTROLLING THE AIR IN AIR SPRINGS, ESPECIALLY FOR MOTOR VEHICLES
Jürgen Helling, Essen-Heidhausen, Germany, assignor to Fried. Krupp Mortoren- und Kraftwagenfabriken G.m.b.H., Essen, Germany
Filed Sept. 11, 1958, Ser. No. 760,487
Claims priority, application Germany Sept. 18, 1957
21 Claims. (Cl. 280—124)



1. In an air spring arrangement, especially for motor vehicles: a bellows adapted to be charged with air, a closure member mounted on and closing the upper end of said bellows, said closure member comprising a cylinder having a first passage leading from said cylinder into the interior of said bellows, a piston reciprocably mounted in said cylinder and having first effective surface means adapted to be acted upon by air pressure conveyed from said bellows through said first passage and also having second effective surface means opposite said first effective surface means, said closure member being provided with first conduit means arranged for connection with a compressed air storage chamber and leading into said cylinder, said closure member also being provided with second conduit means leading from said cylinder into the atmosphere, a holding member adapted to be connected to the chassis of a vehicle and confining with said

closure member a liquid receiving chamber, and a second passage leading from said cylinder into said liquid receiving chamber for conveying liquid pressure from said last mentioned chamber to said second effective piston surface means, said piston including passage means and being operable in response to its movement into a first end position to convey compressed air from said first conduit means to said first effective surface means and in response to its movement into its other end position to establish communication between the interior of said bellows and said second conduit means, said piston additionally being movable into an intermediate position for preventing communication of the interior of said cylinder with said first and second conduit means.

2,977,135
VEHICLE OCCUPANT SAFETY BARRIER
Phillip Graham, 2825 Glenmore Ave., Pittsburgh 16, Pa.
Filed May 31, 1957, Ser. No. 662,770
15 Claims. (Cl. 280—150)



1. In a conveyance having a seat for an occupant, in combination, a conveyance steering control, a rigid torso shield interposed in spaced relationship between said steering control and said occupant, support means mounted in said conveyance for supporting said torso shield in substantially vertical position, said support means being yieldable in a forward direction of said conveyance in response to the momentum thrust of said occupant against said torso shield due to a high degree of deceleration of said conveyance, a rigid buffer plate overlying at least a portion of said steering control, said plate being mounted on said steering control, said plate acting as a buffer during a collision to blunt the rigid top portion of said steering control to increase the bearing area between said torso shield and said steering control, to thus prevent piercing of the said torso shield, yieldable force absorbing and rebound preventing means to gradually absorb said momentum thrust and thereby cushion the said occupant during deceleration of said conveyance and prevent rebound of the said occupant, said torso shield being positioned so that when it is thrust forward by the said momentum thrust of the said occupant, it harnesses said momentum thrust to act as a battering ram which engages and pushes said steering control out of its path and thereby lengthens said path to allow said occupant to be decelerated more gradually and thus more safely.

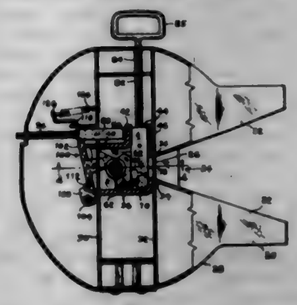
2,977,136
FENDER SHIELD STRUCTURE
George W. Schatzman, Detroit, Mich., assignor to Hendrie Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Nov. 13, 1957, Ser. No. 696,272
3 Claims. (Cl. 280—153)

1. In combination in a fender shield construction, a fender shield panel having upper and lower marginal flanges with the lower flange projecting inwardly and the upper flange projecting upwardly away from the fender shield panel, a latch structure on the inner side of the fender shield including a bracket strut member with a head portion including a lug projecting through the upper margin of the fender shield panel to the outer side thereof spaced slightly outwardly from said upper flange, said upper flange having a sealing gasket strip thereon and



provided with a leg extending into the space between said upper flange and said lug, and a molding strip secured to the upper margin of the fender shield and having a downturned flange retainingly engaging said sealing gasket strip inwardly relative to said lug and the molding strip concealing the lug.

2,977,137
FIFTH WHEEL
Nolan R. Durham, 5289 Ormond Road, Dayton, Ohio, assignor of one-half to Robert H. Hummert, Dayton, Ohio
Filed Jan. 25, 1960, Ser. No. 4,523
2 Claims. (Cl. 280—434)

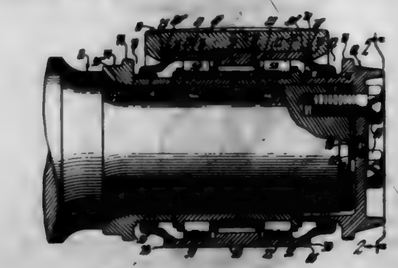


1. A fifth wheel mechanism for coupling a tractor and a trailer comprising: a frame adapted to be mounted on the tractor, a fixed jaw mounted on said frame, a floating jaw, a locking bar slidably mounted on said frame for locking the floating jaw against the fixed jaw, said floating jaw being connected wtih the locking bar for movement therewith, biasing means urging said locking bar into a locking position in which the fixed jaw and the floating jaw encircle a king pin mounted on a trailer and the locking bar abuts the floating jaw. detent means preventing movement of said locking bar into said locking position, said detent means including a detent arm provided with a vertical abutment surface, and trip mechanism actuated by a king pin upon engaging the fixed jaw for releasing said detent means from engagement with said bar, said trip mechanism including a lever engaging said surface to move the detent arm away from engagement with the bar, and a cam provided in the path of said lever for removing the lever from the abutment surface, thereby releasing said detent arm from said trip mechanism.

2,977,138
FLEXIBLE SEAL
Richard J. Brittain, Jr., Berkeley Heights, N.J., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 12, 1957, Ser. No. 652,487
4 Claims. (Cl. 286—11)

1. A flexible lubricant seal comprising an annular U-shaped member having a pair of coaxially disposed

divergent portions, said portions being radially spaced from each other throughout most of their lengths, said member including a portion joining a pair of adjacent ends of said coaxially disposed portions, an annular reinforcing element formed within the outer radially spaced portion, the radially inner surface of said inner radially spaced



portion being serrated throughout its length, and providing a passage in the end joining portion of said member for communicating the space between said coaxial portions to the exterior of the member, said passage relieving excessive build-up of lubricant pressure against the inner side of the seal.

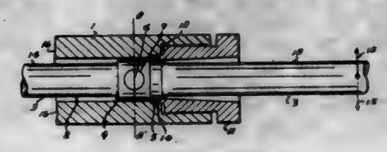
2,977,139
SEAL
George H. Primeau, Grosse Pointe Farms, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 7, 1957, Ser. No. 688,510
3 Claims. (Cl. 286—11.16)



1. In combination with concentric relatively rotatable parts including an inner cylindrical shaft and an outer annular support having an inner cylindrical surface forming a seal cavity with said shaft, a seal in said cavity comprising an annular one-piece sealing element having an intermediate portion extending between said parts and radially spaced inner and outer sealing flanges extending axially in opposite directions from said intermediate portion and adjacent said shaft and cylindrical surface, respectively, an annular constrictive spring surrounding the inner of said flanges and retaining it in movable sealing engagement with said shaft, and a retaining ring within said outer flange having expansible radially extending flat and touching helical coils anchoring said outer flange to said inner surface whereby said springs are sealingly separated from each other.

2,977,140
SEAL FOR AGITATORS IN PRESSURE VESSELS
Hugo H. Buchter, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed June 14, 1957, Ser. No. 665,783
2 Claims. (Cl. 286—15)

1. A seal for an oscillatory lever comprising a housing having an abutment in the interior thereof, an oscillatable lever extending through said housing to an outboard end, fulcrum means comprising a pin extending through the said oscillatable lever, the fulcrum means being positioned in bearing means within said housing so as to permit oscillation of said lever, the said lever having an enlarged integral section around the fulcrum means, which enlarged section has a necked-down portion of concave surface, reducing to a cylindrical surface of smaller diameter than the aforesaid enlarged integral section, the said cylindrical surface being located on the outboard side of said lever and providing a sealing surface, resilient sealing means of normally circular cross



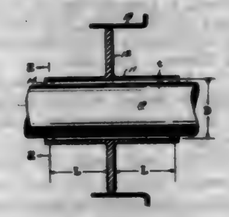
section, being adapted and arranged to contact the aforesaid cylindrical sealing surface adjacent to the said fulcrum and also to contact the said abutment in the interior of the said housing to form a pressure tight seal, and securing means confining the said resilient sealing means against the housing at the necked-down portion of the outboard end of the said lever, the securing means having an internal opening sufficiently large so as to permit free oscillation of the said lever therein.

2,977,141
CONNECTOR FOR WINDSHIELD WIPER BLADE
Francis M. Ryck, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 24, 1956, Ser. No. 611,435
4 Claims. (Cl. 287—20)



1. A support, a connector carried by said support, said connector including an inverted channel member having an open end, and a latch member pivotally mounted on said channel member having a bifurcated portion and a channelled portion, said latch member detachably securing an entering part in the open end of said channel member and preventing relative tilting movement between said connector and said entering part.

2,977,142
SUPPORTING MEANS TO MAINTAIN CONCENTRICITY BETWEEN TWO MEMBERS
Joseph Savage Alford, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1955, Ser. No. 541,188
5 Claims. (Cl. 287—52)



1. A support structure to maintain concentricity during differential expansion between two members of dif-

ferent thermal masses comprising: a first member; a second member concentric with the first member; a sleeve surrounding and spaced from the first member, said sleeve being secured to the second member and extending laterally therefrom; peripherally spaced pads formed on the inner surface of the sleeve at points laterally removed from the second member, said pads being shrink fitted to the first member to secure the sleeve to the first member and form a driving connection therebetween, the portions of the sleeve wall between the pads being sufficiently thin relative to the sleeve inner diameter to distort under the stress of differential expansion between the sleeve and the first member, and the length of the sleeve between the pads and the second member being sufficiently long that the portion of the sleeve adjacent the secondary member remains undistorted.

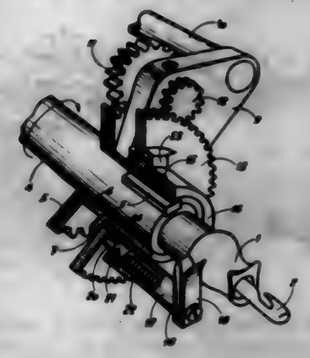
2,977,143
OIL SEAL WITH FILAMENTARY LIP
John Trismonti, Chicago Heights, Ill., assignor, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 24, 1957, Ser. No. 692,086
1 Claim. (Cl. 288—17)



An oil sealing member for making rotative sealing engagement with a rotatable shaft, comprising a body of elastomer material having an arcuate pliant free termination sealing lip of reduced axial section, said section being progressively reduced toward the lip free termination and having opposite lateral faces of unequal taper, and a fibrous string carried at and arcuately along the termination of said lip in a position to be next to the shaft, said string being of a diameter narrow axially of the member and having its fibers running generally in the direction of arcuation of the lip, said string diameter being substantially the same dimension as the axial width of the lip termination, said string carrying a rubberized agent bonding it to the lip, whereby said string acts as a relatively axially narrow oil carrying wick for the lip both to effect an oil film between the lip and the shaft and to uniformly lubricate the lip in relative rotative engagement with the shaft.

2,977,144
APPARATUS FOR TYING ELASTIC THREADS
Walter Gegenschatz, Uster, Switzerland, and Martin Buchmann, Manchester, England, assignors to Zellweger A.G., Apparate- und Maschinenfabriken Uster, Uster, Switzerland, a corporation of Switzerland
Filed June 30, 1958, Ser. No. 745,717
Claims priority, application Switzerland July 6, 1957
2 Claims. (Cl. 289—12)

1. In a device for knotting together the ends of a pair of threads including a sleeve around which said thread ends are looped and a reciprocating, retractable hook within said sleeve for drawing the thread ends through the loop and forming said knot, the combination of thread gripping means mouted on and integral with a circumferential collar rotatably mounted on said sleeve, said collar being provided with circumferential coaxial drive means producing rotation of said collar about said sleeve whereby thread ends gripped thereby are looped about said sleeve, said thread gripping means on said collar comprising a fixed jaw and a movable jaw carried on a laterally displaceable spring-pressed shaft, and means including a rotating cam in contact with said shaft operating in timed relationship to the reciprocating movement of said hook for permitting said thread gripping means to remain in spring-pressed closed thread gripping position during said knotting operation and for opening said thread gripping means at the completion of said knotting operation.

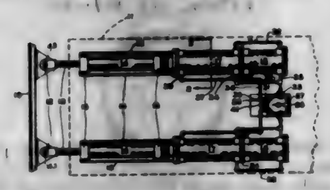


2,977,145
SEAL CONSTRUCTION HAVING PLURAL FEMALE ELEMENTS
Arnold S. Rifkin, % A. Rifkin & Co., 39 E. Northampton St., Wilkes-Barre, Pa.
Filed Sept. 19, 1958, Ser. No. 762,088
10 Claims. (Cl. 292—321)



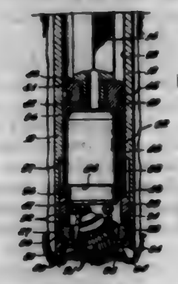
1. A seal construction integrally fabricated of resilient yieldable material and comprising a pair of receiver elements each having a central through opening and connected together for swinging movement into and out of an aligned relation with their openings in substantial registry, a single internal ratchet tooth in the opening of each receiver element arranged in alignment with and facing the same direction as the internal ratchet tooth of the other receiver element when said receiver elements are in said aligned relation, a flexible elongate element having one end fixed to one of said receiver elements and its other end freely movable relative to said receiver elements, and a row of external ratchet teeth on said elongate element and configured for interlocking engagement with said internal teeth, said receiver elements and internal and external teeth and elongate element being proportioned so that the free end of said elongate element is snugly insertable through the registering openings of said aligned receiver elements with said external and internal teeth riding over each other and snapping into interlocking non-withdrawable intervengagement.

2,977,146
PNEUMATIC SHOCK ABSORBER BUMPER FOR MOTOR VEHICLES
William D. Edwards, 2630 Shelby Drive, Whitehaven, Tenn., and Burton H. Johnson, Westview Land Co., P.O. Box 135, Memphis, Tenn.
Filed July 23, 1956, Ser. No. 599,476
3 Claims. (Cl. 293—60)



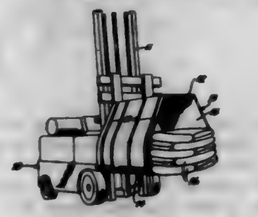
1. In a bumper assembly, a bumper bar, a first shaft including a solid section attached to said bumper bar and a hollow tubing section, a shaft housing in which said shaft is slidable in an axial direction, first and second pneumatic cylinders mounted end to end coaxially with said first shaft, said first cylinder being appreciably longer than said second cylinder, said cylinders having a common wall with an opening therethrough coaxial with said first shaft, a first piston within said first cylinder attached to the end of the hollow tubing section of said first shaft, said piston having an opening therethrough coaxial with said first shaft, a second shaft telescoped within the hollow tubing section of said first shaft and slidable through the openings in said first piston and in the common wall of said first and second cylinders, and a second piston within said second cylinder attached to the rear end of said second shaft, the front end of said second shaft being spaced from the solid section of the first shaft when both shafts are in their forwardly extended positions a distance equal to approximately the difference between the total lengths of travel of the first and second pistons, said second shaft being engaged after a movement of said first shaft from its extended position through said spacing distance toward said second cylinder by the solid section of said first shaft to move said second piston.

2,977,147
WELL FISHING TOOL
Alexander T. Cooper, 2775 Baltic Ave., Long Beach, Calif.
Filed Oct. 1, 1957, Ser. No. 687,546
1 Claim. (Cl. 294—65.5)



In a magnetic well fishing tool having a chamber adjacent its open end, the provision of: guiding means secured on the open end of said tool, said means having a central opening and downwardly, radially, inwardly curved, circumferential passageway surrounding said central opening; a plurality of vertical, circumferentially spaced bendable fingers slidably mounted in said chamber, the inner and upper ends of said fingers being connected to a contact ring slidable in said chamber with the lower free end portions normally projecting into and resting in said curved passageway; a magnet slidably and floatably mounted in said chamber and within said fingers and normally resting on said guiding means for retention within said chamber, said magnet having a bottom face normally extending into said central opening of the guiding means and being in proximity to the open end of said tool; and a hollow ram means slidably and releasably positioned in said chamber, including a downwardly extending, hollow skirt having a lower end adapted to engage the contact ring and enclose the magnet, said ram and skirt being movable downwardly around said magnet to move said contact ring to force the bendable fingers through said passageway and to permit said magnet to move within said ram to hold objects enclosed by the bendable fingers.

2,977,148
DISPOSABLE PALLET
Barton H. Ford, Omaha, Nebr., assignor, by mesne assignments, of one-half to International Paper Company, New York, N.Y., a corporation of New York, and one-half to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed July 11, 1957, Ser. No. 671,322
2 Claims. (Cl. 294—74)



1. A disposable pallet for use with a fork lift truck, comprising a rectangular flexible panel constructed of corrugated paperboard, the flutes of said panel extending transversely of the length of said rectangular panel, a plurality of resilient metal reinforcing straps secured to one side of said panel in spaced-apart relation and parallel to the panel length, the ends of each strap being free of securement to said panel to provide free ends interconnectable to arrange each strap in a hoop-like formation, and means on each strap for securing the ends thereof together independently of the remaining straps, the said flutes being effective to maintain said straps in spaced relation even when said panel is folded on itself about a load but being ineffective to prevent the panel form conforming to the load.

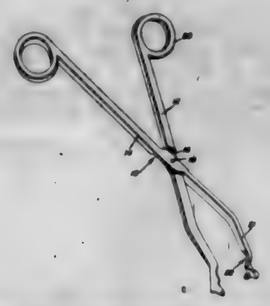
2,977,149
AIRCRAFT MECHANISM FOR HOLDING AND EJECTING A STORE
George M. Burton, Venice, Calif., assignor to Pacific Aviation Corporation, Los Angeles, Calif., a corporation
Filed Sept. 30, 1955, Ser. No. 537,745
16 Claims. (Cl. 294—83)



1. In an apparatus for mounting a jettisonable store on an aircraft and for releasing the store with ejective force, the combination of: a forward suspension means and an aft suspension means both unitary with said store;

a forward engagement means and an aft engagement means on said aircraft operable to releasably engage said forward and aft suspension means respectively; a forward fluid pressure-actuated ejector and an aft fluid pressure-actuated ejector to exert ejective force against said store at forward and aft points respectively to thrust the store away from the aicraft; means to create actuating fluid pressure in both said ejectors; and means responsive to the fluid pressure in both said ejectors to release both of said engagement means only when both of the ejectors operate.

2,977,150
TOOL FOR HANDLING STERILE ARTICLES
John M. Thomas, 432 Gowen St., Shamokin, Pa.
Filed May 2, 1957, Ser. No. 656,539
1 Claim. (Cl. 294—118)



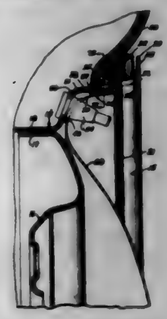
A tool for handling sterile articles comprising a pair of crossed elongated members, means pivotally interconnecting said members at their point of crossing, one end of each member having a loop handle thereon for receiving the thumb and one finger of a person's hand thereby enabling said members to be moved about the pivotal interconnecting means, the other end of each member having an angulated end portion, each angulated end portion having a longitudinal axis disposed in acute angular relation to an extension of the longitudinal axis of the elongated member thereby enabling the angulated end portions to be disposed vertically in relation to a surface supporting sterile articles and the remainder of the elongated members disposed in acute angular relation thereto, and gripping jaw means on each of said angulated end portions, said jaw means facing each other for gripping engagement with sterile articles, each of said jaw means including a plurality of longitudinally spaced concave recesses disposed directly adjacent each other, the recess nearest said other end of the elongated member being smallest and having the smallest arcuate surface, the recess next adjacent the smallest recess being larger and having a larger arcuate surface, the ends of the elongated member having the smallest recesses therein including lateral projections extending perpendicularly to the elongated members and in parallel relation to each other, each projection including an inner surface, said inner surface including a recess thereon, said recess terminating below the upper edge of the projection thus forming a lip adjacent the top of the projection for engagement with the top of the body of a syringe needle, the rear of the recess in the projection terminating substantially at the rear end of the projection thereby defining a shoulder for reception in the groove of a syringe needle, said shoulder having an inwardly curved lower edge portion defining the lower portion of the larger recess, the smallest recess being defined by a vertically disposed concave recess in the lowermost edge portion of the shoulder, the end of the inwardly curved lower edge portion of the shoulder defining a cam urging articles having a radius greater than the height of the smallest recess upwardly into the larger recess upon inward movement of the angulated end portions of the elongated members.

2,977,151
WHEEL FLANGE PROTECTORS
Frank W. Ford, Jr., 360 1st Ave., New York 10, N.Y.
Filed June 6, 1956, Ser. No. 589,819
1 Claim. (Cl. 301—37)



In a tire and wheel assembly, an annular mounting flange on the wheel adjacent to and extending outwardly from the outer sidewall of the tire, a thin flexible annular flap molded integrally with the outer sidewall of the tire and curved to conform to and overlay the entire surface of the flange oriented toward the outer sidewall, and the exposed surface of the flap facing the outer sidewall to protect the flange from superficial damage when the outer sidewall is scrubbed.

2,977,152
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Sept. 15, 1959, Ser. No. 840,500
19 Claims. (Cl. 301—37)



1. In a wheel structure including a wheel having rim and body parts with one of the parts having a generally axially extending flange provided with circumferentially spaced radially facing bumps, a cover member for overlying disposition upon the wheel having a generally axially extending resilient cover portion, said axially extending resilient cover portion provided with circumferentially spaced seats opening outwardly of the cover member each cooperable with one of said bumps, each of said seats being bounded generally at its periphery by a rib offset outwardly of the cover member to engage the periphery of the associated bump to insure corotation and to space the axially extending resilient cover portion from the wheel.

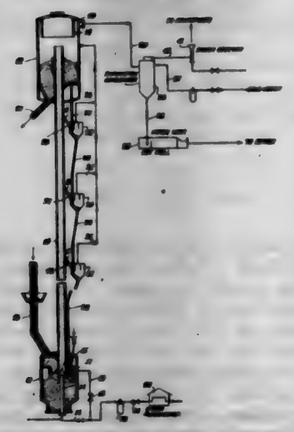
2,977,153
TIRE RIM
Homer L. Mueller, Rocky River, Ohio, assignor to American Machine and Foundry Company, a corporation of New Jersey
Filed Dec. 20, 1956, Ser. No. 629,660
1 Claim. (Cl. 301—97)

A sheet metal rim for a bicycle spoke wheel for an inflatable tubeless tire, said rim having a concave trough section, a pair of annular bead seats, each of said bead seats being inclined radially outwardly relative to the rim axis and having an inner and an outer edge, the inner edge of each of said bead seats being integral with one side of said trough section, respectively, parallel bead engaging flanges projecting radially from the outer edges of said bead seats and away from the hub of said spoke wheel to provide bead engaging flanges for an inflatable



tubeless tire mounted on said rim, an extension of each said flange being doubled back on itself into contiguous contact with the outside of said flange bead seats and the sides of said trough to strengthen the same, and nipple supporting flanges formed from said doubled back metal and extending axially outwardly from the sides of said trough to provide an external nipple support for the spokes of a spoke wheel.

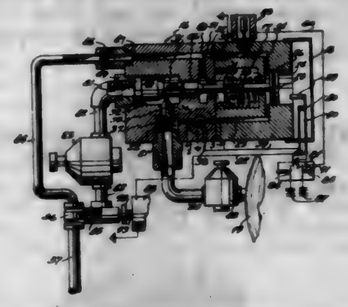
2,977,154
PNEUMATIC TRANSFER OF GRANULAR CONTACT MATERIAL
Jean M. Bourgeat, Westville, and Stephen Bonino, Jr., Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Apr. 8, 1955, Ser. No. 500,200
6 Claims. (Cl. 302—53)



1. An improved method of lifting granular solid material through an upwardly extending laterally-confined lift passage which comprises contacting granular material with a lift gas, so as to effect suspension and transfer of the particles into the passage, withdrawing gas from the passage in a lateral and downward direction intermediate the ends of the passage, so as to control the upward velocity of the particles without withdrawing from the passage any substantial amount of the granular material, and discharging the remaining gas and granular material from the top of the passage into a receiving zone, at a level located above the level at which gas is withdrawn from the passage.

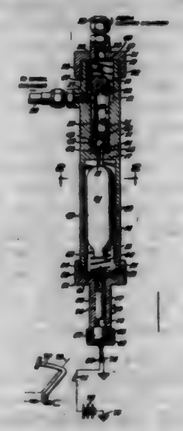
2,977,155
AIR BRAKE SAFETY CONTROL FOR VEHICLES
Roy Gay Patterson, 2604 May St., Fort Worth, Tex.
Filed Aug. 15, 1956, Ser. No. 604,173
8 Claims. (Cl. 303—2)

1. In an emergency air brake system for motor vehicles having a common multi-axle braking system, an independent auxiliary pressure tank connected into said system, a valve unit controlling air flow from said pressure tank, an electrical circuit actuated by said valve unit for controlling the same, electrical means for actu-



ating said valve unit, and a transfer valve connected to each wheel unit of said vehicle operated by said valve unit whereby to control air flow to the brake unit thereof.

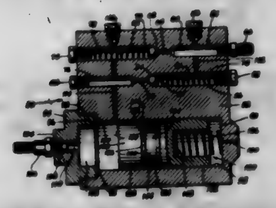
2,977,156
EMERGENCY BRAKE CONTROL
John Di Gioia, 708 N. Maclay St., San Fernando, Calif.
Filed June 27, 1957, Ser. No. 668,549
4 Claims. (Cl. 303—2)



1. An emergency brake control comprising: a body having a pair of cylindrical chambers and a passage communicating between said chambers, means defining an axial port in said body communicating between one of said chambers and the exterior of said body and adapted to be connected to a pneumatic master cylinder, means defining a radial port in said body and communicating between said one of said chambers and the exterior of said body and adapted to be connected to a wheel cylinder, a valve means slidably disposed in said one of said chambers for axial movement therein and including a body having a closed end, transverse openings, an open end and an axial bore communicating between said transverse openings and said open end, a valve seat disposed in said valve body adjacent said open end and having a spring urged valve element normally seated thereon, means for storing compressed gas in the other of said chambers, means for releasing said gas from said storing means, and electrically operated actuating means for selectively actuating said releasing means, whereby said gas enters said other of said chambers, through said passage and into said one of said chambers, whereby said radial port is in communication with said axial port when said valve

means is in an inactive position, said valve means being adapted to be extended by said compressed gas into a position wherein said axial port is closed off by said closed end of said valve means, said transverse openings are in register with said radial port, and said spring biased valve element is unseated after said closed end closes said axial port for communication of the compressed gas with said radial port.

2,977,157
SAFETY MEANS IN AIR BRAKE EQUIPMENT
Samuel M. Rich, 15 Aberdeen Place, University City 5, Mo.
Filed Jan. 6, 1958, Ser. No. 707,269
2 Claims. (Cl. 303—84)



1. In tractor-trailer air brake equipment of the type described including terminal lines for supplying air pressure simultaneously to each of the brake operating mechanisms, means adapted to insure the operability of the other brake mechanisms even though the terminal line leading to any one of the included brake mechanisms has been broken, said means comprising a shutoff valve unit interpolated in each terminal line at a selected point remote from the brake mechanism and including in combination: a valve housing; means providing for the passage of air pressure through said housing; a cylindrical bore in the housing, said bore being in communication with said means providing for the passage of air pressure through the housing; a piston assembly reciprocable in said bore, said assembly including a piston having a head portion, a body portion, and a connecting neck portion, the diameter of said head portion being slightly smaller than that of said bore and the diameter of the neck portion being smaller than that of the head portion; a circular shoulder projecting from one end face of the piston head portion, said neck portion merging into said shoulder; a resilient ring member including a sleeve portion encircling said neck portion and an outwardly flared annular flange portion integral therewith, the annular flange portion being adapted to engage the inner periphery of the cylindrical bore to form therewith and with the sleeve portion an annular V-shaped cavity in the ring member; an annular gasket having an internal diameter smaller than that of the cylindrical bore mounted in the housing at the outlet end of said bore; and a compression spring normally biasing the piston assembly toward said outlet end of the bore and into sealing engagement against said gasket.

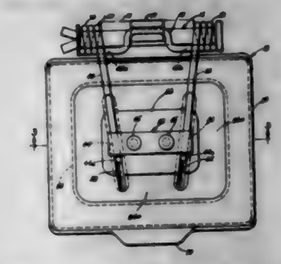
2,977,158
TRACTION DEVICE
Glenn R. Ibbings, 1004 E. Milwaukee Ave., Storm Lake, Iowa
Filed Mar. 28, 1960, Ser. No. 18,139
14 Claims. (Cl. 305—35)

1. A traction device for dual wheels having spaced pneumatic tires with annular treads and respective adjacent sidewalls, said traction device comprising an elongated resilient belt having joinable ends for forming an endless belt adapted for frictional engagement with said adjacent sidewalls so as to fill in the spacing intermediate said tires, means for securing said joinable ends together in the same plane, said belt presenting an outer surface on the same plane as said treads, a plurality of elongated traction bars removably secured to said belt in longitudinal spaced relationship thereon and transversely arranged



thereon so as to lie on and transversely of said belt and said treads, and means to prevent twisting or turning of said traction bars relative to the periphery of said treads.

2,977,159
JOURNAL BOX LID ASSEMBLY
James A. Shafer, East Cleveland, and Hans B. Weber, Cleveland, Ohio, assignors to National Malleable and Steel Castings Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 31, 1956, Ser. No. 631,567
12 Claims. (Cl. 308—47)

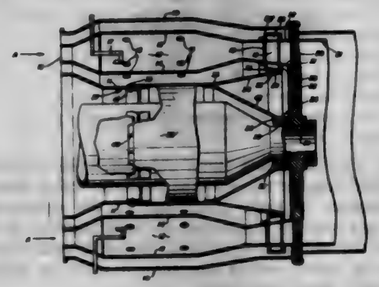


1. In a lid assembly for an open-faced railway journal box, a lid member, a torsion spring member having a central portion comprising spaced coils positioned adjacent the upper end of said member for encircling an associated hinge pin of a journal box for connecting said assembly to the box, said coils having downwardly extending legs for direct wedging engagement with said lid member to hold the latter in sealing relationship against the open face of the box, means for securing said legs to said lid member to resist rotation of the lid relative to the legs about an axis extending through said means parallel to the axis of the hinge pin, said means comprising a strap member attached centrally of said lid member and extending transversely across said legs for securing said spring and lid members in assembled relationship.

2,977,160
SUPPORT STRUCTURE FOR GAS TURBINE BEARINGS
John Alan Courtney Hyde, Derby, Littleover, England, assignor to Orenda Engines Limited, Malton Village, Ontario, Canada, a corporation
Filed Dec. 22, 1958, Ser. No. 782,000
7 Claims. (Cl. 308—178)

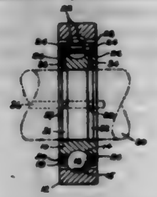
1. Structure for maintaining two annuli in coaxial relationship in a gas turbine engine comprising a first annulus fixed against axial displacement and forming a part of the engine casing, the first annulus carrying a flange which is the frustum of a cone the base of which is defined by the first annulus and the axis of which is

the axis of the first annulus, a conical member having an internal and external surface complementary to the radially outer surface of the flange, the internal surface of the conical member being in contact with the outer frusto-conical surface of the flange and extending axially of the first annulus, means for maintaining the two conical surfaces in contact, means associated with the end



of the conical member remote from the first annulus to maintain the axis of the conical member co-linear with the axis of the first annulus and means on the internal surface of the conical member to support a second annular member constituting a shaft bearing concentrically with the conical member and normal to the axis of the first annular member.

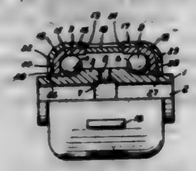
2,977,161
ANTIFRICTION BEARING AND METHOD OF OPERATION
Leland D. Cobb, Forestville, Conn., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 23, 1954, Ser. No. 470,684
11 Claims. (Cl. 308—187)



1. An antifriction bearing comprising a pair of relatively rotatable race rings having raceways therein, rolling elements in the raceways, a separator circumferentially spacing the rolling elements, a pair of cylindrical lands on one of the race rings respectively located at opposite sides of the raceway therein, a pair of laterally projecting cylindrical skirts on the separator each of which is in loosely surrounding relation and engageable with one of said lands, and means providing a plurality of spaced passages through said one race ring and opening through said lands for directing gas under pressure between the lands and the adjacent skirts to antifrictionally support the separator on an annular pocket of gas and out of race ring engagement during bearing operation.

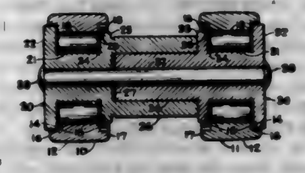
2,977,162
MECHANICAL DEVICE
Theodore J. Brooks, Kalamazoo, Mich., assignor to Pemco Wheel Company, Kalamazoo, Mich., a corporation of Michigan
Filed May 5, 1958, Ser. No. 733,197
2 Claims. (Cl. 308—193)

1. A bearing assembly, comprising: an elongated, cylindrical spindle having a cylindrical, coaxial opening therethrough, said spindle having an annular central portion of enlarged diameter, the opposite axial ends of said central portion defining a pair of coaxial inner races having concave surfaces; means defining a concentric, annular recess in the wall defining said coaxial opening through said spindle, and a plurality of radially disposed lubrication openings communicating with said annular recess and extending through the outer surface of said central portion between said inner races; a substantially cylindrical casing concentrically encircling and radially spaced from said spindle, said casing having radially inwardly extending flanges at the opposite axial ends thereof, said flanges being radially spaced from said spindle and axially spaced inwardly from the adjacent ends thereof; means defining a plurality of circumferentially spaced, elongated and parallel projections extending inwardly from said casing and arranged in circumferential alignment, said projec-



tions having flat end surfaces lying within a pair of spaced, parallel planes perpendicular to the axis of said spindle; a pair of similar annular members coaxially and rigidly held within the opposite ends of said casing and radially spaced from said spindle, each annular member having a substantially cylindrical outer portion having flat radial surfaces respectively abutting said end surfaces and said annular members being snugly held between the radial flanges at one end of said casing and the adjacent ends of said projections, and each annular member having a flat radial portion abutting said radial flanges and encircling said spindle, said cylindrical and radial portions being curved into each other to define concave outer races opposite said inner races; a plurality of bearing balls snugly and rollably disposed between the corresponding inner and outer races whereby the closing of the ends of the casing respectively against said annular members will urge them tightly against the ends of said projections.

2,977,163
ROLLER ASSEMBLY
Richard J. Gales, Morrisville, Pa., assignor to Accurate Bushing Company, Garwood, N.J., a corporation of New Jersey
Filed Sept. 22, 1959, Ser. No. 841,615
2 Claims. (Cl. 308—207)



2. A double roller bearing including a pair of spaced coaxial rollers of uniform diameter each defining the outer race of an anti-friction bearing, an inner race element for each roller, anti-friction bearings between each roller and its inner race element and means for uniting said inner race elements by axial movement of said rollers toward each other, said means including a cylinder formed on one inner race element, a shank formed on the other race element, and a central rivet passing axially through both of said inner race elements, said shank interfitting said cylinder to form a solid intermediate structure spacing said rollers apart.

2,977,164
ROLLER BEARINGS HAVING ROLLER CAGES OF SYNTHETIC MATERIAL
Alfred Witte, Bielefeld, Germany, assignor to Durkoppwerke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Oct. 26, 1959, Ser. No. 848,828
7 Claims. (Cl. 308—217)



1. A roller cage for a roller bearing having roller retaining flanges on one of its race rings comprising a synthetic moulding of a resilient plastic material having a ring portion to engage the edge of a roller retaining flange and axially directed spaced roller separators defining roller pockets, at least some of said separators each having a part extending radially beyond said ring for compression by and enlargement under the flange as the cage is entered axially between the race rings.

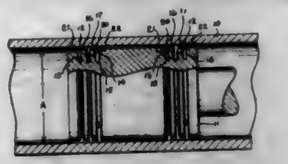
2,977,165
SLUSH PUMP PISTON SNAP RING INSERTION
Wallace F. Olson, Oklahoma City, Okla., assignor to American Iron & Machine Works Company, Inc., Oklahoma City, Okla., a corporation of Delaware
Filed Feb. 16, 1959, Ser. No. 793,600
2 Claims. (Cl. 309—4)



2. In a slush pump piston body, said body having a generally cylindrical hub adapted to receive both a seal ring and an annular end plate, said body having an annular flange therearound adjacent the hub adapted to back up said seal ring when placed on the hub, said hub having an annular groove therearound spaced axially from the flange a distance equal to the axial extent along the hub peripheral surface of said seal ring and end plate, said groove being adapted to receive a snap ring to hold said end plate on said hub with said seal ring held in position between said flange and said end plate; the improvement according to which said hub has a transverse hole therein disposed adjacent said groove and located on the opposite side of said groove from said flange and adapted to receive a pin to hold one end of said snap ring in place in said groove while the remainder of said ring is prised over the end of said hub and driven into the groove.

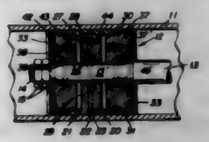
2,977,166
SEALING RINGS
Gray L. Butler, Terryville, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Feb. 9, 1960, Ser. No. 7,644
6 Claims. (Cl. 309—4)

6. A sealing means for use with two axially relatively movable members, one within the other, one of said members having an annular circumferential groove in the wall that faces the other member and providing a base and opposed sidewalls, and a plurality of relatively thin flexible fins formed integrally with the base of said groove and extending outwardly of said grooves to a distance greater than the normal clearance space between said members, said fins being spaced relative to each other and to the sidewalls of said groove and of such



thickness that said fins upon relative axial movement of said one member to said other member being laterally biased relative to each other and to the sidewalls of said groove and so positioned to lend support to each other for the purpose of holding the peripheral edges of said fins in liquid sealing engagement with the adjacent wall of said other member.

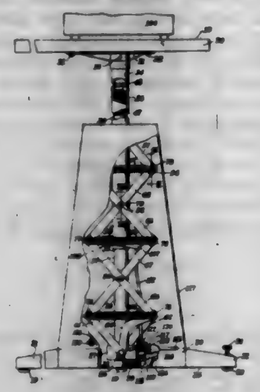
2,977,167
SEAL MEANS
George E. Barnhart, 2228 New York Drive, Altadena, Calif.
Filed May 10, 1957, Ser. No. 658,268
26 Claims. (Cl. 309—33)



22. Means for effecting a seal against a member providing a primary cylindrical surface, comprising a metal seal member possessing elasticity characterized by having an annular thin-walled section terminating in a relatively thin edge at its end, said section providing a cylindrical surface on one side adapted to be juxtaposed with relation to said primary cylindrical surface and a tapered surface on the other side, a relatively stiff seal member engaging member of annular shape having an annular fulcrum portion of limited axial extent in engagement with the tapered surface of said seal member at a region inwardly of the end thereof, and means limiting relative axial movement of said seal member and said seal member engaging member in a direction which would permit the same to separate, said seal member being flexed in the region of its thin-walled section about said fulcrum portion of said seal member engaging member as a result of relative axial movement between said seal member and said seal member engaging member in a direction opposite to said aforementioned direction.

2,977,168
VERTICALLY ADJUSTABLE SAFETY TABLE FOR NEAR-COUNTER-BALANCED SUPPORTING OF INSTRUMENTS
Philip C. Johnson, Cincinnati, Ohio, assignor to F. and F. Koenigkramer Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 3, 1958, Ser. No. 718,720
7 Claims. (Cl. 311—39)

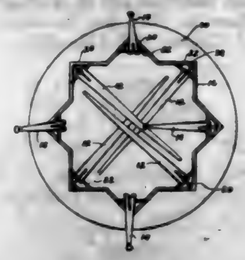
1. A support means comprising a base, a top, first and second telescoping members disposed between said base and top and in co-operating column-forming relation, said first telescoping member being secured to said base, said second telescoping member being secured to said top and being adapted to receive a portion of said first telescoping member, said second telescoping member being tubular and having a longitudinal flat face parallel to its axis, a longitudinal slot in said flat face parallel to the axis of said second telescoping member, an interlocking member secured to said first telescoping member and extending through said slot, a brake block mounted for reciprocation longitudinally of said interlocking member toward and away from said second telescoping member and adapted to co-operate with said flat face to index said second telescoping member to predetermined position of angular rotation relative to said first telescoping member, a brake frame pivotally secured to said brake block, a brake shoe pivotally secured to said brake frame and adapted to engage a portion of the exterior face of said second telescoping member, said brake frame being swingable and biased to advance said brake block and brake shoe into gripping relation to said second telescop-



ing member in such manner that co-operation of said brake shoe with said second telescoping member effects firmer gripping in response to movement of said second telescoping member toward said base, and means for swinging said brake frame to shift said brake shoe away from said second telescoping member and said base to release said brake and allow movement of said second telescoping member toward said base, an elongate, parallelogram linkage having one of its ends secured in pivotally fixed relation to said base and the other of its ends secured in pivotally fixed relation to said second telescoping member, resilient means biasing said parallelogram linkage toward extended condition, whereby said second telescoping member, top, and a predetermined useful load resting thereon, are urged away from said base by forces substantially counterbalancing the forces acting to advance the second telescoping member toward the base.

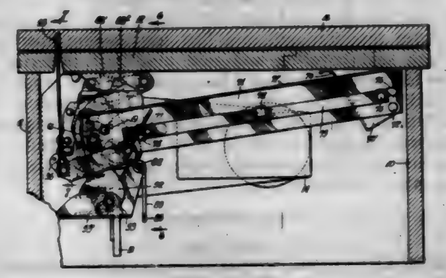
2,977,169
TABLE WITH HIGH AND LOW FOLDING LEGS
Roscoe G. Geller, Owego, N.Y., assignor to Stakmore Co., Inc., Owego, N.Y., a corporation of New York
Filed May 20, 1959, Ser. No. 814,584
6 Claims. (Cl. 311—39)

1. A folding table comprising a top, aprons extending downward from the top, there being sixteen aprons with successive aprons around the table adjacent to one another and combining to form a periphery with the outline of two superimposed squares having their diagonals substantially normal to one another whereby the aprons form eight inside corners spaced at forty-five degrees to one another around a center, a pivot inward from the vertex of each corner, legs connected to the table top by said pivots, latch means for holding the legs in extended positions, means for holding said legs in folded positions, said legs including two sets, one of which sets is long to locate the table top at a height for use as a dining table and the other of which sets is shorter to locate



the table top at a height for use as a cocktail table, the legs of the different sets being located at alternating corners around said periphery.

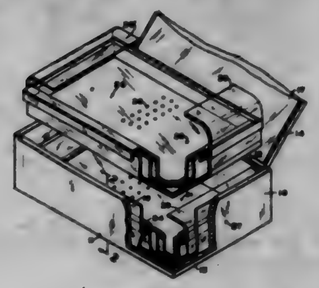
2,977,170
LID-OPERATED ACTUATOR MECHANISM FOR CONTROLLING THE LIFT AND RETURN OF DROP-HEAD MACHINES AND MACHINES INCORPORATING THE SAME
Julius C. Hochman, 891 Park Ave., New York, N.Y.
Filed Apr. 8, 1957, Ser. No. 651,283
38 Claims. (Cl. 312—26)



16. A unit for incorporation in a drop-head machine cabinet of the type equipped with a lid hinged to one lateral edge of the cabinet and limited for movement about the hinge through a straight angle between closed position and extended or open position of the lid; said unit comprising a bracket adapted for mounting within the cabinet, mechanism mounted on the bracket comprising sheet metal cams and links and including a lifting lever adapted for engagement with the base of the drop-head machine to apply thereto a lifting thrust and to release the same by the mere movement of the lid, an actuating lever for applying the machine lifting and releasing impulse to the mechanism, means adapted to pivot the outer end of said lever to the hinged lid, said lever having a rigidly operative connection at its inner end to the mechanism for raising the machine to operative position by the mere opening of the lid and for dropping the machine to depressed position by the mere closing of the lid.

36. A preassembled unit adapted for installation in a drop type cabinet that has a hinged lid, and a front cover flap, said unit comprising a bracket, interconnected driving and driven members including a lifting lever pivoted to said bracket, actuator means adapted for connection to said hinged lid for transmitting a pull to said driving means for moving said lifting lever during one portion of an operating cycle, and for transmitting a push to said driving means for moving said lifting lever during another portion of the cycle, a lifting finger for said front cover flap and means for automatically raising and lowering said lifting finger in timed relation with the movements of said lifting lever.

2,977,171
CIGAR BOX ASSEMBLY
Jack Q. Gleason, 104 Connolly St., College Park, Ga.
Filed June 26, 1957, Ser. No. 668,253
3 Claims. (Cl. 312—31)



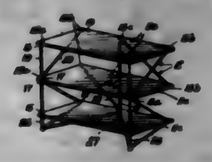
1. A cigar box assembly including a box of relatively absorbent material, a cover for said box, a cellophane lining in said box, there being provided a hole in the end of said box through said cellophane to allow for air circulation, a first tray for said box and being formed of relatively absorbent material, an impervious covering for said first tray, said first tray having light transmitting apertures therethrough, said first tray having apertures through said covering and said absorbent material to allow for ventilation in said box, a second tray supported by said box within said box and providing support for said first tray, said second tray being formed of relatively absorbent material, and a covering for said second tray, said first and second trays being interchangeable with each other within said box.

2,977,172
SELF LEVELING STORING AND DISPENSING APPARATUS
Edward R. McCarten, Port Chester, N.Y., assignor to American Machinery and Foundry Company, a corporation of New York
Filed Apr. 7, 1959, Ser. No. 804,794
7 Claims. (Cl. 312—71)



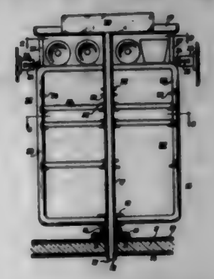
4. In an apparatus of the self leveling type, which is provided with a spring-operated material support, and a housing therefor, a supporting base fixedly secured to the housing and provided with an eccentrically disposed opening, a spring-supporting plate provided with an eccentrically disposed aperture, a guide post centrally secured to said base and adjustably extending through the center of said spring-supporting plate, and a vertically extending guide member engaging with said aperture and said opening for preventing the lateral displacement of said spring-supporting plate.

2,977,173
SHELF ASSEMBLY
John A. Hartmann, 4427½ Walnut St., Kansas City 11, Mo.
Filed Dec. 28, 1956, Ser. No. 631,289
8 Claims. (Cl. 312—257)



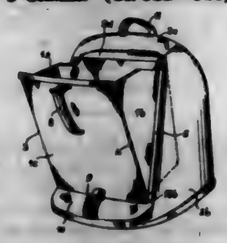
1. A shelf assembly comprising a pair of generally rigid planar shelves, at least three interchangeable support elements for securing said shelves in parallel spaced relation, each of said support elements consisting of a generally rigid body having only three shelf attachment portions which are disposed in spaced positions to define the corners of a right triangular figure, and means securing said attachment portions to said shelves with two of the attachment portions of each of said elements disposed on a line perpendicular to said shelves, said elements being disposed with at least two elements in generally parallel planes and at least one element in a plane at an angle to said parallel planes with the attachment portions of adjacent elements being spaced at least as far apart as the shortest distance between attachment portions of a single element.

2,977,174
ICE-BOXES
Joaquin Gil Vidales and Enrique Gil Vidales, both of 130 San Federico St., Barcelona, Spain
Filed Aug. 17, 1956, Ser. No. 604,721
Claims priority, application Spain May 21, 1956
1 Claim. (Cl. 312—305)



In a refrigerator cabinet having at least a bottom, and two side walls, a fixed refrigerant supporting member adjacent the upper end of the cabinet, a first journal centrally positioned in said refrigerant supporting member, a second journal centrally positioned in said bottom and open at its lower end, aligned with said first journal, a vertical tubular shaft mounted for rotation in said journals, a tube extending through said refrigerant supporting member and communicating with the interior of said tubular shaft to provide a drain from said refrigerant supporting member through the open lower end of said second journal, a pair of vertical rectangular frames disposed at substantially right angles to each other secured at the mid points of their top and bottom horizontal members to points adjacent the top and bottom, respectively, of said shaft for rotation with said shaft, a plurality of unequidistantly spaced pairs of circular supporting collars secured to said shaft, the underside of the top collar of each pair being downwardly and inwardly beveled, elongated L-shaped supporting members carried by each vertical member of each frame, each L-shaped member having a horizontal leg forming a shelf projecting inwardly in alignment with the lower collar of each pair of collars, and a plurality of substantially triangular trays, each having its apex supported horizontally on a lower collar of a pair of collars, the bevel of said upper collars facilitating insertion and removal thereof, the opposite base corner of each tray seating on the horizontal shelf of an L-shaped member, the length of each shelf being sufficient to support adjacent corners of two trays.

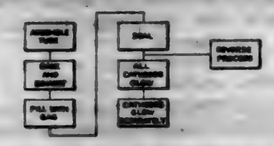
2,977,175
REFUSE CONTAINER
Giovanni Benonio, Turin, Italy, assignor to Carrara & Matta S.p.A., Turin, Italy
Filed Aug. 31, 1956, Ser. No. 607,382
Claims priority, application Italy Sept. 7, 1955
3 Claims. (Cl. 312—328)



1. In a waste receptacle, in combination, a single-piece molded housing for a waste receiver, said housing having a rectangular opening for receiving a waste receiver and having a base portion forming a sill forward of the opening and inclined downwardly in a direction away from the opening, a molded waste receiver normally housed in said housing in a seated position, said housing having a front body portion provided with said opening having a transversely arcuate lower part thereof defining a transversely arcuate lower edge on said opening, the receiver having a front wall transversely arcuate on at least a lower portion thereof extending laterally beyond opposite side walls of the receiver and cooperating with marginal portions of the front body portion of the housing on opposite side edges of said opening in limiting inward movement of the receiver, the lower edges of the laterally extending portions only cooperating with said sill for rockably supporting said receiver when rocked in a direction away from said seated position, means on said receiver for selectively rocking it away from said seated position in a direction opposite from a direction for seating the receiver in position thereby to render the receiver ready to receive waste in a waste-receiving position, said sill having opposite corners next adjacent the housing front body portion disposed adjacent and below the side edges of the rectangular opening, said corners being arcuate in configuration rounded off downwardly in a laterally outward direction, whereby the lower edge of the laterally extending portions of the receiver cooperate with the surface of the sill along limited bearing surfaces.

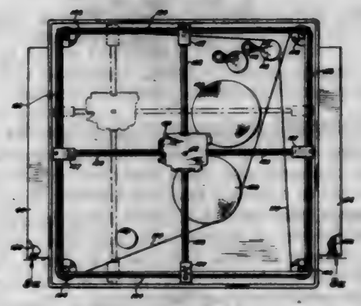
2,977,176
METHOD OF MAKING GASEOUS GLOW TUBES
John H. McCauley, Elizabeth, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 13, 1959, Ser. No. 793,188
7 Claims. (Cl. 316—26)

1. The method of making a gaseous glow tube of the type comprising an envelope containing a gas for sustaining cathode glow, a plurality of cathode electrodes in the form of characters adapted to glow having leads connected to tube pins and an anode electrode, said method comprising the steps of mounting said cathode and anode electrodes in said envelope, filling said envelope with a gas for sustaining cathode glow, causing all of said cathodes to glow at the same time for a period of time until none of said leads and pins glows although said cathodes glow, and then causing said cathodes to glow separately



and consecutively for a period of time until said tube has been substantially completely aged.

2,977,177
AIRCRAFT FLIGHT PATH RECORDING DEVICE
Thomas McLaughlin, New Milford, N.J., Abraham G. Merlin, Cedarhurst, N.Y., Allen W. Bethlahmy, Closter, N.J., and William Bergherr, New York, N.Y., assignors to Loral Electronics Corporation, Bronx, N.Y., a corporation of New York
Filed Mar. 24, 1958, Ser. No. 723,469
19 Claims. (Cl. 346—8)

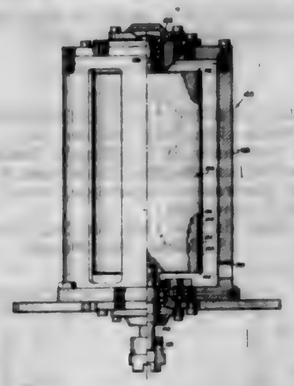


4. A device for plotting the path of motion of an aircraft with respect to the ground comprising: first means including first and second synchros for receiving coordinated electrical servo information, second means including first and second electrical follow motors associated with said first and second synchros, respectively, and third means including a crab element arranged for planar motion and driven by said follow motors; said crab element including indicator means thereon; paper support means disposed adjacent said crab element upon which said indicator means may describe said path of motion, and means for automatically positioning said crab element to a pre-selected initial plotting position; said automatic positioning means including first and second positioning motors, first and second positioning potentiometers controlling, respectively, said first and second positioning motors, and means for interconnecting predetermined points upon said potentiometers to provide voltages for driving said positioning motors, said motors being associated with said potentiometers in such manner that movement of said positioning motor serves to reduce the voltage in said potentiometers which is transmitted to said motors.

2,977,178
COMPUTER MEMORY SECTION IMPROVEMENTS
Albert S. Hook, Palos Verdes Estates, and Hazen Kenneth Goodman and George L. Hutter, Redondo Beach, Calif., assignors, by direct and mesne assignments, to Alwac International Incorporated, a corporation of Panama
Filed Aug. 18, 1953, Ser. No. 375,982
4 Claims. (Cl. 346—74)

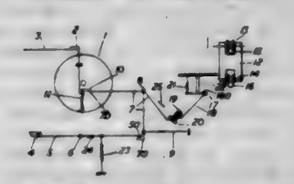
1. A data storage device of the type having a drum mounted for continuous rotation at relatively high rotational operating speeds for use as a memory section in a computer, said device utilizing as an indication of re-

corded data the selective magnetization of discrete portions of a magnetizable substance of sufficiently high coercivity to retain such selective magnetization over extended periods of time, said device comprising: a metallic, rotatable non-magnetic drum structure forming a rigid carrier; a continuous layer of such magnetizable substance applied around the periphery of said drum structure; an electromagnetic head in operative relationship with said magnetizable substance and spaced to pre-



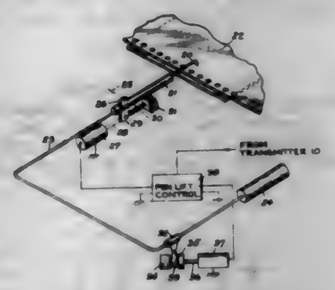
vent rubbing contact therewith; and a layer of a hard, machinable electrical insulating material disposed substantially concentrically about said drum and being sufficiently rigid to maintain said concentricity at said operating speeds, said insulating layer being interposed between said layer of magnetizable substance and the peripheral surface of said drum, and having a thickness sufficient to minimize the effect of circulating currents in said drum structure upon there being a magnetic field applied to a discrete portion of said continuous magnetizable layer.

2,977,179
FACSIMILE APPARATUS
Frederick Percival Mason and Ronald Gilbert Stemp, Croydon, England, assignors to Creed & Company Limited, Croydon, England, a British company
Filed Mar. 20, 1959, Ser. No. 800,878
Claims priority, application Great Britain Apr. 3, 1958
4 Claims. (Cl. 346—138)



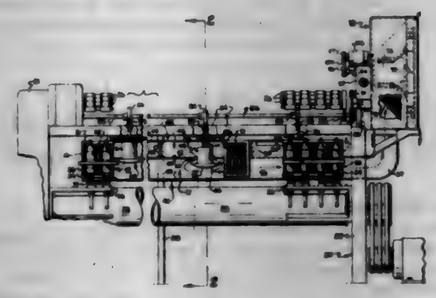
1. Facsimile apparatus comprising a rotatable drum, gripping means mounted on the drum for holding the leading edge of a message sheet during a scanning operation, said gripping means comprising a jaw and spring means urging the jaw towards the axis of the drum to grip the message sheet, a scanning system and means for moving it relative to the drum during a scanning operation, a bar pivotable about an axis parallel to the direction of movement of the scanning system and disposed at an angle to the said axis, roller means movable with said scanning system, said roller means pivoting the bar about the said axis during the movement of the scanning system to an initial position, and means associated with the said bar for moving the jaw against the action of the spring means when the bar is pivoted about the said axis for operating the said gripping means to release the said message sheet.

2,977,180
AUTOMATIC PRIMING DEVICE
Walter J. Zenner, Des Plaines, Ill., assignor to Peter G. S. Mero, Chicago, Ill.
Filed Jan. 8, 1959, Ser. No. 785,743
3 Claims. (Cl. 346—140)



1. In a recording device for a graphic communication system station of the kind including a pen, electrically actuated means for moving said pen and a recording base relative to each other to engage and disengage said pen and said recording base, and control means for applying an electrical actuating signal to said moving means, an ink feed and priming apparatus comprising: an ink conduit connecting said pen to a source of liquid ink; a variable volume chamber connected to said ink conduit intermediate said pen and said ink source and filled with ink from said ink source; and electrically actuated means, connected to said control means, for reducing the volume of said chamber and forcing a predetermined limited quantity of ink through said conduit in response to said electrical actuating signal each time said moving means is actuated to engage said pen and said recording base without otherwise affecting the normal flow of ink from said ink source though said conduit to said pen, said variable volume chamber being refilled with ink from said source each time said electrically actuated means is deactivated to permit said chamber to return to its initial volume.

2,977,181
SUCTION CLEANING SYSTEM FOR TEXTILE MACHINERY
Ferdinand Reiterer, Rueil Malmaison, France, assignor, by direct and mesne assignments, to Parks-Cramer Company, Fitchburg, Mass., a corporation of Massachusetts
Filed Mar. 4, 1959, Ser. No. 797,219
24 Claims. (Cl. 57—56)



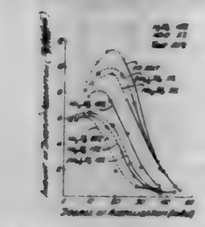
1. Apparatus for removing lint and other light material from working instrumentalities of textile machines comprising a channel extending longitudinally of a machine, a suction and collecting unit connected to said channel, said channel having a longitudinally arranged series of air inlets therein adjacent certian of said working instrumentalities, and means successively and independently establishing communication between said inlets and said suction and collecting unit in predetermined sequence.

CHEMICAL

2,977,182
METHOD OF STERILIZING SURGICAL GUT WITH LIQUID ETHYLENE OXIDE
Charles Carroll Adams, 1461 N. Michigan, and Walter K. Gillett, 928 Elizabeth St., both of Pasadena 6, Calif.
No Drawing. Filed Aug. 13, 1958, Ser. No. 754,711
5 Claims. (Cl. 8—94.11)

1. The method of sterilizing surgical gut comprising treating said gut with a sterilizing agent selected from the group consisting of liquid ethylene oxide and liquid ethylene carbonate at a temperature in the range from 45° C. to 60° C., for a time from about several minutes to about fifty-five minutes until said gut is sterile and removing said sterilizing agent from said gut.

2,977,183
PROCESS OF IMPROVING THE DYEING PROPERTIES OF POLYVINYL ALCOHOL FIBERS
Tetsuro Osugi, Kenichi Tanabe, and Osamu Morimoto, Kurashiki-shi, Japan, assignors, by direct and mesne assignments, of one-fourth to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York, and three-fourths to Kurashiki Rayon Co., Ltd., Okayama Prefecture, Japan, a corporation of Japan
Filed Dec. 19, 1952, Ser. No. 326,892
Claims priority, application Japan Dec. 19, 1951
6 Claims. (Cl. 18—54)



3. A process for improving the dyeing properties of polyvinyl alcohol fibers comprising spinning an aqueous solution containing polyvinyl alcohol into a coagulating bath containing a coagulating salt selected from the group consisting of alkali metal and ammonium sulfates and chlorides, heating the obtained filaments to a temperature of about 140 to 225° C. until said filaments shrink less than 5 percent of their length in water of 80° C., removing the coagulating salt adhered to the filaments from the coagulating bath to such an extent that the filaments contain not more than 10 percent by weight of said salt, and treating said filaments with an aqueous acetalizing solution containing by weight about .5 to 15 percent of formaldehyde, about .5 to 25 percent of the acid of said coagulating salt, and said coagulating salt in such an amount that said salt total concentration in the solution does not exceed 5 percent, for a time and at a temperature sufficient to acetalize about 25 to 50 percent of the hydroxyl groups of the polyvinyl alcohol.

2,977,184
PRODUCTION OF RAYON
Ernest J. Griset, Jr., and Gilbert I. Thurmond, Asheville, N.C., assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed June 16, 1953, Ser. No. 362,016
4 Claims. (Cl. 18—54)

1. A process for continuous production of viscose rayon thread comprising the steps of extruding viscose into filamentary material in an acid coagulating and regenerating bath containing between 6.5 and 8.0% sulfuric acid and maintained at a temperature of at least 65° C., stretching the resultant partially regenerated filamentary material between 50 and 100% and subjecting the said material to an aftertreatment while propelling it successively through a series of spaced generally horizontally disposed confined liquid treating zones solely by means of a flowing liquid in each zone, the after treating liquids in at least four of said zones being maintained at a temperature of at least 70° C. with said material being exposed to said liquids for a total time of not more than 30 seconds, whereby a high tenacity thread is produced.

2,977,185
PROCESS FOR THE RECOVERY AND SEPARATION OF LITHIUM AND ALUMINUM FROM LITHIUM ALUMINATE COMPLEX
Robert D. Goodenough, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 29, 1957, Ser. No. 636,955
9 Claims. (Cl. 23—25)



1. A process for the recovery of lithium and aluminum values from a solid lithium aluminate complex, which comprises intermixing, in the presence of water, the solid lithium aluminate complex with a solid ion exchange resin selected from the group consisting of anion exchange resins in the hydroxyl form and cation exchange resin in salt and hydrogen form thereby dissociating the lithium aluminate complex to lithium values and aluminum hydroxide, and separating the lithium values from the aluminum hydroxide.

2,977,186
SEPARATION OF POTASSIUM AND/OR MAGNESIUM IONS FROM DOUBLE SALTS CONTAINING POTASSIUM AND MAGNESIUM
Maurice Rubin, Paris, France, assignor to Societe d'Etudes Chimiques pour l'Industrie et l'Agriculture, Paris, France, a French company
No Drawing. Filed Mar. 10, 1958, Ser. No. 720,030
Claims priority, application France Mar. 12, 1957
9 Claims. (Cl. 23—67)

1. In a method of treating material comprising essentially carnallite and sodium chloride as impurity, the step of reacting said material with a compound selected from the group consisting of alkylamine and alkylamine carbonate in a quantity not less than that corresponding to the stoichiometric ratio on the basis of the magnesium contained in said material in the presence of a quantity of water comprised between about 80 and about 110 parts

per 100 parts carnallite by weight at a temperature not less than about 60° C. whereby the magnesium is precipitated as an insoluble compound and separating the precipitate from the potassium-containing solution.

2,977,187
PURIFICATION OF THIOCYANATE SOLUTIONS

Victor C. Serreze, Jr., Cos Cob, and Witold R. Kecay, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 14, 1957, Ser. No. 689,785
3 Claims. (Cl. 23—75)

1. A method of purifying an impure, 2% to 20% by weight, aqueous sodium thiocyanate solution, which is formed in synthetic fiber spinning and contains a small amount of sodium sulfate as an impurity, to a degree of purity such that after concentration it can be used as the solvent component of a spinning solution that will not obstruct spinnerette openings by depositing impurities therein, said method consisting in determining the amount of sodium sulfate in the said thiocyanate solution, admixing with the aforesaid thiocyanate solution of known sodium sulfate content an amount of a water-soluble barium compound which is the chemical equivalent amount required for converting all of the said sulfate to barium sulfate, and separating the precipitate comprising barium sulfate from the resulting thiocyanate solution thereby to obtain a thiocyanate solution which upon concentration to form a solvent for a spinning solution contains an amount of barium, in combined form, that is insufficient to cause flocculation of the said spinning solution.

2,977,188
METHOD OF PURIFYING THIOCYANATE SOLUTIONS

Victor C. Serreze, Jr., Cos Cob, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 23, 1958, Ser. No. 730,247
5 Claims. (Cl. 23—75)

1. A method of purifying an impure dilute aqueous sodium thiocyanate solution, formed in synthetic fiber spinning, to a degree of purity such that after concentration it can be used as the solvent component of a spinning solution that will not obstruct spinnerette openings by depositing impurities therein, which comprises evaporating water in a single heating step from an aqueous 2% to 20%, by weight, sodium thiocyanate solution from said source having a pH of at least 7.5 and containing small amounts of sodium sulfate and color-forming metallic compounds as impurities until the solution contains between about 56% and about 62% by weight of NaSCN and that part of the sodium sulfate which is in excess of the solubility of Na_2SO_4 in the solution after concentration has precipitated, transferring the resulting concentrated sodium thiocyanate solution in a precipitate-free condition to a cooling zone, cooling it in said zone to a temperature below 38° C. but above the freezing point of the concentrated thiocyanate solution and maintaining it at said temperature until substantially all of the residual sodium sulfate has separated therefrom, the aforesaid color-forming metallic compounds being removed in insoluble form from the sodium thiocyanate solution along with the sodium sulfate by reason of its alkaline condition.

2,977,189
PREPARATION OF PURIFIED BRINE

Kurt Ladenberg, Chappaqua, N.Y., and Arthur Bloomberg, Roselle, N.J., assignors to International Salt Company, Inc., Scranton, Pa., a corporation of New Jersey

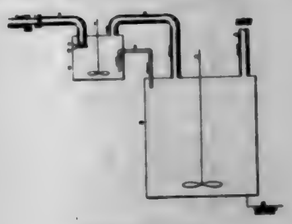
No Drawing. Filed Oct. 29, 1956, Ser. No. 618,667
20 Claims. (Cl. 23—89)

1. In a method of preparing brine in which the materials brought into contact to form said brine are water and solid sodium chloride containing a substantial amount of water-soluble calcium sulfate as an impurity, the improvement which comprises adding to one of said materials before bringing said materials into contact (1) an alkali metal carbonate, and (2) an alkali metal polyphosphate selected from the group consisting of the alkali-metal pyrophosphates, alkali metal hexametaphosphates and alkali metal tripolyphosphates, and thereafter bringing said materials into contact to dissolve said sodium chloride in said water whereby to form a brine low in calcium radical, said alkali metal carbonate being employed in an amount ranging from about 0.3 to 3 grams, and said alkali metal polyphosphate being employed in an amount equivalent to about 0.06 to 1 gram of $PO_4{\equiv}$ per kilogram of dissolved sodium chloride.

2,977,190
PRODUCTION OF ALKALI METAL PHOSPHATES AND CARBON DIOXIDE

William E. Yates, James Wilding, and John L. Morrow, Lawrence, Kans., assignors to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 18, 1956, Ser. No. 578,957
7 Claims. (Cl. 23—107)



1. A process for the continuous production of an alkali metal phosphate solution and substantially pure carbon dioxide, which comprises: continuously introducing phosphoric acid, an alkali metal carbonate and water into one end of an elongated reaction zone, reacting a substantial portion of said acid and said carbonate in said elongated reaction zone to yield carbon dioxide and alkali metal phosphate, discharging the reaction mixture into a body of gas maintained in a second reaction zone in which an agitated body of liquid is maintained below the body of gas, whereby the carbon dioxide formed in said elongated reaction zone separates from the reaction mixture discharged into the body of gas while the discharged liquid from said reaction mixture is falling into said agitated body of liquid, reacting the components of said discharged liquid in said second reaction zone to yield additional carbon dioxide and alkali metal phosphate, whereupon said additional carbon dioxide separates from the reaction mixture without substantial foaming, continuously discharging substantially pure carbon dioxide from the top of said second reaction zone, and continuously discharging alkali metal phosphate solution from the lower part of said reaction zone, whereby said alkali metal phosphate and said carbon dioxide are produced in amounts of at least four times as great as the amounts produced by equivalent single batch reactors, and recovering said carbon dioxide and said alkali metal phosphates.

2,977,191
ANHYDROUS COLORLESS PHOSPHATES

Fernand Pottier, Ostend, Belgium, assignor to Union Chimique Belge, S.A., Brussels, Belgium, a corporation of Belgium

No Drawing. Filed Mar. 14, 1958, Ser. No. 721,335
Claims priority, application Belgium Mar. 19, 1957
6 Claims. (Cl. 23—107)

1. A process for preparing anhydrous colorless alkali metal phosphate, which comprises reacting a solution of crude phosphoric acid which is contaminated with impurities containing colored vanadium compounds, in the presence of a neutralizing agent selected from the group consisting of alkali metal carbonate and alkali metal hydroxide, with a reducing agent having a reduction-oxidation potential below +0.5 volt and being selected from the group consisting of hydrogen, sodium sulfite, sodium sulfide and ferrous sulfate, so as to form an insoluble vanadium-phosphates-containing product in said solution, separating the insoluble product from the resulting liquid phase, and dehydrating the latter to obtain anhydrous colorless alkali metal phosphate.

2,977,192
PROCESS FOR THE PRODUCTION OF PHOSPHINE AND SODIUM HYPOPHOSPHITE

Richard W. Cummins, Rahway, N.J., assignor to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 26, 1958, Ser. No. 757,186
6 Claims. (Cl. 23—107)

1. A process for the simultaneous production of phosphine and sodium hypophosphite which comprises reacting phosphorus, sodium hydroxide, and a stoichiometric amount of water in a water-alcohol medium comprising at least about 70% by volume of an alcohol selected from the group consisting of methyl and ethyl alcohols, said sodium hydroxide bting present in the amount of at least about 0.60 mole per mole of phosphorus, whereby said phosphine and said sodium hypophosphite are produced in yields of at least about 95% of phosphine and at least about 60% of sodium hypophosphite, said sodium hypophosphite being present in the amount of at least 7 moles per mole of sodium orthophosphite produced, and recovering said phosphine and sodium hypophosphite.

2,977,193
METHOD OF PRODUCING A DIELECTRIC MATERIAL

Harold S. Endicott, Schenectady, and George E. Ledges, Dryden, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 1, 1957, Ser. No. 687,359
5 Claims. (Cl. 23—110)

1. A method of treating phlogopite mica for use as a dielectric material which comprises heating said mica to a temperature between room temperature and 950° C., and applying simultaneously to said mica a direct voltage of between 200 volts per mil and 1000 volts per mil for a time sufficient to increase the electrical resistance of said mica to a value greater than the resistance of untreated mica upon subsequent heating thereof to 600° C.

2,977,194
METHOD OF REDUCING AQUEOUS RADIOACTIVE NUCLEAR WASTES TO SOLID FORM

John W. Loeding, Brookfield, and Albert A. Jonke, Elmhurst, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 3, 1958, Ser. No. 778,041
1 Claim. (Cl. 23—142)

A method for converting a waste solution containing aluminum nitrate which also contains a minor amount of radioactive ruthenium to solid form wherein the volatility of the ruthenium is inhibited comprising establishing and maintaining a fluidized bed consisting essentially of aluminum oxide particles by passing a mixture of carbon monoxide and nitrogen containing at least 26 volume percent carbon monoxide therethrough, spraying the said waste solution into the fluidized bed below the surface thereof, heating the bed to a temperature of approximately 400° C., removing aluminum oxide and most of the ruthenium from the bottom of the bed as fast as it is formed therein, and condensing the volatilized material.

2,977,195
PROCESS FOR THE MANUFACTURE OF CUPROUS OXIDE

Charles Parkes Matzinger, Berkeley, Calif., assignor to The Mountain Copper Company, Ltd., a corporation of Great Britain

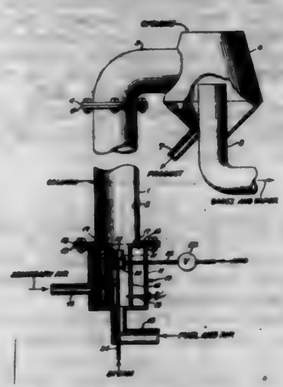
No Drawing. Filed June 2, 1958, Ser. No. 738,991
2 Claims. (Cl. 23—147)

1. A process for the manufacture of cuprous oxide of high purity comprising slurrying together basic copper sulfate, $CuSO_4 \cdot 3Cu(OH)_2$, and copper sulfate, adding thereto sodium sulfite to produce a mixture having a pH of about 5.2, acidifying said mixture to a pH of from 3.5 to 5, heating the mixture to a temperature of substantially the boiling point, adding an alkaline material to maintain a pH of from about 2.6 to 2.8 and recovering therefrom solid cuprous oxide, the entire process being carried out completely on the acid side.

2,977,196
DEFLUORINATION METHOD

Raymond C. Fleming, Jr., Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York

Filed July 1, 1955, Ser. No. 519,446
10 Claims. (Cl. 23—165)

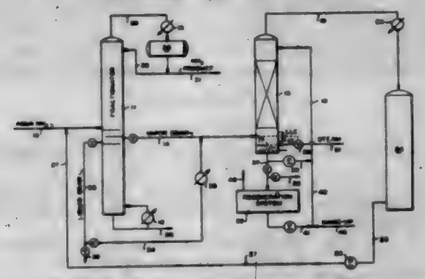


1. A process for eliminating fluorine from fluorine-containing phosphatic materials in aqueous solution which comprises concurrently introducing said solution and steam in an amount requisite to provide at least about three pounds of steam for each twenty pounds of phosphorus pentoxide present in said solution into a flame in a combustion zone under conditions to obtain a temperature of at least 300° F. in said combustion zone, intimately mixing and entraining said solution in subdivided condition in the combustion gases produced by said flame, removing said combustion gases, steam and entrained solution from said combustion zone, separating said solution from said combustion gases and recovering said separated solution as a product containing phosphatic materials of substantially reduced fluorine content.

2,977,197
RECOVERY OF AMMONIA FROM AQUA AMMONIA

Loyd W. Adams and Russell K. Simms, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 24, 1956, Ser. No. 618,132
12 Claims. (Cl. 23—193)



1. A process for the recovery of anhydrous ammonia from aqua ammonia which also contains carbon dioxide, which process comprises: introducing said aqua ammonia into a fractionating column at a point intermediate its ends; operating said column under distillation conditions such that a region of high carbon dioxide concentrating forms in the central portion of said column; withdrawing a side stream containing carbon dioxide from said column at a point of maximum carbon dioxide concentration within said region of high carbon dioxide concentration; treating said side stream to remove carbon dioxide therefrom; returning the treated side stream to said column; and recovering essentially carbon dioxide-free anhydrous ammonia product overhead from said column.

2,977,198
METHOD OF PRODUCING HIGH PURITY SILICON TETRACHLORIDE

Martin Benedict Maclaurin, Towanda, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

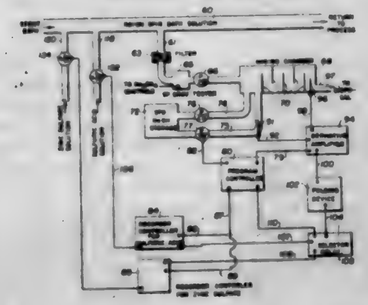
No Drawing. Filed Sept. 25, 1956, Ser. No. 612,050
5 Claims. (Cl. 23—205)

1. The method of purifying impure silicon tetrachloride which comprises extracting said silicon tetrachloride with fuming sulphuric acid.

2,977,199
METHOD FOR THE CONTINUOUS TESTING OF FLOWING MATERIALS

George F. Quittner, Cleveland Heights, Ohio, assignor to Industrial Rayon Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Dec. 31, 1956, Ser. No. 631,653
5 Claims. (Cl. 23—230)



1. A process for automatically and continuously determining the properties of a flowing material comprising; continuously withdrawing and measuring a sample stream from the main stream of material, said material being capable of demonstrating as a result of treatment at least one transition point evidenced by a sudden increase in the rate of change in the characteristics of the material related to the properties of the material; treating said sample stream in a continuous series of identical cycles through said transition points; said treating cycles consisting of varying at a predetermined rate the amount of treatment per unit time accorded said sample stream; sensing said transition points to obtain an instantaneous signal at the increased rate of change occurring as each transition point is passed through; transmitting to a property indicating means an analogue signal of the amount of treatment being accorded said sample stream; transmitting said instantaneous signal to said property indicating means to enable said indicating means to receive said analogue signal and to indicate the properties of said flowing stream of material.

2,977,200
ANALYTICAL METHOD

Casimir J. Munter, Upper St. Clair Township, Allegheny County, Pa., assignor to Hagan Chemicals & Controls, Inc., a corporation of Pennsylvania

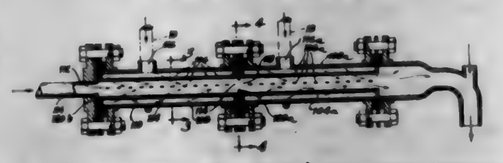
No Drawing. Filed July 25, 1958, Ser. No. 750,896
5 Claims. (Cl. 23—230)

1. A method of determining the presence of long-chain primary, secondary, and tertiary aliphatic amines in aqueous media which comprises forming a lake of copper and Azurol B dye, adjusting the pH value of the lake to between about 6.9 and 7.2, adding thereto an aqueous media containing a long-chain aliphatic amine and observing the color of the lake.

2,977,201
APPARATUS FOR PRODUCING LIQUID REACTION PRODUCTS

Will R. Stephens, Cedar Rapids, Iowa, assignor to Barnard & Leas Manufacturing Company, Inc., Cedar Rapids, Iowa

Filed Nov. 28, 1956, Ser. No. 624,240
3 Claims. (Cl. 23—259.2)



1. In an apparatus for continuous reaction between compounds in solution, the combination of an elongate housing having an inlet at one end and an outlet at another, means for feeding one solution under positive pressure for continuous flow from the inlet to the outlet through the housing, an enclosure about the elongate housing providing a confined space about the housing, an inlet in the enclosure, and means for feeding another solution continuously under positive pressure to the said inlet of the enclosure for filling the space about the housing, said elongate housing having a plurality of jet openings extending continuously therethrough to communicate the confined space about the housing with the space interior of the housing through which the said one solution flows, said openings extending along the length of the housing but angularly with respect thereto with the outer portions of the openings upstream of the inner portions whereby solution from the space about the housing is drawn through the opening into the interior of the housing in the direction of flow of the first solution through the housing and thereby provide for chemical combination in liquid form as distinguished from gaseous form to stabilize a neutral liquid product.

2,977,202
APPARATUS FOR CONDITIONING PRECIPITATES AND SEPARATING SAME FROM LIQUIDS

Charles G. Buehman, Amityville, N.Y., and John S. Kneale, Ridgewood, N.J., assignors to Pfaudler Permutit Inc., a corporation of New York

Filed July 2, 1956, Ser. No. 595,371
2 Claims. (Cl. 23—285)

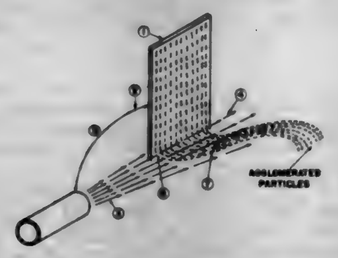


1. Apparatus for treating liquid comprising a rectangular tank having side walls and a bottom, an inlet flume centrally located in the upper portion of said tank, liquid distributing means in said inlet flume, a pair of inclined walls each extending from said flume downwardly and outwardly, a pair of inclined partitions each having its upper end joined to one of said inclined walls, the lower ends of said inclined partitions being spaced apart to form a passageway, a primary mixing chamber bound by said flume, the upper parts of said inclined walls and said inclined partitions, said liquid distributing means being adapted to discharge into said primary mixing chamber, a secondary mxing chamber below said primary mixing chamber bound by said inclined partitions, the lower parts of said inclined walls and said tank bottom, said primary and secondary mixing chamber communicating with each other through said passageway, sedimentation zones between said side walls and said inclined walls, ports adjacent to the lower ends of said inclined walls and establishing communication between said secondary mixing chamber and said sedimentation zones, a horizontal shaft agitator in said primary mixing chamber, a pair of horizontal shaft agitators in said secondary mixing chamber, means for admitting liquid to be treated and chemical to said inlet flume, a pipe terminating in said secondary mixing chamber for admitting a second chemical to said secondary mixing chamber, means for withdrawing treated liquid from the upper portion of each of said sedimentation zones, and means for withdrawing sludge from the lower portion of said tank.

2,977,203
AGGLOMERATING PROCESS

Boleslaw Stenkiewicz, Pearl River, Richard B. Kohler, Riverdale, and Marvin Schulman, Brooklyn, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

Filed Aug. 27, 1958, Ser. No. 757,443
3 Claims. (Cl. 23—313)



1. The process of agglomerating powder which comprises forming a plane of discretely arranged powder particles moving in said plane in a first direction, introducing a jet of steam to said plane to wet the particles therein sufficiently so that they are capable of adhering to one another when they contact one another, said steam jet traveling in a path substantially coinciding with the plane of said particles and being disposed at a substantial angle to said first direction, said steam jet having a force sufficient to redirect said particles in said plane and project them while in said plane in the path of travel of the steam whereby wetted particles are caused to contact one another and agglomerate.

2,977,204
METHOD OF IMPROVING CORROSION RESISTANCE OF ZIRCONIUM

Donald W. Shannon, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

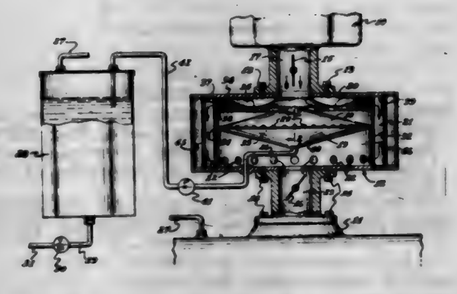
No Drawing. Filed Aug. 14, 1959, Ser. No. 833,893
3 Claims. (Cl. 41—42)

1. A method for improving the corrosion resistance of zirconium comprising immersing it in a first solution containing 39% by volume of 70% concentrated nitric acid, 4% by volume of 48% hydrofluoric acid and 57% by volume of deionized water; then rinsing it in a second solution containing 15% by weight of $Al(NO_3)_3 \cdot 9H_2O$ and 0.1 to 1.0 normal *in* nitric acid; then rinsing it in tap water and then rinsing it in deionized water.

2,977,205
FUEL ECONOMIZER FOR INTERNAL COMBUSTION ENGINES

Howard A. Austin, 1324 W. Maryland, Phoenix, Ariz.

Filed Jan. 26, 1959, Ser. No. 789,071
2 Claims. (Cl. 48—180)



1. A fuel economizer for an internal combustion engine having an intake manifold and a carburetor, said fuel economizer comprising a main housing mounted between said manifold and said carburetor having a carburetor passageway and a discharge passageway, a baffle in said main housing consisting of two hollow truncated cones, one inverted above the other and positioned so that the outer circumferences of the cones are aligned one above the other and the edges sealed so as to form a single hollow unitary structure, a cylindrical baffle having a bore supported on the bottom of said main housing having a bore supportingly engaging said outer circumfenences of said truncated cones and sealed therewith to collect unvaporized fuel, holes in the upper one of said truncated cones adjacent said outer circumferences where sealed with the bore of said cylindrical baffle and communicating with the hollow interior of said baffle, a drain line connected between the hollow interior of said baffle at the apex of the lower inverted truncated cone and a fuel reservoir, a downwardly hanging baffle in the top of said main housing forming a circular venturi passageway with the exterior of said upper truncated one of said baffle, and means connecting said venturi passageway to the discharge passageway of said main housing.

2,977,206
SILICON CARBIDE ABRADING WHEELS
Vernal L. Sheets, Valparaiso, Ind., assignor to Chicago Wheel & Manufacturing Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed July 30, 1958, Ser. No. 751,828
2 Claims. (Cl. 51—308)

1. A silicon carbide abrading material comprising silicon carbide particles bonded by a vitrified ceramic binder consisting essentially of the following composition approximately in the proportions set forth, namely:

Material:	Parts by weight
Feldspar	15–40
Flint	15–40
Clay	20–50
Lithium-manganite	1–5
Lithium-borosilicate glass	1–10
Molybdenum	0.05–6

2,977,207
STABILIZATION OF DIBORANE-ALKYNE REACTION PRODUCT WITH TRIETHYLAMINE
Joel A. Zaslowsky, Niagara Falls, N.Y., assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed May 21, 1956, Ser. No. 586,313
2 Claims. (Cl. 52—5)

1. A method for the stabilization with respect to vapor pressure of liquid reaction products of diborane and a material selected from the class consisting of acetylene and methyl acetylene which comprises incorporating into the liquid reaction products about 0.05 to 2.0 weight percent of triethylamine.

2,977,208
GAS-PRODUCING COMPOSITION
Aubrey Edward Harper, Glasgow, James Grigor, Costbridge, and Edward Graham Cooke, West Kilbride, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Mar. 12, 1957, Ser. No. 645,643
Claims priority, application Great Britain Apr. 21, 1956
8 Claims. (Cl. 52—5)

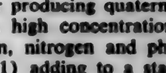
1. In a conventional gas-producing composition capable of self-sustained, non-detonating, gas-producing reaction and consisting essentially of ammonium nitrate, the improvement comprising the addition to said composition of from about 1% to 10% by weight of a salt selected from the group consisting of ferrous oxalate, ferrous malate, ferrous glycolate, ferrous carbonate, ferrous sulphide, ferrous lactate, ferrous citrate, ferrous hydrogen citrate, ferrous formate, ferrous tartrate, ferric oxalate, potassium ferric oxalate, nickel oxalate, nickel carbonate, nickel formate, cobalt hydroxide, cobalt chromate and cobalt oxalate, and a potassium salt selected from the group consisting of potassium nitrate and potassium dichromate.

2,977,209
METHOD OF COMBATTING WEEDS
Harry Tilles, El Cerrito, and Joe Antegnini, Mountain View, Calif., assignors to Stauffer Chemical Company, a corporation of Delaware
No Drawing. Filed Feb. 13, 1957, Ser. No. 639,852
4 Claims. (Cl. 71—2.3)

1. The method of combatting weeds comprising applying a phytotoxic amount to the soil of a compound selected from the group consisting of phenyl N,N-dimethylthiolcarbamate, phenyl N,n-butylthiocarbamate, and phenyl N-allylthiolcarbamate.

2,977,210
BIOLOGICALLY ACTIVE ARALKYLHALIDES
Kenneth L. Godfrey, St. Albans, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Apr. 29, 1957, Ser. No. 655,696
11 Claims. (Cl. 71—2.3)

1. A method of controlling vegetation which comprises applying thereto a phytotoxic concentration, up to 100 pounds per acre of a phytotoxic compound conforming to the structure



and mixtures thereof, where X represents halogen.

2,977,211
METHOD FOR CONTROLLING VEGETATION USING POLYHALOGENATED TOLUENES
Kenneth L. Godfrey, St. Albans, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 6, 1957, Ser. No. 657,012
11 Claims. (Cl. 71—2.3)

1. A method of controlling vegetation which comprises applying to the soil medium containing germinating seedlings of broadleaved plants as an essential active toxicant a phytotoxic concentration of trihalogenated toluene containing all the halogen in the carbocyclic ring which halogen is selected from the group consisting of chlorine, bromine and mixtures thereof at least 1 halogen atom being adjacent to the methyl group.

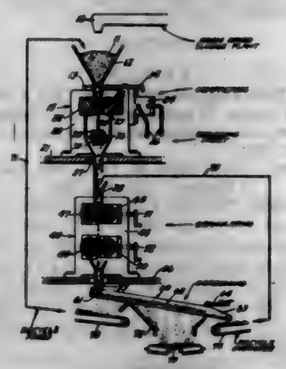
2,977,212
HERBICIDAL COMPOSITIONS AND METHODS
Nathaniel Tischler, Middlesex County, N.J., assignor to Heyden Newport Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 2, 1958, Ser. No. 738,946
8 Claims. (Cl. 71—2.6)

4. A method for controlling the growth of vegetation which comprises applying to the media to be treated a composition comprising as an active ingredient a herbicide selected from the group consisting of 2,3,6-trichlorophenylacetic acid and the salts of said acid.

2,977,213
PROCESS FOR THE PRODUCTION OF COMPLEX FERTILIZERS CONTAINING NITROGEN, PHOSPHORUS, POTASSIUM, AND MAGNESIUM
Aulo Maiuta and Liberio Cumia, Milan, Italy, assignors to A.P.E. Applicazione Procedi Elettrochimici S.p.A., Genoa, Italy
No Drawing. Filed May 16, 1958, Ser. No. 735,682
Claims priority, application Italy May 18, 1957
2 Claims. (Cl. 71—41)

1. A process for producing quaternary complex fertilizers containing a high concentration of potassium as well as magnesium, nitrogen and phosphorus, comprising the steps of (1) adding to a starting material containing a mineral of a double salt of potassium and magnesium, said mineral selected from the group consisting of kainite, leonite, schoenite, langbeinite, hartsalz, and mixtures thereof, a solution of 25% phosphoric acid in an amount approximately equimolar to the magnesium content of the starting material, independently of the potassium content of the latter, and ammonia in an amount of approximately 3 moles NH_3 for every mole of H_3PO_4, thereby binding at least part of the magnesium contained in the starting material as a phosphatic magnesium salt, and (2) drying the resulting product to obtain a fertilizer containing nitrogen, magnesium and potassium, and having a P_2O_5 content which is 98–100% soluble in ammonium citrate.

2,977,214
COMPACTED SEWAGE SLUDGE
Jack H. McLellan, Garden City, N.Y., assignor to H. J. Baker & Bro., New York, N.Y.
Filed July 31, 1958, Ser. No. 752,332
2 Claims. (Cl. 71—64)

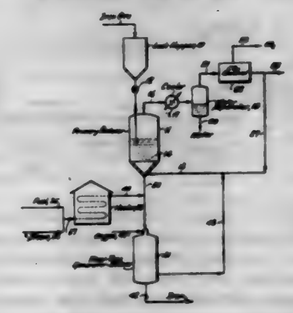


1. A method for compacting and granulating dried and digested pulverous sewage sludge from a sewage disposal works, which sludge includes organic and fibrous digested materials in finely divided powdered condition having a bulk density of about 25–28 lbs./cu. ft. and a moisture content of about 5–15% by weight, the steps which comprise feeding said pulverous and powdered sludge between high pressure compacting rolls for compressing said dried and pulverous sludge into a self-sustaining thin frangible sheet, breaking said thin frangible sheet into gross flake pieces by subjecting said sheet to the breaking action of a plurality of breaking bars mounted around a rotating breaking cylinder, crumbling and granulating said gross flake pieces into more finely comminuted but compacted particles by passing said gross flake pieces between corrugated granulating rolls for compacting and densifying said pulverous sludge into a denser granular form, screening and classifying said granulated compacted particles from said granulating rolls as to the particle size thereof into an acceptable fraction including about 80% of the original pulverous sludge in which the bulk density has been increased by said compacting and granulating steps to about 35 lbs./cu. ft. and a fines fraction of smaller particle size than said acceptable fraction and including about 15% of said original pulverous sludge and an oversize fraction of a greater particle size than acceptable fraction and including about 5% of said original pulverous sludge, recycling said fines fraction back through said feeding and compacting step, and recycling said oversize fraction back through said granulating step for converting substantially all of said pulverous sludge into said compacted and granular form with said increased bulk density.

2,977,215
ARSENIC REMOVAL AND THE PELLETIZING OF THE DE-ARSENIZED MATERIAL
Kurt Meyer, Frankfurt am Main, Hans Rausch, Oberursel (Taunus), and Karl-Heinz Bosz, Bad Homburg vor der Hohe, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
No Drawing. Filed Dec. 1, 1958, Ser. No. 777,199
3 Claims. (Cl. 75—3)

1. A process for preparing from arsenic contaminated iron ore lumpy material suitable for reduction in a blast furnace by simultaneously making lumps of and removing arsenic from said ore comprising forming a mixture of iron ore, 2 to 4% of carbonaceous fuel and 1.0 to 4.0% of sulphidic fuel from finely ground ingredients, reacting said fuel with said ore in a substantially neutral atmosphere in a solid phase maintained process until the arsenic content is reduced to less than 0.1% and the sulphur content to about up to 0.3% of said iron ore, and providing additional heat during said reaction at a temperature above 950° C. and sufficient for simultaneously forming mechanically stable lumps agglomerated from said finely ground ingredients.

2,977,216
ORE REDUCTION PROCESS
Thomas H. Whaley, Mount Vernon, N.Y., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 31, 1958, Ser. No. 784,237
4 Claims. (Cl. 75—26)

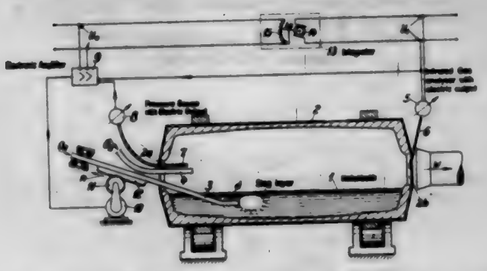


1. A process for the reduction of a reducible solid metal oxide selected from the group consisting of iron, copper vanadium and barium oxides which comprises contacting said metal oxide in particulate form with a reducing gas comprising carbon monoxide and hydrogen in a first reduction zone at a temperature sufficient for effecting partial reduction of said metal oxide; passing said partially reduced metal oxide out of said first reduction zone into admixture with a carbonaceous fuel; passing the resulting admixture of partially reduced metal oxide and carbonaceous fuel as a stream into a second reduction zone while bringing an oxygen-containing gas into contact therewith; effecting reaction of said partially reduced metal oxide, carbonaceous fuel and oxygen in said second reduction zone at a temperature above about 2000° F. and above the melting point of said metal to produce said metal in a molten condition and under conditions such as to generate sufficient hydrogen and carbon monoxide both to reduce said partially reduced metal oxide in said second reduction zone and to heat said first reduction zone and partially reduce the ore therein; removing from said second reduction zone the molten metal reduction product of said metal oxide, and a hot gaseous effluent comprising hot carbon monoxide and hydrogen at a temperature of about 2000 to 3000° F., and passing said hot gaseous effluent from said second reduction zone to said first reduction zone to comprise the reducing gas therein and to heat said metal oxide therein.

2,977,217
METHOD FOR REFINING METAL BATHS IN ROTARY DRUM FURNACES
Rudolf F. Graef and Ludwig A. von Bogdandy, Oberhausen, Germany, assignors to Hüttenwerk Oberhausen Aktiengesellschaft, Oberhausen, Germany
Filed May 16, 1958, Ser. No. 735,841
Claims priority, application Germany May 23, 1957
3 Claims. (Cl. 75—60)

1. In a process of refining a carbon-containing metal bath covered with slag, in a rotary furnace during the

rotation of the latter about a substantially horizontal axis, by injecting gaseous oxygen-containing refining agent, on the one hand, into the metal bath at a level below the surface of the latter, and, on the other hand, into the space above the bath surface in order to burn at least partially the carbon monoxide developed from the bath, and by selecting a desired carbon monoxide content which is to be maintained during at least part of the refining process in the waste gases leaving the furnace by adjusting said level of injection of refining agent below the bath surface, and maintaining said content of carbon monoxide in the waste gases by continuously controlling and adjusting said level of injection,



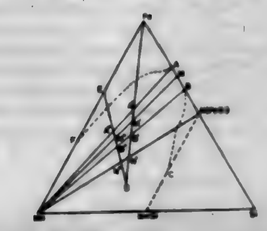
the improvement which comprises maintaining a constant rate of supply of said gaseous oxygen-containing refining agent to the furnace and simultaneously continuously adjusting said level of injection in immediate response to any deviation in total gas pressure from a desired total gas pressure corresponding to the desired carbon monoxide content in the waste gases leaving the furnace, by lowering the level of injection when the total gas pressure falls below said desired total pressure and raising the level of injection when the total pressure rises above said desired total pressure, thereby restoring the gas pressure with substantially no time lag, to the value corresponding to the desired carbon monoxide content of the waste gases.

2,977,218

PROCESS OF SIMULTANEOUSLY PRODUCING MANGANESE METAL AND FERROSILICON ALLOY

Jean Lucien Andrieux and Etienne Leon Bonnier, Grenoble, France, assignors to Societe d'Electro-Chimie d'Electro-Metallurgie et des Aciéries Electriques d'Ugine, Paris, France, a corporation of France

Filed Nov. 12, 1959, Ser. No. 852,314
Claims priority, application France Nov. 22, 1958
1 Claim. (Cl. 75—30)



A process of simultaneously producing manganese metal and ferrosilicon alloy, which comprises providing a mixture of silicomanganese alloy and iron, heating said mixture at a temperature at which the mixture becomes liquid, subjecting the liquid mixture to a pressure less than atmospheric pressure, distilling the manganese and continuing the operation at such a temperature that the mixture always remains in the homogeneous liquid state until the greatest part of the manganese has been distilled, and condensing the manganese, said mixture having a composition which, when plotted on the isothermal triangular diagram Mn—Fe—Si, falls within the triangle of said diagram formed by the vertex Mn and the two saturation points of the binary liquid Fe—Si at the temperature employed.

2,977,219

PROCESS FOR PURIFYING TITANIUM

Edward J. Chaplin, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Sept. 30, 1957, Ser. No. 687,303
3 Claims. (Cl. 75—84)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for removing oxygen from solution in titanium containing the same in amount up to about 1% by weight which comprises forming a melt of the titanium under an inert atmosphere with an amount of thorium substantially the chemical equivalent for the dissolved oxygen in the titanium and solidifying the melt under an inert atmosphere.

2,977,220

PROCESS OF PRODUCING URANIUM

Thomas Kenneth Wood, deceased, Runcorn, England, by Claude Wood, executrix, Runcorn, England, assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Sept. 28, 1944, Ser. No. 556,292
7 Claims. (Cl. 75—84.1)

1. A process for the production of uranium in massive form by heating to reaction temperature in an open container deep in comparison with its cross section a mixture consisting of substantially anhydrous uranium tetrafluoride in finely divided form and calcium, characterised in that the calcium is in the form of small plate-like pieces of thickness between 1/32 and 1/60 inch, and has a packing density such that the free space between the pieces of calcium substantially equal to the volume of the uranium tetrafluoride.

2,977,221

NICKEL-COBALT SEPARATION

Harold L. Howling, Arlington, and Edward S. Stanley, Winchester, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed Nov. 17, 1958, Ser. No. 774,087
11 Claims. (Cl. 75—108)

1. Method of separating nickel and cobalt, characterized by the steps of adding to a solution of salts of nickel and cobalt a precipitating agent selected from the group consisting of peroxy mono acids and salts thereof, and adjusting the pH to range from about 3 to about neutral.

2,977,222

HEAT-RESISTING NICKEL BASE ALLOYS

Clarence George Bieber, Bayonne, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 22, 1955, Ser. No. 529,926
27 Claims. (Cl. 75—171)

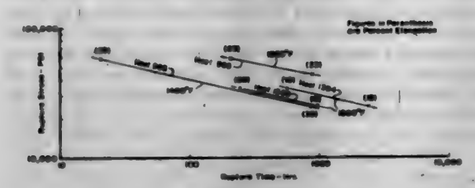
24. A nickel-base alloy containing from about 5% to 20% chromium, from about 1% to 10% molybdenum, up to about 40% cobalt, from about 4.5% to 8.5% of aluminum plus titanium with the ratio of aluminum to titanium being from about 0.5 to 1 to 3 to 1, the alloy being capable of withstanding an applied stress of thirty-five thousand pounds per square inch at 1500° F. for a time in excess of 200 hours continuously, without rupture.

2,977,223

STABILIZED AND PRECIPITATION-HARDENED NICKEL-BASE ALLOYS

Jack T. Brown, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 10, 1957, Ser. No. 701,755
10 Claims. (Cl. 75—171)



1. A high strength high temperature nickel-base alloy comprising by weight from 12 to 28% chromium, from 7 to 25% molybdenum, from 1 to 6% aluminum, from 0.2 to 0.8% boron, from 0.2 to 1% vanadium, from 0.2 to 2% manganese, a maximum of 0.08% carbon, up to 20% iron, and the balance substantially all nickel except for minor amounts of impurities said alloy exhibiting good workability characteristics so that the final ingot casting may be forged or wrought into massive shapes at temperatures of from 2000° F. to 2300° F., and having properties of high strength and ductility in the temperature range of from 1300° F. to 1500° F.

2,977,224

COBALT-BASE ALLOY

William H. Faulkner, Kokomo, Ind., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 4, 1958, Ser. No. 778,053
3 Claims. (Cl. 75—171)

1. A cobalt-base alloy consisting essentially of from 19 to 22 percent by weight chromium, from 11.5 to 13.5 percent by weight tungsten, up to 3 percent by weight molybdenum, up to 3 percent by weight iron, up to 1 percent by weight nickel, up to 0.25 percent by weight carbon, up to 0.15 percent by weight boron, up to 0.06 percent by weight nitrogen, manganese and silicon in amounts up to 1 percent by weight of each, and the balance substantially all cobalt.

2,977,225

HIGH-TEMPERATURE ALLOYS

Stanley T. Wlodek, Niagara Falls, Doyle Geiselman, Kenmore, and Richard L. Reddy, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 25, 1959, Ser. No. 795,319
6 Claims. (Cl. 75—176)

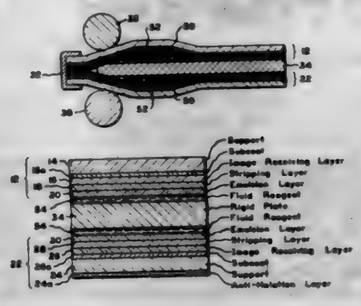
1. An oxidation resistant alloy for use at high temperatures consisting essentially of at least 45 percent by weight tungsten, from 5 to 45 percent by weight chromium, from 0.5 to 12.0 percent by weight aluminum, up to 49.5 percent by weight in the aggregate of at least one modifying metal selected from the group consisting of tantalum, titanium, vanadium, molybdenum, zirconium and hafnium, up to 40 percent by weight in the aggregate of at least one modifying metal selected from the group consisting of iron, nickel, cobalt and manganese, up to 5 percent by weight in the aggregate of at least one modifying metal selected from the group consisting of the rare earth metals, yttrium, scandium, calcium, silicon and magnesium, the maximum amount of said modifying metals being not more than 49.5 percent by weight.

2,977,226

PHOTOGRAPHIC PROCESS, PRODUCT AND APPARATUS

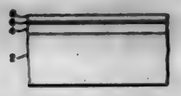
Edwin Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Oct. 9, 1956, Ser. No. 614,983
7 Claims. (Cl. 96—3)



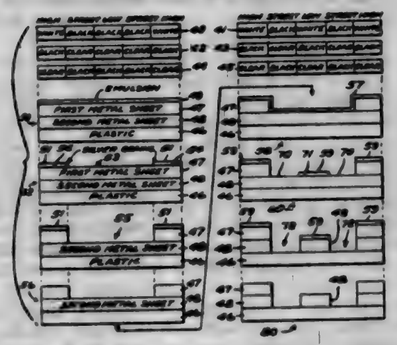
1. A method of simultaneously treating at least two exposed photosensitive material layers arranged in facing relation and each including a latent photographic image and each comprising at least a portion of a substantially flexible sheet, with at least two fluid processing agents to produce two visible photographic images said method comprising introducing a substantially inflexible sheetlike element between said flexible sheets in superposition with said exposed photosensitive layers, the latter being disposed innermost adjacent said element, said element being substantially less flexible than said sheets; providing a quantity of one of said fluid agents between each of said photosensitive layers and a surface of said element, each of said fluid agents being capable when permeated into one of said photosensitive layers of developing the latent image therein to produce a visible image on said sheet comprising said one photosensitive layer; moving said sheets and said element in superposed relation relative to and between a pair of pressure-applying members each having a fluid-spreading surface portion juxtaposed with the other and a pair of cooperating portions on opposite sides of said fluid-spreading surface portion; during movement of said sheets and said element between said pressure-applying members, causing each of said pairs of cooperating portions of each of said members to engage one of said sheets and space apart said fluid-spreading surface portion of said each member and a surface of said element by an amount predeterminedly greater than the thickness of said one sheet located therebetween and deforming each of said sheets between said element and one of said pressure-applying members to provide a space between said each sheet and a surface of said element; spreading one of said fluid processing agents in a thin layer of predetermined thickness within said space between said each sheet and a surface of said element for permeation into one of said photosensitive layers; thereafter maintaining said sheets and said element in superposition with said layers of fluid located between said sheets on opposite sides of said element for a processing period of predetermined duration, during said processing period, reacting said fluid with said photosensitive layer to form a visible transfer image in a layer comprising each of said sheets; the last-mentioned layers being located exterior of the sandwich comprising said element and said photosensitive layers and, at the end of said period, withdrawing said element from between said sheets and said last-mentioned layers containing said visible images and removing said photosensitive layers from said last-mentioned layers and from between said sheets.

2,977,227
METHOD FOR FABRICATING A RELIEF PRINTING PLATE
John De Mario, Rehoboth, Mass., assignor to Chemical Products Corporation, East Providence, R.I., a corporation of Rhode Island
Original application May 3, 1954, Ser. No. 427,881, now Patent No. 2,875,051, dated Feb. 24, 1959. Divided and this application Feb. 18, 1959, Ser. No. 793,997
9 Claims. (Cl. 96—35)



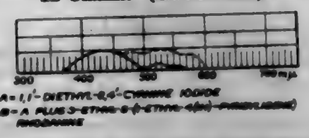
1. A process for making a relief printing plate, including the steps of coating a base sheet with a layer of unfused plastisol, said plastisol being a viscous dispersion of a vinyl chloride resin in a liquid plasticizer and being capable of fusing said resin in said plasticizer at elevated temperature, coating the plastisol layer with an infra-red reflective layer, coating the reflective layer with a photosensitive resist, photographing the matter to be printed upon the resist, washing the resist, etching away the portions of the reflective layer unprotected by the resist, exposing the portions of the plastisol layer unprotected by the reflective layer to an infra-red source to fuse said portions, and washing away the unfused portions of said plastisol layer.

2,977,228
METHOD OF MAKING THREE DIMENSIONAL MODELS
Edward Gold, Plainview, and Herbert W. Bonner, New Hyde Park, N.Y., assignors to The Sperry Rand Corporation, Ford Instrument Company Division, a corporation of Delaware
Filed Dec. 20, 1957, Ser. No. 704,284
2 Claims. (Cl. 96—36)

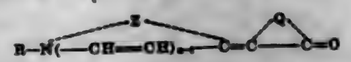


1. The method of making a three dimensional model of a subject having parts thereof of different heights by providing a pair of graphic illustrations of the subject, coloring white the areas representing the highest heights in one of said illustrations, and coloring black the remaining portions of said one illustration, coloring white the areas representing the highest and also the intermediate heights in the other of said illustrations, and coloring black the remaining portions of said other illustration, photographing the pair of illustrations onto films to obtain a pair of photographic transparencies one of which represents by transparent portions on an opaque background the highest heights of said parts and the other of which represents also by transparent portions on an opaque background the highest heights and also the intermediate heights of said parts, providing a sheet of material composed of a plurality of laminations each of which is non-resistive to certain acids and resistive to certain other acids, coating said sheet with a photosensitive emulsion which is acid resistant thereby providing a photographic plate, exposing said photographic plate to a light source through the said one transparency representing the highest height, developing said plate thereby causing the coding on said one transparency to be represented as unprotected and protected areas on said plate, etching the unprotected areas the depth of the top lamination of said sheet, the successive laminating of said sheet being resistant to the acid used in etching said top lamination, washing away the emulsion remaining on the protected area, recoating said sheet with said photosensitive emulsion thereby providing a second photographic plate, exposing said second photographic plate to a light source through the said other transparency representing both said heights, developing said second plate thereby causing the coding on said other transparency to be represented as unprotected and protected areas on said second photographic plate, etching the unprotected areas on said second plate the depth of the next lamination of said sheet, the top lamination and successive laminations being resistant to the acid used in etching the said next lamination, and washing away the emulsion remaining on said second plate.

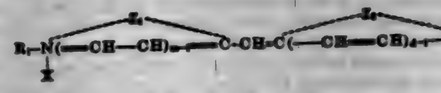
2,977,229
SUPERSENSITIZED EMULSIONS COMPRISING SIMPLE CYANINE DYES
Jean E. Jones, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 23, 1959, Ser. No. 801,130
12 Claims. (Cl. 96—104)



1. A photographic silver halide developing-out emulsion sensitized with a supersensitizing combination of (1) a simple merocyanine dye selected from the class represented by the following general formula:



wherein R represents a member selected from the class consisting of a hydrogen atom and an alkyl group, *n* represents a positive integer of from 1 to 2, Z represents the non-metallic atoms necessary to complete a pyridine nucleus, and Q represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the class consisting of a pyrazolinone nucleus, an isoxazolinone nucleus, an oxindole nucleus, a rhodanine nucleus, a 2-selena-2,4-thiazolidinedione nucleus, a 2-thio-2,4-oxazolidinedione nucleus, a 2-thio-2,5-thiazolidinedione nucleus, a 2,4-thiazolidinedione nucleus, a thiazolidinone nucleus, a 4-thiazolinone nucleus, a 2(3H)-thiophenone nucleus, a 2-imino-2,4-oxazolinone nucleus, a 2,4-imidazolinedione nucleus, a 2-thio-2,4-imidazolinedione nucleus, and a 5-imidazolinone nucleus, and (2) a simple cyanine dye selected from the class represented by the following general formula:

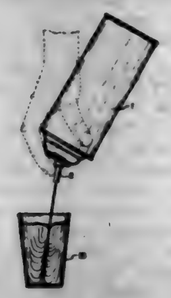


wherein R_1 and R_2 each represents an alkyl group, X represents an acid radical, *d* and *m* each represents a positive integer of from 1 to 2, provided *d* and *m* do not simultaneously represent 2, Z_1 represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the class consisting of a thiazole nucleus, a benzothiazole nucleus, a naphthothiazole nucleus, a thianaphtheno-7',6',4,5-thiazole nucleus, an oxazole nucleus, a benzoxazole nucleus, a naphthoxazole nucleus, a selenazole nucleus, a benzoselenazole nucleus, a naphthoselenazole nucleus, a thiazoline nucleus, a 2-quinoline nucleus, a 4-quinoline nucleus, a 1-isoquinoline nucleus, a benzimidazole nucleus, a 3,3-dialkyl-indolenine nucleus, a 2-pyridine nucleus, and a 4-pyridine nucleus, and Z_2 represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the class consisting of a 2-quinoline nucleus, a 4-quinoline nucleus, a 2-pyridine nucleus and a 4-pyridine nucleus.

2,977,230
COMPOSITION AND PROCESS FOR CONTROLLING THE GROWTH RATE OF LIVE-STOCK AND POULTRY
Bernard J. Brent, Montclair, N.J., assignor to The Denver Chemical Manufacturing Company, Stamford, Conn., a corporation of Colorado
No Drawing. Filed Oct. 28, 1958, Ser. No. 770,002
3 Claims. (Cl. 99—2)

1. A composition for improving feed utilization and growth rate of live-stock and poultry, comprising a normal feed ration having incorporated therein 1-methyl-2-mercapto-3-carbethoxy imidazole and an estrogen, said feed ration supplying to the animal daily amounts between about 20 mg. and about 80 mg. of said imidazole compound and, of the estrogen, daily amounts corresponding to an estrogenic activity between about 0.01 mg. and about 5.0 mg. of diethyl stilbestrol per 100 lbs. of live weight.

2,977,231
PACKAGING AND DISPENSING BEVERAGE CONCENTRATES
Irving Fox, Jamaica, and Sidney Pulley, Brooklyn, N.Y., assignors of one-half to Cecil Wolfson, Jacksonville, Fla., and one-half to Fox-Wiprite Corp., Brooklyn, N.Y., a corporation of New York
Filed Feb. 19, 1960, Ser. No. 9,839
22 Claims. (Cl. 99—79)



1. A pressurized package for dispensing beverage concentrates into an aqueous liquid, to produce a self-mixed beverage, which comprises a pressure-tight container containing a beverage concentrate of regulated viscosity and a non-toxic propellant gas and having a regulated small discharge orifice, and means for controlling the discharge of the concentrate through said orifice, the viscosity of the beverage concentrate, the pressure of the propellant gas and the size of the orifice being so correlated that the velocity of the concentrate, when discharged downwardly through the orifice into an aqueous liquid, will be such as to effect thorough agitation of the liquid and thorough distribution of the concentrate in the aqueous liquid, without mechanical agitation, with resultant production of a beverage having the discharged concentrate dispersed throughout the aqueous liquid.

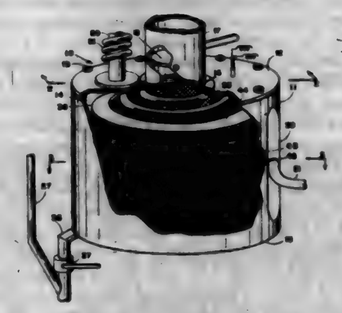
2,977,232
METHOD OF MAKING BUTTER FROM MILK AND CREAM
Albert Meyer, Ludwigshafen (Rhine), and Georg Weck, Buhl, near Gunsburg, Germany, assignors to Hagan Chemicals & Controls, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 10, 1958, Ser. No. 714,863
5 Claims. (Cl. 99—119)

1. A method of treating sour milk and cream used in the production of butter and cheese therefrom which comprises adding to the milk and cream an effective amount of at least one of the water soluble salts of the group consisting of orthophosphates, condensed phosphtaes, citrates, tartrates, lactates, ascorbates and amino acid salts, whereupon the milk casein is stabilized the amount of said salt being insufficient to raise the pH above the acid range, and thereafter liquefying said flocculated milk casein prior to the customary thermal treatment thereof.

2,977,233
METHOD FOR THE PRODUCTION OF SAUSAGE SKINS
Hubert Jacob Vaessen, Deventer, Netherlands, assignor to Vasco Industries Corporation, New York, N.Y., a corporation of the United States of America
No Drawing. Filed June 17, 1958, Ser. No. 742,469
Claims priority, application Netherlands Oct. 17, 1957
3 Claims. (Cl. 99—175)

1. In a process for producing sausage skins having a closed end from adhesive casings freed of fat, by applying said casings on a cylindrical templet which is rounded spherically at one end, allowing said casings to dry on said templet, and pushing the product so obtained off the templet, the improvement which comprises the steps of: extending beyond said end of said templet a part of the casing which is applied near the spherically rounded end of said templet, turning said extending part of the casing an odd number of times about its longitudinal axis to form a knot-shaped thickening just outside the rounded end of the templet, and pulling back the remaining free end inside out over the casing layer on said templet, said knot-shaped thickening thereby imparting greater strength to said casing.

2,977,234
METHOD OF CONCENTRATING FRUIT JUICES
Elwood P. Wenzelberger, Dayton, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, New York, N.Y., a corporation of New York
Filed Nov. 15, 1954, Ser. No. 468,752
2 Claims. (Cl. 99—205)



1. In a method of concentrating fruit juices wherein the ice is being continuously separated from the liquid concentrate without discharging the separated ice, the

steps of partially freezing a fruit juice into a slushy mass of liquid concentrate and ice, separating the ice from the liquid concentrate by centrifugal force in a centrifuge, removing the liquid concentrate from the centrifuge but retaining the separated ice in the centrifuge, melting the retained separated ice in the centrifuge to release at least a portion of the solids occluded therein and to vaporize the liquid formed by the melted ice, condensing the vaporized liquid to remove therefrom any solids constituting the fruit juice and entrained in said vapors, and combining the evaporated residue and the solids regained from the vapors with the liquid concentrate.

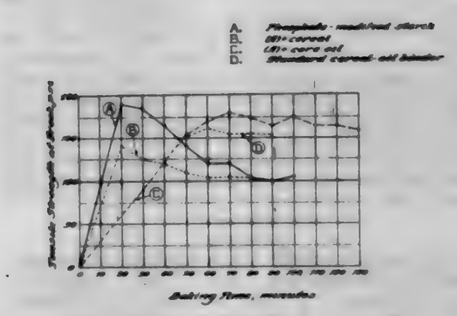
2,977,235
WATER-SOLUBLE TABLET FOR THE CURING OF MEAT

Edward J. Hanus, Palisade, and John W. Carr, Cranford, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 27, 1958, Ser. No. 724,242
3 Claims. (Cl. 99—222)

1. A completely water-soluble tablet for the curing of meat comprising sodium isoascorbate, isoascorbic acid, sodium bicarbonate, citric acid, and a solid polyethylene glycol lubricating agent, the amount of sodium isoascorbate plus isoascorbic acid constituting at least 75% of the total tablet weight.

2,977,236
CORE BINDER

Hans Neukom, Erlenbach, Zurich, Switzerland, assignor to International Minerals & Chemical Corporation, a corporation of New York
Filed Dec. 30, 1957, Ser. No. 706,155
4 Claims. (Cl. 106—38.5)



1. In the preparation of a foundry core, the improvement which comprises commingling sand with water in a proportion affording a water content between about 2 and about 6% by weight and between about 0.1 and about 3% by weight of an alkali-metal phosphate-modified starch, prepared by soaking dry, ungelatinized starch in an aqueous alkali-metal orthophosphate solution having a pH between about 4 and about 7 to incorporate said alkali-metal orthophosphate therein in a proportion equivalent to at least about 1% by weight of phosphorus, dry basis, removing surface moisture from the starch, drying the starch to a moisture content less than about 15% by weight at a temperature below the gelatinization point thereof, baking the dried starch at a temperature between about 120 and about 175° C. for a period of about 1 to about 15 hours, the length of the baking period varying inversely with the temperature, forming the resulting mixture into the desired shape, and baking the shaped mixture at a temperature between about 300 and about 600° F.

2,977,237
MOLD LUBRICANT COMPOSITION

Ernest R. Vierk, Lansing, and Charles A. Mazzoni, Jr., Harvey, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Dec. 27, 1957, Ser. No. 705,512
7 Claims. (Cl. 106—38.25)

1. An emulsifiable oil composition consisting essentially of about 1 to 50% by weight of an oil-soluble heavy mineral oil lube fraction selected from the group consisting of propane-insoluble resins derived from a paraffinic crude oil said resin having a viscosity of at least about 500 SUS at 210° F., and an aromatic extract of residual lubricating oil, said extract having a viscosity of at least about 500 SUS at 210° F., about 1 to 40% by weight of graphite electrically suspended in a neutral distillate petroleum oil, about 1 to 10% by weight of non-ionic surface active polyoxyethylene derivative of hexitol anhydride partial long chain fatty acid ester containing about 2 to 25 mols of ethylene oxide per mol of ester, about 0.1 to 2% by weight of a non-ionic surface active long chain fatty acid partial ester of hexitol anhydride, about 0.1 to 4% by weight of a non-ionic surface active fatty acid ester of polyethylene glycol, wherein the fatty acid portion of each of said partial esters contains about 12 to 18 carbon atoms per molecule, about 5 to 25% by weight of an alkylaryl polyethoxy alcohol containing about 1 to 20 ether groups, with substantially the remainder being neutral distillate petroleum oil.

2,977,238
PROCESS OF PRODUCING ALL SKIN RAYON

Harry H. Hall, Springfield, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Original application Dec. 30, 1954, Ser. No. 478,913, now Patent No. 2,895,787, dated July 21, 1959. Divided and this application Nov. 21, 1958, Ser. No. 775,357
9 Claims. (Cl. 106—165)

1. A viscose spinning solution containing a small amount of a modifier selected from the group consisting of alkali-soluble esters of phosphoric acid and of alkali-soluble esters of alkali-metal acid salts of phosphoric acid with polyoxyalkylene glycol mono-ethers of fatty alcohols and mixtures thereof, the mono-ethers containing at least 2 alkylene oxide units per mole of fatty alcohol, the fatty alcohols being selected from the group consisting of saturated and unsaturated straight chain monohydric alcohols containing from 6 to 24 carbon atoms, the alkylene oxide being selected from the group consisting of ethylene oxide and propylene oxide, said small amount of the modifier being a quantity sufficient to impart a smooth, non-crenulated surface and a substantially all skin structure to products formed by spinning the viscose at a sodium chloride salt test of at least 7 into an aqueous bath containing from 15% to 22% sodium sulfate, from 4% to 9% zinc sulfate and sulfuric acid in an amount exceeding the slubbing point but not exceeding 8.5%, but the quantity being insufficient to adversely affect the physical properties of such products.

2,977,239
LIGHT WEIGHT AGGREGATE AND METHOD OF MAKING SAME

Joseph R. Parsons, Park Forest, Ill., assignor to Chicago Fire Brick Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Aug. 13, 1958, Ser. No. 754,706
7 Claims. (Cl. 106—288)

1. A process of producing a light weight aggregate which comprises forming a mixture consisting essentially of particles of water granulated slag and particles of refractory material having a softening point of above 2300° F., the particles of the refractory material having a mesh size below approximately 20 mesh and being present in amount from approximately 20 percent to 60 percent by weight of the composition, and heating the mixture in motion at a temperature at which the slag becomes plastic and the entrapped gases from the water granulated slag bloat the particles into globules

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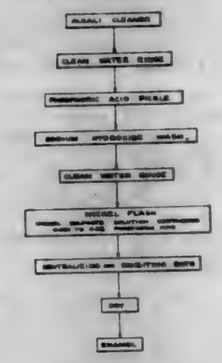
2,977,240
IMPROVING THE LIGHT REFLECTANCE OF EXPANDED PERLITE MATERIAL

Harry H. Houston, Elmhurst, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Oct. 19, 1956, Ser. No. 616,928
8 Claims. (Cl. 106—300)

1. The process of preparing a perlite composition of improved light reflecting properties which comprises mixing ground unexpanded perlite material with a white refractory oxygen-containing substance selected from the group consisting of titanium oxide, magnesium oxide, magnesium carbonate, zirconium oxide, and dicalcium phosphate, and heating the mixture to temperatures in the range between about 1500° and about 2100° F. to cause expansion of the particles.

2,977,241
ONE COAT ENAMEL PROCESS

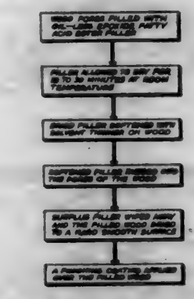
Evan M. Oliver, Harlan P. Tripp, Lynn E. Fussell, and Frank L. Michael, all of Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Mar. 4, 1959, Ser. No. 797,216
2 Claims. (Cl. 117—50)



1. The method of treating a steel surface for application of a single finish coat of enamel which comprises the steps of cleaning said surface by means of an alkali cleaning solution, pickling the cleaned surface by means of a hot solution containing from 10 to 30 percent phosphoric acid and having a controlled ferrous ion content of from 0.01 to 1.0 percent by weight and a ferric ion content of from 0.05 to 3.0, to remove from the surface from 1.5 to 3.0 grams of iron per square foot of exposed surface, washing the pickled surface with a weak alkaline solution to remove therefrom phosphate coating formed during pickling of said surface, subjecting said washed surface to the action of a hot nickel sulphate solution containing from 1 to 4.0 ounces per gallon $NiSO_4.7H_2O$ and 0.001 to 0.03 percent by weight of phosphate ions until there is obtained on said surface a nickel flash coating between 0.02 and 0.35 gram per square foot of surface, rinsing the nickel coated surface with an alkaline neutralizing or inhibiting solution and then with clear water before drying said surface in preparation for the application of a one-coat porcelain enamel.

2,977,242
METHOD OF FILLING THE PORES OF WOOD AND RESULTANT ARTICLE

Burton E. Lederman, Dayton, Ohio, and Russel D. Hamilton, Grosse Pointe Farm, Mich., assignors to Chadeloid Corporation, Dayton, Ohio, a corporation of Delaware
Filed Dec. 22, 1952, Ser. No. 327,423
4 Claims. (Cl. 117—64)



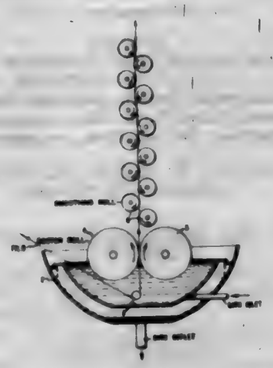
1. In a method of filling the pores of unfinished wood and preparing the surface of the wood for finishing coats, the steps of applying to the surface of the wood, an oil-less filler which sets to hardened condition in ten to thirty minutes at the temperatures normally prevailing in wood finishing rooms, said filler consisting essentially of (1) a vehicle the essential solid constituent of which is a resinous, film-forming ester of a condensate of a polyhydric phenol and epichlorhydrin with a saturated fatty acid containing 8 to 12 carbon atoms, and (2) a thinner that volatilizes rapidly at the temperatures normally prevailing in wood finishing rooms, and selected from the group consisting of VMP naphtha, lead-free gasoline, mineral spirits, xylol and turpentine, the filler consisting of 6 to 14 pounds of the vehicle per gallon of the thinner, drying the filler to a set, hardened condition and, at some time between drying and setting of the filler and the application of a finishing coat to the filled wood, treating the filler on the wood with one of said thinners to soften the same and render it reworkable, reworking the softened filler on the wood surface by rubbing, removing any surplus filler from the surface of the wood by wiping, and allowing the filled wood to stand at the temperature normally prevailing in wood finishing rooms for 10 to 30 minutes to thereby reset the filler in the hard condition.

2,977,243
COATING PROCESS

John Warren Meier, Madison, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 2, 1958, Ser. No. 764,889
9 Claims. (Cl. 117—64)

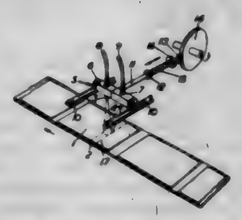
1. A process for continuously coating a continuous, flexible, transparent film of hydrophilic organic polymeric material which comprises continuously applying a uniform coating of an aqueous dispersion coating composition having a viscosity not greater than 25 centipoises over the surfaces of an advancing continuous, flexible, transparent film of hydrophilic organic polymeric material advancing at a constant linear speed of at least 100 yards per minute; immediately thereafter tangentially contacting the coated surfaces of said advancing film with the surfaces of a bank of at least 10 positively driven, successively positioned, cylindrical surfaces alternately disposed

on each side of said film and rotating in a direction opposite to the direction of travel of said film at a peripheral



speed of from 65% to 85% of the linear speed of travel of said web and thereafter drying the coated film.

2,977,244
METHOD OF DEPOSITING METALLIC COPPER
Solomon Elijah Kay and Robert John Ball, St. Helens, England, assignors to Pilkington Brothers Limited, Liverpool, England
Filed Jan. 30, 1959, Ser. No. 790,119
Claims priority, application Great Britain Feb. 1, 1958
17 Claims. (Cl. 117—71)



5. A method of depositing a protective layer of metallic copper on a silvered mirror, which comprises separately spraying an aqueous solution of a complex cuprous salt and an aqueous acid solution simultaneously towards the silvered surface so as to mix the two sprayed solutions and thereby deposit a layer of metallic copper thereon.

2,977,245
SURFACES OF DECREASED WATER WETTABILITY AND PROCESS FOR THE PREPARATION THEREOF
Yun Jen, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed June 24, 1957, Ser. No. 667,700
19 Claims. (Cl. 117—72)

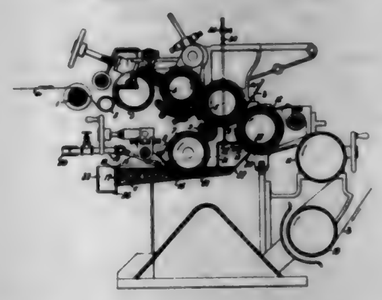
1. A process of treating a hydrophilic surface to decrease its wettability by water, which comprises contacting said surface with a dilute aqueous solution of a high molecular weight cationic polyamine having an average molecular weight in excess of 10,000 and containing at least one amino nitrogen atom having at least one replaceable hydrogen atom for every 10 carbon atoms therein, thereby irreversibly adsorbing at least some of said polyamine on said surface, and then contacting said surface with sufficient of a dilute aqueous solution of a soap having a hydrophobic anion to convert said adsorbed polyamine to hydrophobic soap form.

2,977,246
PROCESS FOR COATING FILM
John Richard Fisher, Cheshtowaga, and Hugh Ross Johnstone, North Tonawanda, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 3, 1958, Ser. No. 739,467
5 Claims. (Cl. 117—76)



1. A process for coating regenerated cellulose film which comprises applying to in regenerated cellulose film a water-soluble, partially condensed thermosetting resin; thereafter coating the resulting film with a composition comprising in volatile liquid medium a vinylidene chloride copolymer and from about 2% to about 10% by weight, based on the weight of copolymer, of maleic anhydride; and drying the coated film to remove the volatile liquid and complete condensation of said resin to the thermoset stage.

2,977,247
ADHESIVE APPLICATOR MEANS PARTICULARLY ADAPTED FOR CORRUGATING MACHINES
Lewis W. Lutz, Wadsworth, Ohio, assignor to Packaging Corporation of America, a corporation of Delaware
Filed Apr. 8, 1958, Ser. No. 727,180
13 Claims. (Cl. 117—111)



1. For association particularly with a machine for the manufacture of corrugated paperboard including the customary paper-feeding rolls, corrugating rolls, paste-applying roll and pressure roll, and a splicing guide adjacent to said pressure roll; means for immersing an operative portion of the periphery of such paste-applying roll in a bath of paste including a paste pan having its bottom arranged at an incline with the high end thereof in the zone of greatest heat adjacent to the corrugating and pressure rolls for inducing gravity flow of paste from the high end of the pan to its low end, means functioning during operation of the machine for continuously supplying relatively cool fluid paste to the pan for establishing therein a paste bath, and means at the low end of the pan for establishing the level of said bath at that predetermined as proper for adequate immersion of the periphery of said paste-applying roll, the means for supplying paste to said pan being immersed in the paste bath and apertured to supply the relatively

cool fluid paste below the level of said bath at the high end of the pan in the zone of greatest heat to thereby create turbulence and aid in circulation of heated paste from the high end to the low end of the pan and counteract tendency of the paste to gel.

2,977,248
GASKET AND METHOD OF MAKING SAME
Fred C. Flowers, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 15, 1958, Ser. No. 767,427
8 Claims. (Cl. 117—126)



1. A method of forming a heat, chemical and solvent resistant gasket which comprises forming a plastic mixture of a fibrous material and rubbery binder to a shape of suitable width and thickness, curing the rubbery binder, coating the gasket with a layer of epoxy resin not in excess of .015 inch whereby the exposed fibrous material is sealed and curing the epoxy resin.

2,977,249
PROCESS FOR WATERPROOFING FIBROUS MATERIALS
Rudi Heyden, Duesseldorf, and Hans Wedell, Duesseldorf-Holthausen, Germany, assignors to Böhme Fettchemie G.m.b.H., Duesseldorf, Germany, a corporation of Germany
No Drawing. Filed June 11, 1957, Ser. No. 664,897
Claims priority, application Germany June 15, 1956
5 Claims. (Cl. 117—135.5)

1. The process of waterproofing fibrous materials, which comprises impregnating said fibrous materials with a condensation product formed by a condensation reaction between (A) alcoholates of polyvalent metals selected from the group consisting of aluminum, magnesium, titanium and zirconium and (B) diacid phosphoric acid mono-esters of high molecular-weight organic hydroxyl compounds containing at least 6 carbon atoms, said alcoholates and said monoesters being present in a molar ratio of from 1:0.5 to 1:1.5, said condensation product being in solution in an inert organic solvent, and evaporating the solvent.

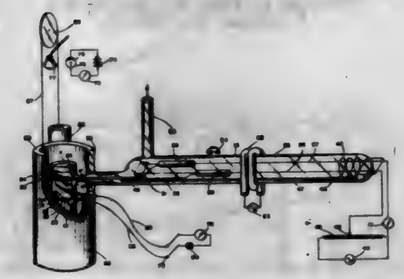
2,977,250
METALLIC SELENIDE FUNGICIDES FOR OUTDOOR CELLULOSIC TEXTILES
Ralph J. Bryson, New Orleans, and Wilson A. Reeves, Metairie, La., assignors to United States of America as represented by the Secretary of Agriculture
No Drawing. Filed May 5, 1960, Ser. No. 27,230
1 Claim. (Cl. 117—138.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A process for rendering a cellulosic textile fabric resistant to the attack of microorganisms which comprises impregnating the cellulosic textile fabric with an aqueous-solvent emulsion system containing an alkyd resin binder and a water insoluble metal selenide, and drying the impregnated fabric, said selenide being present in said aqueous-solvent emulsion system in an amount sufficient to insure the deposition of at least 0.01% by weight of selenium on the dried fabric.

2,977,251
PROTECTIVE COATING METHODS AND MATERIALS
John V. Long, San Diego, and John V. Furth, La Jolla, Calif., assignors to Solar Aircraft Company, San Diego, Calif., a corporation of California
No Drawing. Filed Nov. 21, 1956, Ser. No. 623,550
22 Claims. (Cl. 111—169)

1. A method of providing the surface of an article with an aluminum cermet coating having both ceramic and metallic phases, which includes the steps of: applying to the surface to be coated a slip comprising a liquid vehicle having suspended therein a cermet composition including a metallic constituent from the group consisting of aluminum and aluminum base alloys in particle form, a smelted and fritted ceramic borate frit constituent consisting essentially of a major amount of boron oxide plus beryllia and lithia, and a suspension agent; and firing the article surface at a temperature of about 1230° F. to 1400° F. to form a cermet coating on said surface.

2,977,252
PHOTOSURFACE AND METHOD OF MAKING SAME
Jean-Pierre Causse, Ridgefield, Conn., and André Lallemand, Paris, France, assignors, by mesne assignments, to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed July 28, 1956, Ser. No. 599,207
Claims priority, application France Dec. 21, 1955
11 Claims. (Cl. 117—211)



1. In a method of preparing a semitransparent photosurface on a transparent window, the steps comprising passing current through a pure tungsten filament opposite said window in a vacuum to evaporate the tungsten of said filament onto said window, photoelectrically detecting the decrease in radiation transmitted from said filament through said window as a uniform film of said pure tungsten is condensed on said window, terminating the evaporation of said pure tungsten at a time when the detected decrease in the transmitted radiation is a predetermined fraction on the order of 10% of the maximum detected radiation, and while maintaining the vacuum volatilizing successive metals opposite said window to evaporate a photosensitive intermetallic compound onto the uniform tungsten film out of reactive contact with said window.

2,977,253
PROCESS FOR THE PURIFICATION OF SUGAR-CONTAINING JUICES
Albert René Grandadam, Saint-Maur, France, assignor to Societe Industrielle et Agricole de la Somme et Raffinerie Français, Paris, France, a corporation of France
No Drawing. Filed Mar. 12, 1958, Ser. No. 720,832
Claims priority, application France Mar. 14, 1957
7 Claims. (Cl. 127—58)

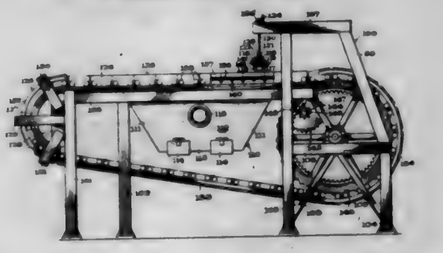
2. A process for the purification of sugar-containing juices, comprising alkalizing a batch of raw juices ex-

tracted from diffusion by a continuous and simultaneous addition of: lime, at a constant flow rate, in an amount ranging from 300 to 600 g. per 100 l. of juices, carbon dioxide at a variable flow rate, and sulphur dioxide at a constant flow rate in an amount ranging from 4 to 20 g. per 100 l. of juices, the two last mentioned reagents being effective to precipitate the impurities of the juices flocculated by the lime, and the flow of carbon dioxide being controlled so that the pH of the mixture gradually increases from the pH value of about 6 for the raw juices to a value of about 11 corresponding to optimum filtrability.

2,977,254
SMOKING PRODUCT
Sheldon Rosenberg, Westport, and Otto Karl Schmidt, Springdale, Conn., assignors to International Cigar Machinery Company, Inc., a corporation of New Jersey
No Drawing. Filed Sept. 9, 1959, Ser. No. 838,854
11 Claims. (Cl. 131—17)

1. A smoking product comprising in combination an inert carrier, a water soluble dye mordanted upon said inert carrier and tobacco.

2,977,255
RECLAMATION METHOD
John W. Lowry, Dishman, Wash., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Jan. 24, 1955, Ser. No. 483,612
8 Claims. (Cl. 134—2)



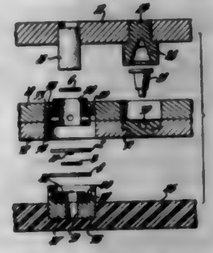
1. A process for continuously removing non-metallic combustible insulation from masses of an insulated low melting point metal conductor to which said insulation adheres for reclamation of the metal, comprising the steps of igniting said insulation and continuously passing said masses of conductor through a combustion zone and controlling the rate of travel of the masses through said combustion zone and the temperature of combustion to which said masses are exposed such that said metal conductor passes through said combustion zone without substantial melting while said insulation is burned to destruction therein and impacting the residual material with a surface to separate the burned insulation residue from the metal.

2,977,256
SEMICONDUCTOR DEVICES AND METHODS OF MAKING SAME
Israel A. Lesk, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 16, 1956, Ser. No. 604,527
10 Claims. (Cl. 148—1.5)



1. A method of producing a junction transistor from a monocrystalline semiconductor body having dispersed therein at least one activator element for producing dominant conduction carriers of one conductivity type therein and a second activator element for producing a smaller number of conduction carriers of the opposite conductivity type therein, which method comprises fusing a portion of said semiconductor body to produce a liquid-phase to solid-phase interface therein, refreezing said fused portion from said interface, said activators being of a kind, the ratio of the quantities thereof being of a magnitude, and the freezing thereof being at a rate whereby said fused and refrozen portion in the region thereof adjacent said interface has smaller quantities of each of said activator elements and has said one conductivity type, the diffusion coefficient of said second activator element being appreciably greater than the diffusion coefficient of said first activator element, the density of the said second activator element in said unmelted region of said body being greater than the density of said first activator element in said fused and refrozen region, heating said body for a time and temperature without melting said body to cause sufficient diffusion of said second activator element from said unmelted portion into said melted and refrozen region to produce dominant conduction carriers of said opposite conductivity type therein.

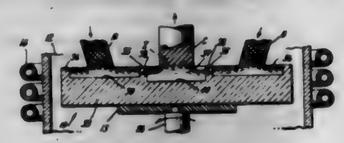
2,977,257
METHOD AND APPARATUS FOR FABRICATING JUNCTION TRANSISTORS
William H. Lynch and John G. Vest, Kokomo, and Carlton D. Barker, Tipton, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 17, 1959, Ser. No. 840,678
4 Claims. (Cl. 148—1.5)



1. In means for fabricating semi-conductor amplifying means which have a flat, thin semi-conductive body of one electrical conductivity type to the opposite faces of which are alloyed a plurality of members to convert areas of the body to another electrical conductivity type having rectifying barriers and to at least one face of which are secured ohmic contacts, including means for supporting one or more semi-conductive bodies with a member to be alloyed and ohmic contacts on one face in proper position, means for supporting a second member to be alloyed to each body in alignment with and in spaced relation to the body and means having a low melting point extending between the first and second means to hold them in spaced relation at room temperature but to become molten at high temperature and permit the first and second means to contact and cause engagement of the body and second member.

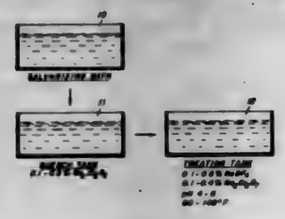
2,977,258
PRODUCTION OF SEMICONDUCTORS AND THE LIKE
Richard B. Dunkle, Ambler, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 9, 1958, Ser. No. 727,441
2 Claims. (Cl. 148—1.6)

1. A method of producing monocrystalline semiconductor crystals and of minimizing differences of resistivity between portions thereof, which method comprises: jointly horizontally rotating a pool of semiconductor crystal melt and a thick, solid block of heat conductive refractory material which underlies said pool and supports the same; maintaining said pool shallow relative to the thickness of said underlying block; generally separating a central portion of the rotating pool from an annular outer portion thereof while allowing local intercommunication from the outer to the inner portion and



while pulling an ingot from the central portion and feeding solid polycrystalline semiconductor material to localized areas of the outer portion; supplying heat to said block so as to heat said inner and outer portions of said pool by means of said block; and thereby, due to heat retention in and heat conduction in and from said thick solid block, minimizing relative cooling of said local areas of the outer portion of the pool and consequent thermal unbalance in the inner portion of said pool.

2,977,259
METHOD OF INHIBITING WHITE RUST ON ZINC SURFACES
Ludwig E. Schmeltzer, Trenton, N.J., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Aug. 18, 1959, Ser. No. 834,549
2 Claims. (Cl. 148—6.2)



1. A method of treating galvanized articles to inhibit white rust formation, which comprises immersing the articles in a dilute water solution containing from 0.1 to 0.5% of a dichromate selected from the group consisting of sodium, potassium or ammonium dichromate and then in a dilute water solution containing from 0.1 to 0.6% of a fluoborate selected from the group consisting of sodium and potassium fluoborates, and from 0.1 to 0.4% of one of said dichromates, said last-mentioned solution having a pH of from 4 to 6.

2,977,260
INHIBITION OF CORROSION OF ALUMINUM ALLOYS
Gregory J. Biefer and Ferdinand H. Kruse, Deep River, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a company of Canada
No Drawing. Filed Oct. 9, 1958, Ser. No. 766,179
7 Claims. (Cl. 148—6.27)

1. The process for inhibiting the corrosion of an Al—Ni alloy containing from 0.5–5% Ni which is in contact with an aqueous system at from 150° to 350° C., wherein the alloy is contacted, at said temperature, with a solution consisting essentially of silicic acid in substantially deionized water, the silicic acid being present in an amount varying between 100 p.p.m. up to that amount which produces saturation at the temperature of operation, the silicic acid solution having a pH of not substantially less than 5.0.

2,977,261
HEAT-TREATMENT OF TITANIUM-COPPER ALLOYS
Marion Katherine McQuillan, Birmingham, and Jack Reynolds, Walsall, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Jan. 26, 1959, Ser. No. 788,793
Claims priority, application Great Britain Jan. 29, 1958
10 Claims. (Cl. 148—12.7)

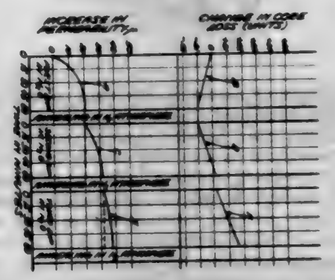
5. A method of treating a titanium-base alloy consisting of between 0.9% and 2.6% copper, balance titanium apart from impurities, which comprises heating the alloy at a temperature between 750° C. and 1000° C. for a period of not less than 5 minutes, cooling the alloy at a rate sufficient to retain the alloy constituents in solid solution and age-hardening the alloy by heating at a temperature between 300° C. and 600° C. for a period between 20 and 1000 hours.

2,977,262
SEMICONDUCTOR DEVICES INCLUDING GALLIUM-CONTAINING ELECTRODES
Carl L. Carlson and Herbert Nelson, New Providence, N.J.; said Carlson assignor to Radio Corporation of America, a corporation of Delaware
Filed May 19, 1955, Ser. No. 589,444
9 Claims. (Cl. 148—33)



3. A semiconductor device comprising a body of a semi-conductive material selected from the class consisting of germanium and silicon having a rectifying electrode surface alloyed thereto, said electrode comprising by weight principally indium alloyed with .05% to less than 1% gallium and up to 10% of a metal selected from the class consisting of silver and gold.

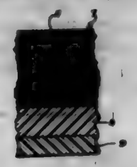
2,977,263
MAGNETIC CORES AND METHODS OF MAKING THE SAME
Alfred Haresnape-Harkness, Chicago, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 3, 1959, Ser. No. 857,104
4 Claims. (Cl. 148—104)



1. In a process of making a magnetic core wherein finely divided magnetic particles are given an insulating coating comprising a refractory metal silicate, magnesium

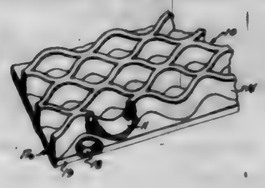
hydroxide and an alkali metal silicate, wherein the insulated particles are compressed into a core, and wherein the core is fired at a temperature of 1000 to 1300° F.; the improved method which comprises the additional steps of wetting the fired core with water, and then refiring the core at a temperature of 1000 to 1300° F.

2,977,264
CONTAINER WITH FILM GLASS AND EPOXY RESIN COMPONENTS IN THERMOPLASTIC WALL STRUCTURES
Wallace H. Shapero, Balboa, and Roy Elbert Davis, Burbank, Calif., assignors, by mesne assignments, to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 18, 1957, Ser. No. 640,630
6 Claims. (Cl. 154—43)



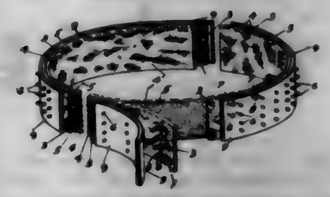
1. In a container, a laminated wall structure embodying a relatively thick, tough, flexible outer layer of thermoplastic plastisol resin and a plurality of minute flakes of film glass of powder size having generally a diameter several times thickness, embedded in said outer layer in overlapping, substantially face to face contact with one another in a continuous vapor impermeable shingled stratum within said outer layer and oriented with their individual planes generally parallel to the wall surfaces of said outer layer; an intermediate relatively thin barrier layer of thermoplastic resin intermixed with a thermosetting resin, resisting the migration of solvents therethrough; and a relatively thin lining of heat sealable thermoplastic resin as the lining of the container, said glass flakes being confined to said outer layer.

2,977,265
CERAMIC STRUCTURE AND METHOD OF MAKING SAME
Richard P. Forsberg, Berkeley, and Kenneth M. Holland, El Cerrito, Calif., assignors to Hexcel Products Inc., Berkeley, Calif., a corporation of California
Filed June 19, 1957, Ser. No. 666,601
5 Claims. (Cl. 154—43)



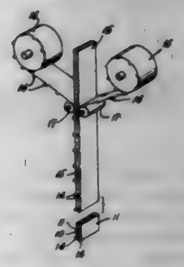
1. A structural sandwich corestock comprising reinforcing web fabricated from sheet material into an integral geometric open cellular section; said sheet material formed throughout its area with closely spaced, relatively small, through-going openings; adjacent reinforcing webs connected together at spaced node areas defining double thickness web portions substantially entirely embedded within walls of baked ceramic composition with said composition penetrating from opposite sides of the web material through said openings homogeneously cohering the composition on opposite sides of the web material including the double thickness node bond areas; said ceramic composition defining generally the same geometric open cellular shape as said reinforcing web and defining a plurality of open ended cell openings extending unidirectionally through the thickness of said structure.

2,977,266
ENDLESS CONVEYOR BELT
Gertrude E. Sedgley, 127 School St., Concord, N.H.
Filed Nov. 19, 1959, Ser. No. 854,162
1 Claim. (Cl. 154—52.1)



An endless conveyor belt comprising two superposed endless plies of fabric cemented together, a plurality of staples extending through and carried by the outer ply, one leg of each staple being bent over into contact with the outer face of the outer ply, and a sheet of rubber material cemented to and covering both the outer face of said outer ply and the bent over portion of one leg of each staple, the other leg of each staple projecting through said sheet of rubber and beyond the outer face thereof.

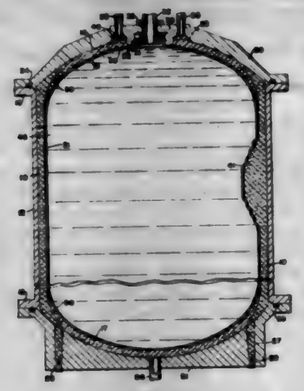
2,977,267
PACKAGING OF TACKY MATERIALS
Merton H. Doolittle, Ossining, N.Y., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 6, 1955, Ser. No. 551,374
2 Claims. (Cl. 154—79)



2. The process for covering a core member having a tacky surface containing rubbery elastomer with a flexible sheet which process comprises interposing between said sheet and said tacky surface a film of pressure-sensitive adhesive mass having a composition different from said tacky surface, said film of pressure-sensitive adhesive mass bonding said sheet to said tacky surface and rendering said sheet strippable therefrom, said core member being a railroad tie pad comprising a composition containing asphalt, pine tar and rubbery elastomer.

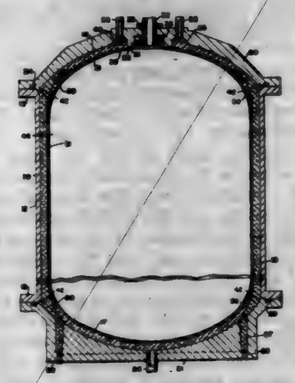
2,977,268
METHOD OF MAKING IMPREGNATED GLASS FIBER ARTICLES
Donald W. Randolph, Gates Mills, Ohio, assignor to Structural Fibers, Inc., Bedford, Ohio, a corporation of Ohio
Filed Apr. 11, 1956, Ser. No. 577,487
9 Claims. (Cl. 154—83)

1. In the manufacture of fiber-reinforced molded resin tanks having a long dimension, the steps of completely encasing a substantially closed, porous, hollow body of loosely matted fibers within a rigid molding chamber providing an inner surface which constitutes the matrix of the shape of the final product and therefore has a corresponding long dimension, filling a flexible envelope which is positioned within said chamber with pressurizing liquid to cause said envelope to be pressed by the pressure of said liquid against the inside of the hollow fiber body and to compress and hold the hollow fiber body against the inner surface of the molding chamber, injecting a measured amount of liquid thermosetting resin into said chamber while venting the top of said chamber and while maintaining the long dimension of said chamber more nearly vertical than horizontal, whereby said resin permeates a portion of said hollow fiber body and air is expressed from said hollow fiber body through said top venting, thereupon introducing additional liquid into said envelope, while maintaining the long dimension of said chamber more nearly vertical than horizontal and while venting the top of said chamber, until said hollow fiber body is further compressed and the resin is distributed throughout said hollow body and air remaining in said walls is expressed through said top venting, and applying heat to set the resin as a homogenous continuous body throughout said hollow fiber body.



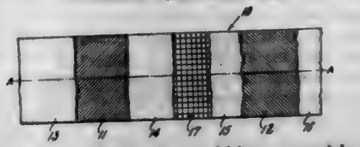
2,977,269
MANUFACTURE OF IMPREGNATED GLASS FIBER TANKS
Charles M. Nerwick, Willoughby, Ohio, assignor to Structural Fibers, Inc., Chardon, Ohio, a corporation of Ohio
Filed June 27, 1958, Ser. No. 745,893
9 Claims. (Cl. 154—83)

1. A method of forming a hollow, fiber-reinforced, molded article, comprising the steps of providing a substantially closed rigid molding chamber lined with porous and compressible fiber matting that includes at least one layer of unwoven loosely felted fibers, expanding a flexible envelope disposed within said chamber into contact with said fiber matting, and creating a relatively high pressure differential between the inside and outside of said envelope sufficient to compress and compact said fiber matting and force it to conform to the mold in firm contact therewith, then reducing said pressure differential to a relatively low value to facilitate permeation of the fiber matting with liquid resin and investing a thermosetting liquid resin into the chamber in permeating relationship with at least a part of said fiber matting, slowly increasing said pressure differential to a final high value sufficient to gradually further compress said fiber matting while venting said molding chamber until gas therein and some excess resin are expressed through said venting from said chamber, and then applying heat to set the resin in permeating relationship with the fiber



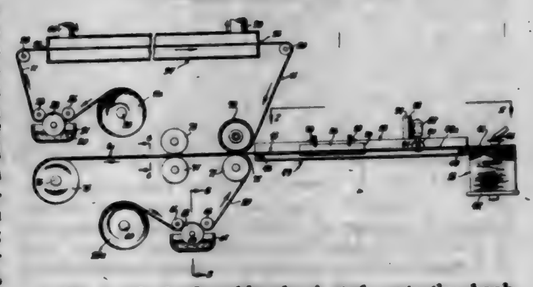
matting to form a substantially homogeneous, molded, hollow body of fiber-reinforced solidified resin.

2,977,270
PROCESS FOR MAKING WEBBING
Morgan D. Bodle, Mishawaka, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 729,635, Apr. 21, 1958. This application June 13, 1960, Ser. No. 35,840
8 Claims. (Cl. 154—93)



5. The method of forming webbing comprising laminating two layers of bias cut, unvulcanized, rubber covered fabric with a layer of relatively unstretchable, straight cut, woven fabric of less strength and elongation at break than said bias cut fabric, suspending lengths of the laminate so formed between spaced supports in a curing chamber and, while said laminate is so suspended, subjecting said laminate to heat and pressure for a sufficient time to vulcanize said rubber.

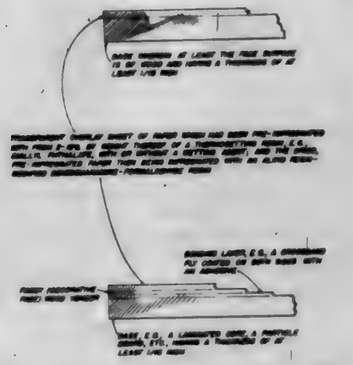
2,977,271
METHOD OF MAKING LAMINATED PROTECTIVE BOOK COVER
Wilton J. Lutwack, 701 Seneca St., Buffalo, N.Y.
Filed Dec. 31, 1956, Ser. No. 631,520
2 Claims. (Cl. 154—118)



1. The method of making laminated protective book covers adapted to fold around the back and covers of a book and having transparent centers through which the back of the book is visible, which comprises arranging a

succession of individual disconnected rectangular paper sheets in centered relation in a row with their advancing and trailing edges in edge-to-edge abutting relation with one another, moving said row longitudinally, cutting the sheets in said moving row along a line extending lengthwise of said row to provide two moving rows of sections of said individual disconnected paper sheets, separating said two moving rows of sections bodily apart to provide a space therebetween of predetermined width and bounded by opposing edges of said two rows, applying a transparent adhesive to substantially the entire surface of one face of a relatively wide first strip of transparent sheet material, moving said first strip longitudinally along with and in face-to-face contact of its said one face with said two rows of sections and with the longitudinal central portion of said first strip bridging said space and being provided with said adhesive on its said one face, moving a second relatively narrow strip of transparent material longitudinally along with and in face-to-face contact with said one face of said first strip along said longitudinal central portion thereof to provide a double thickness of transparent material at said space, and transversely cutting both of said transparent strips along the advancing and trailing edges of said sections of said paper sheets.

2,977,272
LAMINATED ARTICLES
Lewis C. Pounds, Riverside, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed June 12, 1957, Ser. No. 665,308
8 Claims. (Cl. 154—132)



5. The process of making a laminated article which comprises bonding directly to a base member, by the application of heat and pressure, a resin-impregnated overlay sheet of paper, said base member having a thickness of at least 1/16 inch and at least its face surface being of wood, the said thickness being correlated with the density of the said base member whereby the latter is adapted to retain its normal form under moderate stress, said paper having been pre-impregnated with an impregnant comprising (1) from 2% to about 15%, by weight of the dry impregnated paper, of diallyl phthalate, and the pre-impregnated paper in dry state thereafter being impregnated with (2) a curable resinous composition comprising a compatible blend of (A) an uncured resinous product of reaction of ingredients consisting essentially of formaldehyde and benzoguanamine in a molar ratio of from about 1:1 to about 4:1, said ingredients being caused to react until a condensation product is formed, a 50% solution of which in ethyl alcohol is stable at 20°–25° C. for at least 5 hours, but the reaction not being allowed to proceed beyond the point where the condensation product has a plasticity of about 60 mils as determined by the Cyanamid test method, and (B) from about 10% to about 50%, based on the total weight of (A) and (B), of an alkyd resin which is compatible with the resin of (A), the polymeric diallyl phthalate of (1) improving the transparency and resistance to water-spotting of the overlay sheet in the finished article, the resinous materials of (1) and (2) being in cured state in the finished article and, in such state, the resinous composition of (2) constituting at least about 65% by weight of the dry overlay paper in its finally treated form.

2,977,273
ROOM TEMPERATURE LAMINATING COMPOSITION AND METHOD OF MAKING LAMINATED PRODUCTS
Otto Hans Kerican, 225 W. Lafayette Ave., Baltimore 17, Md.
No Drawing. Filed Nov. 28, 1956, Ser. No. 624,756
10 Claims. (Cl. 154—140)

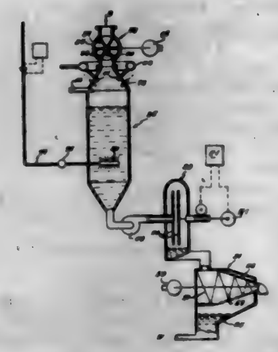
1. An adhesive comprising a mixture of an alkaline condensed fusible phenol formaldehyde condensation product which is solid at room temperature and which has a melting point of at least about 135° F. with an alkaline condensed fusible phenol formaldehyde condensation product which is liquid at room temperature, each of said solid and liquid phenol formaldehyde condensation products prepared from a para hydrocarbon substituted phenol in which the hydrocarbon radical is selected from the group consisting of aliphatic radicals and carbocyclic radicals and in which only one of said solid and liquid products has an aliphatic radical, and a formaldehyde in a molar ratio of about 1:1 to 1:3, together with about three times the weight of said solid and liquid products of polymerized chloroprene and a litharge accelerator for said mixture, there being from about 20 parts to about 40 parts of said solid phenol-formaldehyde condensation product dissolved in 100 parts of said liquid phenol formaldehyde condensation product.

6. A method of bonding at room temperature a cured abraded surface of a phenol aldehyde impregnated cellulose laminate to the surface of a base comprising coating each of said surfaces of laminate and base with an organic solvent solution of an adhesive consisting essentially of a mixture of an alkaline condensed fusible phenol aldehyde condensation product which is solid at room temperature, having a melting point of at least about 135° F., with an alkaline condensed fusible phenol aldehyde condensation product which is liquid at room temperature, each of said solid and liquid phenol condensation products prepared from a para hydrocarbon substituted phenol in which the hydrocarbon radical is selected from the group consisting of aliphatic radicals and carbocyclic radicals and in which only one of said solid and liquid products has an aliphatic radical, and an aldehyde in a molar ratio of about 1:1 to 1:3, there being from about 20 parts to about 40 parts of said solid phenol-formaldehyde condensation product dissolved in 100 parts of said liquid phenol formaldehyde condensation product, and with about three times the weight of said combined liquid and solid phenol condensation products of polymerized chloroprene containing a litharge accelerator for said adhesive, drying each of said coatings on said surfaces and bringing the surfaces together in air tight relationship to bond the same at room temperature.

2,977,274
DIGESTION OF PULP
Robert F. Hollis, Alton, Ill., assignor to Alton Box Board Company, Alton, Ill., a corporation of Delaware
Filed July 24, 1957, Ser. No. 673,874
5 Claims. (Cl. 162—4)

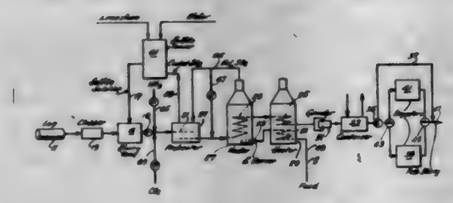
1. In the art of making paper from waste papers which contain thermoplastic contaminants, the process which

comprises the steps of continuously diluting and heating stock by feeding it into a vessel containing liquid maintained under pressure and at temperatures above 100° C., thereby quickly to elevate the temperature and dilute the incoming stock, withdrawing said stock from said



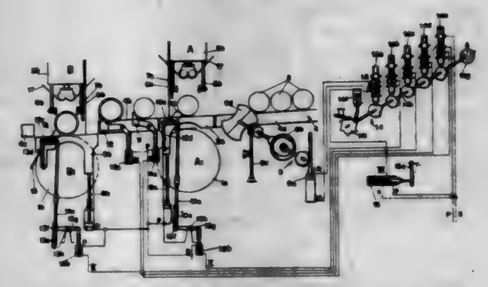
vessel at a rapid rate so that it does not remain in the vessel over a prolonged period of time, and then squeezing the hot diluted stock in a rotary screw press, thereby smearing the softened thermoplastic contaminants as the water is extracted.

2,977,275
CONTINUOUS DIGESTION PROCESS AND APPARATUS
Lincoln Thomas Work, Maplewood, N.J., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1955, Ser. No. 533,326
13 Claims. (Cl. 162—64)



1. A process for manufacturing pulp comprising forming a flowable mixture of relatively coarse particles of cellulosic substance in vaporizable liquid; bringing delignifying chemical into contact with said substance; passing said mixture as a flowing stream into and through a confined heating zone; introducing a separate stream of gas selected from the group consisting of carbon dioxide, ammonia and sulfur dioxide into said confined heating zone concurrently with said flowing stream, said gas acting to increase the velocity of said flowable mixture and subsequent dispersion, and also to assist in the digestion of said particles; heating said mixture as it flows through said zone sufficiently to vaporize at least 70% of said liquid to vapor, forming therein a flowing dispersion of said particles in said gas and said vapor; and disintegrating said particles by passing said dispersion through a succeeding zone of high velocity flow and subjecting the flowing stream in said succeeding zone to turbulence and a high velocity in excess of 25 feet per second.

2,977,276
METHOD AND MACHINE FOR MANUFACTURING ASBESTOS CEMENT TUBES
Dante Colliva, Milan, Italy, assignor, by mesne assignments, to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Aug. 10, 1955, Ser. No. 527,466
Claims priority, application Italy Sept. 16, 1954
13 Claims. (Cl. 162—118)

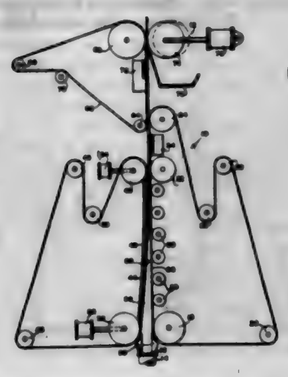


1. In a machine for continuously forming tubes of asbestos-cement on a succession of collecting cylinders; the combination of first and second, alternately operative tube forming devices disposed alongside each other, means defining an inclined guideway extending laterally past said tube forming devices to receive empty collecting cylinders at one side of the machine and to discharge the collecting cylinders, with tubes formed thereon, from the other side of the machine, feeding means disposed adjacent said guideway at said one side of the machine and operative to permit the cylinders on said guideway to enter the machine one by one, first, second, third and fourth stop members disposed at said first tube forming device, at two spaced-apart locations between said first and second tube forming devices and at said second tube forming device, respectively, and being individually movable between operative positions projecting into the rolling path of the collecting cylinders defined by said inclined guideway and retracted positions withdrawn from said rolling path, and means synchronously operating said feeding means and said stop members, in sequence, so that, during the operation of said second tube forming device, a cylinder, with a tube previously formed thereon by said first device, is permitted to roll along said guideway from said first device and is arrested by said third stop member and, thereafter, two successive empty collecting cylinders are permitted to enter the machine and are brought to rest against said second and first stop members, respectively, and so that, during the subsequent operation of said first device to form a tube on the cylinder arrested by said first stop member, the collecting cylinders with tubes formed thereon during previous operations of said second and first devices, respectively, are permitted to roll out of the machine along said guideway and, thereafter, the empty collecting cylinder arrested by said second stop member is permitted to further roll along said guideway and be arrested by said fourth stop member to be then in position for a subsequent operation of said second tube forming device.

2,977,277
METHOD AND APPARATUS FOR MAKING A WEB OF FIBROUS MATERIAL
Jack Reed Kelly, % The Pusey & Jones Corp., Kennett Square 99, Pa.
Filed July 15, 1957, Ser. No. 671,869
17 Claims. (Cl. 162—283)

1. A method of making a continuous web of fibrous material which comprises continuously projecting a stock

containing liquid and fibers upwardly at an angle to the horizontal of at least of the order of 45° at a rate such that its initial energy is substantially entirely velocity energy, directing the fibers so that their upward movement is continued while allowing a substantial part of the



upwardly moving liquid to be progressively halted by the action of gravity and moved downwardly away from the upwardly directed fibers and the stock projection, and continuously removing in a continued upward direction the upwardly directed fibers as a web of fibrous material.

2,977,278

ANIONIC-CARRIER IODINE COMPOSITIONS FOR CONTROLLING MICROORGANISMS

Morris V. Sheluski, Bridgeport, Pa., and Murray W. Winicov, Flushing, N.Y., assignors to West Laboratories, Inc., Long Island City, N.Y., a corporation of New York

No Drawing. Filed Mar. 4, 1958, Ser. No. 718,959
12 Claims. (Cl. 167—17)

10. The method of protecting organic material susceptible to attack by fungi which comprises applying to the said organic material, in amounts sufficient to protect the said organic material from fungicidal attack, a copper chelate coordination complex with an N-alkenylalkylenepolyamine containing from three to five amino nitrogen groups separated by alkylene chains of from two to three carbon atoms, wherein the alkenyl radical contains from eight to eighteen carbon atoms.

2,977,279

COPPER CHELATE COORDINATION COMPLEXES

Milton Kosmin, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 29, 1955, Ser. No. 549,887
13 Claims. (Cl. 167—22)

10. The method of protecting organic material susceptible to attack by fungi which comprises applying to the said organic material, in amounts sufficient to protect the said organic material from fungicidal attack, a copper chelate coordination complex with an N-alkenylalkylenepolyamine containing from three to five amino nitrogen groups separated by alkylene chains of from two to three carbon atoms, wherein the alkenyl radical contains from eight to eighteen carbon atoms.

2,977,280

PROCESS FOR TREATING FOOT ROT WITH QUATERNARY AMMONIUM COMPOUNDS

Bruce Adam Forsyth, Mitcham, Victoria, and Alan Stokoe Taylor, Croydon, Victoria, Australia, assignors to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Australia, a corporation of Australia

No Drawing. Filed May 20, 1957, Ser. No. 660,030
Claims priority, application Australia May 30, 1956
5 Claims. (Cl. 167—53.3)

1. Process for the treatment of domestic animals infected with footrot disease which comprises applying to the said animals an effective amount of a quaternary ammonium cationic detergent and antiseptic as the essential agent for treating said disease, said agent being used in the form of an alcohol solution wherein for every 100 parts by weight of solution, there is present between 10 parts by weight and 30 parts by weight of said agent.

2,977,281

BUFFERED PARA-AMINOSALICYLIC ACID ORAL COMPOSITIONS

Milton Feier, New York, and Myron Pantzer, Brooklyn, N.Y., assignors to The Pauray Corp., Englewood, N.J., a corporation of New York

No Drawing. Filed Mar. 10, 1954, Ser. No. 415,417
4 Claims. (Cl. 167—65)

1. A pharmaceutical preparation for oral administration and effective in the treatment of tuberculosis, which comprises from about one to about two parts of dihydroxy aluminum aminoacetate and from about four to about three parts of calcium carbonate to about twenty parts of para-aminosalicylic acid, which preparation is generally free of the gastric disturbances ordinarily provoked by para-aminosalicylic acid and its water-soluble salts when taken alone.

2,977,282

PLANT DISEASE CONTROL

Reed A. Gray, Roselle, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 14, 1955, Ser. No. 488,119
10 Claims. (Cl. 167—65)

1. A composition useful for protecting growing plants against infectious organisms which consists essentially of an aqeous solution of about 5 to 5000 parts, per million parts of aqueous solution, of an antibiotic effective against plant diseases caused by infectious organisms and about 0.05 to 5% by volume of a polyhydroxy alcohol having the formula $R—(CH—OH)_n—H$ wherein R is selected from the group consisting of hydrogen and methyl and n is a whole integer varying from two to six, inclusive, when R is hydrogen and is the whole integer two when R is methyl.

2,977,283

THERAPEUTIC INTRAVENOUS FAT COMPOSITIONS

Curtis E. Meyer, Charleston Township, Kalamazoo County, Mich., James A. Fancher, Kalamazoo, Mich., and Paul E. Schurr, Portage Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Original application Apr. 30, 1956, Ser. No. 581,269. Divided and this application Sept. 5, 1957, Ser. No. 682,861
7 Claims. (Cl. 167—66)

1. A therapeutic fat product which is especially suitable for intravenous use in human beings, which product comprises a metabolizable, non-toxic, fixed oil emulsified in an aqueous vehicle by a soya phosphatide fraction which (1) is stable; (2) is water-dispersible; (3) is vegetable oil-soluble; (4) is monatomic lower-molecular weight aliphatic alcohol-soluble; and (5) is prepared by

adsorbing undesirable reactive materials found in monatomic lower molecular weight aliphatic alcohol-dissolved soya phosphatides on an adsorbent selected from the group consisting of aluminum oxide, magnesium oxide and activated carbon.

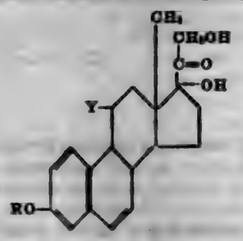
2,977,284

A-RING AROMATIC Δ^4-STEROIDS AND THEIR PREPARATION

Eugene J. Agnello and Gerald D. Laubach, Jackson Heights, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 3, 1958, Ser. No. 712,631
3 Claims. (Cl. 167—77)

1. A compound selected from the group consisting of



wherein R is selected from the group consisting of methyl and ethyl and Y is selected from the group consisting of keto and β-hydroxy; 21-position esters thereof with a monocarboxylic acid; 21-position acid esters thereof with a dicarboxylic acid, said mono and dicarboxylic acids containing only carbon, hydrogen and oxygen up to a total of twenty carbon atoms; 21-position esters thereof with inorganic acids; 21-position acid esters thereof with inorganic acids containing more than one replaceable hydroxyl group; and alkali metal and alkaline earth metal salts of said acid esters.

3. A pharmaceutical composition comprising a compound as claimed in claim 1 together with a pharmaceutically acceptable carrier.

2,977,285

PROCESS OF PRODUCING GIBBERELLIC ACID

Arthur John Birch, Manchester, and Ian Stewart Nixon and John Frederick Grove, Welwyn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 17, 1959, Ser. No. 807,009
Claims priority, application Great Britain Apr. 23, 1958
1 Claim. (Cl. 195—36)

An improved metabolic process for the production of gibberellic acid by cultivating an active strain of *Gibberella fujikuroi* in a nutrient medium and checking active growth to promote gibberellic acid production characterized in that the rate of the said acid production is increased by the addition of mevalonic acid lactone as a precursor to the nutrient medium.

2,977,286

SYNTHESIS OF STEROIDS WITH *KABATIELLA PHORADENDRI*

Allen I. Laskin, Franklin Township, Mariano A. Gutshall, Edison, and Josef Fried, Princeton, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 22, 1959, Ser. No. 814,986
5 Claims. (Cl. 195—51)

1. A process for preparing a 21-hydroxylated steroid of the pregnane series, which comprises subjecting a steroid of the pregnane series, unsubstituted in the 21-position, to the action of enzymes of the microorganism *Kabatiella phoradendri* in the presence of oxygen and recovering the resulting 21-hydroxy steroid.

2,977,287

ENZYME AND METHOD FOR PREPARATION

Alfred Bloch, Highland Park, and Ralph A. Messing, Somerville, N.J., assignors to Ethicon, Inc., a corporation of New Jersey

No Drawing. Filed Nov. 25, 1957, Ser. No. 698,367
9 Claims. (Cl. 195—62)

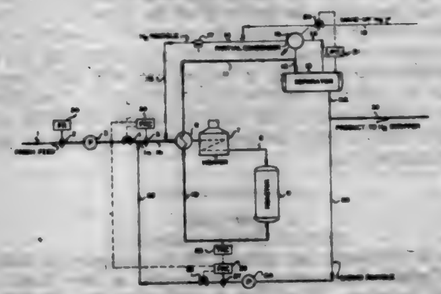
1. A method for preparing improved pinguinain which comprises the steps of pressing the fruit of *Bromelia pinguin*, separating the resulting juice, spray drying the same at an inlet temperature of from about 200° F. to about 250° F., at an outlet temperature of from about 95° F. to about 225° F. and at a feed temperature of from about 70° F. to about 100° F. and fractionating an aqueous solution of the dried enzyme so obtained with a member selected from the group consisting of an aqueous ammonium sulfate solution having a salt concentration from about 0.15 saturation to about 0.4 saturation and an aqueous lower alkanol at a concentration of from about 37 to 71%, said fractionation being accomplished at a temperature from about 0° C. to about 25° C.

2,977,288

HYDROGENATION UNIT CONTROL SYSTEM

John T. Cabbage, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 4, 1958, Ser. No. 759,909
4 Claims. (Cl. 196—132)



1. An improved apparatus useful for hydrogenation comprising, in combination, a reactor, feed conduit means connected to one end of said reactor, a heater in said feed conduit, an effluent conduit means connected to the other end of said reactor and to a vapor-liquid separation means, a vapor outlet and a liquid outlet in said separation means, and a liquid recycle conduit means connected to said liquid outlet and to said feed conduit upstream of said heater, the improvement comprising a temperature measuring means in said effluent conduit, first control valve means in said recycle conduit, second control valve means in said feed conduit upstream of the point of connection of said recycle conduit with said feed conduit, and a flow controller operatively connected to said temperature measuring means and said first and second control valves, said flow controller being adapted to automatically adjust said first valve by throttling same, said second valve being fully open, up to a predetermined maximum temperature where said first valve is fully open, and said flow controller being further adapted to automatically adjust said second valve by throttling same above said predetermined maximum temperature while said first valve is fully open.

2,977,289

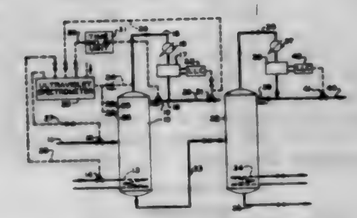
FRACTIONATION PROCESS CONTROL

Carl M. Kron, Houston, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 20, 1958, Ser. No. 710,179
5 Claims. (Cl. 202—40)

1. In the art of fractionating a stream containing isohexane, normal hexane and a small amount of benzene,

the steps which comprise introducing said stream into a fractionation zone; controlling heat supplied to the bottom of said zone, heat withdrawn from the top of said zone, the feed rate, the rate of withdrawal of overhead product and bottom product and the reflux rate as operating variables to separate said stream into an overhead product containing isohexane and more volatile materials and a bottom product containing normal hexane and less volatile materials; withdrawing a sample from a region of said zone located substantially above the region of feed



introduction; analyzing said sample to produce an output signal representative of the benzene content thereof by passing a beam of ultraviolet radiation through said sample and measuring the intensity of the beam after it has passed through said sample, the measured intensity being representative of said output signal; and controlling one of said operating variables in accordance with said output signal to maintain said benzene content at a predetermined value less than the benzene content of said stream so that substantially no normal hexane appears in said overhead product.

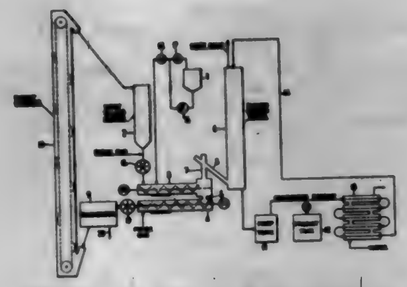
2,977,290
SEPARATION PROCESS
Lars E. Molander, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 5, 1957, Ser. No. 700,733
1 Claim. (Cl. 202—42)

A method of purifying crude normal butyl chloride containing more than about 0.3 percent by weight of normal butanol which comprises distilling said crude normal butyl chloride in the presence of between about 7 percent and 30 percent by volume of water added as an entraining agent, and recovering a separate normal butyl chloride-water heterogeneous azeotrope fraction with a reduced normal butanol content of less than 0.3 percent normal butanol.

2,977,291
PURIFICATION OF GLYCEROL
Ludwig A. Hartmann, Swarthmore, Pa., assignor to Atlas Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 10, 1958, Ser. No. 714,962
8 Claims. (Cl. 202—57)

1. In the process of recovering high purity glycerol from the reaction mixture resulting from the catalytic hydrogenolysis of saccharidic materials the steps which comprise stripping said mixture under vacuum until the still residue is substantially glycerol free, fractionally distilling the strippings under vacuum to remove therefrom the major proportion of glycols and other components more volatile than glycerol and subjecting the resulting fraction containing the glycerol from the said mixture, together with impurities distilling therewith, to treatment with from 0.05% to 2.5% by weight of sulfuric acid at a temperature of from 100° to 140° C. for a time to about 6 hours, neutralizing the acid treated material, fractionally distilling the neutralized product under vacuum, and collecting the glycerine fraction.

2,977,292
PROCESS OF TREATING METAL HALIDES
Arthur C. Ellsworth, Pittsburgh, Pa., assignor, by mesne assignments, to Pittsburgh Plate Glass Company
Filed July 23, 1957, Ser. No. 673,662
10 Claims. (Cl. 202—72)



1. A method comprising separating metal halide components from a slurry of solid and liquid metal halides which comprises heating inert, particulate solids to a temperature above the volatilization point of a portion of the slurry, establishing a moving stream of the hot, inert solids, introducing the slurry into the moving stream, volatilizing a portion of the slurry by contact thereof with the inert solids in the moving stream, removing the vapors produced by the volatilization from the moving stream, and forming a deposit of the unvolatilized portion of the slurry in the moving stream.

2,977,293
METHOD FOR THE DETERMINATION OF ION CONCENTRATIONS AND REDOX POTENTIALS, PARTICULARLY AT ELEVATED TEMPERATURES
Werner Ingold, Wanggasse 7, Zurich, Switzerland
Filed Mar. 13, 1957, Ser. No. 645,692
Claims priority, application Switzerland Mar. 16, 1956
3 Claims. (Cl. 204—1)



1. A method of operating measuring assemblies particularly suitable for the determination of ion activity in the range of 80° to at least 130° C. by means of a reference electrode and a measuring glass electrode, comprising supplying both electrodes with a lead-off system of a silver-silver chloride half-cells into which a silver wire dips into an aqueous solution of a saturated solution of neutral alkali chloride and is at the same time surrounded and in contact with an excess of silver chloride particles so that the electrolyte is maintained at the concentration corresponding to the working temperature by dissolution of the silver chloride present in a state of high dispersion

and in surplus quantity, so that the potential of said half-cells remains constant and reproducible also for elevated temperatures in the range from 80° to at least 130° C.

2,977,294
PROCESS FOR PRODUCING OXIDE COATINGS ON ALUMINUM AND ALUMINUM ALLOYS
John B. Franklin, Norwalk, Calif., assignor to Sanford Process Co., Inc., Los Angeles, Calif., a corporation of California
No Drawing. Filed Apr. 5, 1957, Ser. No. 650,873
16 Claims. (Cl. 204—42)

1. A process for coating aluminum articles with a hard and dense coating of oxide of aluminum which comprises passing an electric current at increasing voltage through an electrolytic cell containing an electrolyte with said article forming the anode, said electrolyte comprising a water solution of sulfuric acid having an acid concentration equivalent to between about 16 and 20% by volume of solution of 66 Baumé sulfuric acid and an oxide coating accelerator as additive, until an oxide coating of at least about .0005" and not greater than .003" thick is formed and continuing to electrolytically oxidize said article at increasing voltage in an electrolyte comprising a water solution of sulfuric acid having an acid concentration equivalent to between about 7 and 12% by volume of solution of 66 Baumé sulfuric acid and an oxide coating accelerator as additive, until a desired increase in oxide coating thickness substantially greater than the coating thickness produced in said first electrolyte is formed.

2,977,295
ELECTROPLATING PROCESS
Carl F. Cooper, Grass Lake, Mich.
No Drawing. Filed Jan. 14, 1958, Ser. No. 708,767
14 Claims. (Cl. 204—43)

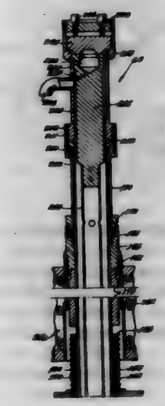
1. An aqueous composition suitable for the electroplating of zinc on a metal selected from the group consisting of aluminum, steel and magnesium, said composition comprising essentially in solution at least about 10 grams of zinc per liter and at least about 10 grams of titanium per liter, the principal negative ions of said solution being fluoborate ions; said solution being maintained sufficiently acidic so that it manifests a yellow to yellow brown color as opposed to the emerald green color of solutions more acidic and the brown color of solutions less acidic.

2,977,296
PRESERVATION OF CUT FLOWERS
Wayne L. Ryan, 3084 S. 40th St., Omaha, Nebr.
Filed June 14, 1957, Ser. No. 665,817
3 Claims. (Cl. 204—149)



3. In a method of providing a water stream useful for preserving cut flowers, and the like, the steps of directing a stream of water through a pair of electrodes each comprising about 90% silver and 10% zinc while applying direct current voltage between the electrodes and limiting the current to a value resulting in the solubilization of said electrodes at the rate of about 1–500 parts per million in the water flowing therethrough.

2,977,297
REACTOR FUEL ASSEMBLY
Ersel A. Evans, Robert J. Amicetti, and William E. Roake, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 2, 1958, Ser. No. 758,632
4 Claims. (Cl. 204—193.2)

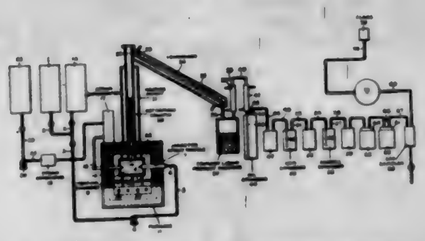


1. A fuel assembly for a pressurized water nuclear reactor to be suspended within a process tube in the active portion thereof from a perforated tube comprising a solid cylindrical element containing thermal neutron fissionable material, a first tubular element containing thermal neutron fissionable material concentrically surrounding and spaced from said solid element, a second tubular element containing thermal neutron fissionable material concentrically surrounding and spaced from said first tubular element, means for rigidly connecting the upper end of said first tubular element to said perforated tube, and means for rigidly supporting said solid element and said second tubular element at their lower ends to the lower end of said first tubular element whereby said elements are free to axially expand at different rates.

2,977,298
HIGH-SELECTIVITY AND CONDUCTIVITY PERM-SELECTIVE MEMBRANES AND PROCESS FOR PRODUCING SAME
Brian Alfred Cooke, Thomas David Morgan, and Hildegard Emilie Luise Gertrud Schweigart, all of Pretoria, Transvaal, Union of South Africa, assignors to South African Council for Scientific and Industrial Research, Pretoria, Transvaal, Union of South Africa
No Drawing. Filed Nov. 5, 1957, Ser. No. 694,491
Claims priority, application Union of South Africa Nov. 9, 1956
14 Claims. (Cl. 204—296)

1. A process of preparing permselective membranes from parchmentised paper, comprising the steps of (I) impregnating the parchmentised paper with an aqueous solution having a pH value within the range of 1.5 to 4.0, and containing, per liter of said solution, (*a*) not less than 0.5 mole of a salt which possesses both ionic and N-methylolamide groups, (*b*) between 0.2 and 2.5 moles of a phenol having at least two hydrogen atoms susceptible to methylol formations and (*c*) formaldehyde in the molar ratio of 1.0 to 5.0 mole of aldehyde per mole of phenol, and (II) heating the so-impregnated parchmentised paper at a temperature of at least 120° C. whereby water escapes and the product is obtained in a dry state.

2,977,299
PRODUCTION OF CHEMICAL PRODUCTS FROM COAL PRODUCTS
Robert T. Joseph, Northampton Township, and James B. Maguire, Elkins Park, Pa., assignors to Allied Chemical Corporation, a corporation of New York
Filed Oct. 15, 1957, Ser. No. 690,292
13 Claims. (Cl. 208—8)



4. A method of producing products of greater value from a coal tar oil obtained from the low temperature carbonization of a coal solid which comprises subjecting the coal tar oil to rapid pyrolysis in the presence of steam by spraying the coal tar oil at a temperature not exceeding 110° C. into a heated pyrolysis chamber maintained between 600° and 1000° C. and having its inner surface formed of a refractory material selected from the group consisting of alumina and alumina-silica fire clay, whereby the coal tar oil contacts the hot refractory surface and is substantially instantaneously pyrolyzed, while introducing steam into the pyrolysis chamber in an amount by weight ranging from 1 to 4 times the weight of the coal tar oil, promptly withdrawing the resulting gas and vapor mixture and passing it through a reforming chamber wherein said mixture is maintained at a temperature between 800° and 1000° C. for an additional period of time not exceeding 1 second while in contact with coke particles of a size ranging from 30 mesh to 1 inch, cooling the resulting products below 100° C., and collecting the resulting products.

2,977,300
METHOD OF PRODUCING HEAT-STABLE GREASES
Charles R. Bergen, Schenectady, N.Y., and William P. Scott, Richard M. Tillman, and Warren W. Woods, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Aug. 21, 1958, Ser. No. 756,301
7 Claims. (Cl. 252—18)

1. The method of preparing a heat-stable grease which comprises:
(*a*) forming an alcoholic solution of calcium sulfhydrate by passing hydrogen sulfide through an alcoholic slurry of an inorganic calcium compound selected from the group consisting of calcium oxide, calcium hydroxide, and hydrates of calcium hydroxide;
(*b*) admixing the resulting alcoholic slurry of calcium sulfhydrate with an oil soluble alkyl aryl sulfonic acid dissolved in an oleaginous vehicle;
(*c*) condensing from the resulting solution as a stable dispersion an oil insoluble calcium carbonate in particles, the diameters of which are less than .25 micron, by passing carbon dioxide through said solution to convert the calcium sulfhydrate to calcium carbonate;
(*d*) admixing the resulting dispersion of calcium carbonate with an organic acid selected from the group consisting of itaconic acid, pyromellitic acid, 2-methyl adipic acid, 3-tertiary butyl adipic acid, 3-tertiary amyl adipic acid, octyl adipic acid, furoic acid, mercapto succinic acid, 2,3-dibromo succinic acid, 5- methyl -4-cyclo-hexane-1,2-dicarboxylic acid, (m-phenylenedioxy) diacetic acid, benzylmalonic acid, terephthalic acid, and thiodiglycolic acid, dissolved in a volatile organic solvent for said acid wherein the amount of said acid is equivalent to that which varies from 37 to 85 percent of that theoretically required for the neutralization of said calcium carbonate; and then
(*e*) agitating the resulting mixture while concurrently removing the volatile solvents therefrom.

2,977,301
WIDE-TEMPERATURE RANGE GREASES
Charles R. Bergen, Schenectady, N.Y., and William P. Scott, Richard M. Tillman, and Warren W. Woods, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Aug. 21, 1958, Ser. No. 756,302
22 Claims. (Cl. 252—18)

1. A grease composition comprising a major amount of a synthetic lubricant selected from the group consisting of aliphatic diesters, polyesters, and silicate esters, a minor amount of a grease-forming agent, said grease-forming agent consisting of a colloidal dispersion in an oil-soluble metal sulfonate of both calcium carbonate and the reaction product of calcium carbonate and a low molecular weight polycarboxylic acid selected from the group consisting of 3-methyl glutaric acid, itaconic acid, pyromellitic acid, 2-methyl adipic acid, 3-tertiary butyl adipic acid, 3-tertiary amyl adipic acid, octyl adipic acid, furoic acid, mercapto succinic acid, 2,2-dibromo succinic acid, 5-methyl-4-cyclohexane-1,2-dicarboxylic acid, (m-phenylenedioxy) diacetic acid, benzylmalonic acid, terephthalic acid, and thiodiglycolic acid in the presence of an oil-soluble metal sulfonate, wherein the amount of said acid is equivalent to that which varies from 37 to 85 percent of that theoretically required for neutralization of said calcium carbonate originally present, and a minor amount of an agent for reducing extreme thixotropy in said grease composition, said agent being selected from the group consisting of methacrylate ester co-polymers having molecular weights in the range of 15,000 to 40,000 and silicone polymers.

2,977,302
METHOD OF LUBRICATION EMPLOYING A MIXED METAL SULFIDE LUBRICANT AND BEARING SURFACE WITH SAME APPLIED THERETO
Günter Spengler and Hannsheinz Hohn, Munich, Germany, assignors to The Alpha Molykote Corporation, Stamford, Conn.
No Drawing. Filed June 5, 1957, Ser. No. 663,611
Claims priority, application Germany June 29, 1956
12 Claims. (Cl. 252—25)

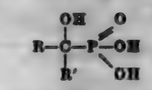
1. A method of lubricating a bearing surface which comprises applying thereto, as a lubricant, a mixed metal sulfide having a crystalline, layer-lattice structure and prepared by thermal decomposition of a mixed metal tetrathio compound having the general formula

$$Me_x(MS_4)_y$$

wherein M is a metal selected from the group consisting of molybdenum and tungsten, Me is another heavy metal of groups I*b*, II*b*, IV*a*, V*a*, VI*b*, VII*b* and VIII of the periodic system, *x* and *y* are integers, and twice *x*/*y* corresponds to the valence of Me.

2,977,303
LUBRICANTS CONTAINING SALTS OF ORGANIC-SUBSTITUTED PHOSPHONIC ACID
Arnold J. Morway, Clark, Jeffrey H. Bartlett, New Providence, and Clifford W. Minnig, Colonia, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 25, 1957, Ser. No. 655,001
8 Claims. (Cl. 252—32.5)

1. A lubricant composition comprising mineral lubricating oil in a major proportion and about 5 to 3 wt. percent of a mixed-salt complex comprising metal salt of fatty acids selected from the group consisting of intermediate and high molecular weight fatty acids and metal salt of a phosphonic acid having the formula:



wherein R and R' are selected from the group consisting of hydrogen and aliphatic hydrocarbon radicals, the total number of carbon atoms in the molecule are 11 to 31, and wherein the molar ratio of said fatty acid to said phosphonic acid is about 1 to 5 moles of fatty acid per mole of phosphonic acid and wherein said metal is selected from the group consisting of alkali metals and alkaline earth metals.

2,977,304
LUBRICATING OIL COMPOSITION
Richard L. Ferm, El Cerrito, and Andrew D. Abbott, Ross, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Mar. 31, 1958, Ser. No. 724,820
4 Claims. (Cl. 252—32.7)

1. A lubricating oil composition comprising a major portion of a mineral lubricating oil, from 0.1 to 10.0% by weight of an oil soluble copolymer of (A) an ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 4 to 6 carbon atoms each, (B) an ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 12 to 20 carbon atoms each and (C) vinyl pyrrolidone, said copolymer having a molecular weight in the range of 100,000 to 300,000 and said vinyl pyrrolidone being from about 0.1 to about 35.0% by weight of the copolymer, from 5 to 100 millimoles per kilogram of a metal salt organic detergent additive selected from the class consisting of neutral alkaline earth metal petroleum sulfonate, alkaline earth metal phenate, sulfurized alkaline earth metal phenate and zinc aromatic dithiophosphate in which the aromatic groups are selected from the class consisting of alkylphenyl and alkylnaphthyl groups and from 0.05 to 1.0% by weight of propylene carbonate.

2,977,305
LUBRICATING OIL COMPOSITION
Andrew D. Abbott, Ross, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Mar. 31, 1958, Ser. No. 724,871
6 Claims. (Cl. 252—32.7)

1. A mineral lubricating oil composition comprising a major portion of a mineral lubricating oil, from 0.1 to 10.0% by weight of an oil-soluble copolymer of (A) an ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 4 to 6 carbon atoms each, (B) an ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 12 to 20 carbon atoms each and (C) vinyl pyrrolidone, said copolymer having a molecular weight in the range of 100,000 to 300,000 and said vinyl pyrrolidone being from about 0.1 to about 35.0% by weight of the copolymer, from 5 to 100 millimoles per kilogram of a metal salt organic detergent additive selected from the class consisting of neutral alkaline earth metal petroleum sulfonate, alkaline earth metal phenate, sulfurized alkaline earth metal phenate and zinc aromatic dithiophosphate in which the aromatic groups are selected from the class consisting of alkylphenyl and alkylnaphthyl groups and from 0.05 to 1.0% by weight of alkanediol containing from 4 to 8 carbon atoms.

2,977,306
LUBRICANT COMPOSITION
Andrew D. Abbott, Ross, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Mar. 31, 1958, Ser. No. 724,872
5 Claims. (Cl. 252—33.7)

1. A lubricating oil composition comprising a major portion of a mineral lubricating oil, from 0.1 to 10.0% by weight of oil-soluble copolymer of (A) ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 4 to 6 carbon atoms each, (B) ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 12 to 20 carbon atoms each and (C) vinylpyrrolidone, said copolymer having a molecular weight in the range of 100,000 to 300,000 and said vinylpyrrolidone being from about 0.1 to about 35.0% by weight of the copolymer, from 5 to 100 millimoles per kilogram of a metal salt organic detergent additive selected from the class consisting of neutral alkaline earth metal petroleum sulfonate, alkaline earth metal phenate, sulfurized alkaline earth metal phenate and zinc aromatic dithiophosphate in which the aromatic groups are selected from the class consisting of alkylphenyl and alkylnaphthyl groups and from 0.05 to 1.0% by weight of dialkyl acylamide containing from 1 to 3 carbon atoms in each of the alkyl groups and the acyl group.

2,977,307
LUBRICATING OIL COMPOSITION
Andrew D. Abbott, Ross, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Mar. 31, 1958, Ser. No. 724,837
3 Claims. (Cl. 252—32.7)

1. A mineral lubricating oil composition comprising a major portion of a mineral lubricating oil, from 0.1 to 10.0% by weight of an oil-soluble copolymer of (A) an ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 4 to 6 carbon atoms each, (B) an ester selected from the group consisting of alkylacrylates and alkylmethacrylates having alkyl groups containing from 12 to 20 carbon atoms each and (C) vinyl pyrrolidone, said copolymer having a molecular weight in the range of 100,000 to 300,000 and said vinyl pyrrolidone being from about 0.1 to about 35.0% by weight of the copolymer, from 5 to 100 millimoles per kilogram of a metal salt organic detergent additive selected from the class consisting of neutral alkaline earth metal petroleum sulfonate, alkaline earth metal phenate, sulfurized alkaline earth metal phenate and zinc aromatic dithiophosphate in which the aromatic groups are selected from the class consisting of alkylphenyl and alkylnaphthyl groups and from 0.05 to 1.0% by weight of dialkyl sulfoxide containing from 2 to 6 carbon atoms.

2,977,308
TETRAHYDRONAPHTHYLAMINO COMPOUNDS
Wilhelm Müller and Max Zimmermann, Leverkusen-Wiesdorf, and Rudolf Stroh, Leverkusen-Bayerwerk, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany
No Drawing. Filed Apr. 20, 1953, Ser. No. 349,976
Claims priority, application Germany Apr. 23, 1952
2 Claims. (Cl. 252—50)

1. N-cyclohexyl-tetrahydro-alpha-naphthylamine.
2. A mineral oil lubricant containing N-cyclohexyl-tetrahydro-alpha-naphthylamine as an additive.

2,977,309

LUBRICATING OIL CONTAINING BRANCHED CHAIN ALKYL AMINE DERIVATIVES OF DICARBOXYLIC ACIDS

Kenneth L. Godfrey, St. Albans, and Donald D. Staker, Nitro, W. Va., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Apr. 21, 1955, Ser. No. 503,009. Divided and this application Nov. 14, 1957, Ser. No. 700,247
4 Claims. (Cl. 252—51.5)

1. A mineral lubricating oil containing from .02–1% by weight of an oil soluble acidic reaction product obtained by reacting a member selected from the group consisting of malic, succinic, fumaric, maleic, tartaric, itaconic and aspartic acids and anhydrides thereof with primary branched chain alkyl amine containing 10–24 carbon atoms, the reaction being conducted within the range of 120–160° C. with from 0.5–2.0 moles of the acidic reagent per mole of amine, and accompanied by formation of by-product water.

2,977,310

OXIDATION OF PETROLEUM FRACTIONS

Archibald P. Stuart, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Apr. 17, 1957, Ser. No. 653,299
4 Claims. (Cl. 252—55)

1. Process for producing valuable products from petroleum which comprises: contacting a petroleum fraction containing at least 5 weight percent of dicyclic hydrocarbons containing one aromatic ring and one cycloaliphatic ring and containing alkyl substituents on nuclear carbon atoms, a major proportion of which fraction boils within the range from 480° F. to 600° F., in liquid phase with free-oxygen containing gas at a temperature of 150° F. to 300° F. in the presence of a metallic oxidation catalyst, thereby to convert said dicyclic hydrocarbons to dicyclic ketones, said fraction having been previously prepared by hydrogenation of a cracked petroleum fraction to convert dicyclic hydrocarbons containing two aromatic rings into dicyclic hydrocarbons containing one aromatic ring and one cycloaliphatic ring.

3. Process for producing valuable products from petroleum which comprises: contacting a petroleum fraction containing at least 5 weight percent of dicyclic hydrocarbons having one aromatic ring and one cycloaliphatic ring and having alkyl substituents on nuclear carbon atoms, a major proportion of which fraction boils within the range from 480° F. to 600° F., in liquid phase with free-oxygen containing gas at a temperature of 150° F. to 300° F. in the presence of a metallic oxidation catalyst, thereby to convert said dicyclic hydrocarbons to dicyclic ketones, and subsequently reducing said dicyclic ketones to dicyclic hydroxyl compounds, said fraction having been previously prepared by hydrogenation of a cracked petroleum fraction to convert dicyclic hydrocarbons containing two aromatic rings into dicyclic hydrocarbons containing one aromatic ring and one cycloaliphatic ring.

2,977,311

FERROMAGNETIC CERAMIC MATERIALS

Charles Louis Guillaud, Bellevue, and André Pierrot and Yves Charles Lescroel, Condans-Sainte-Honorine, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a French government administration

Filed Jan. 31, 1956, Ser. No. 562,543
Claims priority, application France Feb. 3, 1955
4 Claims. (Cl. 252—62.5)

1. A ferromagnetic ceramic material with a temperature coefficient of initial permeability less than that of a manganese-zinc ferrite of the same manganese content, comprising the reaction product produced by the steps of compressing and heat treating at a sintering temperature, in an oxygen containing atmosphere a mixture of oxides consisting of 39 to 55½ mol. percent ferric oxide, 21 to 38 mol. percent manganese oxide, 2½ to 11 mol. percent aluminium oxide and the remainder substantially



wholly zinc oxide, the molecular proportion of ferric oxide and aluminium oxide taken together being between 50 and 58 mol. percent.

2,977,312

FERROMAGNETIC MATERIAL

Evert Willem Gorter, Gerard Heinrich Jonker, Henricus Petrus Johannes Wijn, and Johannes Antonius Schulkes, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 16, 1957, Ser. No. 659,516
Claims priority, application Netherlands May 16, 1956
4 Claims. (Cl. 252—62.5)

1. A ferromagnetic material suitable for use at frequencies up to 200 megacycles per second and higher consisting essentially of crystals having a composition:

$$Ba_{(3-a-b-c)}Sr_aPb_bCa_cMe^{II}_{(3-d)}Co_4Fe^{III}_{24}O_{41}$$

in which Me^{II} is a bivalent metal selected from the group consisting of Mn^{II}, Fe^{II}, Ni^{II}, Cu^{II}, Zn^{II}, Mg^{II} and the bivalent metal complex

$$\frac{Li^{II}+Fe^{III}}{2}$$

and in which a has a value varying from 0 to 1, b has a value varying from 0 to 0.6, c has a value varying from 0 to 0.3, and d has a value up to about 1.8, said crystals having a structure, the elementary cell of which has in the hexagonal system a c-axis of about 52.3 A. and an a-axis of about 5.9 A.

2,977,313

METHOD OF CLEANSING, STERILIZING, AND PREVENTING CORROSION IN BASE EXCHANGE AND CATION EXCHANGE SYSTEMS AND PRODUCTS USED THEREIN

Charles T. Roland, Bethel Borough, Pa., assignor, by mesne assignments, to Hagan Chemicals & Controls, Inc., a corporation of Pennsylvania

No Drawing. Filed May 22, 1956, Ser. No. 586,350
10 Claims. (Cl. 252—99)

1. The method of cleaning, disinfecting, and preventing corrosion in a bed of cation exchange materials and water softening materials appurtenant thereto which comprises treating said materials with an aqueous solution of a mixture containing by weight from about 70 percent to about 85 percent of a molecularly dehydrated sodium phosphate having a molar ratio of $Na_2O:P_2O_5$ of from about 0.9:1 to about 2:1; from about 10 percent to about 20 percent of a water soluble salt of at least one metal selected from the group consisting of calcium, zinc, strontium, cadmium, and barium; and from about 2 percent to about 10 percent of a chlorinated melamine disinfecting agent.

2,977,314

BORATE-HYPOCHLORITE BLEACH

Stephen E. Stephanou, Santa Ana, Lawrence L. Schwalley, Whittier, and Sam H. Lee, Anaheim, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed July 3, 1959, Ser. No. 824,778
8 Claims. (Cl. 252—99)

1. A composition of matter consisting essentially of a stable borate-hypochlorite bleach in a solid substantially dry form, said borate-hypochlorite having from 0.029 to 0.36 mole of (OCl^-) per mole of B_2O_3 and from 0.30 to 0.90 mole of X_2O per mole of B_2O_3, where X is at least one material selected from the group consisting of the alkali metals and said X_2O comprising the titratable alkalinity of said borate-hypochlorite composition.

2,977,315

WATER SOLUBLE IODINE-PHOSPHORIC-ACID-SYNTHETIC DETERGENT COMPOSITION

Bernard J. Scheib, Kenmore, and Nathan E. Lazarus and Michael T. Sullivan, Buffalo, N.Y., assignors to Lazarus Laboratories, Inc., Buffalo, N.Y., a corporation of New York

No Drawing. Filed Sept. 12, 1956, Ser. No. 612,882
15 Claims. (Cl. 252—106)
(Filed under Rule 47(a) and 35 U.S.C. 116)

1. A water soluble iodine-synthetic detergent-phosphoric acid composition having detergent, germicidal and sanitizing properties, said composition consisting essentially of an iodine-synthetic detergent complex with phosphoric acid, the amount of iodine present being such as to provide a germicidally effective amount of iodine in the intended use dilution of said composition, the amount of phosphoric acid in said composition being in excess of four times the amount of iodine present and being sufficient to provide a pH within the range of about 2.0 to 4.0 in said use dilution, and the synthetic detergent in said composition being selected from the group consisting of acid stable, organic nonionic and anionic surface active agents having detergent properties and which are themselves effective iodine carriers.

2,977,316

BACTERIOSTATIC CLEANSING COMPOSITIONS

Wilbur S. Taylor, Norwalk, Conn., assignor to R. T. Vanderbilt Co., Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 21, 1958, Ser. No. 729,567
9 Claims. (Cl. 252—107)

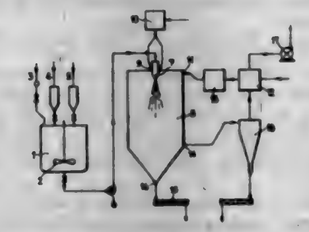
1. A bacteriostatic cleansing composition comprising soap and an amine complex of zinc dimethyldithiocarbamate.

2,977,317

PROCESS FOR PRODUCING COMPOSITIONS CONTAINING SODIUM TRIPOLYPHOSPHATE

Franz Rodis, Knapsack, near Köln, and Johannes Krause and Klaus Beltz, Hurth, near Köln, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Köln, Germany, a corporation of Germany

Filed Oct. 10, 1955, Ser. No. 539,543
Claims priority, application Germany Oct. 21, 1954
6 Claims. (Cl. 252—135)



1. Process for producing sodium tripolyphosphate consisting of both the high-temperature modification form I and the low-temperature modification form II and containing the low-temperature modification form II in a portion of at least 30 percent by weight, comprising spraying an aqueous sodium orthophosphate solution together with hot air into a spray tower having an air atmosphere which has a temperature range of 200 to 450° C., said air atmosphere containing at least 20 percent by volume of steam.

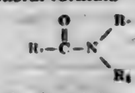
2,977,318

SUBSTITUTED AMIDE INHIBITED ACID COMPOSITIONS

Robert W. Liddell, Bethel Borough, Pa., assignor to Hagan Chemicals & Controls, Inc., a corporation of Pennsylvania

No Drawing. Filed June 20, 1956, Ser. No. 592,481
4 Claims. (Cl. 252—136)

3. A composition useful in removing scale deposits from zinc which comprises (*a*) an acid selected from the group consisting of hydrochloric acid, sulfuric acid, phosphoric acid, and sulfamic acid, (*b*) an N-substituted amide having the general formula



where R_1 is a radical selected from the alkyl and alkenyl groups containing from about 7 to about 18 carbon atoms, R_2 is a radical selected from the alkyl and cycloalkyl groups containing from 2 to 12 carbon atoms and R_3 is a radical selected from hydrogen, cycloalkyl, and alkyl groups containing from 2 to 8 carbon atoms and (*c*) water (*b*) being from about 0.5% to about 8% of the total mixture.

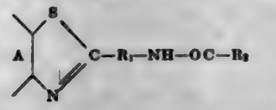
2,977,319

PROCESS FOR THE OPTICAL BRIGHTENING OF MATERIALS OF POLYACRYLONITRILE OR POLYVINYL CHLORIDE

Franz Ackermann, Binningen, and Adolf Emil Siegrist, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a firm of Switzerland

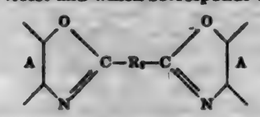
No Drawing. Filed Feb. 6, 1956, Ser. No. 563,457
Claims priority, application Switzerland Feb. 15, 1955
8 Claims. (Cl. 252—301.2)

1. A process for the optical brightening of polyacrylonitrile fibers which process comprises treating the fibers with a non-quaternary compound which is free from acid salt-forming, water solubilizing groups and groups imparting dyestuff character, which in solution fluoresces green-blue to violet and which corresponds to the formula



in which A is a monocyclic aromatic radical condensed in the manner indicated by the valence bonds with the thiazole ring, R_1 and R_2 are each a monocyclic aromatic radical, R_1 being bound to the thiazole ring and the —NH—OC— group in para-position.

2. A process for the optical brightening of polyacrylonitrile fibers which process comprises treating the fibers with a non-quaternary compound which is free from acid salt-forming, water solubilizing groups and groups imparting dyestuff character, which in solution fluoresces green-blue to violet and which corresponds to the formula



in which A is a monocyclic aromatic radical condensed in the manner indicated by the valence bonds with the oxazole ring, R_2 is a radical containing at least two carbon atoms and the two oxazole rings together with the radical R_2 contain a continuous chain of conjugated double bonds.

2,977,320
LUMINOUS WRITING
Lloyd T. Jenkins, Decatur, Ala.
(P.O. Box 297, Cary, N.C.)
Filed Jan. 7, 1957, Ser. No. 632,898
5 Claims. (Cl. 252—301.3)

1. A method of writing in the dark which comprises, supplying a liquid containing a reactive component which when oxidized produces chemiluminescent light to a writing surface formed on an object from a source dissociated with said object in such manner as to form writing characters on said surface, and contacting said liquid with an oxidizing agent, whereby said liquid and said agent react together to produce visible light coincident with said writing characters.

3. The method according to claim 1 in which said liquid consists essentially of an alkaline solution of an aminophthalhydrazide, and said oxidizing agent consists essentially of a solution of hydrogen peroxide containing potassium ferricyanide.

2,977,321
METHODS FOR PREPARING WATER-STABLE ZINC ORTHOPHOSPHATE PHOSPHORS
Harold Eugene McCreary, Lititz, Pa., assignor to Radio Corporation of America, a corporation of Delaware
No Drawing. Filed Jan. 29, 1957, Ser. No. 636,855
6 Claims. (Cl. 252—301.6)

4. A method for preparing a zinc orthophosphate phosphor comprising reacting phosphoric acid, zinc oxide and a manganese activator in aqueous medium, the molar proportions of zinc oxide being between 3 to 2 and 3.5 to 2, and the proportion of manganese being between 1 and 10 mol percent with respect to the mol proportion of zinc orthophosphate, agitating the mixture until the chemical reactions are substantially complete, washing the reaction product, drying the washed reaction product and then firing the dry reaction product at a temperature between 800° C. and 1060° C.

2,977,322
DEACTIVATION OF METALLIC POISONS ON USED CRACKING CATALYSTS
Charles W. Varvel and Dean P. Montgomery, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 25, 1957, Ser. No. 674,946
10 Claims. (Cl. 252—411)

1. A process for improving the activity and lowering the coke-forming characteristics of a used silica-containing hydrocarbon cracking catalyst contaminated with poisons comprising nickel and vanadium which comprises impregnating said catalyst at a temperature in the range of atmospheric to 1150° F. with a compound containing phosphorus and with chlorine so as to deposit therein phosphorus and chlorine in amounts of at least 0.001 weight percent of the catalyst and sufficient to deactivate said poisons and thereafter subjecting the treated catalyst to hydration in a steam ambient at a temperature in the range of about 900° F. to about 1100° F.

2,977,323
PROCESS FOR REACTIVATING USED CRACKING CATALYSTS
Paul H. Johnson, Roy V. Denton, and Charles R. Eberline, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 14, 1958, Ser. No. 748,186
5 Claims. (Cl. 252—415)

1. In a process for reactivating a used cracking catalyst that has been employed in cracking a hydrocarbon containing at least one of nickel, vanadium and iron, and which comprises regeneration of said catalyst by burning carbonaceous material therefrom with an oxygen-containing gas and then returning the catalyst to the cracking step, the improvement which comprises contacting at a temperature from 850–1200° F. said catalyst with steam and with at least one chlorine compound selected from the group consisting of free chlorine and HCl and in an amount providing from 0.05 to 10 pounds of chlorine per ton of catalyst, after said regeneration and before said cracking step without further regeneration, thereby reactivating the catalyst containing metallic poisons deposited on said catalyst as a result of being employed in cracking said hydrocarbon containing at least one of nickel, vanadium and iron.

2,977,324
CATALYSTS
Dennis Albert Dowden and Alexander Muirhead Ure Caldwell, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed June 20, 1958, Ser. No. 743,468
Claims priority, application Great Britain June 26, 1957
9 Claims. (Cl. 252—443)

1. A process for the production of an oxidation catalyst which consists essentially of (1) contacting particles of a porous, high-melting, heat-resistant ceramic material with a molten catalytic material consisting essentially of a vanadyl vanadate of a metal selected from the group consisting of thallium, silver, potassium, sodium, lithium and rubidium, and (2) thereafter allowing the product to cool, whereby there is obtained a catalyst consisting essentially of the said ceramic material impregnated with the said solid vanadyl vanadate.

2,977,325
PROCESS FOR PRODUCING ACTIVATED CHARCOAL
Klaus Feustel, Friedrich Jokwich, and Heinrich Stratmann, Essen, Germany, assignors to Reinluft G.m.b.H., Essen (Ruhr), Germany, a limited-liability company of Germany
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,732
Claims priority, application Germany Nov. 13, 1957
3 Claims. (Cl. 252—445)

1. A process for producing activated charcoal, comprising the steps of permeating a mass of coke with sulphur dioxide at temperatures below 150° C. in the presence of sufficient quantities for oxygen and for a time long enough to convert said sulphur dioxide to sulphur trioxide, and subjecting the material so treated in the absence of air to temperatures ranging from 300° C. to 700° C. for a period sufficient to enable volatilization of a substantial proportion of said coke by reaction with said sulphur trioxide.

2,977,326
ACTIVATED REFRACTORY INORGANIC OXIDE
William G. Nixon, Westchester, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 15, 1958, Ser. No. 780,195
16 Claims. (Cl. 252—466)

1. A method for activating an adsorptive refractory inorganic oxide which comprises contacting said refractory inorganic oxide, at a temperature in excess of 100° C., with sufficient sulfur trioxide in a non-reducing atmosphere to increase the adsorptive capacity of the refractory oxide.

7. A method for manufacturing a catalyst consisting essentially of a major portion of a refractory inorganic oxide and a minor portion of at least one catalytically active metal component, which method comprises preparing an adsorptive refractory inorganic oxide, contacting said refractory inorganic oxide at about 100°–500° C. with sufficient sulfur trioxide in a non-reducing atmosphere to increase the adsorptive capacity of the refractory oxide and thereafter compositing said catalytically active metal component therewith.

2,977,327
PROCESS OF PRODUCING NICKEL CATALYSTS
Murray Raney, Lookout Mountain, Tenn., assignor to Raney Catalyst Company, Inc., Chattanooga, Tenn., a corporation of Tennessee
No Drawing. Filed Sept. 26, 1958, Ser. No. 763,478
5 Claims. (Cl. 252—472)

1. The process of preparing a catalytic material by mechanically mixing a finely divided catalytic metal selected from the group consisting of nickel powder and nickel carbonyl powder with a powdered alloy of a finely divided catalytic metal and an alkali soluble metal selected from the group consisting of nickel aluminum alloy and nickel silicon alloy in a ratio of catalytic metal up to 10 times the weight of the content of catalytic metal in the alloy and treating this mixture with a caustic alkali solution selected from the group consisting of sodium hydroxide and potassium hydroxide solutions.

2,977,328
ODOR IMPROVEMENT OF RESIN BEADS MADE THROUGH THE SULFONIUM SALT PROCESS
Leonard A. Mattano and Melvin J. Hatch, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 29, 1958, Ser. No. 751,650
2 Claims. (Cl. 260—2.1)

1. A method for removing offensive odors from ion-exchange resins having a malodor due to the presence therein of offensive sulfur compounds of the group consisting of dialkyl sulfides, di(hydroxyalkyl)sulfides, alkyl hydroxyalkyl sulfides and poly(vinylbenzyl sulfonium) halide, wherein the alkyl groups contain between 1 and 4 carbon atoms, the hydroxyalkyl groups contain between 2 and 4 carbon atoms and halide is a member of the group consisting of chloride and bromide, as impurities incidental to the preparation of ion-exchange resins which are heat reaction products of a poly(vinylbenzyl sulfonium)anion exchange resin having sulfonium group substituents which give rise to the malodorous sulfur compounds and a member of the group consisting of alkali metal sulfites; alkali metal salts of aminocarboxylic acids; alkali metal salts of amino-alkane sulfonates; alkali metal salts of aminoaryl sulfonates; alkali metal salts of aminoalkane phosphonates; alkali metal salts of mercaptides having substituent groups of the group consisting of CO_2^-, $-PO_3^=$ and $-SO_3^-$; polyethylene polyamines having up to 3 ethylene groups; primary aliphatic monoamines; secondary aliphatic monoamines; and tertiary aliphatic monoamines; by treating said malodorous resin in particulate form in water at a temperature between about 40° and about 90° C. with about 1/10 to about 20 moles of ammonia per mole of said ion-exchange resin until a test sample of the resin after water washing no longer has an offensive odor.

2,977,329
RUBBER COMPOSITION CONTAINING AN AMIDINE NITRITE AND METHOD OF PREPARING CELLULAR PRODUCT THEREFROM
Hans Z. Lecher, Plainfield, and Frederic H. Adams, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 25, 1957, Ser. No. 667,955
10 Claims. (Cl. 260—2.5)

1. A process of producing a cellular rubber which comprises forming an uncured, curable rubber stock containing an amidine nitrite of the formula

$$\begin{matrix} NH\cdot HNO_2 \\ | \\ R-C-NH_2 \end{matrix}$$

in which R is selected from the group consisting of alkyl, aryl, aralkyl, amino, guanido and ureido radicals as a blowing agent and heating said stock to a temperature sufficient to cure the rubber and form a cellular product, said blowing agent being employed in an amount sufficient to form a cellular product.

2,977,330
CELLULAR POLYALKYLENE-ETHERGLYCOL-ORGANIC DIISOCYANATE REACTION PRODUCT AND METHOD OF PREPARING SAME
Frank M. Brower, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 5, 1957, Ser. No. 700,754
11 Claims. (Cl. 260—2.5)

1. A method of making a foraminous polyurethan composition having predominantly interconnecting cells, which method comprises reacting (*a*) an organic diisocyanate compound in which the two isocyanate radicals are the only groups reactive with hydroxyl radicals and (*b*) a polyalkylene ether glycol having an average molecular weight of from 500 to 10,000, the organic diisocyanate compound being present in amount corresponding to from 15 to 50 percent by weight of the resulting mixture of (*a*) and (*b*) and to at least two moles thereof per mole of the polyalkylene ether glycol, continuing the reaction between the polyalkylene ether glycol and the organic diisocyanate compound until the viscosity of the reacting mixture corresponds to from 4000 to 20,000 centipoises, thereupon intimately mixing with the reacting mixture, while the viscosity thereof corresponds to from 4000 to 20,000 centipoises, (*c*) water in an amount corresponding to at least one mole thereof per mole of unreacted organic diisocyanate compound in the reacting mixture and to not more than 20 percent by weight of the reacting mixture, and allowing the resulting reaction mixture to foam.

2,977,331
PROCESS OF STABILIZING CELLULOSE BY IMPREGNATION WITH A SALT OF AN ORGANIC BASIC NITROGEN COMPOUND CONTAINING A HYDROXYL GROUP AND A PARTIAL ESTER OF A POLYHYDRIC ALCOHOL AND POLYCARBOXYLIC ACID AND PRODUCT THEREOF
Walter P. Ericks, Lockport, N.Y., assignor to The Upson Company, Lockport, N.Y.
No Drawing. Filed Oct. 20, 1955, Ser. No. 541,835
4 Claims. (Cl. 260—17.2)

1. The process of dimensionally stabilizing material composed of cellulose upon subjection of said material to varying humidity conditions, comprising impregnating said material with an aqueous solution of a salt formed by reacting an organic basic nitrogen compound selected from the group consisting of an alkanolamine containing a single amino group and a single hydroxy group substituted in each alkyl radical, an alkanol substituted polyamine, N-hydroxyethyl morpholine, an alkanol substituted glyoxalidine, 8-quinolinol, an alkanol substituted ammonium hydroxide, an amino glycol, an aminoaryl substituted aliphatic alcohol and an amino phenol with a partial ester of a polyhydric alcohol and a polycarboxylic acid, said ester containing at least one free hydroxyl group and at least one hydroxyl group which is part of a carboxyl group, said ester having been formed by reacting said polyhydric alcohol and said polycarboxylic acid in substantially equimolecular proportion at an elevated temperature and stopping said reaction after the acidity has been reduced by a fraction of

$$\frac{1}{n}$$

where *n* is the number of carboxyl groups in the said polycarboxylic acid; and drying the resulting impregnated material, said solution being of such concentration that the dried material contains 5 to 50% by weight of said salt.

2,977,332

RAPIDLY HARDENABLE MIXTURES OF EPOXY RESINS AND POLYAMIDE RESINS

Heinz Zumstein, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed Sept. 24, 1957, Ser. No. 685,788
Claims priority, application Switzerland Oct. 2, 1956
14 Claims. (Cl. 260—18)

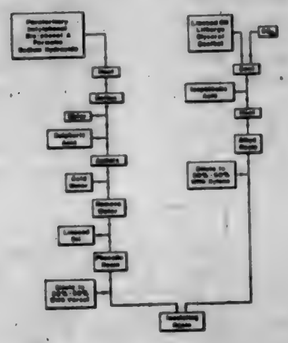
1. A hardenable resin composition comprising (*a*) an epoxy resin containing 1,2-terminal epoxy groups, (*b*) a polyamide resin obtained by reacting an aliphatic polyamine with a polymeric unsaturated higher fatty acid, and (*c*) a Mannich base derived from a phenol and having at least one tertiary amino group and at least one phenolic hydroxyl group.

2,977,333

HEAT RESISTANT ELECTRICAL INSULATING VARNISH

Robert H. Rank, Pittsburgh, and Leonard E. Edelman, Penn Hills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 7, 1958, Ser. No. 733,697
3 Claims. (Cl. 260—20)



1. A high temperature electrical insulating varnish composition comprising in admixture (A) from 25% to 75% by weight of an alkyd resin derived by admixing and heating to a temperature in the range of 200° C. to 240° C. (1) at least one dibasic acid selected from the group consisting of isophthalic acid, terephthalic acid, and methyl esters of terephthalic acid, with (2) an aliphatic polyhydric alcohol and (3) a drying oil, said reactants being employed in such proportions that the drying oil constitutes 40% to 55% by weight of the total weight of alkyd resin, and said alkyd resin being reacted to an acid number in the range of 4 to 15 and (B) from 75% to 25% by weight of a phenol resin derived by admixing and heating to a temperature within the range of 70° C. to reflux (1) from 90 to 80 mol percent of paratertiary butyl phenol, (2) from 10 to 20 mol percent of diphenylol propane, and (3) from 1.5 to 2 mols of an aldehyde selected from the group consisting of formaldehyde and polymers of formaldehyde in the presence of from 0.2% to 5% based on the weight of the phenols, of an alkali metal hydroxide, the aqueous reaction product then being neutralized and rendered acidic with an acid to a pH in the range of 4 to 7, removing the water from the acidified reaction product by evacuation, heating and maintaining the product at a temperature of 135° C. to 140° C. until a ball and ring softening temperature of 100° C. is obtained, and then admixing maleinized linseed oil therewith in such proportion that there is 25 gallons to 40 gallons of maleinized linseed oil per 100 pounds of reaction product, said maleinized linseed oil being the reaction product of 100 parts of linseed oil and from 3 to 8 parts of maleic anhydride at a temperature of from 240° C. to 270° C. for not more than 4 hours until an adduct is produced, after which an aliphatic polyhydric alcohol is admixed in an amount to furnish from 1 to 1.1 hydroxyl groups for each maleic anhydride molecule present in the adduct, the polyhydric alcohol having no other reactive groups than the hydroxyl groups, and an esterifying reaction between the polyhydric alcohol and the maleic anhydride radicals in the adduct is effected by heating the mixture at a temperature up to 270° C. for at least one hour.

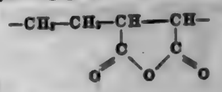
2,977,334

DERIVATIVES OF ETHYLENE/MALEIC ANHYDRIDE COPOLYMERS

George W. Zopf, Jr., John H. Johnson, Ross M. Hedrick, Joseph E. Fields, and John M. Butler, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 4, 1956, Ser. No. 613,829
18 Claims. (Cl. 260—27)

1. A process which comprises esterifying a substantially equimolar copolymer of ethylene/maleic anhydride, wherein the repeating polymer structure



is termed the ethylene/maleic anhydride unit, with a long-chain polyethylenically unsaturated aliphatic alcohol containing from 8 to 20 carbon atoms, and mixtures of long-chain ethylenic aliphatic alcohols containing from 8 to 20 carbon atoms, wherein the polyethylenically unsaturated alcohols are present in a predominant amount in said mixtures, to provide the half ester and effecting the condensation reaction of the resultant second carboxyl group of the ethylene/maleic anhydride unit with a member selected from the group consisting of alcohols and amines and mixtures thereof containing up to 20 carbons atoms and free from substituents other than hydroxyl and amino radicals, said condensation reaction of the second carboxyl group with an alcohol forming an ester linkage and with an amine forming an amide linkage.

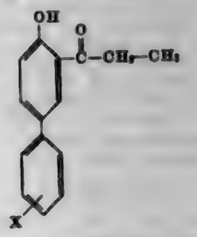
2,977,335

COMPOSITION OF MATTER COMPRISING A VINYLIDENE CHLORIDE COPOLYMER AND A PLASTICIZER

Carl B. Havens, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 12, 1959, Ser. No. 786,825
3 Claims. (Cl. 260—32.8)

1. A composition of matter comprising (1) a copolymer of vinylidene chloride and vinyl chloride containing at least 50 percent by weight of vinylidene chloride copolymerized therein, and (2) from 5 to 15 percent by weight based on the weight of said copolymer of a compound having the general formula:



wherein X is selected from the group consisting of hydrogen, chlorine, bromine, and alkyl of from 1 to 4 carbon atoms.

2,977,336

COATING COMPOSITION CONTAINING POLYSILOXANE RESIN AND POLYSILOXANE RUBBER, FILM COATED THEREWITH AND PROCESS OF MAKING

Philip Strubing Bietz, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 18, 1955, Ser. No. 522,819
12 Claims. (Cl. 260—37)

1. A polymeric, thermoplastic, dielectric base film having an adherent continuous coating of a cured homogeneous blend comprising 40–75% of a polymeric, organic, siloxane resin having a ratio of organic radicals-to-silicon of 1.0–1.7:1, 15–40% of a polymeric, organic, siloxane rubber having a ratio of organic radicals-to-silicon of 1.98–2.0:1 and 5–20% of finely divided particles from the group consisting of amorphous silica and esterified super-colloidal substrates, said substrates having a specific surface area of at least 1 meter²/gram and a surface of silica, said silica coated with OR groups chemically bound thereto, R being a hydrocarbon radical of at least 2 carbon atoms wherein the carbon atom attached to oxygen is also attached to hydrogen.

2,977,337

CYANOETHYLATED POLYACRYLONITRILE COMPOSITIONS

Walter H. Schuller, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 21, 1956, Ser. No. 572,832
11 Claims. (Cl. 260—45.5)

1. The method of preparing an alpha-carbon cyanoethylated polyacrylonitrile composition which comprises dissolving, in the absence of water, monomeric acrylonitrile and a free-radical initiated linear polymer of acrylonitrile containing, combined in the polymer molecule, from 50% to 100% by weight of acrylonitrile and up to 50% by weight of a compound which is copolymerizable with acrylonitrile and contains a $CH_2{=}C<$ grouping, and said polymer containing in its molecular structure a multiplicity of units represented by the formula

$$\left(\begin{array}{c} CN \\ | \\ -CH_2-CH- \end{array}\right)_n$$

where *n* represents a number having an average value ranging between 8 and 60,000, in a mutual non-aqueous polar organic solvent for acrylonitrile and said polymer that is inert during the reaction and while the aforesaid reactants are admixed with a strong base as a catalyst for the reaction, said strong base being selected from the class consisting of (*a*) salts, with an alkali-forming metal, of an acid having a pKa of from 15 to 75, (*b*) tetramethyl ammonium hydroxide, (*c*) tetraethanol ammonium hydroxide, (*d*) benzyl trimethyl ammonium hydroxide, and (*e*) benzyl triethyl ammonium hydroxide, reacting the monomeric acrylonitrile with the said linear polymer and isolating the resulting cyanoethylated polyacrylonitrile from the reaction mass.

2,977,338

RESINOUS COMPOSITION AND PROCESS OF PREPARING SAME

John C. Petropoulos, Norwalk, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 4, 1958, Ser. No. 753,128
4 Claims. (Cl. 260—47)

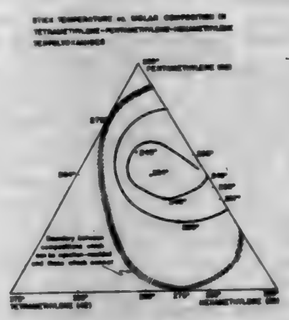
1. The polymeric resinous reaction product of an unsubstituted butylidene bis-benzoic acid and the diglycidyl ether of 4,4'-isopropylidene diphenol wherein the diglycidyl ether in said polymeric resinous reaction product is present in an amount varying from about equimolar quantities up to about 10% in excess of the stoichiometrical amount required to produce substantially complete esterification with respect to said butylidene acid.

2,977,339

COPOLYOXAMIDES

Carl R. Lindegren, New Castle, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 13, 1954, Ser. No. 429,469
1 Claim. (Cl. 260—78)



A copolyoxamide in which the groups separating recurring oxamido groups as integral parts of the main polymer chain are tetramethylene, pentamethylene and hexamethylene groups, in the mol proportions of 20% 60% and 20% respectively.

2,977,340

PREPARATION OF POLYOXAMIDES WITH TRIOXIDES AND TRIHALIDES OF As, Sb AND Bi AS CATALYSTS

Stephen Desiderius Bruck, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 4, 1958, Ser. No. 726,389
10 Claims. (Cl. 260—78)

1. The process comprising preparing a prepolymer having a molecular weight of between about 2,000 and about 5,000 by reacting an oxalic ester with a diamine selected from the group consisting of aliphatic diamines containing from 4 to 10 carbon atoms, p-xylene diamine, o-xylene diamine, 1,4-diaminocyclohexane, and 1,4-diaminoethylcyclohexane, and polymerizing said prepolymer to a polymer having an inherent viscosity, at 25° C. in a concentration of 0.500 gram per cubic centimeter of metacresol greater than about 1.0, in the presence of a catalyst selected from the group consisting of (1) trioxides of arsenic, antimony, and bismuth, and (2) trihalides of arsenic, antimony, and bismuth, each having a boiling point above about 215° C.

2,977,341

POLYMERS OF VINYL PYRIDINIUM BETAINES

Walter H. Schuller and John A. Price, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 13, 1955, Ser. No. 501,196
3 Claims. (Cl. 260—78)

1. A product comprising a copolymer of more than two comonomers, one of which is (*a*) acrylonitrile, (*b*) another of which is a betaine selected from the class consisting of 1-carboxymethyl-2-methyl-5-vinylpyridinium betaine and 1-carboxyethyl-2-methyl-5-vinylpyridinium betaine, and (*c*) at least one additional comonomer se-

lected from the class consisting of vinyl acetate and acrylamide, the ingredients of (*a*), (*b*) and (*c*) being present in the unpolymerized mixture of monomers within the following ranges of percentage proportions by weight: acrylonitrile of (*a*) 84.9–90.0%; betaine of (*b*), 3.0–7.55%; and comonomer of (*c*), 5.0–7.55%, the sum of the ingredients of (*a*), (*b*) and (*c*) totaling 100.0%.

2,977,342

SYNTHETIC LINEAR POLYAMIDES IN FINELY DIVIDED FORM

Harry James Twitchett and Arthur Scott Wild, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 27, 1958, Ser. No. 769,587
Claims priority, application Great Britain Oct. 30, 1957
5 Claims. (Cl. 260—78)

1. A process for the manufacture of synthetic linear polyamides selected from the group consisting of polycaproamide and polyhexamethyleneadipamide in a finely divided form which comprises adding a dilute aqueous solution of formic acid containing between 17.5 and 45% formic acid to a solution of the synthetic linear polyamide in a solvent selected from the group consisting of formic acid and concentrated aqueous solutions of formic acid containing not less than 80% formic acid and isolating the finely divided synthetic polyamide which is precipitated, the resulting mixture of formic acid solutions containing between 45% and 70% by weight of formic acid.

2,977,343

STEAM CURING ISOOLEFIN-MULTIOLEFIN RUBBERY COPOLYMERS

Robert L. Zapp, Florham Park, and Miller W. Swaney, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 14, 1957, Ser. No. 659,178
2 Claims. (Cl. 260—79.5)

1. A process for curing a butyl rubber copolymer of 85 to 99.5 wt. percent of a C_4–C_7 isoolefin and 0.5 to 15 wt. percent of a C_6–C_{10} multiolefin which comprises, mixing said copolymer with 0.5 to 10 parts per 100 parts of said rubber tellurium ethyl benzyl dithiocarbamate, said compound being employed as a sole accelerator, additionally mixing said butyl rubber copolymer with sulfur and curing the resulting mixture at a temperature of 120° to 200° C. in the presence of steam so as to produce a vulcanizate of improved ozone resistance and highly resistant to swelling in cyclohexene.

2,977,344

BUTYL RUBBER CURED IN THE PRESENCE OF A COMBINATION OF ACCELERATORS

Kenneth W. Powers, Metuchen, Samuel B. Robison, Roselle, and James V. Fusco, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 6, 1957, Ser. No. 682,309
9 Claims. (Cl. 260—79.5)

4. A fast-curing vulcanizable composition comprising 100 parts by weight of a copolymer of 85 to 99.5 wt. percent of a C_4 to C_7 isoolefin and 0.5 to 15 wt. percent of a C_4 to C_{14} multiolefin compounded with 1 to 5 parts by weight of sulfur and about 0.5 to 8 parts by weight of an accelerator combination consisting essentially of 0.117 to 5.93 parts by weight of a di-C_1 to C_4 alkyl dithiocarbamate of a metal selected from the group consisting of tellurium and copper, and about 0.25 to 1.25 parts by weight of benzyl thiazyl disulfide per part of total dithiocarbamate, and about 0.1 to 2 parts by weight of tetramethyl thiuram disulfide per part of total dithiocarbamate.

2,977,345

ACCELERATOR SYSTEM FOR STEAM CURING POLYMERS

Wilbur Frank Fischer, Cranford, Robert Frederick Nau, Westfield, and Robert L. Zapp, Florham Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 2, 1958, Ser. No. 706,554
4 Claims. (Cl. 260—79.5)

1. A composition of matter having good ozone resistance comprising, 100 parts by weight of a butyl rubber copolymer of 85 to 99.5 wt. percent of a C_4 to C_7 isoolefin and 0.5 to 15 wt. percent of a C_4 to C_{10} multiolefin, cured with sulfur in the presence of about 0.5 to 10 parts by weight of a combination of accelerators, said combination of accelerators consisting essentially of tellurium ethyl benzyl dithiocarbamate and benzothiazyl disulfide, said combination of accelerators containing about 0.3 to 2.5 parts by weight of benzothiazyl disulfide per part by weight of tellurium ethyl benzyl dithiocarbamate.

2,977,346

PURIFICATION OF AROMATIC-CONTAINING RESINS

Neville Leverne Cull, Baker, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 23, 1957, Ser. No. 673,585
8 Claims. (Cl. 260—80.7)

5. In a process for polymerizing a mixture of isobutylene, styrene and butadiene by contact with boron fluoride at a temperature between 0° C. and —150° C. whereby a polymer is obtained which contains a small amount of monomeric styrene dissolved therein, the method of removing said monomeric styrene which comprises dissolving said polymer in a paraffinic hydrocarbon solvent and contacting said solution with a crystalline metallic alumino-silicate which has been heated to remove the water of hydration and which has a uniform pore size of 13–14 angstroms.

2,977,347

POLYMERIZATION OF OLEFINS WITH MOLYBDENUM PENTACHLORIDE CATALYST

Leon S. Minckler, Jr., Metuchen, and Lawrence T. Eby, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 24, 1956, Ser. No. 630,868
13 Claims. (Cl. 260—85.3)

1. A process for preparing a polymer which comprises polymerizing at a temperature between about 50 and —150° C., a hydrocarbon olefin feed selected from the group consisting of (*a*) a monoolefin, (*b*) a mixture of monoolefins, and (*c*) a mixture of a monoolefin and a diolefin; all of said olefins having from 3 to 14 carbon atoms, in the presence of molybdenum pentachloride and recovering a hydrocarbon polymer having a molecular weight of at least 1000 Staudinger.

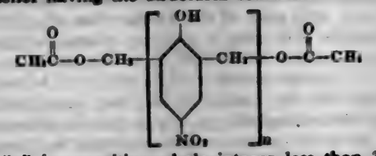
2,977,348

VULCANIZATION OF BUTYL RUBBER WITH 2,2'-METHYLENE - BIS-(4-NITRO-6-ACETOXYMETHYLPHENOL) OR 2,6-BIS-(ACETOXYMETHYL)-4-NITROPHENOL

Pliny O. Tawney, Passaic, George H. Brice, Glen Rock, and Paul Vidal, Ramsey, N.J., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 7, 1958, Ser. No. 765,740
12 Claims. (Cl. 260—85.3)

1. A method comprising heating 100 parts of a rubbery copolymer of an isoolefin having from 4 to 8 carbon atoms with a diolefin having from 4 to 8 carbon atoms, the said copolymer containing from 0.5 to 10% of said diolefin, in admixture with from 0.25 to 15 parts of a nitrophenol having the structural formula:



where "*n*" is a positive whole integer less than 3, at a temperature of from 125° to 200° C., for a period of time of from 2 minutes to 8 hours.

2,977,349

PROCESS FOR POLYMERIZING DIENES

Charles E. Brockway, Akron, and Albert F. Ekar, Cleveland, Ohio, assignors to Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Nov. 7, 1956, Ser. No. 620,810
4 Claims. (Cl. 260—94.3)

4. The method of polymerizing a monomeric material selected from the class consisting of butadiene-1,3, isoprene, piperylene, 2-ethyl-butadiene-1,3, 2-propyl-butadiene-1,3, 2-phenyl-butadiene-1,3, and 2-neopentyl-butadiene-1,3, comprising combining said monomeric material with a reaction mixture containing an inert hydrocarbon diluent and from about 0.5 to about 7%/wt. based on said monomeric material of an active catalyst prepared by combining (1) an aluminum alkyl and (2) a compound of a heavy metal selected from the class consisting of titanium, vanadium, cobalt and nickel, the ratio of said heavy metal : aluminum in said catalyst being, when titanium is the heavy metal, from about 0.5:1 to 3:1, when vanadium, from about 1:1 to about 1:20, when cobalt, from about 25:1 to about 1:25, and when nickel, from about 10:1 to about 1:10, with (3) from 0.1 to 1.1%/wt. based on the weight of said monomeric material of an organosilicon modifier soluble in said mixture and selected from the class consisting of silicone greases, methyl silicone oils, tetraethyl silicate, and diphenyl silane diol, and carrying out the polymerization of said monomeric material in said reaction mixture at a temperature from about —5° to about 35° C.

2,977,350

POLYMERIZATION OF OLEFINS

Egi Victor Fasce and Joseph Kern Mertzweiller, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 14, 1956, Ser. No. 591,261
9 Claims. (Cl. 260—94.9)

1. In a slurry process of polymerizing ethylene at polymerization conditions in an inert organic liquid diluent with a catalyst system of titanium tetrachloride and an alkyl aluminum reducing compound the improved method of reducing film formation and improving the stirrability of the resulting slurry reaction mixture which comprises carrying out the polymerization in the presence of 0.01 to 3 wt. percent, based on the weight of liquid diluent, of an alpha straight chain monoolefin having from 6 to 14 carbon atoms, the diluent being present in an amount to give a reaction mixture containing from 10 to 40% polymer.

2,977,351

PROCESS FOR RECOVERY OF POLYOLEFIN BY PRECIPITATION IN WATER

Fred E. Wiley, Long Meadow, Mass., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 28, 1956, Ser. No. 594,591
5 Claims. (Cl. 260—94.9)

1. A process for recovering polyethylene from solution in a solvent selected from the group consisting of paraffins and cycloparaffins, said process comprising dispersing said solution as fine droplets into water at a ratio within the range of 1 to 10 volumes water per volume of solution, said water being above the precipitation temperature of polyethylene; cooling the resulting solution in water dispersion to below the precipitation temperature of polyethylene; maintaining the pressure on the dispersion zone and cooling zone sufficiently high to maintain said solvent and said water in liquid phase until said polyethylene is substantially precipitated; steam stripping the solvent from the water and polymer and thereafter recovering the polymer from the resulting water dispersion thereof.

2,977,352

PROCESS FOR OBTAINING INFUSIBLE PRODUCTS OF HIGH CARBON CONTENTS FROM LIGNIN SULPHONATES

John L. Gardon, Levittown, Pa., and Bengt Leopold, Hawkesbury, Ontario, Canada, assignors to Canadian International Paper Company, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed July 25, 1958, Ser. No. 750,850
5 Claims. (Cl. 260—124)

1. The process of obtaining infusible microcrystalline products of high carbon content which are at least partially soluble in alkaline aqueous solutions, which includes the steps of precipitating basic lignin sulphonate from waste sulphite liquor material by reacting said material with an excess of a solid alkaline reagent selected from the group consisting of the oxides, hydroxides and carbonates of the alkali and alkaline earth metals, and then calcining the basic lignin sulphonate at a temperature above 350° C.

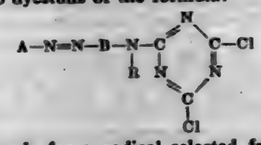
2,977,353

NEW MONOAZO DYESTUFFS

William Elliot Stephen, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 23, 1958, Ser. No. 737,221
Claims priority, application Great Britain June 5, 1957
15 Claims. (Cl. 260—153)

1. Monoazo dyestuffs of the formula:



wherein A stands for a radical selected from the class consisting of phenyl substituted by two groups selected from the class consisting of carboxylic and sulfonic acid groups and 1-naphthyl-2:4-, 2:5-, 2:6-, 2:7-, 3:6-, 3:7-, 4:6-, 4:7-, and 5:7-disulfonic acids and 2-naphthyl-1:5-, 3:6-, 3:7-, 4:6-, and 5:7-disulfonic acids; and any substituent on the radical A is selected from the group consisting of methyl and chlorine; B is a divalent radical selected from the group consisting of 1:4-phenylene, methyl-substituted 1:4-phenylene, methoxy-substituted 1:4-phenylene, 1:4-naphthylene, 6-sulfo-1:4-naphthylene, and 7-sulfo-1:4-naphthylene, and R stands for a substituent selected from the group consisting of hydrogen atom and a lower alkyl radical.

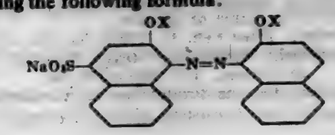
2,977,354

MONOSULPHONATED DI-ORTHO-HYDROXY-AZO DYESTUFFS

Rene Eugene Marcel Gaugeaux, Rouen, France, assignor to Compagnie Francaise des Matieres Colorantes, Paris, France, a French body corporate

No Drawing. Filed Jan. 3, 1957, Ser. No. 632,273
Claims priority, application France Jan. 4, 1956
1 Claim. (Cl. 260—195)

The process for the preparation of a dry, stable dyestuff having the following formula:



in which one X is an atom of hydrogen and the other X is an atom of sodium, comprising the step of diazotising 1-amino 2-naphthol 4-sulfonic acid, coupling the diazo-derivative obtained with beta-naphthol to form a dyestuff, reacting the said dyestuff with a chemically equivalent amount of sodium hydroxide and spray-drying the product thus obtained in an atomiser.

2,977,355
ALKALI CELLULOSE AGING
William H. Bradshaw, New Rochelle, N.Y., and Edward H. Shaw, Rome, Ga., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Jan. 13, 1954, Ser. No. 403,750
13 Claims. (Cl. 260—233)

1. Process for the treatment of heated aged slurry of alkali cellulose in aqueous alkali containing stably dispersed bubbles of gas, said process comprising directing a stream of said heated aged gasified slurry in a curved path into an evaporative zone whereby said gasified slurry is subjected to the action of centrifugal force and evsporation to remove bubbles therefrom.

2,977,356
PROCESS FOR PREPARING CROSS-LINKED STARCH ETHERS IN GRANULE FORM
John D. Commerford, St. Louis County, and Irving Ehrenthal, University City, Mo., assignors to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
No Drawing. Filed May 27, 1958, Ser. No. 738,050
4 Claims. (Cl. 260—233.3)

1. A process for preparing unswollen cross-linked starch ethers in granule form including the steps of providing a starch slurry in granule form, adding thereto from about 0.01 to about 0.15 mole of diepoxide per mole of anhydroglucose unit of the starch, said starch and diepoxide being reacted at a temperature of from about 65° F. to about 130° F. for a period of time sufficient to cross-link said diepoxide and starch, dewatering and drying said cross-linked product to recover a dried, ungelatinized starch product in granule form.

2,977,357
PROCESS FOR PREPARING A THICK-THICK BOILING STARCH DERIVATIVE
John E. Voigt, Raymond J. Horst, and Ernest A. Sowull, all of St. Louis, Mo., assignors to Anheuser-Busch, Inc., St. Louis, Mo., a corporation of Missouri
No Drawing. Filed Aug. 14, 1958, Ser. No. 754,928
2 Claims. (Cl. 260—233.3)

1. A process for making a thick-thick boiling starch derivative in granule form including the steps of reacting from about 0.01% to about 1% potassium pyroantimonate by weight based on the weight of starch with an unmodified starch slurry, maintaining the reaction at a temperature of between 32° F. and about 130° F., and drying the resulting compound to recover a water dispersible starch derivative in granular form, said dry starch derivative when reslurried in water and cooked producing a paste with a higher viscosity than a paste made from unmodified starch.

2,977,358
STEROID SAPOGENIN COMPOUNDS AND PROCESS FOR THEIR PRODUCTION
Carl Djerassi, Birmingham, Mich., and Alan J. Lemin, George Rosenkranz, and Franz Sondheimer, Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico
No Drawing. Filed Feb. 16, 1955, Ser. No. 488,707
Claims priority, application Mexico Feb. 22, 1954
21 Claims. (Cl. 260—239.55).

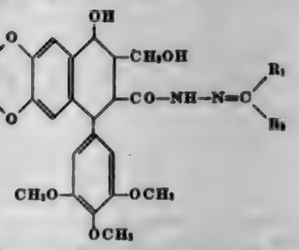
1. A process for the production of a compound selected from the class consisting of 9α,11α-epoxido-Δ^7-22a-spirostene-5α-ol-3-one and 7α,8α;9α,11α-diepoxido-22a-spirostane-5α-ol-3-one which comprises reducing a 3-lower fatty acid ester of the 5,8-peroxide of $\Delta^{6,9(11)}$-22a-spirostadiene with zinc in alkaline ethanol solution and forming a compound selected from the group consisting of $\Delta^{7,9(11)}$-22a-spirostadiene-3β,5α-diol and 3-lower fatty acid esters thereof, oxidizing said last mentioned compound with an aromatic peracid to form a compound selected from the group consisting of the 9α,11α-epoxide and the 7α,8α;9α,11α-diepoxide thereof, and oxidizing the 3-hydroxy group of the last compounds with a chromic acid.

12. A new compound selected from the class consisting of 9α,11α-epoxido-Δ^7-22a-spirostene-3β,5α-diol, lower fatty acid esters thereof, 7α,8α;9α,11α-diepoxido-22a-spirostene-3β,5α-diol and lower fatty acid esters thereof.

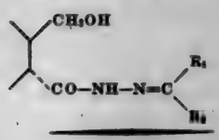
15. A new compound selected from the class consisting of 9α,11α-epoxido-Δ^7-22a-spirostene-5α-ol-3-one and 7α,8α;9α,11α-diepoxido-22a-spirostane-5α-ol-3-one.

2,977,359
AMIDES AND HYDRAZONES OF PODOPHYLLIC ACID AND PICROPODOPHYLLIC ACID
Jürg Rutschmann, Oberwil, near Basel-Land, Switzerland, assignor to Sandoz A.G., Basel, Switzerland
No Drawing. Filed June 2, 1958, Ser. No. 739,089
Claims priority, application Switzerland June 3, 1957
12 Claims. (Cl. 260—240)

1. A compound selected from the class consisting of hydrazones of the general formula



in which R_1 is a member selected from the group consisting of hydrogen and methyl and R_2 is a member selected from the group consisting of alkyl containing from 1 to 20 carbon atoms, aralkyl containing from 7 to 10 carbon atoms, phenyl, naphthyl, 2-furyl, 2-thenyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, cyclohexyl, 1-methyl-4-piperidyl, aryl substituted by alkyl containing from 1 to 4 carbon atoms, aryl substituted by chlorine, aryl substituted by hydroxyl, aryl substituted by 1 to 2 alkoxyl containing from 1 to 4 carbon atoms, aryl substituted by dialkylamine containing from 2 to 8 carbon atoms, the trans C_3 epimer of podophyllic acid having the molecular formula $C_{22}H_{28}O_8$ being designated by the structure



2,977,360
PREPARATION OF S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONES
Stanley Dixon, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 13, 1959, Ser. No. 805,669
4 Claims. (Cl. 260—248)

1. In the process for preparing s-triazine-2,4,6(1H,3H,5H)triones from an isocyanate compound, free of epoxide reactable groups, selected from the group consisting of an organic monoisocyanate, a 1,3-diazacyclobutane-2,4-dione and mixtures thereof, the improvement comprising contacting said isocyanate compound with an epoxide of the formula



wherein R_1 is a monovalent radical selected from the group consisting of hydrogen, methyl, chloromethyl and phenyl, at a temperature of from about 150 to 250° C. under autogenous pressure, there being employed from about 0.025 to 0.15 mole of epoxide for each mole of said organic monoisocyanate and from about 0.05 to 0.3 mole of epoxide for each mole of said 1,3-diazacyclobutane-2,4-dione.

4. A process for preparing triphenyl-s-triazine-2,4,6(1H,3H,5H)trione which comprises contacting phenyl isocyanate with ethylene oxide at a temperature of from about 200–220° C. under autogenous pressure, there being employed from about 0.025 to 0.15 mole of ethylene oxide per mole of phenyl isocyanate.

2,977,361
NOVEL s-DIHYDRO-TRIAZINE AND METHOD
George H. Hitchings, Yonkers, and Barbara Roth, Scarsdale, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York
No Drawing. Filed Aug. 19, 1959, Ser. No. 834,674
1 Claim. (Cl. 260—249.9)

A compound selected from the class consisting of 2,4-diamino - 1-(p-chlorophenyl)-6,6-(3'-methylpentamethylene)-1,6-lihydro-1,3,5-triazine and its therapeutically acceptable salts.

2,977,362
PIPERAZINE DERIVATIVES
Charles Ferdinand Huebner, Chatham, N.J., assignor to Ciba Pharmaceutical Products, Inc., Summit, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 18, 1957, Ser. No. 703,494
7 Claims. (Cl. 260—268)

1. A member of the group consisting of 1-(2-acyloxyethyl)-4-(N-aryl - carbamyl) - piperazine, in which acyl represents an acyl radical of an acid selected from the group consisting of lower alkanoic acid, phenyl-acetic acid, diphenyl-acetic acid, benzoic acid, 1-naphthoic acid and 2-naphthoic acid, and aryl represents a member of the group consisting of phenyl, 1-naphthyl and 2-naphthyl, and therapeutically useful acid addition salts thereof.

2,977,363
SYNTHESIS OF 1,4-DIAZABICYCLO (2.2.2) OCTANE
Adalbert Farkas and Jack H. Krause, Media, Pa., assignors to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 30, 1958, Ser. No. 751,854
5 Claims. (Cl. 260—268)

1. The method of preparing 1,4-diazabicyclo-(2.2.2)-octane comprising, contacting a charge mixture of 50 to 75 mol percent diethanolamine and 50 to 25 mol percent of ethylene diamine with an acidic siliceous cracking catalyst at a temperature in the range of 575 to 900° F.

2,977,364
PREPARING TRIETHYLENEDIAMINE
Rocco L. Mascioli, Media, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 17, 1959, Ser. No. 827,725
2 Claims. (Cl. 260—268)

1. The method of preparing triethylenediamine which includes the steps of: preparing a gaseous mixture consisting predominantly of $(HOCH_2CH_2)_nH_{(3-n)}N$ wherein n is an integer less than 4 and ammonia, the molar ratio of ammonia to amine being within the range from 3 to 1 to 12 to 1; passing said mixture at a space velocity of from 0.1 to 2 volumes of liquid amine per volume of catalyst into contact with acidic cracking catalyst particles maintained at a temperature within the range from 550° F. to 750° F.; withdrawing effluent vapors from the catalyst particles, said vapors containing a quantity of triethylenediamine constituting at least 5% of the amine charged to the catalyst; separating all normally gaseous components from said effluent to provide a residue of normally liquids and solids; separating ammonia from said gaseous components and directing at least a portion thereof to said preparation of the gaseous mixture; and subjecting said residue to fractional distillation to prepare a distillate containing triethylenediamine.

2,977,365
3-DEHYDROYOHIMBANES AND THEIR PREPARATION
Frank L. Weisenborn, Oskar P. Wintersteiner, and Patrick A. Diassi, all of New Brunswick, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 16, 1956, Ser. No. 578,280
9 Claims. (Cl. 260—286)

6. A process for preparing a 3-dehydroreserpate, which comprises interacting a 3-isoreserpic acid ester at a temperature in the range of about 50° C. to about 100° C. with mercuric acetate in a solvent for both the ester and mercuric acetate and recovering the resultant 3-dehydro derivative.

2,977,366
ISOMERIZATION OF ISORESERPIC AND ISODESERPIDIC ACID LACTONES
Robert Joly, Montmorency, Robert Bucourt, Villiers-le-Bel, and Julien Warnant, Neuilly-sur-Seine, France, assignors to Les Laboratoires Francais de Chimiotherapie, Paris, France, a corporation of France
No Drawing. Filed Feb. 18, 1960, Ser. No. 9,448
Claims priority, application France Aug. 9, 1957
4 Claims. (Cl. 260—287)

1. The process of isomerizing isoreserpic acid lactone to produce reserpic acid lactone comprising the steps of refluxing isoreserpic acid lactone with at least a 98% formic acid for a period of time sufficient to effect isomerization to reserpic acid lactone and isolating said reserpic acid lactone.

2,977,367
YOHIMBINE O-(LOWER ALKYL) SULFONATES
Patrick A. Diassi, Westfield, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 5, 1958, Ser. No. 753,206
4 Claims. (Cl. 260—287)

1. α-Yohimbine O-(lower alkyl)sulfonate.

2,977,368
CERTAIN 3-AMINOPHENYL-MERCAPTO PYRIDINES
Jean Druey and Konrad Meier, Riehen, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J., a firm
No Drawing. Filed Feb. 5, 1959, Ser. No. 791,272
Claims priority, application Switzerland Apr. 14, 1958
9 Claims. (Cl. 260—294.8)

1. 3-(ortho-amino-phenylmercapto)-pyridine.

2. 3-(ortho:paradiamino-phenylmercapto)pyridine.

3. 3-(para-amino-ortho-chloro-phenylmercapto) - pyridine.

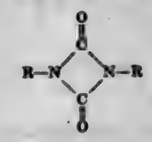
4. 3-(ortho-amino-para-chloro-phenylmercapto) - pyridine.

5. 3-(ortho-amino - ortho'-chlorophenylmercapto)pyridine.

6. 3-[ortho-(diethyl - amino-ethylamino) - phenylmercapto]-pyridine.
7. 3-(ortho-nitro-phenylmercapto)-pyridine.
8. 3-(ortho-nitro-para-chloro-phenylmercapto)pyridine.
9. 3-(para-nitro-ortho-chloro-phenylmercapto) - pyridine.

2,977,369
PRODUCTION OF 2-OXAZOLIDINONES
Stanley Dixon, Brandywine Hundred, and John J. Verbanc, New Castle, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 13, 1959, Ser. No. 805,667
3 Claims. (Cl. 260—307)

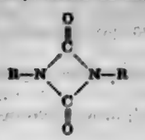
1. In the process for preparing a 2-oxazolidone by heating a mixture consisting of approximately stoichiometric proportions of (*a*) an epoxide selected from the group consisting of ethylene oxide, propylene oxide, 1,2-epoxybutane, 1,2-epoxyhexane, 1,2-epoxyoctane, 1,2-epoxyhexadecane, 2,3-epoxybutane, 3,4-epoxyhexane, 3-chloro-1,2-epoxypropane, 1,2-epoxy-5-hexene, 1,2-epoxy-2-cyclohexylpropane and 1,2-epoxy-3-butene and (*b*) a compound selected from the group consisting of an organic isocyanate of the formula R—NCO and a 1,3-diazacyclobutane-2,4-dione of the formula



wherein R is an organic radical selected from the group consisting of alkyl, haloalkyl, cycloalkyl, halo-substituted cycloalkyl, alkyl-substituted cycloalkyl, alkoxy-substituted cycloalkyl, alkenyl, hydrocarbon aryl, halo-substituted hydrocarbon aryl, nitro-substituted hydrocarbon aryl, alkoxy-substituted hydrocarbon aryl, carboalkoxy-substituted hydrocarbon aryl, aminoalkyl-substituted hydrocarbon aryl and alkenyl-substituted hydrocarbon aryl, the improvement comprising carrying out the reaction at a temperature of from about 150° C. to 220° C. in the presence of a catalyst selected from the group consisting of lead salts of hydrocarbon carboxylic acids, tri(lower alkyl)phosphines and tri(lower alkyl)arsines.

2,977,370
PRODUCTION OF 2-OXAZOLIDONES
Aaron Okon, Kennett Township, Chester County, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 13, 1959, Ser. No. 805,670
3 Claims. (Cl. 260—307)

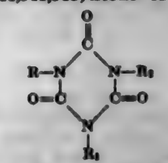
1. A process for preparing a 2-oxazolidone which comprises heating to a temperature of from about 220° C. to 250° C. a mixture consisting of approximately stoichiometric proportions of (*a*) an epoxide selected from the group consisting of ethylene oxide, propylene oxide, 1,2-epoxybutane, 1,2-epoxyhexane, 1,2-epoxyoctane, 1,2-epoxyhexadecane, 2,3-epoxybutane, 3,4-epoxyhexane, 3-chloro - 1,2 - epoxypropane, 1,2-epoxy-5-hexene, 1,2-epoxycyclohexane, 1,2-epoxy - 2 - cyclohexylethane, 1,2-epoxy - 2 - cyclohexylpropane and 1,2-epoxy-3-butene, and (*b*) a compound selected from the group consisting of an organic isocyanate of the formula R—NCO and a 1,3-diazacyclobutane-2,4-dione of the formula



wherein R is an organic radical selected from the group consisting of alkyl radicals, haloalkyl radicals, cycloalkyl radicals, alkyl-substituted cycloalkyl radicals, alkoxy-substituted cycloalkyl radicals, alkenyl radicals, hydrocarbon aryl radicals, nitro-substituted hydrocarbon aryl radicals, halogen-substituted hydrocarbon aryl radicals, alkoxy-substituted hydrocarbon aryl radicals, carboalkoxy-substituted hydrocarbon aryl radicals, aminoalkyl-substituted hydrocarbon aryl radicals, and alkenyl-substituted hydrocarbon aryl radicals; and recovering the 2-oxazolidone thereby obtained.

2,977,371
PROCESS FOR PREPARATION OF 2-OXAZOLIDONES
Stanley Dixon, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 13, 1959, Ser. No. 805,668
6 Claims. (Cl. 260—307)

3. A process for preparing a 2-oxazolidone which comprises heating to a temperature of from about 150° C. to 250° C. a mixture of (*a*) an epoxide selected from the group consisting of ethylene oxide, propylene oxide, 1,2-epoxybutane, 1,2-epoxyhexane, 1,2-epoxyoctane, 1,2-epoxyhexadecane, 2,3-epoxybutane, 3,4-epoxyhexane, 3-chloro-1,2-epoxypropane, 1,2-epoxy-5-hexene, 1,2-epoxycyclohexane, 1,2-epoxy-2-cyclohexylethane, 1,2-epoxy-2-cyclohexylpropane, and 1,2-epoxy-3-butene and (*b*) an s-triazine-2,4,6-(1H,3H,5H)trione of the formula



wherein R, R_1 and R_2 are monovalent organic radicals selected from the group consisting of alkyl radicals, alkenyl radicals, hydrocarbon aryl radicals, halogen-substituted hydrocarbon aryl radicals and nitro-substituted hydrocarbon aryl radicals; and recovering the 2-oxazolidone thereby obtained.

2,977,372
PROCESS FOR PREPARING SUBSTITUTED TETRAZOLES
William G. Finnegan and Robert H. Boschan, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Apr. 9, 1958, Ser. No. 727,498
6 Claims. (Cl. 260—308)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The process for preparing 5-substituted tetrazoles which comprises reacting for periods up to about 24 hours at a temperature from about 75° C. to about 150° C. a nitrile from the class consisting of benzo-nitrile, amino substituted benzo-nitriles, lower alkoxy substituted benzo-nitriles, lower alkyl substituted benzo-nitriles, nitro substituted benzo-nitriles, cyano substituted benzo-nitriles, aralkyl nitriles, lower alkyl nitriles, perfluoro lower alkyl nitriles, carbethoxy lower alkyl nitriles and alkanol nitriles and an alkali metal azide in a solvent from the class consisting of ethyl alcohol, methyl Cellosolve, ethyl Cellosolve, dimethylformamide and dimethylsulfoxide in the presence of a reactant selected from the class consisting of ammonium chloride, dimethylammonium chloride, trimethylammonium chloride, di-n-butylammonium chloride, aniline hydrochloride, piperidinium chloride, morpholinium chloride, tetramethylammonium chloride, and lithium chloride.

6. The process for preparing 5-substituted tetrazoles which comprises reacting for periods up to about twenty-four hours at a temperature from about 75° C. to about 150° C. an organic nitrile from the group consisting of benzo-nitrile, amino substituted benzo-nitriles, lower alkoxy substituted benzo-nitriles, lower alkyl substituted benzo-nitriles, nitro substituted benzo-nitriles, cyano substituted benzo-nitriles, aralkyl nitriles, lower alkyl nitriles, perfluoro lower alkyl nitriles, carbethoxy lower alkyl nitriles and alkanol nitriles and an azide from the class consisting of ammonium azide and lower alkyl substituted ammonium azide in a solvent from the class consisting of ethyl alcohol, methyl Cellosolve, ethyl Cellosolve, dimethylformamide and dimethylsulfoxide.

2,977,373
α:α-BIS-(CHLOROMETHYL)-β-PROPIOLACTONE AND PROCESS FOR ITS PRODUCTION
Reginald John William Reynolds and Edward Jervis Vickers, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Original application Aug. 23, 1955, Ser. No. 530,200, now Patent No. 2,853,474, dated Sept. 23, 1958. Divided and this application Aug. 6, 1958, Ser. No. 753,431
Claims priority, application Great Britain Aug. 25, 1954
2 Claims. (Cl. 260—343.9)

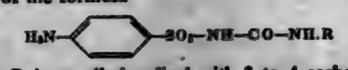
2. Process for the manufacture of α:α-bis-(chloromethyl)-β-propiolactone which comprises dry distilling an anhydrous salt of β:β':β''-trichloropivalic acid whereby said salt is decomposed to form said lactone as the distillate, said salt being selected from the group consisting of the silver and lead salts of β:β':β''-trichloropivalic acid.

2,977,374
PROCESS FOR PREPARING OXIRANE COMPOUNDS
Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 7, 1958, Ser. No. 719,741
18 Claims. (Cl. 260—348.5)

1. A process which comprises continuously introducing an ethylenically unsaturated compound and peracetic acid into an elongated reaction zone; said ethylenically unsaturated compound containing at least 3 carbon atoms and at least one ethylenic double bond in which the atoms directly joined to the ethylenic carbon atoms are of the group consisting of hydrogen and carbon; said elongated reaction zone having a length in the range of from 100 $\sqrt{4K/\pi}$ to 10,000 $\sqrt{4K/\pi}$, wherein K is the minimum area obtainable from a perpendicular cross sectional view of said zone, and wherein the expression $\sqrt{4K/\pi}$ is in the range of from 0.25 to 5.0 inches; under pressure sufficient to maintain a liquid phase reaction mixture; and for a residence time at least sufficient to introduce oxirane oxygen at the site of a carbon to carbon ethylenic bond of said ethylenically unsaturated compound, said residence time not exceeding about 45 minutes.

2,977,375
PROCESS OF MANUFACTURING N-SULPHANILYL UREAS
Erich Haack, Heidelberg, and Adolf Hagedorn, Mannheim-Waldhof, Germany, assignors to C. F. Boehringer & Soehne, G.m.b.H., Mannheim-Waldhof, Germany
No Drawing. Filed Feb. 3, 1954, Ser. No. 408,031
Claims priority, application Germany Feb. 11, 1953
4 Claims. (Cl. 260—397.7)

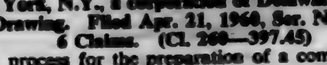
1. In the process of producing sulfanilyl urea compounds of the formula



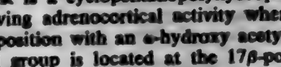
wherein R is an alkyl radical with 3 to 4 carbon atoms, the step comprising heating the amine addition salt of an amine of the formula

$$R.NH_2$$

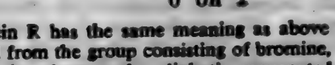
wherein R represents said same member as indicated above, with a sulfanilyl compound of the formula



wherein X is a member selected from the group consisting of a carbo-(lower) alkoxy group and a lower alkanoyl group and Y is a member selected from the group consisting of a lower alkoxy group and the sulfanilyl amido group of the formula



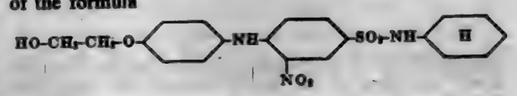
wherein X represents the same member as indicated above, in the solid state to a temperature between about 110° C. and about 150° C. until the amine addition salt is substantially completely converted into the sulfanilyl urea compound of the formula



wherein X and R represent the same members as indicated above and converting, by the action of a hydrolyzing agent, the X.NH- group into the free amino group.

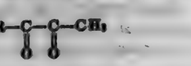
2,977,376
1-AMINO-2-NITROBENZENE-4-SULFONIC ACID AMIDES
Ernst Merian, Allschwil, Switzerland, assignor to Sandoz Ltd., Basel, Switzerland
No Drawing. Filed Oct. 24, 1958, Ser. No. 769,283
Claims priority, application Switzerland Feb. 22, 1954
8 Claims. (Cl. 260—397.7)

1. The 1-amino-2-nitrobenzene-4-sulfonic acid amide of the formula

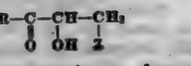


2,977,377
PROCESS FOR PREPARING 17 BETA-PYRUVOYL STEROID COMPOUNDS
Eugene J. Agnello, Lyme, and Gerald D. Laubach, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 21, 1960, Ser. No. 23,643
6 Claims. (Cl. 260—397.45)

1. A process for the preparation of a compound having the formula:



wherein R is a cyclopentanopolyhydrophenanthrene nucleus having adrenocortical activity when substituted at the 17β-position with an α-hydroxy acetyl group and the pyruvoyl group is located at the 17β-position replacing the α-hydroxy acetyl group which comprises maintaining a 17β-(α-hydroxy-β-halo)-propanoyl compound having the formula:



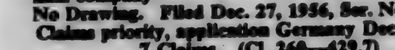
wherein R has the same meaning as above and Z is selected from the group consisting of bromine, chlorine and iodine in a lower polar aliphatic oxygenated solvent containing up to eight carbon atoms for a period of from about one to about four hours at a temperature of from about 50° C. to about 165° C. and, in the case where the halogen atom is chlorine, carrying out the reaction in the presence of a mineral acid.

2,977,378
COMPLEX COMPOUNDS OF TETRAISOPROPYL ZIRCONATE WITH AMMONIA
Andrew A. Kaspar, Watertown, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
No Drawing. Filed Oct. 23, 1958, Ser. No. 769,899
4 Claims. (Cl. 260—429.3)

1. A complex of tetraisopropyl zirconate with ammonia in which the mole ratio of ammonia to zirconate is up to 2:1.

2,977,379
OXYALKYLATED ORGANO-TIN CARBOXYLATES
Christoph Dorfelt, Altötting, and Kurt Hartel and Eugen Reindl, Burgkirchen, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main Hoechst, Germany, a German company
No Drawing. Filed Dec. 27, 1956, Ser. No. 630,756
Claims priority, application Germany Dec. 31, 1955
7 Claims. (Cl. 260—429.7)

1. Products of the general formula

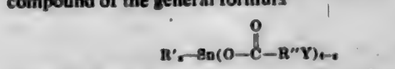


wherein R′ and R″ represent a member selected from the group consisting of the phenyl radical, the cyclohexyl radical, and acyclic aliphatic hydrocarbon radicals having 1 to 6 carbon atoms, x representing an integer from 1 to 3, and Y represents a chain of the formula

$$(CH_2-CH_2O)_n-CH_2-CH_2-OH$$

linked to the radical R″ by means of an atom selected from the group consisting of oxygen, sulfur and nitrogen, the index n representing an integer of 1 to 50.

7. A process for the preparation of new organic compounds of tin having high molecular weight and being poor in metal which comprises reacting an organic tin compound of the general formula



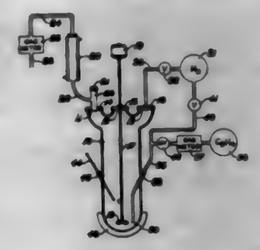
wherein R′ and R″ represent a member selected from the group consisting of the phenyl radical, the cyclohexyl radical, and acyclic aliphatic hydrocarbon radicals having 1 to 6 carbon atoms, x representing an integer from 1 to 3 and Y represents a member selected from the group consisting of OH, NH_2 and SH, with up to 50 mols of an alkylene oxide selected from the group consisting of ethylene oxide, propylene oxide and mixtures of ethylene oxide and propylene oxide.

2,977,380
MERCURIC CHLORANILATE
Ralph J. Bertolacini, Chesterton, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed May 29, 1957, Ser. No. 662,331
1 Claim. (Cl. 260—434)

As a new composition of matter, mercuric chloranilate.

2,977,381
ORGANO-METAL COMPOUNDS AND PRODUCTION THEREOF
Max E. Rohn, Brecksville, and Warren L. Besaw, Cleveland, Ohio, assignors to Goodrich-Gulf Chemicals, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 16, 1956, Ser. No. 559,505
11 Claims. (Cl. 260—448)

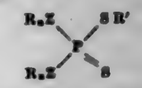
1. A method of producing at substantially atmospheric pressure a higher hydrocarbon-aluminum having a predetermined number of carbon atoms ranging from 10 to 100 in at least one of its hydrocarbon components by the chemical insertion of alkylidene radicals into a lower hydrocarbon-aluminum between the aluminum atom and a carbon atom of at least one of the hydrocarbon radicals of said lower hydrocarbon-aluminum, which carbon atom is linked directly to an aluminum atom, which method comprises preparing in inert circumambient fluid media a liquid reaction medium initially consisting essentially of (*a*) a lower hydrocarbon-aluminum of the general formula R_m-Al-X_n, wherein R is a hydrocarbon radical having from 2 to 8 carbon atoms, X represents a monovalent substituent selected from the class consisting of hydrogen, chlorine, bromine and iodine, and m and n are digits whose sum totals 3 and of which n, but not m, may be zero, (*b*) aluminum trichloride, and (*c*) titanium tetrachloride; then passing an alpha-olefin



having from 2 to 9 carbon atoms into intimate chemically reactive contact with the aforesaid liquid reaction medium at substantially atmospheric pressure gradually and relatively slowly over a period of time, measuring the amount of the alpha-olefin taken up in the chemical insertion of alkylidene radicals into the lower hydrocarbon-aluminum throughout the said period, and terminating the passing of the alpha-olefin into the liquid reaction medium when the measured amount of alpha-olefin so taken up indicates that the required number of alkylidene radicals have been chemically inserted into the said lower hydrocarbon-aluminum to yield the higher hydrocarbon-aluminum having the desired number of carbon atoms in at least one of its hydrocarbon radicals.

2,977,382
METHOD OF PREPARING ESTERS OF PHOSPHORODITHIOIC ACIDS
Allen F. Millikan, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Dec. 12, 1957, Ser. No. 702,227
20 Claims. (Cl. 260—461)

1. A method of preparing phosphorodithioic esters of the general formula



in which R is selected from the group consisting of hydrogen, alkyl radicals having from 1 to 25 carbon atoms, aryl, alkaryl, and aralkyl radicals having from 6 to 25 carbon atoms and their mixtures, R′ is an organic radical containing from 1 to 25 carbon atoms selected from the group consisting of alkyl, aryl, alkaryl, aralkyl, carbamylmethyl, octyltrimethylammonium, cetyltrimethylammonium, and N-benzyl-hexamethylenetetramine radicals, Z is selected from the group of oxygen and nitrogen and n has a value of 1 when Z is oxygen and a value of 2 when Z is nitrogen, which includes the steps of reacting the corresponding phosphorodithioic acid under substantially anhydrous conditions with an organic halide of the general formula

R′X

wherein X is a halide and R′ is an organic radical as heretofore defined, and conducting said reaction by passing therethrough an excess of the stoichiometric amount of anhydrous ammonia necessary to neutralize said dithioic acid and separating said phosphorodithioic ester from the reaction products.

2,977,383
HALOGENATED TETRAALKYL PYROPHOSPHATES
Werner Perkow, Hamburg, Germany, assignor to C. F. Spiess & Sohn, Kleinkarlbach, Germany, and Norddeutsche Affinerie, Hamburg, Germany
No Drawing. Filed July 27, 1959, Ser. No. 829,553
2 Claims. (Cl. 260—461)

1. Trimethyl-chloromethyl-pyrophosphate.

2,977,384
PRODUCTION OF ALKYL NITRATES
Roy Bentley, Largs, Scotland, and Mervyn Nisbet Thurston, Almondbury, Huddersfield, England, assignors to Imperial Chemical Industries Limited, a corporation of Great Britain
No Drawing. Filed June 16, 1954, Ser. No. 437,278
Claims priority, application Great Britain July 10, 1953
6 Claims. (Cl. 260—467)

1. A method of purifying volatile liquid nitric esters of monohydric alkyl alcohols substantially from nitrous ester which comprises washing the nitric ester with an excess of an aqueous solution containing urea and nitric acid in a concentration sufficient to cause visible evolution of gas in the presence of the urea only as long as the nitrous ester is present but not sufficient to cause any substantial hydrolysis of the liquid nitric esters, and thereafter freeing the nitric ester substantially from said acid and excess urea.

2,977,385
PROCESS FOR PRODUCING LACTONE ADDUCTS
George W. Fowler and Thomas F. Carruthers, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Apr. 13, 1956, Ser. No. 577,949
8 Claims. (Cl. 260—475)

1. Method for preparing a hydroxyl-terminated polylactone ester which comprises heating a hydroxyalkanoic acid lactone of the group consisting of unsubstituted and lower alkyl-substituted lactones having from six to eight carbon atoms in the ring with an organic compound having from one to three reactive hydrogens present in a member of the group consisting of hydroxyl and amino groups and in the presence of a catalyst of the group consisting of acetic acid, acetic anhydride, 2-ethylhexanoic acid and benzoic acid to a temperature between about 50 and about 250° C.

6. Method which comprises heating a lactone of the group consisting of unsubstituted and lower alkyl-substituted epsilon-caprolactones with an aliphatic alcohol having up to ten carbon atoms and from one to three hydroxyl groups and in the presence of a catalyst of the group consisting of acetic acid, acetic anhydride, 2-ethylhexanoic acid and benzoic acid to a temperature between about 50 and about 250° C. for forming a hydroxyl-terminated polylactone ester, and reacting said polylactone ester with a member of the group consisting of monocarboxylic acids having up to eight carbon atoms, dicarboxylic acids having up to ten carbon atoms, and their anhydrides.

2,977,386
ABSORPTION OF FORMALDEHYDE IN ALKALINE UREA SOLUTION
Mearl A. Kise, Portsmouth, Va., assignor to Allied Chemical Corporation, a corporation of New York
No Drawing. Filed Apr. 8, 1955, Ser. No. 500,303
8 Claims. (Cl. 260—553)

1. In the method of recovering a commercially useable formaldehyde product from a formaldehyde water vapor mixture, the steps comprising passing an alkaline urea solution through an absorbing tower, passing vapor containing formaldehyde into said tower and bringing it into intimate contact with said alkaline solution to absorb the formaldehyde from said vapor, removing the water which had been in admixture with the formaldehyde from the tower in the form of vapor and collecting the alkaline solution containing the absorbed formaldehyde.

2,977,387
DIPENTABORYLALKANES AND METHOD FOR PREPARATION THEREOF
Jack R. Gould and John E. Paustian, Morristown, N.J., assignors, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware
No Drawing. Filed Sept. 28, 1955, Ser. No. 537,288
6 Claims. (Cl. 260—606.5)

1. Dipentaborylalkanes having the formula

$$(B_5H_8)_2C_nH_{2n}$$

in which n is an integer from 4 to 6.

3. A method for the preparation of liquid borohydrocarbons which are useful as fuels which comprises reacting one mole of a conjugated alkadiene hydrocarbon having from 4 to 6 carbon atoms and from 2 to 20 moles of pentaborane-9 at a temperature within the range from 100° C. to 175° C. and at a pressure within the range from 150 p.s.i.g. to 200 p.s.i.g.

2,977,388
PREPARATION OF ALKYLATED PENTABORANES
Joseph A. Neff, Niagara Falls, and Edward J. Wandel, Buffalo, N.Y., assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Oct. 19, 1955, Ser. No. 541,516
10 Claims. (Cl. 260—606.5)

1. A method for the preparation of liquid alkylated pentaboranes which comprises reacting pentaborane with a monoolefin hydrocarbon containing from 2 to 5 carbon atoms while they are in admixture with hydrogen chloride and an aluminum halide selected from the group consisting of aluminum bromide and aluminum chloride.

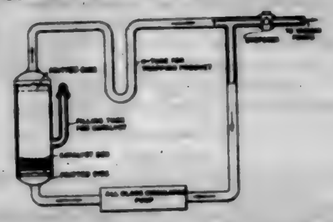
2,977,389
PREPARATION OF LIQUID REACTION PRODUCTS OF DIBORANE AND DIOLEFIN HYDROCARBONS
Eugene J. De Lorenzo, Niagara Falls, and John P. Faust, Kenmore, N.Y., assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Feb. 21, 1956, Ser. No. 566,753
4 Claims. (Cl. 260—606.5)

1. A method for the production of liquid reaction products of diborane and a diolefin hydrocarbon which comprises passing gaseous diborane, a gaseous diolefin hydrocarbon having from 3 to 5 carbon atoms, and an inert diluent gas into a mass of a molten metal inert with respect to the reactant gases maintained at a temperature within the range from about 100° C. to 250° C. and recovering liquid organoboron products from the gaseous effluent.

2,977,390
PROCESS OF PREPARING AN ALKYLATED DIBORANE
Harold G. Weiss, Duarte, Calif., assignor, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Sept. 21, 1956, Ser. No. 611,389
4 Claims. (Cl. 260—606.5)

1. A method for the manufacture of an alkylated diborane which comprises passing a gaseous mixture of diborane and at least one monoolefin hydrocarbon having

from 2 to 5 carbon atoms into contact with alumina having supported thereon at least one material selected



from the group consisting of molybdenum oxide, tungsten oxide and chromium oxide.

2,977,391

BETA-ETHOXYETHYLDECABORANE AND METHOD FOR ITS MANUFACTURE

Carl E. Pearl, Azusa, Calif., assignor, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware

No Drawing. Filed Jan. 15, 1957, Ser. No. 634,391
9 Claims. (Cl. 260—606.5)

1. Beta-ethoxyethyldecaborane of the formula

$$B_{10}H_{13}—CH(CH_3)—OC_2H_5$$

being a liquid boiling within the approximate range 80° C. to 109° C. at an absolute pressure of 0.9 mm. of mercury.

2,977,392

PREPARATION OF LIQUID ALKYLATED PENTABORANE

Herbert Landesman, Covina, Calif., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed July 29, 1957, Ser. No. 674,978
8 Claims. (Cl. 260—606.5)

1. A method for the production of liquid alkylated pentaborane which comprises reacting pentaborane-9 and from about 0.5 to about 4.0 moles per mole of pentaborane-9 of a lower alkyletherate of boron trifluoride containing from 1 to 4 carbon atoms in each alkyl radical at a temperature within the range from about 0° C. to about 125° C. while the reaction mixture contains from about 0.6 to about 10 moles per mole of pentaborane-9 of an alkylation catalyst selected from the group consisting of aluminum chloride, aluminum bromide, ferric chloride, and ferric bromide, and recovering a liquid alkylated pentaborane from the reaction mixture.

2,977,393

PROCESS OF PRODUCING DIVINYL ETHERS OF POLYHYDRIC ALCOHOLS

Ernst Walling, Rheinberg, and Gerhard Faerber, Moers, Germany, assignors to Deutsche Solvay-Werke G.m.b.H., Solingen-Ohligs, Germany

No Drawing. Filed June 2, 1954, Ser. No. 434,884
Claims priority, application Germany July 14, 1953
6 Claims. (Cl. 260—615)

6. A process of producing divinyl ethers of dihydric alcohols, comprising the steps of heating acetylene and an acyclic saturated dihydric alcohol in the presence of an alkali catalyst at a temperature below the boiling point of said dihydric alcohol so as to cause reaction between said acetylene and said polyhydric alcohol to form a monovinyl ether having a free hydroxyl group, said temperature being above the boiling point of the thus formed monovinyl ether, thereby forming a reaction mass comprising liquid polyhydric alcohol and monovinyl ether vapors; removing said monovinyl ether vapors as the same are formed, thereby preventing side reactions and obtaining substantially pure monovinyl ether having a free hydroxyl group of said dihydric alcohol; treating said monovinyl ether having a free hydroxyl group with acetylene in the presence of an alkaline catalyst at a temperature of about 110–170° C. and under a pressure of 5–30 atmospheres so as to cause reaction between said monovinyl ether having a free hydroxyl group and said acetylene, thereby forming the divinyl ether of said dihydric alcohol; and recovering said divinyl ether.

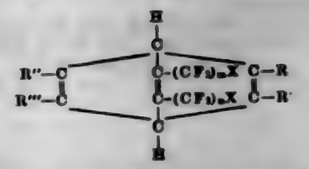
2,977,394

BIS (TRIFLUOROMETHYL) SUBSTITUTED BICYCLO-OCTATRIENES

Carl George Krespan and George Neil Sausen, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 15, 1959, Ser. No. 806,415
19 Claims. (Cl. 260—648)

1. A compound represented by the following structural formula:



wherein R and R' are selected from the group consisting of hydrogen, hydrocarbon, halohydrocarbon, and hydrocarbyloxy of up to 16 carbons and free of aliphatic unsaturation and joined together represent a divalent 1,3-dienylene group which forms an aromatic ring with doubly bonded nuclear carbons; R'' and R''' are selected from the group consisting of hydrogen, hydrocarbon groups of up to 16 carbons free of aliphatic unsaturation and joined together represent a divalent 1,3-dienylene group which forms an aromatic ring with doubly bonded nuclear carbons; X is selected from the group consisting of hydrogen, fluoride and chlorine and the subscripts m and n are positive integers, the sum of which is at most 22.

16. A method of making unsaturated, polycyclic, organic compounds which comprises reacting a compound of the formula $X(CF_2)_m—C{\equiv}C—(CF_2)_nX$ wherein X is selected from the group consisting of hydrogen, chlorine, and fluorine and the subscripts m and n are positive integers whose sum is at most 22 with an organic compound containing an aromatic ring in which the nuclear carbons in the 1- and 4-positions are each bonded to hydrogen; the nuclear carbons in the 2- and 3-positions are each bonded to a member of the group consisting of hydrogen, hydrocarbon, halohydrocarbon and hydrocarbyloxy of up to 16 carbons and free of aliphatic unsaturation and joined together represent a divalent 1,3-dienylene group which forms an aromatic ring with doubly bonded nuclear carbons; and the nuclear carbons in the 5- and 6-positions are each bonded to a member of the group consisting of hydrogen, hydrocarbon groups of up to 16 carbons free of aliphatic unsaturation and joined together represent a divalent 1,3-dienylene group which forms an aromatic ring with doubly bonded nuclear carbons.

2,977,395

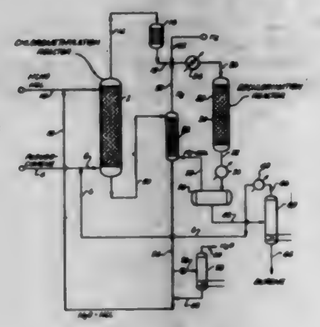
DECHLORINATION OF CHLOROMETHYL COMPOUNDS

William D. Schaeffer, Pomona, and Frank H. Seubold, Jr., Claremont, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Feb. 24, 1959, Ser. No. 795,883
16 Claims. (Cl. 260—668)

1. A method for the hydrogenolysis of a chloromethylated aromatic hydrocarbon, which comprises contacting

said chloromethylated hydrocarbon plus added hydrogen with a catalyst comprising a minor proportion of finely divided noble metal supported on a carrier selected from the group consisting of the substantially neutral and non-



reactive salts of the alkali metals and alkaline earth metals at a temperature between about 100° and 350° C., and recovering therefrom a hydrocarbon containing a ring methyl group in place of the chloromethyl group of said chloromethylated hydrocarbon.

2,977,396

PRODUCTION OF CONJUGATED DIOLEFINES

Herbert Maggleton Stanley, Tadworth, England, and Max Marin Wirth, Dollar, Scotland, assignors to British Hydrocarbon Chemicals Limited, London, England

No Drawing. Filed Mar. 27, 1959, Ser. No. 802,308
Claims priority, application Great Britain Apr. 9, 1958
8 Claims. (Cl. 260—681)

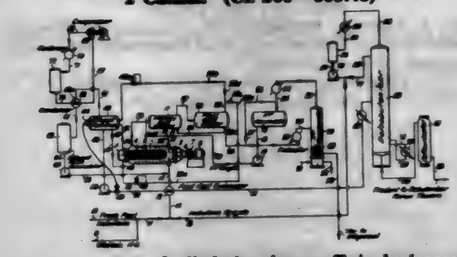
1. The process for the production of conjugated diolefines which comprises reacting a tertiary mono-olefine having 4 to 6 carbon atoms with an aldehyde selected from the group consisting of formaldehyde and acetaldehyde at an elevated temperature in the vapor phase, in the presence of cadmium phosphate as catalyst.

2,977,397

HYDROGEN FLUORIDE ALKYLATION WITH EFFLUENT REFRIGERATION

David H. Putney, Kansas City, Kans., assignor to Stratford Engineering Corporation, Kansas City, Mo., a corporation of Delaware

Filed Mar. 30, 1959, Ser. No. 802,968
2 Claims. (Cl. 260—683.48)



1. A process of alkylating isoparaffinic hydrocarbons with olefinic hydrocarbons employing hydrogen fluoride as a catalyst, comprising the steps of contacting isoparaffinic hydrocarbons and olefinic hydrocarbons with liquid hydrogen fluoride catalyst in a reaction step, withdrawing a mixture of hydrocarbons with hydrogen fluoride catalyst as effluent from said reaction step, separating said effluent into a hydrogen fluoride contaminated hydrocarbon phase and an acid phase in a first separating step, said reaction step and first separating step maintained under sufficient pressure to maintain the hydrocarbons in liquid form, reducing the pressure on the hydrogen fluoride contaminated hydrocarbon phase from said first separating step in an evaporative cooling step, passing the pressure reduced hydrogen fluoride contaminated hydrocarbon phase to a relatively low temperature and low pressure vapor withdrawal step, and passing at least a sufficient quantity of some portion of said hydrocarbon phase after pressure reduction thereof in indirect heat exchanging relationship with said reaction step to maintain a temperature level in the said vapor withdrawal step adequate to there establish a flash vaporization equilibrium at which at least substantially all hydrogen fluoride is vaporized from all liquid in the said vapor withdrawal step, and passing hydrogen fluoride-free liquid from the vapor withdrawal step directly to at least one fractionation step for separation of isoparaffinic hydrocarbons from said liquid.

ELECTRICAL

2,977,398

ELECTRICAL CONNECTION IN SINGLE-PHASE ELECTRODE FURNACES

Johan Wleügel, Roa, Oslo, Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway

Filed June 30, 1958, Ser. No. 745,695
Claims priority, application Norway July 9, 1957
3 Claims. (Cl. 13—12)



1. A circuit for energizing a single phase electrode furnace from a three phase voltage source which comprises a furnace transformer having its secondary winding coupled to the furnace and its primary connected in series with a condenser system across the first phase of the source, the capacitative reactance of said condenser system being substantially equal to the inductive impedance of the transformer and its load at the frequency of the source, a capacitative reactance connected across a second phase of the source and an inductive reactance connected across the third phase of said source.

2,977,399

THERMOELECTRIC MATERIALS

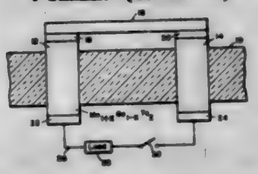
William D. Johnston, Robert C. Miller, and Armand J. Panson, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 15, 1959, Ser. No. 840,884
4 Claims. (Cl. 136—5)

1. A process for preparing a thermoelectric material having the formula $Na_xMn_{1-x}Te$, wherein x varies from 0.1 to 0.0001 comprising admixing in an inert atmosphere, predetermined quantities of Na_2Te, MnTe and Te all in

particle form, pressing said admixture into compacts, and firing said compacts at a temperature within the range of 650° C. to 950° C. for at least 0.5 hour.

2,977,400
THERMOELEMENTS AND DEVICES EMBODYING THEM
Albert J. Cornish, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 15, 1959, Ser. No. 840,085
4 Claims. (Cl. 136—5)

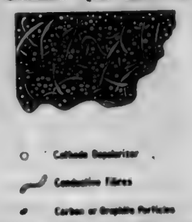


1. A material suitable for use as a p-type thermoelectric material, the material having the formula

$$Mn_{1+x}Ge_{1-x}Te_2$$

wherein x has a value of from 0 to ± 0.1.

2,977,401
CATHODES
Paul A. Marsal, Rocky River, Lewis F. Urry, Parma, and Andrew Tasch, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Oct. 9, 1957, Ser. No. 689,085
8 Claims. (Cl. 136—120)



1. A self-supporting shaped dry cell cathode comprising finely divided oxidic depolarizer material, finely divided carbonaceous particles the weight ratio of depolarizer to carbonaceous particles ranging from 2 to 1 to 16 to 1, from 5 to 20 weight percent of an alkaline electrolyte, and from 1 to 20 weight percent electrically conductive filamentary materials stable in the cathode environment, the length of said filamentary materials ranging from about 1/16 to about 1/2 inch, the diameter of said filamentary materials ranging from about 0.0005 to 0.010 inch, said filamentary materials being present in an amount sufficient to materially enhance the integrity of said shaped cathode and diminish its electrical resistance, said amount being lesser both in weight and bulk than said oxidic depolarizer material.

2,977,402
UTILITY WIRE MAST
Everett R. Parkison, Racine, Wis., assignor to Utility Service Co., Inc., Racine, Wis., a corporation of Wisconsin
Filed Oct. 1, 1954, Ser. No. 459,678
3 Claims. (Cl. 174—45)

1. A utility wire mast comprising an elongated tubular ground penetrating sleeve of a uniform diameter, one end of said sleeve converged to a point flared in one axial plane of said point with the opposite end of said sleeve being open, a tubular insert member snugly telescopically and removably received within said sleeve with the lower end of said member in abutment with the converged end of said sleeve and with the upper end extending above said sleeve, a wire connecting mast snugly telescopically received over said insert member and extending above the latter for receiving and supporting electric wires above the ground at the upper end of said mast and in the direction transverse to said plane on one side thereof, said mast including a conduit and an electrical outlet for enclosing said wires from said upper end to a lower point on said mast, said mast and said insert member having horizontally aligned stop-



pin openings, a stop pin removably positioned on said mast and engaged with said stop-pin openings to thereby restrict axial and rotational movement between said insert member and said mast, said sleeve and said insert and said mast all being axially aligned, and a pair of braces pivotally and removably attached to said stop pin and extending therefrom to the ground on said one side of said mast and being divergingly disposed with respect to the orientation from stop pin for supporting said mast against tipping and the force applied thereon by said electric wires and for holding said insert against removal from said sleeve.

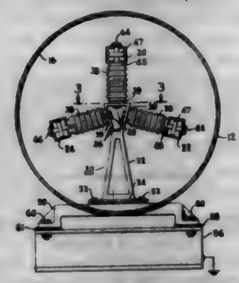
2,977,403
ELECTRICAL WIRE TAP CONNECTOR
Matthew W. Reitz, 5222 Bonita, St. Louis, Mo.
Filed Sept. 16, 1959, Ser. No. 840,297
1 Claim. (Cl. 174—84)



A wire connecter comprising an insulating sleeve in the shape of a truncated cone and provided at its wider end with internal threads, at its narrower end with a wire recess, and centrally with an internal bore in the shape of a cone, a pair of wire-bearing slots through the sides of the sleeve at its wider end to bear and hold a first wire, a wire passage communicating between said internal bore and said wire recess through which a second wire is disposed, said second wire being wound around and upon said first wire and then connecting around and upon itself forming a secure and fast electrical connection with said first wire in said central bore, a spring disposed in said central bore around said second wire and under and against said first wire, an insulating

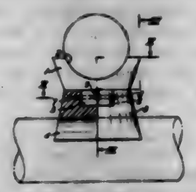
cap provided with external threads cooperative with the internal threads of said sleeve and also provided with a rounded bottom engageable with said connection of said second wire to said first wire, said first wire being gripped between the bottom of said cap and the bottoms of said slots.

2,977,404
ELECTRIC BUS DUCT
Nathan Swerdlow, Philadelphia, Pa., assignor to General Electric Company, a corporation of New York
Filed Mar. 7, 1960, Ser. No. 13,057
6 Claims. (Cl. 174—99)



5. An electric bus comprising a tubular metallic housing, a plurality of metallic pillars located at positions longitudinally spaced-apart along the length of said housing, each of said pillars including a base at one of its ends and a portion of hollow triangular configuration at its other end, said portion of hollow triangular configuration comprising three walls angularly disposed relative to each other and bounding a hollow region, means for attaching the base of each of said pillars to said housing in such positions that the triangular-shaped end portions are located generally along the central longitudinal axis of said housing, a plurality of insulating posts at the free end of each pillar extending radially outward from said longitudinal axis and disposed in angularly-spaced relationship about said axis, each of said posts having a pair of spaced-apart ends, means for mounting respectively one end of each of said insulating posts on one of said walls comprising fastening means extending through said one wall into the hollow region bounded by said walls, a plurality of substantially rigid conductors, means for mounting said conductors on the other ends of said insulating posts in spaced-apart relationship to each other and to said metallic housing.

2,977,405
ADJUSTABLE ELECTRICALLY INSULATING PIPE SPACER
Charles F. Warnock, Maracaibo, Venezuela, assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 23, 1959, Ser. No. 829,050
8 Claims. (Cl. 174—138)



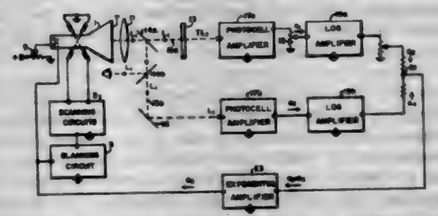
1. Apparatus for supporting an upper pipe on a lower pipe in electrically insulated relationship which comprises a saddle adapted to support the upper pipe, a saddle adapted to rest on the lower pipe, means pivotally engaging said saddles permitting relative rotation of said saddles, locking means on at least one of said saddles maintaining engagement thereof, and at least one of said saddles being made of electrically nonconducting material.

2,977,406
STRAIN INSULATOR AND METHOD OF MAKING SAME
Arthur L. Scott, Columbia, S.C., assignor to Columbia Products Company, Columbia, S.C., a corporation of South Carolina
Filed Oct. 12, 1956, Ser. No. 615,553
2 Claims. (Cl. 174—177)



1. A strain insulator comprising a pair of spaced thimbles joined together by a loop of fiberglass comprising a continuous sliver of fiberglass looped a plurality of times around said thimbles with the individual fibers extending parallel to one another, and all under identical tension both in the flights between said thimbles and where they extend around said thimbles, whereby tension applied to said strain insulator will be uniformly distributed between said fibers and whereby shifting of said fibers where they extend around the thimbles will be eliminated when tension is applied to said strain insulator, and binder material joining said fibers to one another and maintaining them in fixed tensioned position with relation to the thimble and in intimate contact with and tensioned around said thimbles.

2,977,407
ELECTRONIC PREVIEWER FOR PHOTOGRAPHIC PROCESSES
Charles J. Hirsch, Princeton, N.J., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed Feb. 10, 1960, Ser. No. 7,871
11 Claims. (Cl. 178—5.2)



3. An electronic previewer for producing an electronic preview image of the positive photograph which will be obtained from a given negative photograph by a photographic development process, said previewer comprising: scanning means for producing a beam of scanning light of an intensity dependent on a control voltage supplied to the scanning means; means for directing the scanning beam along each of a plurality of paths of which at least one includes said negative photograph; a plurality of electro-optical means respectively responsive to the light transmitted by said negative photograph in said one path and to that in at least one of the other of said plurality of paths to produce corresponding electrical signals; signal processing means for logarithmically modifying each of said signals and additively combining the modified signals, the modification of the signals corresponding to the light transmitted in at least one of the other of said paths being in accordance with the gamma employed in said

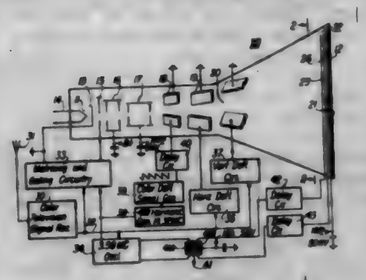
photographic development process; and means for deriving a control signal corresponding to the antilog of said combined modified signals and supplying it to said scanning means to control the intensity of the scanning beam produced thereby, the signal modification and combination effected by said signal processing means being such that the relationship between the intensity of said scanning beam and the transmission of said negative photograph is the same as the relationship between the transmissions of that photograph and the positive photograph to be obtained therefrom; whereby the light produced by said scanning means will form said electronic preview image of said positive photograph.

2,977,408

COLOR TELEVISION RECEIVER OF POST-DEFLECTION TYPE WITH AUXILIARY DEFLECTION

Herbert E. Welch, 4601 43rd St., Lubbock, Tex.

Filed May 13, 1957, Ser. No. 658,717
9 Claims. (Cl. 178—5.4)



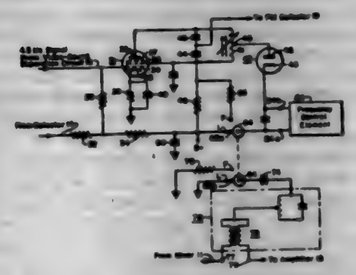
5. In a dot-sequential color television system including a picture display tube provided with an electron gun for emitting a beam of electrons, a picture display area composed of an electron target biased highly positive with respect to the electron gun for accelerating thereto the electrons emitted from the gun and made up of a plurality of vertically disposed red phosphor strips and green phosphor strips and blue phosphor strips arranged side-by-side in a reversing color-sequence, first means for deflecting the beam selectively horizontally and vertically to scan the target in a horizontal line raster wherein the electron beam traverses the target and each phosphor strip thereof at a linear rate during each line scan, and means for modulating the electron beam with red color information pulses and green color information pulses and blue color information pulses in the reversing color-sequence and in synchronism with the traversal by the beam of the corresponding color strips; the combination comprising, second means for deflecting the electron beam separate and distinct from said first deflecting means and disposed closely adjacent to the electron gun, a color grid disposed in the electron beam path closely spaced from the electron target and including a first set of grid wires in parallel alignment with the red phosphor strips and a second set of grid wires interleaved with the grid wires of said first set and in parallel alignment with the blue phosphor strips, an inductor terminating at one terminal thereof said first set of grid wires and terminating at the other terminal thereof said second set of grid wires and biased at the midpoint thereof to a voltage intermediate to the electron gun and the target electrode voltages, a sawtooth wave generator effective during the interval of each of the color information pulses for energizing said second deflecting means to deflect the electron beam in opposition to the horizontal scanning deflection of the beam and at the same rate in order to cause the electron beam to be directed approximately toward the axial center portion of each of the color strips, and a sine wave generator coupled to said inductor and biasing said first set of grid wires slightly positive with respect to said second set of grid wires during each interval one of the red color pulses of electrons intercepts said color grid and biasing said first and second sets of grid wires at substantially the same voltage during each interval one of the green color pulses of electrons intercepts said color grid and biasing said second set of grid wires slightly positive with respect to said first set of grid wires during each interval one of the blue color pulses of electrons intercepts said color grid in order to cause the electron beam to be further deflected and accurately focused onto the axial center portion of a red phosphor strip and of a green phosphor strip and of a blue phosphor strip of the electron target respectively during the corresponding color pulse intervals thereof, whereby the red and the green and the blue color modulated portions of the electron beam dwell and accurately register at the axial center portion respectively of a red and of a green and of a blue phosphor strip on the electron target to produce in composite an intense color picture display.

2,977,409

TELEVISION APPARATUS FOR WEAK SIGNAL TUNING

Kenneth E. Farr, Rockefeller Township, Northumberland County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 9, 1958, Ser. No. 727,315
6 Claims. (Cl. 178—5.8)



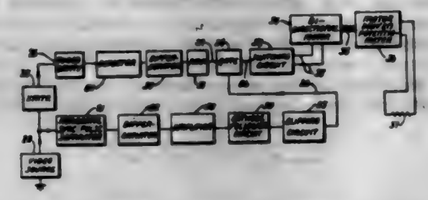
1. In a television receiver for receiving at least two radio frequency carriers having a substantially constant predetermined frequency difference, the combination of superheterodyne converter means to which said carriers are applied for producing a separate intermediate frequency carrier in response to each of said radio frequency carriers, means for deriving an intercarrier signal of a frequency corresponding to said predetermined frequency difference, frequency selective amplifier means coupled with said converter means and said intercarrier signal deriving means and having a frequency response characteristic such that the amplitude of said intercarrier signal varies as a function of the frequency of one of said intermediate frequency carriers, means for deriving a direct current potential having a magnitude related to the amplitude of said intercarrier signal, control means coupled to said last-mentioned means and to said converter means for controlling the frequency of said intermediate frequency carriers in response to the magnitude of said direct current potential, and means for selectively imposing a direct current control voltage component of predetermined magnitude on said control means to alter the frequencies of said intermediate frequency carriers in a manner such that the amplification of one of said intermediate frequency carriers is thereby substantially increased.

2,977,410

AUTOMATIC FREQUENCY CONTROL SYSTEM

Robert S. Dahlberg, Jr., Paoli, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 7, 1955, Ser. No. 486,655
7 Claims. (Cl. 178—7.2)



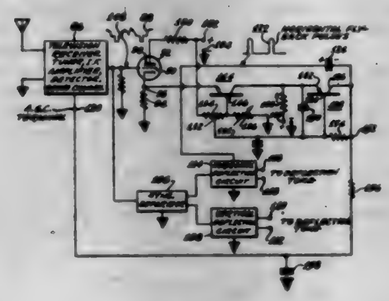
1. In a transmission system comprising means for generating a unipolar frequency modulated signal in which first portions thereof are at carrier signal frequency and other portions thereof immediately adjacent said first portions are at a frequency which is different from said carrier signal frequency by a susbtantially constant amount, an automatic frequency control system for maintaining the frequency of the carrier signal of the modulated signal at a predetermined value, said automatic frequency control system comprising a single resonating means tuned to a given frequency which is substantially midway between the carrier frequency of said unipolar signal when the frequency of the carrier signal is at said predetermined value and the frequency of said other portions of the unipolar signal, means for supplying said unipolar signal to said resonating means, and means connected to said resonating means and responsive to the portions of the output signal of said resonating means derived from said first portions and said other portions of said unipolar signal to produce an output signal indicative of deviation of said carrier signal frequency from said predetermined value.

2,977,411

AUTOMATIC GAIN CONTROL CIRCUITS

Hunter C. Goodrich, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Original application Aug. 19, 1953, Ser. No. 375,248, now Patent No. 2,855,559, dated Oct. 7, 1958. Divided and this application Feb. 1, 1957, Ser. No. 637,699
3 Claims. (Cl. 178—7.3)



1. In an automatic gain control circuit for a radio signal receiving system, the combination of: an amplifier designated to communicate incoming radio signals; voltage responsive gain control means connected with said amplifier for controlling the gain thereof in accordance with an automatic gain control potential; means coupled with said amplifier for developing a direct current indicating potential whose magnitude represents the amplitude of received radio signal; a source of periodically recurrent alternating pulsed voltage; a semiconductor amplifying device having emitter, base and collector electrodes; a resistance path means connected between said collector and said base to form a collector-base circuit; a storage capacitor connected from said source of alternating pulsed voltage to said collector electrode; means for applying said direct current indicating potential between said emitter and base with such polarity as to result in a forward base-emitter bias on said semiconductor amplifier device of a magnitude related to received signal strength; and direct current conducting low-pass filter means connected from a point in said collector-base circuit to said voltage responsive gain control means.

2,977,412

LIGHT REFLECTION REDUCING DEVICE

Roland N. Rhodes, Levittown, Pa., and Frederick H. Nicoll, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 25, 1958, Ser. No. 723,912
2 Claims. (Cl. 178—7.85)



1. A viewing device for reducing light reflections from the transparent structure located between the phosphor screen of a kinescope and an image observation point to enhance the contrast of an image displayed on said screen, wherein an image is generated on said screen by intensity modulating horizontal scanning light lines successively displayed on said screen, and wherein said transparent structure includes a transparent element having two surfaces, said device comprising in combination, means providing low light reflectivity from at least one surface of said transparent element with a reflection directivity characteristic wherein the least light reflection therefrom is for light striking the viewing device at substantially the normal thereto, and means including a woven mesh structure interposed in the light path between said transparent element and the point from which the image is viewed having threads therein at angles to each other, said mesh structure positioned so that the threads thereof are at an angle to said horizontal scanning light lines to reduce reflections from the viewing surface for light incident thereon at angles differing substantially from the normal.

2,977,413

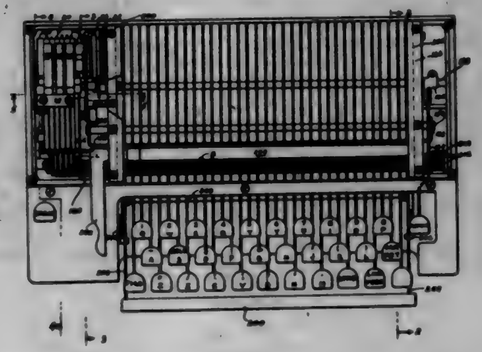
KEYBOARD OPERATED TELEGRAPH TRANSMITTER

Bernard Howard, Ramsey, N.J., assignor to Teleprinter Corporation, Hackensack, N.J., a corporation of New Jersey

Filed July 1, 1957, Ser. No. 669,098
10 Claims. (Cl. 178—17)

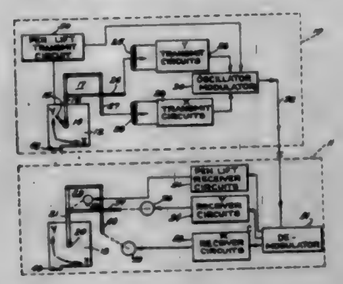
1. A keyboard operated telegraph transmitter comprising an array of keys, transmission contacts, a limited rotation clutch for driving timing cams for operating said transmission contacts in cooperation with said keys, a stop finger for disengaging said clutch, means whereby depression of a key moves said stop finger and so permits engagement of said clutch, and an additional means

driven by said clutch to help restore said stop finger preparatory to again disengaging said clutch after said



limited rotation of said clutch and regardless of how long the key is held depressed by the operator.

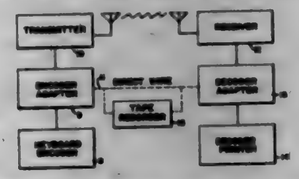
2,977,414
CONTROL SYSTEM
Robert Adler, Northfield, and Myron L. Anthony, La Grange, Ill., assignors, by mesne assignments, to Peter G. S. Mero
Filed Dec. 6, 1957, Ser. No. 701,850
10 Claims. (Cl. 178—18)



1. In a transmitter for an intelligence communication system of the kind comprising a transmitter and a receiver each including a stylus for recording upon a recording medium having predetermined electrical impedance characteristics supported upon an electrically conductive platen, said receiver further including signal-controlled means for moving the receiver stylus into and out of recording position with respect to the recording medium, a stylus control system comprising: means including a signal generator electrically coupled to the stylus and to the platen of the transmitter to generate a control signal which varies in accordance with variations in effective impedance between said transmitter stylus and said transmitter platen and which changes abruptly upon engagement and disengagement of said stylus with said recording medium; and means for transmitting said control signal to signal-controlled means at a receiver to control movement of the receiver stylus between recording and non-recording positions with respect to the receiver recording medium.

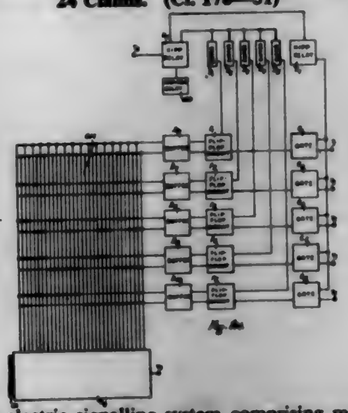
2,977,415
PORTABLE PRINTING COMMUNICATOR
Bertram Van Breeman, Phoenix, Ariz., assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Apr. 21, 1960, Ser. No. 23,779
8 Claims. (Cl. 178—30)

1. The combination in a portable type communication apparatus of a typewriter keyboard controlled encoder means for providing a coded series of pulses and a print signal for each character struck on the keyboard, adapter means for converting the coded series of pulses and print signal from amplitude modulated to frequency modulated, radio means for transmitting the frequency modulated pulses and print signal, radio means for receiving the transmitted pulses and signal, adapter means for converting the frequency modulated pulses and signal back to the amplitude modulated coded series of pulses and print signal, decoder means for storing the pulses in a shift register, a print head having a plurality of segmental line-like print-



ing elements equal in number to the number of elements in the shift register and capable of printing any desired character when the proper printing elements are energized, means responsive to the print signal for moving the pulses out of the shift register and for electrically energizing selected printing elements on the print head, an electro-sensitive paper tape, means mounting the tape for movement over the print head, a platen adapted to engage with the side of the tape opposite the print head, means responsive to the print signal for effecting relative movement between the platen and the print head to squeeze the tape therebetween, means for advancing the tape one character space after each print signal, and battery means for powering the apparatus.

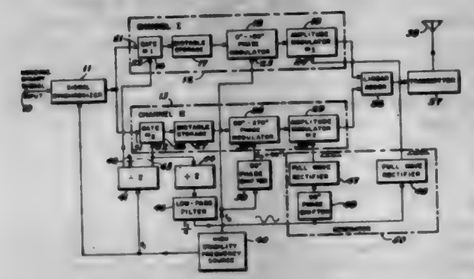
2,977,416
ELECTRIC SIGNALLING SYSTEMS
Harold Kilner Robin, Tunbridge Wells, England, assignor, by mesne assignments, to National Research Development Corporation, London, England, a corporation of Great Britain and Northern Ireland
Original application Dec. 11, 1950, Ser. No. 200,150, now Patent No. 2,816,163, dated Dec. 10, 1957. Divided and this application Mar. 28, 1957, Ser. No. 649,138
Claims priority, application Great Britain Dec. 14, 1949
24 Claims. (Cl. 178—51)



9. An electric signalling system comprising means for selecting various combinations of pulses from a group of pulses, means responsive to each of the said combinations to generate a burst of oscillations having a frequency which is individual to each pulse combination, means to

transmit said bursts, a receiver to receive said bursts and comprising, means to convert each burst of oscillations into a coded group of simultaneous pulses, means for synchronising said converter with the received bursts, and means for converting said coded group of simultaneous pulses into a corresponding code of successive pulses.

2,977,417
MINIMUM-SHIFT DATA COMMUNICATION SYSTEM
Melvin L. Doelz, Northridge, and Earl T. Heald, Canoga Park, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Aug. 18, 1958, Ser. No. 755,740
28 Claims. (Cl. 178—51)



6. A system for providing minimum-bandwidth frequency-shift signaling including, means for splitting a synchronous amplitude-shifted binary input signal into two component waves that are opposite sets of alternate bits of said input signal, means for storing each bit of each of said component waves for two bit periods of said input signal, a carrier frequency source providing two parts that are phase-shifted 90° with respect to each other, means for phase-modulating each part of said carrier frequency by one of said stored component waves, means for generating two weighting-function waves each having one-fourth the frequency of said synchronous input signal and being in respective synchronism with said component waves, means for magnitude-varying the amplitudes of said phase-modulated waves with the respective weighting-function waves, means for linearly combining said phase and amplitude-varied waves to provide a frequency-shifted wave, means for transmitting said frequency-shifted wave, means for receiving said wave, a stable local frequency source that is phase-locked with the mid-frequency of said received wave, means for separating said local wave into two parts phase-spaced by 90° with respect to each other, phase-detecting means for heterodyning said received wave in two phase-detected wave with said two parts, means for generating a pair of weighting-function sine-waves in respective synchronism with the amplitude variations of the two phase-detected waves, means for amplitude-modulating the magnitudes of the respective phase-detected waves with the respective weighting-function sine-waves, means for integrating said respective amplitude-modulated waves on a single-bit basis, means for sampling each of said bit integrations at the end of each, means for quenching said integrated wave prior to each integration, and means for combining said sampled waves to provide a detected binary signal.

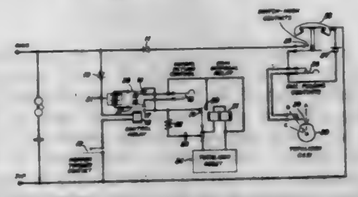
2,977,418
COMBINED OSCILLATOR AND HEAD PHONE FOR CODE PRACTICE
Victor E. Haas, 7613 Wisconsin Ave., Bethesda, Md.
Filed Mar. 12, 1958, Ser. No. 720,947
2 Claims. (Cl. 178—115)

1. A code phone comprising the combination with a conventional type head phone having a vibratory diaphragm, a magnet core with its pole pieces in close proximity to the diaphragm and a winding on each of said pole pieces interconnected with each other, all enclosed in a telephone receiver casing, of an electronic audio frequency oscillator housed in said casing, said oscillator comprising a transistor including its base, collector and emitter elements, a capacitor and a tuning resistor, in which the collector is connected with the free end of a winding on one of the magnet core pole



pieces, a connection between the free end of the winding on the other magnet core pole piece through said capacitor to the base, a connection between the interconnection of the two windings through said tuning resistor to the base, a source of potential and circuit closing means between said interconnection of the windings and the emitter which when the circuit is closed energizes the oscillator and effects audio frequency vibrations of the diaphragm.

2,977,419
TELEPHONE PAY STATION
Walter D. Goodale, Jr., Chatham, and William Pferd, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 24, 1956, Ser. No. 630,341
9 Claims. (Cl. 179—6.3)

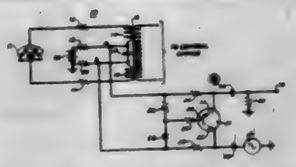


1. A telephone pay station connected by a line to a central office comprising in combination, coin control means for refunding and collecting deposited coins, a source of potential at said pay station, means operable in response to a signal from said central office for connecting said source of potential to said coin control means to collect deposited coins, and means operable by a customer for connecting said source of potential to said coin control means to refund deposited coins.

2,977,420
TELEPHONE SUBSCRIBER'S SUPERVISORY CIRCUITS
Terrell N. Lowry, Boonton, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 24, 1959, Ser. No. 861,910
18 Claims. (Cl. 179—18)

1. A supervisory circuit for determining the condition of a subscriber subset loop comprising in combination a subscriber subset loop having a battery, a subscriber subset, and a first and a second conductor joining said battery to said subset; a source of interrogating pulses; output means; a transistor connected to said source and said output means for gating pulses from said source to said output means in response to the condition of said transistor, said transistor having three terminals; means connecting one of said terminals of said transistor to said

first conductor; means connecting a second of said terminals to said second conductor; and means connecting



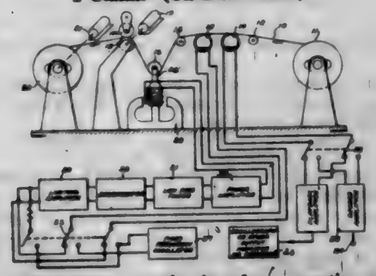
the third one of said treminals to both of said conductors for operating said transistor in response to the voltage between said first and said second conductors.

2,977,421
CROSSBAR SWITCHING SYSTEMS
Fritz Trachsel, Bern-Bumpliz, Switzerland, assignor to Chr. Gfeller A.G., Bern-Bumpliz, Switzerland
Filed Aug. 22, 1956, Ser. No. 605,654
Claims priority, application Switzerland Nov. 3, 1955
7 Claims. (Cl. 179—27.54)



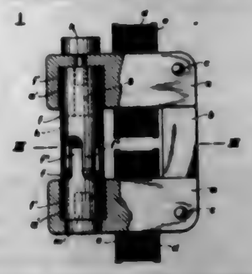
1. In a crossbar switch, a plurality of switchbars each mounted for longitudinal movement, a leaf spring secured to one end of each of the switchbars, a stationary member extending adjacent and transverse to each of the leaf springs, a braking element pivotally supported in each of the leaf springs and pivotally supported in the stationary member, the braking element being of such length as to draw the leaf spring into engagement with the stationary member upon longitudinal movement of the respective switchbar and thus damp the switchbar.

2,977,422
WEB TRANSPORT SPEED CONTROL
Charles B. Penr, Jr., College Park, Md., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed May 24, 1955, Ser. No. 510,756
1 Claim. (Cl. 179—100.2)



In a web transport mechanism for magnetic recording and reproducing equipment wherein a magnetic record member carries a constant frequency control record, the combination comprising web driving means for moving said record member at a relatively constant speed along a predetermined path, record transducing means for producing electrical signals in accordance with said control said electrical signals due to relatively minute changes record, frequency responsive means for producing control signals in response to changes in the frequency of in the speed of the motion of said record member, control means responsive to said control signals for modifying said path of said record member to counteract said changes in the speed of said member, said control means including a record member guide means for defining a bight in said record member along said path, said guide means being translationally movable along a line perpendicular to the path of said record member and in the general plane thereof, and driver means for moving said guide means along said line in response to said control signals, said driver means comprising a magnetic core means and an associated movable armature bearing an associated signal coil, said guide means being movable directly by said armature whereby to vary the length of the bight in response to said control signals and, in turn, vary the instantaneous speed of the record member along said path.

2,977,423
ROTATABLE ELECTROMAGNETIC TRANSDUCERS
Anton Marian Springer, Homburg vor der Hoehe, Germany, assignor to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany, a German firm
Filed Dec. 26, 1957, Ser. No. 705,347
Claims priority, application Germany Mar. 20, 1957
5 Claims. (Cl. 179—100.2)

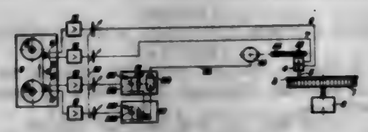


1. A rotatable electromagnetic transducer comprising electromagnetic winding means, a magnetic core magnetically coupled with said winding means, said core having a pair of pole members each defining one of a pair of coaxial cylindrical cavities, a pair of coaxial cylindrical rotors each projecting with the axially outer end thereof into one of said pair of cavities, each of said pair of rotors comprising a plurality of circularly arranged projections situated at juxtposed ends of said pair of rotors and extending in the direction of the common axis thereof, said plurality of projections of each of said pair of rotors having a predetermined circular pitch and said plurality of projections of one of said pair of rotors being angularly displaced relative to and interleaving with said plurality of projections of the other of said pair of rotors, and juxtaposed lateral surfaces of said plurality of projections of said pair of rotors forming a plurality of narrow magnetic pole gaps.

2,977,424
ARRANGEMENT FOR PRODUCING A SOUND RECORDING
Horst Redlich, Berlin-Lichterfelde-West, Germany, assignor to Teldec-Telefunken-Decca Schallplatten G.m.b.H., Hamburg, Germany
Filed Dec. 13, 1957, Ser. No. 702,715
6 Claims. (Cl. 179—100.4)

1. In an apparatus for recording in a grooved sound track two different sound signals by a single stylus, each

signal causing movements of said stylus in directions which are mutually perpendicular and which lie in a plane normal to the tangent of the groove, the combination which comprises: means for moving said stylus and a record receiver with respect to each other in a direction transversely to said groove for producing a plurality of sound grooves substantially parallel to each other on the same record receiver; means deriving control signals from each of said sound signals to be recorded; means for rectifying each control signal independently of the



other control signal and for combining the rectified control signals into a composite control force in which each single control signal is in the same proportion to the composite force as the sound signal from which it is derived is in proportion to the total sound signal to be recorded; and means responsive to said composite control force for controlling the relative movement between said stylus and said record receiver in the direction transverse to said sound groove and determining the amount of space to be left between adjacent grooves in proportion to the relative amplitudes of the two control signals.

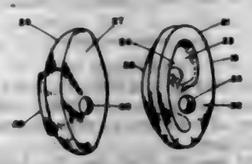
2,977,425
HEARING AID
Irwin H. Cole, 926 Elm Place, Glencoe, Ill.
Filed Sept. 14, 1959, Ser. No. 839,629
5 Claims. (Cl. 179—107)



1. A hearing aid adapted to transmit vibrations through the teeth of the user, comprising a smoking pipe having a bowl, an elongated stem, and a bit portion to be gripped between the teeth of the user, said elongated stem including an upper housing portion and a lower housing portion, the upper housing portion including a passageway providing communication between said bowl and said bit, the lower housing portion having therein an electrical unit for receiving sound waves and converting same into mechanical vibrations, said electrical unit including a microphone located forwardly along said stem and a mechanical vibrator located rearwardly of said stem adjacent to said bit, whereby the vibrations produced in response to the sound waves picked up by said microphone are transmitted through said bit to the teeth of the user.

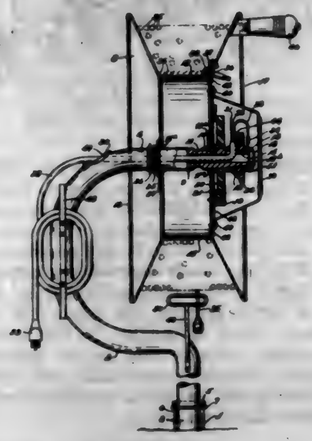
2,977,426
EAR PAD
Howard Noyes and Edward W. Moorman, Dayton, Ohio, assignors to Dayco Corporation, a corporation of Ohio
Filed June 25, 1956, Ser. No. 593,686
6 Claims. (Cl. 179—182)

1. A receiving headset for audio signals comprising an acoustically insulating cushioning pad and a supporting member attached thereto, said pad having a head-contacting rim defining a cavity conforming in shape to that portion of the ear which projects from the head, the portion of the rim adapted to be placed adjacent the



tragus of the ear having a substantially greater width than the remainder of the rim.

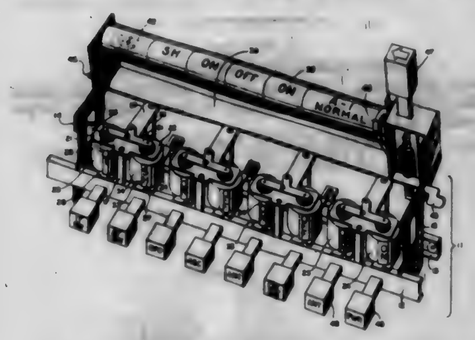
2,977,427
REEL FOR LAWNMOWER CORD
David Benjamin, Cleveland, Ohio, assignor to Benjamin Reel Products, Inc., Cuyahoga County, Ohio, a corporation of Ohio
Filed Oct. 3, 1957, Ser. No. 687,973
1 Claim. (Cl. 191—12.2)



An attachment cord reeling apparatus comprising a socket member having a cylindrical socket for pivotally retaining a reel in an anchoring location, a tubular gooseneck support having one cylindrical socket engaging end portion for pivotally engaging said socket and an axle engaging end portion spaced therefrom and angularly disposed to the axis of the socket engaging end, a reel axle non-rotatably secured to said axle engaging portion of the support in continuation thereof and angularly disposed to said socket engaging end, a reel having axial bearings for rotatably engaging said axle and the support adjacent thereto for rotation about the axis of said axle, a collector ring supporting disc of insulating material coaxial with and secured to a side of the reel for rotation therewith, a brush holding block of insulating material non-rotatably secured to said axle adjacent said disc, said block carrying brushes insulated one from another and engaging spaced apart collector rings carried by said disc, a feed cable extending through the bore of said gooseneck support axially through said reel, said feed cable having a plurality of insulated conductors each secured conductively to a brush on said brush holder and one conductor grounded on said axle, a supply cord adapted to be wound about said reel, the innermost end of said cord being clamped to said reel and having insulated conductors extending through a wall of the reel, said cord having a plurality of insulated conductors each conductively secured to a collector ring of said disc and one conductor grounded on said reel, said gooseneck support and said socket member having interlocking key and notch means thereon for lock-

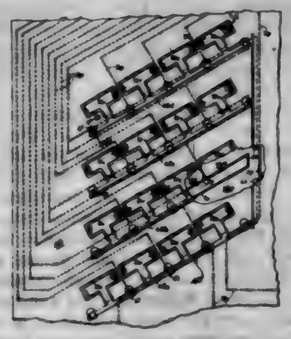
ing them against relative rotation, and a removable collar selectively positionable between said key and notch means for permitting swivel movement or locked engagement selectively.

2,977,428
PUSH BUTTON AND INDICATOR
Albert E. Showalter, Allentown, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 29, 1960, Ser. No. 5,568
6 Claims. (Cl. 200—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



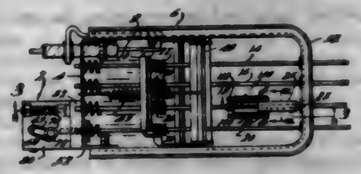
1. A push button circuit selector and indicator comprising a frame having a series of push button switches mounted therein, first indicating means including a group push button selection indicator for indicating a plurality of group settings to be made by said push button switches, said first indicating means disposed adjacent to said series of push button switches so as to display one of said plurality of group settings, and a series of second indicating means equal in number to said series of push button switches, each of said second indicating means connected to a respective one of said push button switches so as to indicate the individual connection made by each of said push button switches.

2,977,429
AMUSEMENT DEVICE
Victor Zimmerman, 64—56 Ellwell Crescent, Rego Park, N.Y.
Filed Aug. 29, 1957, Ser. No. 680,985
3 Claims. (Cl. 200—5)



1. In a multiple electrical switch assembly, a multiple switch contact plate having a plurality of parallel connected conductor arms and a common lead, and each one of said arms having a plurality of electrically connected contacts spring-biased in a normally open position, said conductor arms and said common lead defining a substantially flat plane, and said contacts being integrally self spring-biased in a single direction perpendicularly outwardly from said plane, an insulated sheet support for said contact plate, said sheet having separate strips lying beneath each of said arms, and having a longitudinal slot for receiving said common lead and adjacent ends of said arms therethrough, and having a separate cutout for each one of said contacts permitting passage of said contacts from one side of said sheet to the other.

2,977,430
STARTER CONTROL DEVICE FOR AUTOMOTIVE VEHICLES
Robert B. Walder, Center Line, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 22, 1956, Ser. No. 586,569
6 Claims. (Cl. 200—16)



1. An electrical switch including a base adapted to be mounted upon an automotive transmission control assembly of the type having a separate movable operator for each position of the controlled transmission, said switch comprising three spaced, fixed contacts insulatingly mounted on said base and aligned with respect to one another, an insulating slide member slidably mounted on said base for limited longitudinal travel thereon adjacent to said contacts, a contact plate mounted upon said slide member and positioned adjacent to said contacts, said contact plate being of a length sufficient to contact either adjacent pair of said contacts, means to urge said contact plate toward said contacts, yieldable means to urge said slide member toward one limit of its travel on said base, an actuating slide slidably mounted on said base for limited longitudinal travel thereon parallel and adjacent to said slide member, a retractable pawl mounted on said actuating slide, said slide member defining a notch and being thereby drivingly engageable by said pawl, and means to advance and retract said pawl into and out of said notch in response travel of said actuating slide.

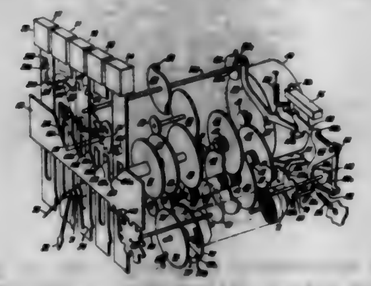
2,977,431
WITHDRAWN

2,977,432
CONTROL SWITCH
John J. Spicer, Jr., Philadelphia, Pa., assignor to Novo Industrial Corporation, a corporation of New York
Filed June 22, 1959, Ser. No. 821,929
4 Claims. (Cl. 200—16)



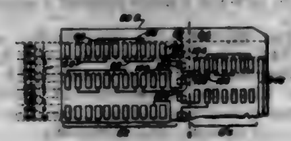
1. For a vehicle turn indicating system, a control switch comprising: a housing; a contact carrier in said housing and mounted for two-way reciprocal sliding motion from a neutral position to either of two turn indicating positions respectively on opposite sides of neutral, the carrier being formed with a bore extending in the direction of said motion, the bore having a central section and two other outboard sections of smaller diameter than the center; and a return spring in said bore to return the carrier from either turn indicating position to neutral position, the spring having a center part disposed in said center section and two outboard parts respectively disposed in said outboard sections, the ends of said outboard parts of the spring engaging said housing and the center part being of a larger diameter than the outboard parts and the ends of the center part of the spring respectively engaging the ends of said center section of the bore.

2,977,433
RADIO CLOCK MECHANISM
Elmer H. Beiser, Peru, and Robert H. Eme, Chicago, Ill., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,975
13 Claims. (Cl. 200—38)



1. In a clock for controlling a radio or the like, the combination comprising a settable alarm mechanism, switch means for controlling the radio, a switch control mechanism coupled to said switch means and including a cam having (*a*) an "off" position in which the switch is turned off, (*b*) an "on" position in which the switch is turned on, and (*c*) a "radio" position, means for coupling the switch means to the alarm mechanism when the cam is in its "radio" position so that the switch means is conditioned for automatic operation at a selected later time, a slide member coupled to the switch control mechanism and having a rack and pinion connection therewith, a set of push button plungers for the "off," "on," and "radio" functions respectively, and means for coupling said push button plungers to the slide member for moving the slide member to a corresponding and predetermined position when a selected push button plunger is pressed.

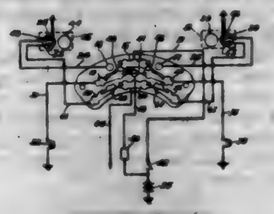
2,977,434
DECODING
William J. Shanahan, Long Island City, and Richard F. Vetter, St. Albans, N.Y., assignors to Skiatron Electronics & Television Corporation, New York, N.Y., a corporation of New York
Filed Apr. 5, 1955, Ser. No. 499,462
14 Claims. (Cl. 200—46)



2. A record for use in decoding apparatus comprising a card having at least two longitudinally extending sections, a plurality of uniformly longitudinally displaced rows of discrete electrically conductive areas disposed on the card transversely of said sections with immediately successive rows being fully in different ones of said sections, there being a plurality of said rows in each said section with the areas in different rows in any one of said sections being in substantial longitudinal alignment, and a plurality of conductive lines on the card connecting respectively an area of each of said rows to an area in the respective immediately successive row.

11. Decoding apparatus comprising the record card of claim 2, a plurality of discrete contacts arranged in at least two rows having an equal number of said contacts and extending transversely substantially across said sections in contact with said card, said contact rows being displaced from each other in the card longitudinal direction the same distance as the longitudinal displacement of immediately successive area rows on the card, said contacts being in substantial alignment in said longitudinal direction with the so aligned contacts being electrically connected together to form a plurality of contact pairs, and means for holding said card in any one of a plurality of positions in each of which one and only one of the contacts in each of said contact pairs makes contact with one of said conductive areas, some of the contact pairs being thereby in contact with respective said areas in only one row of areas, which as aforesaid is in only one of said card sections, and others of the contact pairs being thereby in contact with respective said areas only in the immediately successive row of areas, which are aforesaid is fully in another of said card sections.

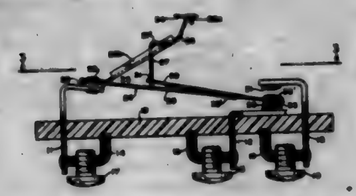
2,977,435
TURN SIGNAL SWITCH
John J. Spicer, Jr., Philadelphia, Pa., assignor to Novo Industrial Corporation, a corporation of New York
Filed June 22, 1959, Ser. No. 822,137
4 Claims. (Cl. 200—61.27)



1. In a vehicle turn indicating system: a base; a first pair of fixed terminals on said base to be connected respectively to the left-hand front and rear turn signal lights of the vehicle; a second pair of fixed terminals on said base to be connected respectively to the right-hand front and rear turn signal lights; power terminal means on said base to be connected with a source of periodic current; mechanism including a carrier slidable over said base for selectively connecting said pairs with said power terminal means, the carrier having a neutral position and two settable turn indicating positions, in the neutral position both of said pairs being disconnected from said power terminal means and in either settable position the one pair being connected with and the other pair being disconnected with said power terminal means; first fixed terminal means on said base to be connected with a source of current; second fixed terminal means on said base to be connected to the left high beam lights of a vehicle; third fixed terminal means on said base to be connected to the right high beam lights of a vehicle; and bridging connector means comprising two electrically independent bridging connectors mounted in said carrier and constructed so that when the carrier is

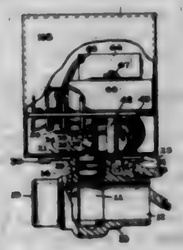
in said neutral position the bridging connectors respectively connect said first terminal means with said second and third terminal means and in the left-hand settable position the bridging connectors respectively disconnect the first terminal means with the third terminal means while maintaining the connection between the first terminal means and the second terminal means, and when the bridging connector is in the right-hand settable position the bridging connectors respectively disconnect the first terminal means with the second terminal means and maintain the connection between the first terminal means and the third terminal means.

2,977,436
SNAP ACTION SWITCH
Arthur W. Haydon, 83 Point Lookout, Milford, Conn.
Filed Mar. 26, 1958, Ser. No. 724,036
5 Claims. (Cl. 200—67)



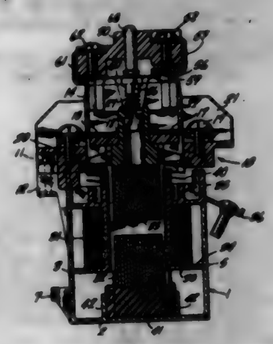
1. A snap action switch comprising a spring blade, an actuator, and a support, said spring blade including a compression member, a tension member and an end portion adapted to move into and out of contact with a switch contact, said tension member being fixedly secured to said support, said compression member being engaged by said actuator, said actuator including a connecting member and an actuating lever arm, said actuating lever arm being resiliently mounted at one end to said support and having a free end resilient in a direction normal to the blade, said connecting member exerting a compressive spring force upon said compression member in a direction substantially longitudinally of the latter and causing said compression member to snap said spring blade when said free end of said actuating arm is deflected in a direction normal to the blade to a predetermined extent to increase the compressive force exerted by the actuating arm against the compression member, thereby moving said end portion of the blade relative to said switch contact.

2,977,437
ELECTRICALLY ACTUATED ROTARY VALVE FOR ZONE HEAT CONTROL
Daniel B. Deane, N. Main St., Essex, Conn.
Filed Dec. 24, 1959, Ser. No. 861,986
20 Claims. (Cl. 200—81.9)



1. An electrically operated rotary valve for controlling the flow of a heating or cooling medium through a conduit comprising a rotary valve member adapted to be mounted in said conduit for rotation therewithin through 360°, a stem connected to said rotary valve member, a base plate attached to said conduit having an opening therein coaxial with said stem, a second plate mounted above said base plate, a rotary switch positioned between said base plate and said second plate, a unidirectional electric motor mounted on said second plate, and a shaft driven by said motor extending through said second plate and said rotary switch and drivingly connected to said switch and said stem for unidirectional corotation of said switch and said rotary valve member.

2,977,438
RELAY-CONTACTOR
Franz Merschel, Noerath 150, Eupen, Belgium
Filed June 29, 1959, Ser. No. 823,653
9 Claims. (Cl. 200—87)

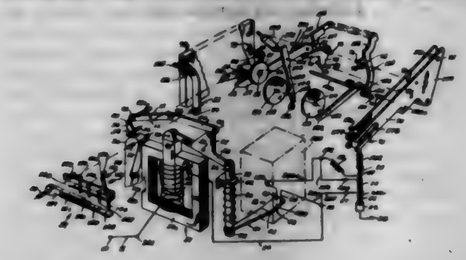


1. A relay-contactor comprising a case, an electromagnet in said case and comprising a winding coil and a core of magnetically permeable material, said core being divided into two complemental sections, namely a front section and a rear section, means positioning said coil in said casing, said core sections being movable relative to said coil, means limiting forward movement of said rear core section, cushioning means yieldably holding said lower core section in engagement with said limiting means, said cushioning means comprising a block of foam material under compression, at least one pair of cooperating electrical contacts comprising a movable contact and a stationary contact, means coupling said movable contact with said upper core section for movement thereby between one operative position in which said contacts are closed and another operative position in which said contacts are open, means biasing said front core section to a forward position in which said core sections are separated from one another and said movable contact is in one of said operative positions, and means for energizing said winding to draw said core sections together and thereby move said movable contact to the other of said positions, said foam material absorbing the energy of impact of said front core section with said rear core section.

2,977,439
AUTOMATIC RECLOSER
George A. Matthews, Detroit, Mich., assignor, by mesne assignments, to I-T-E Circuit Breaker Company, Philadelphia, Pa.
Application Oct. 12, 1953, Ser. No. 396,962, now Patent No. 2,851,567, dated Sept. 9, 1958, which is a division of application Ser. No. 113,371, August 31, 1949, now Patent No. 2,738,394, dated Mar. 13, 1956. Divided and this application Oct. 3, 1957, Ser. No. 692,955
5 Claims. (Cl. 200—89)

1. In a circuit breaker for protecting electric currents, a pair of cooperable contacts, an electromagnet responsive to fault currents in the circuit to be protected

by said circuit breaker, means for operating said contacts into engagement and disengagement with each other, an armature for said circuit breaker having a non-operated and a plurality of operated positions, said armature being susbtantially operable to one of said operated



positions in accordance with the energization of said electromagnet by said fault currents and mechanism controlled in accordance with the operation of said armature to one of said operated positions for controlling the time of operation of said contacts.

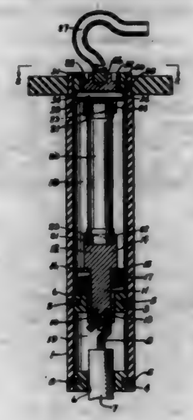
2,977,440
FLASHER SWITCH
William J. Lesmer, Cleveland, Ohio, assignor to Benjamin S. Gerson, Shaker Heights, Ohio
Filed Nov. 5, 1958, Ser. No. 772,117
6 Claims. (Cl. 200—113)



1. An automobile turn indicator switch comprising a thin sheet metal plate having a flat, flangeless, flexible body including a central portion surrounded by a margin, a fulcrum member having limited area contacts with the margin on the opposite sides of said central portion and about which contacts the margin may be flexed to flexed position with resultant creation of stress in the central portion, an electrical contact near the center of said portion, a conductor having an electrical contact engageable with the contact of said portion when said plate is in flexed position, an electrically conductive resistance wire connected to the margin of said plate and extending at an angle to the plane of the plate and substantially along a diameter of said central portion, said wire being tensioned, when cold, and holding said plate in flexed position, and means for supporting said plate, fulcrum member and wire in assembled position.

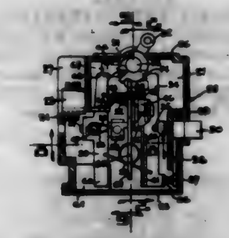
2,977,441
FEEDER TAP
Albert H. Gentzr, 769 Larchmont Road, Mount Lebanon 16, Pa.
Filed Jan. 26, 1959, Ser. No. 789,141
8 Claims. (Cl. 200—115.5)

1. A trolley wire feeder tap comprising a tubular sleeve of electrical insulating material, an abutment in the bore of said tubular sleeve adjacent one end leaving a restricted opening sufficiently large through which to draw an insulated power cable, a second abutment in the bore of said tubular sleeve inwardly of said first abutment to form a chamber between said abutments, said second abutment having a restricted opening sufficiently large to pass the insulated power cable, a first terminal having on one end an electrical connection for a power cable and having on its other end a fuse socket, a spring between said terminal and said second abutmeat, a second terminal having a large blowout clearance with the



bore of the other end of said tubular sleeve, a fuse socket in one end of said second terminal to receive the other end of a fuse extending between said terminals, a bare wire connector on said second terminal, and latch means to hold said second terminal in said tubular sleeve and to apply pressure through the fuse and compress said spring to hold said fuse in assembled relation.

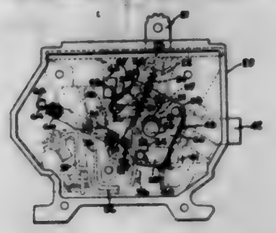
2,977,442
CIRCUIT BREAKER HAVING TRANSVERSELY MOVABLE OPERATING ELEMENTS
William H. Middendorf, Covington, Ky., assignor to The Wadsworth Electric Manufacturing Company, Inc., Covington, Ky., a corporation of Kentucky
Filed July 30, 1958, Ser. No. 752,834
17 Claims. (Cl. 200—116)



1. A circuit breaker comprising, a casing, a contact fixed in said casing, a pivot post in said casing, a contact bar carrying a contact engageable with said fixed contact and centrally pivoted on said post in said casing, a reset bar centrally pivoted in said casing in spaced generally parallel relation to said contact bar, tension springs joining each of the opposing end portions of said contact bar and reset bar, said springs forming a quadrangular linkage system with said bars, latch means associated with said reset bar, an operating handle mounted in said casing for movement at least between "latched" and "reset" positions, cam surfaces on said handle engaging the ends of said bars, a first of said cam surfaces to pivot said reset bar in a plane transverse to a plane perpendicular to said pivot post during movement to "reset" position, a second of said cam surfaces on said handle to pivot said reset bar parallel to said plane during move-

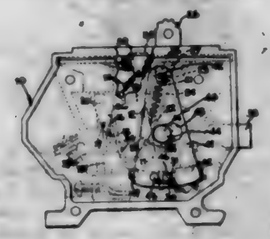
ment to "latched" position, said second cam surfaces shifting said reset bar to a position in which said springs are stressed when said breaker is latched with said contacts engaged, said spring returning said quadrangular linkage system to an equilibrium position in which said springs are least strained when said breaker is unlatched thereby snapping said contact out of engagement.

2,977,443
MULTI-POLE CIRCUIT BREAKER INTERLOCK
William H. Middendorf, Covington, Ky., assignor to The Wadsworth Electric Manufacturing Company, Inc., Covington, Ky., a corporation of Kentucky
Filed Aug. 18, 1958, Ser. No. 755,762
11 Claims. (Cl. 200—116)



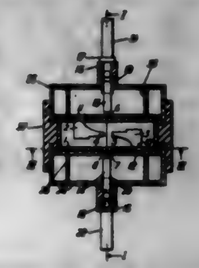
1. A common trip interlock for at least two circuit breakers joined in side by side relation, each circuit breaker having a movable carrier and a current responsive latch associated therewith, a movable contact bar engageable with a fixed contact and carried by said carrier but movable with respect thereto, and spring means biasing said carrier and movable contact selectively toward "closed" and "tripped" positions, said interlock comprising: a plate movably mounted on said breakers, first projections on said plate engageable by any one of said carriers when said carrier is moved upon unlatching, and second projections on said plate engaging the contact bar on the adjoining breaker to move said contact bar out of engagement with said fixed contact.

2,977,444
COMMON TRIP INTERLOCK
William H. Middendorf, Covington, Ky., assignor to The Wadsworth Electric Manufacturing Company Inc., Covington, Ky., a corporation of Kentucky
Filed Aug. 25, 1958, Ser. No. 756,857
6 Claims. (Cl. 200—116)



1. A common trip interlock for at least two adjacent circuit breakers, each said circuit breaker having a carrier, current responsive latch means associated with said carrier, a contact bar mounted on said carrier and movable between "on" and "off" positions, said interlock comprising: a plate pivotally mounted between said breakers, a pair of studs projecting from each side of said plate into the adjoining breakers, said studs being disposed on each side of each contact bar to provide unitary movement of said contact bars and plate, whereby tripping movement of one contact bar will be transmitted by said plate to the adjoining contact bar.

2,977,445
ELECTRICAL FUSE
Emil Lange, Ville d'Avray, France, assignor to Aktieselskabet National Industri, Drammen, Norway
Filed Oct. 29, 1959, Ser. No. 849,691
Claims priority, application Germany Jan. 5, 1959
4 Claims. (Cl. 200—120)

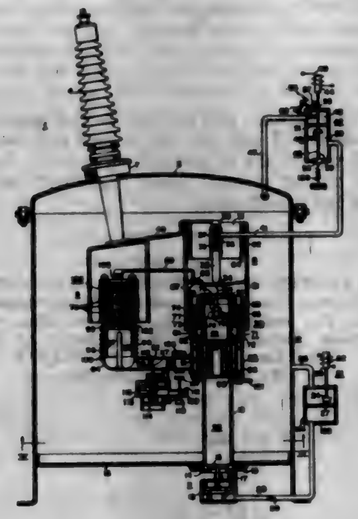


1. An electrical fuse, comprising in combination an extinguishing chamber of insulating material containing extinguishing medium and provided with a plurality of outlet apertures in each of two opposite sides, connecting means secured on said two opposite sides of said extinguishing chamber, a fusible wire connected to said connecting means and passing through a first pair of said outlet apertures and extending rectilinearly through said extinguishing chamber, the two ends of said fusible wire being outside said extinguishing chamber and adjacent one to each of said outlet apertures constituting said first pair of said outlet apertures, and two electrodes secured inside said extinguishing chamber, said electrodes having parts which terminate opposite one another on opposite sides of said fusible wire substantially in a middle plane of said extinguishing chamber perpendicular to said fusible wire so that said parts form in said middle plane a gap through which said fusible wire extends spaced from said parts, each of said electrodes having an end remote from said gap adjacent to one of a second pair of said outlet apertures, the arrangement being such that upon the flow of excessive current said fusible wire melts and forms a first arc extending between the one and the other of said first pair of outlet apertures and generating pressure in said extinguishing medium, a second arc bridges said gap, and third and fourth arcs are formed one in each of said second pair of outlet apertures between said electrodes and said connecting means, said first and third and fourth arcs being subjected to the action of extinguishing medium flowing through said outlet apertures.

2,977,446
COMPRESSED-GAS CIRCUIT INTERRUPTER
Benjamin P. Baker, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1956, Ser. No. 617,447
9 Claims. (Cl. 200—146)

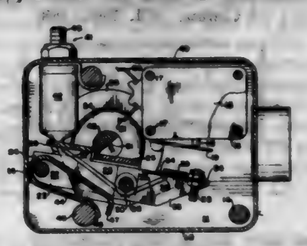
1. A compressed-gas circuit interrupter including a grounded metallic tank containing gas under pressure and thus constituting a high-pressure reservoir, one or more terminal bushings extending interiorly into said metallic grounded tank, an arc-extinguishing assemblage associated with the interior end of one terminal bushing for interrupting the circuit including a main-current interrupting unit and an impedance interrupting unit, an insulating blast tube extending from the arc-extinguishing assemblage to one wall of the metallic grounded tank, an exhaust valve operable to exhaust high-pressure gas out of the blast tube and to the region exteriorly of said grounded metallic tank, said main-current interrupting unit including a movable isolating contact, a movable

piston-operated main contact and a relatively stationary intermediate contact interposed between said movable isolating and main contacts and cooperable therewith, means biasing the piston-operated movable main contact against the relatively stationary intermediate contact to the closed position, the opening of said exhaust valve serving to dump the pressure behind the piston-operated movable main contact to effect the opening thereof to draw a main current arc, said impedance interrupting unit including an impedance and a pair of cooperable piston-actuated separable impedance contacts serially arranged, biasing means for biasing the cooperable piston-actuated impedance contacts to the closed position, connecting means for connecting said impedance interrupting unit in shunt relationship across said relatively stationary intermediate contact and said piston-operated main contact for lowering the rate of rise of the recovery voltage transient during circuit interruption, conduit means interconnecting said piston-actuated impedance contacts to said blast tube so that opening of said exhaust valve will also serve to effect dumping of gas back of one of the piston-actuated impedance contacts to effect the opening thereof subsequent to the opening of the main movable contact, means for effecting separation between the movable isolating contact and said relatively stationary intermediate contact subsequent to breaking the residual current arc at said impedance contacts, and the exhausting flow of high-pressure gas out of the tank through said blast tube helping to effect extinction of the main-current arc between the intermediate and main movable contacts and also extinction of the residual current arc between the impedance contacts.



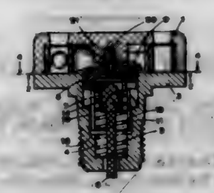
2,977,447
SWITCH AND ACTUATOR ASSEMBLY
Theodore Y. Korsgren, Sr., Woodbury, and Theodore Y. Korsgren, Jr., Wolcott, Conn., assignors to Hayden Switch, Inc., Waterbury, Conn., a corporation of Connecticut
Filed Oct. 23, 1957, Ser. No. 691,932
16 Claims. (Cl. 200—153)

1. A switch and actuator assembly comprising a frame, a switch mounted on the frame and having a movable actuator, a mounting arm pivoted on the frame, heavy spring means urging said mounting arm in a first direction, an adjusting arm pivoted on said mounting arm, said heavy spring means urging said adjusting arm in a second direction, adjustable stop means for limiting movement of said adjusting arm in said second direction, an actuating arm pivoted on said mounting arm and having a portion adapted to bear upon said movable actuator, light spring means urging said actuating arm in said first direction, means for limiting movement of said



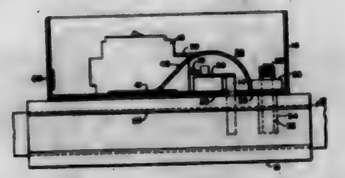
mounting arm in said first direction, operating means for moving said mounting and adjusting arms in said second direction, and interengaging means on said adjusting and actuating arms operative upon movement of said adjusting arm in said second direction to move said actuating arm away from said actuator.

2,977,448
CORD OR CHAIN OPERATED PULL SWITCHES
Hans Wernhard Schneider, Castle Works, High St., Old Woking, England
Filed Nov. 19, 1959, Ser. No. 854,091
Claims priority, application Great Britain Nov. 26, 1958
5 Claims. (Cl. 200—161)



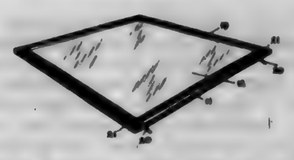
1. An electric switch comprising a hollow base, contacts located within said base and fixedly secured to said base, a cover plate carried by said base and having a tubular extension formed with two oppositely positioned helical faces of opposite pitch; a moving contact member mounted for turning movement within said base and engaging with and disengaging from said contacts; an operating member for said moving contact member in the form of a sleeve having a pair of diametrically positioned arms adapted to engage said helical faces in said tubular extension of said cover plate; a driving member interposed between said operating member and said moving contact member and engaging said moving contact member and composed of electrical insulating material and angularly movable within said tubular extension of said cover plate and formed with a pair of diametrically positioned longitudinal slots with which said arms on said operating member engaged to impart a turning movement to said driving member and permit of axial movement of said operating member in relation to said driving member in both directions; a cord extending through said tubular extension of said cover plate and secured to said operating member for moving said arms of said operating member along said helical faces in said tubular extension of said cover plate; and a helical return spring interposed between said operating member and said tubular extension of said cover plate to maintain engagement of said arms of said operating member with said helical faces on said tubular extension of said cover plate and for returning said operating member to its initial position.

2,977,449
BUS DUCT PLUG-IN UNIT
Arthur C. Roethlisberger, Brighton Township, Beaver County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 17, 1958, Ser. No. 749,289
8 Claims. (Cl. 200—168)



1. A bus duct plug-in unit comprising a metal housing having an opening through the back wall thereof with stab connectors extending through the opening, an enclosed circuit interrupter disposed in the housing, electrical connections between one end of the interrupter and the inner ends of the stab connectors, edges of the opening in the back of the housing being spaced from the stab connectors to provide an opening substantially greater than the cross-sectional area of the stab connectors, and an insulating barrier covering the opening and the inner ends of the stab connectors and the electrical connections, said barrier having a portion engaging the back wall of the housing and a cutout for receiving one end of the enclosure for the interrupter and other portions overlapping opposite sides of the enclosure for the interrupter to prevent access to the inner ends of the stab connectors and the electrical connections.

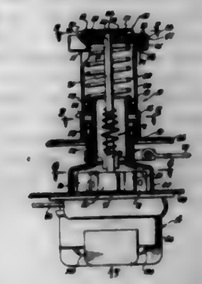
2,977,450
TRANSPARENT ELECTRICALLY CONDUCTING FILMS
James H. Boicey, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 16, 1957, Ser. No. 703,068
1 Claim. (Cl. 219—19)



An electrically conducting glass unit, comprising a plurality of glass sheets, at least one plastic interlayer separating said glass sheets and bonded thereto said interlayer extending beyond the edges of said sheets to provide a flange, a transparent electrically conducting film on an inner surface of one of said glass sheets, a pair of elongated electrodes arranged in spaced relation on the sheet having the film and in electrical contact with said film, leads located at the extremities of each electrode for connecting said electrodes to a power source, and a shorting wire embedded in the flange connecting the respective leads of each electrode to one another.

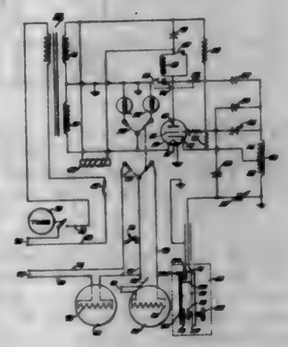
2,977,451
MULTI-STAGE HEATING ELEMENT CONTROL
James R. Campbell, 1504 Carmelita St., Laguna Beach, Calif.
Filed Feb. 7, 1956, Ser. No. 563,884
6 Claims. (Cl. 219—20)

3. In a contact assembly, the combination of: a contact member movable about a first axis between first and second extremes of movement and about a second axis intersecting said first axis between first and second positions; first spring means for moving said member about said first axis between said first and second extremes; second spring means for moving said member about said



second axis between said first and second positions during movement of said member by said first means; and first and second sets of contacts successively engageable by said contact member when respectively moved by said first and second means.

2,977,452
CAPACITANCE TYPE TEMPERATURE CONTROL
Victor Weber, Greensburg, and Charles K. Strobel, Pittsburgh, Pa., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Dec. 16, 1957, Ser. No. 702,954
7 Claims. (Cl. 219—20)



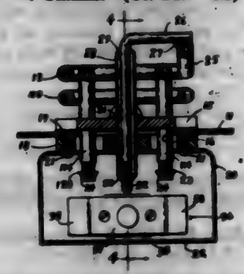
1. In a system for controlling the operation of a heating means in accordance with the temperature of an enclosure heated by said heating means, the combination comprising switch means movable between open and closed positions for controlling the operation of the heating means, relay means operably connected for moving said switch means between positions in response to energization of said relay means, oscillator means operably connected for controlling energization of said relay means in accordance with the amplitude of oscillation of said oscillator means, and capacitive means operably connected for controlling the condition of said oscillator means in response to the temperature of the enclosure, said oscillator means shifting instantaneously between a condition of maximum amplitude of oscillation and a condition of minimum amplitude of oscillation in response to changes of said capacitive means about a predetermined value.

2,977,453
ELECTRIC HEATER AND CONTROL CIRCUIT THEREFOR
Alton R. Wells, 235 Edgerton Road, Akron, Ohio
Filed July 29, 1958, Ser. No. 751,795
6 Claims. (Cl. 219—39)



1. In combination in a compact heater and control circuit therefor, an electric heater having a core with a single resistance winding thereon, three lead and terminal means connecting to said winding at spaced points thereon to form two circuits therein and extending therefrom with one of such lead and terminal means being common to both resistance circuits formed from said resistance winding, a dual thermostat means including a case with two thermostats therein and connected to have a common lead and a pair of individual leads extending therefrom, said thermostats being normally closed and being adapted to open at different predetermined temperatures, said case being permanently closed about said thermostats which are precalibrated, power supply means connecting to said common lead of said thermostat means and to said common one of said lead and terminal means, and means connecting the remaining two of said lead and terminal means individually to the remaining individual leads of said thermostat means.

2,977,454
ELECTRIC IMMERSION HEATER
John F. Volker, Pittsburgh, Pa., assignor to Edwin L. Wiegand Company, Pittsburgh, Pa.
Filed Nov. 12, 1959, Ser. No. 852,569
4 Claims. (Cl. 219—38)



4. An electric heater assembly for heating liquid in a container comprising an elongated tubular sheathed electric resistance heating element having an intermediate heat-generating portion for disposition within the container beneath the normal liquid level and having terminal end portions extending in side-by-side relation through an aperture in the container to the exterior thereof for conducting electrical energy to said heat-generating element portion, a first flange extending radially of said element terminal end portions and through which the latter extend in liquid-tight relation, said flange being disposed within the container and overlying and closing the aperture therein, a second flange removably secured to said first on the exterior of the container for drawing said first flange to liquid-tight relation with the container, a housing secured to said second flange and enclosing the free ends of said element terminal end portions, a thermally responsive switch within said housing to interrupt current flow to said element when its temperature rises to a predetermined level, a heat-conductive member extending from said switch through an enlarged aperture in said first flange and through the liquid in the container to a uppermost heat-generating element portion and in thermal transfer relation with the latter for conducting heat from said element to said switch, and a tubular member through which said heat-conductive member extends for protecting the latter against heat loss to the liquid in the container and to said first flange, said tubular member having an internal cross-sectional size greater than the external cross-sectional size of said heat-conductive member to provide a heat-insulating annular dead-air space therebetween and said tubular member being in liquid-tight engagement with said first flange to prevent liquid passage through said enlarged aperture thereof and extending from said first flange to a portion of said heat-conductive member adjacent its connection to said element heat-generating portion and in liquid-tight engagement with the latter.

2,977,455
SANITARY BODY DRYER
William E. Murphy, 404 Valley St., Pulaski, Va.
Filed Dec. 4, 1959, Ser. No. 857,458
7 Claims. (Cl. 219—39)



2. A sanitary body dryer for installation in a bathroom comprising, a vertically elongated cabinet having an openwork front, vertically disposed track means mounted in said cabinet, a heater cage having an open front aligned with said openwork front of said cabinet, track followers mounted on said cage to engage said tracks in said cabinet for movement of said cage thereon, an electrical fan mounted in said cage to move air outward through the open front of said cage and said openwork front of said cabinet, an electrical heating coil mounted in the path of said air being moved out of said cage, means for driving said cage in up and down flights in said cabinet, and control means to reverse the direction of travel of said cage at the end of each of said flights.

2,977,456
MINIATURE IMMERSION HEATERS WITH WATERTIGHT HANDLES ENCLOSING SWITCHING MEANS
Theodor H. Stiebel, Lechtringer Weg 11, Holzminden (Weser), Germany
Filed May 13, 1959, Ser. No. 812,935
6 Claims. (Cl. 219—41)

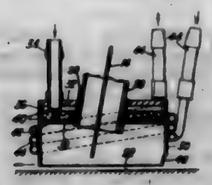
1. A miniature portable electrical immersion heater comprising a handle including a bell-shaped casing of rectangular cross-section having walls of substantially uniform thickness with the region thereof at the open end of the casing having a lesser thickness, the casing being of a material selected from the group consisting of polyethylene, low pressure polyethylene, branched high pressure polyethylene and polypropylene, and a cover plate of the selected material tightly fitted into the open end of the casing, a miniature electrical immersion heater supported in the cover plate and external to the casing of which heater the electrical conductors extend into the casing, electric current leads extending watertight into the casing, and switching means within the casing interconnecting the heater electrical conductors

and the leads, the casing wall thickness being such that except at the open end the casing is substantially rigid, the casing wall thinned portion at the open end being



substantially flexible to facilitate fitting the cover-plate into the casing open end, and on insertion to hold it watertight therein.

2,977,457
WELDING NOZZLES
Peter Thomas Houldcroft and Arthur Alfred Smith, Cambridge, England, assignors, by mesne assignments, to National Research Development Corporation, London, England, a corporation of Great Britain
Filed July 23, 1958, Ser. No. 750,445
Claims priority, application Great Britain July 23, 1957
5 Claims. (Cl. 219—74)



1. A method of welding a workpiece with high currents using the gas-shielded metal-arc consumable electrode process, comprising advancing the consumable electrode through a welding nozzle towards the workpiece, directing a primary flow of inert gas through the welding nozzle in the direction of the workpiece, the primary gas forming a shield around the electrode, advancing a secondary flow of inert shielding gas through a second nozzle within which the first nozzle is located, confining the secondary shielding gas within the second nozzle at least as far as the end of the first nozzle, and directing the secondary shielding gas towards the workpiece so that all of the secondary gas leaves the second nozzle at different points around the latter is travelling along paths which are substantially non-convergent and surrounds the surface of the workpiece around the weld pool over an area having a width at least three times the width of the weld pool.

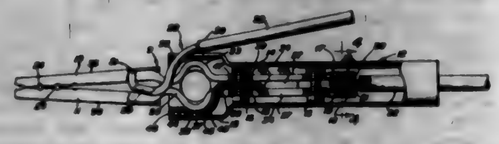
2,977,458
RESISTANCE WELDING OF ALUMINUM AND ITS ALLOYS
Marcel Tournaire and Albert Trompler, Paris, France, assignors to Compagnie Generale du Duralumin et du Cuivre, Paris, France, a corporation of France
Filed Feb. 12, 1958, Ser. No. 714,742
Claims priority, application France Feb. 13, 1957
19 Claims. (Cl. 219—118)

1. Process for improving the welding characteristics of the welding surfaces of aluminum or of aluminum alloy articles to be welded by resistance welding consisting in depositing thereon a non-corrosive product



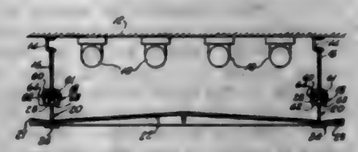
selected from the group consisting of an organic nitrogen compound and a higher alcohol.

2,977,459
ELECTRODE HOLDER
Frank J. Newicke, 1300 Old Annapolis Road, Glen Burnie, Md.
Filed Jan. 14, 1959, Ser. No. 786,844
2 Claims. (Cl. 219—141)



1. An electrode holder comprising a pair of substantially identical jaw members having electrode receiving jaw ends and cable receiving securing ends, an insulating handle surrounding said cable receiving securing ends, a depression formed in the inner surface of said handle, a cam member located between said jaw members for separating said jaw members and having an operating portion overlying said insulating handle, a plate positioned within said handle and secured between said jaw members, said plate having a toe portion cooperating with one of the jaw members for preventing rotation of said plate and having a tongue portion cooperating with said handle depression for removably locking the handle in operating position.

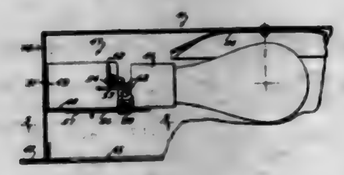
2,977,460
LIGHTING UNIT
Kurt Franck, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 12, 1957, Ser. No. 665,245
8 Claims. (Cl. 240—9)



1. In a lighting unit including a light source, a light transmitting member below said light source, and a supporting clamp member extending downwardly adjacent an edge of said light transmitting member, the improvement comprising a transparent support member for said light transmitting member having a cross sectional shape substantially resembling an inverted T and including a substantially horizontal base portion supporting an edge of said light transmitting member, a substantially vertical body portion extending upwardly from said base portion intermediate the width thereof, and a widened knob portion at the upper end of said body portion held by said clamp member, said vertical portion including prism

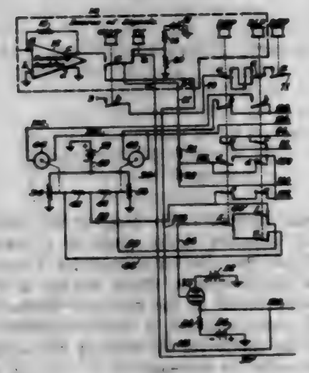
means on the side adjacent said light source and said base portion including prism means on the bottom face thereof, said prism means on said body portion and said base portion being arranged to direct light incident thereon in directions low enough to prevent glare.

2,977,461
ADJUSTABLE LAMP SOCKET FOR LIGHTING FIXTURE
Preston A. Jones, San Rafael, Calif. (2229 4th St., Berkeley, Calif.), assignor, by mesne assignments, to said Jones and Wallace D. Runswick, Berkeley, Calif.
Filed May 31, 1957, Ser. No. 662,630
5 Claims. (Cl. 240—78)



4. A lighting fixture comprising a housing having an open end and a reflector directed toward same, a lamp socket adapted to retain a lamp and disposed to extend said lamp radially in front of said reflector, a first member secured to said housing and extending toward said reflector from the side thereof with a slot therein radially of said reflector and indices along said slot identifying lamp sizes, a second member secured to said lamp socket and slidably engaging said first member along the slot therein and having a portion thereon for registering with selected ones of said indices, and means clamping together said first and second members to position a lamp corresponding in size to the registered index in position in front of said reflector for maximum light reflection therefrom.

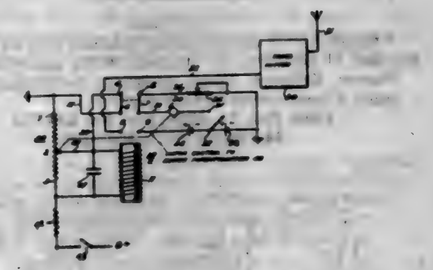
2,977,462
COMPUTING APPARATUS
Orval L. Utt, Monroeville, and Richard D. Campbell, Harmarville, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Mar. 27, 1959, Ser. No. 802,450
13 Claims. (Cl. 246—182)



1. Apparatus for deriving an average value signal as a function of each of a plurality of measured value signals comprising, in combination, adjustable storage means for storing said average value signal, summing means controlled by said average value signal and said measured value signals for comparing said average value signal and each of said measured value signals and having an output signal proportional to the sum of said average value signal and a discrete percentage of the difference between said average value signal and each of said measured value signals, differential circuit means having connections to said summing means and said storage means for subtracting said average value signal from the summing means output signal to produce a signal in accordance with their difference, and means controlled by said differential circuit means for adjusting said storage means to change said average value signal an extent substantially equal to said difference.

13. Apparatus for producing an average value of rolling resistance of medium weight cuts of railway cars as a function of the rolling resistance of light weight and heavy weight cuts of cars, comprising, in combination, a first potentiometer having a variable output voltage representative of an average value of rolling resistance of said light weight cuts of cars, a second potentiometer having a variable output voltage representative of an average value of rolling resistance of said heavy weight cuts of cars, and an impedance electrically divided into two parts by an intermediate terminal for interconnecting the wipers of said first and second potentiometers, whereby the voltage appearing at said intermediate terminal represents a variable average value of rolling resistance of medium weight cuts of cars.

2,977,463
CONTROL SYSTEM
Howard J. Lettine and Anthony Lettine, both of 62 Berkley St., Valley Stream, N.Y.
Filed Mar. 21, 1957, Ser. No. 647,625
5 Claims. (Cl. 256—2)



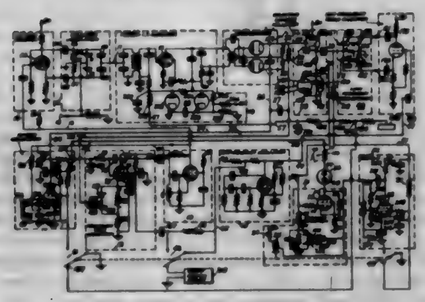
1. In a transmitter having modulating means, in combination, energizing means for energizing the transmitter modulating means, switch means connected in circuit between said energizing means and the modulating means and movable between a circuit closing position wherein the modulating means is energized and a circuit opening position wherein the modulating means is de-energized, electromagnetic means for moving said switch means between its circuit opening and closing positions, and frequency determining means connected to said electromagnetic means for controlling the frequency at which said electromagnetic means moves said switch means between its circuit opening and circuit closing positions, said frequency determining means including a capacitor connected in parallel with said electromagnetic means, and a potentiometer connected in circuit with said capacitor, said potentiometer having a variable resistance which in combination with the capacitance of said capacitor determines the frequency of operation of said electromagnetic means.

2,977,464
MULTIPLE ANTENNA USING PASSIVE REFLECTORS
Carl T. Engberg, Middletown Township, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 23, 1959, Ser. No. 808,541
3 Claims. (Cl. 250—15)
(Granted under Title 35, U.S. Code (1952), sec. 266)



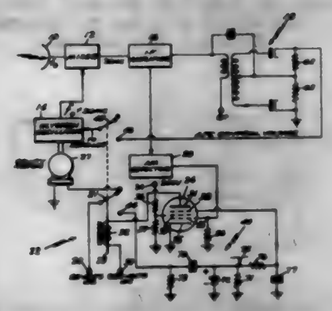
1. A method of insuring a reliable path of communication between a transmitter and a distant receiver in the face of enemy countermeasures or under conditions of signal fading, said method comprising the steps of locating passive reflectors at discreet distances from the transmitter and at an angle from the direction between the transmitter to the receiver, and directing energy from the antenna of the transmitter toward the reflectors to be redirected thereby toward the receiver in substantially parallel paths.

2,977,465
FREQUENCY-SCANNING RADIO RECEIVERS
Royden C. Sanders, Jr., Nashua, N.H., and William R. Mercer, Belmont, Mass., assignors to Raytheon Company, a corporation of Delaware
Filed Dec. 24, 1956, Ser. No. 630,722
22 Claims. (Cl. 250—20)



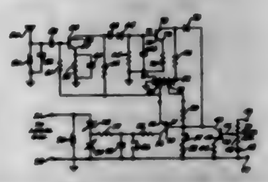
1. A radio receiver system of the panoramic receiver type having a swept oscillator adapted to sweep at a substantially linear rate over a predetermined frequency range, means providing limitation of the frequency range of said swept oscillator to at least at one end of said frequency range, said means providing limitation including a resonant circuit tuned to a frequency closely adjacent to a predetermined desired limiting frequency, means for feeding the output from said swept oscillator to said resonant circuit, a control circuit fed from said resonant circuit, and means responsive to said control circuit for controlling the frequency of said swept oscillator whereby when said swept oscillator approaches said limiting frequency it is prevented from passing said limiting frequency.

2,977,466
SIGNAL SEEKING TUNERS
Arthur B. Slater, Lexington, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed May 29, 1958, Ser. No. 738,814
9 Claims. (Cl. 250—20)



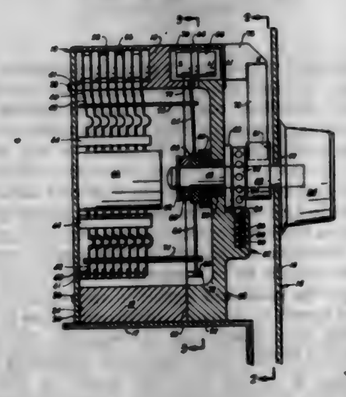
6. A signal-seeking receiver system comprising tuning means adapted to scan a predetermined frequency spectrum, an automatic frequency control circuit for controlling said tuning means in response to an incoming signal, a detector to produce an output voltage in response to the incoming signal, said automatic frequency control circuit including a discriminator adapted to produce a control voltage of a predetermined slope, said tuning means responsive to said control voltage to remain away from the center frequency of said incoming signal by the amount of an intermediate frequency, and means to disable said automatic frequency control circuit for a predetermined time after said tuning means has become unlocked in response to a control voltage of a slope other than the slope of said first recited control voltage.

2,977,467
SIGNAL SEEKING RECEIVER
Jan Black, El Segundo, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 7, 1959, Ser. No. 804,722
3 Claims. (Cl. 250—20)



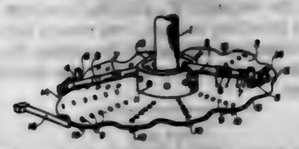
1. A signal seeking radio receiver for automatically tuning to an adjacent radio signal in a predetermined frequency band, the receiver comprising a tuning circuit including a semiconductor diode having a capacitance which is proportional to the potential thereacross when the diode is nonconductive, a resistor-capacitor network coupled to the diode for developing an increasing potential thereacross in response to a charging current, a source of a fixed potential, a control element coupled from the source to the network for permitting a controlled charging current to flow to the network in response to the amplitude of a control voltage, means coupled from the tuning circuit to the control element to form a closed loop for developing and applying a control voltage to the control element in response to the proximity of the receiving frequency of the receiver to the frequency of a radio signal applied to the receiver, means coupled to the control element for selectively permitting a charging current to flow to the network regardless of the amplitude of the control voltage, means coupled to the network for selectively dissipating the increasing potential developed across the diode, a fixed-tuned resonant circuit responsive to all radio signals in the predetermined frequency band, and means coupled from the fixed-tuned resonant circuit to the control element for inhibiting the controlling action of the control element in the absence of radio signals in the predetermined frequency band.

2,977,468
TUNER FOR RADIO AND TELEVISION RECEIVING SETS
Frederick L. Lovret, Norman, Okla., assignor to L & M Space Research and Electronics Corporation, Norman, Okla., a corporation of Oklahoma
Filed Mar. 7, 1960, Ser. No. 13,252
7 Claims. (Cl. 250—40)



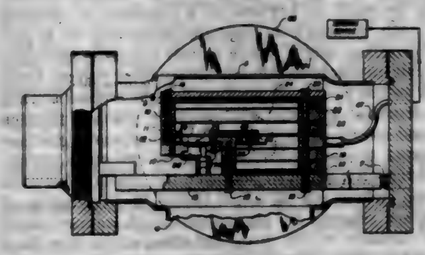
6. In a multi-channel tuner, a tubular housing having a front end and a rear end, a tuning coil assembly for each channel arranged in circumferentially spaced relation adjacent the rear end of said housing, each of said tuning coil assemblies having a set of contacts movable in opposite directions between open and closed positions, forward support means centrally located within the housing adjacent the front end thereof, a leaf spring for each tuning coil assembly rigidly held by said forward support means and extending radially therefrom in alignment with each respective tuning coil assembly, a control magnet supported on each leaf spring at the terminal end thereof, each of said control magnets having an N-pole and an S-pole and said control magnets being arranged with like poles thereof positioned adjacent the front end of the housing and urged to a forward position by the respective leaf spring, means interconnecting each leaf spring with the movable contacts of the respective tuning coil assembly whereby the movable contacts will be open when the respective control magnet is urged to said forward position and will be closed when the control magnet is moved rearwardly, a shaft journaled in the housing extending along the longitudinal axis of the housing, a selector knob on said shaft, and an actuating magnet having an N-pole and an S-pole and being supported on said shaft with the pole thereof corresponding to the forward poles of the control magnets extending rearwardly for successively repelling and moving the control magnets rearwardly in the housing against the bias of the respective leaf spring upon turning of the shaft to thereby successively close the movable contacts of the corresponding tuning coil assemblies.

2,977,469
CHANNEL SWITCHING TUNER
Walter Bruch, Hannover, Germany, assignor to Telefunken G.m.b.H., Berlin, Germany
Filed Dec. 6, 1957, Ser. No. 701,033
Claims priority, application Germany Dec. 11, 1956
3 Claims. (Cl. 250—40)



1. A channel switch rotary assembly for television receivers, comprising a shaft; a disk mounted on said shaft perpendicular thereto; a plurality of coil sets mounted on one face of the disk and each set tuning one channel and including at least three coils; a set of contacts secured to the disk adjacent each set of coils and on the opposite face of the disk therefrom, each coil set including at least two coil forms, one form being mounted perpendicular to the face of the disk, and the other coil form being disposed along the face of the disk and having two coils mutually spaced along the axis of the form; tuning cores in the forms and within each coil and axially adjustable from an end of the form, each two-coil form being mounted to the disk with its outer end near the periphery of the disk and its inner end near the center of the disk and offset therefrom sufficiently to permit access along the axis of the form for adjustment of the core from a path passing approximately tangent to said shaft; and coil-form supporting means on the disk and engaging the inner ends of the two-coil forms and supporting at least some of the inner ends farther from the surface of the disk than their outer ends to incline the axes of these forms so that they pass above the coil forms on the diametrically opposite sides of the disk to permit axial access to tune said cores.

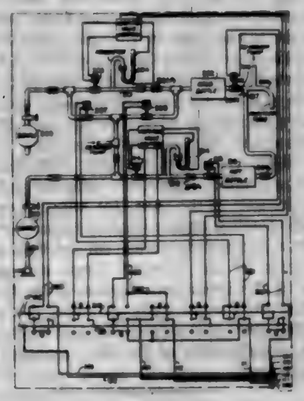
2,977,470
MASS SPECTROMETRY
Charles F. Robinson, Pasadena, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Apr. 14, 1955, Ser. No. 501,289
4 Claims. (Cl. 250—41.9)



1. In a cycloidal mass spectrometer having an ion source, an analyzer separated from and communicating with the source through a first apertured accelerating electrode, means for forming in the analyzer crossed magnetic and electric fields, a repeller electrode in the ion source spaced from said first apertured accelerating electrode, a second accelerating electrode disposed in the source between the repeller electrode and the first accelerating electrode and means for directing an ionizing

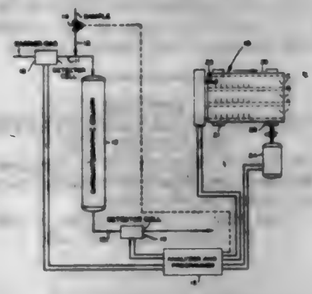
electron beam through the ion source between the repeller electrode and second accelerating electrode, the combination comprising means for developing a relatively high repeller voltage V_R between the repeller electrode and the second accelerating electrode, means for developing a voltage V_A between the second accelerating electrode and the first accelerating electrode, means for establishing the voltages V_R and V_A such that the voltage V_R is at least ¼ the magnitude of the injection voltage V_I which is that voltage existing between the median plane of the electron beam and the first accelerating electrode and the voltages V_A and V_R comprise the components of the injection voltage, and means for establishing a strong magnetic field in the ion source to collimate the electron beam to compensate for the relatively high repeller voltage.

2,977,471
APPARATUS FOR AUTOMATICALLY OPERATING A MASS SPECTROMETER
Howard A. Young and Ernest E. Wagner, Beaumont, Tex., assignors, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 25, 1958, Ser. No. 763,367
3 Claims. (Cl. 250—41.9)



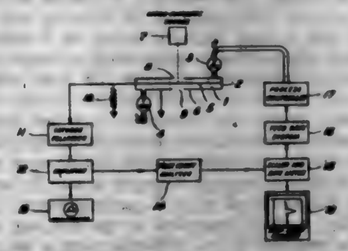
3. Apparatus for automatic operation of a mass spectrometer comprising: a source of alternating current supply, a first switch to connect and disconnect the alternating current supply to the operating circuitry, a second switch to permit selection of manual program control or automatic program control, a third switch whereby connection may be made to any one of a plurality of program circuits each arranged to operate according to a preselected program, and a fourth switch for program initiation; circuit elements to conduct alternating current from said first switch in closed position to said second switch, circuit elements whereby said current passing through said second switch when it is set in the automatic position is conducted to said third or program selection switch, said fourth switch being so placed in the circuitry between the second switch and the third switch that operation of the program selected by the third switch cannot begin until the circuits of the program selected by the third switch are actuated by momentary depression of the fourth switch; solenoid valves actuated by current flowing through said second switch when in automatic setting to introduce a sample to the sample cell of the spectrometer; said program circuits associated with said third switch each including a plurality of constant speed timing motors, a switch actuating drum driven by each motor, a plurality of switches so positioned on each of said drums as to be actuated sequentially, circuits and relays associated with each of said switches and also so associated with the circuitry of the mass spectrometer that sequential operation of the switches causes sequential progression through preselected operating steps of the mass spectrometer.

2,977,472
RECORDING SYSTEM
Kenneth V. Kratochvil, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 10, 1958, Ser. No. 714,279
4 Claims. (Cl. 250—41.9)



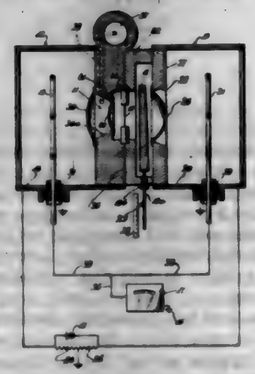
1. Apparatus for recording a plurality of signals, which are received in timed sequence, adjacent one another on a common recording medium which comprises a recording medium; means to mark on said medium; means to position said means to mark relative to said medium in a first direction; first means to move said medium relative to said means to mark in a second direction at right angles to said first direction; second means to move said means to mark out of engagement with said medium; means to establish an adjustable bias signal; means to combine the signals to be recorded with said bias signal and to apply the combined signals to said means to position; timing means to actuate said second means to move, to vary said bias signal, and to deactuate said second means to move in sequence; and means responsive to said timing means to actuate said first means to move said medium in said second direction at a time after said second means to move have been deactuated.

2,977,473
APPARATUS FOR DETECTING AND MONITORING THE CONSTITUTION OF A GAS OR VAPOR
Charles Franklin Hendee, Irvington, and Samuel Fine, New York, N.Y., assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 28, 1954, Ser. No. 465,361
3 Claims. (Cl. 250—43.5)



1. Apparatus for determining the constitution of a gas comprising a chamber, a pair of spaced electrodes in said chamber, means to introduce the gas into the chamber, a source of monochromatic X-radiation having an energy content above an absorption edge of an element in the gas whereby said element produces fluorescent energy, said X-ray source being positioned to expose said gas to the X-rays therefrom, means to apply a potential between said electrodes at which proportional counting action occurs when said gas is ionized and two groups of pulses are produced, pulses in one of said groups having amplitudes proportional to the energy of the X-radiation and constituting a main peak, pulses in the other group having amplitudes different from those in said first group related to the fluorescent energy and constituting an escape peak, pulses height discriminating means for segregating the pulses into said two groups to form said main and escape peaks, and means coupled to said pulse height discriminating means for measuring said main and escape peaks to identify said element.

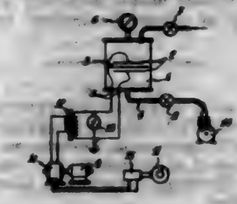
2,977,474
HYDROGEN-CARBON ANALYZER
Lloyd G. Lewis, La Grange, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 31, 1956, Ser. No. 607,469
2 Claims. (Cl. 250—43.5)



1. In an apparatus for determining percent hydrogen of a hydrocarbon substance and having a distributed beta ray source, a pair of opposed ionization chambers receiving radiation from said source and being in axial alignment and spaced on opposite sides of said beta ray source, a sample cell being interposed between said source and one of said ionization detectors, a movable wedge being interposed between said source and the other of said ionization detectors, a scale means for indicating the position of said wedge, electrical circuit means for placing said pair of ionization chambers under equal and opposite potentials, and null circuit means for indicating the relative output from each of said pair of ionization chambers, the improvement comprising a first and second spherical segment windows for said sample cell, each of said windows being concave with respect to said distributed beta ray source whereby the length of the beta ray paths through the cell and windows are substantially equalized across the cell, and a third spherical segment window for the ionization detector adjacent said movable wedge, said third spherical segment window also being concave with respect to the distributed beta ray source.

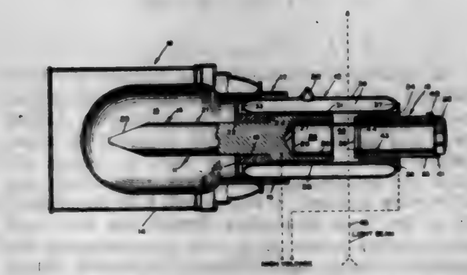
2,977,475
METHOD OF AND APPARATUS FOR PROCESSING TEXTILE FIBRE MATERIALS
Paul Kassenbeck, Ville D'Avray, France, assignor to Institut Textile de France, Paris, France, a French establishment
Filed Apr. 24, 1959, Ser. No. 808,742
Claims priority, application France Apr. 30, 1958
3 Claims. (Cl. 250—49.5)

2. Apparatus for processing fibre material, comprising means defining a vacuum enclosure, spaced electrodes therein, means for applying high-voltage alternating power across said electrodes, and means for supporting fibre



material in said enclosure between said electrodes but spaced therefrom to be exposed to the discharge thereacross.

2,977,476
DIFFUSION CLOUD CHAMBER
Robert E. Fearon, Tulsa, Okla., assignor to Electro Chemical Laboratories Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 28, 1958, Ser. No. 724,743
12 Claims. (Cl. 250—83)



1. A diffusion cloud chamber, comprising a hollow heat insulating member open at both ends, a cold reservoir, a heat conductive member having one end thereof extending into said cold reservoir and having the other end thereof extending into one end of said heat insulating member, mounting means for supporting said heat conductive member in said one end of said heat insulating member, viewing means mounted in the other end of said heat insulating member, and having an emergent portion disposed outside said heat insulating member, the adjacent ends of said heat conductive member and said viewing means being spaced within said heat insulating member to define a chamber, and a source of a volatile liquid in communication with said chamber, said heat insulating member being constructed so that said chamber may be illuminated externally whereby cloud trails created when ionizing particles pass through said chamber may be viewed through said viewing means.

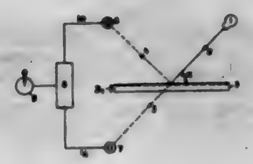
2,977,477
SEMICONDUCTIVE MATERIALS FOR INFRARED TRANSMISSIVE COMPONENTS
Fred D. Rosi, Plainsboro, and Rubin Braunstein, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 28, 1958, Ser. No. 738,388
7 Claims. (Cl. 250—83)



5. In a system for detecting infrared energy comprising, in combination, an infrared sensitive element, and

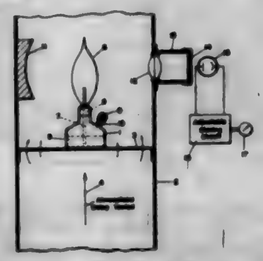
means to shield said element from unwanted radiation, means to expose said element to a desired radiation field, said last named means including a window comprising an alloy of crystalline indium arsenide-gallium arsenide.

2,977,478
METHOD OF AND APPARATUS FOR MEASURING THE THICKNESS OF MATERIALS
August Theodor Wuppermann, Leverkusen, Germany, assignor to Exatest Gesellschaft für Messtechnik mit beschränkter Haftung, Leverkusen, Germany, a German corporation
Filed Nov. 10, 1954, Ser. No. 468,102
Claims priority, application Germany Nov. 11, 1953
6 Claims. (Cl. 250—83.6)



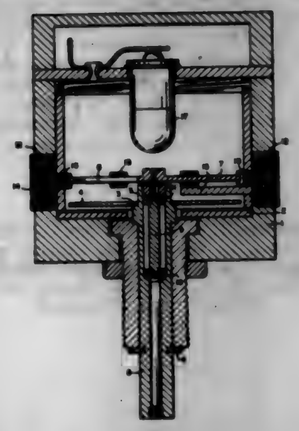
1. An apparatus for measuring the thickness of a band of material such as hot rolled sheet material comprising a source of gamma rays, means for directing an inclined beam of said gamma rays upon the surface of the sheet, a detector on each side of the sheet to receive the radiated and penetrating gamma rays, respectively, one detector being arranged in line as well with the primary beam as the beam penetrating through the sheet, and electrical means connected to and interconnecting the detectors to measure the difference of ionization current or voltage created in said interconnecting means.

2,977,479
DETECTOR FOR CARBONIFEROUS GAS
James L. Lauer, Philadelphia, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed May 28, 1959, Ser. No. 814,539
7 Claims. (Cl. 250—218)



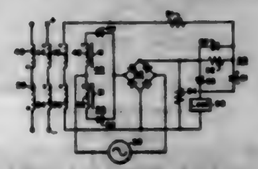
1. A device for detecting traces of carboniferous gas in an oxygen-containing atmosphere, comprising a vessel containing a combustible inorganic liquid, means for burning said liquid in said atmosphere to produce a flame, the color of said flame changing from normal due to the presence of carboniferous gas in said atmosphere, a photocell detector positioned to receive light from said flame, and an optical filter between said flame and said photocell for transmitting to said photocell substantially only flame-produced light of said changed color.

2,977,480
SHAFT ROTATION TO TIME INTERVAL TRANSDUCER
Carl E. Kosse, 13009 E. Ave., G-8, Lancaster, Calif.
Filed Dec. 15, 1959, Ser. No. 859,822
3 Claims. (Cl. 250—220)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A shaft rotation to time interval transducer comprising: a first photoelectric cell having a plane sensitive surface; an opaque disc having a narrow radial opening rotatably mounted parallel to the sensitive surface of said first photoelectric cell and concentric with respect to an axis normal to said sensitive surface; a second photoelectric cell fixed relative to said first photoelectric cell and situated between said disc and said first photoelectric cell, said second cell being a narrow element paralleling a radius of said opaque disc; a flat masking element rotatably mounted relative to said first photoelectric cell and concentric with respect to said axis, said masking element being situated between said second and first photoelectric cells and having an effective angular extent about said axis of less than 360°; a source of light on the opposite side of said opaque disc from said second photoelectric cell; means for rotating said opaque disc at constant speed; means for connecting said photoelectric cells to a common output circuit; and means for applying a rotational input to said masking element.

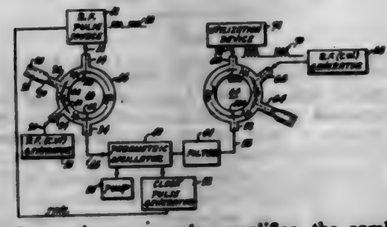
2,977,481
MAGNETIC AMPLIFIER
John Rose, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1958, Ser. No. 718,338
6 Claims. (Cl. 307—88)



6. In a magnetic amplifier, in combination; a plurality of saturable reactors; each said saturable reactor comprising a saturable magnetic core having inductively disposed thereon an output winding means, feedback winding means and control winding means, said plurality of saturable reactors having their output winding means connected to furnish a direct current output to a load circuit

dependent upon an input signal to said control windings, said load circuit comprising semiconductor means serially connected with a load for opposing current flow below a predetermined magnitude of said output, feedback circuit means connected to said feedback winding means for providing a first feedback signal when the output is less than said predetermined magnitude and for providing a second feedback signal when the output exceeds said predetermined magnitude.

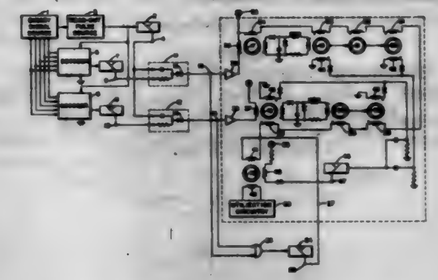
2,977,482
MICROWAVE AMPLIFIER
Fred Sterzer, Monmouth Junction, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,939
11 Claims. (Cl. 307—88)



10. In a microwave pulse amplifier, the combination comprising a source of radio-frequency pulse signals, an input hybrid junction having first, second, third and fourth junctions therein, said junctions being successively spaced one-quarter wavelength apart at the frequency of said radio-frequency pulse signals, said first and fourth junction in addition being spaced three-quarters of a wavelength apart at the frequency of said radio-frequency pulse signals, means for applying said radio-frequency pulse signals to said first junction, means for applying continuous-wave radio-frequency signals to said third junction, absorptive termination means connected with said second junction, means for deriving an output signal from said fourth junction, said output signal having a predetermined phase when a radio-frequency pulse is applied to said first junction and another predetermined phase when a radio-frequency pulse signal is not applied to said first junction, means for applying said output signal from said fourth junction to a parametric oscillator having a like number of predetermined phases and oscillating at the frequency of said radio-frequency pulses, means for periodically interrupting said parametric oscillator to cause it to lock in phase with said output signal, output signal means for said parametric oscillator, an output hybrid junction having a fifth, sixth, seventh, and eighth junction therein, said junctions being successively spaced one-quarter wavelength apart at said parametric oscillator frequency and said fifth and eighth junction being spaced three-quarters of a wavelength apart at said parametric oscillator frequency, means for applying said output signal from said parametric oscillator to said fifth junction, absorptive termination means connected with said sixth junction, means for applying continuous-wave radio-frequency signals to said seventh junction, and means for deriving an amplified radio-frequency pulse signal from said fifth junction.

2,977,483
CHARACTER SEQUENCE DETECTOR
Freddy David, William V. Tyrlick, and Stephen E. Townsend, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed June 4, 1959, Ser. No. 818,137
4 Claims. (Cl. 307—88)

4. In combination with a device for successively producing any of a predetermined plurality of different character-manifesting coded signals in any sequence, a character sequence detector coupled to said device for providing an output only in response to a given number of successive coded signals being composed of certain particular ones of said coded signals occurring in a predetermined sequence, said detector comprising an individual decoder means corresponding to each different coded signal included among said particular ones of said coded signals for producing an output therefrom only in response to any of said plurality of coded signals except the coded signal to which it corresponds being applied thereto, means coupling said decoder means to said device for applying said plurality of coded signals as an input to each of said decoder means, an individual shift register associated with each individual decoder means, each shift register being composed of a number of interconnected bistable elements equal to the difference between one plus said given number and the ordinal position of the first occurrence of each different coded signal included among said particular ones of said coded signals

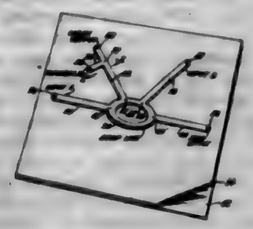


in said predetermined sequence, means coupling each decoder means to its associated shift register for switching the first bistable element thereof from a first to a second stable condition thereof only in response to an output from the associated decoder means, shift pulse means coupled to said device for producing a shift pulse immediately following every coded signal, means coupled to said shift pulse means for applying said shift pulse to all said bistable elements of all said shift registers and in response thereto shifting the condition of each bistable element having said second stable condition in each shift register to the next succeeding bistable element therein, whereby all of certain particular bistable elements will simultaneously have said first stable condition only in response to the occurrence of said predetermined sequence of said certain particular ones of said coded signals, and coincidence means coupled to each of said certain particular bistable elements for monitoring the stable condition thereof and producing an output therefrom only if all of said certain particular bistable elements simultaneously have said first stable condition.

2,977,484
LOGIC CIRCUIT FOR A RADIO FREQUENCY CARRIER INFORMATION HANDLING SYSTEM
Fred Sterzer, Monmouth Junction, and Donald J. Blattner, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Sept. 18, 1958, Ser. No. 760,225
7 Claims. (Cl. 307—88.5)

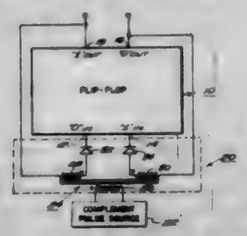
1. A logic circuit for an information handling system in which the information is coded in electrical energy at an operating carrier frequency comprising a hybrid circuit having two input arms and two output arms, a first of said input arms being arranged for receiving information coded in such energy, the second of said input arms being arranged for receiving other information at the same frequency coded in such energy, one of said output

arms being coupled to a transmission line, a section of transmission line connected effectively in shunt with said first-mentioned transmission line and having an effective quarter-wavelength at the said operating frequency, diode



connected at the termination of said transmission line section, and means for biasing said diode to a value such that the concurrent application of energy at said carrier frequency to said two input arms is required to cause the diode to conduct.

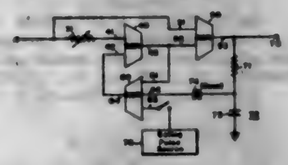
2,977,485
DIODE-TRANSFORMER GATING CIRCUIT
Kenneth H. Olsen, Bedford, Mass., assignor to Digital Equipment Corporation, Maynard, Mass.
Filed Nov. 28, 1958, Ser. No. 776,931
9 Claims. (Cl. 307—88.5)



1. A flip-flop having a pair of inputs and a pair of outputs, the voltages between said outputs and a common reference point reflecting the state of said flip-flop, the voltages between the inputs and said reference point determining the state of said flip-flop, said flip-flop including a complement input comprising a pair of gating circuits connected to the respective inputs, each of said gating circuits having a transformer secondary and a diode connected in series with said secondary between one of said inputs and one of said outputs, means for simultaneously exciting said secondaries upon the application of a complement pulse to said complement input, each diode being connected between an input and an output whose potentials are such as to cut off the diode when the arrival of a complement pulse at that input alone would not cause a change of state of said flip-flop and enable the diode to conduct when a complement pulse at that input would cause a change of state, whereby a pulse appearing across said windings may be conducted only to the proper input for causing a change of said state of said flip-flop.

2,977,486
PULSE CONTROL APPARATUS
James Dobbie, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 10, 1959, Ser. No. 826,174
8 Claims. (Cl. 307—88.5)

1. In pulse control apparatus operative to control an input pulse received by said control apparatus, the combination of a first control signal device having at least two inputs and being operative to provide a first control signal when neither of said inputs is energized, with one of said inputs being connected to be responsive to said input pulse, a second control signal device having a first input connected to be responsive to said input pulse and a second input connected to be responsive to said first control signal and being operative to provide a second control signal as an output signal for said control apparatus when neither of its first and second inputs are energized by respectively one of said input pulse and said first control signal, a third control signal device having a first input connected to be responsive to said first control signal and a second input connected to be responsive to said second control signal and being operative to provide a third control signal when neither of its first and second inputs are energized by respectively one of said first and second control signals, with the other of said two inputs of the first control signal device being connected to be responsive to said third control signal such that said first control signal is not provided when said other input is energized by said third control signal.



2,977,487
INCREMENTAL SENSOR
Kenneth P. Congleton, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Nov. 13, 1959, Ser. No. 852,640
1 Claim. (Cl. 307—88.5)



An error sensing system comprising condition responsive bridge means for producing an amplitude-modulated signal wave in response to variations of a condition being sensed; wave follower gating means coupled to the output of said bridge means for gating peak portions of said signal wave having an amplitude exceeding a predetermined value, said peak portions of the wave containing the range of amplitude variations of the wave; said gating means comprising a series diode of the semiconductor type, an inductance, and an adjustable source of direct current bias voltage connected serially with said inductance across the input of said diode for reversedly biasing said diode to pass said peak portions of the amplitude-modulated signal wave; amplifier means comprising a transistor amplifier arranged in base input-grounded emitter circuit configuration and having a high-Q tank circuit in the collector circuit thereof; circuit means including a series capacitance and having a time constant substantially smaller than the period of the input signal wave for coupling the output of said diode to said amplifier means, whereby said amplifier means amplifies and shapes the gated peak portions of said signal wave to produce a related amplitude-modulated wave of increased percentage modulation having amplitude variations proportional to the amplitude variations of said signal wave;

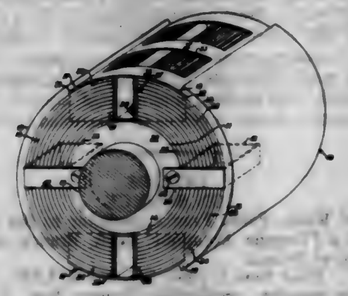
rectifier means coupled to the output of said amplifier means for demodulating said related amplitude-modulated wave; variable frequency oscillator means including variable reactance means in the frequency-determining circuit thereof, said variable reactance means being coupled to the output of said rectifier means for control thereby, so that the frequency of the output signals from said oscillator means is varied in response to the variations of the condition being sensed; a source of constant frequency signals; mixer means coupled to the output of said oscillator means and said source of constant frequency signals for heterodyning the variable frequency signals from said oscillator means with the constant frequency signals from said source to produce a variable frequency error signal; and demodulator means coupled to the output of said mixer means for producing an output error signal.

2,977,488
CIRCUIT ARRANGEMENT FOR THE CONTROL OF DIRECT CURRENT MOTORS
Alfred Walz, am Kurzarm 7, Emmendingen, Germany, and Robert Ostreicher, Haus 272, Freisamt Reichenbach, Germany
Filed Sept. 28, 1956, Ser. No. 612,674
Claims priority, application Germany Sept. 29, 1955
4 Claims. (Cl. 307—105)



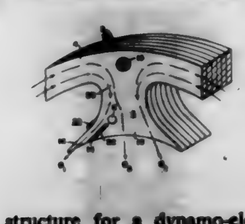
1. Circuit arrangement for the control of a motor, particularly of the motor of an electric trolley, the energy of which motor is supplied by a source of direct current, comprising a periodic rotary switch adjustable as regards the ratio of its contact-making periods in relation to its contact-breaking times and in series with the motor and a D.C. source of current, and a condenser arranged in parallel to the contact path of said switch, the primary winding of a transformer being provided in the circuit connecting the condenser with the contacts and in series with the contacts, the secondary winding of the said transformer being connected to the load circuit containing the motor.

2,977,489
AIR COOLED ROTOR STRUCTURE FOR DYNAMO ELECTRIC MACHINES
Walter Jones, 982 River Road, Edgewater, N.J.
Filed Aug. 5, 1958, Ser. No. 753,276
4 Claims. (Cl. 310—61)



1. An air cooled rotor structure for dynamo electric machines, said rotor comprising a core, means for mounting said core on a shaft, at least one pair of diametrically opposed, axially extending, outwardly opening grooves in said core, an overhanging lip on each side edge of each groove, at least one pair of windings in each pair of grooves with a portion of each winding disposed in each groove, the opposite end portions of said windings extending across the opposite ends of said rotor to connect the portions in each groove, a centrally disposed channel member extending throughout the length of each groove between said winding portions, each channel member opening outwardly and at opposite ends, a closure plate for each groove, the side edges of each plate being disposed beneath said lips to retain said windings in said grooves and close the outwardly opening sides of said channels to provide axially extending air passages, axially spaced, peripherally extending slots in said plates providing windows to expose portions of said channels and windings to facilitate the flow of air through said channels and windings and retaining means for the opposite end portions of said windings comprising a strap extending diametrically across each end of said rotor between said end portions and said core, each strap having a clearance opening for said shaft, the outer end of each strap being bent inwardly over the opposite end portions of said windings and means for securing the ends of said straps to said core.

2,977,490
SHADED POLE MOTOR
Glen H. Sherer, Lima, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 12, 1958, Ser. No. 760,750
4 Claims. (Cl. 310—172)



1. A core structure for a dynamo-electric machine comprising a stack of laminations having a yoke portion and a plurality of salient pole pieces, each of the pole pieces having a slot therein for reception of a shading coil, and a rivet passing through each of the pole pieces to clamp the laminations together, said rivets being disposed closely adjacent said slots in a position such that the space between the rivet and the slot is substantially impassable to magnetic flux.

2,977,491
ELECTRICAL MACHINE STATOR STRUCTURE
Homer C. Hueffed, Berea, and Albert D. Gilchrist, Rocky River, Ohio, assignors to The Leece-Neville Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 31, 1957, Ser. No. 693,684
4 Claims. (Cl. 310—259)



1. In an electric generator; a stator comprising a pair of end members and a stator core comprising a stack of lamination plates disposed therebetween; bearings on said end members; a rotor comprising a shaft rotatably supported by said bearings, and a rotor core on said shaft

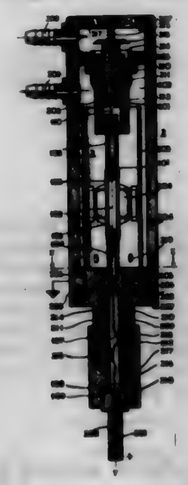
and rotatable in said stator core; windings on said stator core and rotor core; said end members having locating recesses thereon; transversely flexible self-expanding pins having end portions and body portions; said body portions being mounted in said stator core; said end portions projecting from said stator core and forming locating projections on the ends of the latter; said pins being of longitudinal split, resilient-wall, tubular form; said pins having circumferential slots separating said end portions from said body portions; said locating projections formed by said end portions being self-expanding independently of said body portions; said locating projections being expanded with respect to said body portions and in clamping relation to the outer surfaces of the end lamination plates of said stack; and connecting members holding said end members in clamped engagement with said stator core; said locating projections being engaged in said locating recesses for relatively positioning said end members with respect to said stator core.

2,977,492

HOLDER FOR EXCHANGEABLE, LIQUID-COOLED SUPER HIGH-PRESSURE METAL-VAPOUR DISCHARGE TUBES

Piet Hoekstra, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 24, 1959, Ser. No. 829,253
Claims priority, application Netherlands Sept. 26, 1958
4 Claims. (Cl. 313—22)



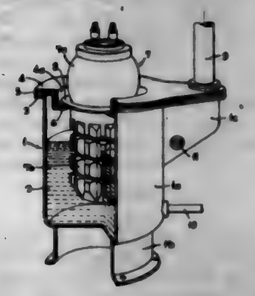
1. A holder for an exchangeable, liquid-cooled super high-pressure metal-vapour discharge tube, which is surrounded by a space in the holder and which is arranged in the holder in an axially resilient contact device, comprising optical means co-operating with the discharge path of the discharge tube, means to adjust the discharge tube relative to the holder in a radial direction including a stuffing ring of elastic material, in which one of the ends of the discharge tube fits intimately and which is adapted to be accommodated with its outer side in an opening in the holder, means to adjust the discharge tube in an axial direction including a member fastened to the holder by screwthread, said member being provided with a stop surface against which one of the ends of the discharge tube is urged by the electric holder contact pressing the other end of the discharge tube in a resilient manner.

2,977,493

VAPOTRON BOILER

Philip Ernest Cane, Bush Hill Park, Enfield, England, assignor to Siemens Edison Swan Limited, London, England, a British company

Filed July 9, 1959, Ser. No. 825,989
Claims priority, application Great Britain July 28, 1958
4 Claims. (Cl. 313—27)



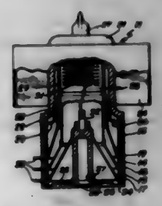
1. In combination with an electron tube having an anode structure cooled by vaporization at its surface of a cooling liquid in which said structure is immersed, a boiler for containing the cooling liquid comprising an insulating container made of resin-bonded fiber-glass material and into the interior of which the anode structure extends.

2,977,494

ELECTRON TUBE AND SOCKET THEREFOR

Frederick C. Johnstone, Belmont, and Murray H. Link, Orinda, Calif., assignors to Eitel-McCullough, Inc., San Bruno, Calif., a corporation of California

Filed June 17, 1957, Ser. No. 665,913
18 Claims. (Cl. 313—51)



1. A tube socket for electron tubes of the type having radially extending axially spaced terminal tabs, said socket comprising a plurality of metallic contact segments arranged in stacks spaced around a circle, said contact segments comprising contact fingers extending in a substantially radial direction with respect to said circle and forming the entire number of contact fingers in said socket, insulating means separating the contact segments in each stack from the other contact segments in the same stack, and means holding said contact segments and insulating means together in assembled relation.

2,977,495

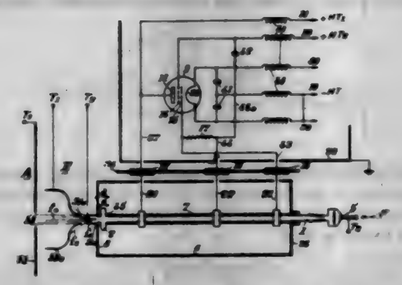
ION SOURCE

Siegfried Klein, Paris, France, assignor to the Commissariat a l'Energie Atomique, Paris, France, an organization of France

Filed June 3, 1959, Ser. No. 817,758
Claims priority, application France June 4, 1958
9 Claims. (Cl. 313—63)

1. An ion source which comprises, in combination, an evacuated ionization chamber, means for feeding said chamber with a stream of a gaseous product to be ionized, an evacuated enclosure adjoining said chamber and

an extraction electrode in said enclosure for extracting from said chamber the ions formed therein, said extrac-



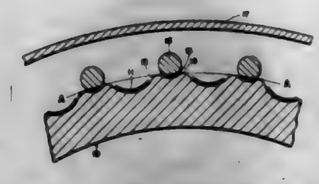
tion electrode being located close to said chamber but on the outside thereof.

2,977,496

ELECTRODE STRUCTURE FOR ELECTRON TUBES

Howard D. Doolittle, Stamford, Conn., assignor, by mesne assignments, to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut

Filed Dec. 4, 1958, Ser. No. 778,148
7 Claims. (Cl. 313—69)



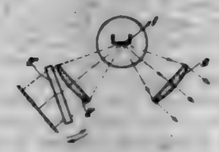
1. An electrode structure for electron tubes, comprising a cathode, a control electrode and an anode, said cathode having a plurality of parallel spaced electron-emissive areas, the surfaces of the cathode between the electron-emissive areas being provided with grooves extending parallel to said areas, and the control electrode embodying elements located opposite respective grooves and extending parallel therewith, said elements when expanded lying partially within the grooves and spaced therefrom.

2,977,497

DEVICES FOR INCREASING LUMINOSITY

Jacques Claude Valmiere and Huguette Valmiere, née Granguad, Pre-Saint-Gervais, and Max Fourestier, Vanves, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a corporation of France

Filed Dec. 7, 1956, Ser. No. 626,874
Claims priority, application France Dec. 9, 1955
11 Claims. (Cl. 313—112)



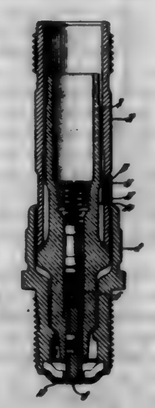
3. An optical illuminating system having a high and uniform luminosity, comprising an incandescent element constituting a source of radiation; an envelope containing said element; means of optical quality for forming a reflected image of said element strictly and exactly on said element, comprising a spherical optical surface of large dimensions perfectly centered on said element and having a radius such that spherical aberrations close to its center of curvature are substantially smaller than said element; said means including a lens providing said spherical surface, a plane mirror positioned perpendicular to the axis of said lens to form an auto-collimator system on said element, and a colored glass element disposed between said mirror and said lens, said colored glass element being inclinable with respect to the axis of said auto-collimator system; and a condenser adapted to cooperate with said source of radiation; the axis of said condenser intersecting the axis of said incandescent element at the center of curvature of said spherical surface; whereby the total luminous energy collected by said condenser is the sum of the direct radiation thereon from said incandescent element and the multiple reflections by said means of radiation from said element, and approximates that of a black body at the same absolute temperature as said incandescent element.

2,977,498

PREIGNITION DETECTION SYSTEM AND SPARK PLUG THEREFOR

Wilfred A. Bychinsky, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 14, 1959, Ser. No. 786,716
3 Claims. (Cl. 313—134)



1. In an aircraft spark plug having an insulator-center electrode assembly secured within a metal shell, a high temperature resistant metal shielding barrel surrounding the upper end of said assembly to shield against ignition interference with radio reception, said barrel having an opening therein filled with an insert of a low temperature fusible metal which will melt out of said opening from excessive heat in the spark plug to allow ignition interference with radio reception and thereby indicate the occurrence of a malfunction causing the excessive heat.

2,977,499

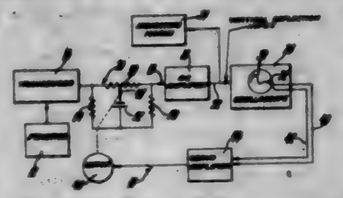
ELECTRONIC DRIFT COMPENSATOR

Robert R. Bochenstehl, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 2, 1953, Ser. No. 764,824
10 Claims. (Cl. 315—9)

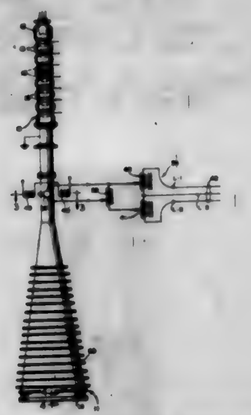
1. In a device for amplifying a periodic signal having a reference portion in the cycle thereof, the combination of amplifier means, and means responsive to a limited portion of the output signal from said amplifier means

corresponding to said reference portion and effective to vary the input to said amplifier means to maintain said



limited portion of said output signal at a predetermined level.

2,977,500
PRODUCTION AND CONTROL OF ELECTRON BEAMS
Harold T. Booker, Milwaukee, Wis., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 626,108, Dec. 4, 1956. This application June 16, 1959, Ser. No. 820,824
15 Claims. (Cl. 315—15)



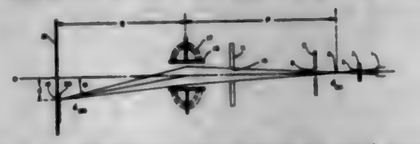
13. An electron beam generating device comprising: an electron beam generating tube having a window through which electrons exit said tube; means for generating an electron beam comprising bursts of electrons having a given repetition frequency and for directing said beam through said window; and means for cyclically deflecting said beam across said window in a given direction with a frequency equal to said burst repetition frequency multiplied by the factor

$$\frac{N}{2}$$

where N is an integer other than 2.

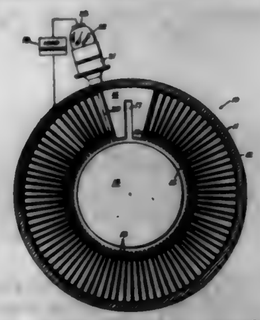
2,977,501
CATHODE-RAY APPARATUS AND METHOD
Kenneth J. Germeshausen, Newton Center, and Seymour Goldberg, Lexington, Mass., and Daniel F. McDonald, New York, N.Y., assignors to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed June 14, 1956, Ser. No. 591,339
17 Claims. (Cl. 315—17)

1. Cathode-ray apparatus having, in combination, an electron gun for producing a point source of electrons, a screen, electron-focusing means disposed to extend only in a region intermediate the source and the screen for producing a field for focusing the point source of electrons upon the screen, and deflection means disposed in close field-overlapping proximity to the focusing means for producing a field for deflecting the focused electrons along the screen, the deflection means being disposed well within and displaced transversely from the focusing means in order to limit the effective transverse dimension



of the deflection field to a fraction of the total transverse dimension of the focusing field, thereby to avoid having the deflection field enter the peripheral aberrant portions of the focusing field.

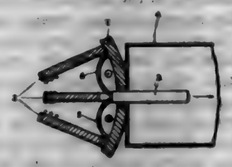
2,977,502
ELECTRONIC DISCHARGE DEVICES OF THE MAGNETRON TYPE
William C. Brown, Weston, and Edward C. Dench, Needham, Mass., assignors to Raytheon Company, a corporation of Delaware
Continuation of application Ser. No. 251,336, Oct. 15, 1951. This application Feb. 26, 1957, Ser. No. 642,613
13 Claims. (Cl. 315—39.3)



1. An electron discharge device comprising a non-reentrant, nonresonant slow wave propagating structure having at least two terminations, means coupled to said structure for connecting one of said terminations directly to a load, a continuous cathode capable of emitting electrons from a major portion thereof, said cathode and said propagating structure combining to form a continuous interaction space of substantially uniform configuration, and means including said cathode for directing electrons along said interaction space more than once past said propagating structure.

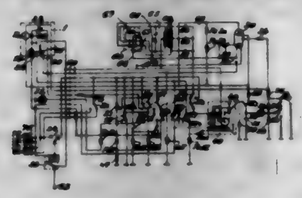
2,977,503
RESONANT-CAVITY MAGNETRON HAVING CO-AXIAL OUTPUT LINE
Wolfgang Schmidt, Hamburg-Othmarschen, and Gerhard Werner Schubmann, Hamburg, Germany, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 3, 1958, Ser. No. 758,716
Claims priority, application Germany Sept. 5, 1957
2 Claims. (Cl. 315—39.53)

1. In a magnetron comprising an anode block defining a main cavity and a plurality of cavity resonators opening into the main cavity, said anode block having anode segments separating the cavity resonators from each other, a coaxial output line coupled to said magnetron comprising an inner conductor terminating in a recess of an anode segment remote from the main cavity, a pair of loop-like conductors each of which is disposed in the rear portion of a resonant cavity bounded on one side by said anode segment, each of said loop-like conductors being connected at one end to said inner conductor and at the other end terminates on a bounding



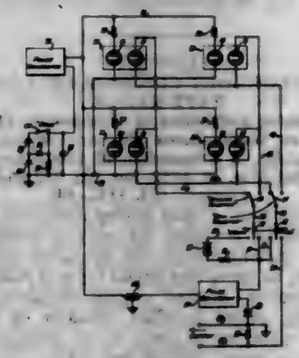
surface of another anode segment bounding each of said resonant cavities.

2,977,504
AUTOMATIC ELECTRICAL CONTROL DEVICE, PARTICULARLY FOR MOTOR VEHICLES
Gustav Weber, Schiller Strasse 32, Berlin-Charlottenburg, Germany
Filed Aug. 28, 1953, Ser. No. 377,198
11 Claims. (Cl. 315—83)



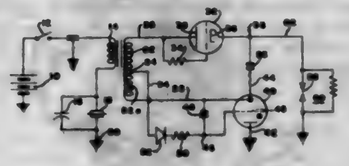
1. A light sensitive control system for automatically dimming the headlamps of a motor vehicle or for automatically controlling the energization of a parking light on the vehicle selectively, comprising an electric circuit, a light responsive device in the circuit operable to dim the headlamps in response to light received from the headlamps of an approaching vehicle, a selective switch for connecting either said headlamps or said parking light into said circuit to be controlled by said light responsive device, said light responsive device being operable to control the energization of said parking light in response to ambient illumination when said selective switch is in the position which connects the parking light in the circuit.

2,977,505
INFORMATION STORAGE IN GLOW DISCHARGE DEVICES
James T. Smith, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 11, 1957, Ser. No. 689,563
13 Claims. (Cl. 315—84.5)



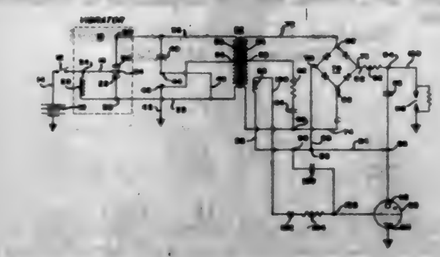
1. A method for operating a glow-discharge device, which comprises applying a continuing succession of voltage pulses across a glow-discharge device, establishing steady-state operating conditions for the glow-discharge device such that the succession of voltage pulses will maintain a continuing succession of glow discharges within said device but will not initiate such a succession of glow discharges, and providing transient changes from said steady-state conditions for initiating and terminating such succession of glow discharges at selected times.

2,977,506
ELECTRONIC IGNITION SYSTEM
Brooks H. Short and Richard L. Sprague, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 29, 1959, Ser. No. 849,580
4 Claims. (Cl. 315—183)



1. An electronic ignition system comprising, a main ignition capacitor, a spark discharge device, a thyratron tube, means connecting said ignition capacitor, said tube and said spark discharge device in a series circuit whereby said ignition capacitor discharges through said tube and spark discharge device when the voltage level of said ignition capacitor is sufficiently high to cause breakdown of said spark discharge device and said tube is conducting, means including a vibrator power pack for charging said ignition capacitor to said voltage level in small increments, a second capacitor for controlling the firing of said tube, and circuit means separate from said tube connecting said second capacitor with said vibrator power pack, said ignition capacitor and said second capacitor being charged simultaneously and said second capacitor being charged sufficiently to cause a firing of said tube when said ignition capacitor is charged sufficiently to cause breakdown of said spark discharge device.

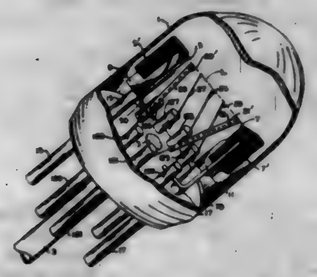
2,977,507
IGNITION SYSTEM
Brooks H. Short, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,714
9 Claims. (Cl. 315—209)



1. An electronic ignition system, comprising: a source of relatively low direct current voltage, means for converting said source of direct current voltage into a source of A.C. voltage, a transformer having a primary winding connected with said converting means and having a secondary winding, a first rectifier connected with said secondary winding, a condenser, a spark discharge device, an electronic switch, a second rectifier energized from the secondary winding of said transformer, means

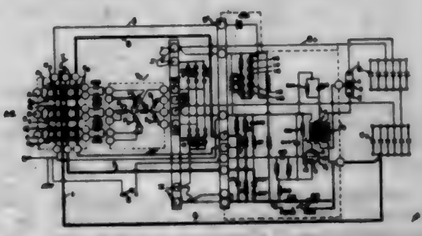
connecting said first rectifier and said condenser in circuit with each other to provide a charging circuit for said condenser, a discharging circuit for said condenser including said electronic switch and said spark discharge device, and means for controlling the conduction of said electronic switch including said second rectifier.

2,977,508
GASEOUS-DISCHARGE DEVICE AND SYSTEM
Kenneth J. Germeshausen, Newton Center, Mass., assignor to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed July 17, 1956, Ser. No. 598,525
43 Claims. (Cl. 315—241)



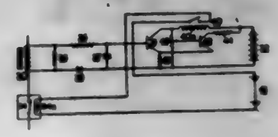
1. A high-pressure gaseous-discharge device having a gas-filled envelope within the gas of which are disposed an anode and a cathode spaced from the anode, the envelope having wall regions considerably spaced from the anode and cathode and the volume defined by the space therebetween so that such wall regions cannot assist in confining a discharge between the anode and cathode to a column of gas restricted substantially only to the said volume, and a plurality of trigger electrodes the free ends of which are successively disposed at substantially equal intervals in the space and direction between the anode and the cathode, the said intervals being less than the distance from the free end of each trigger electrode to any portion of the envelope in order to confine the anode-to-cathode discharge substantially to the said volume only.

2,977,509
ELECTRIC-DISCHARGE SYSTEM
Frederick E. Barstow, Needham, and Irving F. Eastman, Natick, Mass., assignors to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed Sept. 17, 1959, Ser. No. 840,591
7 Claims. (Cl. 315—241)



1. An electric flash-producing system having, in combination, an electric flash device having a pair of principal electrodes and a trigger electrode, a source of energy, energy storage means, a charging circuit including switching means for storing voltage from the source in the energy-storage means, a discharge circuit for the energy-storage means connected to the principal electrodes and including normally ineffective means for supplying voltage, when effective, in the discharge circuit along with the voltage of the energy-storage means, means for supplying a trigger impulse to the trigger electrode and substantially simultaneously rendering the normally ineffective means effective, thereby to enable the energy-storage means to discharge through the discharge circuit in order to produce a flash of energy between the principal electrodes of the flash device, and means operable upon a component failure in the energy-storage means for controlling the switching means to disconnect the said source from the energy-storage means.

2,977,510
PROTECTION OF ELECTRICAL POWER CIRCUITS
Colin Adamson and Jack Leonard Dinsley, Manchester, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Sept. 9, 1957, Ser. No. 682,736
10 Claims. (Cl. 317—36)

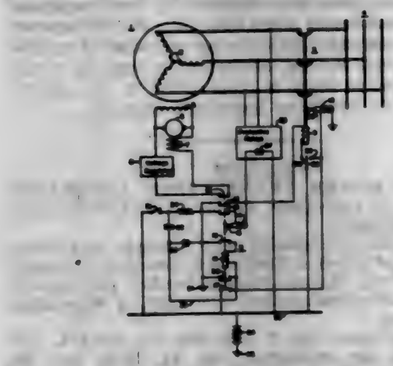


1. An electrical power circuit time-overcurrent protection system comprising, in combination, a protected alternating current circuit, a circuit interrupter connected in said circuit, relay means connected to trip the circuit interrupter according to the condition of an electrical operating element forming part of said relay means, a D.C. power supply source, a time-delay circuit energized through a rectifier from the alternating current circuit, a transistor having collector-emitter and base-emitter circuits connected to be energized respectively from the D.C. power supply source and said time-delay circuit, said time-delay circuit including a resistor-capacitor combination of which the capacitor is charged through the resistor to provide a voltage output signal which is applied to control the base-emitter circuit to govern the state of the transistor in delayed response to changes in the energization of the time-delay circuit, and said electrical operating element being connected in an emitter circuit common to said collector-emitter and base-emitter circuits to be conditioned to trip the circuit interrupter in direct response to the emitter current, whereby to increase the input impedance of the base-emitter circuit and thereby prolong the time-delay provided by the resistor-capacitor combination.

2,977,511
STATIC LOCKOUT CONTROL OF A LATCH TYPE RELAY
James R. Reeder and Glenn W. Rossberger, Lima, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 28, 1958, Ser. No. 737,664
2 Claims. (Cl. 317—34)

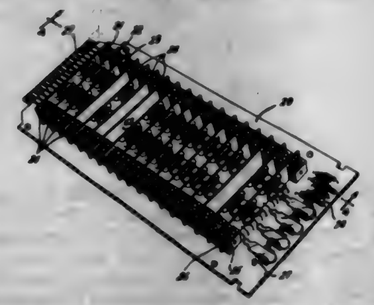
1. In combination, a relay having electrically energized closing means for actuating the relay to closed position and having tripping means for actuating the relay to open position, an energizing circuit for said closing means, means for applying a direct current energizing signal to the energizing circuit to effect actuation of the relay, a capacitor connected in series in the energizing circuit to permit momentary current flow upon application of said energizing signal, contact means operative upon actuation of the relay to closed position to interrupt the

energizing circuit and to establish a circuit for charging the capacitor directly from the energizing signal, whereby



the capacitor is fully charged to block current flow thereafter until the energizing signal has been removed.

2,977,512
MODULAR CIRCUIT CONSTRUCTION
Raymond G. Sinner, Ashland, N.J., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 8, 1958, Ser. No. 759,725
3 Claims. (Cl. 317—101)



1. In a computer "register" having a series of electronic component systems of the "flip-flop" type on a main panel surface, each system including a pair of transistors, the opposite panel surface providing circuitry of the "printed" type for interconnection of said systems, the improvement which comprises: a system of small block means, each comprising at least one block which has one of said pairs of transistors encased therein, next to one another, the block being only slightly larger than the pair of transistors and having the leads of both transistors extending from one surface of the block to form part of one of said systems, the several blocks being uniformly, closely spaced to form a row of blocks parallel to a side of said main panel surface; block fastener means for each block, removably securing the block to said main panel surface; a row of narrow auxiliary panels, each approximately as long as the main panel surface is wide and each approximately as wide as said blocks extend from the main panel surface, said auxiliary panels being arranged with their surfaces facing one another, each extending from one to the other side of the main panel surface, and each having one of said component systems thereon; panel fastener means for each auxiliary panel, securing the panel to one of said block means so as to secure the panel edgewise to the main panel surface; and connectors for each component system, connecting such system with the circuitry on the opposite panel surface in a connection area adjacent and parallel to the auxiliary panel.

2,977,513
MOUNTING OF ARMATURES OF POLARISED ELECTROMAGNETIC RELAYS
Frederick Emil Rommel, West Dulwich, London, England, assignor to Telephone Manufacturing Company Limited, London, England, a British company
Filed Dec. 9, 1957, Ser. No. 701,584
15 Claims. (Cl. 317—174)



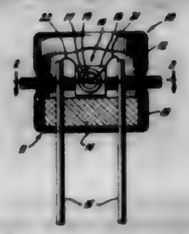
1. A polarised electromagnetic relay comprising a signals winding, a stationary magnetic structure linked with said winding and presenting a pair of ends at which any signals flux appears, a pair of armatures without mechanical coupling between them, each of said armatures being arranged at a corresponding end of said structure, two separate magnetically soft members arranged with respect to the armatures to provide magnetically parallel paths for the flow of signals flux which passes through the armatures in series, one side of each armature confronting both of the said magnetically soft members whereby signals flux both enters and leaves the armature at the said one side, and a polarising magnet having its opposite poles adjacent said two magnetically soft members respectively to conduct polarizing flux from one pole to the other through two parallel paths passing through said two armatures respectively.

2,977,514
ELECTROLYTIC DEVICE WITH GEL ELECTROLYTE AND METHOD OF MAKING THE SAME
Robert Lee Myers and Millard F. Gill, Glens Falls, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 25, 1957, Ser. No. 655,831
7 Claims. (Cl. 317—230)



2. An electric capacitor comprising, in combination, a pair of spaced electrodes, at least one of said electrodes having a dielectric film formed thereon, non-conducting porous spacer material between said electrodes in contact with said one electrode, and a gel electrolyte between said electrodes thoroughly impregnating said non-conducting spacer material and comprising a mixture of an ionogen and the reaction product of an aqueous solution of polyvinyl alcohol and a cross-linking gelling agent therefor selected from the group consisting of a boron compound, ferric ammonium sulfate, chromium sulfate and copper sulfate.

2,977,515
SEMICONDUCTOR FABRICATION
Ford E. Clarke, Chalfont, and Walter L. Doolp, Jr., Doylestown, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 7, 1958, Ser. No. 733,613
3 Claims. (Cl. 317—234)

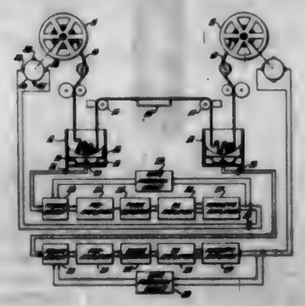


1. An encapsulated semiconductor device, comprising: a body of semiconductive material; structure defining an hermetic enclosure for said body, and individual, separately formed means supporting said body within said enclosure interposed in a mechanical connection between said body and enclosure, said latter means including an arcuately-shaped member joined in cold-welded juncture to heat conductive portions of said enclosure, said first mentioned means making contact to regions contiguous a rectifying barrier region of said body and forming a path of low thermal impedance between said region of said body and heat conductive portions of said enclosure.

2,977,516
LIQUID DIELECTRIC COMPOSITION AND USE THEREOF IN AN ELECTRICAL CAPACITOR
Harold I. Weingarten, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 8, 1958, Ser. No. 759,497
14 Claims. (Cl. 317—258)

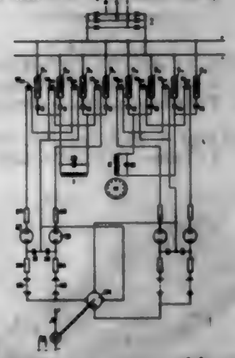
1. A dielectric composition consisting essentially of a mixture of halogenated biphenyls wherein the 2,3,2'- and 3,4,2'-positions are occupied by halogen atoms having an atomic number up to 53.

2,977,517
SERVOMOTOR DAMPING ARRANGEMENT
Solomon Baybick, Philadelphia, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 13, 1958, Ser. No. 741,839
7 Claims. (Cl. 318—7)



7. A servo system comprising a first movable member, a motor having a control winding, a second movable member arranged to be positioned by said motor, first means for deriving an error signal having an amplitude proportional to the lack of positional correspondence between said members, an amplifier connected between said first means and said control winding, second means for deriving a signal which is proportional to the speed of said motor, said second means comprising the series combination of an element of substantially fixed impedance and an element having a non-linear impedance characteristic, said series combination being connected in parallel with said control winding, and means for applying to said amplifier a signal which is proportional to that appearing across said non-linear impedance element.

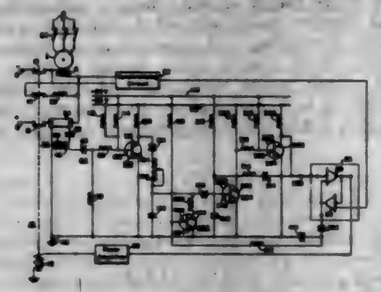
2,977,518
ELECTRIC POWER TRANSLATING APPARATUS FOR SPEED CONTROL OF ALTERNATING CURRENT MOTORS
Wilhelm Kafka, Tennenlohe, near Erlangen, and Georg Sichling and Manfred Tschermak, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Original application Apr. 5, 1955, Ser. No. 499,416. Divided and this application Oct. 11, 1956, Ser. No. 615,301
Claims priority, application Germany Apr. 7, 1954
6 Claims. (Cl. 318—138)



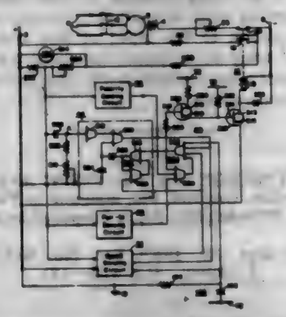
1. A motor control system, comprising voltage supply means, a rotating-field motor, static switching means having a semiconductor member of controllable resistance connecting said motor with said voltage supply means and having periodic resistance control means joined with said semiconductor member for triggering said resistance between minimum and maximum to periodically chop said supply voltage into individual voltage sections to impress alternating output voltage upon said motor, said control means having a controllable source of variable-frequency voltage for controlling the frequency of said output voltage to thereby control the speed of said motor, said source of variable-frequency voltage comprising a dynamoelectric frequency changer having a voltage variable in approximately linear proportion to its frequency, and said control means comprising another source of approximately triangular voltage corresponding to a desired chopping frequency higher than that frequency of said frequency changer, and circuit means connecting said frequency-changer voltage and said triangular voltage superimposed upon other to said static switching means.

2,977,519
SYNCHRONOUS MOTOR CONTROL
Dean J. MacGregor, Amherst, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 7, 1959, Ser. No. 811,665
4 Claims. (Cl. 318—170)

1. In a pull-out protection circuit for a synchronous motor having a field winding adapted to be connected to an excitation source, pulse generating means responsive to the frequency of the induced current in the field winding of said synchronous motor for producing a pulse of time length proportional to each cycle of said induced current, differentiating means for providing a narrow pulse for each said pulse regardless of the frequency of the induced current, integrator means responsive to a predetermined number of narrow pulses for providing a pull-out signal, means responsive to said pull-out signal for disconnecting said field winding from the excitation source, and means for preventing said integrator means from responding to frequency slippage incident to synchronization of the motor.



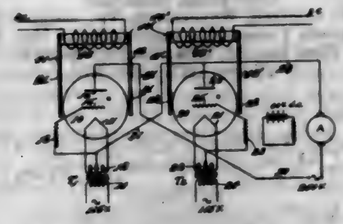
2,977,520
SYNCHRONOUS MOTOR CONTROL
Dean J. MacGregor, Amherst, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 7, 1959, Ser. No. 811,666
13 Claims. (Cl. 318—170)



1. In a pull-out protection circuit for a synchronous alternating current motor having a field winding adapted to be connected to an excitation source, comprising in combination, a first NOR element, means responsive to the output of said first NOR element for disconnecting the field winding from the excitation source, a second NOR element operably connected to the field winding and providing an input to said first NOR element only during each half cycle of predetermined polarity of the induced current in the field winding, and means for bypassing said second NOR element and providing said first NOR element with an input during synchronization of the motor.

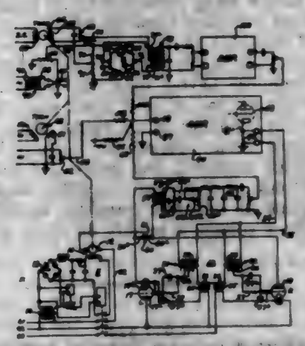
2,977,521
CONTROL CIRCUITS FOR REVERSIBLE ELECTRICAL LOADS, INCORPORATING MAGNETICALLY CONTROLLED GAS TUBES
William D. Macgeorge, North Wales, Pa., assignor to Automatic Timing & Controls, Inc., a corporation of Pennsylvania
Filed Nov. 16, 1955, Ser. No. 547,074
4 Claims. (Cl. 318—257)

1. A control circuit for a reversible electrical load, and a power source comprising first connections for attachment across the power source and to one side of the reversible load and to the other side of said reversible load, a first gas tube, connections between the cathode and plate of said tube and said first connections to extend across such load in one direction, a second gas tube, connections between the cathode and plate of said second tube and said first connections to extend across such load in the other direction, a first electromagnetic unit producing a magnetic field within which said gas tube is located for controlling the tube output functionally with energization of the unit, a second electromagnetic unit producing a magnetic field within which said gas tube is located for controlling the second tube output functionally with energization of the second unit, each of



said units comprising a metallic core juxtaposed to the respective gas tubes and metallic pole pieces mounted on the core and straddling the respective tubes, and a coil surrounding each core, and means for selectively energizing the respective units comprising an energized winding and means movable relative to the winding in response to variations in the condition of an associated variable and having a datum position in which the respective units are substantially equally energized from said winding and whereby movement of said means movable from such datum effects a differential energization of the respective units to cause the transmission of one of said gas tubes to effect actuation of said reversible load in a sense related to the sense of movement of said means movable from such datum.

2,977,522
MOTOR CONTROL SYSTEM
Charles K. Taft, Warrensville Heights, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 15, 1958, Ser. No. 780,377
7 Claims. (Cl. 318—260)



1. A control system for a direct current motor comprising a source of A.C. current, a pair of grid controlled rectifying tubes connecting said source to energize the armature of said motor with a unidirectional current which determines the speed of said motor, means providing a first signal component indicative of a desired rate

of movement, means for deriving second and third signal components dependent on the velocity and rate of change of velocity of said motor, means responsive to armature current to provide a fourth signal component dependent on the magnitude of the armature current, circuit means combining said first and fourth components in an additive relationship to each other and said second and third components in a bucking relationship to the first and fourth components when said motor is accelerating and applying the resultant signal to the grids of said tubes to control the conduction thereof as a function of said signal.

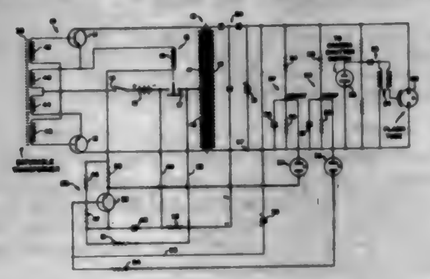
2,977,523
CONTROL CIRCUIT
William D. Cockrell, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Dec. 31, 1958, Ser. No. 784,117
9 Claims. (Cl. 318—331)



1. A control system for an electric motor having an armature and a field winding, comprising a source of alternating voltage, a semi-conductor device having a plurality of PN junctions and input, output and control electrodes, said input and output electrodes connected in series with said source and said armature, means for deriving a signal voltage proportional to the speed of said motor, means for providing an adjustable speed reference voltage, means for comparing said signal voltage and said reference voltage, a first transistor amplifier having input and output electrodes, said input electrodes being connected to said last-mentioned means, a phase shift circuit comprising a source of alternating control voltage, a capacitor, means for charging said capacitor on one half cycle of said control voltage from said source of control voltage and providing a discharge path for said capacitor, said phase shift circuit being connected to an output electrode of said first transistor amplifier, a second transistor amplifier having input and output electrodes, an input electrode of said second transistor amplifier being connected to the junction of said capacitor and said discharge path, said control electrode of said semi-conductor device being connected to an output electrode of said second transistor amplifier which is positive when said second transistor amplifier conducts to cause said device to conduct and supply voltage to said armature, a third transistor amplifier having input and output electrodes, means connecting one of said input electrodes of said third transistor amplifier to an output electrode of said semi-conductor device, means for variably biasing said third transistor amplifier, and means for connecting an output electrode of said third transistor amplifier to an input electrode of said first transistor amplifier to provide a feedback voltage to modify the effect of said signal voltage.

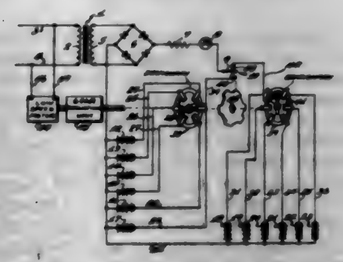
2,977,524
ELECTRICAL POWER SUPPLY APPARATUS
John T. Liegle, Ramsey, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 20, 1959, Ser. No. 807,476
5 Claims. (Cl. 320—1)

1. Electric apparatus for use in charging a capacitor to a high voltage from a low voltage source, comprising a capacitor to be charged, a low magnitude source of voltage, a relay having a winding and a normally open switch, electrical inverter means having a high voltage output, circuit means controlled by said relay switch connecting said source of voltage to said inverter means to thereby utilize energy of said source of voltage to energize said inverter means only when said relay is energized, means connecting said capacitor to the output of said inverter means, control means having an input and an output, circuit means connecting said relay winding to the output of said control means to be normally energized thereby, a first R-C timing network having a rela-



tively short time constant, means connecting said first R-C timing network in controlling relation to the input of said control means to cause said relay winding to be de-energized when said capacitor is charged to a given value to thereby discontinue the charging of said capacitor, a second R-C timing network having a relatively long time constant, means connecting said second R-C timing network to said capacitor, and means connecting said second R-C timing network in controlling relation to the input of said control means to cause said relay to be again energized a time period after de-energization thereof to thereby re-establish the charging of said capacitor.

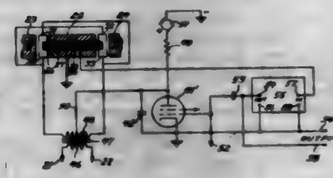
2,977,525
BATTERY CHARGE MAINTAINING APPARATUS
Lewis A. Medlar, Oreland, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 18, 1957, Ser. No. 684,799
3 Claims. (Cl. 320—19)



1. In an electrical circuit of the type described, the combination of supply circuit means adapted for connection to a source of current, a fast-acting switch comprising a movable contact and a pair of fixed contacts, said movable contact being arranged for snap actuation alternately into engagement with first one and then the other of said fixed contacts, said movable contact being connected to one side of said supply circuit means; rotary selector switching means comprising two groups of fixed contacts and a pair of rotary contacts operatively arranged for sequential engagement each with the contacts of a different one of said groups; two groups of

parallel load circuit branches, the branches of one of said groups being each connected between the other side of said supply circuit means and a different one of the fixed contacts of one of said groups of fixed contacts of said selector switching means, the branches of the other of said groups being each connected between said other side of said supply circuit means and a different one of the fixed contacts of the other of said groups of fixed contacts; circuit means connecting each of said rotary contacts to a different one of said fixed contacts of said fast-acting switch and actuating means for actuating said fast-acting switch and the rotary contacts of said selector switch means in timed relation, said rotary contacts being disposed in out of phase relationship with respect to each other so that one rotary contact engages a fixed contact of its corresponding group of contacts of said selector switch means before the other rotary contact disengages a fixed contact of its corresponding group of contacts of said selector switch means, said actuating means being constructed and arranged to actuate the movable contact of said fast-acting switch only at a time when the fixed contact engaged by said movable contact is electrically connected via the corresponding one of said rotary contacts to a fixed contact of said rotary switching means.

2,977,526
CONSTANT VOLTAGE A.C. GENERATOR
Charles H. Richards, 416 Chestnut Ave., Mamaroneck, N.Y., and William A. Geoghegan, 4555 Henry Hudson Parkway, Riverdale, N.Y.
Filed Jan. 14, 1958, Ser. No. 708,892
6 Claims. (Cl. 322—3)



1. In a generator having an output, means for setting up a magnetic field, a conductor positioned in said magnetic field and connected in an electric circuit with the output, means suspending the conductor to oscillate and cut lines of force in the field, and means for oscillating the conductor back and forth in the field comprising means including plates in position to electrostatically act on said conductor, a source of alternating current connected to said plates and a source of superimposed direct current connected to said plates.

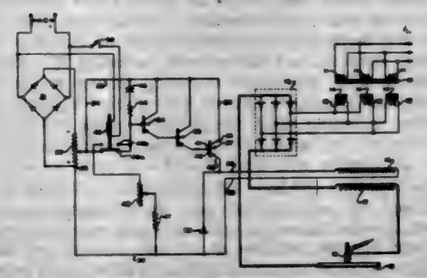
2,977,527
SWITCHING ARRANGEMENT
Wallace M. Johnson, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Mar. 12, 1957, Ser. No. 645,442
1 Claim. (Cl. 323—43.5)

Load tap changing means for electric induction apparatus comprising a winding having two groups of a plurality of alternated disposed taps, an electric circuit, and means for sequentially connecting said circuit to said taps comprising a first contact finger arranged to sequentially contact the taps of one of said groups of taps, a second contact finger arranged to sequentially contact the other said group of taps, first and second contacts serially connected between said first finger and said circuit, third and fourth contacts serially connected between said second finger and said circuit, said second and fourth contacts being connected to said circuit, first and second transition impedance means connected in shunt with said second and fourth contacts respectively, said first and second contacts being closed and said third and fourth



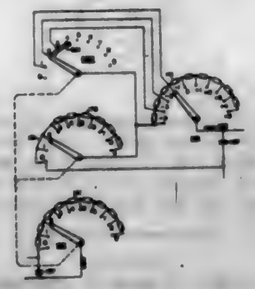
contacts being open during operation of said apparatus at a predetermined tap position, and means operative during a transitional tap changing period to sequentially open said second contact, close said third contact, open said first contact, and close said fourth contact.

2,977,528
WELDING CURRENT CONTROL
Rawlins E. Purkhiser, Springfield, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 10, 1956, Ser. No. 627,339
1 Claim. (Cl. 323—66)



A power supply for electric arc welding which comprises a source of welding current, a source of control current, a control current circuit supplied with current from said source of control current, means responsive to the magnitude of current flow in said control current circuit for varying the welding current output from said welding current source, and means for varying the magnitude of the current flow in said control current circuit, said last named means comprising a main control transistor which includes a collector, an emitter and a base and which is connected to have the current in said control current circuit flow therethrough as emitter current, a driver transistor which includes a collector, an emitter, and a base and which is connected to have its emitter current control the base current of said main control transistor, means for directly connecting the collector of said driver transistor to the collector connection of said main control transistor in said control current circuit, and means for controlling the base to emitter potential applied to said driver transistor at the end of a welding operation to cause a decay in the welding current output from said welding current source, said means including means operative during welding for connecting the base of said driver transistor to a point of the same potential as its collector, and means operative at the end of said welding for reconnecting the base of said driver transistor in a circuit including a capacitor and a resistor such that its said base potential shifts from its collector potential to its emitter potential at a rate determined by the time constant of said resistor-capacitor circuit.

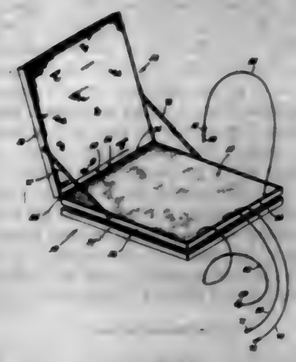
2,977,529
ELECTRIC DISCHARGE APPARATUS
Hubert W. Van Ness, Walnut Creek, Calif., and William E. Large, Lancaster, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Original application Feb. 28, 1955, Ser. No. 490,871, now Patent No. 2,953,678, dated Sept. 20, 1960. Divided and this application Oct. 28, 1958, Ser. No. 768,346
5 Claims. (Cl. 323—74)



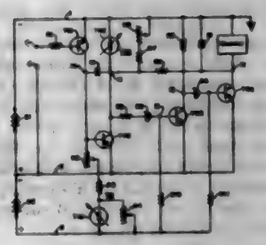
5. In a sequence timer for high speed welding, which timer is capable of being set to operate with a predetermined maximum negative hold time, a weld network including a timing impedance element and a first variable impedance having first means for varying said impedance cooperative with said element for timing weld time, the weld time increasing as the impedance of said first impedance increases, a hold network including in series a second variable impedance including second means for varying the impedance thereof and a third variable impedance, including third means for varying the impedance thereof, and also including a timing impedance element cooperative with said second and third impedance to time hold time, the hold time increasing as the aggregate impedance of said second and third impedances increases, means connecting said first and second varying means to operate together to set said second and third impedances to corresponding settings together, said second impedance having substantially zero impedance over the range of its impedance corresponding to said predetermined negative hold time, and switch means connected to said connecting means and operable therewith for shunting out impedance in the low impedance range of said third impedance which, when said, first and second impedances are set for a time interval less than the maximum negative hold time, corresponds to the magnitude by which said maximum negative hold time exceeds said time interval.

2,977,530
CIRCUIT INDICATOR DEVICE FOR WIRED CONTROL PANELS OF BUSINESS MACHINES
Kenneth Cook, Bayside, N.Y., assignor to Walter R. Oreamuno & Co., New York, N.Y., a firm
Filed May 16, 1958, Ser. No. 735,855
13 Claims. (Cl. 324—51)

1. An electrical device for indicating the circuit pattern of a wired control panel for a business machine, comprising a generally flat, expansive base member having the form of a board, said member being adapted for superposition on the control panel and being provided with a contact field comprising a large multiplicity of predeterminately positioned electrical contact elements adapted to engage respectively cooperable contacts on the control panel when the base member is superposed thereon, said contact elements having accessible portions at the exposed side of the superposed base member; an expansive indicator means separate from and movable with respect to the base member and having an indicator field comprising a plurality of electrical indicators predeterminately positioned in an arrangement similar to those of the said contact elements and contacts; a common circuit connected with one side of the circuits of each of said indicators; flexible circuit means connecting the remaining sides of the circuits of the said indicators respectively to said contact elements; an electrical probe adapted to be temporarily engaged with any of the accessible portions of said contact elements; and means for connecting said probe and common circuit respectively to terminals of a source of electricity suitable for energizing said indicators whereby the act of touching the probe to any one of the said contact elements may energize certain of the indicators in a pattern determined by connections existing between contacts of the said control panel.

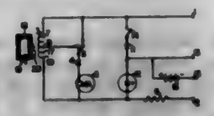


2,977,531
INSULATION TEST CIRCUIT
Karl R. Hansen, Buffalo, Joseph G. Schwarzkopf, Eggertsville, and Frederick H. Rohr, Buffalo, N.Y., and Marshall P. White, Grand Haven, Mich., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 18, 1958, Ser. No. 774,673
3 Claims. (Cl. 324—54)



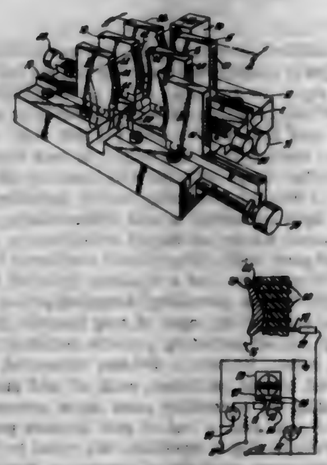
1. In an electric system of circuitry for detecting insulation defects in electric insulating materials, in combination, a first conductor, a second conductor, and a third conductor, said first and second conductors being energized with a relatively low constant voltage direct current energy, and the second and third conductors being energized with a relatively low constant voltage direct current energy, a first transistor having an emitter, a base, and a collector, first temperature compensating impedance means, a first series circuit, including the first transistor, a first junction, and the first temperature compensating impedance means, connected across the third and first conductors, a second transistor, second temperature compensating means, a second series circuit, including the second temperature compensating means, a second junction, and the second transistor, connected across the first and second conductors, with the base of the second transistor being connected to the first junction, an impedance having one of its terminals connected to the base of the first transistor and its other terminal connected to a probe terminal, a second probe terminal connected to said second conductor, said probe terminals in use being connected across the insulating material being investigated for defects, the defects acting to cause conduction of said transistors, a load unit, and snap acting transistor circuitry responsive to the conduction of the second transistor for effecting operation of said load unit.

2,977,532
ELECTRICAL MEASURING INSTRUMENT
Edward Franklin Wright, 310 S. Ramsey St., Manchester, Tenn.
Filed June 26, 1957, Ser. No. 668,150
4 Claims. (Cl. 324—62)



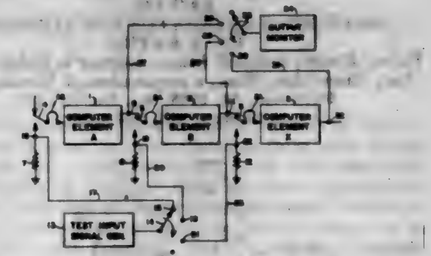
1. In an electromotive force measuring device of the class described comprising a meter circuit, said meter circuit containing a meter and a half wave rectifier connected in series, a transformer coil, a portion of said coil connected in parallel with said meter circuit, a chopper circuit connected in parallel with the whole of the transformer coil, the chopper circuit including a gaseous discharge tube and condenser connected in series, a high resistance, one terminal of said high resistance connected to the point at which the gaseous discharge tube and said transformer coil connects, the other terminal of said high resistance and the other terminal between the said gaseous discharge tube and said condenser providing two terminals for the direct electromotive force to be measured.

2,977,533
GAGING DEVICE
Francis C. Savage, Columbia, Conn., assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed Nov. 7, 1957, Ser. No. 695,117
7 Claims. (Cl. 324—71)



5. A gaging device for measuring the contour of a part at a plurality of spaced locations comprising a base, a plurality of slender template blocks of an insulating material on said base, means on said base mounting said blocks in relatively spaced parallel relationship, each block being cast about and including a plurality of relatively insulated and spaced conductive elements exposed to define a rigid reference contour, means supporting a part in adjacent relationship with said conductive elements for gaging, an electric gaging circuit including a source of electrical potential, and electric gaging means operably connected to said electric gaging circuit for selectively connecting said source of electrical potential to said part and to each of said conductive elements for providing a current flow through any gap therebetween and for measuring the magnitude of the current flow through any such gap, the magnitude of the current flow being determined by the magnitude of the gap between each respective element and the adjacent part surface.

2,977,534
PROBLEM ANALYZER FOR PRECISION ANALOG COMPUTERS
James E. Hermannsdorfer, Charlottesville, Va., and Willard C. Mellander, Atwater, Ohio, assignors to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Jan. 17, 1958, Ser. No. 709,561
4 Claims. (Cl. 324—73)

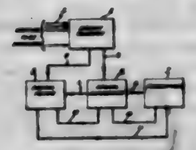


4. A problem analyzer for a precision analog computer having a plurality of computer elements adapted to be operationally arranged for solving a problem, said problem analyzer comprising means for providing a test input signal, means for detecting an output voltage, switching means for isolating one or more computer elements from their operationally arranged connections and presenting them for testing purposes while maintaining their physical positions and internal connections, and scanning means for selectively connecting the isolated computer elements to said test input signal means and said output voltage detecting means, said scanning means comprising a stepping switch having stepping contacts connected successively to the outputs of computer elements, a second stepping switch having its stepping contacts successively connected to the input of the computer elements through said switching means, each stepping switch having a stepping solenoid, means for alternately energizing and deenergizing the stepping solenoid of the first stepping switch, a normally open switch mounted on said first stepping switch and adapted to be closed at one position of said first stepping switch, said normally open switch being adapted when closed to energize the stepping solenoid of said second stepping switch for one step only when said first stepping switch has completed one revolution.

2,977,535
AUTOMATIC DIGITAL EVALUATOR
David T. O'Connor, New Haven, and Robert A. Fabish, Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation
Filed Aug. 20, 1958, Ser. No. 756,098
13 Claims. (Cl. 324—73)

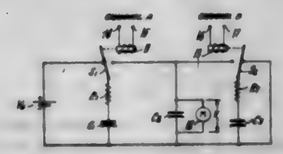
1. A system for automatically and sequentially selecting, measuring and evaluating a plurality of parameters

capable of reduction to characteristics and electrical quantities and conversion to digital form comprising: means for converting said electrical quantities to an electrical output in digital form and for providing a visual indication of the quantity being measured; means for sequentially connecting said converting means to a plurality of sources of said electrical quantities; and means coupled to said



converting means for comparing the output thereof with preselected characteristics and electrical quantities in digital form; said comparing means being coupled to said connecting means and arranged to advance the same to connect said converting means to the next electrical quantity source responsive to an agreement of a converting means output and a corresponding required characteristic and electrical quantity in digital form.

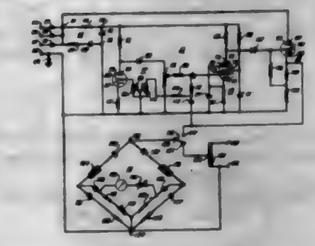
2,977,536
MEASURING APPARATUS FOR COUNTING RATE RATIOS
Robert Hindel, Ashland, Mass., assignor to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 28, 1958, Ser. No. 731,254
3 Claims. (Cl. 324—79)



1. A rate comparator for trains of recurrent signals comprising first, second, and third capacitors to store electrical energy, a voltage source connected to said first capacitor, a first switching circuit repetitively to disconnect said first capacitor from said source and to interconnect said first and second capacitors in response to successive signals in a first train, a discharge path for said third capacitor, a second switching circuit repetitively to interrupt said path and to interconnect said second and third capacitors in response to successive signals in a second train, and a voltage measuring device connected to said second capacitor to measure the voltage thereon.

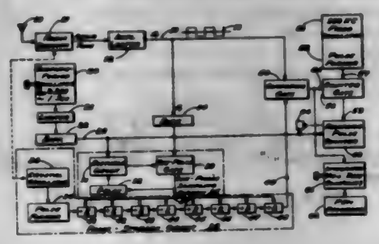
2,977,537
FREQUENCY METER
Paul E. White, Jr., Fort Wayne, Ind., assignor to Varo Mfg. Co., Inc.
Filed Oct. 6, 1955, Ser. No. 538,941
2 Claims. (Cl. 324—81)

1. A frequency measuring or indicating device comprising input terminals for connection to a source of signals the frequency of which is to be measured or indicated, a pair of independent current paths between said input terminals, each said path including serially connected inductance, capacitance, rectifier and resistance elements, said inductance and capacitance elements of one circuit path being chosen so as to resonate at a frequency below a predetermined frequency and said inductance and capacitance elements of the other circuit path being chosen so as to resonate at a frequency above said predetermined frequency with the resonance curves intersecting at said predetermined frequency, circuit branches each comprising serially connected rectifier and resistance elements and one such branch shunting the rectifier and resistance elements of each said path, the first mentioned rectifier elements being poled to conduct in the same direction with respect to said input terminals and the branch rectifier elements being poled to conduct in the



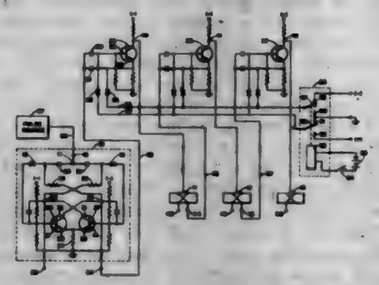
opposite direction, and means including an indicator instrument connected between the junction of said rectifier and resistor elements in one said path and the junction of the rectifier and resistance elements of the other said path for sensing and utilizing the difference in current flow in said paths to indicate the frequency of the input signals.

2,977,538
PHASE MEASURING SYSTEM
Frank Secretan, West Los Angeles, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 11, 1958, Ser. No. 779,713
9 Claims. (Cl. 324—83)



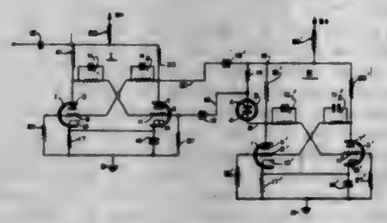
4. A system for determining the phase instability of a received signal, comprising receiving means for translating said signal to an audio tone, an amplifier-limiter connected to said receiving means for generating a pulsed wave from said tone with a fifty percent duty cycle, a differentiator connected to the output of said limiter for generating pulses timed with the axis crossings of the received tone; a one-pulse sampling circuit, including a gate having one input connected to said differentiating circuit, a bistable circuit having an output connected to another input of said gate, and a delay circuit connected between the output of said gate and a resetting input of said bistable circuit; means providing sampling-period pulses connected to a triggering input of said bistable circuit; a phase-storage circuit including a stable oscillator, and a plurality of binary frequency dividers connected in tandem with said crystal oscillator, each of said binary dividers including an overriding reset input connected to the output of said gate, a last of said dividers providing an output wave having a repetition rate equal to the frequency of said tone, and phase comparing means connected to the output of said phase-storage circuit and to the output of said amplifier-limiter to register their relative phase.

2,977,539
REVERSIBLE BINARY COUNTER
Stephen E. Townsend, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,922
3 Claims. (Cl. 328—42)



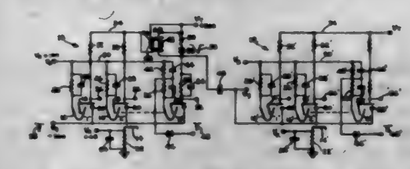
1. A reversible counter comprising a plurality of first means each having an input responsive to a series of pulses of a given polarity applied thereto and an output producing a first potential in response to alternate pulses applied to the input thereof and producing a second potential in response to pulses intermediate said alternate pulses applied to the input thereof, a pulse source for applying a series of pulses of said given polarity to the input of a first one of said first means, and second means interposed between the output of each first means and the input of a following first means, said second means including an amplifier for producing, as an output, pulses of said given polarity in response to input pulses of said given polarity being applied to a first input thereof and in response to input pulses of a polarity opposite to said given polarity being applied to a second input thereof, a first differentiating circuit for applying the output of the preceding first means to the first input of said amplifier, a second differentiating circuit for applying the output of the preceding first means to the second input of said amplifier, shunting means for selectively shunting either one of said first and second inputs of said amplifier, and output means for applying the output of said amplifier as an input to the following first means.

2,977,540
ELECTRIC SWITCHING CIRCUITS
Robert W. Stuart, Jr., Natick, Mass., assignor to General Radio Company, Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 10, 1958, Ser. No. 720,186
6 Claims. (Cl. 328—49)



4. In an electric system having successive switching circuits embodying relay devices provided with output and input electrodes and in one of which the occurrence of a predetermined operational condition is to set a preceding circuit to a predetermined state, a feed-back path connected between an output electrode of a relay device of the said one circuit and an input electrode of a relay device of the said preceding circuit comprising a two-electrode gaseous-discharge device connected in series circuit with capacitance, an output-electrode load connecting the said output electrode of the relay device of the said one circuit to a source of output-electrode potential, means for connecting the said gaseous-discharge device across the said load, and an alternating-current path connected between the said output electrode of the relay device of the said preceding circuit and a point of the said load of different potential than the point of connection of the said feed-back path to the said output electrode of the relay device of the said one circuit.

2,977,541
COUNTING SYSTEM
Rudolph A. Cola, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 29, 1957, Ser. No. 681,876
2 Claims. (Cl. 328—52)

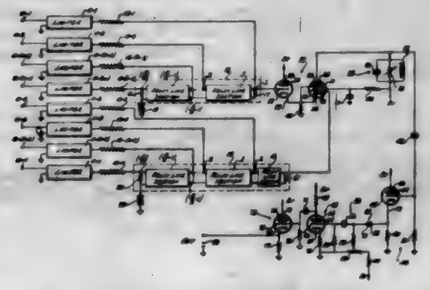


1. A counting system comprising a plurality of cascade-connected magnetron beam switching tubes each having a cathode and a plurality of groups of electrodes; each group including a target electrode which receives an electron beam and produces an output signal therefrom, a spade electrode which holds an electron beam on its associated target electrode, and a switching electrode which serves to switch an electron beam from one group of electrodes to the next; all of the switching electrodes in each tube being connected together whereby a single source of driving signals may be employed to switch an electron beam in each tube, the driving signals provided by a single source having a comparatively critical energy content to insure the switching of an electron beam by only one position in each tube; a source of beam switching pulses coupled between first and second adjacent beam switching tubes; said source comprising a magnetic core having a bias winding and an output winding and having a generally rectangular characteristic magnetization curve which insures the production of constant energy output pulses; said output winding of said source being coupled between a target electrode of said first tube and the commonly connected switching electrodes of said second tube whereby a pulse applied by said last-mentioned target electrode to said source of beam switching pulses causes the generation and application of a required switching signal to said last-mentioned commonly connected switching electrodes; all of the pulses produced by said source thus having substantially the same energy content.

2,977,542
PUSH-PULL EXCITED RECOGNITION CIRCUIT
Samuel Gross Lutz, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Nov. 8, 1954, Ser. No. 467,330
11 Claims. (Cl. 328—108)

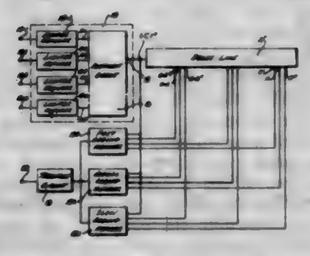
1. A push-pull resonant recognition circuit for producing an output pulse in response to at least a predetermined minimum number of pulses of n applied groups of time-spaced pulses of substantially equal amplitude and

duration, where *n* represents any even integer, said *n* groups of pulses having the same predetermined pulse repetition frequency, said circuit comprising: resonant circuit means energizable for producing sinusoidal oscillations at a frequency substantially equal to *n*/2 times the pulse repetition frequency; means for delaying each one of the *n* applied groups of pulses by a discrete interval of time to time-space each group of pulses from the immediately preceding group of pulses by an interval of time equal to one-half the period of said sinusoidal



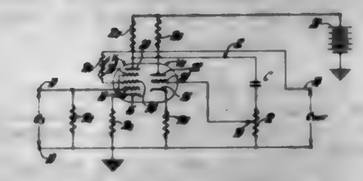
oscillations, said resonant circuit means being coupled to said means and energizable by successive ones of said delayed groups of pulses to produce oscillations having exponentially increasing amplitudes; and threshold means coupled to said resonant circuit means and biased to a voltage level a predetermined amount below the maximum amplitude of the oscillations produced by said resonant circuit means in response to the predetermined minimum number of pulses, said threshold means being responsive to the portion of the oscillations exceeding said voltage level for producing an output pulse.

2,977,543
RECOGNITION CIRCUIT FOR PULSE CODE COMMUNICATION SYSTEMS THAT PROVIDES FOR VARIABLE REPETITION RATES BETWEEN PULSES
Samuel G. Lutz, Los Angeles, and John E. Taber, Gardena, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 8, 1955, Ser. No. 492,933
8 Claims. (Cl. 328—110)



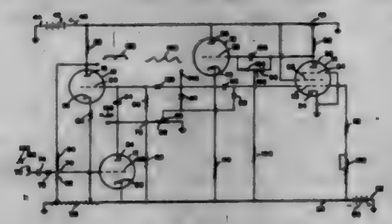
4. A recognition circuit for producing an output pulse in response to the application of *m* time-spaced groups of *n* time-spaced pulses of substantially equal amplitude and duration, the time interval between pulses of any one group being equal to the time interval between corresponding pulses in any other group and the time interval between corresponding pulses of any two groups being equal to the time interval between any other corresponding pulses of the two groups, said circuit being arranged to produce an output pulse despite corresponding deviations in the time spacing between the *n* individual pulses of each of the *m* groups from that of a predetermined time spacing, said circuit comprising: alignment means for superimposing corresponding pulses of the *m* applied groups of pulses to produce an output group of *n* time-spaced pulses of substantially equal amplitude and duration, the time spacing between the *n* individual pulses of the output group of pulses being equal to the time spacing between the *n* individual pulses of each of the *m* applied groups of pulses; delay means for delaying the output group of *n* time-spaced pulses; a plurality of sets of *n* output circuits electrically connected to said delay means for simultaneously producing a delayed output group of *n* pulses at an instant of time, the *n* output circuits of one set being spaced from each other to simultaneously produce the delayed output group of *n* pulses having the predetermined time spacing between individual pulses, and the *n* output circuits of each one of the other sets being spaced from each other to simultaneously produce the delayed output group of *n* pulses deviating in the time spacing between individual pulses from the predetermined time spacing; a plurality of adding networks, each being electrically connected to a different one of said plurality of sets of output circuits, each of said adding networks being operable in response to the delayed output group of *n* pulses simultaneously produced at the associated set of *n* output circuits to produce a composite pulse representative of said delayed output group of *n* pulses, the amplitude of said composite pulse corresponding to the sum of the amplitudes of the delayed output group of *n* pulses multiplied by a reduction factor; and threshold means electrically connected to said plurality of adding networks and biased to a voltage level a predetermined amount below the amplitude of the composite pulse produced in response to the predetermined minimum number of pulses, said threshold means being responsive to the portion of said composite pulse exceeding said voltage level for producing an output pulse.

2,977,544
DIFFERENTIATING CIRCUIT
Norman W. Schubring, Hazel Park, and Merle E. Fitch, Dearborn, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 28, 1957, Ser. No. 692,693
2 Claims. (Cl. 328—127)



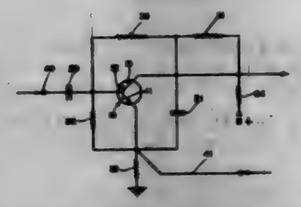
1. An electronic differentiator comprising a first amplifying device having a cathode, anode, control grid and a screen grid, an input circuit extending between the cathode and the control grid and adapted to include an input signal voltage source, an output circuit extending between the cathode and anode and including a condenser and resistor in series, a second amplifying device having a cathode, anode and grid, an input circuit extending between the cathode and grid of the second device and including a portion of said resistor, an output circuit extending between the cathode and plate of the second device and including a load impedance for developing an output voltage, and a regenerative feedback circuit extending from the load impedance to said screen grid causing screen grid current through the impedance corresponding to the input signal voltage, whereby a portion of the input signal voltage is combined directly with the output voltage across said impedance to develop a resultant voltage corresponding to the first time derivative of the signal voltage.

2,977,545
SAWTOOTH GENERATOR
Todd R. Sitter, East Rochester, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 11, 1959, Ser. No. 839,541
6 Claims. (Cl. 328—184)
(Granted under Title 35, U.S. Code (1952), sec. 266)



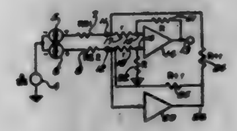
6. A linear sawtooth generator system comprising a multivibrator including a first and second electron tube, a control tube and an output tube, each of said tubes including an anode, a cathode and a grid, a trigger connection to the grid of said second tube, means including a voltage divider for applying a potential to the anode of said second tube, an intermediate tap in said voltage divider, a biasing circuit from said tap to the cathode of said output tube, a second biasing circuit from said tap to the grid of said control tube, a unidirectional conductor in each of said biasing circuits, a return connection from the grid of said control tube to a source of negative potential, a resistor in said return circuit, a bias voltage generator circuit extending from the anode of said control tube to a source of negative potential, said generator circuit including a diode and a resistor in series circuit relation, a connection from a point between said diode and said resistor to the grid of said output tube, a diode connected between the cathode of the output tube and the grid of said first tube, a capacitor connected between the cathode of said output tube and the grid of said control tube.

2,977,546
TRANSISTOR AMPLIFIER CIRCUIT
Robert J. Molnar, New York, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 29, 1957, Ser. No. 680,947
4 Claims. (Cl. 330—25)



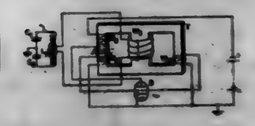
1. A transistor amplifier circuit comprising a transistor having a base, a collector and a common emitter, input means for applying a signal between the base and a common potential point, output means connected to the collector, a feedback resistor connected between the emitter and the common potential point, biasing means connecting said base and said collector and including a pair of direct current conductive elements at least one of which is a resistor, and by-pass means connecting said biasing means at a point between the elements directly to said emitter.

2,977,547
DIFFERENTIAL AMPLIFIER
Robert P. Talambiras, Boston, Mass., assignor to Epsco, Incorporated, Boston, Mass., a corporation of Massachusetts
Filed Aug. 1, 1958, Ser. No. 752,603
3 Claims. (Cl. 330—69)



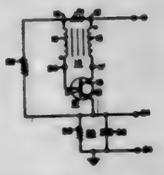
1. Apparatus for amplifying the differential mode of first and second input signals which may also have a common mode comprising, a differential amplifier having first and second inputs and an output, a feedback resistor of value R connected from said output to said first input and providing an inverse feedback path therebetween, first and second input terminals adapted to receive said first and second input signals respectively, first and second input resistors of value *r* respectively connected from said first and second input terminals to said first and second differential amplifier inputs respectively, a common terminal, a resistor of value R connected from said second differential input to said common terminal, a signal amplifier having a gain of substantially plus two, means for coupling one of said input terminals to the input of said signal amplifier, and first and second positive feedback resistors of value $R+r$ connected from the output of said signal amplifier to said first and second input terminals respectively.

2,977,548
OSCILLATOR CIRCUIT WITH PARASITIC OSCILLATION PREVENTION MEANS
Willem A. J. van Jaarsveld, Delft, Netherlands, assignor to The Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands, a corporation of the Netherlands
Filed Apr. 6, 1959, Ser. No. 804,528
Claims priority, application Netherlands Apr. 10, 1958
2 Claims. (Cl. 331—105)



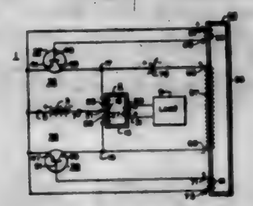
1. Oscillator circuit, in which the frequency of the alternating voltage excited is determined by a parallel LC circuit, wherein this circuit is coupled to a winding on the middle leg of a transformer having a three-legged core, which core comprises one winding on each outer leg, both these windings being connected in parallel to one another, and which core further comprises an extra winding on at least one outer leg, and whereby the pair of windings that are connected in parallel as well as the extra winding are incorporate in an electronic tube circuit which is provided with an anode circuit and a grid circuit, whereby the pair of windings is incorporate in the grid circuit and the extra winding in the anode circuit, and whereby the winding directions have been selected in such a way, that the circuit is stable when the winding on the middle leg is short-circuited, and unstable when the winding on the middle leg is open.

2,977,549
PARABOLIC WAVESHAPE GENERATOR
Abraham I. Bernstein, Metuchen, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 7, 1957, Ser. No. 676,886
2 Claims. (Cl. 331—112)



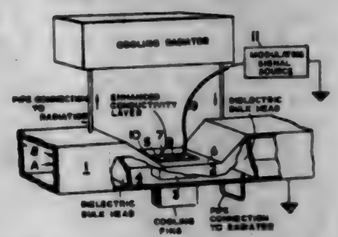
1. A parabolic waveshape generator comprising a transistor having an emitter electrode, a collector electrode, and a base electrode, a transformer intercoupling said collector electrode with said base electrode to provide a feedback path to cause regeneration, said transformer having a primary winding connected at one end to said collector electrode and a secondary winding connected at one end to said base electrode, a first resistor connected between the other ends of said primary winding and said secondary winding, a source of operating potential connected serially with said primary winding between said collector electrode and a point of reference potential, a second resistor connected between said emitter electrode and the end of said secondary winding opposite said base electrode, and an integrating circuit connected between said emitter electrode and said point of reference potential.

2,977,550
ELECTRICAL INVERTER CIRCUITS
John F. Roesel, Jr., and Robert W. Lucky, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 5, 1957, Ser. No. 694,596
3 Claims. (Cl. 331—113)



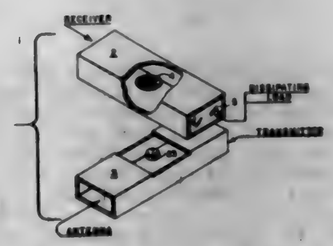
1. In an electrical system, an electrical apparatus, a pair of terminals adapted to be energized from a source of unidirectional voltage, a low impedance power path connecting said apparatus to said terminals, an electroresponsive semiconductor valve device having a pair of main electrodes, and a control electrode, said main electrodes of said device being included in said path, said device being operable to establish a conductive condition between said main electrodes for a preselected polarity and magnitude of voltage between one electrode of said pair of main electrodes and said control electrode and being operable to establish a substantially nonconductive condition of said path for a second preselected polarity and magnitude of voltage between said one main electrode and said control electrode, a magnetic core, an input winding linking the core, said input winding being operatively connected across said terminals in series with said main electrodes and in shunt with said apparatus, a control winding linking the core in inductive relation with said input winding, said control winding being connected between said one main electrode and said control electrode, said control winding being proportioned and poled relative to the input winding such that voltage induced in the control winding in response to energization of said input winding due to said device being in its said conductive condition is applied to said device with said preselected polarity and magnitude, and a condenser connected in series circuit relation with said input winding for charging by the current flow through said input winding, said condenser being effective when charged to terminate energization of said input winding for providing a voltage of said second preselected polarity and magnitude between said one main electrode and said control electrode.

2,977,551
MICROWAVE MODULATOR
Alan Frank Gibson and James William Granville, Malvern, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Mar. 11, 1958, Ser. No. 720,680
Claims priority, application Great Britain Mar. 18, 1957
14 Claims. (Cl. 332—52)



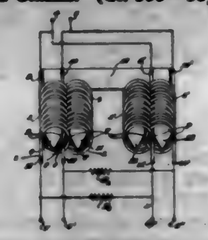
1. A microwave modulator comprising a waveguide for propagating microwave radiation having its E-vector transversely of the waveguide, the waveguide having a section of reduced dimension in which the reduction is in the direction of the E-vector, a body of semiconductor material of one conductivity type extending in the direction of the E-vector across the section and secured by an ohmic connection to one wall of the waveguide being electrically unconnected to the opposing wall, and a connection lead making a second ohmic connection to the part of the body adjacent to the opposing wall so that an electric field applied via the waveguide and the connection lead is in the direction of the E-vector, whereby in operation variation of the electric field effects a corresponding variation in microwave radiation propagated along the waveguide.

2,977,552
MICROWAVE DUPLEXER
Milton R. Hamilton, Beverly, Mass., assignor to Bomac Laboratories Inc., Beverly, Mass., a corporation of Massachusetts
Filed Sept. 15, 1958, Ser. No. 761,224
2 Claims. (Cl. 333—13)



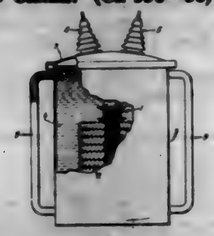
2. In a microwave frequency duplexer having a pair of mutually perpendicular rectangular waveguides defining a common wide wall with a resonant directional coupling element disposed therein, an electric field concentrator disposed intermediate the ends of one of said waveguides in the region of the coupling element, said field concentrator comprising a metallic probe member secured to the wide wall opposite the common wide wall and extending into said waveguide toward the coupling element a distance less than half the height of said waveguide, the center axis of said probe member being displaced from the center axis of the coupling element in a direction toward the nearest narrow wall of said waveguide.

2,977,553
TRANSMISSION LINE AND METHOD OF MAKING THE SAME
Isaac S. Blonder and Ben H. Tongue, West Orange, N.J., assignors to Blonder-Tongue Electronics, a corporation of New Jersey
Filed Apr. 21, 1958, Ser. No. 729,667
12 Claims. (Cl. 333—33)



1. A two-conductor transmission line comprising a pair of separate unconnected coextensive coils the turns of one of which are interleaved between the turns of the other, the coils having their axes laterally displaced from one another and having adjacent turns partially overlapping, the line having a pair of adjacent input terminals at one end of the coils and a pair of adjacent output terminals at the other end.

2,977,554
DIELECTRIC LIQUID AND APPARATUS UTILIZING SAME
Clinton D. Cook, Burlington, Vt., assignor to General Electric Company, a corporation of New York
Filed Jan. 20, 1954, Ser. No. 405,103
9 Claims. (Cl. 336—58)

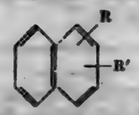


1. A transformer comprising a core piece, a primary winding on said core piece, a secondary winding on said core piece, a liquid-tight housing encasing said windings and core piece, and a liquid in said housing surrounding said windings and core piece, said liquid having a boiling point below 150° C. at a pressure of 3 mm. of mercury and consisting essentially of a compound of the structure



wherein R is selected from the group consisting of hydrogen and a methyl group and R' is a tertiary alkyl group containing from 4 to 8 carbon atoms.

9. A dielectric material having high resistance to oxidation and low pour point consisting essentially of an isomeric mixture of compounds of the structure



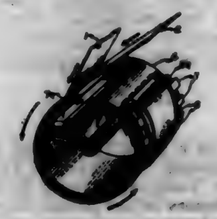
wherein R is selected from the group consisting of hydrogen and a methyl group and R' is a tertiary alkyl group containing 4 to 8 carbon atoms, said material having a boiling point below 150° C. at a pressure of 3 mm. of mercury.

2,977,555
CORE CONSTRUCTIONS
Archie R. Cornell, Avon Lake, and Burton A. Wyman, Cleveland, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 28, 1955, Ser. No. 484,742
8 Claims. (Cl. 336—165)



1. A magnetic core lamination comprising separate yoke and winding leg members cooperable so as to define a magnetic flux path, a first portion of said yoke extending transversely across one end of said winding leg, an elongated projection extending longitudinally outwardly from said one end of said winding leg, said first portion of the yoke having a notch therein adapted to receive and support said projection for movement laterally with respect to said first portion and longitudinally of said winding leg, said notch and projection being engageable over an area which is substantially reduced upon lateral movement of said winding leg away from said first portion, said notch and projection being of a length to support said winding leg upon the aforesaid lateral movement thereof to form a variable bridged air gap in said path, and said yoke member adjacent its other end having a portion engaging only the adjacent side of said winding leg member to guide the latter during its aforesaid longitudinal movement.

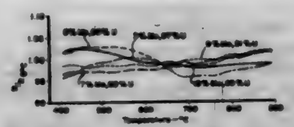
2,977,556
ELECTRICAL COIL
Willard F. M. Gray and Rene O. Moser, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Mar. 15, 1957, Ser. No. 646,313
1 Claim. (Cl. 336—185)



A foil-wound transformer coil comprising concentric layers of insulated foil means at least 30 inches wide, elongated spacer members extending at an angle to the

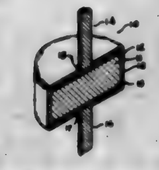
axis of the coil forming a plurality of radially spaced annular rows of ducts extending through said coil between certain layers thereof, said rows being separated by a plurality of turns of said insulated foil means, the coil having tight, wrinkle-free layers and an overbuild not substantially more than 1%.

2,977,557
TEMPERATURE INDEPENDENT URANIUM ALLOY ELECTRICAL RESISTOR
Melvin L. Bielberg, Mount Lebanon, and Eber K. Haltsman, Whitehall, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 12, 1957, Ser. No. 652,403
2 Claims. (Cl. 338—7)



1. An electrical resistor comprising, in combination, an insulated base member having applied thereto an elongated resistance member comprising an alloy composed of from 3% to 15% by weight of at least one element selected from the group consisting of molybdenum and niobium and the balance being uranium, said elongated resistance member being characterized by having, over an extremely wide temperature range, a very small change in electrical resistance.

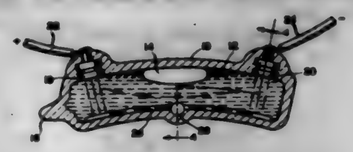
2,977,558
THERMAL RESPONSIVE RESISTANCE DEVICES
William L. Hampton, Brookfield, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 19, 1958, Ser. No. 743,102
4 Claims. (Cl. 338—22)



1. In a temperature responsive electrical resistance unit, in combination, a thermistor having two spaced apart surfaces, said thermistor having a high negative temperature coefficient of resistance, electrically conductive material adhering to both spaced apart surfaces of said thermistor, said electrically conductive material adapted to have electrical conductors electrically connected thereto, and resistance material adhering to said thermistor and to said electrically conductive material and in electrical and mechanical connection therewith, said resistance material having a relatively low temperature coefficient of resistance as compared to that of said thermistor.

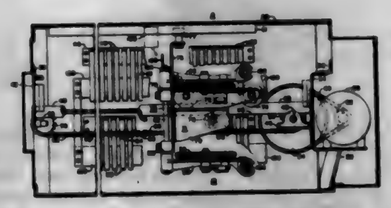
2,977,559
LOW RESISTANCE ELECTROLYTIC TILT DEVICE
Andrew M. Rosenberg, New York, N.Y., and Joseph R. Conway, River Vale, and Howard E. Schulten, Montville, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed May 29, 1959, Ser. No. 816,771
3 Claims. (Cl. 338—44)

1. In a device of a type including a sealed housing tiltable in opposite senses and to a variable extent, an electrolytic liquid partially filling said housing so as to provide a bubble in an upper surface of the liquid, said housing having an upper inner surface and a lower inner surface, a pair of spaced electrodes in the upper inner surface of the housing, each of the two electrodes having a surface area portion contactable with the electrolytic liquid for conducting a flow of electrical energy from one of the electrodes to the other of the electrodes, the bubble in the upper surface of the electrolytic liquid being normally positioned intermediate the electrodes in spaced relation thereto and movable relative thereto for selectively contacting the surface area portions of the electrodes so as to vary the contact thereof with the electrolytic liquid dependent upon the sense and extent of tilting of the housing; the improvement comprising a platinum bar in continuous contacting relation with the electrolytic liquid and extending longitudinally along the



lower inner surface of the housing so as to provide a low electrical resistance path for shunting a path of higher electrical resistance provided by the electrolytic liquid, one end of the bar being positioned in spaced relation immediately below one of said electrodes, an opposite end of said bar being positioned in spaced relation immediately below the other of said electrodes, said electrodes being spaced apart a substantially greater distance than the total spatial distance of the bar from each of said electrodes, said bar being so arranged as to provide a low resistance path for a flow of electrical energy parallel to the flow of electrical energy through said path of higher electrical resistance, said parallel flow of electrical energy being from the one electrode through the electrolytic liquid to the one end of the bar, through the bar to the other end thereof, and from said other end of the bar through the electrolytic liquid to the other of said electrodes.

2,977,560
CONTROL APPARATUS
Lester J. Hoffman, Penn Hills, and William J. Frederick, Turtle Creek, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 30, 1958, Ser. No. 783,740
4 Claims. (Cl. 338—67)



1. In a control system the combination comprising an elongated carriage supporting element, a carriage supported on said element for longitudinal movement thereon, a plurality of current carrying elements connected in series, a stationary bus bar disposed parallel to said supporting element, a plurality of resiliently mounted contact members each having a fixed portion electrically connected to one of said current carrying elements and a transversely movable portion, said transversely movable portions disposed in longitudinal alignment along

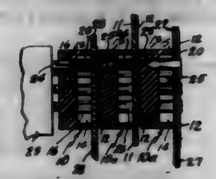
said bus bar to engage the bus bar to shunt said current carrying elements, a contact engaging means supported on said carriage element and movable therewith for successively actuating said contact members into engagement with said bus bar, means mounted on said carriage for positively disengaging said contact members from said bus bars, and longitudinally movable means connected to said carriage for effecting longitudinal movement of said carriage.

2,977,561
HERMETICALLY SEALED ELECTRICAL COMPONENT AND METHOD OF MAKING THE SAME
Henry D. Pugh, Paoli, and Willard E. Heath, Jr., Hatboro, Pa., assignors to International Resistance Company, Philadelphia, Pa.
Filed Apr. 27, 1959, Ser. No. 809,015
3 Claims. (Cl. 338—237)



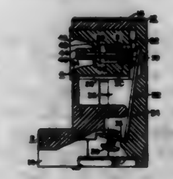
1. A hermetically sealed electrical component comprising a tubular core, a non-porous ceramic sleeve surrounding said core, a separate metal band bonded to and extending around the outer surface of said sleeve at each end of said sleeve, a separate cap fitting over each end of the sleeve, each of said caps having a base extending across the end of the sleeve and the end of the core and an annular flange surrounding at least a portion of the metal band on the outer surface of the sleeve, the base of each of said caps having a hole therethrough, a separate lead wire extending through the hole in the base of each of said caps and projecting into said core, and a separate layer of solder securing each of said caps to said sleeve, said layers of solder extending between the flange of the caps and the metal bands on the outer surface of said sleeve, between the base of the caps and the ends of the sleeve and core, a short distance between the sleeve and the core from each end of the core, and through the holes in the base of said caps and around the lead wires.

2,977,562
DIP SOLDERED PRINTED CIRCUIT SOCKETS
Norman E. Benson, Westport, Conn., assignor to The Acme Wire Company, Hamden, Conn., a corporation of Connecticut
Filed Dec. 8, 1954, Ser. No. 473,814
1 Claim. (Cl. 339—17)



In combination, an electronic device having projecting contact pins arranged in a predetermined pattern, a socket supporting panel comprising a sheet of insulating material of a thickness substantially less than the projecting length of said pins, printed or etched circuit conductors on one surface of said panel, a socket unit comprising a body of insulating material of substantially greater thickness than the thickness of said panel and located on the opposite side of said panel from the said conductors, and a series of conductor tubes fixedly secured in said body and arranged in a pattern corresponding with the arrangement of said contact pins of said electronic device, each said tube being of substantially greater length than the projecting length of said pins and having an open end projecting from said body a distance at least equal to the thickness of said panel and substantially less than the projecting length of said pins, said panel and conductors having holes corresponding in arrangement to said tubes, and said tubes having their open projecting ends inserted in said holes and soldered to said conductors and supporting said body of said socket unit against one side of said panel.

2,977,563
WIRING DEVICE
George C. Leuner, Southbury, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a corporation of Connecticut
Filed Apr. 26, 1956, Ser. No. 580,806
5 Claims. (Cl. 339—31)



2. A wiring device comprising a hollow housing, means forming a part of said housing for supporting at least one contact, at least one elongated slot extending through said supporting means from one side thereof, a generally planar, elongated contact extending through said slot for engagement with a load terminal and having an integral struck-out portion extending laterally from one side thereof and engaging an inner surface of said supporting means for limiting outward movement of said contact through said slot, a portion of said contact forming an abutment that is laterally offset from said struck-out portion, and resilient means being mounted in said housing for biasing said contact outwardly of said slot, said resilient means engaging said contact abutment normally to bias said contact pivotally about said struck-out portion to one side of said slot and toward said load terminal.

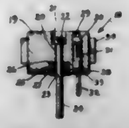
2,977,564
ELECTRIC PLUG EJECTOR
Gennaro Civitelli, 36 Bradley Ave., and Zell S. Ochia, 93 Beacon St., both of Hamden, Conn.
Filed May 19, 1958, Ser. No. 736,301
2 Claims. (Cl. 339—45)



1. A plug ejector member formed from a flat blank and having a lower upright portion adapted to be interposed between a wall socket and a double-prong electric plug and provided with slots through which the prongs may project, said member having an approximately horizontal forwardly extending portion to be located above the plug and also having an upwardly and rearwardly

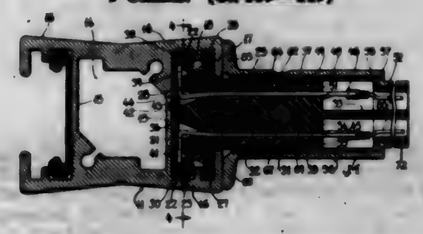
inclined portion to extend toward the wall equipped with the socket, said last two portions of the member providing an approximately angular part into which a finger can be introduced for pulling the plug out of the socket, the side edges of the upwardly inclined portion being recessed inwardly to provide a neck portion of reduced width about which a conductor cord attached to the plug may be wound, a lug projecting forwardly from the lower end of the upright portion to provide a finger rest for the user in withdrawing the plug from the socket, and said forwardly extending portion having a plug clearance opening therein.

2,977,565
TUBE SOCKET SAVER CONSTRUCTION
Erich J. Uhlig, 1123 Sycamore St., Haddon Heights, N.J.
Filed Apr. 9, 1959, Ser. No. 805,179
1 Claim. (Cl. 339—92)



A tube socket saver adapted to be assembled with an electron tube socket comprising a base member, jacks arranged in said base member in a pattern corresponding to the pattern of prongs of an electron tube, said base member having a plurality of holes in which said jacks are individually positioned, pin members integral with and extending from said jacks outwardly of said base member in the same pattern as said prongs and being insertable into the socket in lieu of said prongs on assembly of said saver with said socket, said base member being generally cylindrical in shape, a plate member for retaining the jacks in the holes and through which said pin members project, said base member having a counter-bored hole, a headed bolt whose head lies submerged in the counter-bored hole, said bolt extending through said plate member, a nut member screwable on said bolt for fixing said plate member in jack retaining position against said base member, a releasable tightening nut also screwable onto said bolt for preventing separation of the assembled saver and a tube socket during insertion into and withdrawal of prongs of said electron tube from jacks of said saver base member, an annular peripheral flange on the cylindrical surface of said base member to facilitate manipulation thereof and said flange having an orientation indicating recess thereon.

2,977,566
LIGHTING ASSEMBLY
Manfred Neumann, White Plains, N.Y., and Anthony Donato, Union City, N.J., assignors to Lightolier, Incorporated, New York, N.Y., a corporation of New York
Filed June 14, 1957, Ser. No. 665,889
9 Claims. (Cl. 339—119)



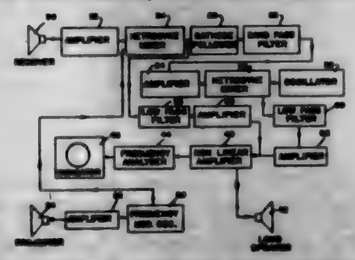
1. As an article of manufacture, a lamp mount comprising a housing having lateral locking conformations rigid therewith, a plug rotatably mounted in said housing, said plug having a nose end normally protruding from one end of said housing and having a pair of diametrically opposed locking flanges extending laterally from said plug adjacent its nose end, said locking flanges and said locking conformations coacting with each other to effect a clamping action, a pair of diametrically opposed contact fingers extending laterally outward from the nose end of the plug and aligned with and spaced from said locking flanges, and means to rotate said plug, the locking flanges and the contact fingers in unison with respect to said housing, to move said locking flanges into alignment with said locking conformations and to move said locking flanges toward said locking conformations to effect such clamping action.

2,977,567
SEPARABLE CLASP CONNECTOR
Irving Frederick Matthysse, New York, N.Y., assignor to Burndy Corporation, a corporation of New York
Original application Mar. 31, 1944, Ser. No. 528,991. Divided and this application Mar. 4, 1952, Ser. No. 274,688
2 Claims. (Cl. 339—253)



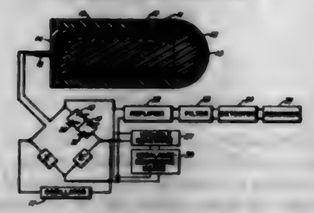
1. A clasp connector for transmitting electric current comprising main and separable interlocking body sections, means for pivoting the separable body sections on the main body section to interlocked position; means whereby the body sections may be unlocked and separated; each of said body sections having a spring contact, said body sections and spring contacts moving one upon the other during the pivoting operation, said main body section consisting of a plate section bent to form spaced-apart body sections each having spring contacts extending from the surface of the spaced-apart body sections to permit individual engagement with a plurality of separable body sections whereby a plurality of separable connections may be made with said plate section.

2,977,568
FREQUENCY-MODULATED ECHO RANGING EQUIPMENT
Arthur H. Roshon, Jr., San Diego, and Robert Lee Waldie, Coronado, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 17, 1951, Ser. No. 226,924
7 Claims. (Cl. 340—3)
(Granted under Title 35, U.S. Code (1952), sec. 266)



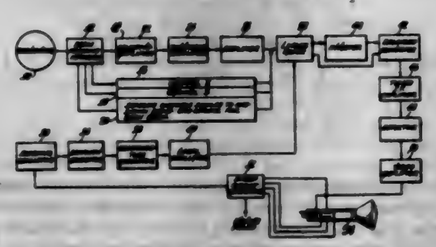
1. In a frequency modulated echo ranging system emitting a continuous radiated signal having a cyclic frequency deviation over a predetermined frequency range, means for producing a range signal having a low frequency over a first portion of the cycle and a higher frequency over a second portion of the cycle, the sum of said high and low frequencies being equal to the frequency deviation of said signal, and indicator means responsive to frequencies below a frequency corresponding to a predetermined maximum range to indicate ranges, the improvement which comprises a mixer connected to receive said range signal, an oscillator connected to said mixer and having a constant frequency equal to the frequency deviation of said radiated signal, and means for introducing the output of said mixer into said indicator, whereby said higher frequency is converted to said lower frequency and said indicator produces a continuous range indication.

2,977,569
DETECTOR WITH MODULATION BY MAGNETOSTRICTIVE-CORE ACOUSTIC TRANSDUCER
Wilbur T. Harris, Southbury, Conn., assignor to The Harris Transducer Corporation, Southbury, Conn., a corporation of Connecticut
Filed Apr. 4, 1951, Ser. No. 219,194
4 Claims. (Cl. 340—5)



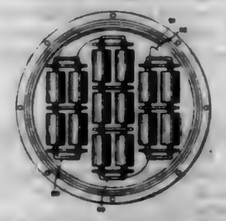
1. In a device of the character indicated, a low-frequency magnetostrictive transducer, an A.-C. bridge with said transducer connected in one arm thereof, a high-frequency source for exciting said bridge, ballast-impedance means in the bridge arm conjugate to the arm in which said transducer is connected, detector means responsive to the output of said bridge, and unbalance-responsive means responsive to the output of said bridge and including in the output thereof means for varying the reactance across one of said arms, said unbalance-responsive means having a longer time constant than said detector means, whereby said bridge may be balanced for maximum sensitivity even in the presence of changing ambient and other operating conditions.

2,977,570
ELECTRONIC COMMUTATOR FOR SONAR SYSTEMS
John S. Leigh and Linder C. Hobbs, Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 26, 1950, Ser. No. 192,326
5 Claims. (Cl. 340—6)



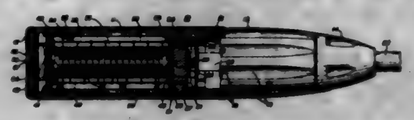
5. In combination, a scanning sonar system having a substantially omnidirectional multielement transducer, means coupled to said transducer elements to form received signals into a plurality of fixed beams, means to convert each of said beams to a different beam frequency, each of said converted beam frequencies differing from one another by a fixed amount, means to combine all said converted beam frequencies, means to generate frequency modulated oscillations, means to mix said combined converted beams and said frequency modulated oscillations, filter means coupled to said last named mixing means, said filter means being tuned to pass a frequency substantially equal to the difference between the successive frequency values of said frequency modulated oscillations and successive ones of said converted beam frequencies, and to pass equally attenuated frequencies above and below said midband frequency, said equally attenuated frequencies differing from said midband frequency by an amount equal to the difference between said converted beam frequencies, means to display the output of said filter means on a time base and means to synchronize said time base with the modulating frequency of said frequency modulated oscillations.

2,977,571
SPLIT RING ELECTROACOUSTIC TRANSDUCER
Bernard Bernstein, Silver Spring, Md., and John Chervenak, Washington, D.C. (Both of Naval Research Laboratory, Anacostia Station, Washington 25, D.C.)
Filed Mar. 26, 1953, Ser. No. 278,726
7 Claims. (Cl. 340—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



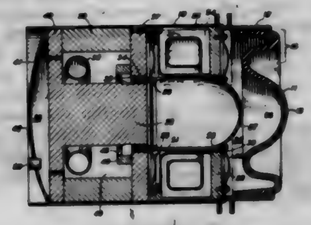
5. An electroacoustic transducer element comprising, a magnetic circuit element of magnetic material in the form of a pair of rings each split to provide two free ends with a gap between, the two split rings being joined together integrally at one free end of each, a substantially rigid motion transmitting element extending from the joined portion of the rings substantially tangentially of the rings and a current winding extending through the rings.

2,977,572
HYDROPHONE
Thomas J. Pope, East Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 12, 1951, Ser. No. 261,309
8 Claims. (Cl. 340—10)



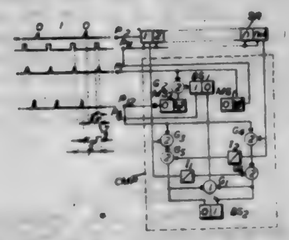
1. A hydrophone comprising a housing having an aperture therein, a resilient member closing said aperture, a diaphragm opposite and spaced from said member, a cylindrical electrostrictive transducer in said housing and coupled to said diaphragm, a cylindrical support encompassing said transducer, said diaphragm extending across one end of said support, and a tubular spring encompassed by said transducer and tensioned to urge said diaphragm against said support.

2,977,573
PRESSURE COMPENSATED UNDERWATER TRANSDUCER
Edward E. Mott, Upper Montclair, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 30, 1952, Ser. No. 328,629
15 Claims. (Cl. 340—14)



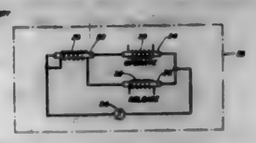
6. A low frequency submarine signaling device comprising a housing, an acoustically transparent deformable window in a wall of said housing, an electromechanical transducer including a diaphragm immersed in a signal transmitting medium in said housing, and gas filled resilient means within said housing for absorbing hydrostatic pressure transmitted through said housing window upon submersion of the device, said gas filled resilient means being positioned adjacent to and behind the diaphragm of said electromechanical transducer to absorb pressure differentials at the operating frequency of the transducer developed behind said diaphragm.

2,977,574
ELECTRICAL COMPARATOR
Willy Hortense Prosper Poulaert and Guillaume Van Mechelen, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 28, 1957, Ser. No. 636,630
Claims priority, application Netherlands Jan. 31, 1956
3 Claims. (Cl. 340—149)



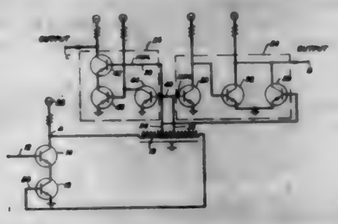
1. Electrical comparator for comparing two numbers electrically represented by means of n binary digits comprising a single digit comparator having two inputs and being able to determine whether a binary digit applied to one input from one number is greater than, or smaller than, or equal to, the binary digit of the same order of the other number applied to the other input, means for feeding pairs of information pulses sequentially into said comparator, said pairs of pulses representing pairs of digits of equal order from the two numbers, the presence or absence of an information pulse corresponding to one or the other value for the corresponding binary digit, said means comprising a pattern shift register having a number of stages equal to $n+1$, means for originally storing the digits of the first number on the first n stages of said register, means for applying advancing pulses to said register in synchronism with information pulses characterizing the binary digits representing the second number, whereby said second number is fed into said register digit-by-digit as said first number is passed digit-by-digit through the $n+1$ stage of said register, the two inputs of said comparator having gating means respectively connected with the outputs of stages of said register which are separated by $n-1$ stages, means coupling said advancing pulses to said gating means, and indicating means connected to the output of said gating means for indicating which of each pair of compared information pulses represents the greater digit or whether said digits are equal.

2,977,575
CRYOTRON CIRCUITS
David W. Hagelbarger, Morris Township, Morris County, and Edward F. Moore, Chatham, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 15, 1957, Ser. No. 640,535
10 Claims. (Cl. 340—173.1)



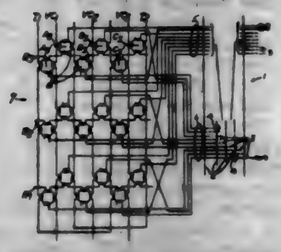
8. In combination, a plurality of circuit units each comprising two parallel branch circuits, a first cryotron having its winding connected in a first one of said branch circuits and its core connected in the second of said branch circuits, the core of a second cryotron being connected in series with the core of said first cryotron in said second branch circuit, and means including an additional cryotron core forming part of one of said two branch circuits for increasing the ratio of the impedance of said first branch circuit to that of said second branch circuit to a value which is greater than one, the cryotron components connected in said second branch circuit consisting only of cryotron cores; means for connecting said circuit units in series and means for connecting a current source to said series connected circuit units, whereby current flows through one of the two branch circuits of each of said circuit units.

2,977,576
TRANSISTOR TIMING CIRCUIT
John S. Mayo, Newark, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 13, 1956, Ser. No. 628,146
12 Claims. (Cl. 340—174)



7. In combination, a magnetic core memory matrix, a transistor having a delay loop interconnecting its collector and base electrodes, control circuit means for enabling the oscillation of said transistor between successive energized and de-energized states, transistor circuit means connected to spaced points in said delay loop for applying read signals to said core memory matrix during one state of said transistor, and additional transistor circuit means connected to spaced points in said delay loop for applying write signals to said core memory matrix during the other state of said transistor.

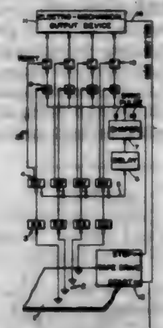
2,977,577
INTELLIGENCE STORAGE EQUIPMENT
Esmond Philip Goodwin Wright, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 5, 1957, Ser. No. 670,102
Claims priority, application Great Britain July 13, 1956
1 Claim. (Cl. 340—174)



Static electric distributor comprising a coordinate array of bistable magnetic toroids in which each cross-point comprises a plurality of bistable magnetic toroids, a plurality of horizontal control wires, there being one for each horizontal row of cross-points, each horizontal control wire being electrically coupled to each of the bistable toroids at each cross-point of its associated row, a plurality of vertical control wires, there being one for each vertical row of cross-points, each vertical control wire being electrically coupled to each of the bistable toroids at each cross-point of its associated row, a plurality of cross-point control wires, there being one for each bistable toroid at a cross-point, each cross-point control wire being coupled to corresponding bistable toroids in each vertical row of cross-points, an independent output winding in each toroid, means for energizing said horizontal control wires in succession, means for energizing said vertical control wires in succession, and means for energizing said crosspoint wires in succession, said energizing means arranged to operate so that a first plurality of control wires is successively energized during the energization of each control wire of a second plurality of control wires, and said second plurality of control wires is successively energized during the energization of each control wire of a third plurality of control wires, whereby all the toroids are successively driven from a particular bistable condition to the other.

2,977,578
CONTROLLED CIRCUITS FOR INTERIM STORAGE SYSTEMS
Howard L. Daniels, West St. Paul, and Curtis W. Fritze and Rolland R. Ritter, Arden Hills, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 29, 1957, Ser. No. 699,876
5 Claims. (Cl. 340—174.1)

2. In combination, a magnetizable tape having binary characters recorded therein as spaced, parallel rows composed of various numbers of polarized cells, a plurality of aligned, read-out heads positioned adjacent the surface of said tape, each of said heads scanning one of said cells when tape is fed therepast and producing a voltage pulse only when the magnetic level of the tape beneath it changes, a like plurality of monostable multivibrators, means for coupling each of the voltage pulses so produced to a different monostable multivibrator whereby these multivibrators are triggered to generate rectangular pulses, a like plurality of gate circuits, each of said gate circuits having one of its inputs connected to one of said multivibrators whereby said gate circuits are enabled by said rectangular pulses, a delaying circuit having a time delay less than the reset time of said multivibrators and a pulse shaper connected in series, means for feeding the rectangular pulses generated by said multivibrators to the input circuit of said delay circuit whereby the first delayed spike pulse is produced in the output circuit of said pulse shaper from the rectangular pulse of the multivibrator which is first triggered, means for coupling said spike pulse to the other input of said gate whereby said spike pulse is passed through those gates which have been previously enabled by said rectangular pulses, an electromechanical signal converting mechanism, means for selectively operating said mechanism in accordance with the permutation of the passed spike pulses, means responsive to the operation of said mechanism for producing a written pulse, means controlled by said written pulse for starting the tape feed whereby the next row of cells is scanned by said read-out heads and a second delayed spike pulse produced from the rectangular output pulse of the first multivibrator triggered as a consequence thereof, and means for stopping the tape feed if said second delayed spike pulse does not occur within a predetermined time after said first delayed spike pulse.



2,977,579
APPARATUS FOR MAGNETIC REPRODUCTION
John T. Mullin, Los Angeles, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Continuation of application Ser. No. 454,440, Sept. 7, 1954. This application Dec. 9, 1958, Ser. No. 779,254
11 Claims. (Cl. 340—174.1)

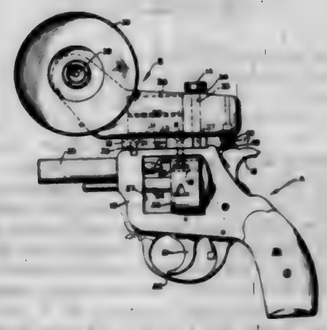


1. Reproducing apparatus for magnetically recorded signals comprising a plurality of transducer heads adapted to engage respectively a plurality of tracks on a moving magnetic recording medium, a separate signal channel connected to each of said transducer heads, two sets of interconnections between said channels, means in one set of interconnections for separating from signals developed in each of said channel portions of one polarity and selecting therefrom the portion of greatest magnitude, means in the other set of interconnections for separating from the signals developed in each channel portions of opposite polarity and selecting therefrom the portion of greatest magnitude, and means for combining the selected portions to form a single complete signal.

2,977,580
FLASH ATTACHMENT FOR STARTER'S PISTOL
Rodney F. Sprecher, 1160 Ridgeley Drive, Campbell, Calif.
Filed Aug. 18, 1958, Ser. No. 755,778
1 Claim. (Cl. 340—321)

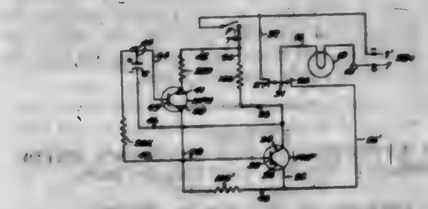
A light flashing attachment for a starter's pistol for firing a blank cartridge, such pistol having a metal frame,

and having also a trigger actuated firing hammer mounted on said frame and in electrical contact therewith; said attachment comprising an insulative casing for holding an electric battery, an electrically conductive mounting block fixedly secured to the top of the pistol frame and in electrical contact therewith, the underside of the casing and the upper side of the block being shaped for closely superposed, interfitted relation, screw means for releasably securing the casing on the block, the rear end of the casing extending rearwardly over, and spaced upwardly from, the hammer of such gun when mounted on said block, the forward end of said casing extending forwardly of said block when so mounted, a photo flash bulb socket on a side of the forward portion of said casing, an electrical flash lamp firing circuit including an electric battery mounted in said casing and comprising



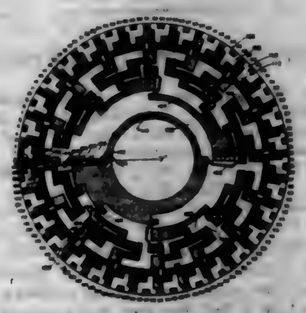
first conductor means for connecting one side of such battery to one side of said socket, second conductor means for connecting the other side of the socket to said block and thereby to the pistol frame, a contact spring mounted on the under side of said insulative battery casing above, and out of reach of the hammer of such gun when the hammer is cocked, and in the path of movement of the hammer when the latter is trigger actuated, and conductor means electrically connecting said contact spring to the other side of such battery, whereby the circuit from the battery through said socket is opened by a cocking of the pistol hammer, and is closed by a trigger actuation of said hammer, and whereby a photo flash bulb inserted in said socket with the hammer of such gun is cocked, is fired by a flow of electricity through said circuit simultaneously with the firing of a cartridge by the pistol.

2,977,581
TRANSISTORIZED LIGHT FLASHER AND TESTING CIRCUIT
George H. Rodgers, Anaheim, Calif., assignor to Marco Industries Company, Anaheim, Calif., a corporation of California
Filed Sept. 16, 1958, Ser. No. 761,428
6 Claims. (Cl. 340—331)



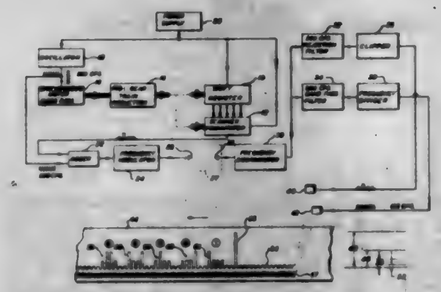
1. In a flashing indicator light apparatus for automatic fault indication, in combination: a fault switch; a lamp; a test switch including a movable contact actuated by movement of said lamp and having a constant electrical connection with one side thereof, a first fixed contact on which said movable contact is normally closed, and a second fixed contact constantly connected to one side of a voltage source, the other side of said lamp being constantly connected to the other side of said voltage source; a PNP transistor arranged with its emitter and collector connected in series with said fault switch, lamp and source, whereby its load current may energize said lamp when said fault switch is closed; an NPN transistor; connections between the emitter and collector of said NPN transistor and said fault switch, said PNP transistor and said source, providing an NPN load circuit; a direct connection between the NPN collector and the PNP base in parallel with NPN load circuit providing therewith a biasing circuit whereby the PNP transistor will be converted from a non-conducting to a conducting state by the load current from said NPN transistor when conducting; a capacitor; connections between said capacitor, said NPN transistor said fault switch and said source, providing an emitter circuit for biasing said NPN transistor from a normally non-conducting state to a conducting state; and means including a high resistance value resistor providing a weak current path from said last mentioned connections through said lamp and capacitor for charging said capacitor, with said NPN transistor being biased from a non-conducting to a conducting state as said capacitor is converted from a discharged to a charged state; the load current of said PNP transistor, when conducting, being effective to simultaneously flash said lamp and discharge said capacitor and both transistors becoming non-conducting with the discharge of the capacitor; said test switch, when closed on its said first fixed contact, completing the flashing circuit and, when manually closed on said second contact, completing a direct circuit to said source bypassing said flasher circuit, for test-lighting said lamp, said current source constituting the sole source of current for biasing said transistors.

2,977,582
ANALOG-DIGITAL CONVERTER
Lane L. Wolman, North Hollywood, Calif., assignor to General Precision, Inc., a corporation of Delaware
Filed Nov. 19, 1956, Ser. No. 623,197
18 Claims. (Cl. 340—347)



1. In an analogue-to-digital converter, a rotatable information disc having electrically insulating properties and having a plurality of electrically conductive arcuate segments arranged on the disc in concentric rows of different ordinal significance and connected to receive an energizing potential, said disc being rotatable to different angular positions representing various analogue quantities, a first plurality of auxiliary electrically conductive arcuate segments disposed on the disc in adjacent but spaced relationship to the leading edges of said directly energized segments in said rows, a second group of auxiliary electrically conductive arcuate segments disposed on the disc in adjacent but spaced relationship to the trailing edges of said directly energized segments in said rows, a first annular feed track disposed on said disc in concentric relationship to said rows and having a plurality of isolated conductive segments connected to certain ones of the auxiliary segments in said first plurality, and a second annular feed track disposed on said disc in concentric relationship to said rows and having a plurality of isolated conductive segments connected to certain ones of said auxiliary segments in said second group.

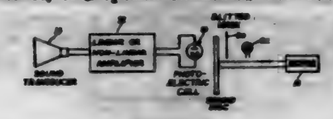
2,977,583
DIGITAL TIME ENCODER
Keith O. Timothy, Sierra Madre, and Milton L. Patrick, Anaheim, Calif., assignors, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Sept. 19, 1955, Ser. No. 534,957
2 Claims. (Cl. 340—355)



1. Time encoder apparatus for producing continuously a train of electrical timing signals having a substantially constant frequency and periodically including amplitude variations which provide a coded time identification at regularly spaced intervals, said apparatus comprising multiple position switching means, means for driving said switching means through its positions continuously in repetitive cycles and at a substantially constant predetermined rate, and means electrically coupled to said switch positions for supplying electrical energy at different voltage levels, said last named means comprising means for producing coded voltage levels at a plurality of said switch positions and means provided voltage levels distinguishable from said coded voltage levels at the other switch positions, said means for producing coded voltage levels at said plurality of switch positions comprising a plurality of electrical circuits coupled to these switch positions, said electrical circuits including a plurality of binary-coded commutator and brush combinations, shift register means for periodically changing the state of actuation of the commutator and brush combinations in accordance with a binary-coded representation of time, and means for driving the shift register in synchronism with the multiple position switching means so that changes in the state of actuation of the commutator and brush combinations occur coincident with intervals when the switching means is advancing through said other switch positions.

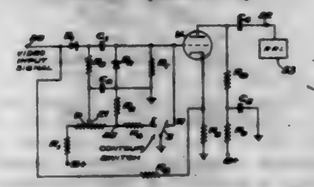
2,977,584
ENGINE NOISE GENERATOR
Vernon H. Siegel, Buffalo, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 1, 1957, Ser. No. 643,483
1 Claim. (Cl. 340—384)

In combination with a noise generator, means for reproducing a variety of sequential electrical impulses comprising a first ring having apertures therein, a hub ring concentric with said first ring and of substantially smaller diameter, said hub ring having apertures therein, said hub ring apertures being spacially aligned with said first ring apertures, and spokes connected between said first



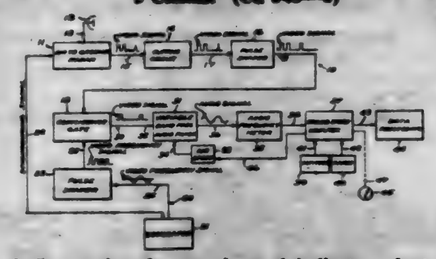
and hub rings and slidably retained in pairs of aligned apertures, said spokes when aligned in a particular arrangement and rotated, producing a patter of sequential electrical impulses which actuate the noise generator in conformance with said particular arrangement of spokes.

2,977,585
ISO-ECHO CIRCUIT
Paul M. Cunningham, Irving, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Jan. 25, 1957, Ser. No. 636,297
4 Claims. (Cl. 343—5)



1. An iso-echo circuit for weather radar comprising an electron tube having at least a cathode, a plate and a control grid, an input terminal for receiving information detected by said weather radar, an output terminal connected to the plate of the tube, an attenuating network connected between said input terminal and the cathode of said electron tube, a clipping circuit connected between said input terminal and the grid of said tube, direct-current biasing positive clipping level, and a plan-position indicator of means connected to said clipping means to adjust its said radar having the intensity of its scanning beam modulated by the output of said iso-echo circuit being connected with the output terminal of said tube.

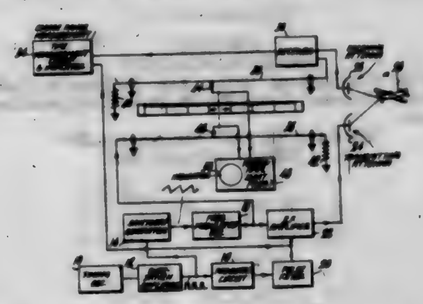
2,977,586
GROUND SPEED INDICATOR
Victor H. Seliger, Kew Gardens, N.Y., assignor to The Sperry Rand Corporation, Ford Instrument Company, Division, Long Island City, N.Y., a corporation of Delaware
Filed Mar. 26, 1957, Ser. No. 648,664
5 Claims. (Cl. 343—8)



1. In an aircraft ground speed indicator, slant range measuring means comprising a radar system, an oscillator in synchronized connection with said radar system and which is adapted to generate reference pulses to its output, a coincidence gate which is connected to receive the outputs of said radar system and said oscillator, a clip-

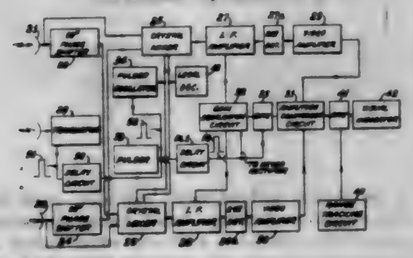
ping circuit which is connected between said radar system and said coincidence gate, a first pulse shaper which is connected between said clipping circuit and said coincidence gate, a second pulse shaper which is connected between said coincidence gate and said oscillator, and a frequency measuring means which is connected to said coincidence gate and wherein the frequency component directly related to the aircraft slant range rate is detected.

2,977,587
FREQUENCY MODULATED PULSE RADAR
Philip J. Herbst, Moorestown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 22, 1950, Ser. No. 202,211
6 Claims. (Cl. 343—12)



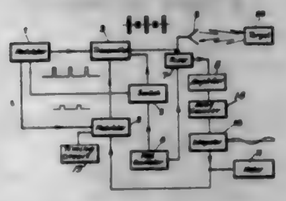
5. A distance measuring apparatus comprising a timing oscillator, a generator of radio frequency energy the frequency of which is varied under control of said oscillator, a keyer, a transmitter connected to said generator to transmit said radio frequency energy during key-on periods only and under control of said keyer, said keyer being connected in a circuit with said oscillator to key said transmitter on during submultiple frequency periods of said oscillator whereby said transmitter transmits frequency varied energy pulses, a receiver receiving the echoes of said energy pulses from echoing objects, means connected to said receiver and said oscillator to measure the time between transmission of each energy pulse and reception of the echo thereof, and frequency shift measuring means to measure the frequency shift between said echoes and the generated energy, said frequency shift measuring means including delay lines connected to receive energy from said oscillator and from said receiver.

2,977,588
RADAR SYSTEMS WITH GAIN EQUALIZATION CIRCUITS
Nathaniel I. Korman, Merchantville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 31, 1949, Ser. No. 84,628
22 Claims. (Cl. 343—16)



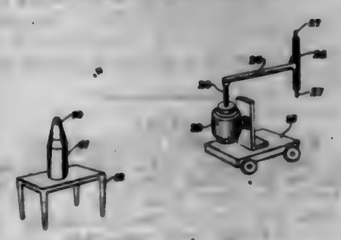
8. A device for equalizing the gain in a pair of amplifiers connected respectively to a pair of frequency mixers fed by a pair of pulsed radio energy sources and an oscillator, comprising: an amplitude comparater connected to said amplifiers, a gate connected to said comparator, a second oscillator, a pulser connected to said second oscillator and said gate, the said pulser pulsing said second oscillator and said gate between the pulses of said radio energy sources, and a gain equalization circuit connected to said gate and to said amplifiers, whereby the output of said gate is selectively applied to one of said amplifiers.

2,977,589
ELECTROMAGNETIC DETECTING AND TRACKING DEVICES
Henri Gutton, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Sept. 12, 1955, Ser. No. 533,820
Claims priority, application France Sept. 18, 1954
1 Claim. (Cl. 343—17.1)



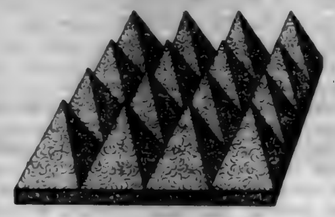
A radar system comprising: an auto-oscillator for transmitting a signal having a given frequency; means for pulse modulating said signal with a predetermined repetition frequency thereby to provide first pulses; means for pulse modulating said signal with the same repetition frequency thereby to provide second pulses and for progressively and recurrently position modulating said second pulses with respect to said first pulses; a master oscillator having a predetermined frequency; switching means for connecting, during the transmission of said first pulses, said master oscillator to said auto-oscillator for synchronizing the carrier frequency of said first pulses; means connected for radiating said first pulses, for receiving echo signals produced by the reflection of said pulses on a target and for synchronizing with their carrier frequency the carrier frequency of said second pulses; mixing means for mixing the output signals of said master oscillator and said second pulses for providing the beat therebetween; and means for filtering and integrating said beats thereby to provide a voltage proportional to the integral of the relative radial velocity with respect to said receiving means.

2,977,590
METHOD OF TESTING A PROXIMITY FUZE
Robert C. Lovick, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 12, 1953, Ser. No. 336,478
3 Claims. (Cl. 343—17.7)



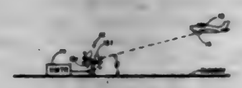
1. The method of measuring the sensitivity of the oscillator of a proximity fuze which is adapted to radiate a radio frequency wave generated by said oscillator and substantially polarized in the plane of the axis of said fuze when said fuze is electrically actuated which comprises assembling the proximity fuze in a vertical projectile shell in a location remote from vertical objects that reflect radio frequency energy, positioning the center of a vertical dipole antenna in substantially the same horizontal plane as the electrical center of the proximity fuze, electrically actuating the fuze, adjusting the length of said dipole antenna to approximately one half the wavelength of the radiated radio frequency energy, moving the dipole into said radiated wave whereby the dipole will reflect the energy radiated from said fuze and the standing wave resultant of the radiated and reflected radio frequency energy will cause the plate current of said oscillator to vary between a series of maxima and minima of increasing magnitude as the dipole approaches the fuze, and then measuring the amplitude of the fluctuations of oscillator plate current.

2,977,591
FIBROUS MICROWAVE ABSORBER
Howard A. Tanner, Dayton, Ohio
Filed Sept. 17, 1952, Ser. No. 310,149
2 Claims. (Cl. 343—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



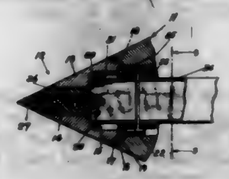
1. A structure capable of absorbing ultra high frequency radiant energy comprising a low density flexible sheet of randomly arranged non-conducting curled organic fibers which are coated with a suspension of finely divided solid conductive material in a rubber binder.

2,977,592
ELEVATION ANGLE MEASURING SYSTEM
George Bruck, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 1, 1959, Ser. No. 837,445
6 Claims. (Cl. 343—108)



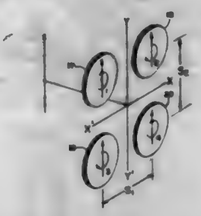
1. In a system for determining the angle between a reference plane and an imaginary line, said line being drawn in a second plane perpendicular to said reference plane from a reference point in the reference plane and through an object in space, the combination comprising: a source of radiant energy; means at said reference point for alternately radiating a beam of said energy into space for a first interval of time and for discontinuing radiation of said beam during a subsequent second interval of time at least as long as said first interval; means for repeatedly sweeping said beam from said reference plane through a predetermined angle in said second plane and back to said reference plane during said first interval; means at said object for detecting said beam as said beam impinges upon said object; and additional means at said object for measuring intervals of time no longer than said first interval between successive detections of said beam, said measured interval being a determinant of said angle between said reference plane and said imaginary line.

2,977,593
DIELECTRIC NOSE CONE ANTENNA
Orwald E. Kleanow, South Acton, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Nov. 4, 1947, Ser. No. 783,950
2 Claims. (Cl. 343—708)



1. An antenna assembly comprising: a supporting member shaped, substantially, like a frustum of a cone, and provided with communicating axial bores; a hollow wave guide, secured in one of said bores, and extending outwardly from said supporting member coaxially therewith; a dielectric radiating element, secured in another of said bores, and having a substantially conical portion extending outwardly therefrom, in a direction opposite to that of said wave guide, to form a continuous surface with the outer surface of said supporting member; and a dielectric, impedance-matching nubbin extending outwardly from said radiating element into said wave guide.

2,977,594
SPIRAL DOUBLET ANTENNA
Arthur E. Marston, 718 Putnam Place, Alexandria, Va., and Julius A. Kaiser, 10408 Detrick Ave., Kensington, Md.
Filed Aug. 14, 1958, Ser. No. 755,114
4 Claims. (Cl. 343—756)
(Granted under Title 35, U.S. Code (1952), sec. 266)

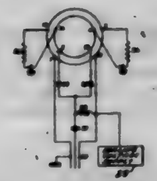


4. In combination a plurality of pairs of spiral antenna elements, one element of each pair having the opposite configuration sense from the other element of each pair, means supporting said elements in a common plane, and means for providing rotation of at least one pair of said elements in the common plane each element rotation being in direction dependency on the configuration sense thereof, and an electrical energy transmission line connected to each spiral antenna element.

2,977,595
DIRECTIONAL SLOT ANTENNA
Siegfried Zisler, Bievres, and Sigmund von Welser, Paris, France, assignors to Societe Francaise Sadir-Carpentier, Paris, France, a corporation of France
Filed July 16, 1956, Ser. No. 598,012
Claims priority, application France July 24, 1955
8 Claims. (Cl. 343—769)

1. A directional aerial comprising a sheet of metal in which a continuous slot is provided along a closed line dividing said sheet into inner and outer members, means

for feeding high frequency energy between two points on opposite sides of said slot, shorting means for connecting the two sides of the slot electrically at a distance from said first mentioned points at two further points on



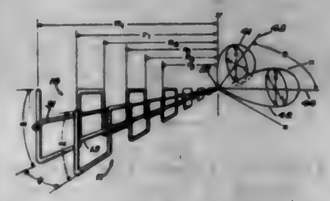
opposite sides of the slot and an empty cavity surrounding the slot on one side of the metal sheet to cut off the radiation on the corresponding side of said sheet said members being electrically connected solely by said shorting means.

2,977,596
INFLATABLE ANTENNA
Harold D. Justice, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Apr. 10, 1959, Ser. No. 805,547
12 Claims. (Cl. 343—872)



1. An inflatable antenna comprising a first flexible dish-shaped member having a metallic surface thereon, a second dish-shaped member, means for sealing the perimeters of said dish-shaped members together with the concave portions thereof facing each other, and webbing means for connecting together the inner surfaces of said dish-shaped members to form a predetermined channel system with the inner surfaces of said dish-shaped members and the webbing forming the walls of the channel system, and means for passing air through said predetermined channel system including pressure valve means for maintaining a desired pressure within said inflatable antenna.

2,977,597
FREQUENCY INDEPENDENT SPLIT BEAM ANTENNA
Raymond H. Du Hamel and Fred R. Ore, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Apr. 6, 1959, Ser. No. 804,356
11 Claims. (Cl. 343—908)



1. A split-beam logarithmically periodic antenna comprising two half-portions, each half portion being generally triangular in shape and having apexes positioned adjacent to each other but electrically separated, and angle α defining the lateral boundaries of each half-portion, with the apex of the angle being the apex of a respective half-portion, a central-conducting member included along each half-portion from its apex, a plurality of conducting teeth formed in each half-portion, with said teeth extending laterally from the central conducting member, said teeth having inner and outer sides, with said teeth being positioned alternately on opposite sides of said central-conducting member, the radial distances from the apex of the inner sides of adjacent teeth on one side of said central-conducting member having a geometric sequence ratio of τ, the ratio of the radial distances from the apex of inner to outer sides of a given tooth being σ, transmission line means having opposite sides connected to the respective apexes, and the half-portions positioned with one being the image of the other with respect to an imaginary mirror plane located midway between the two half-portions.

DESIGNS

MARCH 28, 1961

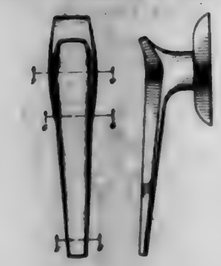
189,960
HAT OR THE LIKE
Elizabeth A. Bisinger, 376 17th Ave., San Francisco, Calif.
Filed Dec. 23, 1959, Ser. No. 58,781
Term of patent 14 years
(Cl. D3—13)



189,961
COMBINED TOILET SEAT COVER AND CHILD'S TOILET SEAT
Fred C. Straus, 19506 Ashton, Detroit, Mich.
Filed Feb. 29, 1960, Ser. No. 59,562
Term of patent 14 years
(Cl. D4—5)



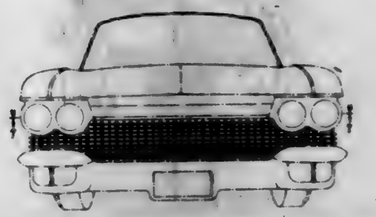
189,962
LEVER HANDLE UNIT
Leo J. Maffei, New Britain, Conn., assignor to The American Hardware Corporation, New Britain, Conn., a corporation of Connecticut
Filed July 14, 1959, Ser. No. 56,783
Term of patent 14 years
(Cl. D10—8)



189,963
HOUSING FOR WINDOW DRIVE OPERATOR
Lyle L. Sodeman, Clinton, Iowa, assignor to Curtis Companies Incorporated, Clinton, Iowa, a corporation of Iowa
Filed Mar. 7, 1960, Ser. No. 59,627
Term of patent 14 years
(Cl. D10—10)



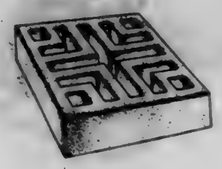
189,964
AUTOMOBILE
David R. Holls, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 25, 1959, Ser. No. 54,735
Term of patent 7 years
(Cl. D14—18)



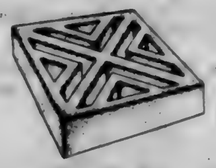
189,965
SAFETY CLASP
Julius Harris, 434 N. Kenmore Ave., Los Angeles, Calif.
Filed Sept. 9, 1960, Ser. No. 62,081
Term of patent 14 years
(Cl. D17—3)



189,966
BUILDING BLOCK
John Keogh, 411 W. Garfield Ave., Glendale, Calif.
Filed Mar. 8, 1960, Ser. No. 59,676
Term of patent 14 years
(Cl. D18—2)



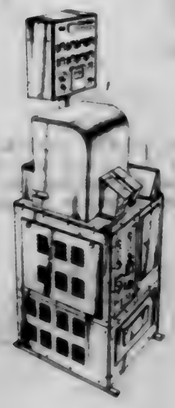
189,967
BUILDING BLOCK
John Keogh, 411 W. Garfield Ave., Glendale, Calif.
Filed Mar. 8, 1960, Ser. No. 59,677
Term of patent 14 years
(Cl. D18—2)



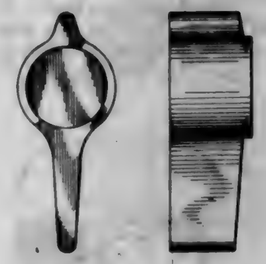
189,968
MUSIC INSTRUCTION TOY
William M. Jenkins, 321 E. 43rd St., New York, N.Y.
Filed July 20, 1959, Ser. No. 56,843
Term of patent 7 years
(Cl. D25—1)



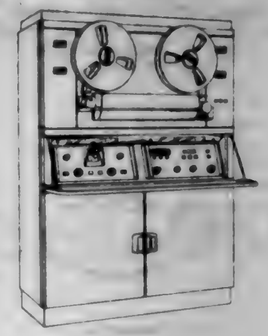
189,969
AUTOMATIC SORTING MACHINE FOR GERMANIUM DIODES OR SIMILAR ARTICLE
Yoshio Ohtake, Mitaka, Tokyo, Japan, assignor to Tokyo Seimitsu Kogu Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Oct. 2, 1959, Ser. No. 57,770
Term of patent 14 years
(Cl. D26—5)



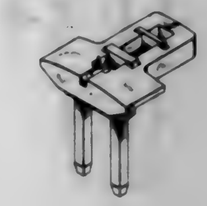
189,970
KNOB
Raymond James Prohaska, New York, N.Y., assignor to Electronic Instrument Company, Inc., Long Island City, N.Y.
Filed Feb. 26, 1960, Ser. No. 59,530
Term of patent 7 years
(Cl. D26—13)



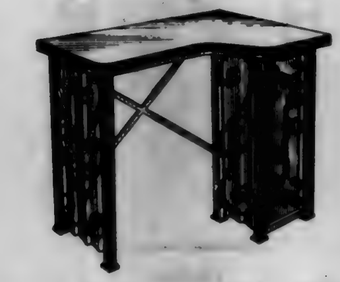
189,971
COMBINED TELEVISION MAGNETIC TAPE RECORDER AND REPRODUCER
Paul Tarvodaychik, Sunnyvale, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 21, 1960, Ser. No. 61,459
Term of patent 14 years
(Cl. D26—14)



189,972
PHONOGRAPH STYLUS UNIT OR SIMILAR ARTICLE
Peter E. Pritchard, Skaneateles, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 2, 1960, Ser. No. 60,390
Term of patent 14 years
(Cl. D26—14)



189,973
TELEPHONE TABLE
James F. Antonio, 826 S. Osage St., and Floyd L. Antonio, 2250 W. Kentucky Ave., both of Denver, Colo.
Filed Sept. 10, 1959, Ser. No. 57,500
Term of patent 14 years
(Cl. D33—14)



189,974
TOY DOG
Hattie E. Kelly, 1008 S. Adams St., Fort Worth, Tex.
Filed Apr. 9, 1958, Ser. No. 50,399
Term of patent 14 years
(Cl. D34—2)



189,975
DICE SPINNER
Saul Robbins, 35 Mountain Way, West Orange, N.J., and Isaac Heller, 2080 Arrowwood Drive, Scotch Plains, N.J.
Filed June 23, 1960, Ser. No. 61,089
Term of patent 14 years
(Cl. D34—5)



189,976
RETURN TOP
Wayne E. Lundberg, Milwaukee, Wis., assignor to Donald F. Duncan, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 13, 1959, Ser. No. 57,166
Term of patent 7 years
(Cl. D34—15)



189,977
PLANTER
Jack Duane Forsberg, 1848 Roseland, East Lansing, Mich.
Filed Sept. 26, 1957, Ser. No. 47,881
Term of patent 14 years
(Cl. D35—3)



189,978
ROTARY MOWER HOUSING
James F. Gadbois, Minneapolis, Minn., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 16, 1958, Ser. No. 53,004
Term of patent 14 years
(Cl. D40—1)



189,979
TRAY
Arthur W. Meagel, Louisville, Ky., assignor to Anaconda Aluminum Company, Louisville, Ky., a corporation of Kentucky
Filed Jan. 11, 1960, Ser. No. 58,998
Term of patent 14 years
(Cl. D44—10)



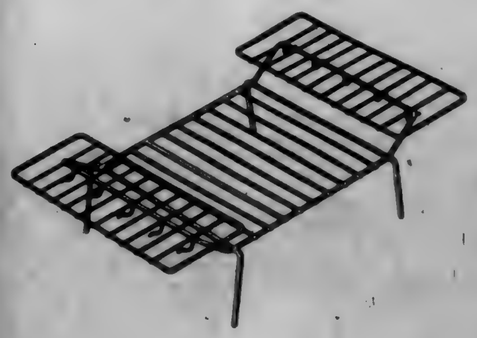
189,980
TRAY OR SIMILAR ARTICLE
Leslie M. Link, 710 Brook St., Bryn Mawr, Pa.
Filed May 3, 1960, Ser. No. 60,443
Term of patent 14 years
(Cl. D44—10)



189,981
COFFEE MAKER OR SIMILAR ARTICLE
Robert O. Ernest, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 17, 1960, Ser. No. 61,789
Term of patent 14 years
(Cl. D44—26)



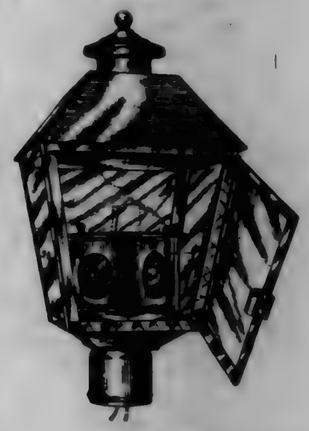
189,982
STORAGE RACK
Kurt E. Christoffersen, Gales Ferry, Conn., assignor to Artistic Wire Products Co. of Conn., Incorporated, Norwich, Conn., a corporation of Connecticut
Filed Nov. 1, 1960, Ser. No. 62,690
Term of patent 14 years
(Cl. D44—29)



189,983
HANDLE FOR PERCOLATORS AND OTHER UTENSILS
Richard F. Krause, Massillon, Ohio, assignor to The Enterprise Aluminum Company, Massillon, Ohio, a corporation of Ohio
Filed Oct. 7, 1960, Ser. No. 62,417
Term of patent 7 years
(Cl. D44—29)



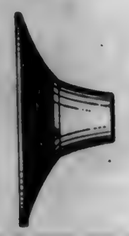
189,984
COMBINED LAMP AND ROTARY BEACON
Leo R. Slaton, Chicago, Ill., assignor to Swiss Harmony, Inc., Chicago, Ill., a corporation of Illinois
Filed May 11, 1959, Ser. No. 55,858
Term of patent 7 years
(Cl. D48—24)



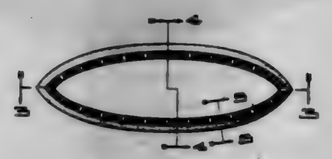
189,985
TAILLIGHT UNIT FOR AUTOMOBILES OR THE LIKE
George W. Walker, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,348
Term of patent 7 years
(Cl. D48—32)



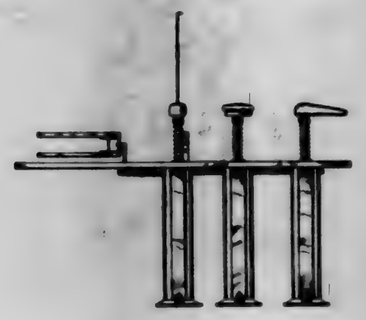
189,986
LAMP LENS UNIT FOR AUTOMOBILES OR THE LIKE
George W. Walker, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,350
Term of patent 7 years
(Cl. D48—32)



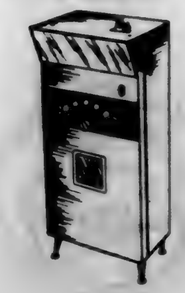
189,987
AUTOMOBILE LAMP LENS HOUSING
Richard G. Macadam, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 23, 1960, Ser. No. 60,681
Term of patent 7 years
(Cl. D48—32)



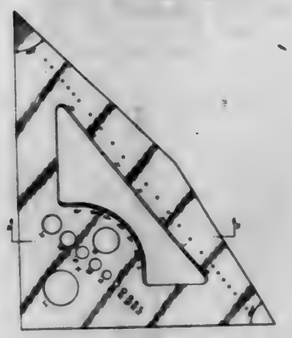
189,988
FINISHING MACHINE FOR LAUNDRY OR THE LIKE
David A. Freeman, 1600 Foster St., Evanston, Ill.
Filed Mar. 21, 1960, Ser. No. 59,809
Term of patent 14 years
(Cl. D49—1)



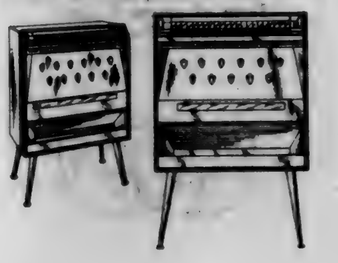
189,989
BEVERAGE VENDING MACHINE
Holy Mortara, Chicago, Ill., assignor to Cole Products Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 21, 1960, Ser. No. 59,134
Term of patent 7 years
(Cl. D52—3)



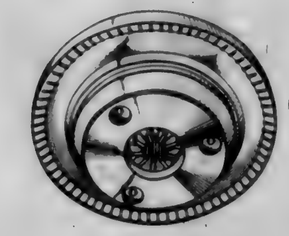
189,990
DRAFTSMAN'S INSTRUMENT
Carl R. Wern, 13725 Dexter, Apt. 219, Detroit, Mich.
Filed Mar. 18, 1960, Ser. No. 59,784
Term of patent 14 years
(Cl. D52—6)



189,991
CIGARETTE VENDING MACHINE CABINET
Mahlon W. Kenney, 1010 Forest Ave., Oak Park, Ill., and Carl W. Sundberg, 360 Martell Drive, Bloomfield Hills, Mich.
Filed Aug. 17, 1959, Ser. No. 57,201
Term of patent 14 years
(Cl. D52—3)



189,992
LATHE CHUCK
Raymond A. Smith, Bradfordwoods, and Ernst Budke III, Pittsburgh, Pa., assignors to The Jacobs Manufacturing Company, West Hartford, Conn., a corporation of New Jersey
Filed Jan. 5, 1960, Ser. No. 58,928
Term of patent 14 years
(Cl. D54—6)



189,993
STRINGED MUSICAL INSTRUMENT
Verlan L. Downing, 15011 SE. 51st, Bellevue, Wash.
Filed Aug. 8, 1960, Ser. No. 61,667
Term of patent 7 years
(Cl. D56—1)



189,994
SPECTACLE CASE
Erna Spielberg, 41 Union Square, New York, N.Y.
Filed June 24, 1959, Ser. No. 56,522
Term of patent 7 years
(Cl. D57—1)



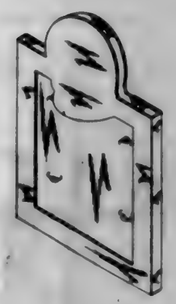
189,995
BASKET FOR BERRIES OR THE LIKE
Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California
Filed July 18, 1958, Ser. No. 51,835
Term of patent 14 years
(Cl. D58—4)



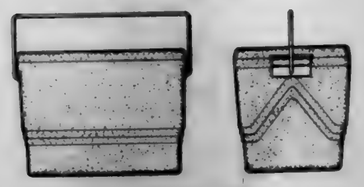
189,996
BOTTLE
Hans G. Stenger, Lambertville, Mich., and William E. Fillmore, Toledo, Ohio, assignors to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed July 19, 1960, Ser. No. 61,420
Term of patent 14 years
(Cl. D58—8)



189,997
DISPLAY CARTON FOR A CHILD'S WEARING APPAREL OR THE LIKE
Victor Shalom, 236 5th Ave., New York, N.Y.
Filed Mar. 17, 1959, Ser. No. 55,028
Term of patent 14 years
(Cl. D58—12)



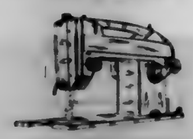
189,998
INSULATED ICE CHEST
Marten Gottsegen, Chicago, Ill., assignor to Gotham Industries, Inc., Chicago, Ill., a corporation of New York
Filed Oct. 24, 1960, Ser. No. 62,598
Term of patent 14 years
(Cl. D58—17)



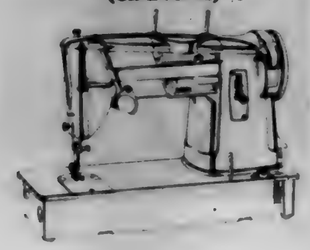
189,999
TYPEWRITER
Charles J. Jaworski and Edward J. Johnson, Hartford, Conn., assignors to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York
Filed Sept. 6, 1960, Ser. No. 62,032
Term of patent 14 years
(Cl. D64—11)



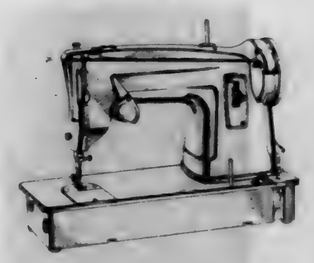
190,000
SEWING MACHINE
Richard H. Arbib, New York, N.Y., assignor to White Sewing Machine Corporation, Lakewood, Ohio, a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 57,701
Term of patent 14 years
(Cl. D70—1)



190,001
SEWING MACHINE
Malcolm S. Park, Verplanck Point, N.Y., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Dec. 27, 1960, Ser. No. 63,343
Term of patent 14 years
(Cl. D70—1)



190,002
SEWING MACHINE
Malcolm S. Park, Verplanck Point, N.Y., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Dec. 27, 1960, Ser. No. 63,434
Term of patent 14 years
(Cl. D70—1)



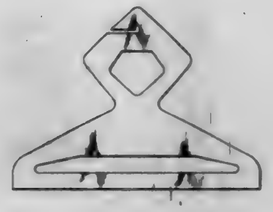
190,003
CARGO AIRPLANE OR THE LIKE
Lincoln B. Wiley, Hawthorne, Calif., assignor to Doak Aircraft Co., Inc., Torrance, Calif., a corporation of California
Filed Apr. 13, 1959, Ser. No. 55,482
Term of patent 14 years
(Cl. D71—1)



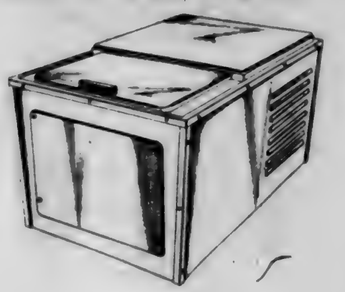
190,004
AIRCRAFT OR THE LIKE
Edmond R. Doak, Los Angeles, Calif., assignor to Doak Aircraft Co., Inc., Torrance, Calif., a corporation of California
Filed May 25, 1959, Ser. No. 56,056
Term of patent 14 years
(Cl. D71—1)



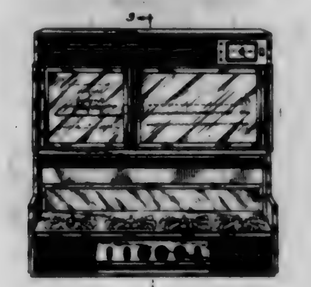
190,005
CLOTHES HANGER
Leslie Frank Humphrey, Maidstone, and Douglas Leonville Warwick, Tunbridge Wells, England, assignors to Albert E. Reed & Co. Ltd., London, England, a company of Great Britain
Filed July 12, 1960, Ser. No. 61,369
Claims priority, application Great Britain Feb. 4, 1960
Term of patent 14 years
(Cl. D90—8)



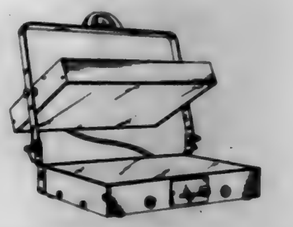
190,006
REFRIGERATED MERCHANDISING CASE FOR DISPENSING FROZEN FOOD
Christian K. Nelson, Henrico County, Va., assignor to Eskimo Pie Corporation, Richmond, Va., a corporation of Delaware
Filed Sept. 28, 1959, Ser. No. 57,712
Term of patent 14 years
(Cl. D80—11)



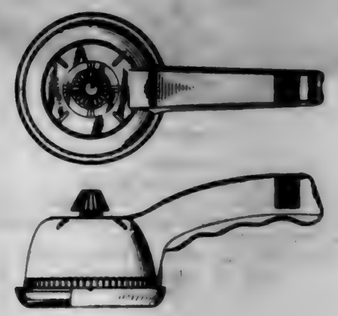
190,007
COOKING RANGE
George E. Small, Kankakee, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed June 3, 1960, Ser. No. 60,835
Term of patent 14 years
(Cl. D81—4)



190,008
TOASTER
John J. Rioux, Woodcliff Lake, N.J., assignor to Jet-Heet, Inc., Englewood, N.J., a corporation of New York
Filed June 3, 1959, Ser. No. 56,196
Term of patent 14 years
(Cl. D81—10)



190,009
COMBINED MASSAGER AND INFRA-RED HEAT LAMP
Wallace L. Minto, 525 River Vale Road, Westwood, N.J.
Filed May 12, 1959, Ser. No. 55,878
Term of patent 14 years
(Cl. D83—5)



190,010
ASH TRAY
Calder B. Willingham, Sr., P.O. Box 102, Rome, Ga.
Filed Sept. 30, 1960, Ser. No. 62,322
Term of patent 14 years
(Cl. D45—2)



190,011
LUGGAGE CARRIER AND SADDLE BASKETS UNIT FOR A BICYCLE OR THE LIKE
Ruben L. Pawsat, P.O. Box 619, Maysville, Ky.
Filed Nov. 2, 1959, Ser. No. 58,146
Term of patent 14 years
(Cl. D90—3)



190,012
TRUCK TIRE
Otto J. Wolfer, Park Ridge, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Nov. 3, 1958, Ser. No. 53,255
Term of patent 14 years
(Cl. D90—20)



190,013
FLOCKED TEXTILE FABRIC
Natalie Leavy, 46 Anderson Drive, Clifton, N.J.
Filed Feb. 26, 1960, Ser. No. 59,542
Term of patent 14 years
(Cl. D92—1)



190,014
FLOCKED TEXTILE FABRIC
Natalie Leavy, Clifton, N.J., assignor to Decorative Fabrics Company Incorporated, Pawtucket, R.I., a corporation of Rhode Island
Filed Aug. 18, 1960, Ser. No. 61,820
Term of patent 14 years
(Cl. D92—1)



190,015
FLOCKED TEXTILE FABRIC
Natalie Leavy, Clifton, N.J., assignor to Decorative Fabrics Company Incorporated, Pawtucket, R.I., a corporation of Rhode Island
Filed Aug. 18, 1960, Ser. No. 61,821
Term of patent 14 years
(Cl. D92—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

American-Marietta Co.: *See*—
Church, Howard. Re. 24,954.
Campbell, Edwin P. Grass catcher for rotary mowers. Re. 24,955, 3–28–61, Cl. 56—202.
Church, Howard, to American-Marietta Co. Apparatus for filtering solids from gas-solids suspensions. Re. 24,954, 3–28–61, Cl. 183—61.
Connecticut Hard Rubber Co.: *See*—
Homeyer, Henry N., and McCarthy. Re. 24,958.
Cunningham, Arthur R., to Cunningham & Sons. Adjustable drag for tedder. Re. 24,957, 3–28–61, Cl. 56—370.
Cunningham & Sons: *See*—
Cunningham, Arthur R. Re. 24,957.
Ehmann, Leslie G., to Hyster Co. Lift truck with single telescopic mast. Re. 24,958, 3–28–61, Cl. 214—674.
Homeyer, Henry N., and J. J. McCarthy, to Connecticut Hard Rubber Co. Chemically resistant pressure-sensitive adhesive tape and method of making the same. Re. 24,958, 3–28–61, Cl. 117—122.
Hyster Co.: *See*—
Ehmann, Leslie G. Re. 24,958.
Johnson, Wayne R., to Minnesota Mining and Mfg. Co. Magnetic-tape drop-out compensator. Re. 24,956, 3–28–61, Cl. 178—6.6.
McCarthy, John J.: *See*—
Homeyer, Henry N., and McCarthy. Re. 24,958.
Minnesota Mining and Mfg. Co.: *See*—
Johnson, Wayne R. Re. 24,956.
Trubinski, Edward J. Compartmented dump truck. Re. 24,959, 3–28–61, Cl. 214—518.

LIST OF PLANT PATENTEES

Boerner, Eugene S., to Jackson & Perkins Co. Rose plant. 2,039, 3–28–61, Cl. 47—61.

Jackson & Perkins Co.: *See*—
Boerner, Eugene S. 2,039.

LIST OF DESIGN PATENTEES

Allied Plastics Co.: *See*—
Crane, Walton B. 189,995.
American Hardware Corp., The: *See*—
Maffei, Leo J. 189,962.
Ampex Corp.: *See*—
Tarrodaychik, Paul. 189,971.
Anaconda Aluminum Co.: *See*—
Mengel, Arthur W. 189,979.
Antonia, Floyd L.: *See*—
Antonio, James F. and F. L. 189,973.
Antonio, James F. and F. L. Telephone table. 189,973, 3–28–61, Cl. D33—14.
Arbib, Richard H., to White Sewing Machine Corp. Sewing machine. 190,000, 3–28–61, Cl. D70—1.
Artistic Wire Products Co. of Conn., Inc.: *See*—
Christoffersen, Kurt E. 189,982.
Bissinger, Elizabeth A. Hat or the like. 189,960, 3–28–61, Cl. D3—13.
Budke, Ernst, III: *See*—
Smith, Raymond A., and Budke. 189,992.
Christoffersen, Kurt E., to Artistic Wire Products Co. of Conn., Inc. Storage rack. 189,982, 3–28–61, Cl. D44—29.
Chrysler Corp.: *See*—
Macadam, Richard G. 189,987.
Cole Products Corp.: *See*—
Mortara, Holy. 189,989.
Crane, Walton B., to Allied Plastics Co. Basket for berries or the like. 189,995, 3–28–61, Cl. D58—4.
Curtis Companies Inc.: *See*—
Sodeman, Lyle L. 189,963.
Decorative Fabrics Co. Inc.: *See*—
Leavy, Natalie. 190,014.
Leavy, Natalie. 190,015.
Doak Aircraft Co., Inc.: *See*—
Wiley, Lincoln B. 190,003.
Doak, Edmond R. 190,004.
Doak, Edmond R., to Doak Aircraft Co., Inc. Aircraft or the like. 190,004, 3–28–61, Cl. D71—1.
Downing, Verlan L. Stringed musical instrument. 189,993, 3–28–61, Cl. D56—1.
Duncan, Donald F., Inc.: *See*—
Lundberg, Wayne E. 189,976.
Electronic Instrument Co., Inc.: *See*—
Prohaska, Raymond J. 189,970.
Enterprise Aluminum Co., The: *See*—
Krause, Richard F. 189,983.
Ernest, Robert O., to Sunbeam Corp. Coffee maker or similar article. 189,981, 3–28–61, Cl. D44—26.
Eskimo Pie Corp.: *See*—
Nelson, Christian K. 190,006.
Fillmore, William E.: *See*—
Stenger, Hans G., and Fillmore. 189,996.
Ford Motor Co.: *See*—
Walker, George W. 189,985.
Walker, George W. 189,986.
Forsberg, Jack D. Planter. 189,977, 3–28–61, Cl. D35—3.
Freeman, David A. Finishing machine for laundry or the like. 189,988, 3–28–61, Cl. D49—1.
Gadbois, James F., to Toro Mfg. Corp. Rotary mower housing. 189,978, 3–28–61, Cl. D40—1.
General Electric Co.: *See*—
Pritchard, Peter E. 189,972.
General Motors Corp.: *See*—
Holls, David R. 189,964.
Gotham Industries, Inc.: *See*—
Gottsegen, Marten. 189,998.
Gottsegen, Marten, to Gotham Industries, Inc. Insulated ice chest. 189,998, 3–28–61, Cl. D58—17.
Harris, Julius. Safety clasp. 189,965, 3–28–61, Cl. D17—3.
Heller, Isaac: *See*—
Robbins, Saul, and Heller. 189,975.
Holls, David R., to General Motors Corp. Automobile. 189,964, 3–28–61, Cl. D14—18.
Humphrey, Leslie F., and D. L. Warwick, to Albert E. Reed & Co. Ltd. Clothes hanger. 190,005, 3–28–61, Cl. D80—8.
Jacobs Mfg. Co., The: *See*—
Smith, Raymond A., and Budke. 189,992.
Jaworski, Charles J., and E. J. Johnson, to Royal McBee Corp. Typewriter. 189,999, 3–28–61, Cl. D64—11.
Jenkins, William M. Music instruction toy. 189,968, 3–28–61, Cl. D25—1.
Jet-Heet, Inc.: *See*—
Rioux, John J. 190,008.
Johnson, Edward J.: *See*—
Jaworski, Charles J., and Johnson. 189,999.
Kelly, Hattie E. Toy dog. 189,974, 3–28–61, Cl. D34—2.
Kenney, Mahlon W., and C. W. Sundberg. Cigarette vending machine cabinet. 189,991, 3–28–61, Cl. D52—3.
Keogh, John. Building block. 189,966, 3–28–61, Cl. D18—2.
Keogh, John. Building block. 189,967, 3–28–61, Cl. D18—2.
Krause, Richard F., to The Enterprise Aluminum Co. Handle for percolators and other utensils. 189,983, 3–28–61, Cl. D44—29.
Leavy, Natalie. Flocked textile fabric. 190,013, 3–28–61, Cl. D92—1.
Leavy, Natalie, to Decorative Fabrics Co. Inc. Flocked textile fabric. 190,014, 3–28–61, Cl. D92—1.
Leavy, Natalie, to Decorative Fabrics Co. Inc. Flocked textile fabric. 190,015, 3–28–61, Cl. D92—1.
Link, Lottie M. Tray or similar article. 189,980, 3–28–61, Cl. D44—10.
Lundberg, Wayne E., to Donald F. Duncan, Inc. Return top. 189,976, 3–28–61, Cl. D34—15.
Macadam, Richard G., to Chrysler Corp. Automobile lamp lens housing. 189,987, 3–28–61, Cl. D48—32.
Maffei, Leo J., to The American Hardware Copr. Lever handle unit. 189,962, 3–28–61, Cl. D10—6.
Mengel, Arthur W., to Anaconda Aluminum Co. Tray. 189,979, 3–28–61, Cl. D44—10.
Minto, Wallace L. Combined massager and infra-red heat lamp. 190,009, 3–28–61, Cl. D83—5.
Mortara, Holy, to Cole Products Corp. Beverage vending machine. 189,989, 3–28–61, Cl. D52—3.
Nelson, Christian K., to Eskimo Pie Corp. Refrigerated merchandising case for dispensing frozen food. 190,006, 3–28–61, Cl. D80—11.
Ohtake, Yoshio, to Tokyo Seimitsu Kogu Kabushiki Kaisha. Automatic sorting machine for germanium diodes or similar article. 189,969, 3–28–61, Cl. D26—3.
Owens-Illinois Glass Co.: *See*—
Stenger, Hans G., and Fillmore. 189,996.
Park, Malcolm S., to The Singer Mfg. Co. Sewing machine. 190,001, 3–28–61, Cl. D70—1.

Park, Malcolm S., to The Singer Mfg. Co. Sewing machine. 190,002, 3–28–61, Cl. D70—1.
Pawsat, Ruben L. Luggage carrier and saddle baskets units for a bicycle or the like. 190,011, 3–28–61, Cl. D90—3.
Pritchard, Peter E., to General Electric Co. Phonograph stylus unit or similar article. 189,972, 3–28–61, Cl. D26—14.
Prohaska, Raymond J., to Electronic Instrument Co. Inc. Knob. 189,970, 3–28–61, Cl. D26—13.
Pure Oil Co., The: *See*—
Wolfer, Otto J. 190,012.
Reed, Albert E., & Co. Ltd.: *See*—
Humphrey, Leslie F., and Warwick. 190,005.
Rioux, John J., to Jet-Heet, Inc. Toaster. 190,008, 3–28–61, Cl. D81—10.
Robbins, Saul, and I. Heller. Dice spinner. 189,975, 3–28–61, Cl. D34—5.
Royal McBee Corp.: *See*—
Jaworski, Charles J., and Johnson. 189,999.
Sears, Roebuck and Co.: *See*—
Small, George E. 190,007.
Shalom, Victor. Display carton for a child's wearing apparel or the like. 189,997, 3–28–61, Cl. D58—12.
Singer Mfg. Co., The: *See*—
Park, Malcolm S. 190,001.
Park, Malcolm S. 190,002.
Slaton, Leo R., to Swiss Harmony, Inc. Combined lamp and rotary beacon. 189,984, 3–28–61, Cl. D48—24.
Small, George E., to Sears, Roebuck and Co. Cooking range. 190,007, 3–28–61, Cl. D81—4.
Smith, Raymond A., and E. Budke, III, to The Jacobs Mfg. Co. Lathe chuck. 189,992, 3–28–61, Cl. D54—6.
Sodeman, Lyle L., to Curtis Companies Inc. Housing for window drive operator. 189,963, 3–28–61, Cl. D10—10.
Spielberg, Erna. Spectacle case. 189,994, 3–28–61, Cl. D57—1.
Stenger, Hans G., and W. E. Fillmore, to Owens-Illinois Glass Co. Bottle. 189,996, 3–28–61, Cl. D58—8.
Stram, Fred C. Combined toilet seat cover and child's toilet seat. 189,961, 3–28–61, Cl. D4—5.
Sunbeam Corp.: *See*—
Ernest, Robert O. 189,961.
Sundberg, Carl W.: *See*—
Kenney, Mahlon W., and Sundberg. 189,991.
Swiss Harmony, Inc.: *See*—
Slaton, Leo R. 189,984.
Tarrodaychik, Paul, to Ampex Corp. Combined television magnetic tape recorder and reproducer. 189,971, 3–28–61, Cl. D26—14.
Tokyo Seimitsu Kogu Kabushiki Kaisha: *See*—
Ohtake, Yoshio. 189,969.
Toro Mfg. Corp.: *See*—
Gadbois, James F. 189,978.
Walker, George W., to Ford Motor Co. Taillight unit for automobiles or the like. 189,985, 3–28–61, Cl. D48—32.
Walker, George W., to Ford Motor Co. Lamp lens unit for automobiles or the like. 189,986, 3–28–61, Cl. D48—32.
Warwick, Douglas L.: *See*—
Humphrey, Leslie F., and Warwick. 190,005.
Wern, Carl H. Draftman's instrument. 189,990, 3–28–61, Cl. D52—6.
White Sewing Machine Corp.: *See*—
Arbib, Richard H. 190,000.
Wiley, Lincoln B., to Doak Aircraft Co., Inc. Cargo airplane or the like. 190,003, 3–28–61, Cl. D71—1.
Willingham, Calder B., Sr. Ash tray. 190,010, 3–28–61, Cl. D85—2.
Wolfer, Otto J., to The Pure Oil Co. Truck tire. 190,012, 3–28–61, Cl. D90—20.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF MARCH, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Carlson, Harold A. 2,977,100.
Carlson, Harold A. 2,977,101.
Roux, Arthur L., and Zeh. 2,977,102.
A.E.I.-John Thompson Nuclear Energy Co. Ltd.: *See*—
Roberts, Henry. 2,977,085.
AMP Inc.: *See*—
Busler, Willard L. 2,976,608.
A.P.E. Applicazione Processi Elettrochimici S.p.A.: *See*—
Maiuta, Aule, and Cassle. 2,977,213.
Abbott, Andrew D.: *See*—
Ferm, Richard L., and Abbott. 2,977,304.
Abbott, Andrew D., to California Research Corp. Lubricating oil composition. 2,977,305, 3–28–61, Cl. 252—32.7.
Abbott, Andrew D., to California Research Corp. Lubricant composition. 2,977,306, 3–28–61, Cl. 252—32.7.
Abbott, Andrew D., to California Research Corp. Lubricating oil composition. 2,977,307, 3–28–61, Cl. 252—32.7.
Accurate Bushing Co.: *See*—
Geles, Richard J. 2,977,163.
Ackermann, Frans, and A. R. Siegrist, to Ciba Ltd. Process for the optical brightening of materials of polyacrylonitrile or polyvinyl chloride. 2,977,319, 3–28–61, Cl. 252—301.2.
Acme Industries, Inc.: *See*—
Smith, Lewis R., Ambrose, and Hasseaplug. 2,977,103.
Acme Wire Co., The: *See*—
Benson, Norman R. 2,977,562.
Adams, Charles C., and W. K. Gillett. Method of sterilizing surgical gut with liquid ethylene oxide. 2,977,182, 3–28–61, Cl. 8—94.11.
Adams, Frederic H.: *See*—
Lecher, Hans Z., and Adams. 2,977,329.
Adams, Loyd W., and R. K. Simms, to Phillips Petroleum Co. Recovery of ammonia from aqua ammonia. 2,977,197, 3–28–61, Cl. 23—193.
Adamson, Colin, and J. L. Dineley, to The English Electric Co. Ltd. Protection of electrical power circuits. 2,977,510, 3–28–61, Cl. 317—36.
Adickes, Cecil F. Guying television antennas. 2,976,967, 3–28–61, Cl. 189—31.5.
Adler, Robert, and M. L. Anthony, to P. G. S. Mers. Control system. 2,977,414. 3–28–61, Cl. 178—18.
Africano, Alfred, G. D. Brewer, and W. J. Harrington, to United States of America, War. Rocket construction. 2,976,806, 3–28–61, Cl. 102—49.
Agfa Aktiengesellschaft: *See*—
Wiesner, Max. 2,976,989.
Agnello, Eugene J., and G. D. Laubach, to Chas. Pfizer & Co., Inc. A-ring aromatic A^2-steroids and their preparation. 2,977,284, 3–28–61, Cl. 167—77.
Agnello, Eugene J., and G. D. Laubach, to Chas. Pfizer & Co., Inc. Process for preparing 17 beta-pyruvoyl steroid compounds. 2,977,377, 3–28–61, Cl. 260—397.45.
Air Preheater Corp., The: *See*—
Evans, Ted C. 2,977,096.
Air Reduction Co., Inc.: *See*—
Osugi, Tetsuro, Tanabe, and Morimoto. 2,977,183.
Purkhiser, Rawlins E. 2,977,528.
Aktiebolaget Abjorn Anderson: *See*—
Asp, Nils A. R. 2,977,002.
Aktiebolaget Svenska Flaktfabriken: *See*—
Allander, Claes, and Lärkfeldt. 2,976,794.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
Latzke, John A. 2,976,966.
Lemaire, Jacques. 2,976,606.
Aktieselskabet National Industri: *See*—
Lange, Emil. 2,977,445.
Albro Fillers & Engineering Co. Ltd.: *See*—
Bagnelle, Arthur H. 2,976,661.
Albedyhl, Karl H., to Moeller & Neumann G.m.b.H. Roller guide for rolling mills. 2,976,749, 3–28–61, Cl. 80—61.
Alden, Milton. Dispenser for handling components. 2,977,027, 3–28–61, Cl. 222—156.
Alford, Joseph S., to General Electric Co. Supporting means to maintain concentricity between two members. 2,977,142, 3–28–61, Cl. 287—52.
All American Engineering Co.: *See*—
Cotton, Robert B., and Daniels. 2,977,074.
Haber, Robert J. 2,977,075.
Allander, Claes, and B. Lärkfeldt, to Aktiebolaget Svenska Flaktfabriken. High-velocity primary air nozzle. 2,976,794, 3–28–61, Cl. 98—38.
Allen, Everett W., to General Motors Corp. Engine valve actuating mechanism. 2,976,862, 3–28–61, Cl. 123—90.
Allied Chemical Corp.: *See*—
Joseph, Robert T., and Maguire. 2,977,299.
Kiss, Mearl A. 2,977,386.
Allis-Chalmers Mfg. Co.: *See*—
Nichols, Beverly E. 2,976,697.
Allred, Raymond C., D. A. Shock, and J. D. Sudbury, to Continental Oil Co. Forming subterranean cavities by solution mining. 2,976,690, 3–28–61, Cl. 61—5.
Alpha Molykote Corp., The: *See*—
Spengler, Günter, and Hohn. 2,977,902.
Alton Box Board Co.: *See*—
Hollis, Robert F. 2,977,274.
Alwac International Inc.: *See*—
Hook, Albert S., Goodman, and Hutter. 2,977,178.
Amala, Raymond S., and R. E. Schroeder, to General Motors Corp. Shell mold and method of manufacture. 2,976,585, 3–28–61, Cl. 22—193.
Ambrose, McLean A.: *See*—
Smith, Lewis R., Ambrose, and Hasseaplug. 2,977,103.
American Bosch Arma Corp.: *See*—
Litman, Bernard, Pavalow, Savet, and Statsinger. 2,976,733.
Miner, Richard Y., Gittens, Beck, and Evans. 2,977,049.
American Brake Shoe Co.: *See*—
Smilges, Robert. 2,976,878.
American Cyanamid Co.: *See*—
Jen, Yun. 2,977,245.
Lecher, Hans Z., and Adams. 2,977,329.
Petropoulos, John C. 2,977,338.
Pounds, Lewis C. 2,977,272.
Schuller, Walter H. 2,977,337.
Shuller, Walter H., and Price. 2,977,341.
Serrese, Victor C., Jr. 2,977,168.
Serrese, Victor C., Jr., and Kocay. 2,977,187.
American Enka Corp.: *See*—
Grinet, Ernest J., Jr., and Thurmond. 2,977,184.
Steen, John B. 2,976,671.
American Iron & Machine Works Co., Inc.: *See*—
Olson, Wallace F. 2,977,165.
American Machine & Foundry Co.: *See*—
Carmellini, Andrew R., and Hotelling. 2,976,873.
Flint, Thomas, and Fluke. 2,977,121.
Holloway, Robert L. 2,977,122.
McCartea, Edward R. 2,977,172.
Mueller, Homer L. 2,977,153.
American Machine and Metals, Inc.: *See*—
Husted, Lawrence E. 2,976,959.
American Optical Co.: *See*—
Hyde, Walter L., and Tubbs. 2,976,764.
American Radiator & Standard Sanitary Corp.: *See*—
Hyde, Robert W. 2,977,054.
American Thread Co., The: *See*—
Curry, Malcolm. 2,977,006.
American Viscose Corp.: *See*—
Hall, Harry H. 2,977,238.
Anderson, Marcus A. Mirror assembly for vehicle use. 2,976,768, 3–28–61, Cl. 88—87.
Andrews, Edward F. Jet drive rotary wing system. 2,976,935, 3–28–61, Cl. 170—135.4.
Andrews, Ernest G., and E. L. Vibbard, to Bell Telephone Laboratories, Inc. Automatic calculator. 2,977,048, 3–28–61, Cl. 235—162.
Andrieux, Jean L., and E. L. Bonnier, to Societe d'Electro-Chimie d'Electro-Metallurgie et des Aciéries Electriques d'Ugine. Process of simultaneously producing manganese metal and ferrosilicon alloy. 2,977,218, 3–28–61, Cl. 75—80.
Anemostat Corp. of America: *See*—
Kurth, Frans J., and Phillips. 2,976,884.
Anheuser-Busch, Inc.: *See*—
Commerford, John D., and Ehrenthal. 2,977,356.
Voigt, John E., Horst, and Sowell. 2,977,357.
Anicetti, Robert J.: *See*—
Evans, Ersel A. Anicetti, and Roake. 2,977,297.
Anthony, Albert W., and J. G. Miller. Chimney cap. 2,976,796, 3–28–61, Cl. 98—67.
Anthony, Myron L.: *See*—
Adler, Robert, and Anthony. 2,977,414.
Antognini, Joe: *See*—
Tilley, Harry, and Antognini. 2,977,209.
Appleton Wood Products Co.: *See*—
Youngchild, Casper E. 2,976,925.
Arbetman, Arthur: *See*—
Rodman, Norman H. A., and Arbetman. 2,976,994.
Arnim, Lawrence E. Tie knot support. 2,976,591, 3–28–61, Cl. 24—56.
Aronson, Theodore F., A. F. Kronman, and F. A. Lyon. Gummed label applying device. 2,977,016, 3–28–61, Cl. 216—57.
Ashley, Howard J. Changeable display sign. 2,976,634, 3–28–61, Cl. 40—125.
Asp, Nils A. R., to Aktiebolaget Abjorn Anderson. Apparatus for automatically loading bags on a pallet. 2,977,002, 3–28–61, Cl. 214—6.
Associated Spring Corp.: *See*—
Beckwith, John B. 2,977,109.
Ateliers G.S.P.: *See*—
Pegard, Pierre. 2,976,962.
Atkinson, Richard L., to Atkinson's Agricultural Appliances Ltd. Machinery guards. 2,976,703, 3–28–61, Cl. 64—4.
Atkinson's Agricultural Appliances Ltd.: *See*—
Atkinson, Richard L. 2,976,703.
Atlantic Wire and Cable Corp.: *See*—
Erton, Norman. 2,976,568.

Atlas Powder Co.: *See*—
Hartmann, Ludwig A. 2,977,291.
Vinson, Donald R. 2,977,022.
Atomic Energy of Canada Ltd.: *See*—
Biefer, Gregory J., and Kreus. 2,977,260.
Austin, George D., to Western Wire Products Co. Eaves trough braces. 2,977,061, 3–28–61, Cl. 248—48.1.
Austin, Howard A. Fuel economiser for internal combustion engines. 2,977,206, 3–28–61, Cl. 48—180.
Auto-Diesel Piston Ring Co., The: *See*—
Fotti, Sam J. 2,976,568.
Automatic Timing & Controls, Inc.: *See*—
Macgeorge, William D. 2,977,521.
Avco Corp.: *See*—
Bruck, George. 2,977,502.
Congdon, Kenneth P. 2,977,487.
B-I-F Industries, Inc.: *See*—
Frazel, Wilbur H. 2,976,740.
Babcock & Wilcox Co., The: *See*—
Chan, Charles R. 2,976,858.
Downs, Albert O., Jr. 2,976,855.
Bächler, Werner: *See*—
Nöller, Hans-Georg, and Bächler. 2,977,041.
Bachmann Bros., Inc.: *See*—
McNeill, Albert G. 2,976,767.
Bade, Alfred G., to The Falk Corp. Mounting assembly for machinery drive. 2,976,745, 3–28–61, Cl. 74—606.
Baggs, Burton D., Jr.: *See*—
Smith, Alexander, and Baggs. 2,976,663.
Bagnelle, Arthur H., to Albro Fillers & Engineering Co. Ltd. Devices for applying sealing bands to articles. 2,976,661, 3–28–61, Cl. 53—292.
Bahnson Co., The: *See*—
King, James F., Jr. 2,976,557.
King, James F., Jr. 2,977,067.
Bainbridge, Frank R. Flat bar torsion spring suspension assembly for trailers. 2,977,132, 3–28–61, Cl. 280—124.
Baird-Atomic, Inc.: *See*—
Hindel, Robert. 2,977,536.
Baker, Benjamin P., to Westinghouse Electric Corp. Compressed-gas circuit interrupter. 2,977,446, 3–28–61, Cl. 200—146.
Baker, H. J., & Bro.: *See*—
McLellan Jack H. 2,977,214.
Baker Oil Tools, Inc.: *See*—
Baker, Reuben C. 2,976,932.
Henslee, Waldo W., Jr. 2,976,933.
Todee, Hartley K. 2,976,934.
Baker Perkins Ltd.: *See*—
Watson, William F., and Wilson. 2,977,098.
Baker, Ralph C., to The Sheffield Corp. Gaging apparatus for dimensions and the like. 2,976,718, 3–28–61, Cl. 73—37.5.
Baker, Reuben C., to Baker Oil Tools, Inc. Subsurface well bore valve apparatus. 2,976,932, 3–28–61, Cl. 166—226.
Ball, Robert J.: *See*—
Kay, Solomon E., and Ball. 2,977,244.
Ball, Thomas M., to Chrysler Corp. Floatless carburetor. 2,977,099, 3–28–61, Cl. 261—36.
Bandag Inc.: *See*—
Nowak, Bernhard. 2,976,910.
Bankers Box Co.: *See*—
Fellowes, John E. 2,977,037.
Banno, Toshiaki, to Kabushiki-Kaisha Sankyo Seiki Seisakusho. System for synchronously operating cinefilm projector and magnetic tape recorder. 2,976,765, 3–28–61, Cl. 88—16.2.
Banstrom Industries, Inc.: *See*—
Weaver, Paul J. 2,976,686.
Barker, Carlton D.: *See*—
Lynch, William H., Vent, and Barker. 2,977,257.
Barker, Paul L., to National Production Co. Infant's chair. 2,976,911, 3–28–61, Cl. 155—18.
Barnard & Leas Mfg. Co., Inc.: *See*—
Stephens, Will R. 2,977,201.
Barnhart, George E. Seal means. 2,977,167, 3–28–61, Cl. 309—33.
Barstow, Frederick E., and I. F. Eastman, to Edgerton, Germeshausen & Grier, Inc. Electric-discharge system. 2,977,500, 3–28–61, Cl. 315—241.
Bartlett, Flora S. Cap closure for bottles and tubes. 2,977,015, 3–28–61, Cl. 215—76.
Bartlett, Jeffrey H.: *See*—
Morway, Arnold J., Bartlett, and Muessig. 2,977,803.
Bartlett, William. Pressure sensitive tape can and dispenser. 2,977,034, 3–28–61, Cl. 225—47.
Bartoo, George O., to Trico Products Corp. Windshield wiper motor transmission system. 2,976,555, 3–28–61, Cl. 15—250.27.
Bartsch, Merton L.: *See*—
Hackett, William S., and Bartsch. 2,976,589.
Bascom, Hollis H., to California Industrial Development Co. Conveyor pulleys. 2,976,736, 3–28–61, Cl. 74—230.7.
Bassinger, Ross, to Bassinger Tool Co. Percussion drill bit. 2,976,944, 3–28–61, Cl. 175—410.
Bassinger Tool Co.: *See*—
Bassinger, Ross. 2,976,944.
Bath Iron Works Corp.: *See*—
Fawcett, Frank A. 2,977,055.
Bathurst, William N., to Heeman & Froude Ltd. Dynamometers. 2,976,960, 3–28–61, Cl. 188—90.
Bauder, William M., Jr. Baseball-stitching machine. 2,976,627, 3–28–61, Cl. 112—2.
Baxter, Joseph, Jr., to The Black-Clawson Co. Paper machinery. 2,976,224, 3–28–61, Cl. 162—273.
Bavbick, Solomon, to Radio Corp. of America. Servomotor damping arrangement. 2,977,517, 3–28–61, Cl. 318—7.
Bayer, A. J., Co.: *See*—
Muller, Donald C. 2,977,008.
Bayer, Robert J., to General Motors Corp. Gas fuel injection system. 2,976,860, 3–28–61, Cl. 123—46.
Beselmans, Wilhelmus J. C. M. Devices for removing creases from individual pieces of fabric by means of a current of air. 2,976,626, 3–28–61, Cl. 38—2.
Bean, Theodore S. Ballast tamper. 2,976,815, 3–28–61, Cl. 104—12.
Beckadolph, Richard, to Continental Gummi-Werke Aktiengesellschaft. Pneumatic tire. 2,976,906, 3–28–61, Cl. 152—354.
Beckwith, John B., to Associated Spring Corp. Fluid cooled spring device. 2,977,109, 3–28–61, Cl. 267—1.
Beckworth, Dixie. Reusable pressurised canister. 2,976,897, 3–28–61, Cl. 141—17.
Bedortha, Lawrence T., and J. W. Halliwell, to Halortha Engineering Co., Inc. Belt sander. 2,976,652, 3–28–61, Cl. 51—170.
Bedare, Warren L.: *See*—
Bohn, Max E., and Bedare. 2,977,281.
Behles, Franz G. F., to Daimler-Benz Aktiengesellschaft. Self-energising brake system. 2,976,964, 3–28–61, Cl. 188—72.
Beiser, Elmer H., and R. H. Hine, to General Time Corp. Radio clock mechanism. 2,977,433, 3–28–61, Cl. 200—38.
Beishline, Allen W.: *See*—
McLaughlin, Thomas, Merlin, Beishline, and Bergherr. 2,977,177.
Bell & Gossett Co.: *See*—
Sanborn, William L. 2,976,919.
Sanborn, William L. 2,976,920.
Bell Telephone Laboratories, Inc.: *See*—
Andrews, Ernest G., and Vilbard. 2,977,048.
Goodale, Walter D., Jr., and Pferd. 2,977,419.
Hagelbarger, David W., and Moore. 2,977,575.
Lowry, Terrell N. 2,977,420.
Mayo, John S. 2,977,576.
Mott, Edward E. 2,977,573.
Pope, Thomas J. 2,977,572.
Beltz, Klaus: *See*—
Bodis, Franz, Krause, and Beltz. 2,977,217.
Bendix Corp., The: *See*—
Molnar, Robert J. 2,977,546.
Rosenberg, Andrew M., Conway, and Schulien. 2,977,559.
Benjamin, David, to Benjamin Reel Products, Inc. Reel for lawnmower cord. 2,977,427, 3–28–61, Cl. 191—12.2.
Benjamin Reel Products, Inc.: *See*—
Benjamin, David. 2,977,427.
Bennett, Harold L., B. K. Bohm, and W. E. Pearson, to Boeing Airplane Co. Clam shell thrust reversers with noise suppressors. 2,976,681, 3–28–61, Cl. 60—35.54.
Benson, Norman E., to The Acme Wire Co. Dip soldered printed circuit sockets. 2,977,562, 3–28–61, Cl. 339—17.
Bentley, Roy, and M. N. Thruston, to Imperial Chemical Industries Ltd. Production of alkyl nitrates. 2,977,384, 3–28–61, Cl. 260—467.
Bents, Erwin J. H., to Caterpillar Tractor Co. Apparatus for purging air from engine cooling systems. 2,976,850, 3–28–61, Cl. 123—41.54.
Bergen, Charles R., W. P. Scott, R. M. Tillman, and W. W. Woods, to Continental Oil Co. Method of producing heat-stable greases. 2,977,300, 3–28–61, Cl. 252—18.
Bergen, Charles R., W. P. Scott, R. M. Tillman, and W. W. Woods, to Continental Oil Co. Wide-temperature range greases. 2,977,301, 3–28–61, Cl. 252—18.
Bergherr, William: *See*—
McLaughlin, Thomas, Merlin, Beishline, and Bergherr. 2,977,177.
Bergman, Donald J., to Universal Oil Products Co. Flare. 2,976,922, 3–28–61, Cl. 158—99.
Berning, Alfred, and E. Schuster, to G. Raffenbeul. Film spool. 2,977,060, 3–28–61, Cl. 242—71.6.
Bernstein, Abraham L., to Westinghouse Electric Corp. Parabolic waveshape generator. 2,977,549, 3–28–61, Cl. 331—112.
Bernstein, Bernard, and J. Cherrenak. Split ring electro-acoustic transducer. 2,977,571, 3–28–61, Cl. 340—8.
Bertolacini, Ralph J., to Standard Oil Co. Mercuric chloranilate. 2,977,380, 3–28–61, Cl. 260—434.
Bertrand, Jacques R. R., to Societe Anonyme des Caves et des Producteurs Reunis de Roquefort. Machine for welding the wrappings of cheeses. 2,976,662, 3–28–61, Cl. 53—388.
Beson, John, to McEvoy Co. Multiple pipe support. 2,976,929, 3–28–61, Cl. 166—75.
Beyhl, Edward H., to Fuller Co. Gyratory crusher. 2,977,057, 3–28–61, Cl. 241—213.
Bianchi, Antonio, to F.I.O.C. Fabbrica Italiana Occhiali Cibiana-Bianchi, Genova & C. Spectacle frame having temples capable of elastic divarication. 2,976,766, 3–28–61, Cl. 88—41.
Bieber, Clarence G., to The International Nickel Co., Inc. Heat-resisting nickel base alloys. 2,977,222, 3–28–61, Cl. 75—171.
Biefer, Gregory J., and F. H. Kreus, to Atomic Energy of Canada Ltd. Inhibition of corrosion of aluminum alloys. 2,977,260, 3–28–61, Cl. 148—6.27.
Billings, Charles K.: *See*—
Sisson, Kenneth O., and Billings. 2,976,710.
Bingham-Herbrand Corp.: *See*—
Hinsey, Robert S. 2,976,744.
Bingham, Sidney H. Monorail truck and hanging car. 2,976,818, 3–28–61, Cl. 104—93.
Binkley Landing Gear Sales Co.: *See*—
McKay, Harry M. 2,977,004.
Birch, Arthur J., I. S. Nixon, and J. F. Grove, to Imperial Chemical Industries Ltd. Process of producing gibberellic acid. 2,977,285, 3–28–61, Cl. 195—36.
Bissell Inc.: *See*—
Yonkers, Robert A., and Lathrop. 2,976,559.
Bjortman, Carl C.: *See*—
Duba, George A. 2,976,751.
Duba, George A. 2,976,752.

Black-Clawson Co., The: *See*—
Baxter, Joseph, Jr. 2,976,924.
Black, Jan, to Hughes Aircraft Co. Signal seeking receiver. 2,977,467, 3–28–61, Cl. 250—20.
Black, John W., to Pemco Wheel Co. Caster spindle assembly and method of forming same. 2,976,562, 3–28–61, Cl. 16—21.
Blattner, Donald J.: *See*—
Sterner, Fred, and Blattner. 2,977,484.
Blatz, Philip S., to E. I. du Pont de Nemours and Co. Coating composition containing polysiloxane resin and polysiloxane rubber, film coated therewith and process of making. 2,977,336, 3–28–61, Cl. 260—37.
Blaw-Knox Co.: *See*—
Rodder, William. 2,976,980.
Bleiberg, Melvin L., and E. K. Halteman, to Westinghouse Electric Corp. Temperature independent uranium alloy electrical resistor. 2,977,557, 3–28–61, Cl. 338—7.
Bleuer, Keith T. Anti-glare device for vehicles. 2,976,759, 3–28–61, Cl. 88—1.
Bliss, E. W., Co.: *See*—
Byrne, John J., and Cruger. 2,977,076.
Bloch, Alfred, and R. A. Messing, to Ethicon, Inc. Enzyme and method for preparation. 2,977,287, 3–28–61, Cl. 195—62.
Bloch, Felix, to United States of America, Agriculture. Process of sorting pistachio nuts. 2,976,992, 3–28–61, Cl. 209—2.
Bloch, Richard M., to Minneapolis-Honeywell Regulator Co. Error detecting and correcting apparatus. 2,977,047, 3–28–61, Cl. 235—153.
Block, Meyer L.: *See*—
Katzman, Lawrence, and Block. 2,977,053.
Blonder, Isaac S., and B. H. Tongue, to Blonder-Tongue Electronics. Transmission line and method of making the same. 2,977,553, 3–28–61, Cl. 333—33.
Blonder-Tongue Electronics: *See*—
Blonder, Isaac S., and Tongue. 2,977,553.
Bloomberg, Arthur: *See*—
Ladenburg, Kurt, and Bloomberg. 2,977,189.
Blyth, Jack V., to D. Napier & Son Ltd. Uni-directional transmission devices. 2,976,974, 3–28–61, Cl. 192—67.
Bobrick Mfg. Corp.: *See*—
Cowan, Arnold A. 2,976,882.
Bock, Charles D.: *See*—
Miner, Richard Y., Gittens, Bock, and Evans. 2,977,049.
Bockemuehl, Robert R., to General Motors Corp. Electronic drift compensator. 2,977,490, 3–28–61, Cl. 315—9.
Bodle, Morgan D., to United States Rubber Co. Process for making webbing. 2,977,270, 3–28–61, Cl. 154—93.
Boehringer, C. F., & Soehne, G.m.b.H.: *See*—
Haack, Erich, and Hagedorn. 2,977,375.
Boeing Airplane Co.: *See*—
Bennett, Harold L., Bohm, and Pearson. 2,976,681.
Bredberg, Burrell R., and Golden. 2,976,609.
Pearson, Raymond E. 2,977,077.
Boeker, Harold T., to General Electric Co. Production and control of electron beams. 2,977,500, 3–28–61, Cl. 315—15.
Bohm, Byron K.: *See*—
Bennett, Harold L., Bohm, and Pearson. 2,976,681.
Böhme Fettchemie G.m.b.H.: *See*—
Heyden, Rudi, and Wedell. 2,977,249.
Boicey, James H., to Libbey-Owens-Ford Glass Co. Transparent electrically conducting films. 2,977,450, 3–28–61, Cl. 219—19.
Boile, Victor W., to Iowa State College Research Foundation, Inc. Device for teaching Morse code. 2,976,619, 3–28–61, Cl. 35—8.
Bomac Laboratories Inc.: *See*—
Hamilton, Milton R. 2,976,552.
Bomser, Herbert W.: *See*—
Gold, Edward, and Bomser. 2,977,228.
Boneff, Theodore. Razor blade honing machine. 2,976,651, 3–28–61, Cl. 51—111.
Bonino, Stephen, Jr.: *See*—
Bourguet, Jean M., and Bonino. 2,977,154.
Bonner, Edward C., deceased: M. Bonner, administratrix. Volatilizable gas driven engine. 2,976,675, 3–28–61, Cl. 60—25.
Bonner, Mary: *See*—
Bonner, Edward C. 2,976,675.
Bonnier, Etienne L.: *See*—
Andrieux, Jean L., and Bonnier. 2,977,218.
Bonomo, Giovanni, to Carrara & Matta S.p.A. Refuse container. 2,977,175, 3–28–61, Cl. 312—328.
Borg-Warner Corp.: *See*—
Talamonti, John. 2,977,143.
Bork, Charles: *See*—
Parker, Warren H. 2,976,909.
Boschan, Robert H.: *See*—
Finnegan, William G., and Boschan. 2,977,372.
Boss, Karl-Heinz: *See*—
Meyer, Kurt, Rausch, and Boss. 2,977,215.
Boucher, Emmett J.: *See*—
Ditter, Francis J., and Boucher. 2,977,073.
Bouffith, Raymond, and C. Savigay, to Societe Anonyme dite: Ateliers Bariquand & Marre. Italic-forming anamorphotic device for use in photo-composition. 2,976,785, 3–28–61, Cl. 95—4.5.
Bourguet, Jean M., and S. Bonino, Jr., to Socony Mobil Oil Co., Inc. Pneumatic transfer of granular contact material. 2,977,154, 3–28–61, Cl. 302—53.
Bovay, H. E., Jr., Consulting Engineers: *See*—
Wheeler, Lionel H. 2,976,693.
Bradshaw, William H., and E. H. Shaw, to Celanese Corp. of America. Alkali cellulose aging. 2,977,355, 3–28–61, Cl. 260—233.
Brandt Automatic Cashier Co.: *See*—
Buchholz, Arnold R. 2,976,874.
Braunstein, Rubin: *See*—
Rosl, Fred D., and Braunstein. 2,977,477.
Bredberg, Burrell R., and W. L. Golden, to Boeing Airplane Co. Installing tools for toggle-action retainer elements. 2,976,609, 3–28–61, Cl. 29—270.
Brent, Bernard J., to The Denver Chemical Mfg. Co. Composition and process for controlling the growth rate of live-stock and poultry. 2,977,220, 3–28–61, Cl. 99—2.
Breslow, Leon. Adhesive attached label. 2,976,628, 3–28–61, Cl. 40—2.
Brewer, George D.: *See*—
Africano, Alfred, Brewer, and Harrington. 2,976,805.
Brewington, Philip J. Replacement flush valves. 2,976,542, 3–28–61, Cl. 4—57.
Brice, George H.: *See*—
Tawney, Pliny O., Brice, and Viehl. 2,977,348.
Briggs, Albert: *See*—
Lamb, John. 2,976,881.
British-American Tobacco Co. Ltd.: *See*—
Morphet, Bentham E., and Mungo. 2,976,872.
British Celanese Ltd.: *See*—
Mann, Ralph J., and Grant. 2,976,713.
British Hydrocarbon Chemicals Ltd.: *See*—
Stanley, Herbert M., and Wirth. 2,977,396.
Brittain, Richard J., Jr., to General Motors Corp. Flexible seal. 2,977,138, 3–28–61, Cl. 286—11.
Brixius, Gerald G., and J. Lubis. Identifying device. 2,976,629, 3–28–61, Cl. 40—11.
Brockway, Charles E., and A. F. Ehar, to Goodrich-Gulf Chemicals, Inc. Process for polymerizing dienes. 2,977,349, 3–28–61, Cl. 260—94.3.
Brogan, Norman B., H. N. Hill, Jr., and F. O. Smith, to Union Carbide Corp. Electrolytic moisture measuring apparatus. 2,976,728, 3–28–61, Cl. 73—336.5.
Brooks, Frank W., to General Motors Corp. Brake structure. 2,976,957, 3–28–61, Cl. 188—78.
Brooks, Theodore J., to Pemco Wheel Co. Mechanical device. 2,977,162, 3–28–61, Cl. 308—193.
Brower, David F.: *See*—
Harvey, George W., and Brower. 2,976,907.
Brower, Frank M., to The Dow Chemical Co. Cellular polyalkylene-ethergiycol-organic diisocyanate reaction product and method of preparing same. 2,977,330, 3–28–61, Cl. 260—2.5.
Brown, David G., and H. N. Windbiel. Outboard motor tilt-up rack. 2,977,084, 3–28–61, Cl. 248—351.
Brown, Jack T., to Westinghouse Electric Corp. Stabilized and precipitation-hardened nickel-base alloys. 2,977,223, 3–28–61, Cl. 75—171.
Brown, Neuberne H., Jr., to United States Rubber Co. Cold weather clothing. 2,976,539, 3–28–61, Cl. 2—2.
Brown, William C., and E. C. Dench, to Raytheon Co. Electronic discharge devices of the magnetron type. 2,977,502, 3–28–61, Cl. 315—39.3.
Bruch, Walter, to Telefunken G.m.b.H. Channel switching tuner. 2,977,469, 3–28–61, Cl. 250—40.
Bruck, George, to Avco Corp. Elevation angle measuring system. 2,977,592, 3–28–61, Cl. 343—108.
Bruck, Stephen D., to E. I. du Pont de Nemours and Co. Preparation of polyoxamides with trioxides and trihalides of As, Sb and Bi as catalysts. 2,977,340, 3–28–61, Cl. 260—78.
Brugler, Richard L., to Chrysler Corp. Air outlet grille. 2,976,795, 3–28–61, Cl. 98—40.
Bryant Electric Co., The: *See*—
Lennox, George C. 2,977,568.
Bryson, Ralph J., and W. A. Reeves, to United States of America, Agriculture. Metallic selenide fungicides for outdoor cellulosic textiles. 2,977,250, 3–28–61, Cl. 117—138.5.
Buchholz, Arnold R., to Brandt Automatic Cashier Co. Coin changer apparatus. 2,976,874, 3–28–61, Cl. 133—2.
Buchi, Alfred J. Means for interchanging rotors in turbines. 2,977,088, 3–28–61, Cl. 253—39.
Buchmann, Martin: *See*—
Gegenschatz, Walter, and Buchmann. 2,977,144.
Buchter, Hugo H., to Monsanto Chemical Co. Seal for agitators in pressure vessels. 2,977,140, 3–28–61, Cl. 286—15.
Bucourt, Robert: *See*—
Joly, Robert, Bucourt, and Warnant. 2,977,366.
Bueltman, Charles G., and J. S. Kneale, to Pfaudler Permutit Inc. Apparatus for conditioning precipitates and separating same from liquids. 2,977,202, 3–28–61, Cl. 23—285.
Buh, William F., Jr., to M. I. Glass. Toy. 2,977,123, 3–28–61, Cl. 273—68.
Bunker, Ward: *See*—
Denman, Stephen A., and Bunker. 2,976,946.
Burd, Gorman C., to Neo Products Corp. Hollow metal article and method and apparatus for forming same. 2,976,549, 3–28–61, Cl. 10—155.
Burke, Edward J.: *See*—
Rhea, Hal H., and Burke. 2,976,696.
Burkhardt, George C.: *See*—
Hamilton, Joseph P., and Burkhardt. 2,976,779.
Burndy Corp.: *See*—
Matthysse, Irving F. 2,977,567.
Burner, Edwin F., to United States of America, Navy. Automatic flight control system. 2,977,070, 3–28–61, Cl. 244—77.
Burroughs Corp.: *See*—
Cole, Rudolph A. 2,977,541.
McCauley, John H. 2,977,176.
Burroughs Wellcome & Co. (U.S.A.) Inc.: *See*—
Hitchings, George H., and Roth. 2,977,361.
Burton, George M., to Pastushin Aviation Corp. Aircraft mechanism for holding and ejecting a store. 2,977,149, 3–28–61, Cl. 294—83.
Buschhorn, Walther, and W. H. Deutschmann. Centrifugal pump and method of its production. 2,976,809, 3–28–61, Cl. 103—103.

Buster, Willard L., to AMP Inc. Taper pin extracting tool. 2,976,606, 3–28–61, Cl. 29—254.

Butler, Charles W.: *See*—
Parker, Warren H. 2,976,909.

Butler, Gray L., to Scovill Mfg. Co. Sealing rings. 2,977,-166, 3–28–61, Cl. 309—4.

Butler, John M.: *See*—
Lapf, George W., Jr., Johnson, Hedrick, Fields, and Butler. 2,977,534.

Bychinsky, Wilfred A., to General Motors Corp. Preignition detection system and spark plug therefor. 1,977,498, 3–28–61, Cl. 313—134.

Byer, Jonah J. Weight distribution measuring device. 2,976,725, 3–28–61, Cl. 73—172.

Byrne, John J. and R. W. Cruger, to E. W. Bliss Co. Aircraft arresting system. 2,977,076, 3–28–61, Cl. 244—110.

C.D. Patents Ltd.: *See*—
Sawyer, Charles H. V., and Landey. 2,977,020.

Cabbage, John T., to Phillips Petroleum Co. Hydrogenation unit control system. 2,977,238, 3–28–61, Cl. 196—132.

Calandra, Thomas M. Hoist, aircraft seat removal. 2,977,079, 3–28–61, Cl. 244—122.

Caldwell, Alexander M. U.: *See*—
Dowden, Dennis A., and Caldwell. 2,977,324.

California Industrial Development Co.: *See*—
Bacom, Hollis H. 2,976,738.

California Research Corp.: *See*—
Abbott, Andrew D. 2,977,305.
Abbott, Andrew D. 2,977,306.
Abbott, Andrew D. 2,977,307.
Ferm, Richard L., and Abbott. 2,977,304.

Callahan, Ezra L. Automatic tachometer. 2,976,700, 3–28–61, Cl. 88—2.6.

Callahan, Thomas P., to General Motors Corp. Apparatus for measuring the vapor content of fluids. 1,976,720, 3–28–61, Cl. 73—61.

Cameo, Inc.: *See*—
Daffin, Douglas E. 2,976,931.

Cameron, John O. Tire chains and attaching means therefor. 2,976,904, 3–28–61, Cl. 152—237.

Campbell, James R. Multi-stage heating element control. 2,977,451, 3–28–61, Cl. 219—20.

Campbell, Mark E., and G. E. O'Brien to North American Aviation, Inc. Gyro-compass. 2,976,618, 3–28–61, Cl. 33—226.

Campbell, Richard D.: *See*—
Utt, Orval L., and Campbell. 2,977,462.

Canadian International Paper Co.: *See*—
Gardon, John L., and Leopold. 2,977,352.

Cane, Philip E., to Siemens Edison Swan Ltd. Vapotron boiler. 2,977,493, 3–28–61, Cl. 313—27.

Cannady, Daniel L., Jr., to Westinghouse Electric Corp. Resinous compositions and tubular members prepared therefrom. 2,976,889, 3–28–61, Cl. 138—78.

Card, Roy T., to Singer-Cobble, Inc., a subsidiary of The Singer Mfg. Co. Tufting machine with needle plate. 2,976,829, 3–28–61, Cl. 112—79.

Carlson, Arthur H.: *See*—
Wulf, Cal W., and Carlson. 2,976,821.
Wulf, Cal W., and Carlson. 2,976,822.

Carlson, Carl L., and H. Nelson; said Carlson assr. to Radio Corp. of America. Semiconductor devices including gallium-containing electrodes. 2,977,262, 3–28–61, Cl. 148—33.

Carlson, Harold A., to ACF Industries, Inc. Throttle operated starter switch. 2,977,100. 3–28–61, Cl. 261—39.

Carlson, Harold A., to ACF Industries, Inc. Automatic choke. 2,977,101, 3–28–61, Cl. 261—39.

Carmellini, Andrew E., and E. B. Hotelling, to American Machine & Foundry Co. Tobacco sheet. 2,976,873, 3–28–61, Cl. 131—140.

Carmosino, Giuseppe P. Fish hook assembly. 2,976,641, 3–28–61, Cl. 43—35.

Carney-Stansfield Co.: *See*—
Stansfield, Hamill, and Edge. 2,976,973.

Carr, John W.: *See*—
Hanus, Edward J., and Carr. 2,977,235.

Carrara & Matta S.p.A.: *See*—
Bonomo, Giovanni. 2,977,175.

Carrier Corp.: *See*—
Rhea, Hal H., and Burke. 2,976,696.

Carruthers, Thomas F.: *See*—
Fowler, George W., and Carruthers. 2,977,385.

Casale, Liborio: *See*—
Maiuta, Aulo, and Casale. 2,977,213.

Cassarino, Sebastian J., and J. L. Mershon. Vertical exhaust pilot actuated safety valve. 2,976,880, 3–28–61, Cl. 137—219.

Caterpillar Tractor Co.: *See*—
Bentz, Erwin J. H. 2,976,859.
Cruthis, Robert D., Hrodey, and Sieving. 2,976,947.

Causse, Jean-Pierre, and A. Lallemand, to Schlumberger Well Surveying Corp. Photosurface and method of making same. 2,977,252, 3–28–61, Cl. 117—211.

Celanese Corp. of America: *See*—
Bradshaw, William H., and Shaw. 2,977,355.
Petersen, Svend A. 2,976,669.
Powers, Edward T. 2,976,601.

Centre National de la Recherche Scientifique: *See*—
Guillaud, Charles L., Pierrot, and Loecroel. 2,977,311.
Vuilmiere, Jacques C. and H., and Fourestier. 2,977,497.

Chadeloid Corp.: *See*—
Ledermen, Burton E., and Hamilton. 2,977,242.

Chafer, Charles L., to J. W. Chafer Ltd. Machine for spraying powdered materials. 2,976,643, 3–28–61, Cl. 43—148.

Chafer, J. W., Ltd.: *See*—
Chafer, Charles L. 2,976,643.

Chaldin, Norman L. Phonograph pickup arm. 2,977,126, 3–28–61, Cl. 274—23.

Chambers, William L. Photographic developing table. 2,976,792, 3–28–61, Cl. 95—99.

Chan, Charles R., to The Babcock & Wilcox Co. Method of and apparatus for controlling superheat and reheat temperatures over a wide range of rate of steam generation. 2,976,858, 3–28–61, Cl. 122—479.

Chapin, Edward J., to United States of America, Navy. Process for purifying titanium. 2,977,219, 3–28–61, Cl. 75—84.

Chemical Products Corp.: *See*—
De Maria, John. 2,977,227.

Chervenak, John: *See*—
Bernstein, Bernard, and Chervenak. 2,977,571.

Chicago Fire Brick Co.: *See*—
Parsons, Joseph R. 2,977,230.

Chicago Wheel & Mfg. Co.: *See*—
Sheets, Vernal L. 2,977,206.

Christianson, Arnold. Level operating multiple ram press. 2,976,798, 3–28–61, Cl. 100—258.

Christin, Georges, to Etablissements Bertrand Faure. Clip for binding together elements of elongated shape. 2,976,592, 3–28–61, Cl. 24—129.

Chronicle Publishing Co.: *See*—
Paschal, Don F. 2,976,631.

Chrysler Corp.: *See*—
Ball, Thomas M. 2,977,099.
Brugler, Richard L. 2,976,795.
Moskovitz, Milton A., and Collier. 2,977,131.
Walder, Robert B. 2,977,430.
Wychof, Paul W., and Wonka. 2,976,917.

Ciba Ltd.: *See*—
Ackermann, Franz, and Siegrist. 2,977,319.
Zumstein, Heinz. 2,977,352.

Ciba Pharmaceutical Products, Inc.: *See*—
Druey, Jean, and Meier. 2,977,368.
Huebner, Charles F. 2,977,362.

Cincinnati Milling Machine Co., The: *See*—
Steinhard, Bertram H. 2,976,550.

Civitelli, Gennaro, and Z. S. Ochin. Electric plug ejector. 2,977,564, 3–28–61, Cl. 339—45.

Clarke, Ford K., and W. L. Doelp, Jr., to Philco Corp. Semiconductor fabrication. 2,977,515, 3–28–61, Cl. 317—234.

Clemens, John A., to Davol Rubber Co. Nipple construction. 2,977,013, 3–28–61, Cl. 215—11.

Cloud, Charles E., to W. S. Cloud. Packaging with variations of package length. 2,976,657, 3–28–61, Cl. 53—75.

Cloud, William S.: *See*—
Cloud, Charles E. 2,976,657.

Coady, Michael G., and W. C. Kohnle, Jr., to Merck & Co., Inc. Apparatus for applying closures to containers. 2,976,896, 3–28–61, Cl. 141—346.

Cobb, Leland D., to General Motors Corp. Antifriction bearing and method of operation. 2,977,161, 3–28–61, Cl. 308—187.

Cockrell, William D., to General Electric Co. Control circuit. 2,977,523, 3–28–61, Cl. 318—331.

Coppelja, Godfrey J., and P. J. Martin, to United States Steel Corp. Tuyere assembly for a Bessemer converter. 2,977,108, 3–28–61, Cl. 266—36.

Cohrt, Henry P. Refrigeration apparatus. 2,977,097, 3–28–61, Cl. 259—9.

Cole, Rudolph A., to Burroughs Corp. Counting system. 2,977,541, 3–28–61, Cl. 328—52.

Cole, Arthur D. Air pressure regulator for air conveying conduits. 2,976,793, 3–28–61, Cl. 98—33.

Cole, Irwin H. Hearing aid. 2,977,425, 3–28–61, Cl. 179—107.

Collier, John E.: *See*—
Moskovitz, Milton A., and Collier. 2,977,131.

Collins Radio Co.: *See*—
Cunningham, Paul M. 2,977,585.
Doels, Melvin L., and Heald. 2,977,417.
Du Hamel, Raymond H., and Ore. 2,977,597.
Justice, Harold D. 2,977,596.
Secretan, Frank. 2,977,538.

Colliva, Dante, to Johns-Manville Corp. Method and machine for manufacturing asbestos cement tubes. 2,977,276, 3–28–61, Cl. 162—118.

Columbia Products Co.: *See*—
Scott, Arthur L. 2,977,406.

Combustion Engineering, Inc.: *See*—
Herold, Conrad J. 2,976,857.
Huet, Andre. 2,976,606.
Hunter, Arthur T., Patterson, and Lewis. 2,976,863.
McCormack, Richard A. 2,976,856.

Commerford, John D., and I. Ehrenthal, to Anheuser-Busch, Inc. Process for preparing cross-linked starch ethers in granule form. 2,977,356, 3–28–61, Cl. 260—233.3.

Commissariat a l'Energie Atomique: *See*—
Klein, Siegfried. 2,977,496.

Compagnie Francaise des Matieres Colorantes: *See*—
Gangneux, Rene E. M. 2,977,354.

Compagnie Generale de Telegraphie Sans Fil: *See*—
Gutton, Henri. 2,977,589.

Compagnie Generale du Duralumin et du Cuivre: *See*—
Tournaire, Marcel, and Trompier. 2,977,458.

Comptometer Corp.: *See*—
Mero, Peter G. S. 2,977,059.

Congdon, Kenneth P., to Avco Corp. Incremental sensor. 2,977,487, 3–28–61, Cl. 307—88.5.

Consolidated Electrodynamics Corp.: *See*—
Robinson, Charles F. 2,977,470.
Timothy, Keith O., and Patrick. 2,977,583.

Continental Can Co., Inc.: *See*—
Hammond, Dale E. 2,977,006.
Henchert, John. 2,977,019.
Henchert, John. 2,977,029.
Pierce, Thomas E. 2,976,660.
Shapero, Wallace H., and Davis. 2,977,264.

Continental Gummi-Werke Aktiengesellschaft: *See*—
Beckadolph, Richard. 2,976,905.

Continental Oil Co.: *See*—
Allred, Raymond C., Shock, and Sudbury. 2,976,690.
Bergen, Charles R., Scott, Tillman, and Woods. 2,977,300.
Bergen, Charles R., Scott, Tillman, and Woods. 2,977,301.

Conway, Joseph R.: *See*—
Rosenberg, Andrew M., Conway, and Schulien. 2,977,559.

Cook, Clifford C., J. E. Howard, and D. Thompson, to National Re-Tile Corp. Transfer mechanism for tile-making machine. 2,976,595, 3–28–61, Cl. 25—43.

Cook, Clinton D., to General Electric Co. Dielectric liquid and apparatus utilizing same. 2,977,554, 3–28–61, Cl. 336—58.

Cook, George W., to Thiokol Chemical Corp. Mechanical-pneumatical suspension and reference system. 2,976,736, 3–28–61, Cl. 74—5.6.

Cook, Kenneth, to Walter R. Greamuno & Co, Circuit indicator device for wired control panels of business machines. 2,977,530, 3–28–61, Cl. 324—61.

Cooke, Brian A., T. D. Morgan, and H. E. L. G. Schweigart, to South African Council For Scientific and Industrial Research. High-selectivity and conductivity permselective membranes and process for producing same. 2,977,298, 3–28–61, Cl. 204—296.

Cooke, Edward G.: *See*—
Harper, Aubrey E., Grigor, and Cooke. 2,977,208.

Cooper, Alexander T. Well fishing tool. 2,977,147, 3–28–61, Cl. 294—85.5.

Cooper, Carl F. Electroplating process. 2,977,295, 3–28–61, Cl. 204—43.

Cornell, Archie R., and B. A. Wyman, to Westinghouse Electric Corp. Core constructions. 2,977,555, 3–28–61, Cl. 336—166.

Corning Glass Works: *See*—
Giffen, James W. 2,976,611.

Cornish, Albert J., to Westinghouse Electric Corp. Thermo-elements and devices embodying them. 2,977,400, 3–28–61, Cl. 136—5.

Cotton, Robert B., and C. J. Daniels, to All American Engineering Co. Over-run spring type barriers. 2,977,074, 3–28–61, Cl. 244—110.

Cowan, Arnold A., to Bobrick Mfg. Corp. Check valve. 2,976,882, 3–28–61, Cl. 137—512.1.

Creed & Co. Ltd.: *See*—
Mason, Frederick P., and Stemp. 2,977,179.

Creuts, Edward C., to General Dynamics Corp. Method of sintering. 2,976,598, 3–28–61, Cl. 25—157.

Criscl, Louis C. Toy missile. 2,976,644, 3–28–61, Cl. 46—81.

Crisera, Joseph E. Hinge. 2,976,563, 3–28–61, Cl. 16—146.

Critchley, Thomas. Nailing machine. 2,976,536, 3–28–61, Cl. 1—6.

Cruger, Robert W.: *See*—
Byrne, John J., and Cruger. 2,977,076.

Cruthis, Robert D., T. E. Hrodey, and A. W. Sieving, to Caterpillar Tractor Co. Pivoted dash assembly for tractors and the like. 2,976,947, 3–28–61, Cl. 180—90.

Cull, Neville L., to Esso Research and Engineering Co. Purification of aromatic-containing resins. 2,977,346, 3–28–61, Cl. 260—80.7.

Culver, Robert M. Seal for ball applicators. 2,976,561, 3–28–61, Cl. 15—572.

Cummins, Richard W., to Food Machinery and Chemical Corp. Process for the production of phosphine and sodium hypophosphite. 2,977,192, 3–28–61, Cl. 23—107.

Cunningham, Paul M., to Collins Radio Co. Iso-echo circuit. 2,977,585, 3–28–61, Cl. 343—5.

Curry, Malcolm, to The American Thread Co. Agitator-hopper assembly for spool labelers, machines or the like. 2,977,006, 3–28–61, Cl. 214—301.

Curtis, John C., to Joy Mfg. Co. Device for use in uncoupling drill steels. 2,976,943, 3–28–61, Cl. 185—223.

Cutler-Hammer, Inc.: *See*—
Hampton, William L. 2,977,558.

D. & S. Processing Co., Inc.: *See*—
Okma, Clarence, Udes, and Donahue. 2,976,839.

Daffin, Douglas E., to Cameo, Inc. Weil connector device. 2,976,931, 3–28–61, Cl. 166—125.

Dahl, Robert R., to The Dole Valve Co. Automatic icemaker. 2,976,697, 3–28–61, Cl. 62—137.

Dahlberg, Robert S., Jr., to Philco Corp. Automatic frequency control system. 2,977,410, 3–28–61, Cl. 178—7.2.

Daimler-Benz Aktiengesellschaft: *See*—
Behles, Frans G. F. 2,976,956.
Scholl, Walther. 2,976,958.

Dale, George W.: *See*—
Perkins, Glen E., and Dale. 2,976,785.
Perkins, Glen E., and Dale. 2,976,784.

Dalgleish, John E., to R. C. Veit, d.b.a. Veet Industries. Tubular rocket combustion chamber. 2,976,679, 3–28–61, Cl. 60—35.6.

Daniels, C. E., Inc.: *See*—
Miller, Jacob E. 2,976,914.

Daniels, Charles J.: *See*—
Cotton, Robert B., and Daniels. 2,977,074.

Daniels, Howard L., C. W. Fritze, and R. R. Ritter, to United States of America, Navy. Controlled circuits for interim storage systems. 2,977,578, 3–28–61, Cl. 340—174.1.

Daniels, Rupert S.: *See*—
Keutgen, William A., Davall, and Daniels. 2,976,574.

Danly Machine Specialties, Inc.: *See*—
Kennedy, Daniel T. 2,976,832.

Daubenberger, Charles J., to Plastic and Rubber Products Co. Method for molding O-rings and the like. 2,976,575, 3–28–61, Cl. 18—55.

Daussan, Henri J. Method and device for casting steels and other ferrous compounds in ingot moulds. 2,976,587, 3–28–61, Cl. 22—73.

Davall, Charles R.: *See*—
Keutgen, William A., Davall, and Daniels. 2,976,574.

David, Freddy, W. V. Tyrlick, and S. E. Townsend, to General Dynamics Corp. Character sequence detector. 2,977,483, 3–28–61, Cl. 307—88.

Davidson, Ivor M., and E. S. Stratford, to Power Jets (Research and Development) Ltd. Jet propelled aircraft. 2,977,068, 3–28–61, Cl. 244—15.

Davis, Raymond C., to General Motors Corp. Method of molding a steering wheel. 2,976,573, 3–28–61, Cl. 18—47.5.

Davis, Roy E.: *See*—
Shapero, Wallace H., and Davis. 2,977,264.

Davol Rubber Co.: *See*—
Clemens, John A. 2,977,013.

Davoust, Oskar R., to Svenska Tandsticks Aktiebolaget. Manufacture of matches. 2,976,717, 3–28–61, Cl. 73—12.

Dayco Corp.: *See*—
Noyes, Howard, and Moorman. 2,977,426.

Dayton Rogers Mfg. Co.: *See*—
Dulebohn, David H., and Gold. 2,977,040.
Wennes, Stephen H. 2,976,754.

De Beet Mfg. Co., Inc.: *See*—
Turner, Horace J., and Smyth. 2,976,543.

De Haven, Clark G., to Phillips Petroleum Co. Method of determining wear patterns. 2,976,716, 3–28–61, Cl. 73—7.

Delgado, Manuel M., to The Vendo Co. Hot beverage mixing and vending machines. 2,977,026, 3–28–61, Cl. 222—129.4.

De Lisle, Raymond P., and W. G. Gilchrist, to Whirlpool Corp. Dispenser for laundry machine. 2,976,879, 3–28–61, Cl. 137—132.

De Long Corp.: *See*—
Showalter, Robert N., De Long, and Suderow. 2,976,693.
Suderow, George E. 2,976,692.

De Long, Leon B.: *See*—
Showalter, Robert N., De Long, and Suderow. 2,976,693.

De Lorenzo, Eugene J., and J. P. Faust, to Olin Mathieson Chemical Corp. Preparation of liquid reaction products of diborane and diolefin hydrocarbons. 2,977,389, 3–28–61, Cl. 260—606.5.

De Maria, John, to Chemical Products Corp. Method for fabricating a relief printing plate. 2,977,227, 3–28–61, Cl. 96—35.

De Matteo, Adolph J., to Farrel-Birmingham Co., Inc. Dummy block detector for extrusion presses. 2,976,991, 3–28–61, Cl. 207—1.

Dench, Edward C.: *See*—
Brown, William C., and Dench. 2,977,502.

Denman, Stephen A., and W. Bunker, to General Motors Corp. Hydraulic road speed control. 2,976,948, 3–28–61, Cl. 180—82.1.

Denton, Roy V.: *See*—
Johnson, Paul H., Denton, and Eberline. 2,977,328.

Denver Chemical Mfg. Co., The: *See*—
Brent, Bernard J. 2,977,230.

Deutsche Solvay-Werke G.m.b.H.: *See*—
Walling, Ernst, and Faerber. 2,977,393.

Deutschmann, Walter H.: *See*—
Buschhorn, Walther, and Deutschmann. 2,976,809.

Dias, Virgil F. Combination high chair, stroller and toddler. 2,976,912, 3–28–61, Cl. 155—38.

Diassi, Patrick A.: *See*—
Weisenborn, Frank L., Wintersteiner, and Diassi. 2,977,365.

Diassi, Patrick A., to Olin Mathieson Chemical Corp. Yohimbine o-(lower alkyl) sulfonates. 2,977,367, 3–28–61, Cl. 260—287.

Di Gioia, John. Emergency brake control. 2,977,156, 3–28–61, Cl. 303—2.

Digital Equipment Corp.: *See*—
Olsen, Kenneth H. 2,977,485.

Dineley, Jack L.: *See*—
Adamson, Colin, and Dineley. 2,977,510.

Dirks, Gerhard. Printing and other representation of characters. 2,976,801, 3–28–61, Cl. 101—93.

Ditter, Francis J., and E. J. Boucher, to Federal Industries, Inc. Aircraft ski and actuating mechanism therefor. 2,977,073, 3–28–61, Cl. 244—108.

Dixon, Stanley, to E. I. du Pont de Nemours and Co. Preparation of S-triazine-2,4,6 (1H,3H,5H) triones. 2,977,360, 3–28–61, Cl. 260—248.

Dixon, Stanley, to E. I. du Pont de Nemours and Co. Process for preparation of 2-oxazolidones. 2,977,371, 3–28–61, Cl. 260—307.

Dixon, Stanley, and J. J. Verbanc, to E. I. du Pont de Nemours and Co. Production of 2-oxazolidinones. 2,977,369, 3–28–61, Cl. 260—307.

Djerassi, Carl, A. J. Lemin, G. Rosenkrans, and F. Sondheimer, to Syntex S.A. Steroid sapogenin compounds and process for their production. 2,977,358, 3–28–61, Cl. 260—239.55.

Doane, Daniel B. Electrically actuated rotary valve for zone heat control. 2,977,437, 3–28–61, Cl. 200—81.9.

Dobbie, James, to Westinghouse Electric Corp. Pulse control apparatus. 2,977,486, 3–28–61, Cl. 307—88.5.

Dobner, Allen L., Jr., and G. A. Dyer, to General Dynamics Corp. Calibration translating device. 2,977,046, 3–28–61, Cl. 235—132.

Dodds, Robert B., and A. A. Luoma, to Worthington Corp. Remote control means for controlling operation of prime movers in a continuous process. 2,976,689, 3–28–61, Cl. 60—102.

Dodge, William S., to Matson Navigation Co. Sheeing clamp. 2,976,823, 3–28–61, Cl. 105—369.

Doelp, Walter L., Jr.: *See*—
Clarke, Ford K., and Doelp. 2,977,515.

Doels, Melvin L., and E. T. Heald, to Collins Radio Co. Minimum-shift data communication system. 2,977,417, 3–28–61, Cl. 178—51.

Dole Valve Co., The: *See*—
Dahl, Robert R. 2,976,697.

Dominion Corset Co. Ltd.: *See*—
Verreault, Joseph. 2,976,870.

Donahue, Edwin L.: *See*—
Okma, Clarence, Udea, and Donahue. 2,976,839.

Donato, Anthony: *See*—
Neumann, Manfred, and Donato. 2,977,566.

Donovan, Arthur: *See*—
Thoma, Oswald, Donovan, and Kempson. 2,976,685.

Doolittle, Howard D., to The Machlett Laboratories, Inc. Electrode structure for electron tubes. 2,977,496, 3-28-61, Cl. 313—169.

Dorfelt, Christoph, K. Hartel, and E. Reindl, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Oxyalkylated organo-tin carboxylates. 2,977,379, 3-28-61, Cl. 260—429.7.

Douthitt, Merton H., to Texaco Development Corp. Packaging of tacky materials. 2,977,267, 3-28-61, Cl. 154—79.

Dow Chemical Co., The: *See*—
Brower, Frank M. 2,977,330.
Goodenough, Robert D. 2,977,185.
Havens, Carl B. 2,977,335.
Jones, William C., and Klein. 2,976,567.
Mattano, Leonard A., and Hatch. 2,977,328.

Dowden, Dennis A., and A. M. U. Caldwell, to Imperial Chemical Industries Ltd. Catalysts. 2,977,324, 3-28-61, Cl. 252—443.

Downs, Albert O., Jr., to The Babcock & Wilcox Co. Combustion apparatus for low heat value fuel. 2,976,855, 3-28-61, Cl. 122—7.

Dowty Hydraulic Units Ltd.: *See*—
Thoma, Oswald, Donovan, and Kempson. 2,976,685.

Dowty Mining Equipment Ltd.: *See*—
Frye, Colin M. 2,976,883.

Dowty Rotol Ltd.: *See*—
Nicholl, Edward J. 2,977,072.

Doyle, Elmer W. Bowildg ball grip gauges. 2,976,616, 3-28-61, Cl. 33—174.

Dreifus, Charles, Jr.: *See*—
Hamilton, Joseph P., and Burkhardt. 2,976,779.

Dresser Industries, Inc.: *See*—
Surbatovich, Milo. 2,976,940.

Dreyfus, Robert L., and J. W. Harrison, to W. R. Grace & Co. Packaging method and apparatus. 2,976,655, 3-28-61, Cl. 53—42.

Druey, Jean, and K. Meier, to Ciba Pharmaceutical Products, Inc. Certain 3-aminophenyl-mercapto pyridines. 2,977,368, 3-28-61, Cl. 260—294.8.

Duba, George A., to C. C. Bjorkman. Process of splitting and handling surgical gut. 2,976,751, 3-28-61, Cl. 83—24.

Duba, George A., to C. C. Bjorkman. Machine for handling gut ribbons. 2,976,752, 3-28-61, Cl. 83—98.

Ducommun, Georges, to Geneva Sport Watch Ltd. Timepiece with date indicator. 2,976,672, 3-28-61, Cl. 58—58.

Duer, Morris J., and C. W. Truxell, to General Motors Corp. Hydraulic engine-starting device. 2,976,863, 3-28-61, Cl. 123—179.

Duerksen, Arnold, to Super Mold Corp. of California. Mobile tire spreader. 2,977,092, 3-28-61, Cl. 254—50.3.

Duff, John, to Selas Corp. of America. Furnace closure. 2,977,106, 3-28-61, Cl. 263—50.

Du Hamel, Raymond H., and F. R. Ore, to Collins Radio Co. Frequency independent split beam antenna. 2,977,597, 3-28-61, Cl. 343—908.

Dulebohn, David H., and R. M. Gold, to Dayton Rogers Mfg. Co. Pneumatic pressure boosting apparatus. 2,977,040, 3-28-61, Cl. 230—52.

Dunkle, Richard B., to Philco Corp. Production of semiconductors and the like. 2,977,258, 3-28-61, Cl. 148—1.6.

Du Pont de Nemours, E. I., and Co.: *See*—
Blatz, Philip S. 2,977,336.
Bruck, Stephen D. 2,977,340.
Dixon, Stanley. 2,977,360.
Dixon, Stanley. 2,977,371.
Dixon, Stanley, and Verbanc. 2,977,369.
Fisher, John R., and Johnstone. 2,977,246.
Hoffman, Robert M. 2,976,875.
Krespan, Carl G., and Sausen. 2,977,304.
Lindegren, Carl R. 2,977,339.
Meier, John W. 2,977,243.
Oken, Aaron. 2,977,370.
Schuls, William E. 2,976,757.

Durham, Nolan B., ½ to R. H. Hummert. Fifth wheel. 2,977,137, 3-28-61, Cl. 280—434.

Durham, Raymond E., Jr., to International Business Machines Corp. Wire cutting and orienting apparatus. 2,976,895, 3-28-61, Cl. 140—102.

Durkoppwerke Aktiengesellschaft: *See*—
Witte, Alfred. 2,977,164.

Dye, Charles T., Jr., to J. R. Fitzhugh. Control mechanism for actuating rudders. 2,976,833, 3-28-61, Cl. 114—144.

Dyer, George A.: *See*—
Dobner, Allen L., Jr., and Dyer. 2,977,046.

E. Leybold's Nachfolger: *See*—
Nöller, Hans-Georg, and Büchler. 2,977,041.

Eastern Rotorcraft Corp.: *See*—
Huber, John R. 2,976,955.

Eastman, Irving F.: *See*—
Barstow, Frederick E., and Eastman. 2,977,500.

Eastman Kodak Co.: *See*—
Jones, Jean E. 2,977,229.

Eberline, Charles R.: *See*—
Johnson, Paul H., Denton, and Eberline. 2,977,323.

Eby, Lawrence T.: *See*—
Minckler, Leon S., Jr., and Eby. 2,977,347.

Eddy, William R., to Phillips Petroleum Co. Apparatus for testing materials for resistance to crushing. 2,976,723, 3-28-61, Cl. 73—94.

Edelman, Leonard E.: *See*—
Runk, Robert H., and Edelman. 2,977,333.

Edgar, Kenneth K. Textile yarn sizing apparatus and method. 2,976,600, 3-28-61, Cl. 28—28.

Edge, James: *See*—
Stansfield, Hamill, and Edge. 2,976,973.

Edgerton, Germeshausen & Grier, Inc.: *See*—
Barstow, Frederick E., and Eastman. 2,977,509.
Germeshausen, Kenneth J. 2,977,508.
Germeshausen, Kenneth J., Goldberg, and McDonald. 2,977,501.

Edholm, Harald. Storage of oil and other water-immiscible fluids. 2,976,091, 3-28-61, Cl. 61—.5.

Edminster, Robert E., to International Business Machines Corp. Document stacker. 2,977,116, 3-28-61, Cl. 271—88.

Edwards, William D., and B. H. Johnson. Pneumatic shock absorber bumper for motor vehicles. 2,977,146, 3-28-61, Cl. 293—60.

Ehrenthal, Irving: *See*—
Commerford, John D., and Ehrenthal. 2,977,356.

Eitel-McCullough, Inc.: *See*—
Johnstone, Frederick C., and Link. 2,977,494.

Ekar, Albert F.: *See*—
Brockway, Charles E., and Ekar. 2,977,349.

Elam, Bert, to Symons Clamp & Mfg. Co. Concrete wall form extension. 2,976,597, 3-28-61, Cl. 25—131.

Electricite de France-Service National: *See*—
Teste, Yvan R. M., and Roux. 2,977,005.

Electro Chemical Laboratories Corp.: *See*—
Fearon, Robert E. 2,977,476.

Elektrokemisk A/S: *See*—
Wiedigel, Johan. 2,977,398.

Ellsworth, Arthur C., to Pittsburgh Plate Glass Co. Process of treating metal halides. 2,977,292, 3-28-61, Cl. 202—72.

Embleton, Tony F. W.: *See*—
Thiessen, George J., and Embleton. 2,976,948.

Eme, Robert H.: *See*—
Beiser, Elmer H., and Eme. 2,977,433.

Endicott, Harold S., and G. E. Ledges, to General Electric Co. Method of producing a dielectric material. 2,977,193, 3-28-61, Cl. 23—110.

Engberg, Carl T., to United States of America, Army. Multiple antenna using passive reflectors. 2,977,464, 3-28-61, Cl. 250—15.

Engineering Metal Products Corp.: *See*—
Gillespie, Russell A. 2,976,969.

English Electric Co. Ltd., The: *See*—
Adamson, Colin, and Dineley. 2,977,510.

Epsco, Inc.: *See*—
Talambiras, Robert P. 2,977,547.

Ericks, Walter P., to The Upson Co. Process of stabilizing cellulose by impregnation with polyesters and polyamine or hydroxyamine and product thereof. 2,977,331, 3-28-61, Cl. 260—17.2.

Erickson, Carl A., to United Aircraft Corp. Pneumatic control system for fuel-air starter. 2,976,682, 3-28-61, Cl. 60—39.14.

Ernsberger, Glenn W.: *See*—
Reeder, James B., and Ernsberger. 2,977,511.

Esso Research and Engineering Co.: *See*—
Cull, Neville L. 2,977,346.
Fasce, Egi V., and Mertzweiller. 2,977,350.
Fischer, Wilbur F., Neu, and Zapp. 2,977,345.
Minckler, Leon S., Jr., and Eby. 2,977,347.
Morway, Arnold J., Bartlett, and Muessig. 2,977,303.
Powers, Kenneth W., Robison, and Fusco. 2,977,344.
Zapp, Robert L., and Swaney. 2,977,343.

Etablissements Bertrand Faure: *See*—
Christin, Georges. 2,976,592.

Ethicon, Inc.: *See*—
Bloch, Alfred, and Messing. 2,977,287.

Ettenberg, Morris. Molding apparatus for and method of forming a prosthesis and the like. 2,976,570, 3-28-61, Cl. 18—34.1.

Evans, Albert M., and C. W. Johnson. Truck for handling drums. 2,977,009, 3-28-61, Cl. 214—379.

Evans, Charles. Indexing and mounting means. 2,976,737, 3-28-61, Cl. 74—10.

Evans, Ersel A., R. J. Anicetti, and W. E. Roake, to United States of America, Atomic Energy Commission. Reactor fuel assembly. 2,977,297, 3-28-61, Cl. 204—193.2.

Evans, Louis B., and R. C. Ewing, to Waterous Co. Compact series-parallel, two stage centrifugal pumps. 2,976,810, 3-28-61, Cl. 103—106.

Evans, Quentin J.: *See*—
Miner, Richard Y., Gittens, Bock, and Evans. 2,977,049.

Evans, Ted C., to The Air Preheater Corp. Rotary regenerative heat exchanger. 2,977,090, 3-28-61, Cl. 257—287.

Ewald, Waldemar, to Jos. Schneider & Co., Optische Werke. Photographic or cinematographic lens mount. 2,976,790, 3-28-61, Cl. 95—45.

Ewing, Richard C.: *See*—
Evans, Louis B., and Ewing. 2,976,810.

Exatest Gesellschaft fur Messtechnik mit beschrankter Haftung: *See*—
Wuppermann, August T. 2,977,478.

Exton, Norman, to Atlantic Wire and Cable Corp. Clothespin clothesline-hook assembly. 2,976,593, 3-28-61, Cl. 24—137.

F.I.D.C. Fabbrica Italiana Occhiali Cibiana-Bianchi, Genova & C.: *See*—
Bianchi, Antonio. 2,976,766.

Fabish, Robert A.: *See*—
O'Connor, David T., and Fabish. 2,977,535.

Faerber, Gerhard: *See*—
Walling, Ernst, and Faerber. 2,977,393.

Fageol, Louis J. Vertical shaft inboard marine power plant installations. 2,976,836, 3-28-61, Cl. 115—35.

Fain, Mitchell S., to Grinnell Corp. Air cleaner. 2,976,558, 3-28-61, Cl. 15—312.

Falk Corp., The: *See*—
Bade, Alfred G. 2,976,745.

Fancher, James A.: *See*—
Meyer, Curtis E., Fancher, and Schurr. 2,977,283.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Müller, Wilhelm, Zimmermann, and Strah. 2,977,308.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Dorfelt, Christoph, Hartel, and Reindl. 2,977,379.

Farkas, Adalbert, and J. H. Krause, to Houdry Process Corp. Synthesis of 1,4-dimethylcyclo (2.2.2) octane. 2,977,363, 3-28-61, Cl. 260—268.

Farkas, Lucien L. Gymnastic apparatus. 2,977,118, 3-28-61, Cl. 272—60.

Farkas, Thomas P., O. E. Zuiderbeek, and M. D. Meader, to United Aircraft Corp. Temperature responsive control valve. 2,977,051, 3-28-61, Cl. 236—82.

Farr, Kenneth E., to Westinghouse Electric Corp. Television apparatus for weak signal tuning. 2,977,406, 3-28-61, Cl. 178—5.8.

Farrel-Birmingham Co., Inc.: *See*—
De Matteo, Adolph J. 2,976,991.

Fasce, Egi V., and J. K. Mertzweiller, to Esso Research and Engineering Co. Polymerization of olefins. 2,977,350, 3-28-61, Cl. 260—94.9.

Faulkner, William H., to Union Carbide Corp. Cobalt-base alloy. 2,977,224, 3-28-61, Cl. 75—171.

Faust, John P.: *See*—
De Lorenzo, Eugene J., and Faust. 2,977,389.

Fauteux, Henri A. Clothes pins. 2,976,594, 3-28-61, Cl. 24—139.

Fawcett, Frank A., to Bath Iron Works Corp. Apparatus for pulverising coal and the like. 2,977,056, 3-28-61, Cl. 241—86.

Fearon, Robert E., to Electro Chemical Laboratories Corp. Diffusion cloud chamber. 2,977,476, 3-28-61, Cl. 250—83.

Federal Industries, Inc.: *See*—
Ditter, Francis J., and Boucher. 2,977,073.

Feier, Milton, and M. Pantzer, to The Panray Corp. Buffered para-aminosalicylic acid oral compositions. 2,977,281, 3-28-61, Cl. 167—65.

Feige, Günter: *See*—
Keil, Helmut, Wagner, Feige, Stiliner, and Rudiger. 2,976,851.

Fellowes, John E., to Bankers Box Co. Closure means for storage box. 2,977,037, 3-28-61, Cl. 229—47.

Fender, Clarence L. Electromagnetic pickup for lute-type musical instrument. 2,976,755, 3-28-61, Cl. 84—1.16.

Fentiman, Arthur E., to C. F., A. E. and H. G. Fentiman, trading as Triodetic Structures. Wall construction. 2,976,968, 3-28-61, Cl. 189—34.

Fentiman, Clarence F.: *See*—
Fentiman, Arthur E. 2,976,968.

Fentiman, Harold G.: *See*—
Fentiman, Arthur E. 2,976,968.

Ferguson, James M. Method of, and apparatus for, manufacturing pipe bends. 2,976,908, 3-28-61, Cl. 153—32.

Ferm, Richard L., and A. D. Abbott, to California Research Corp. Lubricating oil composition. 2,977,304, 3-28-61, Cl. 252—32.7.

Ferrari, Andrea, Jr.: *See*—
Whitehead, Edwin C., and Ferrari. 2,976,761.

Feustel, Klaus, F. Johswich, and H. Stratmann, to Reinluft G.m.b.H. Process for producing activated charcoal. 2,977,325, 3-28-61, Cl. 252—445.

Fields, Joseph E.: *See*—
Zopf, George W., Jr., Johnson, Hedrick, Fields, and Butler. 2,977,334.

Fillio, Paul E.: *See*—
Miscovich, John A. 2,976,742.
Miscovich, John A. 2,976,886.

Fine, Samuel: *See*—
Hendee, Charles F., and Fine. 2,977,473.

Finnegan, William G., and R. H. Boschan, to United States of America, Navy. Process for preparing substituted tetrazoles. 2,977,372, 3-28-61, Cl. 260—308.

Fischer, Wilbur F., R. P. Neu, and R. L. Zapp, to Esso Research and Engineering Co. Accelerator system for steam curing polymers. 2,977,345, 3-28-61, Cl. 260—79.5.

Fisher, John R., and H. R. Johnstone, to E. I. du Pont de Nemours and Co. Process for coating film. 2,977,246, 3-28-61, Cl. 117—76.

Fitch, Merle E.: *See*—
Schubring, Norman W., and Fitch. 2,977,544.

Fitt, Peter W., to Normalair Ltd. Quick disconnect couplings. 2,977,078, 3-28-61, Cl. 244—122.

Fitzhugh, John R.: *See*—
Dye, Charles T., Jr. 2,976,833.

Flanagan, James R., and P. R. Hoopes, to Stephen F. Whitman and Son, Inc. Article packing apparatus. 2,976,659, 3-28-61, Cl. 53—237.

Flanigan, Eugene E., and R. M. Zeek, to General Motors Corp. Gas turbine fuel system with regenerator temperature compensation. 2,976,683, 3-28-61, Cl. 60—39.28.

Flannery, John P., to The Murray Corp. of America. Washing machine transmission. 2,976,746, 3-28-61, Cl. 74—665.

Fleming, Raymond C., Jr., to International Minerals & Chemical Corp. Defluorination method. 2,977,196, 3-28-61, Cl. 23—145.

Fleming & Sons, Inc.: *See*—
Shiels, Thomas E., Jr. 2,977,021.

Fletcher, David C., to United States of America, Army. Operating mechanism for a plural barrel rifle with a feeding rotor. 2,976,770, 3-28-61, Cl. 89—126.

Fletcher, H. E., Co.: *See*—
Horton, William B. 2,976,941.

Flight Refuelling Ltd.: *See*—
Roberts, Henry. 2,977,055.

Flighter Fabrics, Inc.: *See*—
Tibbetts, Willis F. 2,976,908.

Flint, Thomas, and J. M. Fluke, to American Machine & Foundry Co. Bowling pin spotting and respotting machine. 2,977,121, 3-28-61, Cl. 273—43.

Flowers, Fred C., to General Motors Corp. Gasket and method of making same. 2,977,248, 3-28-61, Cl. 117—126.

Fluke, John M.: *See*—
Flint, Thomas, and Fluke. 2,977,121.

Fontein, Freerk J., to Stamicarbon N.V. Apparatus and method for wet screening. 2,976,990, 3-28-61, Cl. 209—355.

Food Machinery and Chemical Corp.: *See*—
Cummins, Richard W. 2,977,192.
Yates, William E., Wilding, and Morrow. 2,977,190.

Ford, Barton H., ½ to International Paper Co., and ½ to The Stanley Works. Disposable pallet. 2,977,148, 3-28-61, Cl. 294—74.

Ford, Frank M., 35% to J. Ford. Oil purifying apparatus. 2,976,864, 3-28-61, Cl. 123—196.

Ford, Frank W., Jr. Wheel flange protectors. 2,977,151, 3-28-61, Cl. 301—37.

Ford, John: *See*—
Ford, Frank M. 2,976,864.

Forrer, Robert C. Magnetic separator operating in an aqueous medium. 2,976,995, 3-28-61, Cl. 209—223.

Forsberg, Richard P., and K. M. Holland, to Hexcel Products Inc. Ceramic structure and method of making same. 2,977,265, 3-28-61, Cl. 154—43.

Forsyth, Bruce A., and A. R. Taylor, to Imperial Chemical Industries of Australia and New Zealand Ltd. Process for treating foot rot with quarternary ammonium compounds. 2,977,280, 3-28-61, Cl. 167—53.2.

Foti, Sam J., to The Auto-Diesel Piston Ring Co. Mold cavity venting device. 2,976,568, 3-28-61, Cl. 18—30.

Fourestier, Max. *See*—
Vulmiere, Jacques C., Vulmiere, and Fourestier. 2,977,497.

Fowler, Alexander and E. R. Press unloader including magnetic lift means and magnetic delivery rollers. 2,976,753, 3-28-61, Cl. 83—82.

Fowler, Evelyn R.: *See*—
Fowler, Alexander and E. R. 2,976,753.

Fowler, George W., and T. F. Carruthers, to Union Carbide Corp. Process for producing lactone adducts. 2,977,385, 3-28-61, Cl. 260—475.

Fox, Irving, and S. Pailey. ½ to C. Wolfson, and ½ to Fox-Wiprite Corp. Packaging and dispensing beverage concentrates. 2,977,231, 3-28-61, Cl. 99—79.

Fox Products Co.: *See*—
Medlar, Lewis A. 2,977,525.

Fox-Wiprite Corp.: *See*—
Fox, Irving, and Pailey. 2,977,231.

Franck, Kurt, to Holophane Co., Inc. Lighting unit. 2,977,460, 3-28-61, Cl. 240—9.

Frankel, Harry: *See*—
Moskovits, Milton A., and Collier. 2,977,131.

Frankenstein, P., & Sons (Manchester) Ltd.: *See*—
Silverstone, Joseph, and Smith. 2,976,869.

Franklin, John B., to Sanford Process Co., Inc. Process for producing oxide coatings on aluminum and aluminum alloys. 2,977,294, 3-28-61, Cl. 204—42.

Frazel, Wilbur H., to B-I-F Industries, Inc. Telemetric receiver. 2,976,740, 3-28-61, Cl. 74—319.

Frederick, William J.: *See*—
Hoffman, Lester J., and Frederick. 2,977,560.

Fridrich, Elmer G., to General Electirc Co. Lamp making machinery. 2,976,893, 3-28-61, Cl. 140—71.6.

Fried, Josef: *See*—
Laskin, Allen I., Guiducci, and Fried. 2,977,280.

Fritze, Curtis W.: *See*—
Daniels, Howard L., Fritze, and Ritter. 2,977,578.

Fry, Lyle L., to Lockwood Graders. Vehicles for cleaning beach sands. 2,976,936, 3-28-61, Cl. 171—126.

Frye, Colin M., to Dowty Mining Equipment Ltd. Relief valves. 2,976,883, 3-28-61, Cl. 137—539.5.

Frye, Filmore O. Underwater fuel storage. 2,977,018, 3-28-61, Cl. 220—18.

Fuller Co.: *See*—
Beyhl, Edward H. 2,977,057.

Furth, John V.: *See*—
Long, John V., and Furth. 2,977,251.

Fusco, James V.: *See*—
Powers, Kenneth W., Robison, and Fusco. 2,977,344.

Fussell, Lynn E.: *See*—
Oliver, Evan M., Tripp, Fussell, and Michael. 2,977,241.

Gadget-Of-The-Month Club, Inc.: *See*—
Germick, Willard D. 2,976,835.

Gales, Richard J., to Accurate Bushing Co. Roller assembly. 2,977,163, 3-28-61, Cl. 308—207.

Galloway, Thomas L. Sandal with removable upper therefor. 2,976,623, 3-28-61, Cl. 36—11.5.

Galleher, Louis C.: *See*—
Thostenson, Lewis D., and Galleher. 2,976,975.

Gangneux, Rene E. M., to Compagnie Francaise des Matieres Colorantes. Monosulphonated di-ortho-hydroxy-azo dyestuffs. 2,977,354, 3-28-61, Cl. 260—195.

Gardner, Patrick J., to John Morrell & Co. Automatic ham press. 2,976,656, 3-28-61, Cl. 53—70.

Gardon, John L., and B. Leopold, to Canadian International Paper Co. Process for obtaining infusible products of high carbon contents from lignin sulphonates. 2,977,352, 3-28-61, Cl. 260—124.

Garraway, George H., and R.P. Kirkup, to Orr & Sembower, Inc. Fuel control valves. 2,976,885, 3-28-61, Cl. 137—608.

Garrett Corp., The: *See*—
Westman, Sydney E. 2,976,731.

Garrison, Howard T. Attachment for a garment hanger. 2,977,030, 3-28-61, Cl. 223—88.

Gaunlett, J. M., Co., Inc.: *See*—
Miscovich, John A. 2,976,742.
Miscovich, John A. 2,976,886.

Gauthier, Alfred, G.m.b.H.: *See*—
Rentschler, Waldemar T. 2,976,788.

Gebr. Stäubli & Co.: *See*—
Wicker, Walter. 2,976,891.

Geddes, Bruce E.: *See*—
Risk, Donald L., and Geddes. 2,976,806.

Gegenschatz, Walter, and M. Buchmann, to Zellweger A.G., Aparate- und Maschinenfabriken Uster. Apparatus for tying elastic threads. 2,977,144, 3-28-61, Cl. 289—12.

Geiger, Franz: *See*—
Hüller, Karl, and Geiger. 2,976,978.

Geiselman, Doyle: *See*—
Wlodek, Stanley T., Geiselman, and Reddy. 2,977,225.

Gelenkwellenbau G.m.b.H.: *See*—
Kleinschmidt, Hans-Joachim. 2,976,704.

Geller, Roscoe G., to Stakmore Co., Inc. Table with high and low folding legs. 2,977,160, 3-28-61, Cl. 311—39.

General Dynamics Corp.: *See*—
Creuts, Edward C. 2,976,598.
David, Freddy, Tyrlick, and Townsend. 2,977,468.
Dobner, Allen L., Jr., and Dyer. 2,977,046.
Harvey, George W., and Brower. 2,976,907.
Risk, Donald L., and Geddes. 2,976,806.
Townsend, Stephen E. 2,977,539.

General Electric Co.: *See*—
Alford, Joseph S. 2,977,142.
Boeker, Harold T. 2,977,500.
Cockrell, William D. 2,977,523.
Cook, Clinton D. 2,977,554.
Endicott, Harold S., and Ledges. 2,977,193.
Fridrich, Elmer G. 2,976,895.
Gray, Willard F. M., and Moser. 2,977,550.
Johnson, Wallace M. 2,977,527.
Leak, Israel A. 2,977,256.
Myers, Robert L., and Gill. 2,977,514.
Oliver, Evan M., Tripp, Fussell, and Michael. 2,977,241.
Ott, George E. 2,977,104.
Scheidorf, Owen H. 2,977,043.
Swerdlow, Nathan. 2,977,404.

General Foods Corp.: *See*—
Sienkiewicz, Boleslaw, Kohler, and Schulman. 2,977,203.

General Motors Corp.: *See*—
Allen, Everett W. 2,976,862.
Amala, Raymond S., and Schroeder. 2,976,588.
Bayer, Robert J. 2,976,860.
Bockemuehl, Robert R. 2,977,499.
Brittain, Richard J., Jr. 2,977,138.
Brooks, Frank W. 2,976,957.
Bychinsky, Wilfred A. 2,977,408.
Callahan, Thomas P. 2,976,720.
Cobb, Leland D. 2,977,161.
Davis, Raymond C. 2,976,573.
Denman, Stephen A., and Bunker. 2,976,946.
Duer, Morris J., and Truxell. 2,976,863.
Flanigan, Eugene E., and Zeek. 2,976,688.
Flowers, Fred C. 2,977,248.
Gordon, Dwight M., and Majewski. 2,976,743.
Gould, Richard E. 2,976,577.
Hackett, William S., and Bartsch. 2,976,589.
Lynch, William H., Vent, and Barker. 2,977,257.
Primeau, George H. 2,977,139.
Ryck, Francis M. 2,977,141.
Schjolin, Hans O. 2,976,965.
Schubring, Norman W., and Fitch. 2,977,544.
Short, Brooks H. 2,977,507.
Short, Brooks H., and Sprague. 2,977,506.
Sisson, Kenneth O., and Billings. 2,976,710.
Witte, Roy. 2,976,735.

General Precision, Inc.: *See*—
Wolman, Lane L. 2,977,582.

General Radio Co.: *See*—
Stuart, Robert W., Jr. 2,977,540.

General Time Corp.: *See*—
Beiser, Elmer H., and Eme. 2,977,433.

Geneva Sport Watch Ltd.: *See*—
Ducommun, Georges. 2,976,672.

Genisco, Inc.: *See*—
Glindes, Philip, and Hughes. 2,976,734.

Genter, Albert H. Feeder tap. 2,977,441, 3-28-61, Cl. 200—115.5.

Geohegan, William A.: *See*—
Richards, Charles H., and Geohegan. 2,977,526.

Geppert, Georg, to Technica Etablissement. Bucket wheel. 2,977,091, 3-28-61, Cl. 253—116.

Germeshausen, Kenneth J., to Edgerton, Germeshausen & Grier, Inc. Gaseous-discharge device and system. 2,977,508, 3-28-61, Cl. 315—241.

Germeshausen, Kenneth J., S. Goldberg, and D. F. McDonald, to Edgerton, Germeshausen & Grier, Inc. Cathode-ray apparatus and method. 2,977,501, 3-28-61, Cl. 315—17.

Germick, Willard D., ½ to Gadget-Of-The-Month Club, Inc. Pedal pony. 2,976,835, 3-28-61, Cl. 115—26.

Gerson, Benjamin S.: *See*—
Lessner, William J. 2,977,440.

Gfeller, Chr., AG.: *See*—
Tracheel, Fritz. 2,977,421.

Ghormley, Lee R. Threshold. 2,976,584, 3-28-61, Cl. 20—64.

Gibson, Alan F., and J. W. Granville, to National Research Development Corp. Microwave modulator. 2,977,551, 3-28-61, Cl. 332—52.

Giffen, James W., to Corning Glass Works. Metal frame manufacture. 2,976,611, 3-28-61, Cl. 29—553.

Gilbert, Bruce, to The Western Co. of North America. Method and apparatus for injecting perforation sealers. 2,976,928, 3-28-61, Cl. 166—76.

Gilchrist, Albert D.: *See*—
Hueffed, Homer C., and Gilchrist. 2,977,491.

Gilchrist, William G.: *See*—
De Lisle, Raymond P., and Gilchrist. 2,976,879.

Gill, Millard F.: *See*—
Myers, Robert L., and Gill. 2,977,514.

Gillespie, Russell A., to Engineering Metal Products Corp. Curtain wall mullion. 2,976,969, 3-28-61, Cl. 189—34.

Gillett, Walter E.: *See*—
Adams, Charles C., and Gillett. 2,977,182.

Gil Vidales, Enrique: *See*—
Gil Vidales, Joaquin and E. 2,977,174.

Gil Vidales, Joaquin and E. Ice-boxes. 2,977,174, 3-28-61, Cl. 312—306.

Gindes, Philip, and A. C. Hughes, Jr., to Genisco, Inc. Accelerometer. 2,976,734, 3-28-61, Cl. 73—514.

Gittens, Edmund D.: *See*—
Miner, Richard Y., Gittens, Bock, and Evans. 2,977,049.

Glass, Marvin I.: *See*—
Bub, William F., Jr. 2,977,125.

Glaus, Bernhard, to Ulrich Steinemann Aktiengesellschaft. Apparatus for pouring varnish upon bodies. 2,976,837, 3-28-61, Cl. 118—319.

Gleason, Jack Q. Cigar box assembly. 2,977,171, 3-28-61, Cl. 312—31.

Godfrey, Kenneth L., to Monsanto Chemical Co. Biologically active aralkylhalides. 2,977,210, 3-28-61, Cl. 71—2.3.

Godfrey, Kenneth L., to Monsanto Chemical Co. Method for controlling vegetation using polyhalogenated toluenes. 2,977,211, 3-28-61, Cl. 71—2.3.

Godfrey, Kenneth L., and D. D. Staker, to Monsanto Chemical Co. Lubricating oil containing branched chain alkyl amine derivatives of dicarboxylic acids. 2,977,309, 3-28-61, Cl. 252—51.5.

Göhring, Heinz: *See*—
Pleuger, Friedrich W., and Göhring. 2,976,812.

Gold, Edward, and H. W. Bouser, to Sperry Rand Corp., Ford Instrument Co. Division. Method of making three dimensional models. 2,977,226, 3-28-61, Cl. 96—36.

Gold, Robert M.: *See*—
Dulebohn, David H., and Gold. 2,977,040.

Goldberg, Seymour: *See*—
Germeshausen, Kenneth J., Goldberg, and McDonald. 2,977,501.

Golden, William L.: *See*—
Bredberg, Burrell E., and Golden. 2,976,609.

Goldring, John E., to Modernair Corp. Stroke adjustment for drive cylinders and the like. 2,976,844, 3-28-61, Cl. 121—38.

Goldring, John E., to Modernair Corp. Pneumatic-hydraulic drive cylinder. 2,976,845, 3-28-61, Cl. 121—38.

Goldring, John E., to Modernair Corp. Valve-in-head pneumatic cylinder. 2,976,853, 3-28-61, Cl. 121—46.5.

Goodale, Walter D., Jr., and W. Pferd, to Bell Telephone Laboratories, Inc. Telephone pay station. 2,977,419, 3-28-61, Cl. 179—6.3.

Goodenough, Robert D., to The Dow Chemical Co. Process for the recovery and separation of lithium and aluminum from lithium aluminate complex. 2,977,185, 3-28-61, Cl. 23—25.

Goodman, Hazen K.: *See*—
Hook, Albert S., Goodman, and Hutter. 2,977,178.

Goodrich-Gulf Chemicals, Inc.: *See*—
Brockway, Charles E., and Ekar. 2,977,349.
Roha, Max E., and Becars. 2,977,881.

Goodrich, Hunter C., to Radio Corp. of America. Automatic gain control circuits. 2,977,411, 3-28-61, Cl. 178—7.3.

Goodyear Aircraft Corp.: *See*—
Hermansdorfer, James E., and Mellander. 2,977,534.
Van Breeman, Bertram. 2,977,415.

Gordon, Barnett D. Knitted garment with breast cups. 2,976,708, 3-28-61, Cl. 66—176.

Gordon, Dwight M., and A. E. Majewski; said Majewski assor to General Motors Corp., said Gordon assor, to ACF Industries, Inc. Carburetor throttle control. 2,976,745, 3-28-61, Cl. 74—472.

Gorter, Evert W., G. H. Jonker, H. P. J. Wijn, and J. A. Schulkes, to North American Philips Co., Inc. Ferromagnetic material. 2,977,312, 3-28-61, Cl. 252—62.5.

Gorton, George, Machine Co.: *See*—
Gunderson, Allen D., and Knehl. 2,976,776.

Gould, Jack B., and J. E. Faustian, to Thiokol Chemical Corp. Dipentaboryialkanes and method for preparation thereof. 2,977,387, 3-28-61, Cl. 260—606.5.

Gould, Richard E., to General Motors Corp. Process of making foam cored laminates. 2,976,517, 3-28-61, Cl. 18—58.

Grace, W. R., & Co.: *See*—
Dreyfus, Robert L., and Harrison. 2,976,666.

Graef, Rudolf F. and L. A. von Bogdany, to Hüttenwerk Oberhausen, Aktiengesellschaft. Method for refining metal baths in rotary drum furnaces. 2,977,217, 3-28-61, Cl. 75—60.

Graham, Phillip. Vehicle occupant safety barrier. 2,977,185, 3-28-61, Cl. 280—150.

Gram, Hans. Spouts for the discharge of viscous materials and in methods and devices for liberating the spout for the discharged viscous material. 2,976,896, 3-28-61, Cl. 141—1.

Grandadam, Albert R., to Societe Industrielle et Agricole de la Somme et Raffinerie Francois. Process for the purification of sugar-containing juices. 2,977,253, 3-28-61, Cl. 127—50.

Granguad, Huguette: *See*—
Vulmiere, Jacques C. and H., and Fourestier. 2,977,497.

Grant, James A.: *See*—
Mann, Ralph J., and Grant. 2,976,713.

Granville, James W.: *See*—
Gibson, Alan F., and Granville. 2,977,551.

Gray, Reed A., to Merck & Co., Inc. Plant disease control. 2,977,282, 3-28-61, Cl. 167—65.

Gray, Willard F. M., and R. O. Moser, to General Electric Co. Electrical coil. 2,977,556, 3-28-61, Cl. 336—185.

Green, Willard E., and E. H. Stark, to Jay Mfg. Co. Control circuit. 2,977,039, 3-28-61, Cl. 230—2.

Greenhill, Ernest L.: *See*—
St. Clair, Theodore A., and Greenhill. 2,976,726.

Greenwalt, Frederick A., to Ranco Inc. Reversing valve for refrigerating systems. 2,976,701, 3-28-61, Cl. 62—342.

Griggs, John O. Method of and means for production of steel ingots. 2,976,586, 3-28-61, Cl. 22—61.

Grigor, James: *See*—
Harper, Aubrey E., Grigor, and Cooke. 2,977,208.

Grinnell Corp.: *See*—
Fain, Mitchell S. 2,976,558.

Grisot, Ernest J., Jr., and G. L. Thurmond, to American Enka Corp. Production of rayon. 2,977,184, 3-28-61, Cl. 18—54.

Gross, Henry and S. Printing mechanisms. 2,976,800, 3-28-61, Cl. 101—93.

Gross, Samuel: *See*—
Gross, Henry and S. 2,976,800.

Grove, John F.: *See*—
Birch, Arthur J., Nixon, and Grove. 2,977,285.

Grube, Wolfgang O., and E. K. Walker, to Mergenthaler Linotype Co. Character font plate unit for phototypographical machines. 2,976,786, 3-28-61, Cl. 95—4.5.

Guiducci, Mariano A.: *See*—
Laskin, Allen I., Guiducci, and Fried. 2,977,286.

Guillaud, Charles L., A. Pierrot, and Y. C. Lescroel, to Centre National de la Recherche Scientifique. Ferromagnetic ceramic materials. 2,977,311, 3-28-61, Cl. 252—62.5.

Gulf Oil Corp.: *See*—
Warnock, Charles F. 2,977,405.

Gullette, Edward E.: *See*—
Richardson, Kay A., and Gullette. 2,977,007.

Gunderson, Allen D., and G. Knehl, to George Gorton Machine Co. Reverse image attachment. 2,976,775, 3-28-61, Cl. 90—13.1.

Gustke, Klaus H., to Probst & Class. Colloid mill with precutting attachment. 2,977,056, 3-28-61, Cl. 241—101.

Gutton, Henri, to Compagnie Generale de Telegraphie Sans Fil. Electromagnetic detecting and tracking devices. 2,977,589, 3-28-61, Cl. 343—17.1.

Gyana, Eugene E., to United States Rubber Co. Mixing apparatus and method. 2,976,565, 3-28-61, Cl. 18—2.

Haack, Erich, and A. Hagedorn, to C. F. Boehringer & Soehne, G.m.b.H. Process of manufacturing N-sulphanilyl ureas. 2,977,375, 3-28-61, Cl. 260—397.7.

Haas, James P., and G. L. Morgret, to Koppers Co., Inc. Filter. 2,976,953, 3-28-61, Cl. 183—61.

Haas, Victor E. Combined oscillator and head phone for code practice. 2,977,418, 3-28-61, Cl. 178—115.

Haber, Robert J., to All American Engineering Co. Aircraft arresting means. 2,977,075, 3-28-61, Cl. 244—110.

Hackett, William S., and M. L. Bartsch, to General Motors Corp. Method of making hollow shell cores. 2,976,589, 3-28-61, Cl. 22—193.

Hacklander, Hans, to The Singer Mfg. Co. Sewing machines. 2,976,831, 3-28-61, Cl. 112—220.

Hagan Chemicals & Controls, Inc.: *See*—
Liddell, Robert W. 2,977,318.
Meyer, Albert, and Weck. 2,977,232.
Munter, Casimir J. 2,977,200.
Roland, Charles T. 2,977,318.

Hagar, Elbert C. Animal duster. 2,976,842, 3-28-61, Cl. 119—159.

Hagedorn, Adolf: *See*—
Haack, Erich, and Hagedorn. 2,977,375.

Hagelbarger, David W., and E. F. Moore, to Bell Telephone Laboratories, Inc. Cryotron circuits. 2,977,575, 3-28-61, Cl. 340—173.1.

Hall, Harry H., to American Viscose Corp. Process of producing all skin rayon. 2,977,238, 3-28-61, Cl. 106—165.

Halliwell, John W.: *See*—
Bedortha, Lawrence T., and Halliwell. 2,976,652.

Halortha Engineering Co., Inc.: *See*—
Bedortha, Lawrence T., and Halliwell. 2,976,652.

Halteman, Eber K.: *See*—
Bleiberg, Melvin L., and Halteman. 2,977,567.

Hamilton, Joseph P., and G. C. Burkhardt, to C. Dreifus, Jr. Pallet making machine and process. 2,976,779, 3-28-61, Cl. 93—1.

Hamilton, Milton R., to Bomac Laboratories Inc. Microwave duplexer. 2,976,552, 3-28-61, Cl. 333—13.

Hamilton, Russel D.: *See*—
Lederman, Burton E., and Hamilton. 2,977,242.

Hamilton Watch Co.: *See*—
Petters, Oscar E., and Thompson. 2,976,673.

Hammond, Dale E., to Continental Can Co., Inc. Lift truck scrap loading attachment. 2,977,006, 3-28-61, Cl. 214—515.

Hampton, William L., to Cutler-Hammer, Inc. Thermal responsive resistance devices. 2,977,588, 3-28-61, Cl. 338—22.

Hansen, Paul E., and R. J. Oase, to Minnesota Mining and Mfg. Co. Grass-growing fabric. 2,976,645, 3-28-61, Cl. 47—56.

Hanson, Walter J., and R. H. Schmeck, to Pitney-Bowes, Inc. Document feeding apparatus. 2,977,114, 3-28-61, Cl. 271—32.

Hanus, Edward J., and J. W. Carr, to Merck & Co., Inc. Water-soluble tablet for the curing of meat. 2,977,235, 3-28-61, Cl. 99—222.

Harendza-Harinxma, Alfred, to Western Electric Co., Inc. Magnetic cores and methods of making the same. 2,977,263, 3-28-61, Cl. 148—104.

Harley, Max: *See*—
Kalish, Victor A. 2,976,886.

Harper, Aubrey E., J. Grigor, and E. G. Cooke, to Imperial Chemical Industries Ltd. Gas-producing composition. 2,977,208, 3-28-61, Cl. 52—8.

Harrington, Walter J.: *See*—
Africano, Alfred, Brower, and Harrington. 2,976,805.

Harris, Arthur L. Magnetic support. 2,977,062, 3-28-61, Cl. 248—206.

Harris, Bennett C. Gasoline vending apparatus. 2,977,024, 3-28-61, Cl. 222—2.

Harris-Intertype Corp.: *See*—
Vandeman, Jack E. 2,977,115.

Harris Transducer Corp., The: *See*—
Harris, Wilbur T. 2,977,569.

Harris, Wilbur T., to The Harris Transducer Corp. Detector with modulation by magnetostrictive core acoustic transducer. 2,977,569, 3-28-61, Cl. 340—5.

Harrison, John W.: *See*—
Dreyfus, Robert L., and Harrison. 2,976,655.

Hart, Oscar D. Fastener assembly for joint for paper-machine drier felts. 2,976,537, 3-28-61, Cl. 1—56.

Hartel, Kurt: *See*—
Dorfelt, Christoph, Hartel, and Reindl. 2,977,379.

Harter, Edward, to Index-Werke K.G. Hahn & Tessky. Work feeding means for machine tools. 2,977,036, 3-28-61, Cl. 226—89.

Hartmann, Ludwig A., to Atlas Powder Co. Purification of glycerol. 2,977,291, 3-28-61, Cl. 202—57.

Harvey, George W., and D. F. Brower, to General Dynamics Corp. Metal forming device and method. 2,976,907, 3-28-61, Cl. 153—10.

Hasenplug, Walter M.: *See*—
Smith, Lewis E., Ambrose, and Hasenplug. 2,977,103.

Hatch, Melvin J.: *See*—
Mattano, Leonard A., and Hatch. 2,977,328.

Hauth, Willard E., Jr.: *See*—
Pugh, Henry D., and Hauth. 2,977,561.

Hautly, Rudolph F. Means for recording forces to which shipped articles are subjected. 2,976,732, 3-28-61, Cl. 73—492.

Havens, Carl B., to The Dow Chemical Co. Composition of matter comprising a vinylidene chloride copolymer and a plasticizer. 2,977,335, 3-28-61, Cl. 260—32.8.

Hawkridge Metals Corp.: *See*—
Whitehurst, Bert W. 2,976,808.

Haydon, Arthur W., to The Sessions Clock Co. Open-face clock. 2,976,674, 3-28-61, Cl. 58—126.

Haydon, Arthur W. Snap action switch. 2,977,436, 3-28-61, Cl. 200—67.

Haydon Switch, Inc.: *See*—
Korsgren, Theodore Y., Sr., and T. Y. Koregren, Jr. 2,977,447.

Haseltine Research, Inc.: *See*—
Hirsch, Charles J. 2,977,407.

Heald, Earl T.: *See*—
Doels, Melvin L., and Heald. 2,977,417.

Heckly, Robert J. Water-content testing device. 2,976,722, 3-28-61, Cl. 73—76.

Hedrick, Ross M.: *See*—
Zopf, George W., Jr., Johnson, Hedrick, Fields, and Butler. 2,977,334.

Heenan & Froude Ltd.: *See*—
Bathurst, William N. 2,976,980.

Heinen, Irving J. Gate type dual seal valve. 2,977,086, 3-28-61, Cl. 251—167.

Helders, Bartholomeus J.: *See*—
Quere, Hendrik K., and Helders. 2,976,569.

Helling, Jürgen, to Fried. Krupp Mortoren- und Kraftwagenfabriken G.m.b.H. Device for controlling the air in air springs, especially for motor vehicles. 2,977,134, 3-28-61, Cl. 280—124.

Heltzel, Carl J.: *See*—
Heltzel, John N. 2,976,781.

Heltzel, John N., deceased, by Union Savings and Trust Co., and C. J. Heltzel, co-executors. Concrete expansion joints. 2,976,781, 3-28-61, Cl. 94—18.

Henchert, John, to Continental Can Co., Inc. Easy opening can and cover assembly. 2,977,019, 3-28-61, Cl. 220—60.

Henchert, John, to Continental Can Co., Inc. Can push-out panel and slide therefor. 2,977,029, 3-28-61, Cl. 222—548.

Hendee, Charles F., and S. Fine, to North American Philips Co., Inc. Apparatus for detecting and monitoring the constitution of a gas or vapor. 2,977,473, 3-28-61, Cl. 250—43.5.

Hensley, Waldo W., Jr., to Baker Oil Tools, Inc. Multiple tubing string production apparatus. 2,976,933, 3-28-61, Cl. 166—243.

Herbst, Philip J., to Radio Corp. of America. Frequency modulated pulse radar. 2,977,587, 3-28-61, Cl. 343—12.

Hermansdorfer, James E., and W. C. Mellander, to Goodyear Aircraft Corp. Problem analyser for precision analog computers. 2,977,534, 3-28-61, Cl. 324—73.

Herold, Conrad J., to Combustion Engineering, Inc. Vapor generator with panel superheating means. 2,976,857, 3-28-61, Cl. 122—478.

Hertsman, John A. Shelf assembly. 2,977,173, 3-28-61, Cl. 312—257.

Herzig, Leonard A., to P. C. I. Inc. Microfilm record card. 2,977,017, 3-28-61, Cl. 216—62.

Hess, Robert F. W. Valve reseating tool. 2,976,774, 3-28-61, Cl. 90—12.5.

Hewitt-Robins Inc.: *See*—
Schladermundt, Peter, Holzwarth, and Wark. 2,976,916.

Hexcel Products Inc.: *See*—
Forsberg, Richard P., and Holland. 2,977,265.

Heyden Newport Chemical Corp.: *See*—
Tischler, Nathaniel. 2,977,212.

Heyden, Rudi, and H. Wedell, to Böhme Fettchemie G.m.b.H. Process for waterproofing fibrous materials. 2,977,249, 3-28-61, Cl. 117—135.5.

Heyworth, Ernest, to Scovill Mfg. Co. Bolt carried tilting locking bar. 2,976,901, 3-28-61, Cl. 151—11.

Hickman, Clarence N., to United States of America, War. Separation means. 2,976,804, 3-28-61, Cl. 102—49.

Hight, Paul K., and T. F. Nicieff, to The Original Jeri Wheel, Inc. Wheel and wheel stick combination. 2,976,645, 3-28-61, Cl. 46—220.

Hill, F. H., Co., Inc.: *See*—
Overland, John S., and Hill. 2,976,599.

Hill, Herbert N., Jr.: *See*—
Brogan, Norman B., Hill, and Smith. 2,976,728.

Hill, James T.: *See*—
Overland, John S., and Hill. 2,976,599.

Hill, Robert H., to Perfect Circle Corp. Electric motor-driven pump installation. 2,976,807, 3-28-61, Cl. 103—11.

Hindel, Robert, to Baird-Atomic, Inc. Measuring apparatus for counting rate ratios. 2,977,536, 3-28-61, Cl. 324—79.

Hinsey, Robert S., to Bingham-Herbrand Corp. Mechanism control. 2,976,744, 3-28-61, Cl. 74—531.

Hirashiki, James. Foldable traverse curtain and construction units therefor. 2,976,923, 3-28-61, Cl. 160—229.

Hirsch, Charles J., to Hazeltine Research, Inc. Electronic previewer for photographic processes. 2,977,407, 3-28-61, Cl. 178—5.2.

Hitchings, George H., and B. Roth, to Burroughs Wellcome & Co. (U.S.A.) Inc. Novel 5-dihydro-triazine and method. 2,977,361, 3-28-61, Cl. 260—249.9.

Hobbs, Linder C.: *See*—
Leigh, John S., and Hobbs. 2,977,570.

Hoehman, Julius C. Lid-operated actuator mechanism for controlling the lift and return of drop-head machines and machines incorporating the same. 2,977,170, 3-28-61, Cl. 312—26.

Hoekstra, Piet, to North American Philips Co., Inc. Holder for exchangeable, liquid-cooled super high-pressure metal-vapour discharge tubes. 2,977,492, 3-28-61, Cl. 313—22.

Hoffman, Lester J., and W. J. Frederick, to Westinghouse Electric Corp. Control apparatus. 2,977,560, 3-28-61, Cl. 338—67.

Hoffman, Robert M., to E. I. du Pont de Nemours and Co. Anchoring means. 2,976,875, 3-28-61, Cl. 135—1.

Hofgesang, William, to The Singer Mfg. Co. Lock for latches. 2,976,714, 3-28-61, Cl. 70—63.

Hohn, Hannsheins: *See*—
Spengler, Günter, and Hohn. 2,977,302.

Holahan, Joseph M., Jr., to True Temper Corp. Fishing reel drag mechanism. 2,977,063, 3-28-61, Cl. 242—84.54.

Holahan, Joseph M., Jr., to True Temper Corp. Drag for fishing reels. 2,977,065, 3-28-61, Cl. 242—84.54.

Holden, William E.: *See*—
Lamb, John. 2,976,891.

Holland Co.: *See*—
Wulff, Cal W., and Carlson. 2,976,821.
Wulff, Cal W., and Carlson. 2,976,822.

Holland, Kenneth M.: *See*—
Forsberg, Richard P., and Holland. 2,977,285.

Holland, Raymond P., Jr. Anti-ingestion means for turbojet aircraft. 2,976,932, 3-28-61, Cl. 183—42.

Hollis, Robert F., to Alton Box Board Co. Digestion of pulp. 2,977,274, 3-28-61, Cl. 162—4.

Holloway, Robert L., to American Machine & Foundry Co. Ball and pin handling mechanism. 2,977,122, 3-28-61, Cl. 273—43.

Holophane Co., Inc.: *See*—
Franck, Kurt. 2,977,460.

Holswarth, Henry A.: *See*—
Schladermundt, Peter, Holswarth, and Wark. 2,976,916.

Hook, Albert S., H. K. Goodman, and G. L. Hutter, to Alwac International Inc. Computer memory section improvements. 2,977,178, 3-28-61, Cl. 346—74.

Hoopes, Penrose R.: *See*—
Flanagan, James R., and Hoopes. 2,976,659.

Horn, Franz, to Rheinmetall G.m.b.H. Armoured car with a rotatably arranged gun turret. 2,976,769, 3-28-61, Cl. 89—36.

Horn, James M.: *See*—
Murphy, Thomas F., and Horn. 2,976,949.

Hornstein, Victor, E. Lohrmann, M. Schneider, and E. Kusel, to Jagenberg-Werk A.G. Apparatus for unwinding a supply roll in paper processing machines. 2,977,058, 3-28-61, Cl. 242—55.1.

Horst, Raymond J.: *See*—
Voigt, John E., Horst, and Sowell. 2,977,357.

Horton, William B., to H. E. Fletcher Co. Method for thermal mineral piercing. 2,976,941, 3-28-61, Cl. 175—14.

Hotelling, Eric B.: *See*—
Carmellini, Andrew E., and Hotelling. 2,976,873.

Houdaille Industries, Inc.: *See*—
Schatzman, George W. 2,977,136.

Houdry Process Corp.: *See*—
Farkas, Adalbert, and Krause. 2,977,363.
Mascioli, Rocco L. 2,977,364.

Houldcroft, Peter T., and A. A. Smith, to National Research Development Corp. Welding nozzles. 2,977,457, 3-28-61, Cl. 219—74.

Houston, Harry H., to International Minerals & Chemical Corp. Improving the light reflectance of expanded perlite material. 2,977,240, 3-28-61, Cl. 106—300.

Howard, Bernard, to Teleprinter Corp. Keyboard operated telegraph transmitter. 2,977,413, 3-28-61, Cl. 178—17.

Howard, James E.: *See*—
Cook, Clifford C., Howard, and Thompson. 2,976,505.

Howell, Robert N., to Servo Corp. of America. Pyrometer construction. 2,976,730, 3-28-61, Cl. 73—355.

Howling, Harold L., and E. S. Shanley, to Arthur D. Little, Inc. Nickel-cobalt separation. 2,977,221, 3-28-61, Cl. 75—108.

Hrodey, Thomas E.: *See*—
Cruthis, Robert D., Hrodey, and Sieving. 2,976,947.

Hromoko, John, and A. F. Verdesca. Brush. 2,976,554, 3-28-61, Cl. 15—167.

Huber, John R., to Eastern Rotorcraft Corp. Velocity control mechanism for rope device. 2,976,955, 3-28-61, Cl. 182—55.1.

Huch, William F., and J. R. Wieckler, to United States of America, Navy. Balloon launching method and apparatus. 2,977,069, 3-28-61, Cl. 244—31.

Huebner, Charles F., to Ciba Pharmaceutical Products, Inc. Piperazine derivatives. 2,977,362, 3-28-61, Cl. 260—268.

Huelfed, Homer C., and A. D. Gilchrist, to The Lesce-Neville Co. Electric motor stator structure. 2,977,491, 3-28-61, Cl. 310—259.

Huet, Andre, to Combustion Engineering, Inc. Formation of bifurcated tubing. 2,976,606, 3-28-61, Cl. 29—157.6.

Hughes Aircraft Co.: *See*—
Black, Jan. 2,977,467.
Lutz, Samuel G., and Taber. 2,977,543.
Lutz, Samuel G. 2,977,542.

Hughes, Arthur C., Jr.: *See*—
Gindoo, Philip, and Hughes. 2,976,734.

Hugus, John W. Suspensory sling for animals. 2,976,840, 3-28-61, Cl. 119—1.

Hüller, Karl, and F. Geiger, to Karl Hüller G.m.b.H. Device for feeding tapered rollers or the like into grinding devices. 2,976,978, 3-28-61, Cl. 198—33.

Hüller, Karl, G.m.b.H.: *See*—
Hüller, Karl, and Geiger. 2,976,978.

Humes, Karl R., J. G. Schwarzkopf, F. H. Rohr, and M. P. White, to Westinghouse Electric Corp. Insulation test circuit. 2,977,531, 3-28-61, Cl. 324—54.

Hummert, Robert H.: *See*—
Durham, Nolan B. 2,977,137.

Hunter, Arthur T., R. C. Patterson, and E. C. Lewis, to Combustion Engineering, Inc. Steam generation. 2,976,853, 3-28-61, Cl. 122—4.

Husted, Lawrence E., to American Machine and Metals, Inc. Ratchet device. 2,976,959, 3-28-61, Cl. 188—82.7.

Hüttenwerk Oberhausen, Aktiengesellschaft: *See*—
Graef, Rudolf F., and von Bogdany. 2,977,217.

Hutter, George L.: *See*—
Hook, Albert S., Goodman, and Hutter. 2,977,178.

Hyde, John A. C., to Orenda Engines Ltd. Support structure for gas turbine bearings. 2,977,160, 3-28-61, Cl. 308—178.

Hyde, Robert W., to American Radiator & Standard Sanitary Corp. Housing for garbage disposer. 2,977,054, 3-28-61, Cl. 241—46.

Hyde, Walter L., and E. F. Tubbs, to American Optical Co. Polarimeters. 2,976,764, 3-28-61, Cl. 88—14.

I-T-E Circuit Breaker Co.: *See*—
Matthews, George A. 2,977,439.

Iblings, Glenn R. Traction device. 2,977,156, 3-28-61, Cl. 305—35.

Imperial Chemical Industries Ltd.: *See*—
Bentley, Roy, and Thruston. 2,977,384.
Birch, Arthur J., Nixon, and Grove. 2,977,285.
Dowden, Dennis A., and Caldwell. 2,977,324.
Harper, Aubrey E., Grigor, and Cooke. 2,977,208.
McQuillan, Marion K., and Reynolds. 2,977,261.
Reynolds, Reginald J. W., and Vickers. 2,977,373.
Stephen, William E. 2,977,353.
Twitchett, Harry J., and Wild. 2,977,342.

Imperial Chemical Industries of Australia and New Zealand Ltd.: *See*—
Forsyth, Bruce A., and Taylor. 2,977,280.

Imshaug, Arnold L. Apparatus for checking dimensional characteristics of printing plates. 2,976,615, 3-28-61, Cl. 33—147.

Imshaug, Arnold L. Depth measuring apparatus for printing plates and like articles. 2,976,761, 3-28-61, Cl. 88—14.

Index-Werke K.G. Hahn & Tessky: *See*—
Harter, Edward. 2,977,036.

Industrial Rayon Corp.: *See*—
Quittner, George F. 2,977,199.

Ingold, Werner. Method for the determination of ion concentrations and redox potentials, particularly at elevated temperatures. 2,977,293, 3-28-61, Cl. 204—1.

Institut Textile de France: *See*—
Kassenbeck, Paul. 2,977,475.

International Business Machines Corp.: *See*—
Durham, Raymond E., Jr. 2,976,895.
Edminster, Robert E. 2,977,116.
Philip, George O. 2,976,894.
Smith, James T. 2,977,505.

International Cigar Machinery Co., Inc.: *See*—
Rosenberg, Sheldon, and Schmidt. 2,977,284.

International Minerals & Chemical Corp.: *See*—
Fleming, Raymond C., Jr. 2,977,196.
Houston, Harry H. 2,977,240.
Neukom, Hans. 2,977,236.

International Nickel Co., Inc., The: *See*—
Bieber, Clarence G. 2,977,222.

International Paper Co.: *See*—
Ford, Barton H. 2,977,148.

International Resistance Co.: *See*—
Pugh, Henry D., and Hauth. 2,977,561.

International Salt Co., Inc.: *See*—
Ladenburg, Kurt, and Bloomberg. 2,977,189.

International Standard Electric Corp.: *See*—
Pouliart, Willy H. P., and Van Mechelen. 2,977,574.
Wright, Esmond P. G. 2,977,577.

International Telephone and Telegraph Corp.: *See*—
O'Connor, David T., and Publak. 2,977,535.

Iowa State College Research Foundation, Inc.: *See*—
Bolle, Victor W. 2,976,619.

Irwin, Frank M. 50% to E. H. Pope. Compressed air purifier. 2,976,954, 3-28-61, Cl. 183—113.

Israelson, Evert G., and J. C. Morris, to Sperry Rand Corp. Power mechanism for noiseless typewriter. 2,976,977, 3-28-61, Cl. 197—17.

Jabsco Pump Co.: *See*—
Sully, Frank H. P. 2,976,811.

Jackson, William L. Seat structure. 2,976,700, 3-28-61, Cl. 62—313.

Jacob, Raymond: *See*—
Rabeux, Jean, and Jacob. 2,976,890.

Jagenberg-Werk A.G.: *See*—
Hornstein, Victor, Lohrmann, Schneider, and Kusel. 2,977,058.

Jasuniker, Kurt, to Sulzer Freres, S.A. One-stage radial compressor. 2,977,042, 3-28-61, Cl. 230—127.

Jen, Yun, to American Cyanamid Co. Surfaces of decreased water wettability and process for the preparation thereof. 2,977,245, 3-28-61, Cl. 117—72.

Jenkins, Lloyd T. Luminous writing. 2,977,320, 3-28-61, Cl. 252—301.3.

Joffe, Edward J., to Park Plastics Co., Inc. Dispenser for measured amounts of fluid. 2,977,028, 3-28-61, Cl. 222—442.

Johns-Manville Corp.: *See*—
Colliva, Dante. 2,977,276.

Johnson, Burton H.: *See*—
Edwards, William D., and Johnson. 2,977,146.

Johnson, Clarence W.: *See*—
Evans, Albert M., and Johnson. 2,977,009.

Johnson, Gordon, Co.: *See*—
Zebarth, Ralph S. 2,976,983.

Johnson, John H.: *See*—
Loyd, George W., Jr., Johnson, Hedrick, Fields, and Butler. 2,977,334.

Johnson, Paul H., R. V. Denton, and C. R. Eberline, to Phillips Petroleum Co. Process for reactivating used cracking catalysts. 2,977,323, 3-28-61, Cl. 252—415.

Johnson, Philip C., to F. and F. Koenigkramer Co. Vertically adjustable safety table for near-counter-balanced supporting of instruments. 2,977,168, 3-28-61, Cl. 311—39.

Johnson, Wallace M., to General Electric Co. Switching arrangement. 2,977,527, 3-28-61, Cl. 323—43.5.

Johnston, Charles R., to Transportation Specialties Co. Freight loading apparatuses. 2,976,824, 3-28-61, Cl. 105—369.

Johnston, William D., R. C. Miller, and A. J. Panson, to Westinghouse Electric Corp. Thermoelectric materials. 2,977,399, 3-28-61, Cl. 136—5.

Johnstone, Frederick C., and M. H. Link, to Eitel-McCullough, Inc. Electron tube and socket therefor. 2,977,494, 3-28-61, Cl. 313—51.

Johnstone, Hugh R.: *See*—
Fisher, John R., and Johnstone. 2,977,246.

Johswich, Friedrich: *See*—
Feustel, Klaus, Johswich, and Stratmann. 2,977,325.

Joly, Robert, R. Bucourt, and J. Warnant, to Les Laboratoires Francais de Chimiotherapie. Isomerisation of isoreserpic and isodeserpidic acid lactones. 2,977,366, 3-28-61, Cl. 260—287.

Jones, Cecil D.: *See*—
Thom, Wensel W. 2,976,782.

Jones, Jean E., to Eastman Kodak Co. Supersensitised emulsions comprising simple cyanine dyes. 2,977,229, 3-28-61, Cl. 96—104.

Jones, Melvin L., 87½% to S. F. and D. W. Triplett as joint tenants with right of survivorship. Thread holding and cutting device. 2,977,033, 3-28-61, Cl. 225—6.

Jones, Preston A., to said Jones and W. D. Ranswick. Adjustable lamp socket for lighting fixture. 2,977,461, 3-28-61, Cl. 240—78.

Jones, Walker. Air cooled rotor structure for dynamo electric machines. 2,977,489, 3-28-61, Cl. 310—61.

Jones, William C., and W. A. Klein, to The Dow Chemical Co. Process and apparatus for upgrading thermoplastic film. 2,976,567, 3-28-61, Cl. 18—10.

Jonke, Albert A.: *See*—
Loeding, John W., and Jonke. 2,977,194.

Jonker, Gerard H.: *See*—
Gorter, Evert W., Jonker, Wijn, and Schulkes. 2,977,312.

Jordan, Joseph R. Convertible snowplow and wheeled cart. 2,977,130, 3-28-61, Cl. 280—47.18.

Joseph, Robert T., and J. B. Maguire, to Allied Chemical Corp. Production of chemical products from coal products. 2,977,209, 3-28-61, Cl. 208—8.

Joy Mfg. Co.: *See*—
Curtis, John C. 2,976,943.
Green, Willard E., and Stark. 2,977,089.
Murphy, Donald D. 2,976,982.

Judelshon, Oscar I., Inc.: *See*—
Judelson, David N. 2,977,128.

Judelson, David N., to Oscar I. Judelshon, Inc. Chuck for rotary knife cutting machine. 2,977,126, 3-28-61, Cl. 279—110.

Justice, Harold D., to Collins Radio Co. Inflatable antenna. 2,977,596, 3-28-61, Cl. 343—872.

Kabushiki-Kaisha Sankyo Seiki Seisakusho: *See*—
Banno, Toshiaki. 2,976,765.

Kafka, Wilhelm, G. Sichling, and M. Tschermak, to Siemens-Schuckertwerke Aktiengesellschaft. Electric power translating apparatus for speed control of alternating current motors. 2,977,516, 3-28-61, Cl. 318—138.

Kaiser Aluminum & Chemical Corp.: *See*—
Lowry, John W. 2,977,256.

Kaiser, Julius A.: *See*—
Marston, Arthur E., and Kaiser. 2,977,594.

Kalish, Victor A., 50% to M. Harley. Vibrator. 2,976,866, 3-28-61, Cl. 128—33.

Kaining, Frederick E., and H. E. Redman, to United Mattress Machinery Co., Inc. Hydraulically operated table. 2,976,828, 3-28-61, Cl. 112—3.

Kamborian, Jacob S. Implement for driving fasteners. 2,976,536, 3-28-61, Cl. 1—106.

Kamm, Wunibald I. E., K. Staiger, and W. F. Krautter, to United States of America, Army. Tire pressure control device. 2,976,906, 3-28-61, Cl. 152—417.

Kammerer, Archer W., Jr., and D. E. Lamphere, to Rotary Oil Tool Co. Rotary drill bits and cutters. 2,976,927, 3-28-61, Cl. 166—55.3.

Kasper, Andrew A., to The Kendall Co. Complex compounds of tetraisopropyl zirconate with ammonia. 2,977,378, 3-28-61, Cl. 260—429.3.

Kassenbeck, Paul, to Institut Textile de France. Method of and apparatus for processing textile fibre materials. 2,977,475, 3-28-61, Cl. 250—49.5.

Katzman, Lawrence, and M. L. Block. Cap and spout combination. 2,977,053, 3-28-61, Cl. 239—505.

Kay, Solomon E., and R. J. Ball, to Pilkington Brothers Ltd. Method of depositing metallic copper. 2,977,244, 3-28-61, Cl. 117—71.

Keene, Carl E. Shaft rotation to time interval transducer. 2,977,480, 3-28-61, Cl. 250—220.

Keil, Helmut, K. Wagner, G. Feige, K. Stillner, and E. Rudiger, to VEB Werkzeugmaschinenfabrik. Automatic hydraulic positioning device for machine parts. 2,976,851, 3-28-61, Cl. 121—45.

Kelly, Jack R. Method and apparatus for making a web of fibrous material. 2,977,277, 3-28-61, Cl. 162—203.

Kelsey-Hayes Co.: *See*—
Stelzer, William. 2,976,666.
Stelzer, William. 2,976,846.
Stelzer, William. 2,976,849.
Stelzer, William. 2,976,850.
Stelzer, William. 2,977,133.

Kemmetmüller, Roland, to Waagner-Biró Aktiengesellschaft. Apparatus for heating or evaporating liquid media or for heating gases. 2,977,095, 3-28-61, Cl. 257—241.

Kempson, Bertram C.: *See*—
Thoma, Oswald, Donovan, and Kempson. 2,976,685.

Kendall Co., The: *See*—
Kasper, Andrew A. 2,977,378.

Kennedy, Daniel T., to Danly Machine Specialties, Inc. Power press slide interference prevention assembly. 2,976,832, 3-28-61, Cl. 118—38.

Kennedy, Don E., to Standard Oil Co. Restricted solid propellant. 2,976,678, 3-28-61, Cl. 60—35.6.

Kessler, Jacob C. F., to N.V. Ondersoekingsinstituut Research. Method for preparing a molding material from high molecular weight substances and the resulting products. 2,976,572, 3-28-61, Cl. 18—47.5.

Kessler, Theodore P. Reel for pile fabrics. 2,976,967, 3-28-61, Cl. 206—51.

Keutgen, William A., C. R. Davall, and R. S. Daniels, to Union Carbide Corp. Chemical process and product. 2,976,574, 3-28-61, Cl. 18—48.

Kienow, Orwald E., to Raytheon Co. Dielectric nose cone antenna. 2,977,583, 3-28-61, Cl. 343—708.

Kilgore, Charles R., to Thompson Ramo Wooldridge Inc. Control valve. 2,977,110, 3-28-61, Cl. 267—15.

Kimmel, Frank E., to Western Electric Co., Inc. Knockdown reel. 2,977,086, 3-28-61, Cl. 242—115.

King, Clyde O. Snap pierce fish hook assembly. 2,976,639, 3-28-61, Cl. 43—17.6.

King, James F., Jr., to The Bahnson Co. Travelling cleaner for textile machinery. 2,976,557, 3-28-61, Cl. 15—312.

King, James F., Jr., to The Bahnson Co. Bobbin holder. 2,977,067, 3-28-61, Cl. 242—130.2.

Kirk, Morris P., & Son, Inc.: *See*—
Richardson, Kay A., and Gullette. 2,977,007.

Kirkup, Richard P.: *See*—
Garraway, George H., and Kirkup. 2,976,885.

Kise, Mearl A., to Allied Chemical Corp. Absorption of formaldehyde in alkaline urea solution. 2,977,286, 3-28-61, Cl. 260—553.

Kistner, Merrill M., and E. G. Tesmer, to Steam Iron Corp. Steam iron. 2,976,627, 3-28-61, Cl. 38—77.

Klein, Siegfried, to Commissariat A L'energie Atomique. Ion source. 2,977,495, 3-28-61, Cl. 313—63.

Klein, Walter A.: *See*—
Jones, William C., and Klein. 2,976,567.

Kleinschmidt, Hans-Joachim, to Gelenkwellenbau G.m.b.H. Shearing coupling, especially for universal joint shafts. 2,976,704, 3-28-61, Cl. 64—28.

Knapsack-Griesheim Aktiengesellschaft: *See*—
Rodis, Frans, Krause, and Belts. 2,977,317.

Kneale, John S.: *See*—
Buettman, Charles G., and Kneale. 2,977,202.

Kobbeman, Donald D., to United States of America, Air Force. Combination igniter and nozzle. 2,976,680, 3-28-61, Cl. 60—35.6.

Kocay, Witold R.: *See*—
Serrese, Victor C., Jr., and Kocay. 2,977,187.

Kock, Friedrich A. H. Ampoule type container and method of producing the same. 2,977,014, 3-28-61, Cl. 215—12.

Koenigkramer, F. and F., Co.: *See*—
Johnson, Philip C. 2,977,168.

Kohler, Richard B.: *See*—
Sienkiewicz, Boleslaw, Kohler, and Schulman. 2,977,208.

Kohnle, William C., Jr.: *See*—
Coady, Michael G., and Kohnle. 2,976,896.

Koppers Co., Inc.: *See*—
Haas, James P., and Morgret. 2,976,953.
Lagarias, John S. 2,976,951.

Korican, Otto H. Room temperature laminating composition and method of making laminated products. 2,977,273, 3-28-61, Cl. 154—140.

Korman, Nathaniel I., to Radio Corp. of America. Radar systems with gain equalization circuits. 2,977,588, 3-28-61, Cl. 343—16.

Korsgren, Theodore Y., Jr.: *See*—
Korsgren, Theodore Y., Sr., and T. Y. Korsgren, Jr. 2,977,447.

Korsgren, Theodore Y., Sr., and T. Y. Korsgren, Jr., to Haydon Switch, Inc. Switch and actuator assembly. 2,977,447, 3-28-61, Cl. 200—153.

Kosmin, Milton, to Monsanto Chemical Co. Copper chelate coordination complexes. 2,977,279, 3-28-61, Cl. 167—22.

Kosowsky, David I., to Research Corp. Measurement of piezoelectric crystal characteristics. 2,976,604, 3-28-61, Cl. 29—155.5.

Kostur, J. Edward. Machines for automatically skin packaging merchandise articles and for cutting into separate packages. 2,976,658, 3-28-61, Cl. 53—112.

Kratochvil, Kenneth V., to Phillips Petroleum Co. Recording system. 2,977,472, 3-28-61, Cl. 250—41.9.

Kraus, Philip J. Carrying case for wet paintings. 2,976,985, 3-28-61, Cl. 206—1.

Krause, Jack H.: *See*—
Parkas, Adalbert, and Krause. 2,977,363.

Krause, Johannes: *See*—
Rodis, Franz, Krause, and Beltz. 2,977,317.

Krautter, Willy F.: *See*—
Kamm, Wunibald I. E., Staiger, and Krautter. 2,976,906.

Kreus, Ferdinand H.: *See*—
Biefer, Gregory J., and Kreus. 2,977,360.

Krespan, Carl G., and G. N. Sausen, to E. I. du Pont de Nemours and Co. Bis (trifluoromethyl) substituted bicyclooctatrienes. 2,977,394, 3-28-61, Cl. 260—648.

Kress, Ralph, to Solar Aircraft Co. Variable jet nozzle with coacting shroud. 2,976,676, 3-28-61, Cl. 60—35.6.

Kron, Carl M., to Phillips Petroleum Co. Fractionation process control. 2,977,289, 3-28-61, Cl. 202—40.

Kronman, Albert F.: *See*—
Aronson, Theodore F., Kronman, and Lyon. 2,977,016.

Krupp, Fried., Mortoren- und Kraftwagenfabriken G.m.b.H.: *See*—
Heiling, Jürgen. 2,977,134.

Kuehl, Guenter: *See*—
Gunderson, Allen D., and Kuehl. 2,976,775.

Kulesa, Bernard S., to Lev-L-It Stirrup Co., Inc. Scaffold stirrup. 2,977,083, 3-28-61, Cl. 248—324.

Kurashiki Rayon Co., Ltd.: *See*—
Osugi, Tetsuro, Tanabe, and Morimoto. 2,977,183.

Kurth, Franz J., and L. R. Phillips, to Anemostat Corp. of America. Valve structures. 2,976,684, 3-28-61, Cl. 137—606.

Kusel, Ernst: *See*—
Hornstein, Victor, Lohrmann, Schneider, and Kusel. 2,977,058.

Kuzma, George R.: *See*—
Wickman, Robert J., and Kuzma. 2,976,642.

L & M Space Research and Electronics Corp.: *See*—
Lovret, Frederick L. 2,977,468.

Ladenburg, Kurt, and A. Bloomberg, to International Salt Co., Inc. Preparation of purified brine. 2,977,189, 3-28-61, Cl. 23—89.

La Fave, Francis G., to St. Regis Paper Co. Insert for bag valves. 2,977,038, 3-28-61, Cl. 220—62.5.

Lagarias, John S., to Koppers Co., Inc. Electrostatic precipitator. 2,976,951, 3-28-61, Cl. 183—7.

Lallemand, Andre: *See*—
Causse, Jean-Pierre, and Lallemand. 2,977,252.

Lamb, John, deceased (A. Briggs and W. E. Holden, executors) to John Lamb Publications and Inventions Ltd. Pressure relief valve. 2,976,881, 3-28-61, Cl. 137—488.

Lamb, John, Publications and Inventions Ltd.: *See*—
Lamb, John. 2,976,881.

Lambert, Chandley W. Burst control for automatic rifles. 2,976,771, 3-28-61, Cl. 89—129.

Lamphere, David E.: *See*—
Kammerer, Archer W., Jr., and Lamphere. 2,976,927.

Land, Edwin, to Polaroid Corp. Photographic process, product and apparatus. 2,977,226, 3-28-61, Cl. 96—3.

Landeg, Peter E.: *See*—
Sawyer, Charles H. V., and Landeg. 2,977,020.

Landesman, Herbert, to Olin Mathieson Chemical Corp. Preparation of liquid alkylates pentaborane. 2,977,392, 3-28-61, Cl. 260—606.5.

Lane, Joseph H. Power tool guide with clamping and indicator means. 2,976,899, 3-28-61, Cl. 143—47.

Lange, Emil, to Aktieselskabet National Industri. Electrical fuse. 2,977,445, 3-28-61, Cl. 200—120.

Lange, William R. Three-dimensional opto-router. 2,976,636, 3-28-61, Cl. 41—25.

Large, William E.: *See*—
Van Ness, Hubert W., and Large. 2,977,529.

Lärkfeldt, Birger: *See*—
Allander, Claes, and Lärkfeldt. 2,976,794.

Larsson, Leo D. Multiple camera support. 2,976,791, 3-28-61, Cl. 95—86.

Laskin, Allen I., M. A. Guiducci, and J. Fried, to Olin Mathieson Chemical Corp. Synthesis of steroids with Kabatiella phoradendri. 2,977,284, 3-28-61, Cl. 195—51.

Lathrop, Henry T.: *See*—
Yonkers, Robert A., and Lathrop. 2,976,559.

Latzko, John A., to Aktiengesellschaft Brown, Boveri & Cie. Sheet-steel enclosed switchgear assembly for outdoor erection. 2,976,966, 3-28-61, Cl. 189—2.

Laubach, Gerald D.: *See*—
Agnello, Eugene J., and Laubach. 2,977,284.
Agnello, Eugene J., and Laubach. 2,977,577.

Lauer, James L., to Sun Oil Co. Detector for carboniferous gas. 2,977,479, 3-28-61, Cl. 250—218.

Lawler-Wilson, Clive, to U.S. Electrical Motors, Inc. System for maintaining substantially constant tension for rewind drives. 2,977,061, 3-28-61, Cl. 242—75.51.

Lazarus Laboratories, Inc.: *See*—
Scheib, Bernard J., Lazarus, and Sullivan. 2,977,315.

Lazarus, Nathan E.: *See*—
Scheib, Bernard J., Lazarus, and Sullivan. 2,977,315.

Leach, Orrin. Preheaters for heavy fuel oil. 2,976,918, 3-28-61, Cl. 158—36.

Lecher, Hans Z., and F. H. Adams, to American Cyanamid Co. Rubber composition containing an amidine nitrite and method of preparing cellular product therefrom. 2,977,329, 3-28-61, Cl. 260—2.5.

Lederman, Burton E., and R. D. Hamilton, to Chadeloid Corp. Method of filling the pores of wood and resultant article. 2,977,242, 3-28-61, Cl. 117—64.

Ledgus, George E.: *See*—
Endicott, Harold S., and Ledgus. 2,977,198.

Lee, John M.: *See*—
Schuck, Anthony G. 2,976,610.

Lee, Sam H.: *See*—
Stephanou, Stephen E., Schwalley, and Lee. 2,977,314.

Leece-Neville Co., The: *See*—
Huelfed, Homer C., and Gilchrist. 2,977,491.

Lehfeldt, Arthur O.: *See*—
Lehfeldt, Henry J. and A. O. 2,977,119.

Lehfeldt, Henry J. and A. O. Spring diving apparatus. 2,977,119, 3-28-61, Cl. 272—66.

Leigh, John S., and L. C. Hobbs, to Radio Corp. of America. Electronic commutator for sonar systems. 2,977,570, 3-28-61, Cl. 340—6.

Leitch, John D., to Square D Co. Electromagnetically applied and released brake. 2,976,963, 3-28-61, Cl. 188—106.

Lemaire, Jacques, to Aktiengesellschaft Brown, Boveri & Cie. Process for making laminated magnetic cores. 2,976,605, 3-28-61, Cl. 29—155.61.

Lemin, Alan J.: *See*—
Djerassi, Carl, Lemin, Rosenkranz, and Sondheimer. 2,977,358.

Lennox, George C., to The Bryant Electric Co. Wiring device. 2,977,563, 3-28-61, Cl. 339—31.

Leonard Electronics, Inc.: *See*—
Smith, James L. 2,976,729.

Leopold, Bengt: *See*—
Gardon, John L., and Leopold. 2,977,852.

Les Laboratoires Francais de Chimiotherapie: *See*—
Joly, Robert, Bucourt, and Warnant. 2,977,366.

Lescroel, Yves C.: *See*—
Guillaud, Charles L., Pierrot, and Lescroel. 2,977,311.

Lesk, Israel A., to General Electric Co. Semiconductor devices and methods of making same. 2,977,256, 3-28-61, Cl. 148—1.5.

Lessner, William J., to B. S. Gerson. Flasher switch. 2,977,440, 3-28-61, Cl. 200—113.

Lettine, Anthony: *See*—
Lettine, Howard J. and A. 2,977,463.

Lettine, Howard J. and A. Control system. 2,977,463, 3-28-61, Cl. 250—2.

Levin, Nathan. Hosiery. 2,976,707, 3-28-61, Cl. 66—172.

Levin, Nathan. Overplaid hosiery and method of making same. 2,976,709, 3-28-61, Cl. 66—170.

Lev-L-It Stirrup Co., Inc.: *See*—
Kulesa, Bernard S. 2,977,083.

Lewellen, Emmons F. and R. H. Adjustable pulley. 2,976,739, 3-28-61, Cl. 74—230.17.

Lewellen, Rodman H.: *See*—
Lewellen, Emmons F. and R. H. 2,976,739.

Lewis, Everett C.: *See*—
Hunter, Arthur T., Patterson, and Lewis. 2,976,853.

Lewis, Lloyd G., to Standard Oil Co. Hydrogen-carbon analyser. 2,977,474, 3-28-61, Cl. 250—43.5.

Libbey-Owens-Ford Glass Co.: *See*—
Boicey, James H. 2,977,450.

Liddell, Robert W., to Hagan Chemicals & Controls, Inc. Substituted amide inhibited acid compositions. 2,977,318, 3-28-61, Cl. 252—136.

Lightoller, Inc.: *See*—
Neumann, Manfred, and Donato. 2,977,566.

Lim, Drahoslav: *See*—
Wichterle, Otto, and Lim. 2,976,576.

Linck, Robert C. Metal roof construction. 2,976,648, 3-28-61, Cl. 50—211.

Lindegren, Carl R., to E. I. du Pont de Nemours and Co. Copolyoxamides. 2,977,339, 3-28-61, Cl. 260—78.

Lindgren, William L., and W. H. Penn, to Turner Corp. Manually operable control valve. 2,977,087, 3-28-61, Cl. 251—240.

Lingle, John T., to Minneapolis-Honeywell Regulator Co. Electrical power supply apparatus. 2,977,524, 3-28-61, Cl. 320—1.

Link, Murray H.: *See*—
Johnstone, Frederick C., and Link. 2,977,494.

Linn, Stanley W. Magazine for applying razor blades to a holder. 2,976,966, 3-28-61, Cl. 206—16.

Litman, Bernard, M. Pavalow, P. H. Savet, and J. Statzinger, to American Bosch Arma Corp. Accelerometer. 2,976,733, 3-28-61, Cl. 73—503.

Little, Arthur D., Inc.: *See*—
Howling, Harold L., and Shanley. 2,977,221.

Lockwood Graders: *See*—
Fry, Lyle L. 2,976,936.

Loeding, John W., and A. A. Jonke, to United States of America, Atomic Energy Commission. Method of reducing aqueous radioactive nuclear wastes to solid form. 2,977,194, 3-28-61, Cl. 23—142.

Loefler, Edmund J. Hair clipper cleaning and sterilizing device. 2,976,552, 3-28-61, Cl. 15—21.

Logan, John W., Jr., to True Temper Corp. Drag for fishing reels. 2,977,064, 3-28-61, Cl. 242—84.54.

Lohrmann, Erich: *See*—
Hornstein, Victor, Lohrmann, Schneider, and Kusel. 2,977,058.

Long, John V., and J. V. Furth, to Solar Aircraft Co. Protective coating methods and materials. 2,977,251, 3-28-61, Cl. 117—160.

Lonnqvist, Jarl E. Stay-rod for tents. 2,976,876, 3-28-61, Cl. 135—3.

Lopez, John P., and A. C. Monaghan, to Universal Corrugated Box Machinery Corp. Folding box squaring machine. 2,976,780, 3-28-61, Cl. 93—36.

Loral Electronics Corp.: *See*—
McLaughlin, Thomas, Merlin, Beishline, and Bergherr. 2,977,177.

Lorenz, Anton: *See*—
Schliephacke, Fridtjof F. 2,976,913.

Lovick, Robert C., to United States of America, Navy. Method of testing a proximity fuse. 2,977,590, 3-28-61, Cl. 343—17.7.

Lovret, Frederick L., to L & M Space Research and Electronics Corp. Tuner for radio and television receiving sets. 2,977,468, 3-28-61, Cl. 250—40.

Lowe, Newton W., Jr. Educational device for teaching spelling. 2,976,621, 3-28-61, Cl. 35—77.

Lowry, John W., to Kaiser Aluminum & Chemical Corp. Reclamation method. 2,977,255, 3-28-61, Cl. 134—2.

Lowry, Terrell N., to Bell Telephone Laboratories, Inc. Telephone subscriber's supervisory circuits. 2,977,420, 3-28-61, Cl. 179—18.

Lubis, Jack: *See*—
Brixius, Gerald G., and Lubis. 2,976,629.

Lucky, Robert W.: *See*—
Roesel, John F., Jr., and Lucky. 2,977,550.

Lundberg, George A. Ceiling construction. 2,976,971, 3-28-61, Cl. 189—85.

Luoma, Aarne A.: *See*—
Dodds, Robert B., and Luoma. 2,976,689.

Lutwack, Wilton J. Method of making laminated protective book cover. 2,977,271, 3-28-61, Cl. 154—118.

Luts, Edward H.: *See*—
McCarty, Daniel J., and Luts. 2,977,089.
McCarty, Daniel J., and Luts. 2,977,090.

Luts, Lewis W., to Packaging Corp. of America. Adhesive applicator means particularly adapted for corrugating machines. 2,977,247, 3-28-61, Cl. 117—111.

Luts, Samuel G., and J. H. Taber, to Hughes Aircraft Co. Recognition circuit for pulse code communication systems that provides for variable repetition rates between pulses. 2,977,543, 3-28-61, Cl. 328—118.

Luts, Samuel G., to Hughes Aircraft Co. Push-pull excited recognition circuit. 2,977,543, 3-28-61, Cl. 328—108.

Lynch, William H. J. G. Veat, and C. D. Barker, to General Motors Corp. Method and apparatus for fabricating junction transistors. 2,977,257, 3-28-61, Cl. 148—1.5.

Lyon, Floyd A.: *See*—
Aronson, Theodore F., Kronman, and Lyon. 2,977,016.

Lyon, George A. Wheel cover. 2,977,152, 3-28-61, Cl. 301—37.

MacCaffray, Rex S., Jr., to C. H. Masland and Sons. Warp knitting method. 2,976,705, 3-28-61, Cl. 66—85.

Macgeorge, William D., to Automatic Timing & Controls, Inc. Control circuits for reversible electrical loads, incorporating magnetically controlled gas tubes. 2,977,521, 3-28-61, Cl. 318—257.

MacGregor, Dean J., to Westinghouse Electric Corp. Synchronous motor control. 2,977,519, 3-28-61, Cl. 318—170.

MacGregor, Dean J., to Westinghouse Electric Corp. Synchronous motor control. 2,977,520, 3-28-61, Cl. 318—170.

Machlett Laboratories, Inc., The: *See*—
Doolittle, Howard D. 2,977,496.

Machovec, Fred J. Rotary blade assembly. 2,976,606, 3-28-61, Cl. 56—295.

MacInnis, Martin B., to Sylvania Electric Products Inc. Method of producing high purity silicon tetrachloride. 2,977,196, 3-28-61, Cl. 23—205.

Maertins, Gustave E. Means for mounting a folding side guard on a bed frame. 2,976,548, 3-28-61, Cl. 5—331.

Magnavox Co.: *See*—
Malin, Herman J., and Westermeier. 2,977,113.

Maguire, Harold D., to Maguire Power Implements, Inc. Cultivator attachment for tractors. 2,976,937, 3-28-61, Cl. 172—98.

Maguire, James B.: *See*—
Joseph, Robert T., and Maguire. 2,977,290.

Maguire Power Implements, Inc.: *See*—
Maguire, Harold D. 2,976,937.

Majewski, Alfred E.: *See*—
Gordon, Dwight M., and Majewski. 2,976,743.

Malin, Herman J., and D. H. Westermeier, to Magnavox Co. Card processing apparatus. 2,977,113, 3-28-61, Cl. 271—11.

Mallins, Rudolph F., to Thompson Ramo Wooldrige Inc. Repeating mechanism. 2,977,125, 3-28-61, Cl. 274—14.

Maloney, Clifford J., and C. P. Weber, to United States of America, Army. Inclusive matching device. 2,976,724, 3-28-61, Cl. 73—156.

Maluta, Aulo, and L. Casale, to A.P.E. Applicazione Procesal Elettrochimici S.p.A. Process for the production of complex fertilizers containing nitrogen, phosphorus, potassium and magnesium. 2,977,213, 3-28-61, Cl. 71—41.

Maly, George P., to Union Oil Co. of California. Production of petroleum by water flooding. 2,976,926, 3-28-61, Cl. 166—9.

Mann, Ralph J., and J. A. Grant, to British Celanese Ltd. Apparatus for coloring textile materials. 2,976,713, 3-28-61, Cl. 68—22.

Mannesmann Aktiengesellschaft: *See*—
Scheufele, Erwin, Schrewe, and Taube. 2,976,585.

March, Joseph F., to The Stanley Works. Cutting implement. 2,976,612, 3-28-61, Cl. 30—318.

Marco Industries Co.: *See*—
Rodgers, George H. 2,977,581.

Marker, Hansen. Cable holder for ski-fastening cables. 2,977,129, 3-28-61, Cl. 280—11.35.

Marlin Firearms Co., The: *See*—
Robinson, Thomas R., Jr. 2,976,637.

Marquis, Duane E., C. F. Miller, and H. W. Patterson, to Phillips Petroleum Co. Drill pipe shock absorber. 2,976,930, 3-28-61, Cl. 166—95.

Marsal, Paul A., L. F. Urry, and A. Tasch, to Union Carbide Corp. Cathodes. 2,977,401, 3-28-61, Cl. 136—120.

Marston, Arthur E., and J. A. Kaiser. Spiral doublet antenna. 2,977,594, 3-28-61, Cl. 343—756.

Martin, Louis D. Cluster gear. 2,976,741, 3-28-61, Cl. 74—432.

Martin, Paul J.: *See*—
Cogelja, Godfrey J., and Martin. 2,977,108.

Marts, Charles S., to The Tasope Co. Etching machine and paddle element therefor. 2,976,636, 3-28-61, Cl. 41—9.

Marvalaud, Inc.: *See*—
Pond, Robert B. 2,976,590.

Mascioli, Rocco L., to Houdry Process Corp. Preparing triethylenediamine. 2,977,364, 3-28-61, Cl. 260—268.

Masland, C. H., and Sons: *See*—
MacCaffray, Rex S., Jr. 2,976,705.

Mason, Frederick P., and R. G. Stemp, to Creed & Co. Ltd. Facsimile apparatus. 2,977,179, 3-28-61, Cl. 346—138.

Mason, Jack H., to The Multistamp Co. Record sheet and stencil assembly. 2,976,802, 3-28-61, Cl. 101—128.1.

Matson Navigation Co.: *See*—
Dodge, William S. 2,976,823.

Mattano, Leonard A., and M. J. Hatch, to The Dow Chemical Co. Odor improvement of resin beads made through the sulfonium salt process. 2,977,328, 3-28-61, Cl. 260—2.1.

Matthews, George A., to I-T-E Circuit Breaker Co. Automatic recloser. 2,977,439, 3-28-61, Cl. 200—89.

Matthies, Leo A. Multiple pivoted jaw pipe wrench. 2,976,750, 3-28-61, Cl. 81—53.

Matthysse, Irving F., to Burndy Corp. Separable clasp connector. 2,977,567, 3-28-61, Cl. 339—253.

Matuszewski, Elizabeth: *See*—
Matuszewski, Sylvester and E. 2,976,614.

Matuszewski, Sylvester and E. Measuring tape reel holder. 2,976,614, 3-28-61, Cl. 33—27.

Matsinger, Charles P., to The Mountain Copper Co., Ltd. Process for the manufacture of cuprous oxide. 2,977,195, 3-28-61, Cl. 23—147.

Maunula, Otto A. Loading guide for boat trailers. 2,977,012 3-28-61, Cl. 214—505.

Mayo, John S., to Bell Telephone Laboratories, Inc. Transistor timing circuit. 2,977,576, 3-28-61, Cl. 340—174.

Maytag Co., The: *See*—
Smith, Thomas R. 2,976,711.
Smith, Thomas R. 2,976,712.
Smith, Thomas R. 2,976,998.

Mazzoni, Charles A., Jr.: *See*—
Vierk, Ernest R., and Mazzoni. 2,977,237.

McCarten, Edward R., to American Machine and Foundry Co. Self leveling storing and dispensing apparatus. 2,977,172, 3-28-61, Cl. 312—71.

McCarthy, Dan C. Window construction. 2,976,583, 3-28-61, Cl. 20—56.5.

McCarty, Daniel J., and E. H. Luts, to United States of America, Navy. Heat responsive means for blade cooling. 2,977,089, 3-28-61, Cl. 253—39.15.

McCarty, Daniel J., and E. H. Luts, to United States of America, Navy. Heat responsive means for blade cooling. 2,977,090, 3-28-61, Cl. 253—39.15.

McCauley, John H., to Burroughs Corp. Method of making gaseous glow tubes. 2,977,176, 3-28-61, Cl. 316—26

McCormack, Richard A., to Combustion Engineering, Inc. Vapor generator. 2,976,856, 3-28-61, Cl. 122—478.

McCreary, Harold E., to Radio Corp. of America. Methods for preparing water-stable zinc orthophosphate phosphors. 2,977,321, 3-28-61, Cl. 252—301.6.

McDonald, Daniel F.: *See*—
Germeshausen, Kenneth J., Goldberg, and McDonald. 2,977,501.

McEvoy Co.: *See*—
Beson, John. 2,976,929.

McKay, Harry M., to Binkley Landing Gear Sales Co. Landing gear for trailers. 2,977,094, 3-28-61, Cl. 254—96.

McKeag, Malcolm F., to Revere Corp. of America. Material level detector. 2,976,763, 3-28-61, Cl. 88—14.

McLaughlin, Thomas, A. G. Merlin, A. W. Beishline, and W. Bergherr, to Loral Electronics Corp. Aircraft flight path recording device. 2,977,177, 3-28-61, Cl. 346—8.

McLellan, Jack H., to H. J. Baker & Bro. Compacted sewage sludge. 2,977,214, 3-28-61, Cl. 71—64.

McNeil Machine & Engineering Co., The: *See*—
Sodernuist, Leslie E. 2,976,566.

McNeill, Albert G., to Bachmann Bros., Inc. Auxiliary spectacles. 2,976,767, 3-28-61, Cl. 88—41.

McQuillan, Marion K., and J. Reynolds, to Imperial Chemical Industries Ltd. Heat-treatment of titanium-copper alloys. 2,977,201, 3-28-61, Cl. 148—12.7

Mead, Theodore E. Pressure fluid control device. 2,976,961, 3-28-61, Cl. 188—97.

Meade, Leonard P., to Phillips Petroleum Co. System for refrigerated LPG storage. 2,976,695, 3-28-61, Cl. 62—54.

Meader, Maurice D.: *See*—
Farkas, Thomas P., Zuiderhoek, and Meader. 2,977,051.

Medlar, Lewis A., to Fox Products Co. Battery charge maintaining apparatus. 2,977,525, 3-28-61, Cl. 320—19.

Meier, John W., to E. I. du Pont de Nemours and Co. Coating process. 2,977,243, 3-28-61, Cl. 117—64.

Meier, Konrad: *See*—
Druey, Jean, and Meier. 2,977,368.

Mellander, Willard C.: *See*—
Hermansdorfer, James E., and Mellander. 2,977,534.

Mercer, William R.: *See*—
Sanders, Royden C., Jr., and Mercer. 2,977,465.

Merck & Co., Inc.: *See*—
Coady, Michael G., and Kohale. 2,976,898.
Gray, Reed A. 2,977,282.
Hanus, Edward J., and Carr. 2,977,235.

Mergenthaler Linotype Co.: *See*—
Grube, Wolfgang O., and Walker. 2,976,786.
Robbins, Daniel H. 2,976,787.

Merlan, Ernst, to Sandos Ltd. 1-amino-2-nitrobenzene-4-sulfonic acid amides. 2,977,376, 3-28-61, Cl. 260—397.7.

Merlin, Abraham G.: *See*—
McLoughlin, Thomas, Merlin, Betshline, and Bergherr. 2,977,177.

Mero, Peter G. S.: *See*—
Adler, Robert, and Anthony. 2,977,414.
Zenner, Walter J. 2,977,180.

Mero, Peter G. S., to Comptometer Corp. Tape winding apparatus. 2,977,039, 3-28-61, Cl. 242—55.11.

Merriman, Henry H. Coupling for tube expander. 2,976,888, 3-28-61, Cl. 137—784.

Mershon, James L.: *See*—
Cassarino, Sebastian J., and Mershon. 2,976,880.

Mertes, Leo. Device for cleaning phonograph records, particularly synthetic resin phonograph records. 2,977,127, 3-28-61, Cl. 274—47.

Mertzweiller, Joseph K.: *See*—
Fasce, Egi V., and Mertzweiller. 2,977,350.

Mescher, Harold E., to Pacific Scientific Co. Heat treating furnace. 2,977,107, 3-28-61, Cl. 266—4.

Messing, Ralph A.: *See*—
Bloch, Alfred, and Messing. 2,977,287.

Metallgesellschaft Aktiengesellschaft: *See*—
Meyer, Kurt, Rausch, and Boss. 2,977,215.

Metzner, Frank C. Trousers hanger. 2,977,032, 3-28-61, Cl. 223—95.

Meyer, Albert, and G. Weck, to Hagan Chemicals & Controls, Inc. Method of making butter from milk and cream. 2,977,232, 3-28-61, Cl. 99—119.

Meyer, Curtis E., J. A. Fancher, and P. E. Schurr, to The Upjohn Co. Therapeutic intravenous fat compositions. 2,977,283, 3-28-61, Cl. 167—66.

Meyer, Kurt, H. Rausch, and K.-H. Boss, to Metallgesellschaft Aktiengesellschaft. Arsenic removal and the pelletizing of the de-arsenized material. 2,977,215, 3-28-61, Cl. 75—3.

Meyer, Moshe N. Apparatus for releasing consumer articles. 2,977,023, 3-28-61, Cl. 221—205.

Michael, Frank L.: *See*—
Oliver, Evan M., Tripp, Fussell, and Michael. 2,977,241.

Michigan Tool Co.: *See*—
Moncrieff, Alexander D. F. 2,976,984.

Middendorf, William H., to The Wadsworth Electric Mfg. Co., Inc. Circuit breaker having transversely movable operating elements. 2,977,442, 3-28-61, Cl. 200—116.

Middendorf, William H., to The Wadsworth Electric Mfg. Co., Inc. Multi-pole circuit breaker interlock. 2,977,443, 3-28-61, Cl. 200—116.

Middendorf, William H., to The Wadsworth Electric Mfg. Co., Inc. Common trip interlock. 2,977,444, 3-28-61, Cl. 200—116.

Miller, Glenn F.: *See*—
Marquis, Duane E., Miller, and Patterson. 2,976,930.

Miller, Jacob E., to C. R. Daniels, Inc. Floor cushions for airplane use and the like. 2,976,914, 3-28-61, Cl. 155—170.

Miller, John G.: *See*—
Anthony, Albert W., and Miller. 2,976,796.

Miller, Robert C.: *See*—
Johnston, William D., Miller, and Panson. 2,977,399.

Miller, Trevlyn W. Means for separating heavy particles from sands. 2,976,997, 3-28-61, Cl. 209—454.

Millikan, Allen F., to The Pure Oil Co. Method of preparing esters of phosphorodithioic acids. 2,977,382, 3-28-61, Cl. 260—461.

Mills, Wade H. Saw chains. 2,976,900, 3-28-61, Cl. 143—135.

Minckler, Leon S., Jr., and L. T. Eby, to Esso Research and Engineering Co. Polymerization of olefins with molybdenum pentachloride catalyst. 2,977,347, 3-28-61, Cl. 260—85.3.

Miner, Richard Y., E. D. Gittens, C. D. Bock, and O. J. Evans, to American Bosch Arma Corp. Target position computer. 2,977,049, 3-28-61, Cl. 235—180.

Minneapolis-Honeywell Regulator Co.: *See*—
Bloch, Richard M. 2,977,047.
Lingle, John T. 2,977,324.
Mott, Richard C. 2,976,877.
Pear, Charles B., Jr. 2,977,422.
Sparrow, Hubert T. 2,977,050.

Minnesota Mining and Mfg. Co.: *See*—
Hansen, Paul E., and Oace. 2,976,646.
Mullin, John T. 2,977,579.

Miscovich, John A., to J. A. Miscovich, P. E. Fillio, and J. M. Gaunlett Co., Inc. Control apparatus for multi-valves and the like. 2,976,742, 3-28-61, Cl. 74—471.

Miscovich, John A., to J. A. Miscovich, P. E. Fillio, and J. M. Gaunlett Co., Inc. Hydraulic control apparatus. 2,976,886, 3-28-61, Cl. 137—624.

Modernair Corp.: *See*—
Goldring, John E. 2,976,844.
Goldring, John E. 2,976,845.
Goldring, John E. 2,976,852.

Moeller & Neumann G.m.b.H.: *See*—
Albedyhl, Karl H. 2,976,749.

Molander, Lars E., to Union Carbide Corp. Separation process. 2,977,290, 3-28-61, Cl. 202—42.

Molnar, Robert J., to The Bendix Corp. Transistor amplifier circuit. 2,977,546, 3-28-61, Cl. 330—25.

Monaghan, Alfred C.: *See*—
Lopez, John P., and Monaghan. 2,976,760.

Moncrieff, Alexander D. F., to Michigan Tool Co. Automatic conveyor for gear finishing machines. 2,976,984, 3-28-61, Cl. 198—179.

Monroe, Joseph B. Rotary mower. 2,976,664, 3-28-61, Cl. 56—25.4.

Monsanto Chemical Co.: *See*—
Buchter, Hugo H. 2,977,140.
Godfrey, Kenneth L. 2,977,210.

Monsanto Chemical Co.: *See*—Continued
Godfrey, Kenneth L. 2,977,211.
Godfrey, Kenneth L., and Staber. 2,977,309.
Kosmin, Milton. 2,977,279.
Weingarten, Harold I. 2,977,516.
Zopf, George W., Jr., Johnson, Hedrick, Fields, and Butler. 2,977,334.

Montfort, Robert M. Key-ring-trinket. 2,976,630, 3-28-61, Cl. 40—68.

Montgomery, Dean P.: *See*—
Varvel, Charles W., and Montgomery. 2,977,322.

Moore, Edward F.: *See*—
Hagelbarger, David W., and Moore. 2,977,575.

Moore, Kenneth N.: *See*—
Tilton, William J., and Moore. 2,977,035.

Moorman, Edward W.: *See*—
Noyes, Howard, and Moorman. 2,977,426.

Morgan, Thomas D.: *See*—
Cooke, Brian A., Morgan, and Schweigart. 2,977,298.

Morgret, Gordon L.: *See*—
Haas, James P., and Morgret. 2,976,953.

Morimoto, Osamu: *See*—
Osugi, Tetsuro, Tanabe, and Morimoto. 2,977,183.

Morin, Joseph A., to Textile Development and Machinery Ltd. Loom. 2,976,892, 3-28-61, Cl. 139—126.

Morphet, Bentham R., and J. H. Mungo, to British-American Tobacco Co. Ltd. Recovery of tobacco from defective cigarettes. 2,976,872, 3-28-61, Cl. 131—96.

Morrell, John, & Co.: *See*—
Gardner, Patrick J. 2,976,656.

Morris, John C.: *See*—
Israelson, Evert G., and Morris. 2,976,977.

Morris, Wesley B. Exercising device. 2,977,120, 3-28-61, Cl. 272—81.

Morrison, Robert H., to Packman Machinery Ltd. Handling of biscuits and the like. 2,976,979, 3-28-61, Cl. 198—45.

Morrow, John L.: *See*—
Yates, William E., Wilding, and Morrow. 2,977,190.

Morschel, Franz. Relay-contactor. 2,977,438, 3-28-61, Cl. 200—87.

Morway, Arnold J., J. H. Bartlett, and C. W. Muessig, to Esso Research and Engineering Co. Lubricants containing salts of organic-substituted phosphonic acid. 2,977,303, 3-28-61, Cl. 252—32.5.

Moser, Rene O.: *See*—
Gray, Willard F. M., and Moser. 2,977,536.

Moskovits, Milton A., and J. E. Collier; said Collier assor. to Moskovits, Milton A., and said Moskovits assor. of ½ to H. Chrysler Corp., and said Moskovits assor. of ½ to H. Frankel. Ball joint connecting means. 2,977,131, 3-28-61, Cl. 280—96.2.

Moslo, Ernest P. Mold venting structure. 2,976,571, 3-28-61, Cl. 18—42.

Motley, Lewis, to Redheugh Iron & Steel Co. Ltd. Oil burners. 2,976,921, 3-28-61, Cl. 158—77.

Mott, Edward E., to Bell Telephone Laboratories, Inc. Pressure compensated underwater transducer. 2,977,573, 3-28-61, Cl. 340—14.

Mott, Richard C., to Minneapolis-Honeywell Regulator Co. Pneumatic control device having range adjustment. 2,976,877, 3-28-61, Cl. 137—85.

Mountain Copper Co., Ltd., The: *See*—
Matsinger, Charles P. 2,977,195.

Mueller, Homer L., to American Machine and Foundry Co. Tire rim. 2,977,153, 3-28-61, Cl. 301—97.

Muessig, Clifford W.: *See*—
Morway, Arnold J., Bartlett, and Muessig. 2,977,303.

Muffly, Glenn. Reversible refrigerating systems. 2,976,698, 3-28-61, Cl. 62—160.

Mugler, Charles M. Piece of furniture usable as sofa or bed. 2,976,544, 3-28-61, Cl. 5—63.

Muller, Donald C., to A. J. Bayer Co. Conveyor. 2,977,003, 3-28-61, Cl. 214—11.

Müller, Wilhelm, M. Zimmermann, and R. Stroh, to Farbenfabriken Bayer Aktiengesellschaft. Tetrahydronaphthylamino compounds. 2,977,308, 3-28-61, Cl. 252—50.

Mullin, John T., to Minnesota Mining and Mfg. Co. Apparatus for magnetic reproduction. 2,977,579, 3-28-61, Cl. 340—174.1.

Multistamp Co., The: *See*—
Mason, Jack H. 2,976,802.

Mungo, John H.: *See*—
Morphet, Bentham R., and Mungo. 2,976,672.

Munter, Casimir J., to Hagan Chemicals & Controls, Inc. Analytical method. 2,977,200, 3-28-61, Cl. 23—230.

Murphy, Donald D., to Joy Mfg. Co. Conveyor apparatus. 2,976,982, 3-28-61, Cl. 198—139.

Murphy, J. L., Inc.: *See*—
Murphy, Thomas F., and Horn. 2,976,949.

Murphy, Thomas F., and J. M. Horn, to J. L. Murphy, Inc. Apparatus for cleaning and purifying gaseous products of combustion. 2,976,949, 3-28-61, Cl. 183—3.

Murphy, William E. Sanitary body dryer. 2,977,455, 3-28-61, Cl. 219—39.

Murray Corp. of America, The: *See*—
Flannery, John P. 2,976,746.

Myers, Robert L., and M. F. Gill, to General Electric Co. Electrolytic device with gel electrolyte and method of making the same. 2,977,514, 3-28-61, Cl. 317—230.

N.V. Onderzoekingsinstituut Research: *See*—
Kessler, Jacob C. F. 2,976,572.

N.V. Technische Maatschappij Marchand-Andriessen: *See*—
Van Marle, Frederick. 2,976,803.

Napier, D., & Son Ltd.: *See*—
Blyth, Jack V. 2,976,974.

National Malleable and Steel Castings Co.: *See*—
Shafer, James A., and Weber. 2,977,150.

National Production Co.: *See*—
Barker, Paul L. 2,976,911.

National Research Council, The: *See*—
Thiessen, George J., and Embleton. 2,976,943.

National Research Development Corp.: *See*—
Gibson, Alan F., and Granville. 2,977,551.
Houldcroft, Peter T., and Smith. 2,977,467.
Robin, Harold K. 2,977,416.

National Ro-Tile Corp.: *See*—
Cook, Clifford C., Howard, and Thompson. 2,976,595.

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer: *See*—
Van Jaarsvelt, William A. J. 2,977,548.

Neff, Joseph A., and E. J. Wandel, to Olin Mathieson Chemical Corp. Preparation of alkylated pentaboranes. 2,977,388, 3-28-61, Cl. 260—606.5.

Nelson, Herbert: *See*—
Carlson, Carl L., and Nelson. 2,977,262.

Nelson, Sterrett G. Abrading tool handle. 2,976,602, 3-28-61, Cl. 29—78.

Neo Products Corp.: *See*—
Burd, Gorman C. 2,976,549.

Nerwick, Charles M., to Structural Fibers, Inc. Manufacture of impregnated glass fiber tanks. 2,977,269, 3-28-61, Cl. 154—83.

Neu, Robert F.: *See*—
Fischer, Wilbur F., Neu, and Zapp. 2,977,845.

Neukom, Hans, to International Minerals & Chemical Corp. Core binder. 2,977,236, 3-28-61, Cl. 106—38.5.

Neumann, Manfred, and A. Donato, to Lightolier, Inc. Lighting assembly. 2,977,568, 3-28-61, Cl. 339—119.

Neval, Bela B. Retaining sleeve for hanger sets. 2,976,990, 3-28-61, Cl. 206—65.

Newbill, William S. Chimney construction. 2,976,797, 3-28-61, Cl. 98—54.

New Britain Machine Co., The: *See*—
Stephan, Hallis N. 2,976,777.

Nicholl, Edward J., to Dowty Rotol Ltd. Aircraft undercarriage. 2,977,072, 3-28-61, Cl. 244—103.

Nichols, Beverly R., to Allis-Chalmers Mfg. Co. Control for multijet impulse turbine. 2,976,687, 3-28-61, Cl. 60—97.

Nicoll, Frederick H.: *See*—
Rhodes, Roland N., and Nicoll. 2,977,412.

Nicoloff, Thomas P.: *See*—
Hight, Paul K., and Nicoloff. 2,976,645.

Nixon, Ian S.: *See*—
Birch, Arthur J., Nixon, and Grove. 2,977,285.

Nixon, William G., to Universal Oil Products Co. Activated refractory inorganic oxide. 2,977,326, 3-28-61, Cl. 252—466.

Nöller, Hans-Georg, and W. Bächler, to E. Leybold's Nachfolger. High-vacuum diffusion pump. 2,977,041, 3-28-61, Cl. 230—101.

Nolte, Albert C., Jr.: *See*—
Parker, Sydney R. 2,976,976.

Norddeutsche Affinerie: *See*—
Perkow, Werner. 2,977,383.

Normalair Ltd.: *See*—
Fitt, Peter W. 2,977,078.

North American Aviation, Inc.: *See*—
Campbell, Mark E., and O'Brien. 2,976,618.

North American Philips Co., Inc.: *See*—
Gorter, Evert W., Jonker, Wijn, and Schulkes. 2,977,312.
Hendee, Charles F., and Fine. 2,977,473.
Hoekstra, Piet. 2,977,492.
Schmidt, Wolfgang, and Schuhmann. 2,977,503.

Novo Industrial Corp.: *See*—
Spicer, John J., Jr. 2,977,432.
Spicer, John J., Jr. 2,977,435.

Nowak, Bernhard, to Bandag Inc. Method and material for retreading pneumatic tire casings. 2,976,910, 3-28-61, Cl. 154—14.

Nowicke, Frank J. Electrode holder. 2,977,459, 3-28-61, Cl. 219—141.

Noyes, Howard, and E. W. Moorman, to Dayco Corp. Ear pad. 2,977,426, 3-28-61, Cl. 179—182.

Oace, Ralph J.: *See*—
Hansen, Paul E., and Oace. 2,976,646.

O'Brien, George E.: *See*—
Campbell, Mark E., and O'Brien. 2,976,618.

Obat, Charles J. Method of making telescopic bracelet inner box elements. 2,976,607, 3-28-61, Cl. 29—160.6.

Ochin, Zell S.: *See*—
Civitelli, Gennaro, and Ochin. 2,977,564.

O'Connor, David T., and E. A. Fabish, to International Telephone and Telegraph Corp. Automatic digital evaluator. 2,977,535, 3-28-61, Cl. 324—73.

Offner, Franklin F. Paper drive. 2,977,112, 3-28-61, Cl. 271—2.8.

Oken, Aaron, to E. I. du Pont de Nemours and Co. Production of 2-oxazolidones. 2,977,370, 3-28-61, Cl. 260—307.

Okerlund, Charles L. Boat trailer. 2,977,011, 3-28-61, Cl. 214—505.

Okey, Joseph A. Boat trailer and collapsible shelter construction. 2,977,010, 3-28-61, Cl. 214—500.

Okma, Clarence, H. Udes, and E. L. Donahue, to D. & S. Processing Co., Inc. Apparatus for making pile fabrics. 2,976,839, 3-28-61, Cl. 118—624.

Olin Mathieson Chemical Corp.: *See*—
De Lorenzo, Eugene J., and Faust. 2,977,389.
Diassi, Patrick A. 2,977,367.
Landesman, Herbert. 2,977,392.
Laskin, Allen I., Guiducci, and Fried. 2,977,286.
Neff, Joseph A., and Wandel. 2,977,388.
Weisenborn, Frank L., Wintersteiner, and Diassi. 2,977,365.
Weiss, Harold G. 2,977,390.
Zaslowsky, Joel A. 2,977,207.

Oliver, Evan M., H. P. Tripp, L. E. Fussell, and F. L. Michael, to General Electric Co. One coat enamel process. 2,977,241, 3-28-61, Cl. 117—60.

Olsen, Kenneth H., to Digital Equipment Corp. Diode-transformer gating circuit. 2,977,485, 3-28-61, Cl. 307—88.5.

Oleon, Wallace F., to American Iron & Machine Works Co., Inc. Slush pump piston snap ring insertion. 2,977,165, 3-28-61, Cl. 308—4.

Ore, Fred R.: *See*—
Du Hamel, Raymond H., and Ore. 2,977,597.

Oreamuno, Walter E., & Co.: *See*—
Cook, Kenneth. 2,977,530.

Oreclone Concentrating Corp.: *See*—
Rodman, Norman H. A., and Arbetman. 2,976,994.

Orenda Engines Ltd.: *See*—
Hyde, John A. C. 2,977,160.

Original Jeri Wheel, Inc., The: *See*—
Hight, Paul K., and Nicoloff. 2,976,645.

Orr & Sembower, Inc.: *See*—
Garraway, George H., and Kirkup. 2,976,885.

Ostreicher, Robert: *See*—
Wals, Alfred, and Ostreicher. 2,977,488.

Osugi, Tetsuro, K. Tanabe, and O. Morimoto, ¼ to Air Reduction Co., Inc., and ¾ to Kurashiki Rayon Co., Ltd. Process of improving the dyeing properties of polyvinyl alcohol fibers. 2,977,183, 3-28-61, Cl. 16—54.

Ott, George E. to General Electric Co. Lamp making machine. 2,977,104, 3-28-61, Cl. 263—7.

Overland, John S., and J. T. Hill, to F. H. Hill Co., Inc. Casket. 2,976,599, 3-28-61, Cl. 27—17.

Owens, John G. Subcaliber conversion assembly for revolvers. 2,976,638, 3-28-61, Cl. 42—77.

Owens, Louise R. Bed rack. 2,976,546, 3-28-61, Cl. 5—318.

P.C.I. Inc.: *See*—
Hernig, Leonard A. 2,977,017.

Pacific Scientific Co.: *See*—
Mescher, Harold E. 2,977,107.

Packaging Corp. of America: *See*—
Lutz, Lewis W. 2,977,247.

Packman Machinery Ltd.: *See*—
Morrison, Robert H. 2,976,979.

Paillard, S. A.: *See*—
Zimmer, Michel. 2,976,789.

Palley, Sidney: *See*—
Fox, Irving, and Palley. 2,977,231.

Pandozy, Carlo, to G. Pandozy & Figli S.r.l. Machine for printing and issuing cash register tickets. 2,977,045, 3-28-61, Cl. 235—94.

Pandozy, G., & Figli S.r.l.: *See*—
Pandozy, Carlo. 2,977,045.

Panray Corp., The: *See*—
Feier, Milton, and Pantzer. 2,977,281.

Panson, Armand J.: *See*—
Johnston, William D., Miller, and Panson. 2,977,399.

Pantzer, Myron: *See*—
Feier, Milton, and Pantzer. 2,977,281.

Paramount Wedding Ring Co. Inc.: *See*—
Sager, Abraham G. 2,976,799.

Park Plastics Co., Inc.: *See*—
Joffe, Edward J. 2,977,028.

Parker, Donald J., to Radio Corp. of America. Protective system against damaging rays. 2,976,758, 3-28-61, Cl. 89—1.

Parker, Sydney R., 15% to A. C. Nolte, Jr. Electro-magnetic clutch mechanism. 2,976,976, 3-28-61, Cl. 192—84.

Parker, Warren H., ¼ to C. W. Butler, and ¼ to C. Bork. Tool for affixing linings to brake shoes. 2,976,909, 3-28-61, Cl. 154—1.

Parkison, Everett R., to Utility Service Co., Inc. Utility wire mast. 2,977,402, 3-28-61, Cl. 174—45.

Parks-Cramer Co.: *See*—
Reiterer, Ferdinand. 2,976,556.
Reiterer, Ferdinand. 2,976,668.
Reiterer, Ferdinand. 2,977,181.

Parsons, Joseph R., to Chicago Fire Brick Co. Light weight aggregate and method of making same. 2,977,230, 3-28-61, Cl. 106—288.

Paschal, Don F., to Chronicle Publishing Co. Display mounts for calendar pads or the like. 2,976,681, 3-28-61, Cl. 40—120.

Pastushin Aviation Corp.: *See*—
Burton, George M. 2,977,149.

Paton, Sidney F. Magnetic filter for fuel systems and mounting therefor. 2,976,999, 3-28-61, Cl. 210—223.

Patrick, Milton L.: *See*—
Timothy, Keith O., and Patrick. 2,977,563.

Patterson, Hugh W.: *See*—
Marquis, Duane E., Miller, and Patterson. 2,976,930.

Patterson, Robert C.: *See*—
Hunter, Arthur T., Patterson, and Lewis. 2,976,853.

Patterson, Roy G. Air brake safety control for vehicles. 2,977,155, 3-28-61, Cl. 303—2.

Paustian, John F.: *See*—
Gould, Jack R., and Paustian. 2,977,387.

Pavalow, Melvin: *See*—
Litman, Bernard, Pavalow, Savet, and Statsinger. 2,976,733.

Pear, Charles B., Jr., to Minneapolis-Honeywell Regulator Co. Web transport speed control. 2,977,422, 3-28-61, Cl. 179—100.2.

Pearl, Carl E., to Thiokol Chemical Corp. Beta-ethoxyethyldecaborane and method for its manufacture. 2,977,391, 3-28-61, Cl. 260—606.5.

Pearson, Raymond E., to Boeing Airplane Co. Cargo airplanes. 2,977,077, 3-28-61, Cl. 244—118.

Pearson, Wendell H.: *See*—
Bennett, Harold L., Bohm, and Pearson. 2,976,681.

Pegard, Pierre, to Ateliers G.S.P. Vibration damping device. 2,976,962, 3-28-61, Cl. 188—98.

Pelisson Claude G. D. J.: *See*—
Plotkowiak, Joseph, and Pelisson. 2,977,071.

Fenco Wheel Co.: *See*—
Black, John W. 2,976,562.
Brooks, Theodore J. 2,977,162.

Penn, William H.: *See*—
Lindgren, William L., and Penn. 2,977,067.

Peras, Lucien, to Regie Nationale des Usines Renault. Roller-type conveyor for transporting loads. 2,976,981, 3–28–61, Cl. 198—127.

Perfect Circle Corp.: *See*—
Hill, Robert H. 2,976,807.

Perkins, Glen E., and G. W. Dale. Slip-form paving machine. 2,976,783, 3–28–61, Cl. 94—44.

Perkins, Glen E., and G. W. Dale. Road making machine. 2,976,784, 3–28–61, Cl. 94—45.

Perkow, Werner, to C. F. Spiess & Sohn, and Norddeutsche Affinerie. Halogenated tetraalkyl pyrophosphates. 2,977,383, 3–28–61, Cl. 260—461.

Petersen, Svend A., to Celanese Corp. of America. Apparatus for the production of cables. 2,976,669, 3–28–61, Cl. 57—64.

Peterson, W. Jerome. System of merchandising and equipment therefor. 2,976,653, 3–28–61, Cl. 53—3.

Petropoulos, John C., to American Cyanamid Co. Resinous composition and process of preparing same. 2,977,338, 3–28–61, Cl. 260—47.

Pettera, Oscar R., and H. B. Thompson, to Hamilton Watch Co. Clock setting and automatic regulation. 2,976,673, 3–28–61, Cl. 58—109.

Pfaudler Permutit Inc.: *See*—
Buellman, Charles G., and Kneale. 2,977,202.

Pferd, William: *See*—
Goodale, Walter D., Jr., and Pferd. 2,977,419.

Pfizer, Chas., & Co., Inc.: *See*—
Agnello, Eugene J., and Laubach. 2,977,284.
Agnello, Eugene J., and Laubach. 2,977,377.

Philco Corp.: *See*—
Clarke, Ford K., and Doelp. 2,977,515.
Dahlberg, Robert S., Jr. 2,977,410.
Dunkle, Richard B. 2,977,258.
Sinner, Raymond G. 2,977,512.

Phillip, George O., to International Business Machines Corp. Wire stringing machine. 2,976,894, 3–28–61, Cl. 140—93.

Phillips, Benjamin, and P. S. Starcher, to Union Carbide Corp. Process for preparing oxirane compounds. 2,977,374, 3–28–61, Cl. 260—348.5.

Phillips, Leonard R.: *See*—
Kurth, Franz J., and Phillips. 2,976,884.

Phillips, Nicholas. Card-supporting artificial Christmas trees for Christmas card displays. 2,976,632, 3–28–61, Cl. 40—124.

Phillips Petroleum Co.: *See*—
Adams, Loyd W., and Simms. 2,977,197.
Cabbage, John T. 2,977,288.
De Haven, Clark G. 2,976,716.
Eddy, William R. 2,976,723.
Johnson, Paul H., Denton, and Eberline. 2,977,323.
Kratochvil, Kenneth V. 2,977,472.
Kron, Carl M. 2,977,289.
Marquis, Duane E., Miller, and Patterson. 2,976,930.
Meade, Leonard P. 2,976,695.
Varvel, Charles W., and Montgomery. 2,977,322.
Wiley, Fred E. 2,977,351.

Piasse, Thomas E., to Continental Can Co., Inc. Container filling and closing machine. 2,976,660, 3–28–61, Cl. 53—206.

Pickrell, John W. Agricultural spraying. 2,976,647, 3–28–61, Cl. 47—58.

Pierrot, André: *See*—
Guilliaud, Charles L., Pierrot, and Lescroel. 2,977,311.

Pietsch, Leonard C., to Union Tank Car Co. Rolling mill power transmission locking arrangement. 2,976,702, 3–28–61, Cl. 64—1.

Pilkington Brothers Ltd.: *See*—
Kay, Solomon E., and Ball. 2,977,244.

Pitcher, John N. Apparatus for drilling horizontally extending holes in embankments and walls. 2,976,942, 3–28–61, Cl. 175—127.

Pitney-Bowes, Inc.: *See*—
Hanson, Walter J., and Schmeck. 2,977,114.

Pittsburgh Plate Glass Co.: *See*—
Ellsworth, Arthur C. 2,977,292.
Toney, Edward F. 2,976,970.

Place, Mark I., to Westinghouse Electric Corp. Linearized parallel control valve for control systems. 2,976,848, 3–28–61, Cl. 121—41.

Plantier, George W., Sr. Pleat holder for pressing machines. 2,976,626, 3–28–61, Cl. 38—12.

Plasser, Franz, J. Theurer, and G. Schramm; said Schramm assor. to said Plasser and Theurer. Mobile railway ballast tamping machine. 2,976,816, 3–28–61, Cl. 104—12.

Plastic and Rubber Products Co.: *See*—
Daubenberger, Charles J. 2,976,575.

Pleuger, Friedrich W., and H. Göhring; said Göhring assor. to said Pleuger. Heavy oil feed pump. 2,976,812, 3–28–61, Cl. 103—179.

Plotkowiak, Joseph, and C. G. D. J. Pelisson, to Societe d'Exploitation des Materiels Hispano-Suiza. Hydraulic control system for aircraft. 2,977,071, 3–28–61, Cl. 244—55.

Polaroid Corp.: *See*—
Land, Edwin. 2,977,226.

Pond, Robert B., to Marvalaud, Inc. Method of producing continuous metallic filaments. 2,976,590, 3–28–61, Cl. 22—200.1.

Pope, R. Henry: *See*—
Irwin, Frank M. 2,976,954.

Pope, Thomas J., to Bell Telephone Laboratories, Inc. Hydrophone. 2,977,572, 3–28–61, Cl. 340—10.

Popovitch, Fred: *See*—
Soos, Steve J. 2,977,004.

Potties, Fernand, to Union Chimique Belge, S.A. Anhydrous colorless phosphates. 2,977,191, 3–28–61, Cl. 23—107.

Potts, John, to Wilson-Jones Co. Loose leaf binder. 2,976,871, 3–28–61, Cl. 129—17.

Pouliart, Willy H. P., and G. Van Mechelen, to International Standard Electric Corp. Electrical comparator. 2,977,574, 3–28–61, Cl. 340—149.

Pounds, Lewis C., to American Cyanamid Co. Laminated articles. 2,977,272, 3–28–61, Cl. 154—132.

Power Jets (Research and Development) Ltd.: *See*—
Davidson, Ivor M., and Stratford. 2,977,066.

Powers, Edward T., to Celanese Corp. of America. Production of a cellulose staple fiber batting. 2,976,601, 3–28–61, Cl. 28—76.

Powers, Kenneth W., S. B. Robison, and J. V. Fusco, to Esso Research and Engineering Co. Butyl rubber cured in the presence of a combination of accelerators. 2,977,344, 3–28–61, Cl. 260—79.5.

Price, Frank B.: *See*—
Silver, Harold F., Steele, Wright, and Price. 2,976,550.

Price, John A.: *See*—
Schuller, Walter H., and Price. 2,977,341.

Prigosy, Stephen, to Simmonds Aerocessories, Inc. Liquid quantity gauge and repeater system. 2,976,727, 3–28–61, Cl. 73—304.

Primeau, George H., to General Motors Corp. Seal. 2,977,139, 3–28–61, Cl. 286—11.16.

Probst & Class: *See*—
Gustke, Klaus H. 2,977,056.

Pugh, Henry D., and W. E. Hauth, Jr., to International Resistance Co. Hermetically sealed electrical component and method of making the same. 2,977,561, 3–28–61, Cl. 338—237.

Pure Oil Co., The: *See*—
Millikan, Allen F. 2,977,382.

Purkhiser, Rawlins E., to Air Reduction Co., Inc. Welding current control. 2,977,528, 3–28–61, Cl. 323—66.

Putney, David H., to Stratford Engineering Corp. Hydrogen fluoride alkylation with effluent refrigeration. 2,977,397, 3–28–61, Cl. 260—683.48.

Pyzel-Fitzpatrick, Inc.: *See*—
Pyzel, Robert. 2,977,105.

Pyzel, Robert, to Pyzel-Fitzpatrick, Inc. Apparatus for cement manufacture. 2,977,105, 3–28–61, Cl. 263—21.

Querel, Hendrik K., and B. J. Helders. Die casting machine of high pressure injection moulding device. 2,976,569, 3–28–61, Cl. 18—30.

Quick, Carl F., and L. B. Rice, to Rohr Aircraft Corp. Tumble drill jig. 2,976,748, 3–28–61, Cl. 77—62.

Quittner, George F., to Industrial Rayon Corp. Method for the continuous testing of flowing materials. 2,977,109, 3–28–61, Cl. 23—230.

Rabell, William H. Method for making tampons. 2,976,579, 3–28–61, Cl. 19—144.5.

Rabeux, Jean, and R. Jacob, to Societe d'Applications Generales d'Electricite & de Mecanique. Circular loom. 2,976,890, 3–28–61, Cl. 139—13.

Racicot, Aime J. Multiple end horizontal crimping machine. 2,976,667, 3–28–61, Cl. 57—34.

Radio Corp. of America: *See*—
Baybick, Solomon. 2,977,517.
Carlson, Carl L., and Nelson. 2,977,262.
Goodrich, Hunter C. 2,977,411.
Herbst, Philip J. 2,977,587.
Korman, Nathaniel I. 2,977,586.
Leigh, John S., and Hobbs. 2,977,570.
McCreary, Harold R. 2,977,321.
Parker, Donald J. 2,976,758.
Rhodes, Roland N., and Nicoll. 2,977,412.
Rosi, Fred D., and Braunstein. 2,977,477.
Sterzer, Fred. 2,977,482.
Sterzer, Fred, and Blattner. 2,977,484.

Raffenbeul, Gustav: *See*—
Berning, Alfred, and Schuster. 2,977,060.

Ramsey, William R., to Western Electric Co., Inc. Clamping devices for holding workpieces. 2,976,776, 3–28–61, Cl. 90—60.

Ranco Inc.: *See*—
Greenwalt, Frederick A. 2,976,701.

Randolph, Donald W., to Structural Fibers, Inc. Method of making impregnated glass fiber articles. 2,977,268, 3–28–61, Cl. 154—83.

Raney Catalyst Co., Inc.: *See*—
Raney, Murray. 2,977,327.

Raney, Murray, to Raney Catalyst Co., Inc. Process of producing nickel catalysts. 2,977,327, 3–28–61, Cl. 252—472.

Rapp, Robert P. Hoe blade and handle attachment. 2,976,938, 3–28–61, Cl. 172—376.

Rasmussen, Arne P.: *See*—
Roese, David W., and Rasmussen. 2,976,715.

Rausch, Hans: *See*—
Meyer, Kurt, Rausch, and Boss. 2,977,215.

Raymond, Albert V. Clip. 2,976,972, 3–28–61, Cl. 189—66.

Raymond Bag Corp.: *See*—
Tilton, William J., and Moore. 2,977,035.

Raytheon Co.: *See*—
Brown, William C., and Dench. 2,977,502.
Kienow, Orwald E. 2,977,593.
Sanders, Royden C., Jr., and Mercer. 2,977,465.
Slater, Arthur B. 2,977,486.

Reddy, Richard L.: *See*—
Wlodek, Stanley T., Geiselman, and Reddy. 2,977,225.

Redheugh Iron & Steel Co. Ltd.: *See*—
Motley, Lewis. 2,976,921.

Redlich, Horst, to Teldec-Telefunken-Decca Schallplatten G.m.b.H. Arrangement for producing a sound recording. 2,977,424, 3–28–61, Cl. 179—100.4.

Redman, Howard E.: *See*—
Kalning, Frederick E., and Redman. 2,976,826.

Redman, William J., to United States Steel Corp. Liner assembly. 2,976,813, 3–28–61, Cl. 103—216.

Reeder, James E., and G. W. Ernsberger, to Westinghouse Electric Corp. Static lockout control of a latch type relay. 2,977,511, 3–28–61, Cl. 317—54.

Reeves, Wilson A.: *See*—
Bryson, Ralph J., and Reeves. 2,977,250.

Regie Nationale des Usines Renault: *See*—
Peras, Lucien. 2,976,981.

Reid, Willie A. Pocket calculator. 2,977,044, 3–28–61, Cl. 235—67.

Reindl, Eugen: *See*—
Dorfelt, Christoph, Hartel, and Reindl. 2,977,379.

Reinluft G.m.b.H.: *See*—
Feustel, Klaus, Johswich, and Stratmann. 2,977,325.

Rein, Raymond G. Flaw detector for knitting machines and the like. 2,976,706, 3–28–61, Cl. 66—166.

Reiterer, Ferdinand, to Parks-Cramer Co. Apparatus for the removal of dust. 2,976,556, 3–28–61, Cl. 15—301.

Reiterer, Ferdinand, to Parks-Cramer Co. Method and apparatus for the suction of broken ends and dusting of textile machines. 2,976,668, 3–28–61, Cl. 57—56.

Reiterer, Ferdinand, to Parks-Cramer Co. Suction cleaning system for textile machinery. 2,977,181, 3–28–61, Cl. 57—56.

Reitz, Matthew W. Electrical wire tap connector. 2,977,403, 3–28–61, Cl. 174—84.

Rentschler, Waldemar T., to Alfred Gauthier G.m.b.H. Photographic intra-lens shutter with coupled exposure meter. 2,976,788, 3–28–61, Cl. 95—10.

Research Corp.: *See*—
Kosowsky, David I. 2,976,604.

Revere Corp. of America: *See*—
McKeag, Malcolm F. 2,976,763.

Reynolds, Jack: *See*—
McQuillan, Marion K., and Reynolds. 2,977,261.

Reynolds, Reginald J. W., and E. J. Vickers, to Imperial Chemical Industries Ltd. α:α-bis-(chloromethyl)-β-propiolactone and process for its production. 2,977,373, 3–28–61, Cl. 260—343.9.

Rhea, Hal H., and E. J. Burke, to Carrier Corp. Heating and cooling apparatus. 2,976,696, 3–28–61, Cl. 62—115.

Rheinmetall G.m.b.H.: *See*—
Horn, Franz. 2,976,769.

Rhodes, Roland N., and F. H. Nicoll, to Radio Corp. of America. Light reflection reducing device. 2,977,412, 3–28–61, Cl. 178—7.85.

Rice, Leslie B.: *See*—
Quick, Carl F., and Rice. 2,976,748.

Rich, Samuel M. Safety means in air brake equipment. 2,977,157, 3–28–61, Cl. 303—84.

Richards, Charles H., and W. A. Geoghegan. Constant voltage A.C. generator. 2,977,526, 3–28–61, Cl. 322—3.

Richardson, Kay A., and E. E. Gullette, to Morris P. Kirk & Son, Inc. Apparatus for dismantling electric storage batteries. 2,977,007, 3–28–61, Cl. 214—308.

Rid-Ring Chemical Co.: *See*—
Turner, Wesley. 2,976,580.

Riedel, Johann C. Device for preparing a fleece, sliver or yarn, in particular of glass. 2,976,580, 3–28–61, Cl. 19—150.

Rifkin, Arnold S. Seal construction having piural female elements. 2,977,145, 3–28–61, Cl. 292—321.

Risk, Donald L., and B. E. Geddes, to General Dynamics Corp. Missile structure. 2,976,806, 3–28–61, Cl. 102—92.5.

Ritter, Rolland R.: *See*—
Daniels, Howard L., Fritze, and Ritter. 2,977,578.

Roake, William E.: *See*—
Evans, Ersel A., Anicetti, and Roake. 2,977,297.

Robbins, Daniel H., to Mergenthaler Linotype Co. Font plate magazine for phototypographical machine. 2,976,787, 3–28–61, Cl. 95—4.5.

Roberts, Henry, to Flight Refuelling Ltd. and A.E.I.-John Thompson Nuclear Energy Co. Ltd. Automatically closing valves. 2,977,085, 3–28–61, Cl. 251—149.

Robertshaw-Fulton Controls Co.: *See*—
Weber, Victor, and Strobel. 2,977,452.

Robin, Harold K., to National Research Development Corp. Electric signalling systems. 2,977,416, 3–28–61, Cl. 178—51.

Robinson, Charles F., to Consolidated Electrodynamics Corp. Mass spectrometry. 2,977,470, 3–28–61, Cl. 250—141.9.

Robinson, Thomas K., Jr., to The Marlin Firearms Co. Sear safety actuated by rotation of bolt. 2,976,637, 3–28–61, Cl. 42—70.

Robison, Samuel B.: *See*—
Powers, Kenneth W., Robison, and Fusco. 2,977,344.

Rockwell, Edward A. Reservoir brake intensifier apparatus. 2,976,847, 3–28–61, Cl. 121—41.

Rodder, William, to Blaw-Knox Co. Rotary kick-off for cooling beds. 2,976,980, 3–28–61, Cl. 198—104.

Rodgers, George H., to Marco Industries Co. Transistorized light flasher and testing circuit. 2,977,581, 3–28–61, Cl. 340—331.

Rodis, Franz, J. Krause, and K. Beltz, to Knapsack-Griesheim Aktiengesellschaft. Process for producing compositions containing sodium tripolyphosphate. 2,977,317, 3–28–61, Cl. 252—135.

Rodman, Norman H. A., and A. Arbetman, to Orecione Concentrating Corp. Mineral concentrating and separating apparatus. 2,976,994, 3–28–61, Cl. 209—211.

Roese, David W., and A. P. Rasmussen, to Westinghouse Electric Corp. Dynamic pressure simulator. 2,976,715, 3–28–61, Cl. 73—4.

Roesel, John F., Jr., and R. W. Lucky, to Westinghouse Electric Corp. Electrical inverter circuits. 2,977,550, 3–28–61, Cl. 331—113.

Roethlisberger, Arthur C., to Westinghouse Electric Corp. Bus duct plug-in unit. 2,977,449, 3–28–61, Cl. 200—168.

Rohs, Max E., and W. L. Bosarge, to Goodrich-Gulf Chemicals, Inc. Organo-metal compounds and production thereof. 2,977,381, 3–28–61, Cl. 260—448.

Rohr Aircraft Corp.: *See*—
Quick, Carl F., and Rice. 2,976,748.

Rohr, Frederick H.: *See*—
Humes, Karl R., Schwarzkopf, Rohr, and White. 2,977,551.

Roland, Charles T., to Hagan Chemicals & Controls, Inc. Method of cleansing, sterilizing and preventing corrosion in base exchange and cation exchange systems and products used therein. 2,977,312, 3–28–61, Cl. 252—99.

Rollman, Ernest E., to Ro-Search, Inc. Footwear with soles containing rubber. 2,976,624, 3–28–61, Cl. 36—14.

Rommel, Frederick E., to Telephone Mfg. Co. Ltd. Mounting of armatures of polarized electromagnetic relays. 2,977,513, 3–28–61, Cl. 317—174.

Rosa, John, to Westinghouse Electric Corp. Magnetic amplifier. 2,977,481, 3–28–61, Cl. 307—88.

Ro-Search, Inc.: *See*—
Rollman, Ernest E. 2,976,624.

Rosenberg, Andrew M., J. R. Conway, and H. E. Schulien, to The Bendix Corp. Low resistance electrolytic tilt device. 2,977,559, 3–28–61, Cl. 338—44.

Rosenberg, Sheldon, and O. K. Schmidt, to International Cigar Machinery Co., Inc. Smoking product. 2,977,254, 3–28–61, Cl. 131—17.

Rosenkrans, George: *See*—
Djerassi, Carl, Lemin, Rosenkrans, and Sondheimer. 2,977,356.

Rosenthal, Joseph. Door latch arrangement. 2,976,882, 3–28–61, Cl. 20—16.

Roshon, Arthur H., Jr., and R. L. Waldie, to United States of America, Navy. Frequency-modulated echo ranging equipment. 2,977,568, 3–28–61, Cl. 340—8.

Roat, Fred D., and R. Braunstein, to Radio Corp. of America. Semiconductive materials for infrared transmissive components. 2,977,477, 3–28–61, Cl. 250—83.

Rossell, William T., to Transit Research Corp. Rail truck. 2,976,819, 3–28–61, Cl. 105—138.

Rotary Oil Tool Co.: *See*—
Kammerer, Archer W., Jr., and Lamphere. 2,976,927.

Roth, Barbara: *See*—
Hitchings, George H., and Roth. 2,977,361.

Roux, Arthur L., and A. W. Zub, to ACF Industries, Inc. Throttle-operated inside carburetor vents. 2,977,102, 3–28–61, Cl. 261—42.

Roux, Jean-Pierre T.: *See*—
Teste, Yvan R. M., and Roux. 2,977,005.

Rubin, Maurice, to Societe d'Etudes Chimiques Pour l'Industrie et l'Agriculture. Separation of potassium and/or magnesium ions from double salts containing potassium and magnesium. 2,977,186, 3–28–61, Cl. 23—67.

Rudiger, Eberhard: *See*—
Keil, Helmut, Wagner, Feige, Stiliner, and Rudiger. 2,976,851.

Runk, Robert H., and L. E. Edelman, to Westinghouse Electric Corp. Heat resistant electrical insulating varnish. 2,977,333, 3–28–61, Cl. 260—20.

Runswick, Wallace D.: *See*—
Jones, Preston A. 2,977,461.

Rushmore, Donald. Paper contamination classifier. 2,976,719, 3–28–61, Cl. 73—61.

Rutschmann, Jurg, to Sandoz A.G. Amides and hydrazones of podophyllic acid and picropodophyllic acid. 2,977,359, 3–28–61, Cl. 260—240.

Ryan, Wayne L. Preservation of cut flowers. 2,977,296, 3–28–61, Cl. 204—149.

Rychlewski, Thaddeus V., and R. F. Wilson, to Sylvania Electric Products Inc. Apparatus for the fabrication of image display screens. 2,976,838, 3–28–61, Cl. 118—321.

Ryck, Francis M., to General Motors Corp. Connector for windshield wiper blade. 2,977,141, 3–28–61, Cl. 287—20.

Sager, Abraham G., to Paramount Wedding Ring Co. Inc. Imprinting machine. 2,976,799, 3–28–61, Cl. 101—6.

St. Clair, Theodore A., and E. L. Greenhill, to The Sprague Meter Co. Gas impervious diaphragm. 2,976,726, 3–28–61, Cl. 73—279.

St. Pierre, Henry. Automatic tightener for tire chains. 2,976,902, 3–28–61, Cl. 152—217.

St. Regis Paper Co.: *See*—
La Fave, Francis G. 2,977,038.

Salem-Brosius, Inc.: *See*—
Vogrell, Harry E. 2,976,854.

Salsbury Corp.: *See*—
Thostenson, Lewis D., and Gallcher. 2,976,975.

Sanborn, William L., to Bell & Gossett Co. Oil burners. 2,976,919, 3–28–61, Cl. 158—76.

Sanborn, William L., to Bell & Gossett Co. Oil burner with air directing means. 2,976,920, 3–28–61, Cl. 158—76.

Sanders, Royden C., Jr., and W. E. Mercer, to Raytheon Co. Frequency-scanning radio receivers. 2,977,465, 3–28–61, Cl. 250—20.

Sandoz A.G.: *See*—
Rutschmann, Jurg. 2,977,359.

Sandoz Ltd.: *See*—
Merian, Ernst. 2,977,376.

Sanford Process Co., Inc.: *See*—
Franklin, John B. 2,977,294.

Santore, Gabriel L.: *See*—
Stern, Jesse E., and Santore. 2,976,721.

Sausen, George N.: *See*—
Krespan, Carl G., and Sausen. 2,977,394.

Savage, Francis C., to The Sheffield Corp. Gaging device. 2,977,533, 3–28–61, Cl. 324—71.

Savet, Paul H.: *See*—
Litman, Bernard, Pavalow, Savet, and Statsinger. 2,976,733.

Savigny, Charles: *See*—
Boutilh, Raymond, and Savigny. 2,976,785.
Sawyer, Charles H. V., and P. E. Landeg, to C.D. Patents Ltd. Fluid pressure overload relief devices. 2,977,020, 3–28–61, Cl. 220—89.
Schaar, Erich. Mono-rail railroad. 2,976,820, 3–28–61, Cl. 105—141.
Schaeffer, Bernarr C., to said B. C. and R. A. Schaeffer. Massaging device. 2,976,867, 3–28–61, Cl. 128—57.
Schaeffer, Ruth A.: *See*—
Schaeffer, Bernarr C. 2,976,867.
Schaeffer, William D., and F. H. Seubold, Jr., to Union Oil Co. of California. Dechlorination of chloromethyl compounds. 2,977,395, 3–28–61, Cl. 260—668.
Schatzman, George W., to Houdaille Industries, Inc. Fender shield structure. 2,977,136, 3–28–61, Cl. 280—153.
Schatzschock, Adolf, and A. Weltzel. Method for forming filing tools. 2,976,747, 3–28–61, Cl. 76—101.
Scheffer, Ervin B. Live chinchilla fur brushing apparatus. 2,976,841, 3–28–61, Cl. 119—83.
Scheib, Bernard J., N. E. Lamarus, and M. T. Sullivan, to Lazarus Laboratories, Inc. Water soluble iodine-phosphoric-acid-synthetic detergent composition. 2,977,315, 3–28–61, Cl. 252—106.
Scheidorf, Owen H., to General Electric Co. Hermetic compressor unit mounting means. 2,977,043, 3–28–61, Cl. 230—235.
Scheufele, Erwin, H. Schrewe, and F. Taube, to Mannesmann Aktiengesellschaft. Continuous casting apparatus. 2,976,585, 3–28–61, Cl. 22—57.2.
Schjolin, Hans O., to General Motors Corp. Hydraulic cooling system for a multiple disk brake. 2,976,965, 3–28–61, Cl. 188—264.
Schladermundt, Peter, H. A. Holzwarth, and J. D. Wrak, to Hewitt-Robins Inc. Springless cushion. 2,976,916, 3–28–61, Cl. 155—178.
Schleifer, Sam: *See*—
Waldron, Paul H. R., and Schleifer. 2,976,834.
Schliephacke, Fridtjof F., to A. Lorens. Reclining chair of multiple-position type. 2,976,913, 3–28–61, Cl. 155—106.
Schlumberger Well Surveying Corp.: *See*—
Causse, Jean-Pierre, and Lallemand. 2,977,252.
Schmeck, Robert E.: *See*—
Hanson, Walter J., and Schmeck. 2,977,114.
Schmelzer, Ludwig E., to United States Steel Corp. Method of inhibiting white rust on zinc surfaces. 2,977,259, 3–28–61, Cl. 148—6.2.
Schmid, Wolfgang. Feeler controls. 2,976,778, 3–28–61, Cl. 90—62.
Schmidt, Otto K.: *See*—
Rosenberg, Sheldon, and Schmidt. 2,977,254.
Schmidt, Wolfgang, and G. W. Schuhmann, to North American Philips Co., Inc. Resonant-cavity magnetron having coaxial output line. 2,977,503, 3–28–61, Cl. 315—39.53.
Schneider, Hans W. Cord or chain operated pull switches. 2,977,448, 3–28–61, Cl. 200—161.
Schneider, Jos., & Co., Optische Werke: *See*—
Ewald, Waldemar. 2,976,790.
Schneider, Max: *See*—
Hornstein, Victor, Lohrmann, Schneider, and Kusel. 2,977,058.
Schneider, William S. Unit dispensing container. 2,976,988, 3–28–61, Cl. 206—56.
Scholl, Walther, to Daimler-Benz Aktiengesellschaft. Shoe brake construction. 2,976,958, 3–28–61, Cl. 188—79.5.
Schoning, Richard H. Testing and scoring device. 2,976,620, 3–28–61, Cl. 35—9.
Schramm, Gerhard: *See*—
Plasser, Franz, Theurer, and Schramm. 2,976,816.
Schreck, Irvin F. Explosion proof industrial truck. 2,976,945, 3–28–61, Cl. 180—19.
Schrewe, Hans: *See*—
Scheufele, Erwin, Schrewe, and Taube. 2,976,585.
Schroeder, Royal E.: *See*—
Amal, Raymond S., and Schroeder. 2,976,588.
Schubrig, Norman W., and M. E. Fitch, to General Motors Corp. Differentiating circuit. 2,977,544, 3–28–61, Cl. 328—127.
Schuck, Anthony G., to J. M. Lee. Method of forming ball point pens. 2,976,610, 3–28–61, Cl. 29—441.
Schuhmann, Gerhard W.: *See*—
Schmidt, Wolfgang, and Schuhmann. 2,977,503.
Schulien, Howard E.: *See*—
Rosenberg, Andrew M., Conway, and Schulien. 2,977,559.
Schulkes, Johannes A.: *See*—
Gorter, Evert W., Jonker, Wijn, and Schulkes. 2,977,312.
Schuller, Walter H., to American Cyanamid Co. Cyanoethylated polyacrylonitrile compositions. 2,977,337, 3–28–61, Cl. 260—45.5.
Schuller, Walter H., and J. A. Price, to American Cyanamid Co. Polymers of vinyl pyridinium betaines. 2,977,341, 3–28–61, Cl. 260—78.
Schulman, Marvin: *See*—
Sienkiewicz, Boleslaw, Kohler, and Schulman. 2,977,203.
Schulz, William E., to E. I. du Pont de Nemours and Co. Process for filling tubes. 2,976,757, 3–28–61, Cl. 86—20.
Schurr, Paul E.: *See*—
Meyer, Curtis E., Panche... nd Schurr. 2,977,283.
Schuster, Emil: *See*—
Berning, Alfred, and Schuster. 2,977,060.
Schwalley, Lawrence L.: *See*—
Stephanou, Stephen E., Schwalley, and Lee. 2,977,314.
Schwarckopf, Joseph G.: *See*—
Humes, Karl R., Schwarckopf, Rohr, and White. 2,977,531.
Schwarzbaur, Julius. Magnetic control means for piano dampers. 2,976,756, 3–28–61, Cl. 84—216.
Schweigart, Hildegard E. L. G.: *See*—
Cooke, Brian A., Morgan, and Schweigart. 2,977,298.
Scott, Arthur L., to Columbia Products Co. Strain insulator and method of making same. 2,977,406, 3–28–61, Cl. 174—177.
Scott, Eugene W., to Westinghouse Electric Corp. Water dispenser. 2,977,025, 3–28–61, Cl. 222—108.
Scott, William P.: *See*—
Bergen, Charles R., Scott, Tillman, and Woods. 2,977,300.
Bergen, Charles R., Scott, Tillman, and Woods. 2,977,301.
Scovill Mfg. Co.: *See*—
Butler, Gray L. 2,977,166.
Heyworth, Ernest. 2,976,901.
Secretan, Frank, to Collins Radio Co. Phase measuring system. 2,977,538, 3–28–61, Cl. 324—83.
Sedgley, Gertrude E. Endless conveyor belt. 2,977,266, 3–28–61, Cl. 154—52.1.
Selas Corp. of America: *See*—
Duff, John. 2,977,106.
Seliger, Victor H., to Sperry Rand Corp., Ford Instrument Co. Division. Ground speed indicator. 2,977,586, 3–28–61, Cl. 343—8.
Senseabrenner, Michael E. Fishing devices. 2,976,640, 3–28–61, Cl. 43—19.2.
Seragnoli, Ariosto. Mechanisms for delivering articles into a machine, particularly adapted to deliver caramels into wrapping machines. 2,976,825, 3–28–61, Cl. 107—4.
Serreze, Victor C., Jr., and W. R. Kocay, to American Cyanamid Co. Purification of thiocyanate solutions. 2,977,187, 3–28–61, Cl. 23—75.
Serreze, Victor C., Jr., to American Cyanamid Co. Method of purifying thiocyanate solutions. 2,977,188, 3–28–61, Cl. 23—75.
Servo Corp. of America: *See*—
Howell, Sabert N. 2,976,730.
Sessions Clock Co., The: *See*—
Haydon, Arthur W. 2,976,674.
Seubold, Frank H., Jr.: *See*—
Schaeffer, William D., and Seubold. 2,977,395.
Shafer, James A., and H. B. Weber, to National Malleable and Steel Castings Co. Journal box lid assembly. 2,977,159, 3–28–61, Cl. 308—47.
Shanahan, William J., and R. F. Vetter, to Skiatron Electronics & Television Corp. Decoding. 2,977,434, 3–28–61, Cl. 200—46.
Shanley, Edward S.: *See*—
Howling, Harold L., and Shanley. 2,977,221.
Shannon, Donald W., to United States of America, Atomic Energy Commission. Method of improving corrosion resistance of zirconium. 2,977,204, 3–28–61, Cl. 61—42.
Shapero, Wallace H., and R. E. Davis, to Continental Can Co., Inc. Container with film glass and epoxy resin components in thermoplastic wall structures. 2,977,264, 3–28–61, Cl. 154—43.
Shaw, Edward H.: *See*—
Bradshaw, William H., and Shaw. 2,977,355.
Shearouse, Frederick M. Illuminated heel for lady's shoe. 2,976,622, 3–28–61, Cl. 36—1.
Sheets, Vernal L., to Chicago Wheel & Mfg. Co. Silicon carbide abrading wheels. 2,977,206, 3–28–61, Cl. 51—308.
Sheffield Corp., The: *See*—
Baker, Ralph C. 2,976,718.
Savage, Francis C. 2,977,533.
Straw, Jesse H. 2,976,772.
Shelanski, Morris V., and M. W. Winicov, to West Laboratories, Inc. Anionic-carrier iodine compositions for conratories, Inc. trolling microorganisms. 2,977,278, 3–28–61, Cl. 167—17.
Sherer, Glen H., to Westinghouse Electric Corp. Shaded pole motor. 2,977,490, 3–28–61, Cl. 310—172.
Shields, William D., to Voss Engineering Co. Releasable stylus holder for duplicator or tracer mechanism. 2,976,613, 3–28–61, Cl. 33—23.
Shiels, Thomas E., Jr., to Fleming & Sons, Inc. Compartmented bottle carriers. 2,977,021, 3–28–61, Cl. 220—115.
Shipley, Richard E. Cylindrical strain gauge. 2,976,865, 3–28–61, Cl. 128—2.05.
Shock, D'Arcy A.: *See*—
Allred, Raymond C., Shock, and Sudbury. 2,976,690.
Short, Brooks H., and R. L. Sprague, to General Motors Corp. Electronic ignition system. 2,977,500, 3–28–61, Cl. 315—183.
Short, Brooks H., to General Motors Corp. Ignition system. 2,977,507, 3–28–61, Cl. 315—209.
Showalter, Albert E., to United States of America, Navy. Push button and indicator. 2,977,428, 3–28–61, Cl. 200—5.
Showalter, Robert N., L. B. De Long, and G. E. Suderow, to De Long Corp. Method of operating marine structures. 2,976,693, 3–28–61, Cl. 61—46.5.
Sichling, Georg: *See*—
Kafka, Wilhelm, Sichling, and Tschermak. 2,977,518.
Siegel, Vernon H., to United States of America, Navy. Engine noise generator. 2,977,584, 3–28–61, Cl. 340—384.
Siegrist, Adolf E.: *See*—
Ackermann, Franz, and Siegrist. 2,977,319.
Siemens Edison Swan Ltd.: *See*—
Cane, Philip F. 2,977,493.
Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Kafka, Wilhelm, Sichling, and Tschermak. 2,977,518.
Sienkiewicz, Boleslaw, R. B. Kohler, and M. Schulman, to General Foods Corp. Agglomerating process. 2,977,203, 3–28–61, Cl. 23—313.
Sievers, Albert H., C. J., and E. T. Gravel laying machine. 2,976,826, 3–28–61, Cl. 111—07.
Sievers, Carl J.: *See*—
Sievers, Albert H., C. J., and E. T. 2,976,826.
Sievers, Elmer T.: *See*—
Sievers, Albert H., C. J., and E. T. 2,976,826.
Sieving, Alfred W.: *See*—
Cruthis, Robert D., Hrodey, and Sieving. 2,976,947.

Silver Engineering Works, Inc.: *See*—
Silver, Harold F., Steele, Wright, and Price. 2,976,550.
Silver, Harold F., C. R. Steele, J. C. Wright, and P. H. Price, to Silver Engineering Works, Inc. Grab-roll screen. 2,976,550, 3–28–61, Cl. 15—3.11.
Silverstone, Joseph, and R. S. Smith, to P. Frankenstein & Sons (Manchester) Ltd. and J. Silverstone. Personal sanitary conveniences. 2,976,869, 3–28–61, Cl. 128—295.
Simeti, Samuel, and J. Vitkevich. Mop. 2,976,553, 3–28–61, Cl. 15—147.
Simmonds Aerocessories, Inc.: *See*—
Prigozy, Stephen. 2,976,727.
Simms, Russell K.: *See*—
Adams, Lord W., and Simms. 2,977,197.
Simon, Robert E.: *See*—
Ver Planck, James W., and Simon. 2,976,814.
Sinclair Refining Co.: *See*—
Vierk, Ernest R., and Mazzoni. 2,977,237.
Singer-Cobble, Inc., a subsidiary of The Singer Mfg. Co.: *See*—
Card, Roy T. 2,976,829.
Singer Mfg. Co., The: *See*—
Hacklander, Hans. 2,976,831.
Hofgesang, William. 2,976,714.
Sinner, Raymond G., to Philco Corp. Modular circuit construction. 2,977,512, 3–28–61, Cl. 317—101.
Sisson, Kenneth O., and C. K. Billings, to General Motors Corp. Automatic clothes washing machine. 2,976,710, 3–28–61, Cl. 68—12.
Sitman, Ferd J. Adjustable boot holder. 2,977,000, 3–28–61, Cl. 211—34.
Skiatron Electronics & Television Corp.: *See*—
Shanahan, William J., and Vetter. 2,977,434.
Skrmetta, Raphael O. Assister peeler for shrimp peeling machines. 2,976,564, 3–28–61, Cl. 17—2.
Slater, Arthur B., to Raytheon Co. Signal seeking tuners. 2,977,466, 3–28–61, Cl. 250—20.
Sliker, Todd R., to United States of America, Air Force. Sawtooth generator. 2,977,545, 3–28–61, Cl. 328—184.
Smiljes, Robert, to American Brake Shoe Co. Hydraulic control means. 2,976,878, 3–28–61, Cl. 137—108.
Smith, Alexander, and B. D. Bagge, Jr. Under tree hoe mower. 2,976,663, 3–28–61, Cl. 56—25.4.
Smith, Arthur A.: *See*—
Houldcroft, Peter T., and Smith. 2,977,457.
Smith, Franklin O.: *See*—
Brogan, Norman B., Hill, and Smith. 2,976,728.
Smith, Hugo C., to Hugo C. Smith Corp. Refrigeration unit. 2,976,699, 3–28–61, Cl. 62—278.
Smith, Hugo C., Corp.: *See*—
Smith, Hugo C. 2,976,699.
Smith, James L., to Leonard Electronics, Inc. Voltage comparator circuitry. 2,976,729, 3–28–61, Cl. 73—342.
Smith, James T., to International Business Machines Corp. Information storage in glow discharge devices. 2,977,505, 3–28–61, Cl. 315—84.5.
Smith, Lewis R., M. A. Ambrose, and W. M. Hassenping, to Acme Industries, Inc. Cooling tower structure. 2,977,103, 3–28–61, Cl. 261—111.
Smith, Oscar C. Method and apparatus for preventing moisture accumulation in tanks. 2,976,950, 3–28–61, Cl. 183—4.3.
Smith, Rex S.: *See*—
Silverstone, Joseph, and Smith. 2,976,869.
Smith, Thomas R., to The Maytag Co. Combination dispenser and filter agitator. 2,976,711, 3–28–61, Cl. 68—17.
Smith, Thomas R., to The Maytag Co. Anti-adhesive device for combination washer-drier. 2,976,712, 3–28–61, Cl. 68—19.
Smith, Thomas R., to The Maytag Co. Dumping system for a washing machine. 2,976,998, 3–28–61, Cl. 210—78.
Smyth, George F.: *See*—
Turner, Horace J., and Smyth. 2,976,543.
Societe Anonyme des Caves et des Producteurs Reunis de Roquefort: *See*—
Bertrand, Jacques R. E. 2,976,662.
Societe Anonyme dite: Ateliers Bariquand & Marre: *See*—
Boutilh, Raymond, and Savigny. 2,976,785.
Societe d'Applications Generales d'Electricite & de Mecanique: *See*—
Rabeux, Jean, and Jacob. 2,976,890.
Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine: *See*—
Andrieux, Jean L., and Bounier. 2,977,218.
Societe d'Etudes Chimiques Pour l'Industrie et l'Agriculture: *See*—
Rubin, Maurice. 2,977,186.
Societe d'Exploitation des Materiels Hispano-Suiza: *See*—
Piotkowiak, Joseph, and Pellisson. 2,977,071.
Societe francaise Sadir-Carpentier: *See*—
Zisler, Siegfried, and von Welser. 2,977,595.
Societe Industrielle et Agricole de la Somme et Raffinerie Francois: *See*—
Grandadam, Albert R. 2,977,253.
Socony Mobil Oil Co., Inc.: *See*—
Bourguet, Jean M., and Bonino. 2,977,154.
Young, Howard A., and Wagner. 2,977,471.
Soderquist, Leslie E., to The McNeil Machine & Engineering Co. Green tire loading and centering mechanism. 2,976,566, 3–28–61, Cl. 18—2.
Solar Aircraft Co.: *See*—
Kress, Ralph. 2,976,676.
Long, John V., and Furth. 2,977,251.
Söllner, Kurt: *See*—
Keil, Helmut, Wagner, Feige, Söllner, and Rudiger. 2,976,851.
Sondheimer, Franz: *See*—
Djerassi, Carl, Lemin, Rosenkranz, and Sondheimer. 2,977,358.
Soos, Steve J., ½ to F. Popovitch, and T. Vigh. Ensilage elevator. 2,977,004, 3–28–61, Cl. 214—17.
South African Council For Scientific and Industrial Research: *See*—
Cooke, Brian A., Morgan, and Schweigart. 2,977,298.
Sowell, Ernest A.: *See*—
Voigt, John E., Horst, and Sowell. 2,977,357.
Spann, Albert C. and E. F. Irrigating sprinkler. 2,977,052, 3–28–61, Cl. 239—253.
Spann, Elmer F.: *See*—
Spann, Albert C. and E. F. 2,977,052.
Sparrow, Hubert T., to Minneapolis-Honeywell Regulator Co. Thermoelectrically energized control apparatus. 2,977,050, 3–28–61, Cl. 236—1.
Speckman, Clifford H. Rotary mower. 2,976,665, 3–28–61, Cl. 56—255.
Spengler, Günter, and H. Hohn, to The Alpha Molykote Corp. Method of lubrication employing a mixed metal sulfide lubricant and bearing surface with same applied thereto. 2,977,302, 3–28–61, Cl. 252—25.
Sperry Rand Corp.: *See*—
Israelson, Evert G., and Morris. 2,976,977.
Sperry Rand Corp., Ford Instrument Co. Division: *See*—
Gold, Edward, and Bomzer. 2,977,228.
Seliger, Victor H. 2,977,586.
Spicer, John J., Jr., to Novo Industrial Corp. Control switch. 2,977,432, 3–28–61, Cl. 200—16.
Spicer, John J., Jr., to Novo Industrial Corp. Turn signal switch. 2,977,435, 3–28–61, Cl. 200—61.27.
Spiess, C. F., & Sohn: *See*—
Perkow, Werner. 2,977,383.
Spound, Albert M. Projecting headrest. 2,976,915, 3–28–61, Cl. 155—177.
Sprague Meter Co., The: *See*—
St. Clair, Theodore A., and Greenhill. 2,976,728.
Sprague, Richard L.: *See*—
Short, Brooks H., and Sprague. 2,977,506.
Sprecher, Rodney F. Flash attachment for starter's pistol. 2,977,580, 3–28–61, Cl. 340—321.
Springer, Anton M., to Telefonbau und Normalzeit G.m.b.H. Rotatable electromagnetic transducers. 2,977,423, 3–28–61, Cl. 179—100.2.
Square D Co.: *See*—
Leitch, John D. 2,976,963.
Squire, Fred B. Mailbox sign. 2,976,633, 3–28–61, Cl. 40—125.
Sroka, Anthony W. Reel loader for photo film. 2,977,062, 3–28–61, Cl. 242—77.1.
Staar, Marcel J. H. Phonograph apparatus. 2,977,124, 3–28–61, Cl. 274—9.
Staiger, Kurt: *See*—
Kamm, Wunibald I. E., Staiger, and Krautter. 2,976,906.
Staker, Donald D.: *See*—
Godfrey, Kenneth L., and Staker. 2,977,309.
Stakmore Co., Inc.: *See*—
Geller, Roscoe G. 2,977,169.
Stamicarbon N.V.: *See*—
Fontein, Freerk J. 2,976,996.
Standal, George M. Chipper knife grinder. 2,976,649, 3–28–61, Cl. 51—55.
Standard Oil Co. (Indiana): *See*—
Bertolacini, Ralph J. 2,977,380.
Kennedy, Don E. 2,976,678.
Lewis, Lloyd G. 2,977,474.
Stanford, Eric L. C., deceased, by M. T. Stanford, executrix. Boat beacher and launcher. 2,976,694, 3–28–61, Cl. 61—67.
Stanford, Marie T.: *See*—
Stanford, Eric L. C. 2,976,694.
Stanley, Herbert M., and M. M. Wirth, to British Hydrocarbon Chemicals Ltd. Production of conjugated diolefines. 2,977,396, 3–28–61, Cl. 260—681.
Stanley Works, The: *See*—
Ford, Barton H. 2,977,148.
March, Joseph F. 2,976,612.
Stansfield, Hamill, and J. Edge, to Carney-Stansfield Co. Torque converter. 2,976,973, 3–28–61, Cl. 192—59.
Stapp, Henry E. Mechanism for switching, classifying and segregating railroad cars. 2,976,817, 3–28–61, Cl. 104—26.
Starcher, Paul S.: *See*—
Phillips, Benjamin, and Starcher. 2,977,374.
Stark, Ernest H.: *See*—
Green, Willard E., and Stark. 2,977,039.
Statsinger, Joseph: *See*—
Litman, Bernard, Pavalow, Savet, and Statsinger. 2,976,733.
Stauffer Chemical Co.: *See*—
Tilles, Harry, and Antognini. 2,977,209.
Steam Iron Corp.: *See*—
Kistner, Merrill M., and Tesmer. 2,976,627.
Steele, Clarence R.: *See*—
Silver, Harold F., Steele, Wright, and Price. 2,976,550.
Steen, John B., to American Enka Corp. Method of threading drawtwister. 2,976,671, 3–28–61, Cl. 57—157.
Steinemann, Ulrich, Aktiengesellschaft: *See*—
Glaus, Bernhard. 2,976,837.
Steinhard, Bertram H., to The Cincinnati Milling Machine Co. Machine tool workpiece loading mechanism. 2,976,650, 3–28–61, Cl. 51—103.
Steiner, William, to Kelsey-Hayes Co. Booster brake mechanism. 2,976,686, 3–28–61, Cl. 60—54.6.
Steiner, William, to Kelsey-Hayes Co. Fluid motor mechanism. 2,976,844, 3–28–61, Cl. 121—41.
Steiner, William, to Kelsey-Hayes Co. Power mechanism. 2,976,849, 3–28–61, Cl. 121—41.
Steiner, William, to Kelsey-Hayes Co. Fluid pressure operated motor. 2,976,850, 3–28–61, Cl. 121—41.
Steiner, William, to Kelsey-Hayes Co. Air suspension system and levelling valve for motor vehicles. 2,977,123, 3–28–61, Cl. 280—124.

Stemp, Ronald G.: *See*—
Mason, Frederick P., and Stemp. 2,977,179.
Stephan, Hallis N., to The New Britain Machine Co. Pattern for tracer controlled machine tool. 2,976,777, 3–28–61, Cl. 90—62.
Stephanou, Stephen E., L. L. Schwalley, and S. H. Lee, to United States Borax & Chemical Corp. Borate-hypochlorite bleach. 2,977,314, 3–28–61, Cl. 252—99.
Stephen, William E., to Imperial Chemical Industries Ltd. New monoazo dyestuffs. 2,977,353, 3–28–61, Cl. 260—163.
Stephens, Will R., to Barnard & Leas Mfg. Co., Inc. Apparatus for producing liquid reaction products. 2,977,201, 3–28–61, Cl. 23—259.2.
Stern, Jesse E., and G. L. Santore, to United States of America, Navy. Two component pallograph. 2,976,721, 3–28–61, Cl. 73—71.
Sterner, Fred, to Radio Corp. of America. Microwave amplifier. 2,977,482, 3–28–61, Cl. 307—88.
Sterner, Fred, and D. J. Blattner, to Radio Corp. of America. Logic circuit for a radio frequency carrier infomation handling system. 2,977,484, 3–28–61, Cl. 307—88.5.
Stiebel, Theodor H. Miniature immersion heaters with watertight handles enclosing switching means. 2,977,456, 3–28–61, Cl. 219—41.
Stratford, Brian S.: *See*—
Davidson, Ivor M., and Stratford. 2,977,068.
Stratford Engineering Corp.: *See*—
Putney, David H. 2,977,397.
Stratmann, Heinrich: *See*—
Feustel, Klaus, Johswich, and Stratmann. 2,977,325.
Straw, Jesse H., to The Sheffield Corp. Machine tool. 2,976,772, 3–28–61, Cl. 90—1.4.
Strobel, Charles K.: *See*—
Weber, Victor, and Strobel. 2,977,452.
Stroh, Rudolf: *See*—
Müller, Wilhelm, Zimmermann, and Stroh. 2,977,308.
Structural Fibers, Inc.: *See*—
Nerwick, Charles M. 2,977,269.
Randolph, Donald W. 2,977,268.
Stuart, Archibald P., to Sun Oil Co. Oxidation of petroleum fractions. 2,977,310, 3–28–61, Cl. 252—55.
Stuart, Robert W., Jr., to General Radio Co. Electric switching circuits. 2,977,540, 3–28–61, Cl. 328—49.
Sudbury, John D.: *See*—
Allred, Raymond C., Shock, and Sudbury. 2,976,690.
Suderow, George E.: *See*—
Showalter, Robert N., De Long, and Suderow. 2,976,693.
Suderow, George E., to De Long Corp. Mobile breakwater. 2,976,692 3–28–61, Cl. 61—5.
Sullivan, Michael T.: *See*—
Scheib, Bernard J., Lazarus, and Sullivan. 2,977,315.
Sully, Frank H. P., to Jabsco Pump Co. Impeller with independent elastomeric blades and sealing means. 2,976,811, 3–28–61, Cl. 103—117.
Sulzer Freres, S.A.: *See*—
Jaensch, Kurt. 2,977,042.
Sun Oil Co.: *See*—
Lauer, James L. 2,977,479.
Stuart, Archibald P. 2,977,310.
Super Mold Corp. of California: *See*—
Duerksen, Arnold. 2,977,092.
Surbatovich, Milo, to Dresser Industries, Inc. Formation sampler. 2,976,940, 3–28–61, Cl. 175—4.
Sutherland, Lyndon C. Physician's examination hand mitt. 2,976,540, 3–28–61, Cl. 2—161.
Svenska Tandsticks Aktiebolaget: *See*—
Devoust, Oskar R. 2,976,717.
Swaney, Miller W.: *See*—
Zapp, Robert L., and Swaney. 2,977,343.
Swerdlow, Nathan, to General Electric Co. Electric bus duct. 2,977,404, 3–28–61, Cl. 174—99.
Sylvania Electric products Inc.: *See*—
MacInnis, Martin B. 2,977,198.
Rychlewski, Thaddeus V., and Wilson. 2,976,838.
Symons Clamp & Mfg. Co.: *See*—
Elam, Bert. 2,976,597.
Syntex S.A.: *See*—
Djerassi, Carl, Lemin, Rosenkranz, and Sondheimer. 2,977,358.
Taber, John E.: *See*—
Lutz, Samuel G., and Taber. 2,977,543.
Taft, Charles K., to The Warner & Swasey Co. Motor control system. 2,977,522, 3–28–61, Cl. 318—260.
Talambiras, Robert P., to Epsco, Inc. Differential amplifier. 2,977,547, 3–28–61, Cl. 330—69.
Talamonti, John, to Borg-Warner Corp. Oil seal with filamentary lip. 2,977,143, 3–28–61, Cl. 288—17.
Tanabe, Kenichi: *See*—
Osugi, Tetsuro, Tanabe, and Morimoto. 2,977,183.
Tanner, Howard A. Fibrous microwave absorber. 2,977,591, 3–28–61, Cl. 343—18.
Tasch, Andrew: *See*—
Marsal, Paul A., Urry, and Tasch. 2,977,401.
Tassoe Co., The: *See*—
Martz, Charles S. 2,976,636.
Taube, Fritz: *See*—
Scheufele, Erwin, Schrewe, and Taube. 2,976,585.
Tawney, Pliny O., G. H. Brice, and P. Viohl, to United States Rubber Co. Vulcanization of butyl rubber with 2,2'-methylene-bis-(4-nitro-6-acetoxymethylphenol) or 2,6-bis-(acetoxymethyl)-4-nitrophenol. 2,977,348, 3–28–61, Cl. 260—85.5.
Taylor, Alan S.: *See*—
Forsyth, Bruce A., and Taylor. 2,977,280.
Taylor, John E., to Thompson Ramo Wooldridge Inc. Variable geometry diffuser control for jet engines. 2,976,677, 3–28–61, Cl. 60—35.6.
Taylor, Wilbur E., to R. T. Vanderbilt Co., Inc. Bacteriostatic cleansing compositions. 2,977,316, 3–28–61, Cl. 252—107.
Taylor, William H. Control for model aircraft. 2,977,117, 3–28–61, Cl. 272—31.
Technica Etablissement: *See*—
Geppert, Georg. 2,977,091.
Technicon Instruments Corp.: *See*—
Whitehead, Edwin C., and Ferrari. 2,976,761.
Teldec-Telefunken-Decca Schallplatten G.m.b.H.: *See*—
Redlich, Horst. 2,977,424.
Telefonbau und Normalzeit G.m.b.H.: *See*—
Springer, Anton M. 2,977,423.
Telefunken G.m.b.H.: *See*—
Bruch, Walter. 2,977,469.
Telephone Mfg. Co. Ltd.: *See*—
Rommel, Frederick E. 2,977,513.
Teleprinter Corp.: *See*—
Howard, Bernard. 2,977,413.
Telescope Folding Furniture Co., Inc., The: *See*—
Vanderminden, Robert D. 2,976,545.
Templon Spinning Mills, Inc.: *See*—
Virgil, Richard. 2,976,578.
Tesmer, Edward G.: *See*—
Kistner, Merrill M., and Tesmer. 2,976,627.
Teste, Yvan R. M., and J. T. Roux, to Electricite de France-Service National. Arrangement for introducing articles into a closed chamber and for removing same. 2,977,005, 3–28–61, Cl. 214—17.
Texaco Development Corp.: *See*—
Douthitt, Merton H. 2,977,267.
Whaley, Thomas H. 2,977,216.
Work, Lincoln T. 2,977,275.
Textile Development and Machinery Ltd.: *See*—
Morin, Joseph A. 2,976,892.
Theurer, Josef: *See*—
Plasser, Franz, Theurer, and Schramm. 2,976,816.
Thiessen, George J., and T. F. W. Embleton, to The National Research Council. Mechanical device for distance discrimination of sounds. 2,976,948, 3–28–61, Cl. 181—33.
Thiokol Chemical Corp.: *See*—
Cook, George W. 2,976,738.
Gould, Jack R., and Paustian. 2,977,287.
Pearl, Carl E. 2,977,391.
Thom, Wessel W., ½ to C. D. Jones. Floor expansion joint. 2,976,782, 3–28–61, Cl. 94—18.
Thoma, Oswald, A. Donovan, and B. C. Kempson, to Dowty Hydraulic Units Ltd. Variable hydraulic power transmissions. 2,976,685, 3–28–61, Cl. 60—53.
Thomas, John M. Tool for handling sterile articles. 2,977,150, 3–28–61, Cl. 294—118.
Thompson, Dale: *See*—
Cook, Clifford C., Howard, and Thompson. 2,976,595.
Thompson, Harwell B.: *See*—
Petters, Oscar R., and Thompson. 2,976,673.
Thompson Ramo Wooldridge Inc.: *See*—
Kilgore, Charles R. 2,977,110.
Mallina, Rudolph F. 2,977,125.
Taylor, John E. 2,976,677.
Thompson, Theodore F. Fifth wheel mount. 2,976,964, 3–28–61, Cl. 188—112.
Thostenson, Lewis D., and L. C. Galleher, to Salsbury Corp. Clutch. 2,976,975, 3–28–61, Cl. 192—09.
Thruston, Mervyn N.: *See*—
Bentley, Roy, and Thruston. 2,977,884.
Thurmond, Gilbert I.: *See*—
Griset, Ernest Jr., Jr., and Thurmond. 2,977,184.
Tibbetts, Willis F., to Flightex Fabrics, Inc. Burnishing tool. 2,976,603, 3–28–61, Cl. 29—90.
Tilles, Harry, and J. Antognini, to Stauffer Chemical Co. Method of combatting weeds. 2,977,209, 3–28–61, Cl. 71—2.3.
Tillman, Richard M.: *See*—
Bergen, Charles R., Scott, Tillman, and Woods. 2,977,300.
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Tilton, William J., and K. N. Moore, to Raymond Bag Corp. Compensating means for web feeder. 2,977,035, 3–28–61, Cl. 226—31.
Timothy, Keith O., and M. L. Patrick, to Consolidated Electrodynamics Corp. Digital time encoder. 2,977,583, 3–28–61, Cl. 340—355.
Tischler, Nathaniel, to Heyden Newport Chemical Corp. Herbicidal compositions and methods. 2,977,212, 3–28–61, Cl. 71—2.6.
Todee, Hartley K., to Baker Oil Tools, Inc. Subsurface multiple zone production apparatus. 2,976,934, 3–28–61, Cl. 166—248.
Toney, Edward F., to Pittsburgh Plate Glass Co. Frame support for a panel. 2,976,970, 3–28–61, Cl. 189—75.
Tongue, Ben H.: *See*—
Blonder, Isaac S., and Tongue. 2,977,553.
Tournaire, Marcel, and A. Trompier, to Compagnie Generale du Duralumin et du Cuivre. Resistance welding of aluminum and its alloys. 2,977,458, 3–28–61, Cl. 219—116.
Townsend, Stephen E.: *See*—
David, Freddy, Tyrlick, and Townsend. 2,977,483.
Townsend, Stephen E., to General Dynamics Corp. Reversible binary counter. 2,977,539, 3–28–61, Cl. 328—42.
Trachsel, Fritz, to Chr. Gfeller, AG. Crossbar switching systems. 2,977,421, 3–28–61, Cl. 179—27.54.
Transit Research Corp.: *See*—
Rossell, William T. 2,976,819.
Transportation Specialties Co.: *See*—
Johnston, Charles R. 2,976,824.
Trico Products Corp.: *See*—
Bartoo, George O. 2,976,555.
Triodetic Structures: *See*—
Fentiman, Arthur E. 2,976,968.
Triplett, Doris W.: *See*—
Jones, Melvin L. 2,977,058.
Triplett, Stanley F.: *See*—
Jones, Melvin L. 2,977,063.
Tripp, Harina F.: *See*—
Oliver, Evan M., Tripp, Fussell, and Michael. 2,977,241.

Trompler, Albert: *See*—
Tournaire, Marcel, and Trompier. 2,977,458.
True Temper Corp.: *See*—
Holahan, Joseph M., Jr. 2,977,063.
Holahan, Joseph M., Jr. 2,977,065.
Logan, John W., Jr. 2,977,064.
Truxell, Clyde W.: *See*—
Duer, Morris J., and Truxell. 2,976,868.
Tschermak, Manfred: *See*—
Kafka, Wilhelm, Sichling, and Tschermak. 2,977,518.
Tubbs, Eldred F.: *See*—
Hyde, Walter L., and Tubbs. 2,976,764.
Tucsek, Franz E. Hydro-pneumatic telescopic shock dampers. 2,977,111, 3–28–61, Cl. 267—64.
Turner Corp.: *See*—
Lindgren, William L., and Penn. 2,977,067.
Turner, Horace J., and G. F. Smyth, to de Bext Mfg. Co., Inc. Gasket ferrule. 2,976,543, 3–28–61, Cl. 4—282.
Turner, Wesley, to Rid-Ring Chemical Co. Cleansing applicator for liquids. 2,976,560, 3–28–61, Cl. 15—560.
Twitchett, Harry J., and A. S. Wild, to Imperial Chemical Industries Ltd. Synthetic linear polyamides in finely divided form. 2,977,342, 3–28–61, Cl. 260—78.
Tyrlick, William V.: *See*—
David, Freddy, Tyrlick, and Townsend. 2,977,483.
Udale, Stanley M. Fuel injection engine. 2,976,861, 3–28–61, Cl. 123—32.
Udes, Henry: *See*—
Okma, Clarence, Udes, and Donahue. 2,976,839.
Uhlig, Erich J. Tube socket saver construction. 2,977,565, 3–28–61, Cl. 339—92.
Union Carbide Corp.: *See*—
Brogan, Norman B., Hill, and Smith. 2,976,728.
Faulkner, William H. 2,977,224.
Fowler, George W., and Carruthers. 2,977,385.
Kentgen, William A., Davall, and Daniels. 2,976,574.
Marsal, Paul A., Urry, and Tasch. 2,977,401.
Molander, Lars E. 2,977,290.
Phillips, Benjamin, and Starcher. 2,977,374.
Wenzelberger, Elwood P. 2,977,234.
Wlodek, Stanley T., Geiselman, and Reddy. 2,977,225.
Union Chimique Belge, S.A.: *See*—
Potties, Fernand. 2,977,191.
Union Oil Co. of California: *See*—
Maly, George P. 2,976,926.
Schaeffer, William D., and Seubold. 2,977,395.
Union Savings and Trust Co.: *See*—
Heltzel, John N. 2,976,781.
Union Tank Car Co.: *See*—
Pietsch, Leonard C. 2,976,702.
United Aircraft Corp.: *See*—
Erickson, Carl A. 2,976,682.
Farkas, Thomas P., Zuiderbaek, and Meader. 2,977,051.
United Mattress Machinery Co., Inc.: *See*—
Kaining, Frederick E., and Redman. 2,976,828.
United States Borax & Chemical Corp.: *See*—
Stephanou, Stephen E., Schwalley, and Lee. 2,977,314.
U.S. Electrical Motors, Inc.: *See*—
Lawler-Wilson, Clive. 2,977,061.
United States of America
Agriculture: *See*—
Bloch, Felix. 2,976,992.
Bryneon, Ralph J., and Reeves. 2,977,250.
Air Force: *See*—
Kobberman, Donald D. 2,976,680.
Silker, Todd R. 2,977,545.
Army: *See*—
Hagberg, Carl T. 2,977,464.
Fletcher, David C. 2,976,770.
Kamm, Wunibald I. E., Staiger, and Krautter. 2,976,906.
Maloney, Clifford J., and Weber. 2,976,724.
Atomic Energy Commission: *See*—
Evans, Ercel A., Anicetti, and Boaks. 2,977,297.
Loeding, John W., and Jonke. 2,977,194.
Shannon, Donald W. 2,977,204.
Wood, Thomas K. 2,977,220.
Navy: *See*—
Burner, Edwin F. 2,977,070.
Chapin, Edward J. 2,977,219.
Daniels, Howard L., Fritze, and Ritter. 2,977,578.
Finnegan, William G., and Boschan. 2,977,372.
Huch, William F., and Winckler. 2,977,069.
Lovick, Robert C. 2,977,590.
McCarty, Daniel J., and Lutz. 2,977,089.
McCarty, Daniel J., and Lutz. 2,977,090.
Roshon, Arthur H., Jr., and Waldie. 2,977,566.
Showalter, Albert M. 2,977,428.
Siegal, Vernon H. 2,977,584.
Stern, Jesse E., and Santore. 2,976,721.
War: *See*—
Africano, Alfred, Brewer, and Harrington. 2,976,805.
Hickman, Clarence N. 2,976,804.
United States Rubber Co.: *See*—
Bodle, Morgan D. 2,977,270.
Brown, Neuberne H., Jr. 2,976,539.
Gyana, Eugene E. 2,976,565.
Tawney, Pliny O., Brice, and Viohl. 2,977,348.
United States Steel Corp.: *See*—
Cogelja, Godfrey J., and Martin. 2,977,108.
Redman, William J. 2,976,813.
Schmeiser, Ludwig E. 2,977,259.
Universal Corrugated Box Machinery Corp.: *See*—
Lopez, John P., and Monaghan. 2,976,780.
Universal Oil Products Co.: *See*—
Bergman, Donald J. 2,976,922.
Nixon, William G. 2,977,326.
Upjohn Co., The: *See*—
Meyer, Curtis E., Fancher, and Schurr. 2,977,263.
Upson Co., The: *See*—
Ericks, Walter P. 2,977,331.
Urry, Lewis F.: *See*—
Marsal, Paul A., Urry, and Tasch. 2,977,401.
Utility Service Co., Inc.: *See*—
Parkison, Everett R. 2,977,402.
Utt, Orval L., and R. D. Campbell, to Westinghouse Air Brake Co. Computing apparatus. 2,977,462, 3–28–61, Cl. 246—182.
VEB Werkzeugmaschinenfabrik: *See*—
Keil, Helmut, Wagner, Feige, Söllner, and Rudiger. 2,976,851.
Vaessen, Hubert J., to Vasco Industries Corp. Method for the production of sausage skins. 2,977,233, 3–28–61, Cl. 99—175.
Van Breeman, Bertram, to Goodyear Aircraft Corp. Portable printing communicator. 2,977,415, 3–28–61, Cl. 178—30.
Vandeman, Jack E. to Harris-Intertype Corp. Front register mechanism. 2,977,115, 3–28–61, Cl. 271—53.
Vanderbilt, R. T., Co., Inc.: *See*—
Taylor, Wilbur S. 2,977,316.
Van der Lely, Ary: *See*—
Van der Lely, Cornelis and A. 2,976,939.
Van der Lely, C., N.V.: *See*—
Van der Lely, Cornelis and A. 2,976,939.
Van der Lely, Cornelis and A., to C. van der Lely, N.V. Device for weeding weeds. 2,976,939, 3–28–61, Cl. 172—522.
Vanderminden, Robert D., to The Telescope Folding Furniture Co., Inc. Folding camp cot. 2,976,545, 3–28–61, Cl. 5—111.
Van Deusen, George S., to The Warner & Swasey Co. Coiler mechanism. 2,976,551, 3–28–61, Cl. 19—159.
Van Jaarsveit, Willem A. J., to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer. Oscillator circuit with parasitic oscillation prevention means. 2,977,548, 3–28–61, Cl. 331—105.
Van Marle, Frederick, to N.V. Technische Maatschappij Marchand-Andriessen. Article marking and orienting machine. 2,976,803, 3–28–61, Cl. 101—230.
Van Mechelen, Guillaume: *See*—
Pouliart, Willy H. P., and Van Mechelen. 2,977,574.
Van Ness, Hubert W., and W. E. Large. Electric discharge apparatus. 2,977,529, 3–28–61, Cl. 323—74.
Vare Mfg. Co., Inc.: *See*—
Wible, Paul E., Jr. 2,977,537.
Varrel, Charles W., and D. P. Montromery, to Phillips Petroleum Co. Deactivation of metallic poisons on used cracking catalysts. 2,977,322, 3–28–61, Cl. 252—411.
Vasco Industries Corp.: *See*—
Vaessen, Hubert J. 2,977,233.
Vaughn, Charles H. Wire stretcher. 2,977,093, 3–28–61, Cl. 254—81.
Veet Industries: *See*—
Dalgleish, John E. 2,976,679.
Vett, Robert C.: *See*—
Dalgleish, John E. 2,976,679.
Velin, Luigi. Device for guiding the movement of the ring rail in spinning machines. 2,976,670, 3–28–61, Cl. 57—137.
Vendo Co., The: *See*—
Delgado, Manuel M. 2,977,026.
Vent, John G.: *See*—
Lynch, William H., Vent, and Barker. 2,977,257.
Verbanc, John J.: *See*—
Dixon, Stanley, and Verbanc. 2,977,369.
Verdeaca, Anthony F.: *See*—
Hromoko, John, and Verdeaca. 2,976,554.
Verdeaca, Anthony F., to Ver-Sa-Parts Mfg. Corp. Tire attachments. 2,976,903, 3–28–61, Cl. 152—228.
Ver Planck, James W., and R. E. Simon. Liquid pumping system. 2,976,814, 3–28–61, Cl. 103—235.
Verreault, Joseph, to Dominion Corset Co. Ltd. Breast supporting garments. 2,976,870, 3–28–61, Cl. 128—510.
Ver-Sa-Parts Mfg. Corp.: *See*—
Verdeaca, Anthony F. 2,976,903.
Vetter, Richard F.: *See*—
Shanahan, William J., and Vetter. 2,977,434.
Vibbard, Edward L.: *See*—
Andrews, Ernest G., and Vibbard. 2,977,048.
Vickers, Edward J.: *See*—
Reynolds, Reginald J. W., and Vickers. 2,977,373.
Vierk, Ernest R., and C. A. Maxsoni, Jr., to Sinclair Refining Co. Mold lubricant composition. 2,977,237, 3–28–61, Cl. 106—38.25.
Vigh, Tibor: *See*—
Soos, Steve J. 2,977,016.
Vigorelli, Arnaldo. Ornamental stitch sewing machine. 2,976,830, 3–28–61, Cl. 112—156.
Vinson, Donald R., to Atlas Powder Co. Automatic feed apparatus. 2,977,022, 3–28–61, Cl. 221—68.
Viohl, Paul: *See*—
Tawney, Pliny O., Brice, and Viohl. 2,977,348.
Virgil, Richard, to Templon Spinning Mills, Inc. Method and apparatus for treating acrylic fibers. 2,976,578, 3–28–61, Cl. 19—.87.
Vitale, Anna. Portable drying rack. 2,977,001, 3–28–61, Cl. 214—113.
Vithovich, John: *See*—
Simeti, Samuel, and Vithovich. 2,976,553.
Vogell, Harry E., to Salem-Brosius Inc. Fluid cooled furnace structure. 2,976,854, 3–28–61, Cl. 122—6.
Vogt, Clarence W. Method and apparatus for filling gusseted containers. 2,976,654, 3–28–61, Cl. 53—37.
Voigt, John H., R. J. Horst, and E. A. Sowell, to Anheuser-Busch, Inc. Process for preparing a thick-thick boiling starch derivative. 2,977,287, 3–28–61, Cl. 260—233.3.
Volker, John F., to Edwin L. Wiegand Co. Electric immersion heater. 2,977,454, 3–28–61, Cl. 219—38.

Von Bogdany, Ludwig A.: *See*—
Graef, Rudolf F., and von Bogdany. 2,977,217.

Von Weiser, Sigmund: *See*—
Zisler, Siegfried, and von Weiser. 2,977,595.

Von Zborowski, Helmut Ph. G. A. R. Aircraft having a detachable cabin. 2,977,080, 3–28–61, Cl. 244—140.

Voss Engineering Co.: *See*—
Shields, William D. 2,976,813.

Vulmiere, Huguette: *See*—
Vulmiere, Jacques C. and H., and Fourestier. 2,977,497.

Vulmiere, Jacques C. and H. (nee Grangaud), and M. Fourestier, to Centre National de la Recherche Scientifique. Devices for increasing luminosity. 2,977,497, 3–28–61, Cl. 313—112.

Wagner-Biró Aktiengesellschaft: *See*—
Kemmetmüller, Roland. 2,977,095.

Wadsworth Electric Mfg. Co., Inc., The: *See*—
Middendorf, William H. 2,977,442.
Middendorf, William H. 2,977,443.
Middendorf, William H. 2,977,444.

Wagner, Ernest E.: *See*—
Young, Howard A., and Wagner. 2,977,471.

Wagner, Karl: *See*—
Keil, Helmut, Wagner, Feige, Söllner, and Rudiger. 2,976,851.

Wagner, Martin. Trouser stretchers. 2,977,031, 3–28–61, Cl. 223—95.

Walder, Robert B., to Chrysler Corp. Starter control device for automotive vehicles. 2,977,430, 3–28–61, Cl. 200—16.

Waldie, Robert L.: *See*—
Roebon, Arthur H., Jr., and Waldie. 2,977,568.

Waldron, Paul H. B., and S. Schleifer. Marine heat exchanger. 2,976,834, 3–28–61, Cl. 115—.5.

Walker, Richard K.: *See*—
Grube, Wolfgang O., and Walker. 2,976,786.

Walling, Ernst, and G. Faerber, to Deutsche Solvay-Werke G.m.b.H. Process of producing divinyl ethers of polyhydric alcohols. 2,977,393, 3–28–61, Cl. 260—615.

Wals, Alfred, and R. Ostreicher. Circuit arrangement for the control of direct current motors. 2,977,485, 3–28–61, Cl. 307—105.

Wandel, Edward J.: *See*—
Neff, Joseph A., and Wandel. 2,977,388.

Wark, John D.: *See*—
Schlabermundt, Peter, Holzwarth, and Wark. 2,976,916.

Warnant, Julien: *See*—
Joly, Robert, Bucourt, and Warnant. 2,977,366.

Warner & Swasey Co., The: *See*—
Taft, Charles K. 2,977,522
Van Deusen, George S. 2,976,581.

Warnock, Charles F., to Gulf Oil Corp. Adjustable electrically insulating pipe spacer. 2,977,406, 3–28–61, Cl. 174—138.

Waterous Co.: *See*—
Evans, Louis B., and Ewing. 2,976,810.

Watson, William F., and D. Wilson, to Baker Perkins Ltd. Mixing machines for rubbers and plastic substances. 2,977,098, 3–28–61, Cl. 259—108.

Watts, Cecil E., Ltd.: *See*—
Watts, Cecil E. 2,976,551.

Watts, Cecil E. to Cecil E. Watts, Ltd. Gramophone records cleaning machine. 2,976,561, 3–28–61, Cl. 15—4.

Weaver, Paul J., to Banstrom Industries, Inc. Machine tool control. 2,976,688, 3–28–61, Cl. 60—97.

Weber, Clifford P.: *See*—
Mahoney, Clifford J., and Weber. 2,976,724.

Weber, Gustav. Automatic electrical control device, particularly for motor vehicles. 2,977,504, 3–28–61, Cl. 315—83.

Weber, Hans B.: *See*—
Shafer, James A., and Weber. 2,977,159.

Weber, Victor, and C. K. Strobel, to Robertshaw-Fulton Controls Co. Capacitance type temperature control. 2,977,452, 3–28–61, Cl. 219—20.

Weck, Georg: *See*—
Meyer, Albert, and Weck. 2,977,232.

Wedell, Hans: *See*—
Heyden, Rudi, and Wedell. 2,977,240.

Weibel, Oscar, to Yarrows Ltd. Position control apparatus. 2,976,843, 3–28–61, Cl. 121—38.

Weingarten, Harold I., to Monsanto Chemical Co. Liquid dielectric composition and use thereof in an electrical capacitor. 2,977,516, 3–28–61, Cl. 317—258.

Weisenborn, Frank L., O. P. Wintersteiner, and P. A. Diassi, to Olin Mathieson Chemical Corp. 2-dehydroyohimbanes and their preparation. 2,977,365, 3–28–61, Cl. 260—286.

Weiss, Harold G., to Olin Mathieson Chemical Corp. Process of preparing an alkylated diborane. 2,977,390, 3–28–61, Cl. 260—606.5.

Weisenberg, Frances. Back-supporting apparatus. 2,976,868, 3–28–61, Cl. 128—71.

Weitzel, Alois: *See*—
Schatzschock, Adolf, and Weitzel. 2,976,747.

Welch, Herbert E. Color television receiver of post-deflection type with auxiliary deflection. 2,977,406, 3–28–61, Cl. 178—5.4.

Wells, Alton R. Electric heater and control circuit therefor. 2,977,453, 3–28–61, Cl. 219—20.

Weames, Stephen B., to Dayton Rogers Mfg. Co. Blanking die means with resiliently supported stripper plate means. 2,976,754, 3–28–61, Cl. 83—139.

Wenzelberger, Elwood P., to Union Carbide Corp. Method of concentrating fruit juices. 2,977,234, 3–28–61, Cl. 99—206.

West Laboratories, Inc.: *See*—
Shelanski, Morris V., and Winicov. 2,977,278.

Westermeier, Donald H.: *See*—
Malin, Herman J., and Westermeier. 2,977,113.

Western Co. of North America, The: *See*—
Gilbert, Bruce. 2,976,923.

Western Electric Co., Inc.: *See*—
Harendza-Harinxma, Alfred. 2,977,363.
Kimmel, Frank E. 2,977,066.
Ramsey, William R. 2,976,778.

Western Wire Products Co.: *See*—
Austin, George D. 2,977,081.

Westinghouse Air Brake Co.: *See*—
Ust, Orval L., and Campbell. 2,977,462.

Westinghouse Electric Corp.: *See*—
Baker, Benjamin P. 2,977,446.
Bernstein, Abraham L. 2,977,549.
Bleiberg, Melvin L., and Halteman. 2,977,557.
Brown, Jack T. 2,977,223.
Cannady, Daniel L., Jr. 2,976,889.
Cornell, Archie R., and Wyman. 2,977,555.
Cornish, Albert J. 2,977,400.
Dobbie, James. 2,977,486.
Farr, Kenneth E. 2,977,409.
Hoffman, Lester J., and Frederick. 2,977,560.
Humes, Karl R., Schwarzkopf, Rohr, and White. 2,977,531.
Johnston, William D., Miller, and Panson. 2,977,309.
MacGregor, Dean J. 2,977,519.
MacGregor, Dean J. 2,977,520.
Place, Mark I. 2,976,843.
Reeder, James R., and Ernsberger. 2,977,511.
Reese, David W., and Rasmussen. 2,976,715.
Roesel, John F., Jr., and Lucky. 2,977,350.
Roethlisberger, Arthur C. 2,977,449.
Rose, John. 2,977,481.
Runk, Robert H., and Edelman. 2,977,333.
Scott, Eugene W. 2,977,025.
Sherer, Glen H. 2,977,490.

Westman, Sydney E., to The Garrett Corp. Pressure ratio indicating instrument. 2,976,731, 3–28–61, Cl. 73—407.

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Wheeler, Lionel H., to H. E. Bovay, Jr., Consulting Engineers. Lumber sorter. 2,976,993, 3–28–61, Cl. 209—88.

Whirlpool Corp.: *See*—
De Lisle, Raymond P., and Gilchrist. 2,976,879.

White, Marshall P.: *See*—
Humes, Karl, Schwarzkopf, Rohr, and White. 2,977,531.

Whitehead, Edwin C., and A. Ferrari, Jr., to Technicon Instruments Corp. Apparatus for use in analyzing body fluids or the like. 2,976,761, 3–28–61, Cl. 88—14.

Whitehurst, Bert W., to Hawkridge Metals Corp. Rotary thrust pump. 2,976,808, 3–28–61, Cl. 103—87.

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Flanagan, James R., and Hoopes. 2,976,659.

Wible, Paul E., Jr., to Varo Mfg. Co., Inc. Frequency meter. 2,977,537, 3–28–61, Cl. 324—81.

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Wiegand, Edwin L., Co.: *See*—
Volker, John F. 2,977,454.

Wiesner, Max, to Agfa Aktiengesellschaft. Light-tight film packs for daylight development. 2,976,989, 3–28–61, Cl. 206—62.

Wijn, Henricus P. J.: *See*—
Gorter, Evert W., Jonker, Wijn, and Schulkes. 2,977,312.

Wild, Arthur S.: *See*—
Twitchett, Harry J., and Wild. 2,977,342.

Wildhaber, Ernest. Method for form-cutting teeth on non-cyclindrical blanks. 2,976,773, 3–28–61, Cl. 90—10.

Wilding, James: *See*—
Yates, William E., Wilding, and Morrow. 2,977,190.

Wiley, Fred E., to Phillips Petroleum Co. Process for recovery of polyolefin by precipitation in water. 2,977,351, 3–28–61, Cl. 260—94.9.

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Williams, Lynn H.: *See*—
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Wilson, Darrell: *See*—
Watson, William F., and Wilson. 2,977,098.

Wilson, Jack J. Mixing and volume control valve for hot and cold water. 2,976,887, 3–28–61, Cl. 137—625.4.

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Wilson-Jones Co.: *See*—
Potts, John. 2,976,871.

Wilson, Robert F.: *See*—
Rychlewski, Thaddeus V., and Wilson. 2,976,838.

Winckler, John R.: *See*—
Huch, William F., and Winckler. 2,977,009.

Windbiel, Harold N.: *See*—
Brown, David G., and Windbiel. 2,977,084.

Winicov, Murray W.: *See*—
Shelanski, Morris V., and Winicov. 2,977,278.

Wintersteiner, Oskar P.: *See*—
Weisenborn, Frank L., Wintersteiner, and Diassi. 2,977,305.

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Wirth, Max M.: *See*—
Stanley, Herbert M., and Wirth. 2,977,396.

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Wolfson, Cecil: *See*—
Fox, Irving, and Palley. 2,977,231.

Wolman, Lane L., to General Precision, Inc. Analog-digital converter. 2,977,582, 3–28–61, Cl. 340—347.

Wonka, Robert P.: *See*—
Wyckoff, Paul W., and Wonka. 2,976,917.

Wood, Cissie: *See*—
Wood, Thomas K. 2,977,220.

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Woods, Warren W.: *See*—
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Worthington Corp.: *See*—
Dodds, Robert B., and Luoma. 2,976,689.

Wright, Edward F. Electrical measuring instrument. 2,977,532, 3–28–61, Cl. 324—62.

Wright, Esmond P. G., to International Standard Electric Corp. Intelligence storage equipment. 2,977,577, 3–28–61, Cl. 340—174.

Wright, James C.: *See*—
Silver, Harold F., Steele, Wright, and Price. 2,976,550.

Wulff, Cal W., and A. H. Carlson, to Holland Co. Method and apparatus for modifying fabricated bolsters to provide ride stabilization. 2,976,821, 3–28–61, Cl. 105—197.

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Wyckoff, Paul W., and R. P. Wonka, to Chrysler Corp. Hot air furnace. 2,976,917, 3–28–61, Cl. 158—7.

Wyman, Burton A.: *See*—
Cornell, Archie R., and Wyman. 2,977,555.

Yarrows Ltd.: *See*—
Weibel, Oscar. 2,976,843.

Yates, William E., J. Wilding, and J. L. Morrow, to Food Machinery and Chemical Corp. Production of alkali metal phosphates and carbon dioxide. 2,977,190, 3–28–61, Cl. 23—107.

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Youngchild, Casper E., to Appleton Wood Products Co. Reinforced suction box cover. 2,976,925, 3–28–61, Cl. 162—374.

Zapp, Robert L.: *See*—
Fischer, Wilbur F., Neu, and Zapp. 2,977,345.

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Zeek, Richard M.: *See*—
Flanigan, Eugene E., and Zeek. 2,976,683.

Zellweger A.G., Apparate- und Maschinenfabriken Uster: *See*—
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Zimmermann, Max: *See*—
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Zub, Albert W.: *See*—
Roux, Arthur L., and Zub. 2,977,102.

Zuiderhoek, Otus E.: *See*—
Farkas, Thomas P., Zuiderhoek, and Meader. 2,977,061.

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ISSUED MARCH 28, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 6: 2,976,536
86: 2,976,537
108: 2,976,538
2— 2: 2,976,539
161: 2,976,540
320: 2,976,541
4— 57: 2,976,542
252: 2,976,543
5— 53: 2,976,544
111: 2,976,545
318: 2,976,546
327: 2,976,547
331: 2,976,548
6—94.11: 2,977,182
10— 153: 2,976,549
12— 12: 2,977,398
15— 2.11: 2,976,550
4: 2,976,551
91: 2,976,552
147: 2,976,553
167: 2,976,554
220.27: 2,976,555
301: 2,976,556
312: 2,976,557
2,976,558
592: 2,976,559
589: 2,976,560
872: 2,976,561
16— 21: 2,976,562
146: 2,976,563
17— 2: 2,976,564
18— 2: 2,976,565
2,976,566
10: 2,976,567
20: 2,976,568
2,976,569
34.1: 2,976,570
62: 2,976,571
47.5: 2,976,572
2,976,573
48: 2,976,574
54: 2,977,183
2,977,184
55: 2,976,575
56: 2,976,576
59: 2,976,577
19— .37: 2,976,578
144.5: 2,976,579
160: 2,976,580
189: 2,976,581
20— 16: 2,976,582
56.5: 2,976,583
64: 2,976,584
22— 87.2: 2,976,585
91: 2,976,586
73: 2,976,587
193: 2,976,588
2,976,589
260.1: 2,976,590
23— 26: 2,977,185
67: 2,977,186
75: 2,977,187
2,977,188
89: 2,977,189
197: 2,977,190
2,977,191
2,977,192
110: 2,977,193
142: 2,977,194
147: 2,977,196
155: 2,977,195
192: 2,977,197
206: 2,977,198
220: 2,977,199
2,977,200
269.2: 2,977,201
295: 2,977,202
313: 2,977,203
24— 56: 2,976,591
120: 2,976,592
127: 2,976,593
189: 2,976,594
25— 43: 2,976,595
131: 2,976,596
2,976,597
157: 2,976,598
27— 17: 2,976,599
28— 28: 2,976,600
76: 2,976,601
29— 78: 2,976,602
90: 2,976,603
155.5: 2,976,604
155.61: 2,976,605
157.6: 2,976,606
160.6: 2,976,607
264: 2,976,608
270: 2,976,609
29— 441: 2,976,610
552: 2,976,611
30— 318: 2,976,612
33— 23: 2,976,613
37: 2,976,614
147: 2,976,615
174: 2,976,616
199: 2,976,617
220: 2,976,618
35— 8: 2,976,619
9: 2,976,620
37: 2,976,621
36— 1: 2,976,622
11.5: 2,976,623
14: 2,976,624
2: 2,976,625
12: 2,976,626
77: 2,976,627
40— 2: 2,976,628
11: 2,976,629
68: 2,976,630
120: 2,976,631
124: 2,976,632
125: 2,976,633
2,976,634
41— 9: 2,976,635
25: 2,976,636
42: 2,977,204
42— 70: 2,976,637
77: 2,976,638
43— 17.6: 2,976,639
19.2: 2,976,640
35: 2,976,641
42.13: 2,976,642
148: 2,976,643
45— 81: 2,976,644
220: 2,976,645
47— 56: 2,976,646
58: 2,976,647
61: P.P.2,039
48— 180: 2,977,205
50— 211: 2,976,648
51— 55: 2,976,649
103: 2,976,650
111: 2,976,651
170: 2,976,652
208: 2,977,206
52— .5: 2,977,207
2,977,208
53— 3: 2,976,653
37: 2,976,654
42: 2,976,655
70: 2,976,656
75: 2,976,657
112: 2,976,658
257: 2,976,659
266: 2,976,660
302: 2,976,661
308: 2,976,662
56— 28.4: 2,976,663
2,976,664
272: Re.24,955
295: 2,976,665
296: 2,976,666
370: Re.24,957
57— 34: 2,976,667
66: 2,976,668
2,977,181
64: 2,976,669
137: 2,976,670
157: 2,976,671
58— 68: 2,976,672
109: 2,976,673
135: 2,976,674
60— 23: 2,976,675
33.34: 2,976,681
35.6: 2,976,676
2,976,677
2,976,678
2,976,679
2,976,680
33.14: 2,976,682
33.38: 2,976,683
39.75: 2,976,684
53: 2,976,685
54.6: 2,976,686
97: 2,976,687
2,976,688
103: 2,976,689
61— .5: 2,976,690
2,976,691
5: 2,976,692
55.5: 2,976,693
67: 2,976,694
62— 54: 2,976,695
115: 2,976,696
157: 2,976,697
62— 160: 2,976,698
278: 2,976,699
312: 2,976,700
324: 2,976,701
64— 1: 2,976,702
4: 2,976,703
28: 2,976,704
66— 85: 2,976,705
166: 2,976,706
172: 2,976,707
176: 2,976,708
179: 2,976,709
68— 12: 2,976,710
17: 2,976,711
19: 2,976,712
22: 2,976,713
70— 63: 2,976,714
71— 2.3: 2,977,209
2,977,210
2,977,211
2.6: 2,977,212
41: 2,977,213
64: 2,977,214
73— 4: 2,976,715
7: 2,976,716
12: 2,976,717
37.5: 2,976,718
61: 2,976,719
2,976,720
71: 2,976,721
76: 2,976,722
94: 2,976,723
156: 2,976,724
172: 2,976,725
279: 2,976,726
304: 2,976,727
336.5: 2,976,728
342: 2,976,729
355: 2,976,730
407: 2,976,731
492: 2,976,732
503: 2,976,733
514: 2,976,734
74— 1.5: 2,976,735
5.6: 2,976,736
16: 2,976,737
220.17: 2,976,739
220.7: 2,976,738
319: 2,976,740
422: 2,976,741
471: 2,976,742
472: 2,976,743
531: 2,976,744
606: 2,976,745
655: 2,976,746
75— 3: 2,977,215
26: 2,977,216
60: 2,977,217
80: 2,977,218
84: 2,977,219
84.1: 2,977,220
108: 2,977,221
171: 2,977,222
2,977,223
2,977,224
178: 2,977,225
76— 101: 2,976,747
77— 62: 2,976,748
80— 51: 2,976,749
81— 53: 2,976,750
83— 24: 2,976,751
52: 2,976,753
98: 2,976,752
129: 2,976,754
84— 1.16: 2,976,755
216: 2,976,756
86— 20: 2,976,757
88— 1: 2,976,758
2,976,759
2.6: 2,976,760
14: 2,976,761
2,976,762
2,976,763
2,976,764
16.2: 2,976,765
41: 2,976,766
2,976,767
87: 2,976,768
89— 36: 2,976,769
128: 2,976,770
138: 2,976,771
90— 1.4: 2,976,772
10: 2,976,773
12.5: 2,976,774
13.1: 2,976,775
60: 2,976,776
62: 2,976,777
90— 62: 2,976,778
98— 1: 2,976,779
36: 2,976,780
94— 18: 2,976,781
2,976,782
44: 2,976,783
45: 2,976,784
95— 4.5: 2,976,785
2,976,786
2,976,787
10: 2,976,788
2,976,789
45: 2,976,790
86: 2,976,791
90: 2,976,792
3: 2,977,226
98— 35: 2,977,227
36: 2,977,228
104: 2,977,229
99— 33: 2,976,793
36: 2,976,794
40: 2,976,795
67: 2,976,796
84: 2,976,797
90— 2: 2,977,230
70: 2,977,231
119: 2,977,232
175: 2,977,233
215: 2,977,234
222: 2,977,235
100— 358: 2,976,798
101— 6: 2,976,799
93: 2,976,800
2,976,801
128.1: 2,976,802
220: 2,976,803
102— 49: 2,976,804
2,976,805
92.5: 2,976,806
103— 11: 2,976,807
87: 2,976,808
103: 2,976,809
106: 2,976,810
117: 2,976,811
179: 2,976,812
216: 2,976,813
235: 2,976,814
104— 12: 2,976,815
2,976,816
26: 2,976,817
93: 2,976,818
105— 138: 2,976,819
141: 2,976,820
197: 2,976,821
2,976,822
350: 2,976,823
2,976,824
106—36.25: 2,977,237
36.5: 2,977,236
165: 2,977,238
288: 2,977,239
300: 2,977,240
107— 4: 2,976,825
111— 67: 2,976,826
112— 2: 2,976,827
3: 2,976,828
79: 2,976,829
158: 2,976,830
220: 2,976,831
113— 38: 2,976,832
114— 144: 2,976,833
115— .5: 2,976,834
26: 2,976,835
35: 2,976,836
117— 80: 2,977,241
84: 2,977,242
2,977,243
71: 2,977,244
72: 2,977,245
76: 2,977,246
111: 2,977,247
122: Re.24,953
126: 2,977,248
135.5: 2,977,249
138.5: 2,977,250
160: 2,977,251
211: 2,977,252
118— 319: 2,976,837
321: 2,976,838
524: 2,976,839
119— 1: 2,976,840
52: 2,976,841
189: 2,976,842
121— 38: 2,976,843
2,976,844
2,976,845
121— 41: 2,976,846
2,976,847
2,976,848
2,976,849
2,976,850
45c: 2,976,851
46.5: 2,976,852
122— 4: 2,976,853
6: 2,976,854
7: 2,976,855
478: 2,976,856
2,976,857
479: 2,976,858
123—41.54: 2,976,859
46: 2,976,860
53: 2,976,861
90: 2,976,862
179: 2,976,863
196: 2,976,864
127— 50: 2,977,253
128— 2.05: 2,976,865
33: 2,976,866
57: 2,976,867
71: 2,976,868
295: 2,976,869
310: 2,976,870
129— 17: 2,976,871
131— 17: 2,977,254
98: 2,976,872
140: 2,976,873
133— 2: 2,976,874
134— 2: 2,977,255
135— 1: 2,976,875
3: 2,976,876
136— 8: 2,977,399
2,977,400
120: 2,977,401
137— 85: 2,976,877
108: 2,976,878
132: 2,976,879
219: 2,976,880
488: 2,976,881
512.1: 2,976,882
589.5: 2,976,883
606: 2,976,884
608: 2,976,885
624: 2,976,886
625.4: 2,976,887
784: 2,976,888
138— 141: 2,976,889
139— 13: 2,976,890
71: 2,976,891
126: 2,976,892
140— 71.6: 2,976,893
83: 2,976,894
102: 2,976,895
141— 1: 2,976,896
17: 2,976,897
346: 2,976,898
142— 47: 2,976,899
135: 2,976,900
143— 1.5: 2,976,256
2,977,257
1.6: 2,976,258
6.2: 2,977,259
6.27: 2,977,260
12.7: 2,977,261
53: 2,977,262
104: 2,977,263
181— 11: 2,976,901
182— 217: 2,976,902
228: 2,976,903
237: 2,976,904
354: 2,976,905
417: 2,976,906
183— 10: 2,976,907
32: 2,976,908
184— 1: 2,976,909
14: 2,976,910
43: 2,977,264
2,977,265
52.1: 2,977,266
79: 2,977,267
83: 2,977,268
2,977,269
93: 2,977,270
118: 2,977,271
132: 2,977,272
140: 2,977,273
185— 18: 2,976,911
33: 2,976,912
106: 2,976,913
170: 2,976,914
177: 2,976,915
178: 2,976,916
186— 7: 2,976,917
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188— 78: 2,976,919
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189— 229: 2,976,923
192— 4: 2,977,274
64: 2,977,275
118: 2,977,276
208: 2,977,277
273: 2,976,924
374: 2,976,925
196— 9: 2,976,926
55.5: 2,976,927
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2,976,929
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135: 2,976,931
236: 2,976,932
243: 2,976,933
2,976,934
167— 17: 2,977,278
22: 2,977,279
63.2: 2,977,280
65: 2,977,281
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77: 2,977,284
170—135.4: 2,976,935
171— 135: 2,976,936
173— 98: 2,976,937
376: 2,976,938
522: 2,976,939
174— 45: 2,977,402
84: 2,977,403
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138: 2,977,405
177: 2,977,406
175— 4: 2,976,940
14: 2,976,941
137: 2,976,942
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178— 5.2: 2,977,407
5.4: 2,977,408
5.8: 2,977,409
6.6: Re.24,956
7.2: 2,977,410
7.3: 2,977,411
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18: 2,977,414
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179— 6.3: 2,977,419
16: 2,977,420
27.54: 2,977,421
100.2: 2,977,422
2,977,423
100.4: 2,977,424
107: 2,977,425
132: 2,977,426
180— 19: 2,976,945
82.1: 2,976,946
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181— 33: 2,976,948
183— 3: 2,976,949
4.3: 2,976,950
7: 2,976,951
42: 2,976,952
61: Re.24,954
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113: 2,976,954
186— 65.1: 2,976,955
72: 2,976,956
78: 2,976,957
79.3: 2,976,958
82.7: 2,976,959
90: 2,976,960
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98: 2,976,962
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112: 2,976,964
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189— 2: 2,976,966
31.5: 2,976,967
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2,976,969
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88: 2,976,972
191—12.2: 2,977,427
193— 39: 2,976,973
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89: 2,976,975
94: 2,976,976

198—	28:	2,977,265	219—	20:	2,977,453	220—	20:	2,977,467	220—	153:	2,977,352	220—	153:	2,977,126	313—	257:	2,977,521
	51:	2,977,266		28:	2,977,454		40:	2,977,468		195:	2,977,354		434:	2,977,127		260:	2,977,522
	62:	2,977,267		39:	2,977,455			2,977,469		223:	2,977,355	296—	11:	2,977,128		331:	2,977,523
198—	132:	2,977,268		41:	2,977,456		41.9:	2,977,470		253.2:	2,977,356		11.16:	2,977,129	320—	1:	2,977,524
197—	17:	2,976,977		74:	2,977,457			2,977,471			2,977,357		15:	2,977,140		19:	2,977,525
198—	23:	2,976,978		110:	2,977,458			2,977,472		256.55:	2,977,358	297—	30:	2,977,141	322—	3:	2,977,526
	45:	2,976,979		141:	2,977,459		43.5:	2,977,473		260:	2,977,359		82:	2,977,142	330—	45.5:	2,977,527
	104:	2,976,980	220—	13:	2,977,018			2,977,474		268:	2,977,360	298—	17:	2,977,143		66:	2,977,528
	127:	2,976,981		60:	2,977,019		49.5:	2,977,475		269.9:	2,977,361	299—	12:	2,977,144		74:	2,977,529
	130:	2,976,982		89:	2,977,020		82:	2,977,476		285:	2,977,362	302—	221:	2,977,145	324—	51:	2,977,530
	177:	2,976,983		115:	2,977,021			2,977,477			2,977,363	303—	60:	2,977,146		84:	2,977,531
	179:	2,976,984	221—	68:	2,977,022		52.6:	2,977,478			2,977,364	304—	44.5:	2,977,147		92:	2,977,532
200—	6:	2,977,438		205:	2,977,023		218:	2,977,479		286:	2,977,365		74:	2,977,148		71:	2,977,533
		2,977,439	222—	2:	2,977,024		220:	2,977,480		287:	2,977,366		83:	2,977,149		75:	2,977,534
	16:	2,977,430		108:	2,977,025	251—	149:	2,977,095			2,977,367		118:	2,977,150			2,977,535
		2,977,432		129.4:	2,977,026		167:	2,977,096		294.8:	2,977,368	301—	37:	2,977,151		79:	2,977,536
	28:	2,977,433		156:	2,977,027		240:	2,977,097		307:	2,977,369			3,977,152		81:	2,977,537
	46:	2,977,434		442:	2,977,028	252—	18:	2,977,300			2,977,370		97:	2,977,153		83:	2,977,538
	51.27:	2,977,435		548:	2,977,029			2,977,301			2,977,371	303—	83:	2,977,154	238—	42:	2,977,539
	67:	2,977,436	223—	88:	2,977,030		25:	2,977,302		295:	2,977,372	308—	2:	2,977,155		49:	2,977,540
	81.2:	2,977,437		98:	2,977,031		32.5:	2,977,303		343.9:	2,977,373			2,977,156		82:	2,977,541
	87:	2,977,438			2,977,032		32.7:	2,977,304		345.5:	2,977,374		84:	2,977,157		108:	2,977,542
	89:	2,977,439	225—	6:	2,977,033			2,977,305		347.45:	2,977,377	305—	25:	2,977,158		110:	2,977,543
	113:	2,977,440		47:	2,977,034			2,977,306		347.7:	2,977,375	307—	88:	2,977,461		127:	2,977,544
	118.5:	2,977,441	226—	31:	2,977,035			2,977,307			3,977,376			2,977,462		134:	2,977,545
	116:	2,977,442		89:	2,977,036		50:	2,977,308		429.3:	2,977,376		88.5:	2,977,463	309—	25:	2,977,546
		3,977,443		185:	2,977,112		51.5:	2,977,309		429.7:	2,977,379			2,977,464		89:	2,977,547
		2,977,444	229—	47:	2,977,037		55:	2,977,310		434:	2,977,380			2,977,465	311—	105:	2,977,548
		2,977,444		69.5:	2,977,038		62.5:	2,977,311		448:	2,977,381			2,977,466		112:	2,977,549
	120:	2,977,445		2:	2,977,039			2,977,312		461:	2,977,382			2,977,467		113:	2,977,550
	146:	2,977,446	230—	52:	2,977,040		99:	2,977,313			2,977,383		106:	2,977,468	323—	53:	2,977,551
	153:	2,977,447		101:	2,977,041			2,977,314		467:	2,977,384	308—	47:	2,977,159	323—	13:	2,977,552
	161:	2,977,448		127:	2,977,042		106:	2,977,315		479:	2,977,385		178:	2,977,160		23:	2,977,553
	169:	2,977,449		235:	2,977,043		107:	2,977,316		552:	2,977,386		187:	2,977,161	326—	55:	2,977,554
203—	40:	2,977,289	235—	67:	2,977,044		135:	2,977,317		608.5:	2,977,387		193:	2,977,162		165:	2,977,555
	42:	2,977,290		94:	2,977,045		136:	2,977,318			2,977,388		207:	2,977,163		183:	2,977,556
	57:	2,977,291		122:	2,977,046		201.2:	2,977,319			2,977,389		217:	2,977,164	328—	7:	2,977,557
	72:	2,977,292		153:	2,977,047		201.3:	2,977,320			2,977,390	309—	4:	2,977,165		22:	2,977,558
204—	1:	2,977,293		162:	2,977,048		301.6:	2,977,321			2,977,391			2,977,166		44:	2,977,559
	42:	2,977,294		196:	2,977,049		411:	2,977,322			2,977,392		83:	2,977,167		67:	2,977,560
	45:	2,977,295	236—	1:	2,977,050		415:	2,977,323		615:	2,977,393	310—	61:	2,977,459		107:	2,977,561
	149:	2,977,296		82:	2,977,051		443:	2,977,324		648:	2,977,394		172:	2,977,460	330—	17:	2,977,562
	193.2:	2,977,297	239—	253:	2,977,052		448:	2,977,325		669:	2,977,395		259:	2,977,491		31:	2,977,563
	206:	2,977,298		305:	2,977,053		466:	2,977,326		681:	2,977,396	311—	30:	2,977,168		48:	2,977,564
205—	1:	2,976,985	240—	9:	2,977,460		472:	2,977,327		695.45:	2,977,397			2,977,169		92:	2,977,565
	16:	2,976,986		78:	2,977,461	253—	39:	2,977,088	261—	36:	2,977,099	312—	28:	2,977,170		110:	2,977,566
	51:	2,976,987	241—	46:	2,977,054		39.15:	2,977,089		39:	2,977,100		31:	2,977,171		263:	2,977,567
	56:	2,976,988		86:	2,977,055			2,977,090			2,977,101		71:	2,977,172	340—	3:	2,977,568
	62:	2,976,989		101:	2,977,056		116:	2,977,091		42:	2,977,102		267:	2,977,173		5:	2,977,569
	85:	2,976,990		213:	2,977,057	254—	50.3:	2,977,092		111:	2,977,103		306:	2,977,174		6:	2,977,570
207—	1:	2,976,991	242—	55.1:	2,977,058		81:	2,977,093	263—	7:	2,977,104		326:	2,977,175		8:	2,977,571
208—	8:	2,977,290		55.11:	2,977,059		86:	2,977,094		21:	2,977,105	313—	23:	2,977,492		10:	2,977,572
209—	2:	2,976,992		71.8:	2,977,060	257—	241:	2,977,095		50:	2,977,106		27:	2,977,493		14:	2,977,573
	88:	2,976,993		75.51:	2,977,061		267:	2,977,096	266—	4:	2,977,107		51:	2,977,494		142:	2,977,574
	211:	2,976,994		77.1:	2,977,062	259—	9:	2,977,097		55:	2,977,108		63:	2,977,495		173.1:	2,977,575
	223:	2,976,995		84.54:	2,977,063	260—	2.1:	2,977,328	267—	1:	2,977,109		112:	2,977,497		174:	2,977,576
	255:	2,976,996			2,977,064		2.5:	2,977,329		15:	2,977,110		113:	2,977,498			2,977,577
	484:	2,976,997			2,977,065			2,977,330		64:	2,977,111		134:	2,977,498		174.1:	2,977,578
210—	78:	2,976,998		115:	2,977,066			2,977,331	271—	11:	2,977,113	315—	9:	2,977,499			2,977,579
	223:	2,976,999		120.2:	2,977,067		17.2:	2,977,331		32:	2,977,114		15:	2,977,500		221:	2,977,580
211—	34:	2,977,000	244—	15:	2,977,068		18:	2,977,332		52:	2,977,115		17:	2,977,501		331:	2,977,581
	113:	2,977,001		31:	2,977,069		30:	2,977,333		88:	2,977,116		20.3:	2,977,502		347:	2,977,582
214—	6:	2,977,002		38:	2,977,070		37:	2,977,334	272—	31:	2,977,117		20.53:	2,977,503		355:	2,977,583
	11:	2,977,003		77:	2,977,071		52.5:	2,977,335		60:	2,977,118		83:	2,977,504		394:	2,977,584
	17:	2,977,004		103:	2,977,072		57:	2,977,336		66:	2,977,119		84.5:	2,977,505	342—	5:	2,977,585
		2,977,005		108:	2,977,073		63.3:	2,977,337		81:	2,977,120		183:	2,977,506		8:	2,977,586
	301:	2,977,006		110:	2,977,074		47:	2,977,338	273—	43:	2,977,121		209:	2,977,507		12:	2,977,587
	308:	2,977,007			2,977,075		78:	2,977,339			2,977,122		241:	2,977,508		16:	2,977,588
	315:	2,977,008			2,977,076			2,977,340		88:	2,977,123			2,977,509		17.1:	2,977,589
	579:	2,977,009		118:	2,977,077			2,977,341	274—	9:	2,977,124	316—	26:	2,977,176		17.7:	2,977,590
	590:	2,977,010		122:	2,977,078			2,977,342		14:	2,977,125	317—	36:	2,977,510		18:	2,977,591
	595:	2,977,011			2,977,079		79.5:	2,977,343		23:	2,977,126		84:	2,977,511		109:	2,977,592
		2,977,012		160:	2,977,080			2,977,344		47:	2,977,127		101:	2,977,512		708:	2,977,593
	518:	Re.24,939	246—	182:	2,977,452			2,977,345	279—	110:	2,977,128		174:	2,977,513		786:	2,977,594
	674:	Re.24,955	248—	48.1:	2,977,081		80.7:	2,977,346	280—11.35:		2,977,129		220:	2,977,514		789:	2,977,595
215—	11:	2,977,013		206:	2,977,082		85.3:	2,977,347		47.18:	2,977,130		234:	2,977,515		872:	2,977,596
	12:	2,977,014		324:	2,977,083			2,977,348		96.2:	2,977,131		256:	2,977,516		936:	2,977,597
	76:	2,977,015		351:	2,977,084		94.3:	2,977,349		124:	2,977,132	318—	7:	2,977,517	340—	8:	2,977,177
216—	37:	2,977,016	250—	2:	2,977,462		94.9:	2,977,350			2,977,133		138:	2,977,518		74:	2,977,178
	62:	2,977,017		15:	2,977,464			2,977,351			3,977,134		170:	2,977,519		125:	2,977,179
219—	19:	2,977,450		20:	2,977,465		124:	2,977,352		150:	2,977,135			2,977,520		140:	2,977,180
	20:	2,977,451			2,977,466												
		2,977,452															

Classification of Designs

D 3—	13:	189,980	D26—	13:	189,970	D44—	10:	189,980	D52—	3:	189,989	D58—	17:	189,998	D61—	4:	190,007
D 4—	8:	189,981		14:	189,971		28:	189,981			189,991	D64—	11:	189,999		10:	190,008
D10—	8:	189,982			189,972		29:	189,982		6:	189,990	D70—	1:	190,000	D62—	1:	190,009
	10:	189,983	D32—	14:	189,973			189,983	D54—	6:	189,992			190,001	D65—	2:	190,010
D14—	13:	189,984	D34—	2:	189,974	D48—	24:	189,984	D55—	1:	189,993			190,002	D60—	3:	190,011
D17—	8:	189,985		5:	189,975		33:	189,985	D57—	1:	189,994	D71—	1:	190,003		20:	190,012
D18—	2:	189,986		15:	189,976			189,986	D59—	4:	189,995			190,004	D69—	1:	190,013
		189,987	D35—	3:	189,977			189,987		8:	189,996	D66—	8:	190,005			190,014
D20—	1:	189,988	D40—	1:	189,978	D49—	1:	189,988		12:	189,997		11:	190,006			190,015
D28—	8:	189,989	D44—	10:	189,979												

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

March 28, 1961 Volume 764 Number 4

TRADEMARKS

NOTICES

First Assistant Commissioner of Patents

DELEGATION OF AUTHORITY TO SERVE AS ACTING COMMISSIONER OF PATENTS

Acting under the provisions of section 3 of Title 35 United States Code and of section 2 of Reorganization Plan No. 5 of 1950, I hereby authorize Mr. Arthur W. Crocker, First Assistant Commissioner of Patents, to be and serve as Acting Commissioner of Patents, beginning with the opening of business of the United States Patent Office on March 2, 1961. This authorization shall remain in force until a new Commissioner of Patents to fill the vacancy that will exist in that office as of March 2, 1961, is appointed and takes office.

(R.S. 161; 5 U.S.C. 22; 35 U.S.C. 3; Reorganization Plan No. 5 of 1950, 15 F.R. 3174).

LUTHER H. HODGES,
Secretary of Commerce.

Mar. 1, 1961.

[F.R. Doc. 61-2091; Filed, Mar. 7, 1961; 8:54 a.m.]

Published in 26 F.R. 2033, March 8, 1961

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 23,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189**, same, Nonalcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, filed Jan. 11, 1961, D.C.N.J. (Newark), Doc. 18/61, *The Coca-Cola Company* v. *Samuel P. Lessin*. Same, filed Dec. 29, 1960, D.C., S.D.N.Y., Doc. 60/5090, *The Coca-Cola Company* v. *Stuyvesant Restaurant, Inc., doing business as Garden Bar et al.* Consent judgment; injunction granted Jan. 31, 1961.

Reg. No. 47,189. (See Reg. No. 23,406.)

Reg. No. 73,945 (LA GRISETTE), Strohmeyer & Arpe Company, Olive oil, macaroni, etc.; **Reg. No. 90,997** (CREAMETTES), Mother's Macaroni Company, Macaroni; **Reg. No. 216,574** (DESIGN OF GIRL'S HEAD), The Creamette Company, same; **Reg. No. 540,462** (JUNIORETTES), same, A macaroni food for infants and children; **Reg. No. 548,176** (KIDETTES), same; **Reg. No. 548,177** (TOTETTES), same; **Reg. No. 576,129** (CREAMETTE), same, Macaroni shells, ready-cut spaghetti, thin spaghetti, egg noodles, macaroni dinner, etc.; **Reg. No. 602,967** (ETTES), A macaroni food for infants and children; **Reg. No. 604,624** (SAL-ETS, ETC. WITHIN DOUBLE CIRCLE), Quality Macaroni Company, Macaroni, filed Dec. 5, 1958, D.C., W.D. Wash. (Seattle), Doc. 4746, *The Creametts Company* v. *Major Italian Foods Company*. Plaintiff's trademarks held valid; complaint and pretrial order dismissed Dec. 1, 1960.

Reg. No. 196,181 (MILKY WAY AND DESIGN), F. C. Mars, doing business as Mar-O-Bar Company, Candy; **Reg. No. 208,127** (MILKY WAY WHOLE EGGS), Mars, Incorporated, Whole eggs; **Reg. No. 208,128** (MILKY WAY EGG WHITES), same, Egg whites; **Reg. No. 208,129** (MILKY WAY EGG YOLKS), same, Egg yolks; **Reg. No. 542,760** (MILKY WAY), same, Ice cream; **Reg. No. 591,800** (MILKY WAY AND DESIGN), same, Candy, filed May 20, 1959, D.C.,

CONDITION OF TRADEMARK APPLICATIONS AS OF JANUARY 31, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,236
Date of oldest new application	July 8, 1960
Date of oldest amended application	July 15, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	7-8-60	8-3-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-29-60	7-15-60
Renewals (All Classes)	1-5-61	-------
Sec. 12 (c) Publications (All Classes)	1-3-61	-------

Applications filed during the month of January 1961—1735

Registrations Issued	328—No. 712,984 to No. 713,311
Renewals Issued	70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

M.D. Tenn. (Nashville), Doc. 2727, *Mars, Incorporated* v. *H. T. Stiff, Jr.* Consent judgment holding trademarks valid; order restraining defendant Feb. 1, 1961.

Reg. No. 99,907. (See Reg. No. 72,945.)

Reg. No. 216,574. (See Reg. No. 72,945.)

Reg. No. 225,145. (See Reg. No. 22,406.)

Reg. No. 228,146. (See Reg. No. 22,406.)

Reg. No. 266,137. (See Reg. No. 196,182.)

Reg. No. 295,155. (See Reg. No. 196,182.)

Reg. No. 298,139. (See Reg. No. 196,182.)

Reg. No. 299,752 (POLITICS), E. E. Charron, Card game, filed Dec. 13, 1960, D.C.N.J. (Newark), Doc. 1036/60, *Parker Brothers, Inc.* v. *Jetco, Inc. et al.* Consent judgment; injunction granted Jan. 18, 1961.

Reg. No. 404,624. (See Reg. No. 72,945.)

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 437,880. (See Reg. No. 668,784.)

Reg. No. 533,798 (DESIGN OF CHEVRON), Standard Oil Company of California, Services rendered at automotive service stations generally; **Reg. No. 641,276**, same, Petroleum waxes and petrolatums, kerosenes, fuel and heating oil; internal combustion engine fuels; lubricating oils and greases; **Reg. No. 656,314**, same, filed Jan. 27, 1961, D.C., E.D. Wash. (Spokane), Doc. 2054, *Standard Oil Company of California* v. *John Bonneland et al.*

Reg. No. 540,492. (See Reg. No. 72,945.)

Reg. No. 542,740. (See Reg. No. 196,182.)

Reg. No. 548,176. (See Reg. No. 72,945.)

Reg. No. 548,177. (See Reg. No. 72,945.)

Reg. No. 570,912 (OK AND DESIGN), General Motors Corporation, Used automobiles and trucks, filed Feb. 9, 1961, D.C. Ariz. (Phoenix), Doc. 3542, *General Motors Corporation* v. *Ray Cole, doing business as OK Used Cars.*

Reg. No. 576,129. (See Reg. No. 72,945.)

Reg. No. 591,869. (See Reg. No. 196,182.)

Reg. No. 603,867. (See Reg. No. 72,945.)

Reg. No. 641,270. (See Reg. No. 533,798.)

Reg. No. 648,478 (SWIMQUIP), Swimquip, Inc., Diving boards, diving board standards, and permanently affixed pool ladders, filed Jan. 30, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 99/61–WB, *Swimquip, Inc.* v. *Swim King, Inc. et al.*

Reg. No. 650,035 (PLAY DOH), Rainbow Crafts, Inc., Plastic type modeling compound for children's use, filed Feb. 8, 1961, D.C., E.D. Mo. (St. Louis), Doc. 61–C–55(3), *Rainbow Crafts, Inc.* v. *Absorene Manufacturing Company (Inc.).*

Reg. No. 656,314. (See Reg. No. 533,798.)

Reg. No. 668,784 (MISTER DONUT), Harwin Management Corporation (now by change of name Mister Donut of America, Inc.), Snack bar services; **Reg. No. 673,296** (DESIGN OF HUMAN), same; **Reg. No. 682,370** (MISTER DONUT), same, Flour, filling and jellies for doughnuts, coffee and vegetable shortening; **Reg. No. 427,800** (MR. DONUT AND DESIGN), F. L. Ragsdale, Doughnuts, filed Feb. 2, 1961, D.C.N.J. (Newark), Doc. 75/61, *Mister Donut of America, Inc.* v. *Mrs. Donut, Inc. et al.*

Reg. No. 673,296. (See Reg. No. 668,784.)

Reg. No. 682,370. (See Reg. No. 668,784.)

Reg. No. 696,251 (CRC), Corrosion Reaction Consultants, Inc., Rust and corrosion inhibitor with incidental removing properties, filed Feb. 7, 1961, D.C. Md. (Baltimore), Doc. 12/827, *Corrosion Reaction Consultants, Inc.* v. *CRC Corporation.*

Reg. No. 708,531 (WELLS FARGO), Wells Fargo & Company, Transportation of money and valuables, filed Feb. 6, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c206, *Wells Fargo & Company* v. *Wells-Fargo Company, Inc.*

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 68,854. Tennessee Absorbent Clay Co., Paris, Tenn. Filed Mar. 3, 1959.



For Ground Absorbent Clay Containing a Deodorizer for Cats' Litter Boxes.
First use Jan. 5, 1959.

SN 77,725. Chicago Foam Products Corporation, Chicago, Ill. Filed July 15, 1959.

CLOUDFOAM

Owner of Reg. No. 639,174.
For Polyurethane Plastic Foam for Use as a Filler in the Manufacture of Quilts, Comforters, and Pillows.
First use Jan. 5, 1959.

SN 78,762. The Charles River Breeding Laboratories, Inc., Brookline, Mass. Filed July 31, 1959.

CHARLES RIVER

For Laboratory Rats.
First use Oct. 1, 1958.

SN 101,426. Phillips Petroleum Company, Bartlesville, Okla. Filed July 25, 1960.

TRANS-5

For Rubber.
First use June 30, 1960.

SN 105,368. Milwhite Mud Sales Company, Houston, Tex. Filed Sept. 28, 1960.

MIL-PLUG

For Plugging Agent To Reduce Loss of Oil Well Drilling Mud During Circulation, Comprising Granulated Walnut Shells.
First use June 29, 1960.

SN 105,535. Northrup, King & Co., Minneapolis, Minn. Filed Sept. 30, 1960.

PUNCH 'N GRO

Owner of Reg. No. 656,644.
For Flower and Vegetable Seed Starter Kits.
First use Apr. 3, 1957, on flower seed starter kits.

Class 2—Receptacles

SN 65,864. S. Safer, Inc., Jersey City, N.J. Filed Jan. 14, 1959.



The drawing is lined for the color blue but no claim is made to any particular color. Owner of Reg. No. 638,909.
For Paper Plates.
First use 1926.

SN 83,531. Malaneo, Inc., Blue Island, Ill. Filed Oct. 19, 1959.

COROSTIX

For Trays Formed of Corrugated Material for Packaging Candy, Bakery Products and the Like.
First use Oct. 1, 1959.

SN 85,307. Consumer Protection, Inc., Tampa, Fla. Filed Nov. 16, 1959.

FORSPACK

For Bundle Packages or Wrappings for a Plurality of Like Articles Such as Canned Goods.
First use Dec. 19, 1958.

SN 87,998. Airo Products Company, Providence, R.I. Filed Dec. 28, 1959.

POLY-THERM

For Insulated Bottles.
First use on or about Dec. 16, 1959.

SN 91,523. Chesley Industries Inc., Detroit, Mich. Filed Feb. 24, 1960.

STURDEX

For Open-Topped Rigid Plastic Receptacles.
First use Feb. 12, 1960.

SN 95,737. L & E Finance Corp., Van Nuys, Calif. Filed Apr. 25, 1960.

KAR-ETTE

For Utility Article Carrying Case for Automobiles.
First use Feb. 15, 1960.

SN 99,203. Downingtown Paper Company, Downingtown, Pa. Filed June 17, 1960.

FORM-PAK

For Packages, Comprising Visible Packages in Which the Goods Are Visible Through a Transparent Window.
First use May 4, 1960.

SN 101,305. Reynolds Metals Company, Richmond, Va. Filed July 20, 1960.

BOOKLET PAK

No claim of exclusive right is made to the use of the word "Pak" apart from the mark as shown.
For Package for Bacon.
First use Feb. 24, 1960.

SN 101,487. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed July 26, 1960.

E-Z MEAT BOARD

Applicant hereby disclaims the words "Meat Board" apart from the mark as shown. Owner of Reg. Nos. 227,085, 625,877, and others.
For Flat Paper-Board Trays for Use in Packaging Meat Products.
First use May 31, 1960.

SN 101,490. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed July 26, 1960.

E-Z FOODPAK

Applicant hereby disclaims the word "Foodpak" apart from the mark as shown. Owner of Reg. Nos. 227,085, 625,877, and others.
For Paperboard Containers for Food Products.
First use May 31, 1960.

SN 101,546. Dairypak Butler, Inc., Cleveland, Ohio. Filed July 27, 1960.

STAR-SHEEN

For Cartons for Food Products and the Like.
First use July 18, 1960.

SN 104,524. The Heekin Can Company, Cincinnati, Ohio. Filed Sept. 15, 1960.

CRUZER COOLER

Without waiving its common law rights, applicant makes no claims to the word "Cooler" apart from the mark as shown.
For Portable Insulated Picnic Coolers.
First use Aug. 5, 1960.

SN 104,643. Sidney Sandler, d.b.a. The Valsan Company, New York, N.Y. Filed Sept. 16, 1960.

EVER-COOL

For Portable Insulated Picnic Jugs and Chests.
First use on or about Apr. 7, 1960.

SN 104,742. Multi Molds International, Inc., New York, N.Y. Filed Sept. 19, 1960.

FLAVOR FORMS

Applicant disclaims the term "Forms" apart from the mark as shown.
For Plastic Containers for Food and Confectionery Products.
First use Jan. 20, 1960.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 76,401. Hill Novelties Mfg. Corp., New York, N.Y. Filed June 24, 1959.

TRAV-EXEC

For Brief Cases, Portfolios.
First use February 1959.

SN 87,376. Stassa Richebé, nee Hadji Apostolos, Paris, France. Filed Dec. 15, 1959.

SACHA

Owner of French Reg. No. 483,497, dated Oct. 23, 1950 (Seine); Natl. Inst. No. 133,114.
For Handbags, Pocket-Books, Billfolds, and Wallets.

SN 104,450. Hickok Manufacturing Co. Inc., Rochester, N.Y. Filed Sept. 14, 1960.

VICOUNT

Owner of Reg. No. 668,669.
For Wallets, Billfolds, and Pocket Secretaries.
First use May 15, 1958.

SN 105,465. Shwayder Brothers, Inc., Denver, Colo. Filed Sept. 29, 1960.

JET-AIRE

For Luggage.
First use Aug. 4, 1960.

Class 4—Abrasives and Polishing Materials

SN 90,731. Amway Sales Corporation, Grand Rapids, Mich. Filed Feb. 11, 1960.

AMWAY

For Cleaners and Cleaning Compounds, Specifically, Abrasive and Polishing Cleaners.
First use Nov. 16, 1959.

SN 100,233. E-Z-Est Products Co., Inc., Oakland, Calif. Filed July 5, 1960.

STEELUSTER

Owner of Reg. Nos. 585,352 and 604,246.
For Metal Polish.
First use June 8, 1949.

SN 101,677. The Globe Steel Abrasive Company, Mansfield, Ohio. Filed July 29, 1960.

H. C. CHILLED SHOT GLOBE

Applicant disclaims the term "H. C. Chilled Shot" as used apart from the mark as shown.
For Abrasives Composed of Iron and Steel Used as Detergents and Polishing Materials.
First use July 1, 1908.

SN 103,205. The Shetland Co., Inc., Salem, Mass. Filed Aug. 22, 1960.

SHETLAND

Owner of Reg. Nos. 554,787, 627,689, and 671,787.
For Liquid Floor Wax and Paste Wax Impregnated Pads.
First use 1952 on liquid floor wax.

SN 103,432. American Copper Sponge Co., Inc., Woonsocket, R.I. Filed Aug. 26, 1960.

NIF-TEE

For Scouring Pads.
First use Oct. 1, 1952.

SN 103,680. Purex Corporation, Ltd., South Gate, Calif. Filed Aug. 30, 1960.

SPOTLIGHT

Owner of Reg. No. 610,630.
For Floor Wax.
First use Apr. 25, 1960.

SN 111,631. United Laboratories Co., Linden, N.J. Filed May 12, 1960.

NULITE

For Compound for Buffing and Polishing Metals and Plastics.
First use Sept. 15, 1959.

Class 6—Chemicals and Chemical Compositions

SN 78,982. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. Filed Aug. 4, 1959.

HOSTA-WAX

Owner of German Reg. No. 692,726, dated July 11, 1956; and U.S. Reg. Nos. 577,568, 684,603, and others.
For Waxes for Industrial Purposes Other Than Medical and Biological Laboratory Purposes.

SN 94,548. American Smelting and Refining Company, New York, N.Y. Filed Apr. 7, 1960.

CUMAX

Owner of Reg. No. 633,418.
For Addition Agents for Cyanide Copper Electroplating Baths.
First use May 5, 1959.

SN 94,549. American Smelting and Refining Company, New York, N.Y. Filed Apr. 7, 1960.

CONMAX

Owner of Reg. No. 633,418.
For Compositions for Producing Conversion Coatings on Electroplated Cadmium or Zinc Surfaces.
First use July 25, 1957.

SN 102,767. Heyden Newport Chemical Corporation, New York, N.Y. Filed Aug. 16, 1960.

SUPER CAT

For Hydrogenation Catalyst.
First use Dec. 2, 1959.

SN 102,809. Velsicol Chemical Corporation, Chicago, Ill. Filed Aug. 16, 1960.

BANVEL

For Herbicides.
First use July 5, 1960.

SN 102,821. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Aug. 17, 1960.

OXATONE

For Dihydroxyacetone.
First use July 15, 1960.

SN 102,885. J. W. Ayers & Co., Easton, Pa. Filed Aug. 18, 1960.

CO-GELL

For Industrial Gelling Agents.
First use July 5, 1960.

SN 102,923. Hydroponic Chemical Company, Inc., Copley, Ohio. Filed Aug. 18, 1960.

DOGONeX

For Animal Repellent.
First use July 20, 1960.

SN 103,004. Ansul Chemical Company, Marinette, Wis. Filed Aug. 19, 1960.

LITH-X

For Dry Chemical Fire Extinguishing Agents.
First use Aug. 8, 1960.

SN 103,005. Ansul Chemical Company, Marinette, Wis. Filed Aug. 19, 1960.

MET-L-KYL

For Dry Chemical Fire Extinguishing Agents.
First use Aug. 8, 1960.

SN 103,446. Robert H. Eaves, d.b.a. Eaves Supply Company, West Palm Beach, Fla. Filed Aug. 26, 1960.

Stero-mix

For Chemical Additives for Lubricating, Plasticizing and Waterproofing Cement and Cementitious Compounds.
First use June 1, 1959.

SN 103,478. Pittsburgh Chemical Company, Pittsburgh, Pa. Filed Aug. 26, 1960.

P C O

For Chemicals—Namely, Activated Carbon, Alpha Picoline, Benzene, Beta Gamma Picoline, Beta Picoline, Creosote, Creosote Oil, Cresol, Cresylic Acid, Fumaric Acid, Gamma

Pipeline, High Flash Naphtha, Maleic Anhydride, Maleic Liquors, Meta Para Cresol, Naphthalene, Ortho Cresol, Phenol, Phthalic Anhydride, Phthalocyanines, Plasticisers, Pyridine, Pyridine Bases, Still Light Oil, Sulfuric Acid, Toluene, Xylene and Xylenols.
First use May 15, 1960.

SN 103,901. Borg-Warner Corporation, Chicago, Ill. Filed Sept. 6, 1960.

QBX

For Elastomers.
First use on or prior to June 18, 1960.

SN 105,865. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

NuZip

For Chemical Preparation Used for the Removal of Gum, Varnish, and Sludge Deposits in Internal Combustion Engine Cylinders and Associated Parts.
First use June 1, 1939.

Class 7 — Cordage

SN 46,192. J. F. Auer, Inc., Mamaroneck, N.Y. Filed Feb. 20, 1958.

EZ-TWIST-TI

For Wire Reinforced Flat Twine for Tying Packages and Loose Material.
First use Dec. 26, 1957.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 85,333. Golden State Arms Corporation, Pasadena, Calif. Filed Nov. 16, 1959.

SUPERCLEEN

For Ammunitions—Namely, Shells and Cartridges for Rifles.
First use July 7, 1959.

SN 101,946. Hercules Powder Company, Wilmington, Del. Filed Aug. 2, 1960.

DEGEL

For High Explosive.
First use June 19, 1960.

SN 104,667. Alcan Company, Incorporated, Alton, Ill. Filed Sept. 19, 1960.

RING-WAXED

For Shot Shell Wads.
First use 1954.

SN 105,227. American Cyanamid Company, New York, N.Y. Filed Sept. 26, 1960.

CYATOL

Owner of Reg. Nos. 569,235, 605,907, and others.
For High Explosives.
First use Aug. 29, 1960.

Class 11 — Inks and Inking Materials

SN 98,114. Melpar, Inc., Falls Church, Va. Filed May 31, 1960.

MEL-INK

For Stencil Ink for Use on Metal, Plastic and Wood Surfaces.
First use Mar. 8, 1960.

SN 98,777. Claremont Pigment Dispersion Corporation, Roslyn Heights, N.Y. Filed June 10, 1960.

VYNA-PRINT

For Fluorographic Inks for Printing on Film.
First use Apr. 13, 1960.

SN 103,867. Pairotto Man-Nen-Hitsu Kabushiki Kaisha, d.b.a. The Pilot Pen Co., Ltd., Chuo-ku, Tokyo-to, Japan. Filed Sept. 2, 1960.

For Writing Inks Including Those for General Office Use, Fountain Pen Use, Drafting Use, and Official Documents Use, Marking Inks and Marking Devices, Printing Inks, Stamp Pads and Inks Therefor.
First use June 13, 1919; in commerce January 1926.

SN 103,868. Pairotto Man-Nen-Hitsu Kabushiki Kaisha, d.b.a. The Pilot Pen Co., Ltd., Chuo-ku, Tokyo-to, Japan. Filed Sept. 2, 1960.

PILOT

For Writing Inks Including Those for General Office Use, Fountain Pen Use, Drafting Use, and Official Documents Use, Marking Inks and Marking Devices, Printing Inks, Stamp Pads and Inks Therefor.
First use Apr. 1, 1916; in commerce January 1926.

SN 105,323. Advance Process Supply Co., Inc., Chicago, Ill. Filed Sept. 23, 1960.

LUMI-Glo

For Fluorescent Inks.
First use Apr. 20, 1960.

SN 105,324. Advance Process Supply Co., Inc., Chicago, Ill. Filed Sept. 23, 1960.

STRIKE

For Fluorescent Inks.
First use Apr. 18, 1960.

Class 12 — Construction Materials

SN 78,080. Soulé Steel Company, San Francisco, Calif. Filed July 20, 1959.

MOSAICA

For Chipped Glass or Ceramic Laminated to a Panel Base or Support by a Resin Binder.
First use Mar. 30, 1959.

SN 78,081. Soulé Steel Company, San Francisco, Calif. Filed July 20, 1959.

MOSAICA

For Chipped Glass or Ceramic Laminated to a Panel Base or Support by a Resin Binder.
First use Mar. 30, 1959.

SN 83,203. Charles M. Carman, d.b.a. Southwest Metal Products, Tucson, Ariz. Filed Oct. 14, 1959.

PORTABILD

For Prefabricated Aluminum Carports and Awnings.
First use on or about Oct. 1, 1958.

SN 87,356. International-Stanley Corporation, Omaha, Nebr. Filed Dec. 15, 1959.

THE SILVER LINING

For Fiber Composition Board Used as a Lining for Freight Cars.
First use May 20, 1959.

SN 100,350. Bridgeport Brass Company, Bridgeport, Conn. Filed July 6, 1960.

Flexalum **PAVILION**

Applicant disclaims the right to use the word "Pavilion" apart from the mark as shown. Owner of Reg. Nos. 427,702, 539,641, and others.
For Fabricated Open Air Metal Roof Structures.
First use Mar. 23, 1960.

SN 100,543. Sakrete, Inc., St. Bernard, Ohio. Filed July 8, 1960.

SAKRETE

Owner of Reg. No. 568,874.
For Mixtures of Asphalt and Aggregate, Liquid Blacktop Surface Sealer, and Mixtures of Plaster and Aggregate.
First use Nov. 28, 1955, on mixtures of asphalt and aggregate.

SN 101,262. Great West Industries, Inc., Detroit, Mich. Filed July 21, 1960.

MIRACLE STONE

No claim is made to the word "Stone" apart from the mark as shown.
For Cast Artificial Stone.
First use July 8, 1960.

SN 102,664. Jaycee Chemical Corporation, Northford, Conn. Filed Aug. 15, 1960.

BODYMAN

For Kits Containing Plastic and Fiber Glass Fillers for Automobile Bodies and the Like.
First use July 1, 1960.

SN 103,315. American Biltrite Rubber Co., Inc., d.b.a. American Biltrite Rubber Company. Chelsea, Mass. Filed Aug. 24, 1960.

FABLON

For Vibration Isolation Pads for Mechanical and Acoustic Insulation.
First use Mar. 28, 1960.

SN 103,670. Overall Paint & Lead Co., Inc., Cleveland, Ohio. Filed Aug. 30, 1960.

STOPPER

Owner of Reg. No. 638,289.
For Driveway Crack and Joint Filler.
First use July 1, 1960.

SN 106,797. Douglas Fir Plywood Association, Tacoma, Wash. Filed Oct. 20, 1960. COLLECTIVE MARK.

AG-PLY

For Plywood.
First use Oct. 3, 1960.

SN 106,803. General Shale Products Corporation, Johnson City, Tenn. Filed Oct. 20, 1960.

SPEEDBLOK

For Masonry Construction Block.
First use Oct. 4, 1960.

SN 106,884. The Cambridge Tile Manufacturing Co., Inc., Cincinnati, Ohio. Filed Oct. 21, 1960.

SETFAST

Owner of Reg. No. 631,577.
For Ceramic Floor and Wall Tile Arranged in Sheets of Several Tile Sections.
First use Nov. 5, 1954.

SN 106,929. Mills Products, Inc., Walled Lake, Mich. Filed Oct. 21, 1960.

PERMA-VIEW

Owner of Reg. No. 568,244.
For Window Units.
First use May 1950.

SN 107,267. Johns-Manville Corporation, New York, N.Y. Filed Oct. 27, 1960.

PIPE-PAC

For Pipe Thread Sealant, in Tape Form.
First use Mar. 29, 1960.

SN 107,294. Stran-Steel Corporation, Ecorse, Mich. Filed Oct. 27, 1960.

STRAN-STYLE

Owner of Reg. Nos. 367,793, 440,757, and 662,440.
For Readily Erectable Buildings and Prefabricated Buildings.
First use July 8, 1960.

SN 107,429. Filon Plastics Corporation, Hawthorne, Calif. Filed Oct. 31, 1960.

ROLOLITE

For Translucent Panels of Reinforced Plastic Material.
First use on or about Sept. 1, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 92,797. Otis Engineering Corporation, Dallas, Tex. Filed Mar. 14, 1960.

HI-LO PILOT

Applicant disclaims the term "Pilot" apart from the mark as shown, reserving any and all common law rights which applicant may have to use of the word "Pilot."
For Pilot Control Valves for Controlling the Function of Flow Line Safety Valves.
First use on or about June 15, 1959.

SN 94,708. Thermidaire Valve Company Limited, Toronto, Ontario, Canada, assignee of Thermidaire Corporation Limited, Toronto, Ontario, Canada. Filed Apr. 8, 1960.

BI-DISC

Owner of Canadian Reg. No. 119,514, dated Sept. 16, 1960.
For Cage Units for Steam Traps.

SN 100,487. Associated Spring Corporation, Bristol, Conn. Filed July 8, 1960.

SPEC

For Springs.
First use June 23, 1960.

SN 102,079. Teunis Albers, d.b.a. Albers Mfg. Co., Inc., Artesia, Calif. Filed Aug. 5, 1960.

COW SOAK

The word "Cow" is disclaimed apart from the mark.
For Automatic Cow Washing Machine.
First use June 1, 1960.

SN 102,389. Robert E. Henrikson, La Grange, Ill. Filed Aug. 10, 1960.

PRESAN

For Plumbing Supplies—to wit, Air Gap Anti-Syphoning Devices for Incorporation in Water Supply Lines and Waste Water Drain Lines To Prevent Syphoning of Waste Water Into Supply Lines and Sewage Into Drain Lines.
First use Sept. 25, 1959.

SN 104,334. Stratoflex, Inc., Fort Worth, Tex. Filed Sept. 12, 1960.

STRATOCRIMP

For Hose Fittings.
First use May 14, 1960.

SN 104,566. Vance Industries, Inc., Chicago, Ill. Filed Sept. 15, 1960.

UNI-SEAL

For Self-Rimming Stainless Steel Sinks.
First use Aug. 1, 1960.

SN 104,910. Durapipe & Fittings Limited, London, England. Filed Sept. 21, 1960.

DURAFITTING

Owner of British Reg. No. 774,442, dated Feb. 17, 1958.
For Fittings Made of Plastics for Pipes and Tubes.

SN 104,924. The Hope Chest Company, Inc., Minneapolis, Minn. Filed Sept. 21, 1960.

HOPE CHEST

For Stainless Steel Cookware.
First use Aug. 22, 1960.

SN 104,929. Lewis Bolt & Nut Company, Minneapolis, Minn. Filed Sept. 21, 1960.

THE FLYING "L"

For Bolts, Nuts and Screws.
First use Sept. 8, 1960.

SN 104,930. Lewis Bolt & Nut Company, Minneapolis, Minn. Filed Sept. 21, 1960.



For Bolts, Nuts and Screws.
First use Sept. 8, 1960.

SN 104,940. Premier Industrial Corporation, Cleveland, Ohio. Filed Sept. 21, 1960.

B.I.G.

For Standard Hardware—Namely, Nuts, Bolts, Screws, Cotter Pins, Washers, Rivets, Springs, Frictional Fasteners and Clips.
First use 1956.

SN 104,943. Premier Industrial Corporation, Cleveland, Ohio. Filed Sept. 21, 1960.

DURANIUM

For Hardware—Namely, Machine Screws, Wood and Metal Screws, and Nuts.
First use June 22, 1960.

SN 104,946. Premier Industrial Corporation, Cleveland, Ohio. Filed Sept. 21, 1960.

IMPREGNITE

For Plated Hardware—Namely, Machine Screws, Wood and Metal Screws, and Nuts.
First use June 22, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 16,087. Armco Steel Corporation, Middletown, Ohio. Filed Sept. 21, 1956.

17-4-PH

For Stainless Steel.
First use Dec. 15, 1948.

SN 16,088. Armco Steel Corporation, Middletown, Ohio. Filed Sept. 21, 1956.

17-7 PH

For Stainless Steel.
First use Dec. 27, 1948.

SN 68,274. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Feb. 24, 1959.

cap'n wrap

For Aluminum Household Foil.
First use on or about Apr. 8, 1958.

SN 94,974. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Apr. 13, 1960.

QUENCH HOLDER

The word "Holder" is disclaimed apart from the mark as shown.
For Holder for Welding Electrodes.
First use Apr. 6, 1960.

SN 98,439. Columbia Tool Steel Company, Chicago Heights, Ill. Filed June 6, 1960.

MOLITE

For Tool Steel.
First use Dec. 5, 1940.

Class 15—Oils and Greases

SN 44,770. The Texacone Company, Dallas, Tex. Filed Jan. 27, 1958.

TEXACONE

ease off

The words "Ease Off" are disclaimed.
For Waxy Paste-Like Compositions Suitable for Application by Brushing to the Surfaces of Pipe Threads, Studs, Nuts, Gasket Faces and V Joints, for Use Primarily as Lubricants and To Prevent Rust.
First use July 1, 1950.

SN 99,727. Arturo R. Dunn, d.b.a. Cosmopolitan Oil Co. and Dunlab Oil Co., New York, N.Y. Filed June 27, 1960.

LUBY

For Motor Oil.
First use Mar. 5, 1959.

SN 105,558. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

ZOILDEEZ

For Lubricating Oil.
First use June 10, 1939.

SN 105,559. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

Cha-Z-lube

For Lubricating Grease.
First use Apr. 2, 1940.

SN 105,563. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

MAXOL

For Lubricating Oils and Greases.
First use Jan. 27, 1931.

SN 105,566. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

NuZip

For Solvent Oil Compound for Use Generally in Flushing, Purging and Cleaning Internal Combustion Engines and for the Removal of Sludge From Such Engines.
First use June 1, 1939.

SN 105,567. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

Tune-X

For Compound for Use as a Motor Fuel Additive and as a Cleaner Useful To Dissolve Gasoline Gum, Varnish and Other Fuel Deposits in Internal Combustion Engines and for Other Purposes.
First use Oct. 10, 1951.

Class 16—Protective and Decorative Coatings

SN 80,395. Alim Corporation, New York, N.Y. Filed Aug. 28, 1959.

ALIM SAF

The term "Saf" meaning "safe" is disclaimed apart from the mark as shown.
For Fire Retardant Paints.
First use Jan. 20, 1959.

SN 95,092. International Paint Company, Inc., New York, N.Y. Filed Apr. 14, 1960.

POLY-CLEAR

For Varnish.
First use Oct. 27, 1959.

SN 101,911. Western Chemical Company, St. Joseph, Mo. Filed Aug. 2, 1960.

TRAZOCOTE

For Sealer for Terrazzo Floors.
First use July 16, 1957.

SN 104,183. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Sept. 9, 1960.



Owner of Reg. No. 663,023.
For Sealers and Finishes for Interior Use.
First use Feb. 18, 1960; Apr. 1, 1940, as to "Rez."

SN 104,337. Tamms Industries Co., Chicago, Ill. Filed Sept. 12, 1960.

TAMTEX

For Paint Especially Adapted for Use on Porous Masonry Surfaces Such as Concrete, Cement, Stucco or Unglazed Brick and Tile.
First use on or about Jan. 4, 1946.

SN 104,412. Allpro Corporation, New Haven, Conn. Filed Sept. 14, 1960.

Allure

For Paints, Enamels, Varnishes, Lacquers and Driers.
First use on or about Feb. 1, 1960.

SN 104,586. Butler Manufacturing Company, Kansas City, Mo. Filed Sept. 16, 1960.

BUTLER-TONE

Owner of Reg. Nos. 416,062, 528,706, and 700,361.
For Factory-Applied, Paint-Like Finishes for Metal Building Panels.
First use May 2, 1960.

SN 104,679. Baker Paint & Varnish Co., Jersey City, N.J. Filed Sept. 19, 1960.

ETERNOLIN

For Paints.
First use Mar. 1, 1916.

SN 105,208. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Sept. 26, 1960.

SPEEDHIDE

Owner of Reg. Nos. 381,688 and 593,775.
For Paints and Paint Enamels.
First use prior to 1956.

SN 105,372. Perma-Stone Company, Columbus, Ohio. Filed Sept. 28, 1960.

PERMA-PELENT

Owner of Reg. Nos. 439,000, 281,621, and 587,412.
For Waterproofing Compound.
First use Sept. 7, 1960.

Class 17—Tobacco Products

SN 95,677. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Apr. 25, 1960.

AD LIB

For Cigars.
First use Mar. 15, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 67,905. World Blood Bank Incorporated, Kansas City, Kans. Filed Feb. 17, 1959.



For Human Blood, Human Blood Products—Namely, Typing Serums and Plasma, and Human Blood Derivatives Used for Medicinal Purposes.
First use Oct. 1, 1958.

SN 67,930. D. Luther Everts, d.b.a. Everts Drugs, Knox, Ind. Filed Feb. 18, 1959.

EU-CA

For Ointment Intended for the Treatment of Hemorrhoids, Minor Burns, Chafing, Insect Bites, Sunburn, Tired Calloused Feet, and for Soothing Irritated Skin.
First use Dec. 30, 1918.

SN 70,146. Haribo Lakritzen Hans Riegel Ohg, Bonn (Rhine), Germany. Filed Mar. 24, 1959.

Haribo

For Licorice for Pharmaceutical Use.
First use February 1952; in commerce February 1952.

SN 89,597. Ernest N. Neber, La Jolla, Calif. Filed Jan. 25, 1960.

NEBRITE

For Geriatric Preparation of Vitamins and Hormones.
First use Oct. 5, 1959.

SN 94,661. The Fleetwood Company, Chicago, Ill. Filed Apr. 8, 1960.

SUPER WATE-ON

Owner of Reg. No. 596,639.
For Caloric Supplement Plus Vitamins and Minerals.
First use Jan. 1, 1960.

SN 98,494. Laboratorios Terrier, Inc., Hato Rey, Puerto Rico. Filed June 6, 1960.

BENZALLE

For Antiseptic for the Human Body Which May Be Used as a Disinfectant for Inanimate Objects.
First use May 1, 1960.

SN 100,793. Mead Johnson & Company, Evansville, Ind. Filed July 13, 1960.



Owner of Reg. Nos. 660,438 and 679,892.
For Special Nutritive Preparations—Namely, Vitamins, Minerals, Cod-Liver Oil, Primary Dried Yeast and Combinations of the Same; Preparations Which Include Specially Prepared Milk, Skim Milk, and Milk Formulas Providing a Diet or Formula, With or Without the Added Property of Prevention or Management of Intestinal Disturbances, for Infants, Children, Invalids, or Adults; Special Nutrients, Protein Derivatives and Other Products Designed for Dietary Treatment of Physical and Mental Deficiencies and Disorders, and for the Replacement of Fluid Electrolytes, and for Weight Control; Hypoallergenic Products; Preparations for the Prevention, Treatment and Management of Constipation; Laxatives; Analgesic and Anti-Pyretic Preparations; Peripheral Vasodilator Preparations; Preparations for the Treatment and Management of Malignant Neo-Plastic Disease; Antihistamine Preparations Principally for the Treatment of Allergies and Allergic Manifestations; and Preparations for Tranquilizing and Sedative Effects.
First use Feb. 13, 1958, on vitamins and minerals.

SN 100,790. Mead Johnson & Company, Evansville, Ind. Filed July 13, 1960.


Mead Johnson
Symbol of service in medicine

Owner of Reg. Nos. 582,794, 660,438, and others.
For Special Nutritive Preparations—Namely, Vitamins, Minerals, Cod-Liver Oil, Primary Dried Yeast and Combinations of the Same; Preparations Which Include Specially Prepared Milk, Skim Milk, and Milk Formulas Providing a Diet or Formula, With or Without the Added Property of Prevention or Management of Intestinal Disturbances, for Infants, Children, Invalids, or Adults; Special Nutrients, Protein Derivatives and Other Products Designed for Dietary Treatment of Physical and Mental Deficiencies and Disorders, and for the Replacement of Fluid Electrolytes, and for Weight Control; Hypoallergenic Products; Preparations for the Prevention, Treatment and Management of Constipation; Laxatives; Analgesic and Anti-Pyretic Preparations; Peripheral Vasodilator Preparations; Preparations for the Treatment and Management of Malignant Neo-Plastic Disease; Antihistamine Preparations Principally for the Treatment of Allergies and Allergic Manifestations; and Preparations for Tranquilizing and Sedative Effects.
First use Feb. 13, 1958, on vitamins and minerals; 1905 as to "Mead Johnson."

SN 103,802. The Pillsbury Company, Minneapolis, Minn. Filed Sept. 1, 1960.

MYCOVITA

For Penicillin Streptomycin Powder With Vitamins for the Treatment of Chronic Respiratory Diseases in Chickens and Turkeys and for the Treatment of Bacterial Enteritis in Swine.
First use May 27, 1960.

SN 104,319. Schering Corporation, Bloomfield, N.J. Filed Sept. 12, 1960.

VAREN

For Sulfonamide Preparation.
First use Aug. 10, 1960.

SN 104,431. Carter Products, Inc., New York, N.Y. Filed Sept. 14, 1960.

SOMACORT

Owner of Reg. Nos. 665,933 and 687,132.
For Pharmaceutical Preparations for the Treatment of Musculoskeletal Disorders Characterized by Pain, Inflammation, Muscle Spasm, and Limitation of Motion.
First use July 8, 1960.

SN 105,590. American Scientific Laboratories, Inc., Madison, Wis. Filed Oct. 3, 1960.

CLOSPERIN

For Vaccine for the Prevention of Enterotoxemia (Pulpy Kidney Disease) in Sheep and Lambs.
First use Sept. 26, 1960.

SN 105,993. Jeffrey Martin Laboratories, Newark, N.J. Filed Oct. 7, 1960.

Mr. Sleep



The drawing is lined for blue.
For Tablets for Use as an Aid to Sleeping.
First use Aug. 25, 1960.

SN 107,909. Ciba Limited, Basel, Switzerland. Filed Nov. 7, 1960.

SOCATYL

Owner of Swiss Reg. No. 125,110, dated June 7, 1948.
For Veterinary Preparation for the Treatment of Infectious Diseases.

SN 108,486. Jeffrey Martin Laboratories, Newark, N.J. Filed Nov. 15, 1960.

Mr. Sleep

For Tablets for Use as an Aid in Sleeping.
First use Aug 25, 1960.

SN 109,641. Sterling Drug Inc., New York, N.Y. Filed Dec. 5, 1960.

IRONIZED YEAST

Owner of Reg. No. 140,764.
For Vitamin and Iron Tonic Preparations.
First use September 1920.

SN 109,660. Texas Pharmacal Company, San Antonio, Tex. Filed Dec. 6, 1960.

Topisol

For Preparation for Use as a Skin or Scalp Emollient and as a Vehicle in the Preparation of Skin and Scalp Medicaments.
First use in April 1943.
Subj. to Intf. with SN 66,590.

SN 109,666. Bristol-Myers Company, New York, N.Y. Filed Dec. 6, 1960.

STAFYLOPENIN

For Antibiotic Pharmaceutical Preparation.
First use Sept. 15, 1960.

SN 109,941. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Dec. 9, 1960.

MIHOPIN

Owner of German Reg. No. 739,678, dated Aug. 30, 1960.
For Analepticum.

SN 109,950. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

PARMETH

For Preparation for Temporary Relief of Pre-Menstrual Tension.
First use July 13, 1960.

SN 109,951. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

ASPHEDEX

For Preparation in Treating Conditions Requiring Analgesia and Mild Sedation.
First use Jan. 23, 1952.

SN 109,952. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

CENAGESIC

For Preparation for Symptomatic Relief of Common Colds; as Adjunctive Therapy in High Fever, Chronic Sinusitis and Influenza.
First use Dec. 18, 1957.

Class 19—Vehicles

SN 69,296. Skycraft Design, Inc., West Trenton, N.J., assignee of Albert Snyder, d.b.a. Skycraft Design, Langhorne, Pa. Filed Mar. 10, 1959.

SKYCRAFT DESIGN

For Airplane Parts—Namely, Fuselages, Wings, Rudders, Elevators, Stabilizers, Fins, Ailerons and Flaps.
First use Oct. 13, 1958.

SN 79,224. Clark Equipment Company, Buchanan, Mich. Filed Aug. 10, 1959.

CLARK EQUIPMENT

Owner of Reg. No. 642,533.
For Trailers, Semi-Trailers, Cargo Vans, Shipping Containers for Interchangeable Use on Vehicles, Truck Bodies, and Parts.
First use in January 1950.

SN 94,393. P. Evanson Boat Company, Philadelphia, Pa. Filed Apr. 5, 1960.

CELEBRITY

For Boats, Boat Transport Trailers, Boat Cockpit Covers, and Boat Sails.
First use Apr. 5, 1954.

SN 95,653. Tom's Auto Parts, Inc., Muskegon, Mich. Filed Apr. 22, 1960.

TUFFY SPRINGS

Applicant disclaims the word "Springs" apart from the mark as shown.
For Automobile and Truck Springs.
First use Dec. 3, 1959.

SN 100,494. Carl F. W. Borgward G.m.b.H., Bremen, Germany. Filed July 8, 1960.

ARABELLA

Owner of German Reg. No. 689,063, dated Mar. 28, 1956; and U.S. Reg. No. 633,518.
For Automotive Vehicles—Namely, Passenger Vehicles, Trucks, Tricycles for Use by Adults, Truck Tractors and Structural Parts Thereof.

SN 104,286. Maremont Automotive Products, Inc., Chicago, Ill. Filed Sept. 12, 1960.

ROBIN HOOD

Owner of Reg. No. 688,715.
For Lined Brake Shoes and Brake Shoes for Vehicles.
First use Mar. 8, 1960.

SN 106,737. Pacific Car and Foundry Company, Renton, Wash. Filed Oct. 19, 1960.

CAR PAC

For Lading Protection Equipment for All Types of Carriers, and Railway Cars Fitted With Such Equipment.
First use in or about January 1957.

SN 107,096. ACF Industries, Incorporated, New York, N.Y. Filed Oct. 25, 1960.



For Railway Freight Cars.
First use Apr. 21, 1960.

Class 20—Linoleum and Oiled Cloth

SN 85,552. American Biltrite Rubber Co., Inc., Chelsea, Mass. Filed Nov. 18, 1959.

KRISS-KROSS

For Elastomeric Wall and Floor Coverings, Including Rubber Matting but Excluding Carpeting.
First use Oct. 16, 1959.

SN 102,777. Mayfair Industries, Inc., Lafayette, La. Filed Aug. 16, 1960.

MARVYL

For Rigid Vinyl Wall Covering.
First use June 1, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 64,074. Harvey Hubbell, Incorporated, Bridgeport, Conn. Filed Dec. 11, 1958.

SEAL-TITE

For Protective Accessories for Detachable Electrical Wiring Devices, Such as Detachable, Individual, Resilient, Sealing Closure Plugs for Electrical Receptacles and Motor Bases, and Individual, Resilient, Sealing, Jacket-Like Covers for Detachable Electrical Connector Bodies and Caps.
First use as early as 1939.

SN 76,653. Consolidated Electrodynamics Corporation, Pasadena, Calif. Filed June 29, 1959.

CEC

For Magnetic Tape Transport Recording and Playback Systems, Power Supplies, Attenuators and Electrical Connectors.
First use at least as early as 1951.

SN 90,009. James A. Cole Company, Inc., New York, N.Y. Filed Feb. 1, 1960.



For Electric Christmas Tree Lights.
First use Apr. 20, 1959.

SN 91,413. McPhilben Lighting Inc., Brooklyn, N.Y. Filed Feb. 23, 1960.

mcPhilben

For Lighting Fixtures.
First use 1914.

SN 92,622. Lampes et Entreprises Electriques S.A., Ninove, Belgium. Filed Mar. 11, 1960.

FLUOPAL

Owner of Belgian Reg. No. 2,499, dated Sept. 16, 1960.
For Electrical Lighting Appliances—Namely, Electric Lamps; Television and Telephotographic Appliances; Telegraphic and Telephonic Appliances, With and Without Cable—Namely, Broadcasting and Receiving Sets; Discharge Tubes in General—Namely, Radio Tubes; Rectifiers; Objects Which Are Completely or Principally Made of Glass—Namely, Electrical Bulbs, Accessories and Reflectors; Instruments To Detonate Mines; Fire-Alarm and Control Instruments for Watchmen; Generators, Motors, Electric Transformers and Current Transformers; Vacuum Cleaners; Cables; Boxes; Accessories, Parts and Elements of Above Mentioned Products; Fluorescent Lamps With Accessories and Elements, and All Instruments Connected Therewith.

SN 98,498. Leukurt Electric Co., Inc., San Carlos, Calif. Filed June 6, 1960.

DATATEL

Owner of Reg. Nos. 600,287, 691,947, and others.
For Carrier Current Telegraph and Data Communications Systems.
First use Mar. 3, 1959.

SN 99,583. General Electric Company, Schenectady, N.Y. Filed June 23, 1960.

VERSA-FAB

For Varnished Polyester Glass Cloth Tape for Use as Electrical Insulation in Connection With Electrical Equipment.
First use May 27, 1960.

SN 100,506. Essex Wire Corporation, Fort Wayne, Ind. Filed July 8, 1960.

POLY-THERMALEX/PTX

Owner of Reg. Nos. 672,137 and 672,750.
For Electrical Wire.
First use July 1, 1960.
Subj. to Intf. with SN 96,872.

SN 102,980. Henry W. Pomije, d.b.a. Pomije Electronics Company, Waseca, Minn. Filed Aug. 16, 1960.

TRANSCENDOR

For Industrial Two-Way Radios.
First use July 15, 1960.

SN 103,950. John L. Oranger, d.b.a. Dawn-Glow Lamp Company, Chicago, Ill. Filed Sept. 6, 1960.

DAWN-GLOW

For Electric Lamp Units.
First use on or about June 17, 1960.

SN 104,054. Specialties, Incorporated, Charlottesville, Va. Filed Sept. 7, 1960.

SPECIALERT SIGNALER

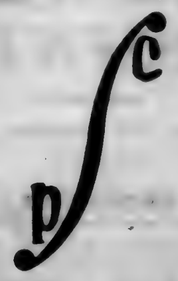
Applicant disclaims the word "Signaler" as part of the trademark.
For Electrical Instruments to Show "On" or "Off" Conditions of Current.
First use Aug. 4, 1960.

SN 104,202. Triangle Conduit & Cable Co., Inc., New Brunswick, N.J. Filed Sept. 9, 1960.

It MUST be right!

Owner of Reg. Nos. 363,952, 665,970, and others.
For Rigid and Flexible Metal Electrical Conduits and Insulated Electric Wire of All Types, Including Specifically Rigid Conduit, Electrical Metallic Thin Wall Conduit, Armored Cable, Lead Armored Cable, Flexible Steel Conduit, Nonmetallic Sheathed Cable, Nonmetallic Flexible Conduit, Covered Neutral House Wire, Service Entrance Cables, Varnished Cambric Cables, Rubber Covered Building Wire, Rubber and Lead Building Wire, Bare Copper Wire, Slow-Burning Wire, Weatherproof Wire, Steel Taped Parkway Cable, Nonmetallic Parkway Cable, Power Cable, Thin Wall Conduit Fittings, and Hard Service All Rubber Portable Cords and Cable.
First use October 1937.

SN 104,309. Physical Sciences Corporation, Pasadena, Calif. Filed Sept. 12, 1960.



For Ceramic Materials for Electrical and Thermal Insulation.
First use Aug. 4, 1960.

SN 105,234. Vega Electronics Corporation, Cupertino, Calif. Filed Sept. 26, 1960.



VEGA

For Portable All-Transistor Wireless Microphone Transmitter, and Specially Designed Receiver Therefor.
First use Apr. 30, 1960.

SN 105,236. Viceroy Manufacturing Company Limited, Toronto, Ontario, Canada. Filed Sept. 26, 1960.

VICEROY

Owner of Canadian Reg. No. 205/56,879, dated Mar. 18, 1933.
For Attachment Plugs and Caps, Battery Boxes, Covers and Plugs.

SN 106,538. S. Seltzer & Company, Inc., d.b.a. Austin Supply Company, Chicago, Ill. Filed Oct. 17, 1960.

ROYAL PATCHMASTER

For Electrical Thermoplastic Adhesive Patch-Applying Apparatus.
First use in or about April 1957.

Class 22—Games, Toys, and Sporting Goods

SN 48,767. McKinnon Leather Products Corp., New York, N.Y. Filed Mar. 31, 1958.

SMALL FRY

For Toy Holster Sets With Guns, and Children's Sporting Goods—Namely, Equipment for Baseball, Football, Basketball and Boxing.
First use on or about Oct. 1, 1949.

SN 50,113. M. & S. Shillman, Brooklyn, N.Y. Filed Apr. 21, 1958.

Designed by Sheree Lee

The wording "Designed by" is disclaimed apart from the mark.
For Doll's Clothing and Accessories.
First use in April 1957.

SN 73,675. E-Z-Fold, Inc., Spearville, Kans. Filed May 14, 1959.

E-Z-FOLD

For Basketball Backstops.
First use Aug. 25, 1955.

SN 90,089. Walter C. Milewski, Camp Hill, Pa. Filed Feb. 1, 1960.

BIG CITY WEEK END

For Equipment Sold as a Unit for Playing a Board Game.
First use Jan. 2, 1960.

SN 98,719. Moline Pressed Steel Corp., East Moline, Ill. Filed June 9, 1960.

POLYSTEEL

For Toy Vehicles.
First use Mar. 1, 1959.

SN 101,897. The Seamless Rubber Company, New Haven, Conn. Filed Aug. 2, 1960.

NEMROD SEAMLESS

Owner of Reg. Nos. 623,267 and 661,886.
For Underwater Sports Equipment—Namely, Rubber Fins and Face Masks.
First use Dec. 29, 1959.

SN 102,452. Cadaco-Ellis, Inc., Chicago, Ill. Filed Aug. 11, 1960.



For Apparatus for Playing Parlor Games.
First use Nov. 9, 1959; 1935 as to the cartoon figure.

SN 103,153. Ideal Toy Corporation, Hollis, N.Y. Filed Aug. 22, 1960.

MR. MACHINE

No claim is made for the word "Machine" apart from the mark as shown.
For Toy Mechanical Man.
First use May 5, 1960.

SN 105,365. M & B Manufacturing Corporation, North Providence, R.I. Filed Sept. 28, 1960.

RAILISTIC

For Model Railroad Track and Accessories.
First use May 20, 1960.

SN 105,930. Sports Equipment Corporation, Urbana, Ill. Filed Oct. 6, 1960.

SECO

For Sporting Goods—Namely, Baseball Gloves, Tennis Balls, Softballs, Basketballs, Footballs, Volleyballs, Soccerballs, Golf Gloves, Tennis Raquets, Football and Baseball Shoes.
First use April 1955.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 72,910. Wood Brothers Manufacturing Company, Oregon, Ill. Filed May 4, 1959.

STUMP-JUMPER

For Blade Holder for Tractor-Drawn Rotary Mowers Which Holder Permits the Mower To Slide Over Stumps, Rocks and the Like.
First use in November 1958.

SN 75,067. Dakota Aviation Company, Huron, S. Dak. Filed June 4, 1959.



For Equipment for Aerial Spraying and Dusting of Ground Areas From an Airplane.
First use May 1, 1956.

SN 79,693. The Owatonna Tool Company, Owatonna, Minn. Filed Aug. 17, 1959.

Vanguard

For Hydraulic Pumps.
First use Mar. 17, 1959.

SN 91,606. Impact Rotor Tool Inc., East Irwin, Pa. Filed Feb. 25, 1960.

Impacto

For Rotary Drill and Impact Mechanism for Hand Drills and Mine Tools.
First use on or about July 7, 1958, on such mechanism for hand drills.

SN 93,114. Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Braunau am Inn, Upper Austria, Austria. Filed Mar. 14, 1960.

ROSTFREI BERNDORF

In the drawing, the words "Rostfrei" and "Berndorf" are disclaimed apart from the mark as shown. Owner of Austrian Reg. No. 42,761, dated Jan. 15, 1960.
For House and Kitchen Implements, Especially Those of Light Metal—Namely, Knives, Forks and Spoons.

SN 94,147. Bernice L. Collins and Edward J. Collins, Wilmette, Ill. Filed Apr. 1, 1960.

CHOP-CHOP

For Culinary Utensils for Cutting, Mixing and Blending Foods.
First use Sept. 29, 1959.

SN 95,104. Michle-Gone-Dexter, Incorporated, Chicago, Ill. Filed Apr. 14, 1960.

AutoDex

For Paper Drill for Forming One or More Openings in Stacks of Paper.
First use Jan. 13, 1959.

SN 99,731. Universal Match Corporation, Ferguson, Mo., assignee of Ferguson Machine Corporation of Indiana, St. Louis, Mo. Filed June 27, 1960.

BOLSTERMATIC

For Intermittent Feed Machines.
First use June 2, 1960.

SN 99,792. South Bend Lathe, Inc., South Bend, Ind. Filed June 27, 1960.

TRADE MARK SOUTH BEND TWINS ENGINE LATHES

For Lathes and Parts Thereof.
First use Feb. 17, 1920.

SN 101,278. Pyles Industries, Inc., Detroit, Mich. Filed July 21, 1960.

DUO-MIX

For Apparatus Including Mixing Guns for Receiving and Mixing Such Plural-Part Components as, for Example, Epoxies, Polyurethanes, Polyesters, and Foams.
First use on or about June 23, 1960.

SN 102,932. Manitowoc Engineering Corporation, Manitowoc, Wis. Filed Aug. 18, 1960.

VICON

For Crane Assemblies Including Power Shovels, Drag Lines and Other Types of Excavating Attachments and Parts Thereof.
First use July 1958.

SN 103,177. Mid-States Distributing Company, Inc., St. Paul, Minn. Filed Aug. 22, 1960.

MIDCO

For Wrenches.
First use Jan. 7, 1959.

SN 103,940. McElvoy Company, Houston, Tex. Filed Sept. 6, 1960.

CF

The drawing is lined for blue, however no claim is made to color as an integral portion of the mark.
For Apparatus for Supporting Oil Well Pipe.
First use in February 1954.

SN 104,242. The DoAll Company, Des Plaines, Ill. Filed Sept. 12, 1960.

Precision

Owner of Reg. No. 593,137.
For Saw Bands.
First use Jan. 10, 1950.

SN 104,358. Alan-Lea International Inventions Corp., New York, N.Y. Filed Sept. 8, 1960.

LEV-L-ALL

For Tools for Bending and Leveling Pipe and Mounted Equipment.
First use Apr. 11, 1960.

SN 104,370. Burton Industries, Tujunga, Calif. Filed Sept. 13, 1960.

BURTON POWER-SMART

For Sewer Cleaning Equipment.
First use June 21, 1959.

SN 104,452. The Hy-Dynamic Co., Lake Bluff, Ill. Filed Sept. 14, 1960.

DYNAHOE

For Integrated Loader-Tractor-Backhoe.
First use July 24, 1960.

SN 104,554. Royal McBee Corporation, Port Chester, N.Y. Filed Sept. 15, 1960.

ELDORADO

For Typewriting Machines and Parts Thereof.
First use Mar. 28, 1960.

SN 104,641. Rival Manufacturing Company, Kansas City, Mo. Filed Sept. 16, 1960.

Juicerette

Owner of Reg. No. 392,438.
For Fruit Juice Extractors.
First use Nov. 21, 1932.

SN 104,677. B-M-B Company, Inc., Helton, Kans. Filed Sept. 19, 1960.

BRUTE

For Rotary Mowers.
First use July 1955.

SN 104,678. B-M-B Company, Inc., Helton Kans. Filed Sept. 19, 1960.

FURY

For Rotary Mowers.
First use May 1958.

SN 104,796. Acme Wire & Iron Works, San Antonio, Tex. Filed Sept. 20, 1960.

INGRAM

Owner of Reg. No. 383,282.
For Road Rollers.
First use in 1909.

SN 105,046. Borg-Warner Corporation, Chicago, Ill. Filed Sept. 23, 1960.

B-W

Owner of Reg. Nos. 578,414, 607,848, and 652,700.
For Friction Torque Control Devices.
First use on or prior to July 19, 1960.

SN 105,048. Borg-Warner Corporation, Chicago, Ill. Filed Sept. 23, 1960.

SILVER STREAK

Owner of Reg. Nos. 48,453, 255,151, and 656,077.
For Hacksaw Blades.
First use on or prior to Nov. 1, 1950.

SN 105,050. Borg-Warner Corporation, Chicago, Ill. Filed Sept. 23, 1960.

BORG-WARNER

Owner of Reg. No. 513,548.
For Mechanical Seals, Heat Exchanger Coils for Mechanical Seals, Lapping Machines for Finishing Seal Faces to an Optical Flat, Apparatus for Testing Optical Flats Used in Lapping Mechanical Seal Faces to a Desired Finish and Parts Thereof for Replacement and Repair.
First use on or prior to Dec. 3, 1958, on mechanical seals.

SN 106,879. B & M Automotive, Van Nuys, Calif. Filed Oct. 21, 1960.

HYDRO STICK

For Transmissions for Passenger and Commercial Vehicles.
First use November 1958.

SN 106,882. John W. Bolton & Sons, Inc., Lawrence, Mass. Filed Oct. 21, 1960.

DEVELOMAX

For Shell Fillings for Paper Refining Machines.
First use Sept. 15, 1960.

SN 107,044. Olme Precision, Inc., Portsmouth, Ohio. Filed Oct. 24, 1960.

POWER-MAX

For Direct Drive or Belt Drive Centrifugal Clutch for Power Take-Off for Use With Machinery Operated by Internal Combustion Engines or Electric Motors.
First use July 15, 1960.

SN 107,106. The Baker Company, Inc., Biddeford, Maine. Filed Oct. 25, 1960.

STERILSHIELD

For Dust Free Work Benches and Cabinets and Accessory Equipment Therefor, Dust Controlled Rooms and Accessory Equipment Therefor, Air Cleaners, Dry Boxes and Accessory Equipment Therefor, and Vacuum Ovens and Accessory Equipment and Controls Therefor.
First use Mar. 28, 1960.

SN 107,237. Bostitch, Inc., East Greenwich, R.I. Filed Oct. 27, 1960.

BOSTOMATIC

Owner of Reg. Nos. 135,020 and 228,587.
For Stapling Machines and Parts Thereof.
First use Aug. 28, 1957.

SN 107,598. Soabar Company, Philadelphia, Pa. Filed Nov. 1, 1960.

SOASEAL

For Ticket Applying Machines.
First use Mar. 9, 1960.

Class 28 — Jewelry and Precious-Metal Ware

SN 91,887. Vernon Products, Inc., Mount Vernon, N.Y. Filed Feb. 29, 1960.

VIP

For Novelty Cups Plated With Precious Metal.
First use Feb. 9, 1960.

SN 96,185. Blanch-Ette, Inc., Chicago, Ill. Filed May 2, 1960.

JUDY-LEE

For Costume Jewelry, Necklaces, Bracelets, Earrings, Cuff Links, Jewelry Pins and Chains, Tie Bars and Clasps, and Finger Rings.
First use Jan. 13, 1958.

SN 102,110. Feature Ring Co., Inc., New York, N.Y. Filed Aug. 5, 1960.

HEART FLEX

Owner of Reg. Nos. 526,593 and 673,193.
For Finger Rings Made of Precious Metal.
First use Aug. 3, 1960.

SN 102,545. Core, Inc., New York, N.Y. Filed Aug. 12, 1960.

André hair fashions

The words "Hair Fashions" are disclaimed. Owner of Reg. No. 349,268.
For Tiaras, Combs, Hair Ornaments, Ponytail Barrettes, Barrettes, Hair Bands, Clip Combs, Bobby Pins, Chignon Pins, All of the Foregoing Articles Being Made Wholly or in Part of or Plated With Precious Metal.
First use Mar. 1, 1937.

SN 103,541. Carroll F. Chatham, d.b.a. Chatham Research Laboratories, San Francisco, Calif. Filed Aug. 29, 1960.

CHATHAM CREATED RUBIES

Applicant disclaims the term "Rubies" apart from the mark as a whole. Owner of Reg. No. 560,523.
For Unmounted Gems—Namely, Ruby Crystals Grown According to a Special Process.
First use on or about July 23, 1959.

SN 103,542. Carroll F. Chatham, d.b.a. Chatham Research Laboratories, San Francisco, Calif. Filed Aug. 29, 1960.

CHATHAM CREATED EMERALDS

Applicant disclaims the term "Emeralds" apart from the mark as a whole. Owner of Reg. No. 560,523.
For Unmounted Gems—Namely, Emerald Crystals Grown According to a Special Process.
First use on or about July 23, 1959.

SN 104,517. Diamond-Ite International, Inc., New York, N.Y. Filed Sept. 15, 1960.

D

For Imitation Gems Sold as Part of Finished Articles of Jewelry—Namely, Finger Rings, Necklaces, Bracelets, and Pins, Jewelry Clips, Charms, and Pendants.
First use November 1959.

SN 105,005. The International Silver Company, Meriden, Conn. Filed Sept. 22, 1960.

HERITANCE

Owner of Reg. No. 531,322.
For Silverplated Flatware—Namely, Knives, Forks, and Spoons.
First use Sept. 8, 1960.

Class 29—Brooms, Brushes, and Dusters

SN 95,155. Essex Graham Company, Chicago, Ill. Filed Apr. 15, 1960.

CULTURED SHEARLING

For Paint Roller Covers.
First use Mar. 11, 1960.

SN 99,631. American Sponge and Chamois Company, Inc., Long Island City, N.Y. Filed June 15, 1960.

auto MAGIC

For Sponge Cloth.
First use June 3, 1960.

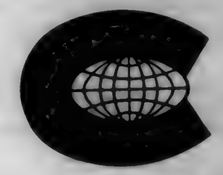
Class 31—Filters and Refrigerators

SN 81,283. Industrial Filter & Pump Mfg. Co., Cicero, Ill. Filed Sept. 14, 1959.

INDUSTRIAL

For Chemical Processing Equipment, Filter and Parts Therefor, Filter Bags, Heat Exchangers, Corrosion Testing Equipment, Water Treatment Equipment, Waste Treatment Equipment, Rubber Linings, Pumps, Ion Exchangers, Demineralizers, Water Softeners.
First use Aug. 8, 1954.

SN 95,062. Culligan, Inc., Northbrook, Ill. Filed Apr. 14, 1960.



For Water Conditioning, Filtering and Treating Apparatus for Household, Commercial and Industrial Use.
First use Feb. 1, 1960.

SN 99,700. Aktiesclskabet Atlas, Copenhagen, Denmark. Filed June 27, 1960.



Owner of Danish Reg. No. 899/60, dated Apr. 9, 1960.
For Refrigerating Machines, Refrigerating Cabinets, and Components for Refrigerating Plants and Ice Plants.

SN 104,646. Sethco Manufacturing Corporation, Merrick, N.Y. Filed Sept. 16, 1960.

SETHCO

For Filters, Filter Tubes, Filter Chambers and Filter Systems Including Accessories and Parts; Pumps Including Filter Pumps; Cellulose Material and Carbon for Filtering Purposes.
First use Nov. 21, 1947.

Class 32—Furniture and Upholstery

SN 94,060. Flex-O-Laters, Inc., Carthage, Mo. Filed Mar. 31, 1960.

Flex-Rol

For Edge Roll for Furniture Spring Assemblies.
First use Feb. 24, 1960.

SN 102,536. American Seating Company, Grand Rapids, Mich. Filed Aug. 12, 1960.

VARSITY

The drawing is lined for yellow or gold, but the mark is not limited to the color shown.
For Classroom Furniture.
First use July 9, 1960.

SN 103,884. Whalen Manufacturing Co., Inc., South Chelmsford, Mass. Filed Sept. 2, 1960.



For Colonial Style Living Room, Dining Room, Bedroom and Occasional Furniture.
First use July 22, 1960.

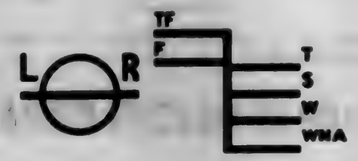
SN 108,236. Urethane Corporation of California, San Francisco, Calif. Filed Nov. 10, 1960.

CALIFOAM

For Foam Mattresses and Cushioning Materials for Upholstery.
First use prior to Sept. 19, 1960.

Class 33—Glassware

SN 89,239. Samuel Meisel and Co., Baltimore, Md. Filed Dec. 28, 1959.



For Drinking Glasses.
First use Feb. 16, 1955.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 81,279. The Higgins Metal Products Company, Swanton, Ohio. Filed Sept. 14, 1959.



For Draft Diverters Composed of Formed Sheet Metal for Gas Fired Hot Water Heaters.
First use July 10, 1959.

SN 104,770. Suburban Propane Gas Corporation, Whippany, N.J. Filed Sept. 19, 1960.

Suburban

Owner of Reg. Nos. 599,071, 612,862, and 650,878.
For Household Gas-Burning Appliances—Namely, Gas Clothes Driers and Gas Water Heaters.
First use at least as early as January 1958 on gas water heaters.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 61,636. The Korfund Company, Inc., Long Island City, N.Y. Filed Oct. 30, 1958.

KORFUND FLEX-HOSE

Applicant disclaims "Flex-Hose" apart from the mark as a whole.
For Flexible Metal Hose for Pumps, Air Compressors, Air Conditioners, Air Handling Units, Radiators, Air Conditioning and Refrigeration Lines and Similar Equipment for the Purpose of Reducing Vibration, Noise, and Pipe Fatigue.
First use Aug. 26, 1958.

SN 81,786. The Wickes Corporation, Saginaw, Mich. Filed Sept. 21, 1959.

GRAPHITAR

Owner of Reg. Nos. 358,675 and 585,948.
For Carbon-Graphite Seals.
First use Feb. 13, 1938.

SN 97,272. Wagner Electric Corporation, St. Louis, Mo. Filed May 16, 1960.



The drawing is lined for red and blue, but the mark is not limited to the colors shown.
For Service Parts for Brakes—Namely, Hose, Sealing Cups, and Brake Linings.
First use Jan. 26, 1960.

SN 97,642. The Franklin Cotton Mill Company, Cincinnati, Ohio. Filed May 23, 1960.

CIN-O-TEX

For Buna "N" and Neoprene Sanitary Food Handling Belt.
First use Apr. 1, 1960.

SN 99,223. Narricot Corporation, Philadelphia, Pa. Filed June 17, 1960.

NARRI-LAST

Owner of Reg. No. 677,347.
For Tapes for Use as Belts in Commercial Ironing Machines.
First use on or about Mar. 20, 1958.

SN 106,900. The General Tire & Rubber Company, Akron, Ohio. Filed Oct. 21, 1960.

PURSUIT SPECIAL

For Pneumatic Tires.
First use Sept. 28, 1960.

Class 36 — Musical Instruments and Supplies

SN 90,761. Victor Company of Japan, Limited, Kanagawa-ku, Yokohama City, Japan. Filed Sept. 2, 1959.

NivicoStar

Priority claimed under Sec. 44(d) on Japanese application filed July 1, 1959; Reg. No. 558,820, dated Oct. 22, 1960.
For Phonographs, Phonograph Records, Needles for Phonographs, Musical Instruments Such as Pianos, Organs, Hand Organs, Electric Organs, Violins, Mandolines, Cellos, Guitars, Harps, Banjos, Clarinets, Trumpets, Accordions, Harmonicas, Drums, Gongs and Triangles.

SN 102,134. Peekaboo Records Co., New Rochelle, N.Y. Filed Aug. 5, 1960.

PEEK a BOO

For Phonograph Records.
First use Feb. 9, 1960.

SN 102,616. Beryl D. Burns, d.b.a. Art Center, East Point, Ga. Filed Aug. 15, 1960.

TOP BRASS

For Band and Orchestral Instruments.
First use on or about July 26, 1960.

SN 106,563. Rembert Wurlitzer, New York, N.Y. Filed Oct. 17, 1960.

PLATAKORD

For Rosin for Stringed Instruments.
First use Apr. 20, 1960.

Class 37 — Paper and Stationery

SN 97,692. Paramount Paper Products Co., Omaha, Nebr. Filed May 23, 1960.

PARA-TAB

For Printed and Non-Printed, Self-Sticking, Marginally-Punched, Pin-Fed, Die-Cut, Labels for Use With Computing Machines, Business Machines, or Other Similar Equipment.
First use Apr. 15, 1960.

SN 102,681. The Multistamp Company, Norfolk, Va. Filed Aug. 15, 1960.

MULTI-STRIP

Owner of Reg. Nos. 532,011, 538,680, and others.
For Stencils.
First use July 29, 1960.

SN 103,489. Straubel Paper Company, Green Bay, Wis. Filed Aug. 26, 1960.

PICNIC TIME

For Paper Tablecloths.
First use May 7, 1958.

SN 103,606. Scripto, Inc., Atlanta, Ga. Filed Aug. 29, 1960.

ASTRO-TIP

For Mechanical Pencils, Pencil Leads, Pencil Erasers, Ball Point Pencils, Ball Point Pencil Refills, Ball Point Pens, Ball Point Pen Refills, Fountain Pens, Fountain Pen Nibs, Steel Balls for Ball Point Pens and Pencils, Clips for Pens and Pencils, Pen and Pencil Sets, Desk Sets, Mechanical Typewriter Erasers and Mechanical Typewriter Eraser Refills.
First use Aug. 1, 1960.

SN 103,880. Tension Envelope Corporation of Kansas City, Kansas City, Mo. Filed Sept. 2, 1960.

SOLID-SEAL
AD-SAVER

Applicant disclaims the words "Solid-Seal" apart from the mark as shown. Owner of Reg. Nos. 532,044, 596,415, and 690,553.
For Envelopes.
First use June 20, 1960.

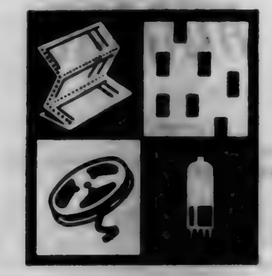
SN 106,640. L. L. Ridgway Company, Inc., Houston, Tex. Filed Oct. 18, 1960.

PENCRON

For Drafting Film.
First use May 1959.

Class 38 — Prints and Publications

SN 63,876. The Office Appliance Co., Chicago, Ill. Filed Dec. 8, 1958.



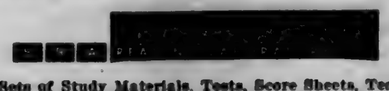
For Monthly Magazine.
First use Oct. 3, 1958.

SN 68,565. Amelia E. Cremer, Hanover, Pa. Filed Feb. 27, 1959.

CREATIVE SELLABILITIES

For Brochure Relating to Selling, Issued From Time to Time.
First use Sept. 20, 1958.

SN 86,509. Science Research Associates, Inc., Chicago, Ill. Filed Dec. 3, 1959.



For Sets of Study Materials, Tests, Score Sheets, Teaching Manuals, and Self-Scoring Keys for Classroom Teaching and Self-Improvement in Reading Skills.
First use Sept. 3, 1958.

SN 86,600. Science Research Associates, Inc., Chicago, Ill. Filed Dec. 3, 1959.

SRA

READING LABORATORY

For Sets of Study Materials, Tests, Score Sheets, Teaching Manuals, and Self-Scoring Keys for Classroom Teaching and Self-Improvement in Reading Skills.
First use Feb. 1, 1957.

SN 87,762. Battenfeld Grease & Oil Corporation, Inc., Kansas City, Mo. Filed Nov. 28, 1959.

BATTENFELD

For Monthly Publication of Lubrication Information.
First use May 23, 1957.

SN 88,259. Stanwix House, Inc., Pittsburgh, Pa. Filed Dec. 30, 1959.

THE BEST SPEECH SERIES

For Series of Books for Speech Correction and Improvement.
First use Apr. 7, 1959.

SN 89,373. Promotion Publications, Inc., Atlanta, Ga. Filed Jan. 20, 1960.

Santa's PLAYLAND

For Toy Catalog and Toy Tabloid, Printed Periodically, Each Issue Different From the Last.
First use Aug. 2, 1953.

SN 92,179. Yachting Publishing Corporation, New York, N.Y., assignee of Pleasure Boat Publications, Inc., New York, N.Y. Filed Mar. 4, 1960.

BOATING BUSINESS

For Trade Information Bulletins Published From Time to Time.
First use Dec. 18, 1959.

SN 92,494. Preview Publications, Inc., Elmhurst, Ill. Filed Mar. 9, 1960.

ELECTRONIC PREVIEW

For Magazine, Published Periodically.
First use on or about Dec. 12, 1959.

SN 93,392. Waterfront Publishers, Inc., Sausalito, Calif. Filed Mar. 21, 1960.

MARIN THIS MONTH

For Monthly Magazine.
First use Apr. 1, 1959.

SN 99,051. Fox River Paper Corporation, Appleton, Wis. Filed June 15, 1960.

GRAPHI AIDS

For Bulletins, Brochures, File Holders Therefor, and Printed Design Planning Forms and Kits Used in the Printing Trade.
First use Apr. 4, 1960.

SN 90,953. National Association of Camps Farthest Out of North America, St. Paul, Minn. Filed June 29, 1960.



For Booklets, Bulletins, and a Magazine.
First use Aug. 31, 1956.

SN 102,882. Field Enterprises Educational Corporation, Chicago, Ill. Filed Aug. 10, 1960.

HOW AND WHY

For Series of Books Including a Dictionary.
First use on or about Feb. 4, 1913.

SN 102,495. Municipal Association of South Carolina, Columbia, S.C. Filed Aug. 11, 1960.

SOUTH CAROLINA CITY

For Magazine entitled "South Carolina City."
First use July 1960.

SN 102,581. Official Films, Inc., New York, N.Y. Filed Aug. 12, 1960.

SPORTFOLIO

For Motion Picture Films.
First use July 25, 1960.

SN 104,320. Scripture Press Foundation, Wheaton, Ill. Filed Sept. 12, 1960.

All-Bible

For Series of Books—Namely, Sunday School Lessons and Vacation School Lessons.
First use on or about Aug. 1, 1960; in or about December 1934 as to the words "All-Bible."

SN 104,346. Transfer Monogram Co., Inc., Chicago, Ill. Filed Sept. 12, 1960.

VYMAR

For Transfer Letters and Numbers.
First use on or about Dec. 15, 1959.

SN 104,441. Edraydo, Inc., Haverford, Pa. Filed Sept. 14, 1960.

EDRAYDO

For Prints in Color and in Black and White.
First use Sept. 2, 1960.

SN 104,552. Reinhold Publishing Corporation, New York, N.Y. Filed Sept. 15, 1960.

CHEMICAL ENGINEERING CATALOG

For Annual Periodical Publication.
First use Oct. 15, 1916.

SN 104,861. The Science-Medical Publishing Company, New York, N.Y. Filed Sept. 20, 1960.

PROBE

For Dental Newspaper, Published Monthly.
First use Sept. 15, 1960.

SN 107,509. Soabar Company, Philadelphia, Pa. Filed Nov. 1, 1960.

SOASEAL

For Tickets and Labels To Be Affixed to Merchandise.
First use Mar. 29, 1960.

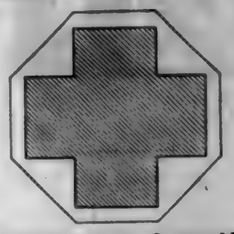
Class 39—Clothing

SN 53,965. Bean-Bra Foundations, Inc., Jersey City, N.J. Filed June 23, 1958.

HUG-BAC

For Brassieres.
First use about Aug. 1, 1957.

SN 54,950. Interwoven Stocking Company, New Brunswick, N.J. Filed July 8, 1958.



The drawing is lined for green. Owner of Reg. No. 323,274.
For Men's and Young Men's Hosiery.
First use Nov. 7, 1934.

SN 65,214. American Heel & Counter Company, Inc., Brockton, Mass. Filed Jan. 2, 1959.

AMERICAN HORSESHOE

For Heels for Footwear.
First use Oct. 4, 1954.

SN 68,981. Betti Brent, Ltd., New York, N.Y. Filed Mar. 5, 1959.



For Ladies' Coats and Suits.
First use June 26, 1958.

SN 87,558. Milo S. Goldenberg, d.b.a. Milo S. Goldenberg & Co., New York, N.Y. Filed Dec. 18, 1959.

ADJUSTOLOX

For Bow Ties, Necktles and Adjustable Bands for Bow Ties, Necktles and the Like.
First use in or about 1937.

SN 93,206. Pucci, Chicago, Ill. Filed Mar. 18, 1960.

PUCCI

For Custom Tailored Apparel—Namely, Men's Suits, Tuxedo Suits, Topcoats, Sport Coats, Sport Trousers and Sport Shirts, and Women's Suits, Skirts, Topcoats and Sport Coats, and Neckwear and Accessories Therefor—Namely, Silk Cravats, Scarfs, Mufflers, Sweaters, Socks and Handkerchiefs.
First use Sept. 3, 1928.

SN 93,207. Pucci, Chicago, Ill. Filed Mar. 18, 1960.



"Candida Praecordia" may be translated "frankness of heart."
For Custom Tailored Apparel—Namely, Men's Suits, Tuxedo Suits, Topcoats, Sport Coats, Sport Trousers and Sport Shirts, and Women's Suits, Skirts, Topcoats and Sport Coats, and Neckwear and Accessories Therefor—Namely, Silk Cravats, Scarfs, Mufflers, Sweaters, Socks and Handkerchiefs.
First use Sept. 3, 1928.

SN 93,528. A. Etienne & Cie-Solazur, Cannes, France. Filed Mar. 23, 1960.

SOLAZUR

Owner of French Reg. No. 1,033, dated Oct. 15, 1959 (Cannes); Natl. Inst. No. 133,271.
For Infants' and Children's Clothes Comprising Underclothes, Shirts, Pajamas, Nightshirts, Diapers and Swaddling Clothes.

SN 93,538. Bernard Mennies, d.b.a. Mike Mennies & Son, Philadelphia, Pa. Filed Mar. 23, 1960.

LEISURE MATES

For Slipper Type Foot Wear for Indoor and Outdoor Use in Men's, Ladies', and Children's Shoes Made of Leather, Fabric, or Other Materials, or Combinations Thereof.
First use Dec. 15, 1959.

SN 99,634. Le Trappeur, Inc., Quincy, Mass. Filed June 24, 1960.

REMI

For Men's and Youths' Ski Pants.
First use June 16, 1960.

SN 100,212. Baker Clothes, Inc., Philadelphia, Pa. Filed July 5, 1960.

PETER MARK

For Men's Coats, Vests, and Trousers.
First use June 17, 1960.

SN 100,259. I. C. Isaacs & Company, Inc., Baltimore, Md. Filed July 5, 1960.

ZACARI

For Men's and Ladies' Slacks and Shorts.
First use June 22, 1960.

SN 100,370. I. C. Isaacs & Company, Inc., Baltimore, Md. Filed July 6, 1960.

ZACARI, LTD.

For Men's and Ladies' Slacks and Shorts.
First use June 29, 1960.

SN 101,236. Cambridge Rubber Company, Cambridge, Md. Filed July 21, 1960.

Air O flow

Owner of Reg. No. 316,161.
For Men's and Women's Shoes, Made of Rubber, Cork or Fabric and/or Any Combination Thereof.
First use June 24, 1960.

SN 102,132. Joseph Nachman, Philadelphia, Pa. Filed Aug. 5, 1960.

Lena Stephan

Owner of Reg. No. 539,496.
For Women's Stockings.
First use 1953.

SN 102,235. Hartwell Garment Company, Hartwell, Ga. Filed Aug. 8, 1960.

Bell-Tex

For Men's and Boys' Work Clothing—Namely, Slacks, Sport and Dress Shirts.
First use July 27, 1960.

SN 102,558. Gustave, Inc., New York, N.Y. Filed Aug. 12, 1960.

KARSHOE

For Soft Shoes, Primarily Used by Women and Girls.
First use Apr. 28, 1960.

SN 103,900. Twinkle Undergarment Corp., New York, N.Y. Filed Sept. 6, 1960.

STARLINE

For Ladies' Underwear.
First use June 3, 1959.

SN 104,432. George W. Coble, New York, N.Y. Filed Sept. 14, 1960.

SLOOP

For Hosiery for Men, Women and Children.
First use July 21, 1960.

SN 104,460. Mitchell Brothers Inc., Bridgeport, Conn. Filed Sept. 14, 1960.

EVERGOOD

For Women's Underwear and Lingerie—Namely, Gowns, Slips, Panties and Pajamas.
First use June 28, 1939.

SN 105,137. Byer-Rolnick Hat Corporation, Garland, Tex. Filed Sept. 26, 1960.

990

For Men's Hats.
First use Sept. 13, 1960.

SN 105,139. Catalina, Inc., Los Angeles, Calif. Filed Sept. 26, 1960.

PIN POINTER

For Sport Shirts.
First use Aug. 17, 1959.

SN 106,108. B. Kolodney & Co. Inc., Hartford, Conn. Filed Oct. 10, 1960.

Betty Hartford

For Ladies' Cotton, Silk and Rayon Dresses, Skirts, Coats, Slacks, Shorts and Suits.
First use Sept. 1, 1937.

SN 106,109. B. Kolodney & Co. Inc., Hartford, Conn. Filed Oct. 10, 1960.

Betty Petite

Owner of Reg. No. 419,676.
For Ladies' Cotton, Silk and Rayon Dresses, Skirts, Coats, Slacks, Shorts and Suits.
First use Jan. 8, 1945.

SN 107,391. Triumph Hosiery Mills, Inc., New York, N.Y. Filed Oct. 28, 1960.

PUSSY FOOT

For Hosiery.
First use 1952.
Subj. to Intf. with SN 95,844.

SN 108,014. Bear Brand Hosiery Co., Chicago, Ill. Filed Nov. 8, 1960.

MODERNE

Owner of Reg. No. 600,540.
For Hosiery.
First use June 4, 1928.

SN 108,171. Great American Knitting Mills, Inc., New York, N.Y. Filed Nov. 10, 1960.

JET 707

For Socks.
First use Oct. 19, 1960.

SN 108,324. Interwoven Stocking Company, New Brunswick, N.J. Filed Nov. 14, 1960.

LONDON GUARDS

For Hosiery.
First use Sept. 1, 1939.

SN 108,855. Walda Scott Originals, Inc., d.b.a. Scott Enterprises, New York, N.Y. Filed Nov. 15, 1960.

HAI LING

For Women's and Misses' Coats.
First use Apr. 22, 1960.

SN 111,040. International Latex Corporation, Dover, Del. Filed Dec. 29, 1960.

PLAYTEX MOLD 'N HOLD

Owner of Reg. Nos. 372,367, 690,573, and others.
For Girdles.
First use Dec. 12, 1956.

Class 40—Fancy Goods, Furnishings, and Notions

SN 89,443. MacDonald Associates, Inc., New York, N.Y. Filed Jan. 21, 1960.

GRIPSO

For Combs.
First use Feb. 15, 1959.

SN 102,443. Wilson Manufacturing Corporation, New York, N.Y. Filed Aug. 10, 1960.

SLEEPIES

For Non-Electric Hair Curl Clips.
First use June 10, 1960.

SN 104,826. Golding Wave Clip Co., Inc., Buffalo, N.Y. Filed Sept. 20, 1960.

ROLL-RITE

For Hair Rollers and Clips.
First use Dec. 7, 1959, on hair rollers.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 92,633. Motte-Bossut, Roubaix, France. Filed Mar. 11, 1960.



The word "Tissu" is disclaimed apart from the mark as shown. Owner of French Reg. No. 127,704, dated June 2, 1959 (Roubaix); Natl. Inst. No. 127,704.
For Fabrics for Making Lingerie and Dresses.

SN 93,318. Johnston, Allen & Company Limited, Lurgah, County Armagh, Northern Ireland. Filed Mar. 21, 1960.

SUNDEW

Owner of British Reg. No. 476,648, dated Jan. 13, 1927, and others; U.S. Reg. No. 236,353.
For Linen Fabric in the Piece and Not in the Piece, All Made in Ireland, but not Including Linen Fabrics for Furnishings; Handkerchiefs, Table Cloths, Napkins, Towels, Sheets, Pillowcases, and Tray Cloths.

SN 96,028. Leonard K. Peeler, d.b.a. Mattress Supply Co. and Masco Fabrics, Birmingham, Ala. Filed Apr. 28, 1960.

MASCO

For Textile Upholstery Fabrics.
First use Mar. 23, 1954.

SN 97,099. Schnadig Corporation, Chicago, Ill. Filed May 13, 1960.

"ARM-GARD"

For Antimacassars.
First use June 1, 1959.

SN 108,325. George H. Hildt, New York, N.Y. Filed Nov. 14, 1960.

Twinline

For Quilted Fabrics.
First use Jan. 29, 1960.

Class 44—Dental, Medical, and Surgical Appliances

SN 92,549. The Panray Corp., Englewood, N.J. Filed Mar. 10, 1960.

'STERNEEDLE'

For Puncturing Device for the Skin and Humans and Animals, and for Applying Test Preparations Thereto, and Skin Puncture Parts Therefor.
First use Sept. 9, 1959.

SN 94,939. Aktiebolaget Bofors, Bofors, Sweden. Filed Apr. 18, 1960.

NOBETEX

Owner of Swedish Reg. No. 80,510, dated June 1, 1956.
For Bandaging Materials.

SN 105,012. Murkette Co., Antigo, Wis. Filed Sept. 22, 1960.

BOTTLE WHEEL

For Bottle Holder for Use in Supporting a Baby Bottle.
First use Aug. 26, 1960.

SN 105,013. Murkette Co., Antigo, Wis. Filed Sept. 22, 1960.

MURKETTE

For Bottle Holder for Use in Supporting a Baby Bottle.
First use Aug. 26, 1960.

Class 46—Foods and Ingredients of Foods

SN 38,272. Dutch Dairies, Inc., Brooklyn, N.Y. Filed Oct. 3, 1957.

Dutch Dairies

For Prune Juice, Fresh Eggs, Coffee, and Dairy Products—Namely, Domestic Cheeses, Fluid Cream, Fluid Milk, and Butter.
First use in or about September 1956.

SN 50,085. McCullough's Dairy Queen, Geneseo, Ill. Filed Apr. 21, 1958.

DAIRY QUEEN

For Ice Cream and Frozen Confections in Cone, Cup, and Bar Form.
First use in June 30, 1940.

SN 72,493. Fromageries J. Roustang, Loisey (Meuse), France. Filed Apr. 29, 1959.



The English translation of the words "Le Petit Patre" is "the shepherd boy." The letters "M.G." mean "Matieres

Grease," translated as "fatty materials." The designation "40% M.G." is disclaimed apart from the mark shown. Owner of French Reg. No. 860, dated Oct. 21, 1949 (Bar-le-Duc); Natl. Inst. No. 400,024.
For Cheese.

SN 74,373. C & F Cheese Distributors, East Haven, Conn. Filed May 25, 1959.

C & F

For Mozzarella Cheese and Ricotta Cheese.
First use June 15, 1954.

SN 84,387. Helen M. Busch, St. Louis, Mo. Filed Nov. 2, 1959.

MOMINTS

For Mint-Flavored Mouth Freshening Preparation in Tablet Form.
First use May 23, 1959.

SN 89,563. W. & M. Duncan Limited, Edinburgh, Scotland. Filed Jan. 25, 1960.



Owner of British Reg. No. 659,289, dated May 20, 1947.
For Candies.

SN 92,491. Pet Kitchens, Inc., Providence, R.I. Filed Mar. 9, 1960.

PET KITCHENS

For Cat Food.
First use Jan. 22, 1960.

SN 93,306. Gerber Products Company, Fremont, Mich. Filed Mar. 21, 1960.

Gerber



Owner of Reg. Nos. 313,879, 658,323, and others.
For Packaged Cereal Foods in the Nature of Breakfast Foods for Infants or Invalids, and Bakery Products—Namely, Cookies.
First use Feb. 4, 1932, on cereal foods.

SN 98,082. General Mills, Inc., Minneapolis, Minn. Filed May 31, 1960.

BETTY CROCKER

Owner of Reg. Nos. 536,524, 633,284, and 694,984.
For Dehydrated Potato Products Such as Mashed Potatoes, au Gratin Potatoes, and Scalloped Potatoes, Wheat Flour, Breakfast Cereals, Cake Flour, Pie Crust Mix, Cake Mixes, Icing Mixes, Cookie Mixes, Pancake and Waffle Mix, Refrigerated Ready-to-Bake Doughs, Gravy Mix and Muffin Mixes.
First use Sept. 20, 1924.

SN 98,902. Tony Ianne, d.b.a. Ianne Food Manufacturers, Pueblo, Colo. Filed June 13, 1960.

Pride of Italy



Applicant disclaims the pictorial representation of the goods.
For Sauce Preparation To Be Used on Spaghetti and Meatballs.
First use Nov. 2, 1959.

SN 99,536. Plough, Inc., Memphis, Tenn. Filed June 22, 1960.

PAAS

Owner of Reg. Nos. 50,727, 50,728, and 234,028.
For Food Coloring.
First use February 1880.

SN 100,604. Hilton Seafoods Co., Inc., Seattle, Wash. Filed July 11, 1960.

HILTON'S

Owner of Reg. No. 592,601.
For Canned Food Products—Namely, a Non-Meat All Purpose Sauce; Clam Chowder, Clam Chowder Base; Concentrated Tomato Juice; Mushroom Cream Sauce; Liquid Bouillon; Oyster Soup, Oyster Stew Base, Oyster Stew; Oysters; Tuna; Crab Meat; Creamed Tuna a' la King; Creamed Oysters a' la King; Onion Soup Base; Condensed French Onion Soup, Condensed French Onion Soup Base; and French Onion Soup.
First use Sept. 20, 1952.

SN 101,150. Anderson, Clayton & Co., Dallas, Tex. Filed July 20, 1960.

EZY-PREP

For Frozen, Prepared Dinners—Namely, Pizza Pie Dinner, and Dehydrated Vegetables.
First use June 30, 1960.

SN 101,988. Ward Baking Company, New York, N.Y. Filed Aug. 3, 1960.

Mr.BIG

For Bread.
First use May 31, 1960.

SN 102,300. Blue Ribbon Products Co., Inc., d.b.a. Blue Ribbon Coffee Co., San Francisco, Calif. Filed Aug. 9, 1960.

BLUE RIBBON

Owner of Reg. Nos. 32,516 and 547,692.
For Tea and Coffee.
First use about May 1891.

SN 103,547. Continental Baking Company, Rye, N.Y. Filed Aug. 29, 1960.

ROUND-UP

For Bread.
First use June 23, 1960.

SN 106,270. Morton Foods, Inc., Dallas, Tex. Filed Oct. 12, 1960.

chip-O's

For Corn Chip Food Product.
First use Sept. 19, 1960.

SN 106,635. The Quaker Oats Company, Chicago, Ill. Filed Oct. 18, 1960.

Q

Owner of Reg. Nos. 176,737 and 384,811.
For Pancake Mix, Oats, Cookie Mix, Rolled Whole-Wheat, Farina, Barley, Gingerbread Mix, Corn Bread and Muffin Mix, Whole-Wheat Cereal and Prepared Breakfast Cereals.
First use Aug. 4, 1959.

SN 106,844. Salerno-Megowen Biscuit Company, Chicago, Ill. Filed Oct. 20, 1960.

KOFFEE KLOTCH

For Cookies.
First use Oct. 12, 1960.

Class 47 — Wines

SN 103,584. Monarch Wine Company of Georgia, Atlanta, Ga. Filed Aug. 29, 1960.

KING COTTON

For Wines.
First use Jan. 7, 1948.

Class 49 — Distilled Alcoholic Liquors

SN 57,722. Teucke & Koenig, Hannover, Germany. Filed Aug. 22, 1958.

Bärenfang

The translation of the German word "Bärenfang" is "bear trap."
For Liqueur.
First use in November 1952; in commerce in November 1952.

SN 72,065. Old Boone Distillery Co. (Ohio corporation), Meadowlawn, Ky., assignee of Old Boone Distillery Co. (Kentucky corporation), Louisville, Ky. Filed Apr. 22, 1959.

Old Danton

For Whiskey.
First use Dec. 15, 1949.

SN 101,084. Geo. A. Dickel & Co., d.b.a. Tennessee Mountain Distilling Company, Tullahoma, Tenn. Filed July 19, 1960.

PRIDE OF TENNESSEE

No claim of exclusive right is made to the word "Tennessee" as used on corn whiskey.
For Corn Whiskey.
First use July 5, 1960.

SN 102,120. Katz Drug Company, Kansas City, Mo. Filed Aug. 5, 1960.

COACH HOUSE

For Pot Distilled Dry Gin.
First use May 12, 1959.

Class 50 — Merchandise Not Otherwise Classified

SN 98,720. Monarch Products, Inc., Denver, Colo. Filed June 9, 1960.

SPACE-A-HANGER

For Plastic Dividers Used on Clothes Closet Rods for Keeping Garments Separated.
First use May 18, 1960.

SN 103,403. Clifford W. Gustafson, d.b.a. Chicago Letter Co., Chicago, Ill. Filed Aug. 25, 1960.

E-Z FLEX

For Plastic Letters and Numbers.
First use May 23, 1960.

SN 105,283. Charles Gulotta Company, Inc., Glendale, N.Y. Filed Sept. 27, 1960.

GULCO

For Reflectors for Bicycles, Motorcycles, Automobiles, Trucks, Trailers, Driveways, Fences and Posts.
First use at least as early as 1925.

SN 107,154. Rubbermaid Incorporated, Wooster, Ohio. Filed Oct. 25, 1960.

SAFTI-GRIP

For Bath Mats.
First use Sept. 7, 1960.

SN 107,208. The Paine & Williams Company, Cleveland, Ohio. Filed Oct. 26, 1960.

FLOR-DE-LUXE

For Flexible Rubber Mats.
First use Oct. 13, 1960.

SN 107,368. The Paine & Williams Company, Cleveland, Ohio. Filed Oct. 28, 1960.



For Flexible Rubber Mats.
First use Oct. 13, 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 98,198. Bell Cosmetic Company, Grosse Pointe Park, Mich. Filed June 1, 1960.

BELL

For Bubble Bath Preparation Sold Separately or Together With a Sudsing Nozzle.
First use May 5, 1960.

SN 98,764. Bell Cosmetic Company, Grosse Pointe Park, Mich. Filed June 10, 1960.



For Bubble Bath Preparation Sold Separately or Together With a Sudsing Nozzle.
First use May 5, 1960.

SN 101,981. Saks & Company, New York, N.Y. Filed Aug. 3, 1960.

WE MODERNS

Owner of Reg. Nos. 701,987 and 705,343.
For Perfumes, Cologne, Bath Powder, Talcum Powder, Bath Oil, and After Bath Lotion.
First use Aug. 16, 1948.

SN 102,746. Dean's Pride, Incorporated, Denver, Colo. Filed Aug. 16, 1960.



Owner of Reg. No. 676,450.
For Skin Cleaner, Hand Cream, Sachet, Cologne, Hair Spray and Perfume.
First use May 3, 1960.
Subj. to Intf. with SN 103,271.

SN 103,436. Charline Bouchery, Paris, France. Filed Aug. 26, 1960.

TAORMINA

Owner of French Reg. No. 486,626, dated Mar. 10, 1960 (Seine); Natl. Inst. No. 140,749.
For Perfumes, Toilet Water, Rouge, Lipsticks, Face Powder, Talcum Powder, Cosmetic Skin Creams and Lotions, Nail Polish, Bath Salts, Brilliantines, and Dentifrices.

SN 103,437. Charline Bouchery, Paris, France. Filed Aug. 26, 1960.

DIONYSOS

"Dionysos" is the name of a God in Greek mythology.
Owner of French Reg. No. 486,525, dated Mar. 25, 1960 (Seine); Natl. Inst. No. 139,865.
For Perfumes, Toilet Water, Rouge, Lipsticks, Face Powder, Talcum Powder, Cosmetic Skin Creams and Lotions, Nail Polish, Bath Salts, Brilliantines, and Dentifrices.

SN 103,946. Miss Harriet, Inc., New York, N.Y. Filed Sept. 6, 1960.



No claim is made to the word "Cosmetiques" apart from the mark as shown.
For Hair Creme.
First use May 17, 1960.

SN 104,380. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 13, 1960.

MISS HELENE

For Creme Rinse for the Hair.
First use on or about Aug. 12, 1960.

SN 105,642. Elizabeth Hartley, Inc., New York, N.Y. Filed Oct. 3, 1960.

LIP-SIX

For Lipstick.
First use Aug. 26, 1960.

SN 105,949. Block Drug Company, Inc., Jersey City, N.J. Filed Oct. 7, 1960.

SENSODYNE

For Tooth Paste Intended To Protect the Teeth Against Painful Sensitivity.
First use Sept. 29, 1960.

SN 106,279. Helena Rubinstein, Inc., New York, N.Y. Filed Oct. 12, 1960.

CREAMESSENCE

For Moisture Cream.
First use July 28, 1960.

SN 106,282. Sales Affiliates, Inc., New York, N.Y. Filed Oct. 12, 1960.

ZOTOS

Owner of Reg. Nos. 295,481, 635,328, and others.
For Hair Coloring.
First use Aug. 8, 1958.

SN 106,381. Avon Products, Inc., New York, N.Y. Filed Oct. 14, 1960.

LIP DEW

For Preparation for Softening and Moisturising the Lips.
First use Sept. 23, 1960.

SN 106,271. Colonial Dames Company, Ltd., Montebello, Calif. Filed Nov. 14, 1960.

CLOUD 7

For Perfume, Cologne, and Dusting Powder.
First use Nov. 18, 1958.
Subj. to Intf. with SN 102,746.

Class 52 — Detergents and Soaps

SN 67,192. John H. Breck, Inc., Springfield, Mass. Filed Feb. 6, 1959.

SUNSHOWER

For Cream Shampoos.
First use Jan. 20, 1959.

SN 86,805. The Mennen Company, Morris Township, Morris County, N.J. Filed Dec. 7, 1959.

GENTEEL

For Liquid Soap Preparation for Baby Bath and Shampoo.
First use Oct. 5, 1959.

SN 101,943. The Gerson Stewart Corporation, Cleveland, Ohio. Filed Aug. 3, 1960.

HUNT

For General Purpose Cleaning Compound.
First use in September 1954.

SN 103,078. American Home Products Corporation, d.b.a. Boyle-Midway, New York, N.Y. Filed Aug. 22, 1960.

EASY-OFF

Owner of Reg. Nos. 564,241, 697,201, and others.
For Glass, Porcelain, and Chrome Cleaner.
First use Oct. 28, 1958.

SN 103,206. The Shetland Co., Inc., Salem, Mass. Filed Aug. 22, 1960.

SHETLAND

Owner of Reg. Nos. 554,787, 627,689, and 671,787.
For Liquid Wax Remover and Compound for General Cleaning, Rug and Upholstery Shampoo Concentrate, and Upholstery Shampoo Kits Comprising Rug and Upholstery Shampoo Concentrate and Applicator Therefor.
First use September 1957 on liquid wax remover and compound for general cleaning.

SN 104,048. Purex Corporation, Ltd., South Gate, Calif. Filed Sept. 7, 1960.



Owner of Reg. Nos. 332,795, 673,022, and others.
For Detergents.
First use July 1, 1960.

SN 104,253. The Gerson Stewart Corporation, Cleveland, Ohio. Filed Sept. 12, 1960.

SCRUB-A-MATIC

For Liquid Detergent.
First use Sept. 2, 1960.

SN 104,283. Les Parfums de Dana, Inc., d.b.a. Dana, New York, N.Y. Filed Sept. 12, 1960.

BON VOYAGE

Owner of Reg. Nos. 214,010 and 701,970.
For Soap.
First use Mar. 15, 1960.

SN 104,697. The Diversey Corporation, Chicago, Ill. Filed Sept. 19, 1960.

DIVERSTRIP

For Paint Remover.
First use Mar. 25, 1959.

SN 104,708. Eddie Fightmaster, d.b.a. Fightmaster Chemical Co., Oklahoma City, Okla. Filed Sept. 19, 1960.



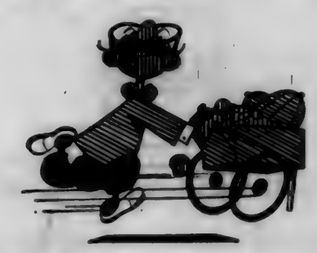
MASTER

For Car Shampoo, White Side-Wall Cleaner and Chamois Cleaner.
First use Aug. 27, 1960.

SERVICE MARKS

Class 101 — Advertising and Business

SN 81,762. Robert A. Shipley, d.b.a. Shipley Sales Service, Nogales, Ariz. Filed Sept. 21, 1959.



The drawing is lined for red and green.
For Selling Fruits and Vegetables for Others in Wholesale Lots as a Commission Merchant.
First use Oct. 10, 1958.

SN 90,464. Woodward & Lothrop Incorporated, Washington, D.C. Filed Feb. 5, 1960.



For Department Store Services.
First use December 1957; 1952 in a different display.

Class 103 — Construction and Repair

SN 69,127. Darbe Termite Control Co., Pratt, Kans. Filed Mar. 9, 1959.

DARBE

For Extermination of Pests and Protection of Property Against Pests.
First use in or about 1923.
TM 152

SN 100,437. C. E. Erdman Tire Co., Baltimore, Md. Filed July 7, 1960.



For Retreading Tires of Others.
First use Mar. 26, 1958.

Class 105 — Transportation and Storage

SN 55,747. Trans-American Refrigerated Services, Ltd., Chicago, Ill. Filed July 21, 1958. COLLECTIVE MARK.



Applicant disclaims the representation of the map of the United States when used separate and apart from the mark.
For Refrigerated Warehousing Services.
First use in May 1957.

Class 107 — Education and Entertainment

SN 100,621. Robert McGinley, Georgetown, Del. Filed July 11, 1960.

SPEED TALK

For Title for a Television Show for the Presentation of News Features and Views and Interviews With Racing Personalities Relating to All Types of Speed Competition, and Featuring Automobile Racing.
First use Sept. 12, 1960.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 99,006. Phi Kappa Theta Fraternity, Worcester, Mass. Filed June 14, 1960.

PHI KAPPA THETA

For Indicating Membership in a National Collegiate Fraternal Organization.
First use spring of 1959.

SN 99,904. American Institute of Electrical Engineers, New York, N.Y. Filed June 29, 1960.



For Indicating Membership in Applicant's Organization.
First use May 1897.

CERTIFICATION MARKS

Class A — Goods

SN 73,341. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 11, 1959.



The mark certifies that carpeting with which the mark is associated has a pile composed entirely of applicant's 501 carpet nylon and complies with quality standards imposed by applicant.
For Carpeting.
First use Jan. 5, 1959.

SN 73,342. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 11, 1959.



The mark certifies that carpeting with which the mark is associated has a pile composed entirely of applicant's carpet nylon and complies with quality standards imposed by applicant.
For Carpeting.
First use Nov. 5, 1958.
TM 153

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

712,984. CUPLON. Asahi Kasei Kogyo Kabushiki Kaisha. SN 74,821. Pub. 1–10–61. Filed 6–1–59.

712,985. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 82,357. Pub. 2–9–60. Filed 9–29–59.

712,986. MELREZ. Synthron, Inc. SN 83,013. Pub. 10–18–60. Filed 10–9–59.

Class 2—Receptacles

712,987. TWIN BUTLER AND DESIGN. Cellofex Corporation, assignee of Aaron London. SN 51,475. Pub. 1–10–61. Filed 5–12–58.

712,988. TRANS POTS. Fred M. Schneider. SN 87,726. Pub. 1–10–61. Filed 12–21–59.

712,989. VANITI-MIST. The Risdon Manufacturing Company. SN 88,427. Pub. 1–10–61. Filed 1–4–60.

712,990. REPRESENTATION OF A TANK. Columbian Steel Tank Company. SN 88,597. Pub. 1–10–61. Filed 1–7–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

712,991. MB. Markay Bags, Inc. SN 86,508. Pub. 1–10–61. Filed 12–2–59.

712,992. MB AND DESIGN. Markay Bags, Inc. SN 86,509. Pub. 1–10–61. Filed 12–2–59.

712,993. CONGRESSIONAL. Pioneer Industries, Inc. SN 101,973. Pub. 1–10–61. Filed 8–3–60.

Class 4—Abrasives and Polishing Materials

712,994. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 82,842. Pub. 8–16–60. Filed 10–7–59.

712,995. THE FINISHING TOUCH FOR ANY CAR. H.D.T. Company Factors, Inc. SN 92,464. Pub. 1–10–61. Filed 3–9–60.

712,996. STRIKE. Hol-Tite Products Incorporated. SN 99,740. Pub. 1–10–61. Filed 6–27–60.

Class 5—Adhesives

712,997. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 84,614. Pub. 10–25–60. Filed 11–4–59.

712,998. CHESHIRE AND DESIGN. Cheshire, Incorporated. SN 90,228. Pub. 1–10–61. Filed 2–3–60.

Class 6—Chemicals and Chemical Compositions

712,999. ZW AND DESIGN. Zellstoffabrik Waldhof. SN 89,863. Pub. 1–10–61. Filed 3–18–59.

713,000. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 84,615. Pub. 7–12–60. Filed 11–4–59.

713,001. CINNARYL. The Dow Chemical Company. SN 90,028. Pub. 1–10–61. Filed 2–1–60.

713,002. KAR-LIFE. Warshawsky and Company, Inc. SN 91,891. Pub. 1–10–61. Filed 2–29–60.

713,003. NOPCOTAN. Nopco Chemical Company. SN 92,037. Pub. 1–10–61. Filed 3–2–60.

713,004. M AND DESIGN. Morton Chemical Company. SN 98,918. Pub. 1–10–61. Filed 6–13–60.

713,005. OLD SETTLER. General Mills, Inc. SN 98,958. Pub. 1–10–61. Filed 5–25–60.

Class 12—Construction Materials

713,006. TILT-O-PANE. The Tilt-O-Pane Distributing Corporation. SN 64,658. Pub. 1–10–61. Filed 12–19–58.

713,007. JAMB-TITE. The Butler Hardware Co. SN 78,884. Pub. 1–10–61. Filed 5–18–59.

713,008. GRECIAN. Minnesota and Ontario Paper Company. SN 90,772. Pub. 1–10–61. Filed 2–11–60.

713,009. THERMTRON AND DESIGN. Gerber Electric and Supply Inc. SN 93,040. Pub. 1–10–61. Filed 2–29–60.

713,010. S AND DESIGN. Sonneborn Chemical and Refining Corporation. SN 97,354. Pub. 1–10–61. Filed 5–16–60.

713,011. S-I-P. Granite City Steel Company. SN 98,357. Pub. 1–10–61. Filed 6–3–60.

713,012. LOWE'S. North Wilkesboro Hardware, Inc. SN 99,532. Pub. 1–10–61. Filed 6–23–60.

713,013. KAO. The Babcock & Wilcox Company. SN 100,551. Pub. 1–10–61. Filed 7–8–60.

713,014. BLACK TEX. The Stevens Brush Company. SN 102,958. Pub. 1–10–61. Filed 8–18–60.

713,015. BUTTLGRIP. The Biddle Company. SN 103,008. Pub. 1–10–61. Filed 8–19–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

713,016. MAGILOK. Modern Upholstered Chair Co., Inc. SN 89,697. Pub. 1–10–61. Filed 1–26–60.

713,017. T. FAL. Societe Anonyme "Tefal." SN 91,127. Pub. 1–10–61. Filed 2–17–60.

713,018. PAR CLEATS. Peters & Russell, Inc. SN 91,209. Pub. 1–10–61. Filed 2–18–60.

713,019. KWIK KLEET. T.N.T. Corporation. SN 91,217. Pub. 1–10–61. Filed 2–18–60.

713,020. YALE. The Yale & Towne Manufacturing Company. SN 99,817. Pub. 1–10–61. Filed 6–27–60.

713,021. DELRON. The Delron Company, Inc. SN 100,229. Pub. 1–10–61. Filed 7–5–60.

Class 14—Metals and Metal Castings and Forgings

713,022. SHALCO. Sheet Aluminum Corporation. SN 88,944. Pub. 1–10–61. Filed 1–13–60.

713,023. REYNOLDS WRAP JR. Reynolds Metals Company. SN 90,444. Pub. 1–10–61. Filed 2–5–60.

713,024. STRATMETAL. Strategic Materials Corporation. SN 98,944. Pub. 1–10–61. Filed 6–13–60.

713,025. SOUTHERN AND DESIGN. Southern Oxygen Company. SN 102,431. Pub. 1–10–61. Filed 8–10–60.

713,026. PER-FIT. L. B. Foster Company, Inc. SN 102,553. Pub. 1–10–61. Filed 8–12–60.

Class 15—Oils and Greases

713,027. PART-EASE. American Grease Stick Company. SN 89,111. Pub. 1–10–61. Filed 1–18–60.

713,028. SPRAY AND DESIGN. Spray Products Corporation. SN 102,274. Pub. 1–10–61. Filed 8–8–60.

713,029. ESCORT. El Paso Natural Gas Products Company. SN 105,063. Pub. 1–10–61. Filed 9–23–60.

713,030. EL PASO AND DESIGN. El Paso Natural Gas Products Company. SN 105,064. Pub. 1–10–61. Filed 9–23–60.

713,031. EL PASO TRANSPOWER AND DESIGN. El Paso Natural Gas Products Company. SN 105,065. Pub. 1–10–61. Filed 9–23–60.

713,032. EP EL PASO AND DESIGN. El Paso Natural Gas Products Company. SN 105,066. Pub. 1–10–61. Filed 9–23–60.

713,033. EL PASO AND DESIGN. El Paso Natural Gas Products Company. SN 105,067. Pub. 1–10–61. Filed 9–23–60.

713,034. EL PASO RED FLAME AND DESIGN. El Paso Natural Gas Products Company. SN 105,068. Pub. 1–10–61. Filed 9–23–60.

713,035. TENNECO AND DESIGN. Tennessee Gas Transmission Company. SN 107,518. Pub. 1–10–61. Filed 10–31–60.

Class 16—Protective and Decorative Coatings

713,036. A-P. Lawter Chemicals, Inc. SN 63,326. Pub. 1–10–61. Filed 11–28–58.

713,037. MILISEAL. Bourns, Inc. SN 74,568. Pub. 1–10–61. Filed 5–27–59.

713,038. ELECTROLUBE. Electrolube Limited. SN 76,471. Pub. 1–10–61. Filed 6–25–59.

713,039. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 84,616. Pub. 7–12–60. Filed 11–4–59.

713,040. RAIBOND. Radiation Applications, Incorporated. SN 85,990. Pub. 1–10–61. Filed 11–24–59.

713,041. POLYUNITHON. John T. Kennedy Co. SN 88,469. Pub. 1–10–61. Filed 1–5–60.

713,042. PROFLO. De Mert & Dougherty, Inc. SN 89,335. Pub. 1–10–61. Filed 1–20–60.

713,043. MAGI-FOAM PAINTS. Link Research Corporation. SN 89,441. Pub. 1–10–61. Filed 1–21–60.

713,044. BOHN-KOTE. Bohn Aluminum & Brass Corporation. SN 89,836. Pub. 1–10–61. Filed 1–28–60.

713,045. SURFACE-FLEX. Master-Krete, Inc. SN 90,540. Pub. 1–10–61. Filed 2–8–60.

713,046. ALUMAZON. Battenfeld Grease & Oil Corporation, Inc. SN 96,924. Pub. 1–10–61. Filed 5–12–60.

713,047. ROYALON. The Patterson-Sargent Company. SN 97,780. Pub. 1–10–61. Filed 5–24–60.

713,048. GUNSLICK. Outers Laboratories, Inc. SN 98,023. Pub. 1–10–61. Filed 5–27–60.

713,049. ART-CO AND AC DESIGN. Art Cement Manufacturing Co. SN 98,188. Pub. 1–10–61. Filed 5–25–60.

713,050. CAVENDISH IMPERIAL. Federal Paint Company, Inc. SN 98,783. Pub. 1–10–61. Filed 6–10–60.

Class 17—Tobacco Products

713,051. DIMITRINO. Eilebrecht Cigaretten- und Rauchtabakfabriken A.G. SN 91,304. Pub. 1–10–61. Filed 2–16–60.

713,052. HANDELSGOLD. Arnold André. SN 91,325. Pub. 1–10–61. Filed 2–23–60.

713,053. EAST WIND. Philip Morris Incorporated. SN 103,738. Pub. 1–10–61. Filed 8–31–60.

713,054. WEST WIND. Philip Morris Incorporated. SN 103,739. Pub. 1–10–61. Filed 8–31–60.

Class 18—Medicines and Pharmaceutical Preparations

713,055. HEYL'S. Frank R. De Lucco, d.b.a. B. & S. Chemical Co. SN 72,421. Pub. 1–10–61. Filed 4–28–59.

713,056. VELVIN. The Chattanooga Medicine Company, d.b.a. Chattem Laboratories. SN 93,273. Pub. 1–10–61. Filed 3–21–60.

713,057. KALIVO–12. Makers of Kal, Inc. SN 101,962. Pub. 1–10–61. Filed 8–3–60.

713,058. D.N.P. American Cyanamid Company. SN 104,414. Pub. 1–10–61. Filed 9–14–60.

713,059. POLYDEC. American Cyanamid Company. SN 104,416. Pub. 1–10–61. Filed 9–14–60.

713,060. ROVASONE. American Home Products Corporation, d.b.a. Ives-Cameron Company. SN 104,501. Pub. 1–10–61. Filed 9–15–60.

713,061. SALVIZOL. Ravensberg GmbH Chemische Fabrik. SN 104,662. Pub. 1–10–61. Filed 8–24–60.

Class 19—Vehicles

713,062. PLEIN-CIEL. Simca. SN 83,655. Pub. 1–10–61. Filed 10–20–59.

713,063. GRAND LARGE. Simca. SN 83,656. Pub. 1–10–61. Filed 10–20–59.

713,064. CHATELAINE. Simca. SN 83,658. Pub. 1–10–61. Filed 10–20–59.

713,065. MESSAGERE. Simca. SN 83,659. Pub. 1–10–61. Filed 10–20–59.

713,066. BEAULIEU. Simca. SN 83,660. Pub. 1–10–61. Filed 10–20–59.

713,067. CHAMBORD. Simca. SN 83,661. Pub. 1–10–61. Filed 10–20–59.

713,068. CORVAN. General Motors Corporation. SN 89,576. Pub. 1–10–61. Filed 1–25–60.

713,069. KAR-LIFE. Warshawsky and Company, Inc. SN 91,890. Pub. 1–10–61. Filed 2–29–60.

713,070. ARIANE. Simca. SN 92,192. Pub. 1–10–61. Filed 10–20–59.

713,071. STAR. Vought Industries, Inc. SN 92,338. Pub. 1–10–61. Filed 3–7–60.

713,072. CAMP CAR. Morrison-International Corp. SN 102,494. Pub. 1–10–61. Filed 8–11–60.

713,073. SNUG-ON. Muehleisen Manufacturing Company. SN 102,573. Pub. 1–10–61. Filed 8–12–60.

713,074. OSPRAY. The O'Day Corporation. SN 102,667. Pub. 1–10–61. Filed 8–15–60.

713,075. HACIENDA. Montclair Mobile Homes, Inc. SN 102,942. Pub. 1–10–61. Filed 8–18–60.

713,076. LAKK. Studebaker-Packard Corporation. SN 102,954. Pub. 1–10–61. Filed 8–18–60.

Class 21—Electrical Apparatus, Machines, and Supplies

713,077. QUADRAPHASE. John Jay Jakosky. SN 71,012. Pub. 1–10–61. Filed 4–7–59.

713,078. AEROPAK. Aero Research Instrument Company, Inc. SN 79,448. Pub. 3–1–60. Filed 8–13–59.

713,079. QUARTITE. Quartite Creative Corporation. SN 90,703. Pub. 1–10–61. Filed 2–10–60.

713,080. ELECTRO-PLEX. Nuclear Electronics Corporation. SN 91,832. Pub. 1–10–61. Filed 2–29–60.

713,081. DIGITRON. Ericsson Telephones Limited. SN 93,777. Pub. 1–10–61. Filed 3–28–60.

713,082. ADLER AND DESIGN. Adlerwerke vorm. Heinrich Kleyer A.G. SN 96,046. Pub. 1–10–61. Filed 4–29–60.

713,083. CALL COMMANDER. Automatic Electric Company. SN 96,845. Pub. 1–10–61. Filed 6–13–60.

713,084. F AND CROWN DESIGN. General Motors Corporation. SN 96,891. Pub. 1–10–61. Filed 6–13–60.

713,085. POWER SPAN. Flud-O-Lite, Inc. SN 100,901. Pub. 1–10–61. Filed 7–15–60.

713,086. LITEALL. The Warner & Swasey Company. SN 101,063. Pub. 1–10–61. Filed 7–18–60.

713,087. SYSCOM. AMP Incorporated. SN 101,144. Pub. 1–10–61. Filed 7–20–60.

713,088. COMMAIRE. Vocaline Company of America, Inc. SN 101,221. Pub. 1–10–61. Filed 7–20–60.

713,089. SOUTHERN AND DESIGN. Southern Oxygen Company. SN 102,428. Pub. 1–10–61. Filed 8–10–60.

Class 22—Games, Toys, and Sporting Goods

713,090. BIG LEAGUE. Transogram Company, Inc. SN 61,877. Pub. 6–21–60. Filed 11–3–58.

713,091. KRYSTAL AND DESIGN. Export Pacific. SN 74,389. Pub. 1–19–60. Filed 5–25–59.

713,092. GLAMOUR STRETCHER. La Lanne Incorporated. SN 85,141. Pub. 1–10–61. Filed 11–12–59.

713,093. "BABY DIMPLES." Alexander Doll Company, Inc., d.b.a. Madame Alexander. SN 91,220. Pub. 1–10–61. Filed 2–19–60.

713,094. BRIDG-IT. Hassenfeld Bros., Inc. SN 93,799. Pub. 1–10–61. Filed 3–28–60.

713,095. MAD. Arthur M. Hunter. SN 95,283. Pub. 1–10–61. Filed 4–18–60.

713,096. TENO. Jerome U. Bihl, d.b.a. Bihl & Associates. SN 96,856. Pub. 1–10–61. Filed 6–13–60.

713,097. SUPER CORONA AND DESIGN. St. Croix Sales Corporation. SN 90,669. Pub. 1–10–61. Filed 6–24–60.

713,098. RITE-DEPTH. Claude R. Briney, d.b.a. Rite-Depth. SN 99,717. Pub. 1–10–61. Filed 6–27–60.

713,099. PANTHER PISTOL. The Hubley Manufacturing Company. SN 99,854. Pub. 1–10–61. Filed 6–28–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

713,100. EASTCO. Eastman Oil Well Survey Company. SN 47,183. Pub. 1–10–61. Filed 3–6–58.

713,101. KUSTOM KOUNT. The W. E. Bassett Company. SN 74,024. Pub. 1–10–61. Filed 5–19–59.

713,102. CLEANGUIDE. Textile Engineering Corporation. SN 74,270. Pub. 1–10–61. Filed 5–21–59.

713,103. VARITENSOR. Textile Engineering Corporation. SN 74,271. Pub. 1–10–61. Filed 5–21–59.

713,104. AERO-DYNE. Dakota Aviation Company. SN 75,069. Pub. 1–10–61. Filed 6–4–59.

713,105. MAXIMIZER. The Garrett Corporation. SN 77,433. Pub. 1–10–61. Filed 7–10–59.

713,106. GEOMETRIC DESIGN. Reid Metal Products, Inc. SN 79,599. Pub. 1–10–61. Filed 8–14–59.

713,107. PDQ PLOW DOWN QUICK AND DESIGN. Greystone, Inc. SN 81,560. Pub. 1–10–61. Filed 9–17–59.

713,108. KAR-LIFE. Warshawsky and Company, Inc. SN 84,038. Pub. 1–10–61. Filed 10–26–59.

713,109. MCI. Universal Maschinenfabrik G.m.b.H. SN 87,923. Pub. 1–10–61. Filed 12–23–59.

713,110. US (MONOGRAM). Union Special Machine Company. SN 88,271. Pub. 1–10–61. Filed 12–30–59.

713,111. RILOAD. The Duriron Company, Inc. SN 88,978. Pub. 1–10–61. Filed 1–14–60.

713,112. TECUMSEH POWER PRODUCTS AND DESIGN. Tecumseh Products Company. SN 89,612. Pub. 1–10–61. Filed 1–25–60.

713,113. CELTO FORM. John E. Howard. SN 89,682. Pub. 1–10–61. Filed 1–26–60.

713,114. THERM-O-RITE. Textile Marking Machine Co., Inc. SN 89,879. Pub. 1–10–61. Filed 1–28–60.

713,115. GLU-LOK AND DESIGN. Koppers Company, Inc. SN 90,069. Pub. 1–10–61. Filed 2–1–60.

713,116. SOMACO. Southern Machinery Company. SN 90,367. Pub. 1–10–61. Filed 2–4–60.

713,117. AMERICAN. American Corn Cutter Co., Inc. SN 92,203. Pub. 1–10–61. Filed 3–7–60.

713,118. TORK-SEL. Thompson Ramo Wooldridge, Inc. SN 93,381. Pub. 1–10–61. Filed 3–21–60.

713,119. THERMINJECTOR. Cherry-Burrell Corporation. SN 95,690. Pub. 1–10–61. Filed 4–25–60.

713,120. TIPPA. Adlerwerke vorm. Heinrich Kleyer A.G. SN 96,043. Pub. 1–10–61. Filed 4–29–60.

713,121. ROTA-BUCK. Phil E. Davis. SN 96,061. Pub. 1–10–61. Filed 5–31–60.

713,122. SAANSAW. South African Associated Newspapers Limited. SN 96,242. Pub. 1–10–61. Filed 6–1–60.

713,123. TITANIA. Italian Imports Company, assignee of Industria Prodotti Stampati. SN 96,286. Pub. 1–10–61. Filed 6–2–60.

713,124. DOFF-RITE. H. F. Livermore Corporation. SN 96,790. Pub. 1–10–61. Filed 6–10–60.

713,125. YALE. The Yale & Towne Manufacturing Company. SN 99,814. Pub. 1–10–61. Filed 6–27–60.

713,126. DEMON PRECISION ETC. AND DESIGN. The DoAll Company. SN 100,176. Pub. 1–10–61. Filed 7–1–60.

713,127. DEMON CLAW TOOTH ETC. AND DESIGN. The DoAll Company. SN 100,178. Pub. 1–10–61. Filed 7–1–60.

713,128. DEMON BUTTRESS HIGH-SPEED STEEL AND DESIGN. The DoAll Company. SN 100,182. Pub. 1–10–61. Filed 7–1–60.

713,129. TABER ETC. AND DESIGN. Taber Pump Co. SN 100,652. Pub. 1–10–61. Filed 7–11–60.

713,130. MAGNA-RACK. Allyn Bank Equipment Co. SN 100,679. Pub. 1–10–61. Filed 7–12–60.

713,131. LANE MASTER. D.B.A. Products Co. SN 104,990. Pub. 1–10–61. Filed 9–22–60.

713,132. JET. Tacoma Equipment Importers, Inc. SN 105,106. Pub. 1–10–61. Filed 9–23–60.

Class 24—Laundry Appliances and Machines

713,133. STEP-UP. The Cal-Dak Company. SN 98,431. Pub. 1–10–61. Filed 6–6–60.

Class 25—Locks and Safes

713,134. FOREMAN. Racine Stamping Corporation. SN 97,874. Pub. 1–10–61. Filed 5–25–60.

Class 26—Measuring and Scientific Appliances

713,135. "METER MIKE." Safargo Company. SN 84,024. Pub. 1–10–61. Filed 11–4–59.

713,136. LEVELITE. Levelite, Inc. SN 89,680. Pub. 1–10–61. Filed 1–26–60.

713,137. ROBIN. Peerless Camera Stores Corp. SN 90,701. Pub. 1–10–61. Filed 2–10–60.

713,138. SCRATCHOMETER. Batist R. Haueisen. SN 90,921. Pub. 1–10–61. Filed 2–15–60.

713,139. CARTACH. Seatronics-Cartronics, Inc. SN 91,854. Pub. 1–10–61. Filed 2–29–60.

713,140. SEATACH. Seatronics-Cartronics, Inc. SN 91,855. Pub. 1–10–61. Filed 2–29–60.

713,141. MICRO-FEEDER. Affiliated Manufacturers, Inc. SN 93,247. Pub. 1–10–61. Filed 3–21–60.

713,142. THOMAS. Arthur H. Thomas Company. SN 93,881. Pub. 1–10–61. Filed 3–28–60.

713,143. TRANSDYNE. Transdyne Corp. SN 93,957. Pub. 1–10–61. Filed 3–29–60.

713,144. KENRO VERTICAL. Kenro Graphics, Inc. SN 96,340. Pub. 1–10–61. Filed 5–3–60.

713,145. ADLER AND DESIGN. Adlerwerke vorm. Heinrich Kleyer A.G. SN 96,047. Pub. 1–10–61. Filed 4–29–60.

713,146. SUPERPAK. General Aniline & Film Corporation. SN 98,215. Pub. 1–10–61. Filed 6–1–60.

713,147. POLYGAL. Inland Container Corporation. SN 101,002. Pub. 1–10–61. Filed 7–18–60.

713,148. TAG ALONG. General Aniline & Film Corporation. SN 101,256. Pub. 1–10–61. Filed 7–21–60.

713,149. ROUNDICORDER. General Motors Corporation. SN 102,020. Pub. 1–10–61. Filed 8–4–60.

713,150. PRESCRIPT-SUN. Henry E. Lilley, d.b.a. Yorktowne Optical Company. SN 102,673. Pub. 1–10–61. Filed 8–15–60.

713,151. FINACHROME. General Aniline & Film Corporation. SN 103,778. Pub. 1–10–61. Filed 9–1–60.

Class 27—Horological Instruments

713,152. YALE. The Yale & Towne Manufacturing Company. SN 99,813. Pub. 1–10–61. Filed 6–27–60.

Class 28—Jewelry and Precious-Metal Ware

713,153. GEMTRONIC. J. Jenkins Sons Co., Inc. SN 86,786. Pub. 1–10–61. Filed 12–7–59.

713,154. FAMILY. Wm. Schneider, Inc. SN 93,819. Pub. 1–10–61. Filed 6–10–60.

713,155. BEAUTI FLEX. Feature Ring Co., Inc. SN 102,913. Pub. 1–10–61. Filed 8–18–60.

713,156. STAR FLEX. Feature Ring Co., Inc. SN 102,914. Pub. 1–10–61. Filed 8–18–60.

713,157. JEWEL FLEX. Feature Ring Co., Inc. SN 102,916. Pub. 1–10–61. Filed 8–18–60.

713,158. FASHION FLEX. Feature Ring Co., Inc. SN 102,917. Pub. 1–10–61. Filed 8–18–60.

Class 29—Brooms, Brushes, and Dusters

713,159. GUARDIAN. Pro-Phy-Lac-Tic Brush Company. SN 87,277. Pub. 1–10–61. Filed 12–14–59.

713,160. CONTOUR. American Sponge and Chamois Company, Inc. SN 89,114. Pub. 1–10–61. Filed 1–18–60.

713,161. PUFFADAY. Florence Folkenflik. SN 99,507. Pub. 1–10–61. Filed 6–22–60.

Class 31—Filters and Refrigerators

713,162. REVCO AND DESIGN. Revco, Inc. SN 30,605. Pub. 1–10–61. Filed 5–23–57.

713,163. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 82,355. Pub. 2–9–60. Filed 9–29–59.

713,164. FROST-MAGNET. Amana Refrigeration, Inc. SN 83,934. Pub. 1–10–61. Filed 10–26–59.

713,165. MICHIANA. Indiana Commercial Filters Corporation. SN 88,858. Pub. 1–10–61. Filed 1–12–60.

713,166. EMPRESS. Bruner Corporation. SN 90,390. Pub. 1–10–61. Filed 2–5–60.

713,167. CRYOGENERATOR. North American Philips Company, Inc. SN 90,699. Pub. 1–10–61. Filed 2–10–60.

713,168. HYDRO SCREEN. Frederick D. Gugeler, d.b.a. Hydro-Master Parts Co. SN 91,254. Pub. 1–10–61. Filed 2–19–60.

713,169. KAR-LIFE. Warshawsky and Company, Inc. SN 91,889. Pub. 1–10–61. Filed 2–29–60.

713,170. NATIONAL FILTER MEDIA AND DESIGN. The National Filter Media Corporation. SN 94,086. Pub. 1–10–61. Filed 3–31–60.

713,171. NATIONAL AND DESIGN. Matsushita Electric Industrial Co., Ltd. (Matsushita Denki Sangyo Kabushiki Kaisha). SN 97,566. Pub. 1–10–61. Filed 5–4–60.

713,172. SPIRA-FILTER. The Murray Corporation of America. SN 98,919. Pub. 1–10–61. Filed 6–13–60.

713,173. YALE. The Yale & Towne Manufacturing Company. SN 99,820. Pub. 1–10–61. Filed 6–27–60.

Class 32—Furniture and Upholstery

713,174. BAR-B-TABLE. Worldsbest Industries, Inc. SN 89,628. Pub. 1–10–61. Filed 1–25–60.

713,175. HOLLAND MAID. Holland Wire Products, Incorporated. SN 93,801. Pub. 1–10–61. Filed 3–28–60.

713,176. REPRESENTATION OF DUTCH GIRL. Holland Wire Products, Inc. SN 93,802. Pub. 1–10–61. Filed 3–28–60.

713,177. PRIDE OF CLEVELAND. Simmons Company. SN 95,325. Pub. 1–10–61. Filed 4–18–60.

713,178. TRABLE. Duncan Ewan Cameron. SN 102,193. Pub. 1–10–61. Filed 8–8–60.

Class 34—Heating, Lighting, and Ventilating Apparatus

713,179. WW DESIGN. Warren Webster & Company, Inc. SN 97,148. Pub. 1–10–61. Filed 5–13–60.

713,180. ELEC/BLEND. Carl V. Ankil. SN 97,363. Pub. 1–10–61. Filed 5–18–60.

713,181. WATCHDOG. Humble Oil & Refining Company. SN 102,393. Pub. 1–10–61. Filed 8–10–60.

713,182. SOUTHERN AND DESIGN. Southern Oxygen Company. SN 102,426. Pub. 1–10–61. Filed 8–10–60.

713,183. GRILLMASTER. Glaser Products Corporation. SN 102,555. Pub. 1–10–61. Filed 8–12–60.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

713,184. RAYCO AND DESIGN. Rayco Mfg. Co. SN 89,799. Pub. 1–10–61. Filed 1–27–60.

Class 36—Musical Instruments and Supplies

713,185. AMERICAN HERITAGE. American Heritage Publishing Co., Inc. SN 92,580. Pub. 1–10–61. Filed 3–11–60.

713,186. CONCERT HALL AND DESIGN. Samuel Josefowitz. SN 100,786. Pub. 1–10–61. Filed 7–13–60.

713,187. JAZZTONE AND DESIGN. Samuel Josefowitz. SN 101,105. Pub. 1–10–61. Filed 7–19–60.

Class 37—Paper and Stationery

713,188. NAME FRAME. Western Tablet & Stationery Corporation. SN 76,994. Pub. 1–10–61. Filed 7–2–59.

713,189. REGISTER CHECK. Burroughs Corporation. SN 81,535. Pub. 1–10–61. Filed 9–17–59.

713,190. CLOWN DESIGN. United Printers and Publishers (Incorporated). SN 101,218. Pub. 1–10–61. Filed 7–20–60.

Class 38—Prints and Publications

713,191. FARM STORE MERCHANDISING. The Miller Publishing Company (Minnesota corporation), assignee of The Miller Publishing Company (West Virginia corporation). SN 69,012. Pub. 1–10–61. Filed 3–5–59.

713,192. INA DESIGN. Insurance Company of North America. SN 72,435. Pub. 1–10–61. Filed 4–28–59.

713,193. MALTESE CROSS AND DESIGN. Sovereign Order of Saint John of Jerusalem, Inc. SN 75,219. Pub. 1–10–61. Filed 6–5–59.

713,194. SIX-O-MATIC. Last Six, Inc. SN 75,638. Pub. 1–10–61. Filed 6–12–59.

713,195. REPRESENTATION OF 3 ARROWS WITHIN A CIRCLE. International Business Machines Corporation. SN 77,545. Pub. 1–10–61. Filed 7–13–59.

713,196. PFM PICTAFILM. Williams & Hill Limited. SN 82,744. Pub. 1–10–61. Filed 10–5–59.

713,197. PERSONA. Pee Cee Tape & Label Company of Missouri, by change of name from Mark'Andy, Inc. SN 85,678. Pub. 1–10–61. Filed 11–19–59.

713,198. COLORVISTA. James J. Gannon Jr. SN 95,890. Pub. 1–10–61. Filed 4–27–60.

713,199. DATE-LINE. Morton Minsky, d.b.a. Date-Line Co. SN 95,917. Pub. 12–20–60. Filed 4–27–60.

713,200. DATA PROCESSING. Gille Associates, Inc. SN 98,355. Pub. 1–10–61. Filed 6–3–60.

713,201. JPN SHOW DAILY. Jobber Product Publishing Corp. SN 98,362. Pub. 1–10–61. Filed 6–3–60.

713,202. ATLANTIS ETC. Atlantis. SN 98,844. Pub. 1–10–61. Filed 6–13–60.

713,203. THE NATION'S SCHOOLS. The Modern Hospital Publishing Co., Inc. SN 99,160. Pub. 1–10–61. Filed 6–16–60.

713,204. COLLEGE AND UNIVERSITY BUSINESS. The Modern Hospital Publishing Co., Inc. SN 99,161. Pub. 1–10–61. Filed 6–16–60.

713,205. THE MODERN HOSPITAL. The Modern Hospital Publishing Co., Inc. SN 99,162. Pub. 1–10–61. Filed 6–16–60.

713,206. LECTRO-CHROMA. Providence Lithograph Company. SN 99,537. Pub. 1–10–61. Filed 6–22–60.

713,207. THE LUTHERAN DIGEST. The Lutheran Digest, Inc. SN 99,590. Pub. 1–10–61. Filed 6–23–60.

Class 39—Clothing

713,208. YOUR ROSE MARIE REID ETC. AND DESIGN. Rose Marie Reid. SN 48,792. Pub. 1–3–61. Filed 3–31–58.

713,209. REPRESENTATION OF CROWN. Jack Kramer Sportswear, Inc. SN 73,936. Pub. 1–10–61. Filed 5–18–59.

713,210. DEB-U-FORM. V. Mayes & Company (Australia) Proprietary Limited. SN 76,104. Pub. 1–10–61. Filed 6–19–59.

713,211. MINKIES. Alchester Mfg. Company, Inc. SN 81,108. Pub. 7–12–60. Filed 9–10–59.

713,212. LUCKY DUCKS AND DESIGN. Shoe Corporation of America. SN 84,468. Pub. 1–10–61. Filed 11–2–59.

713,213. ROLLEDGE. Prestige, Inc. SN 84,800. Pub. 1–10–61. Filed 11–6–59.

713,214. PRO GARD. Tyer Rubber Company. SN 87,922. Pub. 1–10–61. Filed 12–23–59.

713,215. KEYSTONE DESIGN. Pittsburgh Garter Company. SN 88,489. Pub. 1–10–61. Filed 1–5–60.

713,216. TORSO-MATE. Perfect Brassiere Company, Inc. SN 89,293. Pub. 1–10–61. Filed 1–19–60.

713,217. GROW-WITH-HER COAT. New York Girl Coat Co., Inc. SN 89,368. Pub. 1–10–61. Filed 1–20–60.

713,218. ORBIT. The Formfit Company. SN 89,567. Pub. 1–10–61. Filed 1–25–60.

713,219. McKNIGHT. The Star Union Pajama Company. SN 90,866. Pub. 1–10–61. Filed 2–12–60.

713,220. HEADLINERS! The May Department Stores Company. SN 91,412. Pub. 1–10–61. Filed 2–23–60.

713,221. CORDOTAN. Endicott Johnson Corporation. SN 91,930. Pub. 1–10–61. Filed 3–1–60.

713,222. MISTER L. Mandel's of California. SN 94,327. Pub. 1–10–61. Filed 4–4–60.

713,223. PATT'S AND DESIGN. Monique Szytenberg. SN 96,153. Pub. 1–10–61. Filed 4–29–60.

713,224. AILEEN PENNINGTON. Pennington & Co., Inc. SN 96,980. Pub. 1–10–61. Filed 5–12–60.

713,225. SNAP-A-MATIC. Durite Leather Goods Co., Inc. SN 97,182. Pub. 1–10–61. Filed 5–16–60.

713,226. GOLDEN-EASE AND DESIGN. Mister Ease, Inc. SN 98,301. Pub. 1–10–61. Filed 6–2–60.

713,227. RUSTICANA. Baitch & Castaldi, Inc. SN 98,847. Pub. 1–10–61. Filed 6–13–60.

713,228. VARSITY. Varsity Pajamas, Incorporated. SN 99,108. Pub. 1–10–61. Filed 6–15–60.

713,229. PATCH-NICKS. Holt Hosiery Corporation. SN 100,025. Pub. 1–10–61. Filed 6–30–60.

713,230. RAMSGATE CLOTHING. The Harris Company. SN 100,185. Pub. 1–10–61. Filed 7–1–60.

713,231. AN-A-TUK ETC. AND DESIGN. Kute Kiddies Coats, Inc. SN 101,012. Pub. 1–10–61. Filed 7–18–60.

713,232. ANNE FOGARTY. Saks & Company. SN 102,348. Pub. 1–10–61. Filed 8–9–60.

Class 40—Fancy Goods, Furnishings, and Notions

713,233. SNAG-PRUFE. Joseph S. Brownstein, d.b.a. Snag-Prufe Fasteners. SN 71,803. Pub. 1–10–61. Filed 4–20–59.

713,234. DURATEX. Duratex, Inc. SN 90,380. Pub. 1–10–61. Filed 2–4–60.

713,235. EVERYDAY. Muscatine Pearl Works. SN 98,807. Pub. 1–10–61. Filed 6–10–60.

Class 41—Canes, Parasols, and Umbrellas

713,236. SEE-BRELLA. Bradford's Inc. SN 102,373. Pub. 1–10–61. Filed 8–10–60.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

713,237. EDBROWN TERRY MONOGRAMS. Edward D. Brown. SN 58,493. Pub. 1–10–61. Filed 9–8–58.

713,238. NATURE CLOTH. Andrew Y. Michie & Sons Company. SN 64,012. Pub. 1–10–61. Filed 12–10–58.

713,239. TERRY TREASURE. Barth & Dreyfuss. SN 98,849. Pub. 1–10–61. Filed 6–13–60.

713,240. COMARRA. United Merchants and Manufacturers, Inc. SN 100,478. Pub. 1–10–61. Filed 7–7–60.

713,241. SOVEREIGN. Dan River Mills, Incorporated. SN 100,499. Pub. 1–10–61. Filed 7–8–60.

713,242. MATINEE. United Merchants and Manufacturers, Inc. SN 100,662. Pub. 1–10–61. Filed 7–11–60.

713,243. FURLON. Dyersburg Cotton Products, Inc. SN 100,766. Pub. 1–10–61. Filed 7–13–60.

713,244. MOR-A-LON. Dyersburg Cotton Products, Inc. SN 100,767. Pub. 1–10–61. Filed 7–13–60.

713,245. STARLINER. Fairmont Converting Co., Inc. SN 101,610. Pub. 1–10–61. Filed 7–28–60.

713,246. FEATHER-TOUCH. Plymouth Rubber Company, Inc. SN 102,694. Pub. 1–10–61. Filed 8–15–60.

Class 44—Dental, Medical, and Surgical Appliances

713,247. SOUTHERN AND DESIGN. Southern Oxygen Company. SN 102,427. Pub. 1–10–61. Filed 8–10–60.

Class 45—Soft Drinks and Carbonated Waters

713,248. WHITE ROCK. White Rock Corporation. SN 95,403. Pub. 1–10–61. Filed 4–19–60.

Class 46—Foods and Ingredients of Foods

713,249. I'D EVEN GO NORTH FOR SOUTHERN BREAD AND DESIGN. Southern Bakeries Company. SN 83,009. Pub. 1–10–61. Filed 10–9–59.

713,250. CHEMOCIDE. Chemo Puro Manufacturing Corporation. SN 86,876. Pub. 1–10–61. Filed 12–8–59.

713,251. CENTROL. Central Soya Company, Inc. SN 88,595. Pub. 1–10–61. Filed 1–7–60.

713,252. CHIEF JOSEPH AND DESIGN. Pacific Gamble Robinson Co., d.b.a. Ryan Fruit Co. SN 90,566. Pub. 1–10–61. Filed 2–8–60.

713,253. AMERICO. C. J. Van Houten & Zoon N.V. SN 92,058. Pub. 1–10–61. Filed 3–2–60.

713,254. MF DAIRY DIP AND DESIGN. Milk Foods, Inc., U.S.A., d.b.a. Milk Foods, Inc. SN 94,080. Pub. 1–10–61. Filed 3–31–60.

713,255. SELIM. Société des Produits Nestlé S.A. SN 95,945. Pub. 1–10–61. Filed 4–27–60.

713,256. MOSAIK. Société des Produits Nestlé S.A. SN 95,946. Pub. 1–10–61. Filed 4–27–60.

713,257. CLEVE FARM. John Engelhorn & Sons. SN 96,795. Pub. 1–10–61. Filed 5–10–60.

713,258. TARI. Gebrüder Giulini G.m.b.H. SN 96,855. Pub. 1–10–61. Filed 5–11–60.

713,259. SMITH'S TREAT. Smith Orchards, Inc., assignee of Smith Orchards. SN 97,584. Pub. 1–10–61. Filed 5–20–60.

713,260. HY-RATION. Hygrade Food Products Corporation. SN 102,114. Pub. 1–10–61. Filed 8–5–60.

713,261. MAGIC-POP. W. T. Hawkins, Ltd. SN 102,237. Pub. 1–10–61. Filed 8–8–60.

713,262. IDA-PAK. Idaho Potato Processors, Inc. SN 102,241. Pub. 1–10–61. Filed 8–8–60.

713,263. IDAHO VALLEY. Idaho Potato Processors, Inc. SN 102,242. Pub. 1–10–61. Filed 8–8–60.

713,264. BEEF PACKER. Honeggers' & Co., Inc. SN 102,391. Pub. 1–10–61. Filed 8–10–60.

Class 47—Wines

713,265. RIPPLE AND DESIGN. E. & J. Gallo Winery. SN 95,820. Pub. 1–10–61. Filed 4–26–60.

713,266. VAL-VIN. Franzia Brothers Winery, d.b.a. Old Chateau Wine Co. SN 97,644. Pub. 1–10–61. Filed 5–23–60.

713,267. FRANZIA. Franzia Brothers Winery, d.b.a. Franzia Bros. Winery. SN 97,645. Pub. 1–10–61. Filed 5–23–60.

Class 49—Distilled Alcoholic Liquors

713,268. STUART & WILLIAMS. Barton Distilling Company. SN 82,388. Pub. 1–10–61. Filed 9–30–59.

713,269. DALMORE. Mackenzie Brothers Dalmore Limited. SN 100,274. Pub. 1–10–61. Filed 7–5–60.

Class 50—Merchandise Not Otherwise Classified

713,270. 3M SIGNAL. Minnesota Mining and Manufacturing Company. SN 89,010. Pub. 1–10–61. Filed 1–14–60.

713,271. FLO-MATIC. Flo-Matic Corporation. SN 95,868. Pub. 1–10–61. Filed 4–27–60.

713,272. ZOO-LINE. Schooline Corporation, d.b.a. Zoo-Line. SN 98,155. Pub. 1–10–61. Filed 5–31–60.

713,273. VERSATILE IMPULSE SALESMAN AND DESIGN. Schenley Industries, Inc. SN 98,595. Pub. 1–10–61. Filed 6–7–60.

713,274. FELCO. Farmers Elevator Service Company. SN 98,981. Pub. 1–10–61. Filed 6–14–60.

713,275. ROCK-O-RAMA. Parke-Barnes, Inc. SN 100,721. Pub. 1–10–61. Filed 7–12–60.

713,276. NORTHERN LIGHTS. Aluminum Hardwares, Inc. SN 100,830. Pub. 1–10–61. Filed 7–14–60.

713,277. CABEC. Carl C. Beck. SN 100,879. Pub. 1–10–61. Filed 7–15–60.

Class 51—Cosmetics and Toilet Preparations

713,278. FAIRY PRINCESS. Coty, Inc. SN 7,329. Pub. 5–7–57. Filed 4–30–56.

713,279. SURE. Lexicon Products, Inc. SN 25,181. Pub. 4–8–58. Filed 2–27–57.

713,280. JETSTREAM. Yardley of London, Inc., d.b.a. Yardley. SN 60,329. Pub. 7–14–59. Filed 10–8–58.

713,281. STABER'S FOR BEAUTY. Staber's Hollywood Cosmetic Laboratories, Inc. SN 74,553. Pub. 1–10–61. Filed 5–26–59.

713,282. SANICUTAN. Les Parfums Chypron S.A. SN 77,674. Pub. 1–10–61. Filed 7–14–59.

713,283. BIO-DROGA-KOSMETIK. Walter Friedmann, d.b.a. Firma Cosmetique Sans Soucis. SN 91,365. Pub. 1–10–61. Filed 2–23–60.

713,284. FRESH PAINT. Charles of the Ritz, Inc. SN 97,457. Pub. 1–10–61. Filed 5–19–60.

713,285. FASHION MODEL. Cippy, Inc. SN 99,044. Pub. 1–10–61. Filed 6–15–60.

713,286. BLUE FERN. Allen B. Wrisley Company. SN 99,391. Pub. 1–10–61. Filed 6–20–60.

713,287. MANI MAGIC. Pacquin, Inc. SN 100,039. Pub. 1–10–61. Filed 6–30–60.

Class 52 — Detergents and Soaps

713,288. METEX COPPER BRIGHTENER CI. MacDermid Incorporated. SN 70,089. Pub. 1–10–61. Filed 3–23–59.

Service Marks

Class 100 — Miscellaneous

713,289. FABMAGIC. Ontario Chemical and Equipment Co. SN 83,905. Pub. 1–10–61. Filed 10–23–59.

713,290. CT SYSTEM. The Corporation Trust Company. SN 91,075. Pub. 1–10–61. Filed 2–17–60.

Class 101 — Advertising and Business

713,291. NATIONAL RED STAMPS. National Stamp System, Inc. SN 23,165. Pub. 10–18–59. Filed 1–24–57.

713,292. GLOWING HOME AND DESIGN. Glowing Home Company. SN 41,016. Pub. 1–10–61. Filed 11–20–57.

713,293. UNITED RENT-ALLS. United Rent-Alls, Inc. SN 82,307. Pub. 1–10–61. Filed 9–28–59.

713,294. DART DRUG AND DESIGN. Dart Drug Corporation, assignee of Dart Distributing Corporation. SN 94,149. Pub. 11–29–60. Filed 4–1–60.

Class 102 — Insurance and Financial

713,295. INSURANCE BY NORTH AMERICA. Insurance Company of North America. SN 72,434. Pub. 1–10–61. Filed 4–28–59.

713,296. INA. Insurance Company of North America. SN 72,436. Pub. 1–10–61. Filed 4–28–59.

713,297. INA AND DESIGN. Insurance Company of North America. SN 72,437. Pub. 1–10–61. Filed 4–28–59.

713,298. AMALGAMATED CREDIT SYSTEMS. Amalgamated Credit Systems, Inc., assignee of D-S Agency, Inc. SN 79,557. Pub. 1–10–61. Filed 8–14–59.

713,299. THE MONEY MAN AT THE BUDGET PLAN. The Budget Plan, Inc. SN 83,861. Pub. 1–10–61. Filed 10–23–59.

Class 106 — Material Treatment

713,300. ALDECO. Aluminum Development Corporation. SN 96,073. Pub. 1–10–61. Filed 4–29–60.

Class 107 — Education and Entertainment

713,301. BRICKS AND BATS. Bennett Levine. SN 83,175. Pub. 1–10–61. Filed 10–13–59.

713,302. KFI FROST WARNINGS. Earle C. Anthony, Inc. SN 87,329. Pub. 1–10–61. Filed 12–15–59.

713,303. FLIGHT TO ADVENTURE. Laudermilk and Yoder. SN 97,494. Pub. 1–10–61. Filed 5–19–60.

Collective Membership Mark

Class 200

713,304. FRATERNAL EMBLEM. Phi Mu Alpha Sinfonia Fraternity of America, Incorporated, d.b.a. Phi Mu Alpha Sinfonia Fraternity of America and Phi Mu Alpha Sinfonia Fraternity. SN 63,742. Pub. 1–10–61. Filed 12–5–58.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

713,305. Investor's, Inc., High Point, N.C. SN 68,266. Filed P.R. 2–24–59; Am. S.R. 12–27–60.

Tote-n-Hang

For Hand Bag.
First use Nov. 10, 1958.

Class 12 — Construction Materials

713,306. Gladding, McBean & Co., Los Angeles, Calif. SN 87,673. Filed P.R. 12–21–59; Am. S.R. 1–16–61.

E-Z-SET

For Ceramic Tile and Terracotta Used on Walls and the Like.
First use October 1959.

713,307. The Morton Pottery Company, Morton, Ill. SN 92,994. Filed P.R. 3–16–60; Am. S.R. 1–30–61.

SET-MOR

For Ceramic Tile.
First use Jan. 3, 1960.

Class 21 — Electrical Apparatus, Machines, and Supplies

713,308. The Ohio Carbon Company, Lakewood, Ohio. SN 100,460. Filed P.R. 7–7–60; Am. S.R. 11–28–60.

OHIO

For Electrical Contact Making Brushes of Carbon, Graphite, and Metal and Graphite, Carbon Regulator Disks, and Carbon Contacts.
First use July 1, 1916.

Class 39 — Clothing

713,309. Safe-in-Suds, Incorporated, New York, N.Y. SN 64,436. Filed P.R. 12–16–58; Am. S.R. 9–30–60.

SIZED TO FIT

For Men's Sport Shirts.
First use July 10, 1958.

713,310. The Perry Knitting Company, Perry, N.Y. SN 87,903. Filed P.R. 12–23–59; Am. S.R. 1–24–61.

PLAY-TOP

For Infants', Toddlers', Boys' and Girls' Outer Sweat Shirts.
First use Dec. 9, 1959.

Class 40 — Fancy Goods, Furnishings, and Notions

713,311. The Governor Fastener Company, New York, N.Y. SN 82,823. Filed P.R. 10–7–59; Am. S.R. 11–23–60.

PORCELENE

For Fasteners, Supporters, and/or Coupling Devices for Undergarments.
First use June 5, 1959.

TRADEMARK REGISTRATIONS RENEWED

130,932. SEILERS—YOU'LL FAVOR THE FLAVOR AND DESIGN. Cl. 46. 11–9–20.
139,008. MONGOLA. Cl. 46. 1–18–21.
139,009. SULTA. Cl. 46. 1–18–21.
139,010. SITRO. Cl. 46. 1–18–21.
139,013. BENGA. Cl. 46. 1–18–21.
139,293. GOLD SEAL BLANKETS AND DESIGN. Cl. 42. 2–1–21.
139,501. A. B. CHASE. Cl. 36. 2–8–21.
139,788. SOLVIL. Cl. 27. 2–22–21.
140,330. DARLING AND DESIGN. Cl. 46. 3–15–21.
140,465. WAVERLY. Cl. 15. 3–15–21.
140,562. BOSS MEEDY. Cl. 39. 3–22–21.
140,563. BOSS WALLOPER. Cl. 39. 3–22–21.
140,564. BOSS JERZY. Cl. 39. 3–22–21.
140,625. DELUXKNIT. Cl. 42. 3–22–21.
140,626. SILKY WAY. Cl. 42. 3–22–21.
140,938. TRUMPS. Cl. 46. 3–29–21.
141,875. BOSS XTRA HEVY. Cl. 39. 5–3–21.
141,876. BOSS HEVY. Cl. 39. 5–3–21.
142,156. FLINTOX. Cl. 6. 5–3–21.
142,471. MAN OF WAR. Cl. 46. 5–17–21.
142,941. BOSS SNUGS. Cl. 39. 5–24–21.
142,942. BOSS HUSKY. Cl. 39. 5–24–21.
143,107. VINTA. Cl. 46. 5–24–21.
143,162. SANI-CAN. Cl. 2. 5–24–21.
143,329. FLEURDE LIS. Cl. 39. 5–31–21.
143,707. PANNIER AND DESIGN. Cl. 23. 6–7–21.
143,927. C. Cl. 13. 6–21–21.
144,359. BUFFINGTONS AND DESIGN. Cl. 18. 7–5–21.
383,122. ECONOMY. Cl. 37. 11–26–40.
383,824. INVIZO GRIP. Cl. 39. 12–24–40.
383,862. PATRIOT. Cl. 51. 12–24–40.
383,870. ASPERTABS. Cl. 18. 12–24–40.
384,137. BRUXTON. Cl. 39. 1–7–41.
384,321. TYPHOON CLOTH AND DESIGN. Cl. 42. 1–14–41.
384,357. WATEX. Cl. 46. 1–14–41.
384,359. RIBBER. Cl. 39. 1–14–41.
384,417. PURE-PEP. Cl. 15. 1–21–41.
384,487. ECONOMY AND DESIGN. Cl. 15. 1–21–41.
384,523. SUCCESS. Cl. 46. 1–21–41.
384,570. BEAR AND DESIGN. Cl. 29. 1–21–41.
384,674. CHIEFTAN. Cl. 1. 1–28–41.
384,817. THE GOLDEN HEART VOSS. Cl. 23. 2–4–41.
384,939. BETH-CO-WELD. Cl. 13. 2–11–41.
385,178. BUTEREG BREAD AND DESIGN. Cl. 46. 2–18–41.
385,207. FUR-PRO. Cl. 46. 2–18–41.
385,339. FAMOUS. Cl. 23. 2–25–41.
385,403. REMOVENE. Cl. 52. 2–25–41.
385,672. CONVIRA. Cl. 26. 3–11–41.
385,808. MASTERSET. Cl. 37. 3–18–41.
386,026. CONDUX. Cl. 13. 3–25–41.
386,042. RAIN-KOTE AND DESIGN. Cl. 16. 3–25–41.
386,222. A LITTLE NIP 33 AND DESIGN. Cl. 48. 4–1–41.
386,223. ROLLING ROCK AND DESIGN. Cl. 48. 4–1–41.
386,318. ACTIVELY YOURS. Cl. 39. 4–1–41.
386,595. RED CHEEK AND DESIGN. Cl. 46. 4–15–41.
386,819. ROUNDUPS. Cl. 39. 4–22–41.
386,968. NATIONAL. Cl. 11. 4–29–41.
387,305. SIERRA. Cl. 46. 5–13–41.
387,475. PROGAR. Cl. 42. 5–20–41.
387,641. NATIONAL AND DESIGN. Cl. 37. 5–27–41.
387,642. GUARANTEED NATIONAL AND DESIGN. Cl. 37. 5–27–41.
387,694. KLER-RO. Cl. 52. 5–27–41.
387,746. DUPONT AND DESIGN. Cl. 1. 5–27–41.
387,753. BEAU CATCHERS. Cl. 40. 5–27–41.
387,837. PEERLESS HY-CANDESCENT ARC LAMP ETC. Cl. 26. 6–3–41.
388,064. OLD MIRROR. Cl. 26. 6–10–41.
388,075. KEY DESIGN. Cl. 15. 6–10–41.
388,452. FIRE-KING. Cl. 33. 6–24–41.
388,546. FOULDS. Cl. 46. 7–1–41.
388,613. VEIL OF BEAUTY. Cl. 51. 7–1–41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

142,589. JIFFY-JULEPS. Cl. 45. 5–17–21.
336,191. MAGIC DOORS AND DESIGN. Cl. 21. 6–30–36.
429,780. SERVOTRON ETC. AND DESIGN. Cl. 21. 5–20–47.
533,757. MARTINIZING. Cl. 24. 11–21–50.
679,111. CAT IN A BOX AND DESIGN. Cl. 13. 5–26–59.

Section 8

16,625. KINGS WINDSOR AND DESIGN. Cl. 12. 7–16–1889.
73,219. J. B. KING & CO. HILLSBOROUGH N.B. ETC. AND DESIGN. Cl. 12. 3–30–09.
160,707. BIG 4 FOUR. Cl. 12. 10–24–22.
172,069. QUAD. Cl. 12. 9–11–23.
214,346. PLASTINT. Cl. 12. 6–22–26.
315,566. STREAK LITE AND DESIGN. Cl. 22. 7–31–34.
559,899. DOUBLE FIVE 55. Cl. 3. 6–10–52.
600,130. MILZEMA AND DESIGN. Cl. 51. 12–28–54.

The following registrations issued Feb. 8, 1955

601,789. LUCITE. Cl. 1.
601,791. WINE DARKS. Cl. 1.
601,796. CALSO-MATIC. Cl. 2.
601,800. TY-KING. Cl. 3.
601,814. PAGHOLS. Cl. 12.
601,815. VITCOTE AND DESIGN. Cl. 12.
601,818. TITANEX. Cl. 12.
601,820. GARDEN CITY PANELPAK. Cl. 12.
601,830. VISION VISOR. Cl. 19.
601,831. PATRICIAN. Cl. 19.

601,832. SPORTLAND. Cl. 19.
601,833. ULTRA HI-CUBE. Cl. 19.
601,834. ULTRA HY-CUBE. Cl. 19.
601,836. CASTEEL AND DESIGN. Cl. 23.
601,837. NU-WAY. Cl. 23.
601,847. SHIFTOMATIC. Cl. 23.
601,858. COUNT-O-MAT. Cl. 26.
601,863. NETTIE POST ORIGINALS AND DESIGN. Cl. 28.
601,866. WARPAK AND DESIGN. Cl. 31.
601,870. SELF-SELECTOR. Cl. 32.
601,872. BACKGROUNDS FOR LIVING AND DESIGN. Cl. 32.
601,881. VASSAR. Cl. 37.
601,887. C-I WITHIN DESIGN. Cl. 37.
601,888. CICO-DUOSET. Cl. 37.
601,889. CICO-FLEX. Cl. 37.
601,894. TUG TOGS AND DESIGN. Cl. 39.
601,896. SNUBBIES. Cl. 39.
601,899. A JAN PARK JUNIOR. Cl. 39.
601,910. SNAPET. Cl. 40.
601,913. NEBROC. Cl. 43.
601,919. ANGELBREAD. Cl. 46.
601,920. REPRESENTATION OF A FISH. Cl. 46.
601,925. BALLETINA. Cl. 50.
601,926. VINTRON. Cl. 50.
601,929. TWIN SCOTTY AND DESIGN. Cl. 50.
601,930. GEOTAG. Cl. 50.
601,933. SCR BRICK TYPE PB. Cl. 12.
601,935. MULTI-TONE. Cl. 2.
601,936. CLOS-TITE. Cl. 3.
601,937. STURDEE. Cl. 12.
601,938. YELLO-TONES. Cl. 12.
601,946. EASY-FIT. Cl. 19.
601,949. SHUR-LOCK "82" TUNER. Cl. 21.
601,952. BAG-A-BLOCKS. Cl. 22.
601,953. BAG-A-TOY. Cl. 22.
601,957. EASY CREASE. Cl. 24.
601,959. SUNN-LITE. Cl. 26.
601,961. CITY GUIDE. Cl. 26.
601,963. RANDALL. Cl. 27.
601,965. SUPER-STOR. Cl. 31.
601,970. SHORTY POSTCARD MESSAGE. Cl. 37.
601,971. SHARPA-KOPY. Cl. 37.
601,973. BROILER WORLD. Cl. 38.
601,976. PUNCH POINT. Cl. 39.
601,981. BAHIA CLOTH. Cl. 42.
601,987. JOSEPHS' BRAND. Cl. 46.
601,989. SAFE-T-TAPE. Cl. 50.
601,994. FLORIDA FREIGHT AND DESIGN. Cl. 105.
601,995. WEE WASH IT. Cl. 106.

Section 37

85,539. ZEISS. Cl. 26. 2-20-12.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

385,829. PRIDE OF ERIN. Cl. 49. 3-18-41. London & Company, Inc., Elizabeth, N.J. Amended: In the statement, column 2, lines 1 through 5, "Two shades of the color green are essential features of the mark, the part shown in black in the drawing being dark green and that by linings light green. No claim is made to the representation of a label per se." is deleted, and the drawing is amended to appear:

PRIDE OF ERIN

412,124. ORLETS. Cl. 6. 2-20-45. Lederle Laboratories, Inc., New York, N.Y. Corrected: In the statement, column 1, lines 13 and 14, "infetious" should be deleted and *infectious* should be inserted.

501,919. HYDRA TORK. Cl. 23. 6-20-54. Clark Equipment Company, Buchanan, Mich. Amended: In the statement, column 2, lines 1 and 2, the description of goods, "power-operated industrial lift trucks" is deleted and *power transmission units for vehicles* is inserted, and the drawing is amended to appear:

HYDRA-TORK

601,196. FERRO-SOUR. Cl. 6. 1-25-55. Diamond Alkali Company, Cleveland, Ohio. Amended to appear:

FERRO-SOUR

609,207. DIETONIC. Cl. 45. 7-19-55. White Rock Bottlers Company of Los Angeles, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, after "Company" *of Los Angeles* should be inserted.

640,973. TRICK SQUIRT. Cl. 22. 2-6-57. Bromo-Mint Co., doing business as Kenner Products Company, Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted and "Ohio" should be deleted and *Delaware* should be inserted.

644,895. NURSERY BIRDS. Cl. 22. 4-30-57. Bromo-Mint Co., doing business as Kenner Products Company, Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted, "Ohio" should be deleted and *Delaware* should be inserted.

644,896. NURSERY BUTTERFLIES AND DESIGN. Cl. 22. 4-30-57. Bromo-Mint Co., doing business as Kenner Products Company, Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted, "Ohio" should be deleted and *Delaware* should be inserted.

663,083. FAIRY-GO-ROUND. Cl. 22. 6-17-58. Bromo-Mint Co., doing business as Kenner Products Company, Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted, "Ohio" should be deleted and *Delaware* should be inserted.

709,628. PIGGY-BACK. Cl. 31. 1-10-61. W. O. Baker, doing business as Baker Filtration Company, El Monte, Calif. Corrected: In the statement, column 1, line 1, "301" should be deleted and *3301* should be inserted.

709,692. ELY & WALKER. Cl. 42. 1-10-61. Burlington Industries, Inc., New York, N.Y. Corrected: In the statement, column 2, line 9, "June 1, 1960" should be deleted and *June 1, 1906* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

164,281. JOSAM. Cl. 13. Josam Manufacturing Company. 2-20-23. New Cert. Sec. 7(c) to Josam Manufacturing Co., Michigan City, Ind.

292,859. JOSAM. Cl. 13. The Josam Manufacturing Company. 3-29-32. New Cert. Sec. 7(c) to Josam Manufacturing Co., Michigan City, Ind.

656,258. PHI. Cl. 1. Plastic Horizons, Inc. 12-31-57. New Cert. Sec. 7(c) to Celanese Corporation of America, New York, N.Y.

673,101. GERILIQUID. Cl. 18. Lakeside Laboratories, Inc. 1-27-59. New Cert. Sec. 7(c) to Lakeside Laboratories, Inc., Milwaukee, Wis.

692,283. LEVELEZE. Cl. 13. Josam Manufacturing Co. 2-2-60. New Cert. Sec. 7(c) to Josam Manufacturing Co., Michigan City, Ind.

INDEX OF REGISTRANTS

MARCH 28, 1961

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AMP Inc., Harrisburg, Pa. 713,067, pub. 1-10-61. Cl. 21.
Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. 713,082, pub. 1-10-61. Cl. 21.
Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. 713,120, pub. 1-10-61. Cl. 23.
Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. 713,145, pub. 1-10-61. Cl. 26.
Aeolian American Corp.: *See*—
Chase, A. B., Piano Co., Inc.
Aero Research Instrument Co., Inc., Chicago, Ill. 713,078, pub. 1-3-60. Cl. 21.
Affiliated Manufacturers, Inc., Oldwick, N.J. 713,141, pub. 1-10-61. Cl. 26.
Affiliated Products, Inc., Jersey City, N.J., to American Home Products Corp., New York, N.Y. 383,862, ren. 3-28-61. Cl. 51.
Alchester Mfg. Co., Inc., Magnolia, N.J. 713,211, pub. 7-12-60. Cl. 39.
Alexander Doll Co., Inc., d.b.a. Madame Alexander, New York, N.Y. 713,098, pub. 1-10-61. Cl. 22.
Allied Chemical Corp.: *See*—
National Aniline & Chemical Co., Inc.
Allyn Bank Equipment Co., Chicago, Ill. 713,180, pub. 1-10-61. Cl. 25.
Aluminum Development Corp., Pelham Manor, N.Y. 713,300, pub. 1-10-61. Cl. 106.
Aluminum Hardwares, Inc., Forest Park, Ill. 713,276, pub. 1-10-61. Cl. 50.
Alva Coal Corp.: *See*—
Maumee Collieries Co., The.
Amalgamated Credit Systems, Inc., from D-S Agency, Inc., St. Louis, Mo. 713,298, pub. 1-10-61. Cl. 102.
Amana Refrigeration, Inc., Amana, Iowa. 713,164, pub. 1-10-61. Cl. 31.
American Can Co.: *See*—
Northern Paper Mills.
American Corn Cutter Co., Inc., Winamac, Ind. 713,117, pub. 1-10-61. Cl. 23.
American Cyanamid Co., New York, N.Y. 713,058-9, pub. 1-10-61. Cl. 18.
American Grease Stick Co., Muskegon Heights, Mich. 713,027, pub. 1-10-61. Cl. 15.
American Heritage Publishing Co., Inc., New York, N.Y. 713,183, pub. 1-10-61. Cl. 36.
American Home Products Corp.: *See*—
Affiliated Products, Inc.
American Home Products Corp., d.b.a. Ives-Cameron Co., New York, N.Y. 713,060, pub. 1-10-61. Cl. 18.
American Sponge and Chamois Co., Inc., Long Island City, N.Y. 713,160, pub. 1-10-61. Cl. 29.
Anchor Hocking Glass Corp., Lancaster, Ohio. 388,452, ren. 3-28-61. Cl. 33.
Andre, Arnold, Bunde, Westphalia, Germany. 713,052, pub. 1-10-61. Cl. 17.
Ankli, Carl V., St. Petersburg, Fla. 713,180, pub. 1-10-61. Cl. 24.
Anthony, Earle C., Inc., Los Angeles, Calif. 713,302, pub. 1-10-61. Cl. 107.
Art Cement Mfg. Co., Miami, Fla. 713,049, pub. 1-10-61. Cl. 16.
Asahi Kasei Kogyo Kabushiki Kaisha, Kita-Ku, Osaka, Japan. 712,984, pub. 1-10-61. Cl. 1.
Atlantic, New York, N.Y. 713,202, pub. 1-10-61. Cl. 38.
Atlas Mineral Products Co. of Pennsylvania, The, Mertztown, Pa. 601,818, canc. Cl. 12.
Audette, Benjamin J., d.b.a. Bennatt Organization, Los Angeles, Calif. 601,847, canc. Cl. 23.
Automatic Electric Co., Northlake, Ill. 713,083, pub. 1-10-61. Cl. 21.
B. & S. Chemical Co.: *See*—
De Lucco, Frank R.
Babcock & Wilcox Co., The, New York, N.Y. 713,013, pub. 1-10-61. Cl. 12.
Baitch & Castaldi, Inc., New York, N.Y. 713,227, pub. 1-10-61. Cl. 39.
Baker Filtration Co.: *See*—
Baker, W. O.
Baker Process Co.: *See*—
Wallace & Tiernan Process Co.
Baker, W. O., d.b.a. Baker Filtration Co., El Monte, Calif. 709,628, cor. Cl. 31.
Balletina Co., South Bend, Ind. 601,925, canc. Cl. 50.
Barth & Dreyfuss, Los Angeles, Calif. 713,289, pub. 1-10-61. Cl. 42.
Barton Distilling Co., Chicago, Ill. 713,268, pub. 1-10-61. Cl. 49.
Bassett, W. E., Co., The, Derby, Conn. 713,101, pub. 1-10-61. Cl. 23.
Battenfeld Grease & Oil Corp., Inc., Kansas City, Mo. 713,046, pub. 1-10-61. Cl. 16.
Beaurain, Rene Jules Pierre, Bologne-Sur-Mer (Pas-De-Calais), France. 601,920, canc. Cl. 46.
Beck, Carl C., Albany, N.Y. 713,277, pub. 1-10-61. Cl. 50.
Bennatt Organization: *See*—
Audette, Benjamin J.
Bennett Mfg. Co., Inc.: *See*—
Sanitary Receiver Co., Inc.
Beresny Engineering & Mfg. Co.: *See*—
Beresny, Mischa N.
Beresny, Mischa N., d.b.a. Beresny Engineering & Mfg. Co., Los Angeles, Calif. 601,858, canc. Cl. 26.
Berks-Lehigh Cooperative Fruit Growers, Inc., Fleetwood, Pa. 386,595, ren. 3-28-61. Cl. 46.
Bethlehem Steel Co., Bethlehem, Pa. 384,939, ren. 3-28-61. Cl. 13.
Biddle Co., The, St. Louis, Mo. 713,015, pub. 1-10-61. Cl. 12.
Bihl & Associates: *See*—
Bihl, Jerome U.
Bihl, Jerome U., d.b.a. Bihl & Associates, San Marino, Calif. 713,096, pub. 1-10-61. Cl. 22.
Blue Bell, Inc., Greensboro, N.C. 601,894, canc. Cl. 39.
Bohn Aluminum & Brass Corp., Detroit, Mich. 713,044, pub. 1-10-61. Cl. 16.
Borden Co., The, New York, N.Y. 140,330, ren. 3-28-61. Cl. 46.
Borden Co., The, New York, N.Y. 385,207, ren. 3-28-61. Cl. 46.
Boss Mfg. Co., The, Kewanee, Ill. 140,562-4, ren. 3-28-61. Cl. 39.
Boss Mfg. Co., The, Kewanee, Ill. 141,875-6, ren. 3-28-61. Cl. 39.
Boss Mfg. Co., The, Kewanee, Ill. 142,941-2, ren. 3-28-61. Cl. 39.
Bourns, Inc., Riverside, Calif. 713,037, pub. 1-10-61. Cl. 16.
Bradford's Inc., Teaneck, N.J. 713,236, pub. 1-10-61. Cl. 41.
Briney, Claude R., d.b.a. Rite-Depth, Rochelle, Ill. 713,008, pub. 1-10-61. Cl. 22.
Bromo-Mint Co., d.b.a. Kenner Products Co., Cincinnati, Ohio. 640,973, cor. Cl. 22.
Bromo-Mint Co., d.b.a. Kenner Products Co., Cincinnati, Ohio. 644,895-6, cor. Cl. 22.
Bromo-Mint Co., d.b.a. Kenner Products Co., Cincinnati, Ohio. 663,083, cor. Cl. 22.
Brown, Edward D., New York, N.Y. 713,237, pub. 1-10-61. Cl. 42.
Brownstein, Joseph S., d.b.a. Snag-Prufe Fasteners, Louisville, Ky. 713,233, pub. 1-10-61. Cl. 40.
Bruner Corp., Milwaukee, Wis. 713,166, pub. 1-10-61. Cl. 31.
Bruxton Shirt Mfg. Inc.: *See*—
Liebovitz, S., & Sons, Inc.
Budget Plan, Inc., The, Huntingdon, Pa. 713,209, pub. 1-10-61. Cl. 102.
Buffington's Inc., Worcester, Mass. 144,359, ren. 3-28-61. Cl. 18.
Burlington Industries, Inc.: *See*—
Ely & Walker Dry Goods Co.
General Ribbon Mills, Inc.
Mallinson, H. R., & Co., Inc.
Sarfert Hosiery Mills, Inc.
Burlington Industries, Inc., New York, N.Y. 709,692, cor. Cl. 42.
Burroughs Corp., Detroit, Mich. 713,189, pub. 1-10-61. Cl. 37.
Butereg Co., Inc., The, Kansas City, Kans. 385,178, ren. 3-28-61. Cl. 46.
Butter Hardware Co., The, Butler, Wis. 713,007, pub. 1-10-61. Cl. 12.
Cal-Dak Co., The, Los Angeles, Calif. 713,133, pub. 1-10-61. Cl. 24.
California Oil Co., The, Wilmington, Del. 601,796, canc. Cl. 2.
Calumet Steel Castings Corp., Hammond, Ind. 601,836, canc. Cl. 23.
Cameron, Duncan E., London, England. 713,178, pub. 1-10-61. Cl. 32.
Cape Codder Farm: *See*—
Peterson, John R.
Celanese Corp. of America: *See*—
Plastic Horizons, Inc.
Cellofiex Corp., Elizabeth, N.J., from Aaron London, Brooklyn, N.Y. 712,987, pub. 1-10-61. Cl. 2.
Central Soya Co., Inc., Ft. Wayne, Ind. 713,251, pub. 1-10-61. Cl. 46.
Champion-International Co., Lawrence, Mass. 601,887-9, canc. Cl. 37.
Charles of the Ritz, Inc., New York, N.Y. 713,284, pub. 1-10-61. Cl. 51.
Chase, A. B., Piano Co., Inc., New York, N.Y., to Aeolian American Corp., East Rochester, N.Y. 139,501, ren. 3-28-61. Cl. 36.
Chattanooga Medicine Co., The, d.b.a. Chattem Laboratories, Chattanooga, Tenn. 713,056, pub. 1-10-61. Cl. 18.
Chattem Laboratories: *See*—
Chattanooga Medicine Co., The:
Chemo Puro Mfg. Corp., Newark, N.J. 713,250, pub. 1-10-61. Cl. 46.
Cherry-Burrell Corp., Cedar Rapids, Iowa. 713,119, pub. 1-10-61. Cl. 23.
Cheshire, Inc., Chicago, Ill. 712,998, pub. 1-10-61. Cl. 5.
Chinook Packing Co., Chinook, Wash. 142,471, ren. 3-28-61. Cl. 46.
Cippy, Inc., Clifton, N.J. 713,285, pub. 1-10-61. Cl. 51.

Clark Equipment Co., Buchanan, Mich. 591,919. Am. 7(d). Cl. 23.
Clayton, Richard A., Jr., d.b.a. Peerless Broom Works, Birmingham, Ala., to Frank A. Coivard, d.b.a. Peerless Broom Works, Sylacauga, Ala. 384,570, ren. 3–28–61. Cl. 29.
Columbian Steel Tank Co., Kansas City, Mo. 712,990, pub. 1–10–61. Cl. 2.
Coivard, Frank A.: *See*—
Clayton, Richard A., Jr.
Consumers' Products Co., to Handy Spot, Inc., d.b.a. Consumers' Products Co., Los Angeles, Calif. 383,870, ren. 3–28–61. Cl. 18.
Corp. Trust Co., The, New York, N.Y. 713,290, pub. 1–10–61. Cl. 100.
Coty, Inc., New York, N.Y. 713,278, pub. 5–7–57. Cl. 51.
Crane Co., to Crane, Co., Chicago, Ill. 143,927, ren. 3–28–61. Cl. 13.
D.B.A. Products Co., Deerfield, Ill. 713,131, pub. 1–10–61. Cl. 23.
D-S Agency, Inc.: *See*—
Amalgamated Credit Systems, Inc.
Dakota Aviation Co., Huron, S. Dak. 713,104, pub. 1–10–61. Cl. 23.
Dan River Mills, Inc., Danville, Va. 713,241, pub. 1–10–61. Cl. 42.
Dart Distributing Corp.: *See*—
Dart Drug Corp.
Dart Drug Corp., from Dart Distributing Corp., Washington, D.C. 713,294, pub. 11–29–60. Cl. 101.
Date-Line Co.: *See*—
Minsky, Morton.
Davis, Phil E., Mesa, Ariz. 713,121, pub. 1–10–61. Cl. 23.
De Botelho, Martin, d.b.a. Alexandra De Markoff, to Alexandra De Markoff Sales Corp., New York, N.Y. 388,613, ren. 3–28–61. Cl. 51.
Delron Co., Inc., The, South Gate, Calif. 713,021, pub. 1–10–61. Cl. 13.
De Lucco, Frank R., d.b.a. B. & S. Chemical Co., Upper Darby, Pa. 713,055, pub. 1–10–61. Cl. 18.
De Markoff, Alexandra: *See*—
De Botelho, Martin.
De Markoff, Alexandra, Sales Corp.: *See*—
De Botelho, Martin.
De Mert & Dougherty, Inc., Chicago, Ill. 713,042, pub. 1–10–61. Cl. 16.
Diamond Alkali Co., Cleveland, Ohio. 601,186. Am. 7(d). Cl. 6.
Ditisheim, Paul, S.A., La Chaux-de-Fonds, to Fabrique des Montres Solvil et Titus S.A., Geneva, Switzerland. 139,788, ren. 3–28–61. Cl. 27.
Ditto, Inc., to Ditto, Inc., Chicago, Ill. 385,808, ren. 3–28–61. Cl. 37.
DoAll Co., The, Des Plaines, Ill. 713,120–8, pub. 1–10–61. Cl. 23.
Double Five Products, Inc., Washington, D.C. 559,899, canc. Cl. 3.
Dow Chemical Co., The, Midland, Mich. 713,001, pub. 1–10–61. Cl. 6.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 387,746, ren. 3–28–61. Cl. 1.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 601,789, canc. Cl. 1.
Duratex, Inc., Pawtucket, R.I. 713,234, pub. 1–10–61. Cl. 40.
Dustron Co., Inc., The, Dayton, Ohio. 713,111, pub. 1–10–61. Cl. 23.
Durite Leather Goods Co., Inc., New York, N.Y. 713,225, pub. 1–10–61. Cl. 39.
Dyersburg Cotton Products, Inc., Dyersburg, Tenn. 713,243–4, pub. 1–10–61. Cl. 42.
Eastman Oil Well Survey Co., Denver, Colo. 713,100, pub. 1–10–61. Cl. 23.
Easy-Fit Corp., Los Angeles, Calif. 601,946, canc. Cl. 19.
Eberhardt Mfg. Co., St. Louis, Mo. 601,957, canc. Cl. 24.
Eilebrecht Cigaretten- und Rachtabakfabriken A.G., Homburg, Saar, Germany. 713,051, pub. 1–10–61. Cl. 17.
Electrolube Ltd., Slough, England. 713,038, pub. 1–10–61. Cl. 16.
El Paso Natural Gas Products Co., El Paso, Tex. 713,029–34, pub. 1–10–61. Cl. 15.
Ely & Walker Dry Goods Co., St. Louis, Mo., to Burlington Industries, Inc., Greensboro, N.C. 139,295, ren. 3–28–61. Cl. 42.
Ely & Walker Dry Goods Co., St. Louis, Mo., to Burlington Industries, Inc., Greensboro, N.C. 143,329, ren. 3–28–61. Cl. 39.
Ely & Walker Dry Goods Co., St. Louis, Mo., to Burlington Industries, Inc., Greensboro, N.C. 386,318, ren. 3–28–61. Cl. 39.
Endicott Johnson Corp., Endicott, N.Y. 713,221, pub. 1–10–61. Cl. 39.
Engelhorn, John, & Sons, Newark, N.J. 713,257, pub. 1–10–61. Cl. 46.
Epshtein & Co.: *See*—
Epshtein, Leon.
Epshtein, Leon, d.b.a. Leon Epshtein & Co., Pittsburgh, Pa. 601,963, canc. Cl. 27.
Ericsson Telephones Ltd., Beeston, Nottingham, England. 713,061, pub. 1–10–61. Cl. 21.
Export Pacific, Tacoma, Wash. 713,091, pub. 1–19–60. Cl. 22.
Fabrique des Montres Solvil et Titus S.A.: *See*—
Ditisheim, Paul, S.A.
Fairmont Converting Co., Inc., New York, N.Y. 713,245, pub. 1–10–61. Cl. 42.
Farmer Bros. Co., Torrance, Calif. 387,305, ren. 3–28–61. Cl. 46.
Farmers Elevator Service Co., Ft. Dodge, Iowa. 713,274, pub. 1–10–61. Cl. 50.
Faultless Caster Corp., Indianapolis, Ind. 386,026, ren. 3–28–61. Cl. 13.
Feature Ring Co., Inc., New York, N.Y. 713,155–6, pub. 1–10–61. Cl. 28.
Federal Paint Co., Inc., New York, N.Y. 713,050, pub. 1–10–61. Cl. 16.
Ferris, Craig, Sr., Tulsa, Okla. 601,930, canc. Cl. 50.
Fields, Harry A., Merion Station, Pa. 601,837, canc. Cl. 23.
Firma Cosmetique Sans Soucis: *See*—
Friedmann, Walter.
Flo-Matic Corp., Miami, Fla. 713,271, pub. 1–10–61. Cl. 50.
Florida Freight Terminals, Inc., Hialeah, Fla. 601,994, canc. Cl. 105.
Flud-O-Lite, Inc., Hialeah, Fla. 713,085, pub. 1–10–61. Cl. 21.
Folkenflik, Florence, Elizabeth, N.J. 713,161, pub. 1–10–61. Cl. 29.
Formfit Co., The, Chicago, Ill. 713,218, pub. 1–10–61. Cl. 39.
Foster, L. B., Co., Inc., Pittsburgh, Pa. 713,026, pub. 1–10–61. Cl. 14.
Foulds Milling Co., The, Libertyville, Ill., to Grocery Store Products Co., West Chester, Pa. 388,546, ren. 3–28–61. Cl. 46.
Franzia Bros. Winery: *See*—
Franzia Brothers Winery.
Franzia Brothers Winery, d.b.a. Franzia Bros. Winery, Ripon, Calif. 713,267, pub. 1–10–61. Cl. 47.
Franzia Brothers Winery, d.b.a. Old Chateau Wine Co., Ripon, Calif. 713,266, pub. 1–10–61. Cl. 47.
Friedmann, Walter, d.b.a. Firma Cosmetique Sans Soucis, Baden-Baden, Germany. 713,283, pub. 1–10–61. Cl. 51.
Gallo, E. & J., Winery, Modesto, Calif. 713,265, pub. 1–10–61. Cl. 47.
Gannon, James J., Jr., Brooklyn, N.Y. 713,198, pub. 1–10–61. Cl. 38.
Gannon Mfg. Co., Rockford, Ill. 601,870, canc. Cl. 32.
Garden City Lumber Sales, Inc., Missoula, Mont. 601,820, canc. Cl. 12.
Garrett Corp., The, Los Angeles, Calif. 713,106, pub. 1–10–61. Cl. 23.
Gebruder Giulini G.m.b.H., Ludwigshafen (Rhine), Germany. 713,258, pub. 1–10–61. Cl. 46.
General Aniline & Film Corp., New York, N.Y. 385,672, ren. 3–28–61. Cl. 26.
General Aniline & Film Corp., New York, N.Y. 713,146, pub. 1–10–61. Cl. 26.
General Aniline & Film Corp., New York, N.Y. 713,148, pub. 1–10–61. Cl. 26.
General Aniline & Film Corp., New York, N.Y. 713,151, pub. 1–10–61. Cl. 26.
General Electric Co.: *See*—
Hotpoint Inc.
General Mills, Inc., Minneapolis, Minn. 713,005, pub. 1–10–61. Cl. 6.
General Motors Corp., Detroit, Mich. 713,068, pub. 1–10–61. Cl. 19.
General Motors Corp., Detroit, Mich. 713,084, pub. 1–10–61. Cl. 21.
General Motors Corp., Detroit, Mich. 713,149, pub. 1–10–61. Cl. 26.
General Ribbon Mills, Inc., New York, N.Y., to Burlington Industries, Inc., Greensboro, N.C. 387,753, ren. 3–28–61. Cl. 40.
General Shale Products Corp., Johnson City, Tenn. 601,938, canc. Cl. 12.
Gerber Electric and Supply Inc., Fort Wayne, Ind. 713,009, pub. 1–10–61. Cl. 12.
Gillie Associates, Inc., Detroit, Mich. 713,200, pub. 1–10–61. Cl. 38.
Gladding McBean & Co., Los Angeles, Calif. 713,306. Cl. 12.
Glaser Products Corp., St. Louis, Mo. 713,183, pub. 1–10–61. Cl. 34.
Glowing Home Co., New York, N.Y. 713,292, pub. 1–10–61. Cl. 101.
Govenor Fastener Co., The, New York, N.Y. 713,311. Cl. 40.
Granite City Steel Co., Granite City, Ill. 713,011, pub. 1–10–61. Cl. 12.
Greystone, Inc., Altona, Ill. 713,107, pub. 1–10–61. Cl. 23.
Grocery Store Products Co.: *See*—
Foulds Milling Co., The.
Gueseler, Frederick D., d.b.a. Hydro-Master Parts Co., Lombard, Ill. 713,168, pub. 1–10–61. Cl. 31.
Gulliver, Ruth, d.b.a. Snubbies Co., Greenwich, Conn. 601,896, canc. Cl. 39.
H.D.T. Co. Factors, Inc., White Plains, N.Y. 712,995, pub. 1–10–61. Cl. 4.
H & M Neckwear Co.: *See*—
Mayer, William.
H & M Neckwear Co., Inc.: *See*—
Mayer, William.
Hale, Alfred, Rubber Co., Quincy, Mass. 384,359, ren. 3–28–61. Cl. 39.
Handy Spot, Inc.: *See*—
Consumers' Products Co.
Harris Co., The, San Bernardino, Calif. 713,230, pub. 1–10–61. Cl. 39.
Harrison Paint & Varnish Co., The: *See*—
Walters, George G.
Hasenfeld Bros., Inc., Central Falls, R.I. 713,094, pub. 1–10–61. Cl. 22.
Hauelsen, Batist R., New Augusta, Ind. 713,138, pub. 1–10–61. Cl. 26.
Hawkins, W. T., Ltd., Chicago, Ill. 713,261, pub. 1–10–61. Cl. 46.
Hitemp Wires, Inc., Mineola, N.Y. 601,913, canc. Cl. 43.
Holland Wire Products, Inc., Holland, Mich. 713,175–6, pub. 1–10–61. Cl. 32.
Holt Hosiery Corp., New York, N.Y. 713,229, pub. 1–10–61. Cl. 39.
Hol-Tite Products Inc., Lyndhurst, N.J. 712,990, pub. 1–10–61. Cl. 4.
Honeggers' & Co., Inc., Fairbury, Ill. 713,264, pub. 1–10–61. Cl. 46.
Hotpoint Inc., now by merger, General Electric Co., Chicago, Ill. 601,965, canc. Cl. 31.

Howard, John E., Baltimore, Md. 713,113, pub. 1–10–61. Cl. 23.
Hubley Mfg. Co., The, Lancaster, Pa. 713,099, pub. 1–10–61. Cl. 22.
Humble Oil & Refining Co.: *See*—
Penola Oil Co.
Humble Oil & Refining Co., Houston, Tex. 713,181, pub. 1–10–61. Cl. 34.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 712,985, pub. 2–9–60. Cl. 1.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 712,994, pub. 8–16–60. Cl. 4.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 712,997, pub. 10–25–60. Cl. 5.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 713,000, pub. 7–12–60. Cl. 6.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 713,039, pub. 7–12–60. Cl. 16.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 713,163, pub. 2–9–60. Cl. 31.
Hunter, Arthur M., San Leandro, Calif. 713,095, pub. 1–10–61. Cl. 22.
Huss, Richard E., Lyndon, Pa. 601,970, canc. Cl. 37.
Hydro-Master Parts Co.: *See*—
Gueseler, Frederick D.
Hygrade Foods Products Corp., Detroit, Mich. 713,260, pub. 1–10–61. Cl. 46.
Idaho Potato Processors, Inc., Burley, Idaho. 713,262–3, pub. 1–10–61. Cl. 46.
Indiana Commercial Filters Corp., Lebanon, Ind. 713,165, pub. 1–10–61. Cl. 31.
Industria Prodotti Stampati: *See*—
Italian Imports Co.
Inland Container Corp., Indianapolis, Ind. 713,147, pub. 1–10–61. Cl. 26.
Insurance Co. of North America, Philadelphia, Pa. 713,192, pub. 1–10–61. Cl. 38.
Insurance Co. of North America, Philadelphia, Pa. 713,-295–7, pub. 1–10–61. Cl. 102.
International Business Machines Corp., New York, N.Y. 713,195, pub. 1–10–61. Cl. 38.
Investor's, Inc., High Point, N.C. 713,305. Cl. 3.
Italian Imports Co., Cleveland, Ohio, from Industria Prodotti Stampati, Turin, Italy. 713,123, pub. 1–10–61. Cl. 23.
Ives-Cameron Co.: *See*—
American Home Products Corp.
Jakosky, John J., Newport Beach, Calif. 713,077, pub. 1–10–61. Cl. 21.
Jenkins, J., Sons Co., Inc., Baltimore, Md. 713,153, pub. 1–10–61. Cl. 28.
Jiffy Dessert Co., Waukesha, Wis. 142,889, canc. Cl. 45.
Jobber Product Publishing Corp., Chicago, Ill. 713,201, pub. 1–10–61. Cl. 38.
Johnson-March Corp.: *See*—
Waverly Oil Works Co.
Josam Mfg. Co.: *See*—
Josam Mfg. Co., The.
Josam Mfg. Co. to Josam Mfg. Co., Michigan City, Ind. 164,281, new cert. Cl. 13.
Josam Mfg. Co., The, to Josam Mfg. Co., Michigan City, Ind. 292,859, new cert. Cl. 13.
Josam Mfg. Co., The, to Josam Mfg. Co., Michigan City, Ind. 692,283, new cert. Cl. 13.
Josefowitz, Samuel, New York, N.Y. 713,186–7, pub. 1–10–61. Cl. 36.
Josephs Distributing Co., New York, N.Y. 601,987, canc. Cl. 46.
Kelley-How-Thomson Co., Duluth, Minn. 601,832, canc. Cl. 19.
Kendall Co., The: *See*—
Stone Mill Fabrics Corp.
Kennedy, John T., Co., Kansas City, Mo. 713,041, pub. 1–10–61. Cl. 16.
Kenner Products Co.: *See*—
Bromo-Mint Co.
Kenro Graphics, Inc., Cedar Knolls, N.J. 713,144, pub. 1–10–61. Cl. 26.
Keystone Lubricating Co., Philadelphia, Pa. 388,075, ren. 3–28–61. Cl. 15.
King, Charles L., Imports, Inc., New York, N.Y. 601,800, canc. Cl. 3.
King, J. B., & Co., New York, N.Y. 16,825, canc. Cl. 12.
King, J. B., & Co., New York, N.Y. 78,219, canc. Cl. 12.
Klank, Richard H., d.b.a. The Sturdee Metal Porch Co., Baltimore, Md. 601,937, canc. Cl. 12.
Koppers Co., Inc., Pittsburgh, Pa. 713,115, pub. 1–10–61. Cl. 23.
Kramer, Jack, Sportswear, Inc., Los Angeles, Calif. 713,209, pub. 1–10–61. Cl. 39.
Krug, John P., Berkley, Mich. 601,872, canc. Cl. 32.
Kute Kiddies Coats, Inc., New York, N.Y. 713,231, pub. 1–10–61. Cl. 39.
Lakeside Laboratories, Inc., to Lakeside Laboratories, Inc., Milwaukee, Wis. 673,101, new cert. Cl. 18.
La Lanne Inc., Oakland, Calif. 713,093, pub. 1–10–61. Cl. 22.
Last Six, Inc., Littleton, Colo. 713,194, pub. 1–10–61. Cl. 38.
Latrobe Brewing Co., to Latrobe Brewing Co., Latrobe, Pa. 386,222–3, ren. 3–28–61. Cl. 48.
Laudermilk and Yoder, Long Beach, Calif. 713,303, pub. 1–10–61. Cl. 107.
Lawter Chemicals, Inc., Chicago, Ill. 713,036, pub. 1–10–61. Cl. 16.
Lederle Laboratories, Inc., New York, N.Y. 412,124, cor. Cl. 6.
Lenox Mfg. Co. of Pennsylvania, Catasauqua, Pa. 385,359, ren. 3–28–61. Cl. 23.
Les Parfums Chypron S.A., Bois-Colombes, Seine, France. 713,282, pub. 1–10–61. Cl. 51.
Levelite, Inc., New Rochelle, N.Y. 713,188, pub. 1–10–61. Cl. 26.
Levine, Bennett, Baltimore, Md. 713,301, pub. 1–10–61. Cl. 107.
Lexicon Products, Inc., St. Paul, Minn. 713,279, pub. 4–8–58. Cl. 51.
Liebovitz, S., & Sons, Inc., to Bruxton Shirt Mfg. Inc., New York, N.Y. 384,137, ren. 3–28–61. Cl. 39.
Lilley, Henry E., d.b.a. Yorktowne Optical Co., York, Pa. 713,150, pub. 1–10–61. Cl. 26.
Link Research Corp., Beverly Hills, Calif. 713,043, pub. 1–10–61. Cl. 16.
Livermore, H. F., Corp., Boston, Mass. 713,124, pub. 1–10–61. Cl. 23.
London, Aaron: *See*—
Cellonex Corp.
London & Co., Inc., Elizabeth, N.J. 385,829. Am. 7(d). Cl. 49.
Lutheran Digest, Inc., The, Minneapolis, Minn. 713,207, pub. 1–10–61. Cl. 38.
Lynnes Publishing Co., Chicago, Ill. 601,973, canc. Cl. 38.
M. H. Raab-Meyerhoff Co., Inc., Philadelphia, Pa. 601,981, canc. Cl. 42.
MacDermid Inc., Waterbury, Conn. 713,286, pub. 1–10–61. Cl. 52.
Mackenzie Brothers Dalmore Ltd., Alness, Ross-shire, Scotland. 713,269, pub. 1–10–61. Cl. 49.
Madame Alexander: *See*—
Alexander Doll Co., Inc.
Makers of Kal, Inc., Los Angeles, Calif. 713,057, pub. 1–10–61. Cl. 18.
Mallinson, H. R., & Co., Inc., New York, N.Y., to Burlington Industries, Inc., Greensboro, N.C. 140,625–6, ren. 3–28–61. Cl. 42.
Mandel's of California, Los Angeles, Calif. 713,222, pub. 1–10–61. Cl. 39.
Mark'Andy, Inc.: *See*—
Pee Cee Tape & Label Co. of Missouri.
Markay Bags, Inc., New York, N.Y. 712,991–2, pub. 1–10–61. Cl. 3.
Martin, J. E., Equipment Corp., Buffalo, N.Y. 533,757, canc. Cl. 24.
Mason, Au & Magenheimer Conf. Mfg. Co.: *See*—
Prentiss, William, Jr., Co.
Master Artist Materials, Inc., Brooklyn, N.Y. 601,929, canc. Cl. 50.
Master-Krete, Inc., Kansas City, Mo. 713,045, pub. 1–10–61. Cl. 16.
Matsushita Electric Industrial Co., Ltd. (Matsushita Denki Sangyo Kabushiki Kaisha), Kitakawachi-gun, Osaka, Japan. 713,171, pub. 1–10–61. Cl. 31.
Maumee Collieries Co., The, Terre Haute, Ind., to Alva Coal Corp., St. Louis, Mo. 384,674, ren. 3–28–61. Cl. 1.
Mayer, William, d.b.a. H & M Neckwear Co., to H & M. Neckwear Co., Inc., New York, N.Y. 383,824, ren. 3–28–61. Cl. 39.
Mayes, V., & Co. (Australia) Proprietary Ltd., Moorabbin, near Melbourne, Australia. 713,210, pub. 1–10–61. Cl. 39.
May Department Stores Co., The, St. Louis, Mo. 713,220, pub. 1–10–61. Cl. 39.
McAuley, J. E., Mfg. Co., Chicago, Ill., to The Strong Electric Corp., Toledo, Ohio. 387,837, ren. 3–28–61. Cl. 28.
Michie, Andrew Y., & Sons Co., Philadelphia, Pa. 713,238, pub. 1–10–61. Cl. 42.
Millo Brothers Chemical Laboratories Co., Inc., The, Baltimore, Md. 600,130, canc. Cl. 51.
Milk Foods, Inc.: *See*—
Milk Foods, Inc., U.S.A.
Milk Foods, Inc., U.S.A., d.b.a. Milk Foods, Inc., Modesto, Calif. 713,254, pub. 1–10–61. Cl. 46.
Miller Publishing Co., The, from The Miller Publishing Co., Minneapolis, Minn. 713,191, pub. 1–10–61. Cl. 38.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 713,270, pub. 1–10–61. Cl. 50.
Minnesota and Ontario Paper Co., Minneapolis, Minn. 713,-008, pub. 1–10–61. Cl. 12.
Minsky, Morton, d.b.a. Date-Line Co., New York, N.Y. 713,-199, pub. 12–20–60. Cl. 38.
Mister Ease, Inc., New York, N.Y. 713,226, pub. 1–10–61. Cl. 39.
Mitchell, Edwin, d.b.a. Reflect-O-Ray Products, Ravenna, Ohio. 601,989, canc. Cl. 50.
Modern Hospital Publishing Co., Inc., The, Chicago, Ill. 713,-203–5, pub. 1–10–61. Cl. 38.
Modern Upholstered Chair Co., Inc., Morristown, Tenn. 713,-016 pub. 1–10–61. Cl. 13.
Montclair Mobile Homes, Inc., Montclair, Calif. 713,075, pub. 1–10–61. Cl. 19.
Morris, Philip, Inc., New York, N.Y. 713,053–4, pub. 1–10–61. Cl. 17.
Morrison-International Corp., Buffalo, N.Y. 713,072, pub. 1–10–61. Cl. 19.
Morton Chemical Co., Chicago, Ill. 713,004, pub. 1–10–61. Cl. 6.
Morton Pottery Co., The, Morton, Ill. 713,307. Cl. 12.
Muehleisen Mfg. Co., San Diego, Calif. 713,073, pub. 1–10–61. Cl. 19.
Murray Corp. of America, The, Syracuse, N.Y. 713,172, pub. 1–10–61. Cl. 31.
Muscatine Pearl Works, Muscatine, Iowa. 713,235, pub. 1–10–61. Cl. 40.
National Aniline & Chemical Co., Inc., to Allied Chemical Corp., New York, N.Y. 139,008–10, ren. 3–28–61. Cl. 46.
National Aniline & Chemical Co., Inc., to Allied Chemical Corp., New York, N.Y. 139,013, ren. 3–28–61. Cl. 46.

National Aniline & Chemical Co., Inc., to Allied Chemical Corp., New York, N.Y. 143,107, ren. 3–28–61. Cl. 46.
National Cash Register Co., The, Dayton, Ohio. 386,868, ren. 3–28–61. Cl. 11.
National Cash Register Co., The, Dayton, Ohio. 387,641–2, ren. 3–28–61. Cl. 37.
National Filter Media Corp., The, New Haven, Conn. 713,170, pub. 1–10–61. Cl. 31.
National Stamp System, Inc., Buffalo, N.Y. 713,291, pub. 10–13–59. Cl. 101.
Neville Chemical Co.: *See*—
Neville Co., The.
Neville Co., The, Neville Island, to Neville Chemical Co., Pittsburgh, Pa. 385,403, ren. 3–28–61. Cl. 52.
New York Girl Coat Co., Inc., New York, N.Y. 713,217, pub. 1–10–61. Cl. 39.
Nopco Chemical Co., Newark, N.J. 712,003, pub. 1–10–61. Cl. 6.
North American Philips Co., Inc., New York, N.Y. 713,167, pub. 1–10–61. Cl. 31.
North Wilkesboro Hardware, Inc., North Wilkesboro, N.C. 713,012, pub. 1–10–61. Cl. 12.
Northern Paper Mills, Green Bay, Wis., to American Can Co., New York, N.Y. 383,122, ren. 3–28–61. Cl. 37.
Nuclear Electronics Corp., Philadelphia, Pa. 713,080, pub. 1–10–61. Cl. 21.
O'Day Corp., The, Boston, Mass. 713,074, pub. 1–10–61. Cl. 19.
Ohio Carbon Co., The, Lakewood, Ohio. 713,308. Cl. 21.
Old Chateau Wine Co.: *See*—
Franzia Brothers Winery.
Ontario Chemical and Equipment Co., Ontario, Calif. 713,289, pub. 1–10–61. Cl. 100.
Optical Development Corp., Chicago, Ill. 601,959, canc. Cl. 26.
Outers Laboratories, Inc., Onalaska, Wis. 713,048, pub. 1–10–61. Cl. 16.
Pacific Gamble Robinson Co., d.b.a. Ryan Fruit Co., Seattle, Wash. 713,252, pub. 1–10–61. Cl. 46.
Packard-Bell Co., Los Angeles, Calif. 601,949, canc. Cl. 21.
Packard Motor Car Co., now by change of name Studebaker-Packard Corp., Detroit, Mich. 601,831, canc. Cl. 19.
Pacquin, Inc., New York, N.Y. 713,287, pub. 1–10–61. Cl. 51.
Pannier Bros. Stamp Co., Pittsburgh, Pa. 143,707, ren. 3–28–61. Cl. 23.
Parker, Jane, Inc., New York, N.Y. 601,899, canc. Cl. 39.
Parks-Barnes, Inc., Hermosa Beach, Calif. 713,275, pub. 1–10–61. Cl. 50.
Patterson-Sargent Co., The, Cleveland, Ohio. 713,047, pub. 1–10–61. Cl. 10.
Pee Cee Tape & Label Co. of Missouri, by change of name from Mark'Andy, Inc., Scranton, Pa. 713,197, pub. 1–10–61. Cl. 38.
Peerless Broom Works: *See*—
Clayton, Richard A., Jr.
Peerless Camera Stores Corp., New York, N.Y. 713,137, pub. 1–10–61. Cl. 26.
Pennington & Co., Inc., Columbia, S.C. 713,224, pub. 1–10–61. Cl. 39.
Penola Oil Co.: *See*—
Humble Oil & Refining Co.
Perfect Brassiere Co., Inc., Jersey City, N.J. 713,216, pub. 1–10–61. Cl. 39.
Perry Knitting Co., The, Perry, N.Y. 713,310. Cl. 39.
Peters & Russell, Inc., Springfield, Ohio. 713,018, pub. 1–10–61. Cl. 13.
Peterson, John R., d.b.a. Cape Codder Farm, Falmouth, Mass. 601,791, canc. Cl. 1.
Phi Mu Alpha Sinfonia Fraternity: *See*—
Phi Mu Alpha Sinfonia Fraternity of America, Inc.
Phi Mu Alpha Sinfonia Fraternity of America: *See*—
Phi Mu Alpha Sinfonia Fraternity of America, Inc.
Phi Mu Alpha Sinfonia Fraternity of America, Inc., d.b.a. Phi Mu Alpha Sinfonia Fraternity of America and Phi Mu Alpha Sinfonia Fraternity, Murray, Ky. 713,304, pub. 1–10–61. Cl. 200.
Physicians and Hospitals Supply Co., Inc., d.b.a. Ulmer Pharmacal Co., Minneapolis, Minn. 387,694, ren. 3–28–61. Cl. 52.
Pioneer Industries, Inc., Darby, Pa. 712,993, pub. 1–10–61. Cl. 3.
Pittsburgh Garter Co., Pittsburgh, Pa. 713,215, pub. 1–10–61. Cl. 39.
Plastic Horizons, Inc., to Celanese Corp. of America, New York, N.Y. 656,258, new cert. Cl. 1.
Plasticraft Mfg. Co., Arlington, N.J. 601,952–3, canc. Cl. 22.
Plymouth Rubber Co., Inc., Canton, Mass. 713,246, pub. 1–10–61. Cl. 42.
Post, Nettie, New York, N.Y. 601,863, canc. Cl. 26.
Prentiss, William, Jr., Co., Chicago, Ill., to Mason, Au & Magenheimer Conf. Mfg. Co., Mineola, N.Y. 140,938, ren. 3–28–61. Cl. 46.
Pressewerk A.B., Essen, Germany. 601,814, canc. Cl. 12.
Prestige, Inc., New York, N.Y. 713,213, pub. 1–10–61. Cl. 39.
Pro-phy-lac-tic Brush Co., Florence, Mass. 713,159, pub. 1–10–61. Cl. 29.
Providence Lithograph Co., Providence, R.I. 713,206, pub. 1–10–61. Cl. 38.
Pure Oil Co., The, Palatine, Ill. 384,417, ren. 3–28–61. Cl. 15.
Quartite Creative Corp., Flushing, N.Y. 713,079, pub. 1–10–61. Cl. 21.
Racine Stamping Corp., Racine, Wis. 713,134, pub. 1–10–61. Cl. 25.
Radiation Applications, Inc., Long Island City, N.Y. 713,040, pub. 1–10–61. Cl. 10.
Radio Steel & Mfg. Co., Chicago, Ill. 315,566, canc. Cl. 22.
Ravensberg GmbH Chemische Fabrik, Konstanz, Germany. 713,061, pub. 1–10–61. Cl. 18.
Rayco Mfg. Co., Paramus, N.J. 713,184, pub. 1–10–61. Cl. 28.
Raytheon Mfg. Co.: *See*—
Submarine Signal Co.
Reflect-O-Ray Products: *See*—
Mitchell, Edwin.
Reid Metal Products, Inc., Burbank, Calif. 713,106, pub. 1–10–61. Cl. 23.
Reid, Rose M., Los Angeles, Calif. 713,208, pub. 1–3–61. Cl. 39.
Revco, Inc., Deerfield, Mich. 713,162, pub. 1–10–61. Cl. 31.
Reynolds Metals Co., Richmond, Va. 713,023, pub. 1–10–61. Cl. 14.
Ringdal, Lars, Oslo, Norway. 601,961, canc. Cl. 26.
Risdon Mfg. Co., The, Naugatuck, Conn. 712,989, pub. 1–10–61. Cl. 2.
Rite-Depth: *See*—
Briney, Claude R.
Ryan Fruit Co.: *See*—
Pacific Gamble Robinson Co.
S. & S. Cone Corp., New York, N.Y. 384,523, ren. 3–28–61. Cl. 46.
Safargo Co., Ohio, Ill. 713,135, pub. 1–10–61. Cl. 26.
Safe-in-Suds, Inc., New York, N.Y. 713,309. Cl. 39.
St. Croix Sales Corp., Park Falls, Wis. 713,097, pub. 1–10–61. Cl. 22.
Saks & Co., New York, N.Y. 713,232, pub. 1–10–61. Cl. 39.
Sandor Original, Inc., New York, N.Y. 601,976, canc. Cl. 39.
Sanitary Receiver Co., Inc., Dunkirk, to Bennett Mfg. Co., Inc., Alden, N.Y. 143,162, ren. 3–28–61. Cl. 2.
Sarfert Hosiery Mills, Inc., Philadelphia, Pa., to Burlington Industries, Inc., Greensboro, N.C. 386,819, ren. 3–28–61. Cl. 39.
Schenley Industries, Inc., New York, N.Y. 713,278, pub. 1–10–61. Cl. 50.
Schneider, Fred M., Cincinnati, Ohio. 712,988, pub. 1–10–61. Cl. 2.
Schneider, Wm., Inc., New York, N.Y. 713,154, pub. 1–10–61. Cl. 28.
Schooline Corp., d.b.a. Zoo-Line, Hollywood, Calif. 713,272, pub. 1–10–61. Cl. 50.
Seatronics-Cartronics, Inc., Towson, Md. 713,189–40, pub. 1–10–61. Cl. 26.
Seiler, Karl, & Sons, to Seiler's Inc., Philadelphia, Pa. 136,932, ren. 3–28–61. Cl. 46.
Seiler's Inc.: *See*—
Seiler, Karl, & Sons.
Sheet Aluminum Corp., Port Huron, Mich. 713,022, pub. 1–10–61. Cl. 14.
Shoe Corp. of America, Columbus, Ohio. 713,212, pub. 1–10–61. Cl. 39.
Shorter, Horace A., New Orleans, La. 601,971, canc. Cl. 37.
Slfo Products Co., St. Paul, Minn. 172,689, canc. Cl. 12.
Simca, Paris, France. 713,062–7, pub. 1–10–61. Cl. 19.
Simca, Paris, France. 713,070, pub. 1–10–61. Cl. 19.
Simmons Co., New York, N.Y. 713,177, pub. 1–10–61. Cl. 32.
Smith Orchards: *See*—
Smith Orchards, Inc.
Smith Orchards, Inc., from Smith Orchards, Pateros, Wash. 713,259, pub. 1–10–61. Cl. 46.
Snag-Prufe Fasteners: *See*—
Brownstein, Joseph S.
Snubbies Co.: *See*—
Gulliver, Ruth.
Societe Anonyme "Tefal," Sarcelles, Seine-et-oise, France. 713,017, pub. 1–10–61. Cl. 13.
Societe des Produits Nestle S.A., Vevey, Switzerland. 713,255–6, pub. 1–10–61. Cl. 46.
Sonneborn Chemical and Refining Corp., New York, N.Y. 713,010, pub. 1–10–61. Cl. 12.
South African Associated Newspapers Ltd., Johannesburg, Transvaal, Union of South Africa. 713,122, pub. 1–10–61. Cl. 23.
Southern Bakeries Co., Atlanta, Ga. 713,249, pub. 1–10–61. Cl. 46.
Southern Machinery Co., Greenville, S.C. 713,116, pub. 1–10–61. Cl. 23.
Southern Oxygen Co., Bladensburg, Md. 713,025, pub. 1–10–61. Cl. 14.
Southern Oxygen Co., Bladensburg, Md. 713,089, pub. 1–10–61. Cl. 21.
Southern Oxygen Co., Bladensburg, Md. 713,182, pub. 1–10–61. Cl. 34.
Southern Oxygen Co., Bladensburg, Md. 713,247, pub. 1–10–61. Cl. 44.
Sovereign Order of Saint John of Jerusalem, Inc., Shickshinny, Pa. 713,193, pub. 1–10–61. Cl. 38.
Speedy Washer Mfg. Co., Miami, Fla. 601,905, canc. Cl. 106.
Spray Products Corp., Camden, N.J. 713,028, pub. 1–10–61. Cl. 15.
Staber's Hollywood Cosmetic Laboratories, Inc., Los Angeles, Calif. 713,281, pub. 1–10–61. Cl. 51.
Standard Toch Industries, Inc.: *See*—
Toch Brothers.
Stanley Works, The, New Britain, Conn. 336,191, canc. Cl. 21.
Star Union Pajama Co., The, New York, N.Y. 713,219, pub. 1–10–61. Cl. 39.
Steinam, A., Co., Inc., New York, N.Y. 384,321, ren. 3–28–61. Cl. 42.
Stevens Brush Co., The, Cleveland, Ohio. 713,014, pub. 1–10–61. Cl. 12.
Stone Container Corp., Chicago, Ill. 601,935, canc. Cl. 2.
Stone Mill Fabrics Corp., New York, N.Y., to The Kendall Co., Walpole, Mass. 387,475, ren. 3–28–61. Cl. 42.
Strategic Materials Corp., New York, N.Y. 713,024, pub. 1–10–61. Cl. 14.
Strong Electric Corp., The: *See*—
McAuley, J. E., Mfg. Co.
Structural Clay Products Research Foundation, Chicago, Ill. 601,933, canc. Cl. 12.
Studebaker-Packard Corp.: *See*—
Packard Motor Car Co.

Studebaker-Packard Corp., South Bend, Ind. 713,076, pub. 1–10–61. Cl. 19.
Sturdee Metal Porch Co., The: *See*—
Klank, Richard H.
Submarine Signal Co., now by change of name Raytheon Mfg. Co., to Submarine Signal Co., Boston, Mass. 429,780, canc. Cl. 21.
Synthron, Inc., Ashton, R.I. 712,986, pub. 10–18–60. Cl. 1.
Szytenberg, Monique, Paris (Seine), France. 713,223, pub. 1–10–61. Cl. 39.
T.N.T. Corp., Los Angeles, Calif. 713,019, pub. 1–10–61. Cl. 13.
Taber Pump Co., Buffalo, N.Y. 713,129, pub. 1–10–61. Cl. 23.
Tacoma Equipment Importers, Inc., Tacoma, Wash. 713,132, pub. 1–10–61. Cl. 23.
Tecumseh Products Co., Tecumseh, Mich. 713,112, pub. 1–10–61. Cl. 23.
Tennessee Gas Transmission Co., Houston, Tex. 713,035, pub. 1–10–61. Cl. 15.
Textile Engineering Corp., Whitman, Mass. 713,102–3, pub. 1–10–61. Cl. 23.
Textile Marking Machine Co., Inc., Syracuse, N.Y. 713,114, pub. 1–10–61. Cl. 23.
Thomas, Arthur H., Co., Philadelphia, Pa. 713,142, pub. 1–10–61. Cl. 26.
Thompson Ramo Wooldridge, Inc., Cleveland, Ohio. 713,118, pub. 1–10–61. Cl. 23.
Tilt-O-Pane Distributing Corp., The, Pittsburgh, Pa. 713,006, pub. 1–10–61. Cl. 12.
Toch Brothers, New York, N.Y., to Standard Toch Industries, Inc., Philadelphia, Pa. 142,156, ren. 3–28–61. Cl. 6.
Towle Mfg. Co., Newburyport, Mass. 388,064, ren. 3–28–61. Cl. 28.
Trailmobile, Inc., Cincinnati, Ohio. 601,833–4, canc. Cl. 19.
Transdyne Corp., Albertson, N.Y. 713,143, pub. 1–10–61. Cl. 26.
Transogram Co., Inc., New York, N.Y. 713,090, pub. 6–21–60. Cl. 22.
Trojan Luggage Co., Memphis, Tenn. 601,936, canc. Cl. 3.
Tyer Rubber Co., Andover, Mass. 713,214, pub. 1–10–61. Cl. 39.
Ulmer Pharmacal Co.: *See*—
Physicians and Hospitals Supply Co., Inc.
Union Special Machine Co., Chicago, Ill. 713,110, pub. 1–10–61. Cl. 23.
United Merchants and Manufacturers, Inc., New York, N.Y. 713,240, pub. 1–10–61. Cl. 42.
United Merchants and Manufacturers, Inc., New York, N.Y. 713,242, pub. 1–10–61. Cl. 42.
United Printers and Publishers (Inc.), Dedham, Mass. 713,190, pub. 1–10–61. Cl. 37.
United Rent-Alls, Inc., Lincoln, Nebr. 713,293, pub. 1–10–61. Cl. 101.
United States Gypsum Co., Chicago, Ill. 160,707, canc. Cl. 12.
United States Gypsum Co., Chicago, Ill. 214,346, canc. Cl. 12.
Universal Button Co., Detroit, Mich. 601,910, canc. Cl. 40.
Universal Maschinenfabrik G.m.b.H., Westhausen, Kreis Aalen, Wurttemberg, Germany. 713,109, pub. 1–10–61. Cl. 23.
Van Houten, C. J., & Zoon N.V., Weesp, Netherlands. 713,253, pub. 1–10–61. Cl. 46.
Varsity Pajamas, Inc., New York, N.Y. 713,228, pub. 1–10–61. Cl. 39.
Vision-Visor Corp., The, Chicago, Ill. 601,830, canc. Cl. 19.
Vitreco, Inc., Chicago, Ill. 601,815, canc. Cl. 12.
Vocaline Co. of America, Inc., Old Saybrook, Conn. 713,088, pub. 1–10–61. Cl. 21.
Voss, J. H. H., Co., Inc.: *See*—
Voss, Johann H. H.
Voss, Johann H. H., to J. H. H. Voss Co., Inc., New York, N.Y. 384,817, ren. 3–28–61. Cl. 23.
Vought Industries, Inc., Dallas, Tex. 713,071, pub. 1–10–61. Cl. 19.
Wallace & Tiernan Process Co., now by change of name Baker Process Co., Belleville, N.J. 601,919, canc. Cl. 46.
Walters, George G., d.b.a. The Harrison Paint & Varnish Co., Canton, Ohio. 386,042, ren. 3–28–61. Cl. 16.
Warner & Swasey Co., The, Cleveland, Ohio. 713,086, pub. 1–10–61. Cl. 21.
Warshawsky and Co., Inc., Chicago, Ill. 713,002, pub. 1–10–61. Cl. 6.
Warshawsky and Co., Inc., Chicago, Ill. 713,069, pub. 1–10–61. Cl. 19.
Warshawsky and Co., Inc., Chicago, Ill. 713,108, pub. 1–10–61. Cl. 23.
Warshawsky and Co., Inc., Chicago, Ill. 713,169, pub. 1–10–61. Cl. 31.
Wartenbe Filters, Inc., St. Louis, Mo. 601,866, canc. Cl. 31.
Watsonville Exchange, Inc., Watsonville, Calif. 384,357, ren. 3–28–61. Cl. 46.
Waverly Oil Works Co., Pittsburgh, to The Johnson-March Corp., d.b.a. Waverly Petroleum Products Co., Philadelphia, Pa. 140,465, ren. 3–28–61. Cl. 15.
Waverly Petroleum Products Co.: *See*—
Waverly Oil Works Co.
Webster, Warren, & Co., Inc., Camden, N.J. 713,179, pub. 1–10–61. Cl. 34.
Weier, Jacob J., d.b.a. Weircat Co., Chicago, Ill. 679,111, canc. Cl. 13.
Weircat Co.: *See*—
Weier, Jacob J.
Western Tablet & Stationery Corp., Dayton, Ohio. 713,188, pub. 1–10–61. Cl. 37.
White Rock Bottlers Co. of Los Angeles, Los Angeles, Calif. 609,207, cor. Cl. 45.
White Rock Corp., Brooklyn, N.Y. 713,248, pub. 1–10–61. Cl. 45.
Whiting Paper Co., Holyoke, Mass. 601,881, canc. Cl. 37.
Whitman, Philip G., Inc., New York, N.Y. 601,926, canc. Cl. 50.
Williams & Hill Ltd., Toronto, Ontario, Canada. 713,196, pub. 1–10–61. Cl. 38.
Wilshire Oil Co. of California: *See*—
Wilshire Oil Co., Inc.
Wilshire Oil Co., Inc., to Wilshire Oil Co. of California, Los Angeles, Calif. 384,487, ren. 3–28–61. Cl. 15.
Worldsbest Industries, Inc., Cudahy, Wis. 713,174, pub. 1–10–61. Cl. 32.
Wrisley, Allen B., Co., Chicago, Ill. 713,286, pub. 1–10–61. Cl. 51.
Yale & Towne Mfg. Co., The, New York, N.Y. 713,020, pub. 1–10–61. Cl. 13.
Yale & Towne Mfg. Co., The, New York, N.Y. 713,125, pub. 1–10–61. Cl. 23.
Yale & Towne Mfg. Co., The, New York, N.Y. 713,152, pub. 1–10–61. Cl. 27.
Yale & Towne Mfg. Co., The, New York, N.Y. 713,173, pub. 1–10–61. Cl. 31.
Yardley: *See*—
Yardley of London, Inc.
Yardley of London, Inc., d.b.a. Yardley, Union City, N.J. 713,280, pub. 7–14–59. Cl. 51.
Yorktowne Optical Co.: *See*—
Lilley, Henry E.
Zeiss, Carl, Jena, Germany. 85,539, canc. Cl. 26.
Zellstofffabrik Waldhof, Mannheim-Waldhof, Germany. 712,999, pub. 1–10–61. Cl. 6.
Zoo-Line: *See*—
Schooline Corp.

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PATENTS

NOTICES

First Assistant Commissioner of Patents

DELEGATION OF AUTHORITY TO SERVE AS ACTING COMMISSIONER OF PATENTS

Acting under the provisions of section 3 of Title 35 United States Code and of section 2 of Reorganization Plan No. 5 of 1950, I hereby authorize Mr. Arthur W. Crocker, First Assistant Commissioner of Patents, to be and serve as Acting Commissioner of Patents, beginning with the opening of business of the United States Patent Office on March 2, 1961. This authorization shall remain in force until a new Commissioner of Patents to fill the vacancy that will exist in that office as of March 2, 1961, is appointed and takes office.

(R.S. 161; 5 U.S.C. 22; 35 U.S.C. 3; Reorganization Plan No. 5 of 1950, 15 F.R. 3174).

LUTHER H. HODGES,
Secretary of Commerce.

Mar. 1, 1961.

[F.R. Doc. 61-2091; Filed, Mar. 7, 1961; 8:54 a.m.]

Published in 26 F.R. 2089, March 8, 1961

Board of Appeals Decisions Rendered in the Month of February 1961

Examiner affirmed	150
Examiner affirmed in part	23
Examiner reversed	49
Total	222

Adjudicated Patents

(C.A. Ill.) McKee Patent No. 2,703,144 (106—115), for overhead door. Claims 1 to 3 and 6 *Held* valid and infringed. *McKee Door Co.* v. *Forest Door Co.*, 284 F.2d 809; 127 USPQ 475.

(D.C. Ill.) Eisbein Patent No. 2,657,618 (95—89), for developing apparatus. Claims 1 to 5 and 11 *Held* invalid. *Copease Mfg. Co.* v. *American Photocopy Equipment Co.*, 189 F. Supp. 535; 127 USPQ 490.

Disclaimer

2,902,785.—*Gordon E. Nichols*, Middleboro, Mass. EASEL-TYPE MOUNT. Patent dated Sept. 8, 1959. Disclaimer filed Feb. 27, 1961, by the assignee, *Winthrop-Atkins Co. Inc.*

Hereby enters this disclaimer to claims 1, 2, 7 and 8 of said patent.

Patents Available for Licensing or Sale

2,794,460. Hinge Butt Mortising Machine. Margaret D. Grathwol, 1422 Broadbridge Ave., Stratford, Conn. Correspondence to: Wooster, Davis & Cifelli, 1115 Main St., Bridgeport 3, Conn.

2,907,168. Pallet-Type Time Piece Mechanism. Zenichi Inotsume, Niigata-shi, Japan. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,923,341. Instant Tire Chain Assembly. Charles A. Day, 118 S. Brady St., DuBois, Pa.

General Electric Company is prepared to grant non-exclusive licenses under the following patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 7 patents may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

2,800,512. Process of Preparing Alkylated Hydroxy Aromatic Compounds.

2,800,514. Process for Preparing Alkylated Hydroxy Aromatic Compounds.

2,800,515. Process of Preparing Alkylated Hydroxy Aromatic Compounds.

2,859,203. Tough, Impact Resistant Resins.

2,859,204. Methylolated Compositions and Products Derived Therefrom.

2,948,687. Hydrogenation Catalyst.

2,948,756. Terephthalaldehyde Preparation.

Applications for license under the following 3 patents may be addressed to: Patent Counsel, Switchgear & Control Division, General Electric Company, 6901 Elmwood Ave., Philadelphia 42, Pa.

2,845,582. Electronic Control Relay.

2,939,068. Electronic Relay.

2,948,844. Magnetic Amplifier.

The following patent is available in the field of Electronic Control Systems

Applications for license may be directed to: John B. Sponsler, Dept. Patent Attorney, General Electric Company, 1501 Roanoke Blvd., Salem, Va.

2,717,326. Electric Arc Furnace Control Systems.

Patents Withdrawn From Register

General Electric Company hereby withdraws the following 4 patents from the Register of Patents Available for Licensing or Sale. These patents were listed as being available for non-exclusive licensing, in the OFFICIAL GAZETTE as indicated below:

2,558,596. Bearing Construction. Dec. 25, 1951.

2,589,999. Dynamoelectric Machine. Sept. 2, 1952.

2,590,058. Motor Switch Assembly. Sept. 2, 1952.

2,630,553. Dual Voltage Alternating Current Motor. June 22, 1954.

New Applications Received During February 1961

Patents	5,913
Designs	227
Plant Patents	1
Reissues	18
Total	6,259

Issue

Patents	1,107—No.	2,977,598 to No.	2,978,704, incl.
Designs	55—No.	190,016 to No.	190,070, incl.
Plant Patents	5—No.	2,040 to No.	2,044, incl.
Reissues	4—No.	24,960 to No.	24,963, incl.
Total	1,171		

CONDITION OF PATENT APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of pending applications (exclusive Designs)	191, 475
Total number of pending Design applications	5, 539
Total number of applications awaiting action (exclusive Designs)	89, 577
Total number of Design applications awaiting action	1, 618
Date of oldest new application	October 2, 1959
Date of oldest amended application	October 2, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 21, 26, 42, 46, 52, 58, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 45, 51, 54, 55.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 27, 35, 61, 83, 83.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 52, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	3, 5, 30, 39, 35, 38, 49, 73, 96.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 28, 33, 43, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 16, 19, 25, 30, 32, 82, 35, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 95, 99, 94, 96.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
1. (VI) GOLDBERG, A. J., Rakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	8-8-60	7-25-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	8-15-60	7-28-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	7-11-60	6-8-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	8-16-60	8-10-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Thrashing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Commutators; Fences; Gates; Music; Signals and Indicators; Acoustics	1-26-60	1-26-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	8-17-60	8-24-60
7. (IV) ANDERSON, E. G., Optics	8-16-60	6-7-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	8-4-60	8-8-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	7-5-60	7-25-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	8-24-60	6-17-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clinching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	8-3-60	8-4-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	8-16-60	8-3-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	8-4-60	8-8-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	8-30-60	2-11-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	8-16-60	8-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	1-26-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	8-11-60	8-12-60
18. (VI) BLUM, A. (LEVINE, S. acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	9-6-60	9-9-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	8-30-60	6-17-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	9-6-60	9-6-60
21. (III) MADER, R. C., Textiles	6-30-60	6-3-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	6-6-60	5-5-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	10-3-59	10-3-60
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	6-28-60	7-18-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	8-16-60	8-8-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	8-3-60	4-15-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	7-5-60	8-26-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Clutch or Brakes; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-29-60	8-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Buttons, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	8-6-60	5-7-60
30. (VII) O'LEARY, R. A., Comminuting; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	8-15-60	8-1-58

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	8-15-60	6-6-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	7-5-60	6-23-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-11-60	4-14-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	8-4-60	8-3-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	7-5-60	7-1-60
36. (V) EVANS, R. L., Measuring and Testing (part)	4-6-60	4-25-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	4-6-60	4-13-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	4-4-60	4-6-60
39. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	8-10-60	8-17-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	8-1-60	8-1-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-1-60	4-20-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	8-25-60	8-26-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	8-2-60	1-25-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-23-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	8-2-60	8-1-60
46. (I) WILES, W. G. (CAMPBELL, E. L., acting), Actinide Series (e.g., Plutonium) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-5-60	5-27-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	8-12-60	8-2-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	4-12-60	4-12-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-25-60	5-10-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	8-25-60	8-26-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-20-60	4-11-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	8-22-60	8-19-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	8-4-60	8-5-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-25-60	6-1-60
55. (VII) WHITMORE, H. E., Surgery; Dentistry; Artificial Body Members	6-2-60	5-27-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-17-60	5-10-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	5-2-60	4-15-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	7-1-60	7-12-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	2-24-60	2-4-60
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	8-2-60	8-6-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	7-28-60	7-12-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	8-9-60	8-5-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	5-9-60	4-5-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	8-7-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Motors; Conductors; Insulators; Amplifiers	6-6-60	6-9-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	2-1-60	1-6-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	6-1-60	5-19-60
81. (III) MONCURE, J. A., Industrial Arts	12-2-60	12-12-60
82. (III) HUNTER, E. E., Household, Personal and Fine Arts	12-12-60	12-16-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	7-6-60	7-5-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	9-7-60	10-11-60
93. WAHL, R. A., Wire Working	9-7-60	10-5-60
94. BERLOWITZ, W., Gas Separation	8-24-60	8-15-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-1-60	6-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylene—Butadiene	8-23-60	8-10-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during April 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (54 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 593. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1959*.

Patents	Numbers 2,848,430 to 2,847,630, inclusive
Plant Patents	Numbers 632 to 635, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE EARL W. ROHRBACHER AND ADELBERT E. KOLBE

No. 6869. Decided December 8, 1960

[48 CCPA—; 284 F.2d 531; 128 USPQ 117]

1. CLAIMS—CONSTRUCTION OF CLAIMS—OLD COMBINATION.

In considering the refusal below of certain claims in an application for a patent on a cooling liquid pump for engines on the ground that the claims were drawn to an old combination of an engine and a cooling pump, *Held* that "It is clear that the engine is not positively recited as an element of any of the claims"; that "It is referred to only by such statements as that the pump is 'for' engines of a particular type and that the pump chambers are 'adapted' to communicate with certain portions of the engine"; that "While the device recited in the appealed claims is intended to be used with an engine and has a particular structure adapting it for such use, the claims define only the structure of the pump itself and not a combination of the pump with an engine"; and that "The rejection on the ground of old combination was therefore improper."

2. SAME—SAME.

"The appealed claims do not state that the article claimed is an engine or includes an engine, but merely that it is for an engine or is adapted to be connected therewith. Such statements of adaptation for an intended use have been held not to limit the claims to the particular use specified. *Brown Mfg. Co.* v. *Deere et al.*, 61 Fed. 972 (C.C.A. 7)."

3. SAME—SAME—INDEFINITENESS.

"The rejection on the ground of indefiniteness was based on the Board's holding that 'the engine of the disclosure is not the engine recited in the claims,' for the reasons that the pump is not located between the cylinders and the engine does not have parallel rows of cylinders. Since * * * we hold that there is no engine recited in the claims, this ground of rejection must fail."

4. SAME—SAME.

"* * *, while the pump as shown in appellants' application is located in the strict sense of the word just beyond the end of the space 'between' the cylinders, and while it is the cylinders rather than the rows of cylinders which are parallel, we do not think the language used in the claims is so inapt as to warrant a rejection on the ground of indefiniteness. Appellants' specification describes the cylinders as being in 'parallel rows' and the pump as being 'between the cylinder banks,' and the record does not indicate that the Examiner objected to that language as indefinite or misdescriptive. There is thus a clear antecedent basis in the specification for the language used in the claims, and the sense in which the claims are to be construed is apparent."

5. SAME—SAME.

Held that "Within reasonable limits an applicant is his own lexicographer and words used in his claims are to be interpreted in the sense in which they are used in his specification."

6. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—DECISION—EFFECT OF REVERSAL—NO OPINION BY EXAMINER REGARDING NOVELTY.

"While, * * * we conclude that the claims were not properly rejected on the grounds given by the Patent Office, we note that the Examiner appears to have expressed no opinion whether the pump structure recited in the appealed claims is novel. Our decision herein does not preclude a consideration of that question when the case has been returned to the Patent Office."

REVERSED.

Willits, Baillio and Burch (*Frank J. Bonsack* and *Donnan D. McGraw* of counsel) for appellant.

Clarence W. Moore (*Raymond E. Martin* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

WORLEY, *Chief Judge*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming the rejection by the Primary Examiner of claims 1 to 9, inclusive, of appellants' application for a patent on a cooling liquid pump for engines. Claim 1, which is representative of the appealed claims, is as follows:

1. A cooling liquid pump for engines having parallel rows of liquid cooled cylinders and comprising an elongated pump casing adapted to extend between said rows of cylinders and to be secured at the opposite ends thereof to the liquid cooling cavity walls of said rows of cylinders, said casing being formed to provide a cylindrical impeller chamber extending transversely of said casing and between said ends and an inlet chamber at one end of said impeller chamber and a discharge chamber outwardly of said impeller chamber, said discharge chamber being an elongated chamber surrounding said impeller chamber and communicating with said impeller chamber throughout the peripheral extent of said impeller chamber and extending in opposite directions toward said ends and within oppositely disposed walls of said casing extending to and converging toward and about said ends of said casing, said casing ends being formed to provide outlet ports opening laterally of said casing through one of the side walls of said casing and being adapted to provide communication between said discharge chamber and the cooling liquid cavities within said cavity walls of said rows of cylinders, said one of the side walls of said casing being formed to provide a removable cover for said casing, said impeller chamber and said discharge chamber being open and accessible across the width thereof through an opening in said one side wall of said casing when said cover is removed from said casing.

The references relied on are:

Applin, 1,366,149, January 18, 1921.
Vincent, 1,386,816, August 9, 1921.
Bull, 1,461,711, July 10, 1923.
Anibal, 1,848,987, March 8, 1932.
Ford, 2,434,088, January 6, 1948.

Appellants' application discloses an internal combustion engine of the V type and a pump for circulating the cooling liquid. The pump comprises an elongated casing which extends horizontally across one end of the engine at the top of the V and is bolted to the end portions of the cylinder banks. A rotatable impeller with radial vanes is mounted in the casing in communication with a central inlet passage and a discharge chamber. The ends of the casing are provided with horizontal ports which communicate with the discharge chamber and with passages opening through the end walls of the cylinder banks into the cooling chambers surrounding the cylinders. The pump inlet is connected with the radiator and the engine cooling chambers communicate with the radiator through a passage having a thermostatically controlled valve.

The claims were rejected as being drawn to a combination of an engine and a cooling pump, which combination broadly is shown to be old by the patents cited, and were further rejected as being indefinite.

The first ground of rejection is based on the Board's holding that the claims are not drawn merely to pump structure, as contended by appellants, but that the engine forms a part of the claimed combination.

[1] It is clear that the engine is not positively recited as an element of any of the claims. It is referred to only by such statements as that the pump is "for" engines of a particular type and that the pump chambers are "adapted" to communicate with certain portions of the engine. We are of the opinion that such statements are intended merely to define the structure of the pump itself and that, as stated in appellants' brief:

The pump defined by the claims may be separated from the engine and carried away from the engine. The claims still read on the pump after it has been carried away.

The only authority cited by the Board in support of its holding that the engine forms part of the claimed combination is *Kropa* v. *Robie et al.*, 38 CCPA 808, 187 F.2d 150, 88 USPQ 478. In that case it was held that, under the particular circumstances there involved, an introductory statement that the article claimed was "an abrasive article" constituted a limitation on the claim. The language here involved, however, is not of that type. [2] The appealed claims do not state that the article claimed is an engine or includes an engine, but merely that it is for an engine or is adapted to be connected therewith. Such statements of adaptation for an intended use have been held not to limit the claims to the particular use specified. *Brown Mfg. Co.* v. *Deere et al.*, 61 Fed. 972 (C.C.A. 7).

While the device recited in the appealed claims is intended to be used with an engine and has a particular structure adapting it for such use, the claims define only the structure of the pump itself and not a combination of the pump with an engine. The rejection on the ground of old combination was therefore improper.

[3] The rejection on the ground of indefiniteness was based on the Board's holding that "the engine of the disclosure is not the engine recited in the claims," for the reasons that the pump is not located between the cylinders and the engine does not have parallel rows of cylinders. Since, for the reasons given above, we hold that there is no engine recited in the claims, this ground of rejection must fail.

[4] Moreover, while the pump as shown in appellants' application is located in the strict sense of the word just beyond the end of the space "between" the cylinders, and while it is the cylinders rather than the rows of cylinders which are parallel, we do not think the language used in the claims is so inapt as to warrant a rejection on the ground of indefiniteness. Appellants' specification describes the cylinders as being in "parallel rows" and the pump as being "between the cylinder banks," and the record does not indicate that the Examiner objected to that language as indefinite or misdescriptive. There is thus a clear antecedent basis in the specification for the language used in the claims, and the sense in which the claims are to be construed is apparent. [5] Within reasonable limits an applicant is his own lexicographer and words used in his claims are to be interpreted in the sense in which they are used in his specification. *Kennicott* v. *Holt*, 280 Fed. 157; and *Wheeler Salvage Co.* v. *Rinelli*, 295 Fed. 717.

[6] While, for the reasons above stated we conclude that the claims were not properly rejected on the grounds given by the Patent Office, we note that the Examiner appears to have expressed no opinion whether the pump structure recited in the appealed claims is novel. Our decision herein does not preclude a consideration of that question when the case has been returned to the Patent Office.

The decision is reversed.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,119,155, A. Faitelowitz, Method of reducing potatoes and other starch-containing vegetables to the form of a dry powder; 2,852,670, E. Volpertas, Art of dried starch bearing food; 2,530,891, E. J. Rivoche, Drying of starchy foodstuffs; 2,630,291, R. A. S. Templeton, Drying of vegetables, filed Dec. 29, 1958, D.C. Del. (Wilmington), Doc. 2072, *Templeton Patents, Limited* v. *R. T. French Co., Inc. et al.* Order and stipulation dismissing complaint with prejudice Jan. 31, 1961.

2,901,968, J. P. Lannen, Work balancing machines; 2,902,652, K. K. Shepard, Wheel balancer; 2,909,092, F. J. Bageman, Static wheel balancer, 2nd Amended Complaint and Counterclaim for Declaratory Judgment, filed Oct. 13, 1959, D.C., S.D. Calif. (Los Angeles), Doc. 23/59-TC, *Turner Manufacturing Company* v. *Bada Company et al.* Claims 2, 3, 5, 11 and 15 of Patent 2,502,632 held valid and infringed by The Bada Company (defendant); claims 1 through 5 of Patent 2,909,063 held valid and infringed by plaintiff; all other claims dismissed with prejudice (notice Jan. 19, 1961).

2,352,670. (See 2,119,155.)

2,909,096, C. E. Boucher, Industrial radiographic apparatus; 2,547,906, same, Portable X-ray unit, filed June 30, 1960, D.C., W.D. Okla. (Oklahoma City), Doc. 8891, *Industrial X-Ray Incorporated* v. *Central X-Ray, Inc. et al.* Defendants Central X-Ray, Inc., James R. Sullins, William R. Johnson, Charles A. Burch, Clifford Stockman and L. R. Jones enjoined (notice Feb. 7, 1961).

2,486,312, J. D. Robertson, Bow correcting apparatus, filed Nov. 22, 1960, D.C., W.D.N.C. (Charlotte), Doc. 1577, *Mount Hope Machinery Company* v. *American Cloth-Strait Company, Incorporated.* Dismissed in accordance with the provisions of Rule 41 (a) (1) Feb. 1, 1961.

2,902,922. (See 2,301,958.)

2,530,891. (See 2,119,155.)

2,547,906. (See 2,360,096.)

2,500,218, F. J. Wenger, Tool, filed Aug. 5, 1957, D.C., N.D. Ill. (Chicago), Doc. 57c1338, *AMP Incorporated* v. *Vaco Products Company.* Mandate reversing decision of Sept. 2, 1959 filed Dec. 29, 1960. Consent judgment; defendant enjoined Jan. 9, 1961.

2,951,315, A. C. Ruge, Ring type force measuring dynamometer, filed June 9, 1960, D.C. Md. (Baltimore), Doc. 12/221, *Baldwin-Lima-Hamilton Corporation* v. *Allegany Instruments Company, Inc.* (Patent 2,472,047, A. C. Ruge, Electrical load weighing apparatus, included by amendment Feb. 7, 1961.)

2,563,794, Riches and Wood, Vitamin B_{12}; 2,763,966, same, Vitamin B_{12}-active composition and process of preparing same, filed Feb. 6, 1961, D.C., S.D.N.Y., Doc. 61/447, *Merck & Co., Inc.* v. *Desmo Chemical Corporation et al.* Same, filed same, D.C.N.J. (Newark), Doc. 87/61, *Merck & Co., Inc.* v. *Caesar C. Bottone et al.*

2,564,646, W. E. Leistner et al., Haze resistant vinyl chloride polymers; 2,716,662, same, Vinyl chloride resins stabilised with a mixture containing a phenolate and a polyvalent metal salt of a fatty acid, filed Apr. 12, 1960, D.C., N.D. Ohio (Cleveland), Doc. 36/036, *Argus Chemical Corporation* v. *Synthetic Products Company et al.* Defendants restrained; counterclaims dismissed with prejudice; complaint against Americhem, Inc. dismissed without prejudice (notice Feb. 6, 1961).

2,823,554, A. W. Franklin, Method of making an electrical unit; 2,847,888, same, Design forming and attaching method, filed Jan. 16, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c92, *Resources and Facilities Corporation v. Methods Manufacturing Corporation.*

2,690,591. (See 2,119,155.)

2,847,888. (See 2,822,054.)

2,822,584. (See 2,546,354.)

2,573,044. (See 2,546,354.)

2,679,648, D. Wendell, Waistband construction, filed Aug. 19, 1954, D.C., E.D. Pa. (Philadelphia), Doc. 17/549, *American Waist-Band Company v. Philadelphia Pad and Binding Co., Inc.* Dismissed without prejudice under Rule 18, Jan. 31, 1961.

2,700,645, T. J. Kearney, Degreasing apparatus; 2,771,086, same, Apparatus for treatment with solvents; 2,802,478, same, Cleaning apparatus; 2,806,788, same, Method of cleaning; 2,831,785, same, Method and apparatus utilizing focused ultrasonic transducers to produce radially dispersed compression waves; 2,842,142, same, Apparatus for ultrasonic cleaning of parts with a solvent; 2,852,417, same, Cleaning method and apparatus, filed Dec. 16, 1958, D.C.N.J. (Trenton), Doc. 1369/58, *Detrex Chemical Industries, Inc. v. The Circo Equipment Company.* Patents 2,700,645, 2,771,086, 2,802,478, 2,802,788 and 2,842,142 held valid; Action dismissed as to Patents 2,831,785 and 2,852,417 and these patents withdrawn Feb. 8, 1961.

2,766,861. (See 2,563,794.)

2,713,202, R. J. Jones, Bite tray, filed Feb. 6, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c202, *Russell J. Jones v. Formulator, Inc.*

2,716,602. (See 2,564,646.)

2,743,319, L. Thompson et al., Scanning mechanism for magnetic tape recorders; 2,789,449, same, Long playing magnetic tape recorder; 2,826,642, Lyon and Thompson, Eraser for magnetically recorded bulk tape in roll form; 2,845,495, W. H. Lyon, Long playing tape recording apparatus; 2,856,468, same, Rotary magnetic transducer means having yieldable heads, filed June 6, 1960, D.C.N.J. (Newark), Doc. 506/60, *The Soundscriber Corporation v. Ampex Corporation et al.* Consent order dismissing complaint as to Patent 2,826,642; no cause for action as to Patent 2,808,418; adding Patent 2,915,595 Feb. 2, 1961.

2,789,449. (See 2,743,319.)

2,771,086. (See 2,700,645.)

2,774,087, J. D. Bosse, Method for securing together moccasin vamps and plugs; 2,946,089, same, Method of manufacturing moccasins, filed Feb. 6, 1961, D.C. Minn. (Minneapolis), Doc. 4/61/31, *The Ja-An Shoe Manufacturing Co., Inc. v. Minnetonka Moccasin Co., Inc. et al.*

2,768,572, Rosenbaum and Harvey, Knit garment, filed May 22, 1958, D.C., E.D.N.Y. (Brooklyn), Doc. C-18/727, *Mock Fashioning Associates v. Berlin Knitting Mills, Inc.* Order of dismissal Feb. 2, 1961.

2,688,476. (See 2,700,645.)

2,689,788. (See 2,700,645.)

2,689,662. (See 2,743,319.)

2,688,174, J. Shapiro, Piece of hardware for attaching a leg to furniture and the like, filed Oct. 23, 1958, D.C., E.D.N.Y. (Brooklyn), Doc. 19/120, *Joseph Shapiro v. Gold Star Sales Corporation.* Consent judgment; injunction granted Feb. 6, 1961. Same, filed Oct. 27, 1959, same, Doc. 20/216, *Joseph Shapiro v. Merchants Hardware Co., Inc.* Decree as above.

2,831,785. (See 2,700,645.)

2,833,594, R. E. Foster, Reverse wound spring motor, filed Feb. 3, 1961, D.C., W.D. Tex. (Austin), Doc. 1190, *Majik-Ironers, Inc. v. Montgomery Ward & Co.*

2,843,060, W. R. Barry, High pressure reciprocating pump, filed Feb. 7, 1961, D.C., N.D. Okla. (Tulsa), Doc. 5119, *Cardwell Manufacturing Company et al. v. W. R. Barry Pump Company et al.*

2,842,142. (See 2,700,645.)

2,845,495. (See 2,743,319.)

2,852,417. (See 2,700,645.)

2,889,662. (See 2,743,319.)

2,890,711, I. H. Parker, Self-centering fuel control valve for carburetors and the like, filed Jan. 31, 1961, D.C., E.D. Mo. (St. Louis), Doc. 61-C-44(3), *Parker Brothers, Inc. v. Clayton Enterprises, Inc.*

2,905,280, B. Edwards, Cup for hot beverages, filed Jan. 31, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c186, *Illinois Tool Works v. Automatic Canteen Company of America.*

2,900,662. (See 2,901,955.)

2,946,089. (See 2,774,087.)

2,904,188, D. Bennett, Collapsible boxes, filed Feb. 1, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 29/187, *Modern Millinery Box Corporation v. Boss Box Company.*

REISSUES

APRIL 4, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,960
FUNGICIDES

Ewald Urbschat, Koln-Mulheim, and Paul-Ernst Frohberger, Burscheid, Bezirk Dusseldorf, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Original No. 2,911,336, dated Nov. 3, 1959, Ser. No. 535,513, Sept. 20, 1955. Application for reissue July 28, 1960, Ser. No. 46,042

Claims priority, application Germany Sept. 24, 1954

8 Claims. (Cl. 167—30)

9. A process for controlling fungi which comprises applying to seed a p-aminoarylazo compound of the general formula



in which R is a radical selected from the group consisting of azo and hydrazo; X is a member selected from the group consisting of —CO—, —CS— and —SO_2—; R' is a member of the group consisting of a phenyl radical, an alkali metal, and amino; and R" is a radical selected from the group consisting of nitroso and amino, in a proportion of from about 0.0025 to about 5 grams of the p-aminoarylazo compound per kilogram of seed.

24,961
APPARATUS FOR CONVEYING ARTICLES

Norman S. Curtis, Indianapolis, Ind., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana

Original No. 2,752,883, dated July 3, 1956, Ser. No. 291,723, June 4, 1952. Application for reissue July 1, 1958, Ser. No. 746,061

11 Claims. (Cl. 118—316)



8. Work handling apparatus for spray painting and the like comprising a first conveyor having propelling means movable along a predetermined path of travel, coupling means carried by said first conveyor at spaced points along the length thereof and extending therefrom, work holders having engagement means respectively engageable with and disengageable from said coupling means to enable the work holders to be carried by the coupling means, a second conveyor having a rotatable helical screw forming propelling means movable along a path of travel which extends in the same general direction as the path of travel of the first conveyor, antifriction means carried by said second conveyor forming an engagement track along a length thereof, guide means for moving the propelling means of the first conveyor and the engagement track of the second conveyor relatively toward and away from each other to enable the engagement and disengagement of said work holders with said track, and means for driving the propelling means of said conveyors at relatively different speeds whereby to control the manner of interaction between the coupling means and the engagement means of the work holders.

24,962
RECORD JACKET WITH DETACHABLE PHOTOGRAPHS

Richard E. Loderhose, 84—25 Radnor St., Jamaica Estates, N.Y.

Original No. 2,931,557, dated Apr. 5, 1960, Ser. No. 744,525, June 25, 1958. Application for reissue July 22, 1960, Ser. No. 44,826

7 Claims. (Cl. 229—70)



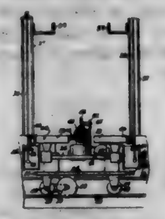
1. A phonograph record jacket comprising, in combination, an envelope of relatively rough and stiff base material and including a front wall and a rear wall; and a layer of glossy finish paper covering the outer surfaces of said envelope and including a front wall and a rear wall; the rear paper wall being adhered over substantially all of its surface to the rear wall of the base material envelope: the front paper wall having a removable section therein defined by a perforated tear outline and being adhered to the envelope only along its margin outside said tear outline; said removable section being free of adherence to the envelope for bodily detachment therefrom by tearing along said tear outline and leaving a complete jacket for the record including a complete and imperforate front wall of said base material.

24,963
MECHANICAL AUTOMOBILE PARKING GARAGE

James L. Carroll, 546 Drover St., Indianapolis, Ind.

Original No. 2,857,060, dated Oct. 21, 1958, Ser. No. 690,730, Oct. 17, 1957. Application for reissue Mar. 16, 1959, Ser. No. 799,829

4 Claims. (Cl. 214—16.1)



4. In apparatus of the class described, a building structure formed to provide a plurality of stalls arranged in tiers and columns at each side of a central aisle, each stall

having a mouth opening into said aisle, said structure further providing support means above the uppermost of said tiers on each side of said aisle, track means in said aisle, a wheeled carriage mounted for movement on said track means, a first motor mounted on said carriage and connected to drive the wheels of said carriage selectively in opposite directions, a vertically movable elevator, cables anchored at their upper ends to said building structure at points above the uppermost of said tiers on each side of said aisle, a plurality of drums mounted on said elevator, forked members secured to said drums for engagement with said cables, a second motor mounted on said elevator and connected to drive said drums, and extensible mechanism carried on said elevator and including a load-engaging element movable from a position wholly within the boundaries of said elevator to a position within any selected one of said stalls, said extensible mechanism further including a first member longitudinally fixed with respect to said elevator, a second member horizontally guided on said first member for longitudinal movement relative to said first member, means mounting said load-engaging element for horizontal movement longitudinally guided by said second member, a third motor carried by said elevator, means connecting said third motor to drive said second member selectively in opposite directions relative to said first member, and means moving with said second member, providing an operative connection between said first member and said load-engaging element, and acting, upon movement of said second member in either direction relative to said first member, to move said load-engaging element concurrently in the same direction relative to said second member.

PLANT PATENTS

GRANTED APRIL 4, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,640
ROSE PLANT
Marie Louise Meilland, Cap d'Antibes, Alpes Maritimes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania
Filed June 27, 1960, Ser. No. 39,198
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the hybrid polyantha (floribunda) class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of good vigor and plant habits, excellent foliage which affords unusually good coverage of the plant, with average resistance of said foliage to all fungus diseases, an unusual floriferousness and continuity of bloom, large size and semi-double form of the flowers, and a distinctive Barium Yellow general color tonality of the flowers which is maintained unusually evenly from first opening to full bloom.

2,641
HYDRANGEA MACROPHYLLA PLANT
Mary Estelle Hearicks, Portland, Oreg., assignor to The Wayside Gardens Company, Mentor, Ohio
Filed Jan. 18, 1960, Ser. No. 3,217
1 Claim. (Cl. 47—60)

The new and distinct variety of *Hydrangea macrophylla* plant herein shown and described.

2,642
ROSE PLANT
Melvin E. Wyant, Johnny Cake Ridge, Mentor, Ohio
Filed June 11, 1958, Ser. No. 741,436
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the hybrid tea class, substantially as shown and described, characterized by its larger, more double, many petaled, better formed flowers, and its healthy, vigorous, and free blooming habit of growth.

2,643
PLUM TREE
Frederic W. Anderson, Merced, Calif., assignor to Kim Bros., a copartnership doing business under the fictitious name and style of Reedley Nursery, Reedley, Calif.
Filed July 5, 1960, Ser. No. 40,981
1 Claim. (Cl. 47—62)

A new and distinct variety of plum tree, as illustrated and described, which bears large, firm, globose, freestone fruit having cream-colored flesh, and a deep blue exterior color shaded with a dark red, giving a generally over-all purple-blue appearance; said fruit—in comparison—being larger, firmer, more attractive in appearance, and having more exterior color than the Burbank; being larger, and brighter in exterior color than the Duarte, with cream instead of red colored flesh, and globose instead of conical shape; being larger, and ripening several days earlier than the Nubiana with more red in the blue exterior, and globose instead of oblate shape; and being larger, and ripening at least a week earlier than the Laroda with more red in the blue exterior color, and self-fertile instead of self-sterile.

2,644
NECTARINE TREE
Frederic W. Anderson, Merced, Calif., assignor to Kim Bros. a copartnership doing business under the fictitious name and style of Reedley Nursery, Reedley, Calif.
Filed July 5, 1960, Ser. No. 40,982
1 Claim. (Cl. 47—62)

A new and distinct variety of nectarine tree, as illustrated and described, which bears globose, large to medium, freestone fruit having yellow flesh; characterized by a ripening period approximately one week earlier than the Grand River and Merrill Sunrise nectarines and approximately two weeks earlier than the John Rivers nectarine; and further characterized—in comparison with said other varieties—by smoother skin, and—when ripe—by an exterior red color shading to maroon which almost entirely overspreads a yellow ground color.

PATENTS

GRANTED APRIL 4, 1961

GENERAL AND MECHANICAL

2,977,998
STUD DRIVING TOOL
Sidney Hubert Broughton, Portland, Oreg., assignor, by mesne assignments, to Omark Industries, Inc., a corporation of Oregon
Filed Nov. 17, 1955, Ser. No. 547,351
6 Claims. (Cl. 1—106)



1. An explosively actuated stud driving tool comprising a front portion including a barrel block and a barrel having its rear end extending through said barrel block, and a rear portion including a handle part and a breech block in the form of an integral yoke member having yoke portions extending forwardly and embracing said barrel block, the axis of said barrel and said end of said barrel extending between said yoke portions, a pivot pin connecting said breech block to said barrel block for relative pivotal movement of said portions between a closed position and an open position of said portions, said rear portion having a part thereof in alignment with the longitudinal axis of said barrel and a handle part extending at an angle to said longitudinal axis when said portions are in said closed position relative to each other, said pivot pin being spaced laterally from said longitudinal axis and extending perpendicularly to said longitudinal axis and parallel to a plane passing through said longitudinal axis and centrally through said handle part when said portions are in said closed position relative to each other, and releasable locking means for locking said portions together against said relative pivotal movement when said portions are in said closed position, said locking means including an external sleeve carried by one of said portions and an element slidably carried by the other of said portions on the side of said tool opposite said pivot pin for sliding movement longitudinally of said other of said portions so as to releasably engage under said sleeve.

2,977,599
VERTICAL DROP STAPLING MACHINE
Bernard Edward Shlesinger, Jr., 906 Bruce Lane, Annandale, Va.
Filed Sept. 28, 1959, Ser. No. 842,936
15 Claims. (Cl. 1—106)



1. A stapling machine comprising a horizontally extending base member, an anvil vertically mounted on one end of said base member, a carriage mounted on said base member and horizontally slidable with respect thereto between said anvil and said actuating means, and a staple-driver disposed within said carriage and horizontally reciprocable independently of said slidable carriage and horizontally movable with respect to said base member, a first spring means mounted within a portion of said base member and reacting between said base member and said carriage, said first spring means mounted entirely within said carriage in a plane parallel to the direction of reciprocation of said staple driver, a second spring means mounted entirely within said carriage and reacting between said staple driver and said carriage in a plane parallel to the direction of reciprocation of said staple driver, said first and second spring means in close proximity to one another, whereby when said actuation means is activated said carriage first moves forward until movement is restricted by said anvil and then said staple driver moves forward to perform the stapling action.

2,977,690
AUTOMATIC CLIP FASTENING DEVICE
Frank H. Ine, 2048 N. 31st St., Milwaukee, Wis., and Robert Kellersman, Rte. 1, Box 862, Salem, Oreg.
Original application Jan. 27, 1956, Ser. No. 561,732, now Patent No. 2,907,494, dated Oct. 6, 1959. Divided and this application Sept. 29, 1959, Ser. No. 843,310
7 Claims. (Cl. 1—329)



1. In a bag clipping machine for closing substantially C-shaped clips, a jaw-mounting table, a first and a second pivot on said table, a first jaw pivotally mounted on said first pivot, a second jaw pivotally mounted on said second pivot, each said jaw being formed with an inwardly directed point at its outer end and an irregularly curved portion behind said point shaped to receive a portion of a clip, said points being opposed to each other and located on opposite sides with respect to their respective pivots, said jaws being crossed, a plunger behind said jaws, said plunger being positioned to engage behind a clip placed between said jaws, and means for reciprocating said plunger to force said clip toward said points, whereby the ends of said clip engage said points and pivot said jaws to close said clip.

2,977,681
TROUSERS
Elwyn C. Winston and Bernard S. Holzman, Flossmoor, Ill., assignors to Bowling Slacks, Inc., East Chicago, Ind., a corporation of Illinois
Filed Mar. 10, 1959, Ser. No. 798,371
2 Claims. (Cl. 2—237)

1. In sports trousers having a fly and a rear seam diametrically opposed thereto; the combination of open-

ings through the trousers at opposite sides thereof, a divided belt having a pair in inelastic inner segments attached to the seam, and a pair of inelastic outer segments extending into respective openings, and spaced resilient means connecting the inner segments to respective outer segments, said spaced resilient means being diametrically opposed to each other and arranged approxi-



mately midway between the fly and seam, said resilient means being entirely disposed inside the trousers and being attached thereto only by said inner segments, and said inner segments being attached to said trousers solely by said seam, whereby the resilient means are floatingly attached to the trousers.

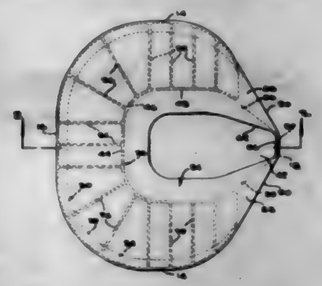
2,977,602
CONCEALED POCKET FOR FOOTBALL PLAYERS' PANTS
Stewart A. Cooper, 121 12th St. NW., Cedar Rapids, Iowa
Filed June 12, 1958, Ser. No. 741,579
2 Claims. (Cl. 2—247)



1. In a pair of football players' pants, the combination of a leg member, a relatively large panel stitched to the inside of the thigh portion of said leg member and providing a relatively large pocket for a thigh guard pad, and a vertically elongated panel stitched along its marginal edges to the inside of the thigh portion of said leg member adjacent and at one side of the thigh guard pad pocket and defining a vertically elongated pocket, said leg member being provided with a horizontal slit adjacent but spaced downwardly from the upper end of the vertically elongated pocket whereby to provide for the latter an outwardly opening entrance.

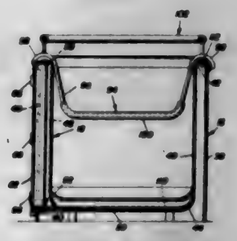
2,977,603
RAMP BED-PAN
Rosie B. Dykes, 4206 Avenue H, Austin, Tex.
Filed May 22, 1959, Ser. No. 815,111
8 Claims. (Cl. 4—112)

1. A ramp bed-pan comprising a flat bottom wall having a peripheral edge having a rear portion, end portions, and a forwardly tapered forward portion, an upstanding receptacle side wall on and rising from the bottom wall, said receptacle side wall having a rear portion, end portions, and forwardly converging forward portions which are severally spaced laterally inwardly from related portions of said peripheral edge, the forward ends of the converging portions having an apex side wall portion extending therebetween and joined thereto, said side wall having an upper edge, ribs extending from the peripheral edge of the bottom wall to the receptacle side wall, said ribs having hypotenuse edges joined to the bottom wall, base edges joined to the receptacle side wall, and altitude edges, said ribs being spaced from each



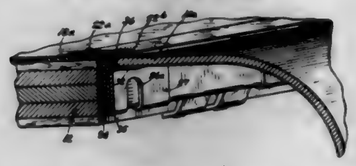
other around the receptacle, a flat ramp wall joined to the hypotenuse edges of the ribs and extending inwardly and upwardly from the peripheral edge of the bottom wall to and joined to the upper edges of the receptacle side wall, and to the upper edge of the apex side wall portion, and a convex-concave lip joined to and extending inwardly around the upper edge of the receptacle side wall, said lip having an inward edge defining a receptacle opening, the area of the bottom wall subtended by the receptacle wall and the apex portion being a receptacle bottom wall, said lip having an inward edge defining a receptacle opening smaller in area than the receptacle bottom wall.

2,977,604
INVALID'S BATH TUB
Bertha E. Miller, 611½ 3rd Ave., Sterling, Ill.
Filed May 7, 1958, Ser. No. 733,543
1 Claim. (Cl. 4—185)



An invalid's bath tub comprising a rounded top, a pad of arcuate cross section mounted on said top, posts mounted on said top, and a hand rail mounted on the posts, said posts passing through the pad and secured to said top for securing said pad in position on the tub.

2,977,605
SINK MOUNTING DEVICE
John Mussil, Miami, Fla., and Milo L. Mork, Chicago, Ill., assignors, by direct and mesne assignments, to Pyramid Mouldings, Inc., Chicago, Ill., a corporation of Illinois
Filed June 19, 1959, Ser. No. 821,547
5 Claims. (Cl. 4—187)



1. A device for mounting a sink with an outwardly extending peripheral flange in an apertured drainboard, said device comprising a molding strip and a supporting element, said molding strip including an elongate base adapted to overlie the sink flange and the aperture-defining portions of the drainboard, and a transversely disposed shank connected to said base and adapted to be disposed intermediate the sink flange and the aperture-defining portions of the drainboard, said supporting element having a first portion adapted to engage the underside of the sink flange, a second portion joined to said first portion and adapted to extend toward the free edge of said shank, and means adjacent the juncture of said first and second portions for positioning said first portion with respect to the sink flange and said molding strip, said shank having portions thereof deformably foldable over said supporting element second portion to lock said supporting element in position.

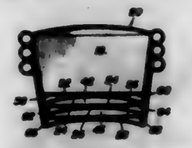
2,977,606
BOAT
Nicholas Peter Sorrell Straussler, 2 Blvd. du Theatre, Geneva, Switzerland
Filed Apr. 21, 1958, Ser. No. 729,659
4 Claims. (Cl. 9—2)



1. A folding boat comprising a hull formed of two plane sideboards tapered at their ends, an impervious joint connecting said two sideboards one to the other along their lower edges, means for holding the upper edges of said sideboards away one from the other, said impervious joint being in the form of a hinge having a curved axis and made of a shaped piece of supple and elastic material, said hinge having a U-shaped cross section, the central part of said U-shaped cross section having a constant thickness, an unfilled hollow portion in said central part, a longitudinal groove formed in the end of each of the wings of said U-shaped hinge, said lower edges of said two sideboards engaging said grooves, whereby said two sideboards are connected one to the other in a watertight manner along the whole length of their lower edges by means of said hinge which enables the folding and the unfolding of said folding boat.

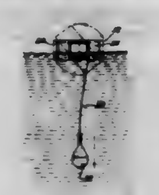
2,977,607
SECTIONAL BOAT CONSTRUCTION
James R. Roblee, Athol, N.Y.
Filed July 29, 1959, Ser. No. 830,690
2 Claims. (Cl. 9—2)

1. A portable sectional boat comprising a plurality of lightweight boat sections of varying sizes permitting nesting of a smaller boat section within a larger boat section, a shoulder harness secured about said nested sections providing means for strapping said nested sections to the back of a human being to aid in the transportation of said boat thereof, said sections being generally the same shape in plan outline and each having a bot-



tom which is concave in shape whereby the largest of said nested sections will conform to the contours of a human being's back and whereby said sections may be closely nested, and a false bottom secured in each boat section overlying said concave bottom forming watertight buoyancy tanks in the bottom outer portions of said boat sections.

2,977,608
FISHING SPOT MARKER
Edward H. Brown, Sr., 2424 Lawndale Ave., William A. Vernon, 2515 Orrington Ave., and Edward H. Brown, Jr., 1501 Lincoln St., all of Evanston, Ill.
Filed Feb. 23, 1960, Ser. No. 10,284
10 Claims. (Cl. 9—8)

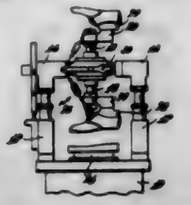


1. A marker of the character disclosed comprising a float having a main body including a central longitudinal axis, a width axis and a thickness axis, the thickness axis being substantially less than the width axis, whereby to provide a generally flat article capable of floating in water on a flat side, the float having a waist portion generally centrally longitudinally thereof which is of a width substantially less than the width of the main body, and which is also spaced inwardly a substantial distance from each side edge and has a substantial portion disposed on each of opposite sides of the longitudinal axis, said waist portion being also substantially symmetrical about the central longitudinal axis whereby all transversely alinged points on opposite side edges thereof at all positions longitudinally thereof are proportionally spaced from the longitudinal axis, the main body having end portions on opposite sides of the waist portion of full width extending a substantial distance longitudinally beyond the waist portion, a flexible line having one end secured to the waist portion, a sinker secured to the opposite end of the line, said line being adapted to be wound on the waist portion and the sinker being operative, when the float with the line wound thereon is placed in water, for rotating the float in a constant turning movement about its longitudinal axis, and sinking until it reaches bottom.

2,977,609
APPARATUS FOR USE IN MAKING SHOES
Raymond G. Clinch, 12 Alpine St., Gorham, N.H.
Filed Apr. 21, 1958, Ser. No. 729,822
9 Claims. (Cl. 12—37)

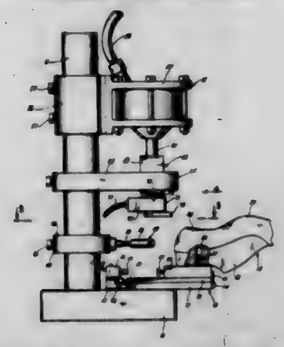
1. In combination with a machine for attaching a bottom to an upper on a last, a pair of lasts each being

adapted to support an upper with its lower margin secured inwardly of the shoulder at the bottom, means mounting the lasts for successive movement to a position to have a bottom attached first to one and then to the other upper supported on said lasts, and tension means carried by the last-named means for applying a pull to



said one upper heightwise of the bottom in a direction to hold the upper taut on the last, said tension means being transferable from said one upper to said other upper for successively holding the upper with which it is engaged taut on its last during attaching of a bottom thereto.

2,977,610
APPARATUS FOR PRESSING THE BOTTOM HEEL REGION OF A LASTED UPPER
Thomas Dell, Brooklyn, N.Y., assignor of fifty percent to Palizzio, Inc., New York, N.Y., a corporation of New York
Filed June 8, 1959, Ser. No. 818,663
6 Claims. (Cl. 12—53.5)



1. Apparatus for pressing the bottom heel region of a lasted shoe upper, said apparatus comprising a carrier for the lasted shoe upper mounted for reciprocatory movement between a loading station and a pressing station, pressing means movable toward and away from said pressing station into and out of pressing engagement with a lasted shoe upper at said pressing station, and actuating means responsive to movement of said carrier to said pressing station for actuating said pressing means, said pressing means comprising a mounting member movable toward and away from said pressing station, a pressing member interposed between said mounting member and said pressing station, and mounting means mounting said pressing member for movement with said mounting member and for resiliently yieldable universal movement relative to said mounting member for conforming pressing engagement with the lasted shoe upper.

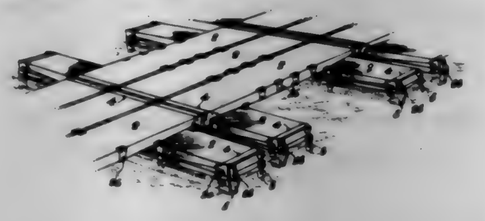
2,977,611
SELF-TIGHTENING REBUILT SHOE LAST
Clarence H. Heltman, 2 York Hills, Brentwood, Mo.
Filed Jan. 8, 1959, Ser. No. 785,702
4 Claims. (Cl. 12—133)

1. A rebuilt wooden shoe last including a recut face in the forepart of the last to provide a transverse vertical wall extending normal to the tread surface of the last, a recut toe section to provide a complementary face fitted against the recut face of the forepart of the last, aligned coextensive slots formed in the forepart of the last and the recut toe section respectively, said slots extending longitudinally inside the last, and means for holding said



toe section and forepart tightly together comprising a biased link having one end secured to the forepart and an opposite end secured to the toe section, said link being of a naturally bowed configuration and biasable to a less bowed configuration to effect a tightening action upon the toe section and forepart.

2,977,612
PORTABLE FLOATING BRIDGE
Lester P. Frost, United States Army, Fort Belvoir, Va. (P.O. Box 409, Placerville, Calif.)
Filed June 12, 1945, Ser. No. 599,041
7 Claims. (Cl. 14—27)
(Granted under Title 35, U.S. Code (1952), sec. 266)

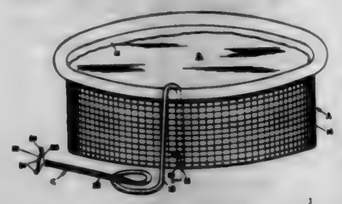


6. A bridge comprising a plurality of identical ponton members, each of said members having spaced male and female securing means at each end, the said securing means being reversed on the respective ends, spaced opposed attaching means mounted on the bottom portion of the members, complementary attaching means supported along the sides of the members for engagement with said spaced attaching means, a plurality of the members being arranged in superposed relationship with the male members and the female members being in vertical alignment, means engaging the male and female members for securing the stacked members in superposed relationship, a plurality of said members being connected together in end-to-end relationship and arranged above and transversely of the superposed members, the spaced opposed attaching means of an end-to-end member being engaged with the complementary attaching means of the top member of the superposed members to form the bridge.

2,977,613
SWIMMING POOLS
William Mikulas, 298 Deane Ave., Staten Island, N.Y.
Filed Oct. 29, 1958, Ser. No. 770,422
8 Claims. (Cl. 15—1.7)

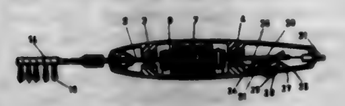
1. In combination with a swimming pool having a drain outlet in the vicinity of the bottom thereof, means for removing contaminating material from within the pool having a level of water above the level of the drain outlet, said means comprising tubing having its discharge

end connected to said outlet so that the tubing extends into the pool from the inner side thereof, the tubing being flexible for at least a portion of its length, the tubing being of a length to permit the positioning of the opposite



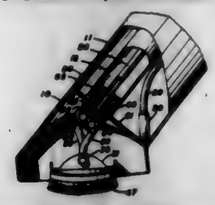
inlet end adjacent an area within the pool to be cleaned and the positioning of the inlet end above the level of water in the pool when full to the top to prevent the discharge of water through the outlet.

2,977,614
VIBRATORY TOOTHBRUSH
Frederick Demnzuels, % Canadian Research & Development Foundation, 1434 Queen St. W., Toronto, Ontario, Canada
Filed Feb. 11, 1960, Ser. No. 8,160
2 Claims. (Cl. 15—22)



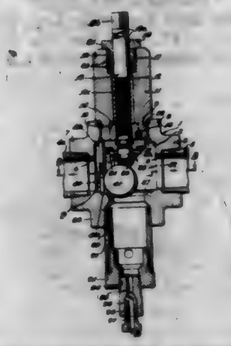
1. A vibratory toothbrush comprising a housing, an oscillating brush member located substantially on the longitudinal axis of said housing, one end of said brush member extending out through one end of said housing and having detachably attached to its extreme end a toothbrush head supplied with toothbrush bristles, the internal portion of said brush member, located within said housing, being supplied with rigid guide blocks located in the same plane, each of said guide blocks being perpendicular to the longitudinal axis of said brush member, said guide blocks being parallel to each other and adapted to slide in parallel guide grooves located within said housing, said guide grooves being parallel to each other and adapted to slidably receive said guide blocks, a magnetisable armature located on said brush member between said guide blocks, two electromagnets located one on each side of said brush member, said electromagnets being located within the same plane as said guide blocks, the magnetic poles of each of said electro-magnets being directed towards said armature, an extension portion located on the end of said brush member opposite to said end containing said toothbrush head, said extension portion being located within, and cradled by reversing switch means, said switch means being in electrical connection with said electro-magnets, said switch means being adapted to be actuated by movement of said extension portion to alternately energize each of said electro-magnets by alternately supplying electricity thereto from an electric source, said reversible switch means comprising a forked switch lever adapted to cradle said extension portion, the forks of said forked switch lever being located at an acute angle to each other, said forked switched lever being hingeably attached to said housing, the axis of said hingeable attachment being parallel to the longitudinal axis of said guide blocks, and manual positioning means adapted manually to locate a plane containing both forks of said forked switch lever at a predetermined angle to the longitudinal axis of said brush member.

2,977,615
CLEANING DEVICE
Harry Szczepanski, 755 Oakleigh NW., Grand Rapids, Mich.
Filed June 15, 1959, Ser. No. 820,145
5 Claims. (Cl. 15—50)



5. A cleaning device, comprising: frame means; handle means normally fixed with respect to said frame means and establishing a normal orientation and direction of movement of said frame means with respect to a work surface; reservoir means; a plurality of brushes, each of said brushes including a back member and a group of bristles extending from said back member in an annular pattern, and also including sponge means disposed within said group of bristles; means for rotatably mounting said brushes on said frame means on an axis normally laterally inclined to the vertical, whereby said bristles engage work surface on one side of said brushes to induce rotation thereof; and liquid conduit means communicating between said sponge means and said reservoir means.

2,977,616
PIG BALL RECEIVER
Robert S. Willis, 4341 Olive, Long Beach, Calif.
Filed Aug. 28, 1959, Ser. No. 836,711
8 Claims. (Cl. 15—104.06)

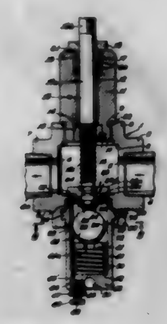


1. A pig ball recovery device comprising: a body having a valve chamber therein; inlet and outlet means for said body; a valve support at one side of said valve chamber; a valve seat at the side of said valve chamber opposite said support; a valve member carried by said support and shiftable from one side of said valve chamber to the other to selectively open and close said valve seat; said body having an opening in line with said seat; said seat and said opening providing for the passage of a pig ball therethrough when said seat is open; a grid disposed across said outlet means; and pig ball receiver means joined to said body in line with said seat and said opening for receiving a pig ball passed through said opening.

2,977,617
PIG BALL INJECTOR
Robert S. Willis, 4341 Olive, Long Beach, Calif.
Filed Aug. 28, 1959, Ser. No. 836,712
6 Claims. (Cl. 15—104.06)

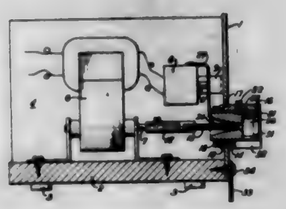
1. A pig ball injector device comprising: a body having a valve chamber therein; said body having means connectable to flow lines leading into and out of said valve

chamber; a valve support at one side of said valve chamber; said body having a valve seat in the side of said chamber opposite said one side; pig ball injector means connected to said body and communicating with said valve chamber through said valve seal; and valve means carried by said support and movable to a seated position



permitting flow through said chamber and preventing the injection of a pig ball into said valve chamber and to an unseated position permitting flow through said chamber and the injection of a pig ball into said chamber through said seat; said pig ball injector means including means for injecting a pig ball therefrom into said valve chamber.

2,977,618
MACHINE FOR CLEANING CARTRIDGE PRIMER POCKETS
John E. Brisbin, 4055 Perryville Ave., Pittsburgh, Pa.
Filed Apr. 11, 1960, Ser. No. 21,547
7 Claims. (Cl. 15—104.1)



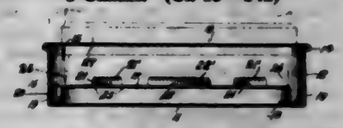
1. Machine for cleaning cartridge primer pockets, comprising a primer pocket brush having inner and outer ends, an electric motor operatively connected with the inner end of the brush for rotating it, a normally open electric switch for the motor, a stationary sleeve encircling the brush and spaced from it, a cartridge guide in the sleeve slidable axially thereof a limited distance, said guide having a longitudinal passage through it containing the outer end of the brush and terminating at its outer end in a socket for receiving the base of a cartridge shell having a primer pocket of substantially the same diameter as said outer end of the passage, a spring normally holding the guide in its outer position in the sleeve with the outer end of the brush adjacent the outer end of said passage, said guide being pushable inwardly of said sleeve by a cartridge shell inserted in said socket to move the socket back around the outer end portion of the brush and thereby fit the cartridge primer pocket over the brush, and means responsive to the inwardly moving cartridge guide for closing said switch to rotate the brush.

2,977,619
SPONGE TYPE WRINGER MOP
Robert D. Franzone, Fort Atkinson, Wis., assignor to Borgess Cellulose Company, Freeport, Ill., a corporation of Delaware
Filed Mar. 12, 1958, Ser. No. 720,900
4 Claims. (Cl. 15—119)



1. A mop comprising a handle, a shaft affixed transversely in the lower portion of said handle and extending outwardly thereof, a pair of wringer plates each having a radial portion and an arcuate portion and being oppositely oriented with respect to each other, the distal ends of the radial portions of said plates being mounted on said shaft, one of said plates being pivotally mounted thereon, the arcuate portion of one of said plates being arranged to overlap the arcuate portion of the other of said plates when said mop is in operating position, a generally sheet-form sponge overlying the arcuate portions of said plates, one edge of said sponge being attached to one of said plates and the opposite end of said sponge being attached to the other of said plates, and an actuating lever engaging said pivotally mounted plate and adapted to pivot said plate relatively to said other plate, whereby upon movement of said actuating lever in a direction to move one of said plates away from the other of said plates, said plates stretch said sponge laterally and compress it transversely, causing absorbed water to be expressed therefrom.

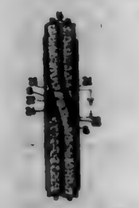
2,977,620
DEVICE FOR CLEANING ROTATABLE BRUSHES, ESPECIALLY FLOOR POLISHING MACHINE BRUSHES
Bengt Erik Nilsson, Hagersten, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 25, 1957, Ser. No. 648,367
Claims priority, application Sweden Mar. 29, 1956
8 Claims. (Cl. 15—142)



4. A device for cleaning the bristles of a motor-driven rotatable brush comprising a base having a bottom and upstanding side wall, a flat plate for supporting the brush in an upright position with the lower ends of the downwardly projecting bristles resting on said plate and movable in a horizontal plane perpendicular to the axis of rotation of the brush, spaced vertically disposed cleaning members projecting upwardly from said plate

which are substantially perpendicular thereto and in the path of movement of the bristles, means for holding said flat plate and said cleaning members thereon over the bottom of said base in spaced relation therewith and below the top edge of the side wall thereof, said plate holding means having structure associated therewith to position said plate within said base to provide a dirt collecting receptacle of which at least a part thereof is disposed about said plate and extends downwardly therefrom to the bottom of said base, the upstanding side wall of said base forming the outer wall of said receptacle, and said flat plate and said cleaning members being so constructed and formed that said plate offers negligible resistance to movement of the bristles resting thereon during rotation of the brush and the motor-driven rotatable brush can attain a speed of rotation which renders said cleaning members effective for cleaning the brush and causing the dirt removed therefrom to be thrown by centrifugal force into said dirt collecting receptacle disposed about and extending downwardly from said plate.

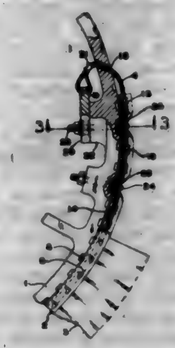
2,977,621
WIRE AND FIBER FILLED INDUSTRIAL BRUSH WHEEL
Ralph F. Tilgner, Ellicott City, Md., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Mar. 6, 1958, Ser. No. 719,541
10 Claims. (Cl. 15—182)



5. A rotary brush comprising a spirally-wound, channel backing strip having radially extending bristles secured therein, the mid-portion of the backing strip comprising at least one full turn and terminating in end portions which are less than full turns and greater than half turns the end portions being feathered and perimetrically overlapped whereby the ends of the cylinder formed by the spiral lie approximately in spaced parallel planes, side plates upon the ends of the cylinder, the tips of the channel backing strip being spot welded to the side plates the side plates being oppositely cupped into contiguity to each other and spot welded together to provide channels adapted to retain said spirally-wound backing strip.

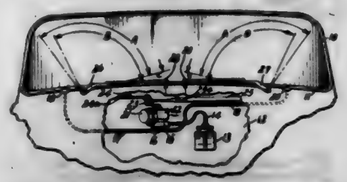
2,977,622
REINFORCED ROTARY BRUSH
Brooks E. Nelson, Chagrin Falls, and Ruben O. Peterson, University Heights, Ohio, assignors to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed June 10, 1958, Ser. No. 741,125
21 Claims. (Cl. 15—182)

10. In a brush element comprising an elongated sheet material channel back and a layer of brush material secured therein and protruding therefrom; a separate reinforcing strip of high tensile strength extending longitudinally within said back continuously against the inner bottom surface of said channel and lying within the bottom portion of said channel only, said reinforcing



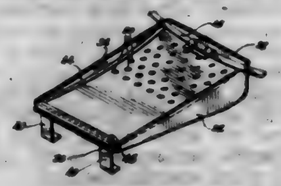
strip being of much less outward extent than the sides of said back.

2,977,623
WINDSHIELD CLEANING MECHANISM
Harry W. Schmitz, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,432
9 Claims. (Cl. 15—250.02)



1. Windshield cleaning mechanism including a washer pump, a unidirectional electric motor, a worm gear drivingly connected with said motor and having a cam surface thereon, a plate attached to said worm gear having a radial slot therein, a crank pin slidably received in said slot, a crank arm carrying said crank pin, a driven shaft connected to said crank arm whereby rotation of said worm gear will effect rotation of said driven shaft, pivotally mounted bearing means journalling said shaft and bodily movable to shift the position of said shaft, crank means carried by said shaft, a wiper unit, means interconnecting said crank means and said wiper unit whereby said motor has a continuous driving connection with said wiper unit, and means for freeing said bearing means for bodily movement due to the reaction forces of said interconnecting means to vary the orbit of said crank means, said cam surface on said worm gear being designed to actuate said washer pump.

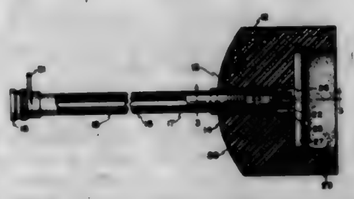
2,977,624
ROLLER APPLICATOR TRAY AND ATTACHMENT
Robert G. Tarr, 541 N. Humphrey Ave., Oak Park, Ill.
Filed Sept. 2, 1958, Ser. No. 758,209
1 Claim. (Cl. 15—257.06)



A roller coater tray assembly comprising a pan having a bottom wall and side and end walls extending upwardly

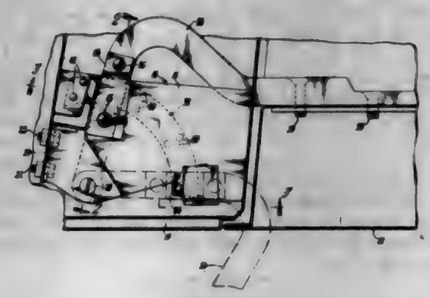
from the side and end edges of the bottom wall and wherein the bottom wall is formed with a trough portion at one end and a downwardly inclined portion leading into the trough from the other end and a flutter plate comprising a relatively flat sheet of relatively rigid material dimensioned to have a width less than the spaced relation between the side walls, a length corresponding to the length of the bottom wall and a shape corresponding to the shape of the bottom wall when in lowered as well as when in raised position, said flutter plate being formed with a plurality of foramens at least in the end portion corresponding to the trough portion of the bottom wall, and means mounting the flutter plate in the pan for rocking movement between raised position and lowered position with the foraminous trough-shaped portion of the plate spaced upwardly from the bottom wall of the pan when in raised position and in abutting relation with the trough portion of the bottom wall of the pan when in lowered position and means constantly urging the plate towards raised position and comprising a spring finger rigid with the plate in the trough end portion and extending beyond the edges thereof into engagement with the adjacent upper edge of a pan wall.

2,977,625
WASHING IMPLEMENT
Evan L. Hopkins, Emporia, Kans., assignor to Hopkins Manufacturing Corporation, Emporia, Kans., a corporation of Kansas
Filed Mar. 6, 1959, Ser. No. 797,747
4 Claims. (Cl. 15—567)



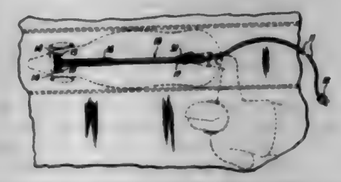
1. A portable, hand-operated washing implement which comprises a fluid permeable washing head comprising a resilient sponge, means to conduct fluid into said sponge including a valve body embedded in said sponge, said means extending through a small opening in the rear face of said washing head for connection to a source of washing fluid under pressure, said valve body having a fluid outlet into the interior of said sponge and an inwardly facing valve seat associated with said outlet, a valve cooperable with said valve seat to control the flow of fluid through said outlet, and means including a valve stem connected to said valve and extending through said outlet, said valve stem being movable longitudinally and tiltably in said outlet to unseat said valve by inward longitudinal movement or tilting of said valve stem, said last named means including an actuating portion secured to said valve stem and embedded in said sponge at a location spaced outwardly from said valve body, said actuating portion extending in a plurality of directions laterally outwardly from said valve stem, said sponge closely gripping the embedded valve body and actuating portion with said actuating portion being normally retained in extended position with the valve closed, the rear surface of said washing head being substantially larger than the opening through which said fluid conducting means extends, and the entire outer surface of said washing head including said rear surface outside of said opening being soft, compressible and exposed so that any portion of said surface of said washing head may be pressed against an object to be washed from any direction to distort said sponge and move said actuating portion to open the valve.

2,977,626
FRICTION HINGE
Joseph Konopka, Dearborn, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 6, 1959, Ser. No. 832,010
4 Claims. (Cl. 16—140)



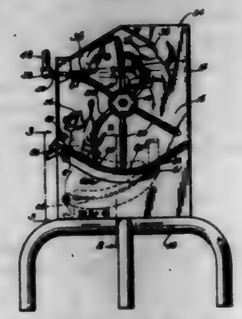
1. A friction hinge, comprising in combination, a first hinge member comprising a hinge box having opposite walls; a second hinge member comprising a hinge strap; means pivotally connecting said hinge strap to said hinge box for swinging movement between said walls; an arcuate elongated strip member secured at one end to one of said walls at a location spaced from said pivotal connecting means and extending adjacent an edge portion of said hinge strap throughout substantially the entire length of the path of swinging movement of said edge portion, said strip member being formed on an arc having said pivotal connecting means as its center; and adjustable clamp means slidably and frictionally securing said strip to said hinge strap.

2,977,627
ELECTRICAL STUNNING OF ANIMALS
Roy E. Morse, New Brunswick, N.J., and Fred A. Di Pasquale, Chicago, Ill., assignors to Reliable Packing Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 24, 1959, Ser. No. 808,812
2 Claims. (Cl. 17—1)



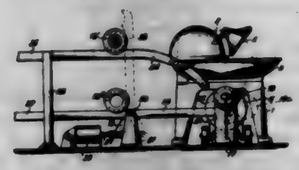
1. An instrument for electrically stunning animals having a tubular member having a straight handle portion at one end thereof and a returned end portion at the other end thereof, said tubular member having electrical leads therein and having two electrodes mounted in the returned end portion thereof, one of said electrodes being fixed and connected to one of said leads; a second lead having connected thereto a stationary contact means and the other of said electrodes being movable, biasing means associated with said other electrode so as to retain it in an extended position, said other electrode having a contact means on its inner end which will close the circuit when forced rearwardly against the biasing means thereby contacting the first mentioned contact means.

2,977,628
APPARATUS FOR SCALDING FOWLS
Seth S. Barker, Edward J. Crane, and Allen W. Sharp, Ottumwa, Iowa, assignors to Barker Poultry Equipment Company
Filed Sept. 3, 1957, Ser. No. 681,499
5 Claims. (Cl. 17—11.2)



1. Apparatus for scalding fowls, comprising a casing for the reception of fowls to be scalded, pressing means movably mounted in the casing for engaging the fowls, means operatively connected to the casing for supplying a small amount of fresh scald water into the casing, and driving means operatively connected to said pressing means for causing the latter to exert a continuous series of intermittent applications of compressive force over the entire body of the fowls and thereby repeatedly pressing small quantities of fresh scald water through the feathers into intimate contact with the skin of the fowls.

2,977,629
PROCESSING OF MEAT AND THE LIKE
Ludwig Grube, Wallau (Lahn), Germany
Filed Sept. 6, 1955, Ser. No. 532,439
Claims priority, application Germany Sept. 6, 1954
3 Claims. (Cl. 17—39)



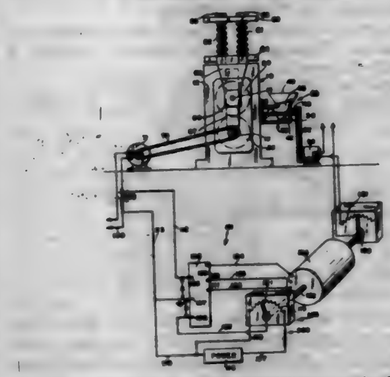
1. A system for processing of meat and like food, comprising a press for comminuted material and being provided with an enclosure having a discharge end, a filling cylinder for receiving said material and removably connected to said discharge end of said enclosure, an air pump, and pipe means connecting said enclosure and said cylinder with the vacuum side of said air pump, said pipe means removing air from said enclosure and said cylinder, discharge means for discharging food from said cylinder, conveyor means between said discharge means and said discharge end for conducting said cylinder from said discharge end to said discharge means and for returning said cylinder from said discharge means to said discharge end, pivotable means situated adjacent said discharge end for swingably transferring said cylinder from said discharge end onto said conveyor means, said pivotable means supporting said cylinder during said swinging operation so that food is filled into said cylinder and the latter transferred by said pivotable means to said conveyor means and transported thereby to discharge means, said cylinder being discharged at said discharge means so that said cylinder when thus discharged may be returned to said discharge end via said conveyor means.

2,977,630
PRODUCTION OF CONTINUOUS LAMINATED STRIPS
Seward M. Bazler, Coshocton, Ohio, assignor to General Electric Company, a corporation of New York
Filed Nov. 26, 1956, Ser. No. 624,271
8 Claims. (Cl. 18—4)



1. A process for producing a continuous molded laminated strip of substantially uniform cross-sectional configuration which comprises intermittently advancing filler material treated with a resin into a mold and molding a stationary segment of said resin-treated filler material under heat and pressure while simultaneously directing a gaseous stream at the entrance of the mold and at the resin treated filler material outside of the mold while said resin is in a fluid, free flowing state before it enters the mold to prevent undesirable accumulation and hardening of resin at the mold entrance.

2,977,631
METHOD AND APPARATUS FOR AGGLOMERATING PARTICULATE MATERIAL
Gustav Komarek and Karl R. Komarek, Chicago, Ill., assignors to Komarek-Greaves and Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 19, 1958, Ser. No. 722,613
10 Claims. (Cl. 18—12)

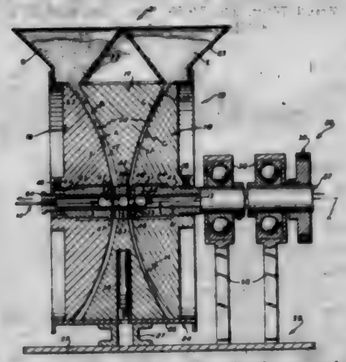


1. A process for agglomerating particulate material between the nip of cooperating rolls which comprises feeding the particulate material into a casing, moving the particulate material through the casing so that it will be fed between the nip of said rolls, confining the particulate material into progressively decreasing spaces within the casing during the movement therethrough so as to precompress the material, rotating said rolls so that the material fed thereto will be compressed into a shaped, solid agglomerate, and controlling the rate of movement of the material through said casing in direct proportion of the pressure between said rolls so that uniform agglomeration results and so that said compressed material completely occupies the space between the nip of said rolls.

2,977,632
CENTRIPETAL EXTRUDER
Tillman T. Bunch, near Ashland, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 10, 1959, Ser. No. 805,418
11 Claims. (Cl. 18—13)

1. A multiple centripetal extruder, which comprises at least three plates mounted in spaced relationship to each

other along a central axis so that a plurality of channels are defined between adjacent plates, means for feeding plastic material into the outer portions of the channels, means for causing relative rotation between adjacent plates



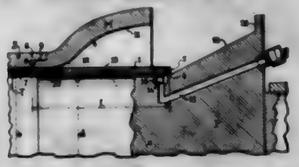
about the central axis so that the plastic material is advanced centripetally through the channels toward the central axis, and die means communicating with inner portions of the channels for forming the plastic material from the channels into a desired extruded shape.

2,977,633

METHOD AND APPARATUS FOR FORMING A SOCKET AT THE END OF A PIPE AND THE PIPE RESULTING THEREFROM

Pierre Breitenstein, Pont-a-Mousson, France, assignor to Compagnie de Pont-a-Mousson, Nancy, France, a French body corporate

Filed Nov. 25, 1957, Ser. No. 698,674
Claims priority, application France Nov. 26, 1956
3 Claims. (Cl. 18—19)



1. A method of forming on an end of a pipe composed of thermoplastic material a socket disposed about the longitudinal axis of the pipe, said method comprising the steps of: heating said end of the pipe so as to render it malleable and to provide a malleable portion, rigidly fixing the unheated portion of the pipe, radially expanding the malleable portion of the heated end within a mold having the shape of the desired socket by subjecting the whole of the inner periphery of the transverse end face of the pipe to a radially expanding penetrating thrust of progressively increasing magnitude and simultaneously applying fluid under pressure to the interior cavity of the pipe adjacent to said inner periphery of the radially expanded transverse end face of the pipe thereby distending said cavity progressively in a longitudinal direction.

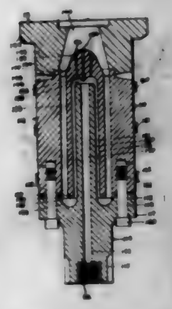
2,977,634

BLEED BACK FOR INJECTION MOLDING CYLINDERS

Albert Reynolds Morse, Cleveland, Ohio, assignor to Injection Molders Supply Company, Cleveland, Ohio

Filed Aug. 4, 1958, Ser. No. 752,791
12 Claims. (Cl. 18—30)

1. A heating cylinder for plastic comprising a hollow body having an inlet and an outlet, a spreader in said body, said spreader being disposed generally concentric to said hollow in said body and spaced therefrom defining a first flow passage therebetween communicating with said inlet, a cylindrical area in said spreader concentric with said first flow passage and communicating therewith and defining a second flow passage connected to said first flow passage, a storage tube formed in said spreader concentric with said second flow passage and communicating with said outlet to said cylinder, bypass



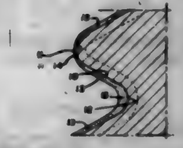
means connecting said second flow passage with said inlet whereby a small amount of plastic may be returned from said second flow passage to said inlet, and means connecting said storage tube to said inlet whereby gases and a relatively small amount of molten plastic may mix with the incoming plastic.

2,977,635

PROCESS FOR TINTING ART OBJECTS

Felix F. Welch, San Angelo, Tex., assignor to Edith E. Miller, Denver, Colo.

Filed May 9, 1958, Ser. No. 734,219
3 Claims. (Cl. 18—47.5)



3. In combination with the preparation of a plaster of Paris figurine having convex and concave surfaces, including the steps of mixing plaster of Paris with water to obtain a quick setting fluid, pouring the fluid into a mold and removing the figurine from the mold when set, and including the further steps of surface tinting the figurine to obtain a light shade on the convex surfaces and a darker shade on the concave surfaces by immersing the same in a water base color carrying the color constituent as a suspension, said immersion being shortly after the figurine is stripped from the mold and while it is still wet and for a limited time period sufficient but not exceeding that required to form a variable color deposit on the figurine with minimum deposit on the convex surfaces and maximum deposit on the concave surfaces.

2,977,636

METHOD OF MOLDING A HOLLOW RUBBER ARTICLE

Robert D. McGuire, 1433 Weaver St., Dayton 8, Ohio

Filed Aug. 5, 1958, Ser. No. 753,396
3 Claims. (Cl. 18—58.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of making an aviator's oxygen mask of the pressure demand breathing type and having an external face sealing flap around the marginal edges of the face fitting portion thereof and with a thin pressure sealing flap extending inward from the mask body for

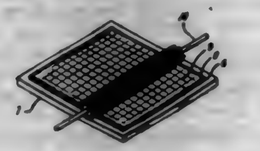
sealing contact with the oral nasal regions consisting of forming a male dipping form conforming to the internal shape of the mask and having a rear wall forming a complement to the shape of the oral nasal regions, dipping said male form in latex to form a thin layer thereover, drying said layer, covering said rear wall with plaster to form an inlay over the regions of the inward directed flap, repeatedly dipping the form assembly in latex solution and drying until the desired thickness of the completed mask has been built up, heating the dipped form to vulcanize the latex thereon, cutting away the vulcanized rubber covering the plaster inlay and removing the inlay, piercing the thin rubber covering to allow for entrance of the nose and mouth and stripping the mask from the male form.

2,977,637

METHOD OF MOLDING ARTICLES

Henry C. Thompson, Gatesville, Tex., assignor to Cenco Realty Co., Houston, Tex., a corporation of Texas

Filed Apr. 28, 1955, Ser. No. 504,544
4 Claims. (Cl. 18—59)



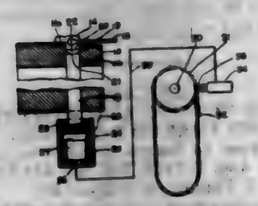
3. A method of molding plastic materials comprising retaining a continuous layer of unset plastic material having imbedded therein a mat of reinforcing material between thin films of set plastic material, said unset plastic material containing an agent which acts to temporarily plasticize said films on contact therewith, manipulating said plasticized films and unset plastic layer therebetween by drawing to a desired form for said unset plastic layer, setting said plastic layer in said desired form, applying a film-plasticizing liquid to said films exterior of said set plastic layer, stripping said plasticized films from said set plastic layer, said liquid also acting on the surface of said set plastic layer to give a smooth glazed finish thereto when set, whereby the mold films are removed and the said surfaces are glazed in one operation.

2,977,638

INTEGRAL END STOP FOR SEPARABLE FASTENERS AND THE METHOD OF PRODUCING THE SAME

Louis H. Morin, Bronx, N.Y.
(125 Beechwood Ave., New Rochelle, N.Y.)

Filed Sept. 9, 1955, Ser. No. 533,325
4 Claims. (Cl. 18—59)



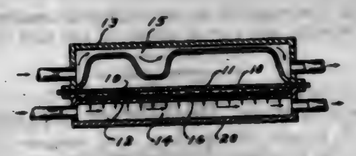
4. In a process for producing separable fastener stringers in which successive increments of scoops are cast on a single tape in a set of dies during successive cycles, the improvement for producing a scoop varying in shape from the shape of a normal scoop during one cycle comprising the steps of enlarging a variable die cavity to an enlarged condition by locating the dies in a first position, casting an increment of scoops on the tape, the enlarged variable die cavity producing an enlarged scoop, reducing the variable die cavity to a reduced position by locating the dies in a second position, and casting a second scoop increment on the same tape, the variable die cavity in its reduced position producing a normal scoop.

2,977,639

METHOD FOR PREPARING LAMINATED PLASTIC STRUCTURES

Raymond A. Barkhuff, Jr., East Longmeadow, and Norbert Platzer, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 20, 1955, Ser. No. 541,557
6 Claims. (Cl. 18—59)



1. A method for preparing a manufactured article consisting of a styrene polymer foam having a formed thermoplastic resin sheet laminated to at least one surface thereof which comprises (1) interposing a flat, rigid, self-supporting, normally nonelastic, thermoplastic resin sheet between the flat opposed faces of two mold halves, at least one of which has a contoured mold surface, so as to intersect the entire peripheral edge of the mold cavity defined by said two mold halves, (2) placing in the mold cavity, and on the side of the thermoplastic resin sheet that is removed from said contoured mold surface, a quantity of a particulate foamable styrene polymer composition that is sufficient, when foamed, to fill the mold cavity, (3) heating the contoured mold half above the second order transition temperature of the thermoplastic sheet and (4) heating the thermoplastic resin sheet and the particulate foamable styrene polymer composition to soften the thermoplastic resin sheet and to foam the particulate foamable styrene polymer composition thereby forcing the softened thermoplastic resin sheet into pressured contact with the entire heated contoured mold surface; said foamable styrene polymer composition comprising a styrene polymer and a volatile, non-reactive organic liquid which has, at most, a slight solvent action on the styrene polymer.

2,977,640

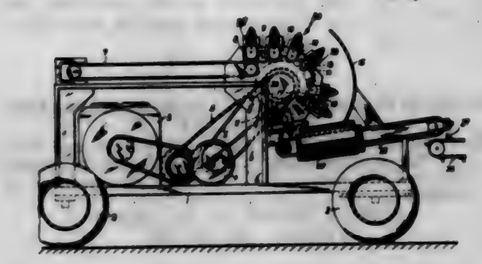
APPARATUS FOR OBTAINING FILAMENTOUS MATERIAL FROM VEGETABLE PRODUCTS

Eugen Haas, Eislingen (Fils), Willy Zieser, Valhingen (Enz), Waldemar Hagmann, Geislingen (Steige), and Paul Laukhuf, Eislingen (Fils), Germany, assignors to Walter Ziehr, Stuttgart, Germany

Filed June 17, 1957, Ser. No. 666,026
Claims priority, application Germany June 18, 1956
8 Claims. (Cl. 19—28)

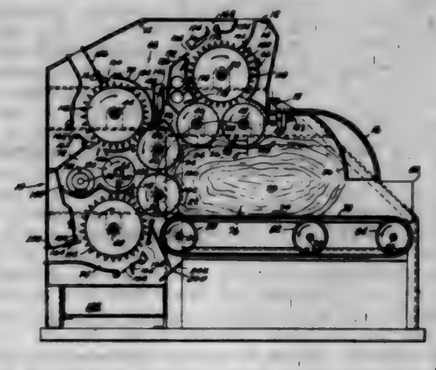
1. A device for separating filamentous material from vegetable matter comprising a first conveyor for advancing vegetable matter through a feed path, a curved conveyor adjacent said first conveyor disposed with its outer periphery adjacent said first conveyor to receive vegetable matter therefrom, a plurality of treatment rollers arranged about said curved conveyor, means for rotating said treatment rollers including means for rotating at least one of said treatment rollers at a faster speed than said curved conveyor, means for moving said first conveyor and said curved conveyor whereby to advance

vegetable material between said curved conveyor and said treatment rollers, and a splash plate disposed to one side of said curved conveyor to deflect juices directed



outwardly thereagainst as the vegetable matter is advanced between said curved conveyor and said treatment rollers.

2,977,641
LINT COTTON OPENER AND CLEANER
Eugene H. Brooks, Birmingham, Ala., assignor to Continental Gin Company, Birmingham, Ala., a corporation of Delaware
Filed July 18, 1956, Ser. No. 598,712
9 Claims. (Cl. 19—93)



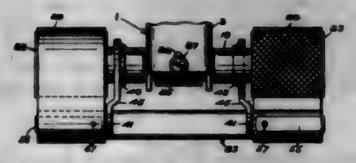
2. In combination in a lint opener and cleaner a housing, a plurality of saw cylinders mounted on parallel axes, means for feeding lint to said saw cylinders to be opened, means for separating trash and other foreign material from said lint comprising mote boards associated with the saw cylinders and positioned adjacent the peripheries of said cylinders, and adapted to direct trash and other foreign material into trash pits, and second means for cleaning said lint to separate the foreign material therefrom comprising a rotatable cylindrical member associated with at least one of said saw cylinders and rotatably mounted in said housing, a chamber, said rotatable cylindrical member being mounted within said chamber and forming with the inner periphery of said chamber a curvilinear passage for the passage of mixtures of lint and trash within said chamber, said passage having an inlet and an outlet an opening formed in said chamber in communication with said passage intermediate said inlet and said outlet, said opening leading to one of said trash pits, said rotatable cylindrical member being operable to doff lint and trash entrained in said lint from said one of said saw cylinders and to move the mixture of lint and trash in a curvilinear path through said passage from said inlet to said opening and to move the lint past said opening to said outlet, said passage progressively decreasing in cross sectional area in the direction of movement of said mixture of lint and trash through said passage toward said opening said opening being contiguous the decreasing portion of said passage.

2,977,642
TEXTILE COMBING MACHINES
Sven E. Edfors, Saco, Maine, assignor to Saco-Lowell Shops, Boston, Mass., a corporation of Maine
Filed Apr. 28, 1958, Ser. No. 731,209
7 Claims. (Cl. 19—116)



1. In a textile combing machine, a half-lap structure having a multiplicity of needles in a group thereon, means to position sliver adjacent said half-lap, means to move said half-lap relative to said sliver in a combing action during a portion of the machine cycle and means for applying a reduced air pressure to the leading edge portion of said sliver to urge said sliver in more intimate contact with the needles of said half-lap during said combing action.

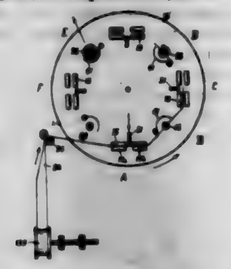
2,977,643
APRON GUIDING MEANS FOR SPINNING FRAMES
Richard K. Butler, Whitman, Mass., assignor, by mesne assignments, to Machinecraft, Inc., Whitman, Mass., a corporation of Massachusetts
Filed Apr. 15, 1959, Ser. No. 806,718
18 Claims. (Cl. 19—131)



1. In a spinning frame, in combination, a pair of opposed, top and bottom drawing rolls, guiding, positioning and weighting means for the top roll and in which the top roll is fixedly mounted by its neck, two aprons around the top roll, and an apron tensioning member engaging both aprons and in operatively fixed relation to the guiding, positioning and weighting means.

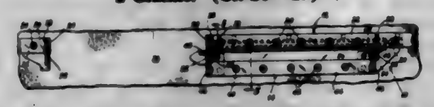
2,977,644
MACHINE FOR CUTTING AND WINDING FLEECE AND THREAD INTO PADS
Friedrich Wieser, 14 Beatrix Gasse, Vienna, Austria
Filed Aug. 4, 1959, Ser. No. 831,579
3 Claims. (Cl. 19—149)

1. A machine including a thread stretching and knotting device for cutting and winding fleece and thread into pads of predetermined size; comprising in combination, means for feeding an elongated strip of fleece material, a rotatable base, clamping means operatively connected to to said base in the path of feed of said fleece material, spool means mounted on said base for winding said fleece material and thread from said thread stretching and knotting device, said spool means being movable out of the path of feed of said fleece material, and ejector means mounted on said base adapted to eject wound fleece ma-



terial and thread after said spool means have moved out of the path of feed of said fleece material.

2,977,645
CELL DOOR
Theodore J. Tysdal, St. Louis, Mo., assignor to Pauly Jail Building Company, St. Louis, Mo., a corporation of Missouri
Filed Aug. 18, 1958, Ser. No. 755,789
2 Claims. (Cl. 20—19)



1. In a cell door structure: fixed cell door framing defining a door opening; a movable door hung on the side of the framing to be movable laterally along the framing to close and open the opening; the framing having vertical jambs with elongated strip elements projecting outwardly into the path of the door, the elements on the jambs having slots passing through the elements at a plurality of vertically spaced points therealong; the framing having an additional such outwardly projecting strip element having a plurality of vertically spaced slots passing through it, corresponding to those on the jamb elements, the said additional element being spaced along the framing laterally from the jambs and in the path of the door in its opening movement; the door comprising two spaced vertical side frame members, each of the side members having a plurality of vertically spaced flanges extending laterally in both opposite directions, parallel to the direction of opening and closing movements of the door, the vertical spacing of the flanges corresponding to the spacing of the slots in the jamb elements and in the additional element, and the lateral spacing of the jamb elements from each other and from the additional element corresponding to the spacing of the door side frame members, so that when the door is closed, the flanges extending in one lateral direction on both of its side frame members will interlock with the slots in both door jamb elements to prevent displacement of the door in either direction, inwardly or outwardly from its door framing; and so that when the door is opened the flanges extending in the opposite lateral direction on both of its side frame members will interlock with the slots on one door jamb element and the additional element, to prevent the said displacement.

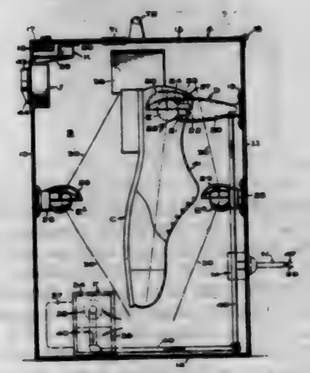
2,977,646
WEATHER STRIPPING MEANS FOR ROTATABLE WINDOW
Earl V. Flaherty, Hamilton, Ohio
(2405 Middle River Drive, Fort Lauderdale, Fla.)
Filed Aug. 4, 1959, Ser. No. 831,652
4 Claims. (Cl. 20—53)

3. A sealing member for effecting a releasable seal between a frame member and a member movable relative to said frame and having an edge adapted to be juxtaposed to said frame, said sealing member comprising an elongated body extending lengthwise of said frame, an elongated pocket in said frame opening toward the said edge of the movable member, means rotatably mounting said sealing member in said pocket, said sealing member being rotatable from a first position in which a portion thereof projects from said pocket and makes sealing contact with the edge of said movable member



to a second position in which said sealing member is out of contact with the edge of said movable member, said sealing member having a length of weather stripping material attached to it which is adapted to contact the edge of said movable member when said sealing member is in said first named position and to simultaneously make sealing contact with marginal edge portions of said pocket.

2,977,647
APPARATUS FOR STERILIZING FOOTWEAR AND REMOVING ODORS AND MOISTURE THEREFROM
Sophocles J. Vassiliades, 2010 Nero Creek Chase Drive, and Willard J. Homer, 1170 Fremont Ave., both of Salt Lake City, Utah
Filed Dec. 22, 1958, Ser. No. 782,238
5 Claims. (Cl. 21—122)

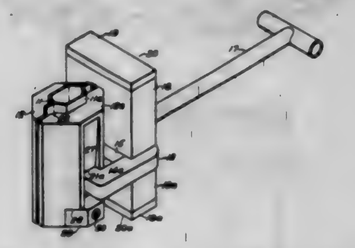


5. In an apparatus for sterilizing footwear and removing odors and moisture therefrom: means for supporting an article of footwear; a plurality of germicidal lamps, each being made to produce ultra-violet rays and ozone; the lamps being disposed to subject the entire interior and exterior surfaces of the article of footwear to the ultra-violet rays and ozone that will serve to counteract increases in relative humidity and thereby prevent germ growth; means for energizing the germicidal lamps; and means for circulating sterile air over and into intimate contact with the interior and exterior surfaces of the article of footwear to inhibit and kill existing fungi, while at the same time destroying odors.

2,977,648
STAMPED METAL CASTING MOLD
Stanley F. Simpson, Lehighton, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania
Filed Apr. 29, 1957, Ser. No. 655,819
2 Claims. (Cl. 22—57)

1. A spectrographic pin sample casting mold comprising a pair of thin sheet metal mold members formed by a stamping operation, each of said mold members having a depressed central portion defining one half of the

dimensional shapes of several spectrograph pins plus a combined metal reservoir and chemical sample body, and planar flanges adjacent thereto, one of said flanges having several relatively small spherical depressions stamped therein so that they project from one side of said flange and the other of said flanges having several relatively larger spherical depressions stamped therein so that they project from the other side of said other flange, said depressions being located in a manner such that when a casting mold is formed by opposing two of said sheet metal mold members said relatively small spherical depressions will project into said relatively larger spherical depressions in order to facilitate and maintain the alignment of the mold sections, each of said flanges also having stamped thereupon a half section of a vent tube leading from the bottom of each half section of a spectrograph pin sample mold cavity to the bottom edge of each flange, said pair of sheet metal members being operatively positioned with their flanges in contact and their depressed central portions cooperating to define a central mold cavity delineating several spectrograph pins and a chemical sample body, a pair of relatively massive metal back-up members of high heat transfer capacity engaging said flanges and also the outer walls of the depressed central portions of the sheet metal mold members defining the said central mold cavity, the central opposed faces of the said back-up members being formed



with a depressed area of substantially the same form and dimensions as the outer side of the depressed central portions of the sheet metal mold sections and the outside portions of said opposed faces being planar to compress the flanges of the sheet metal sections therebetween, said planar opposed faces having appropriate grooves formed therein from top to bottom arranged so that the spherical depressions in the said flanges will slide down said grooves during assembly of the mold, the rear faces of the back-up members having cut therein grooves inclined inwardly towards the bottom portion of the back-up members, and a locking block located at the bottom end of said inclined groove, two opposed arms extending from the front portion of a main body member of a clamping means, the ends of said opposed arms being located in the inclined grooves on the rear faces of the back-up members in a sliding clamp relationship, said main body member having hard shock resistant steel impact receiving pieces secured at its upper and lower ends thereof and a handle for manipulation secured to the rear portion thereof.

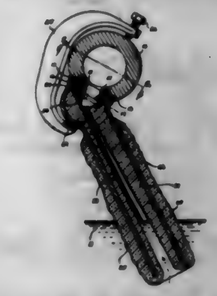
2,977,649

MOLTEN METAL FEEDING TUBE FOR METAL CASTING MACHINES

Glen R. Merton, 7025 Sarpy Ave., Omaha, Nebr.

Filed Mar. 16, 1959, Ser. No. 799,558
4 Claims. (Cl. 22—68)

1. A molten metal feeding tube for use in feeding molten metal from a molten-metal supply reservoir to a shot cylinder of a molding machine having an opening in one wall thereof, said molten metal feeding tube comprising an elongated hollow-sleeve frame having a first end, insulating means extending through the entire inside of said sleeve frame and covering the major portion of the outside of said sleeve frame, said insulating means defining an insulated passageway inside said sleeve frame, extending therethrough, and terminating in an outlet well having a substantially larger cross-section than the end of said passageway communicating therewith, said well being disposed adjacent said first end of said sleeve frame, said well having an outlet end aligned with said



first end of said sleeve frame, a tapered feed sleeve extending into the opening in the wall of the shot cylinder and disposed concentrically with and in communication with said outlet well, the common axis of the outlet well and tapered feed sleeve being disposed at an acute angle with respect to the longitudinal axis of the sleeve frame, a gasket means surrounding said feed sleeve and insulating said feed sleeve and said sleeve frame from the wall of the shot cylinder, and means for securing said tube to said shot cylinder.

2,977,650

SHELL MOLD ADHESIVE COMPOSITION

Frank P. Ikeda, Painesville, and Joseph C. Noyes, Jr., Shaker Heights, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Nov. 27, 1957, Ser. No. 699,193
17 Claims. (Cl. 22—194)

1. A core paste composition of matter comprising the following ingredients in about the proportions stated:

	Percent by weight
Aliphatic polyhydroxy compound selected from the group consisting of sugar, sorbitol, mannitol and glycerine	1 to 15.
Zinc oxide	1 to 6.
Manganese dioxide	0 to 6.
Bentonite	6 to 18.
Liquid alkali metal silicate	Balance (to 100%).

2,977,651

ALUMINOTHERMAL WELDING OF RAILS AND LIKE BARS HAVING SPECIAL CROSS-SECTIONAL SHAPES

Camille Louis Jacques Boutet, 68 Rue Ordener, Paris, France

Filed Feb. 26, 1958, Ser. No. 717,631
Claims priority, application France Mar. 26, 1957
3 Claims. (Cl. 22—206)

3. Method for the aluminothermal welding of shaped bars of the class of rails and having a cross-section substantially symmetric about a plane, comprising the steps of: enclosing the welding zone of the two ends of the bars to be welded with a welding mould having two lateral symmetrically located apertures and a central aperture which may be obturated by means of removable closing means; removing the said closing means and preheating at least partly the said welding zone by means of a burning gaseous fuel mixture introduced through the central aperture so that said mixture circulates symmetrically and downwardly along these bar ends; obturating the central aperture with the closing means; and pouring the weld-



ing metal which is constrained to flow symmetrically only through the lateral apertures so that both the preheating of the bars and the mould and the flowing of the welding metal take place symmetrically with respect to the bars.

2,977,652

MOLDING FASTENER

Clarence W. Cochran, Belmont, Mass., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware

Filed Feb. 3, 1958, Ser. No. 712,749
1 Claim. (Cl. 24—73)



A fastening device for use for attaching a molding to a relatively thin support having an aperture therethrough, said fastening device having a base which is provided with means for attachment of said molding at one side of the support and a pair of U-shaped attaching fingers having legs extending from said base through the aperture and each having an end portion turned outward from said legs and then back toward and engaging the opposite side of the support when in final position, one of said fingers having a greater distance between its leg and support engaging end portion than the other U-shaped finger and greater than the distance across said aperture, the other U-shaped finger having its leg spaced from the leg of said finger less than the distance across said aperture to thereby permit sliding adjustment, the distance between the support engaging ends of said fingers being substantially greater than the distance across said aperture and the support being sufficiently thin so that the legs may be passed through said aperture only by first tipping the said one leg through the aperture and then forcing the said other leg through the aperture while the fastening device base is being pressed flat against said support.

2,977,653

AUTOMATIC LOCK FOR CLOTH COVERED BUTTONS

Michael Adinolfi, 85 Parrot Place, Brooklyn, N.Y.

Filed Oct. 27, 1958, Ser. No. 769,883
1 Claim. (Cl. 24—113)



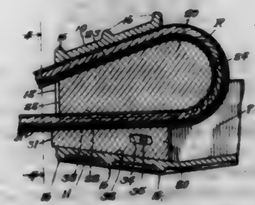
A garment button, comprising a shell, a flexible facing tensioned thereover, a stem connected to the shell centrally thereof, and a circular washer mounted over the facing, said washer having a central aperture receiving said stem, said washer peripherally engaging the facing and holding the same assembled with the shell, said washer being internally slitted to define radial fingers extending toward said central aperture, said radial fingers gripping the stem, said shell being of cup-like shape and having a concavo-convex body part and a cylindrical peripheral flange, the facing completely covering the outside surface of the body part and being disposed in embracing relation to the flange, the body part having radially inwardly projecting teeth struck out of the material thereof spaced from the periphery of the body part and engaging the periphery of the facing to hold the facing under tension assembled with the body part, said teeth being angularly and uniformly spaced about the marginal portion of the shell, each of said teeth having a beveled end surface to facilitate penetration of the facing by the teeth.

2,977,654

ROPE WEDGE SOCKET

John W. Page, Chicago, Ill., assignor to Page Engineering Company, a corporation of Illinois

Continuation of abandoned application Ser. No. 512,370, June 1, 1955. This application Dec. 2, 1957, Ser. No. 700,043
4 Claims. (Cl. 24—126)



1. A device for gripping a wire rope, comprising: a tapered hollow housing open at one end; a pair of wedges slidable within the housing toward the open end to cooperatively wedge in tandem across the housing, said wedges being juxtaposed and each having a side bearing on the load bearing rope portion passing therebetween, one wedge having another side bearing against a non-load bearing portion of the rope extending around said one wedge to lie between the abutting housing and said another wedge side, the other wedge having another side directly abutting the housing and having an included angle between its sides less than the included angle between the side of said one wedge, said other wedge having an exposed part exterior of the housing for receiving a blow to move said other wedge independently of said one wedge for loosening the grip of the wedges and housing on the rope.

2,977,655

BUCKLES

Leo W. Peters, 424 N. Harvey Ave., Oak Park, Ill.

Filed Oct. 18, 1956, Ser. No. 616,826
11 Claims. (Cl. 24—196)



1. A buckle comprising an elongated supporting member, means for attaching the opposite end portions of an elongated strap to the opposite ends of said supporting member, said means including two cross bars mounted in the supporting member in position to clampingly

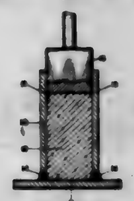
engage one end portion of said strap therebetween, and means for moving one of said cross bars away from the other to release said one end portion of the strap, said moving means comprising a handle member pivotally mounted on the supporting member in position to overlie outwardly of the supporting member said one end portion of the strap when the latter is so clampingly engaged by said cross bars, said means for attaching said straps to said supporting member including arcuate-shaped guide means mounted in said supporting means around said one cross bar and in spaced relation thereto, and stop means mounted in said supporting member in position to blockingly engage said strap when said strap is inserted between said cross bars in one direction and to guidingly engage said strap when said strap is inserted between said cross bars in another direction to thereby guide said strap around said one cross bar into position to be so clampingly engaged between said cross bars.

2,977,656
SLIDER
Ambrose J. McNamara, White Plains, N.Y., assignor to Irving Constant, New York, N.Y.
Filed June 16, 1958, Ser. No. 742,199
8 Claims. (Cl. 24—205.15)



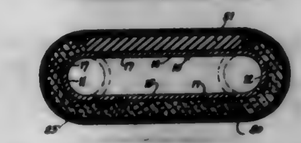
1. A slider for a slide fastener comprising a housing divided into a pair of discrete mating back halves, said back halves being arcuate in cross-section at their outer edge portions, there being a hole located substantially at one end of the inner edge portion of each of said back halves, a separate separator having a blind hole means, pin means in the hole in the back halves, said pin means extending into said blind hole means for maintaining the back halves and separator in assembled disposition, and releasable arcuate locking means engaging the arcuate outer edge portion of each of said back halves for locking said back halves in their assembled disposition.

2,977,657
DIE MOLDING APPARATUS FOR CONCRETE BLOCKS
Johannes Willemsen, De Bilt, Netherlands, assignor to Broders's Bouwbedrijf N.V., Utrecht, Netherlands, a corporation of the Netherlands
Filed July 7, 1958, Ser. No. 746,845
1 Claim. (Cl. 25—120)



A molding apparatus for molding concrete bricks and similar objects of concrete, which apparatus comprises, in combination, a plurality of co-operating mold side walls defining a mold space open at top and bottom, having the cross-sectional configuration of a desired concrete object, a base plate for supporting said mold side walls, a vertically movable die member slidably fitting said mold space cross-section and adapted to be reciprocated in said mold space so as to eject a molded concrete object longitudinally therefrom in sliding relation to said mold side walls, and an elastically yielding levelling member disposed in and protruding inwardly of said side wall of such shape and of such disposition with respect to said molded concrete object as to exert a levelling action on the appertaining surface of a freshly molded object during the ejection of the latter.

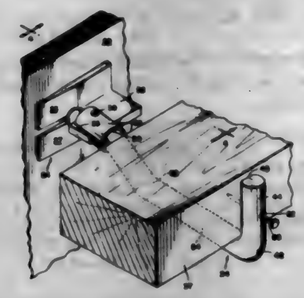
2,977,658
CORES FOR MANUFACTURE OF PRECAST SLABS
Warner B. Smith, Medway, and Claude Baber, Kettering, Ohio, assignors to The Flexicore Co., Inc., Dayton, Ohio, a corporation of New York
Filed July 21, 1958, Ser. No. 749,955
6 Claims. (Cl. 25—128)



1. A unitary core for use in casting concrete slabs, said core having a length of the order of magnitude of about 30 feet and transverse dimensions of a lower order, said core comprising a generally stiff skeleton of non-porous material extending the full length of the core, said skeleton having at least one longitudinal passage therethrough with air passages extending laterally therefrom through the walls of said skeleton to permit air to flow from said longitudinal passage within said skeleton to the region around the outside of said skeleton, flexible means disposed around the outer surface of said skeleton along the length thereof, a smooth flexible air-tight skin disposed for the length of said skeleton around the outside of said flexible means, said flexible means having sufficient body and extending between the opposed skin and skeleton surfaces and normally distending said skin and providing a substantial separation between said skin and skeleton, said flexible air-tight skin being non-metallic and being readily foldable and substantially non-stretchable and non-compressible under operating conditions, air-tight end walls for said skin to render the entire core structure air-tight, a fitting at least at one end wall for permitting air to pass between the atmosphere and the interior of said core, said core being adapted to have air under at least atmospheric pressure therein during casting, said core under such conditions defining a longitudinal passage in concrete during setting, said core being adapted to have the air within the same exhausted in connection with removal of the core from the casting, said flexible means under suction conditions providing room for said skin to wrinkle and fold and reduce the overall transverse dimensions of the core by at least ⅛ to clear the concerete surface sufficiently to permit ready removal of said core from the casting.

2,977,659
MEANS FOR SECURING CONCRETE WALL FORMS IN POSITION
Frank M. Buxton, Seattle, Wash.
(Rte. 1, Box 243, Okanogan, Wash.)
Filed Sept. 16, 1958, Ser. No. 761,377
5 Claims. (Cl. 25—131)

1. Means for securing concrete wall forms in position, comprising: a wall form having two spaced apart form walls made of plywood sheets with smooth interior faces; vertically disposed studding on the outer faces of said form walls and horizontal walers disposed on the outer edges of said studding to provide alignment therefor; a metal tie rod disposed to pass perpendicularly through the said two spaced apart form wall sheets and having a button-head on each end thereof; two wedge members, providing two spaced apart wedge portions, positioned one on each of the opposite ends of the said tie rod and between said button-heads and the outer face of said wall form; said wedge members having a web extending outwardly from, and at right angles to the center line of said wedge member and slotted over the space between said wedge portions to a point adjacent the thicker end of said wedge portions; a bracket member for positioning a waler



member used in concrete wall forms; said bracket member pivotably secured by a vertically disposed pivot pin, to the web of said wedge member and having a support portion for engaging the horizontal underside of a waler and an end portion disposed parallel to the axis of said pivot pin, adapting said bracket member to engage the vertical edge of a waler.

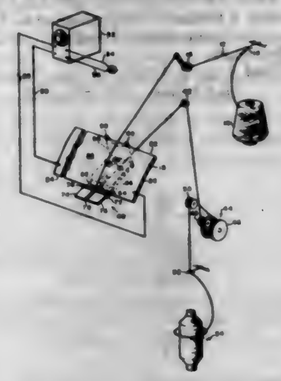
2,977,660
PATTERN SHEARING APPARATUS FOR PILE FABRIC
Russell C. Gebert, Elkins Park, and Adolph Klein, Cheltenham, Pa., and Harry J. Smiley, Glasgow, Va., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed July 28, 1958, Ser. No. 751,459
1 Claim. (Cl. 26—16)



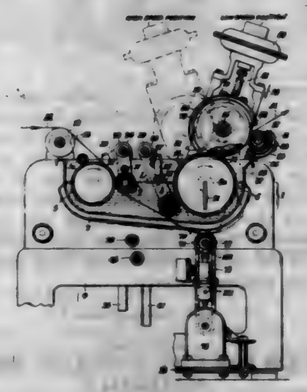
Apparatus for producing pattern sheared pile broadloom carpet which comprises a revolving shear, a ledger blade having a cutting edge cooperating with said shear in pile cutting relationship, a roller positioned in spaced relation to said shear and with the cutting edge of the ledger blade substantially on the line joining the centers of the roller and the shear, a pattern template trained over 180° of the periphery of said roller and passing away from said roller for the remaining 180°, a pile control slot, one wall formed by said template and the other wall formed by a shoe in spaced relation to the template, and a tapered nose on the downstream edge of said shoe extending towards the ledger blade and substantially between the shear and the roller.

2,977,661
YARN ELASTICIZING APPARATUS
Cyril G. Evans, Clemson, and Albert D. Harmon and Norman E. Klein, Pendleton, S.C., assignors to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed Nov. 18, 1955, Ser. No. 547,682
7 Claims. (Cl. 28—1)

1. In a yarn processing apparatus including an elongated heater strip having a yarn engaging surface, a blade member having a yarn engaging edge positioned in close proximity to one edge of said yarn engaging surface and yarn transporting means for continually drawing an end of yarn under tension into effective relationship with said heater strip and thereafter about said yarn engaging edge, improved blade holding means comprising heat dissipating means formed of a material with a high specific thermal conductivity and having a mass which is large as compared to the mass of said blade, said heat dissipating means having an indentation to receive said blade and said heat dissipating means having at least one member extending from the immediate proximity of said heater strip to thereby remove heat from said blade, clip means carried by said heat disspating means for engaging opposite sides of said heater strip and to thereby retain said heat dissipating means in fixed positional relationship with respect to said heater strip, at least one portion of said clip means acting to urge said blade against said heat dissipating means and to retain the same fixedly positioned in said indentation.



2,977,662
APPARATUS FOR TREATMENT OF TEXTILES WITH LIQUIDS
William L. Freese, John Cocker III, and Thomas F. Suggs, Gastonia, N.C., assignors to Cocker Machine and Foundry Company, Gastonia, N.C., a corporation of North Carolina
Filed May 8, 1957, Ser. No. 657,765
37 Claims. (Cl. 28—28)



1. In apparatus for treating continuous material such as yarn or textile fabric with liquid, a trough for the liquid; a roll running partly submerged in the liquid and over which the material passes downward into the liquid;

wiper means for keeping the exposed portion of the primary roll clean of the liquid; a cooperative squeeze roll so disposed relative to the first mentioned roll that the nip between them through which the material is passed is substantially at the level of the liquid in the trough to insure displacement of entrained air from the material just before the material enters the liquid; and means for exerting pressure upon the squeeze roll.

2,977,663
YARN PROCESSING APPARATUS
Cyril G. Evans, Clemson, S.C., assignor to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed Sept. 2, 1958, Ser. No. 758,440
16 Claims. (Cl. 28—62)



1. Apparatus for processing a running length of yarn comprising, in combination, means for operatively transporting an end of yarn, disengaging means to render said transporting means inoperative, an electrical yarn heater to heat a segment of said running length of yarn, and means operatively connected to and actuated in response to the actuation of said disengaging means to compensatively decrease to a lower level the electrical energy supplied to said heater when said transporting means is inoperative.

2,977,664
COATED THREE DIMENSIONAL FABRIC AND METHOD OF MAKING SAME
Edwin J. Grajeck, Philadelphia, Pa., assignor to Collins & Aikman Corporation, Downingtown, Pa., a corporation of Pennsylvania
Filed Oct. 4, 1956, Ser. No. 613,941
6 Claims. (Cl. 28—74)



1. A method of making a textile fabric comprising the steps of forming a woven base fabric having high shrinking yarns disposed in one direction on one side of said woven fabric, applying a coating of a resilient material to completely cover the side of said woven fabric opposite said high shrinking yarns and then forming puffs in the woven base fabric and said resilient coating material by shrinking the high shrinking yarns disposed on the side of said woven base fabric opposite said resilient coating material.

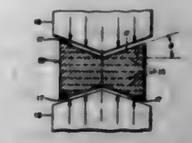
2,977,665
PROCESS FOR NON-SHRINKING FIBROUS MATERIALS
William W. McElrath, 1017 2nd St. SW., Roanoke, Va.
Filed July 5, 1957, Ser. No. 670,296
17 Claims. (Cl. 28—74)

1. A process of improving the properties of a shrinkable textile material which comprises impregnating the textile material with a synthetic resin composition and drying said impregnated material while it is under tension equivalent to about 18% to 75% of the ultimate



breaking strength of the textile material, releasing the tension, slack washing the textile material and thereafter drying the same.

2,977,666
METHOD OF MAKING GUN LINER ELEMENTS
Porter H. Brace and John C. Laffan, Jr., Pittsburgh, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 29, 1954, Ser. No. 478,552
5 Claims. (Cl. 29—1.1)



1. The method of manufacturing gun liner elements from powdered molybdenum comprising providing a compact of powdered molybdenum compressed to a desired shape, heat treating the pressed shape to about 1700° C. for approximately 20 hours in a hydrogen atmosphere to form a sintered homogeneous compact, machining the sintered compact to uniform diameter and length and with re-entrant conical end surfaces with a cone angle of approximately 10°, compressing the machined compact at room temperature with end-surface-matching conical dies to retain substantially the uniform diameter of said compact, heat treating said compressed compact at approximately 1000° C. for at least one hour followed by a slow cool for approximately two hours to room temperature to relieve residual stresses of said compact, and finally machining said compressed compact to form a ring-like gun liner element.

2,977,667
TOP LEAD BENDER AND ABRADER
Charles J. Schnering, Lock Haven, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,297
4 Claims. (Cl. 29—25.2)



1. In a machine for securing together a lead-in wire traversing a bulb and an electrode connecting cap mounted on the bulb and threaded over the wire with a portion of the wire extending above the cap, an indexible turret, centering structure on the turret adapted to engage the cap to locate it with reference to the turret, a wire bending mechanism comprising a fixed number, located above the turret, said fixed member carrying a shoe adapted to engage a wire and bend the same against the cap, and wire and cap cleaning mechanism located above

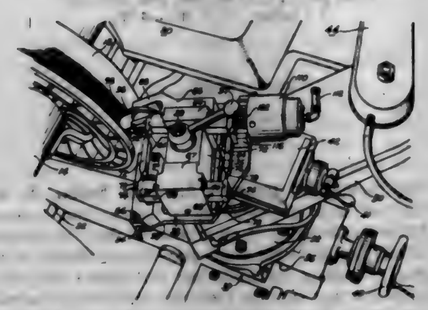
the turret at an index position of the turret beyond the wire bending mechanism to enable the bent and cleaned wire to be secured to the cap by a subsequent soldering operation.

2,977,668
TOOL HOLDER
Norman B. Mauser, 1462 N. Mariposa, Hollywood, Calif.
Filed Mar. 3, 1958, Ser. No. 718,785
1 Claim. (Cl. 29—80)



A tool holder of the class described comprising: an elongated handle; and longitudinally extending open sided cavity in said handle and extending the entire length of said handle to receive a tool shank; a clamping device pivotally attached to said handle and movable between tool clamping and released positions; a portion on said clamping device projecting toward one side of said cavity to engage said tool shank and clamp the same against said one side of said cavity, said projecting portion on said clamping device adapted to be movable to a non-clamping position disposed substantially entirely outside of said cavity to a position such that said open side of said open-sided cavity is completely cleared and said cavity is capable of receiving a tool throughout the entire length of said cavity by way of said open side; said clamping device when in said tool clamping position being substantially entirely disposed within said elongated handle; and means for securing said clamping device in tool-holding position.

2,977,669
APPARATUS FOR ROLL-BURNISHING AIRCRAFT WHEELS AND THE LIKE
Warren D. Chambers, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 6, 1958, Ser. No. 719,538
9 Claims. (Cl. 29—90)



1. A roll-burnishing machine for aircraft wheels comprising, in combination: means for supporting and turning an aircraft wheel, a cross-feeding carriage having a roll-burnishing wheel mounted thereon, a contouring means combined with said cross-feeding carriage to direct the longitudinal and cross-feed movement thereof so that said roll-burnishing wheel follows the profile of the aircraft wheel according to the shape by a template in said contouring means, a fixture received on said carriage and locating the burnishing wheel, said fixture being indexable on said carriage to bring the burnishing wheel in operative relation with respect to the aircraft wheel, means for clamping said fixture onto said carriage, and means for applying said burnishing wheel against the surface of the wheel with a substantially constant normal force, said last mentioned means including a plurality of flexible supporting members which are held at one end on said fixture and extend into operative connecting relation with said burnishing wheel to allow slight relative movement of the burnishing wheel with respect to said fixture so that normal force of the burnishing wheel against the aircraft wheel is not varied by runout of the aircraft wheel during rotation thereof, and means for urging said burnishing wheel against the aircraft wheel and consisting essentially of a fixed air chamber, a diaphragm which moves frictionlessly responsively to pressure developed in said chamber, and a plunger leading from said diaphragm and operatively connected with said burnishing wheel, said burnishing wheel being thereby urged into engagement with the wheel and floatably maintained thereagainst by a force which is substantially not variable owing to the flexible support rendered by said supporting members, and stop means limiting movement of the burnishing wheel toward the aircraft wheel by said diaphragm.

2,977,670
FEED DEVICES FOR MATERIAL, FOR EXAMPLE IN BAR FORM
Ralf Bertil Nicklasson, Svedjegatan 25, Boras, Sweden
Filed Jan. 13, 1959, Ser. No. 786,512
3 Claims. (Cl. 214—1.4)

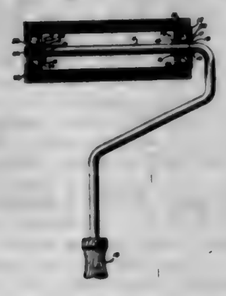


1. A feed device for material for example in bar form, comprising in combination a horizontal V-shaped guide bed for the material to be fed and a pressure-medium operated cylinder displaceable relative to the said guide bed and having a piston, the stroke of which may be adjusted, a member for advancing the material, fastened to said piston, said cylinder and piston each being connected to a gripper device, each comprising two arms which are connected elastically to one another and include downwardly projecting portions which engage about the edges of the guide bed, said arms being mounted in articulated fashion on a support member, which is fixed to said cylinder and piston rod respectively and adapted to hold said respective cylinder and piston fast to the guide bed, in such manner that when pressure medium is introduced at the full surface side of the piston, the piston rod thereof is pushed out and moves with its gripper means, one step in the direction of feed, whereas when pressure medium is introduced to the piston-rod side of the piston, the cylinder moves, with its gripper means, one step in the direction of feed, said gripper devices being provided with hand-operated releasing members.

2,977,671
PAINT ROLLERS
Gene M. Wiegand, Wooster, Ohio, assignor to The Wooster Brush Company, Wooster, Ohio, a corporation of Ohio
Filed Jan. 27, 1958, Ser. No. 711,474
3 Claims. (Cl. 29—116)

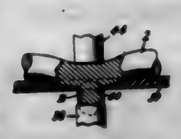
1. A chuck or mandrel for the rotatable mounting on a paint roller axle of the cover sleeve of the paint roller, said chuck or mandrel having a hub portion bored to receive said axle and also having a rim portion of generally tubular form and having a free end section and a non-slotted end section for the removable mounting thereon of an end portion of the cover sleeve, the free end section of said rim portion being provided with longitudinally disposed and circumferentially arranged slots

extending through the free end of said rim portion, with the consequent provision of longitudinally disposed and circumferentially arranged rim fingers radially outwardly extending projections on said rim fingers for support-



ing and releasable retaining engagement with said cover sleeve, and re-enforcing webs radially connecting said non-slotted section of said rim portion and said hub portion.

2,977,672
METHOD OF MAKING BONDED WIRE CIRCUIT
Thomas A. Telfer, Utica, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 12, 1958, Ser. No. 780,126
2 Claims. (Cl. 29—155.5)



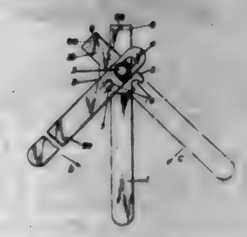
1. The method of forming an electronic circuit matrix comprising placing two or more electrical conductors in proximity, separating said conductors with a pressure deformable insulating member consisting of a sheet of cold flow material, applying pressure across said conductors to pierce said insulating member by forcing said conductors into surface contact, and bonding said conductors at the area of contact.

2,977,673
METHOD OF FORMING COMPOSITE METAL BEARINGS
Eric W. Wehman, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Sept. 22, 1955, Ser. No. 536,022
7 Claims. (Cl. 29—196.3)

7. A composite metal bearing comprising a steel supporting member, on said supporting member a comparatively thin, electrodeposited laminar copper-tin bonding layer which has been interdiffused to form a bronze layer and on said bronze layer an overlay of a copper base powder joined to said backing strip by means of said bonding layer.

2,977,674
PLIERS
Evan Melrion Arthur, The Elms, Redmal Road, West Heath, Birmingham, England
Filed Aug. 4, 1958, Ser. No. 752,953
1 Claim. (Cl. 29—229)

Pliers having pins on the operative jaws for engaging a split retaining ring for expanding or contracting same, comprising two levers, a pivot pin on which the levers are mounted, each lever comprising a handgrip portion on one side of the pivot pin and an operative jaw portion on the other side, the ends of the operative jaw portions being bent outwardly at right angles and carrying said ring expanding pins, one lever having a separate operative jaw portion formed separately from a separate hand grip portion, and both said separate parts being mounted to pivot on said pivot pin, a quadrant shaped tail piece on said separate operative jaw portion, a close ended slot in the separate hand grip portion engaged on said pivot pin to permit of sliding movement, heads on said pivot pin for holding captive the parts engaged thereon, two notches in said quadrant shaped tail-piece of the separate operative jaw portion, and a projection on the separate hand



grip portion which can be selectively engaged in or disengaged from either of said two notches by sliding and pivoting such separate handgrip portion on said pivot pin, the slots in the said quadrant tail piece being separated by an angle so that when said projection is engaged in one notch the separate hand grip lies on one side of the other hand grip and when engaged in the other notch it lies on the other side of said other hand grip, so that when the hand grips are moved towards one another, the operative jaws will be moved together in one position and away from one another in the other position.

2,977,675
METHODS OF MAKING COPPER-ALUMINUM JOINTS
Thomas S. Simms, Bensenville, Ill., assignor to General Electric Company, a corporation of New York
Filed July 23, 1956, Ser. No. 599,442
7 Claims. (Cl. 29—479)



1. The method of uniting a first tube having the surfaces thereof formed essentially of copper and a second tube formed essentially of aluminum to form a mechanically strong and gas-tight connection therebetween, which comprises preparing the inside and the outside surfaces of the end of the first tube by cleaning and fluxing the same so as to render them substantially oxide-free, bonding a layer of aluminum onto the prepared inside and outside surfaces of the end of the first tube by immersing the same in a bath of molten aluminum, upsetting the end of the second tube so as to provide a tubular projection thereon surrounded by an adjacent annular shoulder, producing a frictional fit between the ends of the two tubes by inserting the tubular projection into the end of the first tube and so that the tubular projection is in engagement with the interior surface of the layer and so that the annular shoulder is in engagement with the end surface of the layer, and welding both the tubular projection and the annular shoulder to the layer completely to surround and to embed the inside and outside surfaces of the end of the first tube in aluminum to provide a mechanically strong and gas-tight joint between the two tubes.

2,977,676
DUCTILE IRON WELDING ROD AND METHOD OF WELDING
Raymond F. Sherwin, Highland Park, and Sam J. Marabella, Winthrop Harbor, Ill., assignors to The Chicago Hardware Foundry Company, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 24, 1958, Ser. No. 730,522
4 Claims. (Cl. 29—495)

1. The method of producing a ductile weld deposit on a ferrous article which comprises heating a welding rod having the following compositions:

	Percent
Silicon	2.75 to 3.00
Manganese	0.20 to 0.40
Total carbon	3.50 to 4.00
Phosphorus	0.02 to 0.06
Magnesium	0.050 to 0.10
Sulfur, max.	0.020

Iron—substantially the balance.

and depositing a weld deposit from said rod in the presence of a flux consisting essentially of the following composition:

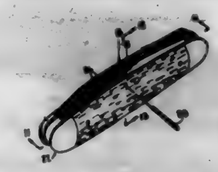
	Percent
Boric acid	60–80
Anhydrous borax	5–20
Soda ash	10–30

2,977,677
ELECTRIC RAZOR FOR SHAVING
George A. Tice, 182 W. 179th St., Bronx, N.Y.
Filed Jan. 28, 1959, Ser. No. 789,686
3 Claims. (Cl. 30—34)



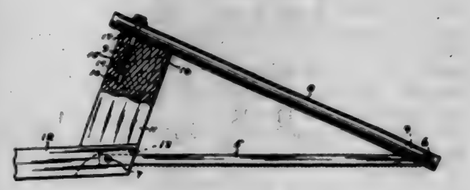
1. An electric razor comprised of a lower body shell adapted to contain an electric motor arranged for electrical connection to an outside power source, a convex shaped upper shell attached to the lower shell at the end portions of the upper shell, the upper shell having a central portion consisting of a cover plate which is detachably engageable with the end portions of the upper shell and with the upper edges of the lower shell, a shaft within the upper shell and supported by the end portions thereof to extend longitudinally in a centrally disposed position, said shaft being arranged for driving connection with the motor for oscillation through an arc of about 45°, a sleeve fixed to the shaft for oscillation therewith, a cutting blade fixed to the sleeve at the 12:00 o'clock position for oscillation movement with the shaft, the cutting blade having a lower support portion for mounting on the sleeve and thin uprights extending therefrom which terminate in a thin cutting edge, two fan blades fixed to the sleeve at the 10:00 o'clock and 2:00 o'clock positions for oscillation with the shaft, two partition members fixed to the undersurface of the cover plate and extending downwardly to a point adjacent the sleeve between the arcs of travel of the cutting blade and the fan blades, the cover plate having small orifices in the central area between the partitions and directly above the arc of travel of the cutting blade, and the cover plate also having air exit ports in side areas directly above the arc of travel of the fan blades.

2,977,678
POCKET KNIFE AND METHOD OF MAKING SAME
David Swinden, Walden, N.Y., assignor to Imperial Knife Associated Companies, Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 6, 1960, Ser. No. 794
4 Claims. (Cl. 30—155)



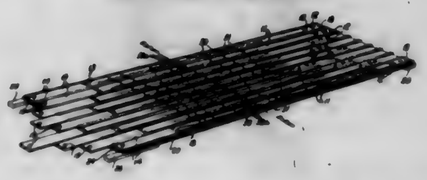
3. A knife comprising a knife frame sub-assembly including a sub-assembly plate, a pivot pin transversely mounted on said plate with the ends of said pin on opposite sides of the plate, a knife blade having a shank pivoted on said pin, both ends of the pin being headed, a pair of cover units each including a cover plate having an elongated keyhole opening therein with a wide end and a narrow end, the wide end of the keyhole opening being sufficiently large to admit a head of the pin and the narrow end of the keyhole opening being sufficiently large to pass the shank of the pin and being narrower than a head of the pin, the heads of the pin extending through the keyhole openings in said cover plates, an elongated back spring having an end bearing on the shank of the blade, the longitudinal axes of the keyhole openings being transverse to the length of the spring and the wide ends of the openings being closest to the spring, at least a portion of the back spring being outwardly misregistered with the sub-assembly plate and cover plate when the back spring is relaxed, and means engaging said portion and said cover plates to maintain said portion, said sub-assembly plate and said cover plates in registry with the back spring stressed.

2,977,679
PRUNING SAW
Lewis C. Swain, Lincoln St., Exeter, N.H.
Filed Mar. 13, 1958, Ser. No. 721,292
3 Claims. (Cl. 30—166)



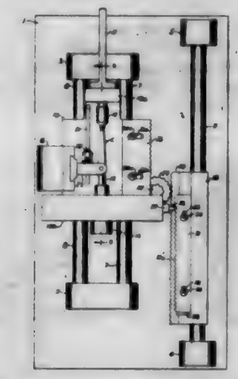
2. In a saw of the pruning saw type, a first frame member including a fulcrum at one end, a handle portion secured to and extending rearwardly of the other end thereof and having a slot, a second frame member of resilient stock, a blade, pivot means connecting one end of said blade in said slot to said handle portion and to one end of said second frame member, said second frame member engaging said fulcrum with its other end extending beyond it, and a threaded connection between said first frame member and said other end of said second frame member at a point rearwardly of said fulcrum, said connection including an anchor between the ends of said first frame member.

2,977,680
APPARATUS FOR USE IN CORRELATING OIL WELL LOGS
Donald U. Halverson, Lewistown, Mont., assignor to Texaco Inc., a corporation of Delaware
Filed July 11, 1957, Ser. No. 671,238
7 Claims. (Cl. 33—1)



1. Apparatus for use in correlating oil well logs to determine structural history in a given area by aligning a plurality of different stratigraphic horizons wherein said logs are recorded on elongated strips to a scale proportional to the depth of the wells logged, comprising in combination a plurality of said well logs, a plurality of individual mounting means for said well logs, means for marking the locations of said strata on said logs, means for moving said mounting means along the longitudinal axes thereof parallel to one another in order to set up any desired datum for observation, means for connecting the corresponding marking means representative of each strata to be observed, and means for maintaining said connecting means under tension in order to provide straight line connection from one corresponding marking means to the next.

2,977,681
ENGRAVING MACHINE
Corlis Donald Cadman, Evansville, and Elmer William Notbohm, Janesville, Wis., and Robert Jerome Picha, Dallas, Tex., assignors to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Sept. 16, 1958, Ser. No. 761,329
1 Claim. (Cl. 33—21)



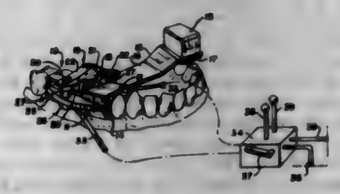
In an engraving machine for applying a decorative uniform reversing line pattern longitudinally along the surface of a tapered rod-like article; the combination of an engraving tool; a work carriage carrying said article and movable to move said article past said tool in a direction along the longitudinal axis of the article; a profile cam matching the tapered contour of said article and fixed to said carriage for engaging said tool to cause the tool to follow the tapered contour of said article; a uniformly toothed pattern cam movable parallel to the longitudinal movement of said article; a first rack mounted on and movable with said carriage; a second rack fixed to and movable with said pattern cam; pinion gear means connecting said first and second racks for moving said pattern cam parallel to, but in the opposite direction of, the longitudinal movement of said article; said pattern cam being adjustably positionable on said second rack for moving the pattern cam one-half of the pitch of the teeth of said uniformly toothed pattern cam along the direction of the movement thereof; said pinion gear means being removable for replacing same with other pinion gear means of different diameter, said first rack being adjustably positionable on said carriage for moving said first rack in the direction perpendicular to said longitudinal movement for varying the distance between said racks to accommodate pinion gear means of different diameters; oscillating means responsive to the movement of said pattern cam for oscillating the article about its axis; and index means for rotatably setting said article step by step about its axis to a plurality of equidistantly spaced settings.

2,977,682
SELF-LUBRICATION OF TURBINE-TYPE DENTAL HANDPIECES
Raymond L. Flatray, Denver, Colo., assignor to Densco, Incorporated, Denver, Colo., a corporation of Colorado
Filed Aug. 3, 1959, Ser. No. 831,133
6 Claims. (Cl. 32—27)



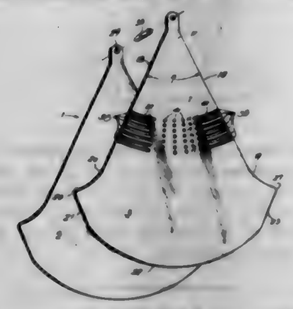
1. The combination with a turbine-type dental handpiece having a tubular barrel portion and fluid pressure input and return lines longitudinally traversing the same in serving relation with a turbine operatively carried thereby, of means defining a closed chamber within said barrel portion about the said lines therethrough, an input line section disposed for delivery of fluid pressure interiorly of said chamber, a second input line section arranged for transmission of fluid pressure from said chamber and to the turbine, and a charge of fluid-permeable, oil-saturable material within the chamber across the path of fluid pressure flow between the input line sections therein.

2,977,683
HYDRAULIC TOOTH EXTRACTOR
Dudley K. Wiltse, Box 569, Newcastle, Wyo.
Filed Nov. 9, 1959, Ser. No. 851,664
9 Claims. (Cl. 32—61)



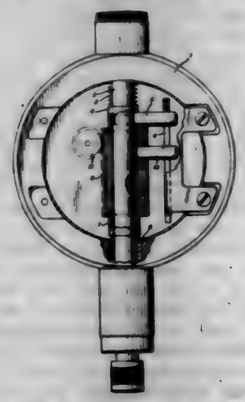
1. A mechanical tooth extractor comprising, a base having side wall portions adapted to be set at each side of a to-be-extracted tooth of a patient and adapted to be anchored against tooth and jaw portions of the patient in front of and behind the to-be-extracted tooth, a tooth-gripping tongs having an arm extending over each side wall portion of the base, an arm lifting means affixed to each side wall portion of the base with each means having its actuating element contacting an arm, and remote powering means interconnected with the lifting means adapted to extend and retract each actuating element individually and in unison with the other actuating element whereby to provide selective rocking and lifting movements of the tongs during a tooth pulling operation.

2,977,684
NECK-SEAL SIZING TEMPLATE
Arnold R. Campanile, Aldan, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 29, 1959, Ser. No. 823,784
2 Claims. (Cl. 33—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



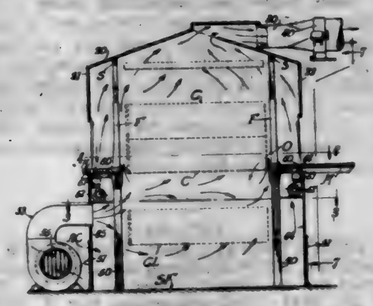
1. An apparatus for use in sizing neck-seals on anti-exposure suits, comprising a flat three-sided plate, two sides being straight and intersecting at less than a right angle, the third side being arcuate shaped and joined to the free ends of said first-named two sides by straight portions, said plate having a hole located proximate the point of intersection of said two sides, said first-named two sides having a series of grooves located at a progressively increasing distance from said hole, the distance of each groove from said hole being equal to a predetermined standard neck size; a bottom plate of substantially the same size and shape as the top plate; and means for pivotally fastening the two plates together.

2,977,685
DIAL INDICATORS
Edward W. Biro, R.F.D. 2, Feller-Newmark Road, Box 71, Red Hook, N.Y., and John L. Petz, Myers Corner Road, Wappingers Falls, N.Y.
Filed Jan. 16, 1959, Ser. No. 787,202
5 Claims. (Cl. 33—172)



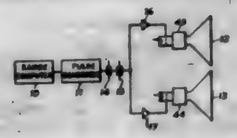
1. In a dial indicator, a case, a spindle mounted in said case and having a movement of translation along the longitudinal axis thereof, a toothed rack bar slidably mounted on said spindle, a pinion intermeshing with said toothed rack and means for insuring an invariable return of said pinion to exactly the same starting position thereof consisting of a spring driven gear intermeshing with said pinion and inclined surfaces on said rack bar to produce a lateral thrust thereof to maintain an exact spatial relation between said rack bar and its said intermeshing gear.

2,977,686
APPARATUS FOR THE MANUFACTURE OF PAPER
Arthur G. Stout, Lincolnwood, Ill., assignor to Jamar-Olmen Company, Melrose Park, Ill., a corporation of Illinois
Filed Feb. 19, 1959, Ser. No. 794,382
17 Claims. (Cl. 34—114)



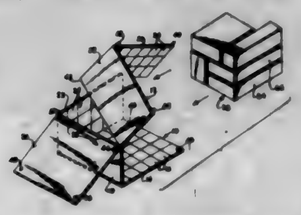
1. Apparatus for use in combination with a paper-drying machine having at least a substantial portion extending upwardly of a mill floor, said apparatus comprising a roof extending over the top of the machine and being of greater width than at least that portion of the machine which extends upwardly of the mill floor so that the roof extends beyond each side of said last-mentioned portion of the machine, end walls positioned at the ends of the roof portion, one end wall having an opening to provide for the entry of the web to and the other an opening for the exit of the web passing from the machine, longitudinal side walls substantially coextensive in length with the said roof and joining said end walls at each end, at least one of said side walls extending from adjacent the outer marginal side portion of the roof and terminating in a plane substantially above the mill floor, thereby providing an open area between the lower margin of that side wall and the mill floor which is substantially coextensive in length with that of the said side wall, means for supplying air at relatively high velocity, air outlet means positioned longitudinally of the said side walls substantially coextensive in length with the said open area, being adjacent the mill floor and being arranged to discharge air upwardly in the form of an air curtain, means communicating said air-supplying means with said air-outlet means whereby the curtain of air moves at relatively high velocity across said open area in a direction to pass inwardly of the outer face of the adjacent side wall, other means for supplying a major part of the drying air to the machine, means for exhausting from the upper interior portion of the roof and walls air supplied by said major air-supplying means and the air supplied to form said air curtain together with the water vapor resulting from the drying operation, all said means being formed and adapted to supply air in such volume and velocity as to maintain such a balance between the space within and the air forming outwardly of said open area below the side walls that the air passing out the exhaust means is comprised mainly of that supplied by said major air-supplying means and said curtain.

2,977,687
RADAR SIMULATORS
Christopher E. G. Bailey, London, and Leslie J. Kennard, Guildford, England, assignors to The Solartron Electronic Group Limited, Surrey, England
Filed Oct. 25, 1956, Ser. No. 618,293
Claims priority, application Great Britain Nov. 2, 1955
11 Claims. (Cl. 35—10.4)



7. A radar simulator for simulating passive jamming comprising pulse generating means, at least one display device, means coupling said generating means to said display device, a signal attenuator forming part of said coupling means, said attenuator comprising an input electrode, an output electrode, and a conducting element movable between said electrodes, said element having a hole pierced therethrough, driving means for moving said element between said electrodes to sweep said hole through the space between said electrodes, and means for varying the size of said hole.

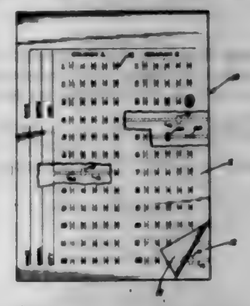
2,977,688
EDUCATIONAL CUBIC TOY DEVICE
George Redey, 185 W. Demarest Ave., New York, N.Y.
Substituted for abandoned application Ser. No. 698,688, Nov. 25, 1957. This application Oct. 5, 1959, Ser. No. 844,257
4 Claims. (Cl. 35—26)



1. An educational toy comprising a box-like structure having a bottom and four side walls and open at the top, an openable hinged lid for closing the open top, two adjacent side walls being removable and shiftable as a unit onto the tops of the other two side walls, the inner surfaces of said bottom and side walls being marked with intersecting lines forming squares guiding the positioning of at least one geometrical figure adapted to be placed on the bottom wall spaced from the two adjacent fixed side walls, and from the two supported-shifted side walls when said lid is open for viewing three-dimensional projections of said geometrical figure in perspective, front elevation, top plan and side elevation.

2,977,689
MULTIPLE CHOICE RESPONSE DEVICE
Gerhard T. Rugland, John P. Yackel, and Arthur P. Berger, all of Box 127, Circle Pines, Minn.
Filed Oct. 30, 1958, Ser. No. 770,705
3 Claims. (Cl. 35—48)

1. A multiple choice response indicating device comprising a first paper sheet provided on its face surface with a plurality of marking stations representing responses to a plurality of multiple choice test items and at least one second paper sheet of the same size and shape as the first sheet and sealed thereto along their marginal edges, pressure sensitive color indicating means on one of the contacting surfaces between said first sheet and said second sheet underlying and in registry with the marking stations on the exposed face of said first sheet, said color indicating means being disposed in localized preselected areas in distinct patterns representative of correct and incorrect responses respectively, said pattern representing correct responses underlying the respective marking stations cor-



responding to correct responses, and the pattern representing incorrect responses underlying all of the other marking stations, said localized preselected areas of the pattern representing correct responses differing in size and shape from the localized preselected areas of the pattern representing incorrect responses.

2,977,690
BINDER HEADER FOR TEXTILE SWATCH
Otto L. Kramer, 2491 Valley Drive, Hermosa Beach, Calif.
Filed Feb. 16, 1959, Ser. No. 793,611
4 Claims. (Cl. 35—55)



1. In combination, a slide for engaging the posts of a post binder, and a combined holder for said slide and for textile swatch, said slide comprising an elongate substantially rectangular flat sheet provided with a pair of spaced-apart first slide slots opening to one of the edges of said sheet and with their longitudinal axes being substantially in parallelism, and a pair of spaced-apart elongated slots spaced from the edges of said sheet and with their longitudinal axes substantially in alignment, said holder consisting of two substantially flat elongated panels integrally joined together to define an edge, and said panels being in face-to-face relationship and each provided with a pair of spaced-apart holder slots opening to the last-named edge, the similar edges of one slot in one panel being in substantially the same plane as the similar edges of one slot in the other panel and the similar edges of the other slot in said one panel being in substantially the same plane as the similar edges of the other slot in said other panel with said slide disposed between said panels, one of said panels having a pair of spaced-apart narrow tabs extending transversely thereof and disposed in parallelism, said tabs extending from the bases of the slots in one of said panels and being threaded through said elongated slots and extended over the adjacent portions of said slide, in frictional engagement therewith, and over portions of the inner faces of said panels in engagement with said portions of said inner faces, and means for securing said panels together, whereby said tabs frictionally prevent accidental longitudinal sliding movements of said slide with respect to said holder and prevent transverse sliding movements of said slide with respect to said holder, said tabs being of the material of said one of said panels cut to provide the pair of holder slots in said one of said panels.

2,977,691
HEEL CUP CONSTRUCTION FOR LADIES' OVERSHOES
Leslie S. Brown, Newton, Kenneth A. Ives, Reading, and Leslie H. L'Hollier, Newton, Mass., assignors to Hook-Brown Company, Boston, Mass., a corporation of Massachusetts
Filed Jan. 12, 1960, Ser. No. 1,962
5 Claims. (Cl. 36—7.3)



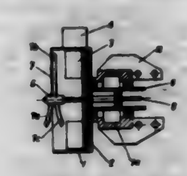
1. A heel cup member for use in the well of a lady's overshoe heel to protectively receive a spike heel of a lady's overshoe therein, said heel cup including a flat bottom section of relatively rigid material, a front wall and a curved sidewall portion rising upwardly from the flat bottom section to define a heel receptacle, inwardly projecting buffer means located around the inner surface of the said curved sidewall portion of the heel cup in a position to engage against a rear vertical surface of a spike heel in the heel receptacle and to maintain a rear portion of the overshoe heel in spaced relationship to said rear surface of the spike heel.

2,977,692
SHOES FOR PARALYTIC PATIENTS
Alfred Benesch, 25 Nagle Ave., New York 40, N.Y.
Filed Dec. 16, 1958, Ser. No. 780,713
5 Claims. (Cl. 36—8.5)



1. In a shoe structure for use to facilitate orthopedic adjustments, the structure comprising a sole, a heel, and an upper having the sole and heel secured together therewith, the upper having an open portion at its rear portion associated with the heel, a counter associated with the heel and the upper at said open portion, the counter being translucent at said open portion and with the open portion providing a window for observing the position of the heel of the foot of the wearer with relation to the heel of the shoe, the upper having forward extensions away from its rear portion, said forward extensions carrying means for closing the upper around the foot of the wearer, and means anchored to the shoe structure at a position approximately at the boundary between the heel and sole of the shoe, the anchored means being wholly inside the upper and having extending ends extending diagonally upwardly and forwardly to be lapped over the instep of the wearer, said extending ends carrying means for tightening the anchored means progressively for drawing the foot heel rearwardly toward and downwardly against the shoe heel while the degree of movement of the foot heel is being observed through the open portion and the counter, the forward extensions when closed by the closing means providing means for covering the extending ends and the tightening means.

2,977,693
ROTARY SNOW PLOW
Hans Horn, Liestal, Switzerland, assignor to Schneeraumungsmaschinen AG., Gerlafingen, Switzerland, a company of Switzerland
Filed Apr. 23, 1956, Ser. No. 579,802
Claims priority, application Switzerland Apr. 23, 1955
3 Claims. (Cl. 37—43)



1. A rotary snow plow comprising a housing having a relatively large vertical height and shallow depth with a peripheral wall, back wall and open front, wall means defining a discharge in communication with and extending from said housing, an ejector rotatably mounted in said housing and adjacent said back wall and having blades extending forwardly in said housing, and a rotary cutter located in front of said ejector having a common central hub and at least three blades connected to said hub at relatively closely spaced locations in an axial direction therealong and extending radially outwardly in angularly spaced directions, said blades being of a size and location to feed snow in the total area adjacent said open front toward said ejector, at least one of said blades having at least its tip portion extending out beyond the open front of said housing, the arrangement being such that the blades perform in a step-wise sweeping of the snow in the areas adjacent the open front and backwardly toward said ejector.

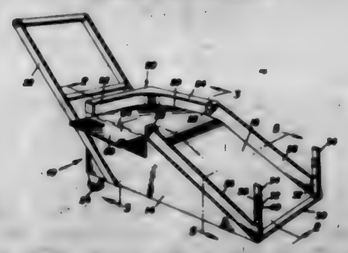
2,977,694
SNOW BLOWER
Willard C. Higby, Lowville, N.Y.
Filed Aug. 12, 1957, Ser. No. 677,448
1 Claim. (Cl. 37—43)



A snow blower comprised of a high-speed rotary snow paddle; wall means operatively encasing said paddle; said wall means including an inverted U-shaped wall

member providing a square top wall, a front wall and a back wall for said paddle; said wall means including two side walls of general triangular shape each having a horizontally-extending bottom edge and each decreasing in height from its front edge to its back edge; said U-shaped member extending between said side walls; said paddle being mounted on a shaft arranged perpendicular to said top wall and extending therethrough; motor means mounted on said top wall and operatively connected to said shaft, said U-shaped member being connected to the top edge part of said side walls so that said top wall and said paddle are inclined upwardly toward the front and at an angle of approximately thirty degrees in relation to the horizontally-extending bottom edges of said side walls; ground support means positioned at the forward and at the rearward portions of said wall means supporting said wall means so that the bottom edges of said side walls and said back wall are adjacent ground level; said front wall having an inwardly-extending flange which extends about one-fourth the diameter of said paddle; chute means connected to a side corner of said front wall; said chute means being inclined upwardly in relation to said top wall and having an adjustable deflector arranged to direct snow to either side of the blower path.

2,977,695
SNOW REMOVER
Woodrow W. Keseker, R.F.D. 4, Box 45, Keyser, W. Va.
Filed Apr. 2, 1958, Ser. No. 725,985
7 Claims. (Cl. 37—53)



1. A portable manually operated snowplow comprising a hollow body having an inclined chute with a scraper blade at the forward and lower end thereof, combustion type heating means for heating the interior of said body, a pair of discharge means at the upper end of said chute projecting laterally therefrom beyond the sides of said body, a deflector reversibly mounted on said body and directing snow moving up said chute selectively to one of said discharge means, a pair of flue openings formed in opposite sides of said body, said discharge means including a pair of discharge aprons hinged to opposite sides of said body, said aprons comprising closures for said openings which when opened serve as discharge means and also provide a means for the fumes of the heating means to escape.

2,977,696
GRUBBER ATTACHMENT FOR BULLDOZERS
Thurston V. Williams, Wilton, N.H., assignor to The O.K. Tool Company, Inc., Milford, N.H., a corporation of New Hampshire
Filed June 8, 1939, Ser. No. 818,949
1 Claim. (Cl. 37—145)

In combination with a bulldozer blade, a grubber attachment comprising a lay bar extending lengthwise of the blade along its lower edge, said lay bar comprising upper and lower plates with internal shoulders adjacent the blade, a plurality of wedge blocks between the plates with surfaces bearing on said shoulders, and bolts extending through the blocks for drawing them toward the blade, said shoulders and surfaces being beveled to draw the plates together as the blocks are drawn toward the blade, a plurality of tines bearing on the lay bar at spaced locations therealong, lower clamping means holding each tine against the lay bar, bearing means interposed between the blade and tines near the upper edge of the blade, upper clamping means holding the upper ends of the tines against said bearing means, and rigid connecting means interconnecting said lower clamping means and said bearing means so that the bearing means is supported by the lower clamping means.



2,977,697
STEAM DIFFUSER FOR FABRIC PRESSING MACHINES
Nathan Root and Francis Gerald Nyman, Grand Rapids, Mich., assignors, by direct and mesne assignments, of one-third to Harold Baer and one-third to Bert Woldring, both of Grand Rapids, Mich.
Filed Aug. 26, 1958, Ser. No. 757,252
6 Claims. (Cl. 38—16)



1. A steam diffusing assembly for ready attachment to or detachment from the working surface of the upper buck of a steam-heated fabric pressing machine, the surface having a plurality of orifices for passage of steam therethrough comprising: an outer flexible screen conformable to the work, an inner flexible screen adjacent the buck surface and conformable thereto, both said screens being of substantially the same area as the surface of the buck and comprising material which is resistant to corrosion and the working temperature of the steam and of shape-retaining character, said inner screen having a mesh providing interstices of substantially lesser area than said orifices to disrupt the plurality of jets of steam issuing from said orifices to provide diffused flow therefrom over substantially the whole area of the inner screen, a napped fabric coextensive with said screens, interposed therebetween and oriented with the nap juxtaposed to said outer screen whereby, said virtue of the pressing force co-acting with the flow of steam through the assembly and work, the fibres of the nap are caused to intromit and become matted with the meshes of the outer screen to provide a surface for contact with the work which is of generally velvety texture intermeshed with the relatively firmer texture of the outer screen and means for detachably securing the screens and fabric to the buck as an assembly.

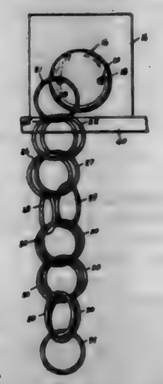
2,977,698
LABEL HOLDERS FOR BINDING BACKS OF BOOKS
Coleman R. Chamberlin, Thompson Ridge, N.Y.
Filed Feb. 26, 1960, Ser. No. 11,352
3 Claims. (Cl. 40—16)

1. A label holder for a book or the like comprising an elongated transparent plastic body, said body being slightly arcuate-shaped in cross section, the long edges of the body turned inwardly forming elongated loops open at both ends, the extreme edges of the loops closely spaced from the body for clamping a flexible label be-



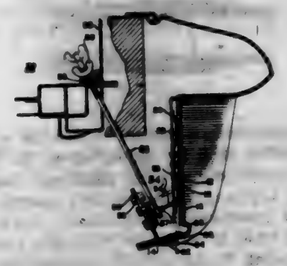
tween the loops and body, the outer surfaces of the elongated loops being coated with adhesive for fastening the holder to the back of a book or the like, said adhesive having pockets over the entire area of the surface thereof to enhance the stickability thereof.

2,977,699
AMUSEMENT AND ATTENTION ATTRACTING DEVICE
Jack Lofton, Palmyra, Ind.
Filed Aug. 10, 1959, Ser. No. 832,748
4 Claims. (Cl. 40—30)



1. An amusement and eye catching device which comprises a first link, a plurality of pairs of links, said first link passing through the first of said plurality of pairs of links, one of the second pair of links passing through both of the first pair of links and the other of the second pair of links passing through only one of the first pair of links, the first named of said second pair of links passing through only one of the third pair of links and the second named of said second pair of links passing through both of the third pair of links, the remaining pairs of links being arranged in like manner so that the link in each pair passing through both of the links of the preceding pair of links passes through only one of the links of the next succeeding pair of links and the link in each pair passing through only one of the links of the preceding pair of links passes through both of the links of the next succeeding pair of links, a final link passing through both of the final pair of links, means for automatically and alternately supporting said first link and the link of the first pair of links that passes through only one of the second pair of links, said means comprising an element rotating about an axis, a pair of projections extending axially from said element, said projections being so spaced that, when said first link is hanging from one of said projections, the rotation of said member will cause said one of said second pair of links to be engaged by said other projection and to be lifted upwardly causing said first link to be dropped by said first projection.

2,977,700
LICENSE PLATE INSTALLATION
Arnold E. Dooley-Jones, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 11, 1957, Ser. No. 683,384
6 Claims. (Cl. 40—202)



1. A license plate holder for motor vehicles and the like comprising a vehicle bumper having an aperture therein, means positioning a license plate behind said aperture, and releasable means adjacent said plate and secured to a stud means extending from said bumper into and remotely operable from a compartment within said vehicle to prevent removal of said plate.

2,977,701
COLLAPSIBLE ORNAMENT
Richard G. Lenderbeck, 303 Wilfred Drive, Morrisville, Pa.
Filed June 15, 1959, Ser. No. 820,522
1 Claim. (Cl. 41—11)



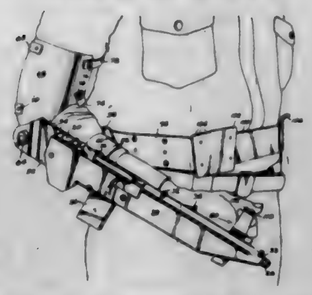
An ornamental object comprising a trio of sheets of cardboard, each of said sheets having a center circular portion and a plurality of equiangularly spaced radially extending portions integrally formed around the circumference of said center portion, said center circular portion of each of said sheets being of equal diameter, the number of radially extending portions of two of said sheets being equal and the number of radially extending portions of the third of said sheets being two less than the number of radially extending portions on said two sheets; and a plurality of slits formed in the center portion of each of said sheets by means of which said sheets can be interlocked in an assembly of three intersecting perpendicular planes, and alternatively, collapsed into an assembly of a substantially single plane, the slits formed in said two sheets being of an identical T-configuration, the base leg of which extends radially inward from a point on the circumference of said center portion midway between two adjacent radially extending portions, the slits formed in the center portion of said third sheet consisting of two pairs of diametrically opposed slits extending radially inward for a distance equal to one-fourth the diameter of said center portion, each of the slits formed in each of said sheets having a width equal to the thickness of said material.

2,977,702
CHOKE WITH CONTACTING FINGER AND SLEEVE SURFACES OF CONCENTRIC ARCS
Ewald Schacht, Waseca, Minn.
Filed June 8, 1954, Ser. No. 435,112
3 Claims. (Cl. 42—79)



1. In a shot pattern control device for a shotgun, a generally tubular shell for mounting on the forward end of the gun barrel and in axial alignment therewith, said shell having a plurality of annularly spaced slits in the wall thereof extending longitudinally rearwardly from its front end so as to divide the wall into a series of forwardly extending fingers radially contractable under peripheral pressure to constrict the passage through the forward end portion of the shell, a sleeve encircling the shell and secured thereon for longitudinal adjustment with respect thereto, said sleeve having an annular inner surface in peripheral pressure contact with the outer surfaces of said fingers and throughout substantially the entire lengths thereof, the outer surface of each finger and the inner surface of the sleeve in contact therewith being contoured in a longitudinal direction to follow the curves of concentric arcs, whereby when the sleeve is longitudinally adjusted on the shell the said inner surfaces thereof will continue to maintain contact with the outer surfaces of the fingers throughout substantially the entire lengths of the latter.

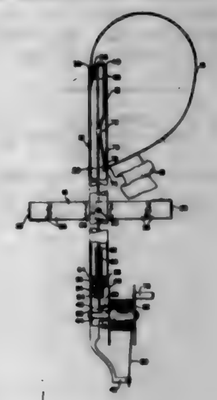
2,977,703
FOREARM GUN
Howard C. Sarvis, Boulder Creek Station, New Meadows, Idaho
Filed Oct. 10, 1955, Ser. No. 539,470
18 Claims. (Cl. 42—94)



1. A forearm gun mount comprising a casing adapted to receive a gun, means on the forward portion of said casing for mounting said forward portion of the casing on the hand, means for mounting the rearward portion of the casing pivotally on the upper arm whereby to permit freedom of articulation of the arm and yet effect transmittal of recoil directly to the upper arm, and trigger operating means adjacent the hand for firing the gun upon actuation thereof.

2,977,704
ICE FISHING TIP-UP
Kelvin R. Tinsley, 20421 Fenton, Detroit, Mich.
Filed May 23, 1960, Ser. No. 31,179
5 Claims. (Cl. 43—17)

1. In an ice fishing tip-up, a tubular member adapted to be vertically positioned in an opening in the ice, a cross-member pivotally mounted on said tubular member substantially medially thereof and adapted to rest upon said ice and to support said tubular member in said opening, a flagstaff mounting a signal flag at its upper end and slidingly secured in said tubular member at the upper end thereof and adapted to be raised to its extended height on said tubular member, a fishing reel mounted on said tubular member exteriorly thereof, said tubular member being notched at spaced intervals adjacent its lower end to provide a support for said reel, said reel having a detent projecting inwardly therefrom within the compass of said tubular notched areas so that said reel is free to rotate free of interference by said tubular member, a signal flag releasing rod disposed slidingly and substantially axially in said tubular member



having its lower terminal end bent normal to said axis and projecting outwardly in the compass of said tubular notched areas a distance sufficient to engage said reel detent, spring means mounted on said rod to raise said rod upwardly when disengaged from said reel detent upon rotation of said reel, and a bearing seal in said tubular member adjacent the upper end of said notched areas above said rod lower end and sealing said tubular member thereabove from ingress of water, said bearing seal having a counterbore in the upper end thereof and packing in said counterbore closely surrounding said rod, said spring means secured on said rod constantly compressively bearing on said packing to maintain a water seal about said rod.

2,977,705
ACOUSTIC ATTRACTION OF CARNIVOROUS FISH
René-Guy Busnel, Paris, France (Chemin de la Butte au Diable, Vaüboyen/Bièvre, Seine-et-Oise, France)
Filed July 24, 1956, Ser. No. 599,827
5 Claims. (Cl. 43—17.1)



1. In an artificial, acoustic signal-emitting device for transmitting selective acoustic signals in water, said signals having a frequency spectrum in the range 50 cycles/sec. to 150 kc./sec. and a steep wave front: chamber means having opposed, spaced openings which permit water to pass through said chamber; a rotary drive shaft rotatably mounted in said chamber between said

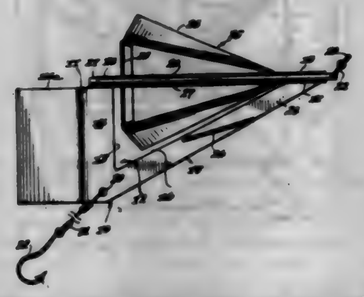
openings; propeller means secured to said shaft; and metal signal inducing means operatively associated with said shaft in spaced relationship to said propeller means so that rotation of said shaft causes said signal inducing means to be activated so as to emit signals having the aforesaid characteristics.

2,977,706
GAS POWERED FISHING ROD
Rudolf Merz, Rochester, N.Y., assignor to Crosman Arms Company, Inc., Fairport, N.Y., a corporation of New York
Filed June 30, 1959, Ser. No. 823,899
7 Claims. (Cl. 43—19)



1. A gas-powered fishing lure casting device, comprising a housing open at its forward end and having therein a chamber for the storage of gas under pressure, a rod mounted to slide rectilinearly in said housing and adapted to carry a fishing lure at its forward end, a piston secured to said rod, a valve positioned in said housing and operable to admit gas under pressure from said chamber against said piston to move said rod forward relative to said housing to catapult said lure forward, means in said housing operative during forward movement of said rod for bypassing gas around said piston, and means in said housing cooperative with said piston during further forward movement of said rod in the housing for compressing said bypassed gas to cushion said further forward movement.

2,977,707
FISH LINE TROLLERS
Edgar Bernard Dreher, 1133 Aspent Court, Longmont, Colo.
Filed Sept. 18, 1959, Ser. No. 840,920
2 Claims. (Cl. 43—42.12)



1. A fishing troller having front and rear ends comprising a normally substantially upright unitary substantially flat frame in the shape of a right triangle having its peak at said front end having a normally substantially horizontal top edge and a deep right-triangular cut-out extending downward through said top edge whence one side of the cut-out is coincident with said top edge, the hypotenuse and the other side of the cut-out being parallel to, respectively, the hypotenuse and other side of the frame, a trunnion positioned on said top edge at the rear end of the cut-out, a second trunnion positioned on said top edge at the front end of the cut-out in alignment with said first-named trunnion, a pin having the ends thereof mounted in said trunnions and having a conical float axially rotatably mounted thereon registering in said cut-out with the base of the float parallel with said other side of the triangular cut-out, and positioned adjacent said first-named trunnion, said pin protruding from the front end of said second trunnion and having means for securing a fish line thereto, said frame having means positioned near the rear end thereof for securing a fish hook thereto, said float having circumferentially spaced longitudinally extending fins thereon off-set from a plane through the axis of the float.

2,977,708
FISHING LURE
Herbert E. Mills, 5518 Bishop, Detroit, Mich.
Filed Jan. 20, 1960, Ser. No. 3,641
3 Claims. (Cl. 43—42.16)



1. A fishing lure comprising a body having provisions at the lead end thereof for connecting a line thereto and a transverse bar at the tail end thereof, a link having an eye at one end through which said bar extends, and provisions at the other end for connecting a fishhook thereto, a spinner having a slot at one end thereof and an integral tongue provided by the material displaced from said slot but offset from the plane thereof, said tongue having an aperture therein at the free end thereof through which and such slot said link freely extends, whereby said spinner is free to move in a direction normal to the plane thereof, said tongue projecting in the direction of said slot, the major portion of said spinner being normally disposed at one side of said link.

2,977,709
TROLLING DEVICE
William H. Keller, 1011 Bricker St., Toledo 11, Ohio
Filed Apr. 1, 1958, Ser. No. 725,573
10 Claims. (Cl. 43—43.13)



1. A trolling device for insertion between a troll line and a bait line to maintain a bait lure during fishing at substantially a pre-determined distance above the bottom of the water being fished, and to respond to a pull on the bait lure or to engagement with an obstacle on the bottom to raise the bait lure, said device comprising: a hydrofoil unit having a fin portion and a central keel portion fixedly attached to said fin portion, means at the forward end of said keel portion for attaching a troll line, a plurality of means spaced from said fin portion at the rearward end of said keel portion for attaching a bait line, pivot means on said keel portion between said ends, a substantially rigid leg suspended by its upper end from said pivot means for limited pivotal movement relative to said unit, said leg corresponding in length to said pre-determined distance above the bottom of the water being fished, and having a feeling portion at its lower end for feeling said bottom, and resilient means enclosed

in said keel portion for normally urging said leg forwardly and urging the forward part of said hydrofoil unit downwardly with respect to each other.

2,977,710
BAIT HARNESSES
Lloyd A. Stambaugh, Albany, Oreg., assignor of one-half to Alberta H. Stambaugh, Albany, Oreg.
Filed May 26, 1958, Ser. No. 737,806
8 Claims. (Cl. 43—44.2)



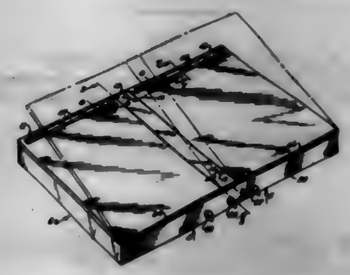
1. In a bait harness: a main frame unit formed from a single piece into a substantially V-shape with the apex of the V-shape being the rearmost end consisting of two legs, one a pointed upper leg disposed above and at an acute angle to the other and lower leg, said lower leg having formed in the plane thereof at its forward end an eye, rigid jaw-retaining elements disposed at an acute angle to each other projecting upwardly and laterally from said lower leg behind said eye and a pointed head spike adapted to pass through the head of a bait fish and projected upwardly from said lower leg behind said jaw-retaining elements, said upper leg being adapted to pass through the body of a bait fish and to have its pointed end inserted through the eye of said lower leg; a flexible carrier element with an eye at its forward end, said carrier extending throughout the length of and rearwardly of the said main frame unit substantially along the said lower leg thereof with its said eye secured to the eye of said lower leg; a hook secured to the rearmost end of said carrier element; a plurality of rings slidably threaded upon the lower leg of the main frame unit medially of said head spike and said rearmost end, said slidably threaded rings being secured by said carrier element at selected spaced positions therealong; and a hook carried by each of said rings.

2,977,711
POISON BAIT STATIONS
Charles W. Starr, 1216 4th St. S., Nampa, Idaho
Filed Jan. 20, 1958, Ser. No. 709,853
3 Claims. (Cl. 43—131)



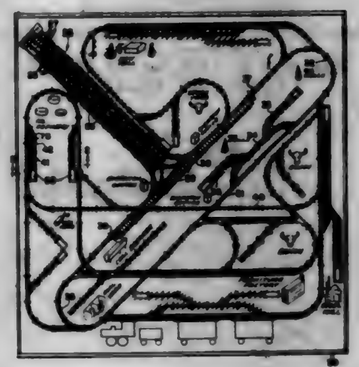
1. In a rodent bait station assembly, a relatively thin plastic housing of truncated form defined by a tapered annular wall having entrance openings formed therein, and a flat top, said top having a concentric annular rib projecting from its inner surface, a bait retainer adapted to be positioned within the housing when the latter is in its normal position to permit access thereto through the entrance openings, said retainer being defined by a bottom and a marginal wall of substantially less height than the annular wall of the housing and being formed with an annular recess in its bottom for receiving the said annular rib when the housing is inverted to form a separator between a pair of housings of similar construction and dimension when telescopically associated to prevent wedging of said annular tapered walls.

2,977,712
BOOK SUPPORTING DEVICE
Edmond M. Carriere, 1209 Broadway Ave., Galveston, Tex.
Filed July 30, 1958, Ser. No. 752,660
4 Claims. (Cl. 45—30)



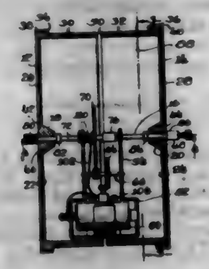
1. A book supporting device comprising a frame adapted to overlie a desk surface, a support pivotally connected at one end to said frame, a panel pivotally connected at one side to one edge of said support for rotation about an axis normal to the axis of the pivotal connection between said support and said frame, means connected between said support and said frame for turning said support about its pivotal axis in relation to said frame, and means connected between said panel and said frame for turning said panel about its pivotal axis relative to said support and said frame.

2,977,713
GAME
Solomon Aleiyunas, % Delaware Valley Mfg. Co. Inc., 1703 Burnt Mill Road, Haddonfield, N.J.
Filed Aug. 14, 1958, Ser. No. 754,947
5 Claims. (Cl. 46—1)



1. A board-game apparatus comprising a board, one face of said board being formed with a plurality of fixed grooves of predetermined straight, curved and obliquely intersecting configurations, said grooves each having its opposite internal side walls undercut beneath said one board face, a plurality of elongate simulated vehicles arranged longitudinally of and over said grooves, a projection depending from the underside of each vehicle loosely into the nether groove, and an enlarged head on the lower end of each depending projection loosely slidably received in the adjacent groove extending longitudinally of the respective vehicle and tapering toward its opposite ends to permit free limited turning of the vehicle, whereby said vehicles are freely movable along the several configurations of said grooves.

2,977,714
SELF PROPELLED TOY
Blair W. Gibson, 3142 Buena Vista Terrace, Washington, D.C.
Filed Dec. 2, 1958, Ser. No. 777,658
3 Claims. (Cl. 46—243)



3. A self propelled toy comprising a pair of closed end tubular wheels, a mechanism housing cavity formed within the open ends of said wheels, a shaft adapted to maintain said wheels in a spaced apart rotatable relationship, the said shaft comprising two axially aligned electrically conductive portions, a connector between the said sections adapted to maintain said portions in a spaced apart coaxial alignment and electrical disconnection, a means within one of said portions to contact the other portion within the said connector, a means to conduct electricity to each of said shaft portions, an electric motor power means suspended from said shaft adapted to rotate said shaft, a friction clutch on the outer end of each of said portions adapted to engage the hub of the tubular wheel and a means for moving the said means within said one portion to control flow of electrical current to said motor disposed on the said end of said one of said shaft portions.

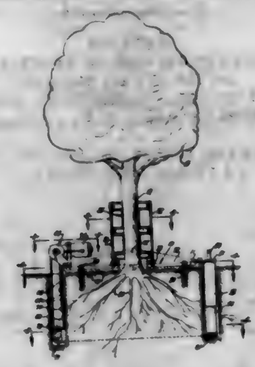
2,977,715
CROP TREATING APPARATUS
Maurice E. Lindsay, 3900 Fruitvale Ave., Bakersfield, Calif.
Filed Dec. 1, 1958, Ser. No. 777,367
16 Claims. (Cl. 47—1.7)



1. An apparatus for the treatment of the plants of row crops and including, a movable housing engageable over the crop and with open ends for receiving and discharging plants as the housing is advanced through the crop, air circulating means to withdraw air from the central portion of the housing and to project air into the end portion of the housing to move in columns through and to the said central portion thereof, and material dispensing means discharging into the air circulating means to enter a crop treating material into the said column of air.

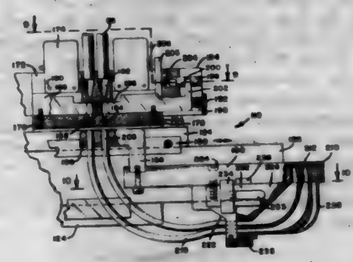
2,977,716
METHOD OF REMOVING TREES
Lewis C. Pearce, Berea, Ohio, assignor to Pearce Development Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 12, 1959, Ser. No. 786,376
7 Claims. (Cl. 47—58)

1. In a method of removing a mature tree from ground, the steps of: forming an annular trench in the ground around the trunk of said tree with the trench having a diameter sufficient to include the bulk of the root structure of said tree within the area bounded by said trench and a generally uniform depth sufficient to be below the downward extent of the bulk of said root structure, disposing a cable in the bottom of said trench



around said tree, and pulling the cable back and forth under tension to undercut the ground beneath said tree along a generally horizontal plane at a depth equal to the depth of said trench to form a severed generally cylindrical core of earth enclosing the bulk of said root structure.

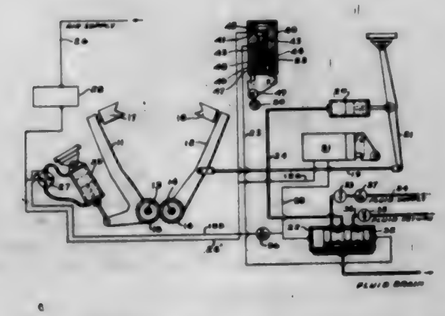
2,977,717
LEAD FEED MECHANISM
James M. Calehuff, Montoursville, Glenn A. Maciejewski, Hughesville, and William L. Reiter, South Williamsport, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 6, 1957, Ser. No. 701,697
17 Claims. (Cl. 49—2)



2. In a lead feed mechanism, a transfer unit comprising a shiftable support, means to shift the support, said support having thereon a platform, as well as a ported face plate and a perforated discharger, all in laterally spaced relationship on the support, a passageway connecting a port in the face plate with a perforation in the discharger, a fixed member mounting the support, a fixed block above the member having a vertical aperture therethrough, means to feed a lead to said vertical aperture while the platform is beneath the aperture, means to engage a lead in the aperture at least during the initial portion of the movement of the platform from underneath the block, the spacing between the platform and face plate and displacement of the slide being such as to alternatively bring the platform or the face plate beneath the block, with the aperture in the block in registration with the port in the face plate, means to withdraw the lead engaging means from a lead when said aperture and port are in registration to permit a lead to drop into the passageway, a head in position register with the discharger in one of the positions of the support, said head

having a lead receiving opening in the lower end thereof, means to apply suction to said lead receiving opening when the discharger is beneath the head with the perforation and lead receiving opening in alignment, and means to synchronize the various means.

2,977,718
GLASS FEEDER SHEAR MECHANISM ACTIVATING MEANS
Frederick A. Dahlman, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 8, 1958, Ser. No. 765,964
8 Claims. (Cl. 49—14)



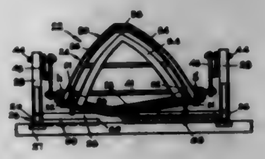
1. The combination with a shear mechanism for a glass feeder, of fluid operated activating devices linked to such mechanism, means for continuously supplying fluid to one of such devices to tend to move said mechanism from one position to an alternative position; a combined fluid supply and return line to the other of said devices including a two position control valve in which such line terminates, and having fluid supply and fluid return lines respectively associated therewith, said valve in its first position, feeding operating fluid from its supply line to the other of said devices and in its second position affording the return of fluid over the line from said other device to its associated fluid return line; time controlled means for positioning said control valve in its second position whereby said one device is enabled to move said mechanism to its alternative position and a valve operated as such mechanism arrives at its alternative position to restore said control valve to its first position whereby said other device is enabled to restore such mechanism to its initial position.

2,977,719
BENDING MOLD
Guy C. Devore, Cheswick, Pa., assignor to Pittsburgh Plate Glass Company, a corporation of Pennsylvania
Filed July 28, 1954, Ser. No. 446,303
8 Claims. (Cl. 49—67)



3. Apparatus for bending glass sheets comprising a frame, a sectionalized, skeleton mold supported on said frame, said mold comprising a shaping surface consisting of a first skeletonized molding member fixedly secured to said frame to form part of the mold shaping surface and a second skeletonized molding member movably connected to the frame for movement relative to the frame, said second member forming the remainder of the mold shaping surface and being movable toward the first member to form a substantially continuous frame defining the contour desired for the bent glass sheets, and separable from the first member; stop means adjacent the outboard longitudinal extremity of said first molding member and stop means adjacent the outboard longitudinal extremity of said second molding member to support opposite edges of a flat glass sheet therebetween when said second member is separated from said first member.

2,977,720
APPARATUS FOR BENDING GLASS SHEETS
Frank J. Carson and Herbert A. Leflet, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 27, 1956, Ser. No. 630,799
7 Claims. (Cl. 49—67)

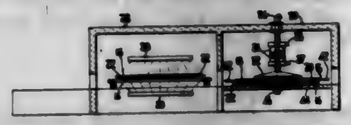


1. In a glass bending mold adapted to bend a glass sheet in a hot atmosphere and comprising a shaping surface into conformity with which the glass sheet is to be bent, a composite heat absorbing member spaced from said shaping surface and positioned so as to face a surface of the glass sheet when supported on said shaping surface, said member comprising a metallic grid exposed to the atmosphere adjacent the glass sheet, and a layer of substantially air impervious material adjacent a surface of said grid.

2,977,721
METHOD OF MANUFACTURING LIGHT-WEIGHT, POROUS ACID SLAG
Harald Elmar von Gronow, Schoene Aussicht 26, Wolfhagen, Kassel, Germany, and Georg Gutperle, Lerchenstr. 3, and Otto Hager, Kernerstr. 51, both of Marbach (Neckar), Germany
Filed May 20, 1957, Ser. No. 660,337
Claims priority, application Germany May 19, 1956
12 Claims. (Cl. 49—77.5)

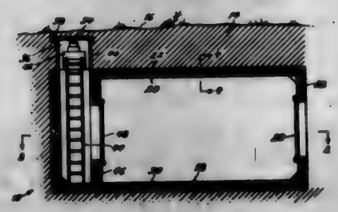
1. A method of manufacture of porous slag as admixture for concrete and similar purposes from acid vessel slag by cooling the liquid in a plurality of stages under consideration of the viscosity conditions, comprising the steps of a first period of reducing the temperature of a liquid slag stream to a level of a temperature range above about 700° C. at which gases dissolved therein are freed for a time period of about 2 to 10 minutes, the viscosity of said slag stream being within the range of from $2 \cdot 10^4$ to $8 \cdot 10^4$ poises up to $2 \cdot 10^7$ to 10^8 poises, thereafter a second period of accelerated reducing of the temperature upon reaching the lower limit of said temperature range until a viscosity of $2 \cdot 10^8$ to $8 \cdot 10^8$ poises is reached for a time period of about 1 to 2 minutes, then a third period of slow reducing of the temperature at a pace of about 5° C. to 10° C., per minute, the viscosity of said slag stream in said third period reached being 10^{13} poises, and finally a fourth period of reducing the temperature at any selected speed to obtain a glass-like, lightened final product having a viscosity above 10^{13} poises.

2,977,722
METHOD OF SEALING GLASS TO OTHER ELEMENTS
Renato J. Mazzoni, Tarentum, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Mar. 5, 1959, Ser. No. 797,474
4 Claims. (Cl. 49—82)



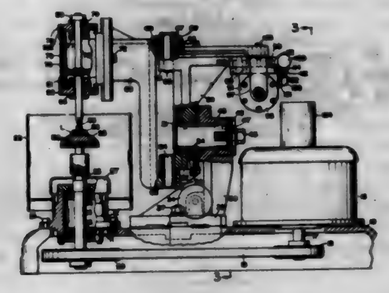
1. A method of joining a glass element to another element which comprises assembling the elements and adhering them together at room temperature with a binder composed of a polybutene and a low softening point glass, said binder being tacky and adhesive at room temperature, transferring the assembly to a heating zone, heating the assembly to a temperature which is sufficient to decompose and burn off the polybutene and render the low softening point glass tacky and adhesive and cooling the assembly to form a composite article.

2,977,723
BOMBSHELTER
Fred Rudinger, New York, N.Y., assignor to Morton M. Rosenfeld, Mount Vernon, N.Y.
Filed Feb. 7, 1958, Ser. No. 713,938
1 Claim. (Cl. 50—100)



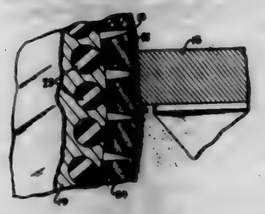
A resident dwelling comprising a basement, a passageway in the wall of said basement, said passageway descending appreciably below the level of the floor of the basement, an upright barrier on the floor of the basement barring the entrance to the passageway, the space intermediate the top of said barrier and the ceiling of the passageway being sufficient to permit a person to obtain access to the passageway, a bombshelter in communication with said passageway, said bombshelter being disposed beneath the ground level, an opening in said bombshelter in communication with and adjacent to the passageway, the size of said opening being sufficient to permit a person to obtain access between said bombshelter and said passageway, the bottom of said opening being raised above the floor of both said bombshelter and said passageway, an access door operatively mounted for selectively opening and closing said opening, an escape hatchway extending through the uppermost portion of said bombshelter and walled off from the remainder of the interior of said bombshelter, a fitted cover for said hatchway, means disposed in the upper portion of said hatchway for raising said cover, with said hatchway cover being disposed a short distance beneath the surface of the ground level and being covered by the ground, an opening in the wall of said hatchway, the bottom of said hatchway opening being spaced above the floor of the hatchway and the floor of the bombshelter, and a hatchway door for selectively opening and closing said hatchway opening, with said hatchway opening being of sufficient size to permit a person to move between said hatchway and the interior of said bombshelter.

2,977,724
LENS SURFACING MACHINE
William J. Kennedy, Geneva, and Stanley F. Hostetler, Phelps, N.Y., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 24, 1959, Ser. No. 835,599
7 Claims. (Cl. 51—124)



1. A lens surfacing machine comprising a base, a column adjustable rectilinearly in said base, a bracket mounted on said column for angular adjustment thereon, a carrier mounted on said bracket for oscillation about an axis extending at right angles to the axis of adjustment of said bracket, a spindle mounted in said base, and a spindle mounted in said carrier, one of said spindles being adapted to carry an abrading tool and the other spindle being adapted to carry a lens, one of said spindles being rotatable and the other of said spindles being axially reciprocable, said bracket being adjustable angularly on said column about an axis extending at right angles to the direction of lateral adjustment of said column, so that the axis of the spindle which is mounted on said carrier is normal to the operating surface of said abrading tool, means for rotating one of said spindles on its axis, fluid-pressure operated means for constantly urging the other spindle axially toward said one spindle to hold the lens and abrading tool in operative engagement, and means for oscillating said carrier on its axis simultaneously with the rotation of said one spindle.

2,977,725
CONTACT WHEELS
Joseph A. Simendinger, 1775 Huntington Road, Stratford, Conn.
Filed May 13, 1957, Ser. No. 658,579
4 Claims. (Cl. 51—141)



1. In a contact back-up wheel, a rotatable drum having a plurality of transversely extending slots in its periphery, each of said slots having a circular root portion in said drum and a narrow slot portion between said root portion and the periphery of the wheel, so as to define a stop surface at the radially outer portion of the root portion on either side of said narrow slot, and contact members having circular base portions for filling the bare portions in the drum contact portions wider than said slots extending beyond the surface of said drum, and portions connecting the base portions and the contact portions and filling the narrow slots, said

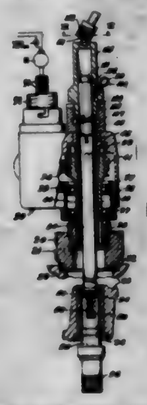
base portions of the inserts being hard enough to resist compression sufficient to permit them to move radially through said narrow slots under centrifugal force generated by the rotation of the drum and said contact portions being softer than said base portions both before and after said inserts are inserted in said slots.

2,977,726
GEAR HONING TOOL
David W. Daniel, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 22, 1957, Ser. No. 654,215
4 Claims. (Cl. 51—206)



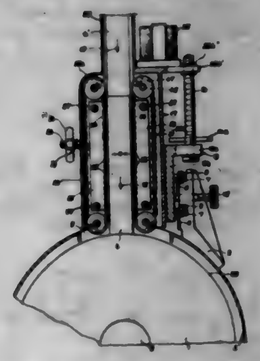
1. A gear hone in the form of a cylindrical gear having cast teeth formed throughout at least their surface portions of a relatively hard but slightly yieldable, highly resilient resinous material having abrasive grains embedded in surface portions thereof, said teeth being of continuously decreasing chordal thickness from one end to the other to provide for withdrawal in an axial direction from an annular counterpart mold, the rate of change of chordal thickness of the teeth from end to end being continuously variable to produce teeth having flanks which are continuously curved in developed circumferential section, the shape of the teeth being conjugate to the teeth of a cylindrical work gear to be honed having teeth at a helix angle different from that of said hone and their form being such as to produce contact throughout an elongated zone extending longitudinally of the gear teeth when meshed at crossed axes therewith with the common normal to the axes of said hone and gear being at or adjacent the side of said hone at which said hone teeth have minimum chordal thickness.

2,977,727
FORCE FEED MECHANISM FOR CUTTING AND GRINDING APPARATUS
Milo C. Gray and John Kozak, Toledo, Ohio, assignors to Hall-Toledo, Inc., Toledo, Ohio, a corporation of Ohio
Filed May 28, 1959, Ser. No. 816,465
22 Claims. (Cl. 51—241)



1. A force speed mechanism for a circular valve seat type of rotating grinding or cutting tool, in which said valve seat has a longitudinal valve guide axial of said seat, said mechanism comprising: a pilot located in said longitudinal guide and having structural means for removably anchoring said pilot at at least two axially spaced points in said guide, a means axially slidable over said pilot to and from said seat, means for removably anchoring said slidable means to said pilot, and means for connecting said slidable means to said tool for positively axially moving said tool to and from said seat with respect to said anchored slidable means.

2,977,728
PASTE SUPPLYING APPARATUS FOR GRINDING MACHINES AND THE LIKE
Werner Wrobbel, Nurtingen, Württemberg, Germany, assignor to Metabowerk Closs, Rasch & Schnizler K.G., Nurtingen, Württemberg, Germany
Filed Oct. 27, 1958, Ser. No. 769,782
Claims priority, application Germany Mar. 4, 1958
21 Claims. (Cl. 51—263)



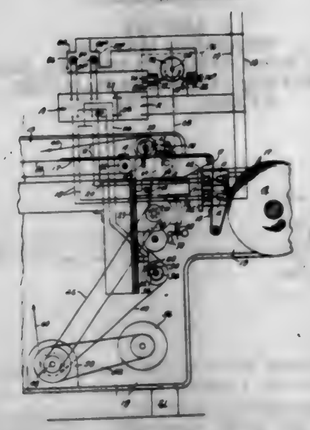
1. An apparatus for applying paste sticks to the periphery of a rotating element in grinding machines and the like which comprises, in combination: a housing defining a passage substantially radially disposed with respect to said periphery for receiving paste sticks in end-to-end relationship; and advancing means supported by said housing for consecutively engaging and moving the paste sticks toward said periphery, said advancing means comprising at least one endless chain having a stringer in contact with at least one paste stick in said passage, and means for so driving the chain that said stringer entrains each paste stick in contact therewith toward said periphery.

2,977,729
METHOD AND APPARATUS FOR FORMING SEALED PACKAGES
Jean Frechtmann and William Trau, New York, N.Y.
Filed Dec. 31, 1954, Ser. No. 479,824
12 Claims. (Cl. 53—29)



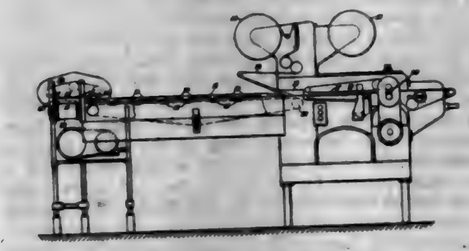
1. The method of forming a fluid package which comprises the steps of forming a tube section of multiple, continuous, substantially coextensive concentrically arranged soft thermoplastic tubing, sealing one end of said tube section, filling said tube section with a fluid, sealing the other end of said filled tube section and thereafter laminating said multiple tubing to one another.

2,977,730
WRAPPER REGISTRATION CONTROL
Robert L. Ardner, Anderson, Ind., assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana
Filed Aug. 11, 1958, Ser. No. 754,425
5 Claims. (Cl. 53—51)



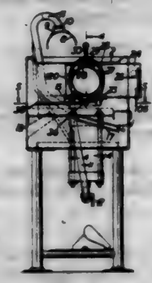
1. In a registration control mechanism for a wrapper or the like having registration areas spaced therealong, a pair of registration area sensing means displaced from each other in the direction of travel of the wrapper for simultaneously sensing two different points of one of said registration areas, means cyclically operable in relation to a wrapping machine or the like for providing energization for said pair of sensing means, a variable speed drive for said wrapper, an adjusting shaft for said variable speed drive, adjustable by rotation in one direction to speed up the wrapper and in the other direction to slow down the wrapper, a solenoid for rotating said shaft in one direction, a second solenoid for rotating said shaft in the opposite direction, one of said solenoids being actuated by one of said pair of sensing means when said registration area lags behind a desired position in relation to the cycling of said wrapping machine, and the other of said solenoids being actuated by the other of said pair of sensing means when said registration area is ahead of said desired position.

2,977,731
WRAPPING MACHINES
Leonard Brook, Bramhope, near Leeds, Edwin Hall Lazenby, Bardsey, near Leeds, and Peter Gordon Wilson, Cookridge, Leeds, England, assignors to The Forprove Machinery Company Limited, Leeds, England, a company of Great Britain
Filed Oct. 20, 1959, Ser. No. 847,633
Claims priority, application Great Britain Oct. 21, 1958
8 Claims. (Cl. 53—74)



1. A wrapping machine comprising a wrapping mechanism, a continuously travelling band conveyor for supplying articles to a delivery station, a stop at the delivery station for arresting articles on said conveyor to form a bank of articles thereon abutting against said stop, a transfer mechanism for feeding the articles arrested by said stop from the delivery station to the wrapping mechanism in succession and at regularly timed intervals, motor means connected to drive said wrapping mechanism and said transfer mechanism, a detector for testing the bank of articles accumulated in front of said stop, and an electrical control mechanism for said motor means including speed control means, which is switchable under control of said detector from a normal condition in which it permits said motor means to run at a normal speed to a speed reducing condition in which it reduces the speed of said motor means, said speed control means being switched to its speed reducing condition when the number of articles in said bank falls below a given limit and being switched back to its normal condition when the number of articles in the bank is again in excess of said limit, and a delay device for delaying return of said speed control means for its speed-reducing to its normal condition.

2,977,732
MEAT-STUFFING MACHINE
Leslie George Adye Leonard, Hazelgrove, Stockport, England, and Clarence Smith, Porto-Bello, Midlothian, Scotland, assignors to United Gas Industries Limited, London, England, a British company
Filed Aug. 1, 1958, Ser. No. 752,667
Claims priority, application Great Britain Aug. 6, 1957
8 Claims. (Cl. 53—124)

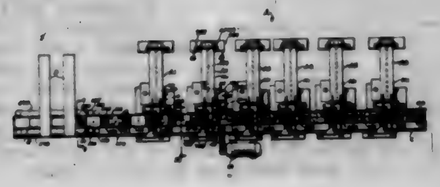


1. A machine for stuffing boneless meat in casings, comprising a work table having a longitudinal meat trough for receiving the meat and open at least at one end, a complementary cover plate for the trough to press the meat into the required cross-sectional form, the cover plate being adapted for movement parallel to itself to the trough under pressure and therefrom to open the trough, a nozzle at the open end of the trough, a pressing plunger within the trough which is movable at least through the length of the trough to eject the meat through the nozzle, a sleeve on the nozzle carrying expandable hinged flaps for engaging an end of the casing to be charged within the compressed meat, and a piston-cylinder assembly coupled to the sleeve for moving it axially on the nozzle.

2,977,733
SHEET DISTRIBUTING MECHANISM AND RECEPTACLE CONVEYOR
Lewis C. Pearce, Berea, Ohio, assignor to American Greetings Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 17, 1957, Ser. No. 690,858
42 Claims. (Cl. 53—154)

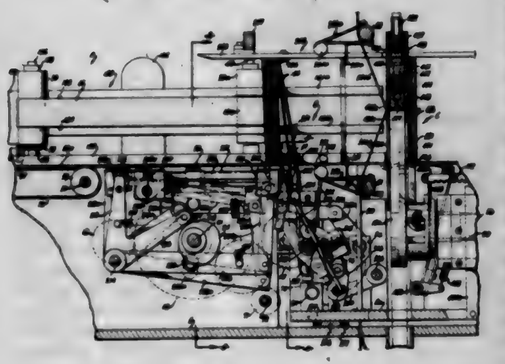
1. In a machine having a support for a receptacle at a receptacle station; a collating type sheet unit supply feeder and receptacle loading assembly comprising a sheet unit supplying, collating and gathering first mechanism including a gathering conveyor and including means for collating folded sheets from a plurality of sheet packs

and placing them fold first on said gathering conveyor to form units with each unit comprising a plurality of sheets with at least one from each pack with said gathering conveyor conveying said units in spaced apart relation to a first transfer zone, said gathering conveyor having means for compacting the sheets in each unit laterally into a compact unit while a force is applied to said folded edge, a second mechanism including a first sheet unit transfer means, conveying type sheet unit positioning means, and receptacle loading second sheet unit



transfer means for respectively transferring said units individually from said first transfer zone on said gathering conveyor to said conveying type sheet unit positioning means by exerting a force on said fold, for conveying said units individually by said positioning means from a first to second position in a second transfer zone into alignment with a receptacle at said receptacle station by exerting a force on said fold, and for transferring said unit individually from said second position in said second transfer zone into said receptacle.

2,977,734
ENVELOPE BANDING MACHINE
Lewis C. Pearce, Berea, Ohio, assignor to Pearce Development Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 14, 1957, Ser. No. 633,912
26 Claims. (Cl. 53—198)



1. An envelope banding machine comprising a first frame having a magazine extending longitudinally of said frame and adapted to contain a plurality of uprightly stacked envelopes, counting means on said first frame adapted to count said envelopes one by one from said magazine, a second frame mounted on said first frame and adapted to be transversely adjustable to said first frame, transfer means mounted on said second frame adapted to transfer a predetermined number of said counted out envelopes from said magazine to a banding station, a third frame mounted on said second frame and adapted to be vertically adjusted with respect to said second frame, means to encircle said envelopes at said banding station with a band of tape, jaw means mounted on said third frame to clamp said encircled tape around said envelopes, a sealing means mounted on said third frame to seal said clamped tape, and means to operate each of said counting means, transfer means, jaw means and sealing means from a common power drive source.

2,977,735
WRAPPING MACHINE
Clarence F. Hyrne, 16783 NW. 18th Ave., Miami, Fla.
Filed Aug. 24, 1959, Ser. No. 835,481
2 Claims. (Cl. 53—198)



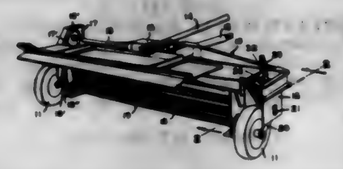
1. A packaging device of the character described that is adapted to form a tubular envelope from a continuous section of thermoplastic material for receiving articles to be encased, the device comprising a rectangular work table having a flat surface, a carriage device that is adapted to be moved longitudinally of the table a predetermined distance in accordance with the dimensions of the envelope to be formed and in a predetermined timed cycle, the carriage at one end rotatably supporting a roll of thermoplastic material that rests upon the surface of the table to be rolled thereover under the influence of the carriage, the carriage when moved in one direction extending a sheet of thermoplastic material over the table to receive the article to be packaged, movable clip devices that are disposed adjacent each side of the table for clipping engagement with the opposite marginal edges of a free end of the thermoplastic material whereby to hold the material at the end when the roll is moved along the table, a rod that is deposited across the table to overlie the extended sheet and to be disposed in front of the roll of material whereby to hold the material against shifting in an opposite direction when the carriage and the roll are returned to the initial starting position, the carriage in its return movement shifting the roll of material in a reverse direction to override the article deposited upon the sheet, the said clip devices being actuated out of the line of movement of the returning roller so that the overlying sheet overlies the initial free end of the material, the said clip devices being actuated to clip the two sheets together against movement, a cutting device and a heat sealing device that is disposed forwardly of the clip devices and that is movable in a vertical plane, the said knife and the heating device simultaneously cutting the two sheets apart transversely and sealing the two sheets together, the said clip devices being L-shaped and with the clip devices extending downwardly through slots formed in the table, bracket devices upon the underside of the table for pivotally supporting the clip devices, a flat crank that is rotatable in a horizontal plane and that is supported upon the underside of the table intermediate its width, link means at the opposite end of the crank that have connection with depending arms of the clips, a roller carried by the crank at one end, a cam wheel and a cam flange carried by the wheel, the said roller being in the line of movement of the cam flange and whereby the crank is oscillated in one direction under the rotative influence of the cam wheel and spring means for biasing the cam in a direction to actuate the links to shift the clips into clipped engagement with the thermoplastic material.

2,977,736
COIN COUNTING AND PACKAGING MEANS
John G. Condis, 2852 Alida St., Oakland, Calif.
Filed Dec. 5, 1958, Ser. No. 778,437
5 Claims. (Cl. 53—254)



1. Coin stacking means comprising a member having a bore therein of a coin diameter and a length equal to the combined thickness of a predetermined number of coins to be rolled, and an extension about the open end of said bore and mounted for movement axially thereof to engage a prefabricated coin roll for transfer of coins to said roll, said extension having a bore larger in cross-sectional extent than the bore of said member and the end portion of said member defining a shoulder against which such roll will abut when inserted in said extension.

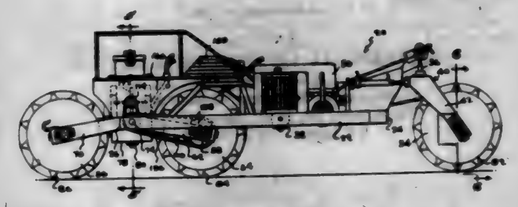
2,977,737
SHOCK ABSORBING MOUNTING FOR A HAY CONDITIONER
James E. Newcomer, R.F.D. 2, Waynesboro, Pa.
Filed Sept. 21, 1959, Ser. No. 841,341
9 Claims. (Cl. 56—1)



1. A wheeled structure having a frame, a pair of ground engaging wheels, forks pivotally mounting said frame on said wheels, means for controlling the height of said frame relative to said wheels including an operating rod connected to one end of each of said forks and an operating crank for raising and lowering each operating rod, counterbalancing means for said structure comprising a yoke mounted on each side of said frame adjacent to said wheels, a pair of bolts mounted in said yoke, an adjustable disk attached to each of said bolts, and spring means connecting said disks and said wheel fork in a manner that said spring means supports most of the weight of the frame.

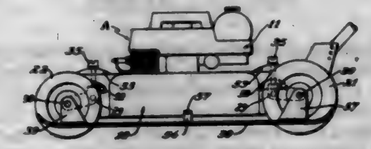
2,977,738
WORK VEHICLE FOR CLEANING DRAINAGE CANALS
Hilton J. Hoover, 636 SE. Railroad Ave., Ponchatoula, La.
Filed Sept. 4, 1959, Ser. No. 838,345
5 Claims. (Cl. 56—9)

1. In a work vehicle for use in a drainage canal, a frame having a forward end and a rearward end, a steerable first ground-engaging roller arranged transversely of said frame adjacent the forward end thereof and supporting the forward end of said frame, and a second and a third ground-engaging roller arranged in tandem spaced relation positioned transversely of said frame adjacent the rearward end and supporting the rearward end of said frame, each of said rollers being provided with a



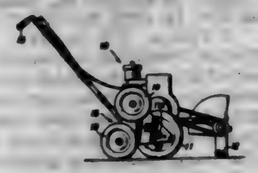
plurality of continuous projecting cleats extending in transverse spaced relation across the exterior surface from one end to the other end thereof, the cleats of said first and third rollers running in the same direction with the cleats of said second roller running in the opposite direction.

2,977,739
ROTARY LAWN MOWER CONSTRUCTION
John Lastyna, 1043 Burgess, St. Paul, Minn.
Filed July 25, 1957, Ser. No. 674,214
3 Claims. (Cl. 56—25.4)



1. In combination with a rotary lawn mower having an enclosing frame, a pair of wheels on each side of said frame, parallel wheel shafts connected to said frame and supporting said wheels, and a rotary blade within said frame and substantially flush with the under surface thereof, the wheels on one side of said frame being adjacent to the front and to the rear of the frame, respectively, the wheels on the other side of the frame being adjacent to the rear and to the transverse center of the frame, respectively, and a runner extending longitudinally of the frame on said one side thereof, means securing said runner to said frame intermediate the ends thereof and to the shafts supporting said wheels at the ends thereof on said one side, said runner being supported below the level of said frame, said wheels and wheel shafts on said one side of the frame being adjustable in elevation.

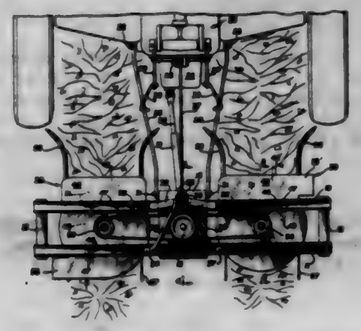
2,977,740
AUXILIARY WHEEL ATTACHMENT FOR POWERED LAWN EDGER
George E. King, 2495 NE. 36th St., Fort Worth, Tex.
Filed Aug. 10, 1959, Ser. No. 832,569
1 Claim. (Cl. 56—25.4)



An auxiliary wheel support for a powered lawn edger having a cutting blade on one side thereof and a supporting wheel and axle on the side thereof opposite said

cutting blade, said axle being transversely disposed with reference to the path of the edger, said auxiliary wheel support comprising a triangular member outwardly of said supporting wheel and parallel therewith, auxiliary wheels mounted on two corners of said triangular member and freely swingable pivot means connecting the remaining corner of said triangular member with said axle of said edger.

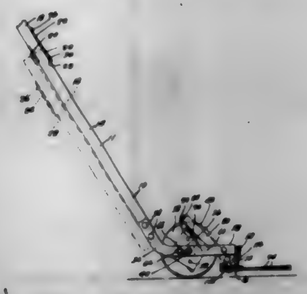
2,977,741
MECHANICAL COTTON DEFOLIATOR AND TOPPER
Lawrence E. Stroman, Cameron, S.C.
Filed Nov. 10, 1959, Ser. No. 852,055
4 Claims. (Cl. 56—25.4)



1. Cotton plant treating apparatus comprising a pair of spaced elongated substantially parallel frame bars adapted to span a plurality of rows of cotton plants transversely of the rows, yoke means secured to the frame bars near their longitudinal centers and extending above the frame bars for attachment to the three point hitch and lift means of a farm tractor, a mounting plate secured to the bottoms of the frame bars near their longitudinal centers, a gear box dependingly secured to said mounting plate, gearing within the gear box and including a forwardly projecting shaft to be coupled with and driven by the power take-off shaft of said tractor, a plurality of laterally spaced downwardly open vertically shallow housings secured to the bottoms of the frame bars adjacent the rows of cotton plants and spaced outwardly of said mounting plate, substantially horizontal rotary cutter blades disposed within said housings and having vertical shaft means extending above the tops of the housings, driving connecting means between said shaft means and gearing to rotate the shaft means of the housings in unison, and a pair of longitudinally extending generally parallel laterally spaced vertically wide cotton plant gathering vanes depending secured to the opposite longitudinal sides of each housing and extending a substantial distance below the bottom of the housing and forwardly of the housing and diverging forwardly of the housing.

2,977,742
AUTOMATIC GRASS TRIMMER
Charles A. Gagne, 20 Prospect St., Biddeford, Maine
Filed Nov. 14, 1958, Ser. No. 773,917
6 Claims. (Cl. 56—241)

1. A lawn edger comprising a handle; frame means including a pair of transversely spaced frame plates fixed to and projecting forwardly from the handle; a single ground wheel rotatably mounted upon said plates in the space therebetween; a pair of shear blades projecting forwardly from the frame means and having rear end portions respectively pivoted on said means for swinging movement between open and closed positions about axes aligned transversely of the frame means at opposite sides of and equidistantly from the plane of rotation of the wheel; spring means engaged with the shear blades and stressed to normally bias the same to open position, said rear end portions of the blades overlapping in the space between the blade axes; a pin extending upwardly through and pivotally connecting the overlapping parts of the blades forwardly of the wheel in said plane of rotation of the wheel; a lever fulcrumed intermediate its ends upon the frame means for rocking movement in said plane, said lever including a front end portion cammingly, slidably contacting the pin and shifting the pin bodily in a direction to close the blades responsive



to rocking of the lever in one direction, said lever including side portions extending in parallel, spaced relation at opposite sides of the wheel and respectively formed, adjacent the rear end of the lever, with depending cam plates disposed in close proximity to said sides of the wheel; and a series of projections angularly, uniformly spaced about the wheel axis at each side of the wheel, the projections of each series extending laterally outwardly from the adjacent side of the wheel in positions to cammingly engage the cam plate located at the same side of the wheel in successively following order, responsive to rotation of the wheel, thereby to bias the lever in said direction.

2,977,743
ROTARY WHEEL RAKING DEVICE
George W. Giles, Raleigh, N.C., assignor to Duffin Corporation, a corporation of Delaware
Continuation of application Ser. No. 194,222, Nov. 6, 1950. This application Mar. 10, 1959, Ser. No. 808,544
55 Claims. (Cl. 56—377)



1. In a harvester of the class described, the combination of a frame having support members extending transversely thereof, spaced ground wheels connected to said members, said frame having transversely spaced arms pivoted thereon to form axles disposed at an angle to the forward direction of the harvester, raking wheels each including a hub revolubly mounted on said axles, each raking wheel including fingers extending radially outward, means concentric with each hub for maintaining the fingers in position, the finger of each raking wheel being arranged to engage the ground so that forward travel

of the harvester rotates the raking wheels, and said fingers having their outer ends curved rearwardly from their direction of rotation so that the outer end of each finger engages the ground for a short distance and in a direction substantially parallel with the axle on which the raking wheel revolves so as to cause the fingers as they are rotated toward the ground to slide under the material and then shed the material adhering thereto after the fingers are moved away from the ground.

2,977,744
TEETH FOR SWEEPRAKES OR THE LIKE
Charles Henry Puckering, Fargo, N. Dak., assignor, by mesne assignments, to West Fargo Manufacturing Company, West Fargo, N. Dak., a corporation of North Dakota
Filed May 1, 1958, Ser. No. 732,345
2 Claims. (Cl. 56—400)



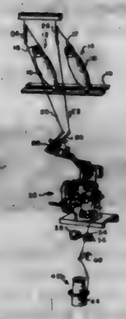
1. In a sweeprake having a frame for supporting a plurality of elongated teeth in extended position, said teeth being tapered inwardly toward the leading ends thereof, each tooth comprising: an elongated tube composed of a light gauge metal wall, an elongated portion of said wall defining a grooved portion on said tube, said grooved portion having spaced sidewalls and increasing in depth as said leading end is approached, said sidewalls connecting on the line of greatest depth of said groove and terminating at said leading end adjacent the inside surface of the tube wall opposite thereto; a tip for said tooth, said tip being substantially cone-shaped and having an extension on the large end thereof for engaging in said leading end, means securing said tip in said leading end; and means securing said tube on said frame.

2,977,745
METHOD OF AND APPARATUS FOR TREATING TEXTILE STRANDS
Eugene C. Neu and James W. Panel, Charlotte, N.C., assignors to Hudson Hosiery Company, Charlotte, N.C., a corporation of North Carolina
Filed May 13, 1958, Ser. No. 734,900
10 Claims. (Cl. 57—34)



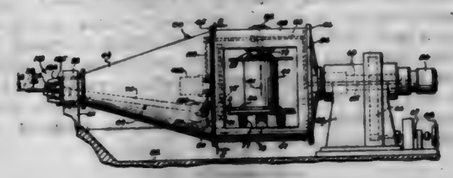
1. A method of smoothing the surface of a thermoplastic yarn strand in a continuous process which comprises the steps of running the yarn from a supply to a take-up at a predetermined speed, passing the running yarn completely around and in engagement with a heated element positioned between the supply and take-up, and moving the running yarn transversely of its direction of movement while in engagement with the heated element.

2,977,746
APPARATUS FOR PROCESSING THERMOPLASTIC YARNS
Norman E. Klein, Pendleton, and Cyril G. Evans, Clemson, S.C., assignors to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,637
24 Claims. (Cl. 57—34)



1. Apparatus for processing a running length of yarn comprising, in combination, a yarn supply means, a yarn heater means, a blade means having a sharp edge positioned adjacent said heater means, guide means to guide an end of yarn into contact with said heater means and thereafter about said blade means in an acutely angular path with said edge positioned at the apex of the angle, yarn advancing means to withdraw the yarn from said blade means and advance the same at a selected linear rate, guide means to again guide said yarn into contact with said heater means, and a second yarn advancing means to thereafter withdraw said yarn from said yarn heater means at a selected linear rate less than said first mentioned linear rate.

2,977,747
CABLE-GUIDING MECHANISM FOR CABLE-STRANDING APPARATUS
Axel C. Nystrom, Rutherford, N.J., Lester O. Reichelt, Downers Grove, Ill., Daniel V. Waters, Lebanon, N.J., and John R. Weigel, Elmhurst, Ill., assignors, by direct and mesne assignments, to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 10, 1959, Ser. No. 826,225
8 Claims. (Cl. 57—66.5)



1. In an apparatus for forming cable along a first axis and including a reel for winding the cable thereon, a cradle mounted for rotation about said first axis for supporting said reel with the axis of said reel disposed at right angles to said first axis, and cable-distributing means on said cradle including a distributing member movable in a plane perpendicular to said first axis and along laterally spaced paths parallel to the axis of said reel for directing the cable onto the reel, the combination therewith a

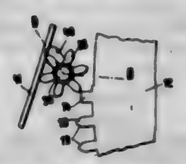
a tube for guiding the cable from a point on said first axis to said distributing member, means for pivotally connecting one end of said tube to said distributing member for movement therewith, and means for connecting the other end of said tube to said cradle for universal movement about said point on said first axis and for limited longitudinal movement relative to said point.

2,977,748
LUBRICATED WIRE ROPE
William A. Zisman, Silver Spring, Md., and Vincent G. FitzSimmons, Washington, D.C.
Filed May 18, 1955, Ser. No. 509,435
8 Claims. (Cl. 57—149)



1. A wire rope comprising a plurality of ferrous metal multiwire strands laid about a core in which the individual wires of the rope are coated with a plural layer thin film of essentially sintered polytetrafluoroethylene, said film having a thickness of from about 0.1 to 1 mil.

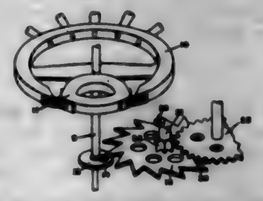
2,977,749
TRANSMISSION DEVICE FOR TIME METERS
Friedrich Meyer, Grenchen, Switzerland, assignor to Ebauches S.A., Neuchatel, Switzerland
Filed July 23, 1957, Ser. No. 673,683
Claims priority, application Switzerland May 29, 1957
2 Claims. (Cl. 58—21.13)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A timepiece of the type including a toothed drive wheel having teeth over only a portion of its circumference and adapted to be rotated in opposite directions the combination therewith of a translatorily movable sliding gear adapted to be in mesh with the teeth of the drive wheel during one direction of rotation thereof and moved out of mesh with said teeth by the drive wheel during the opposite direction of rotation thereof, and a positioning spring member resiliently bearing against adjacent teeth of the sliding gear and urging it towards the drive wheel and simultaneously positioning the sliding gear so that a tooth thereof is directed towards a side of the first tooth of the toothed portion of the drive wheel thereby preventing jamming of opposite teeth of the sliding gear and drive wheel.

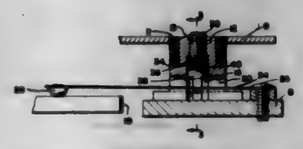
2,977,750
INDEXING MECHANISM
Philip E. Biemiller, Landisville, and Kenneth H. Schoenrock, Rheems, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Jan. 2, 1957, Ser. No. 632,176
1 Claim. (Cl. 58—28)

In a battery operated electric watch, an oscillating balance wheel, an indexing jewel carried by said balance wheel, a toothed wheel indexed by said jewel, and a cylindrical permanent magnet located adjacent said toothed wheel on only one side of its plane of rotation with the flux path from said permanent magnet at right angles to the plane of rotation of said toothed wheel being indexed, said permanent magnet having a diameter substantially



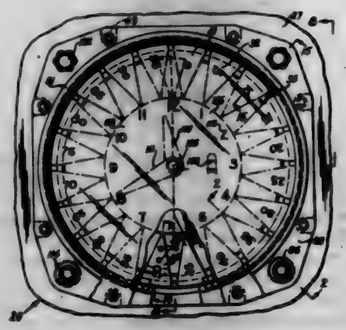
equal to the base width of the teeth of said toothed wheel and acting to position said toothed wheel by advancing said toothed wheel into a neutral position after its is indexed by said jewel in one direction and returning said toothed wheel to said neutral position after it is indexed by said jewel in the other direction.

2,977,751
BALANCE-WHEEL LOCK
Ralph H. Thrasher, Jr., 5113 72nd Place, Hyattsville, Md.
Filed Aug. 21, 1956, Ser. No. 605,455
3 Claims. (Cl. 58—107)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A balance-wheel brake system for a timepiece having a case, a barrel bridge and a balance-wheel having a rim portion, said brake comprising an elongated flexible member having one end attached to said barrel bridge and the remainder thereof adapted to be selectively moved toward said balance-wheel, said flexible member having a pair of divergent arms at one end thereof, a friction member on each of said arms located in a position overlying a side edge of the rim of the balance wheel at diametrically opposite points on said rim; a brake actuating means comprising, a support member with a substantially U-shaped cross-section and having a tubular passageway formed in the bight portion thereof, a portion of said tubular passageway being threaded, a screw member threadedly mounted within the threaded portion of said tubular passageway in the support member, said screw member being selectively movable toward said barrel bridge upon rotation thereof in the proper direction, a piston slidably mounted within the tubular passageway in the support member, said piston having one of its ends rotatably connected to the innermost end of said screw member and having at its opposite end a fixedly connected inverted U-shaped member, a pin extending between and fixedly connected to the leg portions of the U-shaped member and spaced from the bight portion thereof, said elongated flexible member extending between said pin and the bight portion of the U-shaped member, whereby rotation of the screw member causes translation of said piston member and the U-shaped member attached thereto, thereby causing movement of said elongated flexible member relative to the balance-wheel whereby the respective friction members on the divergent arms at the end of the flexible member are adapted to be selectively moved in and out of balance-wheel arresting contact with the edge of the rim of the balance-wheel.

2,977,752
GROUND SPEED COMPUTER
Daniel D. Hodges, 2037 Huckleberry Ave., Ridgeview Park, Davenport, Iowa
Filed Oct. 16, 1958, Ser. No. 767,597
9 Claims. (Cl. 58—126)



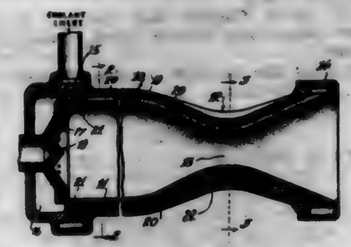
1. A computer for use with aircraft comprising a main housing, a front housing telescopically mounted in said main housing, a back plate secured to said main housing, a glass retaining ring connected to said front housing, a first row of indicating tabs mounted in said front housing, a first stabilizing ring mounted in said front housing in engagement with said tabs, a second row of tabs mounted in said front housing, a second stabilizing ring mounted in said front housing for engagement with said second row of tabs, a dial having equally spaced graduations on the face thereof mounted in said front housing, a plurality of hands movable at constant but different speeds over the face of said dial in indicating relation to the graduations on the face of said dial, means for moving said rings to move said tabs to cooperate with said hands to indicate the ground speed of the aircraft, and spring members mounted in said front housing for engagement with said stabilizing rings to urge said stabilizing rings into engagement with said tabs.

2,977,753
IMPROVEMENTS IN CONTINUOUS FLOW GAS ENGINES
Georges Boulet, Toulouse, France, assignor to Recherches Etudes Production R.E.P., Paris, France, a French company
Filed Feb. 9, 1955, Ser. No. 487,129
Claims priority, application France Feb. 13, 1954
3 Claims. (Cl. 60—35.6)



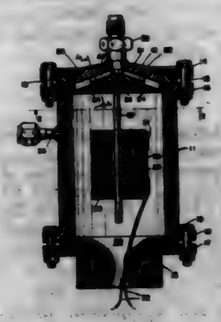
1. A continuous flow gas engine having a flow channel comprising a first portion for the continuous admission of gas at a first pressure, an expansion portion downstream of said first portion for continuously expanding the gas to a second pressure lower than the first pressure, a second portion downstream of said expansion portion in heat exchange relation to said first portion for continuously transferring heat from the gas in said second portion to the gas in said first portion, a combustion zone intermediate said first and second portions for continuously raising the temperature of the flowing gas, and a diffuser portion downstream of said second portion for continuously raising the pressure of the flowing gas from said second pressure to said first pressure.

2,977,754
ROCKET CHAMBER WITH MULTI-PASS AXIAL FLOW COOLANT PASSAGEWAYS
Harold S. Bell, Jr., Whippany, N.J., assignor, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 712,039
5 Claims. (Cl. 60—35.6)



1. In a fluid-cooled rocket thrust chamber, the combination of: a wall of conventional axial contour including an upstream cylindrical combustion chamber section and a downstream convergent-divergent nozzle throat section whose wall has a cross-sectional area much smaller than that of the combustion chamber section; plural axially extending circumferentially spaced multi-pass tubes embedded in said wall to form coolant passageways therein, alternate tubes being arranged with the portions thereof in the nozzle throat section located radially closer to the thrust chamber axis than corresponding portions of the adjacent other tubes and being staggered circumferentially with respect to said adjacent other tubes in an inner circumferential row wherein each tube is nested in the interval between said adjacent other tubes of an outer row in a manner to accommodate all of the tubes in the constricted nozzle throat section wall.

2,977,755
METHOD AND MEANS FOR INITIATING THE DECOMPOSITION OF PROPELLANT IN A ROCKET MOTOR
Richard D. Geckler and Franklin R. Hepner, Pasadena, Calif., assignors, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 29, 1947, Ser. No. 780,966
6 Claims. (Cl. 60—35.6)



1. Apparatus for starting a nitromethane propelled jet motor having a reaction chamber and an exhaust

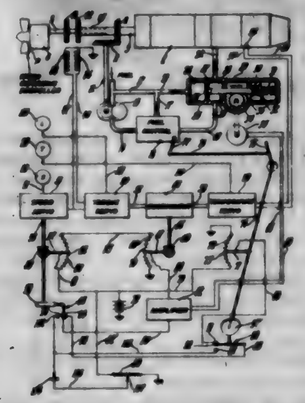
nozzle, comprising a solid, slow-burning, self-combustible charge in said reaction chamber, said charge being of the type in which burning occurs on its exposed surface, and being characterized by a burning surface which decreases with time during the burning, ignitor means for initiating the burning of the burning surface of said self-combustible charge, a pressure operated shut-off valve for regulating the flow of nitromethane into the reaction chamber, a pressure tap leading from said reaction chamber and a conduit connecting said pressure tap to said shut-off valve.

2,977,756

FUEL CONTROL FOR A TURBO-PROP ENGINE USING OPERATING LIMITS OF POWER OUTPUT TEMPERATURE

Milton C. Stone, Carmel, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 26, 1956, Ser. No. 573,935
13 Claims. (Cl. 60—39.28)



9. The combination of a gas turbine having a power output shaft, a variable load device driven by the output shaft normally operative to maintain output shaft speed at a predetermined value, means responsive to torque transmitted through the output shaft for generating a power signal, means responsive to motive fluid temperature in the engine for generating a temperature signal, a discriminator actuated by the power signal and the temperature signal and providing an output signal corresponding to the higher of the two signals, a settable power control for the engine, means actuated by the power control providing a control signal, and adjustable fuel control for the engine determining fuel supply to the engine, and an actuator for the fuel control normally responsive to the output signal and the control signal adapted to adjust the fuel control to regulate the fuel supplied to the engine so as to equalize the output signal with the control signal.

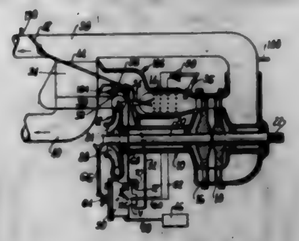
2,977,757

GAS TURBINE ENGINE CONTROL

Frank C. Mock, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed July 12, 1957, Ser. No. 671,608
3 Claims. (Cl. 60—39.28)

3. A control for a gas turbine engine having an air inlet, a compressor driven by a turbine, a combustion chamber discharging gas to the turbine, and a source of fuel under pressure, comprising first and second flow paths connecting said compressor to said chamber, an air valve in one of said paths, a heat exchanger in the other of said paths, a passage connecting said source to said chamber, a fuel valve in said passage, a cylinder, a servo piston in said cylinder dividing the interior thereof into first and second chambers, means operatively connecting said piston to said air valve, resilient means in said first chamber urging said piston in a direction to close said air valve, means connecting said second chamber to said source whereby fuel under pressure acting on said piston urges said piston in a direction to open said



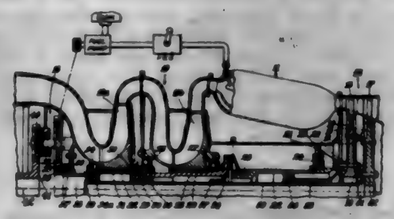
air valve, means responsive to turbine speed for controlling the pressure in said second chamber to actuate said piston in an air valve opening direction at a predetermined turbine speed, a throttle lever, a valve actuated by said throttle lever for reducing the pressure in said second chamber when said throttle is in idle position, and means responsive to turbine speed for controlling said fuel valve.

2,977,758

PROPELLER DRIVING GAS-TURBINE ENGINES

Lionel Haworth, Littleover, Ralph John Shire, Normanton, Derby, and Donald McLean, Allestree, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed Feb. 9, 1956, Ser. No. 564,566
Claims priority, application Great Britain Feb. 18, 1955
11 Claims. (Cl. 60—39.31)



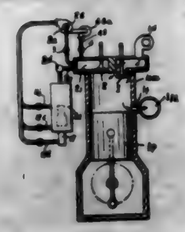
1. A propeller-driving gas-turbine engine comprising a compressor having a rotor, combustion equipment, and a turbine having a rotor, said compressor combustion equipment and turbine being connected together in flow series, a propeller, the propeller and compressor being on the same side of the turbine, and shafting means drivingly interconnecting the turbine rotor with the compressor rotor and the propeller including first hollow shafting which is directly secured at one end to the turbine rotor, extends co-axially with the turbine rotor and is drivingly connected at its opposite end at least to the compressor rotor, and second shafting extending co-axially within the hollow shafting, said second shafting having one end adjacent the said one end of the first shafting and secured directly to the turbine rotor and said second shafting having its other end drivingly connected at least to said propeller, whereby the compressor rotor and the propeller each form part of the load of the turbine rotor and in the event of failure of one of said shaftings the turbine rotor remains drivingly connected to part at least of its load through the other of the shaftings.

2,977,759

CONTINUOUS EXTERNAL COMBUSTION ENGINES

Humphreys Milliken, 211 Stanstead Ave., Mount Royal, Quebec, Canada

Filed Mar. 20, 1958, Ser. No. 722,701
14 Claims. (Cl. 60—39.63)



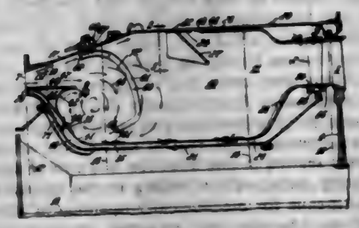
1. A continuous external combustion engine having cylinders, pistons in said cylinders, means for operating said pistons to compress air in said cylinders, a combustor external to said cylinders, a fuel burner in said combustor, adapted to burn liquid fuel containing solid constituents, said burner having means for separating said solid constituents from said fuel, means for passing said compressed air through said burner and combustor, means for vaporizing said liquid fuel, means for mixing said vaporized fuel with said compressed air, means for igniting and burning said combustible mixture, means for passing said combustion products into said cylinders to drive said pistons in their power strokes, means for excluding said separated solid constituents from said combustion products and said cylinders.

2,977,760

ANNULAR COMBUSTION CHAMBERS FOR USE WITH COMPRESSORS CAPABLE OF DISCHARGING COMBUSTION SUPPORTING MEDIUM WITH A ROTARY SWIRL THROUGH AN ANNULAR OUTLET

William Ernest Soltau and Peter Frederick Orchard, Bristol, England, assignors, by mesne assignments, to Bristol Aero-Engines, Limited, Bristol, England, a British company

Filed Mar. 12, 1956, Ser. No. 571,049
Claims priority, application Great Britain Mar. 16, 1955
9 Claims. (Cl. 60—39.65)



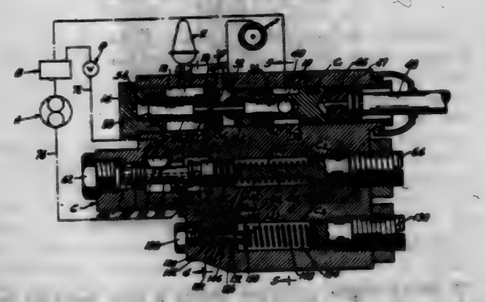
1. An annular combustion chamber for use with swirling combustion supporting medium and comprising inner and outer wall structures defining an entry portion, a body portion and an outlet portion of the combustion chamber, the entry portion having an axially directed annular inlet opening, the parts of said inner and outer wall structures adjacent the inlet opening being respectively so directed relatively to the direction of in-flow of combustion supporting medium that during operation of the combustion chamber a greater part of said in-flow is confined and guided solely by said outer wall structure and flows therealong in the form of a sheath, while a lesser part of said in-flow forms a toroidal vortex in a zone between the inner wall structure and the inner surface of the sheath, the parts of the inner and outer wall structures defining the body portion each constituting a continuation in a generally axial direction of the corresponding parts of the wall structure defining the entry portion, and the parts of the inner and outer wall structures defining the outlet portion converging to an annular outlet opening, means for dispensing fuel into the zone of the toroidal vortex, and deflecting means for deflecting during operation of the combustion chamber part of the sheath and gaseous medium flowing along the outer wall structure with a radially inward component of motion to mix with products of combustion leaving the zone of the toroidal vortex, said deflecting means being positioned downstream of said zone but upstream of said annular outlet opening and immediately upstream of said deflecting means, a row of guide blades projecting radially inwardly from the outer wall surface for deflecting gaseous medium entering between them with a substantial circumferential component of motion into a substantially axial direction.

2,977,761

FLUID PRESSURE SYSTEM HAVING OPEN CENTER AND CLOSED CENTER PORTIONS

Richard L. Lewis, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware

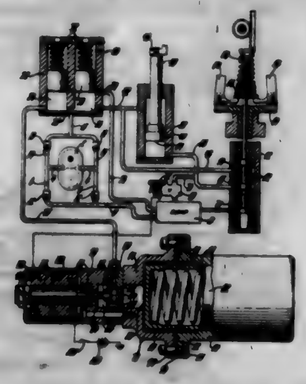
Filed Oct. 31, 1957, Ser. No. 693,674
8 Claims. (Cl. 60—51)



1. In a fluid pressure system for operating one or more fluid pressure actuated devices one of which is intended to receive a substantially constant flow of fluid; a pump having a suction and a discharge, a back pressure valve and orifice controlled thereby for exerting back pressure against the discharge of said pump, means for communicating a substantially continuous flow of fluid received at the downstream side of said orifice to the pressure actuated device requiring such constant flow, an accumulator, flow conducting means communicating back pressure produced by said back pressure valve to said accumulator and including a pressure-drop-producing resistance to fluid flow to said accumulator, check valve means in said flow conducting means for preventing back flow from said accumulator to said back pressure valve, housing means providing a fluid pressure chamber for the back pressure developed by said back pressure valve and communicating at all times through said orifice with the fluid conducting means leading to said constant-flow-receiving pressure actuated device, a pressure responsive movable wall operatively connected to said back pressure valve and movable in one direction to oppose the throttling action at said orifice effected by said back pressure valve and thereby tending to reduce the back pressure magnitude, means for supplying said movable wall with the back pressure produced by said back pressure valve upstream of its pressure-drop-producing resistance, first means for urging said back pressure valve to a throttling position and thereby opposing said movable wall, and second means responsive to pressure in said accumulator and actuated by a

pressure drop in said accumulator to a generally predetermined value to communicate pressure to said first means which initiates throttling action by said back pressure valve by movement thereof to a balanced throttling position wherein back pressure on said movable wall opposes said first means with an equal force and said fluid pressure chamber is maintained at an increased pressure and in communication with said accumulator and means responsive to accumulator pressure and actuated by said accumulator pressure at a generally predetermined maximum value to deactuate said second means and thereby reduce the back pressure effected by said back pressure valve at its balanced position.

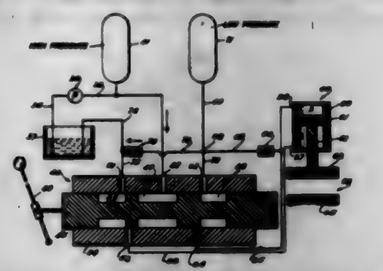
2,977,762
HYDRAULIC GOVERNOR PRESSURE CONTROL MECHANISM
Thomas B. Dilworth, Hinsdale, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 9, 1957, Ser. No. 701,631
4 Claims. (Cl. 60—51)



3. In an engine governor having a fluid operated engine power control means including a member movable between a maximum engine speed and power control position and an engine shutdown control position, an engine-driven fluid pump, an accumulator chargeable by said pump for supplying fluid pressure to said engine power control means, valve means between said accumulator and said control means operable to disconnect said accumulator to prevent loss of pressure therefrom, means operable to shift said power control member to its engine shutdown position, and means operably interconnecting said last-mentioned means and said valve means and operable to actuate said valve means to disconnect said accumulator when said power control member is actuated to its engine shutdown position and to actuate said valve means to establish fluid connection between said accumulator and said engine power control means upon actuation of said power control member from its engine shutdown position.

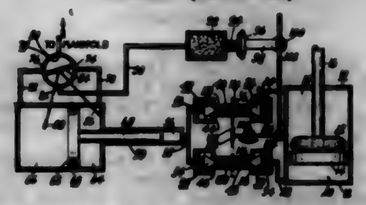
2,977,763
MULTI-TORQUE CIRCUITS
Jean Mercier, 1185 Park Ave., New York, N.Y.
Filed Dec. 31, 1957, Ser. No. 706,492
10 Claims. (Cl. 60—51)

1. A hydraulic system for operating a fluid motor having at least two ports, said system comprising a high pressure source of fluid, a pressure reservoir to provide a lower pressure source of fluid, valve means interconnecting said fluid motor, said high pressure source and said pressure reservoir, said valve means having at least three operating positions, the first of said positions connecting said pressure reservoir to said motor to effect actuation thereof in one direction, the second of said positions connecting said high pressure source of fluid to said motor to effect further actuation thereof in the same direction, and said third position connecting one



of said pressure sources of fluid to said motor to effect actuation thereof in the opposite direction, said valve means in one of said three positions connecting one of the ports of the motor to said high pressure source and the other port of said motor to said pressure reservoir to recharge the latter.

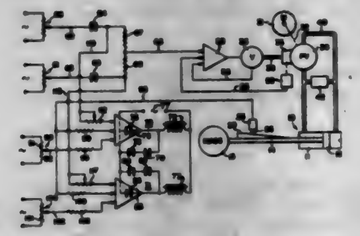
2,977,764
ACTUATOR AND CONTROL SYSTEM THEREFOR
Hugh B. Matthews, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 15, 1959, Ser. No. 806,656
6 Claims. (Cl. 60—51)



1. In combination, a hydraulic actuator having a cylinder with a reciprocable piston disposed therein, said piston dividing said cylinder into a pair of opposed chambers, said chambers being filled with hydraulic fluid, accumulator means in only one of said chambers for preventing the formation of voids in said chambers when hydraulic fluid is withdrawn from either of said chambers, pump means having an intake stroke and a delivery stroke, means interconnecting said pump means and said chambers including four normally closed one-way check valves, said check valves being capable of pressure actuation to an open position, two of said check valves being inlet valves seating in one direction and two of said check valves being outlet valves seating in the opposite direction, and means for mechanically opening an inlet check valve of one chamber and an outlet valve of the other chamber whereby hydraulic fluid will be withdrawn from one of said chambers during the intake stroke of said pump means and supplied to the other of said chambers during the delivery stroke of said pump means.

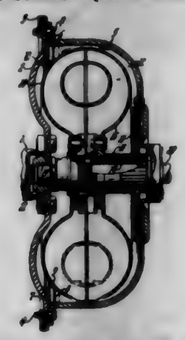
2,977,765
SERVO MOTOR CONTROL APPARATUS
Robert L. Fillmore, Mound, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 23, 1959, Ser. No. 861,668
10 Claims. (Cl. 60—52)

1. A servo control system comprising, a servo motor, means for controllably energizing said servo motor to control the speed of the same, a forward and reverse speed setting means, connection means connecting said speed setting means to said energizing means for control of said servo motor, switching means included in said connection means for selectively connecting one or the other of said speed setting means to said energizing means, first and second control circuit means including relay means connected to operate selectively said switching



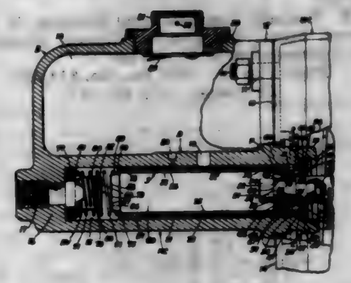
means, limit position setting means for defining travel limits of said servo motor connected to and controlling respectively said first and second control circuit means, signalling means indicative of the actual position of said servo motor connected in a feeback circuit to said first and second control circuit means, and further circuit means connecting said forward and reverse speed setting means to said first and second control circuit means.

2,977,766
DE-SLUDGING DEVICE
Darrel R. Sand, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 5, 1957, Ser. No. 670,288
2 Claims. (Cl. 60—54)



1. In a transmission, power input and power output members, a hydrodynamic power transmitting device operatively connecting said members including a rotatable housing forming a chamber for working fluid, coupling means in said chamber including an impeller operatively connected to said power input member by said rotatable housing and a turbine operatively connected to said output member, said housing including a pair of members detachably secured together, an annular seal carried by said housing and positioned adjacent the point of juncture of said housing sections, an annular dirt collecting ring comprising a U-shaped channel member having spaced side walls joined by a base wall and having one side wall fixed to one of said housing sections and disposed in the outer radial zone of said chamber, said ring having the base wall thereof in contact with said seal to compress said seal into contact with both of said housing sections, the base wall of said channel section and one of said detachable housing sections presenting an open-faced annular dirt collecting section to working fluid in said chamber, the side walls and base wall of said channel section presenting a second open-faced annular chamber for receiving dirt from said working fluid, one of said side walls presenting an annular obstruction to flow of working fluid in the area of the opening to each of said chambers.

2,977,767
MASTER CYLINDER FOR HYDRAULIC BRAKE SYSTEMS
Glenn T. Randol, 2nd Ave. and Pearl St., P.O. Box 275, Mountain Lake Park, Md.
Filed June 11, 1958, Ser. No. 741,394
4 Claims. (Cl. 60—54.6)



1. In a master cylinder of the character disclosed, a cylinder body, a longitudinal bore in said body closed at one end and open at the other, a reservoir in said body disposed above the said bore, a port interconnecting the bore and reservoir, an intake port spaced from the first-mentioned port for interconnecting the reservoir and bore, a discharge port through the closed end of said bore, a counterbore terminating the open end of said longitudinal bore; an internal annular shoulder provided between said bores, and an internal annular groove provided in the counterbore in spaced relation with respect to said annular shoulder, the improvement which comprises: a removable cylindrical sleeve disposed in said longitudinal bore; an outturned annular flange terminating the end of the sleeve adjacent the open end of said longitudinal bore and in circular alignment with the space obtaining between the annular shoulder and groove aforesaid in engagement with said shoulder; a split retainer ring engaging said groove to prevent axial displacement of the sleeve with respect to the cylinder body; an internal annular channel in the inner surface of the sleeve in circular alignment substantially with the outturned flange aforesaid; a ring-type single lip pliant sealing member having a circular segment and an inner peripheral lip segment normal to said circular segment with the inner marginal portion of the circular segment disposed under tension in the internal annular channel aforesaid; a pair of longitudinally spaced annular shoulders in the outer surface of the sleeve to define an annular fluid chamber therebetween in constant communication with said intake port; means on the sleeve for closing the first-mentioned port to permanently negate its function; a thrust-transmitting rod having a fluid-displacing portion operably projecting through the lip segment of the sealing member aforesaid into the interior of the sleeve; a piston terminating the end of the displacing portion of said thrust-transmitting rod for reciprocable movement therewith in the sleeve in fluid-tight sealed relation; a variable pressure-working chamber disposed normally between the closed end of the longitudinal bore and pressure face on said piston in released position; a compensating port in said sleeve normally interconnecting said annular fluid chamber and said working chamber when said piston is in released position, initial movement of said piston from released position being effective to

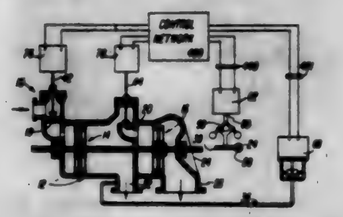
close said compensating port thereby conditioning said working chamber to pressurize the fluid therein; an expansible ring-like chamber disposed between the opposite face on said piston and said sealing member; a port through the wall of said sleeve spaced from said compensating port for interconnecting said expansible chamber and annular fluid chamber; and means for actuating said thrust-transmitting rod to reduce the size of said pressure working chamber to effect displacement of fluid under pressure through the said discharge port.

2,977,768

ELECTRICALLY CONTROLLED GOVERNING MECHANISMS FOR ELASTIC FLUID TURBINES

James B. Wagner, Lynnfield, and Kenneth O. Stransey, Danvers, Mass., assignors to General Electric Company, a corporation of New York

Filed May 15, 1959, Ser. No. 813,401
21 Claims. (Cl. 60—67)



12. In an elastic fluid multi-stage turbine including a rotatably mounted output shaft, an inlet valve governing the flow of elastic fluid to said turbine, an extraction valve governing the flow of elastic fluid from an intermediate stage to a succeeding stage of said turbine, and an extraction conduit connected to an intermediate stage of said turbine; the combination comprising means responsive to the speed of said output shaft for generating a first electric signal as a function thereof, first mechanism for controlling the movements of a first of said valves, a first circuit network controlled directly by said first electric signal for selectively operating said first mechanism, means responsive to the fluid pressure in said extraction conduit for generating a second electric signal as a function thereof, second mechanism for controlling the movements of a second of said valves, a second circuit network controlled directly by said second electric signal for selectively operating said second mechanism, and means interconnecting said first and second circuit networks so that said first mechanism is also indirectly controlled by said second electric signal and so that said second mechanism is also indirectly controlled by said first electric signal, whereby the movements of both said inlet valve and said extraction valve are controlled simultaneously.

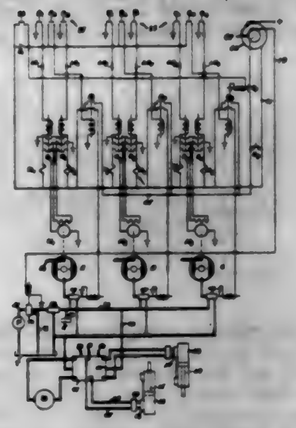
2,977,769

CONTROL FOR MOBILE AERIAL TOWER

Herman J. Troche, Fairview Park, Ohio, assignor to J. H. Holan Corporation, Cleveland, Ohio, a corporation of Ohio

Filed July 9, 1956, Ser. No. 596,626
8 Claims. (Cl. 60—97)

1. In a multi-element aerial tower having a plurality of fluid actuated motors for independently moving the tower elements relative to each other, a control system comprising, a multi-stage distributing valve for selectively directing operating fluid to each of said motors, normally isolated electrically driven means for independently controlling the flow through each stage of the distributing valve means, normally inactive fluid actuated means for selectively applying said normally isolated electrically driven means to each stage, electro responsive valve means for selectively activating the normally inactive fluid actuated means for each stage of the distributing valve means, pilot controlled means for selectively energizing each of said electro responsive valve means to



condition the corresponding stages of the distributing valve means for the application of the corresponding electrically driven means, and other pilot controlled means for selectively energizing the electrically driven means to distribute operating fluid to the corresponding fluid motor.

2,977,770

MANDREL FOR DRIVING PILE SHELLS

Clemens B. Hoppe, Ridgefield, N.J. (% Hercules Concrete Pile Co., Piers 1 and 2, West New York, N.J.)

Filed Feb. 26, 1957, Ser. No. 642,418
6 Claims. (Cl. 61—53.72)



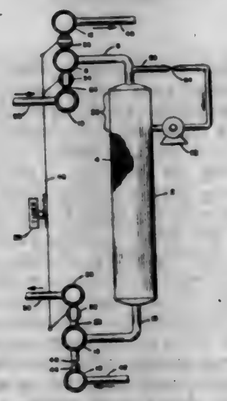
1. The improved mandrel for driving metal shells for forming concrete piles which comprise an inner mandrel having a hollow portion, an outer mandrel member comprising a plurality of leaves, wedge means on the inner mandrel member for expanding and collapsing the leaves, a driving head having a stem slidably mounted in the inner mandrel member, the leaves, the inner mandrel member and the stem having circumferentially-spaced aligned, longitudinally-extending slots, a cam lever floatingly mounted in each of the aligned slots, the shape of each cam lever and its size relative to the size of the aligned slots in which it is mounted being such that when the head and stem each initially are lifted in collapsing the leaves, the outer end portion of each cam lever bears on its associated leaf at the lower end of the slot therein, holding it down, an intermediate upper surface portion bears on the inner mandrel member at the upper end of the associated slot therein and the inner end portion is engaged by the portion of the stem at the lower end of its associated slot and a force is exerted by the stem on the cam lever in a direction to lift the inner mandrel member relative to the leaves to break the contact between the wedge means on the inner mandrel member and the leaves, and on continued upward movement of the head and stem, the cam levers lock the stem and inner mandrel member together for upward movement.

2,977,771

PROCESSING GAS MIXTURES

Frank G. Pearce and Scott W. Walker, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed June 17, 1957, Ser. No. 665,916
9 Claims. (Cl. 62—13)



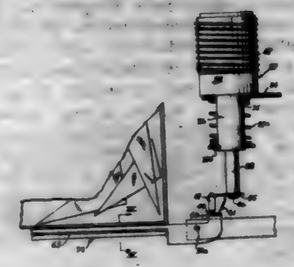
1. In a process for recovering a gaseous component from a gaseous mixture containing water vapors wherein a compressed stream of said gaseous mixture is cooled by passage of said stream through a first heat exchange path progressively decreasing in temperature from end to end, whereby said vapors are condensed and deposited as liquid water in the warm end of said first path while an outflowing cold product stream is simultaneously counterflowed through a second heat exchange path progressively increasing in temperature from end to end, withdrawing said product steam from the warm end of said second path, periodically interchanging the flow of said compressed stream and said product stream in said paths so that each path undergoes alternate charging and refrigeration cycles, the method of improving the refrigeration capacity of said paths which comprises recirculating to a point upstream from which said product stream was withdrawn a portion of said withdrawn product stream to the warm end of said second path and in a portion of said second path where liquid water exists while the latter is undergoing said refrigeration cycle whereby the temperature difference is decreased between the warm end in said second path and said product stream in the warm end of said second path, the amount of said product stream circulated being sufficient to render the amount of said vapors in said withdrawn product stream about equal to the amount of said vapors in said compressed stream.

2,977,772

ICE LEVEL SENSING MECHANISM

Robert H. Dawson, Lake Bluff, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Jan. 4, 1960, Ser. No. 437
8 Claims. (Cl. 62—137)



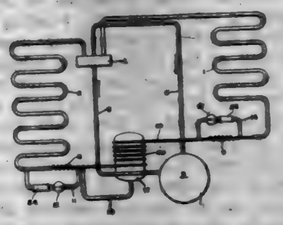
1. Switch control means sensitive to the level of solids within a tray comprising a support, a sensing element pivotally mounted on said support and positioned for pivotal sweeping movement across the tray, a reciprocably movable power element mounted on said support, a switch mounted on one of said elements having a depressible actuating plunger extending therefrom positioned to abut the other of said elements, means biasing said elements toward one another adjacent said switch to effect depression of said plunger, and means for reciprocating said power element to effect pivotal movement of said sensing element across said tray by motion translation through said switch and plunger.

2,977,773

HEAT PUMP INCLUDING CHARGE MODULATING MEANS

Scipio de Kanter, Tyler, Tex., assignor to General Electric Company, a corporation of New York

Filed Feb. 12, 1960, Ser. No. 8,340
5 Claims. (Cl. 62—149)



1. A heat pump comprising an indoor heat exchanger and an outdoor heat exchanger connected in a closed refrigerant circuit; means in said circuit including a compressor having a discharge line and a suction line and reversing valve means for reversibly connecting said discharge and suction lines to said heat exchangers for effecting flow of refrigerant through said circuit in either direction whereby said pump may be operated on a cooling cycle with the outdoor coil functioning as a condenser and receiving high pressure refrigerant from said compressor or on a heating cycle with the indoor coil functioning as a condenser and receiving high pressure refrigerant from said compressor; flow restricting means in said circuit for controlling the flow of refrigerant from either of said heat exchangers to the other and for maintaining a pressure difference between said heat exchangers; said flow restricting means comprising a cooling capillary connected to said indoor heat exchanger and a heating capillary connected to said outdoor heat exchanger, a conduit connecting said capillaries in series,

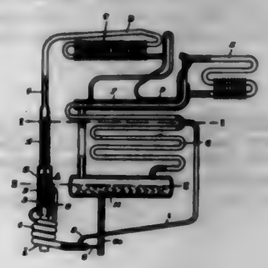
and means for bypassing one or the other of said capillaries whereby the pressure difference between said heat exchangers is provided by said cooling capillary during operation of said pump on the cooling cycle and by said heating capillary during operation of said pump on the heating cycle so that said conduit conducts high pressure refrigerant during either cycle of operation; and a charge modulator means for controlling the effective refrigerant charge circulating in said circuit, said modulator means comprising a refrigerant receptacle connected for two-way flow to said conduit; said receptacle being in heat exchange relation with a section of said conduit for withdrawing refrigerant from or discharging refrigerant into said circuit in response to the temperature of refrigerant flowing though said conduit and in heat exchange with a section of said discharge line for withdrawing refrigerant from or discharging refrigerant to said circuit in response to the temperature of the refrigerant discharged from said compressor.

2,977,774
AIR CONDITIONING UNIT FOR MOTOR VEHICLES
David R. Ferris, Cadillac, Mich., assignor to Kysor Heater Company, Cadillac, Mich.
Filed Mar. 23, 1959, Ser. No. 801,011
7 Claims. (Cl. 62—212)



1. A refrigeration system for the cab of a truck having a variable speed engine comprising, a compressor mounted in the engine compartment of the truck, an electrically actuated clutch connected to drivingly connect said engine to said compressor, a casing mounted on top of said truck and having a condenser opening through the forward wall of the casing to be subject to the air flow caused by forward movement of the truck, a pair of fans mounted to draw air through said condenser in the same direction as said air flow, walls forming a cooling chamber in said casing and having an evaporator extending transversely of the chamber with an inlet opening from said cab to one side of the evaporator, means forming a fresh air inlet to said one side of said chamber and from the rear of said casing separate from the air flow through said condenser, a pair of blowers having inlets opening to said chamber on the opposite side of said evaporator from said inlet opening and having outlet ducts connected to a cooled air outlet opening to said cab, a pair of electric motors each connected to drive one of said fans and one of said blowers, pipes connecting said compressor, said condenser and said evaporator in a refrigerating circuit and having an expansion valve connected between the condenser and the evaporator, a temperature sensing device positioned to sense the temperature at the outlet of said evaporator and connected to said valve to close the valve as the temperature of the evaporator descends to slightly above freezing, a second temperature sensing device positioned to sense the temperature of said evaporator, a manually adjustable and temperature responsive switch connected to be actuated by said second device and electrically connected to the battery of the truck to engage said clutch, a circuit including a manual switch connected to energize the armatures of said motors from said battery, and another circuit connected to energize the fields of said motors from said battery independently of said last switch, said last two circuits each being connected to said battery through a common off-on switch.

2,977,775
ABSORPTION REFRIGERATOR
Kazumi Tamada, Chita-cho, Chita-gun, and Keisuke Ota, Showa-ku, Nagoya-shi, Aichi-ken, Japan, assignors to Howa Sangyo Kabushiki Kaisha, Nagoya-shi, Japan
Filed Aug. 6, 1958, Ser. No. 753,467
1 Claim. (Cl. 62—497)



In an absorption refrigerator in which a combination of inert and cooling gases and an absorption liquid for absorbing the cooling gas in a strong solution is circulated in a refrigerating cycle, said refrigerator having a generator for circulating the absorption liquid and for separating the cooling gas therefrom, a condenser for condensing the cooling gas to a cooling liquid, an evaporator for evaporating the cooling liquid to provide refrigeration, an absorber for returning the cooling gas into the absorption liquid thus forming strong solution, and a reservoir for receiving said strong solution from the absorber, an improved generator comprising in combination; a substantially vertical heating cylinder for circumferential radiant heating, a tubular boiler having upper and lower ends and enclosing the upper portion of said heating cylinder and being heated thereby, said upper end connecting with said condenser for the discharge of cooling gas thereto and the lower end for the discharge of absorption liquid therefrom; a pump tube mounted in said heating cylinder and extending upward through said heating cylinder into the tubular boiler and extending downward through said heating cylinder for receiving the strong solution from said reservoir, and connecting means including preheating means of the strong solution, said connecting means respectively connecting the lower end of said pump tube to the reservoir and the lower end of said tubular boiler to said absorber thereby providing paths for said absorption liquid to and from the generator, and said preheating means comprising a bag-shaped chamber surrounding a lower portion of said heating cylinder and receiving the lower end of said pump tube for initially vaporizing the cooling gas from the strong solution prior to entry into said pump tube, and a heat exchanger mounted just below the bag-shaped chamber and coiled around the lower end of the heating cylinder for initially heating the strong solution said preheater including concentric conduits, one conduit being connected at its respective ends with the bag-shaped chamber and the reservoir respectively and the other conduit being connected at its respective ends with the boiler and the absorber respectively, said hot absorption liquid as it passes from tubular boiler to absorber, heating the strong solution as it passes from reservoir to the bag-shaped chamber and pump tube; said pump tube being progressively heated by circumferential radiation from the heating cylinder to further vaporize the cooling gas out of solution as the initially vaporized gas carries the liquid from the bag-shaped chamber up the pump tube, said cooling gas being discharged to the condenser and the almost spent absorption liquid being discharged into the tubular boiler and to direct contact with the heating cylinder for effecting vaporization of the remainder of the cooling gas in solution, said cooling gas remaining rising to join the gas discharged from the pump tube, whereby said gas is practically completely separated from said absorption liquid and said gas and absorption liquid are respectively carried by the action of said generator to said rectifier and said absorber.

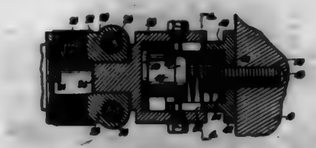
2,977,776
UNIVERSAL JOINTS
Aloysius J. Quinn, Ridgewood, N.J., assignor to Brooks Equipment Corporation, Hoboken, N.J., a corporation of New York
Filed Apr. 15, 1958, Ser. No. 728,655
3 Claims. (Cl. 64—17)



1. A universal joint which comprises a center block having two pairs of flat surfaces, the surfaces of one pair being at right angles to those of the other to provide a block of square cross section, said block having, on a common plane, a pair of bores of equal diameter, one bore for each pair of flat surfaces, extending normal to its flat surfaces and equidistant from the surfaces of the other pair of surfaces and intersecting each other at the center of the cross section of said plane, a pair of forked joint members extending from opposite directions with the forked end of one member extending over the flat surfaces of one pair of flat surfaces and the forked end of the other member extending over the flat surfaces of the other pair, each of said forked ends having coaxial holes coaxial with the bore of its respective pair of surfaces and of equal diameter therewith, a through pin in one of said bores extending from within the holes of its member through said bore to within the opposite hole, said pin having a circumferential groove of a width equal to the diameter of said pin and having sloping sides, a pair of stub pins extending one from within each hole of the other forked joint member through the aligned bore into the circumferential groove of the through pin and having their inner ends champfered to correspond to the sloping sides of the groove, the sloping sides of said groove and of said stub pins being such that longitudinal movement of said through pin will displace said stub pins longitudinally outwardly, each said stub pin having a circumferential groove, said joint having a circumferential groove circling the groove of each said stub pin, and a clip ring partly in the grooves of said pin and of said joint and expansible into the groove of said joint to permit withdrawal of said stub pins.

2,977,777
EXPANSION COUPLING
Carl C. Bernitz, Kansas City, Mo., assignor to Maxine A. Niebrugge, Kansas City, Mo.
Filed July 28, 1958, Ser. No. 751,515
1 Claim. (Cl. 64—23)

An expansion coupling for operably interconnecting a pair of longitudinally aligned, rotatable shafts having shiftably spaced, opposed ends, said coupling comprising: a first cup member having a cylindrical side wall, an open end on the latter, and an end wall on the opposite end of the side wall; means on said end wall of the first cup member for securing the latter to said end of one of said shafts with the open end of said first cup member facing away from said end of said one shaft; a second cup member having a cylindrical side wall telescopingly received within said side wall of the first cup member for relative sliding movement between said side walls, an open end on the side wall of said second cup member disposed within said first cup member and facing said end wall of the latter, and an end wall on the opposite end of said second cup member, there being a number



of closed, elongated slots in the side wall of said second cup member having their longitudinal axes parallel with the longitudinal axes of said shafts; a pintle mounted on the side wall of said first cup member for each of said slots respectively and extending into the latter; yieldably compressible, resilient means, including a spring, within said telescoped cup members and oppositely bearing against said respective end walls of the latter; and means on said end wall of the second cup member for securing the latter to said end of the other of said shafts.

2,977,778
AUTOMATIC TIMING DEVICE FOR ENGINES
Robert R. B. Backlund, Morton, John M. Bailey, East Peoria; Alexander Goloff, Washington, Donald C. Dowdall, Pekin, and Harry M. Kiley, Washington, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 9, 1959, Ser. No. 845,444
5 Claims. (Cl. 64—25)

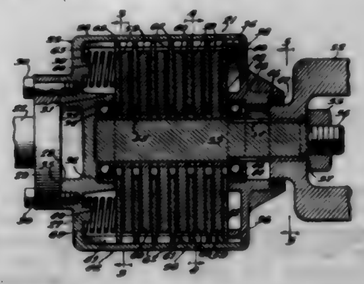


1. In an automatic timing device for engines having a rotatable shaft as a part of the engine timing mechanism and a rotatable member for driving said shaft means to vary the phase positions of said shafts in response to their rotary speed comprising a flyweight chamber carried by the driving member, a pair of flyweights in said chamber, driving pins disposed in cam slots between the flyweights and the timing mechanism shaft to advance the timing when the flyweights move outwardly in response to acceleration, resilient means to resist outward movement of the flyweights, and fluid damping means to damp their outward movement.

2,977,779
TORQUE LIMITER
Joseph F. Steinke and Lloyd C. Erickson, Elwood, Ill., assignors to Elesco Products Corporation, a corporation of Illinois
Filed Jan. 29, 1959, Ser. No. 789,822
3 Claims. (Cl. 64—30)

1. A torque transmitter for placement in a drive train to limit the maximum torque delivered by a drive shaft to a predetermined range, comprising: a one-piece housing having a longitudinal axis, a cover on the housing, said cover and housing cooperatively carrying a stub

shaft coaxial with the housing, said housing and stub shaft having means for connection into said drive train substantially coaxial with said drive shaft; a plurality of friction drive plates within the housing transverse said axis for drivingly connecting said housing and stub shaft, alternate plates being drivingly connected directly and respectively to said housing and to said stub shaft; and spring means within the housing urging said plates toward the cover and together in stacked relation with



a predetermined substantially constant loading, said housing being closed and having a fixed predetermined space therein occupied by said plates and spring means, said plates being of dissimilar metals with the plates connected to said stub shaft being of the same metal and the plates connected to said housing being of the same metal so as to transmit torque in amounts up to a predetermined maximum range between said plates variable directly with speed of the input drive train.

2,977,780
CARRIER TUBE
Gus T. Smith, Paducah, Ky., assignor to Ace Engineering Company, Paducah, Ky., a corporation of Kentucky
Filed Feb. 25, 1958, Ser. No. 717,366
4 Claims. (Cl. 66—126)



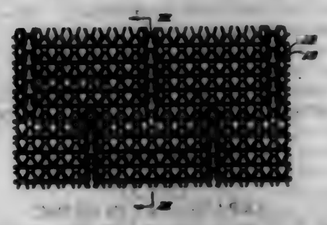
1. A carrier tube for guiding yarn in a knitting machine comprising a rigid metallic cylindrical tube of substantially greater length than width and having a straight longitudinal axis, said tube being provided with a central passageway of circular cross section extending throughout the length of the tube coaxially of the longitudinal axis thereof, said passageway being enlarged at at least one end and of uniform diameter elsewhere along its length, the diameter of each such enlarged portion being the same and substantially constant throughout the length thereof, a ceramic insert of annular form positioned in each such enlarged portion of said passageway with its central aperture concentric with said central passageway, both the external and internal diameter of said insert being essentially uniform along the length thereof, the former being not greater than the diameter of the enlarged portion of said passageway and the latter being the same as the uniform diameter of said passageway exclusive of said enlarged portion, said insert being substantially completely contained within the corresponding enlarged portion of said passageway.

2,977,781
CARRIER TUBE
Gus T. Smith, Paducah, Ky., assignor to Ace Engineering Company, Paducah, Ky., a corporation of Kentucky
Filed June 4, 1959, Ser. No. 818,144
5 Claims. (Cl. 66—126)



1. A carrier tube for guiding yarn in a knitting machine comprising a rigid metallic cylindrical tube having a central passageway of circular cross section throughout the length of the tube, said passageway being enlarged at at least one end and of uniform diameter elsewhere along its length, a ceramic insert of annular form positioned in each such enlarged portion of said passageway with its central aperture concentric with said central passageway and being of the same diameter as said uniform diameter of said central passageway, the portion of said metallic tube which surrounds said insert being circumferentially cut whereby the tip portion of the tube will break away upon striking the knitting head of the machine on which the carrier tube is employed.

2,977,783
KNITTED FABRIC
Richard B. Sheek, Winston-Salem, N.C., assignor to Hanes Hosiery Mills Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Apr. 29, 1959, Ser. No. 809,738
1 Claim. (Cl. 66—173)



A closed foldover garter welt top for a stocking, said welt top being of fabric plain knitted from an inelastic yarn comprising multiple bands, each band comprising several courses, the alternate bands having an elastic yarn knitted in plating relation with an inelastic yarn in spaced wales, and the intervening bands having the elastic yarn knitted in plating relation with the inelastic yarn in wales substantially halfway between the spaced wales in said alternate bands.

2,977,783
SWIMSUIT AND METHOD OF KNITTING SAME
Ishmael Crawford, Auburn, and Edward J. Boutillette, Oxford, Mass., assignors to M.K.M. Knitting Mills, Inc., Manchester, N.H., a corporation of New Hampshire
Filed Oct. 5, 1959, Ser. No. 844,547
7 Claims. (Cl. 66—176)



4. A one-piece knitted selvaged front panel for a woman's swimsuit, said panel having a two-dimensional lower body portion and an upper body portion with two three-dimensional breast cups free from distortion of the surrounding fabric and free from seams, the wales of said panel extending up from the bottom with successive additional wales starting near and diverging with respect to the vertical center line of each said cup in the lower half of each breast cup area, said panel having in the upper half of each breast cup area two series of wales merging near the vertical center line of that cup, which wales converge with respect to the vertical center line from both sides thereof, each course of knitting in the panel being continuous from selvage to selvage.

2,977,784
DRY CLEANING APPARATUS
Henry A. Schraber, 226 E. 6th St., Duluth, Minn.
Filed May 21, 1956, Ser. No. 586,389
2 Claims. (Cl. 68—38)



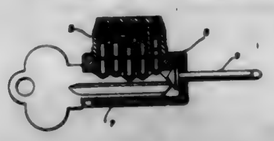
1. Apparatus for drycleaning soiled cloth which comprises, a table top having an opening formed transversely therein, a cylindrical brush having soft and flexible bristles rotatably mounted in fixed bearing relation below said table top and having its normal circumference extending slightly above the plane of the table through said transverse opening, a second cylindrical brush having soft and flexible bristles mounted on a substantially parallel axis above the first named cylindrical brush, a spring suspended bearing mount for said second cylindrical brush vertically shiftable toward and away from said table top and the fixed axis brush, and a resilient belt drive for rotating said brushes and biasing said second cylindrical brush towards the fixed axis brush whereby the normal circumferences of each of said cylindrical brushes will intersect when non-operative and will form an intersecting plane substantially in alignment with that of the table top when in rotating condition during operation.

2,977,785
DECK LID LATCH
Ernest C. Beckman, Rockford, Ill., assignor to Modern Metal Products Co., Loves Park, Ill., a corporation of Illinois
Filed Dec. 16, 1957, Ser. No. 703,119
5 Claims. (Cl. 70—141)



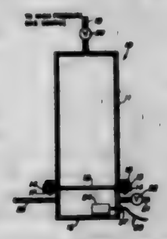
1. A latch mechanism for releasably latching a hinged deck lid element to a body element comprising in combination a keeper bar arranged for mounting on said body element, a plate of stamped and formed sheet metal having an open side and an abutment side comprising an attachment portion shaped for attachment to said deck lid opposite the keeper with said abutment side against said deck lid, an intermediate mounting portion, and a keeper engaging portion at the opposite side of the intermediate portion from the attachment portion and in coplanar relationship therewith projecting downwardly from the deck lid when mounted in operative position and having spaced walls defining a keeper receiving slot extending inwardly from the edge of the plate, said walls defining an inner section having approximately parallel spaced sides for the reception of the keeper therebetween and a section having flanged, outwardly diverging sides for guiding the keeper to the inner section, a flat latch member pivotally mounted on the intermediate portion in parallel face-to-face relation with the open side of the plate rotatable between a latched and open position, a latch spring at the open side of the plate urging the latch member to an open position, stop means fixed with respect to the latch member operative on the latch member for limiting rotation of the latch member at the open position, said latch member having a latch portion overlying said keeper engaging portion, the latch portion having spaced recess walls defining a recess in an edge thereof, one of the recess walls being disposed across the keeper receiving slot in the path of the keeper entering the slot for rotation of the latch member to latch position against the force of the spring in response to movement of the keeper into the keeper receiving slot, the opposite recess wall being positioned to move across the keeper receiving slot behind the keeper as the latch member moves to latched position, to confine the keeper within the keeper receiving slot, a flat detent pivotally mounted intermediate its ends on said mounting portion in coplanar relation to the latch member having a detent arm positioned to engage the perimeter of the latch member and an actuating arm, a second spring means on the open side of the plate for biasing the detent arm against the latch member, stop means on the latch member engageable by the detent arm to retain the latch member in latched position against the force of the latch spring, and a latch release member mounted on the mounting portion of the plate for rotation thereon having a lock receiving portion for rotation thereof and a finger positioned for engagement with said actuating arm to rotate the detent and release the latch member for rotation to its open position.

2,977,786
PIN TUMBLER CYLINDER LOCK
Marron Kendrick, Atherton, and Hollis L. De Vines, San Mateo, Calif., assignors to Schlage Lock Company, a corporation
Filed Aug. 3, 1959, Ser. No. 831,151
6 Claims. (Cl. 70—364)



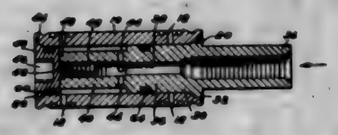
2. In a pin tumbler cylinder lock having a cylinder body, a rotatable cylinder plug and cooperating top and bottom pin tumblers, a slot formed in the cylinder body on the side opposite the top pin tumblers, said slot extending from end to end of the cylinder body and being wider than the diameter of the holes drilled for the reception of the pin tumblers, and a retainer plate insertable in the slot.

2,977,787
SHOCK WAVE GENERATOR HAVING A SHOCK WAVE CONTROLLER
Donald E. Holcomb, Jr., San Diego, Calif.
Filed Sept. 5, 1956, Ser. No. 608,173
12 Claims. (Cl. 73—12)
(Granted under Title 35, U.S. Code (1952), sec. 266)



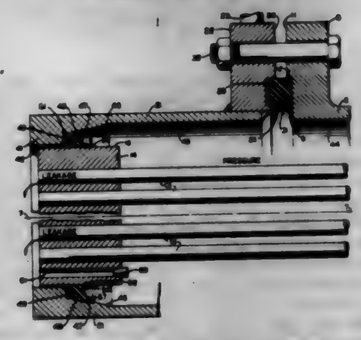
1. A shock wave generator comprising a container having a first chamber portion adapted to receive gas under pressure, a second chamber portion connected to said first chamber portion, a first control means mounted in said container for opposing and suddenly releasing gas pressure in said first chamber portion to said second chamber portion for substantially instantaneous buildup of said gas pressure to peak value throughout said container, and an acoustic impedance control means mounted in and constantly communicating said second chamber portion with atmosphere, said acoustic impedance control means being specially formed for effecting a regulated gas pressure release closely approximating the exponential decay rate of an explosive shock wave.

2,977,788
PNEUMATIC INTERNAL GAUGE DEVICE
Bill Mlaiz, Detroit, Mich., assignor to Freeland Gauge Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 14, 1958, Ser. No. 728,368
6 Claims. (Cl. 73—37.5)



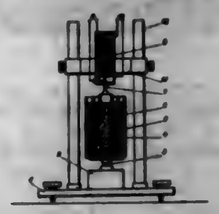
6. A gauge comprising, a shell formed of carbide having cylindrical inner and outer surfaces, said outer surface having an axial passage connected with a moat passage surrounding an air outlet in said shell, a core member to position said shell comprising a spool having ends to interfit with the outer ends of the inner surface of said shell, said spool having air passages to connect with the air outlet of said shell, means to resiliently support said shell on said core member and to seal said air passages comprising circular resilient rings interposed between the inner surface of the shell and the outer surface of the spool, and means to lock said shell and said core member against axial displacement.

2,977,789
HEAT EXCHANGE TEST JIG
Ramon E. Lindberg, Concord, Calif., assignor to Yuba Consolidated Industries, Inc., a corporation
Filed May 15, 1958, Ser. No. 735,590
4 Claims. (Cl. 73—40)



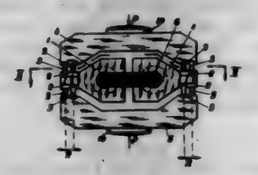
1. A heat exchanger test jig for use with a heat exchanger having a shell flange and a cylindrical tube sheet outstanding therefrom comprising a cylindrical ring, an axially inner flange at one end of said ring, an axially inner gasket seated in said axially inner flange, means for holding said ring with said axially inner gasket abutting said shell flange, an axially outer flange at the other end of said ring having an interior cylindrical surface adapted to surround said tube sheet, means defining a conical surface inside said ring adjacent said axially outer flange, and an axially outer gasket having a pair of rim wings, said axially outer gasket being seated on said conical surface and on said tube sheet with the surface of said gasket between said rim wings being exposed to pressure within said ring and with one of said rim wings abutting said ring and the other of said rim wings abutting said tube sheet.

2,977,790
ELECTROMAGNETIC ROTARY VISCOMETER
Bořivoj Dubský and Oldřich Straka, Prague, Czechoslovakia, assignors to Vyzkumny a zkusebni letecky ustav, Letnany, Czechoslovakia
Filed Oct. 9, 1957, Ser. No. 689,198
Claims priority, application Czechoslovakia Oct. 19, 1956
1 Claim. (Cl. 73—60)



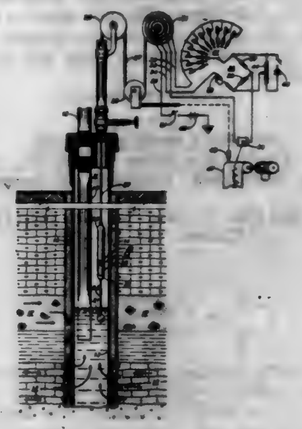
An electromagnetic rotary viscometer comprising a frame, an electric motor mounted on said frame and having a rotated, upstanding shaft, a cylindrical, upwardly opening vessel mounted on said shaft coaxially with the latter for rotation by said motor and having inner and outer walls defining a central cavity for receiving the liquid to be measured and a surrounding jacket space for receiving a temperature stabilizing medium, a cylindrical member dimensioned to extend downwardly into said central cavity for submergence in the liquid to be measured, an elongated ferro-magnetic torsion body connected, at one end, to said cylindrical member in axial alignment with the latter, means securing the other end of said torsion body to said frame so that said torsion body is twisted in response to the rotation of said vessel with said cylindrical member submerged in the liquid to be tested, means circularly magnetizing said torsion body to the state of saturation so that an axial component of the circular magnetic flux results from twisting of said torsion body, and a pick-up coil surrounding said torsion body to have an electromotive force induced therein which is a function of said axial component of the circular magnetic flux resulting from twisting of said torsion body.

2,977,791
TORSIONAL MAGNETOSTRICTIVE PRESSURE PICK-UP
Bořivoj Dubský and Oldřich Straka, Prague, Jiří Černohorský, Mesice, near Prague, and Vladimír Koblížek, Prague, Czechoslovakia, assignors to Vyzkumny a zkusebni letecky ustav, Letnany, near Prague, Czechoslovakia
Filed Sept. 29, 1959, Ser. No. 843,207
Claims priority, application Czechoslovakia Oct. 3, 1958
2 Claims. (Cl. 73—141)



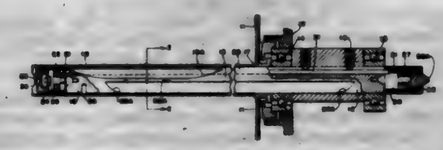
1. A magnetostrictive force sensing device comprising first and second generally parallel, spaced apart plates, a pair of parallel, ferromagnetic tubes disposed between said plates with the axes of said tubes lying in a plane which is generally parallel to the planes of said plates, arms extending radially from the opposite ends of each of said tubes in directions away from the other of said tubes, two elastic webs connected between each of said arms and said first and second plates, respectively, the webs connected between the arms at one end of said tubes and said first plate being closer by a predetermined distance to the axes of the related tubes than the webs connected between the arms at said one end of the tubes and said second plate, and the webs connected between the arms at the other end of said tubes and said first plate being further by said predetermined distance from the axes of the related tubes than the webs connected between the arms at said other end and said second plate so that a force applied to said plates to produce relative movement of the latter perpendicular to said planes of the plates causes torsional stressing of said tubes in opposite directions, a toroidal winding extending through both of said tubes, means for supplying exciting current to said winding so as to produce a normally cylindrical magnetic field in said tubes, with said field being deformed so as to have an axial component, upon said torsional stressing of the tubes, and pick-up coils extending around said tubes and having a voltage induced therein by said axial component of the magnetic field, which voltage is a function of the force applied to said plates.

2,977,792
METHOD FOR DETECTING FLUID FLOW IN OR NEAR A WELL BORE
Clarke N. Stann, Fullerton, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
Filed June 21, 1957, Ser. No. 667,126
3 Claims. (Cl. 73—155)



1. The method of determining the direction of flow of undesired fluid in the cementing material between a well casing and a well bore penetrating a subterranean formation, said casing being perforated at a petroleum producing zone within said subterranean formation and said undesired fluid flowing from a second zone into said casing through said cementing material and said perforations comprising the steps of determining the temperature profile along said casing, releasing a significant amount of heat within said casing in a substantially localized area adjacent to said second zone, again determining the temperature profile along said casing as a function of depth after said release of said heat, correlating said two temperature profiles to detect diffusion of said heat from said localized area, and comparing said detected diffusion after said release to normal temperature diffusion of heat from within a well casing to indicate asymmetrical diffusion of said heat from said localized area whereby the direction of movement of said undesired fluid in said cementing material is indicated by the direction of said asymmetrical heat diffusion.

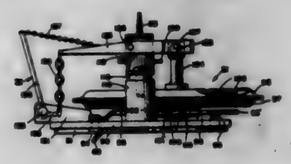
2,977,793
PNEUMATIC PROBE ASSEMBLY FOR DETECTING AIRSTREAM DIRECTION
Louis Bucalo, Holbrook, N.Y., assignor to Specialties, Inc., Syosset, N.Y., a corporation of New York
Filed Feb. 25, 1957, Ser. No. 642,093
8 Claims. (Cl. 73—180)



1. In a pneumatic probe, transmission channel means to pass pneumatic signals along the length of the probe, means forming inlet openings in a lateral surface of the probe and extending axially thereof, admission channel means in the probe beneath said openings and extending axially of the probe for substantially the length of the

openings, and means defining an opening placing the admission channel means intermediate its ends in commuication with the transmission channel means, said admission channel means including a water flow channel connected between its ends and by passing said opening to the transmission channel, said openings on the lateral surface of the probe including an array of slots, the slots adjacent the ends of the array being relatively large and those intermediate the ends being sufficiently small to reject static water under the influence of surface tension, said opening to the transmission channel being out of alignment with the end slots.

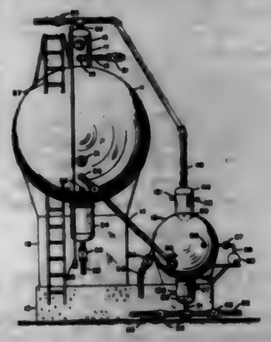
2,977,794
MARINE SPEEDOMETER
Howard S. Taylor, Fox River Grove, Ill., assignor to Airguide Instrument Company, a corporation of Illinois
Filed Feb. 23, 1956, Ser. No. 567,132
5 Claims. (Cl. 73—182)



1. In combination, an indicating device having a movable indicating pointer, a pressure sensitive device including an actuator reciprocable in response to variations in pressure to which the pressure sensitive device is subjected, means for subjecting the pressure sensitive device to varying fluid pressure, and means for effecting movement of the pointer in proportion to movement of the actuator including a rotary shaft mounting the pointer, a lever pivotally mounted for movement about a stationary pivot axis and pivotally connected to the actuator at a position spaced from said stationary pivot so that the actuator controls movement of the lever, a flexible non-resilient chain having one end connected to a free end of the lever and extending therefrom in a direction generally normal thereto, a bell crank having one arm connected to the second end of the chain, a flexible non-resilient connector having one end connected to the second arm of the bell crank and having its other end secured to the pointer shaft, and a spring for rotating the pointer shaft to maintain the chain and connector taut, said one arm of the bell crank and said free end of the lever being non-resiliently bendable generally circumferentially of their pivots to shift their arcs of movement while the length of the chain remains constant and the indicating pointer remains unmoved.

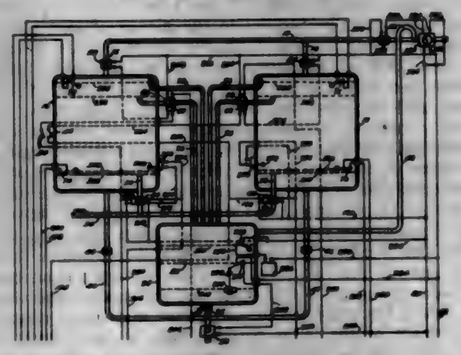
2,977,795
LIQUID METERING SYSTEM
Ralph W. Hill, Tulsa, Okla., assignor to Pan American Petroleum Corporation, a corporation of Delaware
Filed Aug. 9, 1956, Ser. No. 602,993
8 Claims. (Cl. 73—198)

1. An apparatus for measuring liquid comprising a storage tank having an inlet and an outlet for liquids, a metering tank having an inlet and an outlet for liquids, a filling line connecting said storage-tank outlet and said metering-tank inlet for filling said metering tank from said storage tank, closure means in said filling line to prevent flow therethrough, a discharge line connected to said metering-tank outlet, a discharge valve in said discharge line, means responsive upon completion of the emptying of said metering tank by said discharge line to close said discharge valve and to open said closure means, means responsive to the opening of said closure means to maintain said discharge valve closed while said closure means is open, quality-responsive means at least in part within said storage tank and responsive to the quality of the liquid therein before it enters said filling line, level-responsive means responsive to changes in the amount of liquid above said storage-tank outlet between more and less than the capacity of said metering tank, and control



means actuated by said quality- and said level-responsive means and acting on said closure means to prevent it from opening when either of the two following conditions exists: (1) when the quality of said liquid in said storage tank is below a predetermined standard, and (2) when the quantity of liquid in said storage tank above said storage-tank outlet is less than the capacity of said metering tank, whereby said metering tank is maintained empty until there is a sufficient amount of above-standard-quality liquid in said storage tank to fill said metering tank completely.

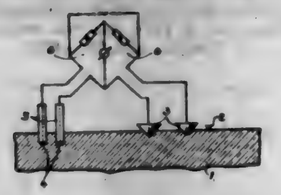
2,977,796
AUTOMATIC LIQUID MEASUREMENT
Samuel H. Pope, Tulsa, Okla., and Ross M. Stuntz, Jr., deceased, late of Tulsa, Okla., by Esther W. Stuntz, executrix, Tulsa, Okla., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 25, 1956, Ser. No. 593,762
30 Claims. (Cl. 73—319)



3. Apparatus comprising a vessel provided with a discharge conduit having an inlet in the vessel, a valve in the conduit, and means for discharging a sufficient volume of liquid from the vessel to lower the liquid level therein to the level of the inlet, said means comprising means for maintaining the valve open when the liquid level is above a predetermined level that is a predetermined height above the level of the inlet, and means actuated by the liquid level in the vessel passing through the

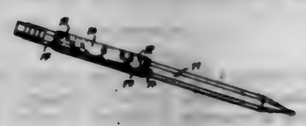
predetermined level for maintaining the valve open for a predetermined-time interval after the liquid level is at the predetermined level, such time interval being at least sufficiently extended in duration to allow the liquid level to lower the predetermined height above the inlet of the discharge conduit.

2,977,797
DEVICE FOR MEASURING THE GLASS LEVEL IN GLASS MELTING OVENS
Karl-Heinz Hoffmann, Essen-Altenessen, Germany (Paulinenstrasse 7, Essen, Germany), and Gustav Becker, Essen, Germany (Papenbeide 6, Kirchhellen, Westphalia, Germany)
Filed Aug. 15, 1956, Ser. No. 604,099
Claims priority, application Germany Aug. 18, 1955
3 Claims. (Cl. 73—364)



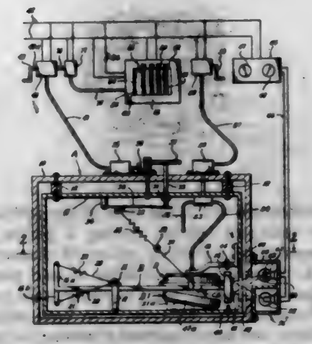
1. Apparatus for continuously measuring the level of molten glass in a glass melting furnace having a trough for carrying the molten glass comprising: a Wheatstone bridge arrangement, one arm of said bridge comprising a first pair of spaced electrodes immersed in the molten glass, the area of said first electrodes exposed to the molten glass being constant during any fluctuation in the glass level to provide a constant resistance therebetween; another arm of said bridge including a second pair of spaced electrodes disposed adjacent the surface of the molten glass and fixedly mounted relative to said trough, said second pair of electrodes being conical in shape whereby fluctuations of the glass level vary the area of said second electrodes in contact with the molten glass and thereby the resistance between said second electrodes varies with the fluctuation of glass levels; and means to compare the variable resistance between said second pair of electrodes against said constant resistance between said first pair of electrodes.

2,977,798
HYGROMETER DEVICE
Hiram M. Dean, 5109 Manila Ave., Oakland, Calif.
Filed Apr. 3, 1959, Ser. No. 803,993
3 Claims. (Cl. 73—335)



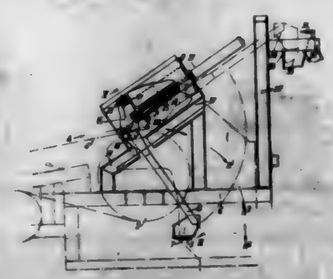
2. An advertising device, comprising a sheet of moisture absorbent material treated with a chemical reagent having color changing characteristics responsive to changes in humidity, said sheet of material being loosely rolled to form a cylinder having an inside diameter sufficient to slip freely over a conventional pocket pen or pencil, and a tubular member of transparent material of a diameter slightly larger than the diameter of said loosely rolled sheet of material having its ends notched and deformed inwardly to form a protective covering through which air may circulate over said sheet of material when wrapped loosely about a pen or pencil.

2,977,799
FORCE MEASURING APPARATUS
Lucien J. B. La Coste, Austin, Tex., assignor to La Coste & Romberg, Austin, Tex., a partnership
Filed Sept. 23, 1955, Ser. No. 536,062
17 Claims. (Cl. 73—382)



14. A force measuring apparatus including, a support, an element movably mounted on the support and adapted to respond to the force to be measured, a counteracting force means connected to the element and applying a force to counteract the force being measured, means for varying said counteracting force, means for measuring said counteracting force, means including a damping fluid for damping said movable element relative to the support many times more than critically, and means for indicating the position of the movable element.

2,977,800
MEANS FOR SAMPLING BULK MATERIAL
Fred Jordison, Chester-le-Street, England, assignor to The Birmingham Small Arms Company Limited, Birmingham, England, a company of Great Britain
Filed Apr. 1, 1957, Ser. No. 649,762
Claims priority, application Great Britain Apr. 14, 1956
6 Claims. (Cl. 73—423)



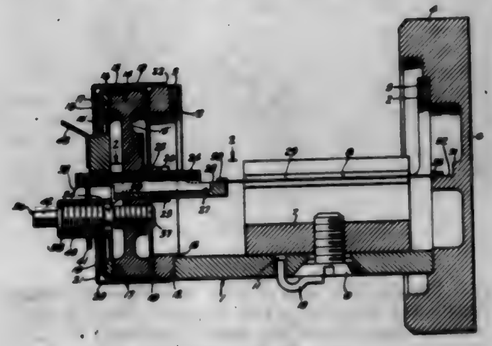
1. For sampling bulk material as it falls in a stream, apparatus comprising a pair of spaced arms, a sample container mounted on said arms, a guideway for a part of said arms, means for applying linear motion to said part of said arms for sequentially causing arcuate movement of said sample container through the material stream for collection of material therefrom by said container and sequentially causing linear movement of said arms to dispose the container in discharge position, said guideway being formed for serving for controlling the path of said sample container by guiding said part of said arms, and means automatically operable at the end of said linear arm movement for effecting discharge from said container of said material collected as sample.

2,977,881
DIAL TYPE GAUGE INSTRUMENTS
Reginald Ivor Reid Dunn, Littleover, England (14–16 Curzon St., Derby, England)
Filed Feb. 11, 1957, Ser. No. 639,433
6 Claims. (Cl. 73—432)



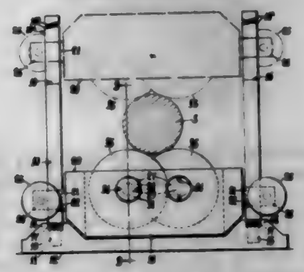
1. A mechanism for a dial type gauge instrument comprising an indicator spindle having a pinion, a pair of primary operating members mounted diametrically opposite each other on opposite sides of said pinion, a rack on the opposing faces of each member, said pinion being mounted between and engaging with both racks whereby said members are simultaneously moved in opposite directions, each primary member having a secondary operating member pivotally mounted coaxial therewith, said secondary operating members being operatively connected to each other for movement in opposite directions and operatively connected to its associated primary operating member to move said members in always the same direction, and an operating lever operatively connected with the secondary operating members to impart a corresponding movement to the secondary operating members in one of two directions, movement of said lever in either of two directions being translated into movement of the indicator spindle in one direction from zero towards maximum through the primary operating members.

2,977,882
DIFFERENTIAL ADJUSTMENT FOR PRECISION INSTRUMENTS
David T. Beegan, Pasadena, and Harold O. Bom, Costa Mesa, Calif., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 28, 1957, Ser. No. 662,065
6 Claims. (Cl. 73—432)



1. A mechanism for effecting extremely small changes in the stress of a given member, comprising in combination, a first flexible diaphragm having a portion fixed relative to one portion of said given member, a second flexible diaphragm, and an adjustment member formed with first and second portions adjustably engaging respectively said first and second diaphragms, said first and second portions being fixed with respect to each other for unitary operation with adjustment of said adjustment member and being so formed that a given adjustment operation of said adjustment means effects relative movement of said first and second portions with respect to said first and second diaphragms respectively in the same direction but by a slightly different amount for effecting relative flexing movement thereof and causing the difference in the forces of flexure thereof to be transmitted to said given member for changing the stress thereof, whereby a given adjustment operation of said adjustment member effects relatively small relative movement of said diaphragms for effecting an extremely small change in the difference in the flexure forces thereof and hence an extremely small change in the stress of said given member.

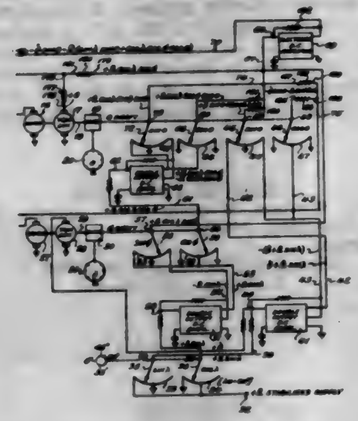
2,977,883
APPARATUS FOR STATICALLY BALANCING ROTATABLE ELEMENTS
Fred P. Green, Big Tree Road, Strykersville, N.Y.
Filed Aug. 3, 1956, Ser. No. 602,892
4 Claims. (Cl. 73—481)



1. A compact portable pair of static balancing ways each formed to be substituted for and in the place normally occupied by the pillow block bearings for a rotatable element of a machine, thereby to support the element in its normal running position in the machine during a static balancing operation, each way including a flat bottom frame provided with a pair of wide faced spaced and parallel rollers freely journaled in the side walls thereof and located to engage and support the rotatable element thereabove, a flat bottom base member provided with a pair of spaced upright rods each secured to one end of the base with its axis normal to the flat bottom of said member, and manually operable means between the frame and each rod for engaging and securing said frame in selected positions upon the rods, whereby the ways may be substituted for different sizes of pillow block bearings and each frame may be positioned and secured upon the rods in positions selected to rotatably support the rotatable element in its normal running position in the machine.

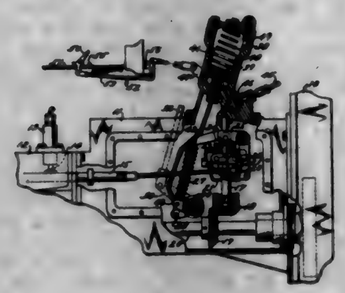
2,977,884
POSITION INDICATING NAVIGATION SYSTEMS
Norman Edward French, Seaford, England, assignor to The Sperry Gyroscope Company Limited, Brentford, England, a company of Great Britain
Filed Nov. 4, 1955, Ser. No. 544,969
Claims priority, application Great Britain Nov. 15, 1954
23 Claims. (Cl. 73—488)

1. Navigation apparatus comprising means including settable means for defining a selected coordinate system, the poles and equator of said selected coordinate system being angularly displaced in accordance with the setting of said settable means with respect to the earth's true coordinate system, means for measuring the components of the acceleration of a moving craft in at least two of the directions of the axes of a local co-ordinate system located at the position of the craft, moving therewith, and having its axes directed at each position of the craft in the vertical direction and in horizontal northerly and horizontal easterly directions, respectively, with respect to said selected coordinate system, the setting of said selected coordinate system being dependent upon the posi-



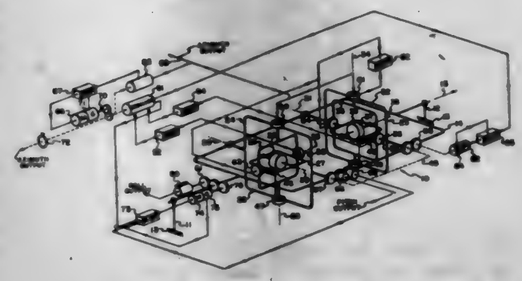
tion of said craft with respect to the earth's true coordinate system, and means responsive to said measuring means for computing the components of the velocity of said craft relative to the center of the earth in at least said two directions.

2,977,885
HYDRAULIC DECELERATOR FOR A SPRING BALANCED ENGINE GOVERNOR
William L. Matthiessen and Billy H. Workman, Pekin, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 27, 1959, Ser. No. 829,627
1 Claim. (Cl. 73—523)



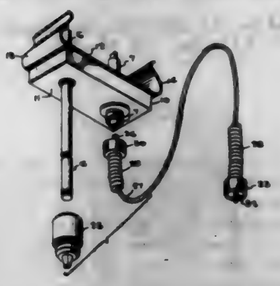
In an engine governor of the kind which includes a spring for balancing the centrifugal force of flyweights, a manually adjustable anchor for one end of the spring to vary its tension, a cylinder, a piston reciprocable in the cylinder, a spring seat in the piston, a spring stiffer than the governor spring disposed between said seat and an end of the cylinder, means connecting said seat with the said end of the spring, and pedal actuated means to direct fluid under pressure into the cylinder to compress the stiffer spring and thereby relax the tension on the governor spring, and a stop limiting the movement of the piston in the cylinder to establish a low idle governor setting, said spring seat being slidably mounted in the piston to permit manual adjustment beyond low idle setting to shut down the engine.

2,977,886
GYROSCOPIC APPARATUS
Arthur W. Lane, Roosevelt, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 13, 1958, Ser. No. 766,958
8 Claims. (Cl. 74—5.34)



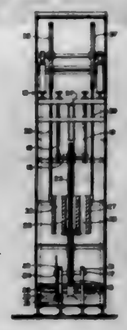
1. A gyroscopic device comprising a pair of gyroscopes, each gyroscope having at least one reference axis normally oriented in a predetermined angular relation to have a predetermined orientation with respect to the corresponding reference axis of the other gyroscope, said gyroscopes being adapted to provide substantially duplicate information with respect to said axes, means responsive to the movements of said reference axes for providing a measure proportional to the deviations of said axes from said predetermined orientation, and means responsive to said deviation measure for precessing said gyroscopes in directions to eliminate said deviation measure whereby to provide a reference measure which is the average of the positions of said reference axes.

2,977,887
HOUSEHOLD MIXER ATTACHMENT
Clarence G. Conover, Rte. 1, Box 109, Hightstown, N.J.
Filed June 10, 1960, Ser. No. 35,304
7 Claims. (Cl. 74—16)



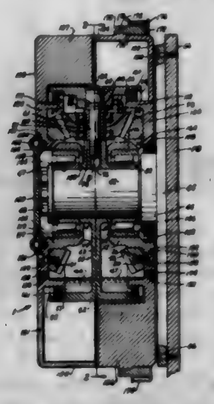
1. An adaptor for power tools comprising a housing with a bottom and side walls, a top plate on said housing having laterally and upwardly extending end portion having an undulatory curvature in vertical section and of springy material to provide a clamping function to secure the housing to a power unit, said housing having two pairs of axially aligned bores with each pair located respectively in the top plate and bottom, a bushing secured in each bore, a shaft rotatably carried in each pair of bores, means on each shaft cooperating with the housing to hold the shaft against axial movement, a pulley fixed to each shaft interiorly of the housing arranged to receive a common belt, coupling means on the upper end of each shaft adapted to cooperate with a pair of drive shafts in the power unit, and coupling means on the lower end of each shaft for attachment of power tools thereto.

2,977,888
PUMP JACK
Richard H. Dobbs, P.O. Box 113, Winfield, Kans.
Filed Apr. 20, 1959, Ser. No. 807,621
10 Claims. (Cl. 74—37)



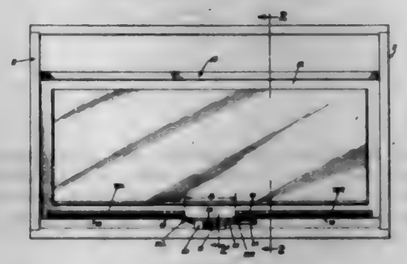
1. A pump jack for reciprocating the polish rod of a pump comprising: a rigid elongated upright frame; a single pair of vertically spaced and aligned sprockets journaled in said frame; an endless chain engaged with said sprockets; means for transmitting a rotational force to one of said sprockets; a counterweight encompassing said chain and reciprocable vertically therealong; means connecting one link of said chain to the counterweight to reciprocate the counterweight as the chain runs over its sprockets; and means connected to the counterweight and to the polish rod for transmitting a vertical lifting force to the polish rod each time the counterweight is moved downward during its reciprocating motion.

2,977,809
VARIABLE ACTUATOR FOR SCREENS, FEEDERS AND THE LIKE
George D. Becker, Wauwatosa, and Keith B. Lowe, Milwaukee, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 16, 1957, Ser. No. 690,457
2 Claims. (Cl. 74—87)



1. A variable actuator unit adapted to impart a cyclic unbalanced impulse to a body to which it is attached including a fixed shaft having means at one end of the shaft for directly connecting the unit to a suitable body, a pair of weight carrying members, each member being of a circular disk-like shape with a weight in one portion of the member, said members mounted on the shaft in closely spaced, axially disposed relationship, a pair of bevel gears mounted on the weight carrying members in opposing relationship, a gear carrying spider mounted on the fixed shaft between the weight carrying members, said spider and disk-like weight carrying members forming an oil-tight chamber enclosing the gears, means to fix the spider with respect to the shaft, a third gear carried by the spider and engaging the bevel gears, and a power connection on one of the weight carrying members adapted to transmit power to the unit to produce rotational movement of the weight carrying members.

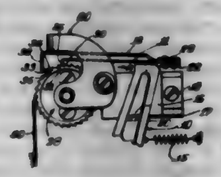
2,977,816
CLOSURE OPERATOR
Harold L. Stavenau, Mankato, Minn., assignor to Truth Tool Company, Mankato, Minn., a corporation of Minnesota
Filed Oct. 17, 1955, Ser. No. 540,671
4 Claims. (Cl. 74—96)



1. A closure operator comprising a subframe having a base portion adapted to be fastened to a closure surround and having an upstanding flange thereon provided with an aperture therein from the base portion upwardly, a pair of frame plates each having a corresponding apertured tongue extending at one edge and along the centerline thereof, said tongues of said plates being extended thru the aperture of said flange and received neatly thereby when the plates are maintained in vertically spaced parallel relation, a pair of pivot tubes each having an enlarged central portion of equal axial length and reduced end diameters, said frame plates being apertured at each side of the centerlines thereof and spaced from said tongues, the reduced ends of said tubes being received in said apertures and the plates held in parallel spaced relation by said enlarged central portions, fasteners extending thru the plates and tubes and into the base portion of said subframe for holding the parts assembled, a hub having an operating handle extending generally radially therefrom located between the tongues of said plates and pivoted thereon at said apertures, at least one closure operating arm pivotally mounted on one of the pivot tubes and having a short end extending between said plates and a long end extending outwardly beyond said plates and provided at its long end with means for engaging a closure for operating the closure, a hub pivotally mounted between said plates, and means connecting the short end of said arm with said hub for arcuately swinging the arm as the hub is rotated.

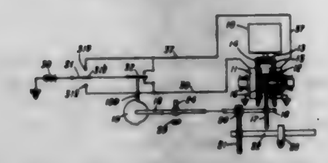
2,977,811
RATCHET AND PAWL STEPPING MECHANISM
Willard A. Roberts, Galion, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed Nov. 24, 1958, Ser. No. 775,878
7 Claims. (Cl. 74—142)

1. In a ratchet and pawl mechanism, a toothed ratchet wheel, a first pawl having means at one end for engaging the teeth of said wheel, a second pawl having an end portion adapted to be engaged by the teeth of said wheel, means commonly connected to said first and second pawls for reciprocating the same substantially tangentially of said wheel, engagement of said first pawl with said teeth serving to drive the wheel according to the movement of said first pawl in one direction, engagement of said



second pawl by the teeth of said wheel serving to limit rotation of the latter in said one direction, and a third pawl aligned substantially tangentially of said wheel and having an end portion abuttingly engageable with teeth of said wheel to prevent rotation of the latter in a direction reverse to said one direction.

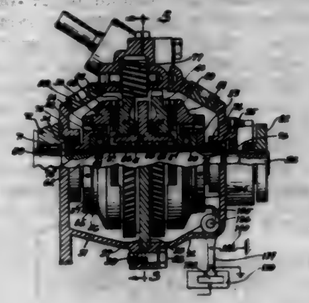
2,977,812
ACTUATOR WITH DITHER IN NEUTRAL
Robert G. Hoof, Glendale, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 10, 1958, Ser. No. 773,082
9 Claims. (Cl. 74—322)



1. An actuator comprising: a shaft rotatable in either direction from a neutral position; a rotary driving mechanism including a pair of selectively engageable clutches for driving said shaft in one direction in response to engagement of one clutch and in the other direction in response to engagement of the other clutch; first selectively energizable means for engaging one of said clutches to rotate said shaft in one direction; second selectively energizable means responsive to displacement of said shaft from neutral position in either direction by either clutch to disengage that clutch and engage the other clutch to dither the shaft back and forth through neutral position; and selecting means for selectively energizing either said first or said second means; the range of displacement of said shaft required to disengage either clutch and engage the other clutch being so small relative to the inertia of the shaft that the shaft accelerates substantially continuously in successively opposite directions while said second means is energized.

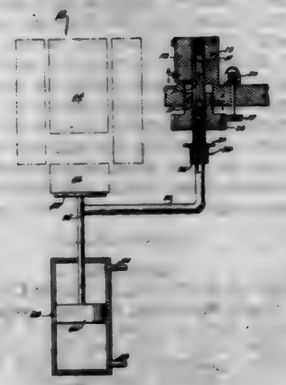
2,977,813
POWER STEERING MECHANISM
Oscar H. Banker, Evanston, Ill., assignor, by mesne assignments, to Fawick Corporation, Cleveland, Ohio, a corporation of Michigan
Filed Apr. 13, 1955, Ser. No. 501,017
12 Claims. (Cl. 74—388)

1. A worm drive including a manually rotatable shaft and a worm secured thereto and rotated thereby, and an auxiliary power applying device for the said shaft, said shaft having limited axial movement imparted thereto by the reaction forces on the worm rotated thereby, said device comprising a drive element, means for driving said drive element, a driven element connected to rotate with the manually rotatable shaft, a clutch adapted to connect the drive element to the driven element, said clutch having an axially movable pressure element for engaging the clutch, means actuated by the said axial



movement of the shaft for moving said axially movable pressure element to engage said clutch, and means also actuated by the said axial movement of the shaft for rendering the driving means effective to drive the shaft.

2,977,814
TWO-SPEED DEVICE
Glenn S. Brunson, Jr., Idaho Falls, Idaho, assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 22, 1960, Ser. No. 38,087
5 Claims. (Cl. 74—424.8)

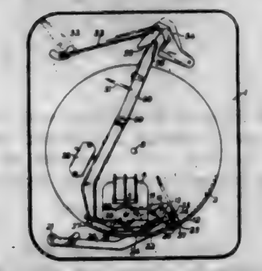


1. A two-speed device comprising a two-part stop composed of first and second members having threaded engagement with one another, the first member being restrained against rotation while being capable of moving axially, the second member being arranged to move simultaneously rotatively and axially, means for rotating said second member, and a follower engageable first with an end of one member and then with the corresponding end of the other member after some relative longitudinal movement of the members with respect to one another due to rotation of the said second member and holding of the first member against rotation.

2,977,815
CHANGE-SPEED MECHANISM FOR THE TURNTABLE OF A DISC TALKING MACHINE
Lawrence Vincent Guest, Old Hill, England, assignor to Birmingham Sound Reproducers Limited, Staffordshire, England
Filed Feb. 26, 1959, Ser. No. 795,681
Claims priority, application Great Britain Mar. 5, 1958
5 Claims. (Cl. 74—472)

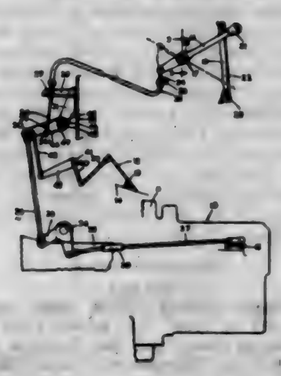
3. A change-speed driving mechanism for the turntable of a disc talking machine, comprising a motor, a

stepped pulley driven by said motor, an On-Off switch controlling said motor, a first manual control means operating said switch, a flexible idler wheel in frictional engagement between said stepped pulley and the turntable, a substantially horizontal arm carrying said idler wheel, a fixed vertical spindle, supporting means carrying said substantially horizontal arm and movable up and down said fixed vertical spindle, a spring urging said supporting means along said fixed vertical spindle in the direction from a larger to a smaller part of said stepped pulley, a further manually operated control means engageable with said supporting means for positively moving it in opposition to said spring along said fixed verti-



cal spindle in the direction from a smaller to a larger part of said stepped pulley with the flexible idler wheel in engagement with the said stepped pulley, and a movable abutment member movable in response to movements of said first manual control means for said switch, said abutment member including a vertical edge-forming portion for abutting and moving said substantially horizontal arm to a position in which the said idler wheel is disengaged from the stepped pulley as the said first manual control means is moved to move the switch to the "Off" position and guiding the said substantially horizontal arm and the idler wheel carried thereby in up and down movements thereof by the said further manual control while said switch remains in the "Off" position.

2,977,816
AUTOMATIC CHANGE-SPEED GEARING
Alec Rice, Castle Bromwich, England, assignor to Bristol Siddeley Engines Limited, Bristol, England
Filed Oct. 8, 1959, Ser. No. 845,181
Claims priority, application Great Britain Oct. 17, 1958
3 Claims. (Cl. 74—472)



1. Automatic change-speed gearing, for a motor road vehicle, of the kind in which a governor device is adapted, when the vehicle achieves a predetermined speed with an intermediate gear ratio engaged, automatically to engage a higher gear ratio, comprising a manually-operable means, an arm adapted to be moved for setting the vehicle speed at which the governor device will engage the said higher gear ratio, a first motion transmitting means, said first motion transmitting means interconnecting said manually-operable means and the governor setting arm, a vehicle engine accelerator pedal, a second motion transmitting means, a lost motion device, said second motion transmitting means interconnecting said accelerator pedal and said first motion transmitting means through said lost motion device, said manually-operable means being operable to set said governor setting arm to select the vehicle speed at which said higher gear ratio will be engaged and simultaneously to adjust the lost motion in said lost motion device whereby when said accelerator pedal will have been depressed for the vehicle to travel at the selected speed the lost motion in said lost motion device will be taken up and said higher gear ratio engaged.

2,977,817
VARIABLE RATIO LEVER MECHANISM
Anton Z. Panasewicz, Parma, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 3, 1958, Ser. No. 746,449
3 Claims. (Cl. 74—516)

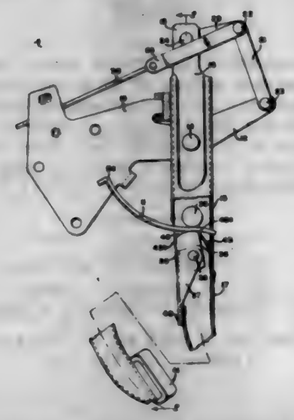


1. A variable ratio lever mechanism comprising a rigid unitary lever having a fixed point thereon adapted to be connected to a load, upper and lower rollers pivotally connected to said lever at points spaced fixed distances from said fixed point of load connection and from each other, a lever support, upper and lower spaced pivot seats on said support, a curved track on said support opening to the upper of said pivot seats, said track having a radius of curvature substantially equal to the distance from the pivot axis of the lower of said rollers to the surface of the upper of said rollers, said lever having a first position in which the lower of said rollers is engaged in the lower of said seats and the upper of said rollers is disposed on said track, said lever being pivotal at one lever ratio about the pivot axis of said lower roller from said first position to a second position in which said upper roller moves into engagement with the upper of said seats to provide a second lever ratio and said lower roller moves out of engagement with said lower seat, and yieldable means connected to said lever urging the latter to said first position.

2,977,818
PARKING BRAKE ACTUATING MECHANISM
Conrad J. Stroik, Syracuse, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,428
4 Claims. (Cl. 74—531)

1. Mechanism for actuating the parking brakes of a vehicle including, in combination, a stationary support,

a bar extending from said support, a lever including pivot means supporting said lever on said support, detent means including a cam element engaging said bar to frictionally hold said lever in an adjusted position relative to said bar, a quadric crank chain on the opposite side of said pivot means with said lever forming one link of said chain and an arm of said support pivotally supporting a link of said chain on its outer side with said lever pivot connection with said support being at the inner end of said arm on said support, and a brake actuating cable attachment means connected with a piv-



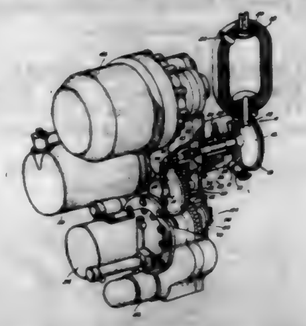
ot between immediately adjacent articulated links of said chain positioned in the quadric chain opposite to the pivot connection of said lever on said arm, said cable attachment means extending diagonally across the quadrilateral formed by said quadric chain which includes crossing of said lever whereby to effect movement of the cable attached to said cable attachment means in the same direction as movement of said lever on effecting collapsing movement of said quadric chain to effect extensible movement of the connection of said cable attachment means relative to the pivot connection of said lever on said support.

2,977,819
VIBRATION DAMPER
Fred L. Hanshalter, 2185 Scott Lake Road, Pontiac, Mich.
Filed Jan. 26, 1959, Ser. No. 789,027
8 Claims. (Cl. 74—574)



1. The combination with spaced apart inner and outer relatively rotatable members provided with opposed cylindrical surfaces concentric with the axis of rotation of said members and providing an annular space therebetween, of a yieldable connection between said rotatable members disposed within said annular space and comprising a separate preformed composite insert including a relatively thin substantially annular metal strip within said annular space and concentric with said cylindrical surfaces, one surface of said strip being in surface to surface frictional engagement with one of said cylindrical surfaces, and a series of individual slabs of elastic material constituting vibration dampening means for said rotatable members bonded in surface to surface relation to the other surface of said strip at spaced points thereof and disposed in surface to surface frictional engagement with the other of said cylindrical surfaces, the radial width of the annular space aforesaid being less than the initial combined over-all cross sectional thickness of said strip and any of said individual slabs, whereby said entire insert is under compression between said cylindrical surfaces.

2,977,820
GROUND POWER DEVICE
Robert J. Anderson, Lyndhurst, Joseph T. Hamrick, Cleveland, and Frank L. Oppenheimer, Shaker Heights, Ohio, assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Apr. 5, 1957, Ser. No. 651,103
5 Claims. (Cl. 74—665)

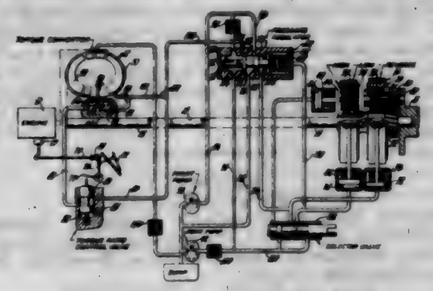


1. A power mechanism comprising a prime mover adapted for high speed operation over a limited operating life, a driven unit for supplying power during its operation to a single flight aircraft or the like, a drive train operationally connecting the prime mover to the driven unit, a disengageable clutch means in the drive train leading to the driven unit, a housing surrounding the prime mover and the driven unit and having a test opening adjacent said clutch means with an annular wall therein, a power operated testing unit to be connected to the drive train on the driven side of said clutch, a cylindrical projection on the power operated testing unit adapted to be received by said annular opening in said housing and to project therein, said cylindrical projection having a clutch engaging surface whereby the clutch is automatically disengaged when the cylindrical projection is inserted into the annular opening, and means for automatically connecting the power operated testing unit to the driven unit when said cylindrical projection is inserted into the annular opening whereby the driven unit is driven at operational speeds without driving the prime mover or the drive train to shorten the operating life thereof.

2,977,821
TRANSMISSION
Rudolph J. Gorsky, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 16, 1955, Ser. No. 534,765
3 Claims. (Cl. 74—732)

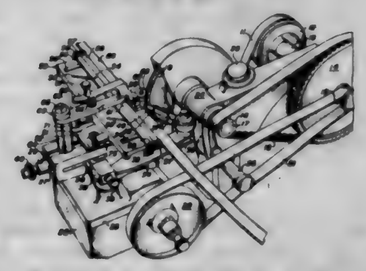
1. A transmission comprising in combination an impeller adapted to circulate liquid through a turbine; means for variably changing the direction of flow of liquid between the impeller and turbine; an output member; a disengageable torque transmitting connection from the turbine to the output member; a first fluid pressure chamber for engaging said connection; actuating means for moving the flow direction changing means; means constantly urging the actuating means toward one position; a second

fluid pressure chamber for overcoming the urging means and moving the actuating means to a second position;



means for supplying pressure fluid to the first chamber; and means responsive to the pressure in the first chamber for supplying pressure fluid to the second chamber.

2,977,822
AUTOMATIC SAW SHARPENER
Henry A. Hamberger, Rochester, and Clarence M. Ernisee, Victor, N.Y., assignors to Hamco Machines, Incorporated, Rochester, N.Y., a corporation of New York
Filed Aug. 18, 1958, Ser. No. 755,651
6 Claims. (Cl. 76—43)



1. In a machine for grinding saw teeth, the combination comprising a grinding wheel, a driving means operatively connected to said grinding wheel for imparting rotation thereto, a support means for maintaining said saw in a plane perpendicular to the plane of said grinding wheel, an indexing means for engaging the teeth of said saw, rotatable means including an arm operatively connected to said support means and a second arm for supporting said indexing means, said arms being arranged substantially perpendicular to each other, an actuating means operatively connected to said drive means for oscillating said arms through equal angles for simultaneously imparting a reciprocating motion to said support means for moving said saw into and out of engagement with said grinding wheel and an oscillating motion to said indexing means for intermittently moving said saw upon movement of said saw away from said grinding wheel, and means arranged on said support means between said saw and said indexing means and independently movable with respect to said support means and said indexing means for directing said indexing means into engagement with only the tooth of said saw to next be positioned with respect to said grinding wheel.

2,977,823
SLOTTER KNIVES AND METHOD OF MAKING SAME
William C. Faix, Cupertino, Calif., assignor, by mesne assignments, to Russell T. Coss, Los Altos Hills, Calif.
Filed Dec. 17, 1958, Ser. No. 781,055
9 Claims. (Cl. 76—101)

1. A method of manufacturing a slotter knife comprising the steps of removing a blank of sector shape from an annulus, heating an outer corner portion of said blank to effect a softening thereof, driving a pair of aligned and oppositely directed punches into engagement with the upper and lower surfaces of said heated and softened corner portion to reduce the blank thickness over a limited area extending immediately adjacent a corner-bounding straight side of the blank and terminating sub-



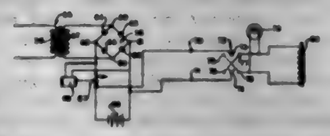
stantially inwardly of the blank's curved outer margin thereby to urge a portion of the metal of said heated corner portion outwardly to form upon said blank a corner protuberance the thickness of which is unaffected by the action of said punches, and thereafter grinding said protuberance to shape a cutting tip, after first cooling said heated corner portion.

2,977,824
WRENCH MAKING METHOD
Theodore Otto Rueb, Chicago, Ill., assignor to The Sherman Klove Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 8, 1958, Ser. No. 778,856
2 Claims. (Cl. 76—114)



1. The method of making and permanently connecting together a two-part wrench having a head provided with opposite projections and a handle provided with a pair of perforated arms to receive said projections, comprising the steps of; forging said handle, slotting the same to provide said arms, spreading said arms beyond their elastic limit and permitting them to return to a set position substantially one-half the requirement for going over said projections, tempering said wrench handle, springing said arms apart to go over said projections and releasing them, springing said arms together at a point closely adjacent said wrench head for a working fit on said projections, and permanently and rigidly connecting said arms together at said point in their sprung-together position.

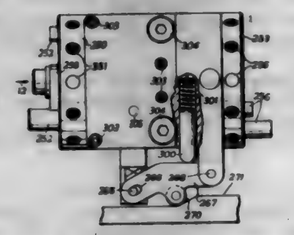
2,977,825
ELECTROMAGNETIC DRILL SUPPORT WITH AUXILIARY POWER SUPPLY
Eugene W. Buck, Campbell, Calif., assignor to Buck Manufacturing Company, San Jose, Calif., a corporation of Delaware
Filed Aug. 20, 1958, Ser. No. 756,227
12 Claims. (Cl. 77—7)



1. An electromagnetic support for tools and the like comprising a base having an electromagnet adapted to support the tool on various work surfaces including overhead surfaces and vertical walls, a hollow frame

attached to said base for supporting a tool thereon, means for connecting said electromagnet to a remote source of current supply, a self-contained source of current supply, means for supporting said self-contained source of current supply in said hollow frame, means for connecting said self-contained source of current supply in parallel with said remote source of current supply and across said electromagnet so that said self-contained source is charged from said remote source and both of said sources energize said electromagnet depending upon which of said sources has the higher voltage at a particular moment, said self-contained source being adapted to energize said electromagnet in case of failure of said remote source so that said electromagnet is adapted to support the tool on overhead surfaces or vertical walls even if said remote source fails, and means for disconnecting said electromagnet from both of said sources.

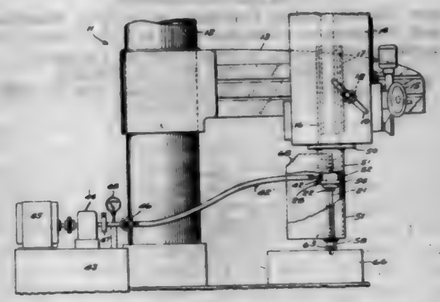
2,977,826
MACHINE TOOLS AND OTHER MACHINES FOR CARRYING OUT A SEQUENCE OF OPERATIONS
William E. A. Radford, Harrow, England, assignor to Engineering Research and Application Limited, Dunstable, England
Filed May 8, 1959, Ser. No. 812,062
Claims priority, application Great Britain May 12, 1958
4 Claims. (Cl. 77—32.3)



1. An apparatus for controlling a series of advance and retraction movements of a tool holder comprising a body, means for moving the body parallel to the movements of the tool holder in timed relation therewith, a series of projections mounted rotatably on said body as an annular series and extending to different lengths in one direction parallel to the axis of rotation thereof, means operated by these projections and serving to initiate return movements of the tool holder, means controlled by the return movements to progressively rotate said series of projections to bring them successively into operation to initiate return movements at different degrees of advance of said tool holder, a second annular series of projections mounted on said body to rotate with the first series, but extending to different extents in the opposite direction to that of the first series, and means actuated by said second series of projections on the return movements of the tool holders and serving to initiate the forward movements of the tool holder at different degrees of return movement of the tool holder.

2,977,827
CUTTING APPARATUS
John Wenz, Plainfield, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Apr. 27, 1953, Ser. No. 351,255
4 Claims. (Cl. 77—55)

1. Cutting apparatus of the class described comprises a rotatable and longitudinally movable spindle, a socket member secured to said spindle for movement therewith and having a passageway therein, a rod-like cutting tool secured at one end to said socket member and having a passageway therein with an inlet adjacent said one end communicating with the first mentioned passageway, and an outlet at the other end of said tool, said other end having a cutting edge formed thereat, a source of fluid under pressure, a substantially cylindrical container having openings formed in end walls thereof through which portions of the socket member and tool pass, said container being connected to said source and being in communication with the first mentioned passageway to provide flow of cutting fluid in the latter and in the second mentioned passageway during rotational and longitudinal movement of said socket member, a pair of sealing members arranged within said container, one adjacent each of said end walls and having openings through which the socket member passes, each of said sealing members being secured to said container for movement therewith, a pair of sealing rings loosely

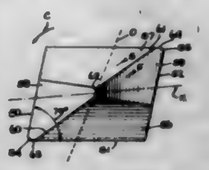


mounted on said socket member and each being arranged adjacent one of said pair of sealing members, means carried by said socket member and resiliently urging the sealing rings into engagement with their associated sealing members to prevent escape of fluid in a leakage path between the sealing members and sealing rings and along the socket member and through the openings in the end walls of the container, a pair of washers within the container having openings through which the socket member passes and each being interposed between one sealing member and an end wall, said washers being secured to said socket member to provide movement of said container with said socket member when the latter moves longitudinally, guide member having a guide slot therein, and means secured to said container including a tongue-like member projecting into the guide slot to prevent rotational movement of said container with rotational movement of said socket member.

3,977,828
CARBIDE DRILL
Royce M. Strickland, New Haven, Conn., assignor to United-Greenfield Corporation, a corporation of Delaware
Original application May 9, 1958, Ser. No. 734,214, now Patent No. 2,889,725, dated June 9, 1959. Divided and this application Mar. 26, 1959, Ser. No. 802,170
The terminal portion of the term of the patent subsequent to June 9, 1976, has been disclaimed
3 Claims. (Cl. 77—67)

1. A high speed drill for forming cylindrical holes comprising a carbide tip having four side surfaces extending longitudinally to the central axis with diagonally opposite acute angles and diagonally opposite obtuse angles being spaced from the walls of the drilled hole for discharge of chips therethrough, sloping side surfaces on opposite sides of the central axis and with the planes of said surfaces intersecting along a line passing through said central axis and end surfaces on opposite sides of said

central axis and intersecting to form an edge passing through said central axis at a distance spaced from the line of intersection of the planes of the sloping surfaces and



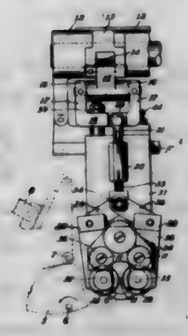
at an angle of approximately 115° therewith to form cutting edges at the intersection of said sloping surfaces and said end surfaces.

2,977,829
MACHINE REAMER
Eugen Thoma, Aalen, Germany, assignor to Maschinen- und Präzisionswerkzeugfabrik G.m.b.H., Aalen (Wurttemberg), Germany, a corporation of Germany
Filed Feb. 29, 1956, Ser. No. 568,663
Claims priority, application Germany Mar. 3, 1955
6 Claims. (Cl. 77—75)



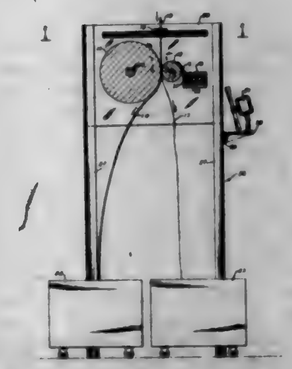
1. Machine reamer comprising a carrier body, a cutter blade supported thereby and having only a longitudinally extending cutting edge, a first guide on said carrier body extending parallel to the edge of the cutter blade, the center line of the guide forming an angle of about 40° with the cutter blade edge, and a further guide running parallel to the cutter blade and approximately opposite thereto on the carrier body.

2,977,830
THREAD ROLLING ATTACHMENT
Earl William Brinkman, Rochester, N.Y., assignor to Davenport Machine Tool Company, Inc., Rochester, N.Y., a corporation of New York
Continuation of application Ser. No. 416,610, Mar. 16, 1954. This application June 20, 1958, Ser. No. 743,469
4 Claims. (Cl. 80—6)



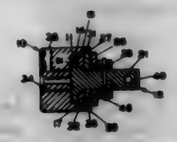
1. An attachment for an automatic screw machine for rolling a pattern on a rotating workpiece, which screw machine has a rotary work support for the workpiece that is rotatably driven during operation of the machine, said attachment comprising a rectilinearly-movable slide, a support on which said slide is mounted for reciprocation toward and from the work support radially of the axis of the work support, a pair of rotatable pattern-forming rolls adapted to be rotated by engagement with a rotating workpiece, a pair of arms pivotally mounted directly on said slide for pivotal movement toward and from each other about spaced parallel axes that are disposed at right angles to the plane of reciprocation of said slide, one of said rolls being mounted on each arm for rotation about an axis parallel to the pivotal axis of its arm, actuating means for moving said slide on its support toward the workpiece and for moving said work holders toward one another, said actuating means including lost-motion means connecting said actuating means both to said slide and to said arms, and means for stopping movement of said slide toward said work support when the rolls straddle the workpiece with their axes approximately in a common plane with the axis of the work support, said lost-motion means being operative upon stoppage of said last-named movement and upon continued operation of said actuating means to swing said arms toward one another to engage said rolls with the workpiece at opposite sides thereof with the axes of the rolls and workpiece lying in said common plane so that said rolls will roll a pattern on the workpiece as the rolls are rotated by their engagement with the workpiece.

2,977,831
METHODS OF AND APPARATUS FOR STRIPPING A SHEATH OF PLASTIC MATERIAL FROM A CORE
Tillman T. Bunch, near Ashland, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 25, 1959, Ser. No. 801,845
8 Claims. (Cl. 81—9.51)



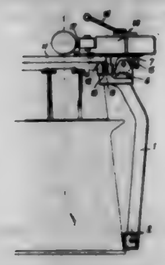
1. Apparatus for stripping a sheath of plastic material from a wire, which comprises a pair of rolls spaced from each other a distance slightly greater than the diameter of the wire, one of said rolls having a substantially smaller diameter than the other and being provided with a substantially lower surface coefficient of friction with respect to the sheath than the larger roll, and means for rotating said rolls so that the sheathed wire passes between said rolls, whereby the sheath is split longitudinally as the sheathed wire passes between said rolls along the side adjacent to the smaller roll without appreciable diametrical deformation of the bare wire and whereby the bare wire is given a cast by the smaller roll so as to tend to direct the bare wire away from the split sheath, thereby facilitating separation of the wire and the sheath.

2,977,832
PREDETERMINED TORQUE RELEASE HAND TOOL
William Bless, 198 Mayfair Blvd., Columbus, Ohio
Filed Apr. 30, 1959, Ser. No. 810,160
1 Claim. (Cl. 81—52.4)



A predetermined torque release hand tool comprising, in combination, a cup-shaped housing member; means for rotating said housing member; drive shaft means including a threaded shank extension provided with flats and an annular flange portion provided with an outwardly facing surface, said flange portion being journaled in said housing member; a retainer ring including an inwardly facing surface bearing against said outwardly facing surface of said annular flange portion and secured to the end of said housing member opposite said actuating means, said retainer ring including an outwardly facing surface; a friction plate including a polygonal opening engaging said flats, an inwardly facing surface bearing against said outwardly facing surface on said retainer ring, and an outer face; spring means positioned on said shank extension and against said outer face of said friction plate; and a lock nut on said threaded shank portion whereby said surfaces are urged one against the other and the hand tool is caused to release at predetermined overload torque.

2,977,833
COPYING DEVICE FOR LATHES
Armand Marcel Lelan, Paris, France, assignor to Societe Anonyme dite: H. Ernault-Batignolles, Paris (Seine), France, a French company
Continuation of application Ser. No. 454,677, Sept. 8, 1954. This application Aug. 15, 1958, Ser. No. 755,849
Claims priority, application France Sept. 11, 1953
9 Claims. (Cl. 82—14)



1. In a copying device for machine tools, such as lathes, having a work spindle and including a longitudinally movable carriage, a transverse slide on the carriage, a templet carrier for supporting a templet parallel to said spindle and coupled to the slide for transverse movement in unison therewith, a pivoted support for the carrier the length of which is such that at its point of coupling with said carrier there is an infinitesimal difference between the arc described and its chord when the support is pivoted about a first axis parallel to said spindle, means locking the carrier on the support against movement longitudinally of the machine, and means pivotally coupling the carrier to the slide about a second axis constantly parallel to said spindle and first axis and permitting longitudinal movement of said slide relative to said carrier, whereby said carrier templet is held parallel to said two axes irrespective of the positions of said slide and carrier.

2,977,834
SHEARING APPARATUS FOR CHICKEN WIRE OR THE LIKE INCLUDING A TOOTHED, PIVOTED WIRE GUIDE
Cezar Tyjewski, 702 Emmett St., Battle Creek, Mich.
Filed Oct. 16, 1956, Ser. No. 616,344
1 Claim. (Cl. 83—447)



A shearing machine for severing predetermined lengths of open mesh strip material such as chicken wire or the like, comprising a horizontal frame, vertically extending support means carried on said frame for rotatably supporting a roll of mesh material to be cut, mechanically operated shearing means on said frame in transverse relation to said frame and parallel to said support means, a platform on said frame between said support means and shearing means and adjacent the latter, and a combined strip guide and strip material holding means overlying said platform spaced from said shearing means, said strip guide and strip material holding means comprising a gravity-responsive funnel-shaped housing above said platform and including planar triangular sides having an apex portion extending toward said shearing means and a planar top extending angularly and vertically from said platform and defining a high inlet opening toward said support means and a low outlet opening toward and adjacent said shearing means, said inlet and outlet extending transversely of said platform and said sides restraining lateral movement of strip material received therein, said strip guide and strip material holding assembly including depending, transversely spaced, toothed portions contacting the upper surface of said platform for engaging said open meshed material and inclining downwardly toward said shearing means, said toothed portions, being vertically displaceable above said platform for permitting mesh material to be moved through said guide means from said support means to said shearing means and preventing reverse movement, said toothed portions forming the outlet edge of said housing, vertical support members on said platform pivotally mounting said housing at said planar triangular sides rearwardly and above said toothed portions and on a horizontal axis of rotation above said platform and adjacent the inlet opening of said housing.

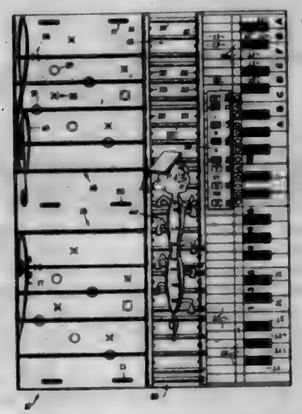
2,977,835
VIOLIN
Robert L. Hornseth, 419 Van Buren St., Pueblo, Colo.
Filed Sept. 17, 1956, Ser. No. 610,165
2 Claims. (Cl. 84—275)



1. A body for a viol-type string instrument, comprising a pair of flat panels arranged in spaced parallelism to form a top panel and bottom panel, a longitudinal rib

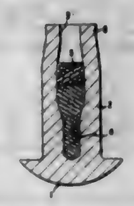
extending therethrough between the panels near the longitudinal axis thereof, with each longitudinal edge of the rib contacting a panel along its entire length and being securely affixed throughout its entire length of contact to the inner surface of a panel to thereby secure the top and bottom panels together.

2,977,836
MUSIC INSTRUCTION DEVICE
Boris M. Lang, 142 Garth Road, Scarsdale, N.Y.
Filed Dec. 26, 1957, Ser. No. 705,205
5 Claims. (Cl. 84—471)



1. A music instruction device comprising in combination, a board-like member having designations thereon representing a portion of a piano keyboard and the white and black piano keys thereof, and having other designations representing staffs with bass and treble clefs and staff lines above and below said staffs, said staffs and lines being aligned with the corresponding piano key designations of the said keyboard portion; a representation of a ladder on said board-like member having rungs aligned with those notes of the keyboard representation which make up the scale of the key of C, the rungs of the ladder which are aligned with adjoining white keys being spaced closer together than the remaining ladder rungs, and an elongated movable piece having a plurality of alternately staggered indicia suggestive of feet extending laterally thereof, and said piece is adapted to be positioned on said ladder so that said indicia are positioned in alternate staggered relation to the rungs.

2,977,837
EXPLOSIVELY EXPANDABLE CHEMICAL RIVET WITH COMPACTIBLE SEALING MEANS
Bruno Furial, Jr., Kinnelon, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 3, 1958, Ser. No. 746,446
3 Claims. (Cl. 85—40)



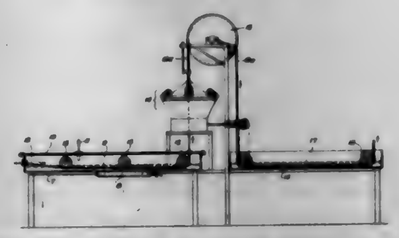
1. A sealed chemically-expandable rivet comprising a head portion, a shank member having a central longitudinal recess affixed to said head portion, an explosive charge within said recess, and sealing means atop said explosive charge, the outer end of the shank recess having a portion of gradually reduced diameter, said sealing means comprising a substantial layer of finely-divided non-explosive, compactible metal powder fixed within the larger portion of said recess and of a length which, upon firing of the rivet, will compact into a solid plug within said central longitudinal recess.

2,977,838
SQUARE-RECESSED SCREWS AND PUNCH MEANS FOR MAKING SAME
Louis Oesterreicher, Teaneck, N.J., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Sept. 29, 1957, Ser. No. 685,186
8 Claims. (Cl. 85—45)



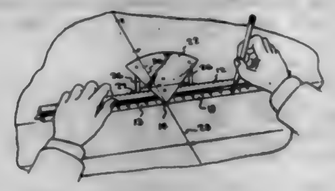
1. A screw-threaded fastener having an axially extended driving recess formed in one end thereof by punching with a single blow at room temperature, the major and outermost portion of said recess being defined by a plurality of flat driving faces respectively disposed substantially parallel to the central axis of the fastener and intersecting at substantially right angularly defined corners, said faces being axially extended in converging fashion beyond the said major portion to define a point at the innermost end of the recess, the degree of convergence of the respective faces to the central axis of the fastener being substantially 45 degrees and the corners of the intersecting flat faces being rounded only on the converging portions thereof.

2,977,839
NYLON TUBING WITH BRAIDED COVER AND METHOD OF MAKING
Robert B. Koch, Reading, Pa., assignor to The Polymer Corporation, Reading, Pa., a corporation Pennsylvania
Filed July 28, 1958, Ser. No. 751,268
25 Claims. (Cl. 87—1)



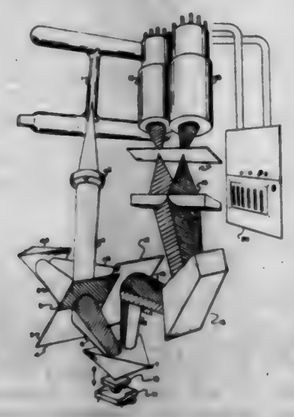
1. The method of applying a braided textile covering to the surface of nylon tubing, the covering being chosen from the class consisting of high molecular weight synthetic linear polyamide and polyester textile fibres, which method comprises passing the tubing through a bath of a solvent agent for the tubing adapted to plasticize the surface thereof, then applying the said fibres by passing the tubing through a braiding machine while the surface is still plasticized, and passing the braided tubing through an aqueous bath adapted to remove excess solvent and cure the product.

2,977,840
RIGHT ANGLE AND RADIAL LINE PLOTTING INSTRUMENT
George E. Ducio, 1883 Hope St., San Luis Obispo, Calif.
Filed Aug. 14, 1959, Ser. No. 833,721
7 Claims. (Cl. 88—2.2)



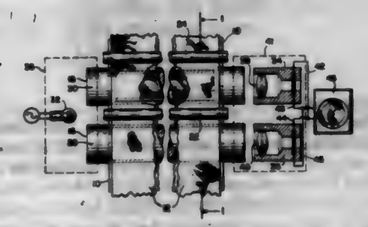
1. A drawing instrument comprising a straight-edged ruler provided with scale markings along an edge thereof and with a zero mark at the intermediate portion thereof, said scale markings increasing in numerical value on opposite sides of said zero mark, a sector-shaped mirror secured to said ruler and rising vertically from said edge in a plane containing said edge and with its vertex located substantially at said zero mark, and a substantially semicircular protractor secured to said ruler and contained in the bottom plane of the ruler, the center of said protractor substantially coinciding with the vertex of said mirror.

2,977,841
INTERFEROMETER OPTICAL SYSTEM
John Kaufmann, Johnson City, and Woodrow L. Hayes, Binghamton, N.Y., assignors to General Precision, Inc., a corporation of Delaware
Filed Sept. 12, 1956, Ser. No. 609,467
20 Claims. (Cl. 88—14)



1. A measuring apparatus comprising a reversibly movable member whose net change of position is to be measured, a light source providing a light beam, optical means including a half reflecting member for splitting said light beam having a partial coating with a determined thickness for providing a phase shift between one portion of said split beams, recombining means responsive to said partially phase shifted split beams for forming by interference two fields of illumination whose intensities vary cyclically as a function of the position of the movable member, the illumination of said two fields being out of phase so that transition through complete intensity ranges occur for the two fields in different position regions of said movable member, and a counter actuated by variations of both fields in one phase relationship to effect a count in one direction and by variations of both fields in opposite phase relationship to effect the count in the other direction, said counter being unresponsive to variations of one field alone, whereby the position of said movable member is uniquely determined by the net number of changes of state in both fields.

2,977,842
MEASURING METHOD AND APPARATUS
John A. Duke, Roslyn, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 6, 1958, Ser. No. 753,572
6 Claims. (Cl. 88—14)



1. Apparatus for measuring the moisture content of a moving sheet, comprising a first sapphire rod having a peripheral surface and two end surfaces, a second sapphire rod substantially identical to said first rod, said first rod being adapted to have only a portion of its peripheral surface in surface-to-surface relation with said sheet, said second rod being out of surface-to-surface relation with said sheet, the portion of the peripheral surface of said first rod adapted to be out of surface-to-surface relation with said sheet being coated with a reflective material, the peripheral surface of said second rod being coated with a reflective material, a light source disposed so as to direct equal amounts of light on one end of each of said first and second rods, and first and second light responsive means disposed adjacent the other end of said first and second rods, respectively, to respond to the light emanating from said other ends of their associated rods.

2,977,843
APPARATUS FOR AIMING LAMPS
Richard N. Graeber, Mount Clemens, and Glenn E. Wanttaja, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 27, 1958, Ser. No. 769,692
5 Claims. (Cl. 88—14)



1. Apparatus for aiming a headlamp assembly installed in a vehicle and of the type comprising a fixed lamp support secured to the vehicle, a light source, and plural spaced adjustable aiming fasteners selectively movably mounting said light source on said support; said apparatus comprising a fixed reference plane, a fixed station opposite said plane in which said vehicle may be placed in a datum position relative to said plane, means for adjusting said light source relative to said support until the direction of the beam emitted from said source is in a predetermined known position relative to said plane, said means comprising light-responsive means on said reference plane indicative of light beam direction, and auto-

matic fastener-adjusting means acting on said aiming fasteners to adjust said light source relative to said support in response to a signal from said light-responsive means.

2,977,844
EQUIPMENT FOR PRODUCING PANORAMIC PICTURES
Robert A. Winkler, 402 E. Huston St., New York, N.Y.
Filed Mar. 28, 1957, Ser. No. 649,058
2 Claims. (Cl. 88—16.6)



1. A system of producing wide angle panoramic projected pictures consisting of a plurality of joined component pictures projected on an arcuate projection screen, comprising a light source; a film with two separate picture areas in each frame thereof, each picture containing a section of the scene photographed placed 90° from the scene's norm in head to tail relationship on the frame of the film, said film positioned to receive illumination on one side thereof from the light source; a single projection lens positioned on the other side of the film to receive the light transmitted through a frame of the film projecting a single beam forming an aerial image of both separate picture areas of a frame; an anamorphic lens arrangement consisting of two halves of an anamorphic lens which are positioned side by side with the widest portion of one half of the lens positioned at the bottom and the widest portion of the other half of the lens positioned at the top whereby each half is capable of distorting an aerial image along a vertical plane; two halves of the said anamorphic lens further positioned to receive the single beam from the projection lens in a manner so that only that portion of the beam carrying the aerial image of one picture area enters one half of the anamorphic lens and only that portion of the beam carrying the aerial image of the other picture area enters the other half of the anamorphic lens; two first deflecting means positioned to receive the beam from the anamorphic lens arrangement, each of the first deflecting means adapted to separately deflect horizontally and in a direction away from each other the portion of the beam emanating from each of the two halves of the anamorphic lens; secondary projection lens positioned in the path of each separately deflected beam; a second deflecting means positioned in the path of each separately deflected beam; the second deflecting means positioned in the path of one beam consisting of a first mirror deflecting one of the separately deflected beams 90° downwardly and further consisting of a second mirror deflecting the same beam 90° horizontally towards one section of an arcuate projection screen; the second deflecting means positioned in the path of the other beam consisting of a first mirror deflecting the other separately deflected beam 90° upwardly and further consisting of a second mirror deflecting the same beam 90° horizontally towards another section of an arcuate projection screen.

2,977,845
DISPLAY SYSTEMS, DEVICES, AND PRODUCTS EMPLOYING POLARIZED LIGHT
Philip Boone, 15 Fenwick Road, Winchester, Mass.
Filed Oct. 14, 1955, Ser. No. 540,460
19 Claims. (Cl. 88—24)

1. A system employing polarized light for providing an animated image, said system comprising a light source for projecting light rays along an optical axis of said system, optically anisotropic filter means positioned on said optical axis in the path of said light rays, adjustable means for varying the position and, accordingly, the anisotropic characteristics of said anisotropic filter means, an assembly comprising a plurality of superimposed light-transmitting layers positioned on said optical axis in said path of light rays and at least three light-polarizing



images, each printed on an individual surface of said layers, said images having relatively different light-polarizing directions and each of said images being formed of a dichroic material and providing sequentially one visible image component of an animation sequence of images when its light-polarizing direction is properly oriented with respect to a principal direction of said anisotropic filter means during variation of the anisotropic characteristics of the latter.

2,977,846
OPTICAL PROJECTION APPARATUS
Jacques Pettavel, Geneva, Switzerland, assignor to Société Genevoise d'Instruments de Physique, Geneva, Switzerland, a firm of Switzerland
Filed Sept. 8, 1959, Ser. No. 838,704
Claims priority, application Switzerland Sept. 29, 1958
2 Claims. (Cl. 88—24)



1. In an optical apparatus for simultaneously illuminating the outlines of two parallel planes of a three-dimensional body including a support for said body, means carried by said support for illuminating simultaneously said outlines and a common screen on which the image of said outlines are superposed, the provision of two flat jaws carried adjustably by the support and extending in a common plane parallel with said parallel planes at mid-distance between the latter to either side of the location of the three-dimensional body with a large clearance between them and the latter and two series of elongated flat mirrors carried by said jaws respectively to face one of the first-mentioned parallel planes and adapted to extend over the clearance between the jaws into substantial contact with the three-dimensional body, each mirror including a flat glass member lying in contacting relationship with the corresponding jaw and adapted to form a virtual image of the illuminated outline in said first-mentioned plane in the other first-mentioned plane in superposition with the image of the illuminated outline in said other first-mentioned plane

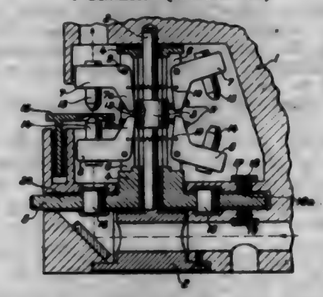
and a magnet carrying the glass member on the side facing away from the jaw and the poles of which extend into close proximity with the jaw to ensure magnetic adherence of the mirror to the corresponding jaw and an objective system collecting the light rays produced by the superposed images and focusing final images of the latter on the common screen.

2,977,847
OPTICAL SYSTEM FOR MICROSCOPES OR SIMILAR INSTRUMENTS
Jurgen R. Meyer-Arendt, Columbus, Ohio, assignor, by mesne assignments, to The Ohio State University Research Foundation, Columbus, Ohio, a corporation of Ohio
Filed Apr. 29, 1957, Ser. No. 655,550
2 Claims. (Cl. 88—39)



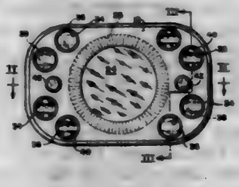
1. In a microscope having an eyepiece, an objective lens and a specimen-supporting stage arranged in relatively spaced relation to one another and defining an optical axis for said microscope, and a light source and condenser disposed in relatively spaced relation to one another and arranged normally to project light rays into the optical field of said microscope; that improvement which comprises a body positioned between said light source and said condenser and provided with a narrow light-transmissive slit arranged to define a substantial pin-point source of light for passage through said condenser and into the optical field of said microscope, in combination with a schlieren grating positioned along the optical axis of said microscope between the eyepiece and objective lens thereof and having alternating light-absorbing and light-transmissive areas thereon adapted to superimpose a plurality of finite lines upon an image of a specimen viewed through the eyepiece of said microscope.

2,977,848
DEVICE FOR SIMULTANEOUSLY EXCHANGING OPTICAL SYSTEMS
Otto Malfeld, Wetzlar (Lahn), Germany, assignor to Ernst Leitz Gesellschaft mit beschrankter Haftung, Wetzlar (Lahn), Germany
Filed Oct. 2, 1959, Ser. No. 844,014
Claims priority, application Germany Oct. 3, 1958
4 Claims. (Cl. 88—39)



1. A device for exchanging an optical system arranged in paired relation for another optical system arranged in paired relation, comprising, in combination, a rotatable shaft, a rotor on said shaft, said rotor having an upper portion, a manually movable rotary disk and a plurality of bars interconnecting said upper portion and said rotary disk, a first optical member of one optical system, an angle-shaped holder pivotally journalled between two of said bars and encompassing said first optical member at one end thereof, a second optical member of said same optical system arranged below said first member, another angle-shaped holder pivotally journalled between two of said bars and encompassing said second optical member at one end thereof, and a curved control member on said shaft for bringing said optical members into coaxial operating position, said curved control member having the form of a disk with a heart-indent shaped recess for engagement with the holders of said first and second optical members, said holders being spring-urged against said curved control member.

2,977,849
OPTICAL ELEMENT HOLDER ASSEMBLY
Alexander A. Wassel, Buffalo, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 23, 1958, Ser. No. 769,271
5 Claims. (Cl. 88—57)



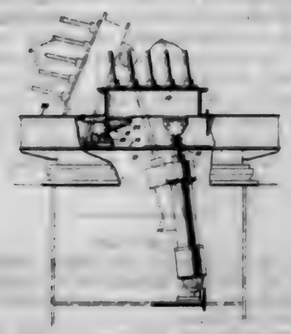
1. An optical element holder assembly comprising a frame, a plurality of stepped bores through said frame, an optical element seated on a shoulder formed between adjacent bores, an annular retaining ring of shock absorbing plastic threadably engaged with one of said bores for holding said element against said shoulder, and magnetic means having pole faces on opposed surfaces of said frame for mounting said frame on a metallic surface.

2,977,850
REFLEX-REFLECTING SCREEN
Robert C. Vanstrum, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 23, 1959, Ser. No. 801,406
3 Claims. (Cl. 88—82)



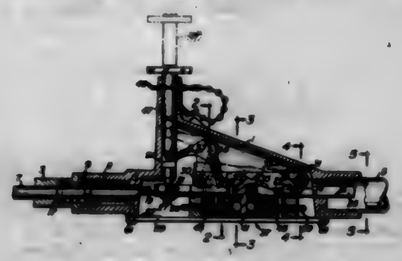
1. A brilliantly reflex-reflecting sheet material characterized by exhibiting substantially equal observed brilliance of reflex-reflection throughout angles from normal to 85 degrees from normal, and being easily cut to size and particularly adapted for use in forming screens as herein described, said sheet material comprising a continuous backing member, a layer of relatively rigid particles in the range of about ¼ inch to 200 mesh firmly bonded to said backing, and a multitude of minute reflex-reflecting complexes bonded over the projecting side and top surfaces of said particles, said complexes comprising transparent glass beads of a refractive index of approximately 1.9 with reflective means optically associated with the underlying extremities thereof.

2,977,851
THRUST BEARING ASSEMBLY
Sidney Hersh, Silver Spring, and John J. Lacombe, Landover Hills, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 16, 1953, Ser. No. 349,329
4 Claims. (Cl. 89—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A transverse load transmitting and mounting apparatus for connecting the firing platform of a charge projector to the base ring structure thereof comprising a trunnion bearing assembly, a base ring bracket, a firing platform bracket partially embracing said base ring bracket, and a trunnion shaft connecting said brackets to one another in tiltable relation, and means for transmitting an unbalanced transverse load imposed on the hinge, said means including a trust screw in longitudinal alignment with said trunnion shaft and having a bearing face adjacent one end of the shaft, a plurality of discs interposed between said firing platform trunnion bracket and said bearing face, and a socket connected to the base ring structure for receiving said thrust screw, said thrust screw being longitudinally adjustable in said socket with respect to the firing platform bracket and serving to bypass an unbalanced transverse firing load around the trunnion bearings to the base ring structure.

2,977,852
TRIGGER MECHANISM
Milton J. Reuwer, Baltimore, and Bernhard Rogge, Baldwin, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 6, 1959, Ser. No. 844,831
3 Claims. (Cl. 89—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A trigger mechanism comprising a casing, a firing pin slidably mounted in said casing, said firing pin having a shoulder thereon and an extension bar extending rearwardly of the firing pin having a hook at the end thereof, a firing pin spring compressed between said casing and said shoulder and adapted to drive said firing pin forward, said hook extending substantially at right angles to said firing pin, an opening through said extension bar, a locking pin slidably mounted in said casing and having its axis substantially at right angles to the axis of said firing pin and having one end positioned to enter said opening when the firing pin is in its cocked position and the locking pin is in its safe position, a cocking link pivotally mounted in said casing and having a first leg engaging said locking pin and a second leg positioned to engage said hook, said link being so positioned that when said locking pin is pushed to its safe position, said cocking link will push against said hook and retract said firing pin against the force of said firing pin spring to its cocked position, latch means adapted to engage said firing pin and hold it in said cocked position, and manually operated firing means adapted to release said latch means.

2,977,853
WEAPON DELIVERY METHOD AND MEANS
George R. Gehrkens and Frank G. Compton, Columbus, Ohio, assignors to North American Aviation, Inc.
Filed Dec. 1, 1955, Ser. No. 550,332
3 Claims. (Cl. 89—1.5)

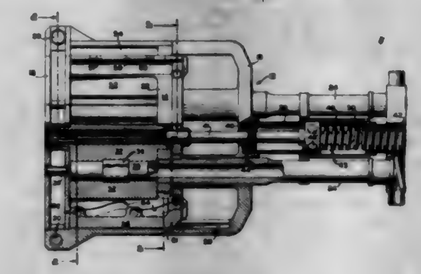


3. In combination with an airplane having a fuselage portion provided with an opening at the aft end thereof, at least four spaced fuselage longérons defining an armament tunnel which extends a substantial portion of the length of said airplane fuselage, a weapon supported by at least two of said spaced longérons and positioned forwardly within said armament tunnel, at least one generally cylindrical fuel container supported within said armament tunnel by at least two of said spaced longérons and attached to the aft end of said weapon, fuel transfer means provided with quick-disconnect components and operatively connecting each said fuel container with the power plant of said airplane, and ejection means located adjacent said longérons and arranged in engagement with said weapon whereby said weapon and the fuel containers attached thereto may be forcibly moved rearward through said armament tunnel and outward through said fuselage aft end opening, at least two of said spaced longérons being arranged in supporting and guiding relation at one side of the weapon and fuel container assembly and at least two of said spaced longérons being arranged in supporting and guiding relation along the opposite side of said weapon and fuel container assembly.

2,977,854
SINGLE-SPROCKET TWIN-BARREL GUN
Eugene S. Wassel, La Grange, and Kenneth G. Johnson, Aurora, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 29, 1957, Ser. No. 662,551
2 Claims. (Cl. 89—13)

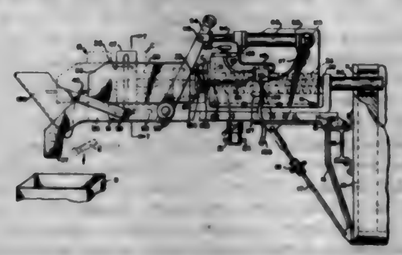
1. In a gun provided with a pair of barrels for the discharge of cartridges therethrough, a piston actuated longitudinally from a battery to a forward position by the force of the discharge, a spring for biasing the piston to the battery position, a device for converting the longitudinal movement of the piston to sequential rotation thereof to a plurality of index positions and a member for supporting the barrels, the combination including a pair of belts for linking together a plurality of the cartridges, a sprocket connected to the piston for sequential rotation thereby to the index positions, a plurality

of teeth projecting from said sprocket for sequentially engaging the cartridges in said pair of belts for delivery to firing stations respective to the pair of barrels when said sprocket is sequentially rotated to the index positions, said teeth being disposed to partially inclose the cartridges engaged thereby when in the firing stations, a pair of shuttles mounted to the support member for sliding lateral reciprocation between engaged positions wherein said shuttles are respectively engaged with pairs of said teeth and an open position for passage of the cartridges engaged by said sprocket past said pair of shuttles, semicylindrical recesses disposed respectively in said shuttles for cooperation with pairs of said teeth to form chambers for the discharge of the cartridges when in the firing stations, portions of said shuttles on said opposite sides of said recesses curved to coincide with



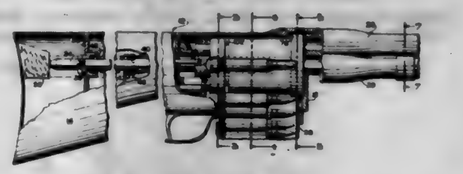
the engaged portions of said teeth to increase the area of engagement therebetween, a pair of wedges mounted to the support member for sliding placement between the ends of said shuttles and the adjacent sides of said support member to secure said shuttles in the engaged positions, an actuator mounted to the support member for sliding movement therein, a bearing member for connecting said actuator to the piston for longitudinal reciprocation therewith, and a cam device operationally disposed between said actuator, shuttles and wedges whereby through the operation of the piston said shuttles are actuated to the engaged positions thereof after said sprocket is rotated to an index position and said wedges are moved to block said shuttles in the engaged positions.

2,977,855
KILN GUN
Robert T. Catlin, Trumbull, and Arthur J. Landa, Shelton, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed Mar. 27, 1958, Ser. No. 724,287
7 Claims. (Cl. 89—24)



1. A firearm comprising in combination a cradle assembly, a recoiling barrel assembly slidably mounted on said cradle assembly, said recoiling barrel assembly comprising a yoke, said yoke having a transverse breech block passage therein, a barrel engaged in said yoke and having a shell receiving chamber opening into said passage, and a breech block slidably movable in said passage to open and close said chamber; a shell firing mechanism comprising a firing pin and resiliently urged firing pin actuating means mounted in said breech block, sear means for controlling the release of said firing pin actuating means, and interengaging means cooperating between said breech block and said sear means to automatically release said firing pin actuating means as said breech block is moved to closed position, power means for operating said breech block between open and closed positions with respect to said shell receiving chamber and control means for said power means said control means comprising a first control unit manually actuatable to cause said power means to move said breech block from the open to the closed position with respect to said shell receiving chamber and actuate said shell firing mechanism, and a second control unit operated by completion of a recoil-counter recoil cycle of barrel movement to actuate said power means to move said breech block from the closed to the open position automatically in response to the firing of a shell in said chamber, said second control unit comprising a first member mounted on said barrel assembly and a second member mounted on said cradle assembly and operatively engageable by said first member.

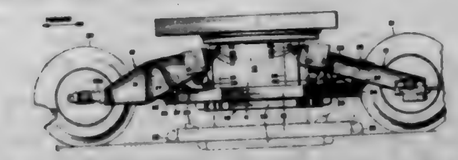
2,977,856
FEEDING MECHANISM FOR A SALVO GUN
David C. Fletcher, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 9, 1956, Ser. No. 621,488
2 Claims. (Cl. 89—33)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. For a shoulder firearm having a receiver, a plurality of barrels with chambers for cartridges and a gas-actuated operating rod reciprocable between a normal and a recoil position, a feeding mechanism including a rotor rotatably mounted in the receiver, a plurality of secondary chambers disposed in said rotor according to the arrangement of the axes of the barrels so as to be simultaneously alignable therewith, a magazine for biasing a plurality of cartridges therein upwardly, a magazine well in the receiver for mounting said magazine thereto and for delivering the cartridges from said magazine to said rotor, means for admitting the cartridges in said magazine well into said secondary chambers when aligned therewith, cam means on said operating rod and said rotor for rotating said rotor so that all of said secondary chambers are movable into communication with said magazine well during actuation of the operating rod and for aligning said secondary chambers with their respective barrels when the operating rod is in the normal position, an ejector for prying fired cartridge cases from said secondary chambers before said secondary chambers are rotated into communication with said magazine well, a port in the receiver for ejecting the cartridge cases pried out of said secondary chambers from the firearm, and pivotal means for mounting said ejector whereby said ejector is pivotable out of the way by the camming engagement

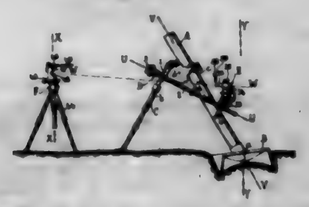
thereof with the cartridges loaded in said secondary chambers during counterrotation of said rotor.

2,977,857
CARRIAGE FOR A MOBILE MISSILE MOUNT
Robert E. Carlberg, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 22, 1954, Ser. No. 425,056
4 Claims. (Cl. 89—40)
(Granted under Title 35, U.S. Code (1952), sec. 266)



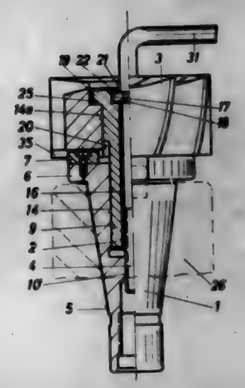
1. A carriage for a mobile missile mount or the like comprising a platform, a pedestal mounted on the platform and provided with forward and after portions defining inwardly and upwardly inclined slots, a lead bogie frame and a follower bogie frame each having an outer wheel-supported end portion and an inner pivotal end portion, said pedestal slots receiving the pivotal end portions of said bogie frames, means releasably securing said pivotal end portions against removal from said pedestal slots, and hydraulic means releasably connected between said platform and said bogie frames for vertically moving the platform between a lowered ground-engaging position and an elevated position clear of the ground for travel.

2,977,858
AIMING DEVICE FOR MORTARS
Joseph Raymond Jasse, Paris, France, assignor to Hotchkiss-Brandt, Paris, France, a body corporate of France
Filed July 16, 1958, Ser. No. 749,011
Claims priority, application France July 18, 1957
7 Claims. (Cl. 89—41)



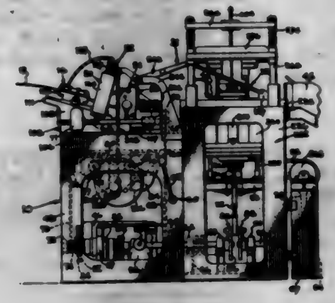
1. A firearm including at least one rotatable portion mounted rotatably about a vertical axis and a barrel connected with said rotatable portion and the longitudinal axis of which may be inclined relatively to said vertical axis; an aiming apparatus comprising in combination: a reference device spaced from said vertical axis and of a relatively small length compared with the distance thereof from said vertical axis to determine whether a line of sight passing close to said vertical axis is perpendicular to said reference device, and an aiming device comprising a support element which is rigidly and laterally connected with said rotatable portion, a rectilinear slideway fixed on said support element so as to be oblique with respect to the longitudinal axis of the gun barrel both in vertical direction and in horizontal direction, a slide movable along said slideway, and a sighting device with a line of sight carried by said slide, so that the displacement of the latter along said slideway makes it possible to reduce the distance in plan from said line of sight to said vertical axis of rotation of the rotatable portion of the firearm to a value which is, at most, equal to the length of the reference device.

2,977,859
CHUCK FOR MACHINE TOOL
Hermann Glaser, Basel, Switzerland (% Patentanwalt, Adolf O. Bergtein, Bayerstr. 35-37, Munich 15, Germany)
Filed Oct. 28, 1957, Ser. No. 692,971
Claims priority, application Germany Nov. 2, 1956
3 Claims. (Cl. 90—11)



1. A cutter chuck device for removable fastening of a milling cutter on the milling spindle head of a machine tool comprising, a cutter receiving arbor having a conical surface at one end which guides and supports said arbor in central position by engagement with a matching surface of a conical opening in the milling spindle head, said arbor having at the other end thereof a support flange for a milling cutter and a central longitudinal guide bore extending along a major portion of the arbor axis and which has a communicating threaded axial bore at the inner end thereof, a milling cutter adjacent said support flange and in contact therewith at the inner cutter end face, an axial guide bore extending through said cutter, and a supporting ring face adjacent said bore at the outer cutter end face, a sleeve-like supplemental cutter arbor fitted within the guide bores of the cutter and cutter receiving arbor to accurately hold the cutter in central engagement with the cutter receiving arbor, said supplemental cutter arbor having external cylindrical portions which accurately fit the central guide bore surfaces, a longitudinal bore through the supplemental cutter arbor which is aligned with the threaded axial bore of the cutter receiving arbor and has a supporting ring face adjacent the cutter end of the bore, and a holding end flange on the supplemental cutter arbor which engages the cutter supporting ring face to hold the cutter in position against the cutter receiving arbor, a head bolt extending through the bore of the supplemental arbor for holding the supplemental arbor in position having a head which bears against the supporting ring face of the supplemental arbor and a threaded section at its other end which engages the threaded bore of the cutter receiving arbor to place the bolt shank in tension, said supplemental cutter arbor thereby holding the cutter and said cutter receiving arbor assembly in an exactly rigid centered position with respect to the milling spindle head, and movement transferring means between the cutter receiving arbor and the milling cutter.

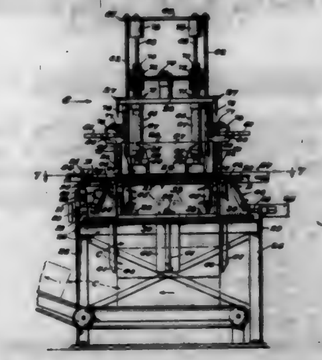
2,977,860
MACHINE FOR PRODUCING CONTAINERS
Vincent D. Hery, Norwood, Ohio, assignor to The American Tool Works Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 4, 1957, Ser. No. 663,396
27 Claims. (Cl. 93—47)



2. A machine for forming a folded container, said machine comprising a movable support plate, means adapted to receive a notched rectangular blank and to deposit said blank upon said support plate, a forming block mounted above said support plate, means for bringing said forming block into engagement with said support plate whereby said blank is clamped between the support plate and forming block, means for shifting said forming block and support plate in a vertical plane, primary wall forming means for engaging the marginal portions of said blank as said forming block moves downwardly, said primary wall forming means being effective to bend said marginal edges of the blank upwardly to form upstanding side and end walls and corner flaps interconnecting the side and end walls and extending outwardly beyond the end walls parallel to the side walls, a corner folding mechanism disposed beneath said primary wall forming mechanism and engageable with said flaps after said blank has become disengaged from said primary wall forming means, said corner folding mechanism being effective to fold said corner flaps inwardly against said end walls, and lip folding means disposed beneath said primary wall forming means and actuated after the actuation of said corner folding mechanism to fold the upper portions of said end walls outwardly over said flaps, said folded upper portions being engaged by said primary wall forming means and folded downwardly upon return movement of said forming block.

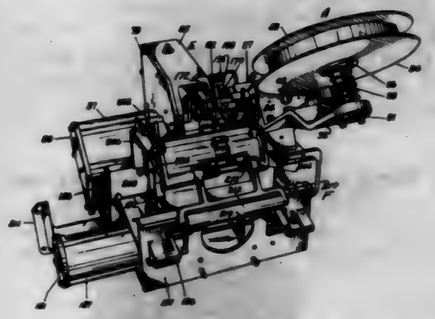
2,977,861
CARTON MAKING MACHINE
Alex S. Gibb, Bradenton, Fla., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 28, 1958, Ser. No. 736,600
18 Claims. (Cl. 93—51)

1. In a machine for constructing a carton from a blank having a rectangular body, side and end flaps joined to said body, and corner flaps joined to said side flaps; a vertically fixed rectangular open throat frame to underlie said body, said throat frame having shiftably mounted upstanding side members adjustable inwardly and outwardly according to the width of said body, said throat frame also having shiftably mounted upstanding end members adjustable inwardly and outwardly according to the length of said body, means for securing said side and end members in fixed operational positions after positional adjustment thereof, corner flap folders hingedly mounted on the ends of said end members and shiftable bodily with these end members when positionally adjusting the same, said corner flap folders being operable to fold said corner flaps upwardly from said side flaps, side flap folders hingedly mounted on said side members and shiftable bodily with these side members when positionally adjusting the same, said side flap folders being operable to upwardly fold said side flaps



and thus inwardly swing the upwardly folded corner flaps, and a plunger for then depressing the partly folded blank into said throat frame to cause upward folding of said end flaps against the inwardly swung corner flaps.

2,977,862
TAGGING APPARATUS
Carmelo A. Di Maggio, Waltham, James W. Healy, Wakefield, and Ralph M. Lamande, Jr., Wayland, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed May 20, 1958, Ser. No. 736,571
9 Claims. (Cl. 93—67)



1. Apparatus for automatically applying a tag with a displaceable tab to the edge of an item, comprising feeding means for supplying a string of connected tags, advancing means incorporating a forward and return cycle for intermittently advancing said tags during said forward cycle, punching means for displacing the tab of each of said tags, cutting means for separating each leading tag from said string of tags, carriage means for moving the separated tag forward beyond the position of said cutting means and comprising a housing member, an actuating element located and movable within said housing member, means for holding the cut and punched tag for engagement with said item, and means for moving said carriage; platform means for positioning the item to be tagged into tagging relationship with said tag before said tag has been moved forward, means associated with said carriage means for returning the displaced tab into its original position thus engaging the tag on to the edge of said item, said punching, cutting, and carriage means being so positioned and coordinated with relation to each other that they perform their functions concurrently on contiguous tags during the return cycle of said advancing means.

2,977,863
PLASTIC COMPOSITION FOR FLOOR COVERING AND METHOD OF APPLYING SAME
John G. Jesse, 4 Franklin Ave., Toronto, Ontario, Canada
Filed Jan. 10, 1956, Ser. No. 558,399
1 Claim. (Cl. 94—3)



In combination with a floor, a covering thereon comprising a three layered plastic composition including a bottom layer of substantially the following formulation:

1 gallon of an emulsion of a copolymer of methyl methacrylate and ethyl acrylate,
3 gallons of fine screened sand,
¾ gallon of Asbestine,
1 gallon of asbestos fiber,
¼ gallon of iron oxide color,
2 gallons of water, and
0.1% total ingredients, of an anti-foam agent;

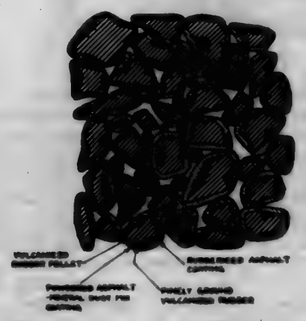
an intermedate layer of substantially the following formulation:

2 gallons of said copolymer emulsion,
4 gallons of fine white silica,
⅔ gallon of Asbestine,
⅓ gallon of iron oxide color,
1 gallon of water,
0.1% of total ingredients of an anti-foam agent;

and a top layer of substantially the following formulation:

4 gallons of said copolymer emulsion,
5 gallons of kaolin clay,
½ gallon of fine talc,
½ gallon of iron oxide color,
1 gallon of water,
¼ gallon of a 10% solution of a dispersing agent,
0.1% of total ingredients of an anti-foam agent.

2,977,864
RUBBER COMPOSITION
Harold B. Pullar, P.O. Box 800, Magnolia, Ark.
Filed May 28, 1958, Ser. No. 738,319
7 Claims. (Cl. 94—22)



7. The method of forming a substantially waterproof and weatherproof unitary resilient surface composed principally of rubber, which comprises applying a fluidized rubberized-asphalt composition as a primer to a base to be surfaced, spreading thereover a layer of dust and powdered asphalt coated particle material substantially all of which passes a one-quarter inch mesh screen, comprised of from about 40% to about 60% by weight of vulcanized rubber pellets intimately mixed with from about 15% to about 25% by weight of finely ground vulcanized rubber and all substantially uniformly coated with from about 20% to about 30% by weight of rubberized asphalt having a rubber latex solids content of from about 1% to about 5% by weight and a penetration of from about 50 to about 150 at 77° F., and from about 2% to about 3% by weight of an outermost adherent layer composed of from about 25% to about 75% by weight of mineral dust and the balance powdered asphalt and then subjecting said layer of particle material to compression to compact the particles together and to said base as a unitary mass.

2,977,865
FLASH CAMERA AND REFLECTOR
George Irwin, Chicago, Ill., assignor to Herbert George Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 13, 1958, Ser. No. 766,994
6 Claims. (Cl. 95—11)



1. In a camera having a housing one end portion of which contains the picture taking elements including the lens and shutter in the front wall, a film holder and means for the replacement of film in the housing, said housing embodying in another portion to one side of the picture taking elements a flash assembly comprising an opening in said said front wall, a reflector rectangular in cross section mounted in said front wall opening, the size and shape of the housing selected so the periphery of said reflector is parallel and closely adjacent to the side surfaces and at least one end surface on said housing whereby the camera will be compact and easy to handle, and a closure, said closure movably mounted on said housing so that in one position the closure covers the reflector and protects it from accidental blows and from exposure to the ambient air and in another position the closure uncovers the reflector so it can be used, the top edge of said front wall spaced from the top end of the housing and provided with a planar rearwardly extending horizontal shelf, the upper portions of the walls of the housing, the shelf, and the top of the housing defining a closure receiving opening for protectively receiving said closure so that it may be protected from loss and from accidental damage.

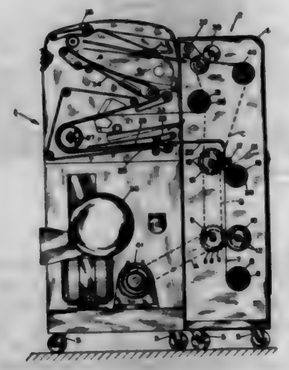
2,977,866
PITCH COMPENSATING CINEMATOGRAPHIC PRINTER
Malcolm H. Ames, Los Angeles, Calif., assignor to Technicolor Corporation, Hollywood, Calif., a corporation of Maine
Filed Mar. 7, 1960, Ser. No. 13,321
5 Claims. (Cl. 95—75)

1. A continuous cinematographic printer comprising a sprocket drum, means for pressing two films together against the sprocket drum in a line of contact, said means comprising two presser wheels engaging the films outside their two rows of sprocket holes respectively, guides for guiding the films to and from said wheels so that the films bear on the presser wheels throughout an arc extending on opposite sides of said line of contact, means for transmitting light to the films in said arc along a path extending between the presser wheels, a movable support for said presser wheels so that they may be moved away from the sprocket drum, and means for detachably mounting the presser wheels on said support so that they may be readily interchanged with wheels of different diameter, said support being movable toward the



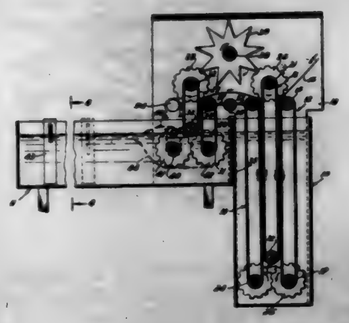
sprocket drum so as to press the films against the drum irrespective of the diameter of the presser wheels, whereby the radius of the arc of contact between the films may be readily varied by interchanging said presser wheels with wheels of different diameter.

2,977,867
MULTIPLE PRINTING MACHINE
John K. Woodworth, 9221 Race St., Thornton 16, Colo.
Filed Sept. 3, 1957, Ser. No. 681,719
2 Claims. (Cl. 95—75)



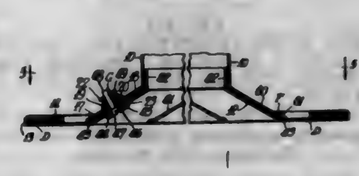
1. Apparatus for simultaneously reproducing information from multiple master strips of non-repetitive lists comprising the combination with a photo-reproducing machine of means for continuously feeding a light-sensitive web from an elongated roll through the photo-reproducing machine, the width of the web being at least equal to the combined widths of the master strips to be printed, a pair of perforating rolls arranged for punching a plurality of alining holes centerwise along the course of each light sensitive strip to be printed prior to its entrance in said photo-reproducing machine, alining rollers mounted between said perforating rollers and said photo-reproducing machine arranged to aline and maintain in contacting position the punched web and a plurality of master strips superimposed across the web whereby the master strips and the web pass simultaneously and essentially without relative movement through the photo-reproducing machine, means for continuously passing the superimposed members through an exposing section of the photo printing machine, means for separating the exposed web and master strips, a rewind shaft mounted adjacent said separating means and arranged to rewind the separate master strips into separate rolls in side by side relation on said shaft, means for passing the exposed web through a developing section, means for slitting the developed web into strips corresponding in width to the master strips, and a wind-up shaft adjacent said slitting means for winding the slitted strips in separate rolls mounted in side by side relation on said shaft.

2,977,868
APPARATUS FOR PROCESSING SHEETS SUCH AS PHOTOCOPIES AND THE LIKE
Emery Dutch, 320 W. 77th St., New York, N.Y.
Filed Oct. 16, 1957, Ser. No. 690,536
5 Claims. (Cl. 95—94)



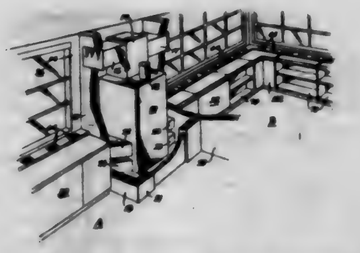
1. In an apparatus for processing sheets such as photocopies or the like, in combination, a tank adapted to contain a treating solution; a shaft extending horizontally across the interior of said tank and supported by said tank for rotation about its axis; a plurality of serrated discs carried by said shaft for rotation therewith and having upper peripheral portions extending above the surface of a treating solution in said tank; drive means operatively connected with said shaft for rotating the latter so that said discs will move sheets delivered thereto successively along the surface of the treating solution in a direction away from said discs; stop means carried by said tank for engaging the leading edge of each sheet before the trailing edge thereof leaves and moves beyond said discs, so that the latter engage said trailing edge of each sheet and submerge the trailing edge of each sheet and then move each sheet in the reverse direction away from said stop means and into the solution.

2,977,869
REMOVABLE CORE AIR DIFFUSERS
Cortland N. O'Day, Port Washington, N.Y.
(% Air Devices, Inc., 17 E. 42nd St., New York, N.Y.)
Filed Sept. 21, 1953, Ser. No. 381,235
1 Claim. (Cl. 98—40)



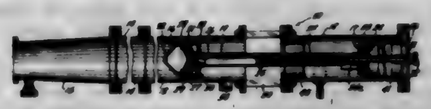
A removable and replaceable core ceiling air diffuser having a square frame to contact and rest against the ceiling, said frame having a square opening with an inwardly converging frustro pyramidal throat serving as a nest-like receptacle, an inwardly directed conduit connected to the most inward narrowest portion of said throat, a removable core having a frustro pyramidal outer shell closely fitting into and clamped against the interior of said receptacle, said core having a plurality of outer inclined louver plates and closely spaced rows of obliquely and oppositely directed inclined vanes inside of and extending parallelly to said louver plates, and slot and fin connections between the outer shell and throat at one side thereof and a rotatable bayonet connection at the other side thereof.

2,977,870
AIR DISTRIBUTION SYSTEM FOR HEATING, COOLING AND VENTILATING
Henry C. Bierwirth and Norman L. Rutgers, Marshalltown, Iowa, assignors to Lennox Industries, Inc.
Filed Apr. 21, 1958, Ser. No. 729,872
2 Claims. (Cl. 98—40)



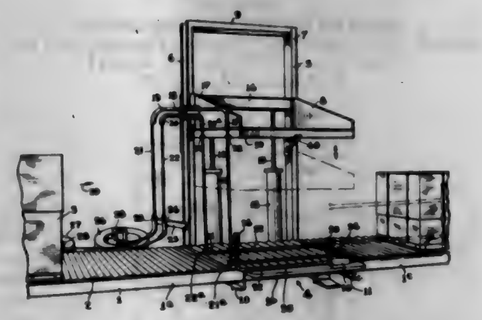
1. An air distribution system for an elongated wall of a room, comprising tubular duct means adapted to extend along substantially the full length of the wall and having an air supply inlet at its one end and being closed at its remote other end, air supply means operative to introduce treated air under a velocity pressure into said duct at its inlet end only, whereby said air is confined within the full length of said duct to establish a predetermined static pressure therein, said duct having a plurality of vent openings disposed at spaced points along the full upper surface thereof, said vent openings being equidistantly spaced from each other and of equal area size, and air directing means comprising identical louver plates mounted in said vent openings and each providing a plurality of parallel vertical louvers disposed at right angles to the longitudinal axis of said duct and thereby to the general direction of air flow within said duct, said air directing means being operative to direct all of the air discharge therethrough in straight and parallel upward paths, wherein the combined, spaced flow areas of said vent openings are restricted relative to the static air pressure within said duct to effect substantially uniform and equal air discharge from each of said louver plates at a combined velocity and mass strength operative to effect as aspiration of surrounding ambient room air and collectively cooperate to form a uniform and upwardly moving curtain of air along the full length of the room wall and independently of natural convection flow of air within the room.

2,977,871
FLUID FLOW COMPENSATING DEVICE
Gerrit Evert Euwe, Vlaardingen, Netherlands, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Oct. 28, 1955, Ser. No. 543,426
Claims priority, application Netherlands Oct. 29, 1954
10 Claims. (Cl. 99—244)



1. Apparatus for delivering quantities of viscous substance intermittently comprising a continuously operating input stage to furnish a substantially continuous flow of substance, an intermittently operating output stage to receive and deliver quantities of the substance intermittently, and an intermediate compensating unit including a chamber, a first piston movable in the chamber to vary the capacity thereof, first conduit means connecting the end of the chamber opposite the piston to the output stage, second conduit means connecting the continuously operating input stage to the chamber through the piston, yieldable drive means continuously urging the first piston to reduce the chamber capacity with a predetermined force including a second piston and a cylinder, means to introduce fluid pressure into the cylinder, and connecting means between the first and second pistons comprising a hollow tube between the pistons and communicating with the chamber through the piston movable therein, said second conduit means comprising said hollow tube and a second tube communicating with the input stage telescopically slidably received in the hollow tube and passing through the second piston in sliding fluid-tight relationship.

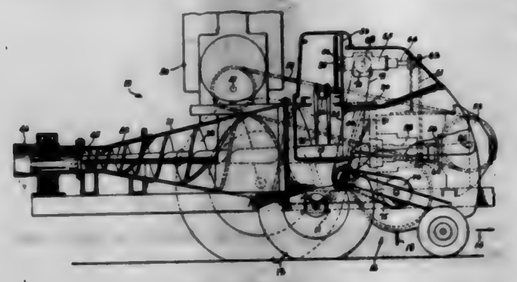
2,977,872
STRAPPING MACHINE
David Allfree, Chicago, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 3, 1960, Ser. No. 12,524
11 Claims. (Cl. 100—17)



11. Strapping apparatus for encircling a flexible strap around a load supported on a pallet of a type having two parallel faces provided with a space therebetween comprising, support means for supporting said pallet at a strapping station, strap guide means for directing a strap downwardly in a suspended substantially vertical position at the strapping station in the path of said pallet, a tine being positioned above the level of the support means and approximately parallel to it, the end of said tine being provided with an opening into which the leading end of a strap suspended from the strap guide means can be inserted for releasably gripping the strap end so that movement of the pallet toward the suspended strap causes the tine and the strap end it grips to be inserted into the space between the two parallel faces of the pallet and causes the strap to bulge in the direction of movement of the pallet and be wrapped along the bottom of the upper face of the pallet and the forward and upper surfaces of the load supported on the pallet.

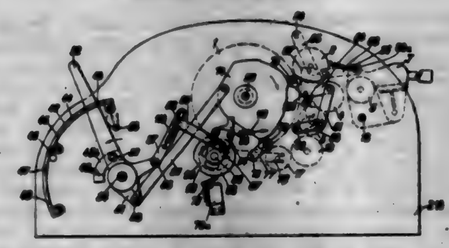
2,977,873
HARVESTER
Jack W. Crane, New Holland, and Alfwin W. Pellett, Honeybrook, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 15, 1959, Ser. No. 813,516
4 Claims. (Cl. 100—142)

1. In combination, an auger rotatable about its longitudinal axis and operable to convey material from a forward end to a rearward end thereof, said auger comprising a shaft and helical flights including a forward flight section, means for delivering material toward said auger shaft and on the side of said forward flight section toward said rearward end of the auger, said delivering means including a feed member operable in a plane perpendicular to said auger shaft and means moving the member into then out of the path of movement of said forward flight section, there being a given clearance space between said member and said flight section where the member first intersects said path of movement, and drive



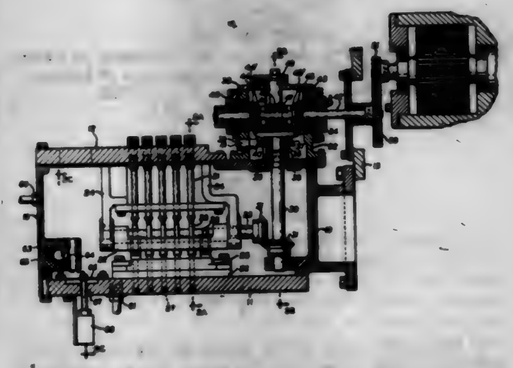
means rotating said auger and moving said delivering means in fixed timed relation whereby said given clearance space between said feed member and said flight section remains substantially constant as the feed member travels across said path of movement.

2,977,874
OPERATION CONTROL ARRANGEMENT FOR DUPLICATORS
Wilhelm Ritzerfeld, Scharlemer Allee 14, Berlin-Dahlem, and Gerhard Ritzerfeld, Franzensbader Str. 21, Berlin-Grunewald, Germany
Filed Oct. 21, 1958, Ser. No. 768,583
Claims priority, application Germany Oct. 25, 1957
14 Claims. (Cl. 101—145)



1. In a rotary duplicator, a control arrangement, comprising, in combination, printing drum means for supporting printing form means; counter pressure roller means cooperating with said printing drum means; roller means for moistening said printing form means; roller means for inking said printing form means, each of said roller means being movable to and from an operative position cooperating with said printing drum means; a manually operated control member connected to each of said roller means and being movable in a forward stroke and in a return stroke between a plurality of positions for moving said roller means in a predetermined order to and from said operative positions thereof; a stationary guide member having a guide slot for guiding said control member for movement between said positions and including a plurality of stops projecting into said guide slot and defining said positions of said control member, said control member being transversely displaceable in said slot for passing said stops; at least one stop member movable between an operative position for projecting into said guide slot for stopping said control member, and an inoperative position; and electromagnetic operating means for moving said stop member during the forward stroke of the control member to said operative position and during the return stroke to said inoperative position, said operating means being operatively connected to said counter pressure roller means and controlled by the same so that said counter pressure roller means and said stop member move simultaneously to said operative and inoperative positions thereof, said electromagnetic operating means including circuit means and a switch in said circuit means, said switch being adapted to be operated by said counter pressure roller means during movement of the same to and from said operative position thereof.

2,977,875
PRINTING MACHINE INK PUMP
Charles A. Harless, Riverside, Conn., assignor to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York
Filed Mar. 3, 1958, Ser. No. 718,829
3 Claims. (Cl. 101—366)

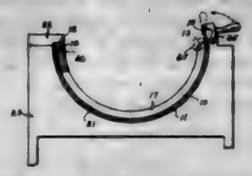


1. Ink pumping mechanism comprising a reservoir having internal partitions defining a plurality of aligned compartments, an ink pumping mechanism within each said compartment and comprising a vertical drive shaft extending upwardly above the compartment, a gear housing having a plurality of corresponding partitions defining a plurality of corresponding compartments and means attaching the same to the reservoir for receiving the upper ends of the said vertical shafts within the said gear housing compartments, a bevel gear carried by each said vertical drive shaft at its upper end and within a said gear housing compartment, shafting extending along the said line of compartments through the partitions in the said gear housing and carrying bevel gears meshing with the first said bevel gears for driving the said vertical shafts, a drive shaft at right angles to the last said shafting and to the said vertical shaft, oppositely facing bevel gears rotatably carried by the last said drive shaft and meshing with one of the bevel gears carried by the vertical drive shafts for driving the ink pumping mechanisms, and a clutch mechanism for selectively coupling the two said bevel gears carried by the last said drive shaft to the said drive shaft for selectively driving the ink pumping mechanism in a forward direction and reverse direction with respect to the last said drive shaft.

2,977,876
PRINTING PLATE CONSTRUCTION
Robert R. Myers, 561 Washington, Chicago, Ill.
Filed Nov. 3, 1958, Ser. No. 771,584
3 Claims. (Cl. 101—375)

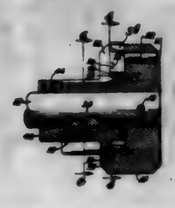
1. In a printing plate, an arcuate backing plate having a plurality of spaced apart permanent finger lugs on one of its side edges, a metal sheet having a plurality of holes in one of its side edge portions detachably embracing said finger lugs respectively, a resilient pad member between that end of the said metal sheet having said

plurality of holes and the side edge of said backing plate having said finger lugs, a hook flange on the other side edge of said backing plate; said metal sheet extending



over the back surface of said backing plate and having its other side edge portion bent over said hook flange, and a printing surface portion on the outer face side of said metal sheet.

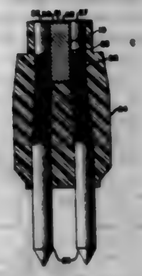
2,977,877
CODE DATER
Robert F. McVicker, Anderson, Ind., assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana
Filed Sept. 28, 1959, Ser. No. 842,701
3 Claims. (Cl. 101—377)



1. In a code dater of the character disclosed, a disc-like date stamp carrier having open, radial date stamp receiving slots in one face thereof to locate date stamps circumferentially, magnetic means for temporarily holding date stamps in said slots against the bottoms thereof, date stamps for said slots having notches in the sides thereof opposite the bottoms of said slots, a date stamp retainer having a flange overlying the date stamps and an annular bead to enter said notches and thereby locate the date stamps radially, and means for normally retaining said retainer in retaining position, said retainer having a notch in the flange thereof movable to a position over any one of the date stamps, said last notch interrupting said bead which cooperates with said last notch for permitting removal of said any one of the date stamps from its slot in the carrier and replacement by another date stamp.

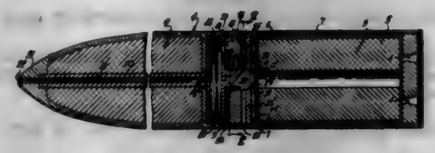
2,977,878
DETONATOR
Christian F. Kinkel and Raymond S. Richards, Chicago, Gary Steven, Oak Lawn, and Walter C. Troy, Evergreen Park, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 13, 1954, Ser. No. 403,941
4 Claims. (Cl. 102—28)

1. An electric initiator for firing a detonator comprising in combination, a casing composed of insulating material, a pair of mutually spaced terminals molded in said casing, a plug arranged within one end of said casing, a pair of highly conductive elements on one end of said plug in proximate spaced relation with respect to each other, a thin titanium line scribed and bonded on said end of the plug in engagement with and bridging said elements for providing a minute longitudinal intermediate bridge portion therebetween, said line having a uniform width and consistency such that the bridge portion is instantaneously heated to incandescence in response to a minute electrical impulse applied to said line, and means on each of said elements in engagement with said pair of terminals respectively for establishing an external elec-



trical connection to said elements thereby to apply said impulse to the line.

2,977,879
ROCKET PROJECTILE
Millard Lee Rice, Annandale, and William P. Barnes, Jr., Alexandria, Va., assignors to Atlantic Research Corporation, Alexandria, Va., a corporation of Virginia
Filed Sept. 18, 1957, Ser. No. 684,819
9 Claims. (Cl. 102—49)

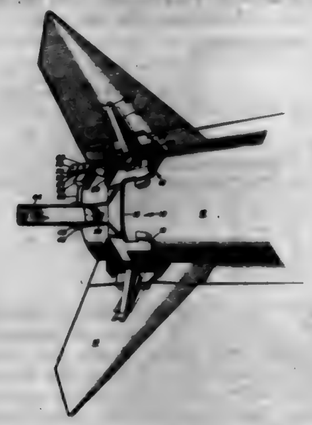


1. In a rocket-assisted projectile designed to travel at substantially constant velocity, a posteriorly positioned combustion chamber adapted to contain a solid propellant charge and having at least one rear nozzle for producing forward thrust by rearward discharge of high-velocity combustion gases, and a floating differential piston axially positioned anteriorly of said combustion chamber, the forward larger face of said differential piston being in open communication with and responsive to ram pressure on the nose of the projectile, and the smaller, rear portion of said differential piston serving as a valve axially and slidably positioned in a port opening posteriorly into the forward end of the combustion chamber, whereby the smaller rear end of the differential piston is acted on and responsive to combustion chamber pressure, said port being of variable cross-sectional venting area and being provided with means for permitting exhaust of combustion gases from said port out the side of the projectile, variation in the cross-sectional venting area of said port and, thereby, the amount of combustion gases venting out the forward end of the combustion chamber through said port, being controlled by the forward or rearward motion of the differential piston in response to variation in ram pressure on the nose of the projectile relative to combustion chamber pressure.

2,977,880
FIN ERECTOR
Richard B. Kershner, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 7, 1959, Ser. No. 804,852
8 Claims. (Cl. 102—50)

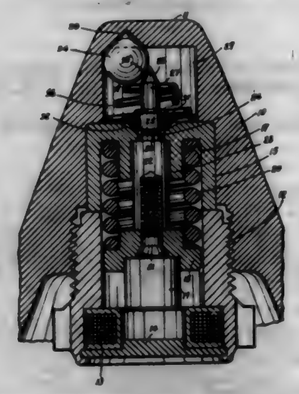
1. In combination with an aerial vehicle having a plurality of folding fins, a jettisonable fin erector for effecting inflight erection of a pair of said folding fins, comprising, a frame straddling said vehicle and positioned

between said pair of fins, a plurality of spring loaded arms pivotally attached to said frame and engageable with said fins to urge said fins to unfold, a lever pivotally attached to said frame and movable into a clamping position to clamp said fins in a folded position against the force



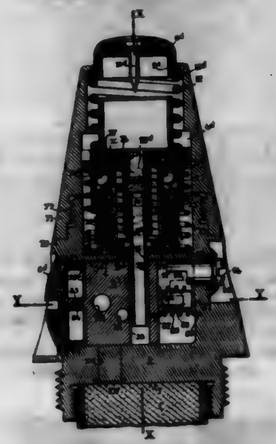
of said spring loaded arms, and an actuator including a mass on said frame for constraining said lever in said clamping position and responsive to the acceleration forces occurring at launch to release said lever from said clamping position, whereby said spring loaded arms will erect said fins and eject said fin erector from said vehicle.

2,977,881
TRIGGER RELEASING MEANS FOR DETONATION MECHANISM
Chester L. Piper, New Haven, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation
Filed Feb. 18, 1955, Ser. No. 489,401
8 Claims. (Cl. 102—70.2)



8. A releasing means for detonation mechanism including a fuze body having a nose portion of relatively hard steel, a spring loaded initiating pin movably mounted within said fuze body and having integral therewith a fracturable portion extending into said nose portion, means including said fracturable portion for retaining said pin in a certain position against tension of its load spring, and an impact energy transmitting member carried in said nose portion of said body engaged with said nose and said fracturable portion at a point out of alignment with the longitudinal axis of said fracturable portion to force said fracturable portion laterally upon target impact and effect the fracture thereof at its connection with said pin, releasing said pin for movement.

2,977,882
PROJECTILE FUZE
Joseph Raymond Jasse, Paris, France, assignor to Societe Nouvelle des Etablissements Brandt, Paris, France, a French body corporate
Filed Oct. 31, 1956, Ser. No. 619,531
Claims priority, application France Nov. 2, 1955
9 Claims. (Cl. 102—74)

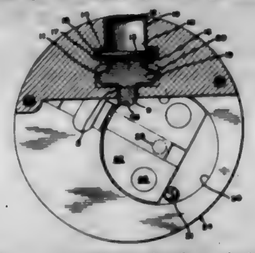


1. A fuze for projectile comprising an elongated body, a firing pin slidable in said body, a priming charge, support means supporting said priming charge in said body for displacement between an unarmed position whereat said charge is free of said pin and an armed position whereat said pin can engage said charge, said body having a chamber disposed rearwardly of said means, a relay charge positioned rearwardly of said chamber and adapted for being ignited by flame passing through said chamber, said means including a rearwardly extending tube adapted for guiding flame from said priming charge toward said chamber; said tube, with said means supporting said priming charge in unarmed position, extending rearwardly into said chamber and, with the priming charge in armed position, being withdrawn from said chamber; flame guiding means displaceable in said chamber but being normally fixed in the latter by said tube, displacement means in the chamber to displace the igniting means with said tube withdrawn, said priming charge being independent of and spaced from said flame guiding means said flame guiding means being provided with instantaneous and delay passages for coupling said tube and guiding the flame from the priming charge to said relay charge in accordance with the displacement of said flame guiding means, and selection means for selectively controlling the displacement of said flame guiding means by said displacement means for selecting instantaneous and delayed firing.

2,977,883
DETENT RELEASE MECHANISM
Norman Czajkowski, Chevy Chase, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 9, 1955, Ser. No. 527,426
5 Claims. (Cl. 102—79)
(Granted under Title 35, U.S. Code (1952), sec. 266)

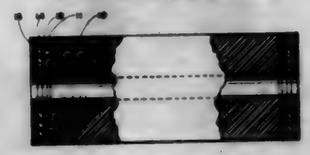
1. In a centrifugally actuated safety device for a spin projectile, in combination, a support, a normally locked arming rotor rotatably supported within said support, a mercury filled collapsible bellows disposed within said support and having a protuberance formed thereon in locking engagement with said rotor, and sintered means connected to the bellows for initially sealing the mercury therein and for passing the mercury only by centrifugal force under high sustained pressure from said bellows in

an amount sufficient to allow contraction of the bellows thereby releasably disengaging said protuberance from



said rotor when a predetermined period of time has elapsed after the projectile has been fired from a gun.

2,977,884
PROPELLANT GRAIN RESTRICTION
Henry I. Mahon, Honolulu, Hawaii, and Merwyn C. Gill, Los Angeles, Calif., assignors, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 11, 1950, Ser. No. 178,816
16 Claims. (Cl. 102—98)



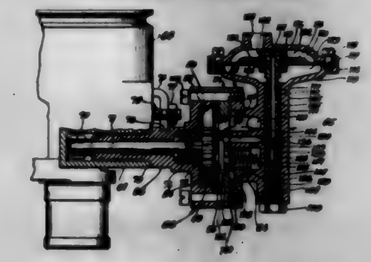
12. In combination, a solid propellant charge which comprises from about 45% to about 90% by weight of a solid, inorganic oxidizing salt and from about 55% to about 10% by weight of an unsaturated polyester resin, consisting essentially of the condensation product of saturated polyhydric alcohol and polycarboxylic acid, heteropolymerized with a lower alkyl ester of a lower alkenoic acid; and a liner covering a portion of said propellant charge which comprises a plurality of fabric layers impregnated and bound together by a laminating resin which consists essentially of an unsaturated polyester resin, which consists essentially of the condensation product of saturated polyhydric alcohol and polycarboxylic acid, heteropolymerized with a lower alkyl ester of a lower alkenoic acid; and a cured layer of an adhesive resin which consists essentially of an unsaturated polyester resin, which consists essentially of the condensation product of saturated polyhydric alcohol and polycarboxylic acid, heteropolymerized with a lower alkyl ester of a lower alkenoic acid; adhering to said propellant charge and to said laminate thereby binding them together.

2,977,885
EXPLOSIVE BOMB OR WEAPON CASING
Henry A. Perry, Jr., Laytonsville, and Russell C. McGill, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 7, 1955, Ser. No. 492,811
14 Claims. (Cl. 102—98)
(Granted under Title 35, U.S. Code (1952), sec. 266)



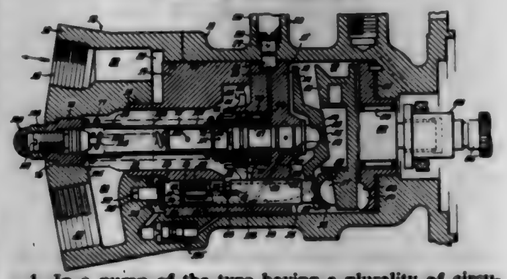
1. A hollow laminated explosive container comprising a plurality of reinforcing aluminum foil laminations bonded together by distinct layers of an explosive binding material, each of said layers comprising a polyhalocarbon selected from the group consisting of polytetrafluoroethylene and polychlorotrifluoroethylene.

2,977,886
FUEL PUMP
Oscar H. Banker, Evanston, Ill., assignor, by mesne assignments, to Fawick Corporation, Cleveland, Ohio, a corporation of Michigan
Filed Apr. 13, 1955, Ser. No. 501,019
7 Claims. (Cl. 103—11)



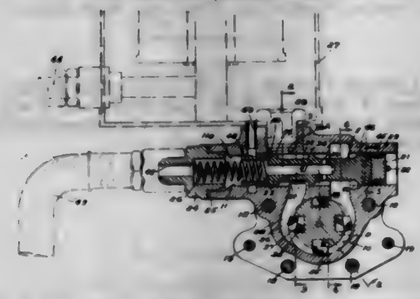
1. A gear type pump comprising a housing having a cylindrical recess therein, a pair of intermeshing gears disposed within said recess, means for driving one of said gears, and means for dividing the recess into inlet and outlet chambers with respect to the gears, said means comprising a resilient deformable shroud disposed within said recess and contacting the tips of the gear teeth over less than 180° of arc of each gear, a side seal plate adapted to contact the sides of the gears on one side thereof, and a side seal plate for sealing the other side of said gears, said second-mentioned side seal plate extending across said cylindrical recess and having an opening therein overlying the outlet chamber of the pump, an axially movable insert inside the opening, means coextensive with the recess and contacting the housing around the periphery of the recess for sealing the insert with respect to the said second-mentioned side seal plate, and means for subjecting the side of the insert opposite the side contacting the gears to the pressure of the fluid in the outlet chamber.

2,977,887
PUMP
Francis E. Northn, Chesterland, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed June 6, 1957, Ser. No. 664,023
5 Claims. (Cl. 103—37)



1. In a pump of the type having a plurality of circularly arranged parallel pistons reciprocated within cylindrical bores by means of a cam plate so as to each have a suction and a discharge stroke, the improvement comprising, an open-ended cavity in each piston, means to vary the effective discharge stroke of each piston, said means comprising a valve carried by each piston and adapted to seat on the open end thereof to close said open end, each valve including a stem portion, means to resiliently urge each valve to its seating position, means adapted to contact each stem portion to thereby unseat each valve during at least a portion of its discharge stroke, said last-named means being interconnected with and being movable by a fluid motor, means connecting said fluid motor to a source of fluid pressure so as to be responsive thereto whereby said contacting means is moved and varies the effective stroke of each piston in response to said fluid pressure, and means comprising at least one ball check valve in communication with said fluid pressure to relieve said fluid pressure when the load on said contacting means as it contacts said stem portion becomes excessive.

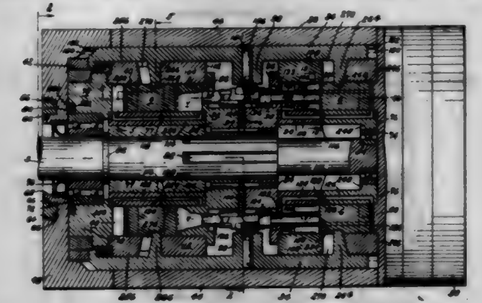
2,977,888
HYDRAULIC PUMP AND CONTROL VALVE ASSEMBLY
William T. Livermore, Grosse Pointe Farms, Mich. (509 Middle River Drive, Fort Lauderdale, Fla.)
Filed Feb. 24, 1955, Ser. No. 490,288
23 Claims. (Cl. 103—42)



1. A pump comprising a pump housing, a rotor bore in said housing, substantially parallel oppositely directed inlet and outlet ports in said housing communicating tangentially with opposite sides of said bore, said ports being substantially centrally disposed relative to the length of said bore, a valve bore in said housing extending transversely of said rotor bore and intersecting said respective inlet and outlet ports, the transverse dimension of said valve bore (taken parallel to the axis of said rotor bore) being at least as great as the corresponding dimension of said intersecting inlet port, a fluid reservoir communicating with said inlet port, a rotor eccentrically mounted in said rotor bore carrying free slippers adapted to produce a positive displacement fluid pumping action between said inlet and outlet ports, and a valve movable to open or shut off direct communication between said outlet and inlet ports through said valve bore, said inlet port, valve bore and valve being adapted and arranged to inject output fluid under pressure from said valve bore directly into said inlet port substantially tangentially of said rotor in the direction of slipper travel through said inlet port when said valve is moved to its open position thereby to assist in overcoming high speed centrifugal forces tending to oppose complete filling of said pump.

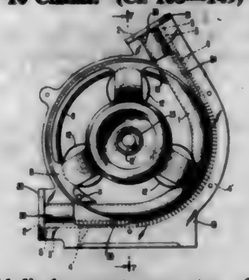
2,977,889
FLUID PRESSURE POWER CONVERTER
James C. Fisk, % Fisk Tool Co., 3301 E. Court St., Flint, Mich.
Filed Feb. 11, 1957, Ser. No. 639,450
20 Claims. (Cl. 103—120)

1. In an axially shiftable vane pump or motor having a housing defining a rotor chamber: a rotor mounted in the chamber for rotation on the axis thereof and providing working chambers at opposite ends of the rotor, a plurality of pairs of oppositely extending connected vanes mounted on the rotor in circumaxially spaced relation for shiftable movement axially of the rotor beyond opposite ends thereof and within said working chambers, a plurality of circumaxially spaced-apart gates at opposite ends of the rotor chamber supported for shiftable movement axially of the rotor chamber and each having a face exposed to the working chamber and across which face the vanes sweep, means connecting together in pairs gates in opposite pumping or motor function phases in opposite working chambers for joint shiftable movement toward and away from the rotor, and fluid pressure operated counterbalancing actuator means operatively connected with each gate and in fluid communication with



the fluid pressure in the working chamber to which the face of the gate is exposed and operable to urge the gate toward the rotor to oppose the outward thrust on the gate by fluid pressure in the working chamber at the face of the gate.

2,977,890
PUMPS AND COMPRESSORS OF THE FLEXIBLE-TUBE TYPE
Leon Antoine Seyler, 7 Rue Roy, Paris, France
Filed Feb. 1, 1957, Ser. No. 637,783
Claims priority, application France Feb. 10, 1956
10 Claims. (Cl. 103—149)

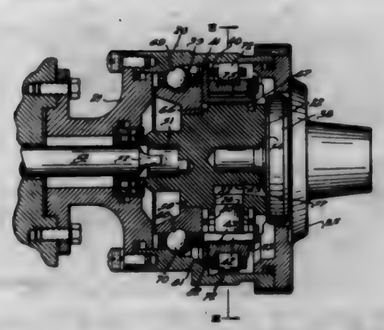


1. In a fluid-displacement apparatus of the type described having a stator casing, a tube made from a resilient material and having a radial flange at at least one of its ends, a continuous ridge projecting along a generatrix over a major extent of the tube with an end of the ridge longitudinally spaced from said at least one end flange, transverse slits in the ridge to permit bending of the tube in the plane of the ridge, bosses projecting from the tube wall adjacent the ends of said ridge and spaced longitudinally of the tube from the related end flange, said stator casing being adapted to fixedly support the tube in an arcuately bent condition with the ridge outwardly of the arc and to retain the tube against lateral displacement, each boss and flange being adapted to engage the casing to retain the tube against longitudinal displacement, and at least one squeezer member supported in the casing for rotational movement about the center of said arc in squeezing relation with the tube along the inner wall of the arc to propel fluid from one end of said tube to the other.

2,977,891
HIGH PRESSURE RADIAL PISTON PUMP
Arthur E. Bishop, Detroit, Mich. (12 Millwood Ave., Chatswood, New South Wales, Australia)
Filed Oct. 29, 1956, Ser. No. 619,062
22 Claims. (Cl. 103—161)

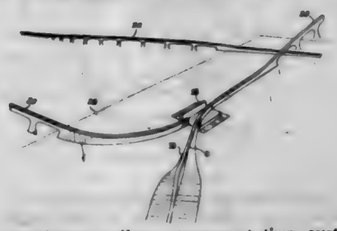
1. A pump comprising a rotor provided with a plurality of radially extending cylinders and a piston re-

ciprocably arranged in each cylinder, a bearing having an annular race surrounding said rotor, said rotor and race being arranged for rotation about spaced parallel axes, a plurality of rollers, one disposed between and in rolling contact with one end of each piston and said race



and transmitting the thrust therebetween, said rollers being operable for effecting the power stroke of said pistons upon rotation of said rotor, and a rotary cage arranged to revolve with said rotor about a center other than that of said race and operable for positioning said rollers between the ends of said pistons and said race.

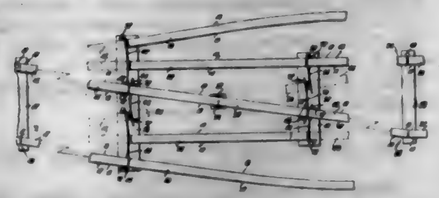
2,977,892
TRANSPORTATION SYSTEMS
Rudolf Ilmig, Schwelm, Westphalia, Germany, assignor to Alweg-Forschung, Gesellschaft mit beschränkter Haftung, Koln, Germany
Filed Oct. 5, 1953, Ser. No. 384,243
Claims priority, application Germany Oct. 8, 1952
2 Claims. (Cl. 104—26)



1. A monobeam railway transportation system comprising in combination: a plurality of main elevated monobeam tracks having sidings, said sidings being at substantially the same elevation as said tracks and being spaced apart a substantial distance, said monobeam track sections and said sidings having a top running surface and side running surfaces for supporting and guiding monobeam vehicles, said side running surfaces on said sidings being uniformly increasingly outwardly flared; a flat switch yard below the level of said main monobeam track extending between and connecting said plurality of sidings with a flat surface, said siding being tapered downwardly so as to merge with said switch yard and allow said monobeam vehicles to be gradually transferred from said monobeam track to said switch yard.

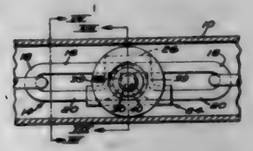
2,977,893
SWITCH COMBINATIONS FOR MONOBEAM TYPE RAILWAYS
Kurt Rosenbaum, Essen, Germany, assignor to Alweg-Forschung G.m.b.H., Koln, Germany, a corporation of Germany
Filed May 13, 1958, Ser. No. 735,659
Claims priority, application Germany May 14, 1957
5 Claims. (Cl. 104—130)

1. A switch construction for connecting each one of a pair of main track beams selectively to one of a plurality of other track beams in a monobeam railway system comprising; a pair of fixed track beam sections aligned



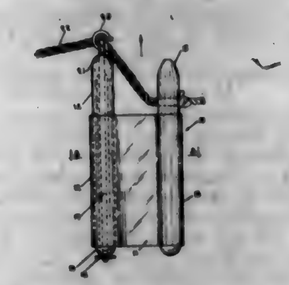
with said main track beams, switches at the ends of each of said fixed track beam sections, and a swingable track beam section between said fixed track beam sections.

2,977,894
LINKED POWER CHAIN FOR CONVEYORS
William M. Mordick, North Tonawanda, and Loren W. Lerch, Buffalo, N.Y., assignors to Columbus McKinnon Chain Corporation, Tonawanda, N.Y.
Filed Nov. 12, 1958, Ser. No. 773,276
4 Claims. (Cl. 104—172)



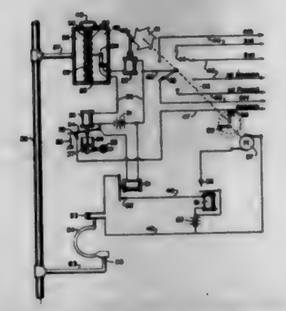
1. A conveyor power chain link comprising a wire member, said member being bent so as to form loop portions at opposite ends thereof and having the wire ends thereof terminating in abruptly curved portions adjacent the center of said link, a clamping bracket embracing said member at the central portion thereof, said bracket being shaped to complement and clamp upon the central portions of said link including said abruptly bent end portions and thereby holding said link against deformation, said bracket being centrally apertured and mounting therein a wheel axle, wheel means mounted an said axle, said axle being headed at both ends thereby maintaining said wheel means and said wire member and said bracket member in relative assembly.

2,977,895
SKI-TOW GRIPPERS
Kasimir Maurice Bieber, 7097 De l'Epee Ave., Montreal 15, Quebec, Canada
Filed Aug. 4, 1958, Ser. No. 753,949
4 Claims. (Cl. 104—202)



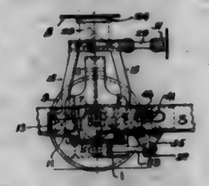
1. A ski-tow gripper comprising a gripper formed of a flexible mat-like member having the outer longitudinal portions terminating in loops, handles introduced in said loops and forming the connecting means for engagement with an uphill moving rope of the ski-tow through manual pressure on the hand mat and a cord secured to one of the handles and directed by the other handle for engagement with the ski rope and having its other end suitably secured to the skier.

2,977,896
REMOTE CONTROLS FOR PLURAL LOCOMOTIVE UNITS
Roland Philip Hammond, Los Alamos, N. Mex.
Filed Jan. 10, 1958, Ser. No. 708,224
4 Claims. (Cl. 105—61)



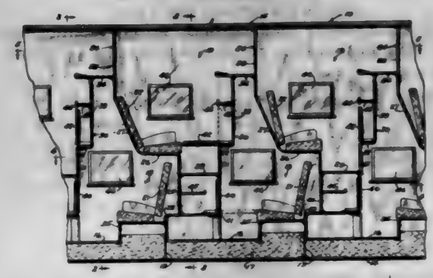
1. A system for simultaneously controlling the driving motor circuits in a helper locomotive from a lead locomotive in an electrically driven railway train through the medium of the train air line comprising: a pulsing chamber in said lead locomotive in communication with said air line; an electrically-actuated air compressing means arranged when actuated to momentarily reduce the capacity of said pulsing chamber so as to create a compression pulse in the air in said air line; an electric switching means interconnected with said electrically-actuated means for intermittently and momentarily closing a circuit to actuate said compressing means to produce a desired sequence of compression pulses in the air in said air line corresponding to the closures of said circuit; a pressure-responsive element in said helper locomotive in communication with said air line and operating in response to said compression pulses; a switch contact actuated by said pressure-responsive element; an electrical control circuit including said latter switch contact; a selective switch operable from said control circuit; locomotive control circuits selectively closed by said selective switch; and means for returning said selective switch to the "off" position should the pressure in the train air line drop below a predetermined value.

2,977,897
RAILWAY VEHICLE TRUCK STRUCTURE
Richard L. Lich, Ferguson, Mo., assignor to General Steel Castings Corporation, Granite City, Ill., a corporation of Delaware
Filed Aug. 31, 1956, Ser. No. 607,343
16 Claims. (Cl. 105—180)



15. Railway vehicle truck structure comprising a wheel and axle supported truck frame, spring units seated on said frame at the sides of the truck, upstanding struts mounted on said springs, and vehicle body support spring units on the upper ends of said struts, at least one of said spring units at each side of the truck comprising a pair of springs spaced apart transversely of the truck.

2,977,898
RAILWAY COACH VEHICLE
James E. Candlin, Jr., Lansing, Ill., assignor to Pullman Incorporated, a corporation of Delaware
Filed Feb. 23, 1956, Ser. No. 567,190
1 Claim. (Cl. 105—348)



In a passenger coach vehicle having side walls, a longitudinal center aisle floor and a roof, a plurality of double occupancy lower rooms along each side wall and each room having a floor spaced below the level of said aisle floor, a plurality of double occupancy upper rooms along each side wall and each room having a floor spaced above the level of said aisle floor, said lower and upper rooms being disposed in alternate relation substantially throughout the length of said vehicle and each pair of lower and upper rooms being separated by a first single partition from an adjacent pair of lower and upper rooms and each lower room being separated from an adjacent upper room by a second single partition, each lower and upper room being of a width for two occupants extending from one side of said center aisle floor to the adjacent side wall of said vehicle, each said first partition comprising a plurality of planar portions extending full width of said rooms and including a lower vertical portion in longitudinally spaced relation with an upper vertical portion, said lower vertical portion extending upwardly substantially from the lower room floor to a connected horizontal portion, said horizontal portion being spaced above the level of said upper room floor and extending rearwardly to a connected sloping portion, said sloping portion extending upwardly and rearwardly to said upper vertical portion and connected thereto, said upper vertical portion extending upwardly to the roof of said vehicle, each said second partition extending full width of said rooms and including a top horizontal portion spaced below the roof of said vehicle and secured to the upper vertical portion of one of said first partitions and extending rearwardly to a connected upper vertical portion, said upper vertical portion extending downwardly to a connected intermediate horizontal portion, said intermediate horizontal portion spaced above the level of said upper room floor and extending rearwardly to a connected lower vertical portion, said lower vertical portion extending downwardly and terminating at said upper room floor, a seat of a width for two occupants in each upper room mounted on the horizontal portion of the first partition and facing forwardly and a seat of a width for two occupants in each lower room disposed beneath the horizontal portion of the first partition and facing rearwardly, said upper and lower room seats being in vertical alignment and occupying the same space longitudinally of the vehicle, a pair of leg rests in each upper room movably mounted

in the second partition at the intermediate horizontal portion thereof and each leg rest being movable to a use position adjacent to and in horizontal alignment with the seat cushion of said upper room seat, a compartment opposite the seat in each lower room providing a space for luggage, and a pair of leg rests in each lower room movably mounted on the luggage compartment and each leg rest being movable to a use position adjacent to and in horizontal alignment with the seat cushion of said lower room seat.

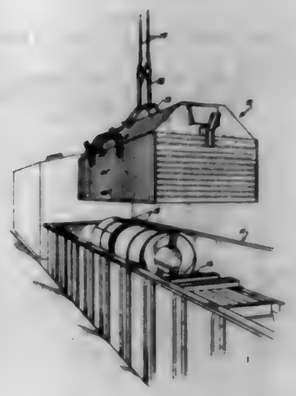
2,977,899
LOAD BRACING MEANS
Edward T. Doherty and Arthur F. O'Connor, both % Cushion-Brace Inc., 332 S. Michigan Ave., Chicago, Ill.
Filed Dec. 23, 1957, Ser. No. 704,762
14 Claims. (Cl. 105—369)



1. In a railway car having opposed longitudinal side walls, a movable member supported by and adapted for movement in a horizontal plane parallel to each of the side walls, a body of resilient material having opposite generally parallel faces, means securing said body at one face to each of the side walls in a plane parallel thereto and projecting at a right angle thereto, and means securing said body at its opposite face to the adjacent movable member yieldingly to resist movement of the member parallel to the adjacent side wall by being stressed in shear, and a bracing member extending transversely of the car and secured at its ends to the movable members respectively to brace and yieldingly resist movement of the car lading longitudinally of the car.

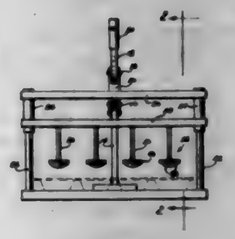
2,977,900
REMOVABLE COVERS FOR RAILROAD CARS
Alvis J. Farrar, Parma, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Oct. 1, 1956, Ser. No. 613,164
6 Claims. (Cl. 105—377)

1. A removable cover for objects in an open railroad car comprising a shell having side walls and a roof structure, said shell being formed of a plurality of corrugated metal sheets having mutually adjacent vertical edges, said sheets being joined edgewise, each sheet being folded double along a region adjacent its edge to provide a double-layer portion and having a flange bent at a right angle to the sheet in the double-layer portion, said flange being constituted by the outer part of the double-layer portion, and the inner part of said double-layer portion remaining coplanar with the remainder of the sheet, said flanges being joined by welding to constitute a joint along adjacent edges of the sheets, the joined flanges having faces abutted in mutually coextensive relation, with their respective sheets coplanar, and each flange being disposed on the same side of its sheet as the outward layer which is provided against the body of the sheet by the afore-



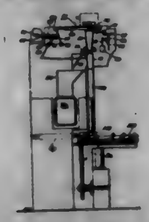
said fold, so that the mutually abutted flange faces are the inward layers which extend directly from the respective sheet bodies, and said welding of the flanges being effected adjacent both longitudinal boundaries of the abutted flange faces.

2,977,901
HARD ROLL SCORER AND FORMER
George F. Deary, Sr., 38 Franklin Ave., Oakville, and Alfred A. Provost, Oakville, Conn. (27 East St., New Milford, Conn.)
Filed Dec. 8, 1958, Ser. No. 778,696
1 Claim. (Cl. 107—8)



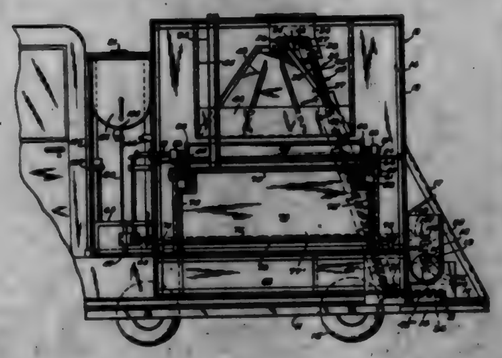
A hard roll scorer and former, comprising in combination, a base, a frame slidably received on vertical guides projecting from each end of said base, a lever pivotally secured at one end to a stanchion projecting from said base, the mid section of said lever having a slot for pivotal and sliding engagement with said frame, and a plurality of cutters connected to the ends of rods projecting vertically downwards from the underside of said frame, said cutters consisting of two S-shaped blades intersecting at right angles to each other removably received in slots formed on the ends of said rods, said blades having cutting edges formed in a downwardly convex manner symmetrically with respect to said rods, said blades being retained in said slots by a peripheral skirt embracing the outer portions of said blades, the convex portion of said blades projecting downwardly beneath said skirt.

2,977,902
APPARATUS FOR TRIMMING AND CUTTING PREDETERMINED LENGTHS OF SPAGHETTI
Erich H. L. Johannes, Audubon, N.J., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
Filed May 16, 1957, Ser. No. 659,638
5 Claims. (Cl. 107—69)



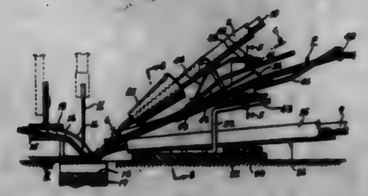
1. Apparatus for forming spaghetti sections of predetermined length comprising; a die plate, means defining a plurality of openings extending in a substantially vertical direction through said die plate, means to extrude dough downwardly through said openings to form depending strands of spaghetti, trim and diverting means positioned beneath and spaced from said die plate, means to actuate said trim and diverting means to cause said trim and diverting means to move substantially transversely through the depending strands to trim the lower ends of the strands and engage the trimmings cut from the lower ends to divert the trimmings away from said depending strands, a cut-off knife positioned adjacent said die plate above said trim and diverting means, means to actuate said cut-off knife after actuation of said trim and diverting means to cut said depending strands into divided sections of predetermined length and permit said divided sections to fall downwardly, and means to collect said divided sections separately from said trimmings.

2,977,903
GARBAGE DISPOSAL APPARATUS
Edgar H. Purdy, 63 Manor Drive, Red Bank, N.J.
Filed Aug. 7, 1958, Ser. No. 753,814
3 Claims. (Cl. 110—8)



1. In a garbage disposal apparatus, a motor driven rollably mounted vehicular chassis, a housing mounted on said chassis, an inclined chute mounted within said housing and having an open lower end extending longitudinally of the chassis, a pair of aligned side by side horizontally disposed rollers disposed beneath the open end of said chute in spaced relation therefrom and extending longitudinally of said chassis for receiving garbage thereon deposited through said open end of said chute, means rotatably mounting said rollers within said housing, said means including pivoted arms on which one of said rollers is mounted for rotation and means biasing said roller toward the other roller and permitting of the swinging of said arms and said roller mounted thereon away from said other roller against the tension of said biasing means by the passing of garbage between said rollers, furnace walls mounted within said housing providing a combustion chamber and including a top wall having an opening extending longitudinally of said chassis and arranged in spaced relation below said rollers for receiving and burning in said combustion chamber garbage passing between said rollers, means operatively connecting said rollers with the driving means of said chassis for turning said rollers for compressing the garbage passing therebetween, conveyor means operatively mounted in said housing including an inclined portion, an upper end portion extending longitudinally of the chassis and disposed above said inclined chute at one side of the housing, and means operatively connecting said conveyor means with the driving means of said chassis for conveying garbage up said inclined portion and onto said upper end portion and for depositing the same onto said chute.

2,977,904
ATTACHMENT FOR SEWING SLIDE FASTENERS TO GARMENTS
Hyman Carmen, Cote St. Luc, Canada, assignor to Talon, Inc., a corporation of Pennsylvania
Filed Feb. 8, 1956, Ser. No. 564,337
1 Claim. (Cl. 112—2)



In combination with a sewing machine provided with a pair of spaced-apart needles, a combined guiding and folding attachment for securing the folded edges of garment parts to the opposed stringer tapes of a slide fastener, comprising a plate-like member which is adapted to be attached to the work-bed of the sewing machine forwardly of said needles, an upwardly extending bracket member mounted on said plate-like member, a pair of upper guiding and folding members mounted on said bracket member for folding and guiding the garment parts to the needles, each of said upper guiding and folding members consisting of a laterally extending plate-like portion having a curled over portion arranged along the inner edge thereof intermediate the depth of the same, the leading edge of each of said plate-like portions being curved inwardly toward one another beyond the respective curled over portions whereby the folded edges of the garment parts are brought together substantially in abutment with one another as the garment parts are delivered from said curled over portions and to said needles, a slide fastener guide member mounted on said bracket member below and between the curled over inner edge portions of said guiding and folding members, a pivotally mounted forked shoe-like member arranged with said slide fastener guide member for applying tension to the stringer tapes and fastener as it passes therealong, a leaf spring member for urging said shoe-like member into contact with said fastener, a pair of lower guiding and folding members mounted on said plate-like member below said slide fastener guide member for folding and guiding the garment parts to said needles, each of said lower guiding and folding means consisting of two parts, one

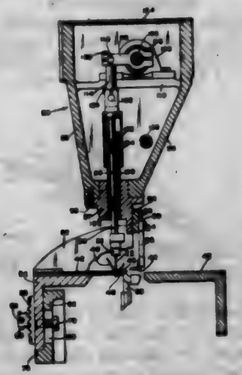
of said parts being a plate-like member having a curled over inner edge portion and which is attached to said first mentioned plate-like member, the other of said parts being a plate-like member folded upon itself and telescopically arranged with said first mentioned part with which it cooperates, means for adjusting said last mentioned part laterally relative to said first mentioned part, the curled over inner edge portions of the pair of lower folding and guiding members being positioned directly below the respective curled over inner edge portions of the pair of upper folding and guiding members, all of said guiding and folding members and said slide fastener guide members being so arranged that the garment parts and slide fastener will converge and meet at a point directly forwardly of the needles when the garment parts and slide fastener are fed into and through the respective guides with the free edges of the stringer tapes adapted to be positioned between the folded edge portions of the garment parts.

2,977,905

TUFTING MACHINE

James A. Cobble, Sr., 39 Waconda Point, Harrison, Tenn., and James A. Cobble, Jr., Rte. 2, Box 436, East Chattanooga, Tenn.

Filed Mar. 4, 1958, Ser. No. 719,136
13 Claims. (Cl. 112—79)



1. In a tufting machine having a needle bar, a thread-carrying needle fixed to said bar, and a thread engageable member vertically spaced therefrom, means for supporting a workpiece and disposed intermediate said needle and said member, means for reciprocating said needle in a stroke extending between a first point adjacent said member and a second point vertically spaced therefrom, said needle passing thru said workpiece to form face piles therein, means for vertically adjusting said supporting means to vary the depth of face piles formed in the workpiece and means for adjusting the stroke of said needle without changing the position of said first point thereof and without changing the position of said needle relative to said needle bar, said means for adjusting the stroke of said needle comprising only one adjustable connection.

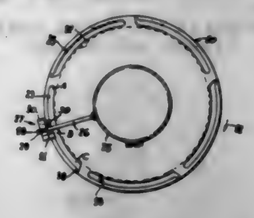
2,977,906

APPARATUS FOR INSERTING HAIR INTO THE HEADS OF DOLLS

Otto Fellender, 65 W. Main St., East Islip, N.Y.

Filed Sept. 20, 1954, Ser. No. 456,987
9 Claims. (Cl. 112—79.5)

1. In apparatus for forming hair-simulating strands in a workpiece in cycles from a continuous filament, which apparatus comprises a stitching machine provided with means including a rotatable disc having circumferentially arranged arcuate slots, and a reciprocating needle for drawing the filament through the slots in said disc and into the workpiece; means cooperable with said disc for predetermining the length of the filament to be cut, means for cutting said predetermined length of the filament during the cutting stage in a cycle of operation for



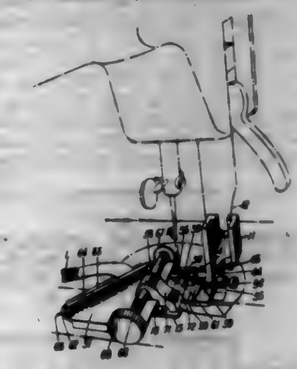
forming a simulated hair strand, and means adjacent said cutting means for frictionally maintaining the free end of the continuous filament against said disc after said cutting stage and during a stage in the next cycle of operation.

2,977,907

SEWING MACHINE ATTACHMENTS

Ian Allan, 10 Buckingham Terrace, Glasgow W. 2, Scotland, assignor of one-half to Scotcraft Limited, Blantyre, Scotland, a British company

Filed Nov. 5, 1958, Ser. No. 772,611
Claims priority, application Great Britain Nov. 9, 1957
16 Claims. (Cl. 112—134)



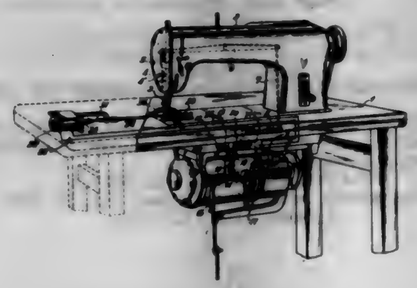
1. A sewing machine attachment for ruffling, gathering, tucking or frilling of lace while the lace is being stitched to a base material, said attachment comprising a presser foot including a shank adapted for connection to the presser bar of a sewing machine and a sole plate adapted when the shank is so connected to extend over the throat plate of the machine, said sole plate having a slot for passage of the machine needle, carrier means, means mounting said carrier means on said sole plate for movement towards and away from said shank, said carrier means mounting a rod disposed transversely of said sole plate, resilient means urging said carrier means in the direction of said shank, stop means limiting movement of said carrier means in the direction of said shank in a position wherein said rod is above said slot and in the path of movement of the machine needle with the rod axis to that side of the axis of movement of the needle remote from said shank, and guide means carried by said carrier means and adapted for guiding a length of lace in the direction of its length to pass over said rod and through said slot, the force applied by said resilient means to said carrier means being adapted to be overcome by the force applied to said rod by the downward stroke of the needle of a sewing machine thereby to displace the carrier means over the plate in the direction away from said shank until the needle on its upward stroke clears the rod, whereby the lace is gathered as it is stitched to material fed below the presser foot.

2,977,908

CLOTH GUIDE CONTROL FOR SEWING AND THE LIKE MACHINES

Karl Wisz, Kaiserslautern, Germany, and Kristen N. A. Hedegaard, Gentofte, Denmark, assignors to G. M. Pfaff A.G., Kaiserslautern-Pfalz, Germany, a corporation of Germany

Filed Sept. 9, 1957, Ser. No. 682,787
Claims priority, application Germany Sept. 14, 1956
5 Claims. (Cl. 112—153)



1. The combination with a sewing and the like machine having a retractable presser foot and a retractable cloth guide and means to normally urge both said presser foot and cloth guide to operative position, of a unitary control member, first motion transmitting means between said member and said presser foot, said member being operable along a first path from a rest position to a first actuating position to retract said presser foot to its inoperative position and to allow the return of said pressure foot to its operative position upon release of said member to its rest position, and further motion transmitting and control means between said member and said cloth guide, said member being operable also along a second path different from said first path from its rest position to a second actuating position to retract said guide to an inoperative position and to allow the return of said guide to its operative position upon release of said member from said second actuating position, said last means being effective in both the rest and first actuating positions of said member, whereby to enable retraction to inoperative position and to allow return to operative position of said cloth guide by said member in both the operative and retracted positions of said presser foot.

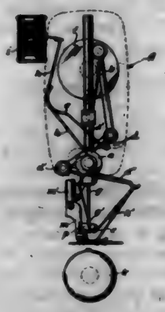
2,977,909

THREAD GUIDE AND TENSIONING SYSTEM FOR SEWING AND SIMILAR MACHINES

Johannes Neukirch, Bad Durkheim, Germany, assignor to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany

Filed Aug. 7, 1958, Ser. No. 753,681
Claims priority, application Germany Aug. 10, 1957
4 Claims. (Cl. 112—241)

1. A thread guide system for a sewing machine having a frame, comprising a needle bar mounted in said frame, a sewing needle having an eye and depending from said needle bar, a presser foot mounted on said frame adjacent said sewing needle, drive means for reciprocating said needle being located in said frame and being connected to said needle bar, a take up lever pivoted to said frame and being mounted adjacent said sewing needle for movement from a raised positioned to a lowered position, lever means for oscillating said take up lever so that said take up lever is in a raised position when said sewing needle is in a raised position and so that said take up lever is in a lowered position when said sewing needle is in a lowered position, said lever means being connected to said drive means, and arcuate shaped thread guide means secured to said presser foot and being located beneath said eye when said needle is in a raised position, said take up lever being above said guide means when



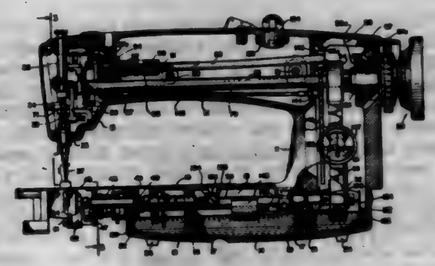
said needle is in a raised position, said guide means extending in a plane located intermediate the path of movement of said needle and said take up lever for guiding thread being fed through said eye without substantially changing the direction of feed of the thread upon motion of said take up lever.

2,977,910

SEWING MACHINES

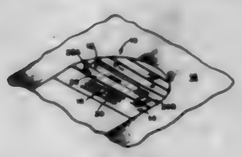
John N. Covert, Lombard, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 17, 1956, Ser. No. 559,604
24 Claims. (Cl. 112—256)



1. A lockstitch sewing machine comprising a frame having a work supporting base, a vertical standard and an overhanging arm extending laterally from said standard and terminating in a head disposed over said base, stitch forming devices comprising a reciprocable needle carrying bar in said head and a rotary hook in said base, a horizontally disposed shaft carrying said hook and arranged to operate the same, said hook having a raceway and said shaft having a bore communicating with said raceway, a main lubricant reservoir in said base adapted to retain lubricant at a level below said bore in said shaft, capillary means in said base for delivering a regulated quantity of lubricant directly from said reservoir to the bore of said shaft for delivery to the raceway of said hook, means for impelling lubricant from said reservoir and delivering the same through said standard and arm and into said head for lubricating parts therein including said needle bar, said last mentioned means comprising capillary means for lifting a restricted part of the impelled lubricant and deliverying the same to parts in said head, and means for returning excess lubricant from said head to said reservoir.

2,977,911
SEWING MACHINE ATTACHMENTS
Samuel N. Moore, 2054 Nostrand Ave., Brooklyn, N.Y.; Herbert Abelow, 1324 E. 99th St., Brooklyn, N.Y.; and Al J. Moore, 98—09 65th Road, Rego Park 74, N.Y.
Filed Aug. 11, 1959, Ser. No. 832,942
11 Claims. (Cl. 112—260)



1. A material guide for attachment to the bed plate of a sewing machine comprising a throat plate, said throat plate having a needle hole, a plurality of equispaced pairs of apertures formed in said throat plate, said equispaced pairs of apertures being parallel to each other and spaced at predetermined distances from said needle hole, a straight edge guide means having at least one straight edge and a base, and a pair of engaging means extending from said base for locking accommodation by a pair of said apertures.

2,977,912
BOX TUCK AND METHOD OF MAKING SAME
Max Madden, % Tailored Pleating and Stitching, 347 W. 39th St., New York, N.Y.
Filed Jan. 24, 1958, Ser. No. 711,000
4 Claims. (Cl. 112—262)



1. A method of making a box tuck including a pair of adjacent folds facing one another, a pair of spaced folds facing away from one another, and a central panel between the spaced folds, all of said folds and said panel comprising a continuous piece of material, said method including preforming the adjacent and spaced folds, arranging said material with the adjacent folds alongside one another and facing in the same direction and with the central panel located away from the adjacent folds, loosely stitching the adjacent folds together, which includes the steps of feeding the material into an over-edge two-disc sewing machine with the adjacent folds slightly above the discs, passing a penetrating thread only through said adjacent folds and interlocking with the penetrating thread at least one whipping thread, and thereafter rearranging the material so that the adjacent folds face one another.

3. A box tuck comprising a first ply, a second ply coplanar with said first ply, a third ply, a fourth ply coplanar with said third ply, a fifth ply, the plane of said third and fourth plies being located immediately adjacent the plane of the first and second plies, the plane of the fifth ply being located immediately adjacent the plane of the third and fourth plies and on the opposite side thereof from the plane of the first and second plies, a first fold joining an edge of the first ply to an edge of the third ply, a second fold joining an edge of the second ply to an edge of the fourth ply, a third fold joining an opposite edge of the third ply to an edge of the fifth ply, a fourth fold joining the opposite edge of the fourth ply to the opposite edge of the fifth ply, the first and second folds being adjacent and facing away from one another, the third and fourth folds being remote from and facing toward one another, the fifth ply covering the third and fourth plies whereby the fifth ply joins the third and fourth folds and covers the space between the first and second plies, all of said plies and all of said folds comprising a continuous piece of material, a loose overedge running stitch having a first reach extending through the first and third plies adjacent and in back of the first fold, a second reach extending from said first reach, lying between the third and fourth plies on the one hand and the fifth ply on the other hand and running to a third reach, the third reach extending through the second and fourth plies adjacent and in back of the second fold, and a fourth reach lying on the side of the first and second plies opposite the second reach, the second and fourth reaches crossing over the space between the first and second folds, said loose overedge stitch providing for yieldability of the box tuck.

2,977,913
METHOD OF SEWING PARALLEL ROWS OF ZIG-ZAG STITCHES
Emerich Schonhengst, Kaiserslautern, Pfalz, Germany, assignor to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany, a corporation of Germany
Filed Feb. 13, 1957, Ser. No. 640,035
Claims priority, application Germany Feb. 17, 1956
5 Claims. (Cl. 112—264)



1. A method of producing parallel zig-zag stitches by a zig-zag sewing machine having means to reverse the stitching direction, to control the middle stitch position and to convert from zig-zag to straight stitching and vice versa, said method comprising the sequential steps of sewing a first line of zig-zag stitches in a predetermined direction, sewing a line of straight stitches in a direction opposite to said predetermined direction and in spaced relation and parallel to said first stitching line, and sewing a third line of zig-zag stitches in said predetermined direction symmetrical to and overlying said straight stitching line.

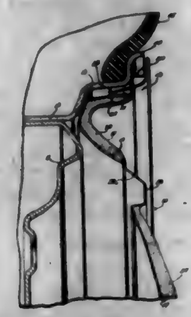
2,977,914
TUBE MILL AND METHOD OF MANUFACTURE OF THIN WALLED TUBING
Cloyd E. Gray and Roger M. Sherman, Palo Alto, Robert E. Fox, Redwood City, and Uby Ferrari and William Merle Bibb, Palo Alto, Calif., assignors to W. R. Ames Company, San Francisco, Calif., a corporation of California
Filed June 27, 1955, Ser. No. 518,886
18 Claims. (Cl. 113—33)



1. A tube mill for the continuous manufacture of single-seam welded tubing from a strip of sheet metal, including in combination: means for continuously feeding said metal strip into said mill; precurling means for flanging the longitudinal edges of said strip; guide means adapted to engage said flanges and fold said moving metal strip into a generally conical, round shape, said feeding means pulling said strip along said guide means under tension; a single set of forming rolls adapted to engage said rounded strip and to form it from a conical to a

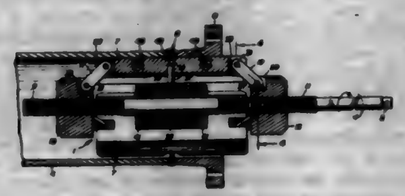
cylindrical shape, all metal flow of forming taking place at this point, whereby the strip is permanently formed into said cylindrical shape; a cylindrical mandrel around which said cylindrically-formed strip is moved; second guide means adapted to hold said flanges of the cylindrically shaped strip aligned parallel to and touching each other; a milling cutter to trim said flanges down to approximately the wall thickness of said strip; means to weld said trimmed flanges together to change the cylindrical strip into complete tubing; and flattening means spaced from said weld means for engaging the partially cooled welded area and cold-working it until it is the same thickness as the remainder of the tubing.

2,977,915
METHOD OF MAKING WHEEL COVERS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Dec. 11, 1956, Ser. No. 627,622
3 Claims. (Cl. 113—51)



1. In a method of making a sheet metal wheel cover member, the steps performed in the following sequence: shaping and cold working a sheet metal blank into predetermined wheel cover contours while leaving a marginal portion about the blank to be subsequently worked into cover retaining flange structure, annealing the entire blank to transform the grain size of the blank in the work hardened contours to impart uniform softness to the material of the formed blank, polishing a surface of the formed blank inclusive of a selected contour area of the blank, uniformly stretching at least a portion of the polished surface of said contour area to effect a degree of grain displacement sufficient to break up their smooth polished orientation whereby it presents a uniformly smooth dull satiny light-diffusing appearance in contrast to adjacent unstretched polished surface areas of the blank, and forming and cold working said marginal portion into cover retaining structure.

2,977,916
TOOL FOR ALIGNING PIPE AND PIPE FITTINGS
Jacob W. Hawkins, Rte. 2, Box 157, Pueblo, Colo.
Filed Mar. 26, 1958, Ser. No. 724,867
4 Claims. (Cl. 113—102)



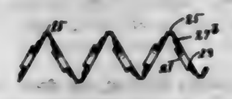
2. A tool for aligning pipe and pipe fitting and holding the same in butt joint relation for welding comprising a rotary shaft insertable in a pipe and pipe fitting of the same diameter, a plurality of shoes grouped around said shaft, screw feed means operatively connecting said shaft to said shoes to move said shoes outwardly to grip a pipe and pipe fitting internally at opposite sides of the joint therebetween in response to rotation of said shaft, a shoe adjusting collar on said shaft having radial pins therein slidable in sockets in said shoes and including means for longitudinally adjusting the adjusting collar on said shaft for adjusting the shoes parallel with the axis of the shaft.

2,977,917
METHOD OF MAKING WHEEL COVERS
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Jan. 26, 1956, Ser. No. 561,453
8 Claims. (Cl. 113—116)



1. In a method of making a sheet metal wheel cover, drawing a sheet metal member into circular cold worked highly resilient portions with one of said portions dished to a substantial extent, exclusively annealing said dished portion while shielding an adjacent circular portion of the cover against annealing thereof so as to maintain said adjacent portion in the hard resilient condition, and pressing deep ribs in the annealed portion in the opposite direction to the dishing thereof.

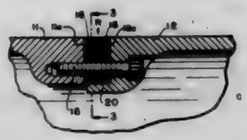
2,977,918
METHOD OF MAKING HEAT TRANSFER UNITS
Richard W. Kritzer, 5830 N. Pulaski Road, Chicago, Ill.
Filed July 5, 1957, Ser. No. 670,171
3 Claims. (Cl. 113—118)



1. The method of fabricating finned heat transfer tubing from flat sheet metal stock and cylindrical tube stock which comprises: forming in a wide sheet of metal fin stock a plurality of spaced rows of equally spaced longitudinally extending circular tube openings surrounded by truly continuous annular flanges which project out of the plane of the tube stock alternately in opposite directions, bending the wide sheet of metal fin stock transversely midway between adjacent openings alternately in opposite directions to bring the openings in each row into approximate axial alignment and thus provide an accordion-pleated fin structure in which adjacent folds extend at a slight angle to each other, severing the thus bent wide sheet along longitudinal lines between the longitudinally extending rows of openings to produce individual accordion-pleated strips of the sheet metal stock,

each of which strips embodies a single row of the openings, inserting a straight length of cylindrical tube stock of a diameter less than the diameter of said openings through the openings and surrounding flanges of each accordion-pleated strip to loosely position the strip over the length of cylindrical tube stock, and, finally expanding each length of tube stock within the openings in the loosely positioned strip into intimate face-to-face frictional contact with the inside surfaces of said flanges.

2,977,919
SOUND IMPEDANCE JOINT FOR TORPEDO
Theodore V. Blake, Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 28, 1954, Ser. No. 433,316
10 Claims. (Cl. 114—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)



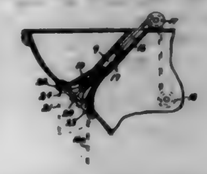
1. In a torpedo having an outer shell with adjacent axially aligned tubular sections secured together with a transverse joint therebetween disposed substantially in a plane perpendicular to the axis of said sections, the improvements in combination therewith, comprising; an annular sound impedance ring unit, forming a portion of the joint, disposed between adjacent annual ends of said sections, said unit being formed of rubber-like material having at least one relatively rigid reinforcing ring embedded therein, and angularly spaced apertures extending between opposite faces of the unit and through the reinforcing ring, for receiving section fastening members adapted to engage both sections.

2,977,920
FLOATING DRY DOCKS
Christopher J. Foster, 44 Whitehall St., Sands Point, N.Y.
Filed Mar. 14, 1957, Ser. No. 645,937
7 Claims. (Cl. 114—46)



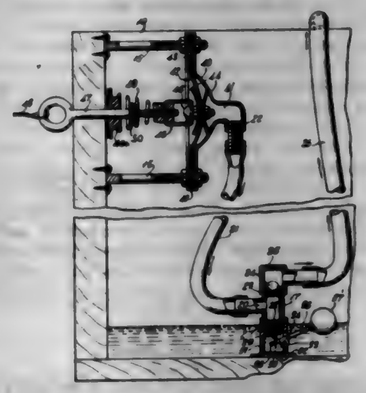
1. In a self-docking floating dry dock, a row of pontoons arranged side by side longitudinally of the dock, continuous wing walls supported on the ends of said pontoons, said ends being directly under said walls, detachable means for securing the pontoons to the walls, each pontoon having a relatively shallow central buoyancy chamber, the spaces between the said buoyancy chamber and the ends of said pontoons at the sides of the dock forming pumping chambers, said walls being in communication with said pumping chambers at the ends of each pontoon, the central chamber being such size that the buoyancy effect thereof is greater than the submerged weight of the pontoon but smaller than the submerged weight of the pontoon and the portions of the wings superimposed thereon, the dock having a deck which slopes downward at both sides of the central chamber, the bottom of the dock being parallel to the deck.

2,977,921
ANCHOR STOWAGE
Charles A. Winslow, Oakland, Calif.
(285 Martinique Ave., Paradise Cay, Tiburon, Calif.)
Original application Feb. 15, 1957, Ser. No. 640,392. Divided and this application June 9, 1959, Ser. No. 817,668
2 Claims. (Cl. 114—179)



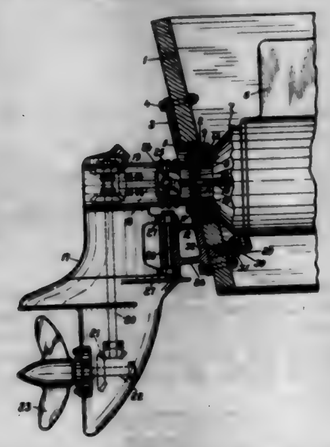
1. Anchor stowage for a ship comprising: a hull with a rectangular hawsepipe opening; a deck; means providing a passage connecting said hawsepipe with said deck; a balanced anchor formed to fit said hawsepipe and having twin flukes and a parallel shank and means to swing said flukes parallel to said shank when said anchor is raised; cable attachment means within said hawsepipe secured to said anchor whereby when said shank is drawn into said hawsepipe by said cable attachment said balanced anchor automatically enters said hawsepipe and is drawn completely thereinto beyond the outer surface thereof and is maintained therein by said cable attachment; a swinging door for said hawsepipe opening; and means on said anchor for automatically closing said door when said anchor is drawn into said hawsepipe.

2,977,922
BOAT PUMPS
John Skovranek, 44 Luther Ave., Hopelawn P.O., Perth Amboy, N.J.
Filed July 8, 1957, Ser. No. 670,523
2 Claims. (Cl. 114—183)



1. A boat pump mechanism, comprising a dish-shaped pump casing, a diaphragm closing one side of the casing, the other side of the casing having an opening, a boat connection with which the mechanism is employed, having on a wall thereof, adjacent the upper portion of the boat, an aperture opening through both surfaces of said wall, a mooring line coupling member slidably mounted in said aperture, said aperture and member being in alinement with the central portion of said diaphragm, means attached to one end of said member for coupling said member with the central portion of said diaphragm, means for gracing said casing on the wall of the boat, tensional means on said member between the wall of the boat and said first named means for normally supporting the diaphragm in flexed position in said casing, and a yieldable block on said member adjacent the wall of the boat for checking movement of said member in said aperture.

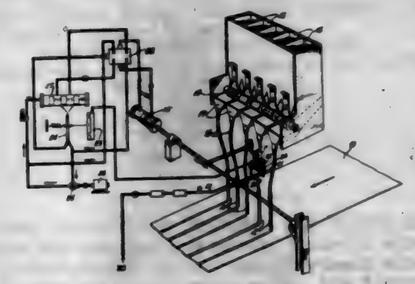
2,977,923
MARINE INBOARD MOTOR POWER UNIT
Karl Abdon Bergstedt, Goteborg, Sweden, assignor to Aktiebolaget Penta, Goteborg, Sweden, a corporation of Sweden
Filed Mar. 24, 1959, Ser. No. 801,476
6 Claims. (Cl. 115—34)



1. In combination with an inboard motor boat having a stern board with an opening therein, a motor within said boat, and a gear case and propeller unit outside said boat on the opposite side of said stern board from said motor; the invention which comprises means for supporting said motor and said gear case and propeller unit solely from said stern board comprising a base plate secured to the outside surface of said stern board and having an opening coinciding with the opening in said stern board, said motor being operatively connected to said gear case and propeller unit through said stern board and base plate openings and having a casing with a neck portion extending into the opening in said base plate, said motor casing neck portion having a circumferential groove in the outer periphery thereof and said base plate having a circular flange adjacent said opening projecting radially inwardly into said groove, elastically deformable supporting members inserted between each of the side faces of said circular flange and the adjacent side walls of the groove in said motor casing neck portion, said base plate having a boss portion extending inwardly through another opening in the stern board, and an additional support for said motor comprising engageable cushion and abutment members one of which is carried by said boss and the other by said motor casing adjacent said stern board.

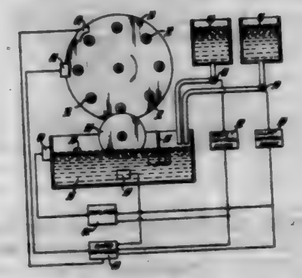
2,977,924
DEVICE FOR ACCURATELY PLACING LANES OF GRANULES ON MOVING WEB
Edward J. Bender and Howard H. Richardson, Chicago Heights, Ill., assignors to The Patent and Licensing Corporation, New York, N.Y., a corporation of Massachusetts
Filed Mar. 16, 1954, Ser. No. 416,466
2 Claims. (Cl. 118—8)

1. A device for accurately placing lanes of granules on a moving continuous web comprising granule drops attached to a rod, a reversible hydraulic motor attached to said rod and adapted to reciprocate said rod across the direction of travel of said web, and a web following device located near said rod and adapted to actuate said motor in conformity to the side to side movement of said web, said web following device containing a lever,



one end of which is adapted to be urged against the edge of the moving web and the other end of which is adapted to move between air jets which in turn actuate said motor, said lever having a pivot between said ends.

2,977,925
APPARATUS FOR MEASURING THE AMOUNT OF RADIOACTIVE MATERIAL DEPOSITED ON ARTICLES
James Allen Norton, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 3, 1955, Ser. No. 479,417
7 Claims. (Cl. 118—8)



1. Apparatus for measuring the amount of a radioactive material deposited on an article comprising a container to hold the material to be deposited, means to deposit the material in said container on said article, a radioactivity counting device to measure the radioactivity of the material in said container as it is deposited, a radioactivity counting device to measure the radioactivity of the material immediately after it is deposited on the article and a computer operatively connected to said counting devices to compute the ratio between the radioactivity counts taken thereby.

2,977,926
FLUID COATING APPARATUS
Albert L. Olsen, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Apr. 29, 1958, Ser. No. 731,697
16 Claims. (Cl. 118—105)

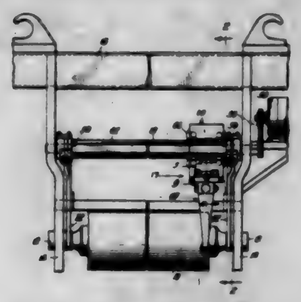
1. Apparatus for applying an insulating coating on the surfaces of a winding slot of a dynamoelectric machine core member, comprising an applicator arranged for insertion into said slot, said applicator including a main body portion having a slip fit with said slot and a spreading distributing head being axially spaced from said main body portion and having a larger predetermined clear-

ance from the walls of said slot corresponding to the desired thickness of coating to be applied to the walls, means for introducing viscous coating material into said slot between said body portion and said spreading distrib-



uting head of said applicator, and means for producing relative movement between said applicator and said core member thereby to cause said spreading distributing head to spread said coating material over the walls of said slot in an even layer.

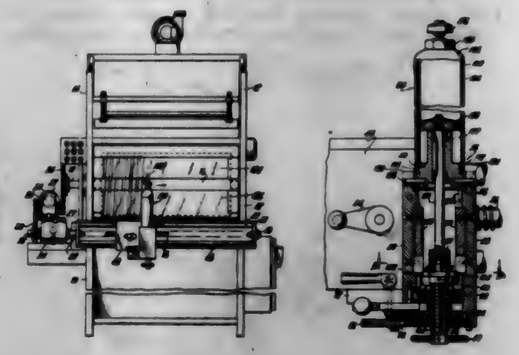
2,977,927
ROLL CLEANING DEVICE
Ralph G. Mehler, Chicago, Ill., and William D. Hendron, East Chicago, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 17, 1958, Ser. No. 721,850
7 Claims. (Cl. 118—203)



1. A coating roll cleaning device in combination with a coating roll mounted on shaft means journaled between two frame members comprising a vertically standing support member journaled at each end of said coating roll on said shaft means, a translating means adapted to be rotatably driven extending between said support members and rotatably journaled therein, track means extending substantially the full length between said support members, a carriage assembly adapted to ride on said track means and operatively associated with said translating means, an arm depending from said carriage in the direction of said roll, and a cutting implement having a width that is a fraction of the length of said roll, mounted on said arm in closely associated relationship with the periphery of said coating roll.

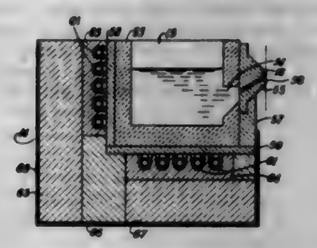
2,977,928
RESISTOR TAPE SPRAYER
Wallace N. Knudsen, Alexandria, and James G. Black, Jr., Springfield, Va., assignors, by mesne assignments, to Illinois Tool Works, Chicago, Ill., a corporation of Illinois
Filed Aug. 15, 1958, Ser. No. 755,320
9 Claims. (Cl. 118—321)

1. A spray machine comprising a support, means on the support for holding material to be spray coated, a spray gun, means mounting said spray gun on said support for movement along a fixed path adjacent to said material holding means, means for moving said spray gun along said path, said spray gun including a spray nozzle, a cylinder and a piston mounted for movement within said cylinder to positively engage material to be sprayed to afford a fixed, uniform rate and quantity of spray material emanating from said spray nozzle, and



duct means connecting said cylinder to said spray nozzle, means for moving said piston within said cylinder, and interconnecting means interposed between said spray gun moving means and said piston moving means for synchronizing the motion of said piston with that of said spray gun.

2,977,929
METAL APPLICATOR FOR FILAMENTARY MATERIAL
Harry B. Whitehurst and William P. Worthen, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware
Filed Jan. 3, 1955, Ser. No. 479,630
5 Claims. (Cl. 118—401)



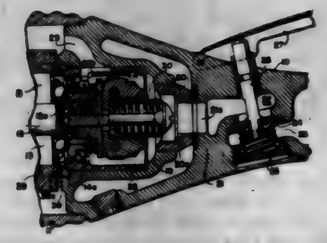
1. An improved melter and applicator for applying molten metal to fibers comprising a graphite reservoir having an opening at the top and in at least one side wall, heating coils disposed in porcelain plates adjacent the outer side of the bottom and at least one side of said reservoir, baffle plates disposed between the walls and floor of said reservoir and said heating coils, a frontal plate butted against the wall of said reservoir below said opening in said side wall, said frontal plate having a vertical slot therein, a replaceable graphite member having a horizontal metering slot which tends to wear away with flow of molten metal disposed over the opening in said side wall, said member having a tongue that fits into the vertical groove of said frontal plate to secure said member in its proper operating position, said opening in the side wall and said metering orifice being aligned to form a passage for metal flowing out of said reservoir, and blocks of insulating material disposed about said porcelain plates and said heating coils and retained within a steel shell of said applicator.

2,977,930
WORK HOLDERS FOR USE WITH SPRAY DEVICES
Frank H. Grimono, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 18, 1958, Ser. No. 779,477
5 Claims. (Cl. 118—500)



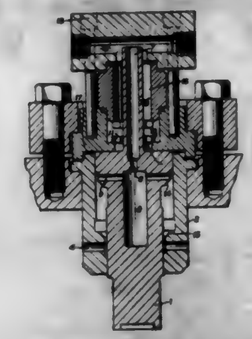
1. A holder and tray for a group of discrete articles which are to be coated over selected areas thereof, said holder having a central longitudinal slot bounded by upstanding walls with serrated tops, said tray nesting in said holder and having a central longitudinal slot bounded by walls surrounding the upstanding walls of the holder and provided with serrations registering with the serrations on the upstanding walls of the holder, and masking means forming part of the holder clamping the articles to the tray as well as the tray to the remainder of the holder, said masking means providing a slot in register with the longitudinal slots to enable the articles to be sprayed through said slots.

2,977,931
OVERSPEED SAFETY DEVICES
Donald E. Schott, Emerson, N.J., assignor to Thomas C. Wilson, Inc., Long Island City, N.Y., a corporation of New York
Filed Aug. 18, 1960, Ser. No. 50,341
6 Claims. (Cl. 121—33)



1. An overspeed safety device for use with an air motor having a housing with openings for inlet and outlet of air, a valve member within the housing for controlling the flow of air through the housing, a motor shaft entering the housing, and a governor driven by the shaft and operating the valve member, the governor having a body with a hub encircling and fast on the shaft, which comprises a retainer mounted to rotate with the shaft and having circumferentially spaced ball seats and guideways with radial surfaces leading from the seats, balls in respective seats, a shut-off jaw mounted for rotation with and movement axially relative to the shaft and having an annular seat opposed to the retainer seats and a radial surface opposed to the guideways, means urging the jaw toward the radial surfaces of the guideways and against the balls, means operable on rotation to reduce the flow of air through the housing, and co-operating parts on the jaw and reducing means for connecting them for rotation in unison upon movement of the jaw axially of the shaft away from the radial surfaces of the guideways.

2,977,932
HYDRAULIC ACTUATOR
John Maurice Towler, deceased, late of Mayfair, London, England, by Frank Hathorn Towler, executor, Dob Park, Otley, England, assignor to Electraulic Presses Limited, Rodley, near Leeds, England, a limited-liability company of Great Britain
Filed Feb. 20, 1956, Ser. No. 566,657
Claims priority, application Great Britain Mar. 12, 1955
1 Claim. (Cl. 121—38)

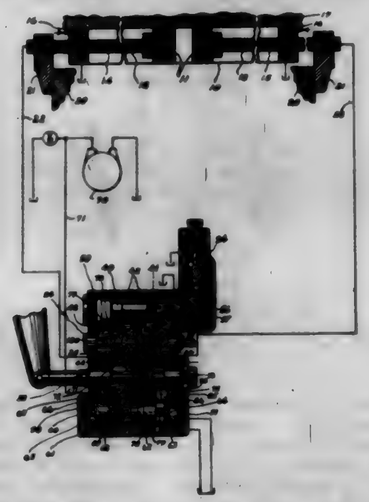


A hydraulically operated actuating device comprising, in combination, a casing defining an operating cylinder and a manifold connected to receive fluid under pressure, a cover member closing one end of said cylinder and having an opening affording communication between said manifold and said one end of the cylinder, said cylinder having an outlet to exhaust at its other end, a piston reciprocable in said cylinder, an orifice defining element dimensioned to extend over the opening in said cover member and operative to restrict fluid flow from said manifold to said cylinder, said element having a central aperture, a stem rigid with said piston positioned to extend through the opening in said cover member and through the aperture in said element to retain the element in alinement with the opening, and a restricted passage extending through said stem and said piston effective to by-pass a portion of the fluid supplied from said manifold to the outlet at the other end of said cylinder during the pressure stroke of said piston and in cooperation with said element in controlling the rate of advance of said piston, said orifice element being slidable on said stem away from the opening in said cover plate to afford substantially unrestricted flow of fluid from the cylinder in the return stroke of the piston.

2,977,933
MECHANISM FOR EFFECTING SMOOTH STARTING OF A HYDRAULIC MOTOR
Donald F. Price, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.
Filed Feb. 23, 1956, Ser. No. 567,188
11 Claims. (Cl. 121—41)

3. In a hydraulic system, a reciprocable motor, a supply of fluid under pressure therefore, a reversing mechanism for directing fluid alternately to opposite sides of said hydraulic motor, a start and stop valve for controlling the supply of fluid to said reversing mechanism, an exhaust line from said reversing mechanism to a reservoir, a pressure operated exhaust valve having axially spaced inlet and discharge ports, said valve having a large area end, a small area end, and a intermodite portion, said intermediate portion separating said axially spaced ports in said exhaust valve, an exhaust passage from said small area end having a throttle valve therein for regulating the flow of said exhaust fluid, means on said start and stop valve for blocking the flow of exhaust fluid from said small area end when said start and stop valve is in

right hand or stop position, connections between said start and stop valve in the stop position for directing fluid under pressure to said small area end of said exhaust valve, blocking of said exhaust passage causing said fluid to shift said valve to the left to prevent the flow of exhaust fluid from said reversing mechanism, connections between said start and stop valve in the start



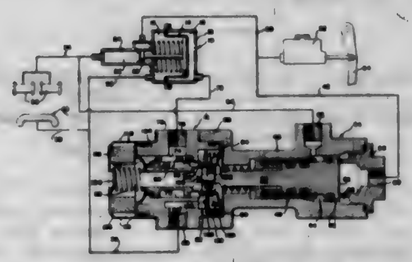
position for directing exhaust fluid through said first mentioned connections to the small area end of the exhaust valve, a connection from one of said axially spaced ports to the large area end of said exhaust valve, said start and stop valve in start position acting to unblock the exhaust passage from said small area end whereby said exhaust valve may move under the pressure on said large area end to connect said spaced ports at a rate determined by the setting of said throttle valve.

2,977,934

BOOSTER MOTOR MECHANISM

Lawrence E. Pulkowski, Allen Park, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware

Filed Apr. 26, 1957, Ser. No. 655,208
8 Claims. (Cl. 121—41)



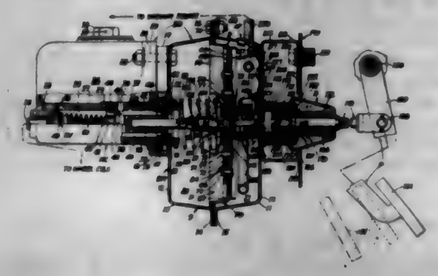
1. In a motor mechanism, a power cylinder having a pressure responsive movable wall defining opposed constant- and differential-pressure chambers, and control valve means comprising a body member including a longitudinal bore having at one end a coaxial control chamber, ports respectively communicating with the bore and control chamber, a valve seat about said bore adjacent such chamber, a pair of axially spaced flexible sealing diaphragms connected at their outer peripheries to said body member, an axially separable valve assembly communicating axially with a differential-pressure fluid source, said valve assembly having sealed connection at opposite ends with the inner peripheries of the flexible sealing diaphragms and normally communicating the differential-pressure fluid source to remote sides thereof, a constant pressure fluid source communicating with one of said ports and normally communicating with the control chamber exteriorly of the valve assembly and through the other port to the differential-pressure chamber and acting on adjacent sides of the flexible sealing diaphragms, and means on the valve assembly movable one direction to sealingly engage the valve seat and communicate the differential-pressure fluid source to said bore in response to such axial movement of the valve assembly.

2,977,935

PRESSURE DIFFERENTIAL OPERATED BRAKE BOOSTER MECHANISM

Glenn T. Randol, 2nd Ave. and Paull St., Box 275, Mountain Lake Park, Md.

Filed Sept. 10, 1958, Ser. No. 760,203
11 Claims. (Cl. 121—41)



1. A control valve construction for use in cooperation with a pressure differential operated member, the improvement which comprises: a stationary sleeve; a pair of telescopically-related relative displaceable poppet-type valve elements provided with a cooperating face and seat respectively normally engaged, with a portion of one of said valve elements being slidably supported in said sleeve; an intermediately disposed axial bore in the one valve element for slidably receiving a normal diameter extension on one side of the other valve element; another face and a seat cooperating therewith on said one valve element and said member respectively and normally spaced apart; a first and second counterbore coextensive with the inner ends of said axial bore and said one valve element; a third counterbore extending from the opposite end of said axial bore to the opposite end of said one valve element; a thrust-shoulder defined by the mergence of the third counterbore with said axial bore; a ring-like vacuum chamber coaxial with said valve elements, and defined by said first counterbore; an opening in the one valve element leading from the vacuum chamber to a source of pressure different from atmosphere; a cylindrical cup-shaped member having a peripheral outturned flange disposed in the second counterbore in spaced relation with respect to said vacuum chamber; an annular groove adjacent the inner end of said second counterbore; a split retaining ring engaging said annular groove, and adapted to engage the flange on the cup-shaped member to prevent relative axial displacement thereof; a reduced diameter extension on the other side of the other valve element and which projects through the second counterbore into a circular opening in said first-mentioned member; an air-vacuum chamber defined by said second counterbore and said circular opening; a normally preloaded spring operably disposed in said second counterbore to react between the flange on said cup-shaped member and the other valve element to urge the

face on the latter into engagement with its cooperating seat on the one valve element to thereby isolate the vacuum chamber from the air-vacuum chamber; an external annular shoulder formed on the one valve element by diminishing its inner end portion; a washer-type element disposed on said reduced portion to abut said annular shoulder; another sleeve-type member secured to one end to said first-mentioned member and having a cylindrical wall portion spaced from and in circular alignment with the reduced portion on said one valve element, to provide a ring-like atmospheric chamber therebetween which continuously communicates with atmosphere via a port through said wall; an inturned annular flange terminating the opposite end of said cylindrical wall and which is normally engaged by the same side of said washer-type element that abuts said annular shoulder to limit separation of the one valve element with respect to said first-mentioned member; another normally preloaded spring of less strength than said first-mentioned spring, and adapted to encircle said reduced portion on said one valve element and wholly contained within said atmosphere chamber to react between said first-mentioned member and said washer-type element and thereby simultaneously engage the latter with said inturned flange and annular shoulder to establish the normally spaced disposition of the one valve element with respect to the first-mentioned member wherein the said atmospheric chamber is in communication with said air-vacuum chamber; an operator-operated thrust-rod operably projecting into the said third counterbore in the one valve element, into engagement with the opposite end of the other valve element projecting through the axial bore aforesaid, with a portion of said thrust-rod in a predetermined normally spaced relation with respect to said first-mentioned thrust-shoulder whereby operator effort exerted on said thrust-rod initially moves said valve elements as a unit as a function of the thrust-transmitting capacity of said first-mentioned spring in normally preloaded status, to engage the face on the one valve element with the seat on said first-mentioned member upon overcoming the second-mentioned spring, and then to displace the other valve element relatively to the one valve element to disengage the face on the one valve element from the seat on the other valve element upon yielding of said first-mentioned spring, to place the vacuum chamber in communication with the air-vacuum chamber isolated from atmosphere by the engaged condition aforesaid of the one valve element with said first-mentioned member.

2,977,936

VIBRATING MOTOR APPARATUS

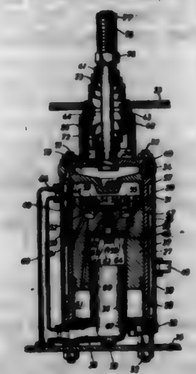
Julius Hermanns, Altlünen, Germany, assignor to Gewerkschaft Eisenhütte Westphalia, Wethmar, near Lünen, Germany, a corporation of Germany

Filed Aug. 3, 1959, Ser. No. 831,438

Claims priority, application Germany Aug. 5, 1958

11 Claims. (Cl. 121—123)

11. A vibrator motor which comprises a cylinder chamber, a piston having a head end displaceable within said cylinder chamber, a counter chamber remote from said cylinder chamber capable of slidably receiving the end of said piston remote from said head end under compression, a first chamber and a second chamber defined in the head end of said piston and interconnected by a loaded valve means, channel means for passing intake air into said first chamber, said second chamber being interconnected by a disc valve means to said cylinder chamber, a control piston seated within the head end of said piston and connected at one end to said disc valve means, said control piston having a working face at its other end in pressure communication with said counter



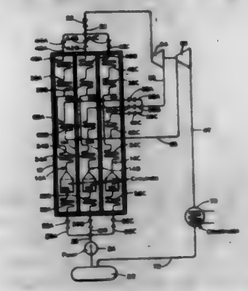
chamber, and discharge means for passing exhaust air from said cylinder chamber.

2,977,937

ONCE-THROUGH VAPOR GENERATOR

Karl Deitlhalser, Munich, Germany, assignor to Durrwerke Aktiengesellschaft, Ratingen, Germany, a corporation of Germany

Filed Jan. 8, 1958, Ser. No. 707,697
3 Claims. (Cl. 122—249)



1. In a forced flow once-through vapor generating and superheating unit adapted for wide load range operation, walls defining a setting, division walls arranged to divide said setting into separate individual adjoining heating gas chambers, a separately fired cyclone furnace for each of said chambers arranged to supply heating gases only to its corresponding chamber, tube means forming separate parallel forced flow once-through vapor generating and superheating flow paths in each of said chambers for effecting a continuous parallel flow of liquid through said flow paths as the liquid is vaporized and superheated, means for supplying a vaporizable liquid to all of said parallel flow paths from a common supply, individual valve means to control the flow of vaporizable liquid through each of said flow paths, said valve means located exteriorly of said setting, and means for delivering the vapor superheated in said parallel flow paths to a common discharge point.

2,977,938

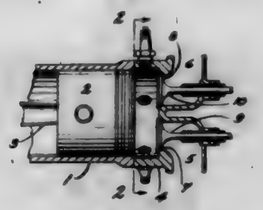
MULTI-SPARK IGNITION ENGINE FOR FIXATION OF NITROGEN

Willard L. Morrison, Lake Forest, Ill., assignor to The Union Stock Yard and Transit Company of Chicago, Chicago, Ill., a corporation of Illinois

Filed May 6, 1957, Ser. No. 657,248
2 Claims. (Cl. 123—1)

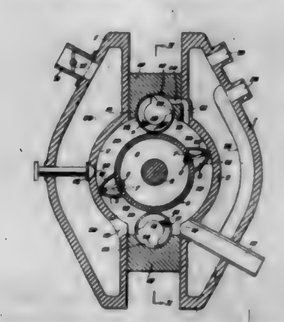
1. In the production of an exhaust from a combustion engine having a piston and cylinder assembly, the latter

of which is formed with a combustion chamber at one end and wherein the exhaust has a maximum amount of nitrogen oxide gases, the steps of feeding a lean mixture of air and hydrocarbon fuel to the combustion chamber and igniting said lean mixture of air and hydro-



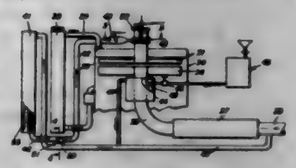
carbon simultaneously at a number of spaced apart points to effect rapid combustion of said lean mixture for the corresponding generation of a combustion temperature in excess of 4000° F. whereby reaction between nitrogen and oxygen will occur to produce a relatively high proportion of nitrogen oxides in the exhaust.

2,977,939
ROTARY INTERNAL COMBUSTION ENGINES
Alfred Fearing, 5 Stratford Road, Heaton, Newcastle upon Tyne, England
Filed Jan. 19, 1960, Ser. No. 3,320
15 Claims. (Cl. 123—13)



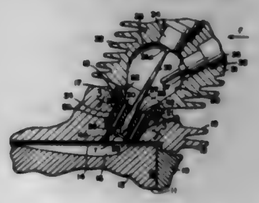
1. A rotary internal combustion engine of the kind in which a cylindrical rotor has extending radially from its periphery vanes which sweep an annular chamber enclosed by a stator body and at spaced locations in said chamber pass through pockets in rotary abutments rotating at appropriate speed in relation to the rotor, one such rotary abutment dividing said space between compression and expansion sections and its pocket serving as an ignition chamber for successive charges, and another of said rotary abutments dividing said space between exhaust and induction sections, and said vanes in succession serving as partitions between the induction and compression sections and between the expansion and exhaust sections, comprising in combination external gearing interconnecting said rotor and said rotary abutments, cylindrical surfaces in mutual line contact between the limits respectively of said vanes and said pockets, bearing means for said rotary abutments radially displaceable relative to the rotor, resilient means engaging said bearing means and serving to maintain said line contacts, adjustable positive constraining means applied to said resilient means, and in combination with each of said bearing means a member that has a part-cylinder recess, in which the rotary abutment is located, and guide means radial to the stator body in which said member is mounted.

2,977,940
METHOD OF OPERATION OF INTERNAL COMBUSTION ENGINES
Matthew A. Theriault, Rte. 2, Box 218, Thermal, Calif.
Filed Nov. 23, 1956, Ser. No. 623,878
4 Claims. (Cl. 123—25)



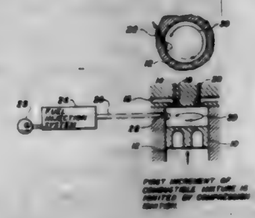
1. A motive power unit comprising in combination an internal combustion motor including a fuel intake manifold, an exhaust manifold, and an exhaust pipe; conduit means connected between said exhaust pipe and said intake manifold, adapted to withdraw a portion of the exhaust gases for return to said intake manifold; humidifying means for injecting water vapor into said conduit means; and heat exchange means adequate in capacity for cooling said withdrawn portion of the exhaust gases plus said injected water vapor to a temperature below the dew point to produce dispersed liquid water, said heat exchange means being disposed intermediate said humidifying means and said intake manifold.

2,977,941
SELF-IGNITING, AIR-COMPRESSING INTERNAL COMBUSTION ENGINE
Hans Ludwig Hockel, Mannheim-Feudenheim, Germany, assignor to Motoren-Werke Mannheim A.G. vorm. Benz, Abt. Stat. Motorenbau, Mannheim, Germany
Filed Jan. 6, 1960, Ser. No. 762
5 Claims. (Cl. 123—32)



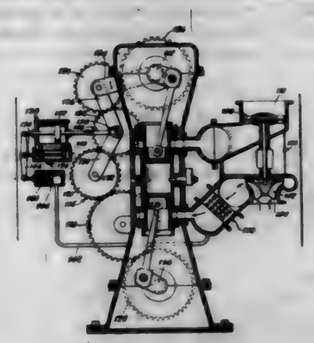
1. In an internal combustion engine, a fluid cooled cylinder enclosing a main combustion space, a piston slidable in said cylinder, a fluid cooled cylinder head, an auxiliary chamber enclosing an auxiliary combustion space and disposed in said cylinder head, first wall portions on the exterior of said auxiliary chamber, second wall portions of said cylinder head adjacent to said first wall portions and spaced therefrom, said first and second wall portions defining between them gaps extending substantially along the length of and surrounding said first wall portions, said gaps constituting an air filled isolating space for introducing a temperature gradient between the first and second wall portions, a first cylindrical sleeve, an outwardly directed relatively thin flange upon said first sleeve and secured to and between said auxiliary chamber and said cylinder head to form substantially the only direct thermal contact between said first sleeve and said cylinder head and auxiliary chamber, a second cylindrical sleeve of substantially smaller diameter than said first sleeve and disposed within and spaced from said first sleeve, a plurality of rib-like structures interconnecting said sleeves and introducing a thermal conductivity gradient between said first and second sleeves, said sleeves together with said rib-like structures constituting an insert disposed between said main combustion space and said auxiliary combustion space, said second sleeve defining a central duct through which said main combustion space and said auxiliary combustion space communicate directly with each other and said first and second sleeves defining together with said rib-like structures a plurality of outer ducts for the passage therethrough during a compression stroke of the engine of substantially all air flowing from said main combustion space to said auxiliary combustion space, and a fuel injection nozzle opening into said auxiliary chamber and disposed substantially co-axially therewith for directing a fuel jet through said central duct into said main combustion space, said jet having an outer envelope substantially in contact with said second sleeve.

2,977,942
METHOD OF OPERATING AN INTERNAL COMBUSTION ENGINE
Blake Reynolds, Riverside, Conn., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed July 2, 1958, Ser. No. 746,579
3 Claims. (Cl. 123—32)



1. In the operation of a reciprocating piston internal combustion engine wherein air is introduced into a combustion space of the engine in a manner to produce a high velocity air swirl therein of four to nine times engine r.p.m., fuel is injected about 50° to 20° before top dead center position of the piston in its compression stroke into a localized portion of the swirling air at one side of the combustion space in a manner and at a rate coordinated with the air swirl rate and density to produce patch impregnation at a controlled fuel-air weight ratio of 0.04 to 0.08, the first increment of injected fuel is ignited substantially as soon as it forms a localized patch of combustible mixture with the swirling air to establish a flame front, and fuel injection is continued on each cycle following ignition into succeeding increments of the compressed swirling air immediately in advance of the formed flame front so as to progressively form additional combustible mixture which is ignited by said flame front and burned substantially as rapidly as formed, so that the combustion of fuel during the latter part of the combustion period is restricted to and completed at the leading edge of the localized patch, said flame front being confined in one direction by the air swirling toward it and in the opposite direction by the products of combustion traveling away therefrom, the method of operating with flame front combustion on each cycle without positive ignition which comprises compressing the swirling air on each compression stroke of the piston, injecting at least during the initial part of each injection period of a cycle a fuel of sufficiently high cetane number for the compression ratio of the engine such that said localized impregnated patch formed from the first increment of injected fuel on each cycle undergoes prompt compression ignition after only a small angular swirl from the locus of injection and before sufficient fuel has been injected to produce an objectionable high intensity, compression ignition knock, said swirling air and continued injection of fuel causing the burning fuel particles to unite to establish said flame front generally along a radius of the combustion space substantially less than 90° of swirling movement from the locus of fuel injection so that the portion of the fuel injected on each cycle is into swirling air immediately in advance of the formed flame front with resulting flame front combustion as defined above, and terminating fuel injection on each cycle for full load operation about 80%–90% of the time required for the air to complete one swirl following the start of fuel injection, and regulating the injection rate for said full load operation so that the total fuel-air weight ratio on each cycle at least approximates 0.06:1 but does not exceed 0.065:1 to thereby avoid smoky exhaust.

2,977,943
SUPERCHARGED OPPOSED PISTON ENGINES
Hans U. Lieberherr, Milwaukee, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 23, 1955, Ser. No. 496,166
2 Claims. (Cl. 123—51)

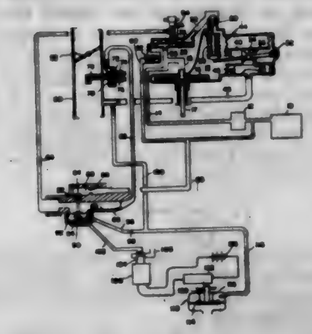


1. In an opposed piston engine, a cylinder with inlet and exhaust ports in the cylinder wall at opposite ends thereof, exhaust and inlet pistons opposing each other in the cylinder and adapted to open and close the ports, a supercharger and an intercooler connected to the engine for supplying compressed cool air to the cylinder, and load responsive means for varying the phase relationship of the pistons during the cyclical operation of the engine so that at no load and during light loads the exhaust piston will cover the exhaust ports after the inlet piston has covered the inlet ports during the compression stroke so that air will be rejected from the cylinder through the exhaust ports, at a certain intermediate load the exhaust and inlet pistons will cover their ports simultaneously, and at the higher loads and full load, the exhaust piston will cover the exhaust ports before the inlet piston covers the inlet ports so that air will be rejected from the cylinder through the inlet ports.

2,977,944
DECELERATOR FOR FUEL INJECTION OR PRESSURE METERING SYSTEMS
George M. Holley, Jr., Grosse Pointe, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Oct. 22, 1956, Ser. No. 617,353
8 Claims. (Cl. 123—97)

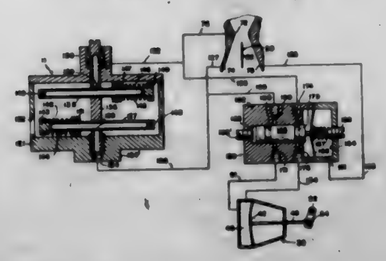
3. A fuel supply system for an internal combustion engine comprising a constant pressure pump for supplying fuel to the engine, a fuel metering valve, engine speed responsive means between said pump and valve to increase the pressure of fuel supplied to said valve by an amount dependent on engine speed, a pressure regulating valve between said metering valve and the engine for main-

taining pressure downstream from said metering valve at the pressure of fuel delivered by said pump, a minimum pressure shut-off valve between said pressure regulating



valve and the engine to prevent delivery of fuel to said engine except a pressure in excess of a predetermined minimum, and means responsive solely to deceleration of said engine to bypass the entire output of said pump.

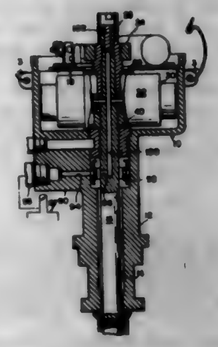
2,977,945
GOVERNOR
Thomas F. Cramer, Stratford, Ontario, Canada, assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Feb. 2, 1959, Ser. No. 790,553
23 Claims. (Cl. 123—103)



1. A governor for the control of an engine having an adjustable control member and sources of venturi vacuum and manifold vacuum, comprising vacuum responsive means operatively connected to said control member to adjust the latter, and valve means having conduit means operatively connecting the same between said respective vacuum sources and said vacuum responsive means for the independent application of said respective vacua to the latter, whereby to operate said control member by said vacuum responsive means in response to venturi vacuum and manifold vacuum, independently of one another.

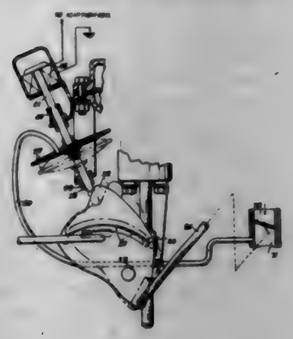
2,977,946
SPARK DISTRIBUTOR
Ernest R. Larges, Detroit, Mich., assignor to Holley Carburetor Company, Detroit, Mich., a corporation of Michigan
Filed July 18, 1955, Ser. No. 522,791
16 Claims. (Cl. 123—117)

1. Ignition timer structure for an internal combustion engine having a manifold, said structure comprising a driving member adapted to be connected to a rotating part of the engine, a driven member coaxial with said driving member, timing means carried by said driven member, a centrifugal element carried by one of said members for rotation therewith and for radial movement with respect thereto, resilient means opposing outward radial movement of said element, a complete pressure responsive device carried as a unit by said centrifugal element and including a control element movable relative to said centrifugal element radially of the axes of said



members, means adapted to connect said pressure responsive device to the engine manifold, a connection between said control element and the other of said members in position to effect angular adjustment between said members upon a change in engine speed or manifold vacuum.

2,977,947
FUEL INJECTION SYSTEM
Paul D. Carleton, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corperation of Delaware
Filed Jan. 8, 1957, Ser. No. 633,037
15 Claims. (Cl. 123—119)

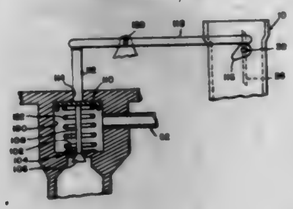


1. A throttle controlled motor vehicle fuel injection system comprising a throttle linked cam plate, said plate connected to one side of a diaphragm through spring means, the other side of said diaphragm subject to fuel pressure, fuel inlet means being connected to said diaphragm, said inlet means in fuel restricting position when said diaphragm is in a predetermined position.

2,977,948
AUTOMATIC CARBURETOR PRIMER
Milton J. Kittler, Bloomfield, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Nov. 25, 1957, Ser. No. 698,758
21 Claims. (Cl. 123—119)

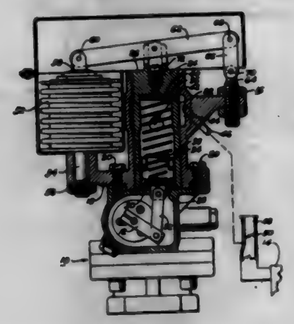
19. In a carburetor for an internal combustion engine having an intake manifold, the carburetor having an air

supply passage provided with a venturi, a choke valve upstream from the venturi, a throttle plate downstream from the venturi, a fuel bowl, a main nozzle, a main fuel supply passage connecting the bowl and main nozzle, and automatic choke regulating mechanism for maintaining the choke closed during cold starts and to provide a controlled opening of the choke upon starting of the engine and upon an increase in an operating temperature of the engine, the improvement which comprises a



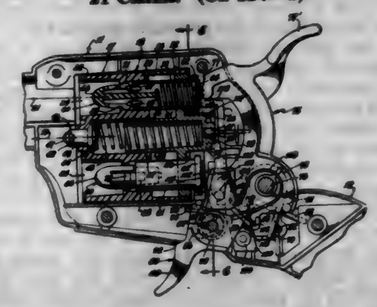
primer nozzle having an outlet located in said air supply passage between the choke valve and throttle plate, a primer fuel supply passage connecting said bowl and primer nozzle, a primer valve controlling the flow of primer fuel through said primer passage, and an operating connection between said choke and said primer valve including a cam movable in accordance with movement of said choke to regulate the position of said primer valve in accordance with the position of said choke.

2,977,949
MIXTURE CONTROL
Frederik Barfod, Detroit, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 24, 1959, Ser. No. 822,587
3 Claims. (Cl. 123—140)



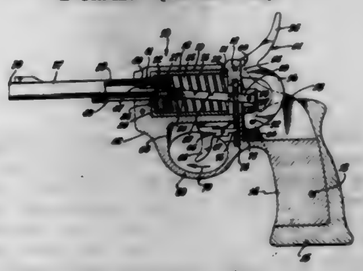
1. A control for a fuel supply device comprising a bellows responsive to ambient air pressure, a lever fulcrumed at one end and pivotally secured to said bellows at its other end, a cylinder having a closed and an opened end, means pivotally securing said cylinder to said lever intermediate the ends of said lever, a piston reciprocably disposed in said cylinder, means operatively connecting said piston to said device for controlling the fuel supplied thereby, a spring retainer in said cylinder, a pair of springs in said cylinder reacting respectively against the closed end of said cylinder and said retainer and against said retainer and said piston, and means for connecting the interior of said cylinder intermediate the closed end thereof and said piston with a source of pressure lower than atmospheric pressure, said piston being moved into engagement with said retainer when the pressure in said cylinder reaches a predetermined value.

2,977,950
TOY SHOOTING SHELL PISTOL
John W. Ryan, 11027 Cashmere St., Bel-Air, Calif.
Filed July 24, 1959, Ser. No. 829,339
21 Claims. (Cl. 124—2)



1. In a toy pistol comprising a frame; a tubular barrel mounted on one end of the frame; a cartridge cylinder intermediate the ends and mounted to be rotatable about an axis below and parallel to the barrel axis, thereby to bring the cartridge chambers of the cartridge cylinder into axial alignment with the barrel; a trigger-actuated hammer pivotally mounted on said frame for forward and reverse pivoting movements; the improvements comprising a cartridge means for slidingly fitting coaxially in each of said cartridge chambers, said cartridge means comprising: a shell having an anvil face at one end thereof and a spring-biased pellet at the other end thereof releasably secured to said shell; said manner being engageable with said anvil face when in said forward position for imparting an axial movement thereto; and releasing means in each of said chambers for releasing said pellet from said shell in response to said axial movement of said cartridge.

2,977,951
GUN
Socrates H. Cavin, 445 S. Spring St., Los Angeles 13, Calif.
Filed Jan. 28, 1959, Ser. No. 789,627
2 Claims. (Cl. 124—15)



1. A gun comprising a body, a barrel extending out from the body and having a bore extending axially therethrough, the bore having a muzzle end and a breech end, a cylinder of greater internal diameter than said bore in the body extending rearwardly from the breech end of the bore and having a forward wall to define a cylindrical chamber in the cylinder extending rearwardly from the forward wall, said cylinder having a longitudinal axis offset from the longitudinal axis of said bore, the forward wall having an opening formed therein, the barrel being connected to the forward wall whereby the breech end of the bore is open to the chamber, the breech end of the bore having an annular taper for frictionally holding a projectile in the breech end of the bore, a piston reciprocable axially in the chamber, a spring in the chamber and engaged behind the piston for urging

the piston toward the forward wall, said body including a slot portion remote from said breech end of said barrel, and adapted to receive a hammer, said hammer pivotally mounted in said slot portion rearwardly of the cylinder, a piston rod pivotally connected at one end thereof to the rear of said piston and pivotally connected at its other end to the hammer whereby as the hammer is moved rearwardly in said slot portion on its pivot toward a cocked position it will retract the piston in the chamber and load the spring, the piston rod having a notch formed therein between its ends, a plate slidable transverse to the movement of said piston in the body behind the chamber and forwardly of the hammer, the plate having an elongate opening formed therein and through which the piston rod extends, the plate being slidable with respect to the piston rod from a position when the gun is cocked in which the plate engages the piston rod in the notch thereof to another position in which the plate is disengaged from the piston rod, a trigger pivotally mounted on the body and pivotally engaged with the plate for operating the plate, a trigger spring operatively associated with the body and with the trigger for swinging the trigger forwardly on its pivot to move the plate into engagement with the notch on the piston rod and a pin mounted in said piston eccentrically and protruding from the forward face of said piston and extending forwardly from the piston and in alignment with the barrel bore, the pin being of a length to extend into the bore when the piston is moved forwardly in the cylinder to unseat said projectile from the annular taper in said breech, the force of the pin against the projectile and the air pressure developed in the chamber by the forward movement of the piston forceably ejecting the projectile out through the muzzle end of the bore.

2,977,952
ARCHERY BOW TRIGGER
Werner C. Gabriel, 16056 Toulouse, Fraser, Mich., and Halko K. Gabriel, 16211 Bloomfield, Roseville, Mich.
Filed May 21, 1959, Ser. No. 814,719
3 Claims. (Cl. 124—35)



1. A device of the character described, comprising: a grip member having an upper arm and a lower arm extending horizontally outwardly therefrom; a vertically disposed arm pivotally mounted between said upper and lower arms; a pair of spaced apart bow string engaging fingers on one side of said vertical arm in the same vertical plane; said fingers being separately rockably mounted on the vertical arm and being operable to frictionally grip an arrow therebetween when the fingers are engaged by the bow string to draw it taut and cam the fingers against the arrow; and, a trigger operated release means releasably engageable with said vertical arm to hold the same in bow string confining position and operable to release the vertical arm for rocking about its pivot to release the bow string and arrow.

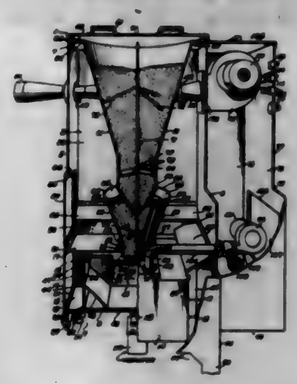
2,977,953
PORTABLE GRILL
J Y Miller Dowdy, 9919 Arleta Ave., Pacoima, Calif.
Filed Oct. 7, 1957, Ser. No. 688,725
1 Claim. (Cl. 126—30)

A portable picnic grill comprising a vertical post, a rotatably and slidably adjustable sleeve on said post, a pair of spaced, vertically aligned tubular bearings on said sleeve, a metallic grid comprising a rectangular frame including end members and a plurality of spaced, parallel rods extending between said end members, a downturned spindle at a midpoint on one of said end members journaled in the upper bearing, a V-shaped bar



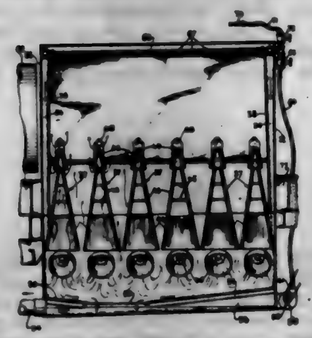
beneath said one end member having its ends affixed to the end portions thereof, and a downward spindle on said V-shaped bar at its vertex and journaled in the lower bearing for mounting the grid for horizontal swinging movement on the post in conjunction with the first named spindle.

2,977,954
SMOKE GENERATOR
Joseph F. Rigali, Kansas City, Mo., assignor to Koch Supplies Inc., Kansas City, Mo., a corporation of Missouri
Filed May 15, 1957, Ser. No. 659,298
11 Claims. (Cl. 126—59.5)



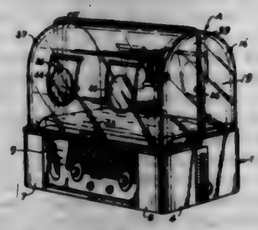
1. In a smoke generator, a combustion chamber having an open top and an ash outlet at the bottom, a grate covering the ash outlet in said combustion chamber and having open apertures, means for automatically feeding a burnable material into the open top of the combustion chamber, means for supplying air under pressure through the open apertures of the grate for maintaining a zone of combustion in the combustion chamber, means for vibrating the combustion chamber including the grate for discharging ash from under the zone of combustion and for effecting feed of material from the upper portion of the combustion chamber to the zone of combustion, vibratory members within the combustion chamber and each having one end fixed to a part of the combustion chamber and having free ends extending into the zone of combustion to vibrate with the combustion chamber for loosening the material for contact by the air, and means for controlling intensity of the vibrating means to regulate feed of the material.

2,977,955
SNOW-MELTING MACHINE AND METHOD
William M. Altenburg, R.F.D. 1, Windham, Maine
Filed Jan. 4, 1957, Ser. No. 632,566
5 Claims. (Cl. 126—343.5)



1. A snow-melting machine comprining a snow-melting receptacle, a plurality of burners disposed adjacent the bottom of said receptacle, a plurality of elongated grates having spaced grate walls with a flue space therebetween disposed for entry of products of combustion from said burners, said grate walls being inclined with the cross-section of said grates generally in the form of an inverted V having greater vertical extent than lateral extent, said grates being substantially spaced from each other along the bottom portions thereof for passage of products of combustion from said burners between said grates into direct contact with snow in said receptacle above said grates, said grate walls adjacent the upper portion thereof having apertures therein for passage therethrough from said flue spaces of minor proportion of said products of combustion, and said grate walls having a succession of vertically disposed corrugations therein for contact with snow resting on said grate means.

2,977,956
INCUBATORS FOR INFANTS
William Harold Smith and Rudolph Frohner, Norwalk, Conn., and Roy T. Adolphson, Webster Groves, Mo., assignors to O.E.M. Corporation, East Norwalk, Conn., a corporation of Connecticut
Original application Apr. 23, 1957, Ser. No. 654,593. Divided and this application Oct. 13, 1958, Ser. No. 767,248
8 Claims. (Cl. 128—1)



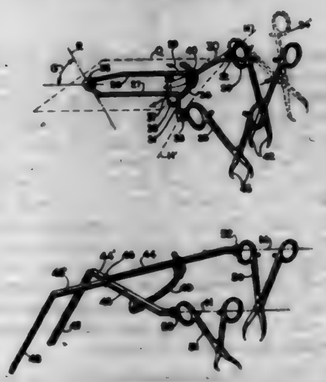
1. An incubator including a transparent enclosure-forming cover, said cover being provided with at least one aperture having a closure element associated therewith, said closure element including a flexible flap-forming portion having one substantially linear margin and resilient means extending around a portion of the remainder of its periphery for urging said flap-forming portion closurewise across the aperture, and a mounting element securing the flap-forming portion and said resilient means to the cover along said linear margin.

2,977,957
SANITARY NAPKIN HOLDERS AND HOLDER UNITS
Joseph Clyne, Bronx, N.Y., assignor to Napette Sanitary Napkin Holder, Inc., New York, N.Y., a corporation of New York
Filed Aug. 28, 1957, Ser. No. 680,785
10 Claims. (Cl. 128—291)



6. In a unit for holding and supporting water-absorbent pads of the type of sanitary napkins and the like adapted to be supported from the waist of the wearer, said unit including an elongated crotch section comprising waterproof material for holding an elongated water-absorbent pad, and spaced front and back pockets connected to the upper portion of the crotch section with their open ends facing each other in spaced relation for receiving and retaining respective end portions of an elongated absorbent pad, the improvement in which the respective side edges of the crotch section are gathered and elastically stretchable lengthwise, said gathered edges being under tension and pulling the material of the crotch section upwardly along the respective side edges of the absorbent pad and pulling said edges of the crotch section into intimate engagement with the body of the wearer when the unit is being worn, and the facing edges of said pockets being gathered and stretchable transversely of the crotch section and being under tension over the respective end portions of the absorbent pad when mounted in the crotch section.

2,977,958
HOLDER FOR TENACULA
Harry Wright Seiger, 520 Arizona Ave., Santa Monica, Calif.
Filed Feb. 3, 1958, Ser. No. 712,939
2 Claims. (Cl. 128—346)



1. A holder for tenacula comprising, in combination: a pair of holding arms; a first pivot means connecting adjacent end portions of said arms for pivoting movement about a first axis at an acute angle to the plane including said arms; second and third pivot means at the other ends of said arms pivotally mounting said tenacula for pivoting movement about second and third axes forming acute angles with said plane respectively; and securing means spaced from said first pivot means

and connected between said arms for securing said arms in a predetermined position with respect to each other, said second and third axes extending transversely to said first axis whereby said tenacula may be individually pivoted into a position in which their respective points converge towards each other and whereby said arms may be swung apart about said first axis thereby separating said handles a greater distance than said points as a consequence of the acute angle formed by said first axis with said plane of said arms.

2. A holder for tenacula comprising, in combination: a pair of holding arms; a first pivot means connecting adjacent end portions of said arms for pivoting movement about a first axis at an angle to the plane including said arms, said end portions including bent portions turning into downwardly depending portions to define a gripping handle; second and third pivot means at the other ends of said arms pivotally mounting said tenacula for pivoting movement about second and third axes, respectively; and securing means spaced from said first pivot means and connected between said arms for securing said arms in a predetermined position with respect to each other, said second and third axes extending transversely to said first axis whereby said tenacula may be individually pivoted into a position in which their respective points converge towards each other.

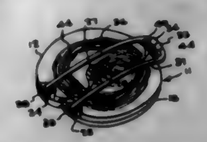
2,977,959
LADIES' GARMENT
Samuel L. Welsch, 341 Redmond Road, South Orange, N.J.
Filed July 17, 1959, Ser. No. 827,804
1 Claim. (Cl. 128—541)



A garment formed from a plurality of elastic panels joined together along their opposed edges to form a waist encircling section and including a front central panel having opposed, generally convex edges and side panels extending from the front central panel around to the rear of the garment said panels having a two-way stretch, a rear central panel having a two-way stretch and provided with opposed convexly curved edges and a pair of rear side panels joined to opposite sides of the rear central panel and to the side panels, each of said rear side panels having a stretch extending in a vertical direction only and provided on one side thereof with a concave edge joined to the rear central panel and on its other side with a convex edge and being of substantially the same width throughout its length.

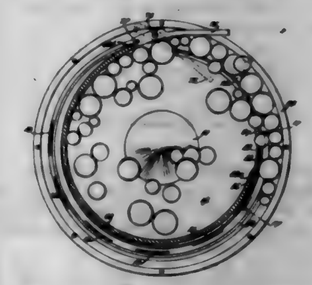
2,977,960
PERMANENT WAVE DEVICE
Frances L. Cattermole, Rte. 1, Box 99A, Terra Bella, Calif.
Filed Oct. 2, 1959, Ser. No. 843,972
3 Claims. (Cl. 132—48)

1. A hair waving clip device comprising a pair of flat, arcuate opposing arms having concavely curved inner edge portions, a plurality of gripping teeth on each of said inner edge portions, means pivotally connecting end portions of said arms in overlapping relationship, respective resilient fingers on the remaining end portions of said arms, interengageable locking lugs on the free ends of said resilient fingers, whereby said arms may be releasably locked together in opposing relation with the gripping teeth thereof in opposing adjacent relationship, a generally U-shaped resilient pin member having side portions and a bight portion connecting said side portions, means on the respective arcuate arms located at



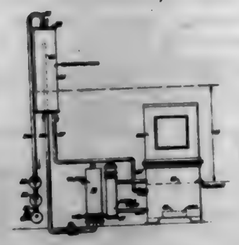
opposite sides of the pivotal connection of the arms at times slidably receiving said side portions, means pivotally connecting the side portions of the pin member to the first-named end portions of the arms when the pin member is extended from said arms, and means on the bight portion of said pin member at times lockingly engageable with said locking lugs, when the pin member is in a position overlying the locked opposing arms with the side portions of the pin member located adjacent the respective arms.

2,977,961
COIN SORTING MACHINE
Arnold R. Buchholz and Frank Haban, Watertown, Wis., assignors to Brandt Automatic Cashier Company, Watertown, Wis., a corporation of Wisconsin
Filed Dec. 6, 1957, Ser. No. 701,078
14 Claims. (Cl. 133—3)



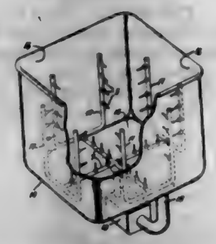
1. In a coin sorting machine, the combination of a rotary disc having a top surface on which coins are free to move radially outwardly by centrifugal force induced by said disc's rotation, means for limiting the initial outward movement of coins on said disc to an area back from the outer portion of said disc and for directing coins from this area to the outer portion of the surface of said disc to form a single file of coins thereon, drive means for said disc, means, operable as said drive means is stopped, for confining coins in said area to said area, means for supplying a succession of coins to said area to permit their free movement radially outwardly over the same as substantially single layer units, means for limiting the outward radial travel of coins on the outer portion of said disc in their single file movement thereon, a sorting station, a series of selectively positioned coin-lifting means at said sorting station, one for each diametrical size of coin, operable on said single file of coins as they pass through said sorting station in cooperative relation with said outward limit means and the energy imparted to the coins by the disc to sortably remove the coins therefrom, and gate means, operable on the coins on the outer portion of said disc as said drive means is stopped, for preventing the passage of coins from this outer portion area of said disc to said sorting station.

2,977,962
PROCESS FOR THE CLEANING OF METAL PARTS
Jacques Zacher, Scheideggstrasse 59, Zurich, Switzerland
Filed Dec. 8, 1958, Ser. No. 778,962
Claims priority, application Switzerland Dec. 11, 1957
3 Claims. (Cl. 134—111)



1. Apparatus for the cleaning of metal particles comprising a container adapted to receive a cleaning liquid, means in the base of said container for producing supersonic waves in said liquid, said container having a circulating conduit connected thereto, said conduit including a circulating pump, a filter and a hermetically sealed degasification vessel, said vessel being disposed at an elevated position compared with said cleaning container, the difference in level corresponding to the vapor pressure of said cleaning liquid.

2,977,963
DISHWASHER AND WATER DISTRIBUTOR THEREFOR
Robert V. Klint, Vinchers Ferry, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 25, 1957, Ser. No. 692,430
1 Claim. (Cl. 134—179)



An improved dishwasher and the like washing apparatus comprising in combination, a tub adapted for the placing of articles to be washed therein, and a plural moving stream washwater sytem for said tub, said system including a manifold conduit along the bottom of said tub and extending adjacent the inner side surfaces thereof, a series of short flexible tubes attached to said manifold along the length thereof at the bottom of said tub and upwardly directed, a series of short flexible tubes attached to said manifold along the length thereof adjacent the inner side surfaces of said tub and inwardly directed, said tubes being about 2 inches in length, means introducing washwater through said manifold under a predetermined pressure to cause said tubes to oscillate in the range of about 60 cycles per second to direct streams of water in diverse direction so that the articles to be washed are exposed to plural washwater streams from the bottom of said tub and plural washwater streams from all sides of said tub, and means on some of said tubes to affect and control oscillations thereof.

2,977,964
UMBRELLAS
Walter Trippe, Krefeld, and Werner Broll, Solingen-Ohligs, Germany, assignors to Fritz Bromshey and Karl Heinz Eickhorn, trading as the firm Bromshey & Co.
Filed Mar. 27, 1958, Ser. No. 724,479
Claims priority, application Germany Apr. 18, 1957
5 Claims. (Cl. 135—20)



1. A shortenable umbrella comprising a telescopic stick and ribs, main struts supporting the ribs and pivotally connected to main slider movable along the stick, auxiliary struts pivotally connected at points intermediate the ends of the main struts and pivotally connected to an auxiliary slider movable along the stick between the main slider and a crown to which said ribs are pivotally connected, and stop means for limiting the movement of said auxiliary slider towards said crown, said stop means projecting from the upper edge of said auxiliary slider and making substantially point contact with said crown.

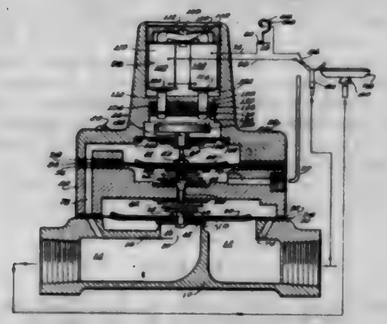
2,977,965
CANE WITH FLAG
Samuel Lewis, 23—35 100th St., East Elmhurst, N.Y.
Filed May 11, 1960, Ser. No. 28,379
1 Claim. (Cl. 135—47)



A cane in combination with a flag, said cane including a hollow body and a handle screwed on the top end of said body, said body being provided with a longitudinal slot extending from its ultimate top a distance downward from said handle, a plug inserted in said cane body adjacent the lowermost end portion of said slot, said plug including a lateral lug engaging in said slot and two lugs on top of said plug and on the sides, respectively, of said slot, a pivot pin passed through said top lugs, a closure member for said slot including an ear at its lower end projecting between said top lugs and being turnable

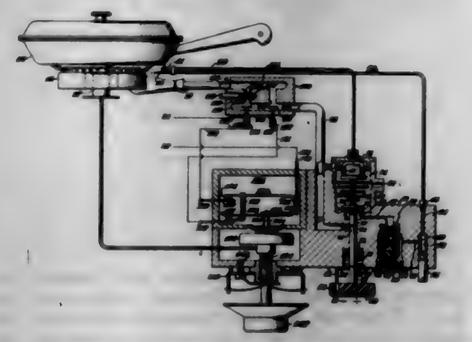
on said pivot pin, said member having a first position in which it closes said slot and has its outer face flush with the surface of the cane body and a second position in which it is swung outwards of said cane, a hair-pin spring having its bend coiled about said pivot pin and having two legs, the first one of which bearing against said closure member and the second one bearing against the inner surface of said hollow cane body opposite said slot, and a flag of a pliable material and of a substantially sector-like shape having two substantially radial edges secured to the legs, respectively, of said spring, and a releasable locking means attached to the cane handle and operative to hold said membef in its first position against the restraint of said spring.

2,977,966
FLUID PRESSURE OPERATED CONTROL DEVICES
Russell B. Matthews, Wauwatosa, Wis., assignor to Bano Inc., a corporation of Wisconsin
Filed Oct. 17, 1956, Ser. No. 616,505
3 Claims. (Cl. 137—66)



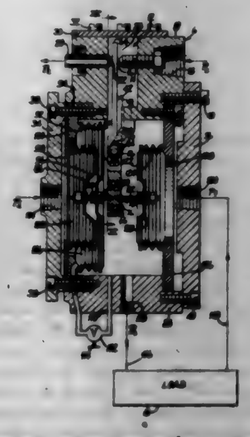
1. A unitary control device comprising, a valve body having an inlet and an outlet, a main valve, means including a first pressure responsive flexible diaphragm for actuating said main valve between two extreme flow controlling positions and defining a pressure chamber in continuous communication with said inlet and having a vent passage opening externally of said valve body, a pilot valve member controlling the flow through said vent passage and movable rectilinearly between controlling positions to thereby control the operation of said actuating means and hence the position of said main valve, a second pressure responsive flexible diaphragm carrying said pilot valve member for movement of said pilot valve member and thereby said main valve to a plurality of flow controlling positions, said second diaphragm being actuatable substantially independently of fluid flow through said vent passage and in accordance with variations in fluid pressure at said outlet, means in said valve body including an overcalling member movable into and out of engagement with said pilot valve member and operative to normally overcall said pilot valve operating means and effect disposition of said pilot valve member in a position effecting disposition of said main valve in one of its extreme positions, and electroresponsive means in said valve body including an electromagnet and a cooperating armature movable between attracted and retracted positions and fixed to said overcalling member for actuation thereof, said electroresponsive means when energized rendering said overcalling means inoperative to thereby permit controlling movement of said pilot valve means and main valve under the control of said operating means.

2,977,967
BURNER CONTROL APPARATUS
Victor Weber, Greensburg, William J. Russell, Jeannette, and William J. Sanders, Mount Pleasant, Pa., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Apr. 5, 1957, Ser. No. 650,977
8 Claims. (Cl. 137—66)



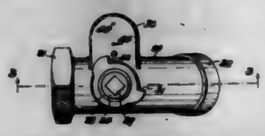
1. In a fluid flow control device, the combination of a control casing having an inlet and an outlet with connecting passage means therebetween for fluid flow through said casing, control means movable between operative positions in said casing for controlling said fluid flow and being biased to one of said positions, means for retaining said control means in another said position, and reset means operatively engageable with said control means for moving said control means toward said other position, said reset means including a stem portion coacting with said passage means and biased toward an inoperative position relative to said control means but being operable in said position for adjusting said fluid flow.

2,977,968
PRESSURE RELAY
Paul M. Stiglic, Wickliffe, and Daniel J. Skramo, Willoughby, Ohio, assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Apr. 29, 1958, Ser. No. 731,835
7 Claims. (Cl. 137—86)



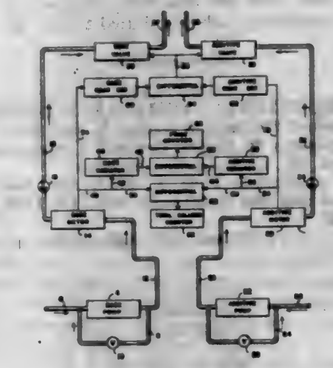
1. A pneumatic relay comprising a first chamber having an inlet orifice opening into the chamber and an outlet orifice opening from the chamber, a movable control valve member positioned to change the flow through the inlet and the outlet orifices with movement, a second chamber having an inlet opening to receive an input pressure signal, a first movable wall exposed to the pressure in said first chamber, a second movable wall having one surface exposed to the pressure in said second chamber and being of an area less than said first wall, means forming a third closed chamber between said walls, means interconnecting said first and second walls to said valve member whereby movement of the walls will change the pressure in said first chamber by moving said valve member in a direction to cause a corresponding change in pressure for the first chamber, a signal outlet passage leading from the first chamber to a load to supply an output pressure signal, a fourth chamber having a movable wall connected to said valve member to move it in opposition to said first and second walls, a feedback passage for leading from the load to supply a feedback pressure indicative of the response of the load to said output pressure signal, and a passage communicating between said first and third chambers whereby change in pressure in said first chamber will cause a corresponding change in said third chamber and a progressive movement of the valve member due to the difference in areas in said first and second walls whereby the pressure in the first chamber will change as an integral function of the pressure change in the second chamber until the feedback pressure in the fourth chamber stops movement of the valve member.

2,977,969
ANGLE COCK OR VALVE FOR AIR BRAKE SYSTEMS
William L. Welkly, 123 Summit Ave., Phillipsburg, N.J.
Filed July 30, 1958, Ser. No. 752,016
1 Claim. (Cl. 137—87)



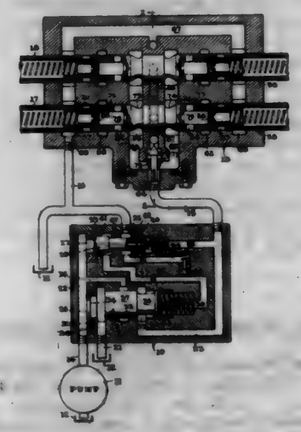
Vent valve means to discharge fluid under pressure from respective sources thereof comprising a cylinder having axially spaced first and second exhaust ports in an external side wall thereof between first and second ends of said cylinder; a unitary vent valve member axially movable in said cylinder, said vent valve member comprising a stem having first, second and third piston sections axially spaced therealong intermediate its ends, said first section being nearest said first end of the cylinder, said second section being nearest the second end of the cylinder and said third section being intermediate said first and second sections, one end of said stem normally limiting movement of the vent valve member toward said second end of the cylinder, whereby to space the second piston section from said second end of the cylinder so as to provide a pressure fluid intake chamber between said second end of the cylinder and said second piston section, the second and intermediate piston sections defining a middle chamber which, in the closed position of the vent valve member, wherein said one end of the stem abuts said second end of the cylinder, closes said exhaust ports, the intermediate and first piston sections defining a balance chamber, spring means to yieldably urge the vent valve member to said closed positions, means to admit pressure fluid to said intake chamber of the cylinder and other means to admit pressure fluid to said balance chamber of the cylinder, whereby, upon increase in pressure in said intake chamber, axial movement of the vent valve member is effected which brings the intake chamber into communication with the second exhaust port and said balance chamber into communication with the first exhaust port, thereby to vent exhausting pressure fluid.

2,977,970
METERING MEANS
Elmer T. Young, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 25, 1955, Ser. No. 548,987
4 Claims. (Cl. 137—100)



1. Apparatus for the simultaneous delivery of two liquids comprising individual means metering the deliveries of said liquids, valves individually controlling the deliveries of said liquids, adjustable means operated by said metering means and simultaneously controlling said valves to effect the delivery of said liquids in substantially a predetermined ratio, and a single manually controlled means for adjusting the last mentioned adjustable means and for simultaneously presetting said valves in approximate positions for delivery of said liquids in said predetermined ratio.

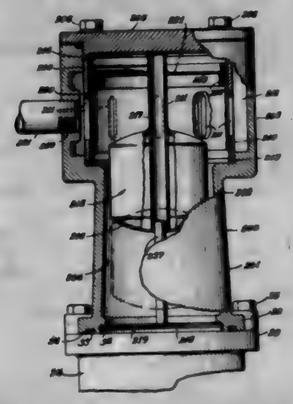
2,977,971
FLUID DISTRIBUTION SYSTEM AND VALVES THEREFOR
Charles A. L. Ruhl, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Apr. 3, 1958, Ser. No. 726,141
8 Claims. (Cl. 137—108)



1. In combination, a supply passage, a delivery passage, and an exhaust passage; an unloading valve shiftable between loading and unloading positions in which it connects the supply passage with the delivery passage and with the exhaust passage respectively; means biasing the unloading valve toward one of said positions; a piloted pressure motor for shifting the unloading valve toward

the other position against the biasing means; a control passage connecting the supply passage with the delivery passage; and piloting means responsive to the rate of flow through the control passage for pressurizing or venting the piloted motor, whereby when the flow rate through the control passage is above a predetermined minimum rate, the unloading valve is shifted toward its loading position and when the flow rate is below said minimum rate, the unloading valve is shifted toward its unloading position.

2,977,972
LIQUID-LEVEL CONTROLLED DEVICES
Henry Robert Billeter and George E. Richards, Deerfield, Ill., assignors to Liquid Controls Corporation, North Chicago, Ill., a corporation of Illinois
Original application June 1, 1955, Ser. No. 512,551. Divided and this application Nov. 19, 1958, Ser. No. 775,845
8 Claims. (Cl. 137—202)



1. A liquid-level controlled device, comprising a casing defining a float chamber and having an inlet opening into said chamber and a cylindrical wall portion provided with an outlet orifice, float means including a valve-actuating element guided for movement in said chamber and a valve element including a flexible resilient sleeve member secured at one end to said valve-actuating element and at the other end to said casing in a position whereby a portion of said sleeve lies flat against said wall portion in sealing relation to said orifice when said actuating element is in one position and is displaced from said orifice when said actuating element is in another position, and the portion of said sleeve member intermediate said secured portion is curved back upon itself, said sleeve member being open at both ends with its interior communicating with the interior of said chamber whereby fluid flowing from said inlet to said orifice passes through said sleeve member, and the intermediate portion of said sleeve member is exposed on both faces to equal fluid pressure.

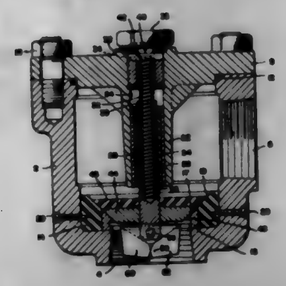
2,977,973
INFLATABLE ARTICLE WITH ONE-PIECE VALVE BODY
Alexander Chakine, 305 W. 72nd St., New York 23, N.Y.
Filed Dec. 5, 1958, Ser. No. 778,679
6 Claims. (Cl. 137—223)

1. A valve comprising a one-piece elongated flexible, plastic valve body having a tubular base and an upper tubular member extending from said base and terminating in an open end, said tubular base being of larger diameter than said upper tubular member, so that said upper tubular member may be telescopically received within said base, an end plate provided with a depending plug, said depending plug being of a size such that when inserted into the open end of said upper tubular member it completely seals said open end, arm means integral with said end plate and extending therefrom to said tubular base, said end plate being of larger diameter than said upper tubular member and being of substantially the same diameter as



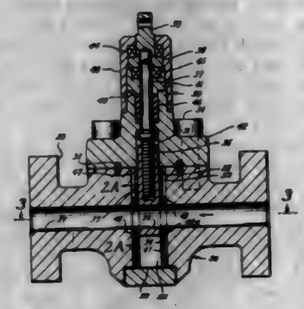
said base, said end plate lying substantially flush with said end of said tubular base remote from the connection of said tubular base and said upper tubular member and said plug being received in said open end in closed condition of said valve.

2,977,974
VALVE
Lindsay H. Browne, Westport, Conn.
(% Scott & Williams Incorporated, Laconia, N.H.)
Filed Nov. 4, 1957, Ser. No. 694,258
9 Claims. (Cl. 137—243)



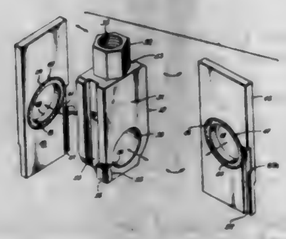
1. A valve comprising a housing having an inlet opening and an outlet opening, an annular seat member extending about said inlet opening, a valve member substantially coaxial with said seat member, and means for guiding said valve member for axial movement towards and away from said seat member, said seat member comprising an outer annular resilient rubber seat element and an inner annular rigid seat element bounded by said rubber seat element and free to move transversely to its axis except as restrained by said rubber seat element, said seat elements having substantially conical inwardly directed seating faces, the face of one being substantially continuous with that of the other, said valve member comprising a resilient rubber valve element and a rigid valve element, the rubber valve element providing an approximately conical outwardly directed face and the rigid valve element providing a substantially conical outwardly directed face interiorly of the conical face provided by said rubber valve element and substantially continuous therewith, the conical faces of the seat member and of the valve member being dimensioned and facing each other so that when valve closure occurs the faces of the rubber elements engage each other and the faces of the rigid elements engage each other, said guiding means mounting said valve member for limited lateral movement relative to the housing and the conical faces of said rigid elements having substantially the same cone angles so that as the conical faces of said members engage each other the members are axially aligned by mutual engagement of the conical faces of said rigid elements.

2,977,975
VALVE
Herbert Allen, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed May 6, 1957, Ser. No. 659,199
47 Claims. (Cl. 137—330)



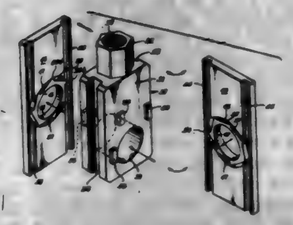
1. A valve, comprising a body having a flowway therethrough and a cavity therein intersecting the flowway, a valve member mounted on the body for movement within the cavity between flowway opening and closing positions, a seat element having an opening therethrough and carried within the body with its opening forming a continuation of the flowway therethrough for rotation about its opening and for seating in a plurality of rotational positions between the valve member in its closed position and a surface on the body, and means responsive to each cycle of opening and closing movement of the valve member for rotating the seat element from one predetermined rotational seating position to a different predetermined rotational seating position than said one position to thereby distribute wear about the seat element.

2,977,976
VALVE
Herbert Allen, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex., a corporation of Texas
Filed Oct. 7, 1958, Ser. No. 765,835
16 Claims. (Cl. 137—330)



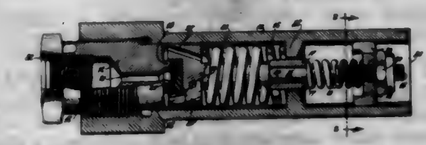
1. A valve, compriaing a body having a flowway therethrough and a cavity therein intersecting the flowway, a valve member mounted on the body for movement within the cavity between flowway opening and closing positions, a seat element having an opening therethrough and carried within the body for rotation about its opening to a plurality of rotational positions for seating between the valve member in its closed position and a surface on the body which surrounds the flowway at its intersection with the cavity, and a part on the valve member for directly engaging and following another part on the seat element to rotate the seat element from one predetermined seating position to another during movement of the valve member between opened and closed positions.

2,977,977
VALVE
John V. Pennington, Whittier, Calif., assignor to Cameron Iron Works, Inc., Houston, Tex.
Filed Nov. 3, 1958, Ser. No. 771,593
7 Claims. (Cl. 137—330)



1. A valve, comprising a body having a flowway therethrough and a cavity therein intersecting the flowway, a valve member mounted on the body for movement within the cavity between positions opening and closing the flowway, a seat element having an opening therethrough and carried within the body for rotating about its opening, fixed parts on the valve member and seat element engageable with one another to rotate the seat element about its opening, during movement of the valve member between opened and closed positions, from one predetermined seated position to another between the valve member in its closed position and a surface on the body which surrounds the flowway at its intersection with the cavity.

2,977,978
RELIEF VALVE
Matthew Ned Miller, Topanga, and Roy Valentine Smith, Los Angeles, Calif., assignors to Fairchild Engine and Airplane Corporation, Hagerstown, Md., a corporation of Maryland
Filed Nov. 25, 1957, Ser. No. 698,617
8 Claims. (Cl. 137—470)

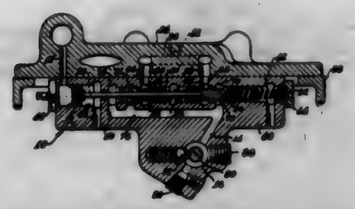


1. A pressure relieving apparatus comprising means defining a passage, the inlet end of which is in communication with a source of fluid under pressure, a relief valve within said passage, biasing means for said relief valve for urging the relief valve to closed position, cooperating relatively movable means defining a variable restricted passage therebetween downstream of said relief valve, the pressure drop across the restricted passage produced by the flow of fluid therethrough when the relief valve is open exerting a force between said relatively movable means which tends to increase the size of said restricted passage, means exerting a bias on said relatively movable means which tends to reduce the size of the variable passage, and means controlled by the movement of the relief valve toward closed position for increasing the bias on said relatively movable means, whereby as the pressure of the fluid decreases from a value higher than the relief pressure to a value very close to the relief pressure, the movement of the relief valve toward closed position tends to initiate a reduction in the size of the variable restricted passage downstream of said relief valve to produce a throttling action which tends to build up the pressure on the downstream side of the relief valve, affording a greater sensitivity in re-seating since the means which

normally biases the relief valve to closed position will exert almost the same control on the relief valve during re-seating that it exerted upon opening.

8. A pressure relieving apparatus comprising a relief valve normally biased to closed position, relatively movable means defining a variable restricted passage downstream of said relief valve, means defining a flow passage from the relief valve to the variable restricted passage to direct substantially the entire flow of fluid passing through said relief valve to the variable restricted passage, said relatively movable means including a pair of relatively movable elements which cooperate to control the pressure in the flow passage, said two elements cooperating to define a restricted passage of relatively small cross-sectional area when the relief valve is closed and a larger passage when the relief valve is open, and means for exerting a force on said relatively movable means which tends to maintain the effective size of the variable passage small, the high pressure of the fluid forcing open the relief valve and increasing the size of the restricted passage to afford a higher rate of flow through the relatively large opening of the variable passage, and a fall in pressure reducing the size of the restricted passage to afford a lower rate of flow through the smaller opening to permit the pressure to build up on the downstream side of the valve before the valve closes.

2,977,979
REGULATING VALVE
Woodrow A. Hasbany, South Bend, Ind., assignor to Clark Equipment Company, a corporation of Michigan
Filed Nov. 10, 1958, Ser. No. 772,920
6 Claims. (Cl. 137—495)



1. A pressure regulating valve of the character described, said valve comprising a valve body having a longitudinal cylindrical bore therein, a pressure inlet and a pressure outlet communicating with said bore, a first valve spool slidably arranged in said bore for varying the flow of pressure fluid between said inlet and said outlet, piston means in said bore adapted and arranged to act on said valve spool, means for adjusting the position of said piston and thus said valve spool in said bore, return spring means in said bore and operable upon said valve spool in opposition to said adjusting means, a regulating valve spool in said bore communicating with said inlet and said outlet, said regulating valve spool being substantially hydraulically balanced relative to the pressure at said inlet, said regulating valve spool being slidable within said bore independently of said valve spool, regulating passage means in said body communicating with said bore and said outlet and adapted and arranged to hydraulically unbalance said regulating valve spool in response to the pressure existing at said outlet, and regulating spring means in said bore urging said regulating valve spool in opposition to the hydraulic unbalance thereof, the operation of the regulating valve being such that upon movement of said first valve spool to reduce the flow of fluid from inlet to outlet below a predetermined amount the said regulating valve spool is caused to slide within said bore to supplement the flow of pressure fluid between said inlet and said outlet to maintain a predetermined pressure at said outlet.

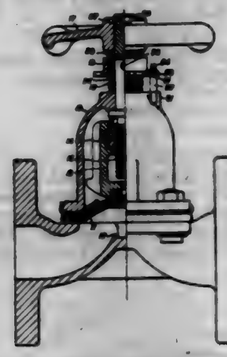
3. A pressure regulating valve of the character described, said valve comprising a valve body having a longitudinal cylindrical bore therein, a pressure inlet and a pressure outlet communicating with said bore, a piston in said valve body having an elongated operating rod extending into said bore, a first valve spool slidably arranged in said bore for varying the flow of pressure fluid between said inlet and said outlet, said operating rod being adapted and arranged to abut said first valve spool, operating means for moving said piston within said body to thereby adjust the position of said first valve spool, a second valve spool in said bore and freely slidable upon and relative to said operating rod, said second valve spool communicating with said inlet and said outlet and being substantially hydraulically balanced relative to the pressure at said inlet, regulating passage means communicating with said outlet and with said bore and adapted and arranged to hydraulically unbalance said second valve spool responsively to the pressure at said outlet, and regulating spring means mounted within said bore between said first and second valve spools and surrounding said operating rod, said regulating spring means biasing said second valve spool in opposition to the said hydraulic unbalance thereof, whereby upon movement of said first valve spool to vary the fluid flow between said inlet and said outlet said second valve spool causes a regulating action to occur which maintains a selectable regulated pressure at said outlet.

2,977,980
UNIDIRECTIONAL VALVE FOR METERING PUMPS AND THE LIKE
Axel R. Scholin, 4820 N. Paulina Ave., Chicago, Ill.
Filed Apr. 22, 1958, Ser. No. 730,181
3 Claims. (Cl. 137—539)



1. A generally cylindrical check valve assembly comprising in combination means defining a valve casing having a cylindrical longitudinal bore extending completely therethrough and defining at one end a fluid inlet and at the other end a fluid outlet, said bore having an enlarged counterbore medially of its ends, the wall of said bore presenting a frusto-conical valve seat defining a valve opening establishing communication between the inlet end of the bore and the counterbore, an elongated cylindrical valve plunger slidable longitudinally in said bore and passing completely through said counterbore, said plunger having one end thereof slidably piloted in said inlet end of the bore and having its other end slidably piloted in the outlet end of the bore, said plunger being formed with an enlargement medially of its ends and operatively disposed within said counterbore and spaced from the wall thereof, a valve member in the form of an elastomeric sealing ring surrounding said plunger and movable bodily with the plunger into and out of wedging engagement with said frusto-conical valve seat, said plunger being movable between a normally retracted position wherein said sealing ring is sealingly confined between said frusto-conical valve seat and said enlargement and an advanced position wherein said sealing ring is out of engagement with said valve seat, said one piloted end of the plunger being formed with a flat thereon which, in combination with the wall of the bore, defines a clearance region, said plunger being provided with a longitudinally extending fluid passage in communication through the other end of the plunger with said fluid outlet, said enlargement being provided with a transverse fluid passage establishing communication between said longitudinally extending passage and the annular space existing between said enlargement and said counterbore, said one piloted end of the plunger being formed with a fluid passage extending inwardly from the adjacent extreme end of the plunger and communicating with said clearance region through a radially opening port, and spring means within said bore normally urging said plunger to its retracted position.

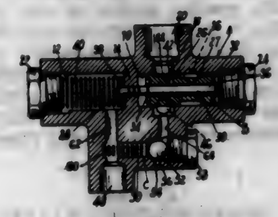
2,977,981
DIAPHRAGM VALVES
Charles Ray Jarrett, Grange Road, Cwmbran, Monmouthshire, England
Filed Dec. 9, 1957, Ser. No. 701,586
Claims priority, application Great Britain Dec. 7, 1956
3 Claims. (Cl. 137—553)



1. In a diaphragm valve, a non-rising spindle enclosed by a bonnet, a screw thread outside the bonnet coaxial with and fast to the spindle so as to rotate therewith, an indicator and stop device comprising an external visible indicator nut working on said thread, guide means fixed in relation to said bonnet and selectably engageable with said nut at any of a plurality of angular positions of the nut round the axis of said spindle to prevent rotation of the nut without impeding its axial movement, and a stop surface rigid with said bonnet and located to check said nut and so prevent further rotation of said spindle when the valve is closed, said guide means consisting of a rod set parallel to the valve spindle and said indicator nut includes a flange having notches at close angular intervals at such a radius that any of them can be brought into engagement with said guide rod.

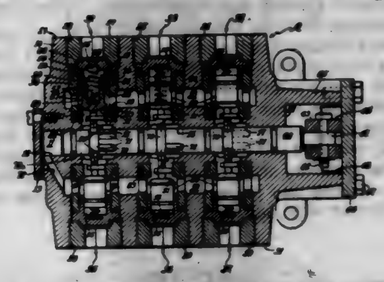
2,977,981
PRIORITY VALVE CONSTRUCTION
James R. Chapman, Jr., and James O. Byers, Jr., St. Joseph, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Filed Dec. 24, 1958, Ser. No. 782,869
4 Claims. (Cl. 137—612.1)

4. A priority valve comprising: a valve body having first and second aligned bores and an integral partition wall separating said bores, a pressure inlet port and a pressure outlet port spaced along and opening into said first bore, a valve spool slidably received in said first bore, said valve spool including an inner land which seals off said pressure inlet port and outlet port when said valve spool is in its normal position and a recess which communicates said inlet and outlet ports when said spool is moved from its normal position, aligned passages in said partition and spool, a pin extending through said passages to be in sliding and sealing engagement with the passage in said partition and proportioned relatively to the through passage in said spool to provide a remaining area effective for communicating fluid pressure there-



through to the ends of said valve spool, a bore communicating the through passage of said valve spool with said inlet port, spring means in said second bore operatively engaging said pin and acting therethrough to locate said valve spool in its normal position, a bore in said valve body disposed generally parallel to said first and second bores and having a counter bore in its end providing a valve seat, a ball valve in said counter bore adapted to close off said valve seat, spring means biasing said ball valve away from its seat, means communicating said inlet port to said counter bore on the side of said ball valve oppositely from said valve seat, and an exhaust port communicating said second bore and the small diameter end of said parallel bore.

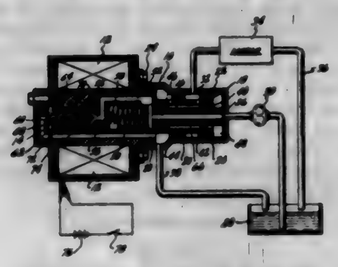
2,977,983
SELECTOR VALVE ASSEMBLY
William W. Headings, Willoughby, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 26, 1959, Ser. No. 795,726
2 Claims. (Cl. 137—622)



1. A valve assembly comprising: a housing having a cavity therein; means defining a pair of bores in said housing intersecting said cavity; means defining a pressure chamber and a return chamber in said housing; means defining a plurality of passage means in said housing, a pair of said passage means respectively interconnecting said bores with said pressure chamber, another pair of said passage means respectively interconnecting said bores with said return chamber; a plurality of valves disposed respectively in said passage means, each valve when in a closed position preventing fluid communication through the respective passage means and when in

an opened position permitting said fluid communication; and a movable member disposed in said cavity, said member being adapted to be axially and rotatably movable relative to said housing and being operatively interconnected with said valves to effect operation of said valves upon movement of said member relative to said housing whereby when said member is in a first axial and rotatable position relative to said housing, fluid communication is prevented between said bores and said chambers; when said member is moved to a second rotatable position relative to said housing, fluid communication is permitted between one of said bores and said pressure chamber and between the other of said bores and said return chamber; when said member is moved to a third rotatable position relative to said housing, fluid communication is permitted between said other bore and said pressure chamber and between said one bore and said return chamber; and when said member is axially moved from said first axial position to another axial position relative to said housing, fluid communication is permitted between said bores and said chambers.

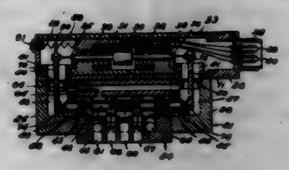
2,977,984
SERVO SOLENOID VALVE
Philip E. Barnes, North Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 15, 1960, Ser. No. 36,405
11 Claims. (Cl. 137—623)



1. In combination a ported valve housing having a longitudinally extending chamber, a longitudinally movable valve member in said chamber cooperating with said ports, said member and housing having passages connecting opposite ends of said valve member for simultaneously admitting pressure fluid to both ends of said member, a control plunger longitudinally movable in said chamber, having two active positions, spring means moving said plunger to one position and magnetic means moving said plunger to the other position, said plunger having means blocking said passage to one end of said member and connecting said one end with drain when said plunger is in said one position, and in the other position blocking said drain, opening said passage and connecting both ends of said plunger with said pressure fluid.

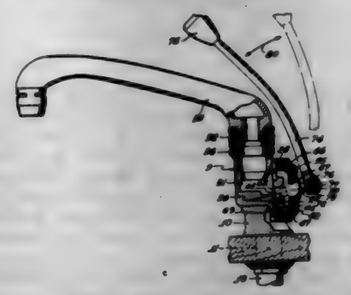
2,977,985
ELECTRO-HYDRAULIC SERVO CONTROL VALVE
Donald W. Ericson, Birmingham, Lee R. Herndon, Jr., Madison Heights, and Ernest C. Thornber, Oak Park, Mich., assignors to Pegasus Laboratories, Inc., Berkley, Mich., a corporation of Michigan
Filed Dec. 29, 1958, Ser. No. 783,414
10 Claims. (Cl. 137—623)

1. An electro-hydraulic servo valve comprising a casing having inlet, outlet and exhaust hydraulic ports therein, a valve spool slidably mounted in said casing and having means for controlling flow between said ports in accordance with the position of said spool, said valve spool having an internal passage longitudinally thereof and terminating in a discharge nozzle at each end of said spool, means intermediate the end of said spool for constantly connecting said passage to said inlet port, an electric actuating element mounted in said casing adjacent said valve spool, said actuating element including an armature displaceable from a normal position in response to the application of an energizing current to said actuating element, means for causing a change in the position in said valve spool in response to a change in the position of said armature comprising a pair of drive members, valve means carried by each of said drive members for regulating the flow from one of said discharge nozzles,



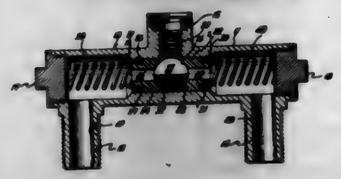
means for connecting each of said drive members to said armature whereby each of said drive members is movable relative to one end of said valve spool, and said valve spool having means responsive to the pressure differential produced by a change in the rate of flow from one of said discharge nozzles relative to the rate of flow from the other discharge nozzle for producing a change in spool position such as to neutralize said pressure differential, said pressure responsive means including a pair of fixed area upstream orifices in said valve spool internal passage, each one of said orifices being located between the said connection of said passage to said inlet port and one of said discharge nozzles.

2,977,986
SINGLE-HANDLED VALVE
Gottlob Hinderer, La Canada, and John K. Lyon, Los Angeles, Calif., assignors to Price-Pfister Brass Mfg. Co., Los Angeles, Calif., a corporation of California
Filed Feb. 4, 1957, Ser. No. 637,914
23 Claims. (Cl. 137—625.17)



1. In a mixing valve: means forming a chamber having an outlet; means forming a valve seat in the chamber, and having two ports; a valve plate in the chamber and having passage means registrable with the ports; and an operator projecting into the chamber and connected to the plate for moving the plate; means confining the plate for movement so that a plane fixed with respect to the valve plate and extending normal to the seat always passes through an axis normal to and fixed with respect to said valve seat; the plate being rotatable about said axis for adjusting the relative registry of the passage means with said ports, and slidable radially of said axis to adjust the extent of combined registry of the passage means with said ports.

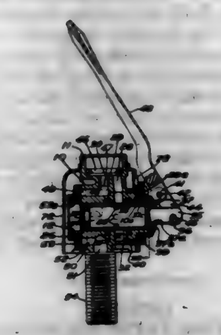
2,977,987
VALVE STRUCTURE
Wallace J. Maynard, 6219 San Ricardo Way, Buena Park, Calif.
Filed Feb. 3, 1958, Ser. No. 712,706
3 Claims. (Cl. 137—625.17)



1. A valve structure comprising a body defining two fluid inflow passages, a fluid outflow passage and a cylindrical bore having an intermediate portion of enlarged cross-sectional area, the inflow passages opening into the enlarged portion of the cylindrical bore from substantially opposite sides and the outflow passage opening into the enlarged portion of the cylindrical bore between the inflow passages, a cylinder fitted in the bore to be slidable in the end portions and having two grooves on opposite sides, means adapted to rotate the cylinder and to move it along the longitudinal axis of the bore, a removable insert plug slidably fitted within each of the inflow passages, and fluid-sealing means between the surface of each insert plug and the wall of its inflow passage, each insert plug having a longitudinal opening extending from end to end and a curved end face fitted to the curvature of the cylinder, the curved end face of each insert plug being urged against the cylinder in sealing engagement by a force applied against the opposite end face of the insert plug, the cylinder grooves longitudinally extending along the cylinder whereby, in a position enabling flow from the inflow passages to the outflow passages, a portion of each groove mates with a respective insert plug opening and the remaining portion of each groove extends beyond its respective insert plug to an annulus formed between the cylinder and the enlarged portion of the bore, the cylinder grooves being formed whereby a rotational movement of the cylinder changes the proportion of flow contributed from the inflow passages and a longitudinal movement of the cylinder reciprocally and incrementally changes the area available for flow from full flow-enabling engagement to no flow-enabling engagement between the grooves and the insert plug openings.

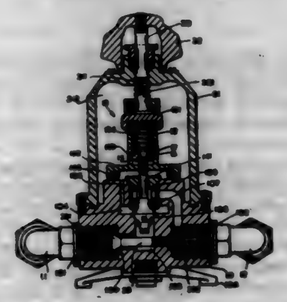
2,977,988
SINGLE LEVER CONTROL FAUCET
Martin E. Drobilits and George H. Lantz, Morgantown, W. Va., assignors to Sterling Faucet Company, Morgantown, W. Va., a corporation of West Virginia
Filed Sept. 29, 1958, Ser. No. 763,950
11 Claims. (Cl. 137—625.17)

1. A mixing faucet for controlling both the volume and temperature of water dispensed therefrom comprising, a body member, a bore formed within said member, means for connecting hot and cold water inlet conduits to said body member and forming axially aligned inlet passageways in radial communication with said bore, a hydrostatically and hydrodynamically balanced valve cylinder having a hollow portion positioned within said bore for longitudinal and rotational movement therewith, axially aligned and arcuately spaced-apart inlet ports formed radially-through said valve cylinder for selective alignment with said inlet passageways, a mixing and discharge passageway formed in said body member in radial communication with said bore, discharge ports formed radially-through said valve cylinder and communicable with said mixing and discharge passageway, sealing means within said bore between wall portions of said bore and said valve cylinder for maintaining fluid-flow within a portion of said bore and intermediate the ends of said valve cylinder, said sealing means maintaining said valve cylinder in a minute fluid-passable spatial relationship with wall portions of said bore forming a fluid passage therebetween whereby the hollow portion of said valve cylinder will always be in at least a restricted communication with said inlet conduits through the minute fluid passage, and wherein fluid



entering the bore and said valve cylinder will act equally and oppositely on said valve cylinder to maintain the cylinder in a hydrostatically and hydrodynamically-balanced condition, an O-ring within said bore intermediate said inlet passageways and said discharge passageway for sealing-off fluid flow therebetween within said bore, and means for rotating said valve cylinder to selectively align said inlet ports with said inlet conduits to obtain a desired water temperature and for longitudinally sliding said valve cylinder to obtain a desired discharge volume.

2,977,989
MIXING VALVES FOR CONTROLLING THE MIXING OF HOT AND COLD FLUIDS
Lionel Charles Meynell, Wolverhampton, England, assignor to Meynell & Sons, Ltd., Wolverhampton, England, a corporation of Great Britain and Northern Ireland
Filed Mar. 4, 1959, Ser. No. 797,148
Claims priority, application Great Britain Jan. 3, 1959
12 Claims. (Cl. 137—630.19)



1. A mixing valve for hot and cold fluids incorporating a base, a housing secured to said base, a common passageway in said base, an inlet for hot fluid communicating with one end of said common passageway, an inlet for cold fluid communicating with the opposite end of said common passageway, opposed valve seatings incorporated in said common passageway, one valve seat-

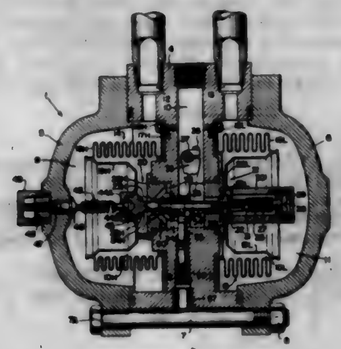
ing being associated with the section of the common passageway which is in communication with the hot fluid inlet whilst the other valve seating is associated with the section of the common passageway which is in communication with the cold water inlet, a double acting valve axially displaceable within the common passageway and adapted to co-operate with the valve seatings aforesaid, manually operable means for controlling the action of said double acting valve, a common mixing chamber surrounding said common passageway, passage means for placing said common mixing chamber in communication with a mixed fluid distribution chamber constituted by the interior of the housing aforesaid, a master valve actuable by said manually controlled means for opening and closing communication between the fluid distribution chamber and the common mixing chamber by way of the passage means aforesaid and an outlet for the mixed fluids leading from said fluid distribution chamber for the mixed fluid, said master valve being associated with the double acting valve in such a manner that on the initial manipulation of the manually operable control means for opening purposes the double acting valve is not actuated until after the master valve has first commenced to open.

2,977,990

DIFFERENTIAL PRESSURE RESPONSIVE APPARATUS

William E. Bauer, Palmyra, N.J., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Aug. 10, 1956, Ser. No. 603,433
8 Claims. (Cl. 137—779)



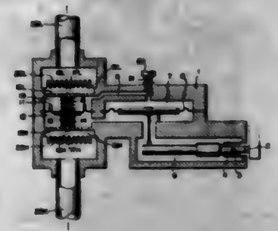
1. A device responsive to the difference between two pressures, including, a rigid case having a pair of inlet connections passing through the wall thereof and an intermediate chamber therein adapted to contain a substantially incompressible liquid in it, a first active element separating one of said inlet connections from said intermediate chamber, a second active element separating the other of said inlet connections from said intermediate chamber and having an operating characteristic different from that of said first active element, a stabilizing spring connected to the movable portion of said second active element and expansible so as to stabilize the device against the change in volume of said liquid by causing said first active element to remain stationary, a rod connected to said stabilizing spring at a point spaced from the connection between said stabilizing spring and said second active element and connected to and movable with said first active element, and an output element extending through a wall of said case and having an inner portion located inside said case and in engagement with said rod.

2,977,991

CONTROLLER

William E. Bauer, Palmyra, N.J., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware

Filed Jan. 27, 1958, Ser. No. 711,385
4 Claims. (Cl. 137—781)



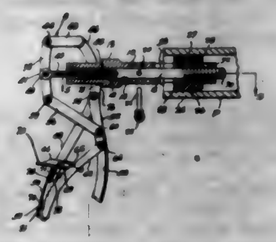
1. A device responsive to pressure, including, a rigid case having an inlet connection passing through the wall thereof, a seal mounted in said case and separating said inlet connection from an inlet chamber adapted to contain a substantially incompressible liquid, an overload valve adapted to control a connection between said inlet chamber and a valve chamber and adapted to contain a substantially incompressible liquid and communicating therewith when the overload valve between them is open, a movable valve operator connected to said overload valve so as to close said valve or to hold said valve open and mounted in said case, a sensing element which is operable independently of said valve operator and is less sensitive to pressure than said valve operator and which is mounted in said case and separating the interior of said case into an operating chamber adapted to contain a substantially incompressible liquid and communicating with said valve chamber, and a take-off passing through the wall of said case and having operative connection with said sensing element so as to be moved thereby.

2,977,992

STOPPER FOR GAS LINES AND THE LIKE

Irving J. Jensen, 910 Highland Ave., Iowa City, Iowa

Filed May 16, 1958, Ser. No. 735,787
2 Claims. (Cl. 138—89)



1. In a pipe plug, a barrel having an axial bore and first and second ends to which the bore opens, a rod sliding in said bore and having a first end portion extending beyond said first end of the barrel, said rod having a second end, a threaded axial bore in said rod opening to said second end, a stem having a first end threaded in said threaded bore and a second end extending beyond said second end of the barrel, a transverse rock arm pivoted intermediate its ends on the second end of the stem, said rock arm having first and second ends, a relatively stationary lever having first and second end portions, said first end portion extending along side of the barrel and terminating in a fixed lateral arm pivoted to the first end of the rock arm, an operating lever having

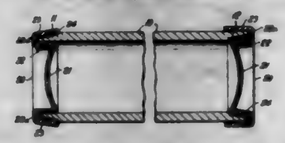
first and second ends with its first end pivoted to the first end portion of the stationary lever at a point at the opposite side of the barrel from said fixed arm, a link extending between the operating lever and the second end of the rock arm, said link being pivoted at related ends to the second end of the rock arm and to the operating lever at a point shaped from the first end of the operating lever, a shoulder on the barrel to be engaged by the stationary lever, locking means mounted on the operating lever and extending into engagement with a part of the stationary lever for locking the operating lever in compressed relation toward the stationary lever, a resilient plug circumposed on said first end portion of the rod, and means for compressing said plug endwise as the levers are compressed together and said rod is moved in the barrel in the direction of the second end of the barrel.

2,977,993

NON-METALLIC PIPE END CLOSURE

Lewis F. Scherer, Houston, Tex., assignor to The Texas Pipe Line Company, Houston, Tex., a corporation of Texas

Filed Nov. 27, 1957, Ser. No. 699,307
1 Claim. (Cl. 138—96)



For use with pipe having open ends, the wall of said pipe at said ends tapering between the internal and external diameters of said pipe to define an annular cross section at said ends of diminishing wall thickness toward said open ends, a flexible closure of the character described comprising a one-piece pipe end protector formed of resilient plastic material of substantial thickness for slip-on engagement with a tapering pipe end, said end protector having a flexible integral concave-convex bottom of substantial curvature with the concave surface thereof exposed to the interior of the pipe when in closure position, an upstanding cylindrical inner skirt portion of uniform external and internal diameter integrally joined to said bottom, a lip at the outer end of said inner skirt portion extending outwardly substantially normal thereto, and a cylindrical outer skirt portion supported by said lip in substantially parallel relationship to said inner skirt portion and spaced opposite thereto, the outwardly extending lip being of such extent that the inner and outer cylindrical skirt portions, when applied to a pipe end, may be spread apart from their normal parallel relationship to each other to have frictional engagement along their contact surfaces with the inner and outer surfaces of the pipe at said pipe end, circumferential corrugations on both the inner wall of the outer skirt and the external wall of the inner skirt whereby said closure is adapted to be inserted over and to engage both the inner and outer wall faces of said pipe ends, said inner skirt portion being of such depth that pipe-handling hooks may make operating contact therewith without danger of rupture of said bottom, said plastic material having a vapor phase corrosion inhibitor admixed therewith.

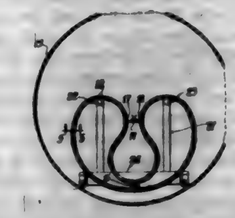
2,977,994

METHOD AND APPARATUS FOR SEALING PIPE JOINTS

Constantine P. Xenis, Douglaston, N.Y., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York

Filed Dec. 26, 1957, Ser. No. 705,204
9 Claims. (Cl. 138—97)

1. In apparatus of the class described, a resilient, flexible, collapsible sealing ring normally of annular configuration which is adapted to be releasably held in a non-annular collapsed condition, sealing material being applied to the periphery of said sealing ring, means for transporting such sealing ring to a selected location within a pipe adjacent the region of a leak in said pipe which



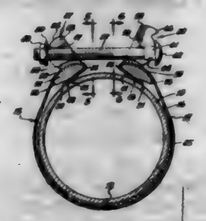
is to be sealed, means for so releasably holding said sealing ring in such non-annular collapsed condition, such latter means being releasable to allow the sealing ring to assume its normal annular configuration to press the sealing material against the inner surface of the pipe over said leak.

2,977,995

PIPE PATCH CLAMP

Floyd K. Walpole, Granada Hills, Calif., assignor to Aeroquip Corporation, Jackson, Mich., a corporation of Michigan

Filed June 30, 1959, Ser. No. 823,871
9 Claims. (Cl. 138—99)



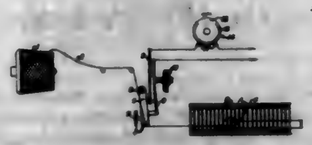
1. A clamp for encircling an object comprising a strap having end portions and adapted to be wrapped around the object to be clamped, terminal lugs attached to respective end portions of the strap, each lug comprising a foot portion and a leg portion extending outwardly from the foot portion, tightener means engageable with said leg portions for drawing the lugs toward each other to tighten the strap around the object, said foot portion having a fulcrum projection extending in a direction opposite to that of the leg portion whereby tightening of the strap imparts an inwardly directed moment of force upon the lugs with the lugs pivoting on their respective projections.

2,977,996

WEFT CONTROL MECHANISM

Victor Marie Joseph Ancet, 23 Rue Ferdinand Buisson, and Marius Fayolle, known as Marcel Fayolle, 5 Rue de l'Humilité, both of Lyon, France

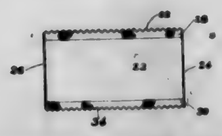
Filed Apr. 24, 1956, Ser. No. 580,325
Claims priority, application France May 2, 1955
2 Claims. (Cl. 139—370)



1. In a weaving loom having a stationary weft supply positioned laterally of the shed for insertion of a weft

thread drawn into the shed from the supply to form a fabric, a weft stop motion comprising: a pivoted arm positioned intermediate the weft supply and the shed, said arm extending substantially perpendicularly to the plane of the fabric and having a first end remote from said plane and a second end adjacent said plane, pivot means supporting said arm at said first end for swinging movement toward and away from the shed, a stop limiting movement of said arm away from the shed at a position perpendicular to said plane, an eye mounted on said arm at said second end for receiving a weft thread from the weft supply and guiding it directly into the shed, spring means resiliently opposing movement of said arm toward the shed in response to traction exerted on the weft thread drawn into the shed, the force of said spring means being of a value to permit movement of said arm toward the shed in the presence of normal traction and to cause return of said arm into contact with the stop in the absence of traction, and electrical circuit means including a switch actuated by the said arm, a relay in series with the first said switch to be energized thereby, and a loom control actuated by the relay to stop the loom upon actuation of the first said switch with said arm contacting said stop.

2,977,997
DIAPER
Norman L. Seltzer, Newton, Mass., assignor to The Kendall Company, Walpole, Mass., a corporation of Massachusetts
Filed Oct. 7, 1958, Ser. No. 765,797
11 Claims. (Cl. 139—383)



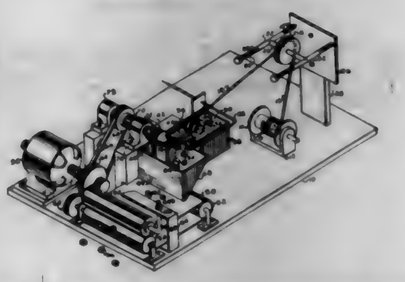
1. A soft, absorbent diaper with ravel-resisting edges, said diaper being made of warp yarns and a single set of filling yarns interwoven to form a single-layer bird's-eye weave body portion, two selvage edges, and two plain weave bar portions, said yarns being cellulosic and water-swellable, said bar portions running in the direction of said filling yarns along opposing edges of said body portion, all of said warp yarns of said body portion and of said selvage edges being interwoven in said bar portions, said bar portions having a greater number of filling yarns per inch than said body portion, and said bar portions being pinked along their outermost edges.

2,977,998
FASTENING LOOP BANDS WITH WAISTBAND AND METHOD OF PRODUCING THE SAME
Richard Grimm, Schneidermeister, Graf Karlstrasse 13, Pappenheim, Bavaria, Germany
Filed Sept. 16, 1958, Ser. No. 761,396
Claims priority, application Germany Nov. 13, 1957
7 Claims. (Cl. 139—384)



1. A method of manufacturing a fastening band with loops for cooperation with a waistband having hooks at its ends, comprising the steps of simultaneously weaving said fastening band and in the formation of each of said loops guiding a cord firstly along the rear side of said fastening band, then drawing said cord there through to the front side of said fastening band adjacent one edge thereof, passing said cord transversely of the longitudinal direction of the fastening band to a position adjacent the opposite edge to form a transverse cord length, passing said cord along said transverse cord length to form a further transverse cord length, and interweaving spaced end portions of said transverse cord length and of said further transverse cord length with said fastening band to form a loop intermediate said spaced end portions.

2,977,999
RING FORMING MECHANISM
Stephen E. Kwiatek, York, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 22, 1959, Ser. No. 808,144
6 Claims. (Cl. 140—88)



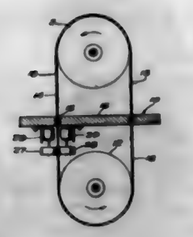
1. Mechanism for forming a filamentary material into helices comprising a chuck, means for rotating the chuck, a mandrel held by said chuck, and a cutting mechanism consisting of a single fixed sharp edged cutting blade carried by and extending laterally of the mandrel and outside of the periphery thereof at a point spaced from the chuck and a thrust plate positioned between the chuck and the blade, whereby when a wire is fed onto the mandrel between the plate and the blade, the knife, by itself, will effect a severing of the wire.

2,978,000
SAW CHAIN HAVING CUTTER INSERTS
Arthur H. Raney, Dunedin, Fla., assignor to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon
Filed June 15, 1959, Ser. No. 820,505
6 Claims. (Cl. 143—135)



1. A cutter link for a saw chain comprising an elongated side plate portion having an integral cutter carrying portion extending from said plate portion and curved back upon itself to provide a hollow cutter element receiving member having a longitudinal axis generally parallel to the plane of said plate portion and extending longitudinally of said plate portion, said cutter carrying portion terminating in an edge adjacent but spaced from said plate portion for at least a major portion of the length of said member to provide a longitudinally extending slot adjacent said plate portion, and a cutter element having a shank received in and fitting the interior of said member including a rib extending longitudinally of said shank and received in and fitting said slot, said cutter element having a cutter head on one end of said shank providing a shoulder abutting against one end of said member and provided with cutting edges directed away from said member.

2,978,001
MEAT CUTTING BAND SAW WITH BLADE CLEANER
Forrest B. Whisler, Box 175, Coachella, Calif.
Filed Aug. 29, 1958, Ser. No. 758,055
1 Claim. (Cl. 143—158)



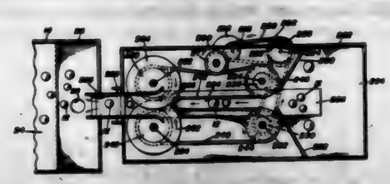
In a band saw device for cutting meat and bone, the combination of: a frame, vertically spaced upper and lower pulley wheels on the frame, an endless band saw blade trained over the pulley wheels, a platform on the frame positioned between the pulley wheels and adjacent the downward-moving flight of the band saw blade, one edge of the band saw blade having teeth thereon, the side faces of the band saw blade having longitudinally spaced ridge elements extending substantially at right angles to the direction of movement of the blade, each of said ridge elements terminating short of the side edges of the blade, and being adapted to collect bone-dust produced by the saw teeth, and a pair of power driven rotary brushes positioned on the frame below said platform, each of said brushes contacting one side of said blade, the parts of each rotary brush contacting the side faces of the blade moving substantially parallel to said ridges.

2,978,002
PLUG CUTTER
Robert B. Ransom, Westerly, R.I., assignor to Norfolk Products Corporation, a corporation of Connecticut
Filed Sept. 23, 1959, Ser. No. 841,771
2 Claims. (Cl. 145—120)



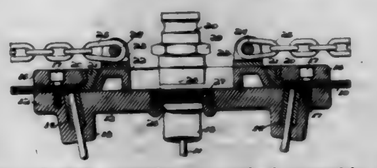
1. A plug cutter comprising a hollow cylindrical body providing an arcuate wall having an end in a plane at right angles to the axis of said body, said end being interrupted by a clearance opening extending inwardly into the wall from the end, a cutting edge provided by the junction of said end and one edge of the wall formed by said opening, said end along a portion of the end of the wall adjacent said cutting edge having a surface generated by the revolving of a portion of a radius line disposed at a right angle to the axis of the body, and the inner radius of said arcuate wall being provided with a thin lip presenting a scoring edge protruding in line with said cylindrical body from the surface formed by said radius line for initially entering the work.

2,978,003
FLOATING MUSHROOM ROOT TRIMMING MACHINE
William Benekam, 1699 Valley Road, Coatesville, Pa.
Filed July 16, 1957, Ser. No. 672,322
4 Claims. (Cl. 146—81)



3. A machine for trimming the roots from mushrooms, said machine comprising a water tank, a table in said tank, pairs of pulleys, means mounting said pulleys for rotation in said tank and at approximately the level of said table, endless conveyors entrained around said pairs of pulleys, said endless conveyors having confronting spaced flights constituting the side walls of a channel, the bottom of said channel constituted by a part of the upper surface of said table, said channel adapted to convey mushrooms that are floating within water within said tank, a cutter in registry with said channel to sever the root of the mushrooms as they are propelled into said cutter, means downstream of said cutter for guiding the cropped mushrooms from said tank, and means at a level below said cutter for conducting the root ends of the mushrooms from the tank and separately from the cropped mushrooms.

2,978,004
SWIVEL CLOSURE FOR ROTATABLE CONTAINERS
Donald F. Smith, Holliston, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed June 11, 1959, Ser. No. 819,789
10 Claims. (Cl. 150—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

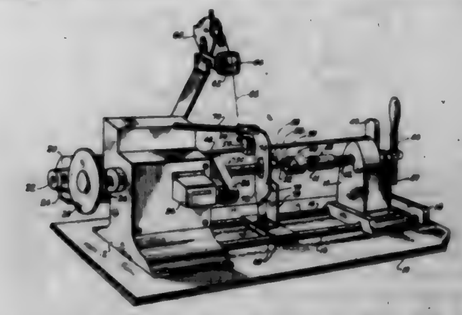


1. In a flexible container, a swivel assemble carried by the container and including an annular swivel element, means carried by the swivel assembly to rotatably secure the swivel element to the swivel assembly exteriorly of the container, a filling and emptying fitting carried by the swivel assembly to project axially through the annular swivel element and out of contact therewith, and a coupling member secured to the annular swivel element whereby the container may be secured by the coupling member while capable of rotation about the swivel element and its coupling member.

2,978,005
APPARATUS FOR WINDING AND MOUNTING INDUCTION COILS
Kenneth L. Park, Cheverly, Md., assignor, by mesne assignments, to Illinois Tool Works, Chicago, Ill., a corporation of Illinois
Filed Dec. 29, 1955, Ser. No. 556,161
6 Claims. (Cl. 154—1.6)

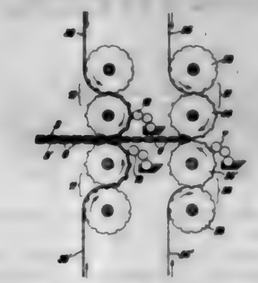
1. A coil winding machine for forming coils from a continuous supply of wire and for mounting said coils upon a supporting plate, said machine comprising a stand-

ard; a spindle rotatably mounted on said standard and having securing means for receiving the end of said wire; a source of power rotating said spindle spirally to wind the wire about the axis of the spindle, a guide for the wire interposed between the wire supply and the wire securing means, driving means interconnecting the guide and the power source for imparting a reciprocat-



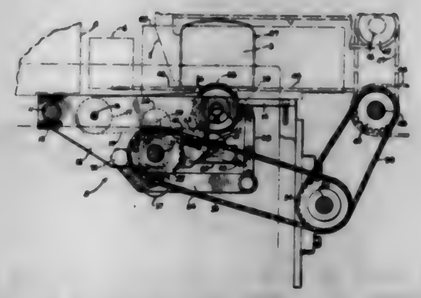
ing motion to the wire in a direction parallel to the axis of the spindle thereby to form a multi-layer spirally wound coil; a chuck plate for holding an adhesively coated supporting plate in coaxial relationship to the spindle, and means for relatively moving the chuck plate and the spindle in an axial direction to bring said plate into engagement with said wound coil for mounting said coil on said supporting plate.

2,978,006
STUFFING MATERIAL FOR PACKING PURPOSES, AND PROCESS AND DEVICE FOR THE MANUFACTURE THEREOF
Ludwig Clemens, Wilhelmstrasse 44–46, Wiesbaden, Germany
Filed July 15, 1958, Ser. No. 748,640
2 Claims. (Cl. 154—32)



2. A machine, for use in the manufacture of a stuffing or packaging material having two first layers of sheet material and externally thereof two second layers of cellulose wadding material, comprising two adjacent stages, each stage including two pairs of embossing rolls, each pair of rolls including a punch and a matrix, means operable for rotating all of said rolls at a synchronous speed, said two punches having raised portions forming identical designs and being disposed with their axes parallel to each other and being arranged to rotate in opposite directions in such a manner that the raised portions of said punches roll one against the other in a tangential direction without touching each other, whereby each matrix and punch adjacent thereto may emboss and feed a layer of material and said punches may exert pressure upon said sheets at the embossings thereof, the rolls of one stage uniting said two first layers, and the rolls of the other stage superimposing on each first layer a second layer of cellulose wadding material.

2,978,007
BREAD WRAPPER SEALING DEVICE
Thormod Jensen, New York, N.Y., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed Mar. 31, 1959, Ser. No. 803,281
7 Claims. (Cl. 154—42)

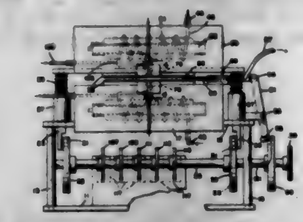


1. A device for heat-sealing the bottom overlapping edge portions of a thread wrapper on a wrapped loaf of bread which comprises, a frame, means for moving wrapped loaves of bread forwardly in a given path seriatim on said frame, a bracket swingably mounted on said frame for movement toward and away from the path of movement of the loaves, a heated sealing member mounted on said bracket for rotation about its central axis, said sealing member having a peripheral surface circumscribing its said axis and comprising a plurality of surface areas sequentially engageable respectively with the overlapping portions of the wrappers of the forwardly moving series of loaves, first cam means mounted on said frame and operatively engaging said bracket, said first cam means having a cam portion accommodating disposition of the surface of said sealing member in spaced relation to the path of movement of the loaves and another cam portion for moving said bracket to dispose one of the said surface areas of said member in the path of movement of the loaves, second cam means mounted on said frame and operatively connected with said sealing member for periodically rotating said member a predetermined fraction of one revolution to dispose in sequence the said surface areas thereof for engagement with the overlapping portions of the wrappers of the forwardly moving series of loaves, and means for operating said cam means in timed relationship with one another and said loaf-moving means for sequentially swinging said sealing member into the path of movement of the loaves to engage one surface area thereof with the overlapped portions of the wrapper of a first loaf, swinging said sealing member out of the path of movement of the loaves, rotating the member a fraction of a revolution while moving the series of loaves to remove the first loaf from the vicinity of said member and to bring a second loaf into the vicinity of said member, swinging said member into the path of movement of the loaves to engage a second surface area thereof with the overlapped portions of the wrapper of the said second loaf.

2,978,008
HEAT SEALING METHOD AND APPARATUS
John D. Conti, Elkins Park, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,685
15 Claims. (Cl. 154—42)

9. Apparatus for sealing a plurality of overlapping sheet materials having heat sealable properties including a pair of similarly shaped members movable into engagement with opposite surfaces of overlapped sheet materials

and together forming a fluid-tight chamber within which portions of the overlapped sheet materials are disposed, delivery means for introducing a heated fluid medium into said fluid-tight chamber to soften and seal the overlapped



portions of the sheet materials disposed within said chamber, and exhaust means allowing said heated medium to escape from said fluid-tight chamber and permit said seal to set.

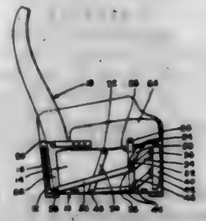
2,978,009
SEAT ADJUSTER
Louis Weberman, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 5, 1957, Ser. No. 670,345
6 Claims. (Cl. 155—14)



5. A seat adjuster comprising an elongated stationary lower track member having a plurality of notched bearing seats formed in opposite wall portions, means fixedly mounting said lower track member on a floor support, an elongated upper movable track member atop said lower track member and having complementary bearing surface portions formed in opposite side wall portions thereof, at least part of said bearings surface portions encompassing said notched wall portions when viewed in transverse section, means for mounting a seat on said upper track member, and a plurality of elongated bearing slugs of antifriction material mounted between said tracks in sliding engagement with the bearing surface portions of said upper track and in fixed engagement with said notched bearing seats in said lower track, each slug having a surface portion corresponding to the encompassing bearing surface portion and mating therewith to provide lateral stability between the lower and upper track members.

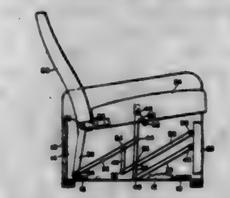
2,978,010
ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON
Johannes Luckhardt, deceased, Berlin-Dahlem, Germany, by Wasili Luckhardt, administrator, Berlin-Dahlem, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.
Filed Apr. 6, 1955, Ser. No. 499,724
4 Claims. (Cl. 155—106)

1. An adjustable reclining chair comprising a support, body-supporting means including a seat and back-rest pivotally mounted on said support and movable between an upright sitting position and a rearwardly tilted reclining position, a leg-rest, and a leg-rest control arrangement operatively connected between said support and said leg-rest and actuated by said body-supporting means for movement of the leg-rest relative to said seat in response to movement of said body-supporting unit, said control arrangement including a first arm pivotally mounted on the support and depending therefrom, a second arm pivotally mounted on the support at a point to the rear of said first arm and depending from its pivotal mount, a first link pivotally connected to an intermediate point on said first arm and to said leg-rest, a second link pivotally connected to the lower end of said second arm and pivotally connected to said leg-rest at a point spaced from the connection of said first link to said leg-rest, the lower end of said first arm being pivotally connected



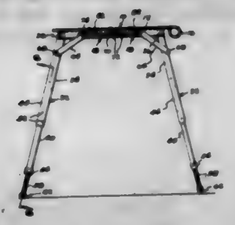
to an intermediate point on said second link, said body-supporting means having a depending extension projecting below the pivotal mount of said body-supporting means on said support for forward and upward movement when said body-supporting means is moved to its reclined position, and an actuating link connecting said depending extension to one of said arms whereby to actuate said leg-rest linkage.

2,978,011
RECLINING ARTICLE OF FURNITURE
Anton Lorenz, Clapboard Ridge Road, Greenwich, Conn.
Filed Feb. 28, 1957, Ser. No. 643,063
11 Claims. (Cl. 155—106)



1. An article of repose for supporting the body of a person comprising a stationary support, body supporting members operatively connected to said support, said body supporting members including a back rest member and a seat member, a leg rest member, and a system of linkage for connecting said members and causing coordinated movement thereof when it is desired to change the positions of the body supporting members in accordance with the wishes of the occupant, said system of linkage including a constrained four-bar linkage comprising two links pivoted to the stationary support at spaced points, the part of said support between said pivot points constituting the stationary link of said constrained linkage, and a connecting link pivoted at spaced points to points on said first two links spaced from the points at which said links are pivoted to said stationary support, an operative connection between said back rest and one of the movable links of said constrained linkage, a leg rest, a quadric linkage including part of the front support-pivoted link of said four-bar constrained linkage, said leg rest, and two links pivoted at their outer ends to said leg rest at spaced points and at points toward their rear ends to spaced points on said front link of said constrained, four-bar linkage, and a control link pivotally connecting at least one of said leg rest pivoted links to a link of said four-bar constrained linkage other than said front support-pivoted link so as to coordinate the movements of said four-bar and quadric linkages.

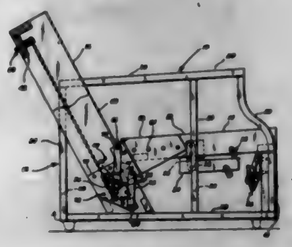
2,978,012
FOLDABLE UTILITY CHAIR
Dale G. Norseen, Grand Island, Nebr.
(R.R. 2, Box 119, Minden, Nebr.)
Filed Sept. 19, 1958, Ser. No. 762,073
2 Claims. (Cl. 155—149)



1. A collapsible stool comprising a flat seat plate having first and second opposed end edges and opposed side edges, the intersections of edges defining corners, a single first leg assembly pivoted at its upper end to the underside of the seat plate at a location near to said first end edge and spaced centrally between the first edge corners, said single leg being normal to said first end edge, a pair of second leg assemblies pivoted at their upper ends to the underside of the seat plate at locations adjacent to said side edges of the seat plate and adjacent to the second end edge and the second end edge corners of the seat plate, said second leg assemblies being equally spaced at opposite sides of the first leg assembly and converging inwardly toward each other and toward said single leg assembly, said leg assemblies being similar to each other, first means pivoting the single leg assembly to the seat plate to swing on an axis parallel to said first end edge, and second means individually pivoting said second leg assemblies to the seat plate to swing on axes which are inwardly angled relative to the side edges of the seat plate and which converge toward the first leg assembly, said first and second means comprising brackets fixed to the underside of the seat plate, said brackets having outer and inner ends and depending laterally spaced flanges extending therealong, the upper ends of the leg assemblies being disposed between the bracket flanges and pivoted thereto at the outer ends of the brackets, and diagonal brace means extending between the leg assemblies and related ones of the brackets, said brace means comprising closed longitudinal slots formed in one of the bracket flanges, said slots having outer and inner ends, brace bars having outer ends pivoted to the leg assemblies at points spaced below the upper ends of the leg assemblies, said brace bars having inner ends having lateral pins slidably engaged through slots of bracket flanges, and longitudinal extensions on the inner ends of the brace bar engageable with the underside of the seat plate in the operative downwardly and outwardly swung positions of the leg assemblies.

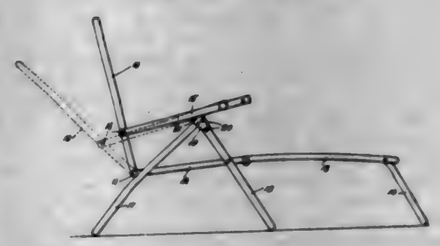
2,978,013
ADJUSTABLE BACKREST FOR CHAIR STRUCTURE
Robert R. McIntyre, High Point, N.C., assignor to Johnson Hinge Company, Inc., High Point, N.C., a corporation of North Carolina
Filed Aug. 21, 1958, Ser. No. 756,338
10 Claims. (Cl. 155—152)

1. In combination with a chair having a supporting frame, a seat and backrest tiltably supported in said frame, a mechanism for adjustably supporting the backrest in selective extended and retracted positions with respect to the seat comprising: a parallel linkage swingably connecting said backrest to said seat and including a pair of links, each being pivotally connected to the seat and backrest, one of said links having a free end portion extending beyond its pivotal connection to the backrest, a pin element supported in said backrest for transverse movement with respect thereto into the path of movement of said free end portion of one of said links, said pin element being capable of engaging said free end portion of one of said links first on one side to lock said backrest with respect to said seat in one of its extended



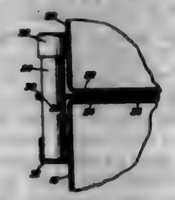
and retracted positions and then on the other side to lock said backrest with respect to said seat in the other of its positions, operating means carried by said backrest to withdraw said pin element from the path of the free end portion of said link so said backrest can be moved from one position to another position, and means resiliently urging said backrest toward extended position.

2,978,014
ADJUSTMENT MEANS FOR RECLINING BACK CHAIRS
James John Mirrione, Brooklyn, N.Y., assignor to J.F.D. Manufacturing Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed Jan. 2, 1959, Ser. No. 784,516
2 Claims. (Cl. 155—159)



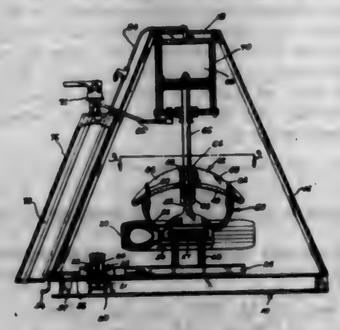
1. Back adjustment means in a chair having a body and a reclining back pivotally connected thereto, said means comprising a substantially horizontal elongated arm, said arm being hollow and tubular and connected to and extending outwardly from said back so as to serve as an arm rest, a pair of inclined arms connected to the body of the chair and serving to support the rear of the chair, a bracket connected to the upper end of said inclined arms, an outwardly directed hook formed at the upper end of said bracket, an elongated substantially horizontal locating plate fixed disposed axially within said hollow arm, said locating plate being formed with a series of aligned, axial openings, said hollow arm being formed with a bottom, longitudinal slot into which said hook slidably enters and selectively engages any one of said aligned openings for determining the inclination of said back, said hollow arm having the inner end thereof pivoted to said back so as to be liftable relative thereto and to said body, lifting of said hollow arm releasing said hook from said openings so as to permit adjustment of said inclination, and a spring clip embracing said bracket within said hollow arm adjacent to said hook for locking said hook into sliding engagement with said slot and preventing withdrawal of said hook therefrom.

2,978,015
SAFETY BELT ASSEMBLY
Jack B. Cox, Box 4, Linwood, N.C.
Filed Feb. 16, 1959, Ser. No. 793,524
1 Claim. (Cl. 155—189)



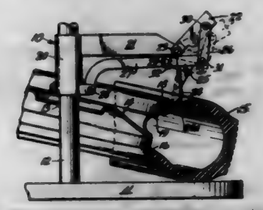
A safety belt assembly for an occupant of a vehicle seat having a bottom and a split back rest for holding the occupant adjacent the front surface of the back rest upon rapid deceleration of the vehicle during forward travel thereof, said safety belt assembly comprising a rigid vertically disposed rectangular plate adapted to be movably disposed between the sections of the back rest, the forward edge of said plate being disposed rearwardly of the front surface of the back rest to prevent the occupant of the seat from contacting the forward edge of the plate, a transverse member mounted on said plate adjacent the rear edge thereof, said transverse member bridging the space between the sections of the back rest with the outer ends thereof adapted to rest against the rear surface of the sections of the back rest to prevent forward movement of the plate and permitting vertical shifting movement of the plate and transverse member, the forward portion of said plate having a vertically disposed slot paralleling and spaced from the forward edge thereof, and a flexible belt adapted to extend around the waist of an occupant, said belt extending through said slot for connecting the belt to said plate, the tendency of the flexible belt to return to straight line condition and the thickness thereof combining to frictionally engage the inner side edges of the sections of the back rest thereby frictionally retaining the plate in vertically adjusted position between the sections of the back rest.

2,978,016
TIRE DEMOUNTING APPARATUS
Frank A. Morgan, 519 E. 23rd St., Anderson, Ind.
Filed Oct. 27, 1958, Ser. No. 769,704
3 Claims. (Cl. 157—1.2)



1. An apparatus for demounting tires, comprising a supporting structure having a base and an overhanging frame disposed above said base, a spider interconnected to said overhanging frame and vertically movable with respect to said supporting structure, a plurality of radially extending arms on said spider, a pivotal thrust member adjustably mounted on each of said spider arms and movable therewith for removing a tire from a wheel supported in a work-position below said thrust members, means to retain each of said thrust members in operative bearing contact with the lower face of its respective arm and freely swingable about its connection to said spider arm, and power means interconnecting said spider to the overhanging frame and imparting vertical movement thereto.

2,978,017
BEAD BREAKER
William L. Schultz and Matthew J. Schultz, Red Lake Falls, Minn., assignors, by mesne assignments, to Red Lake County State Bank, Red Lake Falls, Minn., a corporation of Minnesota
Filed Feb. 17, 1959, Ser. No. 793,749
2 Claims. (Cl. 157—1.26)

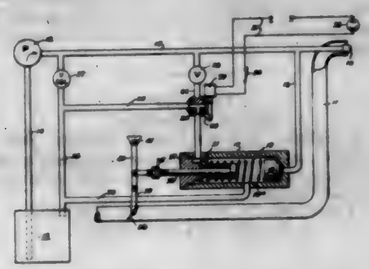


1. In apparatus for breaking the bead of a tire away from the cylindrical rim surface of a wheel, said apparatus compriaing a table to support the wheel in canted position thereon and having a post adapted to extend upwardly through the center of the wheel, a mounting sleeve on the post and slidable therealong, a rigid structure affixed on the sleeve and defining a pivot spaced from the post and adjacent the rim flange of the wheel, a vertically swingable handle connected with said pivot, a three-part linkage beneath the handle and said pivot and being swingably connected at its opposite ends with the sleeve and with the handle for vertical swinging movement, the innermost linkage part having means restricting downward swinging of the next adjacent linkage part with respect to said innermost linkage part, a depending shoe rigidly affixed to said next adjacent linkage part and engageable with the tire's upper sidewall adjacent the bead and having a smoothly curved lower end projecting inwardly toward the post to slip beneath the rim flange for engagement with the tire bead, whereby when the tire engages the table at a position beneath the handle and with the portion of the wheel and tire which is diametrically opposite from the portion engaged by the table being canted upwardly, said shoe will bear downwardly and outwardly against said tire sidewall when the handle is swung downwardly to move the bead away, in a radial direction, from the cylindrical rim surface.

2,978,018
FIRING RATE CONTROL FOR OIL BURNERS AND THE LIKE
Harry K. Winters, San Rafael, Calif., assignor, by mesne assignments, to Ray Oil Burner Co., San Francisco, Calif., a corporation of Nevada
Filed Oct. 11, 1957, Ser. No. 689,693
7 Claims. (Cl. 158—28)

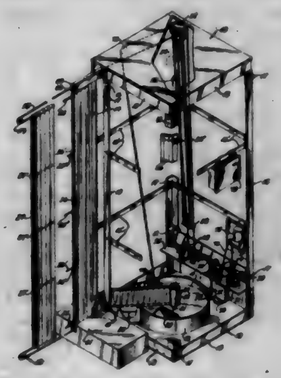
1. A firing rate control for burners which comprises a first conduit communicating with a burner, means for directing fuel under pressure through said conduit to the burner, a by-pass line communicating with the first conduit and including a cylinder with a piston therein, a fuel control by-pass valve in said cylinder to control flow through the by-pass line, a spring between one side of the piston and said by-pass valve biasing the valve toward closed position, a second conduit forming a con-

nection between said first conduit and the cylinder, a valve in said second conduit, and means dependent upon the existence of a flame at the burner for opening and holding said last valve open to admit fuel to said cylinder



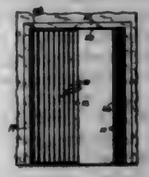
at the opposite side of said piston, to move said piston and to increase the bias exerted by said spring on said fuel control by-pass valve to effect delivery of fuel to the burner at a high rate.

2,978,019
COILABLE PARTITION
Clarence E. Carlo, Dubuque, Iowa, assignor to Dubuque Products, Inc., Dubuque, Iowa, a corporation of Iowa
Filed Dec. 29, 1958, Ser. No. 783,295
4 Claims. (Cl. 160—23)



1. A coilable partition and operating means therefor comprising a coil box, a post lengthwise in said box, a series of slats having interfitting edges and providing a coilable partition, flexible members connecting said slats, one end of said coilable partition being connected to said post so that when said post is rotated the partition will be coiled about the same, said operating means comprising a gear train connected to said post, said gear train being driven by a shaft and a bevelled gear, a drive shaft mounted on said box substantially perpendicular to said gear train shaft, a freely rotatable sleeve mounted about said drive shaft, a clutch plate mounted on one end of said sleeve, a second bevelled gear attached to the opposite end of said sleeve and in engagement with said first mentioned gear, an electric motor means for driving said drive shaft in opposite directions, a slideable clutch mounted about said shaft and having an angular slot therein, a pin operable within said slot connecting said shaft to said clutch whereby when the shaft is rotated in one direction the clutch will be forced into engagement with the bevelled gear sleeve and when the shaft is rotated in the opposite direction the clutch will be disengaged from such sleeve, a sprocket carried by a freely rotatable sleeve and mounted about said drive shaft adjacent to the end of the clutch opposite the bevelled gear sleeve, a clutch plate on the end of said sprocket sleeve adjacent said clutch, a pair of blocks one of which is fixed to the upper portion of the coil box and the other of which is free for vertical movement in the box, a chain connecting the second of said blocks to said freely rotatable sprocket, a cable having one end connected to the upper free end of said partition and the opposite end connected to the lower free end thereof, said cable extending around said pair of blocks so that when said motor is operated in said reverse direction the clutch will engage the clutch plate of said sprocket sleeve to operate said chain and move the block attached thereto towards said sprocket and cause the partition to be extended.

2,978,020
MULTIPLE SLAT TYPE FOLDING DOOR
Philip M. Paulsrude, Shelton, Wash., assignor to Wood Specialty Products, Inc., Mountlake Terrace, Wash.
Filed Dec. 17, 1958, Ser. No. 781,121
7 Claims. (Cl. 160—183)

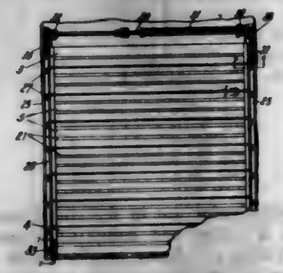


1. A folding panel for use as a door and partition comprising a plurality of edge to edge adjacent rigid slats, the edge of each slat which adjoins another having a longitudinally extending diagonal edge groove, said groove being narrow at the surface of the slat and expanding in width inwardly of the slat, the opening of each groove at the surface of the slat being offset from the medial plane of the slat, the grooves in opposite edges of the slat opening toward opposite sides of the slat, a connector strip connecting adjoining edges of each pair of slats, each connector strip comprising two thicker edge portions seated in the wider part of the grooves of adjoining slats and a thinner pliable web part extending between the two thicker edge portions and pivotally connecting the slats, the grooves in adjoining edge portions of adjoining slats being on the same side of the panel and alternate pairs of grooves and a connector strip engaged therein being on opposite sides of the panel, each connector strip providing parallel face to face folding of two slats that it connects but when the panel is extended, normally maintaining the two slats that it connects at an angle of less than 180° with respect to each other to maintain the slats of the panel in substantially uniform zigzag relation.

2,978,021
UPWARDLY ACTING DOOR AND SECTIONS THEREFOR
Earl L. Stroup and Kenneth M. Christensen, Hartford City, Ind., assignors to Overhead Door Corporation, Hartford City, Ind.
Filed Oct. 11, 1957, Ser. No. 689,783
13 Claims. (Cl. 160—191)

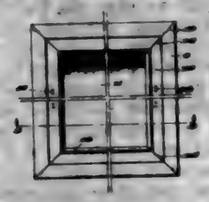
1. A closure member including, hingedly connected sections comprising an outer panel having inwardly projecting flanges on its longitudinal edges having upwardly and outwardly curved edge portions dimensioned to provide male and female hinge knuckles telescopingly engageable with coacting hinge knuckles of adjacent sections, an inner panel having outturned flanges of angled section on its longitudinal edges disposed against

the outer panel between its said flanges and fixedly secured thereto with one flange in supporting relation to the flange of the outer panel having the female knuckle member thereon, its other flange being spaced from the flange of the other panel having the male knuckle member thereon to receive the engaged knuckles of a hingedly engaged pair of sections, said inner panel having longitudinally extending laterally spaced outward offsets of inwardly facing channel section disposed with their bights against and fixedly secured to the inner side of the outer panel, the sides of said offsets having in-



wardly facing longitudinal grooves therein, panel reinforcing and closure members for said panel offsets of outwardly facing channel section springably engaged in said offsets and having longitudinal ribs on the arms thereof engaged with the longitudinal grooves in the sides of said offsets with the faces thereof substantially flush with the face of the inner panel, and stiles of inwardly facing channel section embracing the ends of said outer and inner panels and fixedly secured thereto with the inner arms thereof in overlapping relation to said offset closure members.

2,978,022
SPECIAL SPLINE FOR SCREEN CLOTH
Russell M. Wisman, Miami, Fla., assignor to American Screen Products Company, Miami, Fla., a corporation of Florida
Filed Feb. 4, 1955, Ser. No. 486,083
1 Claim. (Cl. 160—394)



A yieldable screen margin engageable spline for cooperation with a screen frame having a channel therein defined by inner and outer walls and a bottom wall and wherein said inner wall is provided with a rounded screen engageable edge and a shoulder disposed within the channel and facing the bottom wall thereof; said spline comprising a wall and a pair of substantially parallel legs projecting from opposite edges of the wall substantially normal thereto, one of said legs including a marginal tongue disposed in acute angular relation to said spline wall and having a locking edge, the other leg being substantially longer than the first leg and having a marginal portion inclined inwardly relative to the bottom wall of the channel, whereby upon forcing said spline into said channel against an edge portion of a screen the said spline wall frictionally engages the outer channel wall, said first spline leg is wholly disposed within the channel with the locking edge thereof engaged with said shoulder and said second leg projects over said rounded channel wall edge with the free edge of the inclined marginal portion thereof engaged with the screen inwardly of said inner channel wall with a resulting bend in the screen marginal portion over said rounded edge with a resulting firm bending of the screen edge portion between the channel inner wall and said second leg.

2,978,023
FOURDRINIER MACHINE BELT
Howard M. Helland, Newfane, N.Y., assignor to Lockport Felt Company, Inc., Newfane, N.Y.
Filed Nov. 14, 1958, Ser. No. 774,025
3 Claims. (Cl. 162—348)



1. In a Fourdrinier machine, a belt therefor comprising a plurality of filaments having inherent resilient characteristics and each running substantially longitudinally of the belt in side-by-side relation and periodically deflecting in opposite directions and interlocking alternately with other filaments, said machine being arranged to subject the paper pulp carrying run of the belt to increased tension whereby the belt filaments are drawn together laterally to provide a substantially closed surface for support of the pulp, while the return run of the belt is subjected to lesser tension so that it expands laterally thus causing the filaments to move apart thereby forming openings facilitating abstraction of retained pulp from the belt.

2,978,024
METHOD OF GRAVEL PACKING WELL TREATMENT
Douglass R. Davis, Houston, Tex., assignor to Texaco Inc., a corporation of Delaware
Filed Dec. 12, 1957, Ser. No. 702,356
2 Claims. (Cl. 166—15)



1. A method of treating a well in which a well screen provided with openings therethrough is disposed in the well bore opposite a petroleum producing formation to define a first annular zone between said well screen and said formation, the interior of said well screen encompassing a second annular zone in fluid communication

with said first annular zone and adjacent thereto which comprises introducing into said first annular zone via a fluid flow path extending from the surface down through said second annular zone to the bottom thereof a mixture of carrier liquid and granular material of a volume equal to the sum of the volumes of the first and second annular zones, said second annular zone being the space within said well bore between said first annular zone and said fluid flow path extending therethrough, said openings in said well screen being of a size to prevent the passage of granular material therethrough from said first annular zone into said second annular zone thereby providing carrier liquid only in said second annular zone, directing fluid under pressure via said fluid flow path to the thus introduced mixture within said first annular zone to exert a pressure on liquid therein sufficient to force some of said mixture comprising carrier liquid and granular material into said formation while at the same time maintaining substantially the same fluid pressure upon said carrier liquid in said second annular zone as is exerted on said liquid within said first annular zone during the aforesaid pressuring operation, leaving within said first annular zone granular material to form a filter pack between said formation and said well screen, adjusting said fluid flow path so that said fluid flow path extends from the surface to the vicinity of the upper end of said well screen, and producing petroleum from the resulting treated formation via said filter pack, said well screen, and said fluid flow path, said second annular zone during the aforesaid pressuring operation being substantially free of said granular material.

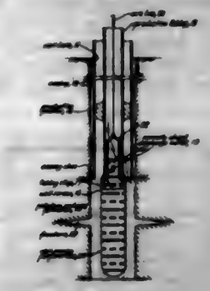
2,978,025
FRACTURING WELL FORMATIONS
Joseph B. Clark, Jr., Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Feb. 18, 1957, Ser. No. 640,570
8 Claims. (Cl. 166—42)

1. A method of fracturing a formation axially of a well penetrating said formation and limiting the axial extension of such fractures comprising first fracturing said formation horizontally, plugging the horizontal fracture in said formation thus produced over a substantial area around said well, and then fracturing said formation axially of said well at a level in said formation such that said horizontal fracture serves as a terminus for one end of said axial fracture.

2,978,026
WELL WASH FLUID
Edwin G. Bemis, San Rafael, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Jan. 7, 1958, Ser. No. 707,490
7 Claims. (Cl. 166—44)

4. A method of improving the production of oil through a perforated casing and gravel pack from a producing zone penetrated by a well bore, said method comprising the steps of injecting into a restricted portion of said perforated casing opposite a producing zone a well wash fluid consisting essentially of fresh water containing 1 to 5% of acetic acid and 0.1 to 2% of a water-soluble oxyethylated polypropylene oxide product in which the polypropylene oxide portion has a molecular weight of 1,000 to 2,000 and the oxyethylene portion is 20 to 80% of said product and, while continuing the injection, changing the position of said restricted portion alternately up and down over a distance of at least 10 feet but not extending substantially beyond joints in the casing and the producing interval, whichever is the lesser distance, said percentages being by weight.

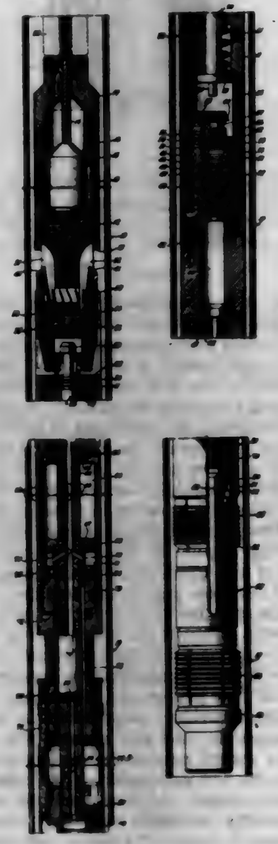
2,978,027
WELL TREATMENT
Richard H. Widmyer, Houston, Tex., assignor to Texaco Inc., a corporation of Delaware
Filed Jan. 20, 1958, Ser. No. 710,058
3 Claims. (Cl. 166—51)



1. An assembly for use in the completion of a well bore having a casing and comprising tubing disposed within said casing and being provided with a valve adjacent the lower end thereof for normally closing an outlet therein, means adapted to engage said valve for opening of the same movably mounted on and projecting into said tubing, a well screen attached to the lower end of said tubing, a fluid tight packer sealing off the annular space between said casing and said tubing in contact with said tubing above the normally closed outlet, a sleeve adapted to be raised and lowered within said tubing and positioned therewithin adjacent said well screen to provide a substantially liquid tight seal therewith and in one direction of longitudinal movement to actuate the first mentioned means by movement thereof to engage and open said valve, said sleeve having an orifice therein for alignment with said outlet and an opening for providing fluid flow therethrough from said tubing into said sleeve and out through said orifice and said outlet aligned therewith.

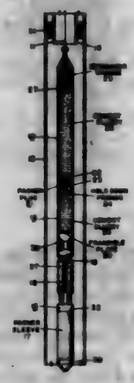
2,978,028
WELL PACKER SETTING DEVICE
Darrel D. Webb, Houston, Tex., assignor to Houston Engineers, Inc., Houston, Tex., a corporation of Texas
Filed Dec. 31, 1957, Ser. No. 706,356
9 Claims. (Cl. 166—63)

1. A device for setting a well packer having upper and lower expansible slips for engaging and gripping a well casing, an expansible packing collar of yieldable material disposed between said upper and lower slips, a slidable mandrel for expanding said slips and collar and means for locking said mandrel to said slips and collar in expanded engagement with said well casing, said mandrel having an enlarged upper end providing an annular shoulder, said device comprising a detonating section, an intermediate power generating section and a lower motor and packer coupling and setting section, said detonating section comprising an elongated cylindrical body, a rope coupling secured to the upper end of said body, a sleeve slidably received on said body and having an impact receiving portion disposed above said coupling, the lower end of said sleeve being beveled inwardly, a slot extending through said body below said sleeve, a spring loaded plunger in the lower end of said body having a head on the upper end disposed in said slot and with the lower end projecting into a downwardly opening recess in said body, diametrically opposed axial grooves in said body communicating with said slot, a latch pivotally mounted in each groove, means on the lower end of each latch for engaging said head to hold said plunger in retracted position, spring means for holding said latches in engagement with said head with the upper ends of said latches disposed in the path of movement of said sleeve and means on the lower end of said detonating section for detachably securing the same to the upper end of said intermediate section, said intermediate section comprising a cylindrical member having an axial bore extending therethrough, an annular recess at the upper end of said bore providing a shoulder, a bushing disposed in the upper end of said bore and having an annular flange engaging said shoulder, said bushing providing a chamber for receiving an explosive cartridge, a block engaging the upper end of said member and bushing and a shoulder in a recess in said upper section to hold said bushing and cartridge in place, a plug mounted in said block, an aperture in said plug for receiving a percussion cap, said aperture communicating with said cartridge chamber, an upwardly extending pro-



jection on said plug, a hammer slidably mounted on said projection in the path of movement of said plunger, a firing pin on said hammer for striking a percussion cap positioned in said aperture, a shear pin engaging said hammer and projection to maintain said firing pin out of striking position and a piston rod detachably secured to the lower end of said intermediate section to secure said lower motor section thereto, said motor section comprising a tubular member providing a motor cylinder, a cylinder head fixed to the upper end of said tubular member, an aperture in said cylinder head slidably receiving said piston rod, a piston slidably disposed in said cylinder and fixed to said piston rod, an axial passage in said piston rod communicating with the bore in said intermediate section, radial passages in said piston rod communicating with said axial passage and said cylinder below said piston, a lower cylinder head closing the lower end of said cylinder and slidably receiving said piston rod, the diameter of said piston rod above and below said piston being substantially constant, an elongated threaded skirt on said lower cylinder head, a slip engaging sleeve threadedly received on said skirt, a lock nut for locking said last named sleeve in adjusted position, a mandrel coupling member secured to the lower end of said piston rod and comprising spring fingers surrounding the enlarged upper end of said mandrel, jaws on the lower ends of said fingers for engaging under the shoulder of said mandrel, an internal flange on the lower end of said last named sleeve engaging said fingers to retain said jaws in shoulder engaging position, an axial exhaust passage in the lower end of said piston rod communicating with a radial exhaust passage movable into communication with said cylinder to exhaust gas pressure upon completion of the setting operation, said fingers operating to release said mandrel upon movement of said jaws above said internal flange.

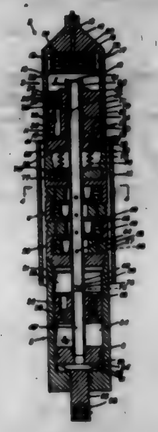
2,978,029
PLUG FOR WELL BOREHOLES
Wallace M. O'Reilly, Midland, and Martin E. True, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed May 11, 1959, Ser. No. 812,306
1 Claim. (Cl. 166—63)



Apparatus for use in plugging a well bore comprising a packer mandrel provided with a passageway, an inflatable packer surrounding said mandrel, said mandrel passageway fluidly communicating with the interior of said packer, a hollow housing releasably connected to said mandrel and provided with a passageway fluidly communicating the interior of said housing and said packer-mandrel passageway, slip arms pivotally arranged on said mandrel, the inner ends of said slip arms initially engaging said housing to maintain said slip arms retracted, means engaging said slip arms adapted to bias said slip arms outwardly, sealing means for sealing off said passageways from fluids exterior thereof when said housing and mandrel are interconnected, a frangible disc arranged in the lower portion of said housing, a first body of cementitious material arranged in said housing above said disc, a cup packer arranged above said first body of cementitious material and having means releasably connected thereto adapted to move through said housing passageway to plug off said mandrel passageway, a second body of cementitious material arranged in said housing above said cup packer, a piston member arranged above said second body of cementitious material, and a detonator arranged above said piston member whereby detonation of said detonator moves said piston member, said

second body of cementitious material, said cup packer, and said first body of cementitious material downwardly to fracture said frangible disc and force said first body of cementitious material into said packer to inflate said packer, said plug means engaging said packer mandrel passageway and the connection between said housing and said mandrel severing whereby said slips are moved outwardly to engage the wall of said borehole and said second body of cementitious material depositing in said well bore atop said inflated packer.

2,978,630
FISHING TOOL ASSEMBLY
William G. Green, Tulsa, Okla., and Morris B. White and Vernon M. Pritchard, Shreveport, La.; said Vernon M. Pritchard assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Texas
Filed Jan. 17, 1957, Ser. No. 634,647
13 Claims. (Cl. 166—98)



1. A wire line operated fishing tool for removing equipment from a well bore, comprising: a housing including a power section, a holding section, and a pulling section having means thereon connectable with a removing tool; longitudinally movable means forming a part of said power section adapted to connect same with a flexible line operative from the surface of the well bore to activate said power section; means connecting the power section with said holding section and pulling section for transmitting hydraulic fluid from said power section to said holding section and said pulling section, said power section including a cylinder, said longitudinally movable means including a piston means movable longitudinally in said cylinder of said power section for pumping hydraulic fluid from said power section to said holding section and to said pulling section, said holding section including a laterally disposed cylinder and a laterally movable gripping means biased toward retracted position in said holding section cylinder and exposed to the pressure of hydraulic fluid from said power section to be moved outwardly toward projecting gripping position with respect to said holding section to hold said section against longitudinal movement in said well bore, said pulling section comprising a longitudinal cylinder and a piston movable longitudinally within said pulling section cylinder and exposed to actuation by said hydraulic fluid from said power section to be moved longitudinally of said pulling section cylinder by hydraulic fluid from said power section to activate said pulling section to move said piston longitudinally in said pulling section cylinder after said laterally movable gripping means in said holding section has been moved outwardly to extended position.

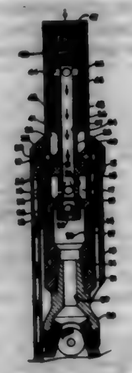
2,978,631
SELECTIVE CROSS-OVER DEVICE
George G. Grimmer, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Texas
Filed Sept. 25, 1956, Ser. No. 611,959
14 Claims. (Cl. 166—114)



1. For use at a subsurface level in a two-zone well wherein production is flowed to ground level through a pair of side-by-side tubing strings, apparatus comprising a tubular member having a longitudinal passage therethrough forming a first flow passageway, a tubular sleeve about the tubular member to provide a second flow passageway therebetween, the upper end of the tubular sleeve being arranged substantially tangentially of the upper end of the tubular member and the lower end of said sleeve being arranged substantially concentrically of said member, means closing the lower end of the second flow passageway, a fitting on the upper ends of said sleeve and member having a pair of side-by-side openings therethrough, one of said openings communicating at its lower end with said first flow passageway and the other of said openings communicating at its lower end with said second flow passageway, means at the upper ends of each of said openings for receiving the lower end of one of said tubing strings to provide flow communication between said tubing strings and said flow passageway, port means through the tubular member providing communication between said first flow passageway and said second flow passageway just above the second passageway closing means, a sealing surface in the first passageway in the tubular member above said port means, and means on said tubular member for removably landing a well tool within the first flow passageway in sealed off relation with respect to said sealing surface.

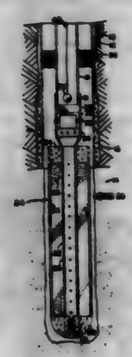
2,978,632
WHIP STOCK LOCKING AND RELEASING APPARATUS
Robert P. Hanna, Box 362, Oak View, Calif.
Filed July 26, 1957, Ser. No. 674,492
7 Claims. (Cl. 166—117.5)

1. A whip stock comprising: a collar portion; at least two axially spaced annular seals disposed above the interior wall of said collar portion; and channel means defining a mud passage having an upper end opening between said seals and passing down said whip stock to open out of the lower end thereof, said collar portion being adapted to surround a pipe section having a lateral mud port opening between said seals whereby mud passing through said port opening is confined by said seals to flow through said channel means, a portion of the interior wall portion between said seals on said collar portion being recessed to define in cooperation with the outer



walls of said pipe section an annular passage so that said port opening is in communication with said upper end opening of said channel means for all relative rotative positions between said collar portion and said pipe section.

2,978,633
DRILLABLE PREPACKED SAND CONTROL LINER
Richard M. Pitcher, Shreveport, La., and Elton A. Rose and Warren O. Sparks, Jackson, Miss., assignors, by mesne assignments, to Jersey Production Research Company
Filed Apr. 1, 1957, Ser. No. 649,943
4 Claims. (Cl. 166—228)



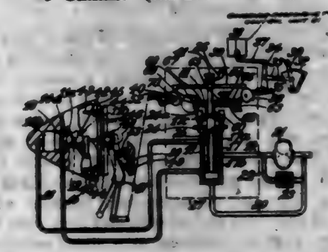
1. A prepacked liner for wells comprising in combination a perforated smaller tubular member, a larger perforated tubular member surrounding said smaller tubular member, said smaller tubular member and said larger tubular member being made of a low density drillable material, a filler for the annular space between said smaller tubular member and said larger tubular member, said filler comprising ground walnut shells cemented in place by a plastic, a check-valve at the lower end of said liner, an adaptor with closable equalizing ports, a means for closing said ports, means for closing the annular space at the lower end and upper end whereby fluid flowing from the producing formation passes through the perforations in said larger tubular member, said filler, and the perforations of said smaller tubular member.

2,978,634
TURBOPROP ENGINE IDLING CONTROL
Robert J. Weate, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 16, 1955, Ser. No. 528,703
8 Claims. (Cl. 170—135.72)



1. The method of operating a gas turbine propeller aircraft propulsion power plant comprising regulating the fuel supply to the power plant to maintain turbine temperature substantially constant notwithstanding variations in ambient atmospheric temperature, and varying propeller pitch to absorb the engine power output at substantially constant speed, over a flight range from maximum power to a low power condition; and regulating the fuel supply to the power plant to maintain engine power output substantially constant notwithstanding variations in ambient atmospheric temperature, at a low power setting suitable for aircraft landing approaches.

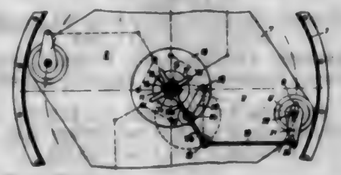
2,978,635
CONTROL MECHANISMS FOR VARIABLE-PITCH PROPELLERS
Lionel Haworth, Loughborough, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed May 25, 1959, Ser. No. 815,711
Claims priority, application Great Britain June 5, 1958
9 Claims. (Cl. 170—135.74)



1. A control mechanism for a variable pitch propeller having blades adjustable in pitch through a normal pitch range and a reverse pitch range, said control mechanism comprising an hydraulic motor connected to adjust the blades in both said pitch ranges, an operating liquid supply for said hydraulic motor, a valve connected in said operating liquid supply and controlling the flow of operating liquid to the hydraulic motor, a centrifugal governor device driven at a speed proportional to the propeller speed and actuating the valve to maintain a selected speed of the propeller, a reverse pitch selector lever which is adjustable to select the desired reverse pitch setting and which on adjustment to select reverse pitch overrides the centrifugal governor device and adjusts the valve in the sense to cause operation of the hydraulic motor to move the blades into the reverse pitch range, and a feed-back mechanism actuated in accordance with movement of the propeller blades to a reverse pitch setting and connected to adjust the valve and to return the valve to a neutral setting to render the power means inoperative when the propeller has reached the reverse pitch setting selected by the selector lever, said feed-back mechanism comprising cam means mounted to rotate with the propeller blades as they are adjusted in

pitch, a thrust plate rotating coaxially with the propeller and displaceable axially of the propeller by the cam means, a feed-back lever, non-rotating structure, a universal connection pivotally supporting the feed-back lever on the non-rotating structure, said feed-back lever being forked at one end to have a pair of fork arms, rollers mounted on the ends of the fork arms and bearing on the thrust plate at diametrically opposite points thereof, whereby the feed-back lever is rocked on displacement of the thrust plate, said feed-back lever being connected to the valve to adjust it, and a stabilizing link for the feed-back lever, which link is pivoted to a point on the feed-back lever remote from its universal mounting, diverges from the feed-back lever, and has a universal connection with the non-rotating structure at a point which is contained in a plane at right angles to the rotational axis of the propeller and which is spaced from the pivotal connection of the link and feed-back lever by a distance equal to the distance between said pivotal point between the link and feed-back lever and the center of the universal connection of the feed-back lever.

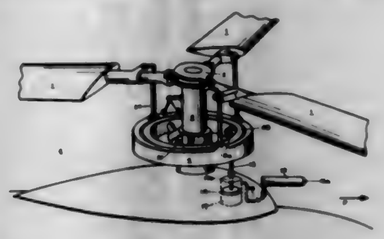
2,978,036
CONTROL DEVICE FOR BLADES OF CYCLOIDAL PROPELLERS
Ernst Schneider, Vienna, Austria, assignor to J. M. Voith G.m.b.H., Heidenheim, Germany
Filed Dec. 26, 1956, Ser. No. 654,051
Claims priority, application Austria Jan. 11, 1956
7 Claims. (Cl. 170—151)



1. A control system for a pivoted blade of a cycloidal propeller which comprises means for revolving the blade in a circular orbit around a center, a control lever having two arms forming a junction, each of said arms having a free end opposite to said junction, means connected to the free end of one of said arms and adapted to hold said free end of said one arm spaced from said center and against revolution with said blade and adjustable to vary the direction and amount of the eccentricity of said free end of said one arm with respect to said center, a pivot disposed in a fixed relation to the pivotal axis of said blade and the center of said orbit, a link pivoted to said pivot and to said junction, said two arms of said control lever including an angle exceeding 90° on the side opposite to said link, a blade lever rigidly connected to said blade, and a push rod having one end pivoted to said free end of said other arm and another end pivoted to said blade lever, whereby a revolution of said blade will cause said junction to describe an arc of a circle about said pivot and cause an oscillation of said blade through the intermediary of said other arm of said control lever, said push rod and said blade lever, in dependence on the direction and amount of said eccentricity.

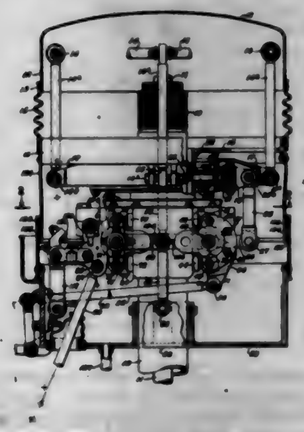
2,978,037
STABILIZING MEANS FOR HELICOPTER AIRCRAFT
Heinrich Carl Johann Focke, Bremen, Germany, assignor to Ministerio da Aeronautica Diretor do Material, Aeroporto Santos-Dumont, Rio de Janeiro, Brazil
Filed Feb. 12, 1958, Ser. No. 718,939
7 Claims. (Cl. 170—160.15)

7. In a helicopter aircraft having at least one propeller having a plurality of blades mounted on a hub, and means for cyclically and collectively varying the pitch of said blades, the improvement of stabilizing means for stabilizing the aircraft by influencing the cyclic and collective pitch adjustment of said blades in response to the horizontal speed of the aircraft relative to the air, said stabilizing means comprising an annular ring pivotally mounted upon an axis eccentric to the center of said annular ring, air speed responsive means responsive to the horizontal



speed of the aircraft relative to the air, means interconnecting said air speed responsive means and said annular ring for pivoting said ring in response to horizontal air speed, and means interconnecting said ring and the propeller blades for transmitting the tilting of said annular ring into the cyclic and collective variation of the position of said blades depending upon the position of said blades relative to said eccentric axis.

2,978,038
SWASH PLATE OPERATING MECHANISM AND COMBINATION WITH SWASH PLATE
Glidden S. Doman, Trumbull, Stephen du Pont, Southbury, and Richard W. Bewley, Southport, Conn.; said Doman and said Du Pont assignors to Doman Helicopters, Inc., Danbury, Conn., a corporation of Delaware
Filed Mar. 11, 1958, Ser. No. 720,676
10 Claims. (Cl. 170—160.25)



1. A rotor head mechanism for an aircraft of the helicopter type having a fixed part and adapted to be mounted on a pylon comprising a swash plate mechanism including a swash plate frame having means to mount the same on the pylon for vertical movement thereon, a swash plate, means mounting the swash plate on the frame for rotation and for inclination thereon, fore-and-aft tilt operating means carried by the swash plate frame and connected with the swash plate to tilt the same fore-and-aft, lateral tilt operating means carried by the swash plate frame and connected with the swash plate to

tilt the same laterally, collective operating means connected with the swash plate frame and having means for connection with a fixed part of the aircraft to raise and lower the swash plate frame and swash plate with respect to the pylon for collective pitch control of the blades, a first hydraulic servo carried by the swash plate frame and connected with the fore-and-aft tilt operating means to operate the same, a first valve means carried by the swash plate frame and connected with and controlling the operation of the first hydraulic servo means, a second hydraulic servo carried by the swash plate frame and connected with the lateral tilt operating means to operate the same, a second valve means carried by the swash plate frame and connected with and controlling the second hydraulic servo to operate the same, a third hydraulic servo carried by the swash plate frame and connected with the collective operating means to operate the same, a third valve means carried by the swash plate frame and connected with and controlling the operation of the third hydraulic servo, each valve means having an outlet passage to a surface of the swash plate frame and open at the surface for discharge to the surrounding area, and means connected with the swash plate frame to retain the same against rotation.

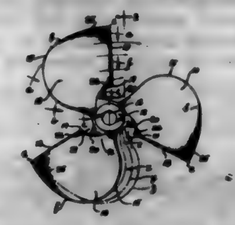
2,978,039
AIRCRAFT PROPELLERS FOR COMBINED AIRPLANE-HELICOPTER FLYING MACHINES
Heinrich Carl Johann Focke, Sao Jose dos Campos, Sao Paulo, Brazil
Filed May 1, 1958, Ser. No. 732,386
4 Claims. (Cl. 170—160.25)



1. An aircraft propeller for use in a combined helicopter-flying machine, and consisting of a central hub and a plurality of blades each of which is mounted rotatably around a longitudinally rotary axis on said hub for adjustment of its pitch, each of said blades comprising a tip portion adapted for controlled rotation around said longitudinal axis, and an inner portion adjacent said hub, said inner portion being free to pivot about said longitudinal axis, said inner portion having an airfoil cross section and having a leading and a trailing edge in relation to the rotary movement of said blade around said hub, the distance from said leading edge to said longitudinal axis being substantially the same throughout the length of said inner portion, a first end surface facing said tip, and a second end surface facing said hub, the distance between said trailing edge and said longitudinal rotary axis at said second end surface being larger than the distance therebetween at said first end surface so as to locate the center of pressure for a part of said inner portion behind said longitudinal rotary axis relative to the direction of rotary movement of said blade so that the inner portion will produce some lift.

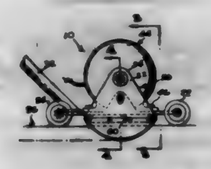
2,978,040
MARINE PROPELLER
Oscar A. Wirkkala, 342 18th Ave., Seattle, Wash.
Filed Feb. 4, 1958, Ser. No. 713,148
1 Claim. (Cl. 170—170)

A marine propeller of the character described having a hub portion and a plurality of equidistantly spaced blades extending radially outwardly therefrom, each blade having a substantially straight trailing edge portion that extends substantially radially of the hub axis and each blade having a neck portion in that region immediately adjacent the hub, each blade also having a circumferentially extending outer edge disposed on a radius of curvature having its center substantially coincidental with the axis of said hub with such circumferential edge portion extending from said trailing edge to merge smoothly with the leading edge of the blade which extends therefrom back to said hub, the trailing side of each neck having an arcuate recess with the outer edge thereof being disposed on a radius of curvature spiralling from said trailing edge inwardly toward the axis of said hub with each neck providing a suction relief passage immediately adjacent to



the hub, said outer edge of the neck portion having a flange thereon extending from said leading edge and spiralling inwardly thereof toward the axis of said hub and said circumferential edge portion of the blade having a laterally directed flange thereon extending from said trailing edge towards said leading edge, said flange on the circumferential edge of the blade being of material greater length than the flange on the outer edge of said neck portion whereby the two flanges, with the blade portion therebetween, define a channel extending from the region of the leading edge of the blade to the trailing edge of the blade.

2,978,041
LAWN EDGERS HAVING OSCILLATING BLADES
Lamar J. Kramer, El Segundo, Calif.
(528 E. Maple St., 1, Glendale 5, Calif.)
Filed Oct. 3, 1958, Ser. No. 765,127
2 Claims. (Cl. 172—15)

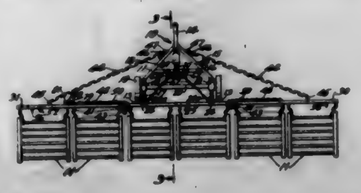


1. A lawn edger comprising a horizontal wheeled base, having forward and rear ends and a side edge, a motor mounted upon the base and having a lateral horizontal shaft at said side edge, an eccentric fixed on said shaft and having a laterally outwardly extending stub eccentric relative to the axis of said shaft, a sector blade positioned laterally outwardly of said side edge in a vertical plane parallel to said edge, said blade having an upper apex portion journaled on said stub and an arcuate cutting edge on its lower end, a fixed bearing bracket on said base at said side edge, a horizontal bearing shaft mounted on the bracket and extending laterally outwardly therefrom beneath said eccentric, said blade assembly having a central vertical slot therein spaced below said apex portion through which said bearing shaft extends.

2,978,042
HARROW DRAG CART
Elden D. Jones, Rte. 1, Lake Crystal, Minn.
Filed Aug. 22, 1957, Ser. No. 679,661
2 Claims. (Cl. 172—323)

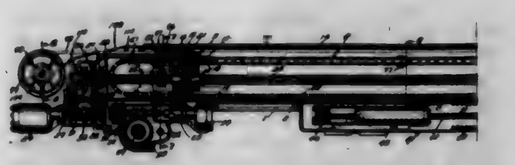
1. A drag cart for use with harrow sections, comprising a mobile supporting structure having a forward por-

tion and also having a rear end portion, said rear end portion including an upright and transversely extending harrow section-supporting framework thereon, a substantially stationary draw bar extending transversely of the supporting structure and being secured to the supporting structure below said framework, pivot means interconnecting said forward and rear portions of the supporting structure and permitting tilting of said framework about a transversely extending axis to raise and lower said stationary drawbar, adjustable means connected with said front and rear portions and controlling tilting of the framework, a swingable drawbar in substantially end-to-end relation with said stationary drawbar, means swingably interconnecting the adjacent ends of said draw bars for swinging movement in a substan-



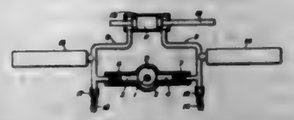
tially horizontal plane whereby to permit swinging of the swingable draw bar into juxtaposition with said stationary draw bar, releasable means restraining rearward swinging movement of the swingable draw bars with respect to said one draw bar, a harrow section-supporting gate extending outwardly from said framework in substantially end-to-end relation therewith, means swingably interconnecting said gate with said framework and permitting rearward swinging of the gate about an upright axis and into spaced relation and juxtaposition with said framework, and means on said framework and on said gate for suspending harrow sections in upright positions thereon, whereby to permit folding of the drag cart and harrow sections into small compass for transport along a highway and storage.

2,978,043
ROTARY ROCK DRILL
David M. Cowan, Columbus, Ohio, assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 6, 1954, Ser. No. 473,287
13 Claims. (Cl. 175—127)



1. In combination, an elongated guide member providing a longitudinal guideway, work performing mechanism comprising a tool movable back and forth along said guideway, feeding means for said tool including a movable feeding element operatively connected to the tool and means for moving the same to effect feed, said work performing mechanism including a longitudinally extending elongated rotary element, guiding means for supporting and guiding said elongated rotary element at spaced points along its length including separately shiftable guides mounted on said guide member for movement into widely separated guiding positions longitudinally therealong, and means carried and actuated by said feeding element and disposed at spaced points longitudinally along the length thereof for progressively engaging and moving said guides longitudinally of said guide member from adjacent guiding positions as said feeding element moves said tool in one direction along said guideway.

2,978,044
FLUID ACTUATED MECHANISMS
Leslie Baines, Wakefield, England, assignor to Richard Sutcliffe Limited, Wakefield, England, a British company
Filed Nov. 29, 1957, Ser. No. 699,433
Claims priority, application Great Britain Nov. 30, 1956
4 Claims. (Cl. 175—144)



1. A high speed percussive mechanism comprising a housing, a cylinder formed within the housing, hydraulic liquid contained in the cylinder, a shaft mounted coaxially with the cylinder and extending through one end thereof, an anvil face on the shaft, a double acting piston slidably mounted within the cylinder for reciprocation relative to said shaft, a hammer face on the piston for co-operation with said anvil face, a double acting liquid transmitting power unit, a volume of hydraulic liquid contained in the power unit greater than the volume contained in the cylinder, two outlets from the power unit, means connecting the outlets to respective ends of the cylinder whereby transmission of liquid through the connecting means by operation of the power unit rapidly reciprocates the piston relative to the shaft to cause percussive blows to be imparted to the shaft by co-operation of the hammer face and the anvil face during alternate strokes of the piston, a different hydraulic accumulator connected to each outlet, and loading means for the accumulators, whereby only the excess hydraulic liquid discharged from the power unit into an outlet is absorbed by the associated hydraulic accumulator, this excess hydraulic liquid being replaced by the same accumulator during subsequent discharge of hydraulic liquid from the cylinder to that outlet.

2,978,045
PILE DRIVER
Jan Gerrit Wyers, Windthorst, Saskatchewan, Canada
Filed Jan. 20, 1958, Ser. No. 709,939
4 Claims. (Cl. 175—151)



1. In an actuating mechanism for pile driver hammers, the combination of a continuously rotatable drive shaft, a drum mounted on said shaft and rotatable independently thereof, a hammer raising and lowering cable secured at one end thereof to said drum and adapted to be unwound from the drum by the weight of a hammer attached to the cable, a crank arm secured to said shaft at one side of said drum, a driving dog having inner and outer ends and pivoted at its inner end to said crank arm, said dog being swingable radially inwardly and outwardly relative to said shaft, a laterally projecting lug provided at said one side of the drum, a keeper provided intermediate the ends of said dog and engaging said lug when the dog is swung inwardly to impart rotation to the drum by said shaft for winding said cable on the drum, a substantially annular cam track surrounding said drum and provided at a point along its circumference with an opening, and resilient means connected to said dog and urging the same outwardly against said cam track and to a projected position into said opening, engagement of said dog with the cam track sustaining said keeper in engagement with said lug during winding of said cable and projection of the dog by said resilient means into said opening disengaging said keeper from said lug during unwinding of the cable from the drum.

2,978,046
OFF-BOTTOM DRILL STEM TESTER
Martin E. True, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed June 2, 1958, Ser. No. 739,283
6 Claims. (Cl. 175—233)



1. An off-bottom drill stem tester which comprises a hollow drill stem with a drill bit on its lower end and provided with an internal supporting means, spaced apart inflatable packers arranged on said drill stem, said drill stem having first and second vertically spaced-apart ports between the spaced apart packers communicating the exterior with the interior of the drill stem, said drill stem being formed to provide longitudinally extending passageways fluidly communicating the interior of each of the spaced apart packers with the interior of the drill stem, a valved piston assembly slidably mounted in said drill stem and movable from a first to a second position and from the second to the first position to place, respectively, said longitudinally extending passageways in fluid communication with the interior of the drill stem to inflate and in fluid communication with said first port to deflate said spaced apart packers, a valved sampling assembly retrievably arranged within the drill stem on said supporting means having an inner bore communicating with a valved sample chamber, said retrievable assembly being spaced away from the inner wall of the drill stem to provide an annular space, spaced apart sealing means carried by said retrievable assembly and engageable with the inner wall of the drill stem above and below said second port to isolate a portion of said annular space from said first port, a first passageway in the retrievable assembly fluidly communicating the inner bore with the isolated portion of said annular space, a valve assembly arranged within the inner bore fluidly communicating with the isolated portion of said annular space through a second passageway in the retrievable assembly, said piston assembly moving from its first to its second position on imposition of a first predetermined fluid pressure on the piston assembly to inflate said spaced apart packers and close said first port and said valve assembly being openable on imposition of a second predetermined fluid pressure greater than the first predetermined pressure to fluidly communicate the inner bore with the sample chamber.

2,978,047
COLLAPSIBLE DRILL BIT ASSEMBLY AND METHOD OF DRILLING
Walter H. De Vaan, 745 Mountain View, Monrovia, Calif.
Filed Dec. 3, 1957, Ser. No. 700,447
4 Claims. (Cl. 175—258)



1. A rotary drilling apparatus comprising a drill stem and a radially expansible drill bit thereon, a casing surrounding said stem, said drill bit being radially expansible to a diameter greater than that of said casing for drilling and collapsible to a diameter less than that of said casing for withdrawal through the latter, means for locking said casing to said drill stem for rotation thereby, said locking means including shoes carried by said drill stem and operable to engage said casing, actuating means for causing locking engagement of said shoes with said casing, said actuating means comprising initial operating means actuatable by the pressure of the drilling fluid to move said shoes into engagement with said casing, and further operating means actuatable by rotation of said drill stem to complete the movement of said shoes into final locking engagement with said casing.

2,978,048
BUMPER SAFETY JOINT
Raymond W. Walker, Huntington Beach, Calif., assignor, by mesne assignments, to Shaffer Tool Works, Brea, Calif., a corporation of California
Filed Oct. 1, 1958, Ser. No. 764,595
14 Claims. (Cl. 175—294)

1. In a bumper safety joint, including an inner, hollow mandrel slidably and turnably received in one end of an elongated, hollow, outer bowl member having a smooth inner surface, said bowl and mandrel having opposing hammer and anvil faces, respectively, adapted to be brought into forceable engagement with each other, the

provision of: a two-section mandrel, comprising a lower section having J-slot-type means formed therein including a longitudinally extending operating slot having upper and lower stop shoulders and a transverse slot portion communicating said operating slot with a longitudinally extending escape slot, an inwardly extending driving shoulder on the bowl cooperating with said J-slot means to drive said mandrel, said J-slot means limiting relative longitudinal movement of the bowl and mandrel when said driving shoulder is in said operating slot and permitting assembly and separation of bowl and lower mandrel section when the driving shoulder is selectively placed in said escape slot; an upper mandrel section of hard, wear-resisting metal carried within the bowl member, means for loosely and releasably connecting said upper mandrel section with the upper end of the lower mandrel section and for allowing said upper and lower mandrel sections to be separated when said lower mandrel section is separated from said bowl, said upper mandrel section having an outer surface including an inclined, circumferential, friction face spaced from the inner surface of the outer member; spring means for transmitting downward pressure from the outer bowl member to the upper mandrel section acting upon a cylindrical cage having upper and lower circumferential bearing rings and an intermediate circumferential releasing ring slidable along the inner surface of the bowl member, and longitudinally extending, circumferentially spaced slots in said cage between said upper and lower bearing rings and traversing said releasing ring, said intermediate releasing ring resting upon said inclined friction face of the upper mandrel section and normally incapable of extending into the space between said upper mandrel section and the inner surface of the bowl member; an outwardly directed, circumferential, releasing groove formed on the inner surface of the bowl, said releasing groove being normally in a transverse plane between said spring and releasing ring of said cage, whereby forceful compression of said spring and movement of the outer bowl with respect to said mandrel and cage will cause intermediate portions of said cage and releasing ring to be flexed outwardly into said releasing groove on the bowl and release said mandrel sections to bring the hammer and anvil faces into forceful contact with each other.

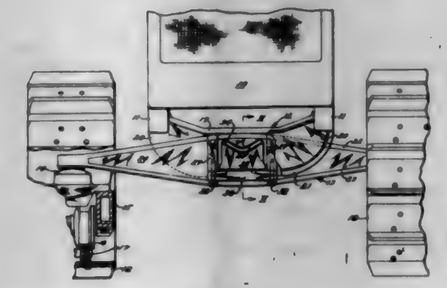


2,978,049
STABILIZER FOR DRILL BIT
Sam C. Skidmore and Fred E. Crook, both of 6021 E. Rosedale, Fort Worth, Tex.
Filed Jan. 4, 1960, Ser. No. 177
3 Claims. (Cl. 175—391)

1. In a drill bit having a central body and vertically disposed cutting blades demountably secured on the sides of said body, said blades having their inner edges lying adjacent each other, and wherein the corresponding lower portions of said blades extend toward each other beneath said body, the construction comprising laterally angularly projecting lugs on said lower end portions and in freely abutting contact with each other.



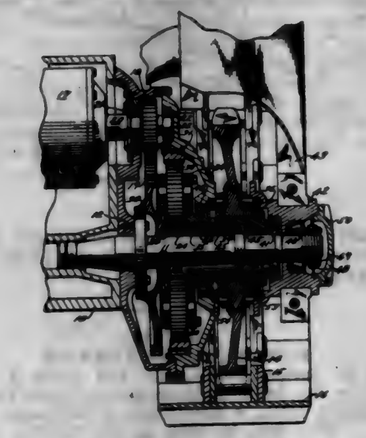
2,978,050
FRONT END SUSPENSION FOR TRACTORS
Norman E. Risk, Peoria, Jesse L. Holden, East Peoria, and Andrew G. Heisel, Pekin, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a California corporation
Filed Oct. 28, 1958, Ser. No. 770,184
4 Claims. (Cl. 180—9.5)



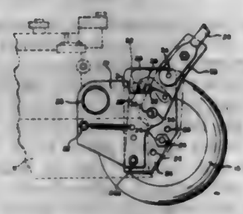
1. In front end suspension for track-type tractors of the kind which have a main frame and truck frames on opposite sides pivoted adjacent their rear ends with respect to the main frame, and which have a bar bridging the truck frames adjacent their forward ends, a cross member on the main frame resting centrally on said bar and free for rocking movement transversely of the tractor with respect to said bar, the improvement in resilient means for resisting such rocking movement which comprises a mass of rubber-like material adjacent said bar coincident with the longitudinal center line of the tractor, a seat carried by the cross member and supporting said mass, and a V-shaped reaction plate carried by the bar and compressively engaging said mass with its apex disposed centrally and downwardly.

2,978,051
FINAL DRIVE ASSEMBLY FOR TRACK-TYPE TRACTORS
Norman E. Risk and John H. McCarthy, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Jan. 28, 1960, Ser. No. 5,213
3 Claims. (Cl. 180—9.62)

1. In a final drive assembly for a track-type tractor which comprises a non-rotatable sprocket shaft extending between a final drive housing and a track frame, a sprocket rotatable with respect to said shaft, and reduction gearing including a quill concentric to the shaft and supporting the sprocket, a first tapered roller bearing forming a direct supporting connection between the quill and the shaft, an outer housing element surrounding a part of the quill and shaft and carried by the track frame, a second tapered roller bearing forming a direct supporting connection between the quill and the outer housing, and a third tapered roller bearing between the outer housing and the shaft.

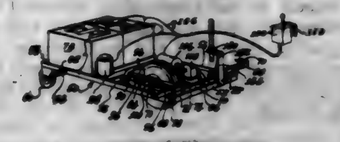


2,978,053
SELF-PROPELLED SYSTEM FOR POWER TOOLS
Stanley Z. Siwek, Chicago, Ill., assignor to Pioneer Gen-E-Motor Corporation, Chicago, Ill.
Filed Dec. 21, 1959, Ser. No. 861,120
10 Claims. (Cl. 180—19)



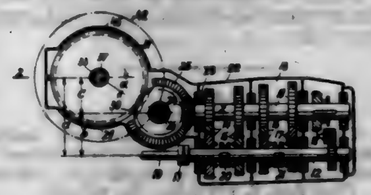
1. In a self-propelled tool of the type wherein eccentrically mounted wheels are moved into and out of driving engagement with frictional drive elements carried by a tool base for selective control of the propulsion of the base, the improvement comprising wheel mounting plates pivotally mounted on said base and having supporting wheels journalled thereon for rotation about axes eccentric to the pivot axes, said plates being movable toward and away from rotary frictional driving elements supported on said base for engaging and disengaging the drive between said wheels and elements, a linkage pivotally interconnecting portions of said base and each said wheel mounting plate to provide movement of said plates toward and away from said driving elements in consonance with the movement of said linkage, the linkage being connected to the base portion and wheel mounting plates at points spaced from one another, movement of said linkage in one direction causing movement of said plates away from said elements, and a movable operator controlling and guiding handle having an operative connection with said linkage and extending normally at an angle to the vertical, the normal weight of the handle, when imposed on said linkage being such as to provide a drive disengaging force, through said linkage in said one direction, to said wheel mounting plates.

2,978,053
DRIVING AND STEERING APPARATUS FOR WHEEL CHAIRS
Arthur O. Schmidt, 397 E. Kingsley, Pomona, Calif.
Filed Oct. 21, 1957, Ser. No. 691,407
13 Claims. (Cl. 180—26)



1. A propelling and steering unit for attachment to a wheel chair, said apparatus comprising means for supporting the wheel chair including a wheel assembly having a generally circular periphery, the supporting means including a frame having the wheel assembly positioned at the forward portion thereof and having wheels at the rear portion thereof, bearing means supporting said wheel assembly for rotation relative to said wheel chair, a traction wheel rotatably mounted on said wheel assembly in a position intermediate the front and rear of the wheel chair frame, means at the rear portion of said platform to adapt the rear portion to be supported by the wheel chair, an electric drive motor supported on the wheel assembly, power transmission means interconnecting said motor and said traction wheel, a source of electrical energy connected with the electric motor, a ring gear mounted on said wheel assembly, a pinion gear engaging said ring gear, and manual control means connected for selective rotation of said pinion gear to steer the traction wheel, the propelling and steering apparatus being movable underneath the wheel chair from the rear of the chair.

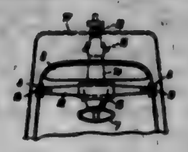
2,978,054
AXLE-DRIVE MECHANISM FOR MOTOR VEHICLES
Ludwig Kraus, Stuttgart-Rotenberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed July 5, 1955, Ser. No. 520,006
Claims priority, application Germany July 2, 1954
7 Claims. (Cl. 180—70)



1. A drive mechanism for a motor vehicle comprising a pair of oppositely extending axle shafts, a differential axle gearing interconnecting said shafts and having a central axis extending transversely with respect to the vehicle, a drive shaft driven by an engine on the vehicle and extending longitudinally of the vehicle and passing through a vertical plane of said axis at a level below said differential axle gearing, a speed change transmission extending in the longitudinal direction of said vehicle on the side of said axis opposite the vehicle engine, said transmission comprising a main shaft forming an extension of said drive shaft in general alignment therewith and a driven shaft extending parallel to said main shaft, selectively

engageable gear means including a plurality of sets of gears for interconnecting said main and driven shafts, said driven shaft being above the main shaft and below the axle shafts, an intermediate transverse shaft extending parallel to the central axis of said differential axle gearing, a set of bevel gears interconnecting said driven shaft and said intermediate shaft, and gear means interconnecting said intermediate shaft and said axle gearing, said intermediate transverse shaft being disposed, with respect to a vertical direction, below said axle shafts intermediate said drive shaft and the central axis of said axle gearing, and, with respect to the longitudinal direction of the vehicle, intermediate said transmission and said differential axle gearing, said main and driven shafts of said transmission constituting the only rotatable shafts therein in the force transmission trains therethrough for forward speeds of the vehicle.

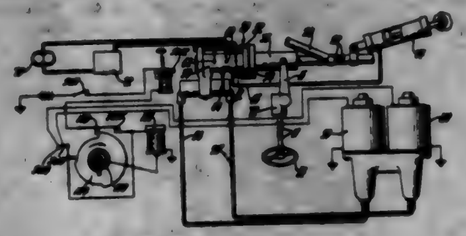
2,978,655
REINFORCING STRUCTURE FOR AUTOMOBILES WITH PANORAMA WINDSHIELDS
Bela Barenyi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Aug. 2, 1957, Ser. No. 676,606
Claims priority, application Germany Aug. 4, 1956
1 Claim. (Cl. 180—78)



In a motor vehicle having a panorama windshield of a convex curvature as seen from the outside, a dashboard, and a control unit including a steering column, control instruments, and suspension pedals, said control unit being independent of said dashboard, a frame enclosing said windshield including side walls connected with the roof of said vehicle and disposed at each end of said windshield, said side walls comprising arm portions disposed essentially perpendicular to each other to thereby form a corner at each end of said windshield, one of said arms being disposed essentially horizontally, a transverse supporting member intermediate said side walls and removably secured thereto at each of said corner portions the cross-sectional area of said transverse member increasing toward the center thereof from each end, and means for securing said control unit to said transverse supporting member.

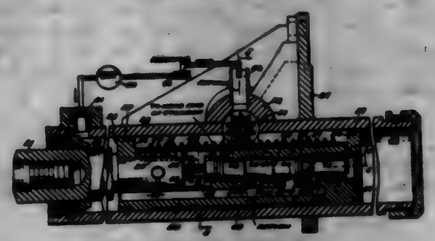
2,978,656
AUTOMATIC STEERING DEVICE
John A. Clements, Brownsburg, and Leslie Stallwood, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 8, 1957, Ser. No. 651,431
6 Claims. (Cl. 180—79.2)

1. In an automotive vehicle having a steering wheel or the equivalent and equipped with a power steering gear including a control component governing the power means, said control component being normally actuated incident to the application of manual effort at said steering wheel, the combination of apparatus whereby said power steering gear may be utilized in the accomplishment of a pre-set maneuver without the imposition of any manual effort at said steering wheel, said apparatus comprising control means adapted to operate in accordance with the amount of rotation of the road wheels of the vehicle, electrical means governed by said control means, and an hydraulic linkage between said electrical means and said control component including plunger means whereby on energization of said electrical means the fluid in said hydraulic linkage is caused to become



displaced to displace said control component as necessary to bring said power means into play in the manner required for the maneuver.

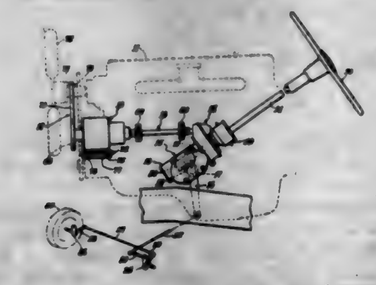
2,978,657
POWER STEERING DEVICE
David W. Barton, Birmingham, and Glenn A. Ulrich, Garden City, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 16, 1958, Ser. No. 761,384
6 Claims. (Cl. 180—79.2)



4. Power steering mechanism for a motor vehicle having a frame, a manually operable steering wheel and a steerable road wheel, comprising a hydraulic power cylinder connected to said frame, a piston reciprocable within said cylinder and operatively connected to said road wheel to steer the latter, a source of fluid pressure, said piston having axially spaced piston heads in sealing engagement with said cylinder and an axially extending bore between said heads, a valve slidable in said bore, a toothed rack mounted upon said piston between said piston heads and axially slidable relative thereto, said rack being located radially outwardly of said slidable valve, a connection extending radially inwardly from said rack to said valve, and a driving gear member connected to said manually operable steering wheel and meshing with said rack.

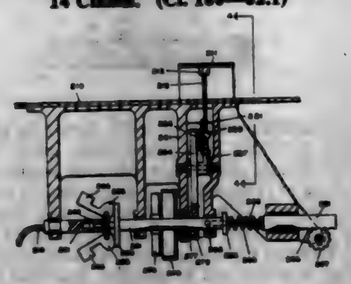
2,978,658
POWER STEERING DEVICES
Palmer Orr, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Aug. 3, 1954, Ser. No. 447,573, now Patent No. 2,877,656, dated Mar. 17, 1959. Divided and this application Aug. 18, 1958, Ser. No. 755,504
1 Claim. (Cl. 180—79.3)

In a steering mechanism for an automotive vehicle having steering ground wheels, a manually rotatable steering shaft for steering the wheels, an output shaft connected to the ground wheels for turning the wheels in opposite directions, a radial lost motion device interconnecting said steering shaft and said output shaft, said device having three driving lugs extending radially outward from said steering shaft and three driven lugs extending radially outward from said output shaft and axially between said driving lugs, said device having resilient material disposed between two of said drive lugs and said driven lugs, switch means including a first pair of contacts extending radially outward from and carried by said driven shaft and also including a center pole secured to the third driving lug and carrying a second pair of contacts which are positioned between said first pair of contacts, a first power shaft connected to drive said output shaft, a second power shaft adapted to be continuously driven in one direction of rotation by the vehicle engine, a pair of independently operable electro-



dynamic elements driven by said second power shaft, reversing bevel gearing interconnecting one of said elements with said first power shaft for driving it in one direction, and means for connecting said other element to said first power shaft for driving it in the opposite direction, said switch means being responsive to relative motion between the driving and driven lugs so as to complete a circuit between one of said first pair of contacts and one of said second pair of contacts to energize one or the other of said electrodynamic elements, depending on the direction and magnitude of the torque manually applied to said steering shaft for augmenting the manual torque applied to it.

2,978,659
SPEED REGULATING DEVICE
Carl David Miller, 326 W. 5th Ave., Columbus, Ohio
Filed Aug. 1, 1957, Ser. No. 675,745
14 Claims. (Cl. 188—82.1)



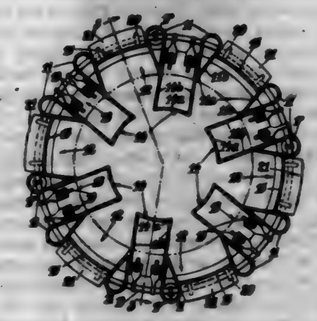
2. A speed regulating device for a vehicle comprising speed controlling means; a lever for adjusting said speed controlling means; means comprising an inductor drum clutch element and connections between said clutch element and said lever for urging said lever toward a position in which the speed of the vehicle is retarded by said speed controlling means; a shaft driven at a fixed ratio relative to the speed of said vehicle; said means comprising a governor driven by said shaft and a second permanent magnet clutch element driven by said shaft and movable into effective connection with said first named clutch element by said governor for changing said urging force in response to various vehicular speeds.

2,978,660
LOUDSPEAKER ENCLOSURE
Alfred H. Roberts, 1615 Monk Road, Gladwyne, Pa.
Filed Apr. 3, 1959, Ser. No. 803,856
3 Claims. (Cl. 181—31)



1. An acoustical device comprising a loudspeaker and an enclosure for said loudspeaker; said enclosure having a plurality of spaced side wall panels connected along their meeting margins, an end wall panel closing said side wall panels at one end thereof, a second end wall panel closing part of the opposite end of said side wall panels, a baffle connected to and extending inwardly from said second end wall panel to an end margin beyond the loudspeaker and providing on one side thereof with certain of said side wall panels a mouth portion and on the other side thereof with certain of said side wall panels and said second end wall panel an interior throat portion, said side wall panels at said opposite end terminating in the same plane as said second end wall panel and providing the terminus of the mouth portion coplanar with said second end wall panel; said baffle having an opening therethrough, and said loudspeaker being mounted at said opening with one diaphragm surface facing into said throat portion and one diaphragm surface facing across said mouth portion; said side wall panels, baffle and end wall panels providing an air column extending from the throat portion to the terminus of the mouth portion and folded back upon itself at said first end wall panel, the length of said air column being not more than a quarter wave at the primary resonant frequency of the loudspeaker; said side wall panels between the end margin of said baffle and said end wall panel providing an energy sink of larger volume than either the throat volume or the mouth volume.

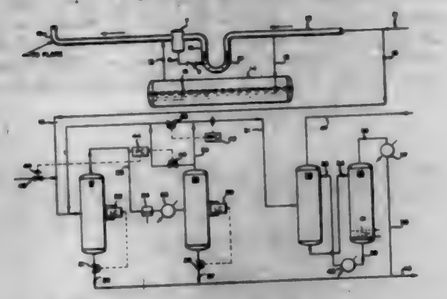
2,978,661
JET PROPULSION NOZZLES
John Michael Storer Keen, Allestree, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 15, 1957, Ser. No. 646,493
Claims priority, application Great Britain Mar. 16, 1956
10 Claims. (Cl. 181—41)



1. A jet propulsion nozzle for a continuous combustion jet propulsion engine, said nozzle comprising a rigid tubular structure and first and second sets of flaps defin-

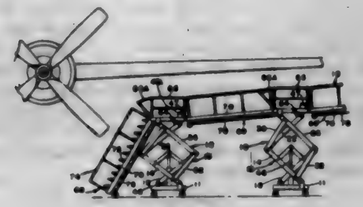
ing the nozzle outlet by their downstream ends, the flaps of the first set alternating around the nozzle with the flaps of the second set, each of said flaps having a longitudinally- and circumferentially-extending wall defining a part of a gas passage through the nozzle, pivot means connecting each flap at the upstream end of its longitudinally and circumferentially-extending wall to the tubular structure to swing about an axis which is at right angles to a plane containing the nozzle axis, and operating means connected to said sets of flaps and in operation effecting swinging of said first and second sets of flaps in opposite directions between a first setting in which the downstream ends of the walls of the first set of flaps are at a substantially smaller radial distance from the nozzle axis than the downstream ends of the walls of the second set of flaps and the nozzle outlet has a corrugated contour, and a second setting in which the downstream ends of the first and second flaps are radially closer together, said rigid tubular structure comprising a series of angularly-spaced, longitudinally extending, radially-inwardly-projecting fixed members, there being one such fixed member between each pair of adjacent flaps, and the flaps have circumferentially-spaced edge portions cooperating in gas-sealing manner with the fixed members.

2,978,663
SYSTEM FOR RECOVERY OF VALUABLE CONSTITUENTS FROM NORMALLY WASTED MATERIALS
William W. Ford and Adolph M. L. Kuhn, Phillips, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,399
5 Claims. (Cl. 183—2)



3. A system for recovering fuel gas and condensable hydrocarbons from normally wasted hydrocarbons sent to a flare which comprises, in combination, a flare; a flare conduit; liquid seals operatively connected to said flare conduit in parallel so as to maintain a predetermined minimum pressure in said flare conduit and to pass increasing amounts of hydrocarbons to said flare at increasing increments of pressure in said flare conduit; means for removing hydrocarbons from said flare conduit at a point upstream from said seals; means for recovering liquid from the removed hydrocarbons; means for condensing and recovering condensable hydrocarbons from remaining removed hydrocarbons; and means for recovering remaining fuel gas from said condensing means.

2,978,662
VARIABLE HEIGHT SCAFFOLD ASSEMBLY
Eugene J. Di Camillo, Lynbrook, and Donald L. Smith, Oakdale, N.Y., assignors to Airsco, Inc., Brooklyn, N.Y., a corporation of New York
Filed June 18, 1957, Ser. No. 666,416
2 Claims. (Cl. 182—1)



1. A scaffold assembly comprising a supporting base, a work platform, linkage means between the base and the platform for guiding the platform in vertical motion, jack means for raising and lowering the platform, access stairway means including a bank of stair treads, means to pivotally secure said bank at its upper end to said platform; means to support the lower end of said bank on the ground to move toward and away from the base as the platform is respectively raised and lowered, said treads each being pivotally mounted in the bank for swinging movement on a horizontal axis, and control linkage means joined to each of said treads and responsive to pivotal movement of the bank relative to the platform to maintain the threads in a horizontal plane, said stairway including first securing means adjacent its normally grounded end remote from the platform, said platform including on an edge other than that of the pivotal connection of the stairway, second securing means complementary to that of the stairway, whereby two laterally spaced apart scaffold assemblies can be integrated by uniting the first and second securing means disposed respectively on the platform of one assembly and the stairway of the other assembly to form a bridging platform between the two vertically movable platforms, said stairway tread control means driving the treads of the bridging stairway into coplanar relationship.

2,978,664
GAS PURIFIER
Danny B. Deaver, Oakland, Calif., assignor to De-More Products Corp., Oakland, Calif., a corporation of California
Filed Feb. 19, 1959, Ser. No. 794,462
3 Claims. (Cl. 183—4)

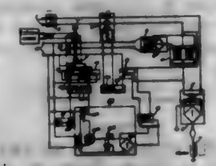


1. In a nonflammable, washable device for filtering and purifying relatively high temperature gases by the removal of organic matter, a continuous substantially rigid outer frame of relatively slight depth, spaced substantially parallel flexible webs carried within said frame, and a loosely packed filter body including granules of an expanded hydrated siliceous material selected from the group consisting of perlite and vermiculite, said filter body being confined between and substantially filling the spaces between said webs, said granules being of a size such that at least one dimension is no less than 3/16".

2,978,965
REGULATING ELECTRIC PRECIPITATORS
Bengt Berg, Bandhagen, Sweden, assignor to A.B. Svenska Fläktfabriken, Stockholm, Sweden
Filed June 27, 1958, Ser. No. 745,212
Claims priority, application Sweden July 3, 1957
1 Claim. (Cl. 183—7)

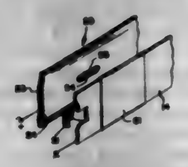
For an electrical precipitator having a high voltage transformer, a unit connected in the primary circuit of

said transformer incorporating a transducer having control windings to regulate the voltage applied to said precipitator, said transducer having an especially high-current-limiting effect inducing a counteracting voltage within said transducer upon flashover in said precipitator to quench the same, a control circuit including a motor-operated regulating transformer connected to the control windings of said transducer and operable selectively to raise and lower the voltage applied to said precipitator, a timing device connected to said control circuit to operate at regular intervals the transformer in one direction for a timed period and thereby periodically raise



said applied voltage a predetermined amount, and a sensing circuit responsive to said flashover-induced voltage in said transducer including a capacitive time-regulation circuit operable upon occurrence of repeated flashovers and resulting accumulation of energy in said capacitive circuit to disconnect said timing device from said control circuit and to operate the transformer in the opposite direction for a timed interval and thereby lower the applied voltage a predetermined amount, whereby said transducer serves as both a flashover senser and a regulator to apply the highest possible voltage to the precipitator at all times without excessive flashovers.

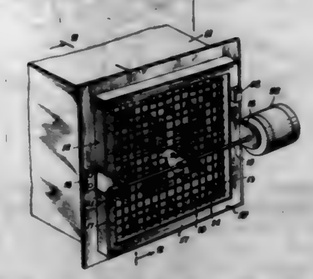
2,978,666
GAS CLEANING APPARATUS
Keith M. Nodolf, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed May 7, 1959, Ser. No. 811,650
3 Claims. (Cl. 183—7)



1. In an electrostatic air cleaner a collection section for collecting charged foreign particles in the air comprising, a first set of thin conducting plates, said plates having a dielectric coating, a second set of thin conducting plates, said plates being assembled in a parallel manner with every other plate of the other set, a source of power, means connecting said source whereby said first and second set have a voltage difference between them, and means spaced from the edges of each of said first set of plates and providing a current flow path of lower resistance than through the coating for conducting a current from each plate to an outer surface of said coating to maintain said surface charged.

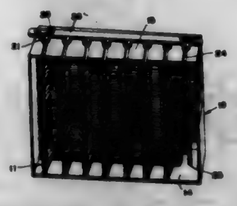
2,978,667
ACTUATING MEANS FOR EXPANSIBLE FILTERS
William Ansel Tuthill, Westhampton Beach, N.Y., assignor to Flanders Mfg., Inc., Riverhead, N.Y., a corporation of New York
Filed Feb. 5, 1957, Ser. No. 638,338
2 Claims. (Cl. 183—59)

1. In combination with an expansible air filter having an upstream side face and a downstream side face, shiftable means coupled with and extending from said filter for permitting the expansion of said filter upon the shifting of said means, movable means operatively associated with a surface of said shiftable means and movable about an axis substantially parallel to a major portion of said upstream side face and downstream side face, said shiftable means and movable means being so constructed and arranged that their association upon movement of said movable means about said axis is adapted to effect the shifting of said shiftable means, said movable means comprises a cam having a cam follower track and steps intervening portions of said track and said shiftable



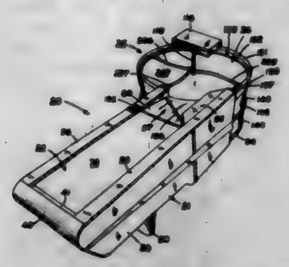
means comprises a cam follower secured to said filter and in camming association with said cam whereby on rotation of said cam said cam follower will drop from one portion of said cam follower track to the next, electrical means coupled with said movable means for operating to move said movable means, and pressure sensitive actuating means coupled with said electrical means for energizing said electrical means when the air pressure on said upstream side face and at a second location provides a predetermined pressure differential to thereby cause said movable means to move and said shiftable means to shift in a direction substantially normal to one of the side faces of said filter.

2,978,668
VARIABLE DENSITY AIR FILTER PANEL
Alfred J. Pierfederici, South Plainfield, N.J., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Nov. 27, 1959, Ser. No. 855,822
8 Claims. (Cl. 183—63)



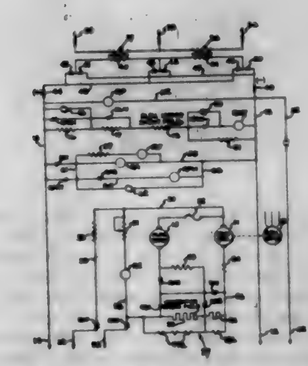
1. A gas filter comprising a frame having an open front and back, a plurality of laterally spaced filter elements independently mounted therein, each said element having a high density and a low density section thereon out of alignment with said high density section, each said high density section being disposed thereon in alignment with the high density section of the next adjacent filter element, and each said low density section being disposed thereon for lateral alignment with the low density section of the next adjacent filter element transversely of said open front to filter gas passed therethrough, each said high density section being disposed on said filter element so they extend toward said open front and back when said low density sections extend transversely of said open front.

2,978,069
CHECK OUT COUNTER
Willis M. Shoffner, Dayton, Ohio, assignor to The Fogarty Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Nov. 29, 1957, Ser. No. 699,826
14 Claims. (Cl. 186—1)



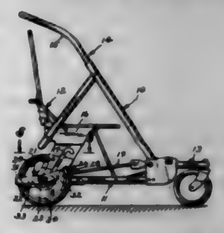
1. A checkout counter comprising in combination, an elongated supporting structure having loading and discharge ends, a conveyor belt having an upper conveying flight mounted in said supporting structure for transporting articles from the loading end of said structure to a checking station adjacent the discharge end thereof, a table positioned adjacent the discharge end of said structure, an article receiving top mounted for rotary movement about a vertical axis secured to said table, a drive wheel secured to said table in contact with the underside of said rotatable top, a motor operably connected to said drive wheel to effect rotation of said top, means operably connecting said motor to said conveyor belt, an electric circuit for energizing said motor, and switch means in said electric circuit operated by the passage of articles from the discharge end of said supporting structure onto said rotatable top to energize said motor and operate said conveyor belt and said table top simultaneously.

2,978,070
CONTROL SYSTEM FOR ELEVATOR MOTORS
William E. Hesse and John F. Shawhan, Cincinnati, and Raymond B. Pohlman, Jr., Madeira, Ohio, assignors to Dover Corporation, Washington, D.C., a corporation of Delaware
Filed Feb. 2, 1959, Ser. No. 790,500
16 Claims. (Cl. 187—29)



1. A system for controlling the operation of an electric elevator and the like comprising a motor for raising and lowering the elevator car, a supply generator in electrical circuit connection with said motor, said supply generator having a field winding, means including a resistance in circuit with said winding, and a switching device for varying said resistance for varying the excitation of said generator and speed of said motor, and means for decreasing the rate of change of excitation of said generator below the value determined solely by the winding inductance of said generator, said last named means including a damping motor having its armature in electrical circuit connection with said generator field winding, said damping motor having a kinetic energy storing device associated therewith, elevator car position responsive means for disconnecting said damping motor from said field winding when the elevator car is a predetermined distance from a floor at which the car is to be stopped, and means for reconnecting said damping motor armature to said winding in a reverse relationship when the car is at a lesser predetermined distance from the floor, whereby the damping motor applies a reverse potential to said field winding.

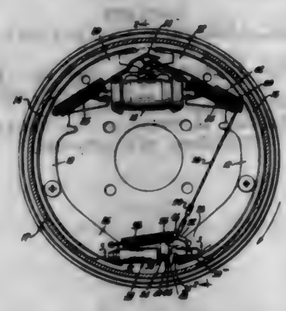
2,978,071
BABY CARRIAGE BRAKE
Jerrold A. Munro, Rolla, N. Dak.
Filed Aug. 12, 1958, Ser. No. 754,582
3 Claims. (Cl. 188—30)



1. In a baby carriage having aligned axle portions and a pair of laterally spaced wheels mounted on said axle portions, a braking mechanism comprising a longitudinally extended arm, a braking element rigid with said arm adjacent one end thereof in transverse relationship therewith, said arm having a longitudinally extended slot of irregular shape formed therein intermediate the ends thereof, a pin-like mounting element disposed to extend in the same direction as the axis of and adjacent one of said wheels, said arm being mounted on said element which extends through said slot to dispose said arm adjacent one lateral side of one of said wheels in generally parallel relationship therewith and with said braking element disposed adjacent and in face to face relationship with the outer rim of the wheel, said slot extending generally longitudinally and adjacent one end thereof extending generally transversely to define a stop shoulder limiting longitudinal movement of said arm with respect to said pin-like element, said arm being mounted on said pin-like element for relative generally longitudinal movements generally at right angles to the axis of the wheel for moving said braking element toward and away from said rim between an inoperative position in spaced relation with said rim and a braking position in braking engagement with said rim, said pin-like element engaging said stop shoulder at the inoperative position of said braking element, and resilient means connected to said arm yieldably biasing said braking element toward its braking position.

2,978,072
AUTOMATIC BRAKE ADJUSTOR
Richard T. Barnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of abandoned application Ser. No. 433,363, June 1, 1954. This application June 4, 1958, Ser. No. 740,512
10 Claims. (Cl. 188—79.5)

1. An automatic adjustor in combination with a pair of articulated brake shoes having adjacent expansible ends adapted to anchor alternatively at either expansible end on a fixed anchor located therebetween, said adjustor comprising an adjusting nut, a link threadedly received in said nut, a serrated wheel transversely located on said link, a resilient adjusting member including two portions in transverse planes, one of said portions being positioned on said link and provided with flats preventing rotational movement thereon, the other of said portions being deformable and engaging one of the serrations of said wheel, a flexible actuating means connected at one end to said fixed anchor and at the other end to the deformable



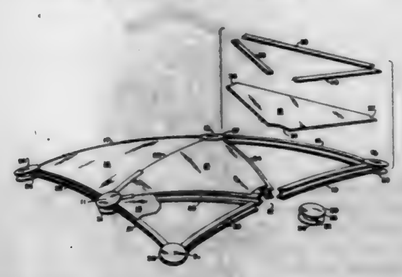
portion of said adjustor, said flexible actuating means being operatively connected at a point intermediate the ends thereof with one of said brake shoes to produce deformation of said other portion according to the extent of movement of the brake shoe during shoe expansion to engage a successive serration on said serrated wheel, the resiliency of said other portion thereafter causing turning of said wheel and link to spread the articulated ends of the shoes apart when the brake is released, and means for disengaging said adjustor from the serrations of said wheel to permit manual adjustment of the brake.

2,978,073
BIMETAL BRAKE DRUM
Thomas C. Soddy, Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 1, 1957, Ser. No. 649,902
6 Claims. (Cl. 188—218)



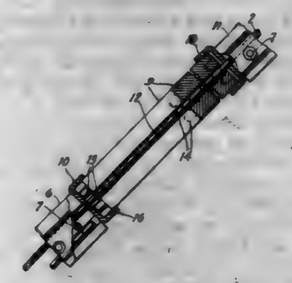
1. A bimetal brake drum comprising a rigid housing of a metal having high heat conductivity characteristics having a continuous peripheral circumferential wall, a helix of metal having an inner face, an outer face, and side faces, the coils of said helix being spaced apart lengthwise of the helix axis and wherein the outer face and at least a portion of said side faces are embedded fixedly within said housing wall, the said coils being maintained in spaced relationship by a continuous helical rib formed as an integral part of said housing wall extending between said coils, the said inner face of said helix forming a continuously circular brake-shoe contacting surface for the drum.

2,978,074
SPHERICAL BUILDING STRUCTURE WITH CURVED BEAMS
Clarence J. Schmidt, Cuyahoga Falls, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Mar. 13, 1959, Ser. No. 799,152
8 Claims. (Cl. 189—2)



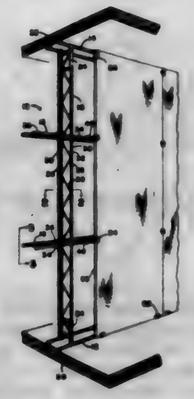
4. A spherical enclosure comprising a multiplicity of spool-like connecting elements arranged about a common point equidistant therefrom with their axes radiating from said point, each spool-like element comprising a one-piece annularly grooved body having spaced end flanges, and convexly curved beams extending from one spool-like element to another with their ends secured in said grooves between said flanges providing a reticulated framework, and spherically curved panel members mounted about said framework.

2,978,075
CABLE GUARDS
Benjamin I. Newton, R.R. 4, South Haven, Mich.
Filed Feb. 23, 1956, Ser. No. 567,133
4 Claims. (Cl. 189—31.5)



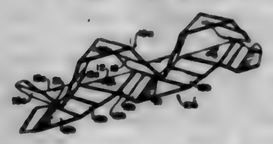
1. A cable guard comprising a plurality of pairs of similar wooden block members having grooves formed in one face thereof and positioned in facing relation on opposite sides of a cable with the cable received in said grooves, a pair of longitudinally projecting dowels on one end of each member and spaced transversely on opposite sides of the groove in the member by a distance equal to twice the distance between each pin and the grooved face of the member, the opposite ends of each member having dowel holes formed therein in aligned positions with the dowels thereof, each successive pair of block members in the guard being rotated 90° from the adjacent pair of members whereby the dowels of one block member are received in and engage both blocks of an adjacent pair of block members, end caps telescopically embracing the ends of the end pairs of block members to prevent lateral separation thereof, said end caps being transversely sloted from one side to the center to permit assembly on a cable, and means on the cable axially retaining said end caps against the exposed ends of said block members.

2,978,076
LONG LENGTH LATH PARTITION SYSTEM
Joseph W. Schneller, Eggertsville, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
Filed Jan. 29, 1958, Ser. No. 711,966
3 Claims. (Cl. 189—34)



3. In a partition framework, lightweight metal vertical studs disposed at widely spaced positions and horizontal studs extending substantially from one vertical stud to adjacent vertical studs, two said horizontal studs disposed on opposite sides of one said vertical stud at a common height, the respective adjacent ends of said two horizontal studs being disposed in a pair of short channels, said channels having an outer wall and two inwardly directed flanges, each said channel engaging one edge of each of said two horizontal studs and being affixed said vertical stud disposed therebetween, said vertical stud having elongate flanges extending along each outer edge thereof forming a generally L-shaped edge portion, said inwardly directed flanges of said channels having L-shaped slots substantially complementary to said vertical stud edge portion, said slots extending the full depth of said channel flanges with the base of said L-shaped slots extending immediately adjacent the outer wall of said channels, said vertical stud edge portions being disposed and tightly grasped in said channel slots, the end portions of a respective pair of said channels being urged together and grasping the end portions of said horizontal studs therebetween by attachment means affixed thereabout, said attachment means further holding said channel outer walls straight and restraining said slots from opening and releasing the grasped relation on said vertical stud edge portions.

2,978,077
THREE-DIMENSIONAL STRUCTURE AND ELEMENTS THEREOF
Donald Wood, New York, N.Y., assignor to Hill Cross Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 9, 1958, Ser. No. 779,100
17 Claims. (Cl. 189—34)



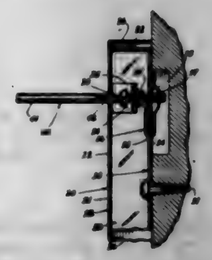
1. A structural element comprising a length of reformed flat strip material bent successively along axes lying at a 45 degree angle to the axis of the strip to provide adjacent gusset and web portions on opposite sides of the bending axes lying in planes disposed at right angles to each other, the axes of said web portions being disposed at acute angles to the planes of said gusset portions, the length of strip material having at least five successive bends, and at least certain ones of said successive bends being disposed on an axis lying at an angle to the adjacent bend on one side and parallel to the adjacent bend on the other side.

2,978,078
HANGING ASSEMBLY AND ELEMENTS FOR USE IN SAME
Arthur Waller, Highland Park, and Otto Iannes, Jr., Glenview, Ill., assignors to Bull Dog Lock Company, Chicago, Ill., a corporation of Illinois
Filed July 26, 1955, Ser. No. 524,533
9 Claims. (Cl. 189—88)



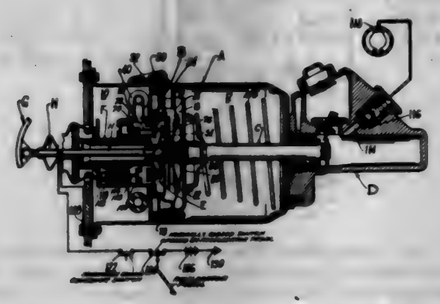
1. For use in assembly of a top plate member onto a supporting backing plate dimensioned to correspond with the top plate and having a plurality of openings in predetermined spaced relation from the adjacent edges thereof about the backing plate, a mounting clip of deformable metallic material having an intermediate portion dimensioned to have a length corresponding to the thickness of the top plate member and the backing plate member when in the assembled relation, a flanged section turned inwardly substantially perpendicularly from one end of the intermediate section for engagement with the front face of the top plate member adjacent the edge portion when in the assembled relation, a flanged member extending inwardly from the other end of the intermediate section at an angle greater than 90 degrees but less than 180 degrees and dimensioned to have a length at least as great as the distance of the opening in the backing plate member from the edge, and an anchoring means on the flanged member spaced from the intermediate section by an amount corresponding to the distance of the openings from the edge of the backing plate.

2,978,079
SECURING DEVICE FOR SPEAKER BAFFLES
Benjamin W. Lowell, 7819 Harter Ave., Richmond Heights, Mo.
Filed Oct. 11, 1956, Ser. No. 615,395
1 Claim. (Cl. 189—88)



In combination, a flat base member and a plate having a plurality of uniform circular perforations, said base member and plate having flanges which overlap when the base member and the plate are secured to a wall, means for securing said base member and plate to a wall in hidden relationship, said means comprising a bracket secured to the underside of the plate underneath one of said perforations for holding a bolt in slidable relation to said bracket with the head of the bolt retained in substantial spatial relation between the plate and the bracket, said one of the perforations acting as self guiding means for directing a screw driver into cooperating relation with the head of the bolt, said bolt being secured to the base with the bolt head substantially removed from said plate when the plate is secured to the base and bolt securing means provided on the flat base, said bolt securing means having self-aligning means receiving the end of the bolt comprising a plate-like member having a concave recess and a centered bolt receiving opening, said plate-like member being secured on said base through openings provided on the base and being relatively movable with respect to the base by the contact of the end of the bolt, said bolt being substantially removed from the plate when seated in the bolt receiving opening.

2,978,089
POWER BRAKE WITH AUTOMATIC HOLD FEATURE
Eugene F. Beatty, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 7, 1957, Ser. No. 695,094
8 Claims. (Cl. 192—3)



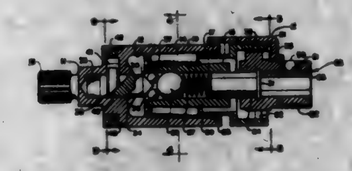
1. In a fluid pressure servo-motor system for actuating a driven device: a housing having a fluid pressure chamber therein, a pressure responsive movable wall in said chamber dividing said chamber into first and second opposing chambers, first means communicating a first fluid pressure source of a first generally predetermined intensity to said first opposing chamber, second means communicating both said first pressure source and a second pressure source of a second generally predetermined intensity to said second opposing chamber, first valve means in said second means positioned between said first pressure source and said second opposing chamber, second valve means in said second means positioned between said second pressure source and said second opposing chamber, said servo-motor being constructed and arranged to apply force to said driven device when the pressure intensity in said second opposing chamber differs from that of said first pressure chamber, a control member for simultaneously operating said first and second valve means to modulate the pressure in said second opposing chamber, third valve shut-off means in series flow relationship with respect to said first valve means, an armature operatively connected to said third valve means for opening and closing said third valve means, and control means including an electrical coil for actuating said armature whereby said control means under certain control conditions closes said third valve means and prevents said first valve means from releasing said driven device.

2,978,081
DEVICES IN RATCHET WRENCHES
David Maurits Emanuel Lundin, Enkoping, Sweden, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden
Filed July 24, 1957, Ser. No. 673,887
Claims priority, application Sweden Aug. 13, 1956
2 Claims. (Cl. 192—43.1)



1. A ratchet wrench comprising a rocker, a pair of pawl members carried by said rocker, work engaging means including a rotatable ratchet wheel, each pawl having a plurality of teeth for engaging the teeth of said ratchet wheel, said rocker being pivotable between two positions in a first of which one of said pawls engages said ratchet wheel for clockwise rotation of said ratchet wheel, and in the second of which the other pawl engages said ratchet wheel for anti-clockwise rotation of said ratchet wheel, snap lock means for maintaining said rocker in a selected one of said positions, a handle for said rocker operable for selectively positioning said rocker, said pawls being mounted upon said rocker for pivotal movement relative to each other about axes parallel to the axis of said ratchet wheel for self-adjustment and full engagement of one of said pawls with said ratchet wheel when said rocker is in one of said extreme positions and full engagement of the other of said pawls with said ratchet wheel when said rocker is in the other of said extreme positions.

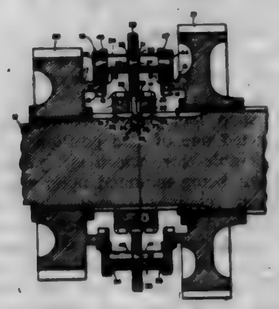
2,978,082
OVERLOAD RELEASE CLUTCH
Bernard R. Better, Chicago, Ill., assignor to Scully-Jones and Company, Chicago, Ill., a corporation of Illinois
Filed June 18, 1957, Ser. No. 666,350
9 Claims. (Cl. 192—56)



1. A torque driver including means to connect to a part to be acted upon thereto comprising in combination; a deformable driving member; means including a driven member mounted in said driving member; tapered surfaces on said driving member and said driven member, one of said surfaces being further provided with a plurality of spaced cams and with non-driving areas between said cams; a roller cage; rollers in said cage and disposed for engagement with one said tapered surface and said cams so that said driving member when rotating will deliver torque to said driven member upon slight pressure of said means including said driven member against said part; means for selecting the maximum value of the driving torque beyond which value the forces will be sufficient to cause a radial deformation of the driving member and allow the rollers to ride over the cams and into the non-driving areas comprising axially movable means supported at least in part by said driven member, radially movable means supported at least in part by said driven member and interengaging said axially movable means whereby

radial movement thereof causes axial movement of said axially movable means to change the distance between said tapered surfaces, and rotatable means externally supported on said driven member and operatively associated with said radially movable means for movement thereof; means for maintaining said rollers in the non-driving areas as long as said selected maximum value of said driving torque is exceeded and so long as said slight pressure on said part is maintained; and means to return said rollers to near engagement with said cams upon release of said pressure of said means including said driven member on said part.

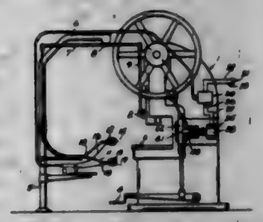
2,978,683
POSITIVE LOCK SYNCHRONIZER
Lewis E. Henyon, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Nov. 7, 1957, Ser. No. 695,157
8 Claims. (Cl. 192—114)



1. In a transmission a shaft having splines, a gear rotatably mounted on said shaft, a clutch hub member splined for rotation with said shaft and for movement axially relative thereto from a neutral position to a shifted position at which said gear is drivingly connected with said shaft, and a clutch ring member for moving said clutch hub member axially of said shaft, the combination of locking means comprising, groove means in the splined portion of said shaft extending transversely and inwardly of the periphery thereof, a locking key mounted in said groove in said shaft for radial movement inwardly and outwardly of the periphery thereof, an unlocking key connected with said clutch ring member for conjoint movement therewith axially of said shaft, said unlocking key in the neutral position of said clutch hub member overlying said locking key and retaining the latter in said groove within the periphery of said shaft, and said locking key in the shifted position of said clutch hub member being adapted to be disposed by centrifugal force on rotation of said shaft to a position radially outwardly of the periphery of said shaft to prevent axial movement of said clutch hub member from its shifted position to its neutral position.

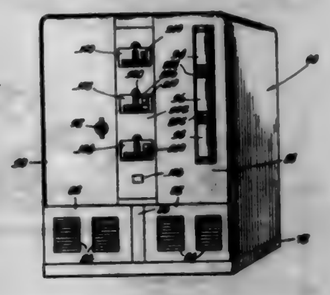
2,978,684
SAFETY INTERLOCK
Hugo L. Vilkaitis, Thomaston, Conn., assignor to Safeguard Manufacturing Company, Woodbury, Conn., a corporation of Connecticut
Filed Oct. 21, 1958, Ser. No. 768,594
5 Claims. (Cl. 192—131)

1. A safety device for power operated machines comprising a plurality of dissimilar metal electrodes, means for positioning said electrodes in contact with the normally moist skin of the machine operator thereby to establish an electrolytic potential between the electrodes, means electrically connected to said electrodes for amplifying the electrolytic potential established therebetween, and means for controlling the operation of the machine, said last named means being operable by the output of



said amplifier thereby to permit machine operation only when said dissimilar metal electrodes are in engagement with the skin of the operator.

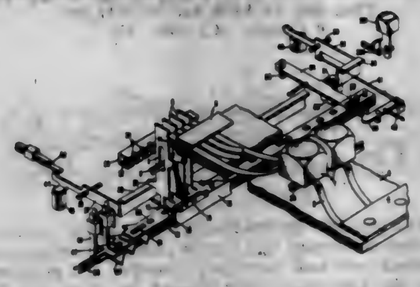
2,978,885
VENDING MACHINE
Robert D. Stayton, 321 S. Lincoln, and Ned E. Lowry, 1018 Galena Ave., both of Aurora, Ill., and Leon O. Vogt, Garfield Ave., Oswego, Ill.
Filed Apr. 24, 1951, Ser. No. 222,641
14 Claims. (Cl. 194—10)



6. In a vending machine, the combination comprising article delivery means, article storage means, means for shifting articles from said storage means to said article delivery means, an electric motor, first clutch means when engaged interconnecting said motor and said article delivery means, second clutch means when engaged interconnecting said motor and said article shifting means, a coin actuated switch, means actuated by closing of said coin actuated switch to energize said motor and to engage said first clutch means to drive said article delivering means, and means to detect the absence of articles on said article delivering means and operable to engage said second clutch means upon detection of the absence of articles on said article delivery means to drive said article shifting means.

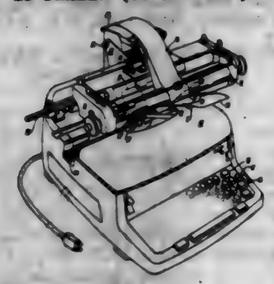
2,978,886
KEY OPERATED MACHINES
John E. Hickerson, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 14, 1959, Ser. No. 846,400
12 Claims. (Cl. 197—16)

1. A key operated machine comprising, in combination, a plurality of key buttons operable manually for causing different machine functions, a stop member associated with each of said key buttons, a plurality of thin strips arranged closely adjacent each other and movable longitudinally between inoperative and operative positions, openings in said strips in alignment with each other at points opposite said stop members when said strips are in their inoperative positions, said openings adapted to receive said stop members and being of such length that each of said strips is either held by a stop member against movement or is permitted to move to its operative position, means yieldingly urging said strips toward their operative positions, means releasably holding said strips in their inoperative positions, means operating on actua-



tion of any one of said key buttons for moving its associated stop member through the openings opposite it in said strips and for releasing said holding means, and means operating in response to movement of said strips to operative positions for producing a function representative of the key button actuated.

2,978,887
APPARATUS FOR PROCESSING FORM CARDS
Frederick C. Wendt, Farmington, Conn., assignor to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York
Filed Dec. 18, 1957, Ser. No. 703,749
15 Claims. (Cl. 197—128)



1. In a typewriter having a frame, a movable carriage mounted on said frame and adapted to be selectively returned to card receiving and card typing positions, a cylindrical platen rotatably mounted on said carriage, a paper pan mounted on said carriage for cooperation with said platen, a work card guide means operatively mounted beneath said paper pan and adapted to slidably receive and adjustably position a work card, a feed roll movably mounted on said carriage for cooperation with said platen, means responsive to the arrival of said carriage at said card receiving position for releasing said feed roll for movement away from said platen, and a card chute supported on said frame, said chute being oriented so as to be aligned with said work card guide means when said carriage is in said card receiving position.

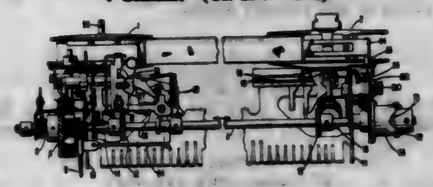
2,978,888
PAPER FEEDING DEVICE
Eugene S. Pearson and Ronald D. Dodge, Lexington, Ky., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 12, 1958, Ser. No. 760,625
3 Claims. (Cl. 197—138)

1. A paper feeding mechanism for a typewriter comprising, in combination, a platen, a pair of rolls, a member rotatably supporting said rolls for engagement with said platen at points spaced circumferentially thereof, an arm extending transversely of said platen and contacting said member at a point between said rolls, means supporting said arm for parallel motion, means yieldably acting on said arm for urging said member in a direction



to engage said rolls with said platen, said member rocking relative to said arm on feeding a stack of paper between said platen and either one of said rolls, and said member and said arm being so shaped that the point of contact between them shifts in the direction of the roll past which the paper stack is fed when said member is rocked.

2,978,889
RIBBON FEED MECHANISM FOR TYPEWRITERS
Ronald D. Dodge and Neil D. Walton, Lexington, Ky., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 24, 1959, Ser. No. 842,146
4 Claims. (Cl. 197—161)

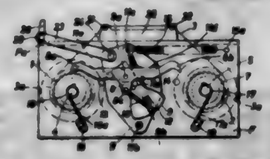


1. A mechanism for feeding a typewriter ribbon from one spool to another and operating when the ribbon is completely unwound from either one of the spools for reversing the direction of ribbon feed comprising, in combination, a drive shaft, means supporting said drive shaft for movement longitudinally between either one of two driving positions, a pair of driving gears fixed to said shaft at spaced points, separate gear mechanisms operatively connected to said spools and separately engageable by said driving gears on movement of said drive shaft to one or the other of said positions, a spring actuated reversing lever acting on said shaft for urging it to one of its driving positions, a cam member loosely mounted on said shaft, a cam follower carried by said shaft and movable over said cam member when the latter is held stationary for moving said shaft to the other of said positions, means operating when ribbon is completely unwound from one of said spools for holding said cam member stationary, a reversing latch engageable with said reversing lever on movement of said shaft to said other position, means operating when ribbon is completely unwound from the other of said spools for disengaging said latch from said lever, and means effective during each typing operation for rotating said drive shaft a predetermined distance.

2,978,690
RIBBON ADVANCING AND REVERSING MECHANISM FOR STAMPING DEVICES, TYPEWRITERS AND THE LIKE
Hans-Ado Brandt, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Aug. 25, 1959, Ser. No. 836,021
Claims priority, application Germany Sept. 22, 1958
15 Claims. (Cl. 197—162)

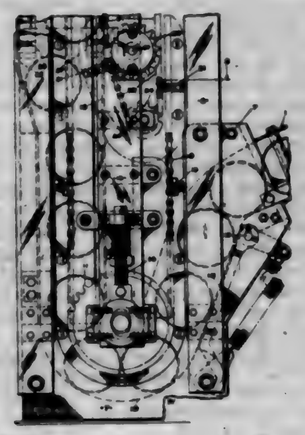
1. A ribbon advancing and reversing mechanism comprising, in combination: support means; a pair of spaced

parallel shafts rotatably mounted on said support means; a spool and a ratchet wheel fixed for rotation to each shaft; carrier means rockably mounted on the support means between said shafts; a double pawl having two pallets; means rockably mounting the pawl on said carrier means for movements in a plane substantially parallel with the line connecting said shafts; stop means fixed to said support means for limiting the rocking movements of said carrier means and for simultaneously limiting the



rocking movements of said pawl between a pair of end positions in which one pallet engages with one of said ratchet wheels and the other pallet engages with the other ratchet wheel, respectively; eccentrically mounted resilient means for alternately biasing said pawl into one of said end positions; and a ribbon having ends connected to said spools and adapted to prevent rotation of said ratchet wheels by the respective pallets when one spool fully pays out the ribbon whereby the pawl is rocked against the action of said resilient means.

2,978,091
CAN ARRANGING MACHINE
Victor H. Hesthorn, Baltimore, Md., assignor to Burt Machine Company, Inc., Baltimore, Md., a corporation of Maryland
Filed Dec. 10, 1958, Ser. No. 779,323
15 Claims. (Cl. 198—31)



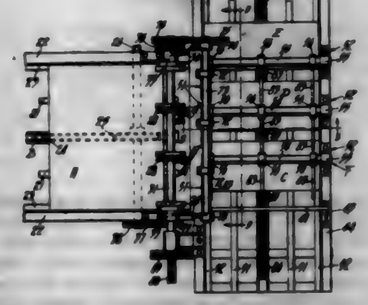
1. In a can arranging machine comprising a distributor, means to feed a continuous line of cans to the distributor, said distributor comprising an endless conveyor having flights thereon and having in its path an upwardly directed substantially vertical course, guides parallel to the flights on each side of the conveyor within said course on which the cans ride while propelled by the conveyor, the feeding means feeding a can to each flight, means to tilt cans on the flights in a selected order from one guide to the other, and means to separate the cans on the separate guides to different paths of travel while still propelled by the conveyor.

2,978,092
ACCUMULATOR FOR CONVERGING CONVEYORS
Richard H. Phillips and John E. Solechi, Indianapolis, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 14, 1959, Ser. No. 827,095
9 Claims. (Cl. 198—32)



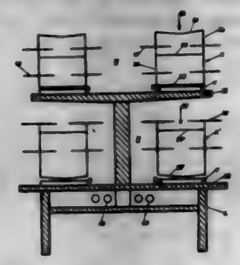
1. In a conveyor system having a plurality of secondary conveyors converging into a main conveyor, a stop means associated with each secondary conveyor and positioned before the converging point thereof for movement into and out of the path of articles moved on the associated conveyor, a scanning means associated with each secondary conveyor and each operable upon articles moving toward the converging point of the associated conveyor for moving the stop means of the associated conveyor out of the path of articles and moving the other stop means into the path of articles, and means for preventing operation of the other scanning means upon operation of one of the scanning means.

2,978,093
SHEET SLITTING MACHINE WITH STRIP HOLDING AND RELEASING DEVICE
Ralph K. Pottle, Georgetown, Conn., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 16, 1958, Ser. No. 728,894
3 Claims. (Cl. 198—34)



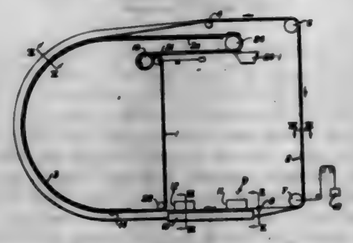
1. A mechanism for slitting and feeding sheet material, comprising a conveyor having means for advancing the same, a plurality of spaced parallel support bars extending transversely over said conveyor for receiving and supporting opposite edges of strips of sheet material fed between adjacent bars, a plurality of rock shafts disposed in spaced parallel relation respectively above and parallel to said support bars, means for mounting said support bars for lateral planar movement in opposite directions relative and normal to the axes of said rock shafts, means connecting said rock shafts to said support bars respectively, and means for rocking said shafts in the same direction and in succession relative and in timed relation to each other to successively impart said lateral planar movement in one direction to said support bars to progressively increase the spacing between adjacent bars and thus positively and successively release said strips supported thereby to said conveyor for the advancement of said strips by the conveyor in spaced and timed order.

2,978,094
DEVICE FOR THE TRANSPORT OF SHOES
Eduard Kyselák and Zdeněk Kocourek, Gottwaldov, Czechoslovakia, assignors to SVIT, narodni podnik, Gottwaldov, Czechoslovakia
Filed Oct. 3, 1957, Ser. No. 687,983
5 Claims. (Cl. 198—84)



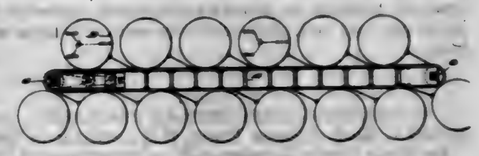
1. A device for transporting shoes during the manufacture thereof, comprising two superposed endless conveyors operating independently of each other and moving along closed paths each having an initial sector where shoe uppers are mounted on lasts, a subsequent sector spaced along the path from said initial sector and where soles are fixed to the uppers and a final working sector where finishing operations are performed on the shoes, means within the closed paths of said conveyors for drying the shoes on both conveyors, each of said conveyors including a series of carriages each adapted to support a plurality of pairs of shoes and being rotatable about a vertical axis so as to selectively dispose the shoes in positions at the outside and inside, respectively, of the related path, latch means for holding each carriage against rotation in a selected one of said positions, and latch releasing means located at the end of said initial sector and at the beginning of said subsequent sector operative to release said latch mechanism of each carriage so that, after moving along said initial sector where shoe uppers are mounted on lasts at the outside of the conveyor path, the carriage is free to be turned through 180 degrees to dispose the uppers on lasts to the action of said drying means at the inside of the path, and, upon arrival at the beginning of said subsequent sector, the carriage is again free to be turned through 180 degrees to dispose the dried uppers at the outside of the conveyor path for the fixing of soles thereto and for the finishing operations.

2,978,095
ELEVATING BELT CONVEYOR FOR DISCRETE MATERIALS IN BULK
Andrew W. Jenike, 1846 E. 9th S., Salt Lake City, Utah
Filed Jan. 16, 1958, Ser. No. 709,304
8 Claims. (Cl. 198—165)



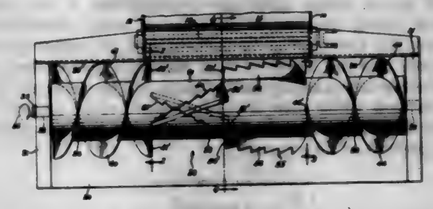
1. A belt conveyor for elevating bulk discrete solids, comprising inner and outer, concurrently traveling, conveyor belts, the outer belt being formed with taut lateral margins and relatively relaxed mid-portion and the inner belt being flat; a guide member having an elongate, longitudinally arcuate, convex, guide surface defining the elevating path of travel for said belts, the inner belt extending around and engaging said guide surface and the outer belt extending around the inner belt with its taut margins engaging the outer surface of said inner belt; and means for tensioning the outer belt relative to said guide surface so as to draw the taut margins of the outer belt into tight sealing engagement with said outer surface of the inner belt throughout substantially the longitudinal extent of said guide surface while leaving the mid-portion of the outer belt relatively untensioned and bellied out as a material container capable of longitudinal expansion during belt travel along said guide surface.

2,978,096
BOWL STORAGE CONVEYOR
Norman V. Beamon, Cincinnati, Ohio, and Robert M. Broomall, Fort Thomas, Ky., assignors to C. J. Patterson Company, Kansas City, Mo., a corporation of Missouri
Filed Apr. 10, 1958, Ser. No. 727,731
12 Claims. (Cl. 198—181)



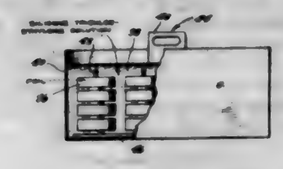
1. A storage conveyor for dough bowls comprising a horizontal elongated rack positioned horizontally on the floor, an endless chain guidably mounted around the outer periphery of said rack, motor means connected to said chain for moving the same about said rack, and flexible cable means connecting bowls to said chain substantially horizontally outwardly of said rack for pulling the bowls around the rack while bearing against said chain.

2,978,097
INFEED CONVEYOR
Allison W. Blankine, Lititz, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Nov. 28, 1958, Ser. No. 777,085
8 Claims. (Cl. 198—217)



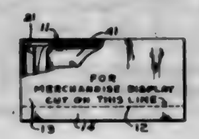
1. A conveyor for crop material comprising a rotatable tube having two end sections separated by a central section, two flights on and extending the length of each end section and wound to deliver material to said central section, each flight having a discharge end at said central section, the discharge ends of the two flights on each end section being angularly spaced relative to each other and also angularly spaced relative to the discharge ends of the flights on the other end section whereby material is delivered to different angularly spaced areas of said central section, and a plurality of deflector members angularly spaced on and extending lengthwise along said central section, each deflector having a discharge end angularly spaced from the discharge ends of said flights.

2,978,098
COATING ALUMINUM FOIL WITH SILICONE
James D. Post, Danbury, Conn., assignor, by mesne assignments, to Republic Foil, Inc., Danbury, Conn., a corporation of Delaware
Filed Apr. 29, 1958, Ser. No. 731,780
13 Claims. (Cl. 206—59)



1. The process of coating the separate layers of a tightly wound roll of aluminum foil, which comprises immersing the roll in its tightly wound state in a coating bath which consists essentially of a silicone oil having a viscosity from about 30 centistokes to 50,000 centistokes and a low viscosity volatile organic solvent for said silicone oil, for a period sufficient to cause the silicone oil solution to penetrate completely between the layers of said foil, and removing said roll from said bath.

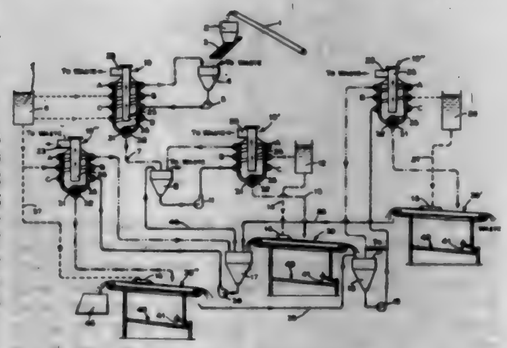
2,978,099
SHIPPING AND DISPLAY PACKAGE
Robert C. Bush, Coopers Plains, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 27, 1957, Ser. No. 705,632
1 Claim. (Cl. 206—65)



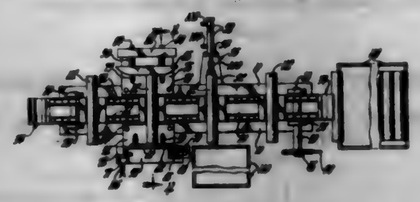
As an article of manufacture, a carton composed of paperboard or the like closed on all sides; two multi-compartmented assemblies identical as viewed from above, for retaining articles in such carton in a substantially upright position, stacked in vertical register with one another and the lower one of which is of small height compared to the height of the upper of said assemblies; said carton being exteriorly marked with a line thereabout along the line of juncture of said assemblies at which the carton may be severed and the upper portion thereof and the upper of said assemblies respectively removed to substantially fully expose articles retained therein to view while such articles continue to be retained on edge for display by the lower assembly and the remaining portion of such carton.

2,978,100
METHOD OF AND APPARATUS FOR CONCENTRATING AND SEPARATING ORE
Norman H. A. Rodman and Arthur Arbetman, Virginia, Minn., assignors to Oreclone Concentrating Corporation, New York, N.Y., a corporation of New York
Filed Feb. 3, 1959, Ser. No. 790,878
9 Claims. (Cl. 209—18)

1. A method for concentrating a feed of ore tailings, waste ore, or crushed fine ores containing slimes, comprising the steps of classifying the feed directly as received to reject particles above a predetermined size and deliver feed below such predetermined size to a sump; injecting the feed from such sump tangentially into a concentrator to flow helically upwardly therein; injecting water under pressure into said concentrator at a level above the level of feed injection to flow helically downwardly therethrough; subjecting the helically upwardly flowing feed to the helically downwardly flowing stream of clean water to separate the feed into tailings and slimes, middlings, and concentrate; subjecting the tailings and slimes to a vortex action in the concentrator to move them axially upwardly of the conentrator to waste; ejecting middlings tangentially from such concentrator and recirculating the middlings to such sump; withdrawing the concentrate axially downwardly of the concentrator for discharge from the concentrator; moving the concentrate from the concentrator in substantially segregated masses upwardly along a sloping path while flowing water over the segregated masses to wash fines therefrom; discharging separated fines and water from the lower end of such path; discharging the separated concentrate from the upper end of said path; recirculating the discharged fines and water, as feed, to the concentrator for further concentrating action; and de-watering the discharged concentrate.

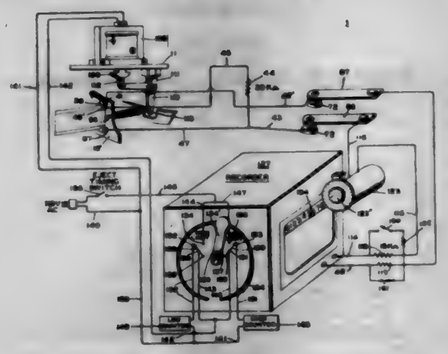


2,978,101
HARDNESS TESTING DEVICE
Kenneth Secunda, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,346
3 Claims. (Cl. 209—73)



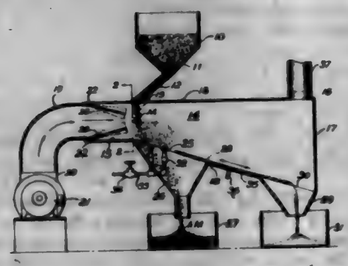
1. A device for determining the hardness of a workpiece comprising a frame, movable conveyor means secured to said frame and having a plurality of workpiece receiving blocks mounted thereon, a first bracket mounted on said frame and extending adjacent the path of said blocks, a plate secured to said bracket and having a file slidably mounted thereon, a second bracket mounted on the opposite side of said frame from said first bracket and having a resiliently biased shoe mounted thereon, spring means on said plate and biasing said bile in a direction opposite to the direction of movement of said conveyor, reject means mounted on said frame and spaced from said file in the direction of movement of said conveyor and operably connected to said file to reject a workpiece of insufficient hardness from said blocks, each of said blocks carrying a workpiece between said shoe and said file, the workpiece sliding along said file if of a hardness greater than said file and the workpiece moving said file if of less hardness than said file, movement of said file being sufficient to actuate said reject means to remove the workpiece from said block and said conveyor means.

2,978,102
APPARATUS FOR TESTING AND SORTING HUMIDITY-RESPONSIVE ELECTRICAL RESISTOR OR HYGROMETER
Vernon B. Morris, Jr., William L. W. Ogden, and Frederick Sobol, Baltimore, Md., assignors to The Bendix Corporation, a corporation of Delaware
Filed Aug. 10, 1954, Ser. No. 448,962
20 Claims. (Cl. 209—81)



1. In a machine for testing electrical resistors, a movable carrier, a plurality of pairs of spaced conductors mounted in series on said carrier, each pair of conductors being adapted to receive and hold a resistor therebetween, means for driving said carrier in a continuous path, an electrical test circuit, means for electrically inserting said conductors in said circuit, and means for causing said inserting means to intermittently travel a given distance from a pick-up position with said carrier until a test is completed and to then reverse its movement back to the pick-up position to engage a succeeding pair of conductors and repeat the test cycle.

2,978,103
DEVICE FOR BENEFICIATING CONCRETE AGGREGATE
Daniel M. Cowher, Sr., Box 14, West Pittsburgh, Pa.
Filed Apr. 16, 1959, Ser. No. 806,801
5 Claims. (Cl. 209—135)



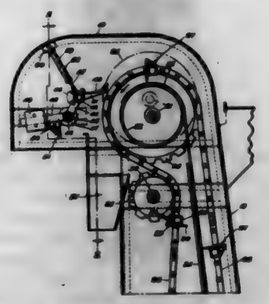
1. A device for beneficiating concrete aggregates comprising a housing having an air inlet opening in one end and an air vent adjacent its opposite end, means for introducing air into said housing through said air inlet opening in said end, deflectors in said end of said housing for directing the air so introduced, a delivery chute communicating with said housing adjacent said deflectors for delivering material to be beneficiated into said housing, a first opening in the bottom of said housing below said delivery chute, a second opening in the bottom of said housing spaced with respect to said first opening, a sliding panel forming a portion of the bottom of said housing and movable into and away from said openings, and water spray nozzles in said first mentioned opening in the bottom of said housing directed upwardly into said housing.

2,978,104
VIBRATORY SCREENING APPARATUS
Kurt Müller, Nordstr. 32, Recklinghausen, Germany
Filed Dec. 23, 1957, Ser. No. 704,837
2 Claims. (Cl. 209—365)



1. A vibratory screening apparatus of the counter oscillating type supported on cushioning springs and composed of a plurality of individual sections, each of which is composed of a pair of longitudinal base frame members, a transverse beam with a screening frame element secured on said beam, pivot bearings mounted for rotation in the longitudinal base frame members and supporting said transverse beam at both ends with said pivot bearings, each having mounted therein an accumulator spring and in addition each containing an anti-gravity spring between the transverse beam and structure of the pivot bearing, said anti-gravity springs being arranged to absorb the mass weight of said supports and screening elements.

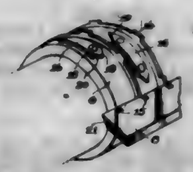
2,978,105
MECHANISM FOR REMOVING SCREENINGS FROM BAR SCREENS
Walter Poheim, Milwaukee, Wis., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 3, 1956, Ser. No. 601,958
2 Claims. (Cl. 210—159)



2. Wiping blade mechanism for discharging screenings from the traveling cleaning-rake elements of a bar screen installation, said mechanism comprising a pair of arms; means for oscillatably mounting said arms adjacent the path of travel of said rake elements; a wiping blade structure journaled in said arms; and means for adjusting said blade structure to various arcuate relationships to the arms, comprising sector members carried respectively by the blade structure and arms adjacent the journal portions thereof and extending radially therefrom, such members being arranged in complemental axially spaced pairs, one member of each pair having a projection disposed in the space between them and pro-

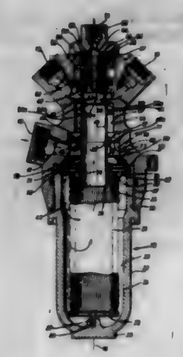
vided with oppositely arranged curved faces, and the complemental member being provided with arcuately spaced bolts alined with said projection and engaging the curved faces thereof.

2,978,106
RAG CATCHER
Carl H. Nordell, 669 Chino Canyon Road, Palm Springs, Calif.
Filed Apr. 28, 1954, Ser. No. 426,093
1 Claim. (Cl. 210—173)



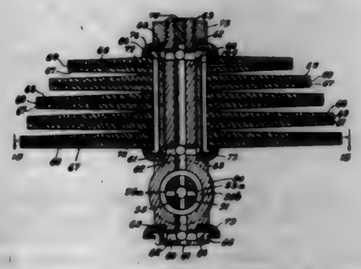
A rag catcher for use on a rotatable cutting cylinder provided with a plurality of series of laterally projecting teeth spaced longitudinally relative to said cylinder, said rag catcher having means integral therewith adapting it to be mounted on the circumferential surface of said cylinder between any two adjacent series of teeth, said rag catcher comprising a plate pointed at each end and arranged to extend at right angles to the longitudinal axis of said cylinder, said plate being curved to fit the circumferential surface of said cylinder, each of said rag catchers being undercut adjacent its forward end.

2,978,107
HIGH PRESSURE OIL FILTER UNIT HAVING COMBINED AUTOMATIC SHUT-OFF AND RELIEF VALVE STRUCTURE
Janusz Gutkowski and John Parkinson, Owen Sound, Ontario, Canada, assignors to Parmatic Engineering Limited, Owen Sound, Ontario, Canada
Filed Mar. 19, 1957, Ser. No. 647,014
5 Claims. (Cl. 210—235)



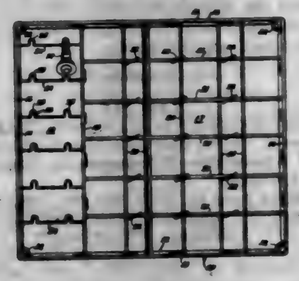
1. A fluid filter unit comprising: a filter head having therein an inlet chamber and an outlet chamber spaced axially therefrom; a hollow valve spigot member axially movable within said head and adapted to communicate fluid from said inlet chamber to said outlet chamber; a filter bowl socket in said head in communication with said inlet chamber and axially aligned with said spigot member; an annular flange integral with an end of said spigot member; an annular filter shut-off valve member supported on said annular flange and adapted to sever communication between said inlet chamber and said socket upon engagement of said valve member with an annular valve seat held within the head; means biasing said spigot member for engagement of said annular filter shut-off valve member; a filter bowl mountable in said socket; projection means on said filter bowl engageable with said annular flange of said spigot member to move the latter against the force of said biasing means to effect disengagement of said annular filter shut-off valve during assembly of said bowl in said socket; an annular filter relief valve member supported concentrically with said filter shut-off valve on said annular flange; and a conduit post having an annular relief valve seat thereon and defining an outlet opening for said filter bowl and extending from the latter for engagement with said annular filter relief valve member to effect direct communication of fluid from said filter bowl through said hollow spigot member to said outlet chamber and during assembly with said head effecting motion of said spigot member causing disengagement of said filter shut-off valve member.

2,978,108
FILTERS
Frederick W. Strandskov, 2019 Westfky SE., Grand Rapids, Mich.
Filed Nov. 7, 1955, Ser. No. 545,433
2 Claims. (Cl. 210—346)



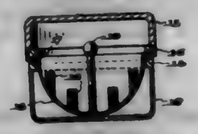
1. A lubricant filter unit for use in filtering assemblies in which space is at a premium and a maximum of filter units must be fitted into a given area such as an automotive internal combustion engine, said filter unit including, in combination, a pair of generally circular, generally flat powdered metal filtering discs, each disc being of substantially equal diameter and of substantially equal thickness at all relative locations on the disc, said discs being constructed and arranged to be positioned in face to face generally co-terminous relationship, the opposed, inner faces of said discs, when in said face-to-face relationship, being spaced an equal distance apart at all common, overlying points, each of said discs being formed with a center aperture of substantially equal diameter to thereby provide an unobstructed axial lubricant flow path through said discs and in communication with adjacent filter units when assembled in stacked relationship with a plurality of like filter units, and a metal spacer interposed between and maintaining said powdered metal discs an equal distance apart as aforesaid, the metal spacer being formed as a ring having its periphery coterminous with the outer edges of the powdered metal discs, the ring extending radially inwardly only a distance sufficient to form a good bearing and bonding surface between the overlying edges of the discs, said metal spacer being bonded to the discs and having a number of narrow ribs extending radially inwardly to approximately the edge of the center apertures and being bonded throughout their length to the discs, said ribs serving to maintain the discs a fixed distance apart at all points and supplying a reinforcement to the discs resisting axial crushing stresses, said ribs being located at substantially equal peripheral distances apart about the ring.

2,978,109
RACK
Houghton W. Clarke, Evanston, Ill., assignor of ninety-nine percent to Mealpack Corporation, Evanston, Ill., a corporation of Illinois
Filed Aug. 29, 1958, Ser. No. 757,986
7 Claims. (Cl. 211—13)



1. In combination with a spigot having a hollow valve body provided with an external valve seat at one end thereof and having a valve stem equipped with an external valve head and adapted to be moved axially between an open position wherein said head is spaced outwardly from said seat and a closed position wherein said head contacts said seat, a wire rack having at least one wire spigot-supporting member, said member having a plurality of U-shaped wire loops formed integrally therewith, each of said loops having substantially parallel side portions for receiving therebetween the valve stem of a spigot between said head and said valve seat for holding said spigot in place while at the same time maintaining said headed valve stem in open condition.

2,978,110
RACK-LIKE HOLDER FOR SMALL ARTICLES
Lewis S. Haskins, P.O. Box 7164, BO. Obrero Station, Santurce, Puerto Rico
Filed Jan. 7, 1960, Ser. No. 987
8 Claims. (Cl. 211—69)



1. A rack-like holder that comprises a resiliently-flexible diaphragm, an open end casing, connecting elements by which the peripheral edge of the diaphragm is supported against movement relative to the casing, the diaphragm being of larger width than the interior of the casing, whereby it will be supported in bowed form at either of two oppositely bowed positions, and the article-holding members on the outer face of the diaphragm.

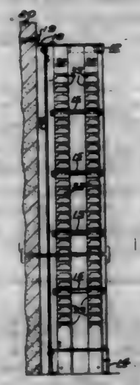
2,978,111
SHELF AND MOUNTING MEANS THEREFOR
Vincent La Bouis, North Haven, and John W. Platt, West Haven, Conn., assignors to The Platt & La Bouis Company, North Haven, Conn., a corporation of Connecticut
Filed Nov. 12, 1958, Ser. No. 773,247
2 Claims. (Cl. 211—90)

1. A combination shelving and hanging means and support therefor comprising a shelf having a downturned flange on the ends thereof, a contiguous hanging means dependingly connected to said shelf for supporting a plurality of garment hangers thereon, and supporting means including a spaced pair of elongated brackets, each bracket having a vertical bend forming a mounting portion at one end disposed in a plane perpendicular to the plane of the bracket and adapted to be secured to a planar supporting surface extending along and perpendicular to the back edge of said shelf, the upper edge of said bracket being perpendicular to said supporting surface and having a portion adjacent said upper edge thereof laterally offset to form a recess opening to the top of said bracket so that



said downturned flange of said shelf may be received in said recess for removably supporting the shelf on said offset upper edge, said brackets each having a supporting flange projecting from the plane of the bracket and extending under and supporting one end of said depending hanging means so as to prevent turning of said hanging means when a load is applied thereto as by hanging a number of weighted garments thereon.

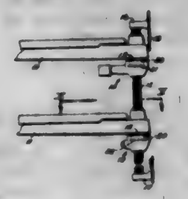
2,978,112
BOOK STACK UNITS
Nels O. Brandell, Jamestown, N.Y., assignor to Art Metal Construction Company, Jamestown, N.Y.
Filed May 22, 1957, Ser. No. 660,806
5 Claims. (Cl. 211—136)



4. A book stack comprising a pair of parallel uprights arranged in vertical standing fixed spaced relation and supporting a plurality of bookshelves therebetween, each upright comprising a generally rectangular sheet metal plate having a pair of vertically continuous ridge portions pressed inwardly therefrom, said ridge portions being horizontally slotted to provide a series of vertically spaced and horizontally alined slots extending throughout the inwardly pressed extents of said ridge portions, said ridge portions having notched portions opening into the bottoms of said slots at the front and rear thereof in the ridge portions at the front of said stack and at the front thereof in the ridge portions at the rear of said stack, said shelves each comprising a main plate portion having end flanges extending downwardly therefrom slide-fitted into said slots so that said shelf plate portions overhang the bottom edges of said slots and said flanges are thereby hooked upon said upright ridge portions, the notched portions at the front of said stack being of less depth than the height of said end flanges, whereby the latter slip downwardly behind said front notched portions to prevent horizontal forward move-

ment of said shelves, the vertical spacing of said slots being sufficient to enable said end flanges to clear said front notched portions upon lifting said shelves, said shelf plate portions having stiffening flanges depending from opposite sides thereof, the stiffening flanges along the rear side of said shelf plate portions being spaced from the opposite ends thereof to permit said plate portions to be slide-fitted through said slots, and the stiffening flanges along the front side of said plate portions extending substantially to said opposite ends to abut said ridge portions and thereby stop rearward horizontal movement of said shelves.

2,978,113
TRAY ELEVATION ADJUSTMENT
Lloyd L. Anderson, Grand Rapids, Robert E. Johnson, Marne, and Robert G. Metzger and Andrew J. Van Noord, Grand Rapids, Mich., assignors to Jervis Corporation, Grandville, Mich., a corporation of Michigan
Filed July 3, 1958, Ser. No. 746,482
8 Claims. (Cl. 211—146)



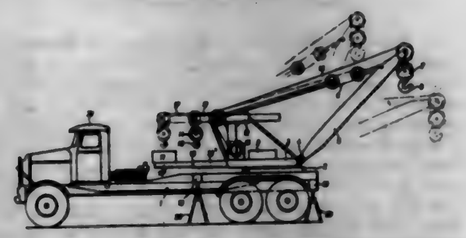
2. In a shelf adjustment device for swing out shelves, the combination comprising: a shelf; a hub portion on said shelf having detent means in association therewith; a sleeve through said hub having mating detent means in support relationship to said hub and in positive grip thereto; selectively reversible ratchet and pawl means in positive raising and lowering engagement with said sleeve; a spring locating bias in engaged relationship with said ratchet and pawl means; a second spring bias centering the pawl of said ratchet and pawl means in a neutral position; and a fixed threaded post keyed to said sleeve and in threaded engagement with the ratchet of said ratchet and pawl means.

2,978,114
FOLDING TRIPOD WITH FOLDING PLATFORM
Eugene P. Halligan, Glen Ellyn, Ill., assignor to Nye Tool Company, a corporation of Illinois
Filed Feb. 9, 1959, Ser. No. 792,089
8 Claims. (Cl. 211—149)



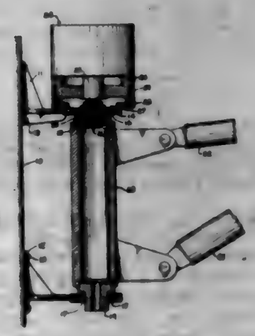
1. In a tripod having legs which are movable between an open position and a collapsed position, folding shelf means comprising: three plates which occupy juxtaposed, directly edge-abutting coplanar positions to form an effectively continuous shelf when the legs are in open position; three hinge-like connections joining the periphery of said plates to provide hinge axes between the plates; means pivotally connecting the periphery of each plate to one leg of the tripod, the hinge axis of any two plates being on a vertical plane which bisects the leg on which the third plate is pivoted, said plates being adapted to lock in juxtaposed, coplanar relationship between the open legs of the tripod, and said shelf pivoting on the legs and folding at said hinge-like connections when the legs of the tripod are collapsed.

2,978,115
TRUCK-BOUND SLEWING CRANE
Rudolf Prestel, Pfuhl, near Neu-Ulm, Germany, assignor to Karl Kleinbohrer Fahrzeugwerke G.m.b.H., Ulm, Donau, Germany
Filed June 28, 1957, Ser. No. 668,665
Claims priority, application Germany June 29, 1956
3 Claims. (Cl. 212—49)



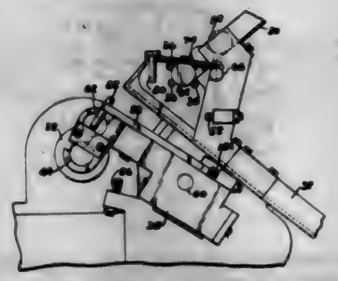
1. A truck-bound slewing crane comprising a frame, a turntable on said frame, a main boom, one end of said boom being pivotally supported on said turntable, said boom having a hook assembly, a loose counterweight for balancing a load when taken up by said hook assembly of said main boom, an auxiliary extension arm provided with a hook and positioned on said turntable opposite said one end of said main boom, and a telescoping carrier on said turntable, said counterweight being engaged for placement by said hook of said auxiliary extension arm in the position of operation of the crane onto said carrier, while in the position of transportation said counterweight is deposited by said hook of said auxiliary extension arm onto said frame adjacent said turntable.

2,978,116
SWIVEL POST AND POWER OSCILLATOR ASSEMBLY
Bernard L. Wells and John L. Michaels, Wichita, Kans., assignors to Massey-Ferguson, Inc., a corporation of Maryland
Filed Nov. 25, 1957, Ser. No. 698,835
5 Claims. (Cl. 212—68)



1. A swivel post and power actuator assembly comprising: an upright swivel post; two spaced fixed position aligned brackets each journaling one end of said post; a rotary actuator positioned adjacent one of said brackets for oscillating the swivel post, said actuator including a housing and a power oscillated shaft projecting therefrom, the projecting end of the shaft being disposed in alignment with and adjacent an end of the swivel post; a first spline type coupling connecting the adjacent ends of the actuator shaft and the swivel post for simultaneous oscillation; and a second spline type coupling connecting the actuator housing and its adjacent bracket to lock the housing against rotation with respect to the bracket, the second spline coupling being substantially larger in diameter than the first spline coupling and arranged to surround the same.

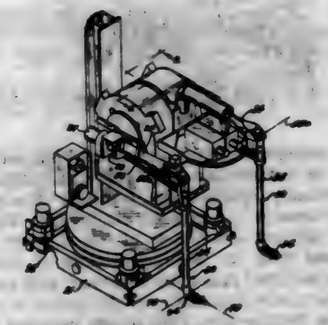
2,978,117
AUTOMATIC LOADING DEVICE
Earl A. Thompson, Ferndale, Mich.
(1300 Hilton Road, Ferndale Station, Detroit 20, Mich.)
Filed Mar. 7, 1957, Ser. No. 644,553
24 Claims. (Cl. 214—1)



1. A device for loading and unloading work pieces onto and from a work holder comprising a support, an arm provided with a work piece receiving socket, said arm being pivotally mounted on said support to swing said socket between a work loading position and a work unloading position, hydraulic means for controlling the pivotal movement of said arm between said positions, a finger pivotally mounted on said arm and having a portion projectable into said socket to move a work piece from said socket to said work holder when the arm is disposed so that the socket is in said loading position and hydraulic means for controlling the operation of said finger, said hydraulic means including a rotatable shaft, a pair of cams on said shaft, a cam follower for each cam, a pair of pistons, one of said pistons being arranged to actuate said arm and the other being arranged to actuate said finger, said cam followers being operatively associated one with each of said pistons for synchronizing the pivotal movement of said arm and finger.

2,978,118
MANIPULATOR FOR SLAVE ROBOT
Raymond C. Goertz, Downers Grove, John H. Grimson, Villa Park, and Frank A. Kobut, Westmont, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 3, 1959, Ser. No. 850,745
7 Claims. (Cl. 214—1)

1. In a remote-control manipulator unit comprising inner and outer arms pivotally connected to one another at their ends, a carriage mounting the end of the inner arm remote from the outer arm, a tool connected with the end of the outer arm remote from the inner arm for movement with respect thereto, a plurality of electrical transducers, and cables extending from the tool along the outer arm to the inner arm and thence along the inner arm to its end remote from the outer arm, the cables being connected with the transducers and shifting during movement of the tool with respect to the outer arm; the combination therewith, of a tubular member attached to the carriage and extending therefrom transversely to the first arm, a support comprising a plate and a sleeve extending from a central region thereof and around the tubular member in the same direction as the tubular member extends from the carriage, means journalling the tubular member in the sleeve to provide for the inner



arm a pivot axis transverse to the inner arm and adjacent the end of the inner arm remote from the outer arm, and means mounting the transducers on the same side of the support plate as the sleeve, and means guiding the cables from the end of the inner arm remote from the outer arm transversely of the inner arm through and beyond the tubular member and thence radially outwardly of the tubular member to the ends of the said transducers from the support plate.

ERRATUM

For Class 214—1.45 see:
Patent No. 2,977,670

2,978,119
QUICK DEFLATING MEANS FOR PNEUMATIC DUNNAGE
Walton W. Cushman, Webb City, Mo.
Filed Sept. 3, 1959, Ser. No. 838,002
5 Claims. (Cl. 214—10.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



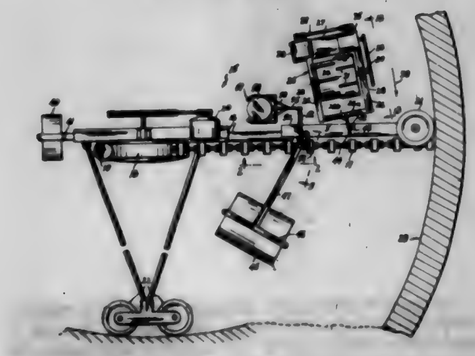
1. A piece of pneumatic dunnage including a flexible air-impervious container having an opening therein, a hollow rubber ball fitted in said opening and having an opening communicating with the interior of the container, whereby the ball may be removed from the opening in the inflated container by first collapsing the ball.

2,978,120
STORING AND DISTRIBUTING CONVEYORS
Richard W. Agnello, Detroit, and Michael Dubick, St. Clair Shores, Mich., assignors to F. Jos. Lamb Company, Detroit, Mich., a corporation of Michigan
Filed July 24, 1957, Ser. No. 673,969
4 Claims. (Cl. 214—16)



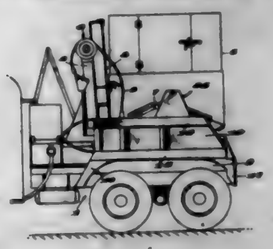
1. A workpiece storing and distributing conveyor comprising, in combination: a plurality of vertically aligned and vertically spaced-apart generally horizontally extending runways, substantially semicircular diverters connecting adjacent extremities of the runways to form a continuous path for the recirculation of workpieces, a sprocket mounted in coaxial alignment with each diverter, an endless chain entrained over the sprockets and extending along the runways, push means mounted on and extending laterally from the chain at intervals along the length thereof whereby workpieces may be recirculated continuously along the runways, feeding means having a workpiece discharge extremity disposed intermediate the length of one of the runways adjacent the upstream end thereof in workpiece transfer relation with the runway for feeding work pieces to such runway between adjacent push means and responsive to the presence of a work piece between adjacent push means to withhold feeding between such push means, one of said runways having an opening through the bottom thereof through which workpieces may drop, a discharge chute extending beneath said opening, a gate for closing said opening, and means coupled with said gate normally holding the same open but responsive to the presence of a workpiece at a determined position in the discharge chute to close said gate, characterized in that the last-mentioned means which is coupled with the gate is also responsive to the movement of workpieces on the runway to synchronize closure of the gate with the absence of a workpiece on the runway at said opening.

2,978,121
SILAGE HANDLING MACHINE
George Roland Chapman, Stafford Road, Palmyra, N.Y.
Filed Feb. 21, 1957, Ser. No. 641,615
10 Claims. (Cl. 214—17)



1. In a silage handling machine, the combination of a normally horizontally disposed elongated travelling frame having means for supporting the same on a bed of silage, silage pick-up and conveying means provided on said frame, and self-leveling means for sustaining the frame in a normal horizontal position, said last mentioned means comprising a lever pivoted adjacent one end thereof to said frame, a yoke provided at the other end of said lever, a silage engaging travelling wheel mounted in said yoke, a standard provided on the frame and formed at its upper end with a horizontal bearing, a shaft journalled in said bearing, a downwardly extending arm secured to said shaft, a gravity actuated weight provided at the lower end of said arm, a crank provided on said shaft, and a connecting element extending from said crank to said lever.

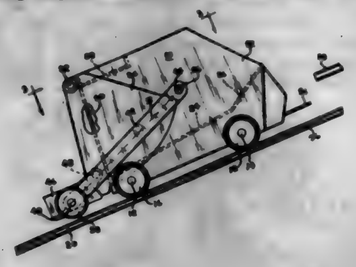
2,978,122
TRANSPORTING EQUIPMENT
George R. Dempster and William A. Herpich, Knoxville, Tenn.; said Herpich assignor to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Aug. 20, 1956, Ser. No. 604,933
11 Claims. (Cl. 214—75)



1. In transporting equipment, the combination with a vehicle adapted to receive in a seated position thereon of a container having projecting members at opposite ends thereof, of a walled structure on the vehicle in position to restrict movement of the container supported on the vehicle during transportation, upright sections on opposite sides of the structure and extending lengthwise of the vehicle adapted to receive the container therebetween for holding the container in place against lateral displacement therefrom during transportation, upright retaining members seated upon the upright sections and secured thereto in positions for overlapping relation with the projections on the container to hold the container against endwise displacement during transportation, each of said retaining members comprising an upright plate at the outer edge of the upright section, and a box structure secured to the plate and extending inwardly therefrom and downwardly along the inner face of the plate to the upright section.

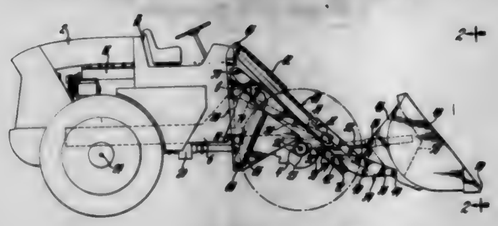
2,978,123
MINE SKIP FOR INCLINES
James W. Clark, Marquette, Mich., assignor to Lake Shore, Inc., Iron Mountain, Mich., a corporation of Michigan
Filed Apr. 11, 1958, Ser. No. 727,896
10 Claims. (Cl. 214—103)

1. A skip adapted to ride on spaced rails, comprising, a body having a top charging opening and a discharge opening in the rear portion of the body, a door pivoted to the top of the body and operable to close the discharge opening, longitudinally spaced pairs of rollers supporting the body and adapted to ride on the rails, the tread width of the front rollers being greater than the tread width of the rear rollers whereby the front rollers can ride on dump plates spaced greater than the rails while the rear rollers follow the rails, an arm pivoted on the body and extending rearwardly of the body with dump rollers at the rear of the arm, the rear of the arm being connected to the door by means of a pivoted link, the dump rollers being laterally spaced to ride on the dump plates in the dump stage, the point of connection of the link to the door being disposed above an imaginary line connecting



the body pivot and the link-to-arm pivot so the door has a toggle action and the load bearing against the door in transit forces the door closed.

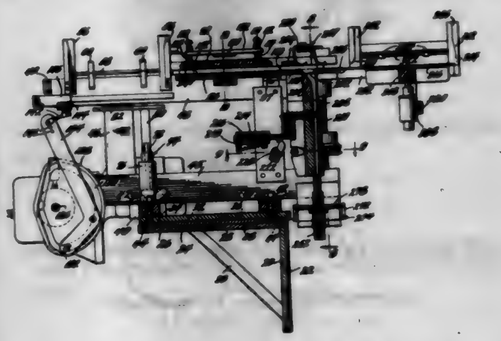
2,978,124
CRADLE LOADER
Ralph J. Bernotas, South Euclid, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 11, 1957, Ser. No. 689,530
6 Claims. (Cl. 214—140)



1. A vehicle comprising front and rear ground-engaging means, a material handling bucket disposable in a digging position longitudinally outwardly beyond one of said ground-engaging means; a cradle mechanism for said bucket comprising cradle lever means having an inner portion operatively pivotally connected to said vehicle for pivotal movement relative thereto about a horizontal transverse axis immediately longitudinally outwardly beyond said one ground-engaging means with said bucket in the digging position, an outer portion of said lever means connected to said bucket, said lever means extending longitudinally outwardly beyond said axis with said bucket disposed in said digging position, means connected to and controlling the position of said bucket on said lever means; and adjustable linkage means operatively pivotally connected between said vehicle and cradle lever means, said linkage means being adjustable to pivot said cradle lever means about said axis to a substantially upright position to swing said bucket upwardly and longitudinally toward said one ground-engaging means from said digging position to a cradled position immediately over said one ground-engaging means and substantially below the horizontal line of sight of the vehicle operator.

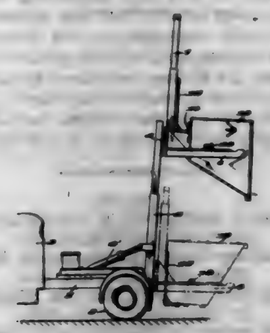
2,978,125
GRID LOADING DEVICE
Carl Raymond Freeman, Shawnee, Okla., assignor to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Feb. 28, 1959, Ser. No. 794,561
15 Claims. (Cl. 214—312)

8. In a compartmented tray feeder and article handling machine, a track for receiving a compartmented tray with compartments opening upwardly and loaded with articles, a pair of spaced plates pivotable to a position wherein the space between the plates is aligned with the track, first means for thrusting a tray between the plates, said plates being pivoted on an axis above the two plates when in said position, second means for inverting the plates to bring the tray to an inverted position with compartments opening downwardly and with



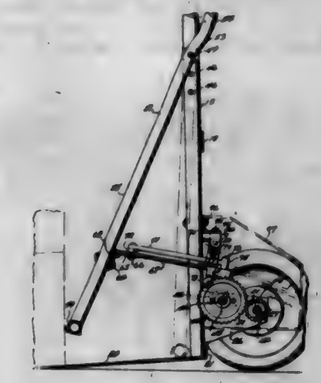
the tray on a higher elevation, third means acting while said tray is at the higher elevation to load the tracks with another tray and to project the tray forwardly part way through the plates, fourth means to thereafter intermittently advance the inverted tray, said third means advancing the tray to where the fourth means may engage a rear portion of the tray, a stationary plate over which the tray slides and a series of funnels below said stationary plate to receive the articles in the tray.

2,978,126
TRANSPORTING AND DUMPING EQUIPMENT
Earl D. Chambers, Knoxville, Tenn., assignor to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Aug. 19, 1957, Ser. No. 678,829
7 Claims. (Cl. 214—317)



4. In transporting and dumping equipment, the combination with a container having a bottom and surrounding walls, of a hoisting device having a vertically movable carriage with arm means for connection with the container to support the container on the carriage for transportation and for dumping, an upright bail structure connected with the container at the lower portion thereof, and means movable with respect to the arm means on the hoisting device at vertically spaced points for simultaneous detachable latching engagement with the bail structure for tilting the container and for holding the container in position on the hoisting device during dumping.

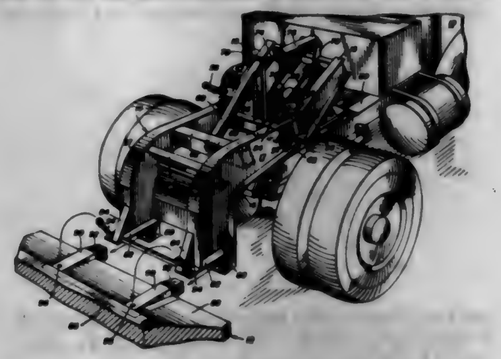
2,978,127
HAND TRUCK
William Gorman, 3123 Bancroft Road, Baltimore, Md.
Filed Dec. 28, 1959, Ser. No. 862,218
2 Claims. (Cl. 214—355)



1. A hand truck comprising a substantially U-shaped frame including a bight and depending legs, a base for supporting a load secured to the lower end of said legs, an axle mounted on said frame rearwardly of said base, wheels mounted on said axle, at least one of said wheels being secured to said axle for rotation therewith, a load ejecting frame comprised of a pair of side bars extending substantially the full length of the legs of said U-shaped frame, each pivotally connected to one of said legs at an intermediate point, a pusher bar connecting said side bars adjacent said base, and a handle bar connecting said side bars adjacent said bight, a shaft extending between said legs adjacent said axle, a first gear on said shaft, a second gear on said axle meshing with said first mentioned gear, a cross brace extending between said side bars above said pusher bar, a hinge having one leaf secured to said cross bar, a rack supporting bar secured to the other leaf of said hinge, a guide rod secured in parallel relation to said rack supporting bar, a second cross bar extending between said legs adjacent said shaft, a hanger pivotally connected to said second cross bar, said hanger including a cylindrical portion encompassing said guide rod for sliding movement of said guide rod therein, and a rack carried by said rack supporting bar engaging said first gear for rotation thereof and hence said axle upon pivotal movement of said ejecting frame.

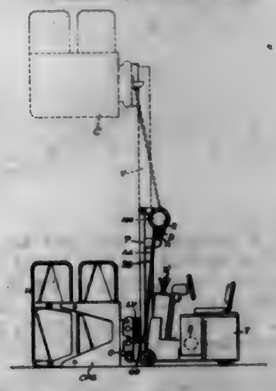
2,978,128
DETACHABLE GOOSENECK HYDRAULIC CONNECTOR FOR TRAILERS
Anthony Polich, Jr., Brookfield, Ill.
(8746 40th St., Lyons, Ill.)
Filed Mar. 12, 1956, Ser. No. 570,977
11 Claims. (Cl. 214—506)

1. Coupling means for attaching a low-bed semi-trailer to a fifth wheel on a tractor comprising, in combination, a gooseneck type drawbar having means adjacent one end for detachable connection with the semi-trailer and means adjacent the other end for detachable connection with the fifth wheel, said drawbar comprising, in combination, front and rear sections having juxtaposed ends, means connecting said sections at said ends for relative swinging movement about an axis disposed transversely of the drawbar, and a hydraulic actuator connected between said sections and operative to swing said sections relative to each other for raising and lowering said rear section relative to the ground whereby said rear section can be alined with the connecting means on the front end of the trailer and whereby the front end of an attached semi-trailer can be lowered to the



ground for loading and unloading and can be raised into normal transport position for hauling.

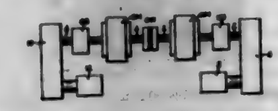
2,978,129
HYDRAULIC HOSE TAKE UP
Bernard B. Becker, Belmont, Mass., assignor to Lewis-Shepard Company, Watertown, Mass., a corporation of Massachusetts
Filed July 23, 1958, Ser. No. 750,394
7 Claims. (Cl. 214—653)



1. In a material handling truck, a source of fluid pressure, a fixed post, a vertically movable post having a fluid actuated element mounted thereon, means for transmitting fluid pressure from said fluid pressure source to said fluid actuated element, said means comprising a reel mounted on said fixed post, a conduit running from said fluid pressure source to a non-rotatable part of said reel, a hose connected to the rotatable part of said reel and extending to said fluid actuated element, means for transmitting said fluid pressure from said conduit through the non-rotatable part of said reel to the point of connection of said hose with said reel, a spring urging said reel to wind up said hose, means for maintaining pressure at said element while relieving the pressure in said hose prior to winding said hose on said reel.

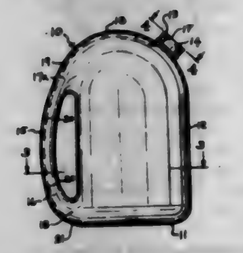
2,978,130
MOTOR CONTROL SYSTEM
William C. Rhine, Menomonee Falls, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,482
14 Claims. (Cl. 214—656)

1. In a system for operating a two-motor bucket hoist having a holding line motor, a closing line motor, and a selectively engageable clutch means for coupling the motors to one another for matched speed operation, the improvement comprising control means for operating the bucket hoist with a minimum of manual operations, said control means comprising a master switch having an off position and a plurality of hoisting and lowering operating positions, means responsive to setting said master switch to a selected lowering operating position for op-



erating the clutch means to couple the motors for matched speed operation, means also responsive to said setting of said master switch for energizing the motors to afford torques in diverse directions, and means also responsive to setting of said master switch for automatically controlling the torques of the motors to predetermined values, the torques developed by the motors and the weight of the bucket effecting controlled acceleration of the latter in the lowering direction.

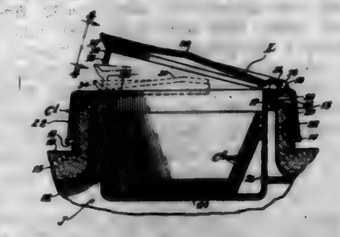
2,978,131
BOTTLE STRUCTURE
Leo Joseph Garvey, 301 W. Pasadena Ave., Phoenix, Ariz.
Filed Nov. 14, 1958, Ser. No. 773,932
2 Claims. (Cl. 215—1)



1. A totally enclosed bottle structure having a contents containing chamber comprising, a bottom, an upstanding side portion integral with said bottom portion, and a top formed integral with the top of said upstanding side portion, a discharge stem in said top located at the upper end of said side portion opening through said top at a point below the highest portion of said contents containing chamber, a gripping handle formed integral with said side portion at a diametrically opposite position on said upstanding side portion from said stem having a hollow passageway formed therein including an upper terminal outlet for said passageway located inside the top of said bottle and below said discharge stem and a lower terminal outlet at the bottom thereof so that trapped air inside of said top of said chamber may flow through said upper passageway in said handle to the bottom of said bottle as the contents is poured from said stem.

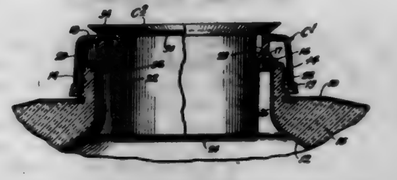
2,978,132
JUG CLOSURE
Alfred J. Huck, St. Louis, Mo., assignor to Knapp Monarch Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 7, 1960, Ser. No. 13,976
6 Claims. (Cl. 215—13)

6. In a jug closure, a jug cap having provision for mounting the same on a jug, said cap having a vent opening therethrough, a lid for said cap having a latch provided with means for normally closing said vent opening whereby opening of said lid automatically exposes said



vent opening to atmosphere, and reclosing of said lid automatically closes said vent opening.

2,978,133
JUG CLOSURE
Alfred J. Huck, St. Louis, Mo., assignor to Knapp Monarch Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 29, 1960, Ser. No. 11,678
8 Claims. (Cl. 215—13)



1. In a jug closure, a jug cap having provisions for screwing the same on the neck of a jug, said cap having a depressed socket in its upper surface, and a cup normally received in said socket, the wall of said socket having a vent opening therethrough, said cup snugly fitting said wall and thereby normally closing said vent opening whereby removal of the cup automatically exposes said vent opening to atmosphere.

2,978,134
CLOSURE ASSEMBLY
George E. Caine, Ridgewood, N.J., and William H. Greeley, Needham Heights, and Fred E. Mooney, Harvard, Mass., assignors to the United States of America as represented by the Secretary of the Army
Filed July 31, 1959, Ser. No. 830,970
7 Claims. (Cl. 215—47)



1. The combination with the neck of a metal canteen or the like, said neck having a free outer end as well as inner and outer surfaces; of a combined lip guard, liner and stopper for said neck comprising inner and outer tubular portions adapted to have a close fit with and to resiliently engage said inner and outer surfaces of said

neck therebetween throughout the lengths of said tubular portions, an integral web connecting said tubular portions and adapted to overlie said free outer end of said neck, said web and outer tubular portion providing a lip guard, said inner tubular portion comprising said liner, at least one compressible annular rib integral with said liner and extending radially inwardly thereof in axially inwardly spaced relation to said web, a substantially rigid stopper, said stopper including a cylindrical plug portion insertable into said liner, said plug portion having a sealing part formed with a uniform cylindrical surface throughout its length which is sized to compress said rib to form a seal therewith and provide a frictional egnagement with said plug to resist withdrawal of the latter from said liner, and said engagement of said sealing part of said plug with said rib being weaker than the engagement of said lip guard and liner with said inner and outer surfaces of said neck whereby said plug is withdrawable from said liner without dislodging said lip guard and liner from said neck.

2,978,135
CLAMPING MEANS FOR AN OUTLET BOX
Arthur H. Furnish, 115 McKinley Ave., Wellington, Ohio
Filed Dec. 1, 1959, Ser. No. 856,403
10 Claims. (Cl. 220—3.6)



1. A clamping attachment for an electrical outlet box for clamping the box in a wall opening comprising a body portion, an integral depending clamping portion, spaced apart webs integrally connecting said portions to provide a weakened area about which said portions are relatively movable, said body portion having a horizontal flange projecting outwardly therefrom for engaging the outer surface of a wall in which the box is to be clamped, said depending portion having an integral nut formed thereon to receive a threaded fastener, said nut having a weakened connection with the depending portion whereby said nut is relatively movable thereon as the dependent clamping portion is drawn toward box clamping position, a ledge formed integral with the flange and body portion and having an opening therein for receiving a threaded fastener.

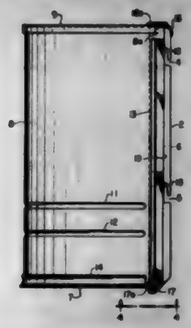
2,978,136
LAMINATED PANEL CABINET STRUCTURE
Herbert A. Ehrenfreund, Longmeadow, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 10, 1958, Ser. No. 741,153
8 Claims. (Cl. 220—9)

8. In a cabinet structure, a laminated panel forming at least two connecting walls of said structure and having a core of low density material and a facing sheet adhesively secured to one face of said core, said core being notched at least part-way through and the core and sheet bent to form the junction of said two walls so that said sheet extends continuously over both of said walls, said core and said sheet having exposed edges, a reinforcing member bent to extend along the edge of both of said walls and being imbedded in the exposed edge of said core and covering the exposed edge of said sheet, said member having a channel-shaped cross-section providing two substantially parallel longitudinal flanges extending transversely into said core, one of the flanges of said member having a longitudinal groove



therein extending transversely and part-way in from one edge thereof, said groove receiving said edge of said sheet therein, the other of said flanges being spaced from said one flange and the other face of said core, a closure for the cabinet structure, and a closure support secured to an ungrooved region of said one flange.

2,978,137
DUST COVER FOR AUTOMATIC TELEPHONE SWITCH MECHANISM
Edward J. Benisek, Geneva, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Oct. 2, 1957, Ser. No. 687,664
4 Claims. (Cl. 220—18)

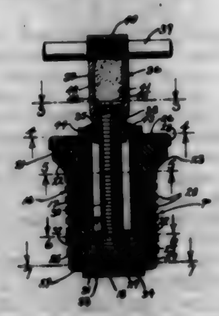


1. The combination with a vertical back plate having a pair of vertical mounting flanges extending backward from the sides thereof with rounded upper ends and having a shelf comprising a horizontal base plate at the lower edge thereof having a semicircular front edge and having back edges extending outward beyond the back plate, of a cover comprising front and side walls and a top plate forming a cover with open back and bottom and with sides conforming to the shape of the back plate and shelf, said top plate having an extending lip curved over to fit said rounded upper ends of said flanges, and the side walls of said cover having extensions at the lower back edges thereof fitting over the outwardly extending back edges of said shelf, said extending lip engaging said rounded upper ends, and said extensions engaging said outwardly extending back edges of said shelf to form the sole means for holding the cover removably in place, when the cover is placed on the back plate, and said cover requiring only a vertical movement thereof to remove it from the back plate.

2,978,138
BAILER PLUG
Axel Moeller, St. Petersburg Beach, Fla., assignor to Moeller Mfg. Co., Inc., Racine, Wis., a corporation of Wisconsin
Filed Mar. 27, 1959, Ser. No. 802,522
2 Claims. (Cl. 220—24.5)

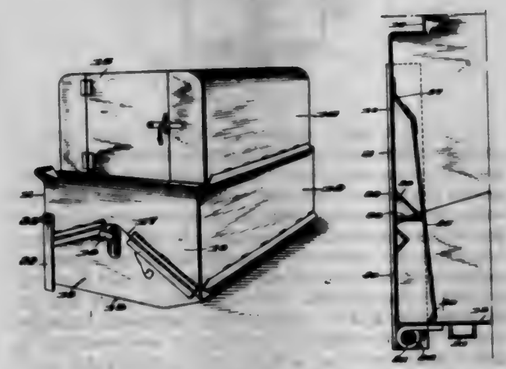
1. A bailer plug comprising a cylindrical resilient compressible body, inner and outer compression plates engaging the opposite ends of the body, an axially disposed

threaded stem rigidly carried by the inner compression plate extending through the body and out of said outer compression plate, a sleeve nut threaded on the outer end of said stem having means engaging the outer face of the outer compression plate, an operating handle including a tube having its inner end reduced in diameter and internally threaded and receiving said stem, the outer end of said tube being sealed, the portion of the tube between the seal and the reduced end constituting a chamber in which the inner end of the stem travels, a lubricant packed in said chamber, said stem being of a size and configuration so that at all times it is spaced from said chamber walls for the free movement of lubricant in and about said chamber and stem whereby upon adjustment



of the sleeve nut in one direction the body will be compressed between the inner and outer plates and expanded radially, said body having a radially projecting annular skirt on its outer end, said skirt being tapered inwardly for engagement with the wall of an opening, said tapered portion having grooves to form an anti-friction face for gripping contact with the wall of an opening, the inner end of said body having pockets, fingers rigidly carried by the inner compression plate and stem seated in said pockets to prevent turning movement of the body and inner compression plate relative to one another, and an annular inturned flange on the inner compression plate encompassing the inner end of the body to prevent deformation thereof incident to the compression of the body.

2,978,139
LEAKPROOF SUMP-TYPE CONTAINERS
George R. Dempster, % Dempster Brothers Inc., P.O. Box 3127, Knoxville, Tenn.
Filed Mar. 22, 1955, Ser. No. 496,031
4 Claims. (Cl. 220—32)



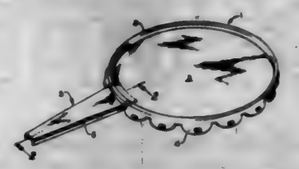
1. A container for transporting and dumping equipment comprising a body portion having front and end walls, a bottom discharge door substantially closing the bottom of the body portion, said bottom door having upstanding end sections thereon, means hingedly connecting the bottom door at an edge thereof to the body portion at a point spaced appreciably downward from the lower edge of the front wall, said bottom door having an upturned forward edge portion extending from said hinge edge of the door to the lower edge of the front wall and disposed substantially in an upright plane extending through said front wall.

2,978,140
CONTAINER OPENING DEVICES
John E. Walsh, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed May 10, 1960, Ser. No. 28,039
5 Claims. (Cl. 220—52)



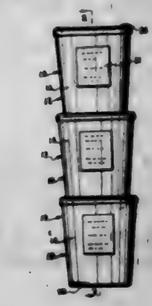
1. A cover for a metallic container having in its surface score lines defining an inwardly extending tab, a rigid class two lever adapted to break open instantaneously the inner end of the tab, said lever being located on the cover and having at one end a fulcrum wider than the inner end of the tab to bear on the cover surface on both sides of the score lines defining the tab, an intermediate portion of the lever being permanently secured only to the tab at an area adjacent the fulcrum, said lever having a lifting portion at the end opposite the fulcrum whereby when the lifting portion is raised the fulcrum end bears downwardly on the cover thereby using the full mechanical advantage of the lever to pry up the inner end of the tab and initiate the tearing out of said tab.

2,978,141
COOKING UTENSIL
John H. Jacobs, Berkeley, Calif., assignor to Vac-Dry Company, Oakland, Calif., a corporation of California
Filed May 26, 1959, Ser. No. 815,950
2 Claims. (Cl. 220—94)



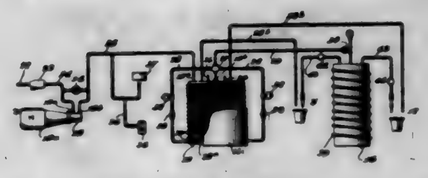
1. A cooking utensil comprising a substantially flat member defining a cooking surface, said member being formed peripherally with a raised, channel-shaped rim, and at least one tab means depending from the outer edge of said rim; a handle supporting said member and including a grasping end and a supporting end, a slot formed transversely in said handle proximate said supporting end and removably receiving said depending tab, a raised ridge formed transversely of said handle between said slot and supporting end, said raised ridge engaging and mating with a portion of the under surface of said raised rim of said member, said supporting end terminating in a lip projecting forwardly from a point on said ridge substantially co-planar with said grasping end.

2,978,142
SELF STACKING CANS
Jack Nevick, 619 Pauley Drive, West Hempstead, N.Y.
Filed Mar. 24, 1959, Ser. No. 801,579
1 Claim. (Cl. 220—97)



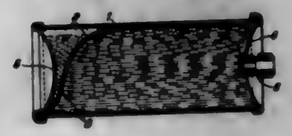
A stack of containers, each of said containers comprising a truncated conical body having a flat circular wider top wall and a narrower flat circular bottom wall, said top wall having a peripheral rib defining a recess with said top wall, said bottom wall having a continuous bottom peripheral rib, the bottom rib of each upper container fitting into the recess in the top of each lower container, the top wall of each container having another continuous rib disposed concentrically within the first-named rib and defining a groove therebetween, the bottom rib of each upper container fitting into the groove at the top of the lower container, the bottom rib of each container having a radially extending projection, said other rib at the top of each container having a notch, the projection at the bottom of each upper container fitting into the notch at the top of each lower container.

2,978,143
INGREDIENT SUPPLY SYSTEM FOR BEVERAGE DISPENSING APPARATUS
Leslie Arnett and William G. Freise, Chicago, Ill., assignors, by mesne assignments, to Square Manufacturing Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 25, 1955, Ser. No. 503,391
7 Claims. (Cl. 222—63)



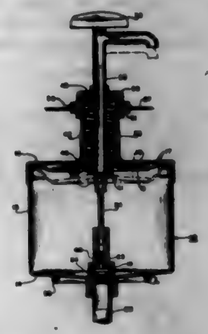
1. In a beverage dispensing apparatus, a water supply system of the character described, comprising: a pump having an inlet and an outlet, the inlet being adapted for connection to a source of water under pressure; means bypassing the pump for conducting water from the inlet to the outlet whenever the pressure of the outlet is below that of the inlet; means connected to said outlet for dispensing water; means responsive to the outlet pressure of the water for operating said pump to cause the outlet pressure to be a first predetermined pressure when the inlet pressure is insufficient to maintain the outlet pressure at said preselected predetermined pressure; and means responsive to a preselected low volume condition of the water in said means for dispensing water to operate said pump to cause the outlet pressure to be a second predetermined pressure higher than said first predetermined pressure.

2,978,144
SELF-EMPTYING PRESSURE VESSELS
Alfons Rillinger and Helmut Wehmeyer, Konigslutter am Elm, Germany, assignors to Roto-Werke A.G., Konigslutter am Elm, Germany, a German company
Filed Mar. 15, 1957, Ser. No. 646,486
Claims priority, application Germany Mar. 19, 1956
4 Claims. (Cl. 222—95)



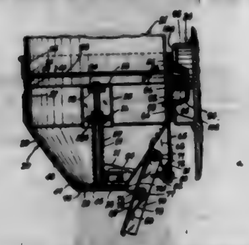
1. A self-emptying pressure vessel for active substances, comprising a body, a cover provided with an exit aperture for the active substance, a base, the cover and the base being rigidly secured to said body at its upper and lower end respectively, a flexible tube adapted to receive the active substance, said tube having been widened as much as possible to adapt it to the inner diameter of the vessel and having one open end secured to that end of the vessel containing the exit aperture, the other end of the flexible tube being closed by being pressed flat in such a way that the one side thereof has a somewhat greater length than the opposite side and is secured at the opposite end of the body to the lower edge thereof, and a chamber provided inside the vessel body at the outside of the closed end of the flexible tube, and adapted to receive a driving liquid which evaporates at temperatures of 20–30° C.

2,978,145
HOT LIQUID DISPENSING APPARATUS
Wallace R. Lyman, West Springfield, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 27, 1959, Ser. No. 802,345
4 Claims. (Cl. 222—146)



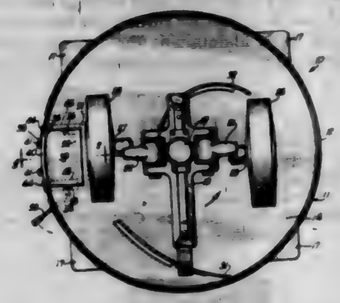
1. In a hot liquid dispenser, a liquid storage tank including a first wall portion movable inwardly and outwardly to decrease and restore, respectively, the volumetric capacity of said tank, said tank having a second wall portion provided with an inlet, a normally closed inlet valve connected between said tank inlet and a source of pressurized liquid and movable to an open position, means for heating the liquid in said tank, said first wall portion being provided with a tubular outlet member movable with said first wall portion, and means including a valve actuator disposed in said tank and connected to said outlet member so as to be moved thereby for opening said inlet valve after said first wall portion is moved inwardly and for closing said inlet valve before the volumetric capacity of the tank is restored.

2,978,146
DISPENSER FOR FINELY-DIVIDED AND SEMI-LIQUID MATERIALS SUCH AS PASTE, CREAMS, JELLY, ETC.
George H. Packwood, Jr., 1545 Tower Grove Ave., St. Louis, Mo.
Filed June 11, 1956, Ser. No. 590,685
24 Claims. (Cl. 222—165)



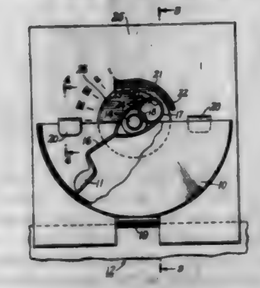
17. In a dispenser for materials of the kinds described: a dispenser base and a materials reservoir for removable connection with the base; mounting means for attaching the base to a wall or like support, including an element attachable to the support, and an element attachable to the base, quickly separable means for holding one of said elements so attached, the separable means being separable by movement of the base in one direction that is in the plane of the wall; swivel means connecting the two elements for inverting the base about an axis transverse to the wall; and interlocking means between the quickly separable means and the said one of the elements with which it is connected, the interlocking means being locked by swivelling of the base away from the position in which the parts may be separated, and when locked, preventing the quickly separable means from separating.

2,978,147
MIXER FOR GRANULAR MATERIAL
Robert L. McIlvaine, Winnetka, Ill., assignor to Herbert Simpson Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1957, Ser. No. 704,528
3 Claims. (Cl. 222—185)



1. In a mixer of the type employing rotatable mullers and mixing elements to mix material, a crib including vertical side walls and a bottom wear plate secured throughout the periphery thereof to said side walls, means defining an opening in said wear plate adjacent to one of said walls, means defining an opening in said side wall at a position adjacent to and aligned with the opening in said wear plate, a discharge door hingedly mounted on said crib above the opening in said side wall for pivotal movement on said crib, said door being substantially L-shaped in cross section and including a base portion for reception in the opening in said wear plate and an upstanding portion for reception in the opening in said side wall, a plurality of narrow plates secured to the upright portion of said door and extending beyond the vertical side edges thereof, another plurality of narrow plates secured to the bottom portion of said door and extending beyond the side edges thereof, and a narrow plate secured to said door and extending beyond the leading edge of the bottom of said door, said last-mentioned plate being spaced a substantial distance below the bottom of said door so that when said door is in a closed position said plate overlaps a portion of said wear plate and is spaced a substantial distance therefrom.

2,978,148
AUTOMATIC FISH FEEDER
Bennett M. Schwartz, 106 Kearny Ave., Perth Amboy, N.J.
Filed Jan. 20, 1958, Ser. No. 709,910
8 Claims. (Cl. 222—197)

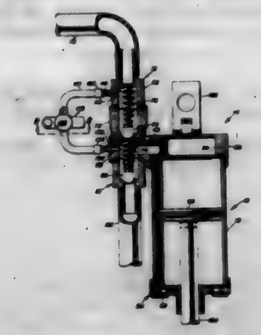


1. In an automatic fish feeder of the type wherein a food receiving and discharging scoop is mounted to rotate through a holder for a supply of food material to pick up at each rotation some of said food material from the supply, to transport picked up material to a discharging position outside the holder, and there to drop said picked up material all in a repeated cycle, the combination of an actuating shaft and resilient scoop-carrying means moved by and with rotation of said shaft and arranged and adapted to rotate said scoop in a generally circular path partly through said holder to pick up food material and partly outside said holder to discharge food material, said path being in part generally normally to the shaft axis and in part extending in a direction outwardly toward said discharge position, said means including a resilient coil having a loop portion rigidly secured at one side of said shaft axis, a shank carried by said coil and extending beyond the opposite side of said shaft in a radial direction from said axis, said scoop being secured at the outer end of said shank, said resilient coil having a portion secured to the inner end of said shank whereby scoop moving force is transmitted to said shank and said scoop from said shaft by and through said coil, a cam positioned and adapted to provide a cam surface extending across the path of rotation of the shank in a path above said shaft thereby to engage said shank and deflect the scoop axially to food discharging position outside of said holder, the cam surface of said cam element including jolting means positioned adjacent to its outer end and which interrupts the normal cam contour thereof and is arranged and adapted to impart food material dislodging jolt to said scoop while the latter moves along said cam surface in a discharging portion of its cycle of rotation.

2,978,149
VARIABLE PRESSURE SUCK-BACK DEVICE FOR A PUMP
Sidney Rosen, 4119 Fordleigh Road, Baltimore, Md.
Filed Dec. 18, 1959, Ser. No. 860,496
4 Claims. (Cl. 222—318)

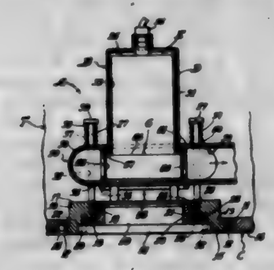
1. In combination, a dispensing pump having a cylinder with a piston therein and a piston rod connected to said

piston for the movement in said cylinder, said cylinder having a passageway provided in its cylinder wall, inlet valve means connected to said passageway to pass fluid therethrough to said cylinder when said piston is retracted, a dispensing nozzle, outlet valve means connected to said dispensing nozzle and to said passageway to pass fluid pumped from said cylinder through said



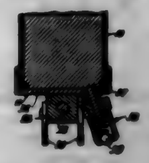
passageway and outlet valve means to said dispensing nozzle during the discharge movement of said piston, and tube means having one end connected intermediate said outlet valve means and inlet valve means and to said passageway and its other end to said dispensing nozzle for causing a reverse flow of any pump fluid in said dispensing nozzle back therefrom to said passageway when said piston is retracted.

2,978,150
PLUG-IN PUMP ASSEMBLY
Harold S. Doelcher, Sepulveda, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 24, 1958, Ser. No. 769,393
1 Claim. (Cl. 222—333)



In a fuel tank having wall means, a pump and motor assembly comprising: a pump and motor support including a first and a second housing member; means defining a plurality of aligned bores passing through said first housing member; a plurality of pin means carried by said second housing member and projecting therefrom, each of said pin means projecting through each of said bores of said first housing member whereby said first housing member is carried by said second housing member and is movable relative thereto; means securing said support to said wall means; means defining surface means on each of said housing members; means defining a pump and motor unit receiving chamber in said housing members; means carried by said pin means tending to maintain said first housing member in a first position relative to said second housing member whereby said surface means are in sealing engagement with each other thereby preventing fluid communication between the interior of said tank and said chamber; and a pump and motor unit having pump inlet means and received in said chamber, said unit when inserted in said chamber moving said first housing member to a second position relative to said second housing member whereby said surface means are spaced from each other thereby permitting fluid communication between said interior of said tank and said pump inlet means.

2,978,151
MULTI-FILL GREASE GUN
Edwin P. Sandholm, Albert City, Iowa
Filed July 1, 1957, Ser. No. 669,230
3 Claims. (Cl. 222—386.5)



1. In a grease gun adapted for both pressure and suction filling and including a cylindrical grease container having front and rear ends, a dispensing head removably mounted on the front of said container, said dispensing head providing an inlet opening through which grease can be pumped into the frontward portion of said container, and a slidable plunger assembly within said container arranged for movement away from and towards said dispensing head, said plunger assembly including a cup-shaped piston of flexible resilient material arranged in concentric relation to the inner walls of said container, said piston having outwardly flaring side walls extending toward the rear end of said container and terminating in an outwardmost annular portion in engagement with the inner walls of said container, all other components of said plunger assembly being spaced inwardly from the said inner walls of said container, and annular positive stop means disposed within the rearward portion of said container in the path of rearward movement of said outwardmost portion of said piston side walls, said stop means cooperating with said outwardmost side wall portion of said piston to restrict further rearward movement of said piston while maintaining the engagement between said annular portion and the inner walls of said container.

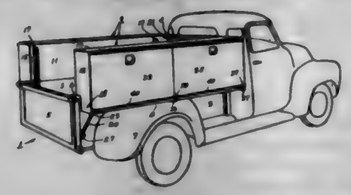
2,978,152
AEROSOL CAN
Edward G. Batty, 8611 Hartsdale Ave., Bethesda 14, Md.
Filed Jan. 15, 1959, Ser. No. 787,093
4 Claims. (Cl. 222—394)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An improvement for a pressurized aerosol container for prevention of valve freezing that contains a liquid fill, wherein said liquid fill consists of gases at normal

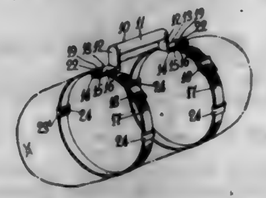
room temperatures and atmospheric pressures that have been compressed into a liquid state, a valve mechanism, at least one dispensing outlet nozzle, a valve activator, and a flexible tube extending from said valve mechanism to the inside bottom of said container, said improvement comprising an expansion chamber having plural openings, one opening being connected to the end of said flexible tube, and a second of said openings being submerged in the liquid fill no matter what position the container is in, an insert plug having a small aperture extending therethrough, fitted in the second of said chamber openings, said insert plug being made of a material having relatively low heat transfer properties, said expansion chamber being made of a material having relatively high heat transfer properties and also having a density greater than the density of said liquid fill, and being chemically compatible with said liquid fill.

2,978,153
CABINET STRUCTURE FOR AUTOMOTIVE VEHICLES
Theodore H. Brindle, Laotto, Ind.
Filed Mar. 23, 1956, Ser. No. 573,556
1 Claim. (Cl. 224—42.42)



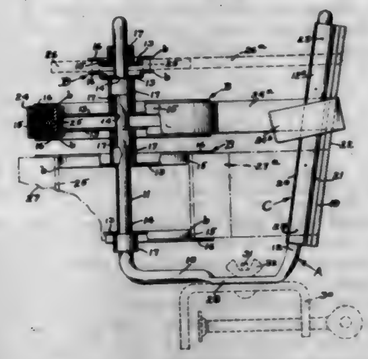
In combination: a vehicle having a body comprising a bottom wall and upstanding side walls with wheel housings respectively disposed adjacent the side walls so that the upper portions of the housings are spaced appreciably below the upper longitudinal edge portions of the side walls, a pair of upstanding cabinets provided with back walls and longitudinally extending recesses adjacent their lower extremities, and means securing the cabinets in place with the recesses respectively receiving the upper portions of the side walls so that portions of the cabinets depend alongside the side walls in the spaces between the upper edges of the side walls and the upper portions of the housings and the back walls of the cabinet project upwardly in vertical planes to substantially constitute extensions of said side walls.

2,978,154
DEVICE FOR CARRYING VEGETABLES
Theodore Kalley, 210 Playter St., Buffalo, N.Y.
Filed Dec. 18, 1958, Ser. No. 781,221
5 Claims. (Cl. 224—55)



1. An improved vegetable carrying device comprising a handle having each of its opposite ends formed with a depending leg terminating in an outwardly directed foot portion, the outer portion of each of said foot portions being formed with a transversely deposed slot arranged therein to provide a stiff lower portion and a resilient upper portion spaced and superposed thereabove, a pair of flexible straps each slidably carried in one of said slots in transverse relation to the handle for embracing a vegetable, means carried by each strap for securing it in a snug embracing relation upon the vegetable, and releasable means carried by each stiff foot portion operable to move the superposed resilient foot portion toward the stiff foot portion, thereby to grip and hold between said foot portions any portion of the associated strap, whereby the strap securing means may be secured in a selected position.

2,978,155
TAPE DISPENSER
Kermit B. Knutson, 1316 E. 24th St., Minneapolis, Minn.
Filed Feb. 19, 1958, Ser. No. 716,066
7 Claims. (Cl. 225—25)

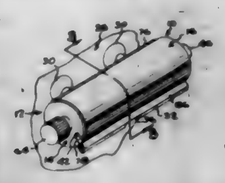


1. In a dispenser for dispensing pressure-sensitive tape from a plurality of rolls thereof, a spindle and a post laterally spaced apart from each other and axially disposed in a common plane, the spindle being adapted to receive a number of rolls of tape and support them for rotation in axial coincidence therewith, a tape-severing blade carried by the post coextensively therewith in said common plane, said blade extending laterally outward from the side of the post opposite said spindle, the outer edge of the blade being the cutting edge thereof, said spindle being adapted to receive each roll of tape disposed with either end thereof foremost so that its tape may be drawn from the roll to the post and therebeyond at either side of said common plane, said post having opposed holding surfaces at opposite sides of said common plane to the one or the other of which surfaces tape unwound from a roll disposed in correspondence with such surface will adhere while the terminal portion of the unwound tape in advance of the run thereof between roll and holding surface is severed by drawing such terminal portion around the cutting edge of the blade from the one side of said plane to the other and pulling it back against said cutting edge, said post being devoid of obstruction laterally about the same to that extent at least enabling said terminal portion of each tape to be swung around the cutting edge of the blade into position at an angle of less than ninety degrees relative to said run of the tape.

2,978,156
ROLL PAPER DISPENSER
Industrial J. Yanicello, 28 Fear St., Pittston, Pa.
Filed May 22, 1959, Ser. No. 815,106
3 Claims. (Cl. 225—42)

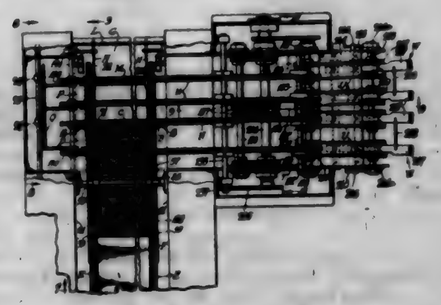
1. A paper roll dispenser comprising a horizontally elongated, substantially cylindrical casing having a relatively stationary semi-cylindrical lower section and a semi-cylindrical upper cover section, said sections having forward and rear longitudinal edges, means fixed on and

extending rearwardly from said lower section for mounting the casing on a support, means removably securing the upper section coextensively over the lower section, said lower section having first and second concentric circular end walls, said end walls having arcuate upper edges upon which the upper section rests at its ends, an axial bearing socket fixed on said first end wall and having a bore opening therethrough, an open ended externally threaded tubular bearing fixed axially on the second end wall and having a bore opening therethrough, a removable paper roll supporting shaft comprising a main portion extending lengthwise through the casing and having an end rotatably and slidably engaged in the bore of bearing socket, an enlarged diameter portion on the other end of the shaft slidably journaled through said tubular bearing, a cap nut fixed on the outer end of said enlarged shaft portion and threaded on said tubular bear-



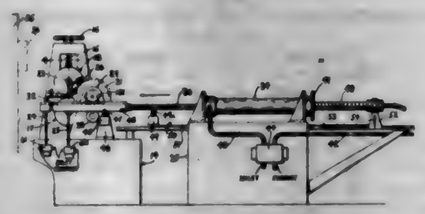
ing, the main shaft portion and said enlarged portion defining a shoulder, the threading of the cap nut on the tubular bearing serving to assemble the shaft to the casing and to compress a paper roll circumposed on said main shaft portion between said shoulder and said first end wall so as to provide frictional retardation of vagrant rotation of the roll, the forward longitudinal edges of the casing sections being spaced to define an exit slot for paper drawn from the paper roll, one of said forward longitudinal edges having a tearing edge, an outstanding retaining rib fixed on and extending along the rear longitudinal edge of the lower section, and a resilient hook flange fixed on and extending along the rear longitudinal edge of the cover section, said hook flange having a hook snapped over and engaged behind said retaining rib.

2,978,157
SPAGHETTI AND MACARONI HANDLING MACHINE
Carmine Surico, Bayville, N.Y., assignor to Clermont Machine Company, Inc., Brooklyn, N.Y., a corporation of New York
Filed Dec. 7, 1955, Ser. No. 551,700
8 Claims. (Cl. 225—97)



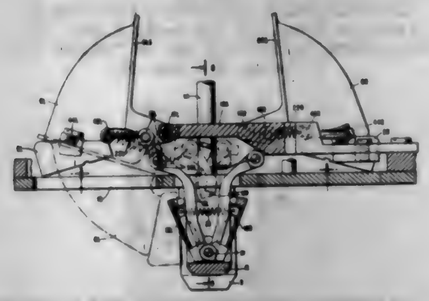
1. A spaghetti handling machine for removing sticks from inverted dried spaghetti loops and then breaking said loops to size, comprising a conveyor for feeding inverted dried spaghetti loops carried on sticks with the legs of the spaghetti loops originally in vertical position, means, cooperating with said conveyor, for horizontalizing the spaghetti loops, a table for receiving the horizontal spaghetti loops, means for parallelizing the legs of the spaghetti loops on said table, means for removing the sticks from the spaghetti loops, means for operating on the ends of the spaghetti loops for aligning the bends thereof, and means for removing the parallelized spaghetti loops with the bends in aligned condition from said table, and means for breaking the spaghetti loops into predetermined lengths after the removal thereof from said table.

2,978,158
FEED APPARATUS
Richard F. Herr, Warren, Ohio, assignor to The Herr Equipment Corporation, Warren, Ohio, a corporation of Ohio
Filed Oct. 24, 1955, Ser. No. 542,351
8 Claims. (Cl. 226—46)



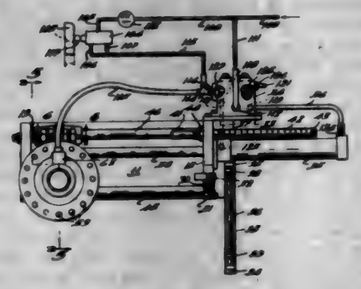
4. Material feeding apparatus comprising a pair of juxtaposed feed rolls providing a pass for the material to be fed, a member reciprocable between predetermined positions, drive means interposed between said member and one of said rolls for effecting rotation thereof upon member movement from one of its said positions to the other, means responsive to the position of said member and locking said one roll against rotation upon disposition of said member in said other position, and means for releasing said locking means to provide for rotation of said one roll when said member is to be shifted from its said one position to its other.

2,978,159
TAPE DRIVE
Kenneth N. Gower, Wappingers Falls, and Arthur H. Schroeder, Beacon, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 29, 1959, Ser. No. 816,928
3 Claims. (Cl. 226—78)



1. A tape drive comprising: a base; a work station attached perpendicular to said base; a capstan, having locating pins, parallel with said work station, rotatably mounted perpendicular to said base; tape guide means adjacent said capstan, said tape guide means extending opposite said capstan from said work station, said tape guide means having a closure key portion adjacent said capstan of thickness smaller than said capstan, whereby tape, once located on the pins of said capstan, will remain so located during the period that the tape is firmly pressed against said tape guide; a plurality of closures, normally retractable into said base, and operable to lock a captive bight of tape between one side of said capstan, around said work station and back to the other side of said capstan; said tape guide means including closure key means located at said closure key portion which closure key means, when operated, is substantially flush with said tape guide; means responsive to said closure key means to operate said closures; a buffer arm to provide tension to the captive bight of tape; tensioning means to bias said buffer arm to take up slack from the captive bight; means controlled by the positioning of said closures to retract said buffer arm when said closures are retracted and to release said buffer arm when said closures are operated; and means to retract said closures.

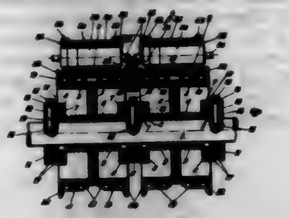
2,978,160
PRESS FEED MECHANISM
Glenn R. Bunnell, Detroit, Mich., assignor to Special Engineering Service, Inc., Detroit, Mich., a corporation of Michigan
Filed Sept. 21, 1956, Ser. No. 611,280
13 Claims. (Cl. 226—151)



1. In a device for intermittently advancing strip stock in equal lengths, a base, a carriage slidably mounted on said base, fluid-actuated means for moving said carriage between forward and retracted positions, a gripper on said carriage, fluid-actuated means for moving said gripper from a retracted position to a gripping position, fluid control means responsive to the attainment of a predetermined gripping pressure by said gripper to cause movement of said carriage from its retracted to its forward position, a direct fluid connection between said gripper fluid-actuated means and said fluid control means, and means included in said fluid control means and responsive to release of pressure by said gripper to cause movement of said carriage to its retracted position.

2,978,161
ARRANGEMENT FOR DRIVING FILMS IN A MACHINE TREATING KINEMATOGRAPHIC FILMS
André Victor Leon Clement Debrie, 111 Street St. Maur, Paris, France
Filed Nov. 6, 1956, Ser. No. 620,369
Claims priority, application France Nov. 15, 1955
7 Claims. (Cl. 226—183)

5. In a machine for treating kinematographic films, a film driving arrangement comprising a driving spindle; at least a pair of drums arranged beside each other and respectively having coaxial tubular hubs through which said spindle coaxially passes; means cooperating with said spindle and drums for transmitting rotation of said spindle to said drums while freeing said drums for slippage with respect to said spindle when the turning of said drums with said spindle is resisted; at least one roller arranged over each drum for pressing a film strip thereagainst; said rollers being completely disconnected from each other;



and guide means cooperating with said rollers to guide the same for free movement under the influence of their own weight substantially radially toward the common axis of said drums.

2,978,162
MOLDED PULP CARTON
Harry E. Lambert, Gary, Ind., assignor to Packaging Corporation of America, a corporation of Delaware
Filed Feb. 9, 1959, Ser. No. 792,017
13 Claims. (Cl. 229—2.5)

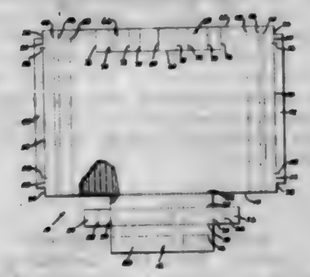


1. A molded pulp egg carton comprising a cover section and a bottom section integrally connected by a hinge along one side margin thereof, said bottom section being defined by an upwardly extending wall structure comprising side wall and end wall portions and provided with a plurality of contiguous egg-receiving cells successively arranged in row formation, said cell-forming structure including at least one row of hollow upstanding posts extending between opposite end wall portions, said cover section comprising a plurality of panel portions defined by downwardly extending side and end wall portions and a pair of spaced downwardly extending transverse wall portions intermediate the end wall portions, said cover side wall portions each including a bridge part intermediate its end, extending upwardly from the lower margins of the side wall portion and terminating in a plane substantially below the plane of the cover panel portions and also below the plane of the uppermost part of the adjacent side wall portions, the ends of said transverse wall portions merging into the side wall portions at each side of said intermediate bridge parts, the lower margins of said transverse wall portions being connected by structure at least a portion of which intermediate the cover side wall portions is disposed in a plane to engage the upper end of at least one of said upstanding posts in the bottom section when the cover is in closed position.

2,978,163
CLEARANCE PAD
Wilbur G. Anderson, Jr., Grand Rapids, Mich., assignor to American Box Board Company, Grand Rapids, Mich., a corporation of Michigan
Filed Apr. 16, 1958, Ser. No. 728,837
4 Claims. (Cl. 229—14)

1. A clearance pad for protecting merchandise in shipment, and comprising; a paperboard member received

between said merchandise and the walls of an outer shipping container, said paperboard member having the side edges thereof folded upon themselves to provide multiple thickness side edge spacers, said spacers having a lesser thickness at the ends thereof and having said folded side edges secured together at said ends, a flap provided at the front edge of said paperboard member, said flap having multiple fold lines including a fold at the junction of said flap to said paperboard member, ear tabs extending from the sides of said flap, said flap being folded to provide a tubular spacer and having the end



of said flap secured to said paperboard member, said ear tabs being tucked into the ends of said tubular spacer, a pair of symmetrical spacer forming flaps struck from the back edge of said paperboard member and including multiple fold lines normal to the back edge of said paperboard member, said back edge flaps being folded on said fold lints to provide tubular spacers normal to said back edge and next adjacent said side edge spacers, and fillers received in said back edge spacers from the inner side thereof, said fillers including a protective end face received over the inner end of said back edge spacers.

2,978,164
BAGS

Russell J. Williams, Clayton, and Charles V. Brady and August F. Ottinger, St. Louis, Mo., assignors to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri

Filed May 22, 1958, Ser. No. 737,106
16 Claims. (Cl. 229—66)

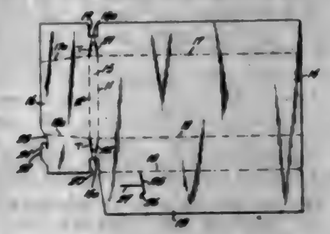


1. A bag having at least one end closure constituted by a line of stitching driven through the walls of the bag and securing together the walls adjacent said end of the bag, the stitching being of a single thread readily unravelable chain stitch type which is unravelable by pulling the thread from one end of the stitching, and means releasably secured to the bag over said one end of the stitching by adhesive and adapted to be grasped and pulled away from the bag, said adhesive contacting the thread at a point from which unraveling of the thread may be started and anchoring the thread against unraveling until it is desired to open the bag, and whereby, upon grasping and pulling said means away from the bag, unraveling of the thread is started.

2,978,165
PACKAGING FOLDER

Hubert V. Belding, Clarksville, Ind., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia

Filed July 23, 1959, Ser. No. 829,134
8 Claims. (Cl. 229—87)

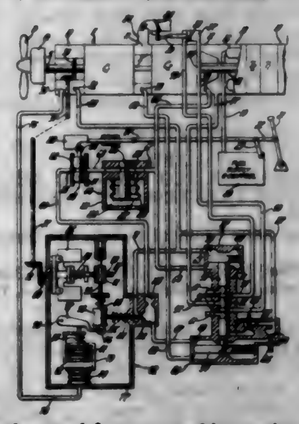


1. A packaging folder made from a cut and scored blank comprising means defining recesses in opposite edges of the blank, an end wall defined between a pair of score lines which extend across the blank from one recess to the other, said score lines being spaced apart throughout their entire lengths but converging toward each other at both ends, said converging portions of the score lines defining between them end portions of the end wall which extend outwardly from the plane of the middle portion of the end wall, the inner edges of the recesses forming the extreme end edge of the end wall, which end edges are outwardly offset from the plane of the middle portion of the end wall, a base panel defined by the portion of the blank adjacent one edge of the end wall, a cover flap defined by the portion of the blank adjacent the opposite edge of the end wall, whereby when the end wall is adjusted to upright position relative to the base panel and the cover flap is adjusted to overlie the base panel, both the base panel and the cover flap will automatically taper toward each other at both ends when viewed from the direction of the end wall, and reinforcing tabs defined by U-shaped slits, said reinforcing tabs each forming parts of the end wall which are interposed between the base panel and the end cover flap.

2,978,166
COMPRESSOR BLEED CONTROL

Kent L. Hahn, Speedway, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 28, 1957, Ser. No. 660,496
21 Claims. (Cl. 230—115)

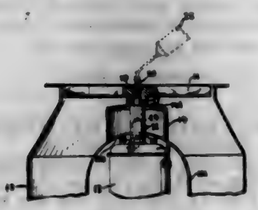


1. A bleed control for a gas turbine engine of the type comprising a low pressure compressor, a high pressure compressor, air flow conducting means connecting the outlet of the low pressure compressor to the inlet of the high pressure compressor, an air bleed in communication with said means, and valve means in the air bleed operable to open and close the air bleed; the bleed control comprising, in combination, bleed valve control means connected to and operating the said valve means, the said bleed valve control means being movable and moving to control the valve means, means connected to the low pressure compressor outlet and the bleed valve control means biasing the bleed valve control means in one direction in response to low pressure compressor discharge pressure, and means operable to provide a control pressure connected to the valve control means so that the control pressure biases the valve control means in the other direction; the control pressure providing means including means connected to the high pressure compressor outlet providing air under a control pressure which is determined at least in part by high pressure compressor discharge pressure; movement of the bleed valve control means in the said one direction being effective to open the air bleed and movement thereof in the other direction being effective to close the air bleed.

2,978,167
FAN UNIT WITH A REMOVABLE BLADE ASSEMBLY

Alonzo M. Harp, Moline, Ill., assignor to American Machine and Metals, Inc., East Moline, Ill., a corporation of Delaware

Filed Nov. 8, 1957, Ser. No. 695,265
1 Claim. (Cl. 230—117)

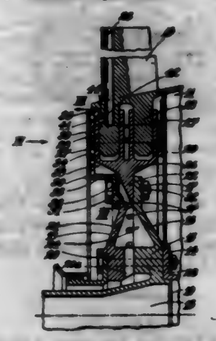


A fan unit comprising a tubular housing, a casing in said housing, said casing having an aperture, a fan motor located within said casing, said motor having a shaft rotatable thereby, a walled extension closing off the aperture in said casing and said extension having an opening therein opposite the aperture in the casing, a second shaft having blade means connected adjacent one end thereof located outside of said walled extension and in said housing, said second shaft having an axial bore therethrough, a sleeve enclosing the other end of said second shaft and permanently attached thereto, said sleeve being slidable over the said motor shaft, said motor shaft having a keyway therein, locking means entering said keyway for releasably holding said sleeve in position on said motor shaft for rotation therewith, so that said motor shaft, said sleeve and said second shaft rotate in unison in response to the operation of said motor when said sleeve is held on said motor shaft, the unit formed by said shafts and said sleeve extending through and being surrounded by said walled extension, a grease fitting attached to said one end of said second shaft in said axial bore for injecting fluid under pressure into said bore and against said motor shaft so that, when said sleeve is released from said motor shaft, said sleeve and said second shaft are forced away from said motor shaft.

2,978,168
BLADED ROTOR FOR AXIAL-FLOW FLUID MACHINE

Lionel Haworth, Littleover, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed Nov. 28, 1955, Ser. No. 549,430
Claims priority, application Great Britain Dec. 6, 1954
6 Claims. (Cl. 230—132)



6. A rotor for an axial-flow compressor comprising rotor structure having a peripheral flange with a flat downstream-facing surface, there being pivot-pin-receiving holes in the peripheral flange, a ring of blades at the periphery of the rotor structure, each of said blades having a root with a pivot-pin-receiving hole therein, pivot pins extending through the holes in said roots and said peripheral flange of the rotor structure pivotally to connect the blades to the rotor structure and to allow a degree of free pivotal movement of the blades relative to the rotor structure, said roots having flat upstream-facing surfaces, both said downstream-facing surface of the peripheral flange and said upstream-facing surfaces of the roots being at right angles to the pivotal axes of the blades, and said surfaces being urged into contact by loads experienced in operation, fluid passages in the blades having inlets thereto opening through said upstream-facing surfaces of the roots at positions offset from the pivot-pin-receiving holes therein, apertures in said downstream-facing surface to overlap each of said inlets in the roots, whereby the fluid is transferred from said apertures to said inlets in the blade roots across surfaces maintained in contact by loads acting on the blades in operation of the machine, and said rotor structure comprising annular fluid supply manifold means connected to supply fluid to the apertures in the peripheral flange and thus to the inlets in the blade roots, and the upstream-facing surfaces of the blade roots having each a groove formed therein around the inlet of the respective passage, the grooves being in communication with the space radially outside the peripheral flange of the rotor.

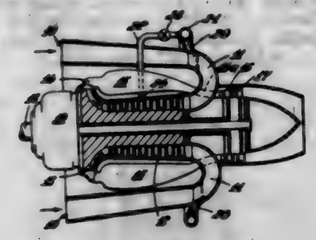
2,978,169
MEANS FOR PREVENTING THE ACCUMULATION OF ICE OR OTHER SOLIDS IN DUCTS

Francis Patrick Stanton, Bristol, England, assignor, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a British company

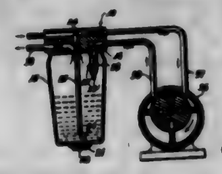
Filed Sept. 15, 1958, Ser. No. 760,913
Claims priority, application Great Britain Oct. 3, 1957
6 Claims. (Cl. 230—132)

1. An aircraft gas turbine propulsion engine comprising an air compressor with an air inlet; an air inlet duct having an inlet at one end, an outlet at the other end of the duct facing in substantially the same direction as the inlet and a bend joining the inlet and the outlet, said inlet being open to atmosphere and said outlet being connected to said air inlet of said compressor; nozzle

means opening into said duct near the beginning of said bend, said nozzle means being directed so that flow therefrom is along the inner surface of the outer portion of the wall of said bend away from the inlet of said duct; and supply means for supplying gaseous fluid to said nozzle means at a pressure in excess of the pressure in said bend of said duct.



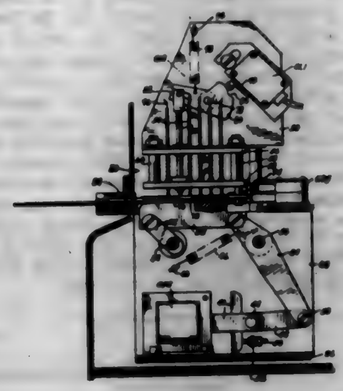
2,978,170
AUTOMATIC OILER FOR AIR PUMPS
James O. Ivie, Salt Lake City, Utah
(7165 Delaware St., Riverside, Calif.)
Filed July 3, 1958, Ser. No. 746,538
5 Claims. (Cl. 230—207)



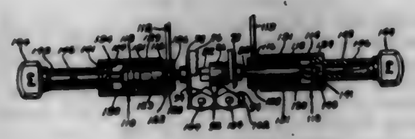
1. A combination of an air pump and a unitary lubricating oiler, said air pump having a low pressure air inlet and a high pressure air outlet, said lubricating oiler comprising a body portion and an oil reservoir held in air-tight relationship with said body portion, said body portion having a low pressure conduit therethrough operatively connected to the low pressure air inlet of said pump and the atmosphere, said low pressure conduit having a branch conduit leading to the bottom of said reservoir and having means therein to restrict the flow of oil to said low pressure conduit from said reservoir, said body portion having a high pressure conduit centrally located therein operatively connecting the interior of said reservoir to the said high pressure air outlet of said pump, said high pressure conduit having a nozzle within said reservoir near the top thereof to discharge the incoming air tangentially to the interior side surface of said reservoir, said body portion having a second high pressure conduit therein leading from the upper part of said reservoir to an air outlet delivery port.

2,978,171
TOLL CHARGE RECORDING SYSTEM
Ralph L. Candell, Brooklyn, N.Y., assignor, by mesne assignments, to Sheop Electronics Inc., Jamaica, N.Y., a corporation of New York
Filed Dec. 30, 1958, Ser. No. 783,767
16 Claims. (Cl. 234—16)

1. In a charge recording system for a toll plaza having a plurality of traffic lanes, means at each of a plurality of traffic lanes for reading a charge account number from a charge plate and for manifesting the digits of a number read therein as electrical potentials, a keyboard at each of said lanes for generating electrical potentials representative of vehicle classifications, a signal manifesting device at each of said lanes having discrete positions therein for receiving each of the potentials generated at said reading means and at said keyboard, connections for transmitting said potentials from said reading means and said keyboard to said signal manifesting device, a single recorder common to said lanes, scanning means individual to each of said signal manifesting means for sampling the positions thereof and for transmitting potentials thereon to said recorder for controlling the recording function thereof, means individual to each of said signal manifesting devices for indicating the presence of potentials therein, and common means for successively sensing said indicating means and for initiating the operation of said scanning means to transmit potentials into said common recorder.

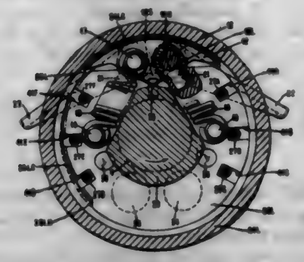


2,978,172
CARRIAGE OVERTRAVEL MECHANISM FOR BUSINESS MACHINES
Arthur M. Pasinski, Detroit, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 14, 1957, Ser. No. 696,552
2 Claims. (Cl. 235—60.5)



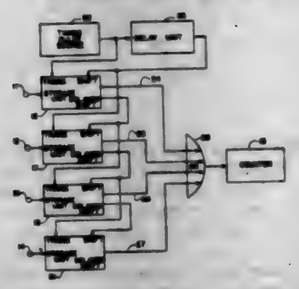
1. In a business machine, supporting means, a movable carriage supported by said supporting means, a sleeve bearing member mounted on said carriage, said bearing member arranged with its axis longitudinally of the path of travel of said carriage, a shaft received in and supported by said bearing member for rotation and also for relative sliding movement with said bearing member, a movable support carried by and operatively connected to said shaft for movement therealong by rotation of said shaft, said support movable to any one of a plurality of positions, a plurality of sensing pins on said support arranged to effect different machine function programs in different ones of said plurality of positions of said support, stop means carried by said shaft and cooperable with stop means on said supporting means to stop said support in predetermined positions, and spring means interposed between and yieldably connecting said bearing member and said shaft.

2,978,173
SCANNER DRUM
Erwin R. Maurer, Hopewell Junction, and George Micklus, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 29, 1959, Ser. No. 816,952
11 Claims. (Cl. 235—61.11)



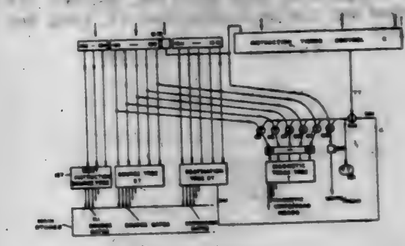
1. A drum for holding a scan card for repetitive parallel scanning comprising: an incomplete-cylindrical body portion around which the scan card may be wrapped, said body portion having a longitudinal cutout portion with edges within the cylinder upon which portions of the longitudinal margins of the scan card fall when the card is registered; a clamp member to clamp the scan card margin portions to said edge of said body portion, said clamp member having a cylindrical outside surface to complete a cylinder, with the outside surface of the scan card; means to bias said clamp toward said body portion for clamping; and opening means to open said clamp for loading.

2,978,174
COUNTING APPARATUS
Franklin R. Dean, Needham Heights, William P. Horton, Natick, and Robert L. Maynard, Wellesley Hills, Mass., assignors to Computer Control Company, Inc., Wellesley, Mass., a corporation of Massachusetts
Filed Oct. 30, 1958, Ser. No. 770,842
9 Claims. (Cl. 235—92)



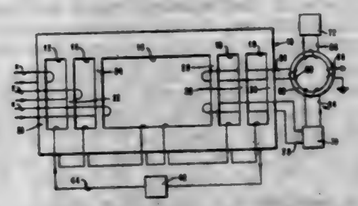
1. A random event counter comprising, a plurality of input terminals for accepting input signals characteristic of said random events, some of said input signals occurring simultaneously, a storage means coupled to each input terminal, each of said storage means having an input storage portion, an output storage portion, a shift input, a transfer input, and a delayed shift output, each input portion accepting an input signal on its associated terminal and shifting the accepted signal into the output portion in response to a shift pulse applied to said shift input, an output terminal, said output portion transferring said accepted signal to said output terminal in response to a transfer pulse applied to said transfer input, said storage means responding to a shift pulse by providing a delayed shift pulse for application to the shift and transfer inputs of other storage means, a source of timing signals, and means responsive to said timing signals for developing time-spaced shift and transfer pulses for application to the shift and transfer inputs of said storage means to sequentially transfer accepted signals from each storage means to said output terminal.

2,978,175
PROGRAM CONTROL SYSTEM FOR ELECTRONIC DIGITAL COMPUTERS
Edward Arthur Newman, Teddington, and David Oswald Clayden, Heston, England, assignors, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 5, 1954, Ser. No. 408,560
Claims priority, application Great Britain Feb. 11, 1953
20 Claims. (Cl. 235—157)



1. An electronic digital computer constructed to operate under the control of instruction word signals and including main digital stores, an instruction control controlling the operation of the main digital stores in accordance with groups of digit signals of instruction words, said groups including at least one group of address digit signals which select a main digital store to participate in the operation to be carried out, supplementary digital stores, a supplementary instruction control for controlling the operation of the supplementary digital stores, a control line, means in the said instruction control for producing an output on said control line when a given group of address digit signals of an instruction word is in a predetermined permutation, and a gating arrangement controlled by said control line and through which another group of address digit signals of the instrutcion word is applied to the supplementary instruction control when said control line produces an output.

2,978,176
MULTIPATH LOGICAL CORE CIRCUITS
Newton F. Lockhart, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 20, 1957, Ser. No. 685,128
32 Claims. (Cl. 235—176)



1. A magnetic core binary full adder circuit comprising a core of magnetic material capable of assuming first and second stable states of flux remanence and having first, second and third flux paths; first, second and third selectively energizable input winding means associated with said core, a carry output winding means linking said

second flux path for developing an output indicative of energization of two or three of said input winding means, a sum output winding means linking each of said first and third flux paths with winding means of a first sense and said second flux path with winding means of a sense opposite to said first sense for developing an output indicative of energization of one or three of said input winding means.

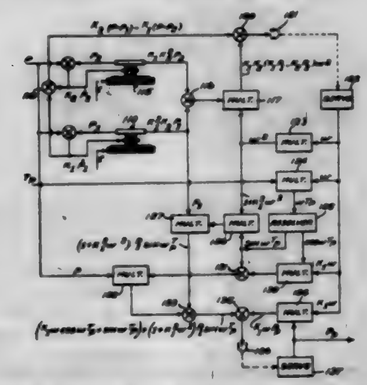
2,978,177

DEVICE FOR PREDICTING VALUES OF A FLUCTUATING SYSTEM AT A PREDETERMINED FUTURE TIME

William H. Newell, Mount Vernon, Edward G. Burgess, Jr., Kew Gardens, Norman J. Zabb, Brooklyn, and Stamatios I. Frangoulis, Flushing, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware

Original application May 29, 1953, Ser. No. 358,324. Divided and this application Dec. 17, 1954, Ser. No. 476,838

5 Claims. (Cl. 235—186)



1. A device for predicting the value of a fluctuating system at a future time T_p knowing the present value of the system P, comprising means for mechanizing and solving the equations

$$K_1K_2(K_1P_1-K_2P_2)w^2=K_2(P-P_1)-K_1(P-P_2)$$

and

$$K_1wP_p-(K_1w\cos wT_p+\sin wT_p)P+(1+K_1^2w^2)P_1\sin wT_p=0$$

for the predicted value P_p, and including two integrator follow-up devices, one for obtaining the quantities $K_1^2K_2P_1$ and $K_1\dot{P}_1$ and the other for obtaining the quantities $K_1K_2^2P_2$ and $K_2\dot{P}_2$, each of said follow-up devices comprising an integrator, a differential having a P input, a feed-back input from the output of said integrator and an output for setting the quantity to be integrated into said integrator, in said equations and in said quantities, K_1 and K_2, representing the time constants of said integrators respectively, P_1 and P_2 the outputs of said integrators respectively, $\dot{P}_1$ and $\dot{P}_2$ the first derivations of P_1 and P_2 respectively, and w the angular velocity of the simple harmonic motion of which said system is assumed to be composed, means for comparing $K_1^2K_2P_1$ and $K_1K_2^2P_2$ to obtain $K_1K_2(K_1P_1-K_2P_2)$, means for multiplying the latter quantity by w^2 to obtain $K_1K_2(K_1P_1-K_2P_2)w^2$, means for comparing $K_1\dot{P}_1$ and $K_2\dot{P}_2$ to obtain

$$K_2(P-P_1)-K_1(P-P_2)$$

means for comparing $K_1K_2(K_1P_1-K_2P_2)w^2$ and

$$K_2(P-P_1)-K_1(P-P_2)$$

to obtain a quantity which is theoretically zero, but which deviates therefrom by an error amount, a servo mechanism having as an input the error quantity to effect a null seeking operation and to obtain thereby w, means for squaring w to obtain w^2 by which $K_1K_2(K_1P_1-K_2P_2)$ is multiplied, means for multiplying T_p by w to obtain wT_p, a resolver having as input wT_p for obtaining cos wT_p and sin wT_p, means for multiplying w by K_1 to obtain K_1w, means for multiplying the latter quantity by cos wT_p to obtain $K_1w\cos wT_p$, means for adding the latter quantity and sin wT_p to obtain $K_1\cos wT_p+\sin wT_p$, means for multiplying the latter quantity by P to obtain $(K_1w\cos wT_p+\sin wT_p)P$, means for processing w^2 to obtain $1+K_1^2w^2$, means for multiplying the latter quantity by sin wT_p to obtain $(1+K_1^2w^2)\sin wT_p$, means for multiplying the latter quantity by P_1 to obtain $(1+K_1^2w^2)P_1\sin wT_p$, means for adding the latter quantity ot the quantity

$$(K_1w\cos wT_p+\sin wT_p)P$$

to obtain the sum of the latter two quantities, means for multiplying K_1w by P_p to obtain K_1wP_p, means for comparing the latter quantity with

$$(K_1w\cos wT_p+\sin wT_p)P+(1+K_1^2w^2)P_1\sin wT_p$$

to obtain

$$K_1wP_p-(K_1w\cos wT_p+\sin wT_p)P+(1+K_1^2w^2)P_1\sin wT_p$$

equal theoretically to zero and deviating therefrom by an error quantity, and a servo mechanism having as an input the latter error quantity to effect a null seeking operation and to obtain thereby P_p, the latter quantity being employed as a factor for K_1w to obtain K_1wP_p.

2,978,178

COMPUTING CIRCUITS

Omar L. Patterson, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Original application Jan. 13, 1954, Ser. No. 403,799. Divided and this application Sept. 16, 1957, Ser. No. 684,630

4 Claims. (Cl. 235—193)



1. Apparatus of the type described comprising a pair of terminals connected respectively to potential sources, a first pair of diodes connected in series between said terminals with their corresponding electrodes connected to said terminals and their other electrodes connected to a junction, a source of potential connected to said junction to render said diodes normally conducting, a pair of time constant resistance-capacitance circuits, a second pair of diodes respectively connecting said time constant circuits to said terminals, said diodes of the second pair being disposed so as to be cut off when the diodes of the first pair are conducting and to be conducting when the diodes of the first pair are cut off whereby, during the last mentioned condition said time constant circuits may be changed through the last mentioned diodes from the respective terminals, means establishing a fourth potential source, means responsive to substantial equality of said fourth potential and the potential of one of said time constant circuits to provide to said junction a potential to cut off the first mentioned diodes, and means for sampling the potential of the other of said time constant circuits at the time of cut off of the first mentioned diodes.

2,978,179

ELECTRONIC DIGITAL MULTIPLIERS

Daniel L. Curtis, Manhattan Beach, Calif., assignor, by mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware

Filed June 22, 1956, Ser. No. 593,230

10 Claims. (Cl. 235—194)



1. A difunction multiplier for producing a difunction output signal train representative of the product of the quantities represented by an applied analog signal and an applied input difunction signal train, said difunction trains each being composed of sequential bivalued electrical signals each having a fixed period, and having either a first value representing a first number or a second value representing a second number, the average of the numbers represented by the signals in a train corresponding to the quantity represented by the train, said multiplier comprising: at least one gate circuit having an input terminal, an output terminal and a control terminal; means for applying the analog input signal to said input terminal and the difunction input signal train to said control terminal, said gate circuit being responsive to said difunction input signal train for presenting the analog signal at said output terminal for substantially said fixed period in response to each signal in said input train having said first value; and an analog-to-difunction converter operable to produce a difunction output signal train representative of the filtered average value of analog signals applied thereto; and means for applying to said converter the signal appearing at said gate circuit output terminal.

2,978,180

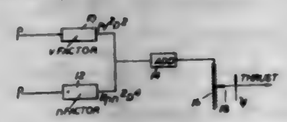
ANALOGUE COMPUTERS

Robert Henry Watson Amesbury, Aylesbury, England, assignor to General Precision Systems Limited

Filed Feb. 20, 1958, Ser. No. 747,808

Claims priority, application Great Britain Feb. 21, 1957

7 Claims. (Cl. 235—196)



7. An analog computer for providing an output quantity which is a function of the ratio

$$\frac{x}{y}$$

of two independent variables x and y, said computer being operative to provide said output quantity in quantitatively accurate manner as said y independent variable approaches zero, comprising in combination; means for deriving first and second quantities which vary in accordance with ax and by respectively; means for deriving third and fourth quantities which vary in accordance with cx and dy respectively, wherein a, b, c and d are arbitrary constants and c and d are selected in relation to x and y so that the sum quantity $cx+dy$ does not become zero over the intended range of operation of said computer; and means responsive to said first, second, third and fourth quantities for providing said output quantity, said output quantity varying in accordance with

$$\frac{ax+by}{cx+dy}$$

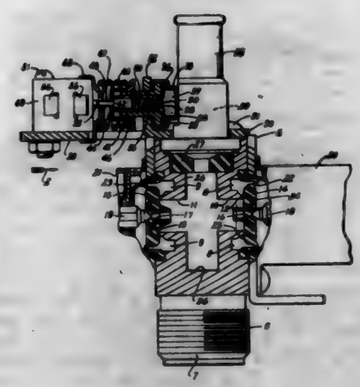
2,978,181

THERMOSTATIC MIXING VALVE AND POWER ELEMENT CONSTRUCTION

Thomas E. Noakes, Detroit, Mich., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

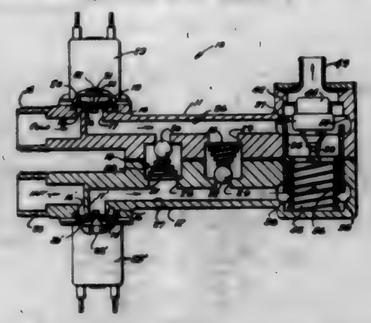
Filed Apr. 1, 1957, Ser. No. 650,026

4 Claims. (Cl. 236—12)



1. The combination comprising a valve housing internally contoured to define a hot fluid inlet chamber, a cold fluid inlet chamber, a mixing chamber communicating with both of said inlet chambers, and an outlet chamber downstream from the mixing chamber; a diaphragm for releasably closing said mixing chamber to said hot fluid chamber; solenoid means for controlling the position of said diaphragm; a second diaphragm for releasably closing said mixing chamber to said cold fluid chamber; second solenoid means for controlling the position of said second diaphragm; a thermostatic power element casing positioned against the wall of said outlet chamber; thermally expansible material within said casing; a piston extended from said casing and subject to the expansive force of said thermally expansible material; switch means for controlling the operation of the first and second solenoid means; switch-actuator means operated by said piston; a cup surrounding the piston and slidably positioned in the power element casing; a light spring between the cup bottom wall and piston; a reduced diameter extension formed on said piston to define a shoulder; said extension being engaged with the switch actuator means; an annular spring retainer element engaging said shoulder and outer end of the cup, said retainer element extending outwardly of the cup to define an annular seat; and a heavy compression spring positioned between the switch and annular seat so as to bias the piston and cup into the power element casing; whereby initial expansion of the expansible material moves the cup and piston outwardly of the casing to force the actuator means into the switch, and final expansion of the expansible material moves the cup and retainer element outwardly of the casing without any movement of the piston; the valve action being such that high fluid temperatures in the outlet chamber cause the piston to expand out of the power element casing so as to operate the first solenoid for closing the first diaphragm and thereby restricting the flow of hot fluid into the mixing chamber, and cold fluid temperatures in the outlet chamber cause the piston to retract into the power element casing so as to operate the second solenoid for closing the second diaphragm and thereby restricting the flow of cold fluid into the mixing chamber.

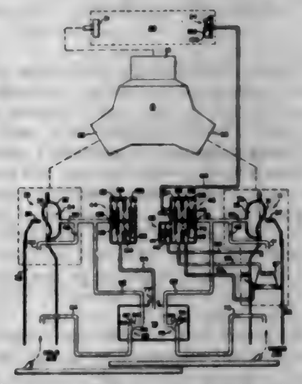
2,978,182
THREE TEMPERATURE MIXING VALVE
John Sigfrid Amnoos, Grosse Pointe Woods, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 3, 1957, Ser. No. 687,956
8 Claims. (Cl. 236—12)



1. A mixing valve comprising a housing formed with a mixing chamber; separate hot and cold fluid inlet passages leading to said mixing chamber; valve means in said mixing chamber for alternately opening said chamber to respective ones of the hot and cold fluid passages; thermostatic power means responsive to the fluid temperature in the mixing chamber for operating the valve means to open the cold fluid passage on temperature increase and open the hot fluid passage on temperature decrease; conduit means interconnecting said hot fluid passage with said cold fluid passage upstream from the mixing chamber; pressure responsive valve structure in said conduit means allowing flow from the hot fluid passage to the cold fluid passage when the supply of cold fluid is cut off; and a second pressure responsive valve structure in said conduit means allowing flow from the cold fluid passage to the hot fluid passage when the supply of hot fluid is cut off; a first shut-off structure carried by the housing and independent of the aforementioned valve structures for controlling flow into the hot inlet passage; and a second shut-off structure carried by the housing and independent of the aforementioned valve structures for controlling flow into the cold fluid passage.

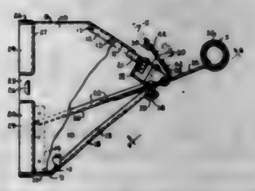
2,978,183
AIR CONDITIONING APPARATUS HAVING REMOTE PILOT CONDITION SENSORS
Lawrence E. Donahue, Mount Prospect, Ill., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 4, 1959, Ser. No. 791,886
9 Claims. (Cl. 236—13)

1. In an air conditioning system, a mixing chamber adapted to be connected to a space to be air conditioned and including a pair of inlets each containing a self contained diaphragm valve, a source of temperature changing medium connected to each of said valves and adapted to supply temperature changing mediums at different temperatures to said mixing chamber, conduit means positioned at the inlets to said mixing chamber for supplying temperature changing medium from said source to the operating chamber of said valves for operation of each of said valves, a pair of pneumatic relay means connected respectively to said supply conduit means for controlling the operation of said valves by varying a branch pressure in said conduit means, a pilot chamber means simulating said mixing chamber and positioned remote from said mixing chamber, further conduit means connected to each of said sources and to said pilot chamber, a pair of pilot diaphragm valves positioned at the inlets to said pilot chamber and having operating characteristics similar to said pair of self contained diaphragm valves in said mixing chamber and controlling flow through said further conduit means to said pilot chamber, outlet means in said pilot chamber, further connection means connecting said supply conduit means and said pilot diaphragm valves in said pilot chamber to control the operation thereof simultaneous with and similar to the operation of said valves in said mixing chamber, a pressure sensor in the outlet of said



pilot chamber connected to one of said relay means for one of said pair of self contained valves to control the operation of the same, means responsive to the velocity of flow of the air conditioning medium through the other of said valves and connected to the other of said relays for controlling said other of said valves, and thermostat means included in the space to be air conditioned and connected to said last named relay means to control the operation of the same jointly with said velocity sensing means.

2,978,184
DRAFT CONTROL DEVICE
Roye W. Franks, 1300 Lakeshore Drive, Michigan City, Ind.
Filed Oct. 7, 1957, Ser. No. 688,744
2 Claims. (Cl. 236—45)



1. A control of the kind described comprising a shell having a pair of trapezoidal side walls joined together by top and bottom walls and a pair of inclined converging front walls provided with a large opening and a smaller opening disposed in planes intersecting one another at an acute angle, and a vane pivotally mounted on the shell adjacent the intersection of said planes and having large and smaller portions for respectively opening and closing the large and smaller openings in response to fluid pressure.

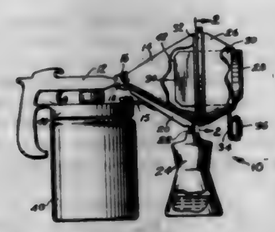
2,978,185
AIR BLAST SPRAYER
Leonard Charles Pearch, Colchurst, Gallants Lane, East Farleigh, Kent, England
Filed Mar. 24, 1958, Ser. No. 723,489
Claims priority, application Great Britain Mar. 27, 1957
3 Claims. (Cl. 239—77)

1. An air blast sprayer attachment for a power-driven machine, said attachment comprising a fan, a casing for said fan, said casing being formed in two parts of shallow conical shape connected by circumferential flanges to provide a chamber enclosing said fan, linkage connecting said casing rigidly to the rear of the machine, a stationary diaphragm also enclosed in the chamber provided by said two-part casing, said casing having at least one axial outlet for delivery of air by said fan, said diaphragm



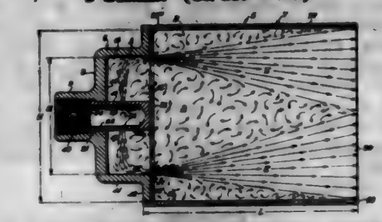
guiding air from the periphery of said fan to said outlet, a rotatable member coaxial with said outlet, at least one spraying nozzle upon said rotatable member, means for turning said rotatable member by hand-control from said machine, a tank for liquid, pipe connections from said tank for conveying liquid to said nozzle, and means for driving said fan from a power shaft of said machine.

2,978,186
MIST AND PAINT SAVER
Pete Mayerchak, 445 McClure Ave., Sharon, Pa.
Filed Aug. 28, 1958, Ser. No. 756,117
4 Claims. (Cl. 239—103)



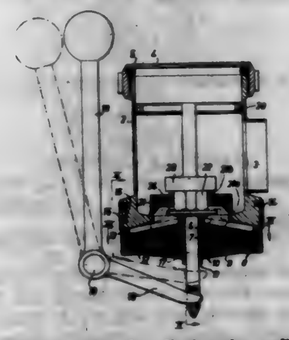
1. An accessory of the usual oppositely tapered form for removable attachment to the nozzle of a pressure type spray gun mounted upon a liquid supply container to be manually supported comprising, in combination, a hollow substantially conical main body member having a circular open base end and a circular inlet opening at the apex end thereof for receiving the nozzle of the spray gun, bracket means integrally secured at one end thereof to the exterior surface of said main body member and with the opposite end thereof to the removable cover of the supply container to which the spray gun is attached, a hollow truncated conical member having a circular open base end and secured to the open base end of said main body member in base to base relationship and defining a single compartment therewith and having oppositely tapered form walls and with a common longitudinal axis, said hollow truncated conical member having a circular end wall substantially greater in diameter than said circular inlet opening in said main body member and arranged normal to the longitudinal axis of said compartment, a vertical slot in said end wall of said truncated conical member, guide means of substantially rectangular configuration located in said single compartment for directing the spray from said inlet of the main body member to said vertical slot in said end wall, a drain pipe fitting depending from the lower portion of said single compartment, a collection receptacle mounted upon the lower end of said drain pipe fitting whereby excess spray material flows from said compartment into said collection retainer.

2,978,187
CARBON DIOXIDE FIRE EXTINGUISHING NOZZLE
James C. Hesson, Riverdale, Ill., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,545
3 Claims. (Cl. 239—499)



1. A carbon dioxide fire extinguishing nozzle having a large discharge capacity in relation to its overall length comprising a head member forming an inlet chamber closed at one end and open at the other end with an imperforate wall extending between said ends, a tip extending into said inlet chamber through said closed end and having a plurality of orifices positioned to discharge mixed carbon dioxide snow and vapors substantially radially of said inlet chamber toward said imperforate wall for deflection by the latter into a hollow stream discharging through the open chamber end, means for establishing a turbulence zone adapted to subject the outer surface of the carbon dioxide stream to a substantial amount of turbulence, said means including a shoulder extending radially outwardly from said imperforate chamber wall around the periphery of the open end of the chamber, said shoulder being adapted for connection to a horn and having an area approximately equal to the area of the open end of said inlet chamber so that the outward cross-sectional area of spread of the carbon dioxide stream is approximately equal to its inward cross-sectional area of spread, and a horn connected to said shoulder around its outer periphery, said horn being in axial alignment with said inlet chamber to provide a shielded flow path for the carbon dioxide stream discharging from the open end of said chamber, said shielded flow path having zones of turbulence adapted to subject both the inner and outer surfaces of the carbon dioxide stream to substantial amounts of turbulence ensuring that the discharge stream at the outer end of the horn is of uniform density and velocity throughout its entire cross-sectional area.

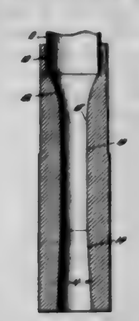
2,978,188
DISCHARGE VALVES FOR MILK AND OTHER FOAMING LIQUIDS
Gustav Ivar Fredrikson, Tulodet, Vadstena, Sweden
Filed Feb. 13, 1958, Ser. No. 715,685
6 Claims. (Cl. 239—575)



5. In a discharge valve for discharging milk and other foaming liquids of the type including a valve casing

having a liquid inlet and a downwardly directed liquid outlet, a valve seat for the outlet, a valve element within the casing cooperable with the valve seat, external control means operably connected with the valve element for operating the valve element, and a screen packet positioned in the outlet immediately below the valve seat, said screen packet comprising a plurality of fine mesh sieves positioned above each other, spacer means between the central portions of adjacent sieves for holding the central portions spaced from each other to provide small spaces for trapping the liquid upon closure of the valve element, at least the under surface of the screen packet being of convex shape to concentrate conically the liquid discharge, and means maintaining the screen packet in the outlet.

2,978,189
NOZZLE
Paul Leon Metz and Joseph Nepper, Dudelange, Luxembourg, assignors to A.R.B.E.D., Aciories Reunies de Burbach-Eich-Dudelange, Societe Anonyme, Luxembourg
Filed Oct. 28, 1958, Ser. No. 770,627
Claims priority, application Belgium May 14, 1956
5 Claims. (Cl. 239—597)



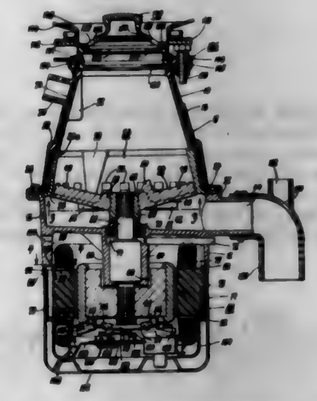
1. An injection nozzle for injecting a gaseous suspension of finely divided solids in the form of a fine jet of generally uniform cross-section into molten metal from above the surface of said metal, said nozzle being formed with a continuous passage therethrough, including an orifice of uniform diameter located medially of the length of said passage, a conical intake passage section on the intake side of said orifice converging toward said orifice, and a conical discharge passage section of uniformly increasing diameter throughout its length in a discharge direction extending from said orifice to the discharge end of the nozzle, the maximum diameter D and length L of the intake passage section, and the diameter d and length C of the orifice being related to each other by the formula

$$\frac{D}{d}=1+K\frac{L}{C}$$

in which K is a constant value greater than 2.

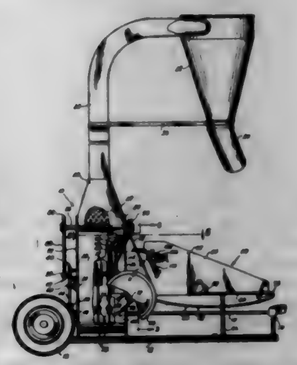
2,978,190
GARBAGE GRINDER
Byron L. Bracken and George B. Long, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1956, Ser. No. 607,118
4 Claims. (Cl. 241—46)

1. A waste disposer unit comprising, an upper housing and a lower housing, a chamber in said upper housing adapted to be connected with a sink drain or the like, an inlet for said chamber, a closure member located in said inlet, said closure member opening and closing a flow path to said chamber, a shredder ring located in said chamber, an impeller in said chamber, said impeller having a pair of diametrically opposed transverse slots, a spring metal member connected to the top side of said impeller having portions extending over said slots, a pair of vanes connected to the underside of said spring portions, a shaft connected with said impeller and extending into said lower housing, a dynamoelectric machine in said lower housing including a rotor connected with said shaft, a stator having a laminated core surrounding said rotor, a plurality of rivets extending through said core



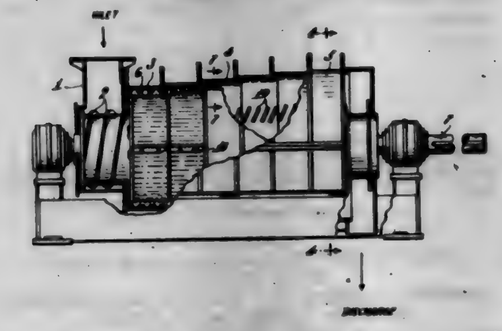
and having rivet heads projecting from an end face of said core, said rivet heads each having a flat surface abutting flat surfaces on said lower housing, said flat surfaces being so oriented that said stator assumes a position wherein the longitudinal axis of said stator is parallel to the longitudinal axis of said lower housing when said flat surfaces are in engagement, and means for holding said first surfaces in tight engagement with one another.

2,978,191
SHREDDER FOR BALED HAY
Marion L. Kingery, Monroe, Iowa
Filed June 30, 1958, Ser. No. 745,482
11 Claims. (Cl. 241—154)



1. In combination with a hammer mill of the class having a housing provided with an inlet opening, a rotatable shaft assembly in said housing adapted to be connected to a source of power, and hammer blades pivotally attached at one end to said shaft assembly for rotation therewith across said opening, a means for breaking up the mass of a bale of hay moving into said opening comprising a hopper having sides and a bottom and attached to said housing and having a discharge end in communication with said opening, a conveyor on said hopper, a fluffing hammer pivotally attached at one end to said shaft assembly for rotation therewith and disposed to extend from said shaft assembly only partially across said opening adjacent the discharge end of said hopper, and said fluffing hammer acting on the baled mass of hay to shred a portion thereof so as to leave a relatively small mass area for direct contact with said hammer blades.

2,978,192
REFINING MACHINE
Edward H. Campston, Jr., Pittsfield, Mass., assignor, by mesne assignments, to E. D. Jones Corporation, Pittsfield, Mass., a corporation of Delaware
Filed Mar. 1, 1957, Ser. No. 643,368
4 Claims. (Cl. 241—222)



1. A refining machine comprising an approximately cylindrical chamber having an inlet at one end and an outlet at the other end, the chamber being substantially imperforated, a rotor mounted coaxially in the chamber, means at one end of the chamber for driving the rotor, and means for feeding material into the chamber from said inlet, the rotor having rakes to throw the material against the periphery of the chamber in the form of a cylindrical layer, the rakes being spaced from the periphery of the chamber but disposed in juxtaposition to the periphery to drag through the cylindrical layer, refine it, and cause it to rotate, and successive units of said rakes, lengthwise of the chamber, being spaced apart far enough to drag through the layer without substantial dragging action on the material midway between the successive rakes, said outlet extending around the chamber and outwardly to said periphery so that the cylindrical layer can flow directly through the outlet lengthwise of the chamber, the periphery of the chamber being free of obstructions which would prevent rotation of the cylindrical layer so that the centrifugal force of the rotating cylindrical layer produces a lengthwise flow which is directed toward the outlet by the pressure of the incoming material, characterized in that said periphery has ridges extending transversely of the paths of the rakes to break up any mass of material which tends to build up ahead of a rake, said ridges being spaced apart circumferentially of the chamber and projecting from said periphery only a small fraction of an inch so as to permit said rotation.

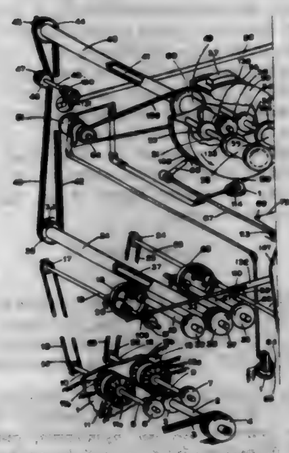
2,978,193
WINDING MACHINES
Rudolph J. Kelly, Smithtown, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Aug. 29, 1955, Ser. No. 530,967
8 Claims. (Cl. 242—1.1)

1. A machine for winding strand material on a ring-like core, comprising a pair of drums adapted to support a skein of the material to be wound, one end of the strand in said skein being affixed to said core, means for supporting the core with the part of it to be covered by winding located between said drums, said means also supporting the core in such a way that the portion of the strand material affixed to the core is parted from the rest of the skein and one side of the skein passes through the opening in said core, means for rotating said drums to move the skein belt-wise around said part of the core in the direction tending to wind the strand on to the



skein, thereby producing tension in the portion of the strand that extends between the core and the skein, means cyclically engaging the strand portion that extends between the core and the skein lifting that strand portion up and over one of the drums, and resilient means for guiding the strand to maintain it in the skein, said guiding means being responsive to cyclical increases in said tension resulting from continued motion of the skein to release successive turns of the strand material from the skein.

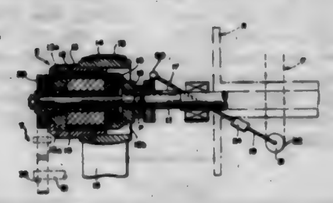
2,978,194
MEANS FOR CONTINUOUSLY SPOOLING FILAMENTARY BODIES
Edward Thompson Lloyd, New Eltham, London, and Henry Kenneth Hadderman, Gravesend, England, assignors to W. T. Henley's Telegraph Works Company Limited, London, England
Filed Oct. 7, 1957, Ser. No. 688,496
9 Claims. (Cl. 242—25)



1. A machine for continuously spooling a filamentary body, comprising at least two arbours arranged to carry spools and to be moved in succession into an operative winding position to receive a length of the body, and means for simultaneously driving both an arbour leaving the operative winding position and an arbour approaching said position so that the rotational speed of a spool on the arbour approaching said position is controlled in dependence on the quantity of filamentary

body of the spool on the arbour leaving the operative position so that the linear winding speed remains substantially constant during a changeover from winding on one spool to winding on another, including a first variable speed gear for the arbour in the operative position, a second variable speed gear for the arbour next to move into the operative position, and a common shaft for driving said first and second variable speed gears, said first and second variable speed gears being simultaneously adjusted in dependence on the quantity of filamentary body on the spool on the arbour in the operative position, and including a ratchet device for adjusting the variable speed gears in dependence on the quantity of filamentary body on the spool in the operative position.

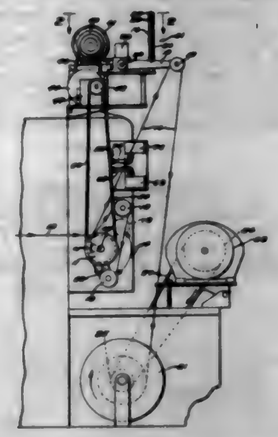
2,978,195
MEANS FOR CONTROLLING FILAMENT TENSION IN WINDING APPARATUS
Wolfgang Weber and Hans Lobost, Remscheid-Lennep, Germany, assignors to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany
Filed Mar. 22, 1956, Ser. No. 573,266
Claims priority, application Germany Mar. 31, 1955
4 Claims. (Cl. 242—45)



1. A filament winding device for applying fragile threads on bobbins, under desired conditions of filament tension, comprising a rotatable shaft for turning the bobbin, a rotary magnet structure coaxial with and relatively turnable with respect to the shaft, driving means for rotating the magnet structure about the axis of the shaft, said magnet structure embodying magnetically connected inner and outer magnetic bodies defining a circular pocket therebetween, an eddy current conducting sleeve drivingly splined to the shaft and extending in said pocket in position inductively coupled with said magnet structure and hence drivingly turnable about the axis of the shaft, in response to rotation of the magnet structure, and means for adjusting the sleeve in the pocket, axially of the shaft, in response to changes in differential thread delivery and thread winding speed rates, in order to correspondingly vary the driven speed of the sleeve and of the sleeve connected shaft.

2,978,196
WIRE TENSION CONTROL DEVICE
Clarence E. McCoy, Fairhope, Ala., and James F. Stoltz, La Grange, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 4, 1958, Ser. No. 719,105
6 Claims. (Cl. 242—45)

1. A wire tension control apparatus, comprising a capstan for advancing a wire, a first sheave and a second sheave around which the wire is fed, said second sheave being movable about the axis of the capstan to vary the angle of contact between the wire and the capstan, a pivoted tension-sensitive arm carrying a third sheave for receiving the wire leaving the capstan and being urged downwardly under the force of the tension on the wire, a spring-biased damper for urging the arm upwardly to balance the force of a preselected tension on the wire leaving the capstan, and a reversible motor operated by the movement of the arm in response to variations from the preselected tension and connected to said second



sheave to move said second sheave about the capstan to vary the angle of contact between the wire and the capstan.

2,978,197
PUSH BUTTON OPERATED PAPER TOWEL ROLL HOLDER
Maynard W. Anderson, 4831 Briercrest, Lakewood, Calif.
Filed Dec. 1, 1958, Ser. No. 777,239
4 Claims. (Cl. 242—55.2)

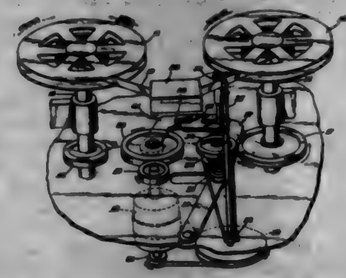


1. A paper towel roll holder, comprising: a generally flat back plate having a housing at each end; a pair of inwardly projecting, opposed trunnions mounted in said housings in coaxial relation to hold a paper towel roll therebetween; one of said housings having a cavity therein; guide plate means in said cavity in fixed relation to said one housing; one of said trunnions having a guide block slidably mounted on said guide plate means for movement axially of said one trunnion; a push button mounted on said one housing and operatively connected to said one trunnion to retract said one trunnion into said one housing upon movement of the button in one direction.

2,978,198
DRIVE FOR TAPE RECORDER
Raymond C. Biermann, Clarendon Hills, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed June 16, 1958, Ser. No. 742,079
6 Claims. (Cl. 242—55.12)

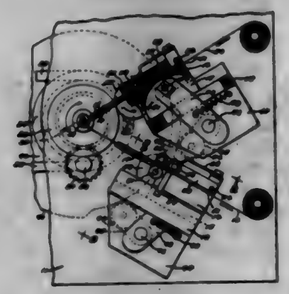
1. A tape recorder including in combination, a take-up reel drum, a driving member adapted to engage said drum during both play and fast forward modes of operation of said recorder, a rotatable shaft to which said driving member is fixed, a first driven member mounted freely on said shaft, a clutching member fixed to said first driven member, a second driven member mounted freely on said shaft, means urging said second driven member against said clutching member, a spring coiled around

said shaft and connected at one of its ends to said second driven member so that the rotation of said second driven member causes said spring to grip said shaft and turn it and said driving member at the same speed as said second



driven member, means for rotating said first driven member and a rotating drum for engaging said driving member to rotate it in the same direction as and at a faster rate than that of said second driven member.

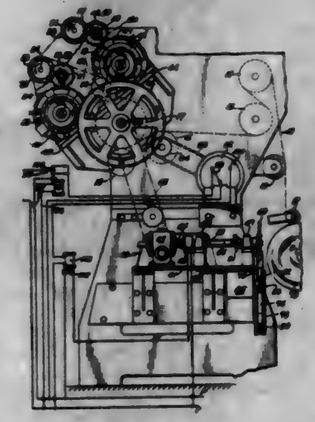
2,978,199
FEEDING MECHANISM
George P. McGraw, Jr., Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 30, 1957, Ser. No. 637,163
9 Claims. (Cl. 242—67.2)



1. An apparatus for feeding the extremity of a thin web to a winding device comprising a pair of rotatably mounted feed rollers, means for urging said rollers into abutting relationship to grip a web therebetween, means for advancing said rollers toward a winding device, drive means for imparting rotation to said rollers to advance the web being gripped to the winding device, an overrunning clutch included in said drive means to permit the winding device to withdraw the web without tearing at a linear speed greater than the peripheral speed of the feed rollers, means for retracting said advancing means, and means for separating said rollers when the advancing means is fully retracted to release the web between said rollers.

2,978,200
APPARATUS FOR WINDING MATERIAL WITH PROGRAMMED TENSION
Stanley C. Larson, Chicago, and John J. Halliday, River Forest, Ill., assignors to Johnson & Johnson, a corporation of New Jersey
Continuation of application Ser. No. 472,938, Dec. 3, 1954. This application Apr. 26, 1960, Ser. No. 24,806
10 Claims. (Cl. 242—75.51)

1. Apparatus for winding material into rolls with tension according to a predetermined program, said apparatus including a mandrel on which the material is wound during a winding cycle, means for pulling a given length of the material through the apparatus for winding on the mandrel, an adjustable device presenting a pattern varying throughout a range of adjustment according to a desired predetermined program of tension for winding the given length of material throughout its length, actuating devices for the pulling means and for the adjustable device including driving means common to both and acting throughout said cycle correspondingly to advance the



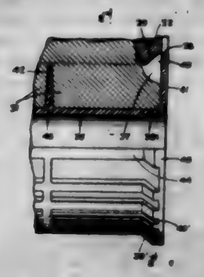
given length of material through the machine and the adjustable device over said range, connections for rotating the mandrel to wind thereon said given length of material and which include means for transmitting an adjustable torque to the mandrel from said driving means, and means operable throughout said cycle under the control of the device which presents the pattern for adjusting the torque transmitted by said connections to secure throughout the finished roll of material tensional characteristics in accordance with said predetermined program.

2,978,201
FISHING REEL
Stephen V. Polevoy, Santa Ana, Calif. (2212 A St., San Diego 2, Calif.)
Filed Oct. 22, 1958, Ser. No. 768,917
7 Claims. (Cl. 242—84.54)



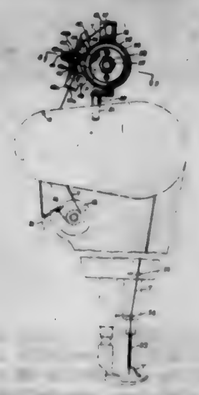
1. In a fishing reel having a frame, side plates, and a spool journalled in the frame with a driven pinion fast to said spool, the combination of a shiftable gear train including a gear plate mounted for sliding movement on one side plate and plural shafts journalled in the gear plate including a manually rotatable drive shaft and a first drive gear fast on said shaft, a second drive gear and a connected pinion on a second shaft, and an idler gear on a third shaft and meshing with the first gear and the connected pinion, movement of the gear plate causing either drive gear to engage the driven pinion.

2,978,282
RIBBED BARREL MOULDED PLASTIC SPOOLS
Louis H. Merin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 10, 1955, Ser. No. 480,899
2 Claims. (Cl. 242—118.7)



1. A light weight, plastic thread spool comprising end rims and a barrel having a central bore, said central bore being completely free and being defined by a continuous, cylindrically shaped, inner wall surface that forms a part of said barrel, a multiplicity of circumferentially spaced weight reducing slots in the barrel opening through the outer cylindrical surface thereof, said slots having inner ends that are closed, said slots being substantially parallel to one another, each slot, when viewed in side elevation, having a substantially rectangular outline, a rib between each pair of neighboring slots, said ribs and slots extending onto said rims and terminating at the outer periphery thereof and a rib extending radially outward from opposite sides of said inner wall surface to the outer periphery of said barrel in a plane passing through the longitudinal axis of said spool.

2,978,283
TENSION ROLLER DEVICE
Thomas Edison Westall, Marion, N.C., and Leslie J. Bonnie, Massapequa Park, N.Y., assignors to The American Thread Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 25, 1958, Ser. No. 763,394
3 Claims. (Cl. 242—155)



1. A roller tension device for a textile machine comprising a bracket attachable to said machine, a stud carried by said bracket, a tension roller rotatably carried by said stud and also movable axially thereon, said roller having a peripheral friction surface a friction brake member carried on said stud and having a braking surface against which a surface of said roller may be moved to effect braking action on the latter as a function of pressure between the surfaces, magnetic means also carried by said stud and movable thereon toward and away from said roller to vary its magnetic attractive force on the latter and thus vary said pressure and the consequent braking action of said braking means, said roller being adapted to have thread of the machine passed around its peripheral friction surface, a support arm carried on said stud, means for adjusting the position of said support arm, a pair of flanges carried on said support arm having thread receiving openings, a yoke on said support arm, a pair of individually movable separate arms carried pivotally by said yoke, a biasing spring carried by said yoke and having portions engaging both said arms, and a separate roller carried by each of said separate arms and individually biased toward said peripheral friction surface of said tension roller by action of said biasing spring on said separate arms for pressing said thread against said last-named surface.

2,978,284
AIRCRAFT FLYING CONTROL SYSTEMS
Ivor Macaulay Davidson, Farnborough, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed Sept. 12, 1956, Ser. No. 609,450
Claims priority, application Great Britain Sept. 28, 1955
10 Claims. (Cl. 244—15)

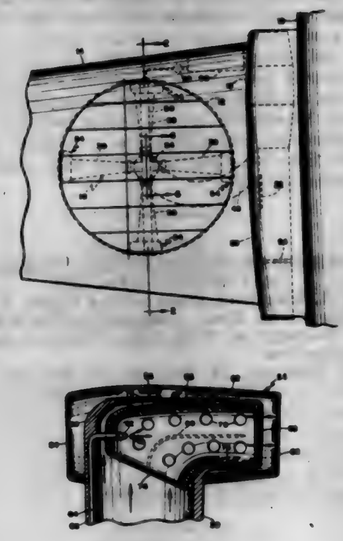


1. An aircraft comprising a fuselage; a single pair of opposite wings attached to the fuselage, one on each side thereof, each wing having a trailing edge wing flap; a horizontal stabiliser attached to the fuselage and spaced from the wings; operating means to raise and lower the flaps; a first control member operatively connected to said operating means and operable to raise and lower the flaps together through a comparatively large range of angular movement between a datum position and a lowered position; and a second control member operatively connected to said operating means and operable independently of the first control member in one sense to raise and lower the flaps together and in another sense to raise and lower the flaps differentially from any position of the flaps within said range of movement effected by said first control member through an angle which is small compared with said range of movement.

2,978,285
TIP-JET DRIVEN DUCTED FAN FOR AIRCRAFT
Constant V. David, San Diego, Calif., assignor to Ryan Aeronautical Co., San Diego, Calif.
Filed Sept. 29, 1958, Ser. No. 764,068
1 Claim. (Cl. 244—23)

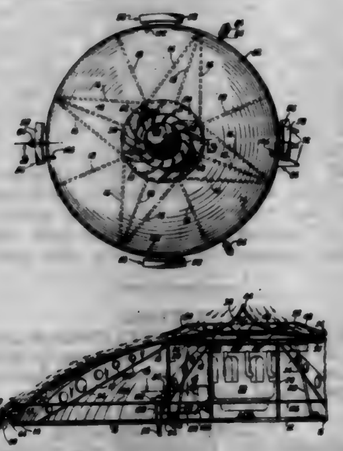
In an aircraft: a circular duct extending substantially vertically through the aircraft structure; a fan mounted in said duct for free rotation about the vertical axis of the duct; said fan having a central hub; a plurality of hollow, gas conducting fan blades mounted on said hub; a plenum chamber in said hub communicating with the interior of said blades; each of said blades having a jet unit mounted on the tip thereof; each of said jet units having a chamber and a gas ejecting nozzle extending therefrom substantially tangent to said fan; gas flow guiding means in each chamber to direct gases outwardly through the nozzle; a fuel injector mounted in each chamber and positioned to inject fuel in the direction of the nozzle; a perforated liner sleeve fixed inside each chamber and

nozzle and closely spaced therefrom to define a narrow boundary layer annulus therebetween; a fixed shroud surrounding each chamber and nozzle and spaced there-



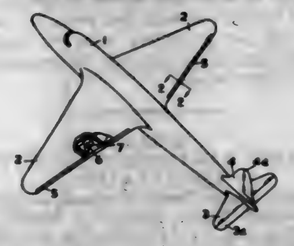
from; each shroud having an inlet, and an outlet substantially concentric with the nozzle; and a source of compressed gases connected to said plenum chamber.

2,978,286
RADIAL FLOW LIFT DEVICE
Donald S. Johnson, Dunn Loring, Va. (Box 644, Falls Church, Va.)
Filed Feb. 27, 1959, Ser. No. 795,944
10 Claims. (Cl. 244—23)



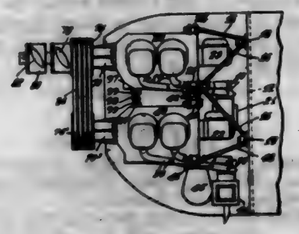
1. A lift device comprising: an airfoil having a fixed convex surface with a central opening therein, an impeller comprising a disk having blades attached to a surface thereof, said disk having a convex surface and mounted for rotation in said central opening, whereby the disk forms a continuation of the convex contour of the airfoil and the blades discharge a gas at high velocity tangentially of said disk over the extrados of the airfoil; and power means to rotate said impeller.

2,978,287
AIRCRAFT WITH JET FLAPS
Ivor Macaulay Davidson, Farnborough, England, assignor to Power Jets (Research and Development) Limited, London, England, a British company
Filed Dec. 10, 1958, Ser. No. 779,385
Claims priority, application Great Britain Sept. 18, 1958
11 Claims. (Cl. 244—42)



2. An aircraft comprising a fuselage; a pair of opposite wings attached to the fuselage, one on each side thereof; jet propulsion means arranged to discharge propulsive jet streams as long thin jet sheets issuing in a rearward direction from the wing trailing edges and extending spanwise of the wings; jet deflectors extending along the wing trailing edges and operable to deflect the jet sheets upwardly and downwardly to vary the lift on the wings induced by the jet sheets; a control member in actuating connection with the jet deflectors; and a tailplane attached to the fuselage at such a distance rearwardly of the wings and so proportioned relatively to the aircraft that the neutral point of the aircraft is located to the rear of the mid-chord point of the wings.

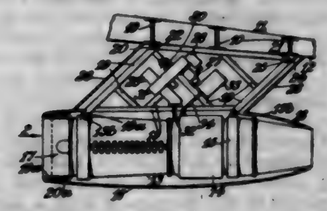
2,978,288
TWIN-ENGINE ARRANGEMENT
Joseph L. Haisaner, Rte. 5, Lafayette, Ind.
Filed July 9, 1956, Ser. No. 596,769
2 Claims. (Cl. 244—53)



1. An aircraft twin-engine power plant adapted for mounting in place of a single engine on the fire wall of an aircraft, comprising a top horizontally-opposed engine having top and bottom mounting ears adjacent the rear of the crank case thereof, mounting studs supported from the aircraft and receiving said top and bottom ears to support the same and the top engine in forwardly projecting position with its axis disposed longitudinally of the aircraft substantially in the central plane of the fire wall, bracket means supported with said bottom ears from said mounting-studs, a bottom horizontally-opposed engine having top mounting ears adjacent the rear of the crank case thereof and connected to said bracket means to support the rear of the bottom engine with the rear of the top engine, the bottom engine being positioned in forwardly-extending substantially parallel close proximity directly below the top engine, strut means controlling the front spacing between the engines, a drive shaft extending forward co-axially with the top engine

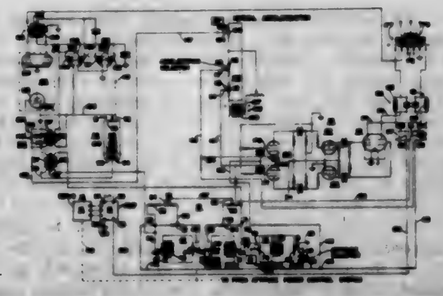
and driven thereby, a first propeller carried by said drive shaft, an independently rotatable second propeller and pulley assembly mounted co-axially with said drive shaft between said first propeller and said one engine, a drive shaft extending forward of and driven by the bottom engine, a pulley carried by said last-named drive shaft, and belt means connecting said pulley to connect said bottom engine to drive said second propeller in the same direction of rotation as said first propeller, said two engines and said two propellers being of similar size and characteristics for operation with the propellers rotating together in synchronism.

2,978,209
AIRCRAFT GAS-TURBINE POWER PLANT INSTALLATION
Thomas Henry Kerry, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Aug. 18, 1958, Ser. No. 755,643
Claims priority, application Great Britain Sept. 2, 1957
6 Claims. (Cl. 244—54)



1. A power plant installation for an aircraft comprising an aerodynamically-faired strut structure adapted when in use to project from the aircraft, said strut structure comprising a rigid framework having at one end attachment members by which the strut structure is adapted to be detachably mounted on an aircraft and a fairing enclosing the framework, a jet propulsion engine detachably mounted at the end of the aerodynamically-faired strut structure, and engine auxiliaries supported from said framework and housed within the strut structure, whereby the engine may be faired or shaped to present a low frontal area and the installation may have a low resistance to air flow over it.

2,978,210
AUTOMATIC PILOTS
John C. Larsen, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 28, 1955, Ser. No. 543,367
22 Claims. (Cl. 244—77)



1. Control apparatus for a dirigible craft having an operable means for controlling longitudinal attitude thereof, comprising: servo means positioning said operable means and effecting a normal acceleration of said craft; a balanceable control circuit normally controlling said servo means including sources of control signals; signal generating means responsive to the normal acceleration of said craft; means connected to the control circuit and signal generating means for comparing the outputs of said signal generating means and balanceable control circuit; and further means responsive to said comparing means upon a predetermined difference of said control signals and output of the signal generating means for rendering the balanceable control circuit ineffective and the signal generating means effective to control said servo means, to limit the signal applied by said control circuit to said servo means.

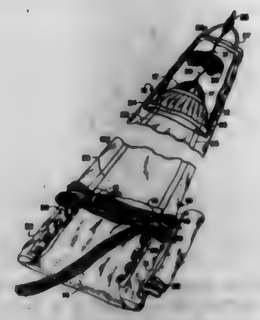
2,978,211
AERIAL DEVICE HAVING ROTOR FOR RETARDING DESCENT
Wallace R. Wennlund, Windsor, and Wesley T. Rhodes, Windsor Locks, Conn., assignors to The Kaman Aircraft Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Apr. 27, 1955, Ser. No. 504,166
32 Claims. (Cl. 244—138)



1. In an aerial device of the class described, the combination of a body adapted to carry a load, a rotor connected with the body for rotation about a central normally vertically axis and in a predetermined direction which rotor includes a hub and also includes a plurality of generally radial blades connected with the hub and equally spaced circumaxially, said blades having equal negative pitch angles providing suitable angles of air attack for causing autorotation of said rotor in said direction as the device descends, means connecting the blades with the hub for pivotal movements about pitch axes extending generally longitudinally of said blades, spring means connected with said blades for opposing movements thereof about their said pitch axes and in the direction to decrease their negative pitch angles, and means automatically dependent upon varying centrifugal action of said blades as the result of variations in the speed of autorotation for pivotally moving the blades about their said pitch axes so as to decrease said negative pitch angles in accordance with increased rotative speeds and so as to increase said negative pitch angles in accordance with decreased rotative speeds, the decreases and increases in the negative pitch angles being respectively opposed and assisted by said spring means.

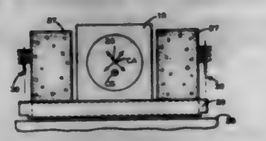
2,978,212
PARACHUTE AND ATTACHED SLEEVE
Jacques A. Istel and Lewis B. Sanborn, Bedford, N.Y., assignors to Parachutes Incorporated, Bedford, N.Y., a corporation of New York
Filed Oct. 30, 1957, Ser. No. 693,442
7 Claims. (Cl. 244—148)

1. In combination, a parachute and parachute sleeve assembly, said parachute including a canopy and shroud lines extending through said canopy and below the skirt thereof, said sleeve assembly comprising an elongated, hollow, foldable body portion formed with an open end and adapted to removably house said canopy, means forming part of said body portion adjacent said open end for closing the same when said canopy is inserted within said body portion, stowing means secured to the outer surface of said body portion for retaining said shroud lines when said canopy is inserted within said body portion, a pilot parachute secured to said body portion at the end directed away from said open end, a connecting cord secured to said body portion for attachment to said canopy, and connecting cord stowing means secured to the outer surface



of said body portion adjacent the end directed away from said open end for removably engaging said connecting cord between said body portion and said canopy, whereby—on withdrawing said canopy from said body portion and inflating the same—said body portion and said parachute will be retained in position with respect to one another.

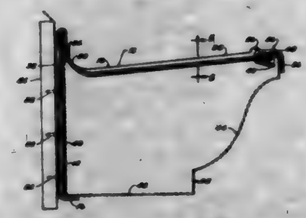
2,978,213
VIBRATION ISOLATION ARRANGEMENTS
Bernard H. Kass, Hicksville, N.Y., assignor to Machinery Mountings, Inc., Hicksville, N.Y., a corporation
Filed Sept. 15, 1958, Ser. No. 761,223
9 Claims. (Cl. 248—20)



1. A vibration isolation mounting arrangement for a machine which, in normal operation, develops unbalanced dynamic forces, unbalanced dynamic couples, or both having a line of action producing a torque about a center of gyration, said mounting arrangement comprising, in combination, support platform means on which said machine is mounted; added inertial mass supported on said support platform means and extending upwardly from the base of said machine on at least one side of said machine, the height and lateral extent of said added inertial mass being such that the common center of gravity of said machine, said support platform, and said added inertial mass at least closely approaches coincidence with said line of action; and vibration absorbing and damping mounting means supporting said platform, machine, and added inertial mass on a support structure.

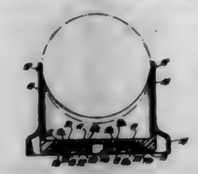
2,978,214
EAVES-TROUGH HANGER
Oren E. Sheets, 112 E. Jackson St., Columbia City, Ind.
Filed July 30, 1958, Ser. No. 752,025
6 Claims. (Cl. 248—48.1)

6. An eaves-trough hanger comprising a strap metal member having an elongated, substantially straight leg with a forwardly bent flange on its lower extremity for supporting the bottom of an eaves-trough, an arm integrally connected to and forwardly extending from the upper extremity of said leg and having a downwardly bent flange on the outer extremity thereof; and a retainer on said arm for engaging an upper rearwardly extending flange of an eaves-trough, said retainer being formed of wire and having two end portions integrally joined by an intermediate portion, one of said end portions passing loosely through an aperture in said arm adjacent said downwardly bent flange whereby said retainer is pivotally mounted for movement between a first eaves-trough



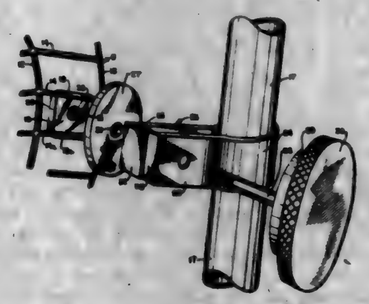
flange-engaging position and a second disengaged position, one of said retainer end portions being bent to be disposed below said arm and to engage the underside of said eaves-trough flange in the first position of said retainer, the other of said retainer end portions being bent to be disposed above said arm and having a hook formed on its end for embracing said eaves-trough flange in the first position of said retainer.

2,978,215
MAGNETICALLY MOUNTED CLOCK
Victor Shanok and Jesse P. Shanok, both of 863 65th St., Brooklyn 20, N.Y.
Filed Aug. 29, 1960, Ser. No. 52,460
7 Claims. (Cl. 248—115)



1. In combination with a clock received within a housing, mounting means comprising at least one magnet disposed at the bottom of said housing, the said magnet being provided with a shield intermediate of said magnet and clock.

2,978,216
FAN SUPPORT BRACKET
Verner E. Sprouse and Philip E. Reader, Columbus, Ind., assignors to Vornco Corp., Columbus, Ind., a corporation of Indiana
Filed Jan. 22, 1960, Ser. No. 4,149
1 Claim. (Cl. 248—291)



For mounting a fan guard between two parallel posts, a plate carried on opposite sides of the guard adjacent the

posts, each plate including a screw-threaded member; a C-shaped clamp member in the nature of a band circumferentially encircling in part each of said posts and having a finger extending integrally from ends of the clamp from opposite sides of the posts in each instance, the fingers being normally in spaced apart approximate parallel alignment; a flange extending substantially at right angles from the outer end of each of said fingers, the flange of one finger being directed toward the end portion of but initially spaced from contact with said other finger; the other flange overlapping the flange of said one finger; a rod revolubly extending through both of said fingers and screw-threadedly engaging said plate carried screw-threaded member; a resilient, friction member interposed between said plate and said other clamp finger, said rod passing through the friction member; a member carried by said rod and abutting said one finger and, upon rotation, urging one finger toward the other compressibly between said friction member and said rod carried abutting member; said one finger flange end striking said end portion of said other finger limiting farther travel of said one finger to bending action between its flange and the post.

2,978,217
YIELDING SUPPORT FOR VEHICLE HOSE LINES
Ralph R. Gunderson, 5520 South Shore Drive, Chicago, Ill.
Filed Nov. 19, 1958, Ser. No. 775,052
6 Claims. (Cl. 248—264)



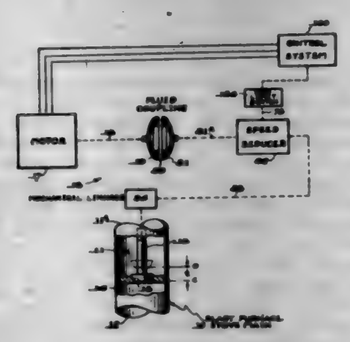
1. A yielding support for vehicle hose lines, comprising: a tubular housing having an open upper end portion with an annular seat and a lower end portion provided with a number of peripherally spaced slots; a base plate mounted in the lower portion of the tubular housing and provided with securing means for attaching said tubular housing to a vehicle platform, said base plate having a plurality of projecting, peripheral fingers each spaced to fit in one of said slots; a staff having a base portion, said staff being tiltable relative to said housing with said base portion resting on said annular seat when the staff is in upright position; a follower positioned adjacent said base plate in the lower portion of the tubular housing; a link joining the follower to the staff; and a compression spring disposed in said tubular housing and bearing between said follower and the upper end portion of the tubular housing to permit yielding tilting movement of said staff from upright position, said spring normally maintaining the follower in position adjacent said base plate to maintain the fingers of the base plate in the slots of the tubular housing prior to attachment of the support to a vehicle platform.

2,978,218
WALL BRACKET
Earl L. Featheringham, 1585 Byron Ave. SW., Massillon, Ohio
Filed June 9, 1959, Ser. No. 819,152
2 Claims. (Cl. 248—305)



1. A bracket comprising a pair of pins for mounting on a support, a fixture comprising a base including an offset marginal portion for abutting engagement with the support over the pins, said base further having an opening therein exposing the pins, and a resilient gripper clip in the fixture having one end portion affixed thereto, the other end portion of said clip being free and slidably engageable under tension on the pins for frictionally gripping same and removably securing the fixture thereon, said free end portion of said clip being operable in the opening and having apertures therein receiving said pins.

2,978,219
STOVE SYSTEM FOR BLAST FURNACES
Charles G. Bigelow, Arthur J. Whitcomb, and Arnold J. Karsten, Pittsburgh, Pa., assignors to Koppers Company Inc., a corporation of Delaware
Filed June 27, 1958, Ser. No. 744,952
16 Claims. (Cl. 251—81)



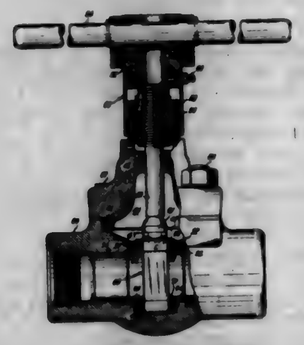
1. A blast furnace stove system comprising a gaseous fluid conducting main having an inlet and an outlet end; a valve mounted in said main for controlling the flow of gaseous fluid through said inlet and outlet end, said valve comprising a valve seat and a valve member movable between closed position preventing the flow of said fluid through said main, an open position permitting the flow of said fluid through said main; actuating means for moving said valve between said open and closed positions, said actuating means including an electrical motor and a fluid coupling operatively connecting said motor with said valve member, said fluid coupling having a torque output less than the stalling torque of said motor at motor speeds equal to and less than the speed at which the motor stalling torque occurs.

2,978,220
ROTATABLY-MOUNTED FAUCET WASHERS
Jesse J. Mersch, 406 N. 4th St., Douglas, Wyo.
Filed Mar. 28, 1959, Ser. No. 803,701
1 Claim. (Cl. 251—88)



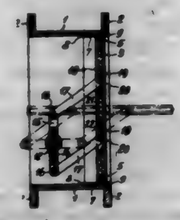
Means for mounting a sealing washer on a valve stem of the type having an axially-positioned threaded socket in its lower extremity comprising: a pilot screw threaded into said socket; a circular, disc-like head formed on and projecting radially from said pilot screw and contacting the extremity of said valve stem; a hollow, cylindrical stud formed on and projecting axially from said head opposite to said pilot screw, there being a plurality of longitudinally-extending, circumferentially-spaced slits formed in the cylindrical wall of said hollow stud to impart compressibility to said stud; an axially-positioned tubular cup forced over and compressing said stud; a circular disc formed on and about the open extremity of said cup; and a sealing washer surrounding said cup and resting against said circular disc.

2,978,221
RESILIENTLY SEATED VALVES AND SEALING STRUCTURES THEREFOR
Elbert B. Pool, Palos Heights, Ill., assignor to Edward Valves, Inc., East Chicago, Ind., a corporation of Delaware
Filed June 26, 1959, Ser. No. 823,230
6 Claims. (Cl. 251—172)



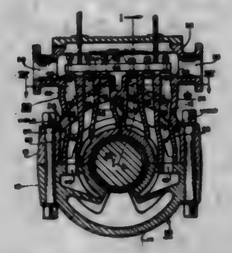
1. A gate valve comprising a valve body having inlet and outlet flow passages communicating at their inner ends with an enlarged upwardly opening cavity, the inner end of said outlet flow passage being formed by a planar surface surrounding said outlet flow passage, means providing a seat at the inner end of said inlet flow passage, a bonnet detachably secured to said body to close said cavity, a stem mounted on said bonnet for reciprocating movement toward and away from said cavity, a gate mounted on the lower end of said stem for movement into and out of said cavity and for movement axially of said flow passages, a composite sealing insert adapted to be removably mounted in said cavity comprising a resilient sealing ring surrounding the inner end of said outlet flow passage, an annular ridge on one radial face of said sealing ring adapted to engage said planar body surface, a second annular ridge on the opposite radial face of said sealing ring engageable with the adjacent side surface of said gate, the free width of said sealing ring including said sealing ridges being greater than the space between the side surface of said gate and the adjacent planar body surface when the opposite side surface of said gate engages said seat whereby said ridges are initially deflected by said gate and said planar body surface, a metal reinforcing ring bonded to the inner periphery of said sealing ring, said reinforcing ring having a radial surface engageable with said planar body surface and having another radial surface engageable with the adjacent side surface of said gate, the spacing between said radial surfaces being less than said free width of said sealing ring, whereby when said gate is moved to closed position said gate is moved in a downstream direction by line pressure against the adjacent reinforcing ring and the ridges of the sealing ring are further deflected between the adjacent body and gate surfaces.

2,978,222
BUTTERFLY OR LIKE VALVES
Charles Emile Heurlon, Rue du Pont de Pierre, Essey-les-Nancy, France
Filed Mar. 12, 1958, Ser. No. 720,940
Claims priority, application France Apr. 11, 1957
4 Claims. (Cl. 251—173)



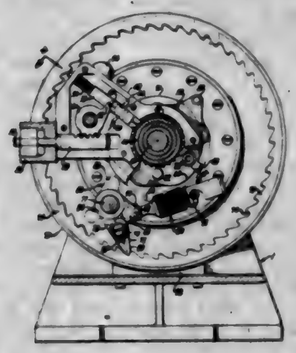
1. A butterfly valve comprising a cylindrical valve body, a circular valve member in said valve body and adapted to obstruct flow through said body when said valve member is in a closed position lying in a plane perpendicular to the axis of said cylindrical valve body, a straight operating shaft extending across said valve body perpendicular to said axis and rotatably journalled in said valve body, cross bar means mounted centrally on said shaft and extending diametrically with respect to the axis of the operating shaft, at least one pair of equal lengths coupling rods for said cross bar means, pivot pins extending parallel to the axis of said shaft at the opposite ends of each cross-bar and pivotally connecting the related pair of coupling rods to the cross-bar means at one end of each coupling rod, and means located in a plane of the valve member pivotally connecting the other ends of said coupling rods to said circular valve member at locations which, for each pair of coupling rods, are spaced from a diametrical medial line of the circular valve member by distances equal to the radial distance from the axis of said operating shaft to each of said pivot pins so that, in every position of said cross bar means during rotation of said operating shaft, the plane of said valve member is maintained parallel to a plane passing through said axis of the operating shaft and said pivot pins while turning about said diametrical medial line, said axis of the operating shaft being spaced from said axis of the cylindrical valve body so that said valve member can be moved about said diametrical medial line to a fully open position lying in a plane containing said axis of the body without interference from said cross bar means and coupling rods.

2,978,223
TURBINE APPARATUS
William E. Kenney, Havertown, Pa., William R. Berry, Camden, N.J., and Alvin L. Stock, Prospect Park, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 2, 1959, Ser. No. 790,496
5 Claims. (Cl. 253—39)



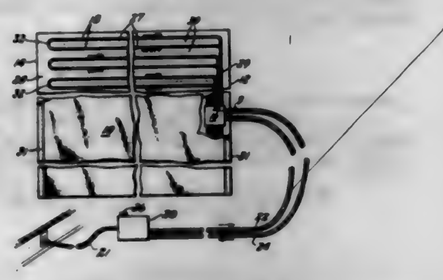
2. In an axial-flow elastic-fluid turbine, a casing, a rotor having a row of blades, said casing including a wall portion formed about the rotor axis and being provided with an opening in said wall portion, an annular array of nozzle groups positioned upstream of said blades, a cavernous body extending through said opening for conducting elastic fluid to the nozzle groups from a source of pressurized fluid exteriorly of the casing, said body being integrally formed and comprising a valve chest, wall structure connected to said valve chest and defining a series of fluid passageways downstream of the chest, and an axially and circumferentially extending flange member connected to said wall structure and fitting said opening, said wall structure including a series of partitions which are spaced from each other and the casing, said series extending transversely with respect to said rotor axis, there being two spaced partitions disposed between at least one pair of neighboring passageways, the margin of said flange member and the margin of said wall portion bounding the opening being connected together along a line of jointure that is axially and circumferentially aligned with said wall portion, said flange member, and portions of said partitions.

2,978,224
WINCH
Tomlinson L. Moseley and Jonas Gnangoreras, Atherton, Calif., assignors, by mesne assignments, to Bartlett Company, Belmont, Calif., a corporation of California
Filed Apr. 30, 1956, Ser. No. 581,411
10 Claims. (Cl. 254—186)



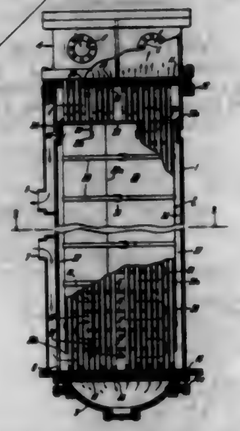
1. A winch comprising a frame, a shaft mounted for rotation on said frame, a drum mounted for rotation on said frame in coaxial relation to said shaft, gear means connecting said shaft and said drum whereby rotation of said shaft will cause said drum to rotate, a manually operable crank mounted for rotation on said shaft, a first ratchet mounted on said shaft, a first dog carried by said crank and engaged with said first ratchet to allow operation of said crank in one direction to cause said shaft to rotate, a second ratchet mounted on said drum, a second dog mounted on said frame and engaged with said second ratchet to prevent rotation of said drum in one direction, a first lobe on said second dog, means including a first projection carried by said crank to engage said lobe upon rotation of said crank to cause said second dog to move out of engagement with said second ratchet, means including a second lobe on said second dog engageable by said first crank projection to return the second dog into engagement with said second ratchet, and means including a second projection on said crank to engage the said second lobe but not the said first lobe upon rotation of said crank.

2,978,225
THERMAL BLANKET
Wilbur Gordon Dallas, Jr., Ashland, Ohio, assignor to Jet-Heet, Inc., Englewood, N.J., a corporation of New York
Filed Jan. 9, 1957, Ser. No. 633,213
3 Claims. (Cl. 257—12)



1. A thermal blanket adapted to have liquid circulated therethrough for controlling the temperature of the blanket as desired by a user, said thermal blanket having comfortable flexibility and adapted for folding or rolling in any direction without affecting its operation comprising an area of fabric-like material, a manifold including a first and a second header passageway defined therein in substantially parallel relationship, the axis of the first of said header passageways being positioned below a horizontal plane passing through the center of said manifold and the axis of the second of said header passageways being positioned above said horizontal plane, said manifold including a first and a second plurality of parallel branch passages extending transversely through said manifold substantially perpendicular to the direction of said header passageways, said branch passages extending from a first side of said manifold to a second side with opposite ends of said branch passages being open, said first plurality of transverse branch passages being positioned below said horizontal plane and intersecting with said first header passageway while passing by and being spaced below said second header passageway, said second plurality of transverse branch passages being positioned above said horizontal plane and intersecting with said second header passageway while passing by and being spaced above said first header passageway, and a first and a second plurality of small diameter flexible tubes secured to said material in a heat-exchange grid pattern, the respective opposite ends of the flexible tubes of said first plurality being connected on said first side of the manifold to the respective open ends of the branch passages above and below said horizontal plane, and the respective opposite ends of the flexible tubes of the second plurality being connected on said second side of the manifold to the respective open ends of the branch passages above and below said horizontal plane.

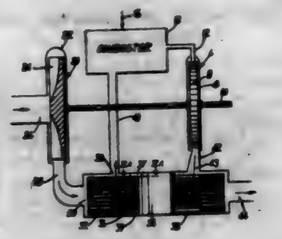
2,978,226
TUBE TYPE HEAT EXCHANGER
Vernon R. White, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 18, 1958, Ser. No. 781,402
1 Claim. (Cl. 257—324)



A shell-and-tube heat exchanger comprising a cylindrical pressure shell defining an inlet opening at one end and an outlet opening at the other end, a removable tube bundle including a plurality of tubes held by first and second longitudinally spaced tube sheets and a plurality of longitudinally spaced transversely extending baffle plates disposed on said tubes, said baffle plates having first peripheral portions substantially concentric with and radially spaced from said cylindrical pressure shell and second portions defining a fluid flow path, means to support said tube bundle coaxially within the pressure shell, shroud means including at least one imperforate flexible sheet having a length less than the distance between said tube sheets wrapped around the tube bundle and engaging the first peripheral portions of the baffle plates, said sheet being held by the baffles in non-engaging relationship with either tube sheet to provide for differential thermal expansion, circumferential tension means comprising straps encircling and securing said shroud means around the tube bundle in sealing engagement with the peripheral portions of said baffle plates, and sealing means disposed adjacent said casing outlet opening and obstructing flow of fluid through a substantial radial clearance space extending longitudinally and defined between the inner periphery of the cylindrical pressure shell and the shroud means, whereby the shroud means defines the flow path for all the fluid over the tubes as directed by the baffle plates and said radial clearance space facilitates insertion of the tube bundle assembly into the casing.

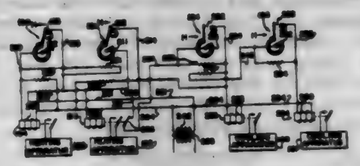
2,978,227
ROTOR CONSTRUCTION FOR ROTARY REGENERATOR
Anton Hess, Parma, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed July 23, 1958, Ser. No. 750,514
1 Claim. (Cl. 257—268)

A regenerator structure for a gas turbine or the like comprising a plurality of spaced flat surfaced circular continuous circumferentially and axially rigid uninterrupted one piece spacer members, a plurality of circular matrix members located between the spacer members and shaped to form substantially radially extending gas flow passages therethrough, means defining a plurality of circumferentially spaced annularly arranged axially extending outer openings through said spacer and said matrix members, means defining a plurality of inner circumferentially spaced annularly arranged axially extending open-



ings smaller than said outer openings and positioned so that said outer openings will be in the radial shadow of said inner openings, first securing rods extending axially through said inner openings, and second securing rods extending axially through said outer openings and being of a larger diameter than said first rods to compensate for unequal thermal expansion, and housing means provided with a partition to define fluid compartments therein and rotatably supporting said matrix assembly for rotation through said compartments.

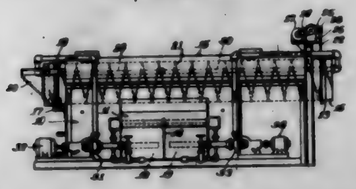
2,978,228
CONTROL APPARATUS
Elmer A. Carlson, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 15, 1957, Ser. No. 678,288
8 Claims. (Cl. 257—288)



8. In a temperature control apparatus for controlling a plurality of heating and cooling devices, first temperature responsive means adapted to control a first of the heating devices, second temperature responsive means adapted to control a second of the heating devices, third temperature responsive means adapted to control a first of the cooling devices, fourth temperature responsive means adapted to control a second of the cooling devices, heating means associated with each of said temperature responsive means, means including said heating means of said second, third and fourth responsive means for raising the control points of said last mentioned responsive means during the operating range of said first responsive means, further means including said heating means of the first, third and fourth responsive means for lowering the control point of said first responsive means and raising the control point of said third and fourth responsive means, means including said heating means of said first, second and fourth responsive means for lowering the control point of said first and second responsive means and raising the control point of said fourth responsive means throughout the operating range of said third responsive means, and means including said heating means of said

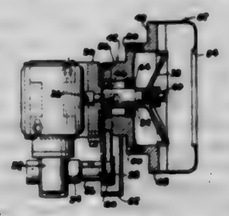
first, second, and third responsive means for lowering the control point of said first, second and third responsive means throughout the operating range of said fourth responsive means.

2,978,229
PARTS TREATING MACHINE
Thomas W. Jackson, Thornhill, Ontario, Canada, assignor to G. S. Blakeslee & Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 29, 1958, Ser. No. 770,521
3 Claims. (Cl. 259—3)



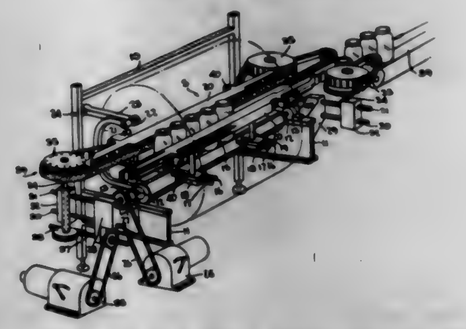
1. In a parts treating machine, a rotatably mounted cylinder having a feed end and a discharge end open for discharge of the treated articles, means for rotating said cylinder in one direction, a continuous helical strip seating on and secured to the inner face of said cylinder for the full circumference thereof and disposed to propel articles under treatment toward the discharge end of said cylinder during rotation thereof in said one direction, the wall of said cylinder being provided with perforated areas spaced apart circumferentially thereof, means for supplying treating fluid to said cylinder, and imperforate baffle members secured to the inner face of said cylinder disposed between adjacent convolutions of said strip and overlying said perforated areas and spaced therefrom inwardly of said cylinder, said baffle members respectively having at their leading sides a lengthwise rib of generally V shape in cross section extending inwardly of said cylinder with its leading side abutting the cylinder wall and extending therefrom at an inclination in the direction of rotation of said cylinder, said baffle members except for said ribs thereof being substantially concentric with the cylinder wall defining therewith spaces closed at their leading sides and their ends and open at their following sides for free flow of fluid through said spaces and perforated areas while guarding against entry into said spaces of articles under treatment.

2,978,230
FEED HOPPER
Fritz J. Lupo, Detroit, Mich., assignor to Feedmatic-Detroit, Inc., Detroit, Mich., a corporation of Michigan
Filed Jan. 16, 1959, Ser. No. 787,250
3 Claims. (Cl. 259—30)



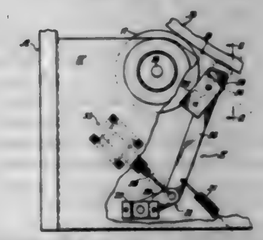
1. A feed hopper apparatus for the orientation and distribution of small parts which comprises a base and adjustable platform on said base affixed thereto by a horizontal pivot, said platform being movable to a plurality of positions, a motor and speed reducer mounted on said platform, said motor operatively connected with said speed reducer and having a projecting drive shaft, a hub and pulley mounted on said drive shaft, a riser wall on said platform adjacent said motor having a carrying handle associated therewith, a stub shaft on said riser wall projecting at right angles thereto, a stationary center plate mounted on the end of said stub shaft, a hopper body rotatably mounted on said stub shaft behind said plate, said body encircling said plate and being rotatable around said plate, said body having formed therein a pulley groove aligned radially with the pulley on said drive shaft, and a V-belt surrounding said pulley groove and pulley adapted to rotate at a slow speed of about 12 r.p.m.

2,978,231
CONTAINER PACKER
Bernard C. Eisenberg, Rockaway, N.J. (Colbern Manufacturing Corp., P.O. Box 567, Caldwell, N.J.)
Filed Mar. 29, 1960, Ser. No. 18,396
16 Claims. (Cl. 259—72)



1. A machine for compactly packing the contents of containers comprising a horizontally disposed, flat, elongated support structure for supporting a moving line of said containers, means for resiliently gripping and moving said containers along said support structure, and means for eccentrically moving said support structure transversely of the longitudinal axis thereof for vibrating the containers supported thereby.

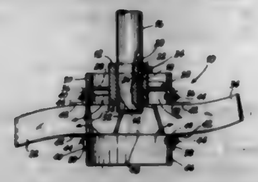
2,978,232
STATIC DRY MECHANISM FOR A CLOTHES DRYER
Albert W. Krause, Effingham, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 3, 1958, Ser. No. 771,559
2 Claims. (Cl. 259—81)



1. A laundry machine comprising a cylinder rotatably mounted on a support and adapted for receiving fabrics to be tumbled therein, said cylinder having a front end and a rear end, the rear end of said cylinder being pivotally connected to said support, drive means supporting the front end of said cylinder for rotating the cylinder,

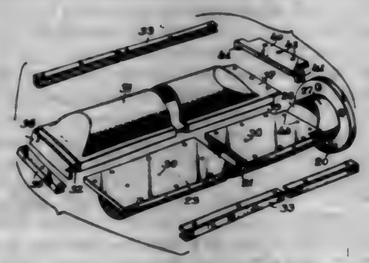
means adapted for engaging with said cylinder for movement about its pivotal connection to its support to lift the cylinder off the drive means so that said cylinder will remain stationary while said drive means continues to operate, said means comprising a toggle joint having one arm thereof mounted on said support and the other arm thereof having a portion slidably mounted on said support adjacent said cylinder and adapted to engage said cylinder and said arms being pivotally connected to each other to provide a knee, a solenoid operatively connected to the knee of said toggle joint arms to lift the cylinder off the drive means, and means operatively connected to said toggle joint to actuate the arms thereof to move said cylinder-engaging arm to withdraw said cylinder-engaging arm from said cylinder upon deenergization of said solenoid whereby said cylinder is lowered to engage said drive means.

2,978,233
STABILIZED IMPELLER
Kingsley Davey, 72 Whitehall Court, St. Louis 17, Mo.
Filed Mar. 24, 1958, Ser. No. 723,486
7 Claims. (Cl. 259—96)



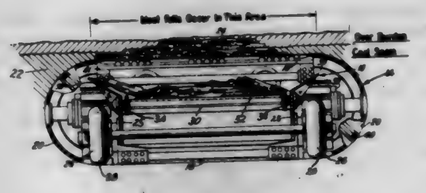
1. A stabilized impeller of the kind described adapted to materially reduce shaft whip comprising a shaft receivable hub; a hollow cylindrical stabilizing member defined by the rotation of a thin rectangle about the relatively distantly spaced hub axis and spaced axially from, but coaxial with, said hub, the space between said cylinder and said hub being axially open and being in communication through said cylinder with the axial extremity of said cylinder; means connecting said cylindrical member to said hub; and a plurality of spaced blades carried by said hub and extending between said hub and said cylinder and extending freely beyond said cylinder and hub in a generally radial outward direction.

2,978,234
DIFFUSER TUBE
Miles A. Lamb, Chicago, Ill., assignor, by mesne assignments, to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Original application Jan. 16, 1951, Ser. No. 206,237, now Patent No. 2,815,943, dated Dec. 10, 1957. Divided and this application Aug. 26, 1954, Ser. No. 453,433
4 Claims. (Cl. 261—122)



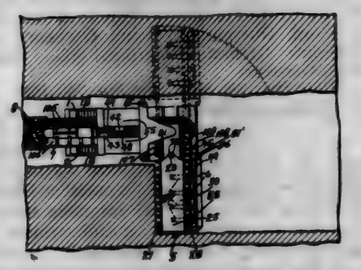
1. An air diffusing unit adapted to be completely immersed in a liquid to be aerated, said unit comprising a rigid non-porous pipe comprising a semi-cylindrical section and a plate extending longitudinally of said semi-cylindrical section and forming a closure for the open side thereof, and a flexible, substantially completely collapsible porous member rigidly connected along its edges to said plate, said plate being apertured to provide passageways for air to flow from said non-porous semi-cylindrical section into said porous member, said porous member having an approximately semi-cylindrical shape when inflated.

2,978,235
CONTINUOUS MINING MACHINE HAVING ROOF FALL RECEIVING CONVEYING MEANS
George T. Felbeck, New York, N.Y., and John W. Heimaster, Charleston, and John D. Newlon, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
Filed May 15, 1958, Ser. No. 735,622
1 Claim. (Cl. 262—7)



In combination with a mining machine having cutting means for boring in selected earth strata a transversely oblong hole that is subject to undesirable roof falls, conveying means in tandem relation with said mining machine for conveying material mined by said machine rearwardly thereof through such hole, said conveying means including a train of overlapping, substantially horizontal conveyors the effective roof fall receiving area of each of which is at least as wide as the greater part of the transverse extent of said cutting means, whereby such undesirable roof falls throughout the entire length of such hole are caught by said train of overlapping conveyors and removed from said hole together with the so-mined material.

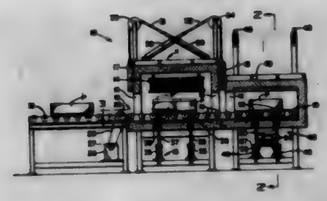
2,978,236
CRAWLER MOUNTED LOOP MINER
Joseph F. Joy, Fort Pierce, Fla., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 1, 1956, Ser. No. 588,786
8 Claims. (Cl. 262—9)



1. In a mining machine, a support, an open-centered core cutter for cutting out a core of mineral from a solid mine vein, transposable means for mounting said core cutter to extend laterally at either side of said support, and core breaker means carried by said mounting means and extending in parallelism with said core cutter

at the trailing side thereof for penetrating and dislodging the core in either position of said core cutter, said core breaker means comprising a transposable transverse frame disposable on said mounting means in parallelism with said core cutter rearwardly of the latter in either position of the core cutter, means for transposably mounting said transverse frame on said mounting means at either side of said core cutter, and core breakers carried by said transverse frame and projecting forwardly within said core cutter into engagement with the core for penetrating and dislodging the latter in either position of said core cutter.

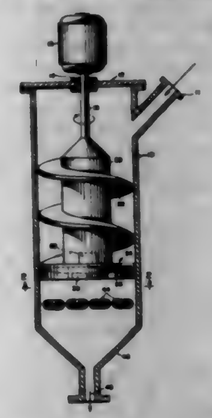
2,978,237
HEAT TREATING APPARATUS
Arthur W. Frank, Delafield, Wis., assignor, by mesne assignments, to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 20, 1956, Ser. No. 611,037
4 Claims. (Cl. 263—6)



1. In apparatus for the treatment of articles; the combination including a treating chamber having conditions therein for effecting the desired treatment of the articles, single conveying means for transporting the articles through said treating chamber at a fixed elevation, means for continuously moving said conveying means in said chamber, and lifting means independent of said conveying means normally disposed underlying said conveying means and intermittently projected above the latter to lift the articles off said conveying means so that the articles are then maintained substantially immobile within said chamber for a predetermined treating period, said lifting means being lowered to its normal disposition below said level of the conveying means at the conclusion of said treating period to return the articles to said continuously operating conveying means for further transport by the latter.

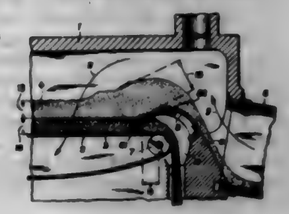
2,978,238
SCREW CONVEYOR AND APPARATUS FOR MELTING SYNTHETIC POLYMER PARTICLES
Eberhard Crull, Obernburg (Main), Germany, assignor to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany
Filed Dec. 20, 1957, Ser. No. 704,168
Claims priority, application Germany Dec. 24, 1956
7 Claims. (Cl. 263—7)

7. A conveyor comprising a cylindrical housing, a screw conveyor longitudinally disposed in said housing and mounted for rotation therein, a member fixed on the discharge end of said screw and rotatable therewith, a spiraliform vane having its base on said member with an inner spiral impelling surface substantially parallel with the axis of the screw conveyor for impelling inwardly only a portion of the particles discharged by the screw conveyor, the spiraliform vane beginning near the center of said member and terminating at a point substantially coextensive with the outer edge of the flight of the screw conveyor, said member further having at the base of the inner impelling surface of said vane a pitched surface which is transverse to the axis of the screw conveyor and of the same hand as the hand of the pitch



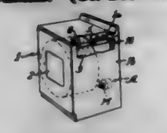
of said screw conveyor for imparting a forward impetus to the portion of particles conveyed inwardly by said spiral impelling surface.

2,978,239
APPARATUS FOR TREATING GRANULATED BULK MATERIAL
Johann Bernhard Topp, Braunschweig, Germany, assignor to Mieg Mühlenbau und Industrie G.m.b.H., Braunschweig, Germany, a German corporation
Filed Nov. 5, 1958, Ser. No. 772,664
Claims priority, application Germany Nov. 9, 1957
1 Claim. (Cl. 263—32)



Apparatus for treating granulated bulk material, comprising an elongated housing, inclined chute means at one end of said housing, a rotary kiln having an inlet connected with said housing and said inclined chute means, intermediate discharge means ahead of said inclined chute means, an endless conveyor in said housing terminating ahead of said chute means and said intermediate discharge means, said conveyor adapted for moving a bed of granulated bulk material in the direction of said chute means, said bed of granulated bulk material comprising a bottom layer of fresh granules and a top layer of pretreated granules, gases from said kiln flowing through said inlet into said housing along said top layer and through such top layer and said bottom layer to effect heat exchange treatment of the granules forming such layers, and a device adapted for separating said layers to effect transport of the treated material of said top layer along said chute means and through said inlet into said kiln and to effect transport of the treated material of said bottom layer into said intermediate discharge, said device comprising a convex arcuate separating member extending from said chute means into said housing and having a cutting edge lying above said conveyor ahead of the point of termination of said conveyor by an amount adapted to be equal at least to the thickness of said bottom layer and positioned in a horizontal plane extending below the apex of the curvature of said member, said cutting edge adapted for biting into said bed of granulated bulk material along a plane coinciding substantially with the line of demarcation between said top layer and said bottom layer with the convex portion of said separating member adjacent said cutting edge being inclined upwardly operative to restrict flow of the material of said top layer whereby such material is caused to dam up along an area near to and at the point of termination of said conveyor thereby preventing flow around said cutting edge of the incoming gases from the kiln and compelling transport of the material of the top layer over said separating member and along said chute means into said inlet of said kiln while causing the material of said bottom layer to flow from said conveyor into said intermediate discharge.

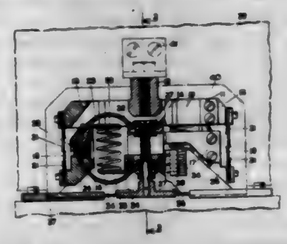
2,978,240
ALTERNATING CURRENT PILOT CONTROL
James D. Edwards, Effingham, Ill., and Gordon O. Warfel, Los Angeles, Calif., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 25, 1958, Ser. No. 730,892
8 Claims. (Cl. 263—33)



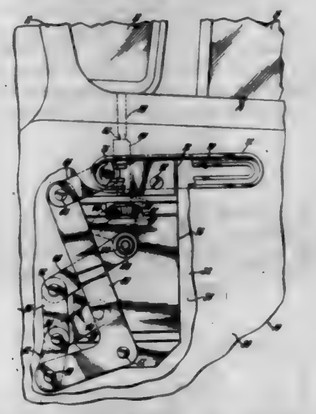
3. In a gas heated clothes dryer, a rotatable clothes-receiving container; a main gas burner; a pilot burner; a first normally-closed solenoid-operated valve controlling the supply of gas to said main burner; a second normally-closed solenoid-operated valve controlling the supply of gas to said first valve and to said pilot burner; an electric energization circuit; a timer having a switch closing upon the setting of the timer to initiate the drying operation and which opens after the lapse of a predetermined time period to terminate the drying operation; a first manually-operable normally-open switch; heat-responsive means actuatable by the presence of a flame in said pilot burner and including a switch open during the absence of flame in said pilot burner and closed during the presence of flame in said pilot burner and being arranged in parallel with said manually-operable switch, the winding of the solenoid of the second valve being electrically connected to said circuit by closing of either said flame-controlled switch or said manually-operable switch, said manually-operable switch being initially closed to open the second valve to permit ignition of the gas flowing to the pilot burner and thereafter being maintained energized upon closing of the flame-controlled switch in response to the presence of the flame in the pilot burner; and a second switch manually operable to closed and open positions and arranged in series with the timer switch, the winding of the solenoid of the first valve being electrically connected to said circuit by closing of the second manually-operable and timer switches to permit gas to flow to the main burner, said flame-controlled switch being opened by the heat-responsive means during the absence of flame in said pilot burner to deenergize the second solenoid to prevent gas supply to said pilot and main burners.

2,978,241
LOW STIFFNESS SPRING UNITS
Ronald James Plastow, Gainsborough, England, assignor to Ross Brothers (Gainsborough) Limited, Gainsborough, England, a British company
Filed June 23, 1959, Ser. No. 822,041
Claims priority, application Great Britain June 28, 1958
5 Claims. (Cl. 267—1)

1. A low stiffness non-linear spring unit for supporting a movable member with respect to a fixed member and comprising in combination: two sets of naturally flat leaf springs adapted to be symmetrically spaced about the movable member, one set being spaced in a load-supporting direction with respect to the other, said springs extending from the movable member to the other of said members and being secured to said members in positions to be constrained in a buckled condition to afford low positive stiffness support characteristics in the load-supporting direction and with respect to a supported load in a datum position and increasing positive stiffness against movement of the load away from the datum position in the load-supporting direction, the sets of said springs having pairs of leaves extending into interleaved relationship in the regions of securement to the two relatively movable members whereby a leaf of each set serves to space apart the adjacent pair of leaves of the other set.



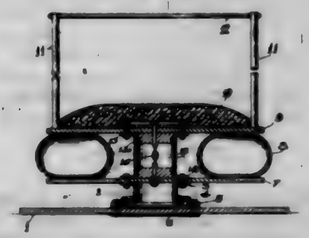
2,978,242
WINDOW REGULATOR MECHANISM
Alfonsas Arlauskas, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 20, 1958, Ser. No. 710,109
1 Claim. (Cl. 268—121)



In combination with a vehicle body having a ventilator window swingably mounted thereon for movement between open and closed positions, a ventilator window regulator drive mechanism comprising, an operating bell crank lever fulcrumed on said body, a drive lever pivotally mounted on said body to one side of said operating lever and operatively connected to said window for swinging said window between said positions thereof upon swinging movement of said drive lever, a toggle linkage having one link thereof pivotally mounted on said body between the fulcrum of said operating lever thereon and the pivot of said drive lever thereon, means pivotally connecting the other link of said toggle linkage to said drive lever for swinging said drive lever upon folding and unfolding movement of said toggle linkage,

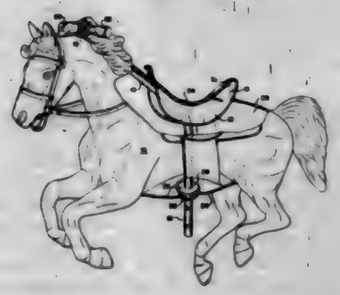
operating means connected to one leg of said operating lever for swinging said operating lever, and a drive link pivotally interconnecting the other leg of said operating lever and the pivot joint of said toggle linkage for folding and unfolding said toggle linkage upon swinging movement of said operating lever, said link being arranged to move the pivot joint of said toggle linkage to a position intermediate and in general alignment with the pivot of said one link to said drive lever and the pivot of said other link to said body and in general alignment with the fulcrum of said operating lever in the closed position of said window, said drive lever applying a compressive force longitudinally of said aligned pivots to prevent any movement of said window toward open position when a force is applied to said window in the closed position thereof tending to move said window toward open position.

2,978,243
TOY
Harold Gabrielson, Rte. 3, Box 21A 106, Merced, Calif.
Filed Aug. 27, 1959, Ser. No. 836,424
3 Claims. (Cl. 272—33)



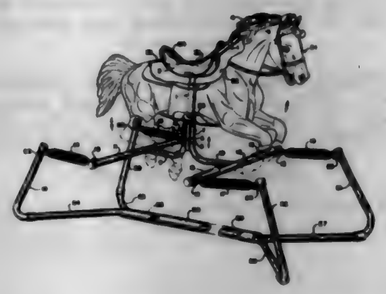
3. In a child's toy, a supporting base, an upstanding member rotatably supported on the base, a supporting structure secured to the upstanding member, a resilient inflated circular tube mounted on the supporting structure, a structurally rigid child supporting platform mounted on the tube, flexible means holding the platform and the supporting structure in engagement with the tube, and hand engaging means extending upwardly from the platform.

2,978,244
TOYS
Dietrich G. Rempel, Akron, and Frank A. Pfeffenroth, Norton Township, Ohio, assignors to Rempel Manufacturing, Inc., Akron, Ohio, a corporation of Ohio
Filed Feb. 27, 1957, Ser. No. 642,822
2 Claims. (Cl. 272—52)



1. A seamless hollow plastic toy of resilient plastic material of a size which can be mounted by a child sitting on the toy and with thin walls of insufficient strength to support a child thereon; said toy having a saddle portion, a supporting saddle member within the seamless hollow toy for supporting said saddle portion and a child seated thereon, and supporting means for said saddle member extending through the walls of said seamless toy for supporting the saddle member.

2,978,245
TOYS
Dietrich Gustaf Rempel, Akron, Ohio, assignor to Rempel Manufacturing, Inc., Akron, Ohio, a corporation of Ohio
Filed Mar. 10, 1959, Ser. No. 798,437
8 Claims. (Cl. 272—52)



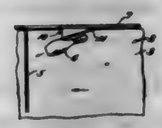
1. A molded hollow plastic toy of resilient plastic material of a size which can be mounted by a child sitting on the toy and with thin walls of insufficient strength to support a child thereon, said toy having a saddle portion, a supporting saddle member for supporting the saddle portion of the toy and a child seated thereon, and downwardly extending supporting means extending through the lower wall of the toy for supporting the saddle member, said saddle supporting member being located within the toy and said toy being a resilient plastic toy.

2,978,246
TARGET DEVICE FOR BASE-BALL PITCHERS
Theodorus B. van Groningen, 'p-Gravenzandeplein 10, Amsterdam, Netherlands
Filed Oct. 13, 1958, Ser. No. 766,855
3 Claims. (Cl. 273—26)



1. A practice device for base-ball pitchers comprising an upright composed of two parts, one of said parts including a threaded upper end and the other of said parts including a threaded lower end, a coil spring member connecting said threaded ends, and a substantially rectangular target member on the upper end of said other upright part, said target member consisting of a metal frame fixed to the upper end of said second upright part and an envelope of a flexible material stretched across said frame.

2,978,247
BOWLING BALL DOOR GUARD
Charles F. Mitchell, 181 Crescent Drive, Akron, Ohio, and Isadore P. Lonier, 130 E. Good St., Wadsworth, Ohio
Filed July 31, 1958, Ser. No. 752,252
5 Claims. (Cl. 273—54)



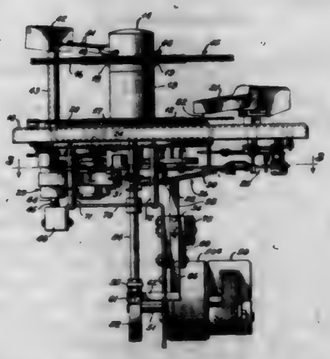
1. In combination with a bowling alley having a pit section connected thereto at one end thereof, side walls at the pit section, an endless conveyor driven towards the back end of said pit section, the improvement and combination comprising a cushion suspended above said pit section intermediate the ends thereof, said cushion extending across said pit section and engaging balls on said conveyor to direct them to one side wall of said pit section, a door in said one wall of said pit section for passage of bowling balls therethrough as led to said side wall by said cushion, and a door guard secured to said one side wall in advance of said ball door, said door guard being of wedge shape in horizontal section with a pointed end being directed towards the front or leading end of said pit section to contact pins on said conveyor and urge them laterally inwardly on said conveyor.

2,978,248
AMUSEMENT DEVICE
Leon S. Harris, P.O. Box 10445, Raleigh, N.C.
Filed Aug. 27, 1958, Ser. No. 757,478
1 Claim. (Cl. 273—97)



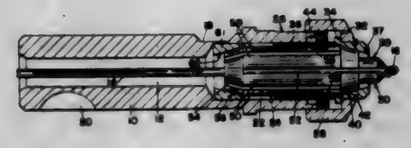
In a tethered ball and paddle type amusement device, the combination of a paddle provided with an opening, a semi-spherical hollow and resiliently compressible bulb mounted on one side of said paddle and having said opening in communication with the interior thereof, said bulb covering only a minor portion of the surface area of the paddle thereby defining a target on the paddle, the surface area of the paddle extending peripherally outwardly of the bulb and forming a striking area extending completely around the periphery of the bulb, an outturned marginal flange provided on said bulb and secured to said paddle, an elongated resilient flexible tethering element secured at one end thereof to the paddle at a point adjacent to but spaced from the flange of said bulb, a resilient ball mounted on the other end of said tethering element and adapted to impact against the striking area of the paddle or said bulb to collapse the latter, and a whistle disposed at the relatively opposite side of said paddle, said whistle including an elongated tone block having an outer end communicating with the atmosphere and an inner end in communication with the interior of said bulb through said opening whereby air may be discharged from the interior of the bulb into the atmosphere when the bulb is collapsed by impact of said ball thereagainst, and a vibratory reed provided on the outer end of said tone block, whereby upon relaxation of said bulb ingress of air from the atmosphere through the tone block may sound the whistle, a whistle housing carried by said paddle and having said tone block and reed mounted therein, said housing including a partition wall, said tone block and reed extending through the partition wall, the partition wall forming the sole supporting means for the tone block and reed and spacing the same from the inner surface of the housing, said whistle housing comprising a substantially semi-cylindrical body having its flat side secured to said paddle and having a closed end and an open end, said partition wall disposed intermediate the ends of said body and separating the same into a closed end portion in communication with said opening and an open end portion in communication with the atmosphere, said partition wall being provided with an aperture having said tone block and reed mounted therein, whereby the inner and outer end portions of the tone block are disposed respectively in the closed end and the open end portions of said body.

2,978,249
ACCESSORY FOR AUTOMATIC RECORD CHANGER
Fred L. Bailey, 5 Alexander Court, Normal, Ill., and John P. Jenkins, Bloomington, Ill. (Townsda, Ill.)
Filed Feb. 26, 1957, Ser. No. 642,545
7 Claims. (Cl. 274—10)



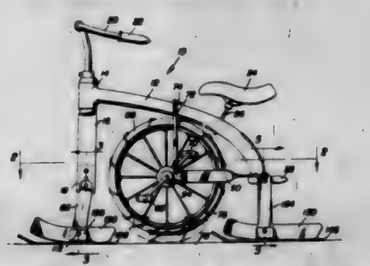
1. In combination with an automatic record changing phonograph including a turntable, a turntable motor operable when energized to rotate the turntable, and means operable after completion of a record on the turntable to drop a record from a stack onto the turntable, apparatus for elevating records from the turntable back to stack position for replay comprising means including an elevator motor operable when the motor is energized to lift the records from the turntable back to stack position, first and second switches each capable of occupying a pair of positions, said first switch in its first position being operable to complete an energizing circuit for said turntable motor, said first switch in its second position and said second switch in its first position being operable together to complete an energizing circuit for said turntable motor, said first and second switches in their second positions being operable together to complete an energizing circuit for said elevator motor, means for changing said first switch to its second position and then back to its first position after completion of the record on the turntable, and means for changing said second switch to its second position when the last record in the stack is dropped onto the turntable and back to its first position when a record is placed in stack position.

2,978,250
MAKING COLLETS
Ivan V. Abadjieff, Worcester, Mass., assignor to Leland-Gifford Company, Worcester, Mass., a corporation of Massachusetts
Original application Nov. 13, 1958, Ser. No. 773,615. Divided and this application Aug. 27, 1959, Ser. No. 836,437
3 Claims. (Cl. 279—48)



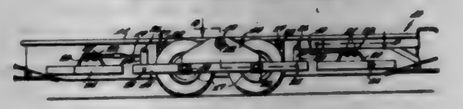
1. A collet for a chuck, said collet compriaing a first member, said member being elongated and hollow and having an open end, a reduced portion at the other end, a second member secured to the first member and closing the open end thereof, said members having similar outside diameters and being complementary, the reduced portion having an axial hole from the hollow interior of the combined members to the extreme tip of the reduced portion, the second member having a hole therethrough, said holes being aligned and the hollow in the combined members having an interior diameter greatly in excess of that of said holes, and longitudinal slots in the collet forming flexible resilient gripping fingers in said combined members.

2,978,251
OCCUPANT PROPELLED MULTIPLE RUNNER SLED
Martin E. Gerdes, 321 N. Quincy St., Alexandria, Minn.
Filed Mar. 11, 1958, Ser. No. 720,621
2 Claims. (Cl. 280—12.14)



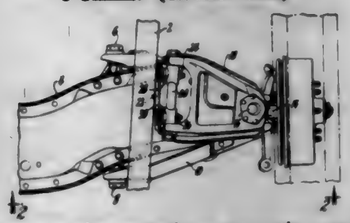
1. In combination with a conventional tricycle frame including a body portion, a steering column, and a cross member fixedly carried by said body portion, a yoke including a pair of spaced members fixed to said cross member, a pair of parallel arms pivotally and terminally carried by said spaced members, a driving wheel rotatably supported between said parallel arms, a spring vertically suspended from said body portion terminally attached to said parallel arms, pedal means for rotating said wheel, a plurality of longitudinally extending runners supported from said frame, a first rigid T-shaped member dependingly supported from said steering column, a first of said plurality of runners pivotally carried by said first T-shaped member, a rear axle rotatably supported by said cross member, second and third rigid T-shaped members dependingly terminally carried by said axle, a second and a third of said plurality of runners pivotally carried by said second and third T-shaped members, each of said T-shaped members including a vertical portion and a longitudinally extending cross portion, said cross portion being inclined toward its forward end, said T-shaped members being dependingly positioned in a vertical plane, each of said runners being horizontal and having a pair of spaced upstanding parallel ears rigidly attached thereto, said cross portions being received between said ear pairs and pivotally retained therein perpendicular to said runners whereby said cross portions permit only limited pivotal movement of said runners toward said inclined forward ends.

2,978,252
SUSPENSION SYSTEM FOR LAND WHEELED VEHICLES
Charles Vernon Osborne, Wise, Va.
Filed Aug. 19, 1957, Ser. No. 678,974
6 Claims. (Cl. 280—79.2)



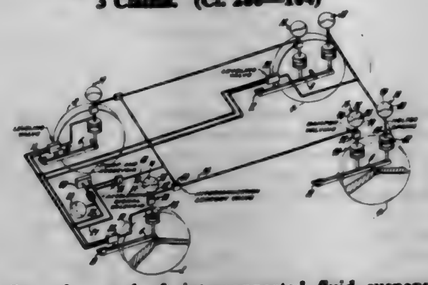
1. A land wheeled vehicle for conveying bulk material comprising: a load-carrying body of substantial depth; means engaging and pivotally supporting said body about a transverse axis lying vertically above the center of gravity of said body; frame means positioned on opposite sides of said body; tandem axles in each of said frame means; wheels rotatably received on said axles; said means engaging and pivotally supporting said body being carried on said frame means with the pivotal axis thereof disposed in a vertical plane midway between said tandem axles and elevated above the level of said axles an amount sufficient to permit the radii of said wheels to be less than the vertical distance from said axles to the top of said body.

2,978,253
INDEPENDENT FRONT WHEEL SUSPENSION CASTER AND CAMBER ADJUSTING MEANS
Irwin K. Weiss and Alex C. Mair, Birmingham, Charles W. Jackman and Arthur S. Brown, Detroit, and Garth R. Sayers, Pontiac, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 4, 1959, Ser. No. 838,153
6 Claims. (Cl. 280—96.2)



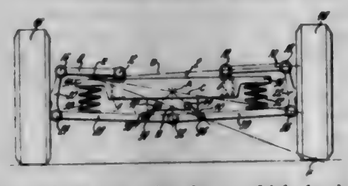
1. In a suspension control arm mounting assembly of the type including a pivot shaft attached to a support by spaced bolts extending through aligned apertures formed in said shaft and said support, wherein caster and camber adjustment is accomplished by bolt straddling shims interposed between the shaft and the support, means forming concave depressions on the inner surfaces of said shaft and said support bounding said apertures, each bolt having a head formed with a convex shoulder mating with the adjacent concave depression on said support, a plano-convex spacer surrounding each bolt between said shaft and said support, the convex surface of each spacer mating with the adjacent concave depression of said shaft, whereby total surface contact is maintained between the bolt heads, support, shims, spacers, and shaft throughout a substantial range of angular adjustment of said shaft and bolts relative to said support.

2,978,254
INTERCONNECTED FLUID SUSPENSION SYSTEM
Ronald T. Beardorf, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 9, 1958, Ser. No. 759,937
3 Claims. (Cl. 280—104)



1. In a fore and aft interconnected fluid suspension for vehicles, a pair of fluid springs each comprising a casing defining a diaphragm partitioned closed cavity having compressible gas on one side thereof and incompressible fluid on the other side, a body portion integral with said casing defining passage means communicating with the incompressible fluid cavity and including damper valve structure, a fluid pressure and fluid exhaust circuit communicating with said last mentioned means, height sensing valve means in said circuits operative to control fluid flow into and out of said incompressible fluid cavity, a circuit bypassing said damper valves and providing fluid communication between the incompressible fluid cavities of both springs, and an acceleration responsive fluid pressure actuated device for temporarily blocking fluid flow through said bypass circuit.

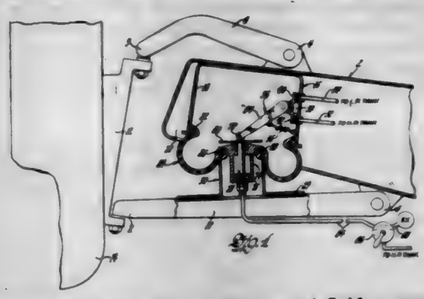
2,978,255
INDEPENDENT FRONT WHEEL SUSPENSION
Johannes Rosenkrands, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 26, 1958, Ser. No. 744,838
9 Claims. (Cl. 280—112)



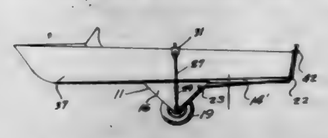
1. Independent suspension for a vehicle having spaced dirigible wheels, comprising, a support for each wheel, a pair of transversely extending upper control arms pivotally connected at their outer ends to said supports and at their inner ends to said vehicle, a pair of transversely extending lower control arms connected at their outer ends to said supports, a common pivot connecting the inner ends of said lower arms together, a pair of laterally spaced links pivotally connecting said lower arms to said vehicle, and spring means disposed between said vehicle and each lower control arm.

2,978,256
DUAL HEIGHT SUSPENSION CONTROL MECHANISM
Joseph F. Bertsch and Kai H. Hansen, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 11, 1957, Ser. No. 671,266
6 Claims. (Cl. 280—124)

1. In an air spring of the type including a piston and cylinder, a lever operated leveling valve assembly, a member associated with said piston adapted for follower engagement with the lever of said assembly to actuate the latter so that movement of the piston above or below a predetermined level relative to said cylinder causes inflation or deflation of said spring, and fluid pressure responsive means operable from a remote location for selectively moving said member to a plurality of positions relative to said piston to permit selective variation of said predetermined level.



2,978,257
BOAT CARRIER
Benedict A. Barker, 203 W. 56th St., Seattle, Wash.
Filed June 24, 1958, Ser. No. 744,139
2 Claims. (Cl. 280—179)



2. A boat carrier comprising a bearing member shaped to engage beneath the keel of a boat, said bearing member having outwardly extending supporting portions engageable with portions of the bottom of the boat located on opposite sides of its keel so as to transmit the weight of the boat to said bearing member, a pair of depending vertical bracket plates rigidly secured in spaced parallel relation to the outer surfaces of said bearing member with their top edges abutting beneath said supporting portions, whereby the weight of the boat is transmitted to said rigidly spaced parallel bracket plates, a transverse axle extending through and secured to the lower portions of said bracket plates, a supporting wheel journaled on said axle between the plates, brake means operatively associated with said wheel and axle and having a flexible operating cable extending therefrom, means slidably supporting said cable adjacent one of said plates, respective flexible tie members secured to the opposite ends of said axle, respective substantially V-shaped rigid hook members pivotally connected to the ends of the tie members and being engageable on the opposite upper side edge portions of a boat engaged on said bearing member, and an additional flexible tie member connecting said hook members and extending transversely therebetween.

2,978,258
HOBBY HORSE TYPE TOY
Harold M. Gabrielson, Rte. 3, Box 21A186, Merced, Calif.
Filed Mar. 7, 1960, Ser. No. 13,941
2 Claims. (Cl. 280—218)

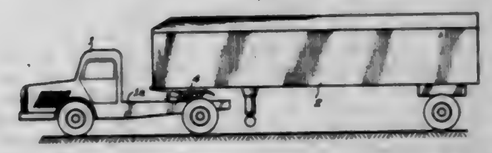
1. In a toy, a supporting member having a rear portion forming a seat and a forward portion for supporting an upstanding member carrying handle-bars, a pair of upwardly inclined converging rear legs having wheels

thereon, a forwardly extending inclined structurally rigid member connected at its rear end to the upwardly disposed ends of the rear legs, a link pivotally connected to the forward end portion of the supporting member and also pivotally connected to the forward end of the rigid member, a rearwardly inclined rod pivotally connected intermediate its ends to the converging rear legs, the upper rear end of the rod being pivotally connected to the rear portion of the supporting member, one or



more front legs carried by the forward end of the rod and having wheels thereon, a pivoted stop member carried by the forward end of the rod and arranged in engagement with a floor surface supporting the toy, yieldable spring means urging the stop member into engagement with the floor surface, a structurally rigid spring supporting means carried by the rear legs, a tension spring connected to and interposed between the rod and the spring supporting means, and a foot-rest secured to the rear legs.

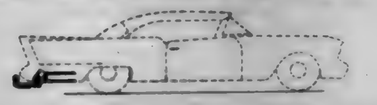
2,978,259
VEHICLE COUPLING SYSTEM
André Buisson, Paris, France, assignor to Societe Anonyme dite: Societe Lorraine des Anciens Etablissements de Dietrich & Cie de Lunéville, a society of France
Filed Dec. 7, 1959, Ser. No. 857,922
Claims priority, application France Dec. 9, 1958
13 Claims. (Cl. 280—405)



1. A vehicle coupling system comprising two pairs of front links and two pairs of rear links, said pairs being symmetrical with respect to each other on opposite sides of a vertical longitudinal midplane of the vehicles, means interpivoting one end of the links of each pair to each other about a transverse axis, and means respectively pivoting the other ends of said links of each pair to the respective vehicles about normally coaxial transverse pivots, said front links lying in a plane which intersects a plane in which said rear links lie in a line below said transverse axes, and means for adjusting the longitudinal spacing between the transverse axes of said front and rear link pairs.

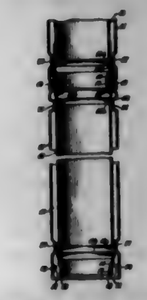
2,978,260
DISMOUNTABLE TRAILER HITCH
Ulrich Hebeisen, Montreal, Quebec, Canada (319 Atlas Ave., Toronto, Ontario, Canada)
Filed June 8, 1959, Ser. No. 818,791
7 Claims. (Cl. 280—495)

1. A dismountable trailer hitch for motor cars, comprising a base member secured to the rear end of the chassis of the motor car and having a generally upright sleeve portion; a separate dismountable arm carrying the hitch proper, said arm having a shaft extension adapted to enter said sleeve portion and being of such length as to clear the bumper of the motor car, the main body of said arm extending generally at a right angle to said



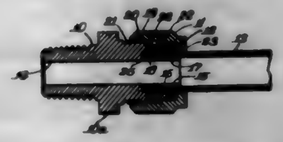
shaft extension; a retaining member pivoted on said base member and engageable with said arm to retain said arm on said base member; and means on said arm to tighten said retaining member, said tightening means being operable from near the outer free end of said arm.

2,978,361
DOUBLE WALL VENT PIPE
Saul Epstein, 2333 Nottingham Ave., Los Angeles 27, Calif.
Filed Mar. 15, 1956, Ser. No. 571,631
5 Claims. (Cl. 285—133)



1. In a double wall vent pipe section generally oval in cross-section and having spaced inner and outer walls and a generally oval male coupler means on one end and a generally oval female coupler means on the other end, the improvement which comprises inner and outer walls having their opposite side walls welded together at the male coupler end, a transverse depression on the opposite sides of the outer wall and fluted patterns between said transverse depressions at the male coupler end for imparting relatively more flexibility to said opposite sides, indentations in the outer wall adjacent each end thereof for spacing the inner wall inwardly of the outer wall, said inner wall being unsecured to the outer wall at the female coupler end and at all points intermediate said male coupler end, the opposite side wall portions at the female coupler end of the inner wall being more rigid than the other wall opposed curved end portions.

2,978,262
TUBE FITTING
George E. Franck, Riverside, Ill., assignor to The Imperial Eastman Corporation, a corporation of Illinois
Filed Sept. 9, 1957, Ser. No. 682,959
4 Claims. (Cl. 285—348)



1. A fitting for use with tubing formed of a thermoplastic material, such as nylon, which deforms at elevated temperatures and which remains deformed upon

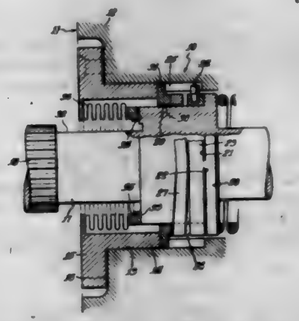
return to normal ambient temperature, comprising: a body member having a bore completely therethrough and a tubular portion defining one end of the bore provided with a radially outwardly opening annular, relatively shallow recess, said tubular portion having a longitudinally outer end wall extending normal to the axis of the recess, said end wall having a longitudinally inner, radially outer edge defined by the intersection of the longitudinally inner surface of the end wall and the radially outer surface of the tubular portion, the external diameter of the tubular portion including the end wall being substantially equal to the internal diameter of the tubing to be connected; a pressure member adapted to be secured to said body member and having a radially inturned flange thereon, said flange having an inner, annular, axially extending surface the diameter of which approximates the outer diameter of said tube to be connected, said pressure member being movably associated with the body member to define with a body member and tubing arranged concentrically over said tubular portion a variable volume annular space radially outward of said recess; and a mass of thermostable resilient material in said space having an unconstricted volume greater than the minimum effective volume of the space for continuously resiliently transmitting a pressure against the tubing, the volume of said thermostable material and the length of said tubular portion being so proportioned that upon assembly of said tube and said fitting, the outer end wall edge will be located substantially radially inwardly of said axial extending surface of said pressure member and the thermostable material will extrude under said axially extending surface to force said tube into said groove and form the inner wall of said tube around said end wall outer edge, thereby to maintain the tubing in sealed, substantially fixed relationship with the tubular portion of the body member notwithstanding cyclical elevation of the temperature thereof to a high temperature whereat the tubing may yield, and return of the temperature thereof to normal ambient temperature.

2,978,263
HOSE COUPLING HAVING DEFORMABLE SLEEVE WITH EXTRUSION HOLES
Joseph W. Walsh, Rosemont, and Matthew K. McCombe, Willow Grove, Pa., assignors to Mulconroy Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 11, 1954, Ser. No. 403,104
1 Claim. (Cl. 285—256)



In a coupling for hose of non-compressible flexible material such as rubber, a tubular fitting, a nipple integrally connected with the fitting and extending into an open end of the hose, and a ferrule embracing the nipple and rigidly anchored to the fitting, said ferrule and nipple forming between them an annular space closed at its inner end and containing the hose end, the said space between the nipple and the ferrule occupied by the hose end being materially smaller radially within an area relatively remote to the inner end thereof than the normal thickness of the hose body and subjecting the latter to material radial contraction, and an adjoining longitudinal portion of said space at the inner end of the socket being materially larger radially than the normal thickness of the hose body and forming a chamber for the terminal end of the hose into which the non-compressible hose material is displaced axially by said radial contraction, said chamber having an internal cubical capacity materially less than the total volume of the non-compressible hose material so displaced and having at least one radial aperture in the wall thereof affording free outward flow for the excess of said displaced material from the chamber, the material in the chamber and projecting through the aperture constituting substantially all of the material displaced by said contraction.

2,978,264
SEAL
Henry H. Campbell, East Cleveland, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 12, 1956, Ser. No. 609,424
6 Claims. (Cl. 286—11)

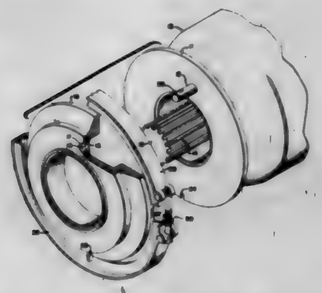


1. In a fluid seal between a housing and a rotary shaft having a first radially extending bearing face and a second radially extending bearing face; a first bearing ring having a radially extending surface engaging said first bearing surface; a second bearing ring having a radially extending surface engaging said second bearing surface; means including said second bearing ring and said bearing face defining a universal joint assembly normally engageable by and effective to provide for limited rocker-like action and axial movement of said shaft; means defining slot means in said housing; said second bearing ring having a portion received in said slot means in order to permit axial movement of said second bearing ring relative to said housing and prevent rotational movement thereof; and resilient sealing means biasing said first bearing ring against said first bearing face whereby a sealing relationship is maintained between said shaft and said housing.

2,978,265
QUICK DISCONNECT COUPLING
Harold E. Cluff, Phoenix, Otto Boettcher, Jr., Scottsdale, and Edward L. Gammill, Phoenix, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed July 30, 1959, Ser. No. 830,612
7 Claims. (Cl. 287—130)

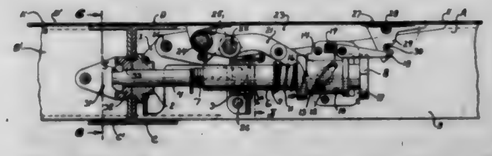
1. A quick disconnect coupling for mounting an accessory on an engine support pad comprising: a pair of flange members, one being provided for the accessory and the other for the support pad; an element projecting from one of said flange members, the other flange member being formed with a recess to receive said element when said flange members are disposed in axially aligned abutting relationship; interengaging means on said element and said other flange member for temporarily preventing separation of the flange members, said means being rendered operative by relative rotary movement of said flange members when said element is received by said recess; a second interengaging means on said flange mem-

bers operative when the first interengaging means is in operation to prevent relative rotation of said flange members; and clamp ring means at least partially surround-



ing said flange members to urge the same toward one another, said clamp ring means also retaining said second interengaging means in operative relationship.

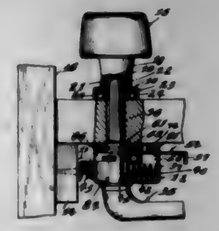
2,978,266
SLIDING AND ROTATING BOLT LATCH
Lloyd R. Poe, Pacific Palisades, Calif., assignor to Hartwell Aviation Supply Co., Los Angeles, Calif., a corporation of California
Filed Aug. 12, 1953, Ser. No. 754,685
3 Claims. (Cl. 292—57)



1. A latch construction, comprising: a guide frame; a bolt slidably and rotatably mounted therein and having a keeper-engaging head adapted for engagement with a mating keeper when in a first angular position and to clear said keeper when in a second angular position; an inner rotatable sleeve and an outer nonrotatable sleeve on said bolt; helical groove and pin means to effect a predetermined relative angular movement of said inner sleeve and bolt on reciprocation of said bolt; means carried by said outer sleeve to restrain said inner sleeve against rotation during movement relative to said bolt in one axial direction; means carried by said outer sleeve and bolt to restrain said bolt against rotation during movement of said bolt in the opposite axial direction; said means cooperating with said head to move said head alternately between said first and second positions; and handle means for reciprocating said bolt.

2,978,267
LATCH CONSTRUCTION
Edwin W. North and Wayne C. Bates, Rockford, Ill., assignors to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed June 18, 1958, Ser. No. 742,781
2 Claims. (Cl. 292—169)

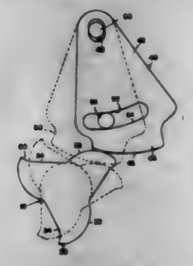
2. In a latch construction for a screen door or the like adapted to engage a strike on the door frame to retain the door in closed position, a knob unit mounted on the exterior of the door and a latch unit mounted on the interior of the door, said latch unit including a handle and a shaft of substantially U-shape in cross section on said handle with the shaft projecting through an opening in the door and into an aligned opening in and connected to the knob unit, said knob unit having spaced internally threaded projections adapted to project into aligned openings in the door, said latch unit having a housing provided with screw openings aligned with the internally threaded projections on the knob unit and screws for connecting said units in rigid assembly on the door, an offset in said housing, a spring-biased latch bolt slidably mounted in said offset and provided with an elongated opening through which the shaft projects, a cam member abutting said latch bolt and having a slot for conformably receiving the shaft and rotatable therewith, projections on said latch bolt and on said cam member for retracting the latch bolt upon turning of the handle and the shaft to cause a projection on said cam member to engage an adjacent projection on said latch bolt, a locking plate slidably mounted in said housing with an outer end projecting to the exterior of the housing for manually moving the locking plate into and out of locking engagement and when in locking engagement retaining the shaft against rotation, a centering member also mounted in said housing having a slot for conformably receiving the shaft and rotatable therewith, a centering spring for returning said centering



member, shaft and handle to centered position, and a backing plate providing a closure for the rear of said housing, said locking plate at its inner end within the housing provided with spaced projections spanning and spaced from said shaft when the locking plate is retracted for free rotation of the shaft, a slot adjacent said projections adapted to conformably receive the shaft when the locking plate is moved inwardly to its locking position, an extension on said centering member and provided with an upstanding flange upon which the ends of said centering spring are anchored, upstanding spaced flanges on said locking plate between which the extension and upstanding flange on said centering member are disposed when the locking plate is moved inwardly to locking position whereby said centering member and the shaft are prevented from rotating and retracting the latch bolt, spaced projecting lips on the outer edges of the spaced projections of said locking plate, and resilient means mounted adjacent the sides of said spaced projections having detents adapted to engage either edge of a projecting lip to hold the locking plate in either locked or unlocked position.

2,978,268
LATCH MECHANISM
Joseph Pickles, Dearborn, Mich., assignor to Ferro Stamping Company, Detroit, Mich., a corporation of Michigan
Original application Feb. 7, 1955, Ser. No. 486,477, now Patent No. 2,925,297, dated Feb. 16, 1960. Divided and this application Dec. 19, 1957, Ser. No. 703,946
5 Claims. (Cl. 292—280)

2. Latch mechanism comprising a latching rotor, means mounting said rotor for rotation in one direction during relative movement into latched position and for rotation in the opposite direction during relative movement into unlatched position, said rotor having a plurality of latch lobes having friction surfaces thereon, a fixed abutment adjacent said rotor having a stationary friction surface spaced radially from the lobes of said rotor, an arm pivoted adjacent one end and having at its other end a friction cam surface having a substantial cam rise with reference to its path of swinging movement, the friction surface of said arm being engageable in blocking and frictional engagement with friction surfaces of said lobes, said arm having remote from its pivoted end and adjacent its said other end a second surface slidably engaged with said fixed abutment and in-



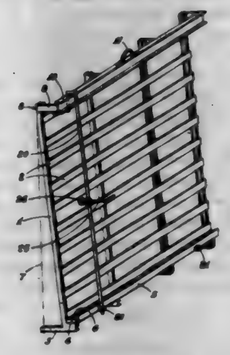
clined with respect to the aforesaid friction cam surface at an angle greater than the effective angle of repose but less than twice the effective angle of repose for the materials of the engaged friction surfaces, and pivot means mounting said arm for swinging movement and including means provided for limited free movement of said arm in a direction transverse to the relatively inclined friction surfaces thereon.

2,978,269
FISH GAFF
Marius Karlsson, Vannacka, and Arnold M. Jonsson, Jarpliden, Sweden, assignors of one-third to Karl Werner Anderson, Arvika, Sweden
Filed Jan. 28, 1959, Ser. No. 787,987
5 Claims. (Cl. 294—26)



1. A collapsible, pronged fish gaff comprising a pair of hinged shank sections, the inner of said sections having a handle at one end thereof and also having an open channel at one edge thereof for receiving the outer hinged shank section, said outer shank section having pivoted thereto a plurality of impaling prongs disposed in substantially parallel relation, a link extending longitudinally of said outer shank section pivotally connected with the inner ends of said prongs at points beyond and eccentric of their hinged connections with said shank and a pivotal second link connection between the inner end of said first link and said inner shank disposed on an axis adjacent to but disposed inwardly and eccentrically of the hinged connection between said shank sections whereby swinging of said sections apart into substantially aligned position through said link connection produces outward swinging of said prongs to positions angled to said shank and inward swinging of said sections together produces collapsing and receiving of said outer shank section within said inner shank section together with collapsing and inward swinging of said prongs into substantially aligned relation, extending longitudinally of said shank sections.

2,978,270
HORSE FOR THE TRANSPORT OF SHEET MATERIALS
Albert Verhaegen, Ledeberg, Belgium, assignor to Union des Verreries Mecaniques Belges, Societe Anonyme, Charleroi, Belgium, a company of Belgium
Filed Dec. 4, 1959, Ser. No. 857,383
Claims priority, application Belgium Dec. 17, 1958
12 Claims. (Cl. 294—67)



1. A unitary, self standing horse for the transport and storage of sheet materials comprising a frame having a base and having a sheet supporting face inclined in relation to the vertical and rearwardly from said base, said frame including a forwardly projecting, horizontal, sheet supporting ledge provided at the lower end of said frame, and including suspension means projecting forwardly from the upper end of said frame and composed of holding means by which said frame may be lifted, said suspension means, frame face and ledge defining the space in which is received the sheets to be positioned upon said ledge and supported by said frame face, said base being composed of a plurality of spaced frame supporting feet standing on the ground and extending rearwardly from said frame so as to enable said frame to stand upright by itself, said horizontal ledge being spaced upwardly from the ground and positioned above said rearwardly extending supporting feet to enable the supporting feet of another like horse to be inserted under said horizontal ledge and thereby to permit the nesting of such horses, said holding means being so disposed with relation to said frame face and said base that a longitudinal vertical plane extending through the center of gravity of the loaded or unloaded horse extends approximately through said holding means and falls within said base.

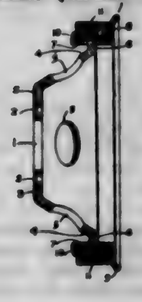
2,978,271
STORAGE BATTERY CARRIER
Theodore J. Grypma, P.O. Box 28, Grand Rapids, Mich.
Filed Nov. 6, 1957, Ser. No. 694,878
3 Claims. (Cl. 294—92)



1. A storage battery carrier comprising: a battery carrying strap having battery terminal post engaging clamps provided at opposite ends thereof; said clamps including upper and lower jaw members pivotally engaged together; said lower jaw member being formed to include a generally horizontal battery terminal post

engaging end and a carrying strap engaging end angularly disposed upwardly relative to the terminal post engaging end; said battery terminal post engaging end having a post receiving aperture formed therein providing a gripping surface for engaging said post on at least one side thereof; said upper jaw member including a V-shaped elongated member having one leg formed to provide a battery post gripping surface end and the other leg angularly disposed relative to said one leg forming a release tab end; said V-shaped member having an aperture at the vertex of said legs, said aperture receiving the angularly disposed upwardly extending end of said lower jaw member for pivotally mounting said upper jaw member on said lower jaw member such that when in gripping position both the gripping surface end and release tab end extend upwardly from said horizontal battery post engaging end of the lower jaw member, the gripping surface end extending toward and spaced from the gripping surface of the lower jaw member and the release tab end extending in the opposite direction and on the other side of the said carrying strap engaging end of the lower jaw member, and means for limiting the upward creeping of said upper jaw member thereon.

2,978,272
TREAD REDUCTION WHEEL
Harry C. Michael, 520 W. 5th St., Sioux City, Iowa
Filed Sept. 30, 1959, Ser. No. 843,594
1 Claim. (Cl. 295—8.5)



A rail wheel constructed for mounting on a heavy-duty truck axle comprising a cast wheel having a mounting flange integral therewith, said mounting flange having therein an axle hub receiving aperture and stud bolt receiving apertures for securing said mounting flange to said axle, said mounting flange being laterally offset from and integrally connected to a radial wheel flange by a radially and axially extending flange, said radial wheel flange having a rim integrally attached thereto which has a rubber tire mounted thereon, and is provided with tire protection flanges integral therewith, one of which has an angled rail guard flange.

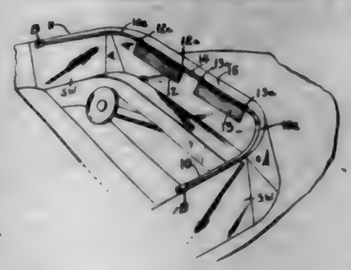
2,978,273
SAFETY VEHICLE SEAT SYSTEM
Roger R. Racine, Tonawanda, N.Y., assignor to Protect-O-Matic Corporation, Tonawanda, N.Y.
Filed Apr. 22, 1959, Ser. No. 808,197
4 Claims. (Cl. 296—65)

1. In an automotive vehicle, a passenger seat, means mounting said seat for movement about an axis adjacent to the lower rear portion of said seat, hydraulic fluid cylinder means and a piston movable therein to raise the front portion of said seat about said axis, hydraulic fluid cylinder means mounted at a forward portion of said vehicle, actuating means projecting forwardly of said vehicle and movable relatively rearwardly upon impact with an obstruction, a piston movable in said forward mounted cylinder means and a connection between said piston and said actuating means, an operating conduit between said two cylinder means of a size comparable to the cross sectional area as said cylinders to provide a continuous hydraulic fluid column of substantially constant cross sectional area extending from the face of the actuating means operated piston to the face of the seat raising piston, a fluid reservoir and conduit means from



the interior thereof to said operating conduit, said fluid reservoir conduit establishing open continuous communication between the interior of the reservoir and said operating conduit and including therein an orifice of relatively small cross sectional area whereby sudden impact fluid pressure in said operating conduit is not affected by said reservoir conduit, and means for maintaining super-atmospheric pressure against the fluid in said reservoir.

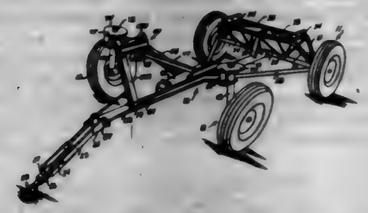
2,978,274
VISOR CONSTRUCTION
Theodore Ordman, Brooklyn, N.Y.
(Hunns Lake Road, Stanfordville, N.Y.)
Filed Nov. 10, 1958, Ser. No. 773,046
3 Claims. (Cl. 296—97)



1. In combination, a guide rail having a front portion, side portion and curved portion joining the side portion to the front portion, flexible visors mounted to slide along any position of the guide rail and to be rotatable independently thereon, mounting lugs supporting the visors rotatably and slidably from the guide rail and in frictional engagement with the guide rail, and means between adjacent mounting lugs of different visors for coupling the visors to slide in unison along the guide rail, said coupling means being in frictional engagement with said adjacent mounting lugs.

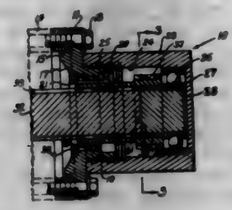
2,978,275
FARM VEHICLES
Chester M. Williams, Tuscola, Ill.
Filed July 13, 1954, Ser. No. 442,977
3 Claims. (Cl. 298—22)

3. An independently balanced vehicle comprising a chassis, rear ground wheels journalled in the chassis, at least one front steering wheel carried by the front of the chassis, a rear bolster pivotally connected to the rear axle for vertical swinging movement, a front bolster carried by the chassis adjacent the steering wheel, means to secure a supporting body to the rear bolster, power means secured to the chassis adjacent to and below the front bolster and connected to the supporting body with the connection to the supporting body being higher than the attachment of the power means to the chassis so that



when the power means applies angular thrust to the supporting body, the rear bolster swings upwardly about its pivot, and in which said front bolster is provided with a pair of angular wings arranged in spaced relation to support the forward portion of the said supporting body, with such wings projecting beyond the center point, in both directions, of the steering wheel.

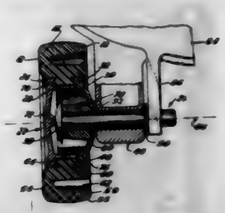
2,978,276
HUB STRUCTURE
Floyd G. Huffman, Durango, Colo.
(1040 Columbia Drive NE., Albuquerque, N. Mex.)
Filed Dec. 19, 1958, Ser. No. 781,542
8 Claims. (Cl. 301—1)



1. In a vehicle including a splined axle, means for converting a wheel of the vehicle from a freely rotating wheel to a driving wheel and vice versa comprising a circular plate having an axle receiving opening therein secured to the wheel in circumjacent relation to the axle, means slidably mounted on the axle for fixing the plate to the axle in one position and disconnecting the plate from the axle in another position, a splined flange on said plate and the means for connecting and disconnecting the wheel from the axle is provided with internal splines to engage the axle and an external splined portion to selectively engage the splines in said flange and a cap secured to said plate and covering the outer end of the axle and said last said means, said cap being provided with a pilot stub axle having a splined portion thereon that is adapted to mesh with the internal splines in the means for connecting and disconnecting said plate from said axle.

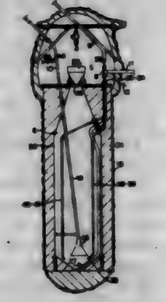
2,978,277
WHEEL ASSEMBLY
Edouard Gentry, Montreal, Quebec, Canada, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 1, 1958, Ser. No. 725,735
2 Claims. (Cl. 301—111)

1. A wheel assembly comprising a wheel member defining a central opening and having an axis of rotation, hub sections engaged frictionally in the opening on opposite sides of the wheel member, said sections cooperatively defining an inner chamber, a hub member on one of said sections and extending in said chamber towards the other of said sections, an end thrust bearing on said other section in said chamber, said bearing extending towards but being spaced from said hub member, said hub member being provided with a more centered on said axis of rotation, an axle extending through said bore, and an enlarged portion integral with said axle at the end of



the latter and freely rotatable in said chamber, said enlarged portion being engaged between said hub member and bearing and being in contact therewith so that relative axial movement of said wheel member and axle is prevented, said end thrust bearing tapering substantially to a point on said axis, said enlarged portion having a spherical surface in engagement with said bearing at said point.

2,978,278
INSTALLATION FOR THE TRANSPORT OF LUMPY MATERIAL
Gerard J. de Vooys and Freerk J. Fontein, Heerlen, Netherlands, assignors to Staatsmijnen N.V., Heerlen, Netherlands
Filed Mar. 16, 1959, Ser. No. 799,492
Claims priority, application Netherlands Mar. 17, 1958
13 Claims. (Cl. 302—14)



1. Apparatus for the hydraulic transport of lumpy solid material, from the underground workings of a mine to a considerably higher level comprising, in combination, a pressure-vessel, an aperture at the top of said vessel for feeding the solids at substantially atmospheric pressure to the vessel, means for closing said aperture so as to substantially be pressure and liquid tight, a transport conduit for the transportation of a mixture of liquid and solid lumpy material from the vessel to said higher level, said conduit running substantially vertically through the vessel and having a downwardly directed inlet opening at a short distance over the lowest point of the vessel, means for supplying a fluid underpressure of at least 25 atmospheres into said vessel, said vessel and its walls being so dimensioned that the walls by themselves are not capable of resisting the tensile stresses occurring in the wall caused by the said pressure fluid in the said vessel, said vessel being adapted for disposition in a pit-shaped space in the solid rock formation of the mine that the rock is capable to support the wall of the vessel in resisting the said tensile stresses.

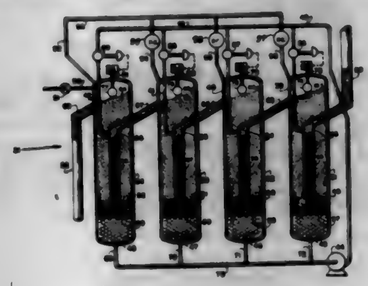
2,978,279
METHOD AND APPARATUS FOR TRANSFERRING CONTACT MATERIAL
Eric V. Bergstrom, Short Hills, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Dec. 28, 1951, Ser. No. 262,639
5 Claims. (Cl. 302—53)



1. A method for transfer of granular solids from a first level to a second higher level which provides flexible control of attrition and breakage during transfer comprising: mixing said granular material at said first level with a suitable lift gas to effect its suspension therein, passing the mixed granular material and gas upwardly from said first level as a confined, substantially vertical stream, while controlling the gas velocity to provide rapid acceleration of the granular material in a lower section of said stream to a velocity above the minimum at which substantial refluxing of the granular material in the stream would occur, gradually expanding the confined stream in lateral size at successively higher levels to such an extent that the granular material would normally decelerate in velocity in an upper section of said stream below the minimum at which refluxing occurs, adding additional lift gas to the stream at an intermediate level in sufficient amount to lift the velocity of the granular material above the level at which refluxing occurs, discharging the stream into an enlarged separation zone, and limiting the maximum flow of the injected gas to provide a particle velocity which will project the granular material upwardly only a short distance in said separation zone above the level of its entry thereinto before it starts to drop.

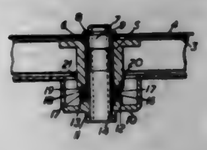
2,978,280
MOVEMENT OF GRANULAR SOLIDS INTO OR OUT OF HIGH PRESSURE VESSELS
John G. Mitchell, Larchmont, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Oct. 30, 1959, Ser. No. 849,853
9 Claims. (Cl. 302—53)

1. The method of continuously transferring a particle-form material between zones at substantially different pressure which comprises the steps of: maintaining a plurality of vertically elongated pressure-adjustment zones in side-by-side relationship, passing contact material downwardly through vertical passages located in said pressure-adjustment zones and terminated substantially above the bottom of said zones, introducing a liquid having a density substantially greater than the density of the particle-form material into each of said passages in said pressure-adjustment zones to travel concurrently with the particle-form material, maintaining the heavy liquid within each pressure-adjustment zone at a level above the lower end of said vertical passage, controlling the flow rate of heavy liquid in each passage at a rate high enough to discharge particle-form material from the bottom of each passage into said pressure-adjustment zone, whereby the material rises within said zones to predetermined levels, introducing contact material from one of said zones of substantially different pressure to the top of said vertical passage in the first of said pressure-adjustment zones, transferring contact material from said predetermined level of each pressure-adjustment zone to the top of the vertical passage of the next pressure-adjustment zone, transferring contact material from the predetermined level of the last pressure adjustment zone to the other of said zones of substantially different



pressure, withdrawing heavy liquid from the bottom of each pressure-adjustment zone to maintain the liquid level substantially constant in each zone, continuously measuring the level of particle-form material in said pressure-adjustment zones and controlling the flow rate of said heavy liquid in each vertical passage in response to said measurements to prevent the level of particle-form material from rising in said pressure-adjustment zones above said predetermined levels and thereby prevent said particle-form material from reaching the bottom of said pressure-adjustment zones, whereby liquid withdrawn from said pressure-adjustment zones is at all times free of particle-form material.

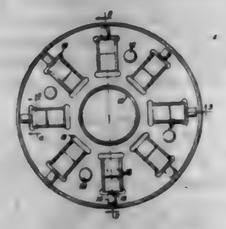
2,978,281
THRUST BEARINGS
Ronald Sydney Hayward, Barking, England, assignor to Collaro Limited, Barking, England, a British company
Filed Nov. 21, 1958, Ser. No. 775,513
Claims priority, application Great Britain Nov. 25, 1957
3 Claims. (Cl. 308—227)



1. In combination, a phonograph turntable and mounting therefor, said mounting comprising a fixed upwardly projecting spigot, means having a horizontal upwardly facing annular surface extending around the lower end of said spigot a hub rotatably mounted on said spigot above said upwardly facing horizontal surface, said hub being mounted centrally in and carrying said turntable, and being provided with a downwardly facing horizontal annular surface extending around the bottom end of said hub, an annular ball bearing and an annular ring and a washer extending around said spigot between said annular surfaces, said washer being interposed between said ring and ball bearing, and two pairs of diametrically opposite projections on said ring, said projections being

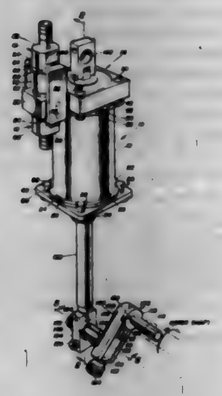
spaced at 90 degree intervals around said ring, one of said pairs of projections protruding from said ring toward and into contact with said washer and the other pair of projections protruding in the opposite direction.

2,978,282
STAMPED RETAINER FOR ROLLER THRUST BEARINGS
Walter Fisher, South Bend, Ind., assignor, by mesne assignments, to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Dec. 10, 1956, Ser. No. 627,386
1 Claim. (Cl. 308—235)



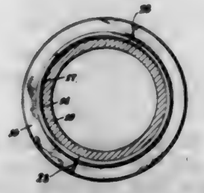
A retainer for roller thrust bearings comprising a pair of complementary thin metal plates fastened together and having uniformly spaced radial roller-receiving pockets, the outer edges of the pockets in each plate being convex to form a single wear-resisting abutment for the end of the roller in the pocket.

2,978,283
PISTON PUMP WITH CAM COUPLING AND CRANK ASSEMBLY
Sidney Rosen, 4119 Fordleigh Road, Baltimore 15, Md.
Filed Sept. 22, 1959, Ser. No. 841,641
5 Claims. (Cl. 309—3)



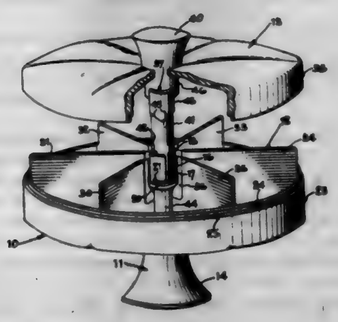
1. A twist lock, comprising, structure defining a housing, a head for said housing, and means for rapidly coupling and uncoupling said head to and from said housing, respectively, said means consisting of a plurality of spaced side-notched pins secured to said head, a ramp flange formed on one end of said housing, said ramp flange having a corresponding number of spaced escape notches formed therein, whereby when said head is coupled to said housing, said side-notched pins capture said ramp flange thereof, with said escape notches being utilized for clearing said pins for uncoupling of said head from said housing.

2,978,284
PISTON HEAD STRUCTURE
Rudolph Dumb, West Caldwell, N.J. (9 Hickory Drive, North Caldwell, N.J.)
Filed Mar. 19, 1957, Ser. No. 647,150
3 Claims. (Cl. 309—14)



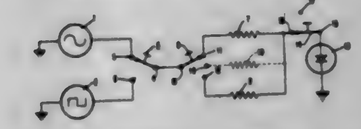
1. A piston structure comprising a cylindrical piston head, a piston ring groove formed radially in said piston head with upper and lower radially extending surfaces, circumferentially extending hard wear-resistant radial metal rings bearing against said upper and lower surfaces and having outer circumferential edge portions, and a separate inner annular ring of malleable pressure deformable metal applying a force against the inner ends of said radial rings to securely hold said radial rings against said upper and lower surfaces and forming an annular piston ring chamber, said radial rings having an internal biasing stress pressing said edge portions against said radially extending surfaces to seal the rings and radial surfaces and having circumferentially extending radial wear-resistant surfaces on opposite sides of said chamber to receive the pressure of a piston ring.

2,978,285
REVOLVABLE TRAY
William J. Jester, 1116 Waterworks Road, Newport, Ky.
Filed July 2, 1959, Ser. No. 824,540
8 Claims. (Cl. 312—234)



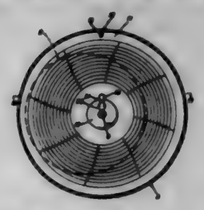
1. A tray unit comprising a base member, a tray member, and a lid, said base member including an upwardly extending hollow sleeve having a vertical slot formed therein, said tray member having a central opening receiving said sleeve and being rotatably mounted upon said base member with said sleeve projecting upwardly beyond said tray member, said lid having a depending stem telescopically receivable within said sleeve, a radial projection on said stem, said projection being spaced upwardly from the lowermost end of said stem and being adapted to be received within said slot when said lid is disposed in a closed position in engagement with said tray member, said pin also being adapted to engage the upper edge of said sleeve to support the lid in an upper position spaced from the tray.

2,978,286
PREAGING METHOD
Howard H. Nick, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 29, 1959, Ser. No. 816,742
2 Claims. (Cl. 316—1)



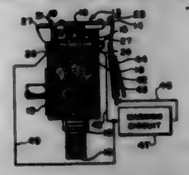
1. A method for preaging a sealed glow lamp containing an inert gas and having at least two electrodes, said method comprising the steps of establishing and maintaining for a first interval of time an alternating current in said glow lamp which corresponds in value to the current to be expected from a maximum transient signal in subsequent circuit use, and establishing and maintaining for a second interval of time an alternating current in said glow lamp which corresponds in value to the current to be expected from a minimum transient signal in subsequent circuit use, whereby said electrodes are preaged to a substantially equal extent, and whereby undesirable oscillatory reaction of said glow lamp to a range of transient signals between said maximum and said minimum current levels is minimized.

2,978,287
RECORDING CHART CHANGER
Joe Daugherty, Dallas, Tex., assignor, by mesne assignments, to Mullins Manufacturing Company, Dallas, Tex., a corporation of Texas
Filed June 24, 1957, Ser. No. 667,326
13 Claims. (Cl. 346—137)



2. A chart changing mechanism for recording devices utilizing recording charts having annular recording areas surrounding central non-recording areas with mounting apertures therein and openings contiguous to the apertures and within the central areas, said mechanism including, means for mounting a series of superposed charts on the mechanism and adapted to be received in the mounting apertures thereof, means for securing the charts on the mounting means and overlying only the central non-recording areas of the chart, the securing means having a portion rotationally alined with the openings of the charts and arranged and adapted to enter through the chart openings from engagement with the outermost chart and into engagement with the next lowermost chart when predetermined relative rotational movement between the securing means and the charts occurs, and means for causing predetermined relative rotational movement between the securing means and the charts to pass the rotationally alined portion of the securing means into the opening of the outermost chart and to pass the securing means by rotation beneath the outermost chart to discharge the outermost of the series of charts at predetermined intervals, the securing means having a central area smaller than the mounting apertures of the charts so as to be capable of passing therethrough, the chart openings extending outwardly a distance greater than the rotationally alined portion of the securing means and communicating with said apertures after the charts are removed.

2,978,288
FACSIMILE SCANNER
Douglas M. Zabriskie, Northvale, N.J., and Adolph Hofer, Hampton Bays, N.Y., assignors to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed Oct. 8, 1959, Ser. No. 845,116
2 Claims. (Cl. 346—139)

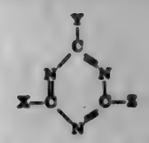


2. A facsimile apparatus, comprising a continuous, non-conductive belt, means for driving said belt in the direction of its length, a plurality of magnetic, electrically conductive stylus holders secured to said belt, a pair of magnetic, electrically conductive rails located under a run of said belt, magnetic means maintaining a magnetic circuit through said rails and stylus holders, a sintered metal carbide element secured to each rail and extending the length of said run, and a pair of sintered metal carbide elements secured to each stylus holder and sliding in continuous contact with the metal carbide elements respectively secured to said rails, the contacting elements spacing said stylus holders from said rails to maintain gaps in said circuit between the rails and stylus holders while maintaining direct parallel electrical paths between said stylus holders and rails, nonmagnetic means defining a channel between said rails, and guide members secured to said stylus holders and projecting into said channel to prevent lateral movement of said belt during said run.

CHEMICAL

2,978,289
PROCESS FOR COLORING CELLULOSE WITH NEW TRIAZINE DYESTUFFS
Peter William Barker, Robert Norman Haslop, Victor David Poole, and William Elliot Stephen, all of Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Aug. 4, 1958, Ser. No. 753,111
Claims priority, application Great Britain Aug. 7, 1957
14 Claims. (Cl. 8—54.2)

1. Process for coloring cellulose textile materials which comprises impregnating said textile materials in aqueous medium with a water-soluble coloring matter having the formula



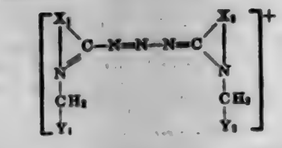
wherein X stands for a chromophoric group containing a nitrogen atom, said chromophoric group being attached to the triazine ring through said chromophoric

nitrogen atom; Y is a radical selected from the group consisting of mono- and di-cyclic aryloxy substituted by at least one member selected from the group consisting of chloro, sulfo, carboxy, and nitro, and mono- and di-cyclic and aryithio groups substituted in turn by at least one member selected from the group consisting of hydrogen, methyl, chloro, sulfo, carboxy, and nitro;

Z is a radical selected from the group consisting of Y and members of the class consisting of methyl, methylamino, propylamino, isopropylamino, butylamino, cyclohexylamino, dimethylamino, diethylamino, β-chloroethylamino, β-hydroxyethylamino, β-carboxyethylamino, β-sulfoethylamino, β-sulfatoethylamino, gamma-chloro-β-hydroxypropylamino, methoxy, ethoxy, β-chloroethoxyphenyl, anilino, chloroanilino, and N-methylanilino; and subjecting said cellulose textile materials to the action of an alkaline agent in aqueous medium so that said coloring reacts chemically with said cellulose textile material.

2,978,290
COLOURED POLYMERIC SYNTHETIC MATERIAL
Werner Bossard, Riehen near Basel, and Jacques Voltz, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland
No Drawing. Filed Oct. 28, 1958, Ser. No. 768,055
8 Claims. (Cl. 8—55)

1. A composition of matter consisting of polymeric and copolymeric synthetic materials in form of fibers and threads, which consist chiefly of polyacrylonitrile and of a colour salt the cation of which contains no sulpho and carboxyl groups and which corresponds to the general formula



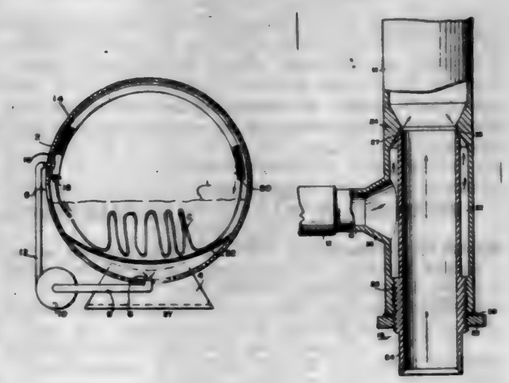
wherein

Y_1 and Y_2 each represent a member selected from the group consisting of hydrogen, lower alkyl, carbalkoxy and mononuclear aryl radicals, and

X_1 and X_2 each represent the divalent radical necessary to complete a heterocyclic nucleus selected from the group consisting of nuclei of the benzthiazole, thiazole, indazole, pyrazole, triazole, benzimidazole, thiodiazole, quinoline and pyridine series and the corresponding 2,3-dihydro nuclei.

2,978,291
PROCESS AND APPARATUS FOR TREATING TEXTILE MATERIALS WITH A LIQUID
Victor T. Fahringer, Clarksville, Va., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Sept. 5, 1958, Ser. No. 759,283
7 Claims. (Cl. 8—151)

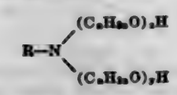
1. A process for treating textile material in rope form with a liquid which comprises providing a zone containing the treating liquid; withdrawing a portion of the liquid from said zone; recycling the thus withdrawn liquid to a point within said zone and adjacent one side thereof; forming the recycled liquid at this point into a conical jet of diminishing cross-section by passing said recycled liquid through a venturi, the discharge from said venturi being passed across the top of said zone in a closed arcuate path which discharges downwardly into the treating liquid adjacent the opposite side of said zone; feeding one end of the textile material in rope form into substantially the center of said conical jet adjacent the point where said jet is formed whereby said textile material is drawn by said jet through said closed, arcuate path and discharged downwardly into said liquid; allowing the discharged textile material to accumulate in said liquid, joining the discharged end of textile material with the other end of said textile material before the latter is fed



into said jet thereby forming an endless band of material and allowing said endless band to circulate through said bath and said closed, arcuate path solely by the moving force of the liquid discharge from said venturi until said treatment is completed.

2,978,293
MANUFACTURE OF RAYON
Pieter Cosmaad Limburg, Arnhem, Aart Boerman, Velp, and Robbert Aldert Vroom, Arnhem, Netherlands, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed July 9, 1958, Ser. No. 747,360
Claims priority, application Netherlands July 13, 1957
6 Claims. (Cl. 18—54)

1. A method of producing viscose rayon comprising the steps of spinning a viscose solution having incorporated therein 0.1–1.0% of an epoxyalkane polymer of the class consisting of epoxyethane polymer and epoxypropane polymer of a molecular weight of about 3000 and a compound of the general formula



in which R is an aliphatic chain having at least 8 carbon atoms, n is 2, 3, or 4, and $x+y$ is at least 2 with neither x nor y being zero, into an acid coagulating bath the quantity of the substituted amine being 15–40% by weight of the total amount of the epoxy alkane polymer and the amine compound.

2,978,293
METHOD FOR PROTECTING METAL PARTS BY MEANS OF VAPOR-PHASE INHIBITORS OF METAL CORROSION
Ladislav Cerveny, 47 Pristavni, Prague, Czechoslovakia
No Drawing. Filed Nov. 29, 1956, Ser. No. 624,956
Claims priority, application Czechoslovakia Dec. 15, 1955
6 Claims. (Cl. 21—2.5)

6. A method of protecting a metal surface against corrosion, comprising contacting the metal surface with the neutral chromic acid ester of tert-butyl alcohol in the vapor state.

2,978,294
SOLVENT EXTRACTION PROCESS FOR PROTACTINIUM

Earl K. Hyde and Leonard I. Katzin, Chicago, and Michael J. Wolf, Peoria, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 12, 1948, Ser. No. 26,724
7 Claims. (Cl. 23—14.5)

1. A process for the separation of protactinium from thorium, which comprises contacting an aqueous solution containing protactinium nitrate, a salting-out agent, thorium nitrate, and between 0.1 and 10 N nitric acid with n-amyl acetate, and separating the resultant aqueous phase and the ester extract phase containing protactinium nitrate.

2,978,295
RECOVERY OF PLUTONIUM BY CARRIER PRECIPITATION

Robert H. Goeckermann, Princeton, N.J., assignor to the United States of America as represented by the United States Atomic Energy Commission

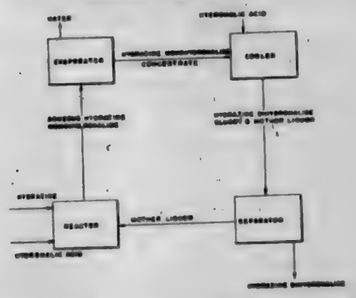
No Drawing. Filed Mar. 13, 1952, Ser. No. 276,445
2 Claims. (Cl. 23—14.5)

1. A process of recovering plutonium values from an aqueous nitric acid solution containing said values together with zirconium values, comprising adjusting the acidity to a concentration of from 0.2 to 1 N; adding fluoride anions to said solution in a quantity of 1.5 to 5 mg. per liter of solution; adding hydrogen peroxide in a quantity excessive by at least 10% of that required for the precipitation of said plutonium values; and digesting said mixture at a temperature of from 55 to 65° C. before separation of the precipitate.

2,978,296
MANUFACTURE OF HYDRAZINE DIHYDROHALIDES

Bernard H. Nicolaisen, Tonawanda, and Richard C. Harshman, Kenmore, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Sept. 22, 1958, Ser. No. 762,315
5 Claims. (Cl. 23—87)



1. A process for the production of hydrazine dihydrohalides comprising the steps of reacting a member selected from the group consisting of hydrazine and aqueous solutions of hydrazine with an aqueous hydrogen halide to produce hydrazine monohydrohalide, removing water from the aqueous hydrazine monohydrohalide thermally to produce a concentrate containing about 25 to 60 percent by weight of hydrazine monohydrohalide, then cooling said concentrate and adding aqueous hydrogen halide to the said concentrate, said addition being sufficient to produce a slurry of hydrazine dihydrohalide crystals and a mother liquor, said cooling being sufficient to prevent loss of hydrogen halide from said cooled product, the slurry having a molar ratio of hydrazine to hydrogen halide of from about 1:2.05 to 1:2.5, separating the hydrazine dihydrohalide crystals and the mother liquor, and recycling the mother liquor to the first step.

2,978,297
PRODUCTION OF GASES CONTAINING SULFUR DIOXIDE AND OF SOLID ROASTED PRODUCTS FREE FROM ARSENIC AND ANTIMONY BY FLUIDIZED LAYER ROASTING OF MATERIALS CONTAINING ROASTABLE SULFUR IN ADDITION TO ARSENIC AND/OR ANTIMONY

Wilhelm Pfannmueller, Mannheim, and Adolf Johannsen, Herbert Wolf, and Georg Wittmann, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Nov. 26, 1957, Ser. No. 698,928
Claims priority, application Germany Dec. 7, 1956
4 Claims. (Cl. 23—178)

1. In a two-stage process of roasting ferrous material containing roastable sulfur and at least one of the elements arsenic and antimony, wherein said material is partly roasted in a first fluidized layer and said arsenic and antimony are removed in the roaster gases therefrom together with entrained dust also containing iron as partly roasted ferrous material, and roasting of the partly roasted residue substantially free of arsenic and antimony is completed in a second fluidized layer, the improvement for recovering said dust in a form substantially free of arsenic and antimony which comprises: removing a portion of said dust from said roaster gases in a dust separator at a temperature above 600° C., whereby said removed dust is substantially free of arsenic and antimony; burning the roaster gas effluent from said separator which contains said arsenic and antimony and the remaining portions of entrained iron-containing dust with a sufficient amount of free oxygen-containing gas to oxidize the iron, arsenic and antimony content of said effluent respectively to Fe_2O_3, As_2O_3 and Sb_2O_3; cooling the combustion product containing said oxides to about 350° C. to 450° C. by indirect heat exchange, and precipitating Fe_2O_3 dust substantially free of arsenic and antimony from said combustion product by electrical gas purification at about 350° C. to 450° C.

2,978,298
PROCESS FOR PRODUCING HYDROPHOBIC AEROGELS

John W. Wetzel and Kenneth B. Goldblum, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 4, 1956, Ser. No. 607,592
4 Claims. (Cl. 23—182)

1. A process for preparing an aerogel which comprises the following sequential steps, (1) forming by precipitation an aqueous sol from an alkali-metal silicate, (2) removing the water from the aqueous sol by distilling the water therefrom with an azeotrope comprising an aliphatic monohydric-alchol having a critical temperature below 300° C. while maintaining the volume of solvent constant by the addition of one of said aliphatic monohydric alcohols, said azeotropic distillation being carried out until substantially all the water has been removed from the aqueous sol, and (3) removing by evaporation the remaining alcohol at a temperature and pressure of at least the critical temperature and pressure of the alcohol.

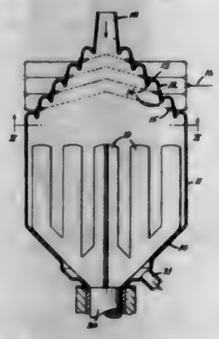
2,978,299
DISSOLVING AND MIXING APPARATUS

David T. Milne, Fredericksburg, Va., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

Filed July 8, 1953, Ser. No. 747,291
1 Claim. (Cl. 23—267)

Apparatus for incorporating bulky solids continuously with liquids to form viscous solutions comprising a vertically extending vessel, said vessel having a frusto-conical bottom, a cylindrical portion extending upwardly from said bottom, an upper portion above said cylindrical

portion comprising a plurality of upwardly and inwardly stepped concentric annular surfaces, said surfaces having upwardly curved portions and being joined together in such manner as to form downwardly directed edges between adjacent surfaces, low pressure nozzles mounted on said annular surfaces and aimed toward the vertical axis of said vessel for filling the upper portion thereof with a mist of solvent liquid, means for supplying a solvent liquid to said nozzles, said downwardly directed

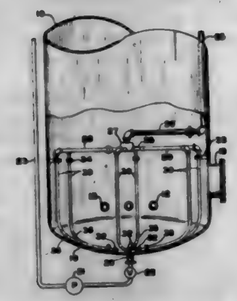


edges causing said solvent to drip into the interior of the cylindrical portion of said vessel, means for admitting bulky solids into the upper portion of said vessel along the vertical axis of said vessel whereby said solids fall through the mist-filled upper portion of said vessel before dropping into the cylindrical portion thereof, agitating means in the cylindrical portion of said vessel, and means for continuously withdrawing viscous solution from the frusto-conical bottom of said vessel.

2,978,300
REACTION VESSEL

Howell H. McCowen, Florence, and Nevin W. Kircher, Covington, Ky., assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed June 17, 1958, Ser. No. 742,617
2 Claims. (Cl. 23—285)



1. In a vessel having an outwardly dished bottom surface and a central material outlet therein, a plurality of discharge pipe sections extending radially inwardly from about the wall of the vessel at substantially uniform spacing from the bottom surface thereof and with their inner ends disposed about said material outlet, and common delivery means for supplying fluid under pressure to said discharge pipe sections at the outer end portions of the same, said sections having inner end discharge openings for radial inward discharge of the fluid toward the central material outlet of the vessel, each section also being provided with a plurality of orifices spaced longitudinally apart along the top thereof for discharge of fluid substantially normal to the bottom surface, these sections each further having longitudinally spaced orifices at corresponding sides of the same directed outwardly and downwardly for rotary discharge of the fluid sweeping about the bottom surface of the vessel.

2,978,301
PROCESS AND COMPOSITION FOR THE DISSOLUTION OF COPPER

Paul H. Margulies, Snyder, and James E. Krembach, Eggertsville, N.Y., assignors to Food Machinery and Chemical Corporation, San Jose, Calif.

No Drawing. Filed Jan. 11, 1957, Ser. No. 633,547
18 Claims. (Cl. 41—42)

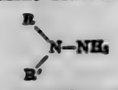
1. Method of dissolving metallic copper, comprising contacting the copper with an aqueous solution containing as solutes therein, about 10% to 45% of a persulfate and a catalytic amount of ions of a metal having an electrode potential more negative than the electrode potential of copper.

2,978,302
STABILIZED DISTILLATE FUELS

Joel R. Siegel, Irvington, and John V. Clarke, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 28, 1958, Ser. No. 718,120
17 Claims. (Cl. 44—62)

1. A petroleum distillate fuel boiling in the range between about 300° F. and about 600° F. containing from about 0.001% to about 2% by weight of an oil-soluble polymeric dispersant selected from the group consisting of (*a*) a 6000 to 20,000 molecular weight copolymer of a C_8 to C_{24} alkyl aliphatic oxy mixed ester of an unsaturated conjugated C_4 to C_8 dibasic acid and a vinyl ester of a short chain fatty acid wherein said aliphatic groups are selected from the class consisting of a C_2 to C_3 alkylene and a C_2 to C_3 halogenated alkylene, and (*b*) a copolymer of from 20 to 99% by weight of a C_8 to C_{18} aliphatic alcohol ester of an acid selected from the group consisting of acrylic acid and an alpha substituted acrylic acid in which the alpha substituent is a lower alkyl group, from 0.5 to 50% by weight of a basic tertiary amino alkyl acrylate, and from 0 to 79% by weight of a copolymerizable olefinically unsaturated organic monomer and from about 0.001% to about 2% by weight of a hydrazine derivative having the formula



where R and R′ are selected from the group consisting of hydrogen, alkyl radicals containing from 1 to about 6 carbon atoms and acyl groups derived from fatty acids containing from about 8 to 18 carbon atoms, there being at least one carbon atom attached directly to the primary nitrogen atom.

2,978,303
PYRROLIDONE DEICER IN GASOLINE FUELS

Myron Becker, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Jan. 5, 1959, Ser. No. 784,896
2 Claims. (Cl. 44—63)

1. A motor gasoline containing a small amount, sufficient to inhibit icing, of 2-pyrrolidone.

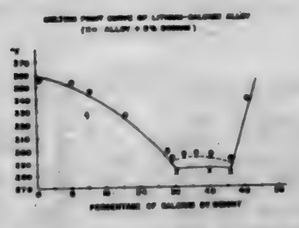
2,978,304
SODIUM, CALCIUM, LITHIUM ALLOY HYDROFUEL

Robert B. Cox, Pomona, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed July 5, 1952, Ser. No. 297,388
2 Claims. (Cl. 52—.5)

2. A new hydrofuel comprising a ternary alloy con-

sisting of from about 2% to 5% by weight of sodium,



from about 30% to about 44% by weight of calcium, and from about 51% to about 68% by weight of lithium.

2,978,305
PROPELLANT COMPOSITIONS
Ralph W. Lawrence, Glendora, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed May 10, 1954, Ser. No. 428,792
4 Claims. (Cl. 52—.5)

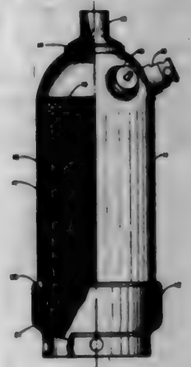
1. A solid propellant composition comprising from about 45% to about 90% by weight of the total propellant composition of a non-metallic, inorganic oxidizing salt, and from about 55% to about 10% by weight of an unsaturated polyester resin consisting of the condensation product of saturated polyhydric alcohol and polycarboxylic acid heteropolymerized with an unsaturated compound selected from the group consisting of lower alkenes, lower alkynes, phenyl substituted lower alkenes, lower alkyl dienes, lower alkenyl esters of lower alkenoic acids, lower alkenyl esters of lower alkanoic acids, lower alkyl esters of lower alkenoic acids, allyl diglycol carbonate, diallyl diglycollate and mixtures thereof; and a burning rate acceleration catalyst selected from the group consisting of ammonium trichromate, ammonium tetrachromate and mixtures thereof, in an amount of from about 0.10% to about 4.0% by weight of the total propellant composition.

2,978,306
AMMONIUM PERCHLORATE ASPHALT BASE PROPELLANTS
Harry W. Mace, Glendale, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
Original application July 27, 1945, Ser. No. 607,278, now Patent No. 2,746,702, dated Apr. 3, 1956. Divided and this application July 5, 1955, Ser. No. 521,233
2 Claims. (Cl. 52—.5)

1. An ammonium perchlorate-asphalt base propellant for jet propulsion motors having dispersed therein from about 1% to 4% by weight of a catalyst consisting of a mixture of chromium sesquioxide and an acid activated aluminium silicate.

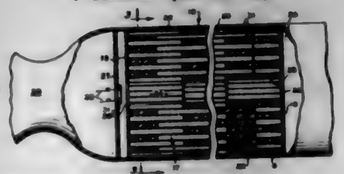
2,978,307
IMPROVED PROPELLANT COMPOSITION
Harry W. Mace, Glendale, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
Original application July 27, 1945, Ser. No. 607,278, now Patent No. 2,746,702, dated Apr. 3, 1956. Divided and this application July 5, 1955, Ser. No. 521,234
4 Claims. (Cl. 52—.5)

4. A propellant consisting principally of ammonium perchlorate mixed with a plastic asphalt fuel and having incorporated therein from about 1% to about 4% by weight of a material selected from the group consisting of



ferrosoferric oxide and a mixture of ferrosoferric oxide and TiO_2.

2,978,308
BONDING AGENT FOR COMPOSITE TYPE PROPELLANT
John A. Keller, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 14, 1957, Ser. No. 696,565
7 Claims. (Cl. 52—.5)



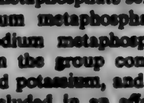
1. A composite solid propellant charge comprising a plurality of blocks of propellant of the composite type comprising a major amount of an inorganic oxidizing salt and a minor amount of a rubber binder, said blocks bonded together at their contiguous surfaces with a bonding agent consisting essentially of a coprecipitate of about 2–25 weight percent of an inorganic oxidizing salt and about 98–75 weight percent of a rubber.

2,978,309
TREATMENT OF IRON CHLOROSIS IN CHLOROPHYLLACEOUS PLANTS
Saul R. Bae, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 26, 1956, Ser. No. 618,460
6 Claims. (Cl. 71—1)

1. The method of controlling iron chlorosis in growing plants in calcareous soils having a pH range of 7.5 to 8.5 which comprises spraying said soil with an aqueous solution containing an antichlorotic amount of a salt selected from the group consisting of water soluble salts of ferrocyanic and ferricyanic acids, said amount being from 5 to 800 pounds per acre.

2,978,310
METHOD OF PRODUCING A MEANS FOR INFLUENCING PLANT GROWTH
Jasper Deuse and Hermanus Koopman, Weesp, and Cornelis Johannes Schoot, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 1, 1958, Ser. No. 764,589
Claims priority, application Netherlands Oct. 2, 1957
7 Claims. (Cl. 71—2.3)

1. A method of uniformly increasing the growth of a plant comprising the step of treating said plant and the soil in which said plant is growing with from about 1 kg. to 10 kg. per hectare of a compound corresponding to the general formula



wherein R is a radical selected from the group consisting of CH_3, C_2H_5 and



radicals, X is an atom selected from the group consisting of oxygen and sulfur atoms, Y is a substituent selected from the group consisting of hydrogen, chlorine, bromine, fluorine and iodine atoms, alkyl radicals containing from 1 to 4 carbon atoms, alkoxy radicals containing from 1 to 4 carbon atoms, the amino radical and the acetylamino radical and n is selected from the group consisting of 0, 1 and 2.

2,978,311
PROCESSES FOR PRODUCING FERTILIZERS
James E. Seymour, Collinsville, Ill., assignor, by mesne assignments, to Central Farmers Fertilizer Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 29, 1955, Ser. No. 497,786
3 Claims. (Cl. 71—33)

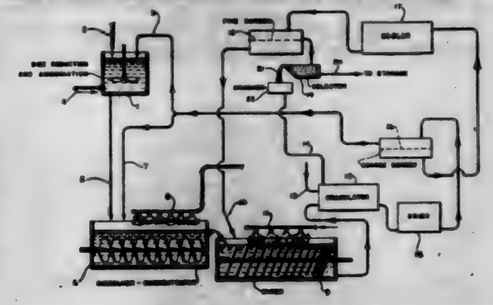
1. A method of making phosphatic fertilizers which is characterized by the steps of: admixing (1) a metaphosphate selected from the group consisting of calcium, sodium and potassium metaphosphates, (2) from one to four times the stoichiometric amount of water required for complete hydrolysis of said metaphosphate and (3) a basic fertilizer material; autoclaving said mixture under superatmospheric pressure and at an elevated temperature not exceeding 350° F.; and agitating said mixture during autoclaving, said agitation and autoclaving being continued until said metaphosphate is substantially completely hydrolyzed to a water-soluble orthophosphate, said basic fertilizer material neutralizing any acid formed by said hydrolysis reaction, said mixture being thereby converted to a substantially dry, fully reacted, soluble fertilizer without the addition of acid.

2,978,312
PROCESSES FOR PRODUCING FERTILIZERS AND PRODUCTS THEREOF
James E. Seymour, Collinsville, Ill., assignor, by mesne assignments, to Central Farmers Fertilizer Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 29, 1955, Ser. No. 497,787
4 Claims. (Cl. 71—33)

1. A process for producing fertilizers comprising combining at least one metaphosphate selected from the group consisting of calcium metaphosphate, potassium metaphosphate, and sodium metaphosphate, a hydrolyzing agent selected from the group consisting of the strong bases of sodium and potassium, and water, the hydrolyzing agent being included in an effective proportion not materially exceeding the stoichiometric quantity required to react with the hydrolysis product of such metaphosphate, and the water being present in proportion sufficient for substantial hydrolysis of such metaphosphate and not exceeding several times the stoichiometric quantity required for such hydrolysis, intimately mixing the resulting reaction mixture to cause hydrolysis of the metaphosphate, and curing the resulting product.

2,978,313
GRANULAR FERTILIZERS AND PROCESSES FOR MAKING THEM
Jean Meyrand, Chauny, and Bernard Bigot, Grand Quevilly, France, assignors to Compagnie de Saint-Gobain, Paris, France
Original application July 9, 1952, Ser. No. 297,872, now Patent No. 2,859,105, dated Nov. 4, 1958. Divided and this application Feb. 21, 1956, Ser. No. 566,993
4 Claims. (Cl. 71—37)

1. In a process of producing a ternary fertilizer in which phosphate of fertilizer grade is reacted with mixed inorganic acids containing nitric acid, the steps of ammoniating the acidified reaction mass and removing calcium nitrate therefrom, subsequently ammoniating the

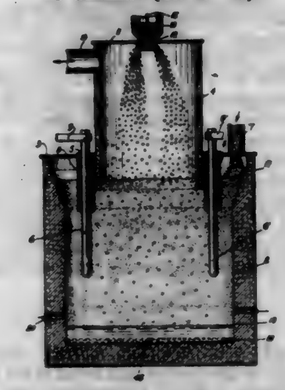


reaction mass and adding a final product of the process containing a soluble potassium component thereto during the ammoniation, and then adding a further amount of a soluble potassium salt to the product of ammoniation, and granulating and drying the product.

2,978,314
COMPOSITIONS FOR ELECTRICAL RESISTANCE FILMS
Lawrence B. Krauss, Rosedale, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Mar. 5, 1956, Ser. No. 569,346
2 Claims. (Cl. 75—.5)

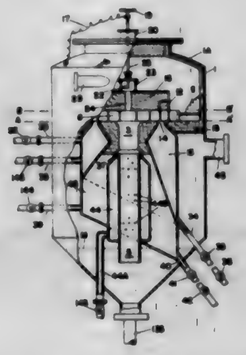
1. As a new composition of matter, an intimate physical mixture of finely divided metallic particles consisting of substantially 80 percent total weight of palladium and rhodium in the weight proportions of from 1.4 to 1.67 of palladium to 1 of rhodium, the balance of the total weight being gold.

2,978,315
ELECTRICAL HEATING PROCESS AND APPARATUS
Hermann Schenck, Intzestrasse 1, Aachen, Germany, and Werner Wenzel, Bad Godesberg, Germany (Prinz-Heinrich Str. 29, Aachen, Germany)
Filed Apr. 8, 1957, Ser. No. 651,272
Claims priority, application Germany Aug. 31, 1955
13 Claims. (Cl. 75—.5)



1. In a process for electrically melting ores, the steps of conducting an electrical current without breakdown through at least a portion of a fluidized bed of carbonaceous bodies, so as to heat the fluidized bed to a predetermined reaction temperature; and distributing ore bodies through said heated bed to be reduced by said carbonaceous bodies at said temperature of said bed and melted therein.

2,978,316
PRODUCTION OF ELEMENTS AND COMPOUNDS BY CONTINUOUS VAPOR PLATING OF PARTICLES
Horace McColloch Weir, Apt. F10 Brynwood Apt., Wynnewood, Pa.
Filed Sept. 14, 1953, Ser. No. 379,867
21 Claims. (Cl. 75—10)



7. The process of decomposing a metal halide in the presence of extended discontinuous hot surfaces of said metal which comprises the steps of continuously forming a gas phase containing said halide, suspending discrete particles of said metal in the continuously flowing gas phase in regulated weight ratio, maintaining an electric arc in the path of flow of the suspension and continuously supplying electric energy to said arc to heat at least substantial fractions of both the discontinuous solid particles and the continuous gas phase above the temperature of substantial decomposition of the gas phase, adjusting the velocity of particle transit thru the arc to avoid heating thereof to temperatures at which the metal exerts a substantial vapor pressure and separating the two phases prior to substantial removal of heat therefrom.

2,978,317
METHOD OF PROCESSING LATERITIC NICKELIFEROUS ORES
Tokaichi Takakuwa, 4228 Minaminaya-cho, Yokkaichi-shi, Mie-ken, Japan
No Drawing. Filed Mar. 26, 1959, Ser. No. 802,035
Claims priority, application Japan Aug. 29, 1958
12 Claims. (Cl. 75—21)

1. A method of processing lateritic nickeliferous ore, comprising pulping the ore to separate the cobalt and chromium values as minerals, then coagulating the iron and nickel values to separate the same as a concentrate from the pulp; subjecting the iron and nickel concentrate to a selective smelting to produce a ferronickel alloy; subjecting the slag yielded as a by-product of said selective smelting to a further selective smelting to produce a crude steel containing less than 1.0% Cr; and refining the crude steel to a commercial steel substantially free of chromium.

2,978,318
METHOD OF PRODUCING STEEL FROM PULVERULENT IRON PRODUCTS RICH IN CARBON
Bo Michael Sture Kalling, Domnarvet, and Folke Karl Evald Johansson, Hallsjogarden, Borlange, Sweden, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a company of Sweden
No Drawing. Filed June 30, 1958, Ser. No. 745,324
Claims priority, application Sweden July 15, 1957
7 Claims. (Cl. 75—43)

1. Method of producing a melt of iron and steel in a compact state from a pulverulent iron material rich in carbon and containing iron oxides remaining from an incomplete ore reduction, which comprises the steps consisting of precharging a furnace with molten ferrous metal to form a molten bath therein, stirring the charge of molten ferous metal by mechanical means, and during the run of the procedure substantially continuously introducing the pulverulent iron material into the bath, the intensity of said stirring being such that said material is reduced and carbon monoxide is generated whilst simultaneously blowing into the furnace an oxygen-rich gas in quantity sufficient to burn said carbon monoxide to carbon dioxide and to keep the material in molten state, the intensity of said stirring being such that the carbon of the material is burned substantially into carbon dioxide in the furnace.

2,978,319
HIGH STRENGTH, LOW ALLOY STEELS
Winston H. Chang, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
No Drawing. Filed Nov. 6, 1959, Ser. No. 851,268
6 Claims. (Cl. 75—128)

1. A high strength, low alloy steel comprising by weight about 0.5–2% total of manganese, molybdenum and vanadium, 0.45–0.55% carbon, 4.5–7.5% nickel, 0.75–1.25% chromium, 1.75–2.25% silicon, with the balance essentially iron and impurities.

2,978,320
METHOD FOR PRODUCING A HIGH STRENGTH FERROUS METAL
William B. Larson, Birmingham, Robert F. Thomson, Grosse Pointe Woods, and Fred J. Webbere, Orchard Lake, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Dec. 29, 1958, Ser. No. 783,144
8 Claims. (Cl. 75—130)

1. A method of producing a ferrous metal casting having a high modulus of elasticity, tensile strength and yield strength in the as-cast condition, said method comprising forming a melt which would solidify with an essentially white iron microstructure in the absence of boron, said melt comprising 1% to 2.5% carbon, 1.5% to 3.2% silicon, manganese not in excess of 1.15%, 0.001% to 0.05% boron and the balance substantially all iron, superheating said melt to a temperature of about 2900° F. to 3100° F. for a period of time sufficient to insure that castings produced therefrom have a microstructure substantially free of flake graphite with free carbon predominantly in the form of compacted graphite, and subsequently pouring said melt at a temperature of about 2600° F. to 2800° F. into a mold.

2,978,321
OXIDATION RESISTANT ALLOY
James A. McGurty, Cincinnati, and Earl S. Funston, Hamilton, Ohio, assignors to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 29, 1959, Ser. No. 843,301
3 Claims. (Cl. 75—150)

1. A binary alloy of yttrium and beryllium which consists of from 15.0 to 50.0 weight percent yttrium and the balance being beryllium.

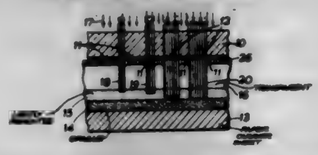
2,978,322
PYROPHORIC ALLOYS WITHOUT IRON
Walter Bungardt, Essen-Bredeney, Germany, assignor to Ronson Metals Corporation, Newark, N.J.
No Drawing. Filed Jan. 31, 1958, Ser. No. 712,307
Claims priority, application Germany Feb. 8, 1957
2 Claims. (Cl. 75—152)

1. A pyrophoric mass suitable for extrusion to produce finished flints in rod formation; consisting essentially of cerium (misch metal) with zinc ranging from 5% to 25% by weight, and having an addition of at least one of the elements selected from the group consisting of copper, cadmium, antimony, bismuth and manganese, said addition ranging from 2% to 6% by weight, and a further addition of magnesium amounting to about .5% to 5% by weight to adjust the extrusion pressure to at least 4,100 kg./cm.², the balance being cerium (misch metal).

2,978,323
ALLOYED FLOCKS FROM METAL CARBONYLS AND HALIDES
Arnold Schwockenbecher, Roselle Park, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 17, 1956, Ser. No. 628,542
9 Claims. (Cl. 75—211)

1. The process of preparing sintered magnetizable bodies of 90–93% porosity which comprises treating a metal carbonyl in the free-space of a vessel heated to a temperature ranging from 250–300° C. with a liquid halide selected from the class consisting of chlorides and bromides of the elements of arsenic, boron, phosphorus silicon and titanium to yield flocks containing from 0.01% to 7.5% of the element from the said halide, and sintering the resulting flock.

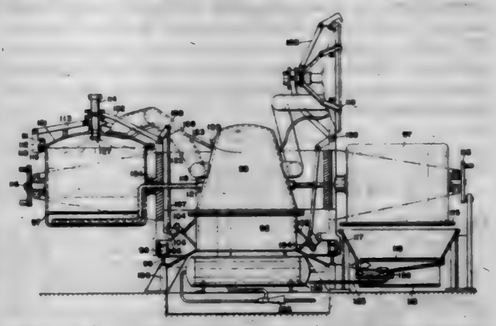
2,978,324
HALF-TONE PRINTING BLOCKS
Gerda Heusener, Cologne-Nippes, Germany, assignor to Koch Processes Limited, London, England, a British company
Filed Feb. 23, 1954, Ser. No. 411,802
Claims priority, application Great Britain Feb. 27, 1953
9 Claims. (Cl. 96—35)



1. A method of producing a half-tone printing block that comprises (*a*) preparing on a carrier a foil comprising at least two layers of colloidal material superposed one on the other, one of the layers being relatively thick and transparent and the other being relatively thin and slightly pigmented; (*b*) photo-sensitizing said layers; (*c*) printing down on said foil with light directed through a screened half-tone negative and said relatively thick layer in succession to said relatively thin layer to a degree sufficient to harden the light exposed areas of the colloidal material in said relatively thick and thin layers to a depth in said relatively thin layer proportional to the dot size in said screened half-tone negative; (*d*) hardening the surface of said relatively thick layer remote from said relatively thin layer; (*e*) affixing the exposed foil to a support with said hardened surface contiguous thereto; and (*f*) washing out the unexposed parts of said layers to produce a printing block in which the heights of the dots is proportional to the diameters thereof.

2,978,325
METHOD OF BLANCHING FOOD PRODUCTS
Carlyle Martin Ashley, Fayetteville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Nov. 14, 1951, Ser. No. 256,315, now Patent No. 2,870,020, dated Jan. 20, 1959. Divided and this application June 2, 1958, Ser. No. 739,142
1 Claim. (Cl. 99—1)

In a method of continuously blanching food products, the steps which consist in placing steam in contact with the food product in a vessel to heat the same and condensing a portion of the steam thereon at a first station, discontinuing the supply of steam, collecting the condensate and nutrients from the food product reducing the pressure about the food product at a second station to evaporate liquid present on the surface of the food product to cool the same, continuing the cooling operation

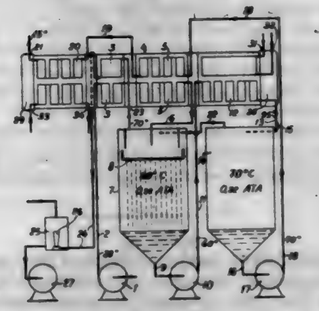


while spraying condensate and nutrients over the surfaces of the food product at a third station to return a substantial part of the condensate and nutrients to the food product and removing the food product from the vessel at a fourth station while collecing condensate and nutrients remaining in the vessel for supply to a food product at the third station.

2,978,326
THERMAL PRESSURE PREPARATION OF HIGH FAT MEAL
Norman F. Kruse, Decatur, Ind., assignor to Central Soya Company, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Apr. 19, 1957, Ser. No. 653,862
6 Claims. (Cl. 99—2)

1. In a process for preparing a high-fat-content, free flowing, dry oilseed meal, the steps of mixing an oilseed meal with more than 10% of fat at a temperature at which the fat is liquid, extruding the meal under heat and pressure in excess of 1,000 lbs. per square inch to force the liquid fat into extruded hard pieces having dry exterior surfaces, and cooling said pieces.

2,978,327
METHOD AND APPARATUS FOR DEODORIZING LIQUIDS
Harry Robert Rasmussen, Enskede, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed July 7, 1955, Ser. No. 520,570
8 Claims. (Cl. 99—61)



1. A method for deodorizing liquids, especially milk products, which comprises flowing the liquid continuously through a first stage and then through a second stage of treatment, both of said stages being maintained under

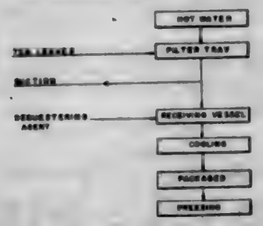
substantially equal subatmospheric pressures, heating the liquid indirectly before passing it into said first stage, maintaining the temperature of the liquid in said first stage below the boiling point of the liquid at the absolute pressure existing in said first stage and below the liquid temperature in the second stage, indirectly heating the liquid passing from the first stage to the second stage, maintaining the temperature of the liquid in the second stage at about the boiling point of the liquid at the absolute pressure existing in the second stage, while admitting only said liquid into the second stage, and exhausting gases and steam by suction from the second stage to and through the first stage.

2,978,328

PROCESS FOR PRODUCING A TEA CONCENTRATE

Douglas Ernest Melnard, Swampscott, and David A. Kendall, West Newton, Mass., and Albert J. Karas, Catonsville, Md., assignors, by direct and mesne assignments, to Tea Corporation, Baltimore, Md., a corporation of Maryland

Filed June 24, 1953, Ser. No. 744,111
14 Claims. (Cl. 99—77)



1. A process for producing a tea concentrate capable of being reconstituted with water to form a tea beverage comprising treating a quantity of particulated tea leaves with hot water to extract a tea concentrate therefrom, combining said tea concentrate with a non-toxic calcium sequestering agent which is in amount sufficient to combine with substantially all of the calcium ions present in the final tea beverage but insufficient to affect adversely the delicate flavor and aroma constituents of the tea, cooling and freezing said concentrate.

2,978,329

PROCESS OF PREPARING YEAST-LEAVENED BAKED GOODS

Walter M. Cochran, Highland Park, and Fred Eber, Northbrook, Ill., assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed July 29, 1957, Ser. No. 674,685
4 Claims. (Cl. 99—90)

1. The method of preparing yeast-leavened baked goods which comprises the step of mixing with the dry ingredients of the recipe for said goods finely-divided, free-flowing, edible emulsifier having a particle size below about 150 microns and having a chemical composition which renders said emulsifier normally solid at ambient room temperature, said finely-divided emulsifier constituting the sole added emulsifier in the raw goods at the time the liquid ingredients of the recipe are added to said dry ingredients.

2,978,330

METHODS FOR PRODUCING BAKED GOODS

Charles G. Ferrari, Evanston, Ill., assignor to J. R. Short Milling Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 27, 1958, Ser. No. 744,907
2 Claims. (Cl. 99—90)

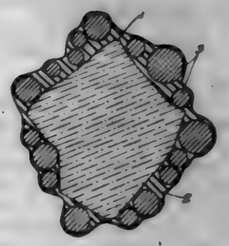
1. In the method for preparing baked goods including the steps of combining dough ingredients to form a dough mixture having an aqueous phase, and mechanically mixing the same to develop a completed dough, the improvement comprising introducing into such dough mixture a quantity of a finely particulate inorganic bread improver compound selected from the group consisting of calcium peroxide, the phosphates of calcium and ammonium, the persulfates of calcium, potassium, sodium and ammonium, potassium bromate, potassium iodate, ammonium sulfate, calcium sulfate, ammonium chloride, sodium chlorite and calcium carbonate, individual particles of said bread improver compound being physically directly connected to and at least partially covered by different amounts of a normally solid water-emulsifiable protective material comprising as its predominant ingredient at least one member of the group consisting of lecithin, monoglycerides having an iodine value not exceeding 50, mixed mono- and diglycerides having an iodine value not exceeding 50, and the tartaric acid esters of mono- and diglycerides having an iodine value not exceeding 50, said protective material being present in an effective amount in the range of from ¼ to twice the weight of said bread improver compound, whereby said quantity of bread improver compound is progressively released for contact with the aqueous phase of the dough during said mixing step, particles of said bread improver compound which are connected to greater amounts of said protective material being released only after other particles, connected to lesser amounts of said protective material, have already been released.

2,978,331

BREAD IMPROVER COMPOSITIONS AND METHODS FOR PREPARING THE SAME

Charles G. Ferrari, Evanston, Ill., assignor to J. R. Short Milling Company, Chicago, Ill., a corporation of Illinois

Filed June 27, 1958, Ser. No. 745,123
13 Claims. (Cl. 99—91)



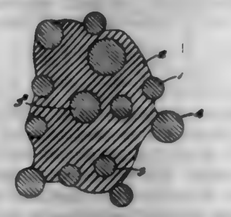
1. The method for preparing a bread improver material capable of exhibiting a delayed action during mixing of the dough to which it is added, comprising first uniformly mixing a particulate, solid, edible carrier material having an average particle size of 30–80 mesh with an initial amount of a normally solid, water-emulsifiable, edible protective material comprising as its predominant ingredient at least one material selected from the group consisting of monoglycerides having an iodine value not in excess of 50, mixed mono- and diglycerides having an iodine value not in excess of 50, the tartaric acid esters of mono- and diglycerides having an iodine value not in excess of 50, and normally solid mixtures of such materials with lecithin, while maintaining the mixture at an elevated temperature at least approaching the congealing point of said protective material, such mixing step causing said protective material to be spread in the form of continuous coatings over the surfaces of the particles of said carrier material, then introducing to the mixture a finely divided inorganic bread improver compound having an average particle size smaller than 100 mesh and an additional amount of such protective material and further mixing the same to establish on the particles of said carrier material thicker coatings of said protective material, in which coatings particles of said inorganic bread improver compound are enveloped, and then cooling the resulting product, while agitating the same, to cause said protective material to congeal, said protective material being employed in an amount equal to from 1/10 to ½ times the weight of said bread improver compound and said carrier material being employed in an amount equal to from ½ to 3 times the weight of said bread improver compound.

2,978,332

BREAD IMPROVER COMPOSITIONS AND METHODS FOR PREPARING THE SAME

Charles G. Ferrari, Evanston, Ill., assignor to J. R. Short Milling Company, Chicago, Ill., a corporation of Illinois

Filed June 27, 1958, Ser. No. 745,173
6 Claims. (Cl. 99—91)



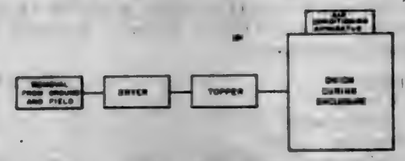
1. A bread improver composition comprising a finely divided, solid, inorganic bread improver compound selected from the group consisting of calcium peroxide, the phosphates of calcium and ammonium, the persulfates of calcium, potassium, sodium and ammonium, potassium bromate, potassium iodate, ammonium sulfate, calcium sulfate, ammonium chloride, sodium chlorite and calcium carbonate, at least the major proportion of which is physically combined with a more coarsely particulate, normally solid, edible, water-emulsifiable protective material comprising as its predominant constituent at least one water-emulsifiable material selected from the group consisting of monoglycerides having an iodine value not exceeding 50, mixed mono- and diglycerides having an iodine value not exceeding 50, the tartaric acid esters of mono- and diglycerides having an iodine value not exceeding 50, and normally solid mixtures of such materials with lecithin, the weight of said protective material amounting to from ¼ to 2 times the weight of said inorganic compound, some particles of said inorganic compound being fully embedded in said protective material, other particles of said inorganic compound having at least a portion of their surfaces exposed.

2,978,333

METHOD OF PREPARING ONIONS FOR SHIPMENT

Ferdinand Austin Tolgen, Minneapolis, Minn., assignor to Allison, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 13, 1958, Ser. No. 766,946
4 Claims. (Cl. 99—100)



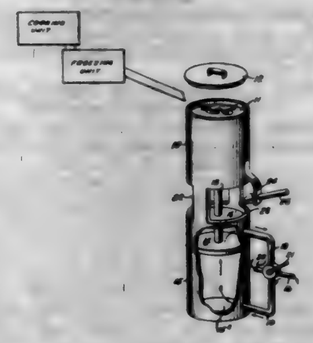
1. A method of preparing bulb onions for shipment, comprising the steps of: removing from the soil bulb onions with the tops intact; forcing into contact with and through said onions after removal from the field, air conditioned to have a vapor pressure substantially lower than that of said onions and a temperature sufficiently higher than that of said onions to only superficially dry said onions; severing the tops of said onions and compressing the necks of the residual bulbs by shearing stress while said onions are free from superfluous moisture; delivering the residual bulbs substantially immediately after topping to a substantially weather-proof enclosure; and forcing into contact with and through said bulbs, when the temperature of said bulbs is outside the degree fixed as the concurrently desired temperature thereof and/or when said bulbs carry superfluous moisture, air conditioned to have the capacity to adjust the temperature of said bulbs to said fixed degree and/or to dissipate superfluous moisture when carried by said bulbs, until said bulbs are shipped.

2,978,334

PROCESS FOR EXTRACTING MEATS FROM CRUSTACEANS

James Marital Lapeyre, New Orleans, La., assignor to The Peelers Company, Houma, La., a partnership of Louisiana

Filed Oct. 7, 1957, Ser. No. 688,481
4 Claims. (Cl. 99—111)



1. The process of extracting meats from crustaceans consisting in freezing the crustacean and suddenly lowering the pressure on the outside of the subject crustacean relatively to the internal pressure.

2,978,335

WHIPPING AGENT AND METHOD OF PREPARING THE SAME

David F. Kidger, Glen Rock, N.J., and Robert J. Baumerlen, Park Forest, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 7, 1959, Ser. No. 785,339
11 Claims. (Cl. 99—113)

1. A new composition of matter comprising a proteinaceous material having embodied therein a water-soluble polyester prepared by the esterification of an aliphatic glycol having 3–4 carbon atoms with a polycarboxylic hydroxy aliphatic acid having 4–6 carbon atoms, the amount of said water-soluble polyester being sufficient to impart improved foaming properties to the proteinaceous material.

2,978,336

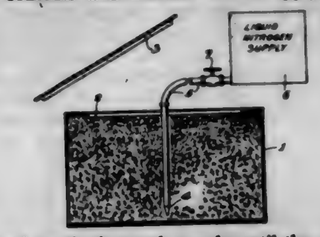
METHOD OF PRESERVING EDIBLE MATERIAL

Willard Langdon Morrison, Lake Forest, Ill., assignor, by mesne assignments, to Liquefreeze Company, Inc., New York, N.Y., a corporation of New York

Filed June 25, 1957, Ser. No. 667,931
1 Claim. (Cl. 99—192)

The method of treating edible material which consists in first packaging the material in an open top fluid-tight

container exposed to ambient atmosphere, then discharging into the container adjacent the bottom of the mass of material contained therein in direct and intimate contact with such material at approximately atmospheric pressure and at a temperature far below the temperature of the container contents and ambient air a supply of liquid



nitrogen and continuing such supply until the contents of the container have supplied sufficient latent heat to boil and expand the liquid to gaseous phase and the resultant gas has filled the container and expelled the air therefrom, raising the temperature of the container and contents to approximately the temperature of the ambient air and thereafter sealing the container.

2,978,337

PROCESS FOR THE PREPARATION OF FOOD PRESERVES, AND PARTICULARLY OF FRUIT JUICES PULVERISED BY SUBLIMATION UNDER HIGH VACUUM

Ottavio di Gesta and Aliero Poggioli, both of Via G. Papio 20, Salerno, Italy

No Drawing. Filed June 3, 1958, Ser. No. 739,468
Claims priority, application Italy July 16, 1957
2 Claims. (Cl. 99—206)

1. In a process for preparing concentrated edible fruit and vegetable juices which comprises the steps of preconcentrating a juice under vacuum, freezing said juice and dehydrating the frozen product under vacuum, the improvements which consist in that the freezing of said juice takes place at a temperature of between —35° C. and —40° C., that the dehydration takes place under a high vacuum ranging between 0.1 micron and 0.001 micron and an average final temperature of +25° C., the residual moisture content ranging between 0.5% and 4%, and that throughout the process the temperature is less than +40° C.

2,978,338

ANTIFOULING COATINGS

Glenn A. Greathouse, Orlando, Fla., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed June 16, 1959, Ser. No. 820,834
5 Claims. (Cl. 106—15)

1. An antifouling composition consisting essentially of 1 to 3 percent by weight N-trichloromethyl thio tetra hydrophthalimide, 1 to 4 percent by weight octachloro-4, 7-methano tetra hydroindane and the balance of said composition being nitrocellulose lacquer.

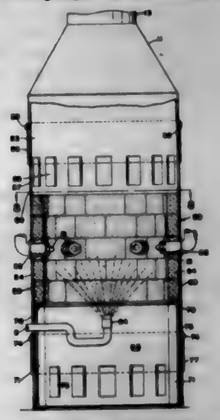
2,978,339

METHOD OF PRODUCING HOLLOW GLASS SPHERES

Franklin Veatch, Lyndhurst, Harvey E. Alford, Amherst, and Richard D. Croft, Wapakoneta, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 22, 1957, Ser. No. 691,725
3 Claims. (Cl. 106—40)

1. A method of producing hollow spheres from finely divided solid particles of material forming a glass upon fusion thereof in admixture with a compound which liberates a gas at the temperature of said fusion, which comprises passing a stream of hot gas upwardly through a vertical furnace zone at a temperature to fuse said solid particles and liberate a gas from the said compound, introducing said solid particles in the lower part of said zone so that they are propelled upwardly within said zone



by said ascending hot gas stream, adjusting the velocity of said hot gas stream within said zone so that said solid particles remain in the hot gas stream for a period of time necessary to permit fusion and expansion into unitary, hollow spheres, whereby after expansion they are carried upwardly and out of said furnace zone by the said ascending gas stream through a cooling zone, and recovering the spheres so produced.

2,978,340

HOLLOW GLASS PARTICLES AND METHOD OF PRODUCING THE SAME

Franklin Veatch, Lyndhurst, Harvey E. Alford, Amherst, and Richard D. Croft, Wapakoneta, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 22, 1957, Ser. No. 691,726
13 Claims. (Cl. 106—40)

1. A process of producing unitary, hollow, glass spheres from discrete, solid particles consisting essentially of an alkali metal silicate as a primary component together with a metal oxide forming a water insoluble glass upon fusion with the silicate and a compound which liberates a gas at the temperature of said fusion in minor amounts, the steps of suspending said particles in a heated zone at a temperature within the range of from 1000–2500° F. and for a time within the range of from 0.5 to 10 seconds to fuse the particles and liberate a gas from said compound whereby the particles become hollow, glass spheres, and then cooling and recovering the spheres so formed.

2,978,341

GLASS COMPOSITION

Richard R. Bastian, Wheeling, W. Va., and Axel C. Ottoson, Shadyside, Ohio, assignors to Imperial Glass Corporation

No Drawing. Filed Apr. 6, 1959, Ser. No. 804,143
11 Claims. (Cl. 106—50)

1. Unleached glass fibers having a diameter less than .001 inch with a "Young modulus" of at least 15 million, consisting essentially of the following chemicals in the following proportions:

Ingredient:	Parts by wt.
R oxide	12–24
Lithium oxide	2–6
Beryllium oxide	5–12

Silicon dioxide—balance to make 100 parts by weight.

wherein R is selected from the group consisting of calcium, magnesium, and mixtures thereof, said glass having a

melting temperature within a range of 2500 to 2600 degrees Fahrenheit.

2,978,342

ANTI-STRIPPING ADDITIVE FOR ASPHALTS

Jean A. A. Lefebvre, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 27, 1957, Ser. No. 680,623
6 Claims. (Cl. 106—123)

1. An improved bituminous anti-stripping composition consisting essentially of a mixture of asphalt and from 1 to 10% by weight of an alkaline earth metal salt of lignosulfonic acid.

2,978,343

REMOISTENABLE ADHESIVE COMPOSITIONS

Joseph D. Russo, San Mateo, Calif., and Richard A. Weidener, Berkeley Heights, N.J., assignors to National Starch and Chemical Corporation, a corporation of Delaware

No Drawing. Filed Oct. 9, 1958, Ser. No. 766,195
2 Claims. (Cl. 106—128)

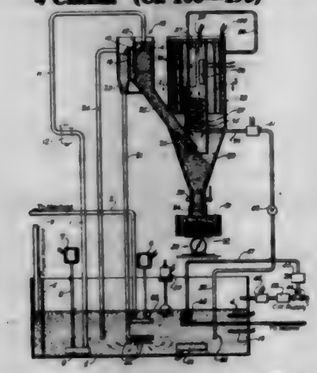
1. A remoistenable adhesive composition, consisting essentially of a mixture of (A) a solution of a water-soluble adhesive selected from the class consisting of polyvinyl methyl ether, polyvinyl pyrrolidone, hydroxypropyl methyl cellulose ether, the copolymer of vinyl methyl ether with maleic anhydride and the neutralized copolymer of vinyl acetate and crotonic acid, in a water-miscible organic solvent for said adhesive selected from the class consisting of methyl alcohol, ethyl alcohol, isopropyl alcohol, acetone, methyl ethyl ketone and methyl butyl ketone, and (B) a water-soluble adhesive selected from the class consisting of dextrine and animal glue, the adhesive of (B) being insoluble in the organic solvent of (A) and being suspended therein, and (C) water, the amount of water being from 3% to 12%, the amount of the adhesive of (A) being from 5% to 50%, the amount of the adhesive of (B) being from 25% to 65% and the amount of organic solvent being from 10% to 55%, all based on the total weight of the composition, said composition being relatively stable against settling of the suspended adhesive particles upon storage.

2,978,344

PAINT RECOVERY METHOD

Joseph Parker, Washington, D.C., and Wallace N. Knutsen, Alexandria, Va., assignors, by mesne assignments, to Illinois Tool Works, Chicago, Ill., a corporation of Illinois

Filed Sept. 19, 1956, Ser. No. 610,840
4 Claims. (Cl. 106—193)



1. The method of recovering excess paint spray material having metallic particles in a water-soluble carrier whose solubility varies inversely with temperature so as to gel upon heating, which comprises mixing the excess paint spray material with cool water to form a slurry, heating the slurry to gel said carrier, removing excess water from the slurry, and then cooling the slurry to dissolve said carrier.

2,978,345

STABILIZATION OF ZINC FERRICYANIDE

Ray Allen Clarke, Pitman, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 15, 1958, Ser. No. 735,372
7 Claims. (Cl. 106—193)

1. A process of stabilizing zinc ferricyanide against decomposition under the action of light, which comprises modifying the same by the aid of ionizable, water-soluble guanidine salts and zinc salts in the presence of chloride ions, the quantities of said salts being sufficient to supply from 2 to 12 moles of guanidinium ion and from 12 to 2 moles of excess zinc ion, and the quantity of chloride ions present being from 40 to 10 moles, per mole of $Zn_3[Fe(CN)_6]_2$.

2,978,346

PAINT LATICES FROM SUPER BODIED OILS

Charles E. Penoyer, Burton, Ohio, assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 20, 1959, Ser. No. 807,276
2 Claims. (Cl. 106—252)

2. An oil-in-water emulsion which comprises a vacuum and heat bodied linseed oil, free from gel particles having a viscosity of greater than 50 minutes but less than 75 minutes, said bodied oil reduced with a volatile organic solvent comprising a minor amount of an oxyalkylated monoalcohol, said monoalcohol containing from 1 to 3 carbon atoms and a major amount of a volatile hydrocarbon solvent to not less than 80% non-volatile content as the disperse phase and a continuous aqueous phase comprising water, from 1 to 5% by weight of the disperse phase of a non-ionic emulsifying agent having an HN between 39 and 43 and 6 to 10% by weight of said oil of an alkali metal salt of a polymerized drying oil fatty acid containing principally dimers and trimers thereof, said emulsion containing an alkali metal phosphate in a quantity sufficient to impose a pH of between 8.0 and 9.5 and the quantity of the disperse oil phase of the order of 40 to 60% by weight of the total product.

2,978,347

ORGANO-ZIRCONIUM DERIVATIVES

James O. Koehler, Parma, and Headlee Lamprey, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 21, 1956, Ser. No. 629,797
10 Claims. (Cl. 106—308)

1. A process for reducing the dispersion time of inorganic and organic pigments in paint, varnish and organic base ink media, which process comprises adding about 0.1 percent to about 5 percent by weight of said media of at least one organo-zirconium derivative selected from the group consisting of the amino alcohol zirconates having the formula

$$(RO)_xZr[OC_2H_4N(R')_2]_{4-x}(HO_2CR'')_y$$

wherein R and R' are radicals selected from the group consisting of aryl, alkaryl, aralkyl, alkyl and substituted alkyl groups having up to 18 carbon atoms; R'' is a radical selected from the group consisting of alkyl and substituted alkyl groups having from 10 to 18 carbon atoms; x is a number between 0 and 3, and y is a number whose

maximum value equals (4—x), and the polyhydric alcohol zirconates having the formula

$$(RO)_{4-x}Zr\left(OCH_2-\underset{R''}{\overset{R'}{C}}-R'''(OH)\right)_{x+1}$$

wherein R is a radical selected from the group consisting of aryl, aralkyl, alkaryl, alkyl and substituted alkyl radicals having up to 18 carbon atoms, R′ R″ are radicals selected from the group consisting of hydrogen alkyl and substituted alkyl groups, R‴ is an organic member selected from the group consisting of the alkylene and substituted alkylene radicals and x is a number up to 3, and thoroughly dispersing said organo-zirconium derivative in said media.

2,978,348
METHOD AND COMPOSITION FOR PRESERVING FOLIAGE
George R. Fernandes, Baltimore, Md., assignor to Claymore C. Sieck, Baltimore, Md.
No Drawing. Filed May 6, 1957, Ser. No. 657,018
12 Claims. (Cl. 117—3)

1. In the method of preserving foliage, the steps comprising immersing the foliage in an aqueous solution comprising a humectant having bactericidal and germicidal properties; an aluminum salt which is water-soluble below a given pH and water-insoluble above said pH; and a water-soluble volatile fatty acid present in an amount to maintain the solution below said pH; allowing the foliage to remain in said solution until the tissues thereof are permeated therewith, and then removing the foliage from said solution and allowing the volatile constituents to evaporate from the permeated tissues.

2,978,349
SOIL PROOFING
John S. Walsh, Arnold, and Clare L. Milton, Jr., Ellicott City, Md., assignors to Eastern Products Corporation, a corporation of Maryland
Filed July 3, 1957, Ser. No. 669,884
5 Claims. (Cl. 117—16)

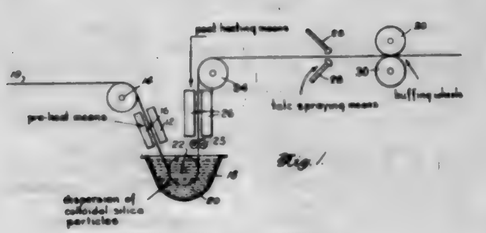
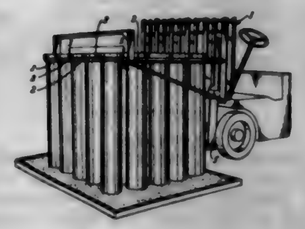


Fig. 1

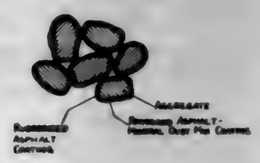
1. A method of treating a strip of painted metal to impart resistance to permanent soiling thereto and to lubricate said strip prior to subsequent forming operations which comprises heating said strip to a temperature of at least approximately 120° F. and yet not high enough to discolor the painted surface, applying an aqueous colloidal dispersion of silica to said strip while in the heated state, heating said wet coated strip to a surface temperature of above approximately 250° F. and yet not high enough to discolor the painted surface, dusting talc onto both surfaces of said heated strip, and buffing the surfaces of said strip whereby the talc is rubbed in and the excess removed.

2,978,350
CERAMIC GLAZED VITRIFIED TILE AND METHOD AND APPARATUS FOR MAKING THE SAME
Charles L. Wilson, Brazil, Ind., assignor to American Vitrified Products Company, Cleveland, Ohio, a corporation of New Jersey
Filed Feb. 6, 1958, Ser. No. 713,701
6 Claims. (Cl. 117—18)



1. The method of coating a plurality of clay drain tiles each having a bell at one end and a spigot at the other end with ceramic glaze forming material adapted to form a ceramic glaze thereon when the article is fired, and comprising concurrently supporting the tiles, spigot ends at the bottom, on their lower ends in rows and in spaced relation to each other in a drier, drying the tile therein by heat, then concurrently passing between the rows, below the level of the bells, spaced arms of a support which are adapted to engage the undersides of all of the bells when the support is lifted, lifting the support to suspend all of the tiles by their bell ends from the support, with the bell ends upwardly, relatively moving the support over a tank of slurry of the glaze material and relatively lowering it to completely immerse the tiles, concurrently, in the slurry, while they retain a substantial portion of their drying heat, raising the support to lift the tiles from the slurry, transporting the support with the tiles suspended thereon to a subsequent operating station.

2,978,351
PAVING COMPOSITION
Harold B. Fuller, Box 800, Magnolia, Ark.
Filed May 28, 1958, Ser. No. 738,297
3 Claims. (Cl. 117—32)



3. Cold compactable, loose, friable, storage-stable paving composition particles composed of coarse graded mineral aggregate particles, a substantially uniform coating on said aggregate of relatively soft asphalt, and an adherent surface layer composed of from about 2% to about 3% by weight of a mixture of discrete mineral dust and powdered asphalt particles in the proportion of from about 25% to about 75% by weight of mineral dust to from about 75% to about 25% by weight of powdered asphalt on said coated aggregate retaining the aggregate in the form of said loose, friable, storage-stable, compactable particle condition and for raising the softening point of the asphaltic coating on the aggregate by amalgamation of said asphaltic materials on compaction.

2,978,352
PRODUCTION OF TRIARYLMETHANE COLORS
Ray Allen Clarke, Pitman, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 25, 1957, Ser. No. 674,039
2 Claims. (Cl. 117—36)

1. A process of converting into color a colorless triarylmethane compound of the group consisting of leucotriarylmethanes, triarylmethane carbinols, lower alkyl ethers of triarylmethane carbinols and inner carboxy esters of triarylmethane carbinols, which comprises reacting said colorless compound, in the absence of other oxidizing agents, with a metal ferricyanide of the group consisting of cupric ferricyanide, silver ferricyanide, zinc ferricyanide, cadmium ferricyanide and mercuric ferricyanide.

2,978,353
SAFETY TOOLS
Walter R. Meier, Lincoln, Nebr.
(143 S. Rose Lane, Columbus, Nebr.)
Filed Sept. 27, 1956, Ser. No. 612,563
2 Claims. (Cl. 117—37)



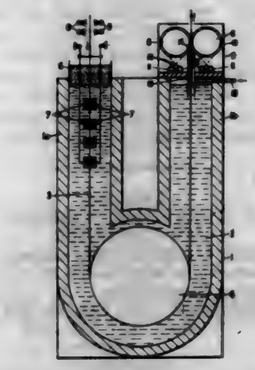
2. In a spark-proof hand tool of the character described, an inner frame of steel defining the basic shape and location of the work-engaging surfaces of the tool and a non-sparking coating over the entire surface of said tool, said coating on the work-engaging surfaces of the tool consisting essentially of a nickel-chromium-boron alloy integrally united with said internal surfaces and said coating on the non-work-engaging surfaces consisting essentially of a snythetic resin integrally united with said surfaces, the thickness of said coating over said work-engaging surface being approximately 1/64 of an inch.

2,978,354
METHOD OF APPLYING A COATING
David K. Lesser, P.O. Box 1642, Wilmington, Del.
No Drawing. Filed Mar. 18, 1958, Ser. No. 722,140
7 Claims. (Cl. 117—47)

1. A method of applying a polymerized coating of an unsaturated polyester upon a substrate which comprises the steps of applying a ground coat essentially consisting of an aqueous solution of hydrogen peroxide to said substrate, drying said ground coat, and applying said unsaturated polyester over said dried ground coat to rapidly cure said unsaturated polyester and form a polymerized coating over said substrate.

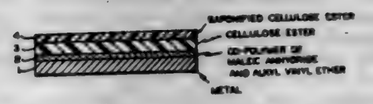
2,978,355
METHOD AND APPARATUS FOR COATING METALS
Andreas Busch, Elvichstrasse 34, Weissenhorn, Germany
Filed Nov. 19, 1957, Ser. No. 697,360
Claims priority, application Germany Nov. 22, 1956
12 Claims. (Cl. 117—51)

1. The process of metallizing a metal strip, including steel strip, by means of hot dipping; comprising the steps of preheating said strip, contacting said strip with flux means, passing said strip through a bath of metallic melt, then feeding said strip between squeezing rollers at a location out of contact with said melt and in the presence of an inert protective gaseous medium, to rid said strip of surplus metal, and simultaneously supplying



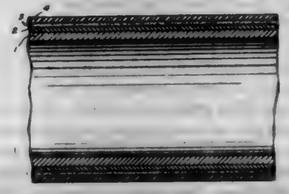
to the strip surfaces predetermined small quantities of a reducing and lubricating agent, respectively.

2,978,356
LAMINATED STRUCTURE AND PROCESS FOR PREPARING SAME
Arno E. Gonzl, Vestal, N.N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 18, 1958, Ser. No. 722,252
4 Claims. (Cl. 117—62)



1. A laminated film casting band for use in casting films comprising in that order, a stainless steel casting band, a bonding layer consisting of the copolymer of maleic anhydride with a lower alkylvinyl ether and a cellulose ester layer having a saponified and de-esterified outer surface, said copolymer layer being bonded directly to said stainless steel band and to said cellulose ester layer.

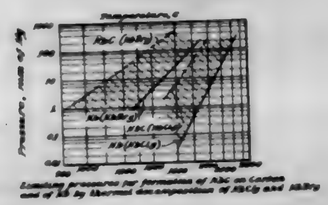
2,978,357
PROCESS OF PROTECTIVELY COATING TUBULAR ELEMENTS, STRUCTURAL SHAPES AND THE LIKE WITH AT LEAST ONE THERMOPLASTIC RESIN SHEATH
Francesco Fuganza, Milan, Italy, assignor to Dalmine S.p.A., Milan, Italy
Filed June 17, 1958, Ser. No. 742,503
4 Claims. (Cl. 117—75)



4. A protectively coated tube, comprising, in combination, a metallic tubular body having an outer roughened surface; a first coating of a substance selected from the group consisting of tar and bitumen adhering to said outer surface of said tubular body; a second coating of a thermoplastic resin over said first coating; and a layer of adhesive consisting essentially of a mixture of about

27% of at least one resinic acid selected from the group consisting of abietic acid and pimaric acid, at least one saturated fatty acid selected from the group consisting of myristic acid and palmitic acid, at least one non-saturated fatty acid of 20–22 carbon atoms, the total of saturated and unsaturated fatty acids being about 18%, and oxidized bitumen in an amount of about 55% between and adhering to both said first coating and said second coating, whereby said second coating is intimately connected to said surface of said tubular body.

2,978,358
METHOD OF OBTAINING UNIFORM COATINGS ON GRAPHITE
Ivor E. Campbell, Gahanna, Ohio, assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 28, 1958, Ser. No. 725,477
3 Claims. (Cl. 117—94)

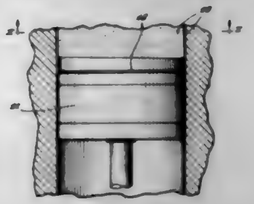


1. A method of forming uniform carbide coatings on graphite comprising passing vapors of a volatile metallic halide selected from the group consisting of zirconium tetraiodide, zirconium tetrabromide, zirconium tetrachloride, tantalum pentabromide, tantalum pentachloride, niobium pentabromide and niobium pentachloride over the graphite under conditions of temperature and pressure defined by the area between the curves showing limiting pressures for formation of the carbide being formed and for thermal decomposition of the halide employed shown in Figs. 3 to 5 of the drawings whereby decomposition of the halide is inhibited and the halide and graphite react to form a metallic carbide coating on the graphite.

2,978,359
PREPARATION OF HARDENABLE WATER SOLUBLE CONDENSATION PRODUCTS AND FINISHING OF TEXTILE FABRICS THEREWITH
Hans Wedell, Duesseldorf-Holthausen, Germany, assignor to Böhme Fettchemie G.m.b.H., Duesseldorf, Germany, a corporation of Germany
No Drawing. Filed Dec. 21, 1955, Ser. No. 554,401
Claims priority, application Germany Dec. 22, 1954
8 Claims. (Cl. 117—138.8)

1. The process of producing water-soluble, hardenable condensation products adapted for use as textile-finishing agents, which comprises subjecting a mixture composed of (1) from 6.9% to 16.0% by weight of a water-soluble salt of sulfurous acid selected from the group consisting of alkali metal sulfites, ammonium sulfites and the corresponding bisulfites and pyrosulfites, (2) from 23.0% to 42.6% by weight of an organic nitrogenous compound containing groupings selected from the group consisting of amino-groups and imino-groups, said nitrogenous compound selected from the group consisting of urea, thiourea, methylenediurea, acetylenediurea, cyanamide, guanidine, alkylguanidines, dicyandiamide, dicyandiamidine, melamine and methylol melamine, (3) from 20.9% to 44.5% by weight of an oxo compound with the proviso that said oxo compound is in sufficient quantity to provide 0.6 mol of equivalent oxo compound for each amino-group and imino-group in the nitrogenous compound, said oxo compound selected from the group consisting of formaldehyde, acetaldehyde, acrolein, glyoxal, furfural and methyl ethyl ketone, and (4) from 6.4% to 40.2% by weight of a water-soluble, condensable compound containing a plurality of atom-groups selected from the group consisting of hydroxy-groups and amide-groups, said condensable compound selected from the group consisting of starch, dextrine, pectin, alkali metal alginates, hydroxyethyl cellulose, methyl cellulose, carboxymethyl cellulose, glue, gelatine, casein, albumin, and polyvinyl alcohol to a condensation reaction in aqueous solution at a temperature between 50 and 110° C. and at a pH of 4 to 10.

2,978,360
COMBUSTION CATALYSIS
Samuel W. Bradstreet, Oak Park, and Harold L. Rechter, Chicago, Ill., assignors to Armour Research Foundation of Illinois Institute of Technology, Chicago, Ill., a corporation of Illinois
Filed Mar. 26, 1959, Ser. No. 802,134
19 Claims. (Cl. 117—104)



1. A ceramic coating composition which upon deposition onto a substrate surface forms an oxidation catalyst consisting essentially of a particulate mixture of from 30 to substantially 100% cerium oxide, 0.01 to 20% neodymium oxide, and from 0.01 to 20% praseodymium oxide, said oxides being of a particle size ranging from 0.5 micron up to —60 mesh, and small quantities of a particulate flame catalyst selected from the group consisting of lanthanum oxide, scandium oxide, yttrium oxide and mixtures thereof.

4. The method of applying a catalytic refractory coating onto a surface which comprises injecting into a combustion zone the material defined by claim 1, maintaining the temperature and residence time of said particles of said mixture in said combustion zone at a value to heat such particles to their sintering temperatures, and impinging the hot particles on the surface to form a crystalline deposit of the resulting sintered particles as an adherent coating on said surface.

2,978,361
PROCESS FOR THE SURFACE TREATMENT OF METALS
Alois Seidl, Lam, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed Sept. 3, 1957, Ser. No. 681,464
Claims priority, application Germany Mar. 19, 1954
9 Claims. (Cl. 117—127)

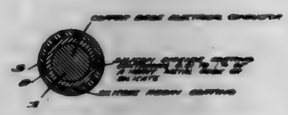
1. A process for the surface treatment of metals which comprises applying a coating of an alkaline aqueous solution of an alkali metal silicate in which the proportion of alkali metal oxide to silicon dioxide is 1:2.5 to 1:5 and 0.05% to 2%, based upon the weight of the alkali metal silicate, of at least one heavy metal in the form of an alkali stable and water soluble compound over the metal surface to produce a non-crystalline silicate containing coating, drying the coating and heating the coating to a temperature between 100 and 400° C.

2,978,362
WATER-REPELLENT FABRIC
James E. Pritchard, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 11, 1957, Ser. No. 645,825
5 Claims. (Cl. 117—135.5)



4. A method of treating fabric to impart water-repellency thereto which comprises coating the fibers of said fabric with a halogenated ethylene polymer having a halogen content of from 10 to 60 weight percent halogen selected from the group consisting of chlorine, bromine and iodine, said ethylene polymer being a polymerizate of a monomer system comprising from 85 to 100 weight percent ethylene and from 0 to 15 weight percent monoolefin selected from the group consisting of propylene, 1-butene and 2-butene, and said polymer before halogenation being characterized by a density of at least 0.94, a crystallinity at 25° C. of at least 80 percent and a softening temperature of at least 240° F.

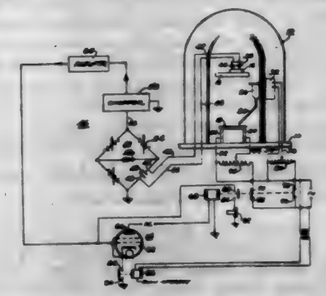
2,978,363
INSULATED ELECTRICAL CONDUCTORS
Otto Loebich, Pforzheim, and Alois Seidl, Lam, Lower Bavaria, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
Filed Oct. 11, 1956, Ser. No. 615,232
Claims priority, application Germany Oct. 12, 1955
4 Claims. (Cl. 117—215)



1. A heat resistant insulated elongated electrical copper base electrical conductor with a surface coating which essentially consists of silicon dioxide coating containing uniformly distributed therein 0.01 to 1% of at least one metal having a density over 5 grams per cc. selected from the group consisting of arsenic, cerium, iron, cobalt, copper and vanadium in the form of a compound selected from the group consisting of oxides and silicates of such metal.

2,978,364
AUTOMATIC CONTROL SYSTEM FOR PRECISION RESISTOR MANUFACTURE
Aaron Bienstein, Hicksville, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Mar. 5, 1956, Ser. No. 569,369
9 Claims. (Cl. 117—227)

9. A process for the production of a resistor having a predetermined value, comprising applying a coating of electrical resistance material to a dielectric member between two spaced terminals thereon, gradually increasing the thickness of the coating by continuously applying additional such material thereto, continuously measuring the resistance of the resulting coating between the terminals during the coating operation, and terminating the



further application of resistive coating material when a predetermined value of resistance is reached.

2,978,365
TOBACCO
Joseph N. Schumacher, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
No Drawing. Filed Apr. 7, 1959, Ser. No. 804,586
9 Claims. (Cl. 131—17)

1. A domestic tobacco having added thereto a small amount of dodecahydro-3a,6,6,9a-tetramethylnaphtho-[2,1-b]furan-2-ol sufficient to impart a cedarlike odor to a smoker.

2,978,366
FILM REMOVAL METHOD
Stephen H. Harwig, Pittsburgh, and Dwight W. Barkley, New Kensington, Pa., assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 12, 1957, Ser. No. 695,586
7 Claims. (Cl. 134—3)

1. A method of removing transparent electrically conducting metal films from transparent glass windows without impairing the optical properties of the glass windows, comprising immersing the transparent glass windows in an acidic hydrohalide solution containing a salt from the group consisting of potassium iodide and cupric chloride.

2,978,367
INTRODUCTION OF BARRIER IN GERMANIUM CRYSTALS
Aaron L. Kestenbaum, Somerville, and Samuel W. Dunkam, Readington Township, Hunterdon County, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 26, 1958, Ser. No. 737,843
5 Claims. (Cl. 148—1.5)

1. The method of fabricating a leached PN junction in an N-conductivity type germanium wafer comprising diffusing sufficient nickel into one surface of said wafer to convert at least a portion thereof to P-type, and simultaneously alloying to the opposite surface of said wafer a pellet of material selected from the group consisting of lead, tin, and lead-tin alloys, said pellet leaching sufficient nickel out of the wafer region adjacent said pellet to leave said region N-conductivity type.

2,978,368
CORROSION INHIBITION IN FERROUS METALS
Geoffrey Winton Hemley, Wantage, and Brian Reginald Thomas Frost and John Thomas Mackrey, Abingdon, England, assignors to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed July 3, 1958, Ser. No. 746,328
Claims priority, application Great Britain July 3, 1957
4 Claims. (Cl. 148—16.6)

1. A method of inhibiting corrosion of a ferrous metal plate containing nitrogen and having a surface in con-

tact with a liquid metal, comprising adding to the liquid metal an element which combines with the nitrogen in the ferrous metal plate to form a corrosion resistant nitride layer on said surface, contacting the opposite surface of the ferrous metal plate with a material which forms a nitride of the ferrous metal, and maintaining a layer of the ferrous metal nitride on said opposite surface during the time said liquid metal is in contact with the ferrous metal plate, whereby nitrogen ions migrate from said opposite surface to said first-named surface to maintain the nitride layer on said first-named surface.

2,978,369
SOLDERING FLUXES
James H. Battle, Bronx, Carl H. Hack, Flushing, and Otto König, Forest Hills, N.Y., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 6, 1958, Ser. No. 719,488
6 Claims. (Cl. 148—23)

1. A substantially residue-free solder flux solution consisting essentially of two components, the first component being selected from the class consisting of ammonium halides and substituted ammonium halides, and as a second component hydrogen bromide as uncombined hydrobromic acid, said first component being present in amount from 0.25 to 25% based on the weight of said solder flux solution, said hydrogen bromide in the form of uncombined hydrobromic acid being present in amount from 0.25 to 25% based on the weight of said solder flux solution, said solder flux solution exhibiting a decidedly acid pH value.

2,978,370
COMBINED FLUXING, CLEANING, AND TINNING DEVICE AND COMPOSITION, AND METHOD OF MAKING THE SAME
James R. Mulholland, University Heights, Ohio, assignor to Lennie Gary, Cleveland, Ohio, as trustee
No Drawing. Filed Oct. 16, 1958, Ser. No. 767,514
6 Claims. (Cl. 148—24)

1. A combined fluxing, cleaning and tinning device comprising a synthetic sponge impregnated with an aqueous flux solution, a tinning composition, and a cleaning composition, the aqueous flux solution consisting, by weight, essentially of:

Zinc chloride—about 20% to 40%
Ammonium chloride—about 7% to 16%
Balance—water;

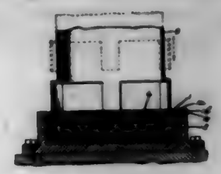
the tinning composition consisting essentially of a mixture of powdered tin and powdered lead, substantially all of a fineness of approximately 200 mesh or finer, in the ratio, by weight, of:

Tin—25 to 75%
Lead—75 to 25%

the cleaning composition consisting of a water soluble wetting agent, in the amount, by weight, of a very small percentage of the flux solution; and the flux solution and tinning composition being in the ratio, by weight, of about one part of flux solution to one and one half to two parts of the tinning composition.

2,978,371
FILM DRAWING PROCESS
Nick Bacio, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Nov. 20, 1958, Ser. No. 775,240
6 Claims. (Cl. 154—3.28)

1. A method of applying an insulating coating on a slot in the core member of an electric inductive device comprising introducing a thixotropic insulating material into said slots in a state of plasticity, drawing said insulating material along the surface of said slot in a generally uniform layer to form a coating, and hardening



said layer to form a firm insulating coating over said surfaces.

2,978,372
METHOD FOR THE MANUFACTURE OF VINYL FILM, THE RESULTING FILM, AND PAPER SPLICED THEREWITH
Milton Alfred Bergstedt, Linden, and Robert Hopkins Lamneck, Bound Brook, N.J., assignors, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 1, 1954, Ser. No. 459,847
6 Claims. (Cl. 154—43)

1. The method for the manufacture of material for splicing paper, said material fusing at a temperature below about 350° Fahrenheit, being capable of withstanding short interval exposure to high temperatures, and being disintegrable in paper-making operations; said method comprising, depositing an aqueous emulsion of a splicing composition on a supporting surface, drying said splicing composition on said supporting surface, said splicing composition comprising one hundred parts by weight of a fusible vinyl component, from about five to about twenty parts by weight of a compatible plasticizer, from about one-tenth of one part by weight to about twenty parts by weight of thickener, and from one-tenth of one part to about five parts by weight of detackifier; said fusible vinyl component composed of from about four to about twenty-five percent by weight of a fusible acrylate resin selected from the group consisting of polymers of methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, propyl acrylate, propyl methacrylate, butyl acrylate, butyl methacrylate, pentyl acrylate, pentyl methacrylate, hexyl acrylate, hexyl methacrylate, octyl acrylate, and octyl methacrylate, and from about ninety-six percent to about seventy-five percent of a fusible vinyl resin selected from the group consisting of (*a*) polymers of a single monomer selected from the group consisting of vinyl acetate, vinyl propionate and vinyl butyrate; and (*b*) copolymers of a monomer selected from the group consisting of vinyl acetate, vinyl propionate and vinyl butyrate and a cross-linking monomer, said cross-linking monomer being in an amount from 1 to 3 percent by weight.

3. A film manufactured in accordance with the method of claim 1.

6. A paper sheet having a splice composed of two ends bonded with the film of claim 3.

2,978,373
HELICAL AIR CELL PIPE COVERING
Victor Mauck, Haverford Hotel, St. Petersburg, Fla.; Edward T. Duke, R.D. Box 7, Green Lane, Pa.; and Anthony B. Bolli, 614 Yolo Road, Cynwyd, Pa.
Original application Oct. 26, 1956, Ser. No. 621,977. Divided and this application May 23, 1957, Ser. No. 665,879
10 Claims. (Cl. 154—45)

1. An air cell, insulating, pipe covering comprising a helically wound strip of corrugated material forming a tube and having its corrugations extending at an oblique angle to the longitudinal axis of the tube, the land portions only of the corrugations being continuous and uninterrupted throughout the width of the strip with the outwardly facing lands thereof progressively wider and flatter toward the edges of the strip than at the center of the strip, and with the inwardly facing lands thereof



progressively wider and flatter toward the center of the strip than at the edge of the strip, whereby the obliquely positioned lands are in effect curved to conform substantially to the curvature of a cylindrical surface concentric to the axis of said tube.

2,978,374
METHOD OF PREPARING LANTERN SLIDES
Martin D. Collins, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Mar. 26, 1956, Ser. No. 573,649
7 Claims. (Cl. 154—95)

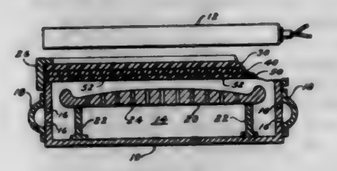
1. A process of preparing a glass lantern slide from a blank glass lantern slide and a fixed photographic positive image on a backing material made by a one-step photographic process which comprises: (1) applying to the face of said fixed photographic image a coating of a translucent, high molecular weight polymer which upon application of heat and pressure is capable of withdrawing the image from the backing material and adhering it to a glass lantern slide; (2) placing the coated face of said fixed positive image in contact with the blank lantern slide; (3) adhering said fixed positive image to the blank glass lantern slide under a pressure of 1,000 to 4,000 pounds per square inch at a temperature of 125° to 200° C.; and (4) thereupon removing the backing material from the fixed positive image on the lantern slide.

2,978,375
METHOD FOR RECONDITIONING PLASTIC COATED BOWLING PINS
William F. Grawey, 817 S. Adams St., Peoria, Ill.
Filed June 24, 1957, Ser. No. 667,431
1 Claim. (Cl. 154—104)



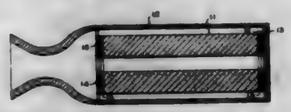
A method of reconditioning bowling pins of the type having an inner compressible core and a cover of thermoplastic material intimately bonded thereto in which a blister has formed between the core and the cover due to the resistance of the cover to inward deflection and the permanent compression of the inner core as a result of repeated impact which comprises the steps of reducing the resistance of the cover to inward deflection by heating at least the portion of the cover forming the blister until the thermoplastic material becomes soft and pliable, and remolding the cover portion while soft and pliable directly to the contour of the permanently compressed core by applying mechanical elastic pressure about the circumference thereof in the region of the permanently compressed core containing the blister while the thermoplastic cover is still in heated and softened condition, and thereby pressing said cover into contact with the compressed intercore so as to form an intimate self-bonded engagement between the interior surface of the cover and the exterior surface of the core forming the blister.

2,978,376
METHOD FOR PRODUCING LAMINATED ARTICLES
Graham Hulse, Ickenham, Uxbridge, England, assignor to Monsanto Chemicals Limited, London, England, a British company
Filed Jan. 29, 1957, Ser. No. 636,851
Claims priority, application Great Britain Feb. 3, 1956
3 Claims. (Cl. 154—110)



1. A method for producing laminated articles by a vacuum forming procedure which consists of positioning in hermetically sealed relationship on a mold box at least two sheets of thermoplastic material having interposed at least one air permeable flexible interlayer, each sheet other than the one farthest from the mold being provided with a plurality of perforations, heat softening said thermoplastic material and reducing the pressure within the mold box to less than atmospheric pressure to draw air from between the sheets and to draw the sheets into engagement with the mold.

2,978,377
BONDING BUTADIENE VINYLPYRIDINE FORMULATIONS TO METAL
Robert L. Hall, Fort Huachuca, Ariz., and David R. Smith, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 3, 1955, Ser. No. 538,079
12 Claims. (Cl. 154—129)



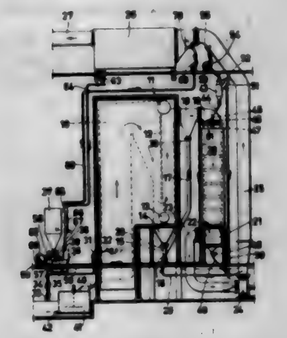
1. A method of sealing a composite propellant grain comprising an oxidant and a butadiene-2-methyl-5-vinylpyridine binder to the walls of the combustion chamber of a rocket engine, said method comprising coating the cured grain with a composition comprising an uncured polymer comprising at least 50 weight parts of a conjugated diene per 100 parts of polymer, the remaining being selected from the group consisting of vinyl-aromatic hydrocarbons and substituted vinyl-aromatic hydrocarbons, inserting the coated grain into the combustion chamber, filling the annulus between the coated grain and the combustion chamber walls with a sponge composition comprising a gas forming compound and an uncured copolymer comprising at least 50 weight parts conjugated diene and 5 to 25 weight parts of a vinylpyridine per 100 parts of copolymer, and curing the uncured compositions.

2,978,378

METHOD AND APPARATUS FOR CLEANING HEAT EXCHANGE APPARATUS CONNECTED TO RECEIVE FLUE GASES FROM SODA RECOVERY-BOILERS

Nils Ragnar Rafael Hult and Bror Olof Broman, Lidingo, Sweden, assignors to Aktiebolaget A. Ekstroms Maskinaffar, Stockholm, Sweden, a joint-stock company of Sweden

Filed Nov. 18, 1958, Ser. No. 774,649
3 Claims. (Cl. 162—30)



1. In the operation of a soda recovery-boiler from which dust-laden flue gases generated by combusting black liquor in the boiler furnace are conducted through heat exchange apparatus the gas-swept heat-transmission surfaces of which are cleaned during operation by introducing steel shot into a space above said heat exchange apparatus, said steel shot being scattered and allowed to drop against said heat-transmission surfaces to remove therefrom deposits formed thereon by the dust upon the passage of said flue gases through said heat exchange apparatus, the step which comprises adding to the flue gas stream after said boiler and before said heat exchange apparatus particles of salt-cake.

ERRATUM

For Class 162—179 see:
Patent No. 2,978,382

2,978,379

CRYSTALLINE 21-DEOXY-9α-FLUORO 6α-METHYL PREDNISOLONE

John W. Shell, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 21, 1959, Ser. No. 814,665
4 Claims. (Cl. 167—58)

2. A pharmaceutical preparation comprising a pharmaceutical carrier and 21-desoxy-9α-fluoro-6α-methylprednisolone crystals characterized by increased solubility in water and the following X-ray diffraction data:

INTERPLANAR SPACINGS, A.

8.66	4.00
6.91	3.71
6.30	3.52
5.88	3.29
5.75	3.16
5.50	3.08
5.14	2.98
4.65	2.91
4.31	

2,978,380

PROCESS FOR OBTAINING SEPARATELY SPIRAMYCIN I, SPIRAMYCIN II, AND SPIRAMYCIN III

Jean Preud'homme and Yvan Charpentie, Paris, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a corporation of France

No Drawing. Original application Jan. 12, 1956, Ser. No. 558,609. Divided and this application Sept. 9, 1957, Ser. No. 682,615
Claims priority, application France Nov. 30, 1955
1 Claim. (Cl. 167—65)

A process for obtaining separately spiramycin I, spiramycin II and spiramycin III which comprises dissolving in benzene a crude material containing the same, passing the resultant benzene solution into an alumina column, developing the column with benzene until substantially all the spiramycins II and III have been eluted, collecting such eluates as a series of fractions A, further developing the column with a mixture of benzene and acetone until substantially all the spiramycin I has been eluted, collecting the eluate as a series of fractions B; concentrating fractions B to dryness, the residue being spiramycin I; concentrating fractions A to dryness, dissolving the residue in a mixture of cyclohexane and ether, passing the resultant solution into an alumina column, developing the column successively with a mixture of cyclohexane and diethyl ether, diethyl ether alone and a mixture of diethyl ether and acetone to obtain different fractions containing mixtures rich in spiramycin II on the one hand and rich in spiramycin III on the other, separately treating the said different fractions by concentrating them to dryness, dissolving the residues in, crystallising them from, and washing them in, benzene, and drying the resultant products which are spiramycin II and spiramycin III respectively.

2,978,381

PROCESS AND COMPOSITION FOR LOWERING BLOOD SERUM CHOLESTEROL AND CHYLOMICRON LEVELS

Louis Freedman, 29 Lawrence Park Crescent, Bronxville, and Seymour L. Shapiro, 160 High St., Hastings on Hudson, N.Y.

No Drawing. Filed June 20, 1958, Ser. No. 743,582
4 Claims. (Cl. 167—65)

1. A composition of matter consisting essentially of

	Parts by weight
Vitamin B_{12}	1
Liver, desiccated	87
dl-Methionine	110
Inositol	40
Choline bitartrate	233
Safflower oil	415
dl-α-Tocopherol acetate	4
Pyridoxine HCl	2.1

Excipients and fillers q.s.

2,978,382

INCORPORATING OIL IN HARDBOARD

Harland H. Young, Western Springs, and Edward J. Majka, Chicago, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 16, 1955, Ser. No. 547,331
8 Claims. (Cl. 162—179)

1. A method of manufacturing an oil tempered fibrous hardboard comprising: forming a water slurry of fibrous material with a binder dispersed throughout, precipitating the binder onto the fibrous material, forming a nonemulsion suspension by suspending in the water slurry a finely divided fat-retaining material containing a substantial amount of a drying oil, felting the fibrous material and the oil soaked fat-retaining material onto a screen to form a fibrous mat, hot pressing the fibrous mat to substantially remove the excess water and to distribute the drying oil throughout said mat, and subsequently heating the mat at an elevated temperature for a period of time sufficient to polymerize the drying oil.

2,978,383

METHOD FOR THE PRODUCTION OF 1-GLUTAMIC ACID

Koichi Yamada, Tokyo, Japan

No Drawing. Filed Jan. 25, 1960, Ser. No. 4,237
5 Claims. (Cl. 195—47)

1. A process for the production of 1-glutamic acid which comprises cultivating *Brevibacterium divaricatum* NRRL B–2311 in an aqueous nutrient medium containing an assimilable carbohydrate source and an assimilable nitrogen source at a temperature ranging from about 10 to about 37° C. and at a pH ranging from about 6 to about 9 under submerged aerobic conditions until substantial 1-glutamic acid content is imparted to said medium.

2,978,384

METHOD FOR THE PRODUCTION OF 1-GLUTAMIC ACID

Koichi Yamada, RA24 Honcho-dori, Nakano-ku, Tokyo, Japan

No Drawing. Filed Nov. 24, 1959, Ser. No. 854,998
5 Claims. (Cl. 195—47)

1. A process for the production of 1-glutamic acid which comprises cultivating *Brevibacterium divaricatum* NRRL B–2312 in an aqueous nutrient medium containing an assimilable carbohydrate source and an assimilable nitrogen source at a temperature ranging from about 10 to about 37° C. and at a pH ranging from about 6 to about 9 under submerged aerobic conditions until substantial 1-glutamic acid content is imparted to said medium.

2,978,385

STABILIZED CHYMOTRYPSIN SOLUTION

Charles W. Damaskus, La Grange, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 5, 1957, Ser. No. 669,927
6 Claims. (Cl. 195—63)

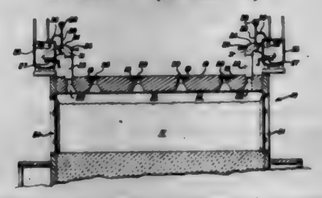
1. A substantially stabilized aqueous solution of chymotrypsin characterized by containing from .05 to 1.2% by weight of calcium acetate, said solution being at a pH of from 3.5 to 6.0 and having a concentration of alpha chymotrypsin ranging from 1 to 10 mg./cc.

2,978,386

METHOD OF PRESERVING REFRACTORY MATERIALS

Wilfred D. MacDonnell and Albert D. Shattuck, Dearborn, Mich., assignors to National Steel Corporation, a corporation of Delaware

Filed Dec. 22, 1958, Ser. No. 782,186
16 Claims. (Cl. 202—1)



1. A method of preserving refractory construction in a battery of by-product coke ovens during a close-down period, the battery of coke ovens including coking chambers and flues separated by walls of refractory construction, which comprises the steps of heating the coking chambers at an elevated temperature during the close-down period, the temperature of the coking chamber walls being about 1000–2700° F. and not exceeding the critical temperature of the refractor construction, and maintaining a non-oxidizing atmosphere within the coking chambers during the closedown period.

2,978,387

METHOD OF STRIPPING UNREACTED MONOMER USING SILICONE COATED APPARATUS

Weldin G. Chapman and Chester C. Graves, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 25, 1958, Ser. No. 717,321
10 Claims. (Cl. 202—46)

5. A method of steam stripping an unreacted monomer from a reaction mass which comprises coating at least a portion of the internal surface of a stripping zone with a polydimethyl silicone resin, heating said coating of resin at a temperature and for a time sufficient to form a dry, hard, glossy coating on said surface and then steam stripping said latex in said zone to remove the unreacted monomer therefrom, said dry, hard, glossy coating being formed by dissolving said resin in an aromatic solvent, applying the solution to said surface, allowing the solution to dry, and then baking at an elevated temperature until said dry, hard, glossy coating is obtained.

2,978,388

ELECTROCHEMICAL METHOD

Alvin R. Topfer, Ambler, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 27, 1959, Ser. No. 789,446
23 Claims. (Cl. 204—16)

1. In a method for bonding two electrically conductive elements, the steps of positioning said two elements adjacent but spaced from one another in a solution which contains ions of a metal to be plated and which is maintained at a temperature exceeding the melting point of said metal and applying a voltage between said two elements to plate said metal onto one of said elements in an amount sufficient to provide a deposit extending from said one element to the other of said elements.

2,978,389

METHOD OF TENSIONING THIN MESHES OF METAL

Andrew Alfred Turnbull, Merton Park, London, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 9, 1959, Ser. No. 792,131
Claims priority, application Great Britain Mar. 7, 1958
4 Claims. (Cl. 204—24)

1. A method of manufacturing a metallic screen structure comprising a taut metallic screen member and a rigid frame member having an opening, said screen member being stretched taut over said opening and secured at positions around said opening to said frame member; comprising the steps, placing said screen in a slack condition over said opening, securing said screen to said frame member at points positioned around said opening, electroplating said thus mounted screen in an electro-deposition bath with an amount of a metal under a state of tensile stress sufficient to cause said screen to be stretched taut over said opening.

2,978,390

GOLD PLATING SOLUTIONS

Arthur R. Atwater, East Orange, and Edward M. Julich, Old Tappan, N.J., assignors to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed July 22, 1957, Ser. No. 673,143
8 Claims. (Cl. 204—46)

1. A gold plating bath consisting of a solution made up by mixing sodium gold cyanide, distilled water, and

a member selected from the group consisting of phosphoric and fluoboric acids, said bath having a pH value of 1.8.

2,978,391
NICKEL PLATING PROCESS AND SOLUTION
Arthur H. Du Rose, Euclid, Ohio, assignor to The Harshaw Chemical Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Aug. 25, 1958, Ser. No. 757,128
8 Claims. (Cl. 204—49)

1. A nickel electroplating bath comprising an aqueous solution of a nickel electrolyte selected from the group consisting of nickel sulfate, nickel chloride, and mixtures thereof, said solution also containing cooperating brightening addition agents, one of said brightening addition agents being at least one organic compound selected from the group consisting of aromatic and unsaturated aliphatic sulfonates, sulfonamides and sulfimides and the second of said brightening addition agents being a compound of the formula A—S—$(CH_2)_n$CN, wherein n is an integer from 1 to 4 and A is selected from radicals of the class consisting of:

$$NC(CH_2)_n;\ NC(CH_2)_nS(CH_2)_m$$

m being an integer from 1 to 4; alkyl, 1 to 4 carbon atoms; alkenyl, 1 to 4 carbon atoms; alkynyl, 1 to 4 carbon atoms; $R_2NC_nH_{2n}$, where R is chosen from alkyl, alkenyl and alkynyl radicals of from 1 to 4 carbon atoms;

$$R_2N-\overset{|}{C}=N-R$$

where R is independently chosen from alkyl, alkenyl, and alkynyl radicals of from 1 to 4 carbon atoms; and compounds corresponding to the foregoing compounds wherein OCH_2CH_2 has been substituted for $(CH_2)_2$, the first said brightening addition agent being present in said solution to the extent of from 0.05 to 20 grams per liter and the second said brightening addition agent being present in said solution to the extent of from 0.0001 to 0.015 gram per liter.

2,978,392
ELECTROLYTIC PROCESS
Alexander F. MacLean, and Charles C. Hobbs, Jr., Corpus Christi, Tex., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 12, 1957, Ser. No. 677,772
7 Claims. (Cl. 204—59)

1. In the process for the production of oxygenated organic compounds by oxidation of an oxidizable organic compound by reaction of a mixture of molecular oxygen and said oxidizable organic compound, said oxygen being supplied independently of the passage of an electric current through said mixture, the improvement which comprises increasing the rate of reaction by passing a small electrolytic current through said mixture, the current density being not higher than about 10 ma. per sq. cm. and the rate of oxygen supply being at least 100 moles per faraday of charge.

2,978,393
ELASTOMERIC PERMSELECTIVE MEMBRANES
Paul E. Hoch, Niagara Falls, and Paul Robitschek, Buffalo, N.Y., assignors to The Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Original application Apr. 16, 1956, Ser. No. 578,173. Divided and this application Nov. 5, 1959, Ser. No. 12,887
20 Claims. (Cl. 204—98)

1. A process for the production of a solid vulcanized resinous homogeneous elastomeric permselective membrane, which consists essentially of dry blending a mixture consisting essentially of (A) an ion-exchange-active material selected from the group consisting of (1) a vulcanizable addition polymer containing groups which may be hydrolyzed to form carboxyl groups, (2) a vulcanizable addition polymer containing carboxyl groups, (3) mixtures of (1) and (2), and (4) a vulcanizable addition polymer containing anion-exchange groups, and (B) an ion-exchange-inactive polymeric diluent; vulcanizing the blended composition with a vulcanizing agent to produce a dry homogeneous elastomeric membrane; and subsequently converting the potentially active functional groups to ion-exchange groups and introducing water of hydration into the membrane by hydrolyzing said dry vulcanized elastomeric membrane in an aqueous solution containing a hydrolysis catalyst to the extent necessary to produce ion-exchange groups uniformly distributed throughout said membrane in an amount from about one to about six milliequivalents per gram of dry membrane.

2,978,394
POLYELECTROLYTES IN ELECTROLYSIS
Samuel P. Moyer, Spokane, Wash., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Feb. 25, 1958, Ser. No. 717,310
6 Claims. (Cl. 204—108)

1. A process for electrodeposition of metals from commercial aqueous systems in hte electrowinning of ores and the electroplating of metals which comprises sequentially: introducing from 1 to 1000 parts per million parts of the electrolyte by weight of a water-soluble polyelectrolyte selected from the group consisting of acrylamide homopolymers and acrylamide copolymers containing at least half of the monomer units of acrylamide and the other half selected from monomer units containing an aliphatic olefinic unsaturated linkage, then filtering nondissolvable finely divided impurities from the electrolyte, and then electrolyzing to recover the metal from the electrolyte.

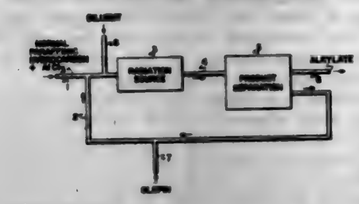
2,978,395
GAMMA RAY POLYMERIZATION OF STYRENE WITH UNSATURATED ESTERS
William C. Holyday, Jr., Fanwood, and James F. Black, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 1, 1954, Ser. No. 459,845
1 Claim. (Cl. 204—154)

A process for the preparation of copolymeric lubricant additives which comprises subjecting a mixture of 80 to 20% of a styrene and 20 to 80% of a diester of fumaric acid containing 3 to 20 carbon atoms in the ester group, to a total dosage of high energy ionizing radiation in the range of 2×10^4 to 5×10^7 roentgens to form a copolymer having a molecular weight of 12,500 to 30,000.

2,978,396
RADIATION INDUCED ETHYLENE POLYMERIZATION
James E. Shewmaker, Fanwood, and Joseph F. Nelson, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 18, 1956, Ser. No. 628,968
8 Claims. (Cl. 204—154)

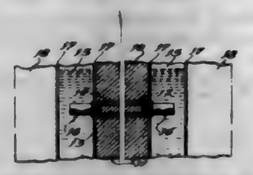
1. A process comprising polymerizing ethylene by exposure to high energy ionizing radiation at a rate of at least 100 equivalent roentgens per hour in the presence of a promoting amount, in the range of 0.01 to 15 weight percent, based on ethylene, of a di-tertiary-alkyl peroxide and obtaining a product having a molecular weight in the range of 10^5 to 10^6.

2,978,397
RADIOALKYLATION OF NORMAL PARAFFINS
Carl E. Heath, Jr., Nixon, and Peter J. Lucchesi, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 29, 1957, Ser. No. 655,911
12 Claims. (Cl. 204—162)



1. A hydrocarbon conversion process for producing an alkylate product rich in isoparaffins which comprises exposing a mixture of normal paraffin having 4 to 12 carbon atoms per molecule and a mono-olefin having 3 to 12 carbon atoms per molecule to from 10^{-4} to 10^3 kwh. of high energy ionizing radiation per pound of said mixture in contact with aluminum chloride until said product is obtained.

2,978,398
NEUTRONIC REACTOR
Herbert E. Metcalf and Henry W. Johnson, Chicago, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 28, 1945, Ser. No. 631,408
6 Claims. (Cl. 204—193.2)

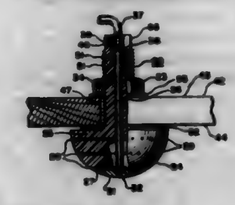


1. In a neutronic reactor comprising a body of moderator having members containing thermal neutron fissionable material therein and being of such size and configuration as to undergo a neutronic chain reaction, the improved construction wherein there are provided elongated members of material of higher heat conductivity than said fissionable members surrounding said fissionable members and extending beyond the active portion of the reactor, and means for flowing a fluid coolant in thermal contact with only the extending ends of said heat-conductive members.

2,978,399
HOMOGENEOUS NUCLEAR REACTOR FUEL COMPOSITION
Louis Silverman, Los Angeles, Robert A. Sallach, Canoga Park, and Rachel L. Seitz, Van Nuys, Calif., assignors to North American Aviation, Inc.
No Drawing. Filed Apr. 29, 1957, Ser. No. 655,493
15 Claims. (Cl. 204—193.2)

1. An aqueous nuclear reactor fuel composition having a pH less than one, comprising from about 75 to about 750 grams of uranium per liter in the form of uranyl sulfate; from about 17 mg. to about 600 mg. per liter of the ions of at least one metal selected from the class consisting of group IB, group VB, and group VIII metals of the periodic table of elements, which metal ions are capable of existing in more than one valence state, in the form of a metal sulfate; from about 13 g. to about 150 g. of sulfuric acid per liter; and the balance consisting essentially of water; and wherein the relative amounts of uranium, metal ion and sulfuric acid are such that there are from about 0.17 to about 2 mg. of said metal ion per gram of uranium and from about 0.13 g. to about 0.5 g. of sulfuric acid per gram of uranium.

2,978,400
REFERENCE HALF CELL ASSEMBLY
Rolland C. Sabins, San Diego, Calif., assignor, by direct and mesne assignments, to Sabins Dolarmeasu, Inc., San Francisco, Calif., a corporation of California
Filed Dec. 3, 1956, Ser. No. 625,708
1 Claim. (Cl. 204—195)



In combination with a ship hull; an insulator including a stem extending through an opening in the hull of the ship, said insulator having a head exterior of the hull, said head having a shoulder abutting the exterior side of the ship, said stem being exteriorly threaded, said stem being hollow and having a recess in the inner end thereof; a reference half cell within the hollow of the stem and extending longitudinally thereof, one end of the half cell extending into the recess; a conductor connected with an end of the half cell within the recess; casting material within the recess and embedding the end of the conductor where the latter is connected with the half cell and for sealing said end of the stem, the other end of the stem having a plurality of orifices; and a nut within the hull and on the threaded stem for clamping the shoulder of the head against the hull.

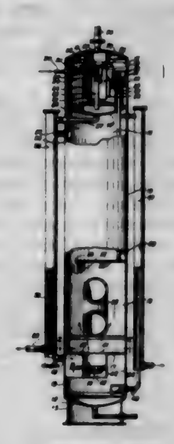
2,978,401
ELASTOMERIC PERMSELECTIVE MEMBRANES
Paul E. Hoch, Niagara Falls, and Paul Robitschek, Buffalo, N.Y., assignors to The Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Apr. 16, 1956, Ser. No. 578,173
19 Claims. (Cl. 204—296)

1. A process for the production of a solid vulcanized resinous homogeneous elastomeric permselective membrane, which consists essentially of polymerizing a dry mixture of monomers consisting essentially of (A) an ion-exchange-active material selected from the group consisting of (1) a polymerizable olefinic monomer containing a group which may be hydrolized to form a carboxyl group, (2) a polymerizable olefinic carboxylic compound, (3) mixtures of (1) and (2), and (4) a polymerizable olefinic monomer containing an anion-exchange group, and (B) an ion-exchange-inactive monomeric diluent selected from the group consisting of (*a*) a polymerizable olefinic monomer, (*b*) a polymerizable conjugated diolefin, and (*c*) mixtures thereof; vulcanizing the resulting composition with a vulcanizing agent to produce a dry, homogeneous, elastomeric membrane; and subsequently converting the potentially active functional groups to ion-exchange groups and introducing water of hydration to the membrane by hydrolyzing said dry, vulcanized, elastomeric membrane in an aqueous solution containing a hydrolysis catalyst to the extent necessary to produce ion-exchange groups uniformly distributed throughout said membrane in an amount from about one to about six milliequivalents per gram of dry membrane.

2,978,402
PERMSELECTIVE MEMBRANES
Paul E. Hoch, Niagara Falls, and Paul Robitschek, Buffalo, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Apr. 16, 1956, Ser. No. 578,174
20 Claims. (Cl. 204—301)

1. A process for the production of a solid, resinous, permselective membrane which consists essentially of polymerizing a mixture consisting essentially of (I) an addition polymerization catalyst, and (II) a mixture of monomers capable of addition copolymerization consisting essentially of (A) an ion-exchange-active material selected from the group consisting of (1) a polymerizable olefinic monomer containing a carboxylic group, (2) a polymerizable olefinic monomer containing a group which may be subsequently hydrolyzed to form a carboxylic group, (3) mixtures of (1) and (2), and (4) a polymerizable olefinic monomer containing an anion-exchange group, and (B) a polymerizable ion-exchange-inactive monomeric diluent selected from the group consisting of (*a*) a polymerizable olefinic monomer, (*b*) a cross-linking olefinic monomer containing at least two polymerizable carbon-to-carbon double bonds in an amount not more than 8.0 mol percent of the copolymeric composition, and (*c*) mixtures of (*a*) and (*b*); producing a dry homogeneous polymerized membrane; and subsequently converting the potentially active functional groups to ion-exchange groups and introducing water of hydration into the membrane by hydrolyzing in an aqueous solution containing a hydrolysis catalyst to the extent necessary to produce ion-exchange groups uniformly distributed throughout said membrane in an amount from about one to about six milliequivalents per gram of dry membrane.

2,978,403
WATER SEPARATION MEANS FOR EMULSION TREATERS
Clarence O. Glasgow, Tulsa, Okla., assignor to National Tank Company, Tulsa, Okla., a corporation of Nevada
Filed July 25, 1958, Ser. No. 750,987
13 Claims. (Cl. 208—187)



1. The method of removing water from emulsified petroleum well streams including, flowing the emulsified stream at a relatively cool temperature through a preliminary gas separation and condensing zone, flowing the emulsified stream from the condensing zone to a heating zone and therein heating the emulsified stream to a temperature sufficient to resolve the emulsion into its oil and water components, withdrawing clean oil and water, flowing the clean oil into a settling zone, trapping vapors evolved in the heating zone, conducting the trapped vapors along with vapors evolved from the hot clean oil upwardly and out of contact with the settling zone and into the condensing zone and therein passing said vapors in direct heat exchange with the emulsified stream for condensation of water and hydrocarbon vapors and admixture of the condensed vapors with the emulsified stream whereby commingling of the condensed water vapors with the hot clean oil is avoided.

3. In an emulsion treater for emulsified petroleum well streams, water separation means including, a vessel, a partition in the vessel forming a preliminary gas separation and condensing chamber, means for admitting an emulsified stream to the condensing chamber, heating means carried by the vessel, means for flowing the emulsified stream from the condensing chamber in heating relationship with the heating means to resolve the emulsified stream into its oil and water components, a settling chamber, means for withdrawing water and clean oil, means for flowing the clean oil into the settling chamber, means for trapping vapors evolved in the heating of the emulsified stream, means for conducting the trapped vapors along with vapors evolved from the hot clean oil upwardly and out of contact with the settling chamber and into the condensing chamber in direct heat exchange relationship with the emulsified stream being admitted to the condensing chamber, and means for withdrawing gas and uncondensed vapors.

2,978,404
OXIDATIVE SWEETENING WITH ALKALINE MATERIAL AND PARTIAL ESTER OF POLYHYDRIC ALCOHOL
Rolland G. Bowers, Perrysburg, Ohio, assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed June 18, 1959, Ser. No. 821,099
9 Claims. (Cl. 208—204)

1. In a process for sweetening hydrocarbons which comprises contacting sour hydrocarbons with oxygen in the presence of an alkaline catalyst, the improvement which comprises increasing the sweetening rate by incorporating in the reaction mixture a partial ester of a polyhydric alcohol.

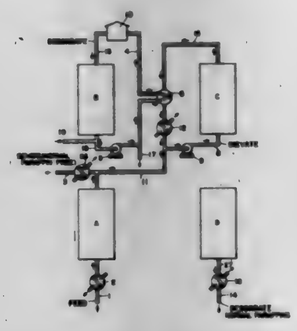
2,978,405
OXIDATIVE SWEETENING WITH ALKALINE MATERIAL AND IMIDAZOLE DERIVATIVE
Rolland G. Bowers, Perrysburg, Ohio, assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed June 18, 1959, Ser. No. 821,098
7 Claims. (Cl. 208—206)

1. Process for reducing the mercaptan content of hydrocarbons which comprises contacting hydrocarbons containing mercaptans with treating materials consisting essentially of aqueous alkali, oxygen and an imidazole having a radical containing at least 12 carbon atoms.

2,978,406
PRODUCTION OF ODORLESS NAPHTHAS
George W. Ayers, Chicago, and William A. Krewer, Arlington Heights, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed July 7, 1959, Ser. No. 825,488
11 Claims. (Cl. 208—289)

1. The method of preparing stable, odor-free naphthas from essentially odorless hydrocarbon mixtures which comprises distilling said hydrocarbon mixtures in the presence of a small amount of phenothiazine and separating an odor-free hydrocarbon distillate.

2,978,407
MOLECULAR SIEVE SEPARATION PROCESS
John R. Tuttle, Summit, George F. Feldbauer, Jr., Cranford, and Ronald C. Hoke, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed May 28, 1958, Ser. No. 738,442
7 Claims. (Cl. 208—310)



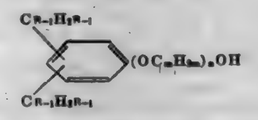
1. An integrated process for removal of an adsorbable hydrocarbon constituent from a feed mixture comprising said adsorbable hydrocarbon constituent in admixture with nonadsorbable hydrocarbons of other types, using a solid absorbent comprising a molecular sieve zeolite having pore sizes in the range of from about 3 to about 15 Angstroms adapted to selectively adsorb said adsorbable hydrocarbon, which comprises passing said feed mixture at a relatively low temperature through a first adsorption zone containing a body of said adsorbent, whereby said constituent is selectively adsorbed, withdrawing from said first zone a raffinate that is substantially free of said constituent, said first zone thus being in an adsorption stage, simultaneously passing heated desorbate through a second zone containing a body of said adsorbent that has been saturated to a predetermined degree with said adsorbate while said second zone was just previously in an adsorption stage, said second zone thus presently being in a heating stage, said desorbate having been obtained by desorption of a quantity of said constituent from a body of said adsorbent, simultaneously applying vacuum to a third zone containing a body of said adsorbent that has just previously been in a heating stage, thereby removing traces of said adsorbed constituent therefrom, said third zone thus presently being in an evacuation stage, simultaneously cooling a fourth zone containing a body of said adsorbent that has just previously been in an evacuation stage, said cooling being accomplished by circulating raffinate through said fourth zone, and thereafter periodically changing each of said zones in a consecutive manner from the adsorption stage, the heating stage, the evacuation stage and the cooling stage.

2,978,408
SCORCH RESISTANT TEXTILE SOFTENING FINISH COMPOSITION
Arthur W. Lanner and Robert A. Olney, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 9, 1956, Ser. No. 557,840
6 Claims. (Cl. 252—8.8)

1. An improved scorch resistant textile softening finish composition consisting essentially of from about 10% to about 50% by weight, based on the total composition, of a mixture of higher molecular weight fatty mono-, di-, and triglycerides, from about 10% to about 50% by weight, based on said mixture of mono-, di-, and triglycerides, of a water-soluble soap of higher molecular weight fatty acids, at least one water-soluble heat labile acid forming salt selected from the group consisting of ammonium salts and amine salts in an amount from about 0.2% to about 3% based on the total of said mixture of mono-, di-, and triglyceride and said water-soluble soap and in an amount sufficient to lower the pH of said textile softening finish, when subjected to elevated temperatures, to less than 9 and to a level at which said textile softening finish is scorch resistant, and water constituting substantially all the remainder of said textile softening finish.

2,978,409
COMPOSITION AND METHOD FOR THE ELIMINATION OF WATER-BLOCK IN OIL WELLS
Harold L. Greenwald and Ralph L. Givens, Jr., Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed July 9, 1957, Ser. No. 670,658
18 Claims. (Cl. 252—8.55)

1. A composition consisting essentially of an oleaginous carrier having incorporated therein compounds having the formulas

I 

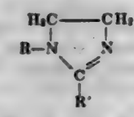
and

II R_3OH

so that the total of components I and II in said composition ranges from about 0.1 to 8.0% by weight, in which B is an integer of 1 to 21 totalling between 13 and 26 in said formula, *m* is an integer of 2 to 4, *n* is an integer of 6 to 15, and R_3 is a member from the class consisting of alkylphenyl groups containing from 14 to 18 carbon atoms, alkyl groups of 12 to 25 carbon atoms, and alkoxyalkyl groups of 12 to 25 carbon atoms, said II component being present in amounts by weight of 5 to 50% of said I component, said I component containing at least some oxyethylene units.

2,978,410
CORROSION-RESISTANT GREASE
Harry J. Worth, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Nov. 27, 1957, Ser. No. 699,203
8 Claims. (Cl. 252—18)

1. A corrosion-resistant grease consisting essentially of mineral lubricating oil containing between about 5% and about 15% by weight of calcium 12-hydroxystearate soap, between about 1.5% and about 4% by weight of a metal oxide of the class consisting of zinc oxide, magnesium oxide and mixtures of said oxides, and between about 0.75% and about 2.0% by weight of an anti-corrosion agent of the formula



in which R is an alkylol group of 1 to about 12 carbon atoms and R' is a radical of the class consisting of alkyl and alkenyl radicals having between about 11 and about 21 carbon atoms.

2,978,411
ALUMINUM SOAP HYDROCARBON THICKENER WITH INCREASED SOLVATION

Rudolph R. Leverberg, Metuchen, and Frederick Neil Baumgartner, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 22, 1956, Ser. No. 617,662
6 Claims. (Cl. 252—37)

1. The method of improving a hydrocarbon oil soap thickener in solvation properties, said soap being a basic aluminum disoap of an aliphatic carboxylic acid having 8 to 10 carbon atoms per molecule which comprises dispersing said soap thickener in a liquid medium in which the soap is not soluble, adding to the thus dispersed soap thickener an aliphatic carboxylic acid of relatively higher molecular weight and of lower water solubility than the acid in the disoap in relatively small amount to increase free aliphatic carboxylic acid content of the soap, filtering and washing the soap thus increased in free acid content and recovering a soap that has a mole ratio of total free aliphatic carboxylic acid to excess hydroxide of 0.05 to 1.0.

2,978,412
COPOLYMERS OF PHOSPHORUS SULFIDES AND UNSATURATED ORGANIC ESTERS

Donald A. Guthrie and Carroll L. Knapp, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 25, 1956, Ser. No. 612,061
7 Claims. (Cl. 252—46.6)

1. A copolymeric product obtained by exposing an unsaturated organic aliphatic ester of a C_8 to C_{18} alcohol and a C_2 to C_{12} carboxylic acid, and containing a terminal carbon-carbon double bond, to a dosage of at least 10^6 roentgens of gamma radiation in the presence of a phosphorus sulfide, the proportion of ester to phosphorus sulfide being 1 mole of ester to in the range of 0.01 to 1.0 mole of phosphorus sulfide.

4. A lubricating oil composition comprising a major amount of lubricating oil and a minor amount of the copolymeric product of claim 1.

2,978,413
LUBRICATING OILS THICKENED TO A GREASE CONSISTENCY WITH CUPROUS N,N'-DIARYL-AMIDINE COMPOUNDS

Norman R. Odell, Fishkill, and Joseph F. Lyons, Poughkeepsie, N.Y., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Dec. 19, 1958, Ser. No. 781,489
7 Claims. (Cl. 252—49.6)

1. A lubricating grease consisting essentially of a lubricating oil thickened to a grease consistency with a cuprous derivative of an amidine compound represented by the formula



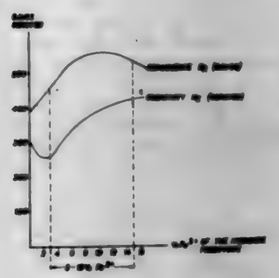
wherein R is chosen from the group consisting of hydrogen and lower alkyl groups containing from 1 to 6 carbon atoms, and Ar and Ar' are chosen from the group consisting of phenyl and naphthyl groups and substituted phenyl and naphthyl groups.

2,978,414
MAGNETIC IMPULSE RECORD CARRIER

Walter Harz, Hamburg, and Rolf Brack, Leverkusen-Bayerwerk, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed June 1, 1956, Ser. No. 588,708
Claims priority, application Germany Apr. 9, 1951
2 Claims. (Cl. 252—62.5)

1. A magnetic impulse record carrier consisting essentially of a layer of a non-magnetic binding agent having dispersed therein a powdery non-sintered ferromagnetic iron oxide, in which 1.5–4 atomic percent of iron are substituted by cobalt, said iron oxide being obtained by dissolving a water soluble salt of iron and a water soluble salt of cobalt in an aqeous solution the relative proportions of said salts being such that the cobalt metals amount to 1.5–4 atomic percent of the total amount of metals co-precipitating from said solution at a tempera-



ture within the range of about 5 to 30° C. the iron and cobalt ions as hydroxides, in which 3–15 atomic percent of the iron ions are present in trivalent, the rest in divalent form, treating said co-precipitated hydroxides in an aqeous medium with an alkaline agent in the presence of an oxiding agent at a temperature within the range of about 65 to 90° C., whereby said hydroxides are transformed into ferromagnetic oxides separating said oxides from said aqeous medium and drying said oxides.

2,978,415
GUANIDINE SOAPS AS DRY CLEANING DETERGENTS

Ralph J. Chamberlain, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 17, 1957, Ser. No. 653,277
4 Claims. (Cl. 252—118)

1. A dry cleaning method which comprises washing soiled fabrics in a dry cleaning solvent containing detergent quantities of the guanidine soap of a fatty acid mixture containing about 30–60% of oleic acid, about 30–60% of linoleic acid and not more than about 15% of saturated fatty acids.

2,978,416
CONCENTRATED AQUEOUS DETERGENT COMPOSITION

Marvin M. Fein, Westfield, N.J., and Cecil A. Friedman, Buffalo, N.Y., assignors to Allied Chemical Corporation, a corporation of New York

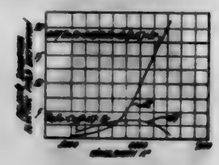
No Drawing. Filed July 14, 1955, Ser. No. 522,165
3 Claims. (Cl. 252—161)

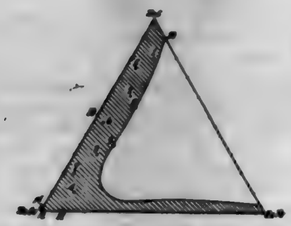
1. A concentrated aqueous detergent composition having the appearance and characteristics of a solution and consisting essentially of water and solutes, said solutes consisting essentially, by weight of the aqueous detergent composition, of about 30% of a mixture of the sodium salts of higher alkylbenzene sulfonic acids having an average of 12 to 16 non-aromatic carbon atoms, about 5% of the sodium salt of toluene sulfonic acid, and 1% to 2% of a polyethylene glycol selected from the group consisting of diethylene glycol, triethylene glycol and mixtures of polyethylene glycols which have an average molecular weight of 200 to 1250 and a major proportion of which have molecular weights within said range.

2,978,417
PHOSPHORS

Simon Larach, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 25, 1958, Ser. No. 731,589
9 Claims. (Cl. 252—301.6)





1. A phosphor having the molar composition

$$aM^1S{:}bM^2Se{:}cM^3Te{:}M^4(z)$$

Wherein:

M^1, M^2 and M^3 are each at least one member of the group consisting of zinc and cadmium
M^4 is at least one member of the group consisting of copper, silver, gold, and manganese
a=0.000 to 0.050 mol
b=0.000 to 0.999 mol
c=0.001 to 0.999 mol
$a+b+c=1.000$
and z=0.000 to 0.500 weight percent of said composition.

3. A phosphor consisting essentially of a single phase solid solution having the composition

$$xM^1Se{:}yM^2Te{:}M^4(z)$$

wherein: M^1 is at least one member selected from the group consisting of zinc and cadmium, and M^4 is one member selected from the group consisting of copper and silver, x=0.999 to 0.001 mol, y=0.001 to 0.999 mol, $x+y=1$, and z=0.0 to 0.5 weight percent.

2,978,418
WATER EMULSIFIABLE COMPOSITION

Donald W. Parker, Jr., Park Ridge, Ill., assignor, by mesne assignments, to Switzer Brothers, Inc., Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 15, 1956, Ser. No. 565,529
5 Claims. (Cl. 252—312)

1. A water-emulsifiable liquid composition consisting essentially of between 80 and 99% by volume of non-aqueous constituents consisting essentially of an oil and an oil-miscible sulfonate selected from the group consisting of alkali metal petroleum sulfonates and amine alkyl-aryl sulfonates, the oil to sulfonate volume ratio ranging from about 1:1 to about 8:1 and between 20 and 1% by volume of tri-butoxyethyl phosphate, the proportion of the latter being sufficient to render said composition capable of forming stable water emulsions containing from at least 10 to 100 volume percent of water based upon the non-aqueous constituents of said composition and a higher volume percent of water than would be possible in the absence of said tri-butoxyethyl phosphate, said liquid composition having a viscosity of at least 30 centistokes at 100° F.

2,978,419
STABILIZATION OF AQUEOUS COLLOIDAL SOLUTIONS OF SILICA

Edwin R. Birkhimer, Laurel Springs, N.J., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 4, 1957, Ser. No. 637,866
6 Claims. (Cl. 252—313)

1. A process for the stabilization of unstable colloidal solutions of silica, substantially free of ionic impurities, in an aqueous medium which comprises adding to the colloidal solution from 1.5 percent to 6.0 percent by weight of ammonia, based on the weight of SiO_2, maintaining the ammonia in contact with the colloidal solution of silica for at least two hours and thereafter removing substantially all of the ammonia to the extent that only a few parts per million of ammonia remain.

2,978,420
CATALYST FOR DEHYDRATION OF SECONDARY ALCOHOLS

William J. G. McCulloch, Plainfield, and Isidor Kirshenbaum, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Original application Oct. 23, 1956, Ser. No. 617,694, now Patent No. 2,885,442, dated May 5, 1959. Divided and this application Nov. 3, 1958, Ser. No. 771,223
8 Claims. (Cl. 252—443)

1. A composite catalyst comprising a mixture of 90 to 98 parts by weight of ZnO and correspondingly, 10 to 2 parts by weight of Na_2CO_3, said mixture being deposited on alpha alumina of surface area less than 10 meters²/gram in a ratio of 5 to 25 weight percent based on the total composite catalyst.

2,978,421
NITRILE COPOLYMERS AND METHOD OF PREPARING SAME

John A. Holloway, Cleveland, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed June 9, 1958, Ser. No. 740,566
9 Claims. (Cl. 260—17.4)

1. The copolymer of a mixture of monomers consisting of (1) from 99.95 to 95 parts by weight of a member selected from the group consisting of acrylonitrile and methacrylonitrile and (2) from about 0.05 to about 5 parts by weight of a polyether of a polyhydric alcohol selected from the class consisting of monosaccharides, oligosaccharides, sugar alcohols and pentaerythritol, the hydroxyl groups of said polyhydric alcohol which are modified being etherified with allyl groups, said polyhydric alcohol having at least 2 allyl groups per alcohol molecule.

2,978,422
PRESSURIZED POLISHING COMPOSITION CONTAINING POLYVINYL-ALCOHOL AND GUM TRAGACANTH

Gerard W. Meister, Chicago, Ill., assignor to Simoniz Company, a corporation of Delaware

No Drawing. Filed Feb. 19, 1959, Ser. No. 794,256
4 Claims. (Cl. 260—17.4)

1. A pressurized polishing product consisting essentially of about 0.1–25 parts of a propellant that is gaseous at ambient temperatures and atmospheric pressures and about 99.9–75 parts of a polishing composition, the polishing composition consisting essentially of: about 50–80% of water; about 2–5% of glycerine; about 5–15% of finely divided abrasive; about 8–25% of a paraffinic hydrocarbon oil; about 0.2–1.0% of polyvinyl alcohol; about 0.1–5.0% of gum tragacanth; and about 0.1–0.5% of an emulsifying agent, all said parts and percentages being by weight of the composition.

2,978,423

ANTI-RUST COMPOSITIONS

Robert Tirtiaux, Notre-Dame de Gravenchon, and Jean Baptiste Signouret, Pau, France, assignors to Esso Standard Societe Anonyme Française, Paris, France, a body corporate of France

No Drawing. Filed July 8, 1957, Ser. No. 670,398
Claims priority, application France July 11, 1956
5 Claims. (Cl. 260—19)

1. A rust inhibiting composition consisting essentially of oil, about 0.1 to 10.0 wt. percent of a polymeric material consisting of an alkoxylated alkyl phenolformaldehyde copolymer and about 0.05 to 5.0 wt. percent of an oil soluble material selected from the group consisting of alkali metal sulfonates of 12 to 25 carbon atoms and alkali metal naphthenates of 8 to 18 carbon atoms, and wherein said alkoxylated alkyl phenols contains about one to four C_2 to C_4 alkylene oxy groups per molecule and about one to two C_8 to C_{20} alkyl groups per molecule.

2,978,424

METAL PRIMERS AND COATING COMPOSITIONS MODIFIED WITH LOWER ALKYL ESTERS OF UNSATURATED ALIPHATIC ACIDS

Kenneth F. Atwood, Atlanta, Ga., and Austin K. Long, Bay Village, and Owen F. Shobe, Lakewood, Ohio, assignors to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 23, 1958, Ser. No. 818,702
8 Claims. (Cl. 260—19)

1. A coating composition adapted for use as a protective coating in direct contact with corroded metal such as rusty ferrous metal, said composition consisting essentially of: an organic-solvent solution of film-forming weather-resistant material of the air-drying type, dispersed pigment including anticorrosive pigment in an amount sufficient to bring the pigment volume into the range of about 25% to 60% of the total volume of said coating composition, and a liquid wetting additive in an amount corresponding to about 5–10% by weight of said coating composition, said wetting additive being at least one ester of (A) monohydric alcohol selected from the group consisting of aliphatic and cycloaliphatic monohydric alcohols having up to eight carbon atoms, and (B) monocarboxylic acids selected from the group consisting of (*a*) the fatty acids of triglyceride drying and semi-drying oils, and (*b*) mixtures of said fatty acids with small amounts of rosin acids.

2,978,425

COATING COMPOSITIONS CONTAINING MODIFIED UREA RESINS

Harry M. Culbertson, Wilbraham, and Frank J. Hahn, Springfield, Mass., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 5, 1957, Ser. No. 700,769
15 Claims. (Cl. 260—21)

1. A resin comprising an etherified reaction product of at least 2 mols of a monohydric acyclic alcohol containing 1–6 carbon atoms and a co-condensation product of 1 mol of urea, 0–0.3 mol of melamine, 0.02–0.5 mol of an N-substituted melamine and at least 2 mols of formaldehyde; said N-substituted melamine being selected from the group consisting of N,N'-dialkylmelamines, N,N',N''-trialkylmelamines and mixtures thereof, the individual alkyl groups of said N-substituted melamines being acyclic and containing a maximum of about 20 carbon atoms, the total number of carbon atoms contained in all of said alkyl groups not exceeding about 36.

2,978,426

ABRASION-RESISTANT BUTYL RUBBER TIRES

Robert L. Zapp, Florham Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 28, 1955, Ser. No. 543,542
8 Claims. (Cl. 260—23.7)



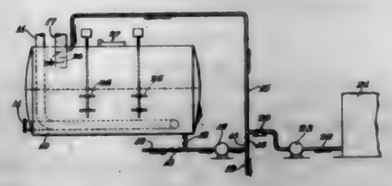
1. A composition comprising an isoolefin-multiolefin rubbery copolymer having a viscosity average molecular weight substantially in excess of 750,000 and about 10 to 50 weight percent of a hydrocarbon plasticizer oil having an iodine number of not more than about 50 cg./g.; said copolymer having been prepared by polymerizing about 90 to 95.5 weight percent of a C_4 to C_8 isoolefin with less than about 5.0 weight percent of a C_4 to C_{14} multiolefin in the presence of a solution of an aluminum halide catalyst dissolved in a solvent by removing contaminating hydrocarbons from the catalyst and by maintaining the catalyst concentration in the solution at about 0.02 to 0.06 weight percent based on solvent, subsequently milling and extruding with shearing stresses in the copolymer being less than 0.03 horsepower per pound per hour and simultaneously maintaining the temperature therein at less than 350° F.; said composition being capable of being cured to provide a vulcanizate therefrom with improved abrasion resistance.

2,978,427

METHOD OF INCORPORATING RUBBER INTO A PETROLEUM OIL

Harold B. Pullar, P.O. Box 800, and Morgan Moore, both of Magnolia, Ark.; said Moore assignor to said Pullar

Filed Dec. 11, 1956, Ser. No. 627,663
5 Claims. (Cl. 260—28.5)



1. A method of incorporating unvulcanized rubber in a body of petroleum derived oil which comprises disposing a body of a petroleum derived oil having a viscosity in the range of 100 to 500 S.S.F. at 122° F., a flash (C.O.C.) of 450° F. minimum and gravity limits of 11°–20° A.P.I. in a mixing vessel and maintaining it therein in a heated condition at a temperature of from about 350 to about 400° F., continuously withdrawing therefrom a restricted stream and returning it thereto through a relatively enlarged upwardly open baffled inlet, introducing to said body from about 10% to about 15% by weight of rubber latex solids by commingling with said first stream a continuous proportioned stream of rubber latex to heat the moisture content of the latex to above its boiling point and to cause it to be substantially completely flash evaporated therefrom upon introduction of the resulting heated oil-rubber latex mixture to said inlet, continuing said cyclic process to progressively enrich the circulating liquid by about ½ of 1% per pass until said amount of rubber has been dispersed in the body of oil, and recovering and cooling the resulting substantially moisture-free product.

2,978,428

AQUEOUS SUSPENSIONS OF COLLOIDAL GRAPHITE AND THEIR PREPARATION

David C. Abergg, Columbus, Ohio, assignor to Surface Chemical Development Corporation, Columbus, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 1, 1957, Ser. No. 675,556
5 Claims. (Cl. 260—29.6)

2. A method of preparing an aqueous suspension of graphite of colloidal size comprising mixing particles of graphite, water and polyvinyl pyrrolidone in proportions of about 200–250 parts of water and from 2.5 to 100 parts of polyvinyl pyrrolidone to each 100 parts of graphite by adding graphite and polyvinyl pyrrolidone to water alternatively with stirring so that the viscosity is alternately increased and decreased until the addition is complete, and then milling to colloidal size, allowing the suspension to settle, and decanting the upper layer.

5. An aqueous suspension of colloidal graphite having added thereto a stabilizer consisting of polyvinyl pyrrolidone which is stable to electrolyte in an acid-alkaline range of from pH 4.3 to pH 11.3 or higher which consists of about 200–250 parts of water and from 2.5 to 100 parts of polyvinyl pyrrolidone to each 100 parts of graphite.

2,978,429

POTTING COMPOSITION COMPRISING A BUTADIENE-DIVINYLBENZENE COPOLYMER IN ADMIXTURE WITH A BUTADIENE-2-METHYL-5-VINYLPYRIDINE COPOLYMER AND PROCESS OF MAKING SAME

William M. Hutchinson, Bartlesville, Okla., and Carl A. Uraneck, Phillips, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed July 12, 1954, Ser. No. 442,879
6 Claims. (Cl. 260—30.8)

1. A fluid composition of matter comprising 50–200 parts by weight of a liquid copolymer of 1,3-butadiene and divinylbenzene in admixture with 100 parts by weight of a rubbery copolymer of 1,3-butadiene and 2-methyl-5-vinylpyridine.

2,978,430

POLYPROPYLENE COMPOSITIONS

William E. Thompson, Wallingford, and Daniel R. Mullin, Chester, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 5, 1957, Ser. No. 669,930
6 Claims. (Cl. 260—31.8)

1. A new composition of matter consisting essentially of crystalline polypropylene and from 7% to 25% by weight of a material selected from the group consisting of a naphthalene having an alkyl substituent in the beta position, said substituent having from 1 to 5 carbon atoms, decahydronaphthalene, methyl beta-naphthyl ketone, and acetyl tributyl citrate.

2,978,431

COMPOSITION CONTAINING POLYETHYLENE AND A POLYPROPYLENE GLYCOL MONOALKYL ETHER

James D. Engle, Torrance, Calif., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 20, 1956, Ser. No. 623,511
7 Claims. (Cl. 260—33.2)

1. A homogeneous composition of matter consisting essentially of a normally solid polyethylene and from about 0.005% to about 0.5% by weight of the polyethylene of a polypropylene glycol monoalkyl ether represented by the general formula:

$$CH_3(CH_2)_xO(CH_2CHO)_nH$$

wherein x represents an integer having a value of from 0 to about 6 and n represents an integer having a value of from about 12 to about 52.

2,978,432

PROCESS FOR PRODUCING POLYMERS AND COPOLYMERS CONTAINING METHYLOLETHER GROUPS

Wilhelm Graulich and Karl E. Müller, Leverkusen-Bayerwerk, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 30, 1955, Ser. No. 519,241
Claims priority, application Germany July 23, 1954
7 Claims. (Cl. 260—45)

1. A process of producing an essentially linear polymer having etherified methylol groups which comprises polymerizing at temperatures not surpassing about 60° C. in a neutral to weakly alkaline medium, an ethylenically unsaturated organic compound containing the group of the formula:

$$-CH=\underset{R}{C}-O-\underset{R_1}{C}-N-CH_2-OR_2$$

in which R stands for a member of the group consisting of hydrogen and methyl, R_1 stands for a member of the group consisting of hydrogen and alkyl, and R_2 stands for alkyl.

2,978,433

THERMOSETTABLE COMPOSITIONS OF METHYL METHACRYLATE, METHACRYLIC ACID, AND AMINOPLAST CONDENSATE, PROCESS OF MAKING SAME, AND ARTICLES OBTAINED

Melvin D. Hurwitz, Huntingdon Valley, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 26, 1956, Ser. No. 600,165
11 Claims. (Cl. 260—45.2)

1. A composition adapted to be thermoset to a hard, homogeneous resinous product consisting of a mixture of (*a*) monoethylenically unsaturated copolymerizable monomers consisting essentially of (1) methyl methacrylate and (2) methacrylic acid, said monomers being present in weight proportions of 94 to 99 parts of (1) and 1 to 6 parts of (2), and (*b*) a resin-forming alkylated condensate of formaldehyde with a member selected from the group consisting of urea, dicyandiamide, aminotriazines, acrylamide, and methacrylamide, said alkylated condensate containing alkoxymethyl groups having 2 to 5 carbon atoms, the amount of condensate being from 1.2 parts to 10.5 parts by weight per 100 parts by weight of copolymerizable monomers and the copolymerizable monomers being the only volatile material in the composition.

2,978,434

SULFUR-STABILIZED POLYESTER-CONTAINING MOLDING COMPOSITION

Arthur M. Howald, Perrysburg, Ohio, assignor to Glaskyd, Incorporated, Perrysburg, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 15, 1956, Ser. No. 622,260
6 Claims. (Cl. 260—45.7)

1. A molding composition comprising a polymerizable, ethylenically unsaturated polyester binder which is a product of a reaction between at least one dicarboxylic acid, including an ethylenically unsaturated dicarboxylic acid and at least one polyhydroxy alcohol and from 0.01 percent to 0.5 percent of sulphur, based upon the weight of the polyester binder.

2,978,435

HEAT HARDENABLE COMPOSITIONS COMPRISING EPOXIDE COMPOUNDS AND DICARBOXYLIC ANHYDRIDES

Otto Ernst, Pfeffingen, Basel-Land, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed May 15, 1958, Ser. No. 735,370
Claims priority, application Switzerland May 16, 1957
7 Claims. (Cl. 260—47)

1. A heat-hardenable composition which comprises a 1:2-epoxide compound having a 1:2-epoxy equivalency greater than 1.0 and as hardening agent therefor a mixture comprising 30–50% by weight of said mixture of hexachloroendomethylene-tetrahydrophthalic anhydride and 70–50% by weight of said mixture of methylendomethylene-tetrahydrophthalic anhydride, said mixture being employed in a proportion such that 0.7–1.1 gram of equivalents of anhydride groups are present per gram equivalent of epoxide groups.

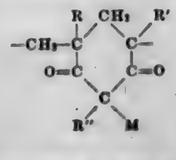
2,978,436

CYCLIC POLYMER AND METHOD OF PREPARATION

John F. Jones, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 18, 1957, Ser. No. 653,519
21 Claims. (Cl. 260—63)

1. A polymer having a molecular weight of at least 1000 composed of a series of adjacent, connected recurring units of the structure



in which R is selected from the class consisting of hydrogen and hydrocarbon groups of from 1 to 6 carbon atoms free of aliphatic unsaturation, R′ is selected from the class consisting of hydrogen, lower alkyl groups, saturated cycloaliphatic hydrocarbon groups and a phenyl group, and R″ is selected from the class consisting of hydrogen and a lower n-alkyl group and M is selected from the class consisting of hydrogen and monovalent inorganic cations.

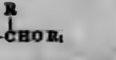
2,978,437

WATER-INSOLUBLE CONDENSATION PRODUCTS OF ALDEHYDES AND ACRYLAMIDE INTERPOLYMERS

Roger M. Christenson, Richland Township, Allegheny County, Pa., assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania

No Drawing. Filed June 12, 1957, Ser. No. 665,109
11 Claims. (Cl. 260—72)

1. A resinous composition which is insoluble in water, and which comprises an interpolymer of (A) an amide selected from the group consisting of acrylamide, methacrylamide and itaconic diamide, (B) a monoethylenically unsaturated aliphatic carboxylic acid consisting of atoms of carbon, hydrogen and oxygen, and (C) at least one other monomer containing a $C{=}CH_2$ group, said interpolymer containing from about 5 to about 50 percent by weight of said amide based upon the total weight of said interpolymer, and about 1 to about 30 percent upon a like basis of said monoethylenically unsaturated aliphatic carboxylic acid, said interpolymer being characterized by having amido hydrogen atoms replaced by the structure



wherein R is a member selected from the group consisting of hydrogen, furyl and a saturated lower aliphatic hydrocarbon radical and R_1 is a member selected from the group consisting of hydrogen, lower alkyl and butoxyethyl, said monoethylenically unsaturated aliphatic carboxylic acid functioning as an internal curing catalyst in said resinous composition.

2,978,438

CONTINUOUS PRODUCTION OF POLYAMIDES

Heinz Indest, Erlenbach (Main), Johannes Kleine, Munich, and Helmut Stöhr, Obernburg (Main), Germany, assignors to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

No Drawing. Filed Nov. 13, 1956, Ser. No. 621,501
Claims priority, application Germany Dec. 28, 1955
6 Claims. (Cl. 260—78)

1. A continuous process for the production of polyamides in a vertical reaction tube which comprises feeding an alkylene diamine and an aliphatic dicarboxylic acid in aqueous solution into an upper zone in said vertical reaction tube which is maintained at substantially atmospheric pressure, initiating condensation of said dicarboxylic acid and said diamine by passing them downwardly from said upper zone into and through an intermediate zone in said vertical tube, said intermediate zone being a liquid body of an inert, organic solvent for the condensate of said dicarboxylic acid and said diamine formed in said intermediate zone, said solvent having an atmospheric boiling point at least 25° C. above the boiling point of water with the further proviso that the boiling point of said solvent at about atmospheric pressure is above the melting point of the diamine-dicarboxylic acid condensate in said intermediate zone and below the maximum polycondensation temperature in said tube, said solvent further characterized by the fact that it forms azeotropic boiling mixtures with water in amounts of said solvent not higher than 50% of said azeotropic mixture, maintaining the temperature in said upper zone at the boiling point of the liquid phase in said upper zone and distilling off from said upper zone the water introduced into said upper zone by the aqueous solution of said dicarboxylic acid and said diamine, maintaining the temperature in said intermediate zone above said temperature in said upper zone but below the boiling point of said solvent in said intermediate zone at said substantially atmospheric pressure, whereby said solvent in said intermediate zone is in the liquid state and the liquid solvent in said intermediate zone and the liquid aqueous phase in said upper zone are stratified in said vertical reaction tube to form said upper and intermediate zones, completing the polycondensation of said dicarboxylic acid and said diamine by passing the condensate formed in said intermediate zone from said intermediate zone into a bottom zone in said vertical reaction tube, said bottom zone being maintained at a polycondensing temperature which is between 200° C. and 300° C. and above the boiling point of said solvent at said substantially atmospheric pressure, thereby distilling off from the polyamide in said bottom zone and into the liquid solvent body in said intermediate zone substantially all of said organic solvent, condensing the distilled vapors of said solvent in the cooler upper parts of said tube, whereby said distillation causes stratification in said vertical reaction tube of the liquid solvent of said intermediate zone and the polyamide melt of said bottom zone, which melt remains upon distillation of said solvent from the polyamide of said bottom zone, and withdrawing from said bottom zone the condensed polyamide as a melt containing a small proportion of said solvent.

2,978,439

PROCESS FOR THE PURIFICATION OF POLYAMIDES

Adolf Kersting, Krefeld-Bockum, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 13, 1958, Ser. No. 721,108
Claims priority, application Italy Mar. 28, 1957
4 Claims. (Cl. 260—78)

1. Process for the purification of chips of high molecular weight polyamides selected from the group consisting of poly-E-aminocaproic acid and mixed polyamides of E-aminocaproic acid with polyamide forming diamines and dicarboxylic acids, containing impurites selected from the group consisting of monomeric E-caprolactam and low molecular weight condensation products thereof, which comprises washing said chips with boiling aqueous solutions of hydrazine, the amount of hydrazine being from about 10–100 mg./l. solution.

2,978,440

ANTI-STATIC VINYL CHLORIDE COPOLYMER CONTAINING SALTS OF DIALKYL PHOSPHATES

Warren J. Frissell, Jr., Martinsville, and Vladimir J. Hosska, Bound Brook, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 29, 1955, Ser. No. 549,866
2 Claims. (Cl. 260—87.1)

1. A homogeneous composition of matter characterized by little tendency to acquire and retain a static charge, said composition comprising a copolymer of vinyl chloride and vinyl acetate, in which at least about 10% by weight of said copolymer consists of vinyl chloride, in admixture with from about 0.25 to about 15 parts by weight, per 100 parts by weight of said copolymer, of an alkali metal salt of a dialkyl phosphate wherein each of the alkyl groups contains from 4 to about 12 carbon atoms.

2,978,441

POLYOLEFIN REACTOR CONTROL

Fred T. Sherk, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 23, 1957, Ser. No. 661,148
8 Claims. (Cl. 260—93.7)

1. In the polymerization of olefins in the presence of a diluent and catalyst in a series of vessels wherein catalyst, monomer and diluent is added to the first reactor of said series and additional monomer and diluent is added to each subsequent reactor and wherein the heat of reaction is removed at least in part from each reactor by evaporation of monomer, the improvement comprising maintaining a constant liquid level in each reactor, controlling the rate of monomer introduction to each reactor directly responsive to temperature changes in said reactor and the rate of diluent introduction to each reactor directly responsive to flow of overhead gases from said reactor thereby maintaining the production rate subetantially constant.

2,978,442

RECOVERY PROCESS FOR POLYETHYLENE

Edgar Nixon Brightbill and Keare Paul Lindland, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 1, 1957, Ser. No. 656,197
7 Claims. (Cl. 260—94.9)

1. A process for removing metallic catalyst residues from a polymer of a terminally unsaturated olefin obtained on polymerizing said terminally unsaturated olefin in an inert liquid hydrocarbon with a catalyst formed by admixing a halide, selected from the class consisting of titanium halides and vanadium halides, with a compound of aluminum having aluminum directly attached to a hydrocarbon group, which comprises reacting, at a temperature above 125° C., a β-hydroxy-ketone with a polymerization mixture containing said polymer dissolved in said inert liquid hydrocarbon and a residue of said catalyst, the quantity of said β-hydroxy-ketone being at least the stoichiometric quantity necessary to form a metal chelate with the metals of said catalyst residue, thereafter contacting said polymerization mixture at a temperature above 125° C., with an adsorbent selected from the class consisting of silica and alumina, and recovering a polymer solution essentially free of metallic catalyst residues.

2,978,443

ASH REMOVAL FROM POLYMERIZATION PRODUCTS

Walter A. Goldtrap, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 12, 1957, Ser. No. 665,297
13 Claims. (Cl. 260—94.9)

1. In the production of polymers of 1-olefins by contacting the olefins, under polymerizing conditions, with a catalyst comprising chromium oxide, at least part of the chromium being in the hexavalent state, and at least one oxide selected from the group consisting of silica, alumina, zirconia and thoria, the method of removing catalyst from the polymerization product which comprises contacting the polymerization product with hydrofluoric acid so as to dissolve at least a portion of said catalyst and separating the polymer from the resulting dissolved catalyst.

2,978,444

POLYPEPTIDES AND PROCESS OF PREPARING SAME

Robert Schwyzer and Beat Iselin, Riehen, Heini Kappeler, Birsfelden, Werner Rittel, Basel, and Bernhard Rinker, Birsfelden, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

No Drawing. Filed Aug. 29, 1957, Ser. No. 680,904
Claims priority, application Switzerland Sept. 6, 1956
15 Claims. (Cl. 260—112)

1. A process for the preparation of octapeptides which comprises reacting N-carbobenzyloxy-L-asparaginyl-nitro-L-arginyl-L-valyl-L-tyrosine, in the presence of 1-cyclohexyl-3-morphlinylethyl carbodiimide, with an L-isoleucyl-L-histidyl - L - prolyl-L-phenylalanine lower alkyl ester, splitting off with hydrogen in the presence of a palladium catalyst the carbobenzyloxy group from the asparaginyl residue and the nitro group from the arginyl residue of the resulting octapeptide ester and hydrolyzing the ester group of said octapeptide ester by means of caustic soda solution to yield L-asparaginyl-L-arginyl-L-valyl-L-tyrosyl-L-isoleucyl-L-histidyl - L - prolyl-L-phenylalanine.

2,978,445

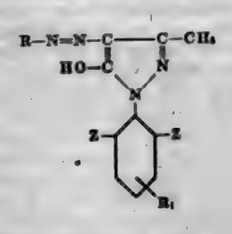
CHROMIUM-CONTAINING MONOAZO DYESTUFFS

Walter Benade and Gerhard Dittmer, Leverkusen, and Walter Scholl, Koln-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 25, 1958, Ser. No. 750,889
Claims priority, application Germany Aug. 7, 1957
4 Claims. (Cl. 260—147)

1. A complex chromium compound containing one atom of chromium bound in complex union with sub-

stantially two monoazo dyestuff molecules of the following formula



wherein R stands for a diazo component selected from the group consisting of a radical of 1-hydroxy-2-amino-4-lower alkyl-6-nitrobenzene, 1-hydroxy-2-amino-4-chloro-6-nitrobenzene, 1-hydroxy - 2-amino-4,6-dichlorobenzene and 1-hydroxy-2-amino-4-chlorobenzene, Z stands for a radical selected from the group consisting of lower alkyl and chlorine, and R_1 means a sulfonamide group.

2,978,446

LEVEL-OFF D.P. CELLULOSE PRODUCTS

Orlando A. Battista, Drexel Hill, and Patricia A. Smith, Chester, Pa., assignors to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Jan. 28, 1957, Ser. No. 636,483

15 Claims. (Cl. 260—212)

11. A method of forming a stable dispersion of level-off D.P. cellulose in an aqueous medium which comprises hydrolyzing cellulose in an acid medium containing as its acidic constituent an acid of the group consisting of hydrochloric acid and sulfuric acid to form level-off D.P. cellulose, washing the level-off D.P. cellulose with an aqueous medium to free the cellulose of acid and subjecting the acid-free level-off D.P. cellulose to mechanical disintegration in an aqueous medium to form disintegrated aggregates of cellulose crystallites, adjusting the pH of the medium to a pH of between substantially neutral and 11 to form a stable dispersion, the stable dispersion being further characterized by forming an extremely adherent film on glass when the dispersion is applied to glass and the applied dispersion is dried.

2,978,447

PREPARATION OF p-AMINOBENZYL PENICILLIN AND DERIVATIVES THEREOF

Anthony L. Toscal and Peter J. Moloney, Toronto, Ontario, Canada, Louis Goldsmith, Park Forest, Ill., and Douglas G. Glass, Toronto, Ontario, Canada, assignors to The Governors of the University of Toronto, Toronto, Ontario, Canada, a corporation of Canada

No Drawing. Filed July 11, 1960, Ser. No. 41,768

6 Claims. (Cl. 260—239.1)

1. The process of producing the relatively hydrophilic p-aminobenzyl penicillin, which comprises subjecting p-nitrobenzyl penicillin substantially free from hydrophilic contaminants to hydrogenation with hydrogen in a lower alkyl ester of a lower alkanoic acid as a solvent, in the presence of a catalyst of the platinum-metal group, at a temperature not substantially exceeding 90° F., to convert the ntiro radical of such penicillin to the amino radical, and thereby forming p-aminqbenzyl penicillin.

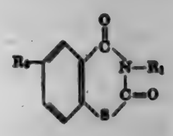
2,978,448

BENZO-1,3-THIAZINE-DIONE-(2,4) AND METHODS OF MAKING THE SAME

Klaus Hauspacher, Biberach (Riss), Germany, assignor to Dr. Karl Thomae G.m.b.H., Biberach (Riss), Germany, a corporation of Germany

No Drawing. Filed Oct. 16, 1958, Ser. No. 767,522
Claims priority, application Germany Oct. 24, 1957
11 Claims. (Cl. 260—243)

10. Benzo-1,3-thiazine-diones-(2,4) having the structural formula

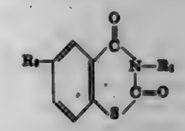


wherein

R_1 is selected from the group consisting of hydrogen, lower alkyl, monohalo-substituted lower alkyl, benzyl, phenyl, p-methoxy-phenyl, p-halo-phenyl, p-diethyl-amino-phenyl, amino, cyclohexyl and β-[benzo-1,3-thiazine-dione-(2,4)-yl-3]-ethyl, and

R_2 is selected from the group consisting of hydrogen, halogen and methyl.

11. The method of preparing benzo-1,3-thiazine-diones-(2,4) having the structural formula

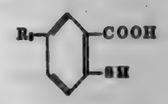


wherein

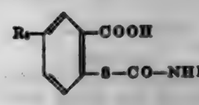
R_1 is selected from the group consisting of hydrogen, lower alkyl, monohalo-substituted lower alkyl, benzyl, phenyl, p-methoxy-phenyl, p-halo-phenyl, p-diethyl-amino-phenyl, amino, cyclohexyl and β-[benzo-1,3-thiazine-dione-(2,4)-yl-3]-ethyl, and

R_2 is selected from the group consisting of hydrogen, halogen and methyl,

which comprises reacting a thiosalicylic acid compound having the structural formula



wherein R_2 has the meaning defined above with a compound selected from the group consisting of those having the structural formulas HCNO, OCN—R_1 and ClCO—NHR_1, wherein R_1 has the meanings defined above, in the presence of an inert solvent selected from the group consisting of water, benzene, toluene, chloroform, ethyl acetate, ethylene chloride, tetrahydrofuran and dioxane to form a corresponding thiamide of the formula



wherein R_1 and R_2 have the meanings defined above, and cyclizing said thioamides by heating them in the presence of a dehydrating agent, selected from the group consisting of thionyl chloride, phosphorus oxychloride, phosphorus trichloride and phosphorus pentachloride, to form said benzo-1,3-thiazine-diones-(2,4).

2,978,449

POLYMERIC ISOCYANATES AND THEIR MANUFACTURE

Harold France and Arnold Lister, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Nov. 12, 1957, Ser. No. 695,491
Claims priority, application Great Britain Nov. 16, 1956
6 Claims. (Cl. 260—248)

1. A process for the preparation of isocyanate group-containing isocyanurate compounds by polymerizing organic polyisocyanates comprising polymerizing an organic polyisocyanate at a temperature from around room temperature to below 200° C. in the presence of lead 2-ethylhexoate and interrupting the reaction after the formation of isocyanurate rings detectable by infra-red absorption at 5.85 and 7.05 microns.

2,978,450

PRODUCTION OF VINYL COMPOUNDS

Walter Reppe, Heidelberg, and Matthias Seefelder, Ludwigshafen (Rhine), Oppau, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 4, 1957, Ser. No. 681,880
Claims priority, application Germany Sept. 11, 1956
11 Claims. (Cl. 260—257)

5. 5-vinyl-5-(α-methyl-butyl)-barbituric acid.

2,978,451

PROCESS FOR THE PREPARATION OF PIPERAZINES

Henry B. Hass, Summit, N.J., and Philip S. Skell, State College, Pa., assignors, by mesne assignments, to Research Corporation, New York, N.Y., a corporation of New York

Filed July 8, 1959, Ser. No. 825,699
12 Claims. (Cl. 260—268)

1. In the process of producing piperazines by subjecting a saccharide to reductive aminolysis by the simultaneous action of a nitrogenous compound selected from the class consisting of ammonia and a basic saturated aliphatic primary amine and of hydrogen gas under a pressure of between about 750 and 15,000 pounds per square inch in the presence of a metal-containing hydrogenation catalyst, at a temperature of 150°–300° C., the improvement which comprises employing said hydrogenation catalyst in sufficient quantity to provide hydrogen absorption at a rate of at least 1 mole of hydrogen per hour per kilogram of saccharide and said nitrogenous compound being employed in an amount of at least one gram atom of nitrogen per carbon atom of saccharide starting material.

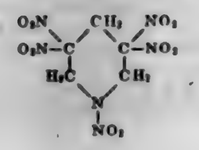
2,978,452

PENTANITROPIPERIDINE

Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 22, 1956, Ser. No. 617,668
5 Claims. (Cl. 260—293)

1. 1,3,3,5,5-pentanitropiperidine having the structural formula:



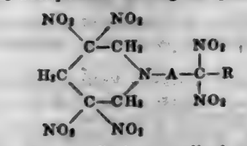
2,978,453

3,3,5,5-TETRANITROPIPERIDINE

Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 12, 1956, Ser. No. 628,949
17 Claims. (Cl. 260—293)

1. As new compositions of matter, the nitroalkyl tetranitropiperidine compounds having the general formula:



wherein A is a lower alkylene radical and R is a radical selected from the group consisting of lower nitroalkyl, lower alkyl, nitro and hydrogen radicals.

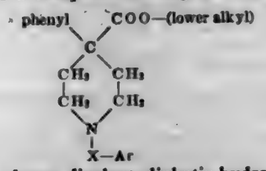
2,978,454

LOWER ALKYL-4-PHENYL-1-[(DILOWERALKOXY PHENYL) - ALIPHATIC] PIPERIDINE - 4 - CARBOXYLATES

Bill Elpern, Walnut Creek, Calif., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 12, 1955, Ser. No. 533,892
4 Claims. (Cl. 260—294.3)

1. A composition of matter selected from the group consisting of a compound having the formula



where X is a lower divalent aliphatic hydrocarbon radical having from two to four carbon atoms and having its two free valence bonds on different carbon atoms and Ar is di-lower alkoxy) phenyl; and its non-toxic acid addition salts.

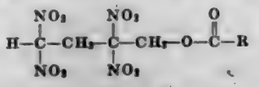
2,978,455

ESTERS OF 2,2,4,4-TETRANITROBUTANOL

Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 22, 1956, Ser. No. 617,667
14 Claims. (Cl. 260—295)

5. As new compositions of matter, the esters of 2,2,4,4-tetranitrobutanol having the general formula:



wherein R is a heterocyclic radical.

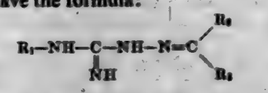
2,978,456

PYRIDINE KETONE DERIVATIVES OF CERTAIN AMINO GUANIDINES AND PROCESS

Stanley Birtwell, William Glynne Moss Jones, and Roy Frederick Maisey, Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 17, 1958, Ser. No. 749,039
Claims priority, application Great Britain Aug. 2, 1957
6 Claims. (Cl. 260—296)

1. Guanidine compounds which, in one of their tautomeric forms, have the formula:



wherein R_1 stands for an aryl radical selected from the

group consisting of phenyl, halophenyl, and lower alkylphenyl; R_1 is selected from the group consisting of pyridyl-(2), pyridyl-(3), pyridyl-(4) and their oxides and R_2 stands for a lower alkyl radical, and the nontoxic pharmaceutically-acceptable salts thereof.

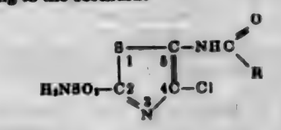
2,978,457

5-ACYLAMIDO-4-SUBSTITUTED-THIAZOLE-2-SULFONAMIDES HAVING DIURETIC PROPERTIES

James M. Sprague, Gwynedd Valley, and John B. Bicking, Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 6, 1959, Ser. No. 804,135
3 Claims. (Cl. 260—306.8)

3. A 5-acylamido-4-substituted thiazole-2-sulfonamide corresponding to the formula:



where R is an alkyl group having from 1 to 3 carbon atoms.

2,978,458

2-AMINO-6-CHLOROBENZOXAZOLE AND PHARMACEUTICALLY ACCEPTABLE SALTS

Joseph Sam, Camden, S.C., assignor to McNeil Laboratories, Incorporated, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 25, 1959, Ser. No. 795,326
3 Claims. (Cl. 260—307)

1. A compound selected from the group consisting of 2-amino-6-chlorobenzoxazole and pharmaceutically acceptable acid addition salts thereof.

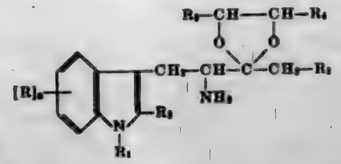
2,978,459

KETALS OF (3-INDOLYL)-AMINOALKANONES

Jacob Szmuszkovicz, Portage Township, Kalamazoo County, and William C. Anthony, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Aug. 5, 1959, Ser. No. 831,698
18 Claims. (Cl. 260—319)

1. A compound selected from the class consisting of (*a*) the free base form and (*b*) the pharmacologically acceptable acid addition salts of compounds having the formula:



wherein R is selected from the class consisting of hydroxy, halogen, alkyl from 1 to 6 carbon atoms, inclusive, aralkyl from 7 to 13 carbon atoms, inclusive, alkoxy from 1 to 6 carbon atoms, inclusive, and aralkoxy from 7 to 13 carbon atoms, inclusive, *n* is an integer from zero to 4, inclusive, R_1 and R_3 are selected from the class consisting of hydrogen, alkyl from 1 to 6 carbon atoms, inclusive, and aralkyl from 7 to 13 carbon atoms, inclusive, R_2 and R_4 are selected from the class consisting of hydrogen and alkyl from 1 to 6 carbon atoms, inclusive, and R_5 is selected from the class consisting of hydrogen, alkyl from 1 to 6 carbon atoms, inclusive, and methylol.

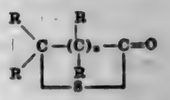
2,978,460

THIOLACTONES AND METHOD OF PREPARATION

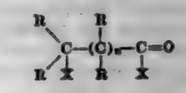
Paul D. Bartlett, Weston, and Bryce E. Tate, Cambridge, Mass., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 20, 1955, Ser. No. 535,518
8 Claims. (Cl. 260—332.3)

1. A method of preparing compounds having the generic formula



wherein each R is selected from the class consisting of hydrogen and, lower alkyl and *n* is an integer of from 1 to 2, comprising reacting a compound having the generic formula



wherein *n* and each R has the same designation as above and X represents a halogen having an atomic weight of at least 35.457, with an alkali metal sulfide having not more than 4 moles of water of crystallization at a temperature of from about −10 to about 75° C.

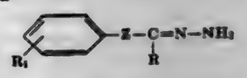
2,978,461

PROCESS OF PRODUCING PHENYLALKYLHYDRAZINES

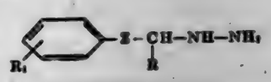
John H. Biel, Milwaukee, Wis., assignor, by mesne assignments, to Lakeside Laboratories, Inc., Milwaukee, Wis., a corporation of Delaware

No Drawing. Filed Nov. 21, 1958, Ser. No. 775,360
7 Claims. (Cl. 260—340.5)

1. The process which comprises reducing a compound of the formula



in a dry lower alkanol containing at least a molar equivalent of acetic acid per amount of hydrazone present with hydrogen using as a catalyst a member of the group consisting of platinum and platinum oxide at a temperature from 20° C. to 80° C. to produce a compound of the formula



wherein Z is a member of the group consisting of a single chemical bond and straight and branched lower alkylene groups, R is a member of the group consisting of hydrogen and lower alkyl groups, and Z is only a branched alkylene when R is hydrogen and R is only a lower alkyl group when Z is a chemical bond, and R_1 is a member of the group consisting of hydrogen and nuclear substituents on the phenyl group.

6. The process which comprises reducing 1-(3,4-methylenedioxyphenyl)-2-propylidenyl hydrazine with hydrogen using a catalyst of the group consisting of platinum and platinum oxide in a lower alkanol containing acetic acid in an amount at least molecularly equivalent to the hydrazone present at a temperature from 20° C. to 80° C. to produce 1-(3,4-methylenedioxyphenyl)-2-propyl hydrazine.

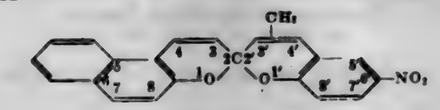
2,978,462

DERIVATIVES OF 3'-METHYL-SPIRO (2H-1-BETA-NAPHTHOPYRAN-2,2'-[2'H-1' BENZOPYRAN]

Elliot Berman and David B. McQuaide, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed June 19, 1959, Ser. No. 821,383
1 Claim. (Cl. 260—345.2)

The 6'-nitro derivative of 3'-methyl-spiro(2H-1-beta-naphthopyran-2,2'[2'H-1' benzopyran]) having the structure



2,978,463

COMPLEX EPOXY FATTY ESTERS

Frank E. Kuester and Thomas W. Findley, La Grange, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 27, 1956, Ser. No. 606,219
16 Claims. (Cl. 260—348)

1. A process for the preparation of oxirane-containing fatty acid esters comprising: admixing together two different esters, substantially all carboxyl groups of said esters being entirely esterified, one of said esters being an ester of an oxirane-containing fatty acid; adding thereto a small amount of an alkaline interesterification catalyst; and adjusting the temperature of the mixture so formed to a temperature of about 50° C. to about 130° C. whereby interesterification is effected to produce an oxirane-containing fatty ester substantially all carboxyl groups of which are entirely esterified.

4. An oxirane-containing fatty acid ester of a lower aliphatic polyol having 2–6 hydroxy groups in which an hydroxy group is esterified with an acid selected from the group consisting of polybasic aliphatic acids having less than 11 carbon atoms, monobasic benzenoid acids, alkyl benzenoid acids, hydroxy acids, phosphoric acid and mixtures thereof, substantially all acid groups being completely esterified.

2,978,464

EPOXIDATION OF CYCLODODECATRIENE PROCESS

Herbert K. Wiese, Cranford, and Samuel B. Lippincott, Springfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 2, 1959, Ser. No. 796,288
7 Claims. (Cl. 260—348)

1. The new composition of matter 5,6-9,10-diepoxycyclododecene.

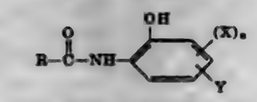
2,978,465

DISINFECTANTS

Dietrich Jerchel, Mainz, Germany, assignor to C. H. Boehringer Sohn, Ingelheim (Rhine), Germany, a partnership of Germany

No Drawing. Filed May 21, 1958, Ser. No. 736,669
Claims priority, application Germany May 28, 1957
6 Claims. (Cl. 260—404)

1. Acylated aminophenols having the structural formula



wherein R is alkenyl with 5 to 20 carbon atoms having from 1 to 3 olefinic double bonds, X is selected from chlorine and bromine, *n* is an integer from 1 to 3, inclusive, and Y is selected from the group consisting of hydrogen, chlorine and bromine.

2,978,466

HYDROGENATED DERIVATIVES OF 7-CYANO-2,5-HEPTADIENOIC ACID AND ITS ESTERS

Gian Paolo Chiusoli, Milan, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed Oct. 7, 1958, Ser. No. 765,734
Claims priority, application Italy Oct. 10, 1957
14 Claims. (Cl. 260—404)

14. Process for preparing a compound of the group consisting of omega-amino caprylic acid and its alkanol esters, the alkanol having from 1 to 4 carbon atoms, comprising treating a compound of the group consisting of 7-cyano-2,5-heptadienoic-1 acid and the corresponding alkanol esters thereof with hydrogen in the presence of hydrogenation catalyst, the process being carried out in two stages, in the first of which substantially only the two carbon to carbon double bonds are hydrogenated, palladium being used in the first stage and nickel in the second.

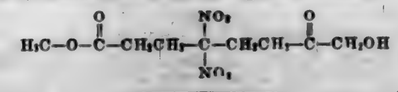
2,978,467

NITRO KETO ALCOHOLS AND ESTERS

Karl Klager, Monrovia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Jan. 22, 1957, Ser. No. 635,549
20 Claims. (Cl. 260—404.5)

8. As a new composition of matter, methyl-8-hydroxy-7-keto-4,4-dinitro-octanoate having the formula:



2,978,468

POLYMERIZATION, CONDENSATION AND REFINING OF FATTY ACIDS

Burt L. Hampton, Port St. Joe, Fla., assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 23, 1957, Ser. No. 685,377
13 Claims. (Cl. 260—407)

1. A process for treating a mixture of unsaturated fatty acids rich in oleic and linoleic acids which essentially comprises heating said mixture at a temperature of from about 110° to about 240° C. with a catalytic quantity of a catalyst selected from the group consisting of zinc chloride, zinc bromide and mixtures thereof in admixture with a catalytic quantity of an acid catalyst selected from the group consisting of hydrogen chloride and hydrogen bromide, recovering from said treatment a polymerized product, said polymerized product including the product formed by the reaction of a carboxylic acid group of a fatty acid molecule with a double bond of another fatty acid.

8. An addition ester of an unsaturated acid selected from the group consisting of oleic and linoleic acids with an unsaturated acid selected from the group consisting of oleic and linoleic acids, said ester having been prepared by heating a mixture of unsaturated fatty acids rich in oleic and linoleic acids at a temperature of from about 110° to 240° C. with a catalyic quantity of a catalyst selected from the group consisting of zinc chloride, zinc bromide and mixtures thereof in admixture with a catalytic quantity of an acid catalyst selected from the group consisting of hydrogen chloride and hydrogen bromide.

2,978,469

ESTERIFICATION PROCESS

John H. Brown, Jr., Freeport, and Nicholas B. Loretta, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 10, 1958, Ser. No. 747,567
7 Claims. (Cl. 260—410.9)

1. A process for making esters of organic acids which comprises the step of reacting in approximately equimolar

amounts a lower aliphatic ketal of a lower alkanone with an organic carboxylic acid having from two to twenty carbon atoms in the presence of a neutral hydroxyl compound selected from the group consisting of water and lower alkanols in an amount of at least about 10 mole percent of the acid present at a temperature of from about 0° to 100° C., and in the presence of a catalytic amount of an acid esterification catalyst.

2,978,470

PREPARATION OF OIL-SOLUBLE LEAD SOAPS FROM PETROLEUM OXIDATES AS LUBRICANT ADDITIVES

Edward R. Christensen, Beacon, N.Y., assignor to Texaco Inc., a corporation of Delaware

No Drawing. Filed Aug. 16, 1956, Ser. No. 604,303
6 Claims. (Cl. 260—414)

1. The method of making an oil soluble lead soap which comprises oxidizing a refined mineral lubricating oil having a pour point below about 5° F. to a neutralization number in about the range 25–100 and a saponification number in about the range 75–200, extracting a saponifiable material from the oxidized oil with a hydrocarbon solvent, separating the insoluble material, and converting the saponifiable material dissolved in the said solvent into the lead soap.

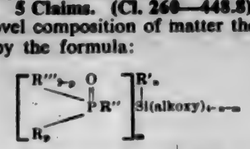
2,978,471

PHOSPHINYL ALKOXY SILANES

Frank Fekete, Verona, Pa., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 23, 1958, Ser. No. 782,382
5 Claims. (Cl. 260—448.8)

1. As a novel composition of matter the organosilanes represented by the formula:



wherein R is a hydrocarbyl group, R′ is a hydrocarbyl group and need not be the same throughout the same molecule, R″ is a divalent hydrocarbon group free of aliphatic unsaturation, R‴ is a member from the class consisting of hydrogen and a hydrocarbyloxy group, *m* is an integer from 1 to 2, *n* is an integer from 0 to 2, *n*+*m* is an integer from 1 to 3 and *p* is an integer from 1 to 2.

2,978,472

CORROSION INHIBITING OXIDATES AND PROCESS FOR THEIR PRODUCTION

George B. Kirkwood, Port Arthur, and John H. Greene, Groves, Tex., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Jan. 24, 1958, Ser. No. 710,856
4 Claims. (Cl. 260—451)

1. A method of producing a paraffinic lubricating oil liquid oxidate characterized by a Neut. No. between about 55 and 80, a Sap. No. between about 100 and 200, and an unsaponifiable content less than about 55 wt. percent comprising reacting in the presence of a catalytic amount of a metalliferous catalyst, a refined paraffinic lubricating oil with air at an air rate of about 8–50 cu. ft./lb. oil/hr., at an air velocity of about 0.1 to 6 ft./sec., at an oxidation temperature between about 250 and 400° F. and at a pressure between about 30 and 300 p.s.i.g., subsequently cooling said oxidate at a cooling rate between about 5 and 50° F./minute, said lubricating oil having a viscosity between 90 and 350 SUS at 100° F., a pour point less than 10° F., an aniline point between 210 and 230° F., and a Lovibond ½″ cell color rating of less than 100.

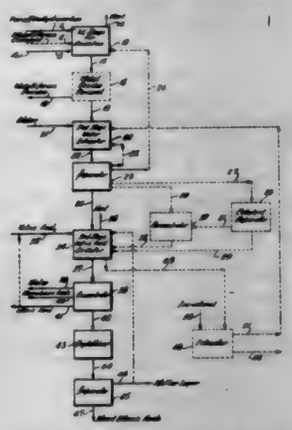
3. A refined paraffinic lubricating oil liquid oxidate characterized by a Neut. No. between about 55 and 80, a Sap No. between about 100 and 200, an unsaponifiable content less than about 55 wt. percent, a pour point less than 30° F., a viscosity less than 200 SUS at 210° F. and a Lovibond ½″ cell color rating of less than 200.

2,978,473

DIBASIC ACID MANUFACTURE

Harry Chafetz, Poughkeepsie, and John A. Patterson, Fishkill, N.Y., assignors to Texaco Inc., a corporation of Delaware

Filed Sept. 30, 1958, Ser. No. 764,324
12 Claims. (Cl. 260—452)



12. A process for the production of dibasic acids which comprises oxidizing a macrocrystalline paraffin wax with air until the resultant reaction mixture has a saponification number between 400 and 600, thereby forming a paraffinic wax oxidate, agitating said paraffinic wax oxidate with water at a temperature between 150 and 350° F. and at a pressure between about atmospheric and 1000 p.s.i.g., said pressure sufficient to maintain the resulting aqueous mixture in a liquid state, maintaining the ratio of said water to said paraffinic wax oxidate between about 1:1 and 4:1, separating by gravity said resulting aqueous mixture into an oily fraction and an aqueous fraction, agitating said aqueous fraction with nitric acid at a temperature between 150 and 350° F. and at a pressure between about atmospheric and 800 p.s.i.g. to form a nitric acid reaction mixture, said nitric acid of an initial concentration in said reaction mixture of between 15 and 40% based on the weight of the water and 100% HNO_3, and the initial weight ratio of the water soluble portion of said paraffinic wax oxidate to 100% HNO_3 maintained between 1:1 and 1:4, subsequently distilling off the nitric acid and water components of the resultant nitric acid reaction mixture under reduced pressure at elevated temperature to obtain a residue of dibasic acids.

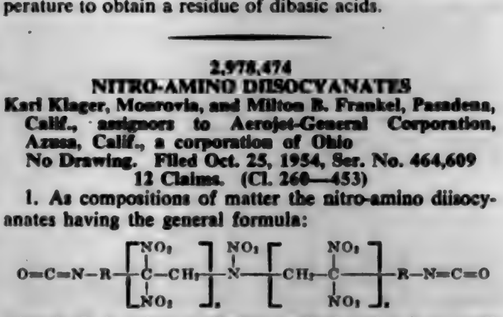
2,978,474

NITRO-AMINO DIISOCYANATES

Karl Klager, Monrovia, and Milton B. Frankel, Pasadena, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 25, 1954, Ser. No. 464,609
12 Claims. (Cl. 260—453)

1. As compositions of matter the nitro-amino diisocyanates having the general formula:



wherein R is a lower alkylene radical and *x* is a small whole number from 1 to 3 inclusive.

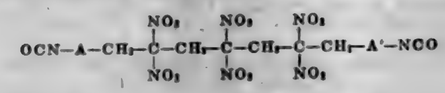
2,978,475

NITRO-SUBSTITUTED DIISOCYANATE COMPOUNDS

Karl Klager, Monrovia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Mar. 26, 1956, Ser. No. 574,035
8 Claims. (Cl. 260—453)

1. As compositions of matter, the hexanitro diisocyanate compounds having the structural formula:



wherein A and A′ are lower alkylene radicals.

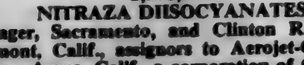
2,978,476

NITRAZA DIISOCYANATES

Karl Klager, Sacramento, and Clinton R. Vanneman, Claremont, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 13, 1957, Ser. No. 702,735
12 Claims. (Cl. 260—453)

1. As compositions of matter, nitraza-diisocyanates having the general formula:



wherein A and A′ are lower alkylene radicals and Z is a lower nitroalkylene radical.

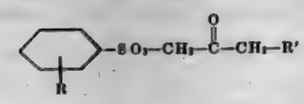
2,978,477

NITRO KETO ALKYL ESTERS OF AROMATIC SULFONIC ACIDS

Gustave B. Linden, Los Angeles, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 8, 1953, Ser. No. 397,028
11 Claims. (Cl. 260—456)

1. As a composition of matter an alkyl keto sulfonic ester having the general formula:



wherein R is a radical selected from the group consisting of hydrogen and lower alkyl radicals and R′ is a nitro substituted lower alkyl radical.

2,978,478

REACTION OF PHOSPHORUS OXYCHLORIDE AND POLAR POLYHYDRIC COMPOUNDS

Walter J. Sandner, Carpentersville, and William L. Fierce, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Feb. 5, 1959, Ser. No. 791,289
14 Claims. (Cl. 260—461)

1. A method of preparing organophosphorus compounds which comprises reacting a phosphorus oxyhalide with at least one polyhydroxy polar organic compound having at least three hydroxy radicals per molecule, and which is insoluble in non-polar solvents, in admixture with at least one compound selected from the group consisting of ethylene glycol, lower alkanols, and phenols, with which said polyhydroxy compound is at least partially mutually soluble.

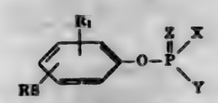
2,978,479

PEST CONTROL AGENTS

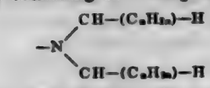
Heinrich Kayser, Wuppertal-Elberfeld, and Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 4, 1959, Ser. No. 797,052
12 Claims. (Cl. 260—461)

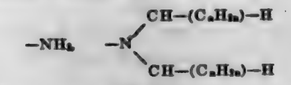
10. A phosphoric acid amide of the following formula



wherein R stands for an alkyl radical having up to four carbon atoms; R_1 stands for a member selected from the group consisting of hydrogen and an alkyl radical having up to four carbon atoms; Z is a chalcogen having an atomic weight from 16 to 33; X is a member selected from the group consisting of —NH_2 and



Y is a member selected from the group consisting of



and O—CH—(C_nH_{2n})—H; and *n* is an integer from 0 to 3.

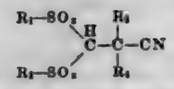
2,978,480

BIS-(ALKYL SULFONYL AND SULFOXYL) ALIPHATIC ACID DERIVATIVES

Raymond W. Luckenbaugh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 8, 1957, Ser. No. 657,721
4 Claims. (Cl. 260—465.1)

1. A compound characterized by the formula



where: R_1 and R_2 are selected from the group consisting of hydroxy lower alkyl, halo lower alkyl, nitro lower alkyl, cyano lower alkyl, lower alkyl, nitrophenyl, chlorophenyl, and phenyl; R_3 and R_4 are selected from the group consisting of hydrogen, hydroxy lower alkyl, halo lower alkyl, nitro lower alkyl, cyano lower alkyl, and lower alkyl; and *x* is a positive whole number less than 3.

2,978,481

SYNTHETIC PROCESS FOR PRODUCING ALDEHYDES FROM ACRYLONITRILE BY OXO-REACTION

Jiro Kato and Hachiro Wakamatsu, Tokyo, and Hitoshi Ishiwara, Nishihemicho, Yokosuka, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan, a corporation of Japan

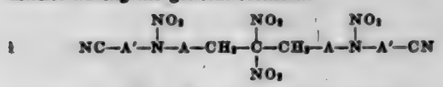
No Drawing. Filed Oct. 7, 1957, Ser. No. 688,439
Claims priority, application Japan July 31, 1957
2 Claims. (Cl. 260—465.1)

1. The process for producing β-cyanopropionaldehyde which comprises dissolving acrylonitrile in an organic polar solvent selected from the group consisting of acetone, methanol, ethanol, n-propanol iso-propanol, n-butanol, sec-butanol, tertiary-butanol, dioxane and the monoethylether of ethylene glycol, and reacting the solution with carbon monoxide and hydrogen approximately in equal proportions at a temperature between approxi-

mately 120° C. and 130° C. and under a pressure of approximately 150 kg./cm.² to 200 kg./cm.² in the presence of cobalt carbonyl as a catalyst.

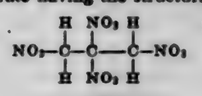
2,978,482
SULFAMOYLACETONITRILE
Joseph Weinstock, Phoenixville, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 23, 1960, Ser. No. 10,067
1 Claim. (Cl. 260—465.5)
Sulfamoylacetonitrile.

2,978,483
NITRAZA DINITRILE COMPOSITIONS OF MATTER
Clinton R. Vanneman, Claremont, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Sept. 6, 1955, Ser. No. 532,730
15 Claims. (Cl. 260—465.5)
1. As compositions of matter, the dinitro-dinitraza dinitriles having the general formula:

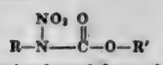


wherein A and A' are lower alkylene radicals.

2,978,484
2,2-DINITROPROPANE-1,3-DINITRATE
Herman Plaut, Los Angeles, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 6, 1951, Ser. No. 204,819
1 Claim. (Cl. 260—467)
As a new explosive composition of matter, 2,2-dinitropropane-1,3-dinitrate having the structural formula

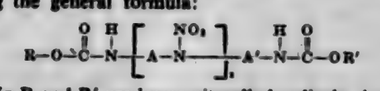


2,978,485
N-NITROCARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed June 9, 1955, Ser. No. 514,381
20 Claims. (Cl. 260—479)
1. As compositions of matter, N-nitrocarbamates having the general formula:



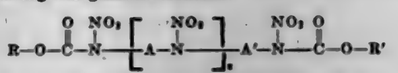
wherein R is a radical selected from the group consisting of nitroalkyl and alkyl radicals and R' is a radical selected from the group consisting of alkyl, cycloalkyl, nitroalkyl and nitroaryl radicals, at least one R being a nitroalkyl radical.

2,978,486
NITRO DICARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Oct. 25, 1954, Ser. No. 464,610
15 Claims. (Cl. 260—482)
1. As compositions of matter, nitro dicarbamates having the general formula:



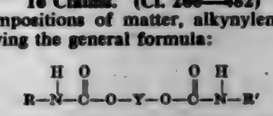
wherein R and R' are lower nitroalkyl radicals, A and A' are radicals selected from the group consisting of lower alkylene and lower nitroalkylene radicals, x is a small whole number from 0 to 5 inclusive, provided that A' is a nitroalkylene radical when x is 0.

2,978,487
N,N'-DINITRO DICARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Nov. 5, 1954, Ser. No. 466,969
20 Claims. (Cl. 260—482)
1. As compositions of matter, N,N'-dinitro dicarbamates having the general formula:



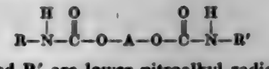
wherein R and R' are lower nitroalkyl radicals, A and A' are radicals selected from the group consisting of lower alkylene and lower nitroalkylene radicals, and x is a small whole number of 0 to 5 inclusive.

2,978,488
ALKYNYLENE NITRO-DICARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Jan. 3, 1955, Ser. No. 479,655
16 Claims. (Cl. 260—482)
1. As compositions of matter, alkynylene nitro-dicarbamates having the general formula:



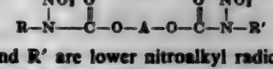
wherein R and R' are lower nitroalkyl radicals and Y is a lower alkynylene radical.

2,978,489
NITRO-DICARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Jan. 3, 1955, Ser. No. 479,656
19 Claims. (Cl. 260—482)
1. As compositions of matter, nitro-dicarbamates having the general formula:



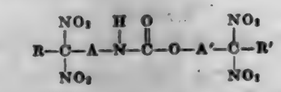
wherein R and R' are lower nitroalkyl radicals and A is a lower nitroalkylene radical.

2,978,490
N,N-DINITRO DICARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Jan. 3, 1955, Ser. No. 479,657
18 Claims. (Cl. 260—482)
1. As compositions of matter, N,N'-dinitro dicarbamates having the general formula:



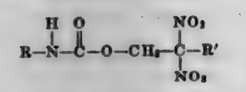
wherein R and R' are lower nitroalkyl radicals and A is a radical selected from the group consisting of lower nitroalkylene and lower alkylene radicals.

2,978,491
POLYNITRO CARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Jan. 17, 1955, Ser. No. 482,409
20 Claims. (Cl. 260—482)
1. As compositions of matter, the polynitro carbamates having the general formula:



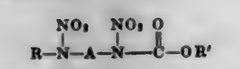
wherein R' and R are radicals selected from the group consisting of lower alkyl, lower polynitroalkyl and nitro radicals, at least one R being of the alkyl and polynitroalkyl series, and A and A' are lower alkylene radicals.

2,978,492
NITROCARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Jan. 17, 1955, Ser. No. 482,410
14 Claims. (Cl. 260—482)
1. As compositions of matter, nitrocarbamates having the general formula:



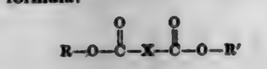
wherein R is a lower alkyl radical and R' is a radical selected from the group consisting of lower alkyl, nitro, and lower nitroalkyl radicals.

2,978,493
N-NITROCARBAMATES
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed June 9, 1955, Ser. No. 514,383
16 Claims. (Cl. 260—482)
1. As compositions of matter, N-nitrocarbamates having the general formula:



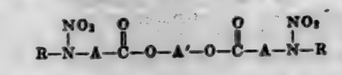
wherein R and R' are radicals selected from the group consisting of lower alkyl and lower nitroalkyl radicals and A is an alkylene radical.

2,978,494
POLYNITRO ESTERS
Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed June 20, 1955, Ser. No. 516,794
22 Claims. (Cl. 260—482)
1. As compositions of matter, polynitro esters having the general formula:



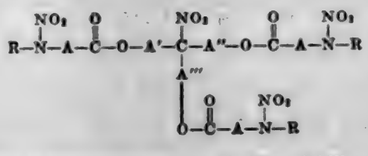
wherein X is a radical selected from the group consisting of polynitroalkylene and nitraza-alkylene radicals and R and R' are lower nitroalkyl radicals.

2,978,495
NITRAMINO ESTERS
Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Aug. 22, 1955, Ser. No. 529,945
10 Claims. (Cl. 260—482)
1. As compositions of matter, nitramino esters having the general formula:



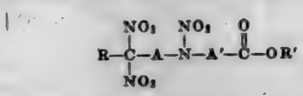
wherein R is a lower alkyl radical and A and A' are lower alkylene radicals.

2,978,496
TRIS-NITRAMINO ESTERS
Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Aug. 22, 1955, Ser. No. 529,947
14 Claims. (Cl. 260—482)
1. As compositions of matter, tris-esters having the general formula:



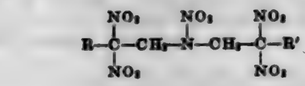
wherein R is lower alkyl and A, A', A'' and A''' are lower alkylene radicals.

2,978,497
NITRAZA ESTERS
Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Aug. 22, 1955, Ser. No. 529,948
22 Claims. (Cl. 260—482)
1. As new compositions of matter, nitraza esters having the general formula:



wherein R is a radical selected from the group consisting of hydrogen and lower alkyl radicals, R' is a radical selected from the group consisting of lower alkyl and lower nitroalkyl radicals and A and A' are lower alkylene radicals.

2,978,498
NITRO-SUBSTITUTED NITRAZA COMPOUNDS
Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Jan. 22, 1957, Ser. No. 635,548
8 Claims. (Cl. 260—482)
1. As compositions of matter, the nitro-substituted nitraza compounds having the general formula:



wherein R and R' are lower carboalkoxy-alkylene radicals.

2,978,499
MANUFACTURE OF AROMATIC DISULPHONIC ACIDS

Robert Alexander Edington and Isaac Goodman, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 18, 1957, Ser. No. 672,561
Claims priority, application Great Britain July 23, 1956
10 Claims. (Cl. 260—505)

1. A process for the manufacture of an aromatic disulphonic acid selected from the group consisting of benzene-1:4-disulphonic acid and naphthalene-2:6-disulphonic acid in the form of their alkali metal salts which consists in heating the alkali metal salt of an aromatic disulphonic acid selected from the group consisting of benzene-1:3-disulphonic acid and naphthalene-2:7-disulphonic acid, respectively, within the range 375°–600° C.

2,978,500
MANUFACTURE OF AROMATIC DISULPHONIC ACIDS

Isaac Goodman and Robert Alexander Edington, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 18, 1957, Ser. No. 672,577
Claims priority, application Great Britain July 23, 1956
12 Claims. (Cl. 260—505)

1. A process for the manufacture of unsubstituted aromatic disulfonic acids selected from the group consisting of 1:4-benzene disulfonic acid, diphenyl-4:4′-disulfonic acid, and 2:6-naphthalene disulfonic acid which consists in heating an alkali metal salt of an unsubstituted aromatic monosulfonic acid selected from the group consisting of respectively benzene sulfonic acid, diphenyl-4-sulfonic acid, α-naphthalene sulfonic acid, and β-naphthalene sulfonic acid, and at a temperature within the range 375°–600° C.

2,978,501
STABILIZED CARBOXYLIC MONOMERS

Quandt M. Adams, Paducah, Ky., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed June 2, 1958, Ser. No. 739,437
3 Claims. (Cl. 260—526)

1. A composition of matter comprising a member selected from the group consisting of acrylic acid and methacrylic acid of at least 95% purity to which has been added a controlled amount of from about 2 to about 10 parts per million of phenothiazine as the sole stabilizing ingredient said composition being stable against spontaneous polymerization for a period of at least two weeks at a temperature of 50° C.

2,978,502
PRODUCTION OF ORGANO-BORON COMPOUNDS

William David English, Garden Grove, and Allen L. McCloskey, Orange, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Mar. 6, 1959, Ser. No. 797,565
4 Claims. (Cl. 260—551)

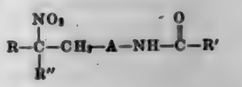
1. The method of producing borazoles which comprises heating at reflux a tris(amino)borane selected from the group consisting of $(RNH)_3B$ and $(R_2N)_3B$ wherein R is a radical selected from the group consisting of alkyl radicals having from 1–6 carbon atoms, phenyl, thiophenyl and pyridyl, with a material selected from the group of amine salts of strong protonic acids consisting of RNH_2 : HA, R_2NH : HA and R_3N : HA wherein R is a material selected from the group consisting of alkyl radicals having from 1–6 carbon atoms, phenyl, thiophenyl and pyridyl, HA is a strong protonic acid selected from the group consisting of hydrochloric, hydrobromic, sulfuric and trifluoroacetic acids and wherein at least one of said reaction ingredients is derived from a primary amine.

2,978,503
PREPARATION OF N-(NITROALKYL)AMIDES

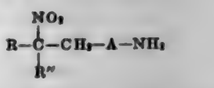
Karl Klager, Monrovia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 9, 1954, Ser. No. 474,284
14 Claims. (Cl. 260—561)

1. The method of preparing N-nitroalkyl substituted amides having the general formula:



which comprises condensing an alkenoic acid halide with an amine having the general formula:



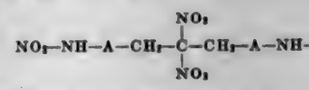
wherein A is a lower alkylene radical, R′ is a lower alkenyl radical, and R and R″ are radicals selected from the group consisting of hydrogen, alkyl and nitro radicals.

2,978,504
ALIPHATIC NITRAMINES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 25, 1954, Ser. No. 464,613
5 Claims. (Cl. 260—583)

1. As compositions of matter, polynitro nitramines having the general formula:



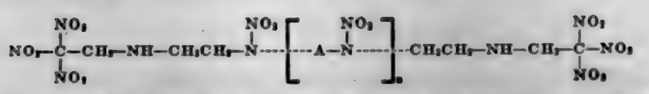
wherein A is a lower alkylene radical.

2,978,505
POLYNITRO NITRAZA DIAMINES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Apr. 13, 1956, Ser. No. 578,151
16 Claims. (Cl. 260—583)

1. As compositions of matter, the polynitro nitraza diamines having the general formula:



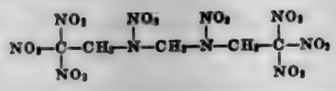
wherein A is a lower alkylene radical and *n* is a small whole number from 0 to 1 inclusive.

2,978,506
1,1,1,3,5,7,7,7 OCTANITRO-3,5-DIAZA HEPTANE

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Apr. 13, 1956, Ser. No. 578,152
6 Claims. (Cl. 260—583)

1. As a composition of matter, 1,1,1,3,5,7,7,7-octanitro-3,5-diaza heptane having the structural formula:

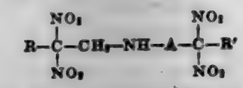


2,978,507
POLYNITROAMINES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Apr. 13, 1956, Ser. No. 578,153
20 Claims. (Cl. 260—583)

1. As compositions of matter, the secondary polynitro amines having the general formula:



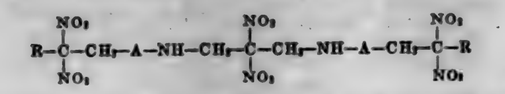
wherein A is a lower alkylene radical and R and R′ are radicals selected from a group consisting of nitro and lower alkyl radicals, at least one R being alkyl.

2,978,508
SYMMETRICAL SECONDARY ALIPHATIC POLYNITRO DIAMINES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Delaware

No Drawing. Filed June 5, 1956, Ser. No. 589,559
12 Claims. (Cl. 260—583)

1. As compositions of matter, symmetrical secondary aliphatic polynitro diamines having the general formula:



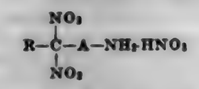
wherein A is a lower alkylene radical and R is a radical selected from the group consisting of nitro and lower alkyl radicals.

2,978,509
NITRATE SALTS OF ALIPHATIC POLYNITRO AMINES

Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 22, 1956, Ser. No. 617,666
14 Claims. (Cl. 260—583)

1. As compositions of matter, the nitrate salts of aliphatic polynitro amines having the general formula:



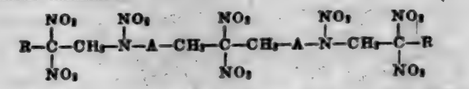
wherein R is a radical selected from the group consisting of lower alkyl and nitro radicals and A is a lower alkylene radical.

2,978,510
POLYNITRO DIAZA ALKANES

Milton B. Frankel, Pasadena, and Karl Klager, Monrovia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Mar. 7, 1957, Ser. No. 644,694
10 Claims. (Cl. 260—583)

1. As compositions of matter, nitramines having the general formula:



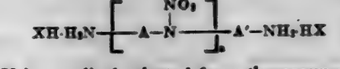
wherein R is a radical selected from the group consisting of nitro and lower alkyl radicals and A is a lower alkylene radical.

2,978,511
NITRATE AND PERCHLORATE SALTS OF NITRAZA DIAMINES

Milton B. Frankel, Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 25, 1957, Ser. No. 692,964
20 Claims. (Cl. 260—583)

1. As new compositions of matter, the bis-inorganic acid salts of nitraza diamines having the general formula:



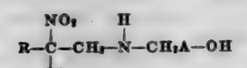
wherein X is a radical selected from the group consisting of nitrate and perchlorate radicals; A and A′ are lower alkylene radicals; and *n* is a whole number from 1 to 6, inclusive.

2,978,512
NITRO SUBSTITUTED AZAALKANOLS AND THEIR METHOD OF PREPARATION

Milton B. Frankel and Gustave B. Linden, Pasadena, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 19, 1957, Ser. No. 711,768
16 Claims. (Cl. 260—584)

1. As new compositions of matter, azaalkanols having the general formula:



wherein R is a radical selected from the group consisting of hydrogen, nitro, halogen, lower alkyl, lower nitroalkyl and lower halonitroalkyl radicals; R′ is a radical selected from the group consisting of hydrogen, halogen, lower alkyl, lower nitroalkyl and lower halonitroalkyl radicals; and A is a lower alkylene radical provided that when R is hydrogen R′ is a radical selected from the group consisting of hydrogen, halogen, lower nitroalkyl and lower halonitroalkyl radicals; when R′ is hydrogen R is a radical selected from the group consisting of hydrogen, halogen, lower nitroalkyl and lower halonitroalkyl radicals and when R is a nitro radical R′ is a radical selected from the group consisting of halogen, lower nitroalkyl and lower halonitroalkyl radicals.

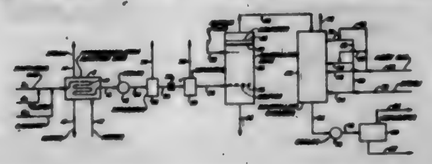
2,978,513
OXO PROCESS

Charles E. Carter, Canonsburg, and Rex W. Smyth, Tarentum, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Apr. 15, 1957, Ser. No. 652,680
4 Claims. (Cl. 260—604)

1. A method of demetalling a hydroformylation reaction product obtained in the Oxo process containing at

least one metal carbonyl which comprises passing through a demetalling zone an aqueous medium having a temperature of at least about 250° F., passing through said demetalling zone, at a contact time of at least about one-fourth minute, countercurrent to said aqueous medium, about one-tenth to about 3 volumes of said hydroformylation reaction product per volume of said aqueous medium in the form of droplets having a diameter of about 1/64 to about 1/2 inch, whereby a substantial amount of said metal carbonyl is decomposed, and thereafter separating said aqueous medium and said treated hydroformylation reaction product from each other.



2,978,514

SEPARATION OF PENTAERYTHRITOL AND DIPENTAERYTHRITOL FROM SOLUTION

Arthur J. Poynton, Mount Royal, Quebec, Canada, assignor to Canadian Chemical Company, Ltd., Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed Dec. 9, 1957, Ser. No. 701,361

3 Claims. (Cl. 260—615)

1. Process for the separation of pentaerythritol and dipentaerythritol from a crude pentaerythritol, produced in the reaction of formaldehyde, acetaldehyde and an alkali and containing dipentaerythritol and pentaerythritol formals, which comprises maintaining a solution of said crude pentaerythritol in acidulated water, in which said crude pentaerythritol is wholly dissolved and is at a concentration of about 35 to 45% and in which at least 0.2% of sulfuric acid is present, at an elevated temperature between about 95° and 105° C. for a period of about 20 to 120 minutes to hydrolyze said formals, cooling the solution to form bipyramid crystals of pentaerythritol and smaller crystals of dipentaerythritol, separating bipyramid crystals from said cooled solution and said smaller crystals by filtration through apertures at least as large as those of a 325 mesh screen, and thereafter separating said smaller crystals of dipentaerythritol from said solution.

2,978,515

PROCESS FOR PREPARING PHENOL DERIVATIVES

Lewis H. Conklin, Cuyahoga Falls, and Roland A. McPherson, Jr., Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed May 24, 1956, Ser. No. 586,935

5 Claims. (Cl. 260—619)

1. In the process for preparing condensation reaction products of phenols with a material selected from the class consisting of aryl substituted alkene hydrocarbons and tertiary olefins containing 4 to 8 carbon atoms, the improvement which comprises conducting said condensation reaction in the presence of triisobutylene diluent at a temperature of about 70° C. to about 80° C.

2,978,516

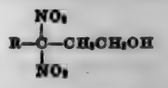
ALCOHOLS

Karl Kluger, Monrovia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

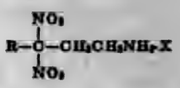
No Drawing. Filed Dec. 8, 1953, Ser. No. 397,813

7 Claims. (Cl. 260—632)

1. The method for preparing β-geminal dinitro alcohols having the general formula:



wherein R is a lower alkyl radical, which comprises reacting a nitrite salt selected from the group consisting of the alkali and alkaline earth metal nitrite salts with a β-geminal dinitroalkyl amine salt of a strong mineral acid having the general formula:



wherein R is a lower alkyl radical and X is a strong mineral acid.

2,978,517

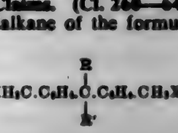
BIS-(ALPHAHALOTOLYL) ALKANES

Arthur M. Schiller, New Canaan, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Jan. 14, 1959, Ser. No. 786,708

3 Claims. (Cl. 260—649)

1. A dihalotolylalkane of the formula



in which X is halogen and R and R' are alkyl hydrocarbon groups of 1 to 4 carbon atoms.

2,978,518

PROCESS FOR THE STABILIZATION OF CHLORINATED HYDROCARBONS

Nestor Daras, Ixelles-Brussels, Belgium, assignor to Solvay & Cie., Brussels, Belgium, a Belgian company

No Drawing. Filed Dec. 9, 1958, Ser. No. 779,077

Claims priority, application Belgium Dec. 19, 1957

6 Claims. (Cl. 260—652.5)

1. A process for the stabilization of a chlorinated hydrocarbon solvent to inhibit its decomposition and the simultaneous formation of acids, which comprises adding to said solvent 0.05 to 0.5 g. of a phenol selected from the group consisting of phenol and the cresols, and 0.5 to 10 g. of tertiary amyl alcohol per liter of said chlorinated hydrocarbon solvent.

2,978,519

PROCESS FOR THE MANUFACTURE OF FLUOROCARBON WAXES

Edgar Fischer, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 9, 1958, Ser. No. 734,115

Claims priority, application Germany May 14, 1957

7 Claims. (Cl. 260—653.1)

1. A process for the manufacture of fluorocarbon waxes by cracking polytetrafluoroethylene, which comprises heating polytetrafluoroethylene in a salt melt having a melting point below 327° C. at a temperature within the range of 300–600° C.

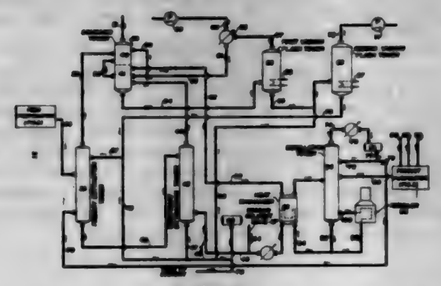
2,978,520

PROCESS FOR RECOVERY OF AROMATIC HYDROCARBONS

Edmund D. Blum, Elgin, and Le Roi E. Hutchings, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed June 16, 1958, Ser. No. 742,121

15 Claims. (Cl. 260—674)



1. A process for the separation of aromatic hydrocarbons from a mixture of hydrocarbons containing same which comprises treating said mixture with an aqueous solvent to form a first raffinate phase and a first extract phase, said solvent consisting of N-substituted carbamates having at least one polar substituent and being characterized by its instability in the presence of water and heat, separating the first raffinate phase and the first extract phase, contacting said raffinate phase with water in a first contact zone to form a solvent-free raffinate phase and a water-solvent phase, contacting said first extract phase with a secondary solvent having a boiling point substantially above that of the aromatic hydrocarbon sought in said first extract phase to form a second raffinate phase and a second extract phase, contacting said second extract phase with the water-solvent phase from said first contact zone in a second contact zone to recover a purified second extract phase and a combined water-solvent phase, flash-vaporizing said combined water-solvent phase to reconstitute said aqueous solvent to its original composition, recovering overhead water from said flash vaporization, returning said overhead water to said first and second contact zones at a rate sufficient to maintain the total water contents therein at about 1.0 to 3.0 volume percent of the total hydrocarbon content of each of said contact zones, and recovering said aromatic hydrocarbons from said purified second extract phase.

2,978,521

PROCESS AND APPARATUS FOR TREATMENT OF HYDROCARBONS

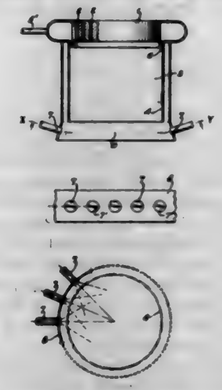
Frédéric F. A. Braconier, Plainevaux, and Jean J. L. E. Riga, Liege, Belgium, assignors to Societe Belge de l'Azote et des Produits Chimiques du Marly, Liege, Belgium

Filed June 3, 1958, Ser. No. 739,553

Claims priority, application Austria June 7, 1957

7 Claims. (Cl. 260—679)

1. In a process for quenching hot pyrolysis gases in a vertically disposed cylindrical hydrocarbon pyrolysis reaction chamber to arrest a pyrolysis reaction therein at a predetermined level of said chamber with a transversely directed sprayed layer of water and while avoiding premature cooling contact of said gases above said predetermined level by upwardly diffusing or misting of water from said transverse layer resulting from eddying therein and impingement thereagainst by axially directed water flow in said reaction chamber, the steps which comprise establishing and surrounding said pyrolysis reaction in said reaction chamber with an axially and downwardly flowing screen of water extending substantially throughout the length of said chamber and at least to said predetermined level for quenching thereat, spraying a generally transversely directed continuous layer of water across said chamber toward the axis thereof from around the outside thereof and substantially at said predetermined level therein, said spraying being directed downwardly at an angle of about 10°–15° with respect to a transverse plane through said chamber normal to the direction of flow of said gases therein for producing a generally depressed conical configuration in said transverse water layer whereby upward diffusion of water above said predetermined level and resulting from eddying and misting occurring at the center of said layer from the meeting of oppositely radially directed streams of flow therein is avoided to prevent said premature cooling of said pyrolysis gases above said predetermined level in said chamber, and originating said spraying of said conical transverse water layer from a plurality of individual sprays spaced radially outside the periphery of said axially flowing screen of water for substantially complete consolidation of individual spray streams of water from said individual sprays into said continuous layer prior to impingement thereon of said axially flowing screen of water for entraining in said conical layer for transverse flow therewith water from said axial screen for avoiding additional upward eddying and misting at the juncture of said screen and said layer for also preventing said premature cooling contact of said pyrolysis gases above said predetermined level in said chamber, said plurality of individual sprays forming said conical transverse water layer being each

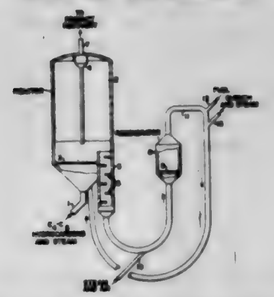


formed as a separate flat fan-like spray the cross section of which is tilted about the radial axis thereof whereby the higher edge of one spray overlaps the lower edge of the adjacent spray prior to direct impingement or interference in a horizontal plane between water droplets in one spray with and against water droplets in the next adjacent spray.

5. In apparatus for controlling a pyrolysis decomposition reaction of hydrocarbons into less saturated hydrocarbons in a cylindrical pyrolysis reaction chamber and for quenching hot pyrolysis gases to arrest said pyrolysis reaction at a predetermined level in said reaction chamber, the combination which comprises means for forming a substantially continuous screen of water within said reaction chamber for enclosing said pyrolysis gases and flowing axially within said chamber in the same direction as the flow of said gases therein at least to said predetermined level for quenching said gases in said chamber, a plurality of radially inwardly directed water spray jet nozzles around said reaction chamber disposed on a transverse plane therethrough substantially at said predetermined quenching level axially thereof, said nozzles being disposed around said reaction chamber radially outside the periphery thereof defined by said axially flowing screen of water, means for mounting said plurality of nozzles in said apparatus for directing transversely

overlapping sprays of water radially inwardly into said chamber and downwardly inclined therein at an angle of about 10°–15° with respect to a transverse plane to said chamber normal to said flow of said gases therein, each of said plurality of radially inwardly directed jet nozzles having an outlet orifice having a narrow elongated transverse slot for producing said sprays of water in the form of a flat fan-like spray into said chamber, and with each of said orifice slots angularly inclined about the axis of said orifice and with respect to a transverse plane through said chamber whereby individual sprays of water from said orifice slot into said chamber overlap before water from one said spray directly impinges upon water from an adjacent said spray.

2,978,522
DIOLEFIN MANUFACTURE
Robert P. Cahn, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 25, 1958, Ser. No. 763,233
12 Claims. (Cl. 260—680)

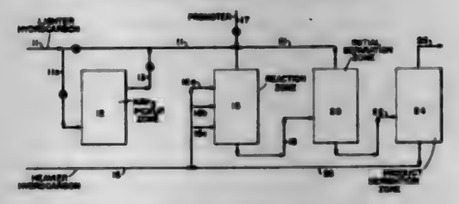


1. An improved process for dehydrogenating C_4–C_8 hydrocarbons more highly saturated than diolefins to diolefins which comprises passing said hydrocarbons and steam into a reaction zone containing a fluidized bed of dehydrogenation catalyst, maintaining elevated temperatures within said reaction zone, continuously withdrawing deactivated catalyst from said zone, passing deactivated catalyst from said zone to a regeneration zone, contacting said deactivated catalyst with steam and an excess of oxygen containing gas at elevated temperatures for a time sufficient to regenerate the catalyst, subsequently consuming the unused oxygen in said excess of oxygen containing gas in the effluent from said regeneration zone by burning fuel in the presence thereof and also in the presence of regenerated catalyst and steam, recycling the product from said burning step comprising a mixture of regenerated catalyst, steam and gaseous products of combustion to the reaction zone, said mixture being substantially free of free oxygen and withdrawing diolefin product from an upper portion of said reaction zone.

2,978,523
PRODUCTION OF ALPHA-OLEFINS
Donald M. Coyne, Prairie Village, Kans., and Homer L. Hackett and Ronald L. Poe, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Aug. 31, 1959, Ser. No. 836,887
10 Claims. (Cl. 260—683.15)

1. A process for the preparation of alpha-olefins having a carbon content of at least 3 which comprises reacting a trialkylaluminum compound with ethylene, heating the resultant growth product to a temperature varying from about 50 to 150° C. in the presence of at least 3 moles of ethylene per mole of said growth product, a reduction catalyst, and an acetylene alcohol, and then recovering the alpha-olefins from the reaction mixture.

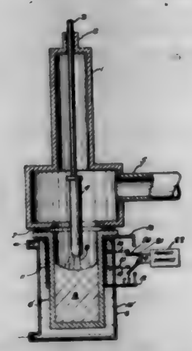
2,978,524
PARAFFIN ALKYLATION PROCESS PROMOTED WITH SILICA GEL AND ALUMINUM BROMIDE
George R. Gilbert, Elizabeth, Alan Schriesheim, Fords, and John E. McCormick, Roselle Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,282
9 Claims. (Cl. 260—683.53)



1. A process for the preparation of high octane naphtha components consisting largely of branched chain paraffin hydrocarbons of 5 to 7 carbon atoms which comprises reacting a minor proportion of a straight chain paraffin hydrocarbon of from 6 to 18 carbon atoms with a major proportion of a lighter hydrocarbon selected from the group consisting of butanes and pentanes, at temperatures no higher than about 140° F., in a reaction zone in the presence of a catalyst comprising aluminum bromide and silica gel and maintaining in the reaction zone at least 0.06 weight percent aluminum bromide in solution in the reacting hydrocarbons in addition to the quantity required to satisfy the total adsorption capacity of the silica gel.

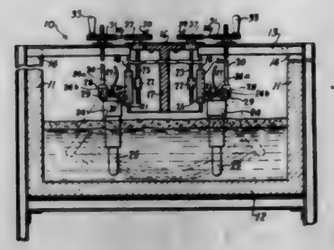
ELECTRICAL

2,978,525
MAGNETIC FIELD COIL FOR CONCENTRATING THE ARC IN A VACUUM ARC FURNACE
Helmut Gruber and Helmut Scheidig, Hanau (Main), Germany, assignors to W. C. Heraeus G.m.b.H., Hanau (Main), Germany, a corporation of Germany
Filed June 6, 1958, Ser. No. 740,479
Claims priority, application Germany June 11, 1957
4 Claims. (Cl. 13—9)



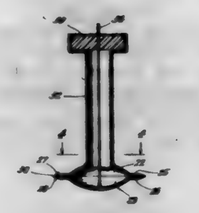
1. A vacuum arc furnace comprising an upper furnace part, a crucible adapted to be connected to said upper part, an electrode within said upper part and adapted to extend into said crucible, means for evacuating said upper part and said crucible, a field coil wound around the outside of said crucible in direct contact with it for stabilizing said arc, and water-cooling means for cooling said coil and crucible.

2,978,526
ELECTRODE ASSEMBLY FOR GLASS FURNACE
Ralph H. Olson, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Mar. 19, 1958, Ser. No. 722,452
14 Claims. (Cl. 13—14)



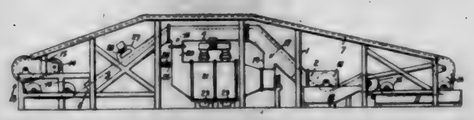
1. In an electrode assembly including means supporting an electrode to project through a batch blanket and into an adjacent underlying molten glass pool in an open top glass melting furnace, the improvement for protecting the electrode body against corrosive effect, said improvement comprising an annular sheath of refractory material mounted on the electrode, said sheath extending through a portion of the length thereof and into the molten glass pool in the furnace at all times while the electrode is supported in operating position, and means carried by said sheath and responsive to temperature for measuring the vertical position of the electrode sheath with respect to the surface of the molten glass.

2,978,527
RAPID-RESPONSE THERMOELECTRIC GENERATOR
Milton N. Forde, Woodbridge, Conn., assignor to Lewis Engineering Company, Naugatuck, Conn., a corporation of Connecticut
Filed Dec. 18, 1957, Ser. No. 704,225
2 Claims. (Cl. 136—4)



1. A rapid response thermocouple comprising two plates disposed broadside to each other and adapted to be exposed to heat, said plates being of dissimilar materials and having outer, peripheral, mutually contacting portions of commensurate thickness which are fused together, the contacting and fused surfaces of said portions being integral with the inner portions of the plates and said contacting portions having tapered edges terminating in a long, sharp, common peripheral edge located at the said fused surfaces; electrical connector means connected to the said plates, said connector means comprising a coaxial conductor structure extending laterally in one direction from the plates, one plate having a centrally disposed opening and the other plate having a solid, imperforate central portion, said conductor structure including an outer tube joined to the edge portions of said opening and further including an inner conductor passing through the opening, said inner conductor being secured to the solid central portion of the other plate.

2,978,528
CHARGED ACCUMULATOR PLATES IN A CONTINUOUS OPERATION
Alan Robert Heap, Auburn, near Sydney, New South Wales, Australia, assignor to Clyde Batteries Pty. Limited, Granville, near Sydney, New South Wales, Australia, a company of New South Wales, Australia
Filed Feb. 13, 1957, Ser. No. 639,969
Claims priority, application Australia Feb. 13, 1956
8 Claims. (Cl. 136—33)



1. Apparatus for drying charged accumulator plates including a tunnel-like chamber having an inlet and an outlet, a central portion of said chamber being relatively elevated with respect to said inlet and outlet, a heat exchanger, means defining an inlet and outlet communication between said heat exchanger and said elevated portion of said chamber and the portion adjacent said chamber inlet, a fan for recirculating a heating medium through said heat exchanger, said relatively elevated portion of said chamber and the chamber portion adjacent said inlet, means for introducing steam from an external source to said heat exchanger and the portion

of said chamber extending from said elevated portion to the chamber outlet, a fan in said outlet portion of said chamber for maintaining circulation of the steam from said external source to provide a cooling medium therein, means sealing the chamber inlet against entrance of air therethrough, a motor actuated endless conveyor means for moving accumulator plates through said sealing means and said chamber to be stripped of moisture as they pass through said relatively elevated portion of said chamber and be cooled prior to exit from said chamber through said outlet.

2,978,529
BATTERY SEPARATOR AND METHOD FOR MANUFACTURING SAME
Frank O. Brisley and Robert E. Evans, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 17, 1955, Ser. No. 540,931
10 Claims. (Cl. 136—145)



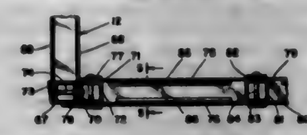
1. A battery separator comprising a porous mat of interfelted glass fibers in which the fibers are present in the ratio of 10–25 parts by weight of fine glass fibers of less than 1 micron in diameter and 90–75 parts by weight of glass fibers greater than 5 microns in diameter but less than 16 microns in diameter, and 5–25 percent by weight of a battery acid resistant resinous binder for securing the fibers one to another into a rigid separator.

2,978,530
CONDUCTOR FOR TRANSFORMER WINDINGS
Fernand Braeckman, Nalinnes, Belgium, assignor to Ateliers de Constructions Electriques de Charlerol, Brussels, Belgium, a corporation of Belgium
Filed May 28, 1959, Ser. No. 816,468
Claims priority, application France June 2, 1958
1 Claim. (Cl. 174—34)



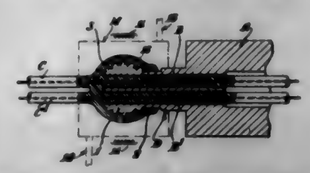
An electrical conductor of rectangular cross-section comprising a plurality of strands arranged in a plurality of concentric, successive layers, said strands comprising electrically conductive wires helically twisted together in a common direction within respective strands in a given layer and twisted in opposite directions in alternate layers, insulation on each of said wires comprising a thin insulative coating, all of the strands in said conductor being helically twisted together in the same direction with the pitch of the helical twist being so chosen that the wires of two successive layers do not cross each other thereby to avoid damaging said thin insulative coating and preclude formation of short-circuited loops in the conductor.

2,978,531
SHIELDING STRUCTURE
Leo H. Applemans, Ojai, Calif., assignor to Topatron, Inc., a corporation of California
Filed Apr. 6, 1959, Ser. No. 804,319
8 Claims. (Cl. 174—35)



2. A shielding structure including: a pair of shielding panels, at least one of said panels having at least one electrically conductive surface; a supporting member having four contiguous sidewalls defining a hollow interior and having electrically conductive outer surfaces, said panels having respective side edges overlapping the exteriors of opposite ones of said side walls so that said panels are spaced apart by said supporting member; a pair of strips sandwiching said respective side edges between said strips and opposite ones of said side walls; and fastening means extending entirely through said strips and said opposite ones of said sidewalls of said supporting member for holding said panels in engagement with said supporting member to provide electrical continuity between said panels.

2,978,532
MOULDING OF THERMOPLASTIC MATERIALS
Barrie Shaw Barnett, Orpington, and Douglas Marfleet, Bexley, England, assignors to Submarine Cables, Limited, London, England, a British company
Filed Mar. 4, 1957, Ser. No. 643,606
Claims priority, application Great Britain Mar. 6, 1956
2 Claims. (Cl. 174—65)



2. In an insulated electric cable comprising a core and a layer of insulation surrounding the core, and a metal casing for electrical apparatus, which casing has a cable entry opening: a gland joint comprising a tubular portion projecting from said entry opening, a bulge on said tubular portion formed generally as a surface of revolution about the longitudinal axis of said joint with the radius of said surface in a first plane normal to the joint axis and intermediate the ends of the bulge being maximum and the radii of said surface in other planes normal to said joint axis decreasing progressively in opposite directions along said joint axis from said first plane toward both said bulge ends, and a continuous and substantially uniform layer of thermoplastic material which surrounds and is in intimate contact with said bulge from end to end thereof and which is united to the cable insulation and held in intimate contact with said tubular portion with said bulge by contractile forces which are normal to the surface of said layer.

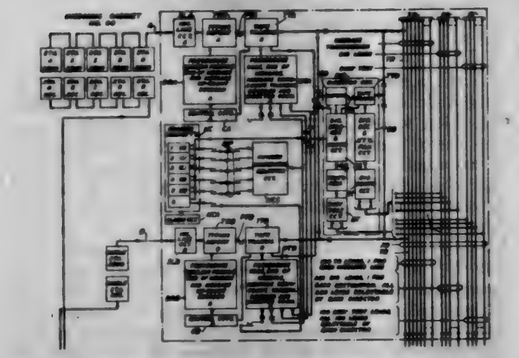
2,978,533
CABLE SPLICE ENCLOSURE
Leo J. Colbert, Snyder, N.Y., assignor to Robertson Electric Co., Inc.
Filed Dec. 26, 1957, Ser. No. 705,240
6 Claims. (Cl. 174—93)

3. In an enclosure for a cable connection or the like having a tubular neck made of soft resilient plastic material and of progressively reduced internal diameter to fit cable of different sizes on being cut off a predetermined length and thereby providing a selected internal diameter portion, the combination therewith of means providing a seal between said neck and cable, comprising



a tubular liner for said neck made of substantially softer resilient material than the material from which said neck is made, said liner being homogeneously united to said neck and extending axially along and conforming to said progressively reduced diameter to provide soft internal annular seals for cables of different diameter.

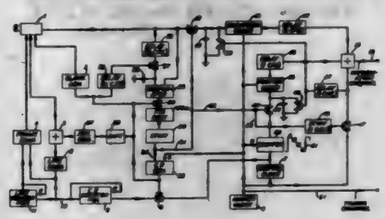
2,978,534
PRINTING TELEGRAPH AUTOMATIC SWITCHING SYSTEM
Fred B. Crowson, Brooklyn, and George A. Locke, Glen Head, N.Y., and Ralph R. MacLaughlin, Westfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 11, 1958, Ser. No. 760,511
47 Claims. (Cl. 178—2)



1. An automatic telegraph switching system comprising a switching center having a plurality of telegraph circuit inlets and a plurality of telegraph circuit outlets, a director circuit common to said inlets, means connected to said inlets responsive to signal incoming through any one of said inlets for temporarily connecting said director circuit to said one inlet, a reperforator-transmitter in said director circuit, means responsive to said connection for impressing outlet routing signals on said reperforator transmitter, means responsive to said impressing for selecting a particular one of said outlets designated by said routing signals, means responsive to said selecting for connecting said one inlet to said selected outlet, means responsive to the connection of said inlet and outlet for disconnecting said director and means also responsive to said connection of said inlet and outlet for transmitting a message incoming through said one inlet to said selected outlet.

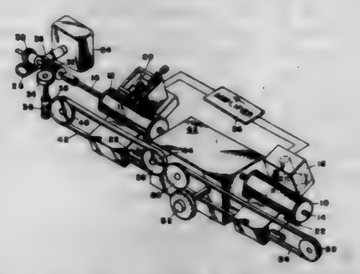
2,978,535
OPTIMAL RUN LENGTH CODING OF IMAGE SIGNALS
Earl F. Brown, New Brunswick, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 28, 1960, Ser. No. 5,289
9 Claims. (Cl. 178—6)

1. Image signal transmission apparatus which comprises means at a transmitter station for consecutively exploring the picture elements of a scene to derive indications of the locations in said scene of light value transitions, means for simultaneously grouping transition-free elements into consecutive runs of N elements each, means



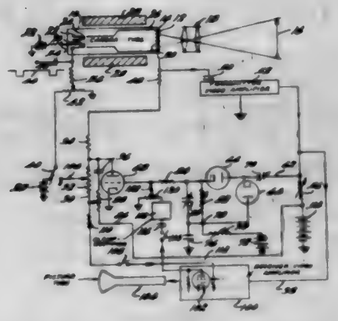
for transmitting to a receiver station a single code element to designate each entire run that is devoid of transitions, and means for also transmitting to said receiver station a code group of pulses to designate the location of a transition within the most recent run.

2,978,536
VARIABLE-RATIO DRIVE FOR ELECTRONIC LINE SCAN AND RECORDING MACHINES
Charles E. Doran, Wantagh, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,645
6 Claims. (Cl. 178—6.6)



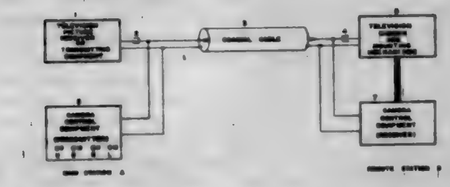
1. An apparatus for the photoelectric reproduction of images, comprising a pair of cylindrical drums mounted for rotation about their respective axes, means on one of said drums for releasably securing thereto image-bearing sheet material, means on the other of said drums for releasably securing thereto recording sheet material upon which it is desired to reproduce such images, photoelectric pick-up transducer means mounted adjacent said one drum for sliding motion parallel to the axis thereof and adapted thereby to scan such image-bearing sheet material, output transducer means electrically connected to said photoelectric transducer means and mounted adjacent said other drum for sliding motion parallel to the axis thereof, means for rotating a first of said drums, means for moving the transducer means adjacent said first drum in timed relation to the rotation thereof, a first variable-ratio drive means interconnecting the second of said drums and said means for rotating said first drum, a variable-ratio drive means interconnecting the transducer means adjacent said second drum and said means for moving the transducer means adjacent said first drum, and adjustable means for effecting a selected ratio for said second-mentioned drive means; said first drive means including a differential device for imparting to the second of said drums a rotational speed which changes, during each rotation thereof, between two discrete values whose time-average equals the speed of rotation of said first drum.

2,978,537
AUTOMATIC AMPLITUDE CONTROL FOR TELEVISION SYSTEMS
John R. Kruse, Jr., and Robert S. Hudson, Lancaster, Ohio, assignors to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Oct. 27, 1954, Ser. No. 464,955
14 Claims. (Cl. 178—6.8)



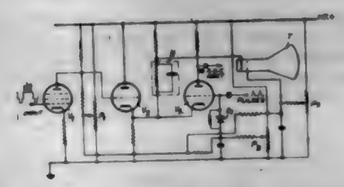
1. In a television system, a camera tube having a signal electrode, a load element connected to said signal electrode, means for applying a direct voltage to said signal electrode through said load element, a series circuit including a capacitor a first rectifying element and a first resistor, a second series circuit comprising said first capacitor, a second rectifying element, a second resistor and said first resistor, a second capacitor connected in parallel with said second resistor, means for applying the signal voltage developed across said load element across both of said series circuits for developing a direct voltage across both of said first and second resistors, and means responsive to the direct voltage developed across both of said first and said second resistors for controlling the direct voltage applied to said signal electrode through said load element.

2,978,538
REMOTE CONTROL SYSTEM
Lemuel R. Breese, Galion, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed Apr. 7, 1958, Ser. No. 726,815
7 Claims. (Cl. 178—6.8)



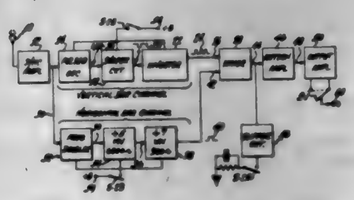
1. In a television supervisory control system including a control station having video receiver equipment located thereat, a remote station having video camera equipment located thereat including adjustment means for selectively adjusting said camera equipment in different scanning operations, and coaxial cable means for coupling video signals from the camera equipment at the remote station to the receiver equipment at the control station; the combination of control equipment means at said control station including pulse generating means coupled to the outer sheath and center conductor of said coaxial cable means; selection means connected to selectively control said pulse generating means to transmit different code sets of direct current impulse signals over said cable means to said remote station, said pulse generating means being operative after each transmission of a code set to transmit a holding signal over said cable means for the period the selection means is maintained operated thereafter, different code sets representing different desired scanning movements of said camera equipment; and control equipment means coupled to said cable means at said remote station operative responsive to receipt of said code sets to initiate movement of said camera equipment by said adjustment means in the manner indicated by said code set, and to continue movement of said camera equipment in such manner for the period of receipt of said holding signal.

2,978,539
INTERFERENCE LIMITERS
Donald Henry Fisher, Cambridge, England, assignor to Pye Limited, Cambridge, England, a British company
Filed Dec. 12, 1955, Ser. No. 552,593
Claims priority, application Great Britain Dec. 16, 1954
9 Claims. (Cl. 178—7.5)



1. In a television receiver, a circuit arrangement for amplitude limiting impulsive interference on a received television waveform, which interference extends beyond the useful modulation on the waveform, comprising a video amplifier valve having an anode voltage/grid voltage characteristic similar to that of a pentode, a high tension supply, means for applying potentials from said high tension supply to said valve enabling said valve to employ that characteristic to operate as a limiter for limiting impulsive interference on the received television waveform to a certain level as well as to produce an output video signal, means connecting a contrast control to said high tension supply which operates to alter the potential applied to an electrode of said video amplifier valve, an automatic gain control circuit fed with the output video signal from said video amplifier valve, and means for deriving an output voltage from said automatic gain control circuit and varying with alteration of the contrast control for compensating for changes in the limiting level of said video amplifier caused by alterations in the contrast control.

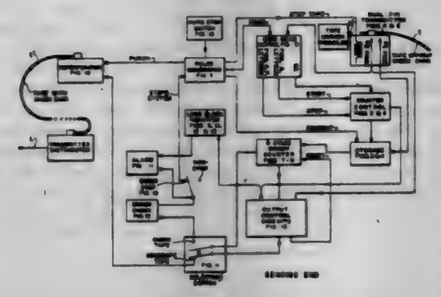
2,978,540
TELEVISION TEST APPARATUS
Ralph S. Coate, Haddonfield, and Saul Koren, Woodbury, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed June 14, 1956, Ser. No. 591,474
8 Claims. (Cl. 178—7.5)



1. Test signal generating apparatus for use in testing a television receiver of the type employing an image-repro-

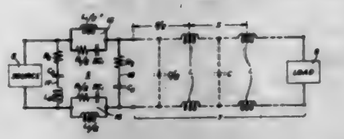
ducing kinescope in which an electron beam is adapted to scan a target screen and having scanning circuitry associated therewith operative to deflect such beam in first and second directions at first and second frequencies, said apparatus comprising: means for coupling to the scanning circuitry of a receiver to derive therefrom a train of signals of such first frequency; pulse generating means responsive to such signals for generating first and second trains of pulses bearing respectively higher and lower frequency relations to such first frequency; and coupling means for applying pulses from said pulse generating means to such receiver for modulating the intensity of such electron beam to display a pattern corresponding to such generated pulses.

2,978,541
ERROR DETECTION IN TELEGRAPH SWITCHING SYSTEMS
Robert Steenock, New York, N.Y., and Donald J. Walker, Rutherford, and Robert H. Leonard, Paterson, N.J., assignors to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed Sept. 25, 1959, Ser. No. 842,463
18 Claims. (Cl. 178—23)



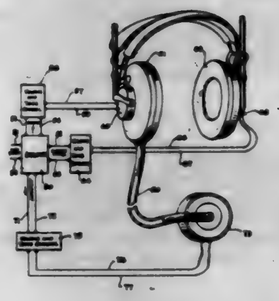
1. A system for detecting errors occurring in pulse code telegraph transmission and in which the marking and spacing code, pulses which comprise each message character respectively occupy different signal code levels to which different numerical weights respectively are assigned for error checking purposes, comprising a first control form containing signal conditions representing the code pulses comprising the characters of a message and a recorder for producing a second control form containing signal conditions representing the code pulses comprising the characters of said message, a digital counter having stages of different denominational orders, a transmitter having a first means for sensing said first control form and sending to the recorder signals representing said message characters, said transmitter having a second means for sensing said first control form and applying to said counter digit signals representing the different weights assigned to the code pulses of one kind for each character until a selected group of said message characters have been sensed, said first control form including at least one control character for indicating the end of each said selected group of message characters, means including said counter operative after said control character has been sensed for producing checking signals representative of the resultant numerical sum obtained by the counter and for transmitting the checking signals to said recorder to cause the recorder to apply to said second control form signal conditions representing said checking signals and following said message characters previously applied by said recorder to the second control form.

2,978,542
IMPEDANCE-MATCHING NETWORK
Ruth L. Huxtable, Yonkers, N.Y., assignor to American Telephone and Telegraph Company, a corporation of New York
Filed May 22, 1958, Ser. No. 737,159
9 Claims. (Cl. 178—45)



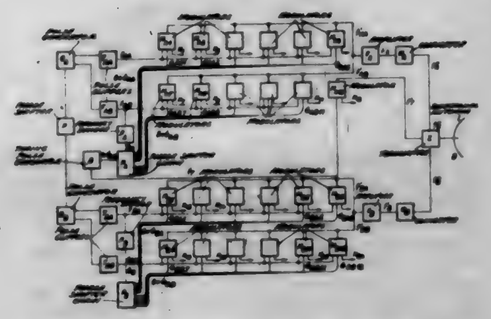
1. In combination, an inductively loaded transmission line, a negative-impedance amplifier connected in tandem therewith, and an impedance-matching network inserted between the line and the amplifier, the amplifier having a pass band extending above the cut-off of the line, the network including series impedance equivalent to a branch comprising an inductor shunted by the series combination of a resistor and a capacitor, the inductor having an inductance equal to a fractional part of the inductance of the line per section, the capacitor having a reactance equal in magnitude to the reactance of the inductor at a frequency above the cut-off of the line, and the resistor having a resistance chosen to make the impedance looking into the network from the amplifier approximately a pure resistance throughout substantially the entire pass band of the amplifier.

2,978,543
SOUND REPRODUCING APPARATUS
David F. Kennedy, 2242 S. 15th St., Broadview, Ill.
Filed May 23, 1955, Ser. No. 510,271
3 Claims. (Cl. 179—1)



3. In apparatus of the kind described wherein sound is to be reproduced from a source of sound signals, a plurality of sound emitting means each including a transducer, means to enable the transducers to produce simultaneously sound of undelayed primary form derived from the source of sound signals, another transducer, means to enable the other transducer to produce sound derived from the same source of sound signals, and sound delay means connected between one of said sound emitting means and the output of the other transducer and being effective to delay for at least several milliseconds arrival at said one sound emitting means of the sound emitted by said other transducer, whereby said one sound emitting means mixes in its output both delayed and undelayed sound representations of the source.

2,978,544
APPARATUS FOR SIMULTANEOUSLY TRANSMITTING A PLURALITY OF MESSAGES
Herbert Holzwarth and Walter Arens, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Munich and Berlin, Germany, a corporation of Germany
Filed May 20, 1955, Ser. No. 509,994
Public Law 619, Aug. 23, 1954
Patent expires Oct. 1, 1968
5 Claims. (Cl. 179—15)



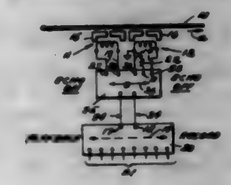
2. Apparatus for simultaneously transmitting a plurality of messages, comprising a first and a second generator each for producing two series of pulses locked in phase, means for respectively producing from one of said pulse series a plurality of sinusoidal mutually phase-shifted waves, two groups of modulators for each generator each group comprising a plurality of modulators, means for conducting to each modulator frequencies representing respectively individual messages to be transmitted, means for respectively conducting one of said series of phase-locked pulses and a sinusoidal wave to each modulator in one of said groups, and means for conducting the other one of said series of pulses and a sinusoidal wave to each modulator in the other group, each modulator becoming operative to amplitude modulate with the message frequencies conducted thereto only phase-locked pulses which coincide with the crests of the corresponding sinusoidal wave, means common to each two groups of modulators for converting the amplitude modulated pulses coming therefrom into phase modulated pulses, and means for transmitting said phase modulated pulses.

2,978,545
MAGNETIC PLAYBACK HEADS
Dennis H. Howling, West Orange, N.J., assignor, by mesne assignments, to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Oct. 15, 1956, Ser. No. 616,005
1 Claim. (Cl. 179—100.2)



A playback head for reproducing recorded magnetic signals on a moving magnetic record medium, comprising a Hall plate; a rigid member backing at least one face of said Hall plate and secured thereto, said backing member being flush with at least one edge of said plate and being mounted relative to said record medium for holding said one edge of the plate in close proximity with said record medium with the plane of the plate at right angles to the direction of record movement to cause the flux from said record medium to be directed through the plate in the direction of its thickness dimension; and a total of three lead connections to said Hall plate comprising lead connections to the ends of the Hall plate for passing current through said plate along one axis thereof in the plane of the plate and a lead connection to the edge of the Hall plate opposite the edge thereof in proximity to the record medium for receiving between said edge connection and one of said end connections a voltage produced in the plate along the orthogonal axis in the plane of the plate.

2,978,546
MAGNETIC RECORDER WITH ECHO EFFECT
John H. Andrews, Jr., Forest Knolls, Greenwood Lake, N.Y.
Filed Apr. 14, 1958, Ser. No. 728,269
7 Claims. (Cl. 179—100.2)



1. In a magnetic recorder system utilizing a linear recording medium, first and second magnetic heads spaced by a predetermined amount along the path of the linear magnetic medium for magnetic coaction therewith, a circuit selector switch for selectively connecting the recorder system into record and playback operation modes, circuit connections between said first head and said selector switch normally establishing recording and playback operation modes for said first head during the respective record and playback operation modes of the recorder system, circuit connections between said second head and said selector switch normally establishing erasing operation for said second head during the record operation mode of the recorder system and an inoperative mode therefor during the playback mode of the system, said second magnetic head being positioned to coact with any given portion of said linear magnetic medium prior to the coaction of said first magnetic head therewith to provide erasing action on the medium before the recording in the record mode, and an echo selector switch circuitally interposed between said circuit connections of both said first and second magnetic heads and said circuit selector switch for interconnecting said magnetic heads therewith to provide an echo effect during the playback operation mode by the recorder system; an amplifier for said recorder system, said first and second magnetic heads being connected in electrical series with said amplifier of said recorder system,

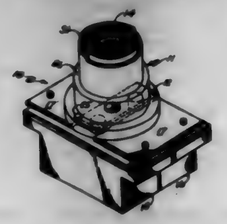
2,978,547
ELECTRIC CIRCUIT CONTROLLERS
James Gentle Nash, Harrow, England, assignor to McCorquodale & Company Limited, London, England, a British company
Filed Oct. 22, 1958, Ser. No. 768,920
Claims priority, application Great Britain Oct. 23, 1957
11 Claims. (Cl. 200—6)



1. A circuit controller comprising a frame, at least one switch contact carried by the frame, a helically

grooved cylindrical body rotatably mounted in said frame and axially adjustable from an initial position relative to the frame, a rod member secured in and extending along the groove to co-act with the switch contact for making and breaking a circuit when said cylindrical body is axially adjusted from its initial position, driving means for rotatably driving the cylindrical body, and a screw-threaded coupling between the cylindrical body and the frame, having the same helical pitch as the groove in said body, for moving the body axially away from said initial position with rotation of the body.

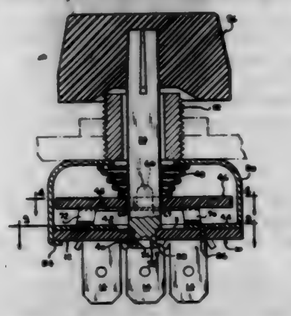
2,978,548
SEQUENTIAL SWITCH OPERATOR ASSEMBLIES
Dorn L. Pettit, Wauwatosa, Wis., assignor to Square D Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 26, 1957, Ser. No. 642,522
7 Claims. (Cl. 200—6)



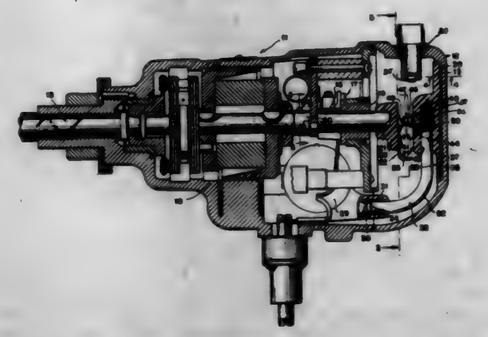
1. A progressive switch comprising a tubular housing having an upper portion adapted to be received through an opening in a panel wall and to extend upwardly therefrom and having a lower peripheral flange portion adapted to engage the lower surface of said wall surrounding said opening, mounting plate means disposed in spaced relation to and below said flange portion and extending outwardly from said housing in opposite directions, a switch enclosure means carried by and below said mounting plate means, a pair of reciprocable contact actuators extending upwardly from an upper wall of said switch enclosure means in spaced relation to each other, resilient means in said switch enclosures operative on said actuators and forcing the respective actuators to extended positions wherein the top surfaces of the respective actuators lie in a common plane, a spring biased reciprocating operating plunger mounted for reciprocation in said housing toward and away from said actuators, a disc on the lower end of said plunger, a floating planular lever disposed between the lower surface of the disc and said actuators, a pair of spaced recesses in the lower face of said lever, the upper portions of said actuators being received in said recesses, respectively, to restrain said lever in position, and a force-receiving raised area on the upper surface of said lever aligned with said disc and disposed at different distances from said recesses.

2,978,549
ROTARY SWITCH
Howard H. Krueger, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Feb. 28, 1958, Ser. No. 718,325
8 Claims. (Cl. 200—11)

1. A switch comprising an insulating base having a plurality of openings therein spaced in a circle, a plurality of stationary contacts and a common contact plate mounted in said openings and having contact surfaces substantially flush with one face of said base and terminal portions extending through said openings to the other surface of said base, an actuating shaft rotatably mounted in said base, an insulating rotor tiltably mounted on said shaft opposite said one face of said base and rotatable with said shaft, a contact member having an indexing portion and a selector portion mounted between said one face of said base and one face of said rotor and engageable by said rotor for rotation therewith, a coil spring mounted on said shaft opposite the other face of said rotor, a cup-shaped housing member mounted on said shaft having depending walls fastened to said base to thereby enclose said rotor, contact member and spring and to compress said spring between the rotor and the housing member to urge said contact member toward said one face of said base, said contact surface of said common contact having a corrugated surface thereon forming angularly spaced valleys and peaks, said indexing portion of said contact member adapted to move in contact with said corrugated surface over said peaks and into said valleys as said actuating shaft is rotated from one position to another to provide the feel of the switch and said selector portion of said contact member adapted to move into contact with said contact surface of one of said stationary contacts with a snap action as said indexing portion is snapped into one of said valleys in said corrugated surface by the bias of said coil spring as said movable contact is rotated from one position to another.

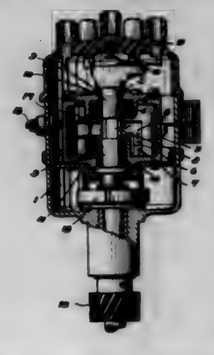


2,978,550
IGNITION APPARATUS
Egon H. Wischhusen, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 24, 1956, Ser. No. 599,861
11 Claims. (Cl. 200—20)



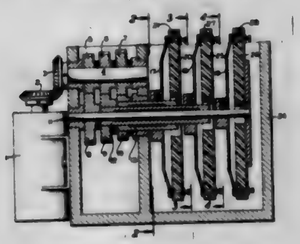
3. In electrical apparatus having an electrically insulating support and an electrically conducting insert slidably mounted in an open ended recess in the support, the improved means for retaining the insert against withdrawal from the support and for making electrical connection with the insert, which comprises a generally transverse passage in the insert and through one side of the support, and a cable extending into the transverse passage, said cable having a core slidably received within the insert and making electrical connection therewith.

2,978,551
ANTI-OXIDATION DEVICE FOR DISTRIBUTOR POINT
Yoshio Kinoshita, 4 Kawashima-cho, Nakano-ku, Tokyo, Japan
Filed Mar. 16, 1959, Ser. No. 799,751
3 Claims. (Cl. 200—30)



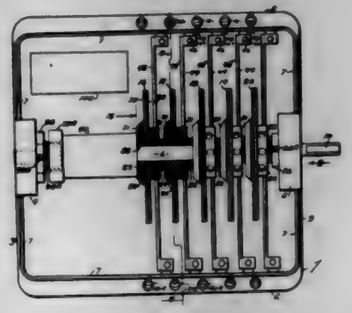
1. In a distributor, a closed circular chamber adapted to move about an axis; an arm therefrom pivotally mounted permitting free angular movement of said chamber; a distributor arm pivotally mounted in said chamber; a distributor point on said arm; a make and break contact tip affixed to said chamber periodically engaging said distributor point at about right angles thereto according to the to and fro angular movement of said arm; an angular advance driving lever adapted to partially rotate said chamber; and an angular advance governor associated with said lever and said chamber, adjustable to limit the amount of the partial rotation of said chamber.

2,978,552
TIMER
James C. Russell, 3616 San Jose Lane, Santa Barbara, Calif.; Helen T. Russell, administratrix of said James C. Russell, deceased
Filed June 10, 1958, Ser. No. 741,137
5 Claims. (Cl. 200—33)



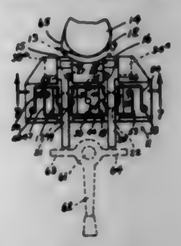
1. A timer comprising: a plurality of separate sets of contacts adapted to be connected in an electrical circuit, the contacts in each set being arranged in pairs of spaced contacts adapted to be successively connected by a conductor switch member, a conductor switch member for each set of contacts, means supporting each set of contacts and the said switch member therefor for relative movement to successively connect the said pairs of contacts in each set at uniformly spaced intervals in each set, each of said sets of contacts having a different number of pairs of contacts from the other of said sets, means for causing said relative movement between said sets and th switch member therefor at different uniform rates of movement for the different sets whereby pulses of various intervals may be obtained in a circuit according to the electrical connections between the sets of contacts, and means for connecting the sets of contacts in an electrical circuit.

2,978,553
ROTARY CAM SWITCHES
Oswald M. Bundy, Cleveland Heights, and Alex J. Nemeth, Parma, Ohio, assignors to The Clark Controller Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 6, 1956, Ser. No. 608,264
11 Claims. (Cl. 200—38)



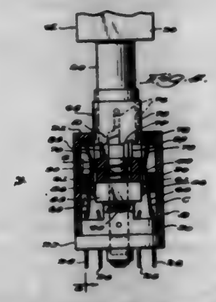
1. In a rotary-cam-switch, a main frame; a shaft rotatably mounted on the frame; a stationary support mounted on the frame, and having a circularly arcuate guide surface thereon radially spaced from the shaft and coaxial therewith; a base carrying a mechanism; a switch mounted on the base; the base and switch being movable in unison on the arcuate guide surface and guided thereby for positionally adjusting the base and switch around the shaft axis; the mechanism comprising a cam follower reciprocable generally toward and from the shaft to operate and restore the switch; a cam comprising a body mounted on the shaft and having a camming portion extending radially therefrom and engageable with the cam follower and causing reciprocation thereof during a revolution of the shaft.

2,978,554
BALL CONTACT SWITCH
Robert M. Dykstethouse, 103 Dixon Ave. W., Charlevoix, Mich.
Filed June 23, 1958, Ser. No. 743,894
11 Claims. (Cl. 200—61.35)



1. In a switch, the contact arrangement comprising: a reciprocable caging slide; a metal ball caged by said slide; a first contact pocket formed by spaced metal resilient cupped flat spring contactor ends; and a second contact pocket opening toward said first pocket and formed by other spaced resilient cupped flat spring contactor ends, both of said pockets embracing a portion of the slide and the path of said ball and selectively retaining said ball for electrical contact.

2,978,555
ELECTRIC SWITCH
Edward Albert Jones, Pacoima, Calif., assignor to Switchlock, Inc., Los Angeles County, Calif., a corporation of California
Filed Jan. 12, 1959, Ser. No. 786,194
4 Claims. (Cl. 200—67)



1. An improved push-button actuated electric switch comprising: a switch housing; an electric connector mounted within said switch housing, said connector being mounted for pivotal movement about a pivot point from a first position in electrical contact with a first contact member to a second position in electrical contact with a second contact member; means for exerting a pivoting force against said connector; cam means for moving said force exerting means from a first position at one side of said pivot point to a second position at the opposite side of said pivot point; and push-button means for actuating said cam means, said push-button means being operable from a first to a second position, said cam means comprising a female cam housing and a reciprocative cam section and a cam follower, said female cam housing being of cylindrical tubular shape and having a first end and a second end, said female cam housing being affixed to said switch housing with its first end within said switch housing and with its second end projecting from said switch housing, said female cam housing defining in the internal wall thereof at said first end a plurality of longitudinally extending circumferentially spaced slots, adjacent slots being joined by an inclined surface having a longitudinal projection thereon intermediate said slots, said reciprocative cam section being generally of cylindrical tubular shape and having a first and a second end, the outside diameter of said reciprocative cam section being substantially equal to the inside diameter of said female cam housing, said reciprocative cam section defining a plurality of longitudinally extending radial protrusions at said first end thereof, said radial protrusions being of predetermined length and of a width substantially equal to the width of said slots in said female cam housing, said reciprocative cam section being slidably mounted within said female cam housing with the radial protrusions at the first end of said reciprocative cam section being slidably mateable with said longitudinal slots at said first end of said female cam housing, said first end of said reciprocative cam section defining a plurality of cam surfaces, said second end of said reciprocative cam section protruding from the second end of said female cam housing and being affixed to said push-button means, said reciprocative cam section having an elongate cylindrical element axially projecting from said first end a predetermined distance and adapted to limit the movement of said reciprocative cam section within said switch housing and to normally urge said push button to said first position, said cam follower comprising a cylindrical tubular member having a plurality of longitudinally disposed radially extending fins affixed thereto in predetermined circumferential spacing to provide alignment with said slots in said female cam housing, said cylindrical cam follower surrounding said elongate cylindrical element axially projecting the first end of said reciprocative cam section and slidable and rotatable with respect thereto, the length of said slots and fins and protrusions being interdependent with said fins being slidably mateable with said slots, said protrusions and fins being aligned and mateable with said slots at said off position of said switch, said fins being rotated out of alignment with said slots and into engagement with said longitudinal projections intermediate said slots at said on position of said switch, said fins being rotated by said inclined surfaces of said female cam housing by successive operations of said push-button means from said first to said second position, said cylindrical cam follower being in operative contact with said force exerting means to thereby cause said connector to be pivoted successively from said first contact member to said second contact member upon successive depressions of said push-button means.

2,978,556
SEALED-IN CONTACT RELAY
Willy Lohs, Friedrich Sommer, Werner Lehmann, Wolfgang Haase, and Werner Cordt, all of Munich, Germany, assignors to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Apr. 28, 1959, Ser. No. 809,487
Claims priority, application Germany May 6, 1958
8 Claims. (Cl. 200—104)

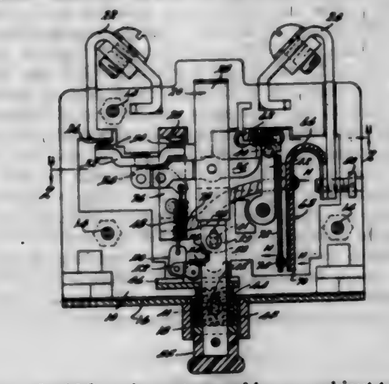


1. A sealed-in contact relay comprising two layers of sealed-in contacts, a common energizing coil surrounding said layers of contacts, means forming a spool body for said energizing coil, a magnetic return flow member for each layer of sealed-in contacts, oppositely disposed extensions carried by said spool body at the ends thereof and projecting therefrom in the general direction of the spool axis, carrier means for said sealed-in contacts, said carrier means receiving the adjacent contact terminals of said sealed-in contacts and jointly with ends of said magnetic return flow members disposed extending transversely between said extensions, clamp means exerting pressure on said return flow members for securing the assembly of the parts disposed therebetween.

2,978,557
ELECTRIC SWITCH INCORPORATING AN AUTOMATIC CIRCUIT BREAKER
Richard C. Ingwersen, Jackson, Mich., assignor, by mesne assignments, to Mechanical Products, Inc., a corporation of Michigan
Filed Feb. 21, 1958, Ser. No. 716,762
3 Claims. (Cl. 200—116)

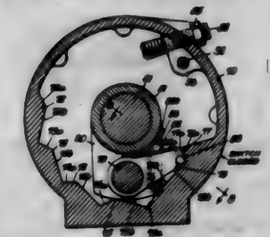
1. In an automatic circuit breaker having a movable latch member actuatable to control the function of said circuit breaker, an actuating thermostat comprising a first polymetallic element connected in the electrical circuit of said switch for conducting thermal current and arranged to flex toward said latch member in response to a temperature rise, a second polymetallic element fixed to said first element and movable thereby toward and away from said member responsively to temperature changes, said second element being oriented to flex away from said member in response to a temperature rise, and a third polymetallic element interposed between said second element and said member and operative to drive said member to actuate said circuit breaker responsively to the travel of said second element caused by a predeter-

mined flexure of said first element, said third element being oriented to flex in a direction to compensate for



flexure of said first element caused by an ambient temperature increase.

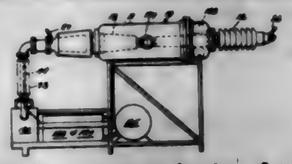
2,978,558
CIRCUIT INTERRUPTER OPERATING MEANS
Henry J. Barta, Brookfield, Ill., assignor to I & C Electric Company, Chicago, Ill., a corporation of Delaware
Filed May 28, 1959, Ser. No. 816,555
17 Claims. (Cl. 200—146)



1. Control means for connection to a switch operating member movable in opposite directions to close and to open a switch, said control means comprising, in combination, a stationary housing having ratchet teeth facing inwardly over a portion of its inner periphery, a shaft journaled on said housing and providing a connection to said switch operating member, an arm secured to and extending radially from said shaft, a pawl pivoted at one end to said arm and biased toward engagement with said ratchet teeth, a detent mounted on the distal end of said pawl and extending laterally therefrom, and a detent control member rotatably mounted in said housing having a transversely extending slot through which said detent projects to permit said pawl to engage the next tooth of said ratchet teeth to prevent further rotation of said shaft in one direction should said shaft be rotated in a reverse direction through a limited extent and then said shaft be rotated in said one direction.

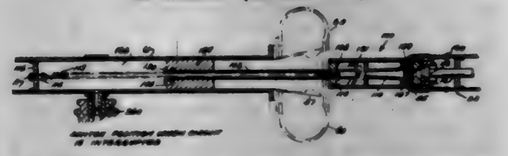
2,978,559
BUSHING MOUNTED INTERRUPTER
Arthur S. Caswell, Glenside, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 16, 1957, Ser. No. 703,225
7 Claims. (Cl. 200—148)

1. A circuit interrupter comprising an elongated tank, a first and a second insulating bushing entered through opposite ends of said tank, a stud entered into said tank through said first bushing, an interrupter assembly mounted to said second bushing; a stationary contact secured to the end of said stud entered into said tank; said second bushing being formed upon a conducting tube; said interrupter assembly including a movable contact assembly movable along its own axis, which coincides with the longitudinal axis of said tube, between a first and a second position wherein said movable contact assembly is in and out of engagement respectively with said stationary contact; means electrically connecting said movable contact assembly and said tube; said interrupter assembly including a differential piston; said tank being connected to



a source of high pressure gas whereby a first end of said differential piston is always acted upon by said high pressure gas; means selectively connecting a second end of said differential piston to a source of low pressure gas and said source of high pressure gas whereby said movable contact assembly is operated in both directions between its said first and said second positions by gas pressure; means interconnecting said sources of gas to form a recirculating system.

2,978,560
INTERRUPTER UNIT FOR TELESCOPING BLADE SWITCH
Arthur C. Bates and Robert C. Crowe, Greensburg, Pa., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 20, 1958, Ser. No. 722,753
16 Claims. (Cl. 200—148)

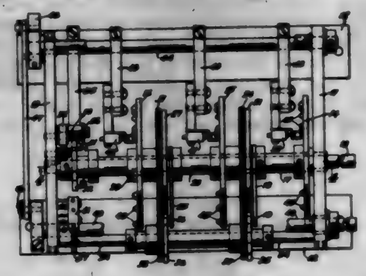


1. An electric switch comprising a first structure, a second structure, a blade; said structures being fixed in axial alignment with a gap therebetween; said blade being disposed within said first structure and slideable along the axis thereof; said switch having a closed position wherein said gap is bridged by said blade and an open position wherein said gap is open; a pneumatically operated interrupter means mounted to and disposed within either said second structure or said blade and arranged coaxially therewith; said interrupter means having a portion axially extendable from the member to which said interrupter is mounted into said gap during operation of said switch to both its open and closed positions; said portion being withdrawn from said gap after said switch is fully opened.

2,978,561
DIGITAL CONVERTER
Herbert L. Dreyer, Grayslake, Ill., assignor to Streater-Amet Company, Grayslake, Ill., a corporation of Illinois
Filed Dec. 16, 1957, Ser. No. 702,981
10 Claims. (Cl. 200—153)

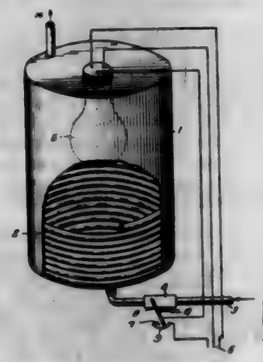
1. In a digital converter, a disc, a sensing device, means to move the sensing device forward and backward across the face of the disc in a predetermined track of fixed arcuate length, means to turn the disc relative to the moving means so that the sensing device will traverse different paths of equal length across the face of the disc corresponding to different values, and a plurality of actuating elements on the face of the disc spaced so that different numbers of elements will be engaged by the sensing device as it traverses said different paths across the face of the disc.

2. The digital converter of claim 1 in which the sensing device is an electric switch and the actuating elements are



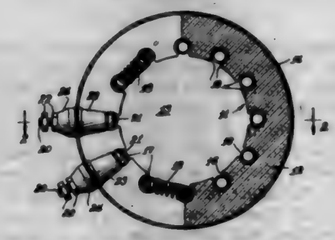
cam elements to engage and operate the switch different numbers of times as it moves in said different paths.

2,978,562
INSTANTANEOUS WATER HEATING SYSTEM
Hubert D. Fox, 310 Fairview Ave., Winnetka, Ill.
Filed May 19, 1958, Ser. No. 736,191
2 Claims. (Cl. 219—10.51)



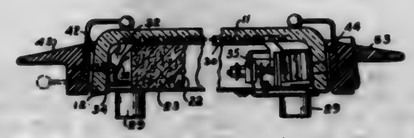
1. Means for heating water as used comprising an enclosure having a reflective inner surface, a length of low dielectric plastic tubing within the enclosure and adjacent the walls thereof, a magnetron tube axially disposed within the enclosure, a source of electric energy to energize the tube, a source of water supply for the tubing, and means supplying electric energy to said tube upon flow of water in said tubing.

2,978,563
EXPOSED RESISTANCE ELECTRIC HEATER
Amos W. Hackman, Kirkland, Ill., assignor to Tuttle Electric Products, Inc., Kirkland, Ill., a corporation of Illinois
Filed June 12, 1958, Ser. No. 741,631
6 Claims. (Cl. 219—19)



1. A tubular heating unit comprising a thin tubular metal shell which is open at its opposite ends, a mass of electrical insulating material solidified against the inner face of the shell in molded conformity thereto and providing a thick rigid tubular wall extending around and defining a passage which is open at its opposite ends, said wall having at each end of the passage an exposed outwardly presented end face beyond which one of the opposite ends of the tubular shell projects, said wall being provided in the passage defining face thereof with a plurality of passage facing grooves laterally spaced at intervals around the passage and extending lengthwise of the passage from end to end thereof and through said outwardly presenting end faces of the wall, a long helical coil of resistance wire mounted in the grooves and extending from end to end thereof and provided with return bend portions of the coil each composed of a plurality of convolutions of the coil projecting beyond the end faces of the said tubular wall and connecting the portions of the coil within the grooves to one another, the said grooves having inturned portions at the mouth thereof by which the coil is retained in the grooves and the shell having end portions thereof projecting beyond the wall and the said return bend portions and providing an enclosure for said return bend portions, and a pair of terminal members which project outwardly through the shell at at least one of said extended end portions thereof and are electrically insulated from one another and have the opposite ends of the resistance wire of said coil connected respectively thereto.

2,978,564
ELECTRIC HOT PLATE
Wendell S. Blanding, Painted Post, and James P. Hocker, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 31, 1958, Ser. No. 784,174
4 Claims. (Cl. 219—19)

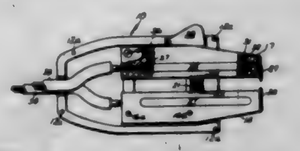


1. In an electric heating unit, a plate of low expansion ceramic material embodied in a shallow walled shell whose exterior bottom surface is adapted for the support of appliances to be heated, said plate having a relatively deep groove in the inner side of its bottom of substantial depth whose one end terminates short of the adjacent lateral inner border of the plate wall, thus substantially equally dividing the under surface of such plate into two portions, said plate having relatively shallow sinuous grooves in the respective portions joining one another beyond such one end of the relatively deep groove, a heating element occupying said sinuous grooves having its free ends terminating at the ends thereof remote from their ends of juncture, a temperature sensing rod of high expansion material arranged in said relatively deep groove, means anchoring one end of said rod to the adjoining wall of said plate, and a pair of heating element circuit control springs supported on the plate wall adjacent the other end of the bar and arranged in operative relation therewith.

2,978,565
INSULATED WIRE STRIPPERS
Kenneth L. Sullivan, Arlington, and Raymond C. McNamara, West Newton, Mass., assignors to Raytheon Company, a corporation of Delaware
Filed Feb. 12, 1957, Ser. No. 639,773
2 Claims. (Cl. 219—29)

1. A thermal wire stripper comprising, in combination, a pair of jaw members, an enclosing means having at

least two hand-grip wall members extending adjacent to and partially enclosing said jaw members, high resistance wires attached at one end of each of said jaw members, the other ends of said jaw members being supported within said enclosure so that said high resistance wires are moveable toward and away from each other, said jaw members including low resistance conductors connected to said high resistance wires, wire conductors connected



to said low resistance conductors and to a source of current, said high resistance wires being shaped to grip the insulation of an insulated wire inserted therebetween at a preselected region, the insulation of said insulated wire being heated by the flow of current from said source whereby a preselected portion of said insulation is moveable as said insulated wire is withdrawn from between said high resistance wires.

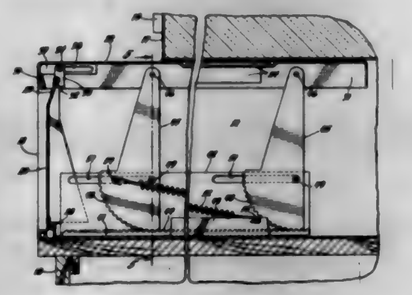
2,978,566
SHIELDED ELECTRIC CIGARETTE LIGHTER
Robert W. Batson, Arlington, Calif.
(5060 Berryhill Place, Riverside, Calif.)
Filed May 8, 1959, Ser. No. 812,050
7 Claims. (Cl. 219—32)



1. An electric cigarette lighter comprising an elongated body having an inner end, a heating coil secured axially on said inner end, a cigarette contacting plate comprising a disc having an outer face to be engaged by a cigarette end and an inner side, said disc having air-passing opening means therethrough and spacing means reaching beyond its inner side, said disc covering the outer face of the coil with said spacing means spacing the disc from the coil and providing an air space therebetween, and means mounting said plate on the inner end of the lighter body, said disc being opaque and said opening means being limited to minor portions of the area of the disc, said mounting means comprising a cup-shaped shield having a side wall, an open outer end, and an inner end wall, said shield being axially aligned with and secured to the inner end of the lighter body, the inner end wall of the shield being positioned between the inner end of the lighter body and the coil, said cigarette contacting plate being telescoped into said shield, said disc of the cigarette contacting plate having a peripheral edge having spread spring lugs therearound and extending beyond the outer face of the disc and frictionally engaged with the interior of the shield side wall.

2,978,567
DOMESTIC APPLIANCE
Roger L. Crispell, Birmingham, and William A. Hanlon, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 18, 1959, Ser. No. 813,816
11 Claims. (Cl. 219—37)

1. In combination, a unitary cooking structure adapted to be mounted in a kitchen adjacent an elevated work surface therein, said structure comprising an oven disposed above said work surface and a compartment below said oven, said compartment having a top wall with a portion thereof projecting beyond the front of said oven to provide a transfer ledge thereat substantially flush with said work surface and forming a continuation thereof on either side of said unitary structure, said compartment top wall carrying at least one surface heater unit normally disposed beneath said oven so as to be concealed



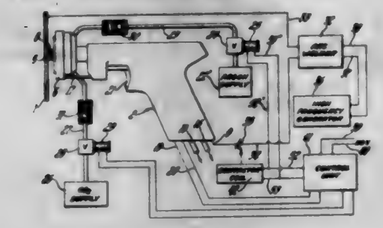
thereby, means mounting said compartment top wall on said structure for movement with respect thereto, and said means being rendered effective automatically in response to moving said compartment top wall relative to said structure for simultaneously shifting said transfer ledge and said heater unit a predetermined distance below the level of said work surface and forwardly of said oven whereby to locate the heater unit in an exposed usable position at the front thereof.

2,978,568
ELECTRIC HEATER
Maxwell K. Murphy, 535 W. Goldengate, Detroit, Mich.
Continuation of application Ser. No. 656,900, May 3, 1957. This application Nov. 3, 1958, Ser. No. 771,604
12 Claims. (Cl. 219—39)



1. A combined radiant and convection space heater comprising in combination, an upright casing, an electrical radiant heating panel mounted on the front of said casing and spaced from said casing to provide for circulation of convection air currents between said casing and said panel, a chamber within the casing, an electrical convection heating element in said chamber, blower means disposed in the upper portion of said casing for forcing air downwardly thereof, an air outlet in the lower portion of said chamber, and means operable automatically in response to temperature conditions in the heated space to energize said heating elements selectively.

2,978,569
METHOD AND APPARATUS FOR FORMING HOLES IN SHEET METAL
Napoleon P. Boretti and Arthur F. Hessler, Detroit, and Thomas W. Shearer, Jr., Auburn Heights, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 7, 1958, Ser. No. 772,536
6 Claims. (Cl. 219—69)



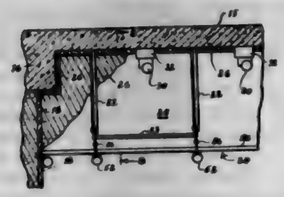
1. The method of forming a hole in sheet metal, comprising the steps of establishing an electrical arc between one side of the metal and a source of electric current of sufficient intensity and duration to melt the metal in the immediate vicinity of the arc, simultaneously shielding said arc from the surrounding atmosphere with a layer of inert gas extending between the metal and the current source, and subsequently directing a column of gas substantially coaxially of said arc and against said molten metal to displace the latter from the remainder of the sheet.

2,978,570
METHOD OF JOINING THERMOELECTRIC COMPONENTS
Walter Hänlein, Erlangen, and Ulrich Birkholz, Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany
Filed July 10, 1959, Ser. No. 826,175
Claims priority, application Germany July 24, 1958
12 Claims. (Cl. 219—85)



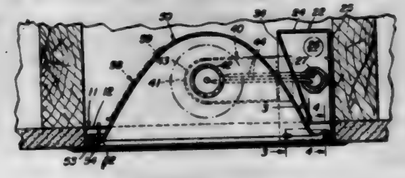
9. A process of making a thermoelectric device, comprising assembling bodies of semiconductor material differing in thermoelectric force with solder in between, and passing an electric current through said bodies in a direction to cause heating by the Peltier effect to melt the solder and join the bodies.

2,978,571
LUMINOUS ACOUSTICAL CEILING
Maurice C. Rosenblatt, 91 Central Park West, New York, N.Y.
Filed July 31, 1956, Ser. No. 601,185
5 Claims. (Cl. 240—9)



2. In a luminous ceiling having translucent light diffusers supported at a distance below a structural ceiling to form a plenum with lights therein for illuminating the diffusers, the improvements which comprises a construction in which the diffusers are made of solid and otherwise imperforate sheets with myriads of spaced openings through the solid material of the sheets for the passage of sound waves into the plenum, and a sound absorbing coating over the surfaces within the plenum and in which the corrugations of the light diffusers are formed by angularly related panels each of which makes an acute angle to the horizontal, and in which the openings in the angularly related panels of the corrugations are pierced openings and the material displaced forms a protuberance extending upwardly from the top surface of the corrugation and all of the displaced material is included in the protuberance.

2,978,572
RECESSED INCANDESCENT LIGHT FIXTURE
Marcus Bodian, Los Angeles, Calif., assignor to Sunbeam Lighting Company, Los Angeles, Calif., a firm consisting of H. L. Krieger, P. R. Friedman, and Marcus Bodian
Filed July 8, 1957, Ser. No. 670,458
3 Claims. (Cl. 240—78)

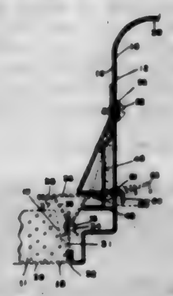


1. In combination, a plaster frame, a wiring box, and an incandescent light fixture, said plaster frame consisting of a front member and two integral side members forming an open-sided rectangle, each member being provided with an inturned top flange; said wiring box consisting of an open faced rectangular box having a base extending between and attached to said frame side members at the open side of said plaster frame, the open face of said box being directed toward the opening of said plaster frame defined by said front and side members thereof; and a light fixture consisting of a domed reflector having a socket hole in one side, said reflector also being provided with a rectangular periphery detachably connected to the flanges of said plaster frame, and a tubular socket holder having a lamp socket protruding from its side adjacent one end and coinciding with said hole therefor provided in said reflector, the other end of said socket holder being rigidly attached to said wiring box; said plaster frame and wiring box when assembled within a ceiling opening and before the attachment of said domed reflector of said light fixture providing an opening for making the electrical connections to said fixture.

2,978,573
FLUORESCENT LIGHTING FIXTURE AND SUPPORTING MEANS THEREFOR
Donaldson P. Kalbrunner, Girard Township, Erie County, Pa., assignor to Morlite Equipment Company, Girard Township, Erie County, Pa., a corporation of Pennsylvania
Filed Oct. 10, 1957, Ser. No. 689,385
1 Claim. (Cl. 240—78)

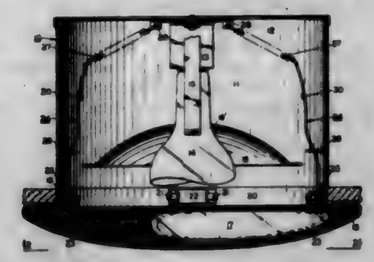
In combination, a light fixture and means to mount said light fixture in an opening in a ceiling comprising an elongated housing, means to support fluorescent light bulbs in said housing, a ceiling having an opening therein, a bar attached to said ceiling around the periphery of said opening, said bar having an upstanding leg extending upward and disposed around said opening, spaced holder members attached to the sides of said housing,

said holder members compriaing resilent members attached to said housing at their upper ends and extending downwardly and outwardly therefrom in their unstressed position, said holder members being resiliently bendable toward said housing to lie in substantially flush engagement with the sides of said housing while said housing is moved into an opening, and means on said bar engaging said holder members when said holder members



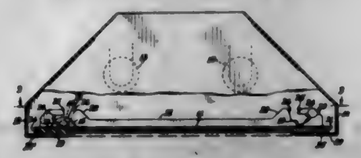
are in their outward position, said means on said bar engaging said holder members comprising a T-shaped bar having spaced legs, said upstanding leg being disposed between said spaced legs and attached thereto by attaching means, said holder members resting on the upper surface of said T-shaped bar, and spaced means attached to said housing to engage the lower side of said T-shaped bar and limit the upward movement of said housing.

2,978,574
SHIELD-SUPPORTING MEANS FOR LIGHT FIXTURE
Frederick C. Baker, 1335 SW. Morrison St., Portland, Oreg.
Filed June 30, 1959, Ser. No. 824,100
3 Claims. (Cl. 240—146)



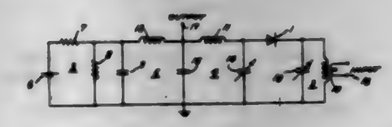
1. In a light fixture assembly having a fixture housing with an open bottom face and a light shield normally held raised against the bottom of the housing for covering the open bottom face of said housing, a pair of shield-supporting, spring metal straps, each strap having one side of greatest width facing the center of said housing, means for securing said shield to the bottom ends of said straps at opposite sides of said shield respectively, a pair of brackets secured in said housing above said bottom ends of said straps respectively, each of said brackets provided with a slot, said straps extending through said slots, the minimum width of said slots being only slightly greater than the thickness of said straps, each strap so arranged and positioned as to extend up through the slot in its bracket closing obliquely upwardly and inwardly with respect to the plane of said slot when said shield is in normal raised position so as to engage a pair of upper and lower oppositely-positioned edges in its slot when said shield is in said raised position and have clamping frictional engagement with its slot, and spring means connected with the upper end of each strap exerting a force to increase the upward and inward oblique slope of the strap with respect to the plane of its bracket slot and thereby increase the clamping frictional engagement of the strap with its bracket.

2,978,575
LIGHT FIXTURE
Leon B. Cohen, East Meadow, N.Y., assignor to Globe Lighting Products, Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 9, 1958, Ser. No. 727,391
6 Claims. (Cl. 240—147)



1. A lighting fixture comprising a housing having side walls and inwardly projecting peripheral lateral and end flanges in the lower portion thereof fixedly attached to said side walls, said flanges defining a rectangular light opening in said housing, a rectangular light diffuser for diffusing light through said opening, the transverse dimension of said diffuser being greater than the transverse dimension of said rectangular light opening whereby the lateral surfaces of said diffuser can be supported by the lateral peripheral flanges, the longitudinal dimension of said rectangular diffuser being slightly less than the longitudinal dimension of said light opening, said rectangular diffuser being provided with a pair of longitudinally aligned pivot pins integral therewith and projecting beyond the terminal edges thereof and extending in a longitudinal direction a length greater than the longitudinal dimension of said light opening, and a supporting rail fixedly attached to each of the end ones of said peripheral flanges of said housing for supporting one of said pivot pins, the upper edges of said rails providing support means for said pivot pins during the mounting of said diffuser to said housing.

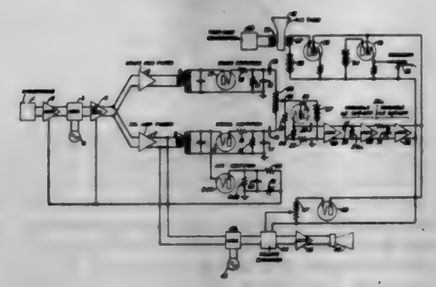
2,978,576
RADIO-FREQUENCY AMPLIFIER AND CONVERTER CIRCUITS
Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 1, 1960, Ser. No. 12,856
8 Claims. (Cl. 250—20)



1. A radio-frequency amplifier and converter comprising: a narrow junction degenerate semiconductor diode exhibiting a negative resistance region at the low forward voltage range of its current-voltage characteristic; bias means in circuit with said diode establishing a direct current load line which intersects said characteristic only in said negatve resistance region; and a frequency responsive network in circuit with said diode, said network including a local oscillator resonant circuit branch, at least one inetrmediate frequency resonant circuit branch and at least one input resonant circuit branch, the parallel resonant impedance of said local oscillator circuit branch

exceeding the highest impedance of either of the other circuit branches producing oscillations only at the parallel resonant frequency of said local oscillator circuit branch and amplification at each of the other frequencies.

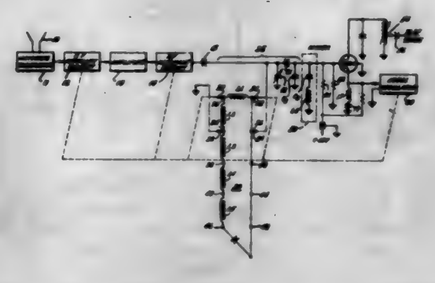
2,978,577
NOISE REDUCING SYSTEMS
Raymond W. Ketchledge, Jamaica, N.Y., assignor to Bell Telephone Laboratories, Incorporated, a corporation of New York
Filed Mar. 4, 1948, Ser. No. 13,016
7 Claims. (Cl. 250—20)



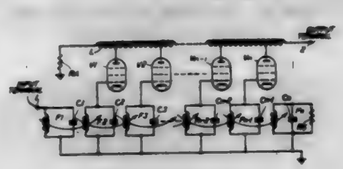
1. A system comprising means for supplying waves including carrier signal waves accompanied by noise components of a frequency band embracing the carrier signal frequency band, said system comprising means for selecting from the waves so supplied waves of the carrier signal frequency band to the exclusion of waves of other frequencies, means for selecting from said noise components waves of frequencies lying outside said carrier signal frequency band and of total frequency band width equal to the width of said carrier signal frequency band, a rectifying circuit and an integrating circuit for producing the envelope of the waves selected by said first selecting means, a rectifying circuit and an integrating circuit for producing the envelope of the waves selected by said other selecting means, means for combining said envelopes with such sense and magnitudes as to obtain an improved envelope signal having a greater ratio of signal magnitude to noise magnitude than said first-mentioned envelope, a band-pass filter for selecting, from said improved envelope signal, waves of a given frequency band to effect further improvement in the signal-to-noise ratio and the degree of noise balance, means for heterodyning a portion of said selected waves of the carrier signal frequency band to produce an audio frequency signal suitable for audible reproduction, and means controlled by waves selected by said band-pass filter for controlling the intensity of said audio frequency signal.

2,978,578
IMPROVED TRANSISTORIZED MIXING CIRCUIT
John W. Waring, Palmyra, N.J., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 28, 1959, Ser. No. 789,552
9 Claims. (Cl. 250—20)

1. A mixer circuit comprising: a resonant signal-input circuit having variable inductance means and shunt capacitance means, said capacitance means including a pair of series-connected capacitors connected in shunt with said variable inductance means, said resonant circuit presenting a very high impedance at signal frequency; a transistor having emitter, base, and collector electrodes; means coupling the low-potential terminal of said resonant circuit to said emitter electrode and means coupling the junction between said series-connected capacitors to said base electrode whereby the impedance presented by said resonant circuit to the base-emitter diode of said transistor at signal frequency is substantially lower than that presented across the entire resonant circuit; means for generating a local oscillation and means for injecting said local oscillation in the base-emitter diode circuit of said transistor, the application of said local oscillation to said emitter-base diode in conjunction with the applied signal resulting in the generation, in said base-emitter diode circuit of an intermediate frequency signal; inductive and capacitive means connected in series between the emitter and base terminals of said transistor and tuned substantially to series resonance at said intermediate frequency signal thereby to minimize the impedance of the external base-emitter circuit at said intermediate frequency and thereby to maximize the flow of currents of intermediate frequency in the base-emitter circuit of said transistor; and a tuned intermediate frequency output circuit coupled to the emitter and collector electrodes of said transistor.

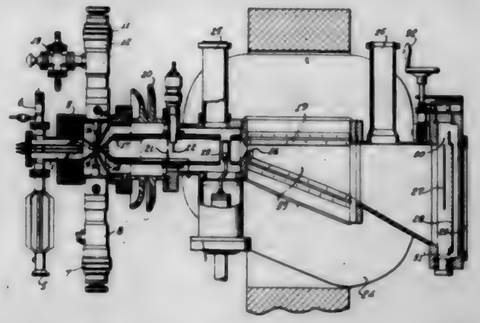


2,978,579
SIGNAL MIXERS
Boleslaw Marian Sosin, Great Baddow, England, assignor to Marconi's Wireless Telegraph Company Limited, London, England, a company of Great Britain
Filed Dec. 10, 1959, Ser. No. 858,780
Claims priority, application Great Britain May 25, 1959
6 Claims. (Cl. 250—20)



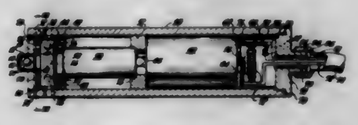
1. A wide-band signal mixer for deriving output sum or difference frequency signals from signals of two input frequencies comprising a plurality of valve devices; at least one input filter line and an output filter line, the shunt arms of both said filter lines being constituted at least in part by electrode capacities of said valve devices which have input electrodes connected to different points along the input filter line and output electrodes connected to different points along the output filter line, said last mentioned points being so chosen that the phase delay at the sum or difference output frequency (as the case may be) between successive output electrodes along said output filter line is substantially equal to the sum, or difference, respectively, of the phase delays at the two input frequencies between the input electrodes of corresponding valve devices; means for applying input signals to said input filter line; and means for taking output from said output filter line.

2,978,580
PROCESS AND DEVICE FOR THE ADDITION OF SLOW ELECTRONS TO POLYATOMIC OR HIGH-MOLECULAR COMPOUNDS
Manfred von Ardenne, Dresden, Weisser Hirsch, Germany, assignor to VEB Vakutronik Dresden, Dresden, Germany
Filed Sept. 8, 1958, Ser. No. 759,811
Claims priority, application Germany Apr. 25, 1958
14 Claims. (Cl. 250—41.9)



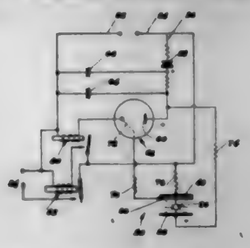
8. In a mass spectroscope having a mass analyzing system, means ahead of said analyzing system for producing a quasi-neutral plasma, said means comprising a thermionic cathode a chamber containing an auxiliary gas having a low ionization voltage, and means for producing a discharge of slow electrons from said cathode into said auxiliary gas, means for introducing molecules to be analyzed into said chamber, said chamber having an ion emission opening, means for compressing said plasma in a region in said chamber immediately adjacent said opening, and means for drawing ions through said opening into the analyzing system.

2,978,581
RADIANT ENERGY DETECTION DEVICE
Robert L. Wehrli, Santa Ana, Calif., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Nov. 20, 1956, Ser. No. 623,491
7 Claims. (Cl. 250—43.5)



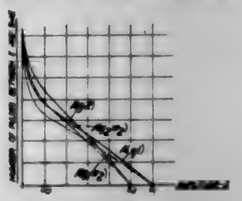
1. In combination, a portable casing, a fixed radioactive source anchored in said casing adjacent one end thereof and shielded to emit rays substantially interior of said casing, radiation detection means positioned in said casing for producing an electrical signal when exposed to radiation from said radioactive source, a chamber having a plurality of passages in said casing adapted to receive a fluid and positioned between said radioactive source and said detection means, the presence of a fluid in said chamber being operable to reduce in intensity the radiation received by said detection means, hermetic sealing means positioned in said casing between said radioactive source and said detection means and forming one wall of said chamber, means in said casing to amplify the electrical signal produced by said detection means, switch means in said casing electrically energized by said last named means and movable between a plurality of controlling positions in response to the change in intensity of the radiation received by said detection means, and closure means sealing an opposite end of said casing whereby said detection means, said amplifying means and said switch means are sealed from the fluid.

2,978,582
SMOKE DETECTOR
Adolf Schoepe, 1620 N. Raymond Ave., Fullerton, Calif., and Adam Ogiat, 123 North East St., Anaheim, Calif.
Filed Aug. 16, 1957, Ser. No. 678,627
7 Claims. (Cl. 250—43.5)



1. In a smoke detecting device, the combination of: a source of ultraviolet rays; a first detector element exposed to said source and sensitive thereto; a second detector element exposed to said source and insensitive thereto; a normally inoperative circuit connecting said first and second detector elements in operative relationship with each other; and signal emitting means operable by said circuit upon the exposure of said detector elements to smoke.

2,978,583
AMPLIFYING SYSTEMS
Kenneth Fearnside, Caversham, near Reading, England, assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 8, 1957, Ser. No. 639,083
3 Claims. (Cl. 250—71.5)



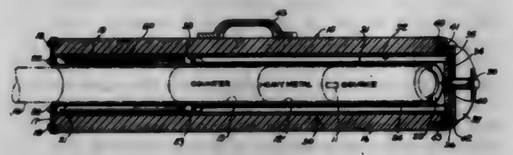
1. In an apparatus for measuring the radiation of a radioactive source and including a detector of the scintillation type for emitting light in response to the radiation and a photomultiplier arranged so that the light falls on its photoelectrode, the sensitivity of said photomultiplier being controlled by means supplying the energizing voltage applied thereto; an amplifier connected to said detector, said amplifier having a discriminator stage producing for each detector output pulse a first pulse of amplitude independent of the amplitude of the detector output voltage pulse and a second pulse having an amplitude proportional to the amplitude of the detector output pulse above the level of the discriminator stage, an integrating stage for producing a sensitivity control pulse as a function of the difference of the first and second discriminator pulses, and an output stage connected to said discriminator stage for producing an output voltage pulse as a function of said discriminator stage first pulse, and means for applying the sensitivity control pulse from the amplifier integrating stage to the photomultiplier energizing means for adjusting the sensitivity of the detector.

2,978,584
ATOMIC BURST LOCATORS
Joseph D. Loconti, Natick, John M. Davies, Cochituate, and Archibald Stuart Hunter, Harold W. Coles, and Mario R. Altamura, Framingham, Mass., assignors to the United States of America as represented by the Secretary of the Army
Original application Aug. 9, 1957, Ser. No. 677,414, now Patent No. 2,925,498, dated Feb. 16, 1960. Divided and this application Dec. 15, 1959, Ser. No. 1,834
2 Claims. (Cl. 250—83)
(Granted under Title 35, U.S. Code (1952), sec. 266)



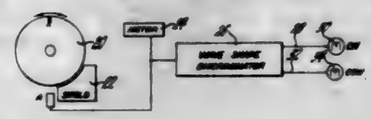
1. A thermally responsive device for indicating the location of a source of intense thermal radiation, comprising a plurality of hollow, transparent, spherical bodies mounted concentrically within each other, a temperature sensitive coating of a finely divided, normally crystalline, organic pigment which melts at a predetermined elevated temperature covering the surfaces of each of said spherical bodies, and an absorbent coating of a finely divided carrier having a color contrasting with the color of the pigment and covering the temperature sensitive coatings, said device being mounted to receive unobstructed radiations from all points on the horizon, whereby when the pigment melts it is absorbed by the carrier and thereby causes a substantially permanent change in the color of the portions of the coated surfaces facing in the direction of the source of thermal radiation.

2,978,585
NEUTRON CALIBRATION METHOD AND APPARATUS
William R. Rabson, Houston, Tex., assignor, by mesne assignments, to PGAC Development Company, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 505,215, May 2, 1955. This application Mar. 13, 1958, Ser. No. 721,318
9 Claims. (Cl. 250—83)



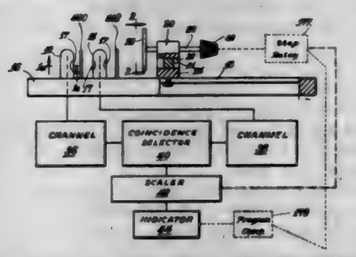
7. A calibrating device for calibrating a radioactivity well logging system of the type comprising a cylindrical subsurface unit adapted to be lowered into a borehole and provided with a neutron source and a detector of radiations due to neutron bombardment of the formations and including surface equipment for logging the radiation response of said detector within the borehole, comprising an elongated tubular body of neutron interactive material, an inner tube positioned within said tubular body in substantially concentric relation therewith and having a stop member at one end thereof, said inner tube having an inner diameter just slightly larger than the outside diameter of said subsurface unit so that one end of said subsurface unit may be inserted into said inner tube at one end of said tubular body and positioned with said one end of said subsurface unit in engagement with said stop member, and an elongated annular fluid container adapted to be inserted into the other end of said tubular body in the annular space between said body and said inner tube to a depth sufficient to surround the neutron source and radiation detector positioned within said subsurface unit.

2,978,586
ROTATIONAL INDICATOR
Robert W. Graham, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 4, 1957, Ser. No. 650,597
9 Claims. (Cl. 250—83.3)



2. In combination in a mechanism for determining rotational properties of a rotatable member, a radiation source secured to said member and radially spaced from the axis thereof, a radiation detector mounted near said member but radially spaced therefrom in the plane defined by said radiation source when said member is rotated, a radiation shield mounted in said plane and adjacent said detector and said member, a wave shape discriminator connected with said detector, a pair of parallel electrical circuits connected with said discriminator, each of said circuits having a pilot light, said detector being adapted to sense variations in radiation strength produced by said source relative to said detector when said member is rotated, said detector inducing an electrical impulse having an irregular wave shape, said irregularity resulting from the radiation shielding action of said shield, said discriminator actuating one or the other of said pair of circuits in accordance with the disposition of said wave shape whereby one of said pilot lights is lighted, said wave shape disposition depending upon the direction of rotation of said rotatable member.

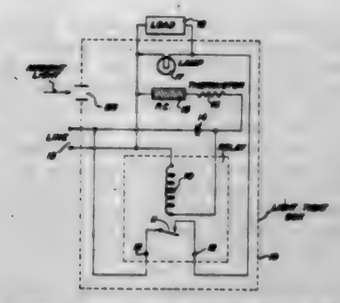
2,978,587
DEVICE FOR DETERMINING THE ABSORPTION CURVE OF RADIOACTIVE ISOTOPES
Madeleine Forro, 833 Lincoln St., Evanston, Ill.
Filed May 11, 1955, Ser. No. 507,675
19 Claims. (Cl. 250—83.6)



1. A device for determining the absorption curve of radioactive isotopes comprising a beta particle detector, a source holder disposed at a distance from the detector, means to limit the solid angle of radiation emerging from a source mounted in the source holder and incident upon the detector to not more than 10% of a complete solid angle, non-radioactive beta particle absorbing means disposed on the axis between the source holder and the detector, said absorbing means being spaced from the source holder by a distance equal to not more than one-half of the distance between the sample holder and the detector, and said beta particle absorbing means having

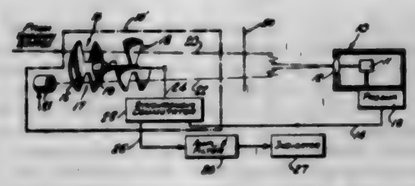
absorbing material having an atomic number of at least 47 intersecting the axis between the source holder and detector, and including means to vary the thickness of the absorbing material, means connected to the detector to generate an electrical signal monotonically related to the output of the detector, means connected to the means to vary the thickness of the absorber to consecutively adjust the magnitude of said signal to a first fixed value and a second fixed value.

2,978,588
FLASHER SYSTEM
Irving L. Mitchell, Rockville Centre, and Sidney S. Pressman, Brooklyn, N.Y., assignors to Ebert Electronics Corporation, Queens Village, N.Y., a corporation of New York
Filed Nov. 6, 1959, Ser. No. 851,898
15 Claims. (Cl. 250—215)



1. A signalling system operative from an A.C. source of power, comprising a signalling device, a relay coil, a capacitive reactance connected in a series circuit with said relay coil across said A.C. source of power, said relay coil having inductive reactance at least approximately numerically equal to said capacitive reactance at the frequency of said A.C. source of power, said series circuit having a predetermined relatively high Q, means connected in shunt to one of said capacitive reactance and said relay coil, said last means comprising a variable impedance of the passive type and responsive to a signal provided by said signalling device for reducing its impedance and thereby said Q to a relatively low value, a pair of contacts operative associated with said relay coil, said contacts being normally closed while said Q is high and open while said Q is reduced, said contacts completing an energizing circuit for said signalling device.

2,978,589
OPTICAL PYROMETER
Sabert N. Howell, Huntington, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York
Filed Jan. 16, 1956, Ser. No. 559,288
14 Claims. (Cl. 250—233)



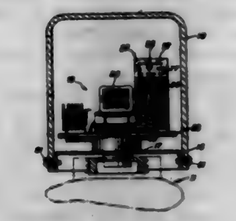
1. A radiation pyrometer, including a first mechanically independent unit, comprising a radiation-responsive element producing an electrical video output in response to variations in incident radiation, and optics collecting radiation from a remote source and focusing the same on said element; a second mechanically independent unit located in close proximity to said remote source comprising a chopper in the path of rays collected by said optics and signal-processing means including a synchronous commutator operating in synchronism with said chopper and connected to the video output of said element, whereby the output of said commutator may reflect only signals seen through said chopper to the exclusion of said signals that are not modulated by said chopper.

2,978,590
SCANNING APPARATUS
David H. Shepard, Falls Church, Va., assignor to Intelligent Machines Research Corporation, Arlington, Va., a corporation of Maryland
Original application Apr. 20, 1956, Ser. No. 579,594, now Patent No. 2,943,208, dated June 28, 1960. Divided and this application July 29, 1957, Ser. No. 674,937
5 Claims. (Cl. 250—233)



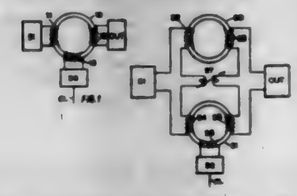
1. Scanning apparatus for use with automatic character sensing equipment and the like to scan areas of a character-bearing document passing through a reading station through which the document is fed comprising photocell means for producing output voltage signals bearing a selected relation to the light intensity to which the photocell means is exposed, optical means for directing an image of a document area disposed at said reading station toward said photocell means to condition said photocell means in accordance with the light intensity at said reading station, said optical means including focusing lens means for focusing said image in a selected image plane, planar optical stop means interposed between said reading station and said photocell means in intercepting relation to the image with the plane of said optical stop means lying in said selected image plane for restricting exposure of said photocell means to portions of said image in accordance with a preselected scanning pattern, said stop means including at least one stationary slit arranged in the path of the image in parallelism with a selected transverse axis of the image, a cyclically movable group of spaced slits to be swept over the length of said stationary slit along the axis thereof with said moving slits extending transversely across said stationary slit to form scanning apertures at the intercepts of said slits for transmission of registering portions of said image to said photocell means, and means for sweeping said moving slits successively across said stationary slit to cyclically scan the image along at least one scanning line, the length of said stationary slit being slightly less than the distance between adjacent pairs of said moving slits to provide non-transmissive intervals between the sweeping of successive moving slits across said stationary slit for activating said photocell means to produce short period output reference pulse amplitudes responsive to a standardized light intensity level.

2,978,591
CONTROL MEANS FOR A STREET LIGHTING SYSTEM
Walter A. Ringger, Jr., Memphis, Tenn., assignor to American Electric Manufacturing Corporation, Memphis, Tenn.
Filed May 5, 1958, Ser. No. 732,882
4 Claims. (Cl. 250—239)



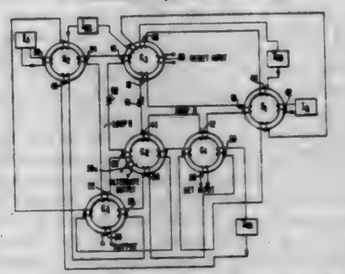
1. In a street lighting system of the type comprising a lighting circuit including an electric lamp and an electrical power source associated with said lighting circuit, control means for opening and closing said lighting circuit comprising photo cell means, circuit means responsive to said cell means, switch means in said lighting circuit responsive to said circuit means, and cover means including a window therein, said cell means being spaced substantially horizontally from said window and said cell means being inclined at an angle relative to the horizontal and rearwardly away from said window with the inclination thereof being sufficient for the majority of the light input to the cell means from said window to enter substantially horizontally.

2,978,592
INDUCTIVE CONTROL ARRANGEMENTS
Tom Kilburn, Urmston, George Richard Hoffman, Sale, and Michael Anson Maclean, Manchester, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed May 31, 1956, Ser. No. 588,361
Claims priority, application Great Britain June 4, 1955
3 Claims. (Cl. 307—88)



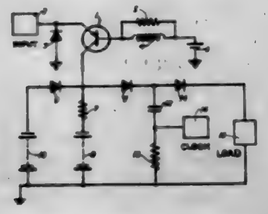
1. A switching device for controlling the connection of an input alternating current source of alternation frequency $f1$ to a utilization device operative at said frequency $f1$, which comprises a first transformer arrangement having a core of magnetic material upon which are provided first, second and third coil windings, a second transformer arrangement having a core of magnetic material on which are provided first and second coil windings, said core and said first and second coil windings of the second transformer arrangement being similar respectively to said core and said first and second coil windings of said first transformer arrangement, said first coil windings of said first and second transformer arrangements each being arranged for connection to said input current source, a source of alternating control current having a frequency $f2$ which is at least several times greater than said input current frequency $f1$, means connecting said third coil winding of said first transformer arrangement to said alternating control current source, controllable means for supplying control current from said control current source to said third winding, circuit means connecting said second coil windings of said first and second transformer arrangements in series and in signal opposing sense with each other to said utilization device whereby substantially no output signal at said input current frequency $f1$ is available for supply to said utilization device when no current from said control current source is supplied to said third winding and a variable mutual inductance coupling device for providing an adjustable balancing signal current from said input current source directly to said series connected circuit of said second coil windings.

2,978,593
MAGNETIC FLIP-FLOP
Erich Bloch, Poughkeepsie, N.Y., and Robert C. Paulsen, Boonton, N.J., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 5, 1958, Ser. No. 719,268
9 Claims. (Cl. 307—88)



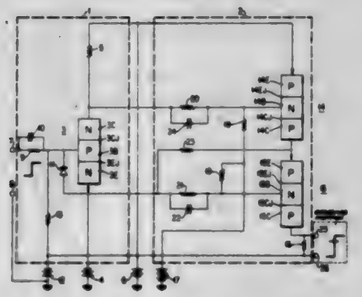
8. A flip-flop device comprising a first and a second storage magnetic core; a first, a second, a third and a fourth coupling core; each of said cores formed of material having a substantially rectangular hysteresis characteristic and having a switching threshold; control winding means on each of said storage cores; input and output winding means on each of said coupling cores; circuit means including a resistor series connecting the output winding means on said first coupling core with the output winding means on said second coupling core and the control winding means on said first storage core and one of the input winding means on said third coupling core; further circuit means including a further resistor series connecting the output winding means on said third coupling core with the control winding means on said second storage core and the input winding means on said fourth coupling core and the input winding means on said second coupling core; shift winding means on said first coupling core series connected with shift winding means on said second coupling core and shift winding means on said fourth coupling core and shift winding means on said second storage core connected with a first clock pulse source so as to drive said first, second and fourth coupling core and said second storage core to a datum residual state when energized; shift winding means on said first storage core connected with a second clock pulse source so as to drive said first storage core to the datum residual state when energized; shift winding means on said first storage core series connected with shift winding means on said third coupling core and connected with a third clock pulse source so as to drive said first storage core and said third coupling core to the datum residual state when energized; shift winding means on said second storage core connected with a fourth clock pulse source so as to drive said second storage core to the datum residual state when energized; and means for energizing said shift winding means including said first, second, third and fourth clock pulse sources wherein said sources are actuated in sequence in the order named.

2,978,594
PULSE AMPLIFIERS
John Siddall Walker, Stevenage, England, assignor to International Computers and Tabulators Limited, London, England, a British company
Filed Nov. 29, 1956, Ser. No. 625,177
Claims priority, application Great Britain Feb. 3, 1956
5 Claims. (Cl. 307—88.5)



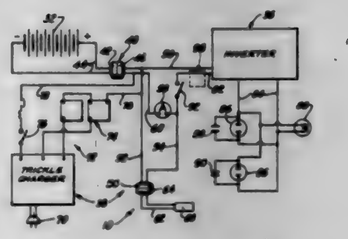
1. A pulse amplifying circuit comprising a transistor with a current gain exceeding unity, said transistor having an emitter, a collector and a base, means to apply operating potentials to the emitter, the collector and the base to bias the transistor to be normally non-conducting, means operative to apply an input pulse to the emitter of the transistor to overcome said bias and to produce a regenerative increase in the collector current of the transistor, an inductor connected to the base of the transistor and operative to initiate a regenerative decrease in the collector current, a load resistor connected to the collector, a capacitor and a further resistor connected in a first series circuit, a first diode and an output load connected in a second series circuit, the two series circuits being connected in parallel, the said further resistor being connected to the output load and the capacitor being connected to the first diode, the first diode being poled to permit the passage of current from the capacitor to the output load, a second diode connected between the collector of the transistor and the junction of the first diode and the capacitor, the second diode being poled to permit the capacitor to be charged when the transistor conducts and a source of clock pulses operative to apply clock pulses to the junction of the capacitor and the said further resistor to cause said capacitor to discharge through the first diode and the output load.

2,978,595
TRANSISTOR LEVEL SHIFTER
James B. Mackay, Highland, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 2, 1957, Ser. No. 656,521
3 Claims. (Cl. 307—88.5)



1. A voltage level translating circuit comprising in comprising in combination a first transistor having emitter, base and collector electrodes operatively associated therewith, a power source having a first voltage, a reference potential, means connecting said first transistor between said power source and said reference potential to provide current flow therethrough, means associated with said base and operative to prevent current flow through said transistor, a load impedance, means connecting one terminal thereof to reference potential, a second transistor having emitter, base and collector electrodes operatively associated therewith, means connecting the collector of said second transistor to the remaining terminal of said load impedance, a third transistor having emitter, base and collector electrodes operatively associated therewith, means connecting the collector of said third transistor to the emitter of said second transistor, means connecting the emitter of said third transistor to said power source, means applying a second voltage less than said first voltage of said power source to the base of said second transistor, means applying a third voltage less than said second voltage to the base of said third transistor, coupling means applying potential excursions at the collector of said third transistor to the base of said second transistor, coupling means applying signals as a result of current flow through said first transistor to said base of said third transistor, means for impressing input signals of a first predetermined magnitude on the base of said first transistor operative to overcome said means preventing current flow through said first transistor and sensing means associated with the serial combination of said second and said third transistors operative to sense signals of a second predetermined magnitude greater than said first magnitude.

2,978,596
PORTABLE CONVERSION UNIT
William A. Robirds, 12282 Gamma St., Garden Grove, Calif.
Filed June 11, 1959, Ser. No. 819,705
2 Claims. (Cl. 307—151)



1. In a portable, electrical power source, the combination of: a storage battery; a D.C. charging circuit having one end terminating at said storage battery and its other end terminating in a D.C. input-output receptacle; an A.C. charging circuit having one end terminating in an A.C. input receptacle and its other end terminating at said battery; an inverter connected to said battery; A.C. output receptacle means connected to said battery through said inverter; a housing consisting of first and second housing members, said first housing member being adapted to receive said battery and said second housing member being adapted to receive said A.C. input receptacle and charging circuit, said D.C. input-output receptacle and charging circuit and said A.C. output receptacles and inverter; and a common connector plug interposed between said first and second housing members and said battery and said A.C. and D.C. charging circuits and said A.C. output and inverter circuits, said first and second housing members having cooperative edge portions and latch means thereupon adapted to demountably secure said first and second housing members in operative engagement with each other.

2,978,597
CIRCUIT ELEMENT TRANSDUCER
Wilbur T. Harris, Southbury, Conn., assignor to The Harris Transducer Corporation, Woodbury, Conn., a corporation of Connecticut
Filed Mar. 14, 1956, Ser. No. 571,462
8 Claims. (Cl. 310—8.2)



1. In a device of the character indicated, a mechanically resonant structure, including a straight flexurally resonant member of relatively high elasticity one-half wavelength long at its natural bending frequency, said member being of uniform width and thickness, the width substantially exceeding the thickness, thereby defining two predominant opposed bending surfaces, opposed ceramic piezoelectric layers on said bending surfaces and extending longitudinally symmetrically for at least one-quarter of said wavelength along a central part of said member, and conductive foils on the outer exposed surfaces of said ceramic layers.

2,978,598
MOTOR AVAILABLE FOR TOYS
Masao Kato, 5 Sanchome Azumabashi, Tokyo, Japan
Filed Apr. 25, 1957, Ser. No. 655,025
1 Claim. (Cl. 310—43)



An electric motor comprising an open sided hollow block of molded synthetic resin, a pair of magnets embedded in opposite sides of said block, rods embedded in the open side of said block and extending laterally thereof, a cover for mating with said block open side and having openings for receiving said rods, brushes carried by said cover, said block and cover having shaft supporting openings, an armature shaft rotatably mounted in and through said shaft supporting openings, said magnets being positioned within said block with exposed faces thereof being opposite to one another and with each magnet arranged symmetrically to said armature shaft, a body of synthetic resin fixedly provided on said shaft, iron cores embedded in said body and positioned between said magnets, a commutator embedded in said body and positioned for engagement by said brushes and coils surrounding said body about said iron cores and connected to said commutator.

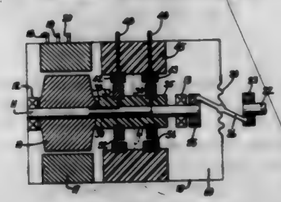
2,978,599
INDICATING SYSTEM
Roy C. Wilcox, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 20, 1957, Ser. No. 697,711
5 Claims. (Cl. 310—168)

1. Apparatus for providing an electrical indication of a mechanical movement comprising: a member having a planar surface thereon and adapted to move in synchronism with said mechanical movement; said member being of a magnetically susceptible material; a portion of said magnetically susceptible material bounding said planar surface being removed; a second member having a first magnetic pole piece and a second magnetic pole piece directly contacting said first pole piece to form a continuous magnetic circuit with said first pole piece, said second pole piece being in the form of a cup-like member concentric about said first pole piece; means to establish magnetic flux in said second member; said first pole piece having a planar surface juxtaposed to said first member planar surface; the shape and area of said first pole piece planar surface and the shape and area of the removed portion of said material bounding on said first member planar surface being substantially the same; said second pole piece having an end surface juxtaposed to said first member planar surface, the first pole piece planar surface and the second pole piece end surface being in a plane parallel to said first member



planar surface; said first member adapted to complete a flux path between said first and second pole pieces whereby said established magnetic flux completes a path through said first pole piece, said first member, and said second pole piece; said first pole piece being positioned such that said removed portion registers with said first pole piece as it is moved in synchronism with said mechanical movement whereby said flux in said second member changes; means to detect said flux changes and to produce electrical signals in response thereto whereby said electrical signals are representative of said mechanical movement.

2,978,600
IONIC BRUSH
Jerome H. Silverman, Euclid, Ohio, assignor to Thompson Ramo Wooldridge, Inc., a corporation of Ohio
Filed Jan. 21, 1958, Ser. No. 710,339
17 Claims. (Cl. 310—232)

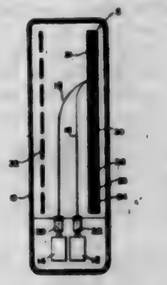


1. An electro-mechanical machine having a rotating part with a circuit for its interacting current at least in part through said rotating part, said circuit including a frictionless ionic brush means for said interacting current comprising a pair of spaced and relatively rotating electrodes of which at least one rotates with said part and both of which are shaped and positioned to provide a substantially constant width gap therebetween during said relative rotation, at least one of said electrodes having an electron emissive thermonic surface and means to provide an ionizable gaseous medium in said gap.

2,978,601
ELECTRONIC CONTROL SYSTEM
William Ross Aiken, Los Altos, Calif., assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada
Filed Dec. 12, 1957, Ser. No. 702,340
9 Claims. (Cl. 313—92)

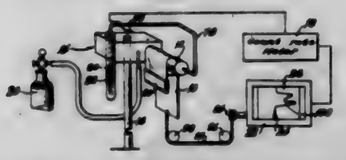
1. In a cathode ray tube for use in the presentation of color displays, a target comprised of a plurality of phos-

phor layers and a control layer disposed in superposed layered relation with each other, each phosphor layer being capable of emitting a different color with energization thereof, color selection means for delivering a first electron beam for registration with an incremental area of said target control layer to change the potential thereof a predetermined amount consistent with the particular



phosphor layer to be energized, and brightness control means including means for providing a second beam for registration with said incremental area thereafter and the penetration thereof through the multiple layers to the one of the phosphor layer indicated by the potential condition established by said first beam on the corresponding incremental area of the target control layer to effect the energization of said one color layer thereat.

2,978,602
RADIATION MEASURING DEVICE
Jenö M. Barnothy, 833 Lincoln St., Evanston, Ill.
Filed May 14, 1956, Ser. No. 584,789
17 Claims. (Cl. 313—93)



1. A radiation measuring device comprising a support member having a cylindrical channel extending therein, a rod of electrically conducting material mounted on the support member, said rod extending coaxially out of the channel in the support member, a hollow cylindrical tube of electrically conducting material snugly disposed in the channel in the support member and being slidably removable therefrom, said tube extending from the support member, surrounding all portions of the rod, being electrically insulated from the rod, and having a pair of openings on opposite sides thereof exterior to the support member, and a bar shaped shield mounted on the support member and extending therefrom in abutment with the tube, the surface of said shield confronting the tube being curved to conform to the exterior surface of the tube, and said shield being of sufficient width to entirely cover the openings in the tube.

2,978,603
PHOTON COUNTER
Wade L. Fite, Encinitas, and Richard Theodore Brackmann, San Diego, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 2, 1957, Ser. No. 687,772
2 Claims. (Cl. 313—93)

1. An ultraviolet photon counter for selectively measuring radiation between 1100 A and 1280 A., comprising a generally cylindrical container having an opening in one end thereof, a lithium fluoride window disposed across that opening and sealed to said container so as to render said container gas-tight, which window passes radiation having a longer wavelength than 1100 A. and attenuates radiation having a shorter wavelength than 1100 A., an elongated wire anode extending through the end of said container opposite said window generally along the longitudinal axis of said container, the inner end of said wire being spaced from said window between about one-fourth and one times the diameter of the con-



tainer, said wire having a diameter of at least about 0.04 inch, an essentially photo-insensitive cathode disposed in said container in spaced relation to said anode, and a gas mixture within said container at a pressure between about one-fourth and one atmosphere, said gas mixture comprising inert gas and iodine vapor which iodine vapor is ionized by radiation having a shorter wavelength than 1280 A. and is substantially unaffected by radiation having a longer wavelength than 1280 A., said iodine vapor being at a pressure of not less than about 0.14 mm. and not more than about 0.90 mm.

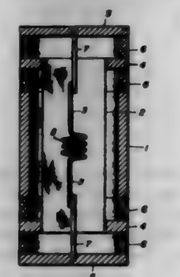
2,978,604
ELECTRIC ARC DISCHARGE DEVICES
Henry de Boyne Knight, Rugby, England, assignor to The British Thomson-Houston Company Limited, London, England, a company of Great Britain
Filed Nov. 18, 1959, Ser. No. 853,884
Claims priority, application Great Britain Nov. 18, 1958
7 Claims. (Cl. 313—193)



1. Means for increasing the current carrying capacity of an electric arc discharge device comprising a sealed envelope containing an anode, and a thermionic cathode, said envelope being filled with an ionizable medium at a pressure such that a discharge between said anode and said cathode is of an arc-like character, said means comprising a conductor located in the vicinity of the discharge path between said anode and said cathode, and insulating material in contact with said conductor, said insulating material possessing the ability to encourage the formation on said conductor of a spot to which said arc transfers from said cathode.

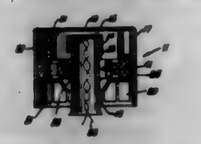
2,978,605
GASEOUS ARC DISCHARGE DEVICE
James M. Lafferty, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 17, 1957, Ser. No. 690,851
12 Claims. (Cl. 313—247)

1. A thyratron gaseous electric discharge device comprising a metallic anode cylinder member; a mesh control electrode cylinder concentric with said anode cylinder and interior thereof said control electrode being longer than said anode cylinder; a pair of metallic annular support members supporting said control electrode; a cold arc-type cathode extending axially along the center of said cylinder said cathode exhibiting characteristics of low heat capacity and low thermal conductivity as compared with metals and adapted to serve as the footpoint of an arc between anode and cathode in the ab-



sence of resistance heating thereof; a pair of metallic disk-shaped cathode support members supporting said cathode and forming end walls for said device; a plurality of insulating ceramic members interposed between said end wall members and said control electrode support members and between said control electrode support members and said anode member and hermetically sealed thereto to form an hermetically sealed envelope; and a highly purified stable noble gas atmosphere within said envelope.

2,978,606
ELECTRON DISCHARGE DEVICE
Maurice I. Kahl, Seneca Falls, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,674
4 Claims. (Cl. 313—270)

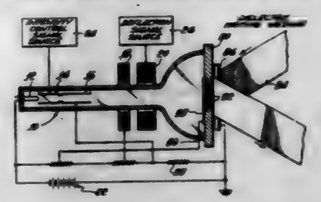


1. In an electron discharge device employing a heater positioned within a hot cathode having an electron emissive material thereon, a support for rigidly holding the cathode comprising an electrically insulating disc of substantially uniform thickness having an internal wall defining a centrally disposed aperture, said wall being formed to provide spaced cathode contacting surfaces intereconnected by reentrant portions, said surfaces providing a total cathode contacting surface which controls the thermal conduction losses from said cathode through said surfaces and the thermal radiation losses from said cathode into said reentrant portions to provide substantially steady state cathode emission at a cathode temperature of about 700 degrees C. within approximately thirty seconds after energization of the heater.

2,978,607
ELECTROSTATIC WRITING TUBE
Howard C. Borden, Atherton, Calif., assignor to A. B. Dick Company
Filed Feb. 7, 1958, Ser. No. 713,866
5 Claims. (Cl. 315—12)

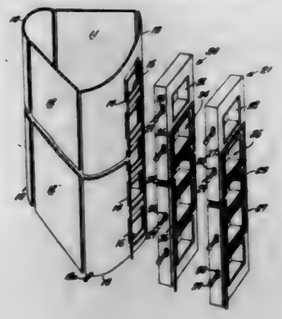
1. The combination with an electrostatic writing tube of the type having a target including a column of points

at a writing surface outside said tube, an electron beam means to elevate the potential of selected ones of said points until a discharge occurs from these points to an adjacent ground plane, of a plurality of writing wires made of a material having a resistance which is high



when compared to the resistance of copper wire, each of said wires extending from within said tube to a different one of said points, and a common electrode connected to all said writing wires and brought out from within said tube.

2,978,608
CHARACTER SYNTHESIZING TUBE
John E. Gaffney, Jr., Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 630,386, Dec. 24, 1956. This application Oct. 2, 1959, Ser. No. 844,144
15 Claims. (Cl. 315—22)

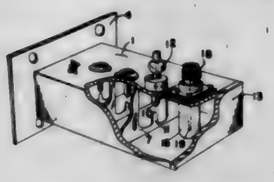


1. A cathode ray tube indicator comprising an evacuated envelope enclosing an electron beam generator providing a plurality of independent beams spaced apart in a lineal array, a screen to receive the electron beam array, deflection means between the beam generator and the screen to control the position of the electron beam array on the screen, and grid means adjacent the electron beam generator to turn selected ones of said plurality of electron beams "on" and "off" as they are deflected along the screen to form selected characters thereon.

2,978,609
TRANSMIT-RECEIVE TUBE
John M. Duffy, Gloucester, and Harold Heins, Marblehead, Mass., assignors to Bomac Laboratories Inc., Beverly, Mass., a corporation of Massachusetts
Filed Jan. 21, 1959, Ser. No. 788,134
2 Claims. (Cl. 315—39)

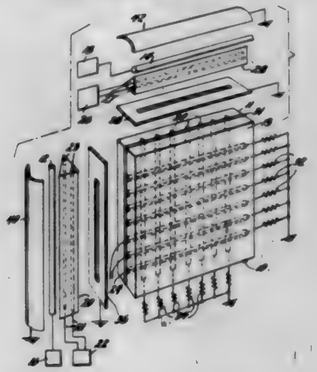
1. A transmit-receive tube comprising a vacuum tight waveguide envelope with an apertured metallic enclosure member disposed at one end thereof, a plurality of resonant iris and discharge gap elements spaced at quarter wavelength intervals along the envelope axis, a solid metallic end wall member enclosing the opposite end of said envelope, an encapsulated dielectric member

hermetically sealed to and extending into said envelope from the top broad wall thereof at a point intermediate to the wall member and resonant element adjacent thereto, a probe member centrally disposed within said dielectric member to couple electromagnetic wave energy from



said waveguide envelope to a coaxial transmission line, the axis of said probe member being disposed along the longitudinal axis of said envelope approximately one-twelfth of a guided wavelength from the end wall member for the selected frequency of the transmitted electromagnetic wave energy.

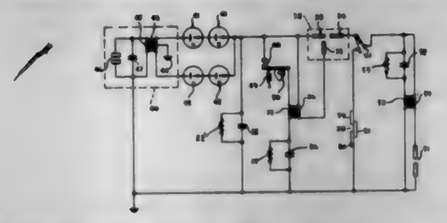
2,978,610
IMAGE PRODUCING DEVICE
Edward L. Schiavone, 8314 Carey Lane, Silver Spring, Md., assignor of one-half to Arthur G. Previn, Washington, D.C.
Filed Dec. 4, 1957, Ser. No. 700,639
13 Claims. (Cl. 315—169)



1. A device for producing visible images in response to electrical signals comprising a screen having a pair of plastic members and layers of parallel conductors between said members, a layer of phosphor between the layers of conductors, means angularly positioned relative to the edges of said screen for radiating a narrow beam of energy toward two edges of said screen and selectively directing said beam to impinge upon the conductors of each of said groups and shield means between the edges of said screen and said radiating means and having a slot therein parallel to and adjacent said conductors.

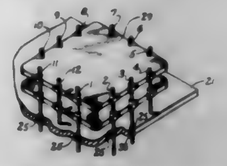
2,978,611
ELECTRICAL DISCHARGE CONTROL SYSTEM
Louis H. Segall, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 17, 1953, Ser. No. 349,367
19 Claims. (Cl. 315—180)

1. In electrical apparatus comprising a source of electrical energy including a storage condenser, the combination therewith of a sparking circuit comprising a hold-off gap and an igniter gap connected in series across said storage condenser, and means responsive to and automatically operable when the charge on said condenser attains a pre-determined voltage below the normal spark-over voltage of said hold-off gap for rendering the latter conductive to said charge, said means comprising circuit means connected to said storage condenser, said circuit means including a triggering gap adjacent said hold-off



gap for effecting ionization of the latter and further including a control gap and a condenser connected in series for effecting a partial discharge of said storage condenser at said pre-determined voltage to create a discharge across said triggering gap to ionize said hold-off gap.

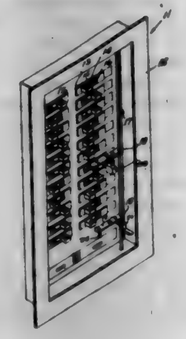
2,978,612
MODULARIZED RADIO RECEIVER
Melvin C. Lutton, Silver Spring, Md., assignor, by mesne assignments, to Illinois Tool Works, Chicago, Ill., a corporation of Illinois
Filed July 27, 1956, Ser. No. 600,583
6 Claims. (Cl. 317—101)



1. An electrical circuit device comprising a panel having a plurality of apertures through one surface thereof, a modular structure including a planar wafer of insulating material and a plurality of spaced riser wires fixed to the periphery of said wafer and substantially normal to the plane of said wafer, a circuit component mounted on said wafer, and means electrically connecting said circuit component to two of said plurality of riser wires, each one of said two riser wires having an end threaded through a different one of said panel apertures and fixed to said panel, a third one of said riser wires having an end adjacent to and shorter than said two riser wire ends, said third riser wire end abutting said panel surface to space said wafer from said panel surface.

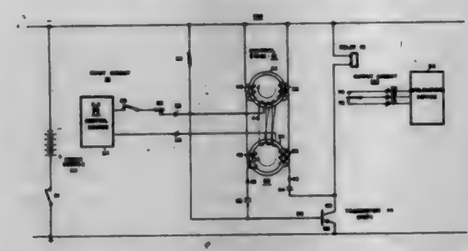
2,978,613
LOCKOUT DEVICE FOR SWITCH PANELS
Edwin Hein, 3037 Ponderosa Drive, Concord, Calif.
Filed Feb. 6, 1959, Ser. No. 791,591
3 Claims. (Cl. 317—119)

1. In a switch panel assembly, a support, a row of switches mounted on said support in alignment, said switches having parallel operating elements slidable on said support, a rod member mounted on said support parallel to said row of switches and transverse to said operating elements, a locking member comprising a pair of pivotally connected arms, means slidably and pivotally connecting one of said arms to said rod member for adjustment therealong, said arms having respective opposing portions extending parallel to and spaced to receive a selected switch-operating element therebetween, means on one of said portions lockingly engageable with the selected switch operating element, and means to releasably lock the arms against relative pivotal movement when said arms are substantially in alignment with each



other with the selected switch-operating element received between said opposing portions and lockingly engaged by said second-named means.

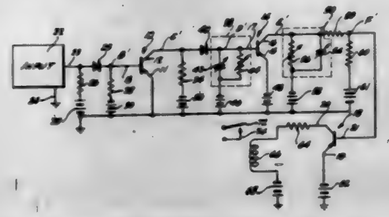
2,978,614
SENSITIVE CONTROL DEVICE
Edward E. Bauman, Galion, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed Mar. 14, 1958, Ser. No. 721,522
16 Claims. (Cl. 317—146)



3. A sensitive control device comprising an input circuit, a semiconductor member, a relay member connected for control by said semiconductor member, and a control stage including bias means for biasing said semiconductor member to conduct a relatively large current for said relay to operate the same, oscillator means connected to energize said semiconductor member in an oscillatory operation to provide a reduced current of a value to effect the release of said relay, and control means operatively controlled in response to receipt of control signals over said input circuit operative at times to render said oscillator circuit means effective and controlled at other times to disable said oscillator circuit means and to render said bias means effective.

2,978,615
ELECTRIC TRIGGER CIRCUITS
William T. Chater, El Segundo, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 1, 1957, Ser. No. 656,283
9 Claims. (Cl. 317—148.5)

2. A trigger circuit comprising: a first junction transistor having a first emitter, a first base and a first collector, a gating network coupled between said first base and said first emitter and adapted to render said first transistor conducting in response to the application of an input signal of a predetermined polarity and magnitude to said gating network, a second junction transistor having a second base, a second emitter and a second collector, said second base being coupled to said first collector, a first network coupled between said second base and said second emitter for integrating and smoothing the voltage appearing therebetween, a third junction transistor having a third base, a third emitter and a third



collector, said third base being coupled to said second collector, a second network connected between said second collector and said third emitter for integrating and smoothing the voltage appearing therebetween, and a control winding for a relay connected in series with said third collector and said third emitter for responding to an output signal from said third transistor.

2,978,616
ELECTRODE HOLDER FOR ELECTROEROSION MACHINES
Jean Pfau, Geneva, Switzerland, assignor to Ateliers des Charmilles S.A., Geneva, Switzerland, a corporation of Switzerland
Filed Feb. 20, 1958, Ser. No. 716,434
Claims priority, application Switzerland Feb. 20, 1957
4 Claims. (Cl. 317—163)

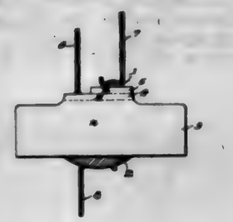


1. A magnetic chuck suitable for holding the electrode of an electroerosion machine, said chuck comprising two substantially circular discs of ferromagnetic material having flat end faces contacting each other, one of said discs being movable in the unmagnetized state and having the form of a major segment of a circle, the other disc being stationary and having a projection overlapping said movable disc along the plane portion of the periphery of said segment in contact therewith, a second projection on said stationary disc limiting the movement of said movable disc along said overlapping projection and defining the assembled position of the discs, said movable disc adapted to support said electrode, and means creating a magnetic field holding said two discs in assembled position.

2,978,617
DIFFUSION TRANSISTOR
Heinz Dorendorf, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Original application July 10, 1957, Ser. No. 671,062, now Patent No. 2,945,286, dated July 19, 1960. Divided and this application Mar. 16, 1960, Ser. No. 15,322
Claims priority, application Germany July 23, 1956
9 Claims. (Cl. 317—235)

1. A semiconductor arrangement for high frequency operation, comprising at least three zones with adjacent zones being of different conduction type, two mutually adjacent zones being relatively very thin as compared with the third zone, the areas occupied by said zones in-

creasing stepwise from zone to zone in the direction of the third zone, and means for at least partially contacting



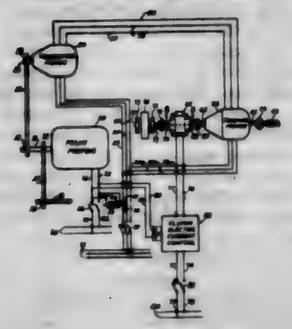
the free surface portion of at least the second zone resulting from the stepwise configuration of said zones.

2,978,618
SEMICONDUCTOR DEVICES AND METHOD OF MAKING THE SAME
Thomas E. Myers, Box 560, Rte. 1, St. Charles, Ill.
Filed Apr. 13, 1959, Ser. No. 805,888
8 Claims. (Cl. 317—239)



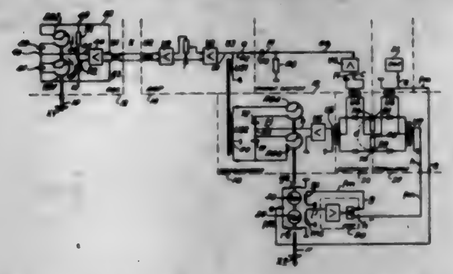
1. A semiconductor device comprising, a body of titanium having at least a portion of its surface defined by a layer of titanium carbide, at least a portion of said titanium body being exposed for connection to an electrical conductor.

2,978,619
SYNCHRO-TIE RECEIVER MOTOR SYNCHRONIZED-SPEED CONTROL
Guy H. Allgeyer, Richard L. Early, and Thomas B. Scoble, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed June 17, 1957, Ser. No. 666,158
14 Claims. (Cl. 318—24)



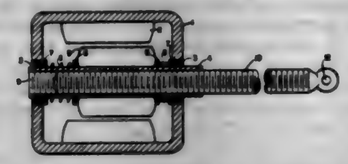
1. Speed control apparatus for maintaining synchronized running speed of a synchronous electric receiver motor in a synchro-tie motor drive system wherein the drive shaft of said receiver motor is operatively connected to drive a cyclically fluctuating auxiliary load in synchronized relationship with a constantly moving main load driven by the main drive motor of said motor drive system and comprising a rotatable shaft, rotatable means operatively connected to said shaft and adapted to alternatively receive and store kinetic energy of rotation imparted by said shaft and release said stored energy to said shaft, a clutch having a normally driven rotatable element coupled to said rotatable shaft and a normally driving rotatable element operatively connected to the drive shaft of said receiver motor, and control means operatively associated with these two rotatable elements of the clutch for gradually coupling its normally driving element to the normally driven element after starting the main drive motor to impart rotation to said rotatable means and store kinetic energy of rotation therein during operation of said receiver motor at its synchronized running speed and thereafter release said stored kinetic energy to impart rotation from the normally driven element to the normally driving element whenever the speed of said receiver motor tends to fall behind its synchronized running speed, said control being operable for quickly uncoupling the two rotatable elements of the clutch upon stopping the main drive motor.

2,978,620
REMOTE CONTROL SERVOSYSTEM
Wilhelm Rudolf Schlatter, Zurich, Switzerland, assignor to Contraves A.G., Zurich, Switzerland
Filed Apr. 11, 1957, Ser. No. 652,269
Claims priority, application Switzerland Apr. 12, 1956
20 Claims. (Cl. 318—28)



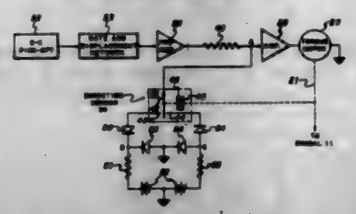
1. In a remote control apparatus, in combination, generating means for generating alternating current remote control signals at signal frequencies variable within a wide frequency band; a command member movable between a normal position and a plurality of displaced positions and operatively connected with said generating means for varying said signal frequencies in fixed proportion to displacements of said command member between any of said positions in such a manner that any of said signal frequencies is associated with a respective position thereof; and control signal receiving means in circuit with the output of said generating means and comprising a follower member remote from said command member and movable between a normal position and a plurality of displaced positions, a passive network means tunable by said follower member depending upon movement thereof between any of its positions to a response frequency associated with a respective position of said follower member, said passive network means being additionally connected to said output of said generating means and capable of generating an intermediate output signal being a function of any existing frequency difference between the frequency of a control signal applied to said network means and the response frequency determined at the same instant by said follower member, secondary means for deriving from said intermediate output signal a direct current voltage corresponding in magnitude and polarity to the amplitude and sign of said frequency difference, and servo-drive means operable by said direct current voltage for moving said follower member at a speed and in a direction corresponding to the magnitude and polarity of said direct current voltage, whereby any displacement of said command member by a certain amount in a particular direction produces a corresponding variation of the frequency of said remote control signals which in turn causes said network means and said secondary means to produce a direct current voltage influencing said servo-drive means to move said follower member from an initial position existing before such displacement of said command member into a position displaced from said initial position by the same amount and in the same direction as the amount and direction of said displacement of said command member, said frequency difference being reduced to zero as soon as the displaced positions of said command member and of said follower member, respectively, are identical.

2,978,621
MOTOR
Thomas W. Martinek, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Sept. 16, 1958, Ser. No. 761,334
13 Claims. (Cl. 318—29)



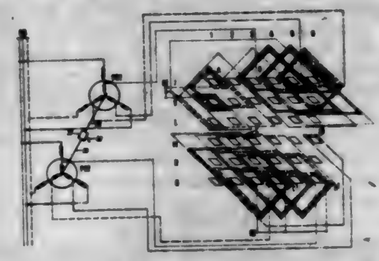
1. An electric motor comprising a housing, bearings mounted in said housing, a hollow, internally-threaded shaft mounted in said bearings in such manner as to enable the shaft to rotate and move axially, an armature rigidly mounted on said shaft, field coils mounted in said housing around said armature, an externally-threaded shaft screwably mounted in said hollow shaft, means for limiting the axial movement of said internally-threaded shaft, and means for preventing rotation of said externally-threaded shaft while permitting it to move axially.

2,978,622
POSITION SERVO SYSTEM
Ernest C. Wittke, Westbury, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 28, 1959, Ser. No. 849,348
7 Claims. (Cl. 318—31)



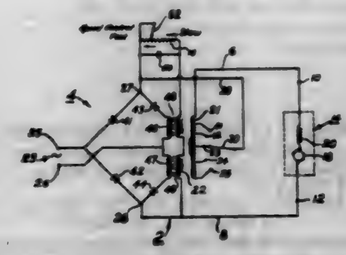
4. In a servo system for positioning a load a predetermined distance, pick-off means for providing an error signal having a magnitude and a polarity representative of the desired amount and direction of positioning of said load, rate circuit means for providing a signal proportional to the rate of change of said error signal, means for combining said error and rate signal to produce a resultant error signal, torque motor means for driving said load, and means including means connected between said combining means and said torque motor and responsive to the direction of rotation of said motor for limiting said resultant signal when the polarity of said resultant signal and the direction of rotation of said motor are in phase and for removing said limit when the polarity of said resultant signal and the direction of rotation of said motor are in phase opposition in order that the integral of the accelerating torque applied to the load over a first portion of said predetermined distance is equal to the integral of the decelerating torque applied to said load over the remaining portion of said distance.

2,978,623
ALTERNATING CURRENT MOTORS
Frederic Calland Williams, Romiley, and Eric Roberts Laithwaite, Manchester, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Nov. 9, 1959, Ser. No. 851,773
Claims priority, application Great Britain May 4, 1955
9 Claims. (Cl. 318—195)



1. An alternating current machine comprising a cylindrical rotor, at least one stator member comprising a laminated structure, the planes of the laminations passing substantially through the axis of said rotor and having a set of coils arranged in rows to provide a moving magnetic field when said coils are connected to a source of polyphase alternating current thereby causing rotation of said rotor, and means for continuously varying the phases of the currents supplied to the different coils in each row and to corresponding coils in different rows to enable the direction of movement of said moving magnetic field relative to the direction of movement of said rotor and hence the speed of rotation of said rotor to be continuously controlled.

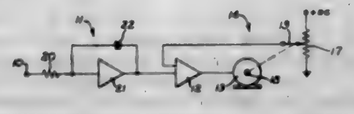
2,978,624
MULTIPLE-FEEDBACK AMPLIFIER SERIES MOTOR CONTROL SYSTEM
William R. Smith-Vaniz, Norwalk, Conn., assignor to C.G.S. Laboratories, Inc., Stamford, Conn., a corporation of Connecticut
Filed July 29, 1957, Ser. No. 674,718
5 Claims. (Cl. 318—249)



1. A motor control system for a series-type motor including a bridge rectifier circuit having a pair of input terminals adapted to be connected to a source of alternating current, a magnetic amplifier having first and sec-

ond controlled winding means, magnetically saturable core means and first and second control windings for controlling the saturation of said core means, first and second output connections from said bridge rectifier circuit adapted to be connected to a series-type electric motor, said first controlled winding means being in said bridge rectifier circuit in series between one of said input terminals and one of said output connections and said second controlled winding means being in said bridge rectifier circuit in series between said one input terminal and the other of said output connections for controlling the current flowing through the electric motor connected between said output connections, said first control winding also being in circuit in series with said output connections and arranged to decrease the impedance of said first and second controlled winding means in response to increase in current through said first control winding, thereby providing positive current feedback in said magnetic amplifier, said second control winding being effectively in circuit across said output connections and increasing the impedance of said first and second controlled winding means in response to increase in voltage between said output connections, thereby providing negative voltage feedback in said magnetic amplifier, and an adjustable resistor in series with said second control winding for adjusting the motor speed.

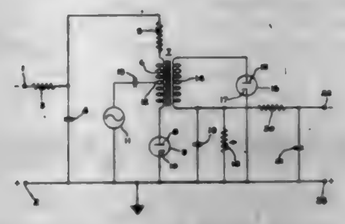
2,978,625
SERVOMECHANISM
Noel B. Braymer, Garden Grove, Calif., assignor to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California
Filed June 19, 1957, Ser. No. 666,609
5 Claims. (Cl. 318—448)



1. In a servomechanism for operation with an error signal source having a low signal-to-noise ratio, the combination of: a servomotor for mechanically driving a load; an amplifier connected to said servomotor in driving relationship, said amplifier having an error signal input and a feed-back input connected in subtractive relationship; a servomotor feed-back loop mechanically driven by said servomotor and providing a feed-back signal to said feed-back input of said amplifier as a function of the movement of said servomotor; an error signal terminal for connection to the error signal source; and an electronic integrating circuit coupled between said error signal terminal and said error signal input of said amplifier for applying an integrated error signal to said error signal input.

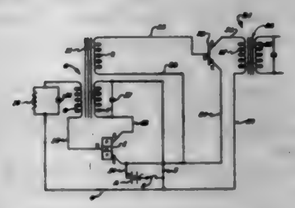
2,978,626
DIRECT CURRENT TRANSFORMER
Robert B. Dome, Geddes Township, Onondaga County, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 31, 1953, Ser. No. 784,333
3 Claims. (Cl. 321—2)

1. A circuit for transforming a direct current potential comprising a transformer having primary and secondary windings, a tap on said primary winding, a point of reference potential, a first unilateral current conducting device connected between one end of said primary winding and said point of reference potential, a source of alternating current voltage and a capacitor connected in series between said tap and said point of reference potential, a resistor and a source of the direct current potential to be transformed connected in series between the other end of said secondary winding and said point of reference potential, the resistance of said resistor being equal to the resistance of said unilateral device for the alternating current caused to flow through said device by said source of alternating current, said source of direct current potential having a negligible impedance



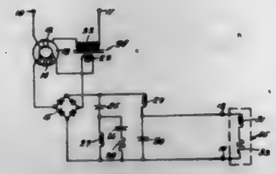
at the frequency of said alternating voltage, a second unilateral current conducting device connected between one end of said secondary winding and said point of reference potential, and a load circuit for said second unilateral current conducting device comprised of a resistor and a capacitor coupled or parallel connected between the other end of said secondary winding and said point of reference potential, the desired transformed direct current potential appearing across said load circuit.

2,978,627
TRANSISTORIZED POWER SUPPLIES
Walter F. Joseph, 1914 Arroyo Ave., San Carlos, Calif.
Filed Feb. 26, 1957, Ser. No. 642,625
10 Claims. (Cl. 321—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



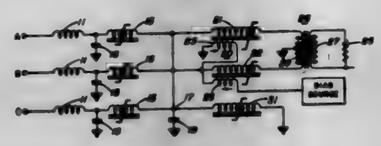
9. A D.C. to A.C. converter comprising a source of low D.C. potential, a 1st transistor having at least emitter, collector, and base elements, a transformer having at least primary, secondary and output winding, said base electrode connected through said secondary winding and an impedance means in serial relationship to the negative side of said power supply, the positive side of said power supply being connected to said emitter element, said collector element being connected through said primary winding to said negative side of said power supply, and said primary and secondary windings being inductively related in a manner whereby a current increase in said primary winding produces a flux which opposes current from said source in said secondary winding, a 2nd transistor having at least emitter, collector and base elements, said 2nd transistor emitter and collector elements connected for excitation to said source, one end of said output winding connected to said 2nd transistor base element, another end of said output winding connected to said 2nd transistor emitter element whereby said 2nd transistor functions as an overdriven amplifier, and output impedance means connected to said collector element.

2,978,628
CONSTANT D.-C. VOLTAGE OUTPUT CIRCUIT
Edward John Diebold, Ardmore, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 27, 1955, Ser. No. 524,778
2 Claims. (Cl. 321—16)



2. A circuit to supply a constant D.-C. output voltage from a variable A.-C. input; said circuit comprising a saturable type reactor and a rectifier; said saturable type reactor having a primary and a secondary winding and a core of rectangular hysteresis loop material; said secondary winding directly connected to the A.-C. side of said rectifier and said primary winding connected in series with said variable A.-C. source and filtering means being connected to the D.-C. terminals of said rectifier, said filter means comprising a high pass filter and a low pass filter, said low pass filter being connectable to a D.-C. load, said high pass filter being connectable to a dummy load and transformer means being connected to induce a compensating voltage from the circuit including said primary winding to the circuit including said secondary winding, said compensating voltage being opposed to the voltage induced in said secondary winding due to the air core reactance of said saturable type reactor.

2,978,629
RESIDUAL VOLTAGE REACTOR CIRCUITS
Melvin P. Siedband, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 21, 1957, Ser. No. 641,773
1 Claim. (Cl. 321—69)



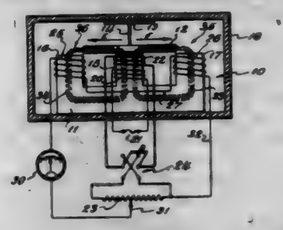
A frequency converter having input terminal means adapted to be connected to a source of alternating current and having output terminal means, a capacitor having a first plate connected to said output terminal means and having a second plate connected to ground, a saturable core reactor having a first terminal connected to said first capacitor plate and a second terminal connected to ground, a saturable reactor means having load windings and bias windings, said load windings having first terminals connected to said frequency converter output terminal means, said load windings having second terminals coupled to a load means, said capacitor being charged by said frequency converter and partially discharged by said saturable reactor means, said saturable core reactor saturating in time sequence after said saturable reactor means saturates to thereby completely discharge said capacitor.

2,978,630
TRANSISTOR CURRENT REGULATOR
Roger Boy de la Tour, Los Angeles, Calif., assignor to Lear, Incorporated
Filed Dec. 28, 1956, Ser. No. 631,086
2 Claims. (Cl. 323—4)



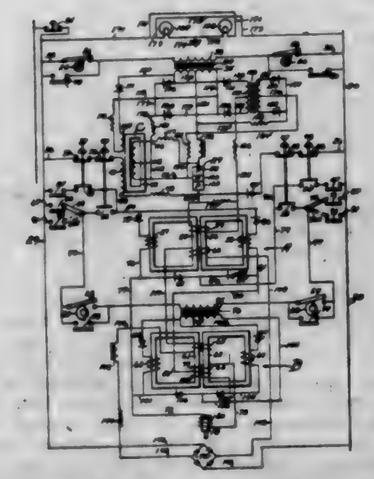
1. A current regulator device comprising a source of D.-C. voltage having output terminals, said source having a rated voltage output, a transistor having emitter, base and collector electrodes, a resistor connected between one of said output terminals and said emitter electrode, a load impedance connected between the other of said output terminals and said collector electrode, means operable at the rated voltage to establish a voltage drop across said resistor and a potential difference between said base electrode and said emitter electrode to establish a predetermined current through said load impedance, said last-named means including a second transistor having an emitter-collector path connected between said one output terminal and said base electrode, a resistor connected between said base electrode and a point of potential different from the potential at said one output terminal, a diode, said second transistor having a base electrode, and said diode being connected between the base electrode of said second transistor and said emitter electrode of said first transistor.

2,978,631
TRANSFORMER PICK-OFF
Ernest C. Wittke, Westbury, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Aug. 1, 1957, Ser. No. 675,650
3 Claims. (Cl. 323—45)



1. In combination, a transformer type pick-off having armature and stator elements cooperatively disposed with respect to each other, said stator element having a center leg and at least two outer legs, a primary coil wound on said center leg for providing excitation, a secondary coil wound on each of said outer legs, said secondary coils being differentially wound with respect to each other, a compensating coil wound on the center leg and responsive to the excitation provided by said primary coil, and a variable voltage divider connected to the ends of said compensating coil, one end of a first secondary coil being connected to a center tap on said compensating coil and the other end of said first secondary coil being connected to one end of a second secondary coil and the remaining end of said secondary coil being connected to the slider of said variable voltage divider whereby error signals due to system unbalance may be nulled.

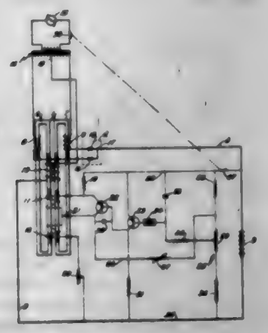
2,978,632
CONTROL SYSTEM WITH ONE TRANSISTOR
Steve A. Zarieng, Akron, and Benjamin H. Carlisle, Cleveland, Ohio, assignors to The Clark Controller Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 2, 1958, Ser. No. 758,479
15 Claims. (Cl. 323—89)



1. In a control system, an A.C. current source; a work circuit containing an electric work device; a magnetic amplifier having an A.C. input circuit from the source, and having an output circuit connected to the device to energize it; and having a D.C. control winding; operator's switch means, having normally closed and normally open contacts; a normally non-conducting transistor; an electric transistor system energized by rectified current from the source and responsive, upon opening the normally closed contacts by operation of the operator's switch means to energize the transistor and render it conducting, and responsive to subsequent closing of the said contacts upon restoring of the operator's switch means, to reversely energize the transistor and render it non-conducting; a control winding circuit including the control winding and the transistor, energized by rectified current from the source, through the transistor, when it is conducting; the normally open contacts of the operator's switch means when closed by the operator connecting the amplifier input circuit to the source whereby when the operator's switch means is operated, the transistor is rendered conducting and the amplifier supplies controlled output to the device, and when the operator's switch means is restored the transistor is rendered non-conducting and the said output from the amplifier to the device is interrupted.

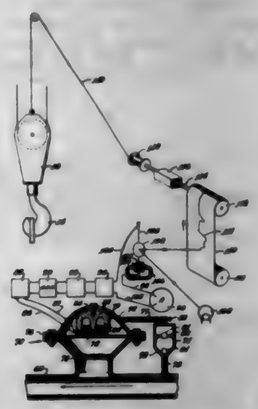
2,978,633
ELECTRICAL CONTROL SYSTEMS
Lewis A. Medlar, Oreland, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 12, 1959, Ser. No. 820,032
3 Claims. (Cl. 323—89)

1. In combination in an electrical control system comprising an electromagnetic control device including a control winding in which sudden voltage changes occur during operation of the control device, a circuit connected to said control winding to energize the same, said circuit comprising a transistor having an emitter, a base and a collector, said control winding being connected in said circuit in series with the emitter and collector of said transistor and said transistor thus being so connected as to block currents tending to flow because of sudden voltage changes occurring in said control winding, direct current circuit means connected to the base of said transistor, said circuit being adapted for connection to a direct current source and said circuit means being operative to control the potential of the base of said transistor and so control operation of the transistor, and a capacitor connected between the collector and base of said



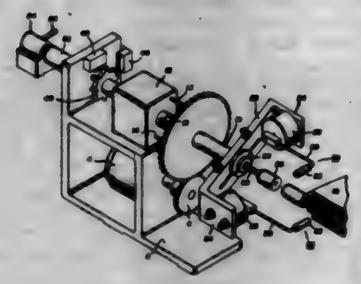
transistor and effective to allow a relatively small current to flow from the emitter to the base of said transistor in response to occurrence of a sudden voltage change in said control winding, such current flow being effective to render the emitter-to-collector circuit of said transistor conductive to current resulting from said sudden voltage change.

2,978,634
APPARATUS FOR LOGGING WELLS
Jan J. Arps, 414 Peavy Road, Dallas, Tex.
Original application Aug. 31, 1956, Ser. No. 182,694, now Patent No. 2,787,759, dated Apr. 2, 1957. Divided and this application Jan. 17, 1957, Ser. No. 634,775
6 Claims. (Cl. 324—1)



1. In apparatus for logging boreholes while drilling with a tubular drill string through which drilling fluid may be circulated and in which signaling pulsations may occur, means for detecting said pulsations in said fluid comprising: housing means forming first and second chambers and a pressure-sensitive diaphragm sealing said chambers from one another; means for establishing fluid pressure communication between said first chamber and drilling fluid in said drill string whereby fluid pressure may be transmitted to one surface of said diaphragm; means for maintaining fluid under pressure in said second chamber for exerting opposing pressure on the opposite surface of said diaphragm; and means for maintaining the average fluid pressures in said first and second chambers substantially equalized but permitting the occurrence of transient pressure differences therebetween corresponding substantially to said pressure pulsations.

2,978,635
ELECTRON TUBE TAPPING APPARATUS
William S. Oakes, Pattersonville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 24, 1958, Ser. No. 782,733
7 Claims. (Cl. 324—26)

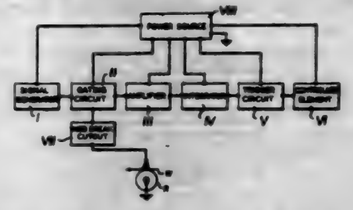


5. Electron tube impact and vibration testing apparatus comprising a shaft adapted to be disposed with one end adjacent to a test position into which a tube may be moved, means mounting said shaft for rotation about an axis substantially coaxial with a tube in said test position, a plurality of solenoids carried by said shaft and disposed about the axis of a tube in said test position, each solenoid including a movable armature having a hammer, said hammers being engageable with spaced points on a tube in said test position responsive to solenoid control signals, a reversible and stallable drive motor for rotating said shaft, a rotation limit member rotatable with said shaft, stationary limit stops associated with said limit member and engageable thereby to limit rotation of said shaft to predetermined fractions of a revolution in opposite directions away from an initial position, stationary solenoid control signal generating switches, and a cam rotatable with the rotor for operating said switches.

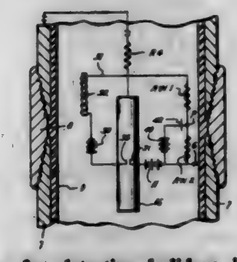
2,978,636
FLAW DETECTING APPARATUS
Henry Fountain, Madison, Conn., assignor to Viking Instruments, Inc., East Haddam, Conn., a corporation of Connecticut
Filed Apr. 30, 1957, Ser. No. 656,130
16 Claims. (Cl. 324—54)

1. A flaw detecting apparatus comprising: a signal source; a gating circuit normally biased to prevent the passage of current therethrough electrically coupled to said source controlling the passage of a constant level signal from said source in response to the presence or absence of flaws in a material to be tested; an integrator electrically connected to said gating circuit summing the signal passed by said gating circuit; and means electrically connected to said integrator actuated by the output of said integrator.

10. In a web flaw detecting apparatus for detecting flaws in a web passing over an electrically conducting roll, said apparatus including an electrical circuit actuated by the presence of a flaw in the web; a feeler brush assembly for detecting the web flaw, said assembly comprising: a rod supported over the roll; a yoke pivotally supported on said rod; a brush plate movably supported by said yoke; a feeler brush on said brush plate; a screw extending between said brush plate; and a crank arm on said screw for turning same to adjust the relative positions of said plate, whereby the brushes may be moved over the full width of the web to be tested.



2,978,637
APPARATUS FOR DETECTING DISCONTINUITIES IN INSULATION COATINGS
Berry G. Price and Fenton M. Wood, Houston, Tex., assignors to Tubescope Company, Harris County, Tex., a corporation of Delaware
Filed Nov. 14, 1957, Ser. No. 696,560
8 Claims. (Cl. 324—54)

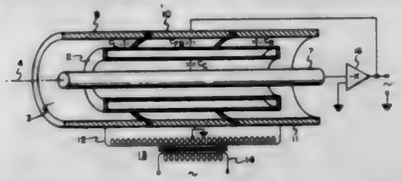


1. A device for detecting holidays in an insulation liner in a string of pipe lengths connected by couplings within a well in the presence of well fluid comprising a non-conductive housing; a holiday detector circuit including an electrically conductive tension member supporting said housing, an electrical contact member on said housing adapted to engage said liner, an electrical connection between said pipe and said tension member at the surface of said well, and a source of voltage connected to said contact member and said tension member; a coupling detecting circuit including an induction coil responsive to movement thereof past a coupling between said pipe lengths for changing the amount of current flow; a first recording means responsive to flow of current to said holiday detector circuit to record the movement of said contact member over a holiday in said liner; and second recording means responsive to change of current intensity in said coupling detecting circuit.

2,978,638
COERCION-FREE CAPACITANCE BRIDGE PICK-OFF
Willis G. Wing and John R. Mott, Glen Head, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Jan. 26, 1959, Ser. No. 788,917
4 Claims. (Cl. 324—70)

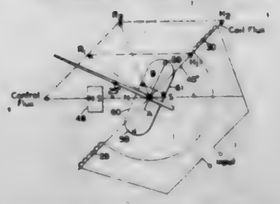
1. A capacitance pick-off device comprising first, second, third and fourth conductive plates, electrical insulating means for separating and supporting said first, second and third plates, means for positioning said fourth plate relative to said first, second and third plates and providing for the motion of said fourth plate along a line parallel to said first, second and third plates, said

fourth plate being separated from said first, second and third plates by a fluid dielectric material, means for energizing said first and third plates with a push-pull alternating electrical signal, alternating signal phase-inverting



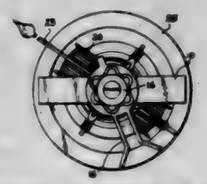
means, means for coupling said fourth plate to the input of said phase-inverting means and means for coupling the output of said phase-inverting means to said second plate.

2,978,639
MOVING MAGNET INSTRUMENT
Alfred C. Lawson, Peabody, Mass., assignor to General Electric Company, a corporation of New York
Filed Dec. 15, 1958, Ser. No. 780,513
5 Claims. (Cl. 324—146)



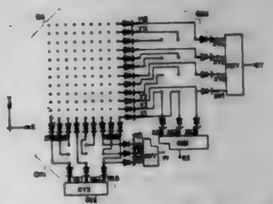
1. In a zero-left or zero-right electrical measuring instrument of the moving magnet type, a movable rotor comprising a permanent magnet polarized in a direction transverse to the axis of rotation thereof, a control magnet and at least one current coil positioned such that the magnetic fluxes produced thereby will link said rotor, said control magnet being positioned to the side of said permanent magnet rotor such that a plane through said rotor transverse to the axis of rotation thereof will pass through the control magnet, said fluxes being spaced about said axis of rotation approximately 135° from each other, said rotor having a cross section in a plane perpendicular to said axis with diametrically opposed peripheral portions of substantially constant radius and flatted peripheral portions spaced substantially less from said axis of rotation than said opposed portions, said flatted portions connecting the adjacent ends of said opposed portions, and said rotor being polarized approximately 25° from the perpendicular bisector of said connecting portions.

2,978,640
D'ARSONVAL-MOVEMENT ASSEMBLY
Alvin H. Arbeiter, Berkeley, and Edward J. Mateja, Berwyn, Ill., assignors to American Gage & Machine Company, Chicago, Ill., a corporation of Illinois
Filed July 30, 1958, Ser. No. 752,015
4 Claims. (Cl. 324—151)



1. In a D'Arsonval movement, a magnetic-field assembly comprising a frame having a pair of spaced legs, each of said legs being provided on its side facing said other leg with a notch extending wholly thereacross, an inner core member comprising a main portion formed at least principally of magnetically permeable material and having a pair of oppositely disposed projections shaped and dimensioned to be received within said notches, the spacing between said notches and the extent of said projections being proportioned to permit said projections to enter said notches by rotational movement of said inner core member, and an outer yoke member made at least principally of magnetically permeable material and dimensioned to slide over and surround said legs, the inner surface of said yoke member containing at least one slot adapted to receive and partially overlie one of said leg members, said yoke member being provided with manually adjustable means tightenable against one of said legs for compressing the same and locking said projections within said notches to hold said inner core member fixed in position when said projections have been received within said notches, the depth of said slot being sufficient to cause the side walls thereof to overlie at least partially the ends of the notch in the leg received within said slot when said yoke is moved over said legs to the position directly surrounding said inner core member, thereby limiting rotational movement of said inner core member, one of said yoke and core members being permanently magnetized.

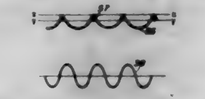
2,978,641
CIRCUIT AMBIGUITY TESTING APPARATUS
Dieter Voegtlen, Munich, Germany, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a German corporation
Filed Oct. 15, 1957, Ser. No. 690,373
Claims priority, application Germany Oct. 31, 1956
10 Claims. (Cl. 324—158)



1. Ambiguity testing apparatus for signalling the simultaneous presence of a predetermined switching potential at a plurality of functionally interrelated potential sources, such simultaneous presence of said predetermined potential denoting an ambiguity condition, comprising means for arranging said potential sources in the manner of a coordinate system extending in a desired number of coordinate directions, a plurality of testing devices operatively responsive to the presence of ambiguity condition, means forming a plurality of test inputs for said testing devices, the number of test inputs of all testing devices being lower than the number of potential sources arranged in said coordinate system, switching means, including decoupling switching means operatively associated with the respective test inputs for connecting thereto those of the potential sources which are arranged in a coordinate of said system, and ambiguity signalling means controlled by the respective testing devices.

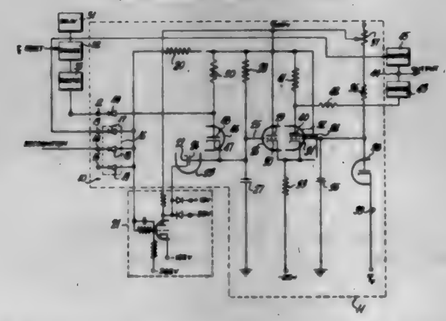
2,978,642
SINE WAVE ZERO COMPARATOR
Milton D. Papineau, 2363 Cecilia Terrace, San Diego 16, Calif.
Filed June 30, 1955, Ser. No. 519,290
1 Claim. (Cl. 328—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A circuit for producing trigger pulses at the points of zero cross over of a periodic signal voltage comprising a full wave rectifier including a transformer having a center tapped secondary and a pair of diodes having the cathodes thereof connected together and the plates thereof respectively connected to opposite ends of said secondary, a resistor interconnecting said cathodes and the center tap of the secondary, an amplifier tube having the cathode thereof grounded and connected directly to said cathodes of the diodes and having the control grid thereof connected directly to said center tap, said amplifier tube of the sharp cutoff type whereby the tube is cut off except during short intervals at said cross over points and



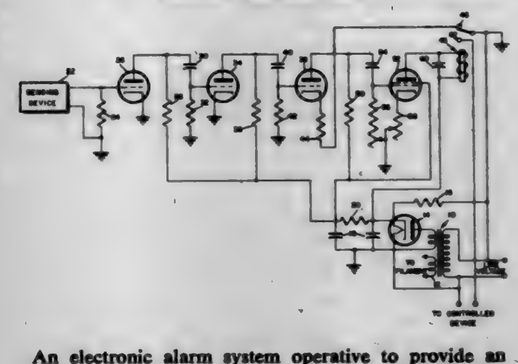
only portions of the rectified signal within a few volts of zero are amplified to provide trigger pulses and a capacitor electrically interconnected between the primary and secondary windings of said transformer to respective terminals thereof of like polarity for reducing the repetition rate of said trigger pulses to one per cycle of the periodic voltage and provide a short time constant path across the source potential for charging said capacitor, and a long time constant discharge path for said capacitor comprising the primary winding, half the secondary winding and a resistor in series, to ground.

2,978,643
TIME INTERVAL MARKING APPARATUS
David H. Shepard, 7838 Jay Miller Drive, Lake Barcroft, Falls Church, Va.
Filed Nov. 19, 1956, Ser. No. 622,981
13 Claims. (Cl. 328—63)



9. Apparatus for use with an automatic character sensing device and the like for producing pulses during a plurality of cycles of a recurring cycle of said device to mark the time of occurrence of a selected event during a selected cycle, comprising marking pulse generating means for producing a marking pulse during each of the recurring cycles at a time determined by the biasing voltage condition thereof, means for applying a sawtooth time variant voltage to said generating means during each of said recurring cycles, biasing means for said generating means for establishing a normal biasing voltage state causing said generating means to conduct only during a short duration at the peak portion of said sawtooth voltage immediately preceding the end of each of said cycles to produce a marking pulse during the period said generating means is conducting, a capacitor circuit having a variable electrical charge condition for varying the bias established by said biasing means in pre-selected relation, input means responsive to signals denoting detection of selected character portion by said character sensing apparatus for varying said electrical charge condition of said capacitor circuit in selected relation to the time of occurrence of said detected character portions during a selected cycle of said recurring cycles, said capacitor circuit varying said biasing means in accordance with the electrical charge condition thereof in a direction to progressively enlarge the conduction period of said generating means upon application of said sawtooth voltage thereto to advance the time of initiation of said marking pulse into coincidence with the time of occurrence of said detected character portion during said selected cycle, means causing said adjusted biasing condition of said biasing means to persist for a plurality of cycles following said selected cycle, and means responsive to signals denoting completion of scanning of a document by said character sensing device to reset said biasing means to said normal biasing condition for a plurality of cycles.

2,978,644
ELECTRONIC CONTROL SYSTEM HAVING PREDETERMINED OUTPUT INDEPENDENT OF INPUT SIGNAL
Armin Kupfer, 3190 20th St., Wyandotte, Mich.
Filed Jan. 15, 1959, Ser. No. 787,085
1 Claim. (Cl. 328—86)

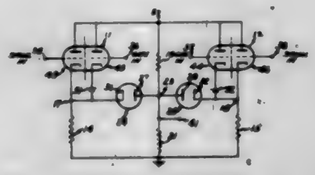


An electronic alarm system operative to provide an output signal for a fixed period of time upon the receipt of an input signal above a threshold level from a transducer, comprising: a first vacuum tube amplifier; a second vacuum tube amplifier; a capacitor connecting the plate of said first vacuum tube amplifier to the grid of said second vacuum tube amplifier; a variable resistance connecting the grid of said second vacuum tube amplifier to ground; a relay in the plate circuit of said second vacuum tube amplifier, said relay having a pair of normally closed contacts, one of which connects to the cathode of said first vacuum tube amplifier and the other which connects to ground potential of the system, whereby upon receipt of a signal of a threshold level at the grid of said second vacuum tube amplifier said plate relay is energized opening the normally closed contacts, ungrounding the cathode of said first vacuum tube amplifier, and placing a potential upon said capacitor which is sufficient to maintain said relay in a closed position independent of the further signal level received by the system until such time as a particular proportion of the charge upon said capacitor is dissipated to ground through said variable resistance such time depending upon the setting of said resistance.

2,978,645
ELECTRONIC SWITCHING CIRCUIT
Charles B. Tedford, Syracuse, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 10, 1953, Ser. No. 367,146
2 Claims. (Cl. 328—101)

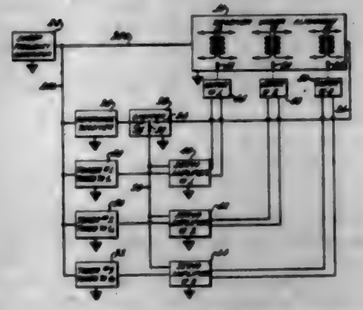
1. An electronic switching circuit for use with a pair of negative signal sources and a pair of positive gate

voltage sources comprising substantially identical first and second vacuum tube means each including at least a plate, a grid, and a cathode; substantially identical first and second resistors connected in common at one of their ends and at their other ends to the cathodes of said first and second vacuum tube means respectively; a voltage divider including series-connected third and fourth resistors, the resistance of said third resistor being very much greater than the resistance of said fourth resistor, the free end of said fourth resistor being connected in common with the commonly connected ends of said first and second resistors; an output terminal for said circuit connected to the junction of said third and fourth resistors; first and second diodes, the anode of said diodes being connected in common with the junction of said third and fourth resistors, the cathode of said first diode being connected to the cathode of said first vacuum tube means and the cathode of said second diode being connected to the cathode of said second vacuum tube means; a third vacuum tube means having a plate, a grid, and a cathode; bias means connected at one end to the cathode of said third vacuum tube means and at its other end to the cathodes of said first vacuum tube means for normally blocking plate current through said third vacuum tube means, said third vacuum tube means being rendered conductive when there is a positive gate voltage input to the grid circuit thereof from one of the gate sources for raising the potential of the cathode of said first vacuum tube means above the potential of said



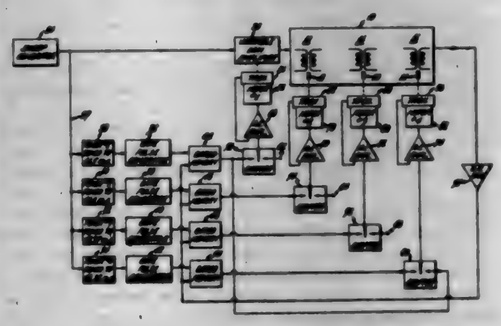
output terminal; a fourth vacuum tube means having a plate, a grid, and a cathode; cut-off bias means connected at one end to the cathode of said fourth vacuum tube means and at its other end to the cathode of said second vacuum tube means for normally blocking plate current through said fourth vacuum tube means, said fourth vacuum tube means being rendered conductive when there is a positive gate voltage input to the grid circuit thereof from the other of the gate sources for raising the potential of the cathode of said second vacuum tube means above the potential of said output terminal; the plates of said first, sbcond, third, and fourth vacuum tube means, and the free end of said third resistor being connected in common; whereby when a direct current power supply is connected across said voltage divider and with no signal input to said first and second vacuum tube means there is no signal output at said output terminal, and with a negative signal input to either of said first and second vacuum tube means, a corresponding output signal appears at said output terminal, and when there are negative signal inputs to said first and second vacuum tube means simultaneously an output signal corresponding only to the stronger of the signal inputs appears at said output terminal, and a negative signal input to either of said first and second vacuum tube means being prevented from producing a corresponding output signal at said output terminal if there is a positive gate voltage input to the corresponding one of said third and fourth vacuum tube means coincident with the input signal.

2,978,646
AUTOMATIC ALIGNMENT SYSTEM
Charles C. Sheppard, Hopewell, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 21, 1957, Ser. No. 679,421
4 Claims. (Cl. 330—2)



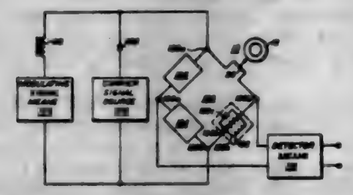
1. An automatic alignment system for aligning a tuned amplifier having a plurality of tunable circuits to a predetermined response characteristic over a desired frequency passband comprising, a sweep frequency generator operable to produce a signal cyclically varying in frequency over at least a portion of said passband, a reference amplifier pre-aligned to a predetermined frequency response, means applying the signal output from said sweep frequency generator to said tuned amplifier and said reference amplifier, a chopping circuit connected to said tuned amplifier and said reference amplifier for comparing the response of said amplifiers to signals from said sweep frequency generator and operable to produce an error signal representative of the mistuning of said tuned amplifier, a plurality of normally inoperative servo-circuits including a motor each connected to adjust the tuning of one of said tunable circuits in response to the error signal from said chopping circuit, and means for activating said servo circuits each at a different signal frequency, said different signal frequencies being provided by said sweep frequency generator.

2,978,647
AUTOMATIC ALIGNMENT SYSTEM
Jules Lehmann, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,789
9 Claims. (Cl. 330—2)



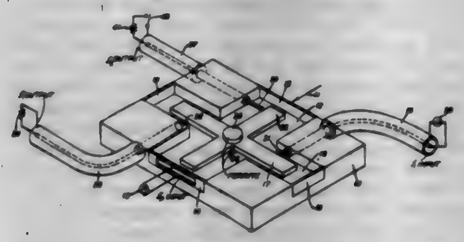
1. An automatic alignment system for aligning a tunable receiver circuit to a predetermined frequency response characteristic comprising means for providing a sweep frequency signal of different predetermined frequencies, tuning means for varying the tuning of said circuit, means providing reference potentials representative of the desired response of said tunable receiver circuit at said different predetermined frequencies, memory circuit means for storing signals respectively representative of the output of said receiver circuit at said different predetermined frequencies, means comparing the respective signals stored in said memory circuit means with said reference potentials to derive corresponding error signals, means including a variable gain amplifier responsive to at least one of said error signals for adjusting the composite gain of said system, and automatic means for simultaneously adjusting the response of said circuit at said different frequencies by tuning said tunable circuit in response to another of said error signals.

2,978,648
HIGH FREQUENCY TRANSDUCERS
Wilbur T. Harris, Southbury, Conn., assignor to The Harris Transducer Corporation, Woodbury, Conn., a corporation of Connecticut
Filed Nov. 21, 1957, Ser. No. 697,817
15 Claims. (Cl. 330—10)



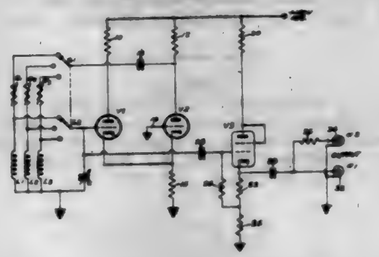
1. An impedance element comprising a plurality of thin, flat magnetostrictive rings coaxially stacked upon one another, the dimensions of said rings being circumferentially uniform, a rigid casing having a correspondingly ring-shaped inner space within which said stack of rings is received with clearance therearound, means disposed within said clearance between and operatively connected to said rings and said casing to permit vibration of said rings relative to said casing, and an electrical winding on said casing and toroidally developed about said rings.

2,978,649
SOLID STATE MICROWAVE DEVICE
Max T. Weiss, Elizabeth, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 20, 1957, Ser. No. 660,280
16 Claims. (Cl. 330—56)



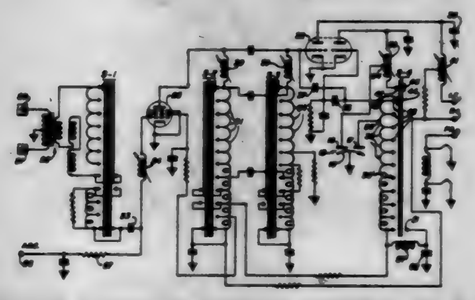
8. A power transfer device comprising a plurality of electromagnetic wave energy supporting transmission paths including one path supportive of wave energy having longitudinally and transversely extending magnetic field components, a second path supportive of wave energy having transversely extending magnetic field components only, said one path and said second path sharing a common region with the longitudinal axis of said one path intersecting the longitudinal axis of said second path within said region, said structures when so disposed having insufficient coincidence of field components to couple wave energy therebetween, exclusive means for coupling wave energy therebetween comprising an element of gyromagnetic material disposed within said common region, and means for establishing a steady magnetic biasing field within said element.

2,978,650
STABLE OSCILLATORS
James C. Davis, Jr., Carlisle, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed May 7, 1958, Ser. No. 733,643
4 Claims. (Cl. 331—144)



1. A periodic waveform generator including a pair of electron discharge devices each having a grid, a cathode and an anode, a source of anode potential having one terminal connected to said anodes and a second terminal connected to ground, a common cathode bias resistor to limit grid current flow and to further provide a first feedback path having one terminal connected to said cathodes and a second terminal connected to ground, a capacitor and a resistor connected in series interconnecting the anode of one electron discharge device and the grid of the other discharge device to provide a second feedback path, means connecting the grid of said one electron discharge device directly to ground, and a resonant frequency determining circuit connecting the grid of said other electron discharge device to ground.

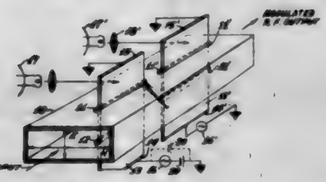
2,978,651
VERNIER TUNING CIRCUIT FOR HIGH FREQUENCY TUNER
David G. Canada, Bedford, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Dec. 30, 1957, Ser. No. 705,856
5 Claims. (Cl. 331—170)



1. In a tuner, an ultra-audion oscillator including a discharge device having an anode, a cathode and a control electrode, means for connecting said cathode to a point of fixed potential, resonant circuit means including an inductance connected between said anode and said control electrode, main tuning means for adjusting the

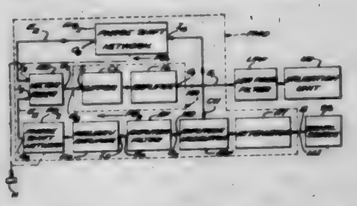
value of said inductance to tune said oscillator throughout a relatively wide range, and vernier tuning means independent of said main tuning means and connected in circuit relationship with said inductance for tuning said oscillator throughout a relatively narrow range, said vernier tuning means comprising a first variable capacitance connected between said point of fixed potential and a tap on said inductance having a potential approximating that of said fixed potential when said oscillator is tuned near the high end of its tuning range, and said vernier tuning means comprising a second variable capacitance connected between said point of fixed potential and a tap on said inductance having a potential approximately that of said fixed potential when said oscillator is tuned to an intermediate frequency in its tuning range.

2,978,652
MICROWAVE MODULATOR
John J. Thomas, Levittown, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 30, 1958, Ser. No. 764,380
14 Claims. (Cl. 332—3)



1. A microwave modulator comprising in combination, a waveguide adapted to carry radio frequency energy, a wafer constructed of a single conductivity-type semiconductor material having minority carriers inserted across said waveguide in a plane providing interaction between said wafer and the electric field in said waveguide, said wafer having at least one end extending outside of said waveguide through an opening in the surface area of said waveguide, means for insulating said wafer and said waveguide from one another at said opening, a radiation source positioned to illuminate an area of said wafer on an end thereof external to said waveguide, and means to apply a modulating input signal to said wafer.

2,978,653
FREQUENCY MODULATED DUAL FEEDBACK PHASE SHIFT OSCILLATOR
Keith L. Wisser, Pasadena, Calif., assignor, by mesne assignments, to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey
Filed Oct. 8, 1958, Ser. No. 766,131
11 Claims. (Cl. 332—22)



1. In a frequency modulated oscillator of the type which employs two out-of-phase feedback circuits, each of which is connected between the output and the input of an amplifier and in which the oscillator output frequency varies as a function of the amplitude of a control force, and in which the output oscillator frequency varies over a predetermined range of frequency values corresponding to a predetermined range of amplitudes of said control force, the combination of:

a main amplifier having an input and an output;

a first feedback circuit including a first phase-shift network for feeding an output signal from the main amplifier output to the input of said main amplifier with a phase relative to the signal at the input of said main amplifier that varies in accordance with the frequency of said output signal;

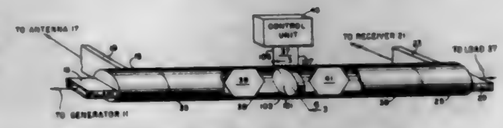
an amplitude modulator controlled by the amplifier output signal and by said control force for generating an amplitude modulated signal that has an amplitude that is modulated in accordance with the magnitude of said control force; and

means including a second phase-shift circuit, and an auxiliary amplifier, and an amplitude discriminating network connected with said amplitude modulator to form a second feedback circuit connecting the output of said main amplifier to the input thereof, said second feedback network applying said amplitude modulated signal to said input with a phase that varies in accordance with the frequency of said output signal;

the phase-shift characteristics of said two feedback means being such that the two signals applied to said input are out of phase with each other by a large electrical angle;

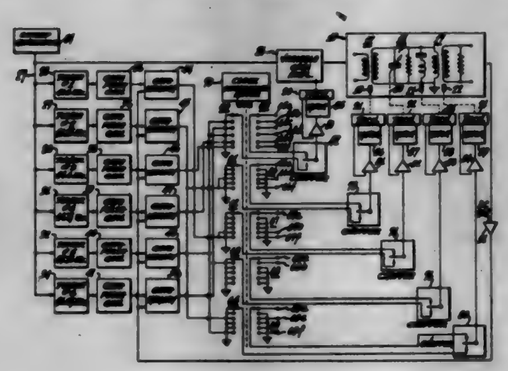
said amplitude discriminating network having a transmission coefficient that varies with frequency over said frequency range and having a phase-shift characteristic in which the phase shift is small over said frequency range, whereby the frequency generated by said oscillator is very nearly a linear function of said control force.

2,978,654
REFLECTION CIRCULATOR
Herman N. Chait, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 18, 1955, Ser. No. 502,256
3 Claims. (Cl. 333—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



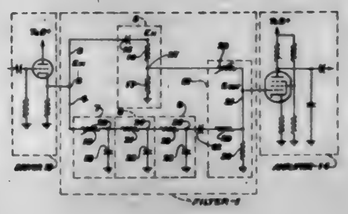
1. A reflection type circulator comprising a wave energy coupling means having a first port capable of supporting circularly polarized wave energy with orthogonal dominant modes, and second and third ports capable of supporting linearly polarized wave energy; said second and third ports being orthogonally disposed with respect to each other and in such relation to said first port as to support the orthogonal dominant modes of said circularly polarized wave energy; wave energy applying means connected to said second port of said coupling means for applying linearly polarized wave energy thereto, antenna means connected to said third port of said coupling means and adapted for the transmission and reception of linearly polarized wave energy; a waveguide section capable of supporting circularly polarized wave energy, a slab of gyromagnetic material disposed within said waveguide section and proportioned to substantially fill the cross-sectional area of said waveguide section, magnetic field producing means disposed relative to said waveguide section and in the vicinity of said slab to produce an axial magnetic field therein which affects the gyromagnetic state of said slab, the magnitude of the axial field produced by said magnetic field means being at least the magnitude necessary to affect the gyromagnetic state of said slab to the extent that said slab will pass substantially all circularly polarized wave energy of one rotational sense of reference direction incident on a selected face of said slab and will reflect substantially all circularly polarized wave energy of the opposite rotational sense incident on said selected face of said slab; wave energy conversion means connecting one end of said waveguide section to said first port of said coupling means such that wave energy passing through said conversion means is incident on said selected face of said slab, said wave energy conversion means disposed in operative relation with respect to said second and third ports and to convert linearly polarized wave energy from said third port of said coupling means into circularly polarized wave energy having said one rotational sense of reference direction and to convert linearly polarized wave energy from said second port of said coupling means into circularly polarized wave energy having said opposite rotational sense and to convert circularly polarized wave energy reflected by said slab into linearly polarized wave energy of a polarization appropriate for said third port of said coupling means, and wave energy utilization means connected to the other end of said waveguide section and disposed in operational relation thereto such that wave energy which passes through said waveguide section is received thereby.

2,978,655
AUTOMATIC ALIGNMENT SYSTEM
George L. Fernsler, Norristown, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,578
2 Claims. (Cl. 333—17)



1. An automatic alignment system for aligning a composite passive network comprising a plurality of tunable circuit elements to a predetermined frequency response characteristic comprising, means for sequentially energizing said network at different signal frequencies in the desired passband of said network, means providing a first reference potential representative of the desired response of said network at a first selected frequency with only a first of said tunable circuit elements properly tuned, means comparing a response of said network at said first selected frequency with said reference potential to derive a first error signal, first automatic control circuit means responsive to said first error signal for adjusting the tuning of said first tunable circuit element, means providing a second reference potential representative of the desired response of said network at a second selected frequency with only a first and second of said tunable circuit elements properly tuned, means comparing the response of said network at said second selected frequency with said second reference potential to derive a second error signal, second automatic control circuit means responsive to said second error signal for adjusting the tuning of said second tunable circuit element, and automatic switching means for sequentially energizing said first and second control circuit means and subsequently simultaneously energizing said first and second control means.

2,978,656
INTERFERENCE FILTER
Dwight D. Wilcox, Jr., Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 26, 1954, Ser. No. 406,380
1 Claim. (Cl. 333—75)



A filter network for highly attenuating electrical energy of a predetermined frequency comprising a pair of input terminals, a high pass filter comprising a condenser and two resistors connected in series across said input terminals and providing an output at the junction of said resistors, a multi-section low pass filter comprising a plurality of low pass filter sections connected in series with one another, each of said sections comprising a resistor and a condenser connected in series with one another and providing an output at the junction thereof, the first of said sections having its resistor connected to the input terminal to which the condenser of said high pass filter is connected and its condenser connected to the other input terminal, each succeeding section being similarly connected to the output of the preceding section and to the other input terminal so that the resistors thereof are arranged in series, means for vectorially combining the outputs of said high and low pass filters and comprising a resistor of relatively high value having one end connected to said other input terminal, a connection from the output of said high pass filter to the other end of said last-mentioned resistor, and means including a condenser connecting said other end of said last-mentioned resistor to the output of said last section of said low pass filter, the value of said resistors and condensers being so proportioned that said high pass filter will produce a phase shift of substantially 30° in energy travelling therethrough at said frequency, and the voltage impressed across said mixing resistor by said low pass filter at said frequency will be substantially equal to and 180° out of phase with that impressed thereacross by said high pass filter, and the phase shifts produced in said low pass filter sections will be substantially equal to one another.

2,978,657
MICROWAVE MODE FILTER
Dietrich Marcuse, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 30, 1959, Ser. No. 810,618
3 Claims. (Cl. 333—98)

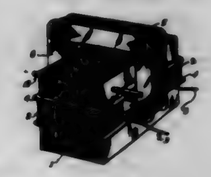
1. In a multimode electromagnetic wave transmission system, means for producing the circular electric mode of said wave energy, means for utilizing said circular

electric wave energy, mode selective means for connecting said utilizing means to said producing means for the preferential transmission of the circular electric mode, said connecting means comprising a circular cylindrical section of waveguide proportioned to support the



TE_{01} circular electric mode and other higher order modes including at least the TE^{12} mode, an elongated member of conductive material wound over a rod of lossy material in a substantially helical form, said helix having a diameter less than one-half the diameter of said guide, and means for coaxially supporting said helix in said guide.

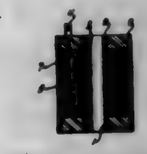
2,978,658
LOW CAPACITANCE POWER SUPPLY
John H. Reaves, McLean, Va., assignor to the United States of America as represented by the Secretary of Commerce
Original application May 9, 1955, Ser. No. 507,186. Divided and this application Nov. 29, 1957, Ser. No. 699,873
6 Claims. (Cl. 336—69)



1. In a low capacitance A.C. operated direct-current power supply a power transformer comprising a magnetic core having a throat portion, a primary winding wound directly on said core for maximum magnetic coupling, a secondary winding, means for capacitively isolating the major portion of said secondary winding from said primary winding and said core comprising an insulated spool on which said secondary is wound, a portion of said spool being threaded through said throat portion, the geometrical relation between said spool and said core being chosen such that, for a given core size, the capacitance between the secondary winding and primary winding, core and ground respectively are kept to a minimum value.

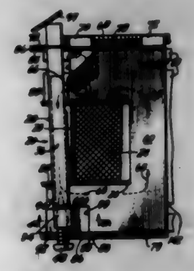
2,978,659
MOISTURE-PROOF WINDING
Wallace W. Wahlgren, Oakland, Calif., assignor to Electro Engineering Works, San Leandro, Calif., a corporation of California
Filed Jan. 24, 1958, Ser. No. 710,949
5 Claims. (Cl. 336—96)

1. An electrical winding comprising a substantially cylindrical coil of insulated wire, a membrane of inherently moisture-proof, flexible material tightly surrounding said coil and forming a taut, tubular covering in close-fitting conformity with the outer convolutions of said coil, said membrane extending axially beyond the ends of said coil and forming a receptacle at each end thereof, and a body of moisture-resistant resin permeating said coil and filling said receptacles, said membrane and resin adhering together and forming a moisture-proof sheath wholly enveloping said coil, the membrane itself having substantially zero moisture-transmission properties independent of the resin, the resin-filled receptacles closing the ends of the tubular membrane, while the close-



fitting membrane efficiently transmits heat out of the coil, the resin permeating the coil filling any voids therein, whereby the small size and weight of open-coil windings and the reliability of encased windings are both achieved.

2,978,660
ADJUSTABLE CONTROLLABLE INDUCTANCE TUNING APPARATUS
Carl G. Southeimer, South Norwalk, Conn., assignor to C.G.S. Laboratories, Inc., Stamford, Conn., a corporation of Connecticut
Filed May 14, 1957, Ser. No. 662,309
28 Claims. (Cl. 336—135)



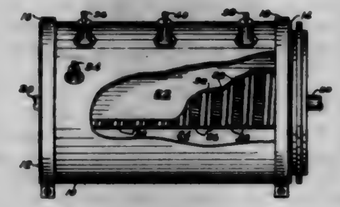
1. An adjustable controllable inductor comprising electromagnetic control means and a signal winding of which the effective inductance is controlled by said electromagnetic control means and wherein the inductance of the signal winding can be mechanically adjusted and the signal winding can be away from the presence of said electromagnetic control means while maintaining the adjustment, said electromagnetic control means including a pair of spaced pole regions, a removable signal core and winding assembly extending between said pole regions, said removable signal core and winding assembly including a tray support, a signal core portion carried by said tray support and having magnetically saturable material therein and a signal winding operatively associated with said saturable material and magnetically coupled to said saturable material, said signal core portion defining a signal flux path for magnetic flux associated with said signal winding, said signal core portion defining an adjustable non-magnetic gap in said signal flux path, manually operable adjustment means carried by said tray support for adjusting said non-magnetic gap, and detachable fastening means removably securing said assembly in position extending between said pole regions, whereby said removable signal core and winding assembly including said signal winding can be moved with respect to said electromagnetic control means and the adjustment of said adjustment means will retain its value while said assembly is being moved with respect thereto.

2,978,661
SEMICONDUCTOR DEVICES
James F. Miller, Columbus, and Richard C. Himes, Westerville, Ohio, assignors to Battelle Memorial Institute, Columbus, Ohio, a corporation of Ohio
Filed Mar. 3, 1959, Ser. No. 796,954
12 Claims. (Cl. 338—22)



1. A semiconductor device comprising a crystalline body and electrical connecting means in contact therewith, said body consisting essentially of a compound selected from the group consisting of selenides and tellurides of yttrium, lanthanum, gadolinium, and erbium.

2,978,662
ELECTRICAL POTENTIOMETER AND METHOD OF MAKING SAME
Donald G. Bell, Covina, Calif., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Nov. 26, 1958, Ser. No. 776,548
11 Claims. (Cl. 338—143)



1. An electrical potentiometer comprising a helical resistance element having a central axis, a rotary shaft lying on said axis, a contact supporting member mounted on said shaft for rotation therewith and for sliding motion relative thereto along the length thereof, an electrical contact mounted on said contact supporting member and slidably engaging a variably selectable portion of a single turn of said helical resistance element, a pair of terminals connected to said resistance element at spaced-apart points thereon, a terminal connected to said electrical contact, a substantially cylindrical casing surrounding said helical resistance element, and a pair of semi-cylindrical insulating sleeves contiguous with the inner surface of said cylindrical casing and disposed in diametrically opposed relationship about said central axis, the concave surfaces of each of said semi-cylindrical sleeves having a plurality of semi-helical grooves therein each supporting a portion of a turn of said helical resistance element, said semi-cylindrical sleeves being substantially identical as to the number, pitch and positioning of said grooves, each of the four edges of the concave surfaces of each of said sleeves being intersected by at least one of the grooves on said surface, said sleeves being relatively displaced along said axis a distance equal to one half of the pitch of the grooves thereon, whereby the ends of the grooves in one of said sleeves are substantially aligned with corresponding ends of respective grooves in the other of said sleeves to provide a substantially helical support path for said helical resistance element.

2,978,663
IMPROVED VARIABLE RESISTOR
Arnold S. Louis, Hastings on Hudson, and Myron A. Coler, Scarsdale, N.Y. (Both % Market Company, 155 Waverly Place, New York 14, N.Y.)
No Drawing. Filed Aug. 12, 1959, Ser. No. 833,129
5 Claims. (Cl. 338—160)

1. In a variable resistor comprising an electrically insulating substrate, a composition consisting principally of tin oxide supported on said substrate as an electrically conductive coating and a metal wiper adapted to move along and rub against said composition, the improvement which comprises diminishing the seizing and galling between said wiper and said coating by providing a material of the group consisting of lead oxide (PbO), boron nitride, molybdenum disulfide and graphite at the interface between said wiper and said coating.

2,978,664
RESISTIVE ELEMENT
Geoffrey King Walters, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 5, 1958, Ser. No. 772,140
10 Claims. (Cl. 338—217)



1. A resistive element comprising a body of insulating material, a thin coating on said body, said coating comprising a material which becomes superconducting below a given temperature, a means to maintain said coating below said given temperature, a first contact at one end of said body making electrical contact with said coating, a second contact at the other end of said body making electrical contact with said coating, said body having a shape such that the diameter of the cross section of said body increases from said one end of said body to said other end of said body.

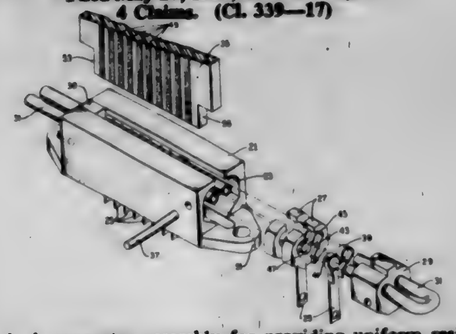
2,978,665
REGULATOR DEVICE FOR ELECTRIC CURRENT
Sergius Vernet and George Asakawa, Yellow Springs, Ohio, assignors, by direct and mesne assignments, to Antioch College, Yellow Springs, Ohio, a corporation of Ohio
Filed July 11, 1956, Ser. No. 597,292
6 Claims. (Cl. 338—223)



1. A current regulator comprising spaced electrodes; and partially conductive material therebetween; said material comprising finely divided carbon particles dispersed in a mixture of polyethylene and polytetrafluoroethylene; said polytetrafluoroethylene preventing flow of the polyethylene from between the electrodes in the transition

temperature range of said polyethylene; whereby, during the passage of an electric current between the electrodes the carbon particles are caused to heat and expand the polyethylene so as to increase the spacing between adjacent ones of the carbon particles in such manner as to control the current flow through the partially conductive material.

2,978,666
FLUID PRESSURE CONNECTOR FOR PRINTED CIRCUIT CARD
John E. McGregor, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 27, 1957, Ser. No. 661,883
4 Claims. (Cl. 339—17)



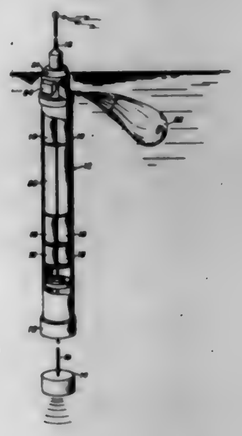
4. A connector assembly for providing uniform resistance between a plurality of contacts and corresponding conductor strips on a printed circuit card, comprising a body of insulating material having an inner recessed portion, a contact assembly mounted within said recessed portion, said contact assembly comprising a plurality of contacts, each of said contacts including a pair of opposed finger members, means for securing said contact assembly within said recessed portion, and an expansible member having a single pressure fluid cavity, said expansible member being adapted to force all of said finger members into contact with their associated conductor strips upon expansion of the expansible member by fluid pressure.

2,978,667
MINIATURE TAPER PIN
William S. Watts, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Dec. 5, 1955, Ser. No. 551,155
2 Claims. (Cl. 339—95)



1. In an electrical connection, a connector in the form of a flat pin substantially rectangular in cross-section, at least the diametric side corners of said pin uniformly converging toward one end thereof, a circumferentially continuous socket circular in cross-section receiving the pin, said side corners being in forceful engagement with the side walls of said socket substantially over the length of said pin and the thickness of said pin being at least one-third the cross-sectional diagonal at the maximum pin width along the pin length within said socket, the metal of said sidewalls being deformed around said side corners to provide surface conformance and engagement therebetween extending a significant distance across both the plane surfaces defining each side corner of the pin, major surface portions on the four sides of the rectangular pin intermediate said side corners being spaced from and free of engagement with the socket sidewalls.

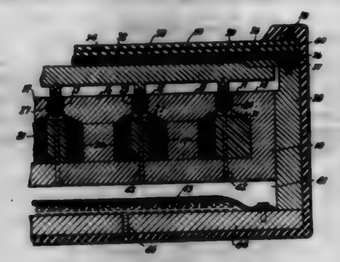
2,978,668
EXPENDABLE ECHO SOUNDER
Franz N. D. Karle, Alexandria, Va., and Louis A. Cartwright, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 8, 1953, Ser. No. 347,633
1 Claim. (Cl. 340—2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



An apparatus for continuous profile sounding of the bottom below a floating buoy free to be airborne to the point of sounding and then dropped to the water surface, said buoy being free to drift with the water currents, an electromechanical transducer, a housing at the lower end of said buoy, means for securely holding said transducer within said housing prior to impact with the water and releasing the transducer upon said impact, said transducer being electrically connected to the buoy by a flexible cable, said flexible cable providing the physical support for said transducer and suspending the same in a horizontal position below the buoy whereby the transducer transmitted pulse will be directed vertically toward the bottom regardless of the bobbing and rolling of the buoy by wind or waves, electronic means housed in said buoy for automatically generating and amplifying electrical pulses of short duration, said transducer being adapted to convert said electrical pulses into supersonic energy and positioned for vertically pinging the bottom below said transducer and receiving the echo pulse therefrom, said electronic means includes means for generating a radio frequency signal and modulating said signal with the transducer transmitted pulse and echo signal and transmitting the intelligence by short wave radio, means remote from said buoy for receiving said radio waves and indicating the depth of the water below said buoy.

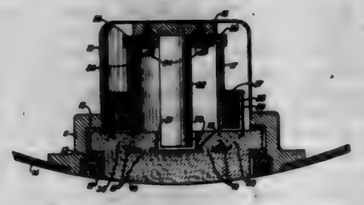
2,978,669
UNDERWATER ELECTRODYNAMIC ACOUSTIC TRANSDUCER WITH AIR-FILLED COMPOSITE DIAPHRAGM
Wilbur T. Harris, Southbury, Conn., assignor to The Harris Transducer Corporation, Southbury, Conn., a corporation of Connecticut
Filed Mar. 8, 1954, Ser. No. 414,693
5 Claims. (Cl. 340—8)

1. In an underwater transducer of the character indicated, a movable driving diaphragm, a plurality of electro-magnetic elements in driving relation with one side of said diaphragm, a substantially uniform-thickness blanket of air-filled material substantially coextensive with said diaphragm on the other side thereof, and acoustically



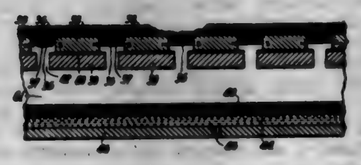
transparent means sealing said blanket against water exposure.

2,978,670
COMPRESSIONAL WAVE TRANSLATING DEVICE
Robert Lee Peek, Jr., Short Hills, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 22, 1943, Ser. No. 476,726
9 Claims. (Cl. 340—11)



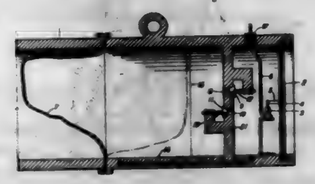
1. A compressional wave translating device comprising a tubular magnetostrictive member, means mounting said member to allow longitudinal vibration thereof, means for polarizing said member longitudinally including a permanent magnet within said member, a signal coil electromagnetically coupled to said member, and means defining with said member a low reluctance magnetic circuit separate from said magnet, said last means comprising a tubular magnetic member of high permeability encompassing said magnetostrictive member and mechanically separate therefrom.

2,978,671
ELECTRODYNAMIC TRANSDUCER
Wilbur T. Harris, Southbury, Conn., assignor to The Harris Transducer Corporation, Southbury, Conn., a corporation of Connecticut
Filed Aug. 11, 1951, Ser. No. 241,470
22 Claims. (Cl. 340—12)



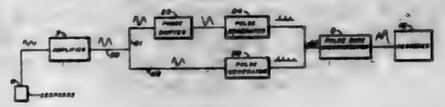
8. In a transducer of the character indicated, magnet means including spaced poles defining a magnetic-flux gap, a strip of conducting material in said gap, and flexible diaphragm means carried by said poles and flexibly supporting said strip in said gap.

2,978,672
HYDROPHONE
Harold L. Barney, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 25, 1951, Ser. No. 222,878
2 Claims. (Cl. 340—14)



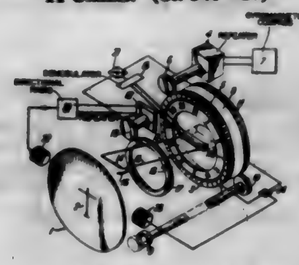
1. A hydrophone which comprises a casing having walls defining a closed chamber, a pressure-sensitive diaphragm mounted in a wall of said casing, a transducer having a body and a movement-sensitive element, said transducer body being fixed within said casing, said sensitive element being linked to said diaphragm and movable thereby, a wall of said casing having a labyrinthine passage therein communicating with the interior of said chamber and having also two ports bypassing said passage, a valve normally closing each of said ports, differential pressure-controlled means for opening one of said ports in response to a positive pressure difference between the exterior of said casing and said chamber in excess of a preassigned amount to reduce said pressure difference, and differential pressure-controlled means for opening the other of said ports in response to a negative pressure difference between the exterior of said casing and said chamber in excess of said preassigned amount to reduce said negative pressure difference.

2,978,673
SEISMIC SURVEYING METHOD AND SYSTEM
Richard H. Graham, Wellesley, Mass., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Feb. 21, 1955, Ser. No. 489,356
5 Claims. (Cl. 340—15)



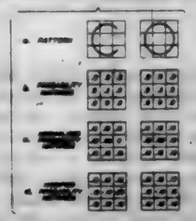
1. A system for presenting geophysical data comprising means for detecting and converting seismic energy into primary electrical signals, two parallel electrical systems connected to said detecting and converting means, one of said systems including a pulse generator adapted to produce pulses at the quiescent points of said primary signals, the other of said systems including a phase shifter adapted to receive said primary electrical signals and shift the phase thereof and a pulse generator adapted to receive said shifted primary electrical signals and produce a pulse at each of the quiescent points of said shifted primary signals, means for producing a voltage from the pulses produced by said two parallel electrical systems, the magnitude and polarity of which is dependent upon the quantity of said pulses per unit of time and means connected to said voltage-producing means for recording said voltage.

2,978,674
NAVIGATIONAL INSTRUMENTS
Alastair M. A. Majendie, Winter Hill, Cookham Dean, England, assignor to Smiths America Corporation, Washington, D.C.
Filed Nov. 27, 1956, Ser. No. 624,643
11 Claims. (Cl. 340—27)



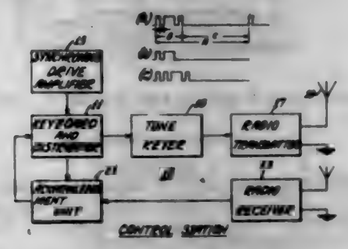
1. A navigational instrument for indicating graphically an aircraft in relation to a guiding radio track which passes through a ground station, the bearing of the ground station with respect to the craft, the heading of the craft with respect to both the radio track and the ground station and the displacement of the aircraft from the guiding radio track comprising a bearing scale disposed in a plane, a first pointer, means to rotate said first pointer and scale relative to each other about an axis normal to said plane in accordance with craft heading, a second pointer extending linearly parallel to said plane and settable relative to said scale about said axis, means to displace said second pointer in a direction substantially at right angles to itself and substantially parallel to said plane in accordance with craft displacement from a radio track, a third pointer extending linearly parallel to said plane, means for generating a signal representing the direction of a ground station from the aircraft and means for applying said signal to rotate said third pointer about said axis relative to the first pointer in accordance with the direction of a ground station from the aircraft and means for mounting said three pointers cooperatively in a single quasi-pictorial display such that the positions of the pointers present the aircraft heading, the track heading, the heading of the aircraft relative to the track, the bearing of the ground station with respect to the craft and, at least semi-quantitatively, the displacement of the aircraft from the track.

2,978,675
CHARACTER RECOGNITION SYSTEM
Wilbur H. Highleyman, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 10, 1959, Ser. No. 858,767
14 Claims. (Cl. 340—149)



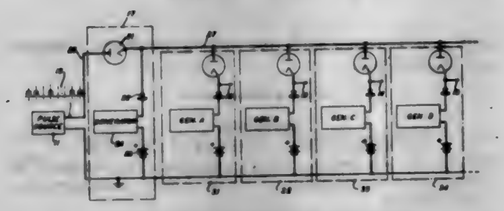
1. Apparatus for classifying line trace patterns comprising a record containing a line trace pattern, scanning means for detecting those portions of said pattern that occupy preselected portions of a matrix of areas that together encompass said pattern, means for storing a plurality of probability matrices, the individual areas of each of said probability matrices being suitably weighted in accordance with the occupancy probability of that area by a pattern from a selected ensemble of patterns, means for systematically comparing said detected pattern portions with corresponding areas of all of said probability matrices, means for developing a signal whose magnitude is proportional to the degree of correlation between said pattern portions and each of said stored matrices.

2,978,676
SELECTIVE SIGNALLING DISPLAY SYSTEM WITH CHECKING AND ACKNOWLEDGMENT
James Albert Spencer, Teaneck, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 24, 1950, Ser. No. 175,611
10 Claims. (Cl. 340—154)



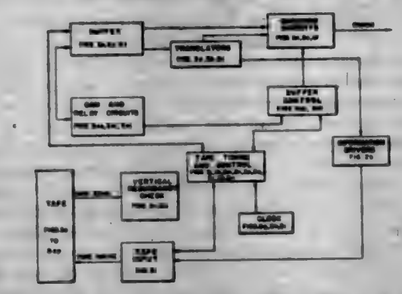
5. An automatic signalling system for communication between a control station and a plurality of remote stations, including a remote station identity selecting circuit comprising a multi-contact selecting switch, a multi-section multi-contact switch bank, a multi-contact stepping switch, a bus system interconnecting contacts of said selecting switch and contacts of said switch bank with contacts of said stepping switch, a transmitting distributor having segments connected to the arms of said stepping switch, a motor driven mechanism arranged to control rotation of said distributor for a predetermined number of revolutions and actuation of said stepping switch, a manually actuated member coupled to said mechanism and arranged to initiate rotation of said distributor, means connected to said bus system to energize the segments of said transmitting distributor in accordance with the settings of said switches, means coupled to said distributor to transmit signals corresponding to the energized segments of said distributor to all of said remote stations, contacts coupled to said distributor to close a circuit upon completion of said transmission, means located at said remote stations to receive said transmitted signals, a receiving distributor, connecting applying elements of said received signals to said receiving distributor, a translating mechanism having rotatable members, said translating mechanism being coupled to said receiving distributor to translate said received signals into rotational displacements of said members corresponding to the intelligence conveyed, a commutator coupled to said translating mechanism to generate trains of square wave pulses corresponding to the intelligence conveyed by said received signals, a station selector mechanism coupled to said translating mechanism to condition said commutator for operation upon translation of predetermined identity signals an indicator device comprising a plurality of drums, each of said drums having a number of indicia thereon, and stepping motors associated with each of said drums to step the same in accordance with the train of square wave pulses applied, contacts closed in response to proper positioning of said drums and further contacts opened in response to proper positioning of said drums, relays coupled to said contacts, and a transmitter coupled to said relays to transmit an acknowledgment signal to said control station, a receiver at said control station to received said transmitted acknowledgment signal, an electronic gating circuit coupled to said receiver and adapted to permit said acknowledgment signal to pass only within a predetermined time period, said gating circuit being activated by closure of said contacts coupled to said distributor, an electronic indicating circuit coupled to said gating circuit, said indicating circuit being conditioned to light a lamp on transmission of the first said signals by said control station, an electronic circuit interposed between said gating circuit and said electronic indicating circuit to extinguish said lamp upon receipt of a predetermined acknowledgment signal only.

2,978,677
MULTIPLE OUTPUT DIODE DISTRIBUTOR AND AMPLIFICATION CIRCUITS
Earl K. Van Tassel, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 2, 1956, Ser. No. 613,526
4 Claims. (Cl. 340—167)



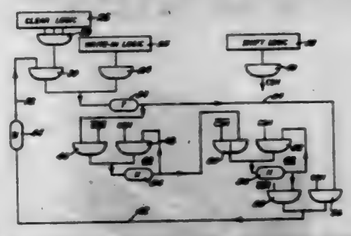
3. In combination, a source of pulse signals having a predetermined periodicity, a fast diode and a slow diode connected in a first series circuit to receive pulses from said source of pulses in the forward direction, the reverse current surge time of said fast diode being negligible with respect to the period between pulses from said source and the reverse current surge time of said slow diode being comparable to said period, a reverse current output circuit connected to said first series circuit between said fast and slow diodes, an additional series connected pair of fast and slow diodes connected to said reverse current output circuit to receive pulses from said first series circuit in the forward direction, biasing means for normally biasing both of said pairs of diodes in the reverse current direction, a pulse output circuit connected between the fast and slow diodes of said additional series connected pair of diodes, and means for successively applying signal voltages to said pairs of diodes in the forward direction during each pulse period.

2,978,678
DATA TRANSMISSION SYSTEM
Wayne D. Winger and Philip W. Jackson, Wappingers Falls, and Victor R. Witt, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 20, 1956, Ser. No. 566,401
20 Claims. (Cl. 340—172.5)



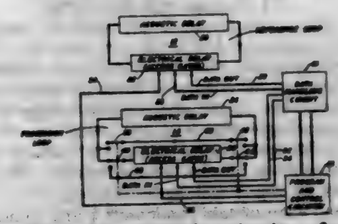
19. In combination, means emitting signals representing data according to a code, a group of transmission lines, each line corresponding to a position of said code, control means connecting said emitting means to said transmission lines whereby signals representing data are transferred from said emitting means to said transmission lines and a biconditional means for each line settable alternately to a first and second condition by each signal emitted on a respective line, said biconditional means effective only when in the first condition upon completion of transfer of said data to operate the individual control means to transfer another signal to provide an even number of signals on each line.

2,978,679
ELECTRICAL INFORMATION PROCESSING APPARATUS
Ernest J. Dieterich, Winchester, Mass., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed Jan. 7, 1957, Ser. No. 632,889
17 Claims. (Cl. 340—172.5)



1. In an information processing system including recirculating register means for processing words of the type having a plurality of information items in each word, the combination comprising a primary recirculation closed loop including gating and delay networks for enabling a word to be recirculated around said closed loop, logic gating means for applying a new word to be processed to said closed loop, logic gating means for clearing an old word from said loop, and shift means for shifting the positions within said word of selected information items with respect to each other and at the same time maintaining the positions of the remaining information items in said word thereby to facilitate the read-out of said selected information items, said shift means comprising a pair of secondary recirculation closed loops in circuit with said primary recirculation closed loop, and gating means connected to said pair of secondary recirculation closed loops for recirculating in the secondary closed loops at selected time intervals predetermined ones of said selected information items to produce a shift in the positions of the latter with respect to each other.

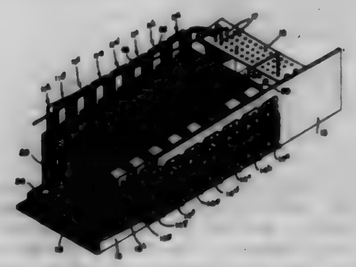
2,978,680
PRECESSION STORAGE DELAY CIRCUIT
Harry J. Schulte, Jr., Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 6, 1957, Ser. No. 701,259
5 Claims. (Cl. 340—172.5)



5. In a digital data processing circuit, a first storage delay circuit, a second storage delay circuit, each said

delay circuit having an input and an output, means for connecting said first and second delay circuits in series to form a first closed storage loop for the circulation of stored binary digital information around said first loop through said series connected circuits, and means for selectively opening said first storage loop and for connecting the output of each of said delay circuits to its own input to form individual second and third closed storage loops each including one of said delay circuits for the circulation of stored binary digital information around said individual second and third storage loops.

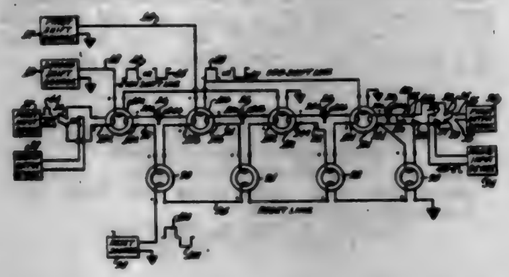
2,978,681
MAGNETIC CORE MEMORY DEVICE
John C. Sims, Jr., Springhouse, and William J. Bartik, Hatboro, Pa., assignors, by mesne assignments, to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 13, 1955, Ser. No. 515,862
19 Claims. (Cl. 340—174)



1. In a device of the character described for mounting a plurality of core elements in association with plural windings thereon grouping said elements in a plurality of winding dimensions, a plurality of core supporting means each disposing a predetermined number of said core elements within a common plane, said supporting means being assembled in stacked relation to each other wherein correspondingly positioned elements of each of said predetermined number thereof are alined in a direction transverse to said common plane, a wire serially interconnecting the core elements of each of said supporting means, each wire containing loops completely embracing adjacently disposed core elements to effect a winding thereon in one winding dimension, and wires each looped to embrace all correspondingly positioned core elements in each of the several core supporting means to effect the winding of the core elements in another winding dimension.

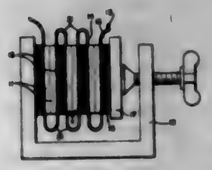
2,978,682
HYSTERETIC DEVICES
Milton W. Green, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 20, 1957, Ser. No. 647,256
14 Claims. (Cl. 340—174)

1. A system comprising a plurality of cores of substantially rectangular hysteresis loop material, input and output windings on each of said cores, a plurality of transfer loops connecting said cores by respectively connecting successive output and input windings of succeeding said cores, said transfer loops receiving only induced voltages from said core windings, a plurality of ferroelectric condensers having two terminals, each of said condensers having a rectangular hysteresis loop characteristic and each of said condensers being connected in a different one of said transfer loops by directly connecting one of said terminals to the input windings of the loop in the other of said terminal to the output windings of the loop, a first shift line linking alternate ones of said



cores, and a second shift line linking the other, alternate ones of said cores.

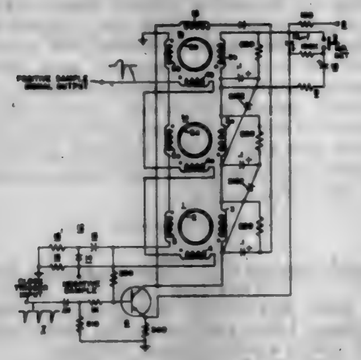
2,978,683
INFORMATION STORAGE DEVICE
Renford G. Alexander, Jr., Norristown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 8, 1958, Ser. No. 759,493
9 Claims. (Cl. 340—174)



1. A data store comprising: a multiplicity of rigid bases bearing each a multiplicity of ferromagnetic elements having bistable magnetic characteristics; a pattern of flexible electrical conductors fixed to and insulated by a sheet of flexible electrical insulating material; means for holding the said rigid bases, in different planes, in physical contact and inductive coupling with portions of the said pattern of flexible electrical conductors; the entire combination being characterized by continuity of the said pattern and associated sheet between and among the said bases.

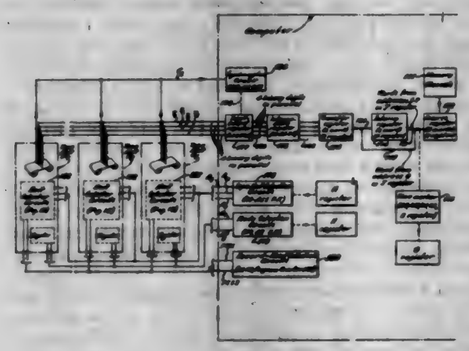
2,978,684
NOISE SUPPRESSOR FOR MAGNETIC CORE LOGIC CIRCUITS
Richard P. Gifford, De Witt, and Ross F. Suit, East Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 22, 1958, Ser. No. 762,440
8 Claims. (Cl. 340—174)

2. A logic circuit comprising a plurality of magnetic storage elements, each of said magnetic storage elements having a magnetic core capable of being driven to two opposite states of saturation, each of said cores having thereon an input winding, an output winding and a third winding, said third windings of said magnetic storage elements being connected in series, said output windings being connected in series, means for causing a pulse output to appear on the series-connected output windings, said pulse output having a noise component and an information component, the flux linking relation of said input windings and said third windings on said core causing a pulse substantially identical to said pulse on the output windings, but of opposite polarity, to appear on said third windings, and means including a time delay providing a coupling circuit between said third windings and said output windings for coupling the noise component only of the pulse on the third windings to the output windings to



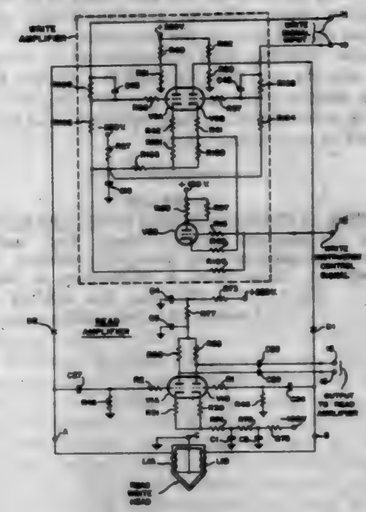
cancel the noise component appearing on the output windings.

2,978,685
TAPE UNIT CONTROL SYSTEM
Donald E. Eckdahl, Palos Verdes Estates, Richard E. Sprague, Rolling Hills, Willis E. Dobbins, Manhattan Beach, Cecil H. Burns, Jr., Norwalk, Walter G. Edwards, Hermosa Beach, and John F. Doman, Reseda, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Feb. 14, 1955, Ser. No. 487,772
19 Claims. (Cl. 340—174.1)



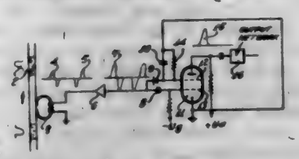
1. A digital computer system comprising: first means, including computer means having a moving memory and means demarking computer word periods each defined by a plurality of computer timing signals produced by the said first means; second means, including tape-unit means having a tape and including means for generating tape-unit timing signals having a period greater than that of any demarked computer word period; and third means, including means connected to said first means and to said second means and comprising first register means and second register means and circuit means, said first register means having capacity for a coded decimal digit of a computer word derived from the memory of the computer, and said second register having an output corresponding to information comprising a coded decimal digit intended to be recorded onto an area of tape of said tape unit defined by a tape-unit timing signal, and said circuit means including a first means responsive to the termination of a tape-unit timing signal to transfer a coded decimal digit from said first register to said second register for output therefrom to said tape-unit.

2,978,686
READ-WRITE AMPLIFIER SYSTEM
Byron L. Havens, Closter, N.J., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 23, 1955, Ser. No. 496,245
6 Claims. (Cl. 340—174.1)



5. In a magnetic recording system, the combination of a write amplifier, a read amplifier, a magnetic read-write head coupled to said read amplifier, means for selectively rendering said write amplifier inoperative, unilaterally conductive means connecting the output of said write amplifier with said read-write head and said read amplifier and oriented so as to conduct current in the same direction as said write amplifier, and means for reverse biasing said unilaterally conductive means so as to be non-conductive when said write amplifier is rendered inoperative thereby selectively isolating said write amplifier from said read amplifier and said read-write head.

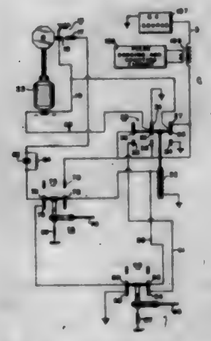
2,978,687
CIRCUIT ARRANGEMENT FOR DETERMINING THE POLARITY OF PULSES
Joachim Schulze, Limbach-Oberfrohna, and Günter Laskowski, Rochlitz, Germany, assignors to VEB Elektronische Rechenmaschinen-Wissenschaftlicher Industriebetrieb-Karl-Marx-Stadt, Karl-Marx-Stadt, Germany
Filed Nov. 10, 1958, Ser. No. 773,059
7 Claims. (Cl. 340—174.1)



1. A circuit for determining the polarity of magnetically recorded pulses comprising a magnetic reading head which differentiates said pulses during reproduction, an electron tube having an anode, a cathode and at least two control grids, an input circuit connecting said magnetic head to said control grids, said input circuit comprising a rectifier connected between said magnetic head and one control grid with the anode of the rectifier connected to said control grid, a storage circuit including a capacitor connected in parallel with a resistor, the storage circuit

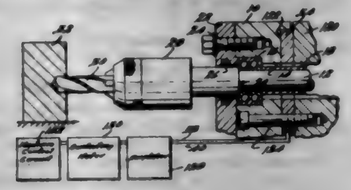
having one terminal connected to a point between said rectifier and said control grid and having its other terminal connected to the cathode, and a capacitor connecting said magnetic head to the other of said control grids, means for applying a negative biasing potential to said other grid, said storage circuit having a time constant sufficiently long to maintain said tube blocked in response to a negative input pulse for a sufficient time to prevent response of said tube to the immediately following positive pulse resulting from differentiation by the magnetic head, whereby said tube responds to a positive pulse only if said positive pulse is not preceded immediately by a negative pulse within an interval determined by the time constant of said storage circuit.

2,978,688
DISPLACEMENT INDICATING APPARATUS
Robert C. Rumble, Harris County, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Oct. 7, 1957, Ser. No. 688,718
7 Claims. (Cl. 340—203)



1. Apparatus for measuring a physical quantity expressed in terms of the rectilinear excursion of a switch actuating means, including: a switch carrier movable in parallel relationship to said switch actuating means; reversible motor means coupled to said switch carrier and adapted to drive said switch carrier between first and second limits of movement thereof; direct current source means having one grounded connection, adapted to be connected to said reversible motor means for energization thereof; relay means having an actuating winding, said relay means, when not actuated, interconnecting said current source and said motor so that said motor will revolve in a direction to drive said switch carrier from said first limit of movement toward said switch actuating means; said relay means, when actuated, interconnecting said current source and said motor so that said motor will drive said switch carrier toward said switch actuating means; first limit switch means on said switch carrier positioned so as to be actuated by said switch actuating means when said switch carrier is in predetermined physical relationship with said switch actuating means, said first limit switch means being adapted on actuation by said switch actuating means to momentarily connect said current source to said actuating winding to actuate said relay; second limit switch means adapted to be actuated by said switch carrier at said first limit of movement thereof, said second limit switch means having first and second normally closed contacts adapted to open on actuation of said second limit switch means; an auxiliary contact on said relay adapted to close on actuation of said relay to couple said current source to said relay winding through said first normally closed contact of said second limit switch means; a normally closed auxiliary contact on said first limit switch means; pulse producing means driven by said motor means for drawing current pulses from said current source, said pulses having a repetition rate variable as a direct function of motor speed, said pulse producing means being adapted to produce pulses by momentarily connecting the terminal of said motor that is of positive potential when said relay is in its normal position to the ground connection of said current source means through said second terminal of said second limit switch means and said auxiliary terminal of said first limit switch means connected in series; and means electrically coupled to said current source for counting said current pulses.

2,978,689
CONTROL MECHANISM FOR MACHINE TOOLS AND THE LIKE
Kurt O. Tech, East Detroit, and Herbert A. Martens, Birmingham, Mich., assignors to The Cross Company, Detroit, Mich., a corporation of Michigan
Filed May 9, 1955, Ser. No. 507,908
21 Claims. (Cl. 340—222)



14. In a machine having a control circuit and a cutting tool adapted to perform a cutting operation on a workpiece, tool carrying and actuating means operative to move the tool with force against a workpiece, a warning means for indicating a first operating condition of said tool, a control device operatively connected to said warning means and rendering the same normally inoperative, normally closed switch means in the control circuit of said machine, means associated with said tool carrying and actuating means responsive to the force exerted by said tool against said work during operation of said tool for producing an output signal the amplitude of which varies as a function of the amplitude of said force, means cooperative with said signal producing means and said warning means effective when the amplitude of said signal reaches a preselected relatively low value for operating said warning means, and means cooperative with said signal producing means and said switch means effective when the amplitude of said signal reaches a different preselected relatively high value for opening said switch means whereby to interrupt the control circuit and terminate the operation of the machine.

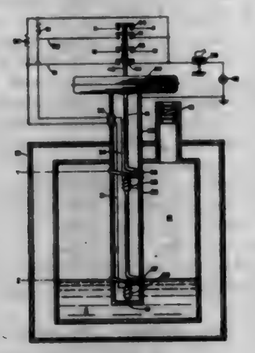
2,978,690
EXPENDABLE LEAD LINE SOUNDER
Franz N. D. Kurie, Alexandria, Va., and Louis A. Cartwright, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 10, 1953, Ser. No. 348,143
4 Claims. (Cl. 340—224)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In combination, depth sounding apparatus including a weighted line extended from the surface to the bottom, a potentiometer operatively associated with said depth sounding apparatus and adapted to be varied thereby in accordance with the depth measured by the extended length of said line, a frequency modulation radio transmitter, and a free running multi-vibrator circuit associated with said transmitter for modulating the mean frequency thereof in accordance with the operating frequency of the multi-vibrator circuit, said potentiometer being connected in said multi-vibrator circuit for varying the operating frequency thereof to produce a signal having a frequency proportional to the measured depth and an electronic circuit adapted to be used in conjunction with a frequency modulation receiver and including



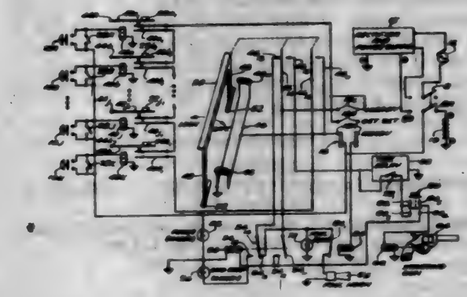
means for indicating the depth corresponding to the signal frequency, said indicating means including an electron tube inverter operating into an electron tube bridge through an RC discriminating circuit and a direct current milliammeter calibrated to indicate the depth connected across said bridge.

2,978,691
LIQUID LEVEL GAGES
John T. Beher, Aurora, Ill., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 3, 1959, Ser. No. 831,129
4 Claims. (Cl. 340—244)



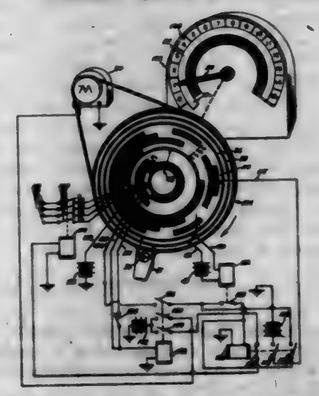
1. A gage for determining the presence of liquid at a selected level comprising a sealed container filled with fluid, means for adding heat to said fluid in said container, said fluid being pressurized to liquefy when said heat is conducted away at a rate corresponding to the rate of conduction from the container to the liquid when the container is immersed in liquid and to gassify when said heat is conducted away at a rate corresponding to the rate of conduction from the container to the vapors of said liquid when said container is immersed in said vapors, said container comprising a pressure expansible capsule and a tube having a portion disposed at the level to be gaged.

2,978,692
RACE-STARTING SYSTEM
Oliver V. Riley, 2712 North Park, La Verne, Calif.
Filed Dec. 1, 1958, Ser. No. 777,522
7 Claims. (Cl. 340—323)



1. A starting system for racers comprising a switch for each racer operated when a racer is in starting position, an indicator for each racer, each said indicator having an inoperative position and a start position, means responsive to one of said switches being operated to move an associated indicator from an inoperative position to a start position, a race-start indicator, an alarm, switch means for operating said race-start indicator responsive to all said switches being operated and for operating said alarm responsive to less than all said switches being operated, and locking means operative responsive to one of said switches being released to prevent the remaining indicators from returning to said inoperative position.

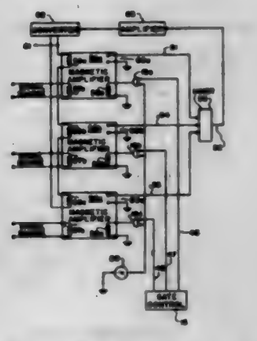
2,978,693
ANALOG TO DIGITAL CONVERSION SYSTEM
Carl E. Champion, Hollywood, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 10, 1955, Ser. No. 546,048
2 Claims. (Cl. 340—347)



1. A code signal-forming system comprising: a dial face; an indicating element adapted to be moved relative to said dial face to manifest different quantities; scanning means for continuously scanning said entire dial face to form an indicating signal during the interval when said indicating element is scanned; a coding device for forming different independent code signals in a predetermined sequence in synchronism with said scanning of said dial face; an output circuit; a switching circuit controlled by said indicating signal for applying a code signal from said coding device to said output circuit only during said

interval when said indicating element is being scanned; and control means programmed by the position of said scanning means for controlling said scanning means; said switching circuit comprising means responsive to said control means for connecting said coding device to said output circuit at the start of scanning and continuously maintaining said connection until said interval when said indicating element is being scanned, means responsive to said indicating signal for energizing said coding device, and means for disconnecting said coding device from said output circuit in response to and immediately following energization of said coding device.

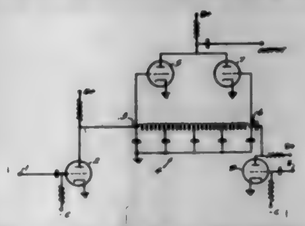
2,978,694
MAGNETIC COMMUTATOR AND MEASURING APPARATUS
David C. Kalbfell, 941 Rosecrans St., San Diego 6, Calif.
Filed Apr. 15, 1957, Ser. No. 652,969
11 Claims. (Cl. 340—347)



3. A system for sampling a plurality of independent input current sources and producing a measurement thereof comprising a plurality of magnetic switching circuits, means continuously connecting a current source to an input winding of each of said circuits, an output terminal common to all of said switching circuits, means interconnecting said common output terminal to said magnetic switching circuits, a source of carrier current, means selectively connecting said source of carrier current to windings of said switching circuits for sequentially deriving signals on said common output terminal, a digital current source connected between said common output terminal and feedback windings on said switching circuits, said digital current source being arranged to selectively adjust the current applied to said feedback windings to approach the magnitude of said input current source and including means for deriving a digital representation of said input current source.

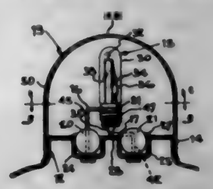
2,978,695
ELECTRONIC PULSE CODER
James L. Dunn, North Tonawanda, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Nov. 14, 1952, Ser. No. 320,586
2 Claims. (Cl. 340—359)

1. An electronic pulse coder comprising a first electron discharge device and a second electron discharge device each having at least an anode, a cathode and a control grid; a common anode-cathode circuit for said first electron discharge device and said second electron discharge device; a first source of input pulses; a second source of input pulses; a pulse delay line having a first pair of terminals at one end thereof and a second pair of terminals at the other end thereof; means connecting said first source of input pulses between the terminals constituting said first pair and also between the grid and cathode of said first electron discharge device; means connecting said second source of input pulses between the terminals constituting said second pair and also between the grid and cathode of said second electron discharge



device; the internal impedance of said first source as seen from said first pair of terminals being equal to the characteristic impedance of said line and the internal impedance of said second source as seen from said second pair of terminals being high compared to the characteristic impedance of said line.

2,978,696
ILLUMINATED HAT
John R. Keller and Russell R. Kelly, Cincinnati, Ohio, assignors to Clever Things Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 8, 1958, Ser. No. 759,689
4 Claims. (Cl. 340—366)

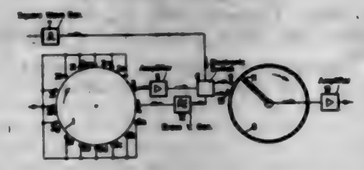


1. A molded toy hat comprising a unitary plastic cap portion, said cap portion having a base formed integral therewith and disposed adjacent to the top thereof, said base having recess formed therein, a dry cell disposed in said recess, a self-flashing light bulb, a wire coiled for threadably engaging and supporting said bulb and interconnecting said bulb and one terminal of said dry cell, a conductor in electrical connection with the other terminal of said dry cell, said conductor being spaced from said wire and disposed for contact with said bulb when said bulb is threaded into said coiled wire, and a translucent plastic dome mounted over said base in frictional engagement therewith, said dome enclosing said light bulb, battery, wire and conductor, whereby when said light bulb is threaded inwardly in said coil into engagement with said conductor said light bulb is effective to cause said dome to glow intermittently, and whereby said light bulb can be completely disconnected by threading it outwardly in said coiled wire to disengage the light bulb from said conductor.

2,978,697
APPARATUS FOR REDUCING THE FREQUENCY BAND WIDTH OF RADAR FREQUENCY MIXTURES AND THE LIKE
Bernhard Donath, Munich, and Hans-Joachim Zetzmann, Wenzing, Upper Bavaria, Germany, assignors to Siemens & Halske Aktiengesellschaft, Munich and Berlin, Germany, a corporation of Germany
Filed Aug. 12, 1955, Ser. No. 528,162
Claims priority, application Germany Aug. 13, 1954
7 Claims. (Cl. 343—5)

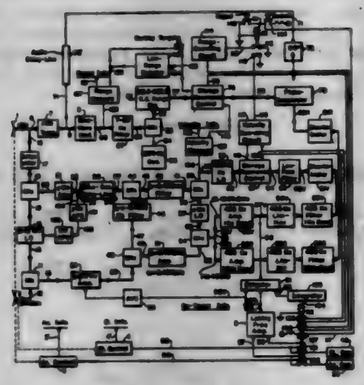
1. Apparatus for reducing the frequency band width of a radar screen picture frequency mixture produced by

periodic radar scanning of objects by high-frequency impulses comprising a first movable magnetic carrier, a plurality of fixed record heads arranged mutually identically spaced for coaction with said first carrier, a pickup head and an erase head for coaction with said first carrier, circuit means for simultaneously conducting radar reflection impulses to all said record heads while said first magnetic carrier is moving whereby said reflection impulses are additively recorded upon said first carrier, a second mov-



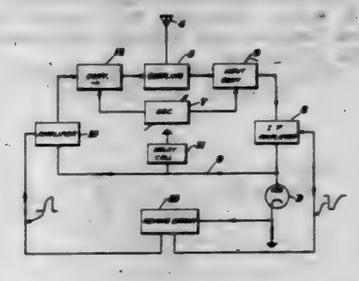
able magnetic carrier and a record head and an erase head coacting therewith, means for interconnecting the pickup head coacting with said first magnetic carrier with the record head coacting with said second carrier to record reflected impulses upon said second carrier which had been recorded upon said first carrier, and a movable pickup head coacting with said second magnetic carrier for taking off reflected impulses recorded thereon at a speed which is lower than the speed at which said impulses are recorded.

2,978,698
RADAR TARGET TRACKING SYSTEM
Mortimer A. Schultz and George W. Nagel, Pittsburgh, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 27, 1950, Ser. No. 176,086
13 Claims. (Cl. 343—7.3)



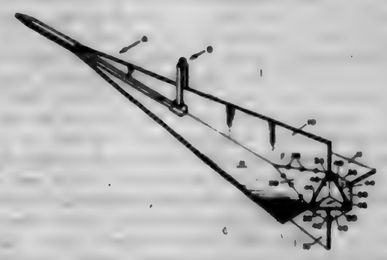
1. A velocity- and range-finding echo-wave device, comprising a continuous-wave transmitter-system, circuit-means for sending a continuous transmitted wave from said transmitter-system to a reflecting surface and for receiving an echo-wave from said reflecting surface, circuit-means for deriving a transmitter-reference wave from said transmitter-system, local-oscillator means for heterodyning both said echo-wave and said transmitter-reference wave, local-oscillator means for introducing a variable Doppler-reference frequency into one of the two circuits containing the respective heterodyned waves, a first controlling-means comprising a delay-means in circuit with one of the two heterodyned waves, a second controlling-means comprising a continuously operating frequency-modulator means for causing the transmitted wave of the transmitter-system to be frequency-modulated, means for mixing the two resulting heterodyned waves and for responding to the sum or difference of their frequencies, discriminator-means for responding to the frequency-variations of the resulting mixed wave above and below a predetermined mean frequency, phase-comparator means for comparing the phase of the frequency-modulations of the transmitted wave with the phase of an output of the discriminator-means, automatic range-finding control-means for so controlling one of said controlling means, in response to the output of the phase-comparator means, as to maintain a predetermined phase-relation between the modulation-frequency frequency-modulations in the two mixed heterodyned waves, automatic range-searching means for controlling said automatic range-finding control-means to search for a target-range signal between a maximum limit beyond the practical response-limit of the echo-wave device and a minimum limit greater than zero, the automatic range-finding means being operative to seize onto, and to subsequently follow, a target-range signal once found, automatic velocity-finding frequency-control means, responsive to an output of said discriminator-means, for controlling the variable Doppler-reference frequency, and automatic frequency-searching means for varying the frequency-variation of said Doppler-reference frequency from said predetermined mean frequency, the automatic velocity-finding means being operative to seize onto, and to subsequently follow, the line-of-sight velocity signal of the reflecting surface with respect to the echo-wave device, whereby the frequency-variation of said Doppler-reference frequency will be substantially equal to the Doppler-frequency.

2,978,699
RADIO REPEATING SYSTEMS
Sven H. M. Dodington, Forest Hills, N.Y., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Aug. 28, 1944, Ser. No. 551,470
1 Claim. (Cl. 343—18)



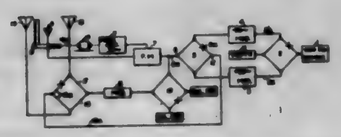
A repeater system for falsely simulating the reflection of a group of obstacles in response to radio impulses, formed of a radio frequency carrier comprising means for receiving said radio impulses, means for converting the carrier of said impulses to a given intermediate frequency, means for producing at least one repeat pulse in response to each of said impulses, means for delaying said repeat pulses for a given interval of time including a medium providing a path of propagation for supersonic vibrations, means for transmitting said delayed pulses to produce signals simulating the reflection characteristic for said group, and means for keying said delayed repeat pulses controlled by said impulses, whereby overlapping of the functions of said means for receiving and said means for transmitting may be avoided, said means for keying comprises means for demodulating said impulses to obtain a keying voltage.

2,978,700
RADAR REFLECTING TOW TARGET
Lewis A. Stevens, Ridgecrest, and William S. Roney, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 14, 1956, Ser. No. 610,038
2 Claims. (Cl. 343—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In combination, an aerial target comprising four planar wing elements and four triangularly-shaped fairing strips, said wing elements being secured together at right angles to each other along a horizontal axis, said fairing strips being secured to said wing elements with a fairing strip between each pair of adjacent wing elements, said fairing strips having substantially coplanar rear edges disposed rearwardly of said wing elements and defining a generally rectangular opening; and a radar reflecting assembly comprising a generally rectangular base and four fins in a cruciform arrangement, said base having substantially the same dimensions as said generally rectangular opening and fitting therewithin, said base being formed with notches along the diagonals thereof, and the front edges of said fins being fitted within said notches, said base and fins having a conductive metal coating thereon; and means securing the assembly to the target.

2,978,701
AIR NAVIGATION RADIO SYSTEM
Sidney B. Pickles, Tarrytown, N.Y., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Apr. 5, 1952, Ser. No. 280,731
15 Claims. (Cl. 343—106)



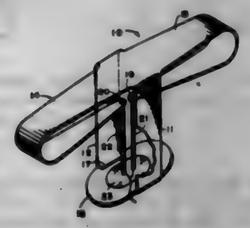
15. A combined omni-range and localizer beacon system comprising a source of radio frequency carrier energy, a first antenna system capable of emitting a directive radio frequency energy beam, means associated with said first antenna system for rotating said beam at a fundamental frequency, means responsive to said rotating means for modulating said radio frequency energy with a reference signal at said fundamental frequency, means to couple said modulated radio frequency energy to said first antenna system whereby at any point within the field of radiation the phase of the detected envelope wave of the rotating beam with respect to the reference signal is indicative of the position of said point relative to said first antenna system, means to modulate said radio frequency carrier energy to produce side band frequencies, a second antenna system having a radiation pattern defining a null type course line, means to apply said side band frequencies to said second antenna system, means to modulate energy of said radio frequency carrier energy with a third signal, and means to apply said third signal modulated radio frequency carrier energy to said second antenna system to produce a distinctive signal in said null portion of the directional radiation pattern.

2,978,702
ANTENNA POLARIZER HAVING TWO PHASE SHIFTING MEDIUM
John J. Pakan, Elmwood Park, Ill., assignor to A.R.F. Products, Inc., River Forest, Ill., a corporation of Illinois
Filed July 31, 1957, Ser. No. 675,414
15 Claims. (Cl. 343—753)



13. A polarizer comprising a first and a second phase shifting medium for transmitting an electrical wave along an axis, the first phase shifting medium being characterized by a phase velocity for waves polarized in a first plane substantially the same as the phase velocity in free air, and a phase velocity substantially lower for waves polarized in a second plane normal to the first plane, the second phase shifting medium being characterized by a phase velocity for waves polarized in the second plane substantially the same as the phase velocity in free air, and a phase velocity substantially greater for waves polarized in the first plane, the difference in the magnitude of the phase shift between the first and second planes decreasing with frequency in the first medium and increasing with frequency in the second medium, whereby the phase shift produced by the polarizer is relatively constant over a greater frequency range than achieved in either phase shifting medium alone.

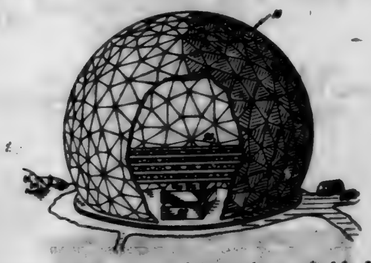
2,978,703
FOLDED DIPOLE ANTENNA FABRICATED FROM A SINGLE METALLIC SHEET
John A. Knockes, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Mar. 8, 1960, Ser. No. 13,522
3 Claims. (Cl. 343—803)



1. A folded dipole antenna comprising a sheet metal cruciform body member having integral vertically extending legs and integral radiating arms of ribbon-like section extending transversely of said legs, said arms comprising two closely spaced half-wave length elements looped together at the outer ends.

2,978,704
RADOME STRUCTURAL DEVICES
Albert Cohen, Tewksbury, Phillip Davis, Melrose, and Joseph F. Orabona, Sudbury, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 3, 1959, Ser. No. 790,993
24 Claims. (Cl. 343—872)

18. A structure with suitable electrical characteristics to function as a radome device fabricated from an open electrically conductive framework comprised of electrically conductive members with the spaces therebetween enclosed by electrically non-conductive membranes, said structure comprising a framework with a pattern of open spaces therein formed by the alignment of electrically conductive members, said members having progressively increasing gate-forming dimensions dependent upon the wavelength of electromagnetic wave energy passing through said openings substantially unimpeded, and defining a rigid framework support for the structure with a configuration of substantially non-continuous and non-parallel electrically conductive portions suitable for transmitting and receiving the energy from any mode of polarization of a source of the energy.



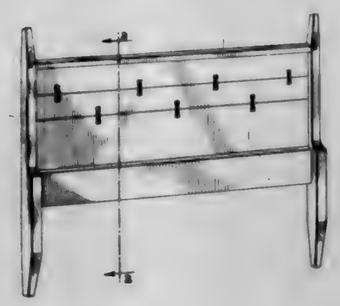
DESIGNS

APRIL 4, 1961

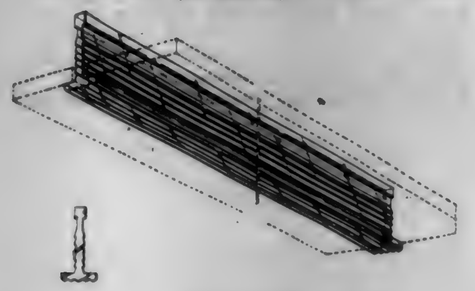
190,016
SCARF OR SIMILAR ARTICLE
Lucy Mae Thomas, 1827 Wilder St., Philadelphia, Pa.
Filed Apr. 25, 1960, Ser. No. 60,297
Term of patent 7 years
(Cl. D3—12)



190,017
HEADBOARD
Ernest L. Swarts and Orville B. Solle, Rockford, Ill., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Nov. 2, 1959, Ser. No. 58,170
Term of patent 14 years
(Cl. D5—4)



190,018
TRANSPARENT SUPPORTING CHANNEL FOR LIGHTING FIXTURE PANELS
Kurt Franck, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 12, 1957, Ser. No. 46,562
Term of patent 14 years
(Cl. D13—1)



190,019
BUILDING PANEL
Harold A. Edmondson, 257 S. Arden Ave., Los Angeles, Calif.
Filed June 15, 1959, Ser. No. 56,330
Term of patent 14 years
(Cl. D13—1)

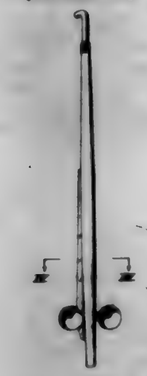
190,020
COMBINED MOUNTING BRACKET AND RAILING POST
Louis Blum, Pittsburgh, Pa., assignor to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed Apr. 1, 1960, Ser. No. 59,996
Term of patent 14 years
(Cl. D13—7)



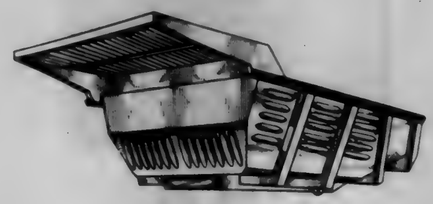
190,021
COMBINED MOUNTING BRACKET AND RAILING POST
Louis Blum, Pittsburgh, Pa., assignor to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed Apr. 1, 1960, Ser. No. 59,997
Term of patent 14 years
(Cl. D13—7)



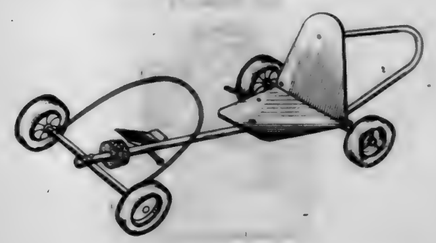
190,022
COMBINED MOUNTING BRACKET AND RAILING POST
Louis Blum, 2312 Tilbury St., Pittsburgh, Pa.
Filed Apr. 1, 1960, Ser. No. 60,000
Term of patent 14 years
(Cl. D13—7)



190,023
TRUCK BODY
Harold V. Parsley, Barrington, Richard E. Dreyer, Wheaton, and George A. Grant, Elmhurst, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Aug. 3, 1959, Ser. No. 57,057
Term of patent 7 years
(Cl. D14—3)



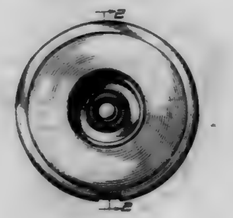
190,024
CHILD'S SPORTS CAR
Calvin Rouse, 87—26 166th St., Jamaica, N.Y.
Filed Feb. 26, 1960, Ser. No. 59,540
Term of patent 14 years
(Cl. D14—3)



190,025
REAR VIEW MIRROR
Robert K. Stortz, Manchester, N.H., assignor to C. M. Hall Lamp Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 30, 1959, Ser. No. 55,726
Term of patent 14 years
(Cl. D14—6)



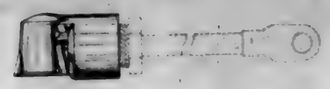
190,026
TIRE COVER
George W. Walker, Bloomfield Hills, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 12, 1959, Ser. No. 54,148
Term of patent 7 years
(Cl. D14—30)



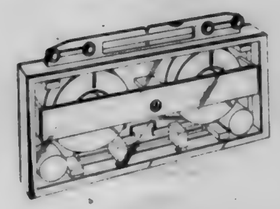
190,027
TISSUE CAPSULE FOR HOLDING PARAFFINED PATHOLOGICAL TISSUE SPECIMENS WHILE THE PARAFFIN HARDENS
Alfred J. Carroll and Theodore H. Chamberlin, both of 1319 Gaviota Ave., P.O. Box 4265, Long Beach, Calif.
Filed Aug. 28, 1959, Ser. No. 57,359
Term of patent 14 years
(Cl. D16—1)



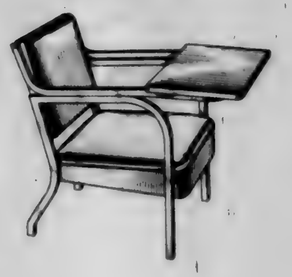
190,028
BATTERY TERMINAL CONNECTOR CAP
James F. Norling, 2740 S. Jackson, Denver, Colo.
Filed Oct. 23, 1959, Ser. No. 58,046
Term of patent 14 years
(Cl. D26—1)



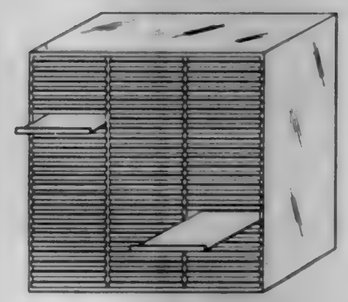
190,029
CARTRIDGE FOR RECORD TAPE
Arnold J. Butler, Wappingers Falls, and Arnold M. Davis, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 27, 1960, Ser. No. 61,133
Term of patent 14 years
(Cl. D26—14)



190,030
COMBINED CHAIR AND TRAY
John E. Beardmore, Chicago, Ill., assignor to Karoll's, Inc., Chicago, Ill., a corporation of Illinois
Filed July 17, 1959, Ser. No. 56,821
Term of patent 14 years
(Cl. D33—11)



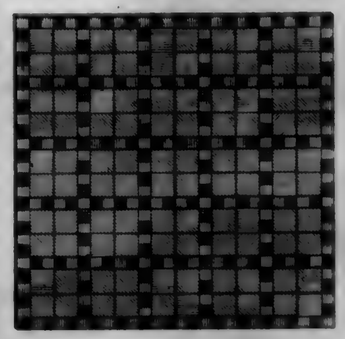
190,031
CABINET
Irvine H. Bouchard, Radio Distributing Co., 1212 High St., South Bend, Ind.
Filed Jan. 8, 1958, Ser. No. 49,168
Term of patent 14 years
(Cl. D33—19)



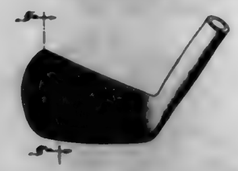
190,032
PUPPET
Saundra B. Seron, 1170 Say Road, Santa Paula, Calif.
Filed Dec. 19, 1958, Ser. No. 53,836
Term of patent 14 years
(Cl. D34—2)



190,033
GAME BOARD
Edward A. Corris, 205 Laurel Ave., Providence, R.I.
Filed Oct. 18, 1960, Ser. No. 62,526
Term of patent 7 years
(Cl. D34—5)



190,034
GOLF CLUB HEAD
Toney Penna, Jupiter, Fla., assignor to MacGregor Sport Products, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 7, 1960, Ser. No. 59,652
Term of patent 14 years
(Cl. D34—5)



190,035
GOLF CLUB HEAD
Morten M. Hansen, Jr., 602 Oceanview Road, Brielle, N.J.
Filed Sept. 26, 1960, Ser. No. 62,273
Term of patent 14 years
(Cl. D34—5)



190,036
BALL TOY WITH ACTION ELEMENT
Willis M. Lakin, Barton, Wis., assignor to Marlin Toy Products, Inc., Horicon, Wis., a corporation of Illinois
Filed Nov. 30, 1960, Ser. No. 63,029
Term of patent 14 years
(Cl. D34—15)



190,037
CHILD'S VEHICLE
Emanuel Pressner, South Orange, N.J., assignor to Banner Plastics Corporation, Paterson, N.J., a corporation of New York
Filed Mar. 22, 1960, Ser. No. 59,835
Term of patent 7 years
(Cl. D34—15)



190,038
GYRAL WHEEL
Daniel A. Nickell, Jr., and Edith Q. Nickell, both of P.O. Box 1372, Rocky Mount, N.C.
Filed Sept. 16, 1960, Ser. No. 62,169
Term of patent 14 years
(Cl. D34—15)



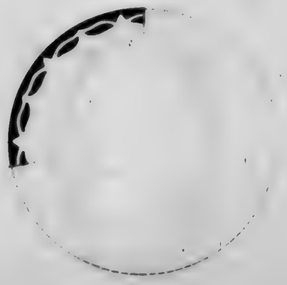
190,039
FLOWER POT
William John White, 991 S. State Road 7, Fort Lauderdale, Fla., and Louis Besterda, Fort Lauderdale, Fla.; said Besterda assignor to said White
Filed June 13, 1960, Ser. No. 60,946
Term of patent 14 years
(Cl. D35—3)



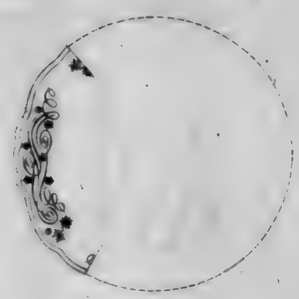
190,040
INSULATING JACKET
Peter Schlumbohm, 41 Murray St., New York, N.Y.
Filed July 20, 1959, Ser. No. 56,856
Term of patent 14 years
(Cl. D44—10)



190,041
PLATE OR SIMILAR ARTICLE
John H. Reiser, Downey, Calif., assignor to Wallace China Co., Ltd., Los Angeles, Calif., a corporation of California
Filed Nov. 25, 1960, Ser. No. 62,971
Term of patent 14 years
(Cl. D44—15)



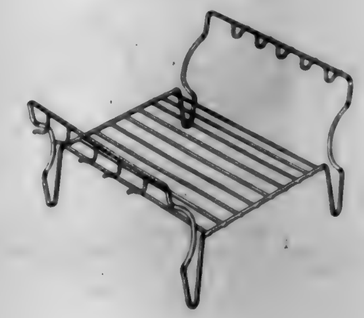
190,042
PLATE OR SIMILAR ARTICLE
John H. Reiser, Downey, Calif.
(P.O. Box 47, Huntington Park, Calif.)
Filed Dec. 5, 1960, Ser. No. 63,120
Term of patent 14 years
(Cl. D44—15)



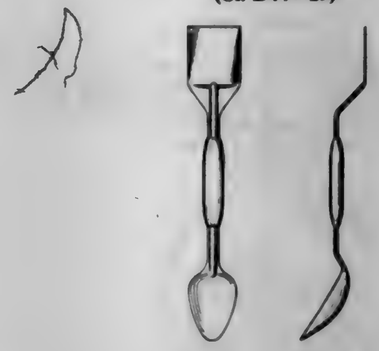
190,043
PLATE OR SIMILAR ARTICLE
John H. Reiser, Downey, Calif., assignor to Wallace China Co., Ltd., Los Angeles, Calif., a corporation of California
Filed Mar. 7, 1960, Ser. No. 59,645
Term of patent 14 years
(Cl. D44—15)



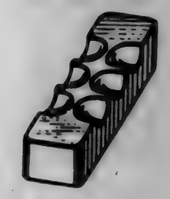
190,044
STORAGE RACK
Kurt E. Christoffersen, Gales Ferry, Conn., assignor to Artistic Wire Products Co. of Conn., Incorporated, Norwich, Conn., a corporation of Connecticut
Filed Nov. 1, 1960, Ser. No. 62,691
Term of patent 14 years
(Cl. D44—29)



190,045
COMBINED SPOON AND SPATULA
Lloyd S. Nicholson, 784 Locust St., Pasadena, Calif.
Filed Dec. 22, 1959, Ser. No. 58,769
Term of patent 7 years
(Cl. D44—29)



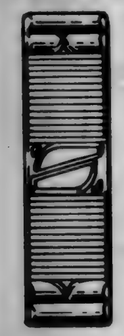
190,046
EXPANSIBLE CHAIN FOR A BRACELET OR SIMILAR ARTICLE
Nathan Goodman, Forest Hills, N.Y., assignor to Baldwin Bracelet Corporation, New York, N.Y., a corporation of New York
Filed Aug. 27, 1959, Ser. No. 57,340
Term of patent 7 years
(Cl. D45—4)



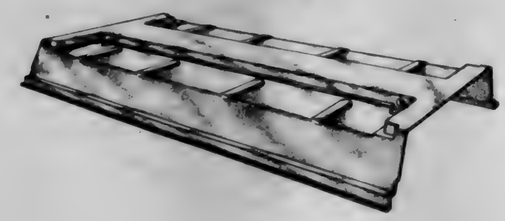
190,047
EXPANSIBLE CHAIN FOR A BRACELET OR SIMILAR ARTICLE
Nathan Goodman, Forest Hills, N.Y., assignor to Baldwin Bracelet Corporation, New York, N.Y., a corporation of New York
Filed Aug. 27, 1959, Ser. No. 57,341
Term of patent 7 years
(Cl. D45—4)



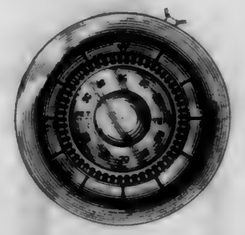
190,048
EXPANSIBLE LINK CHAIN FOR A BRACELET OR SIMILAR ARTICLE
Murray L. Cowan, Boston, Mass., assignor to Speidel Corporation, Providence, R.I., a corporation of Rhode Island
Filed July 21, 1960, Ser. No. 61,472
Term of patent 14 years
(Cl. D45—4)



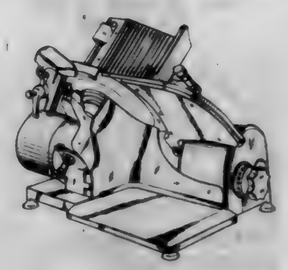
190,049
LUMINAIRE HOUSING
Carle E. Rackley, Westlake, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 27, 1960, Ser. No. 59,187
Term of patent 14 years
(Cl. D48—23)



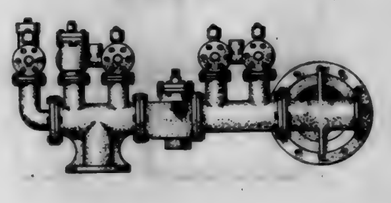
190,050
ROOM THERMOSTAT
Alan W. Duncan, Itasca, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed June 30, 1960, Ser. No. 61,166
Term of patent 7 years
(Cl. D52—7)



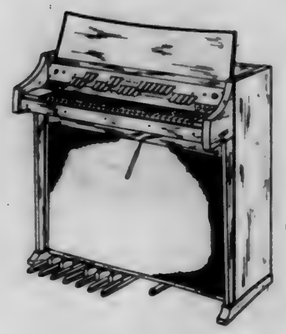
190,051
SLICING MACHINE
Arnold W. Landell, 220 Byram Shore Road, Byram, Conn.
Filed Apr. 11, 1960, Ser. No. 60,117
Term of patent 14 years
(Cl. D55—1)



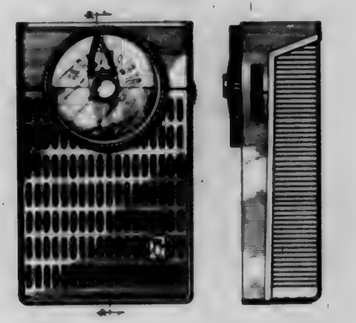
190,052
POWER UNIT FOR HYDRAULIC ELEVATORS
James H. Bartholomew, Greensboro, N.C., assignor to Monarch Elevator & Machine Co., Inc., Greensboro, N.C.
Filed Dec. 19, 1956, Ser. No. 44,254
Term of patent 14 years
(Cl. D55—1)



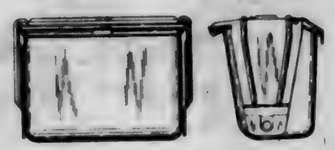
190,053
ELECTRIC ORGAN
Joseph Palma, Jr., Wheaton, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 57,687
Term of patent 14 years
(Cl. D56—2)



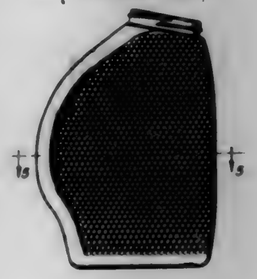
190,054
PORTABLE RADIO CABINET
Melvin H. Boldt, Gleaview, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Nov. 9, 1960, Ser. No. 62,784
Term of patent 14 years
(Cl. D56—4)



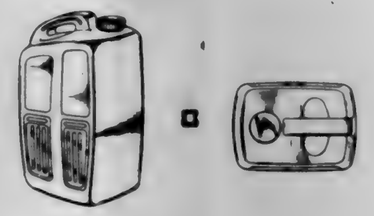
190,055
COMBINED BRACKET AND LITTER BASKET FOR AUTOMOBILES OR THE LIKE
Donald C. Perkins, Lansing, Mich., assignor to Michigan Modern Engineering Company, Lansing, Mich., a corporation of Michigan
Filed Aug. 31, 1959, Ser. No. 57,375
Term of patent 14 years
(Cl. D58—4)



190,056
BOTTLE
Freda Diamond, New York, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 2, 1959, Ser. No. 57,778
Term of patent 14 years
(Cl. D58—6)



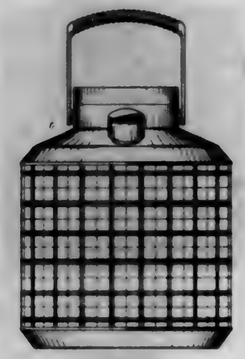
190,057
BOTTLE OR SIMILAR ARTICLE
Morris Gottsegen, Beverly Hills, Calif., assignor to Gotham Industries, Inc., New York, N.Y., a corporation of New York
Filed Apr. 21, 1960, Ser. No. 60,276
Term of patent 14 years
(Cl. D58—6)



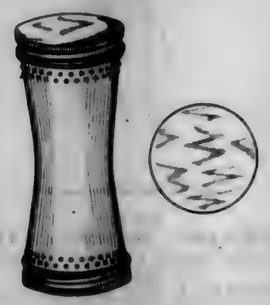
190,058
BOTTLE OR SIMILAR ARTICLE
Victor Koenigsberg, Franklin Square, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Continuation of design applications Ser. Nos. 59,428 and 59,429, Feb. 17, 1960. This application Dec. 2, 1960, Ser. No. 63,149
Term of patent 14 years
(Cl. D58—8)



190,059
PICNIC JUG
Jack Bloch, Fort Worth, Tex., assignor to Loma Industries, Fort Worth, Tex., a corporation of Texas
Filed Sept. 21, 1960, Ser. No. 62,229
Term of patent 14 years
(Cl. D58—17)



190,060
FOOD JAR
Ralph N. Gardner, Thiensville, Wis., assignor to Jewett & Sherman Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 30, 1960, Ser. No. 62,321
Term of patent 14 years
(Cl. D58—25)



190,061
HAIR SPRAYER OR THE LIKE
Douglas W. Anderson, Palatine, Ill., assignor to Burgess Vibrocrafters, Inc., Grayslake, Ill., a corporation of Delaware
Filed Aug. 29, 1960, Ser. No. 61,928
Term of patent 14 years
(Cl. D62—2)



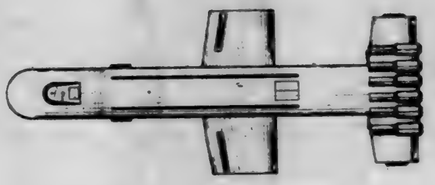
190,062
INFANT'S CONVERTIBLE CAR SEAT
Earl F. Hamilton, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Nov. 30, 1959, Ser. No. 58,521
Term of patent 14 years
(Cl. D15—1)



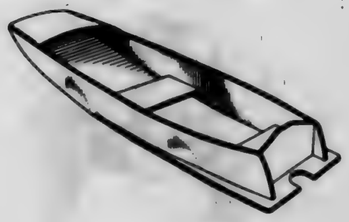
190,063
WALL MOUNTED DRINKING FOUNTAIN OR SIMILAR ARTICLE
Louis P. Benua, Columbus, Richard J. Radcliffe, Worthington, and William Taylor, Columbus, Ohio, assignors to The Ebco Manufacturing Company, Columbus, Ohio, a corporation of Ohio
Filed Aug. 17, 1960, Ser. No. 61,793
Term of patent 14 years
(Cl. D67—4)



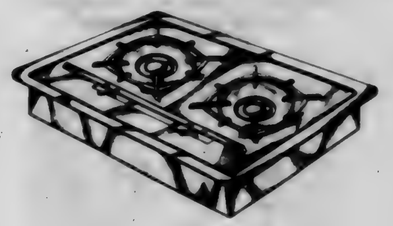
190,064
TURBO-JET AIRCRAFT
Lawrence B. Rellis, 5123 W. Dancing Place, Chicago, Ill.
Filed Apr. 4, 1960, Ser. No. 60,009
Term of patent 14 years
(Cl. D71—1)



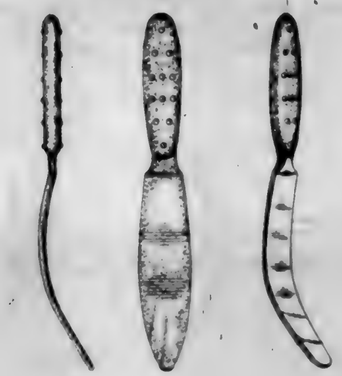
190,065
BOAT
Thomas Currie, High Meadow Road, Southport, Conn.
Filed Feb. 3, 1960, Ser. No. 59,249
Term of patent 7 years
(Cl. D71—1)



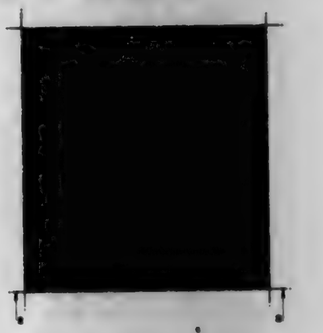
190,066
COUNTERTOP RANGE
George W. Kamin, Arcadia, Calif., assignor to Pan-Pacific Manufacturing Corp., Los Angeles, Calif., a corporation of California
Filed Feb. 1, 1960, Ser. No. 59,225
Term of patent 7 years
(Cl. D81—25)



190,067
COSMETIC APPLICATOR
Jean L. Reedy, 7100 W. Touhy Ave., Niles, Ill.
Filed Dec. 9, 1959, Ser. No. 58,621
Term of patent 14 years
(Cl. D86—10)



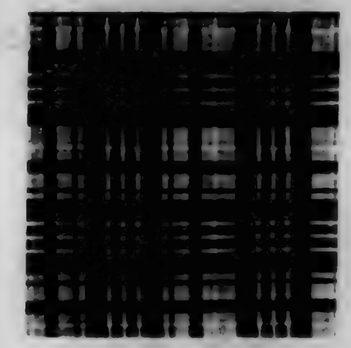
190,068
EMBOSSED PLASTIC FABRIC OR THE LIKE
William K. Vernon, Meyer Place, Riverside, Conn.
Filed Mar. 14, 1958, Ser. No. 50,039
Term of patent 7 years
(Cl. D87—3)



190,069
CASING FOR A POWER UNIT OF A COMMINUTING MACHINE OR THE LIKE
Erich Mittelsten Scheid, Hohenstaufenstrasse 22, Wuppertal-Barmen, Germany
Filed June 13, 1960, Ser. No. 60,949
Claims priority, application Germany Dec. 15, 1959
Term of patent 14 years
(Cl. D89—1)



190,070
TEXTILE FABRIC OR SIMILAR ARTICLE
Muriel Patricia Jenkins, Gagetown, New Brunswick, Canada
Filed May 8, 1959, Ser. No. 55,830
Claims priority, application Canada Mar. 4, 1959
Term of patent 14 years
(Cl. D92—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 4TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Carroll, James L. Mechanical automobile parking garage. Re. 24,963, 4–4–61, Cl. 214—16.1.
Curtis, Norman S., to Bansburg Electro-Coating Corp. Apparatus for conveying articles. Re. 24,961, 4–4–61, Cl. 118—316.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Urbschat, Ewald, Frohberger. Re. 24,960.
Frohberger, Paul-Ernst: *See*—
Urbschat, Ewald, and Frohberger. Re. 24,960.
Loderhose, Richard H. Record jacket with detachable photographs. Re. 24,962, 4–4–61, Cl. 229—70.
Bansburg Electro-Coating Corp.: *See*—
Curtis, Norman S. Re. 24,961.
Urbschat, Ewald, and P.-E. Frohberger, to Farbenfabriken Bayer Aktiengesellschaft. Fungicides. Re. 24,960, 4–4–61, Cl. 167—30.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Kim Bros, d.b.a. Reedley Nursery. Plum tree. 2,043, 4–4–61, Cl. 47—61.
Anderson, Frederic W., to Kim Bros, d.b.a. Reedley Nursery. Nectarine tree. 2,044, 4–4–61, Cl. 47—62.
Conard-Pyle Co., The: *See*—
Meilland, Marie L. 2,040.
Henricks, Mary E., to The Wayside Gardens Co. Hydrangea macrophylla plant. 2,041, 4–4–61, Cl. 47—60.
Kim Bros.: *See*—
Anderson, Frederic W. 2,043.
Anderson, Frederic W. 2,044.
Meilland, Marie L., to The Conard-Pyle Co. Rose plant. 2,040, 4–4–61, Cl. 47—61.
Reedley Nursery: *See*—
Anderson, Frederic W. 2,043.
Anderson, Frederic W. 2,044.
Wayside Gardens Co., The: *See*—
Henricks, Mary E. 2,041.
Wyant, Melvin E. Rose plant. 2,042, 4–4–61, Cl. 47—61.

LIST OF DESIGN PATENTEES

Anderson, Douglas W., to Burgess Vibrocrafters, Inc. Hair sprayer or the like. 190,061, 4–4–61, Cl. D62—2.
Artistic Wire Products Co. of Conn., Inc.: *See*—
Christoffersen, Kurt E. 190,044.
Baldwin Bracelet Corp.: *See*—
Goodman, Nathan. 190,046.
Goodman, Nathan. 190,047.
Banner Plastics Corp.: *See*—
Pressner, Emanuel. 190,037.
Bartholomew, James H., to Monarch Elevator & Machine Co., Inc. Power unit for hydraulic elevators. 190,052, 4–4–61, Cl. D55—1.
Beardmore, John E., to Karoll's, Inc. Combined chair and tray. 190,030, 4–4–61, Cl. D33—11.
Benua, Louis P., R. J. Radcliffe, and W. Taylor, to The Ebco Mfg. Co. Wall mounted drinking fountain or similar article. 190,063, 4–4–61, Cl. D67—4.
Besterda, Louis: *See*—
White, William J. 190,039.
Bloch, Jack, to Loma Industries. Picnic jug. 190,059, 4–4–61, Cl. D58—17.
Blum, Louis, to Blumcraft of Pittsburgh. Combined mounting bracket and railing post. 190,020, 4–4–61, Cl. D13—7.
Blum, Louis, to Blumcraft of Pittsburgh. Combined mounting bracket and railing post. 190,021, 4–4–61, Cl. D13—7.
Blum, Louis. Combined mounting bracket and railing post. 190,022, 4–4–61, Cl. D13—7.
Blumcraft of Pittsburgh: *See*—
Blum, Louis. 190,020.
Blum, Louis. 190,021.
Boldt, Melvin H., to Zenith Radio Corp. Portable radio cabinet. 190,054, 4–4–61, Cl. D56—4.
Bouchard, Irvine H. Cabinet. 190,031, 4–4–61, Cl. D33—19.
Burgess Vibrocrafters, Inc.: *See*—
Anderson, Douglas W. 190,061.
Butler, Arnold J., and A. M. Davis, to International Business Machines Corp. Cartridge for record tape. 190,029, 4–4–61, Cl. D26—14.
Carroll, Alfred J., and T. H. Chamberlin. Tissue capsule for holding paraffined pathological tissue specimens while the paraffin hardens. 190,027, 4–4–61, Cl. D16—1.
Chamberlin, Theodore H.: *See*—
Carroll, Alfred J., and Chamberlin. 190,027.
Christoffersen, Kurt E., to Artistic Wire Products Co. of Conn., Inc. Storage rack. 190,044, 4–4–61, Cl. D44—29.
Colgate-Palmolive Co.: *See*—
Koenigsberg, Victor. 190,058.
Continental Can Co., Inc.: *See*—
Diamond, Freda. 190,056.
Corrie, Edward A. Game board. 190,033, 4–4–61, Cl. D34—5.
Cowan, Murray L., to Speidel Corp. Expansible link chain for a bracelet or similar article. 190,048, 4–4–61, Cl. D45—4.
Currie, Thomas. Boat. 190,065, 4–4–61, Cl. D71—1.
Davis, Arnold M.: *See*—
Butler, Arnold J., and Davis. 190,029.
Diamond, Freda, to Continental Can Co., Inc. Bottle. 190,056, 4–4–61, Cl. D58—6.
Dreyer, Richard E.: *See*—
Parsley, Harold V., Dreyer, and Grant. 190,023.
Duncan, Alan W., to Sears, Roebuck and Co. Room thermostat. 190,050, 4–4–61, Cl. D52—7.
Ebco Mfg. Co., The: *See*—
Benua, Louis P., Radcliffe, and Taylor. 190,063.
Edmondson, Harold A. Building panel. 190,019, 4–4–61, Cl. D13—1.
Ford Motor Co.: *See*—
Walker, George W. 190,026.
Franck, Kurt, to Holophane Co., Inc. Transparent supporting channel for lighting fixture panels. 190,018, 4–4–61, Cl. D13—1.
Gardner, Ralph N., to Jewett & Sherman Co. Food jar. 190,060, 4–4–61, Cl. D58—25.
Goodman, Nathan, to Baldwin Bracelet Corp. Expansible chain for a bracelet or similar article. 190,046, 4–4–61, Cl. D45—4.
Goodman, Nathan, to Baldwin Bracelet Corp. Expansible chain for bracelet or similar article. 190,047, 4–4–61, Cl. D45—4.
Gotham Industries, Inc.: *See*—
Gottsegen, Morris. 190,057.
Gottsegen, Morris, to Gotham Industries, Inc. Bottle or similar article. 190,057, 4–4–61, Cl. D58—6.
Grant, George A.: *See*—
Parsley, Harold V., Dreyer, and Grant. 190,023.
Hall, C. M., Lamp Co.: *See*—
Stortz, Robert K. 190,025.
Hamilton Cosco, Inc.: *See*—
Hamilton, Earl F. 190,062.
Hamilton, Earl F., to Hamilton Cosco, Inc. Infant's convertible car seat. 190,062, 4–4–61, Cl. D15—1.
Hammond Organ Co.: *See*—
Palma, Joseph, Jr. 190,053.
Hansen, Morten M., Jr. Golf club head. 190,035, 4–4–61, Cl. D34—5.
Holophane Co., Inc.: *See*—
Franck, Kurt. 190,018.
International Business Machines Corp.: *See*—
Butler, Arnold J., and Davis. 190,029.
International Harvester Co.: *See*—
Parsley, Harold V., Dreyer, and Grant. 190,023.
Jenkins, Muriel Patricia. Textile fabric or similar article. 190,070, 4–4–61, Cl. D92—1.
Jewett & Sherman Co.: *See*—
Gardner, Ralph N. 190,060.
Kamin, George W., to Pan-Pacific Mfg. Corp. Countertop range. 190,066, 4–4–61, D81—25.
Karoll's, Inc.: *See*—
Beardmore, John E. 190,030.
Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 190,058, 4–4–61, Cl. D58—8.
Lakin, Willis M., to Marlin Toy Products, Inc. Ball toy with action element. 190,036, 4–4–61, D34—15.
Lane Co., Inc., The: *See*—
Swarts, Ernest L., and Solie. 190,017.
Loma Industries: *See*—
Bloch, Jack. 190,059.

Lundell, Arnold W. Slicing machine. 190,051, 4–4–61, Cl. D55—1.
MacGregor Sport Products, Inc.: *See*—
Penna, Toney. 190,034.
Marlin Toy Products, Inc.: *See*—
Lakin, Willis M. 190,036.
Michigan Modern Engineering Co.: *See*—
Perkins, Donald C. 190,055.
Monarch Elevator & Machine Co., Inc.: *See*—
Bartholomew, James H. 190,052.
Nicholson, Lloyd S. Combined spoon and spatula. 190,045, 4–4–61, Cl. D44—29.
Nickell, Daniel A., Jr., and E. Q. Nickell. Gyral wheel. 190,038, 4–4–61, Cl. D34—15.
Nickell, Edith Q.: *See*—
Nickell, Daniel A., Jr. and E. Q. Nickell. 190,038.
Norling, James F. Battery terminal connector cap. 190,028, 4–4–61, Cl. D26—1.
Palme, Joseph, Jr., to Hammond Organ Co. Electric organ. 190,053, 4–4–61, Cl. D56—2.
Pan-Pacific Mfg. Corp.: *See*—
Kamin, George W. 190,066.
Parsley, Harold V., R. E. Dreyer, and G. A. Grant, to International Harvester Co. Truck body. 190,023, 4–4–61, Cl. D14—3.
Penna, Toney, to MacGregor Sport Products, Inc. Golf club head. 190,034, 4–4–61, Cl. D34—8.
Perkins, Donald C., to Michigan Modern Engineering Co. Combined bracket and litter basket for automobiles or the like. 190,055, 4–4–61, Cl. D58—4.
Pressner, Emanuel, to Banner Plastics Corp. Child's vehicle. 190,037, 4–4–61, Cl. D34—15.
Rackley, Carle E., to Westinghouse Electric Corp. Luminaire housing. 190,049, 4–4–61, Cl. D48—23.
Radcliffe, Richard J.: *See*—
Benua, Louis P., Radcliffe, and Taylor. 190,063.
Reedy, Jean L. Cosmetic applicator. 190,067, 4–4–61, Cl. D86—10.
Reiser, John H., to Wallace China Co., Ltd. Plate or similar article. 190,041, 4–4–61, Cl. D44—15.
Reiser, John H. Plate or similar article. 190,042, 4–4–61, Cl. D44—15.
Reiser, John H., to Wallace China Co., Ltd. Plate or similar article. 190,043, 4–4–61, Cl. D44—15.
Rellis, Lawrence B. Turbo-jet aircraft. 190,064, 4–4–61, Cl. D71—1.
Rouse, Calvin. Child's sports car. 190,024, 4–4–61, Cl. D14—3.
Scheid, Erich M. Casing for a power unit of a comminuting machine or the like. 190,069, 4–4–61, Cl. D89—1.
Schlumbohm, Peter. Insulating jacket. 190,040, 4–4–61, Cl. D44—10.
Sears, Roebuck and Co.: *See*—
Duncan, Alan W. 190,050.
Seron, Saundra B. Puppet. 190,032, 4–4–61, Cl. D34—2.
Solie, Orville B.: *See*—
Swarts, Ernest L., and Solie. 190,017.
Speidel Corp.: *See*—
Cowan, Murray L. 190,048.
Storts, Robert K., to C. M. Hall Lamp Co. Rear view mirror. 190,025, 4–4–61, Cl. D14—6.
Swarts, Ernest L., and O. B. Solie, to The Lane Co., Inc. Headboard. 190,017, 4–4–61, Cl. D5—4.
Taylor, William: *See*—
Benua, Louis P., Radcliffe, and Taylor. 190,063.
Thomas, Lucy M. Scarf or similar article. 190,016, 4–4–61, Cl. D3—12.
Vernon, William K. Embossed plastic fabric or the like. 190,068, 4–4–61, Cl. D87—3.
Walker, George W., to Ford Motor Co. Tire cover. 190,026, 4–4–61, Cl. D14—30.
Wallace China Co., Ltd.: *See*—
Reiser, John H. 190,041.
Reiser, John H. 190,043.
Westinghouse Electric Corp.: *See*—
Rackley, Carle E. 190,049.
White, William J., and L. Besterda; said Besterda assor. to said White. Flower pot. 190,039, 4–4–61, Cl. D35—3.
Zenith Radio Corp.: *See*—
Boldt, Melvin H. 190,054.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 4TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Svenska Flaktfabriken: *See*—
Berg, Bengt. 2,978,065.
AMP Inc.: *See*—
Watts, William S. 2,978,667.
A.R.B.E.D., Acieries Reunies de Burbach-Eich-Dudelange, Societe Anonyme: *See*—
Metz, Paul L., and Nepper. 2,978,180.
A. R. F. Products, Inc.: *See*—
Pakan, John J. 2,978,702.
Abadjieff, Ivan V. to Leland-Gifford Co. Making collets. 2,978,250, 4–4–61, Cl. 279—43.
Abelow, Herbert: *See*—
Moore, Samuel N., Abelow, and Moore. 2,977,911.
Abersegg, David C., to Surface Chemical Development Corp. Aqueous suspensions of colloidal graphite and their preparation. 2,978,428, 4–4–61, Cl. 260—29.6.
Ace Engineering Co.: *See*—
Smith, Gus T. 2,977,780.
Smith, Gus T. 2,977,781.
Acme Steel Co.: *See*—
Allfree, David. 2,977,872.
Adams, Quandt M., to The B. F. Goodrich Co. Stabilized carboxylic monomers. 2,978,501, 4–4–61, Cl. 260—526.
Adinolfi, Michael. Automatic lock for cloth covered buttons. 2,977,653, 4–4–61, Cl. 24—113.
Adolphson, Roy T.: *See*—
Smith, William H., Frohner, and Adolphson. 2,977,956.
Aerojet-General Corp.: *See*—
Cox, Robert B. 2,978,304.
Frankel, Milton B. 2,978,452.
Frankel, Milton B. 2,978,453.
Frankel, Milton B. 2,978,455.
Frankel, Milton B. 2,978,485–94.
Frankel, Milton B. 2,978,509.
Frankel, Milton B. 2,978,511.
Frankel, Milton B., and Klager. 2,978,495.
Frankel, Milton B., and Klager. 2,978,496.
Frankel, Milton B., and Klager. 2,978,497.
Frankel, Milton B., and Klager. 2,978,498.
Frankel, Milton B., and Klager. 2,978,504–6.
Frankel, Milton B., and Klager. 2,978,510.
Frankel, Milton B., and Linden. 2,978,512.
Geckler, Richard D., and Hepner. 2,977,755.
Klager, Karl. 2,978,467.
Klager, Karl. 2,978,475.
Klager, Karl. 2,978,503.
Klager, Karl. 2,978,516.
Klager, Karl, and Frankel. 2,978,474.
Klager, Karl, and Vanneman. 2,978,476.
Lawrence, Ralph W. 2,978,305.
Linden, Gustave B. 2,978,477.
Mace, Harry W. 2,978,306.
Mace, Harry W. 2,978,307.
Mahon, Henry I., and Gill. 2,977,884.
Plaut, Herman. 2,978,484.
Vanneman, Clinton R., and Klager. 2,978,483.
Aeroquip Corp.: *See*—
Walpole, Floyd K. 2,977,995.
Agfa Aktiengesellschaft: *See*—
Brandt, Hans-Ado. 2,978,090.
Hars, Walter, and Bruck. 2,978,414.
Agnello, Richard W., and M. Dabich, to F. Jos. Lamb Co. Storing and distributing conveyors. 2,978,120, 4–4–61, Cl. 214—16.
Aiken, William R., to Kaiser Industries Corp. Electronic control system. 2,978,601, 4–4–61, Cl. 313—92.
Airguide Instrument Co.: *See*—
Taylor, Howard S. 2,977,794.
Airsteco, Inc.: *See*—
Di Camillo, Eugene J., and Smith. 2,978,062.
Ajinomoto Co., Inc.: *See*—
Kato, Jiro, Wakamatsu, and Ishiwara. 2,978,491.
Aktiebolaget A. Ekstroms Maskinaffar: *See*—
Hult, Nils E. R., and Broman. 2,978,378.
Aktiebolaget Bahco: *See*—
Lundin, David M. E. 2,978,091.
Aktiebolaget Electrolux: *See*—
Caudry, Edouard. 2,978,277.
Nilsson, Bengt E. 2,977,620.
Aktiebolaget Penta: *See*—
Bergstedt, Karl A. 2,977,923.
Aktiebolaget Separator: *See*—
Rasmussen, Harry R. 2,978,327.
Aleiyunas, Solomon. Game. 2,977,713, 4–4–61, Cl. 46—1.
Alexander, Rexford G., Jr., to Burroughs Corp. Information storage device. 2,978,683, 4–4–61, Cl. 340—174.
Alford, Harvey E.: *See*—
Veatch, Franklin, Alford, and Croft. 2,978,339.
Veatch, Franklin, Alford, and Croft. 2,978,340.
Allan, Ian, ¼ to Scotcraft Ltd. Sewing machine attachments. 2,977,907, 4–4–61, Cl. 112—134.
Allen, Herbert, to Cameron Iron Works, Inc. Valve. 2,977,975, 4–4–61, Cl. 137—330.
Allen, Herbert, to Cameron Iron Works, Inc. Valve. 2,977,976, 4–4–61, Cl. 137—330.
Allfree, David, to Acme Steel Co. Strapping machine. 2,977,872, 4–4–61, Cl. 100—17.
Allgeyer, Guy H., R. L. Early, and T. B. Sorbie, to Owens-Illinois Glass Co. Synchro-tie receiver motor synchronised-speed control. 2,978,619, 4–4–61, Cl. 318—24.
Allied Chemical Corp.: *See*—
Fein, Marvin M., and Friedman. 2,978,416.
Allium, Inc.: *See*—
Teigen, Ferdinand A. 2,978,233.
Altamura, Mario R.: *See*—
Loconti, Joseph D., Davies, Hunter, Coles, and Altamura. 2,978,584.
Altenburg, William M. Snow-melting machine and method. 2,977,955, 4–4–61, Cl. 126—343.5.
Alweg-Forschung G.m.b.H.: *See*—
Rosenbaum, Kurt. 2,977,893.
Alweg-Forschung, Gesellschaft mit beschrankter Haftung: *See*—
Ihmig, Rudolf. 2,977,892.
American Box Board Co.: *See*—
Anderson, Wilbur G., Jr. 2,978,163.
American Can Co.: *See*—
Pottle, Ralph K. 2,978,093.
American Cyanamid Co.: *See*—
Chamberlain, Ralph J. 2,978,415.
Moyer, Samuel P. 2,978,394.
Schiller, Arthur M. 2,978,517.
American Electric Mfg. Corp.: *See*—
Ringger, Walter A., Jr. 2,978,591.
American Enka Corp.: *See*—
Limburg, Pieter C., Buurman, and Vroon. 2,978,292.
American Gate & Machine Co.: *See*—
Arbeiter, Alvin H., and Mateja. 2,978,640.
American Greetings Corp.: *See*—
Pearce, Lewis C. 2,977,733.
American Machine & Foundry Co.: *See*—
Fearnside, Kenneth. 2,978,583.
American Machine and Metals, Inc.: *See*—
Harp, Alonzo M. 2,978,167.
American Radiator & Standard Sanitary Corp.: *See*—
Amneus, John S. 2,978,182.
Noakes, Thomas E. 2,978,181.
American Screen Products Co.: *See*—
Winnan, Russell M. 2,978,022.
American Telephone and Telegraph Co.: *See*—
Huxtable, Ruth L. 2,978,542.
American Thread Co., The: *See*—
Westall, Thomas R., and Bennis. 2,978,203.
American Tool Works Co., The: *See*—
Hery, Vincent D. 2,977,860.
American Viscose Corp.: *See*—
Battista, Orlando A., and Smith. 2,978,446.
Conti, John D. 2,978,008.
Milne, David T. 2,978,299.
American Vitrified Products Co.: *See*—
Wilson, Charles L. 2,978,850.
Ames, Malcolm H., to Technicolor Corp. Pitch compensating cinematographic printer. 2,977,966, 4–4–61, Cl. 95—75.
Ames, W. R., Co.: *See*—
Gray, Cloyd E., Sherman, Fox, Ferrari, and Hibb. 2,977,914.
Amneus, John S., to American Radiator & Standard Sanitary Corp. Three temperature mixing valve. 2,978,182, 4–4–61, Cl. 236—12.
Ancet, Victor M. J., and Marius Fayolle (known as Marcel Fayolle). Weft control mechanism. 2,977,996, 4–4–61, Cl. 139—370.
Anderson, Karl W.: *See*—
Karlsson, Marius, and Jonsson. 2,978,269.
Anderson, Lloyd L., E. E. Johnson, R. G. Metzger, and A. J. Van Noord, to Jervis Corp. Tray elevation adjustment. 2,978,113, 4–4–61, Cl. 211—146.
Anderson, Maynard W. Push button operated paper towel roll holder. 2,978,197, 4–4–61, Cl. 242—55.2.
Anderson, Robert J., J. T. Hamrick, and F. L. Oppenheimer, to Thompson Ramo Wooldridge Inc. Ground power device. 2,977,820, 4–4–61, Cl. 74—665.
Anderson, Wilbur G., Jr., to American Box Board Co. Clearance pad. 2,978,163, 4–4–61, Cl. 229—14.
Andersen, John H., Jr. Magnetic recorder with echo effect. 2,978,546, 4–4–61, Cl. 179—100.2.
Annenberg, Robert H., to General Precision Systems Ltd. Analogue computers. 2,978,180, 4–4–61, Cl. 235—196.
Anthony, William C.: *See*—
Szmuszkovicz, Jacob, and Anthony. 2,978,459.
Antioch College: *See*—
Verset, Sergius and Asakawa. 2,978,665.
Appleman, Leo H., to Topatron, Inc. Shielding structure. 2,978,531, 4–4–61, Cl. 174—35.
Arbeiter, Alvin H., and E. J. Mateja, to American Gate & Machine Co. D'arsonval-movement assembly. 2,978,640, 4–4–61, Cl. 324—151.

Arbetman, Arthur: *See*—
Rodman, Norman H. A., and Arbetman. 2,978,100.
Ardner, Robert L., to Lynch Corp. Wrapper registration control. 2,977,730, 4-4-61, Cl. 53—61.
Arens, Walter: *See*—
Holzwarth, Herbert, and Arens. 2,978,544.
Arlauskas, Alfonsas, to General Motors Corp. Window regulator mechanism. 2,978,242, 4-4-61, Cl. 268—121.
Armour and Co.: *See*—
Damaskus, Charles W. 2,978,385.
Armour Research Foundation of Illinois Institute: *See*—
Bradstreet, Samuel W., and Rechter. 2,978,360.
Arnett, Leslie, and W. G. Freise, to Square Mfg. Co. Ingredient supply system for beverage dispensing apparatus. 2,978,145, 4-4-61, Cl. 222—63.
Arps, Jan J. Apparatus for logging wells. 2,978,634, 4-4-61, Cl. 324—1.
Art Metal Construction Co.: *See*—
Brandell, Nels O. 2,978,112.
Arthur, Evan M. Pliers. 2,977,674, 4-4-61, Cl. 29—229.
Asakawa, George: *See*—
Vernet, Serqius and Asakawa. 2,978,665.
Ashley, Carlyle M., to Carrier Corp. Method of blanching food products. 2,978,325, 4-4-61, Cl. 99—1.
Ateliers de Constructions Electriques de Charlerol: *See*—
Braeckman, Fernand. 2,978,530.
Ateliers des Charmilles S. A.: *See*—
Pfau, Jean. 2,978,616.
Atlantic Refining Co., The: *See*—
Birkhimer, Edwin R. 2,978,419.
Atlantic Research Corp.: *See*—
Rice, Millard L., and Barnes. 2,978,879.
Atwater, Arthur R., and E. M. Julich, to Bell Telephone Laboratories, Inc. Gold plating solutions. 2,978,390, 4-4-61, Cl. 204—46.
Atwood, Kenneth F., A. K. Long, and O. F. Shobe, to The Glidden Co. Metal primers and coating compositions modified with lower alkyl esters of unsaturated aliphatic acids. 2,978,424, 4-4-61, Cl. 260—19.
Automatic Electric Laboratories, Inc.: *See*—
Benisek, Edward J. 2,978,137.
Avco Corp.: *See*—
Kuecken, John A. 2,978,703.
Ayers, George W., and W. A. Krewer, to The Pure Oil Co. Production of odorless naphthas. 2,978,406, 4-4-61, Cl. 208—289.
Baber, Claude: *See*—
Smith, Warner B., and Baber. 2,977,658.
Baciu, Nick, to General Electric Co. Film drawing process. 2,978,371, 4-4-61, Cl. 154—2.28.
Backlund, Robert R. B., J. M. Bailey, A. Goloff, D. C. Dowdall, and H. M. Kiley, to Caterpillar Tractor Co. Automatic timing device for engines. 2,977,778, 4-4-61, Cl. 64—25.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Pfannmueller, Wilhelm, Johannsen, Wolf, and Wittmann. 2,978,297.
Reppe, Walter, and Seefelder. 2,978,450.
Baer, Harold: *See*—
Root, Nathan and Nyman. 2,977,697.
Baeuerlen, Robert J.: *See*—
Kidger, David P., and Baeuerlen. 2,978,335.
Bailey, Christopher E. G., and L. J. Kennard, to The Solartron Electronic Group Ltd. Radar simulators. 2,977,687, 4-4-61, Cl. 35—10.4
Bailey, Fred L., and J. P. Jenkins. Accessory for automatic record changer. 2,978,249, 4-4-61, Cl. 274—10.
Bailey, John M.: *See*—
Backlund, Robert R. B., Bailey, Goloff, Dowdall, and Kiley. 2,977,778.
Baines, Leslie, to Richard Sutcliffe Ltd. Fluid actuated mechanisms. 2,978,044, 4-4-61, Cl. 175—144.
Baker, Frederick C. Shield-supporting means for light fixture. 2,978,574, 4-4-61, Cl. 240—146.
Banker, Oscar H., to Fawdick Corp. Power steering mechanism. 2,977,813, 4-4-61, Cl. 74—388
Banker, Oscar H., to Fawdick Corp. Fuel pump. 2,977,886, 4-4-61, Cl. 103—11.
Barenyi, Bela, to Daimler-Benz Aktiengesellschaft Reinforcing structure for automobiles with panorama windshields. 2,978,053, 4-4-61, Cl. 180—78.
Barfod, Frederik, to The Bendix Corp. Mixture control. 2,977,949, 4-4-61, Cl. 123—140.
Barient Co.: *See*—
Moseley, Tomlinson I., and Guangorena. 2,978,224.
Barker, Benedict A. Boat carrier. 2,978,257, 4-4-61, Cl. 280—179.
Barker, Peter W., R. N. Heslop, V. D. Poole, and W. E. Stephen, to Imperial Chemical Industries Ltd. Process for coloring cellulose with new triazine dyestuffs. 2,978,289, 4-4-61, Cl. 8—54.2.
Barker Poultry Equipment Co: *See*—
Barker, Seth S., Crane, and Sharp. 2,977,628.
Barker, Seth S., E. J. Crane, and A. W Sharp, to Barker Poultry Equipment Co. Apparatus for scalding fowls. 2,977,628, 4-4-61, Cl. 17—11.2.
Barkhuff, Raymond A., Jr., and N. Platner to Monsanto Chemical Co. Method for preparing laminated plastic structures. 2,977,639, 4-4-61, Cl. 18—59.
Barkley, Dwight W.: *See*—
Harwig, Stephen H., and Barkley. 2,978,366.
Barmer Maschinenfabrik Aktiengesellschaft: *See*—
Weber, Wolfgang, and Lohest. 2,978,195.
Barnes Philip E., to United Aircraft Corp. Servo solenoid valve. 2,977,984, 4-4-61, Cl. 137—623.
Barnes, William P., Jr.: *See*—
Rice, Millard L., and Barnes. 2,977,879.
Barney, Harold L., to Bell Telephone Laboratories, Inc. Hydrophone. 2,978,672, 4-4-61 Cl. 340—14
Barnothy, Jeno M. Radiation measuring device. 2,978,602, 4-4-61, Cl. 313—93.
Barta, Henry J., to S & C Electric Co. Circuit interrupter operating means. 2,978,558, 4-4-61, Cl. 200—146.
Bartik, William J.: *See*—
Sims, John C., Jr., and Bartik. 2,978,681.
Bartlett, Paul D., and B. E. Tate, to The B. F. Goodrich Co. Thiolactones and method of preparation. 2,978,460, 4-4-61, Cl. 260—332.3.
Barton, David W. and G. A. Ulrich, to Ford Motor Co. Power steering device. 2,978,057, 4-4-61, Cl. 180—79.2.
Basic Products Corp.: *See*—
Frank, Arthur W. 2,978,237.
Baso Inc.: *See*—
Glatthews, Russell B. 2,977,966.
Bastian, Richard R., and A. C. Ottoson, to Imperial Glass Corp. Glass composition. 2,978,341, 4-4-61, Cl. 106—50.
Bates, Arthur C., and R. C. Crowe, to I-T-E Circuit Breaker Co. Interrupter unit for telescoping blade switch. 2,978,560, 4-4-61, Cl. 200—148.
Bates, Wayne C.: *See*—
North, Edwin W., and Bates. 2,978,267.
Batson, Robert W. Shielded electric cigarette lighter. 2,978,566, 4-4-61, Cl. 219—32.
Battelle Memorial Institute: *See*—
Miller, James F., and Himes. 2,978,661.
Battista, Orlando A., and P. A. Smith, to American Viscose Corp. Level-off D. P. cellulose products. 2,978,446, 4-4-61, Cl. 260—212.
Battle, James H., C. H. Hack, and O. Konig, to National Lead Co. Soldering fluxes. 2,978,369, 4-4-61, Cl. 148—23.
Batty, Edward G. Aerosol can. 2,978,152, 4-4-61, Cl. 222—394.
Bauer, William E., to Minneapolis-Honeywell Regulator Co. Differential pressure responsive apparatus. 2,977,990, 4-4-61 Cl. 137—779.
Bauer, William E., to Minneapolis-Honeywell Regulator Co. Controller. 2,977,991, 4-4-61, Cl. 137—781.
Bauman, Edward E., to North Electric Co. Sensitive control device. 2,978,614, 4-4-61, Cl. 317—146.
Baumgartner, Frederick N.: *See*—
Leverberg, Rudolph R., and Baumgartner. 2,978,411.
Basler, Seward M., to General Electric Co. Production of continuous laminated strips. 2,977,630, 4-4-61, Cl. 18—4.
Beaman, Norman V., and R. M. Broomall, to C. J. Patterson Co. Bowl storage conveyor. 2,978,096, 4-4-61, Cl. Cl. 198—181.
Beatty, Eugene F., to The Bendix Corp. Power brake with automatic hold feature. 2,978,080, 4-4-61, Cl. 192—3.
Becker, Bernard B., to Lewis-Shepard Co. Hydraulic hose take up. 2,978,129, 4-4-61, Cl. 214—853.
Becker, George D., and K. B. Lowe, to Nordberg Mfg. Co. Variable actuator for screens, feeders and the like. 2,977,809, 4-4-61, Cl. 74—87.
Becker, Gustav: *See*—
Hoffmann, Karl-Heinz, and Becker. 2,977,797.
Becker, Myron, to Socony Mobil Oil Co., Inc. Pyrrolidone deicer in gasoline fuels. 2,978,303, 4-4-61, Cl. 44—63.
Beckman, Ernest C., to Modern Metal Products Co. Deck lid latch. 2,977,785, 4-4-61, Cl. 70—141.
Beckman Instruments, Inc.: *See*—
Braymer, Noel B. 2,978,625.
Beegan, David T., and H. O. Boss, to Borg-Warner Corp. Differential adjustment for precision instruments. 2,977,802, 4-4-61, Cl. 73—432.
Beher, John T., to The Bendix Corp. Liquid level gages. 2,978,891, 4-4-61, Cl. 340—244.
Belfi, Anthony B.: *See*—
Mauck, Victor, Duke, and Belfi. 2,978,373.
Bell, Donald G., to Fairchild Camera and Instrument Corp. Electrical potentiometer and method of making same. 2,978,662, 4-4-61, Cl. 338—143.
Bell, Harold S., Jr., to Thiokol Chemical Corp. Rocket chamber with multi-pass axial flow coolant passageways. 2,977,754, 4-4-61, Cl. 60—35.6.
Bell Telephone Laboratories, Inc.: *See*—
Atwater, Arthur R., and Julich. 2,978,390.
Barney, Harold L. 2,978,672.
Brown, Earl F. 2,978,535.
Crowson, Fred B., Locke, and MacLaughlin. 2,978,534.
Highleyman, Wilbur H. 2,978,675.
Ketchledge, Raymond W. 2,978,577.
Marcuse, Dietrich. 2,978,657.
Peek, Robert L., Jr. 2,978,670.
Schulte, Harry J., Jr. 2,978,680.
Van Tassel, Earl K. 2,978,677.
Weise, Max T. 2,978,649.
Bemis Bro. Bag Co.: *See*—
Williams, Russell J., Brady, and Ottinger. 2,978,164.
Bemis, Edwin G., to California Research Corp. Well wash fluid. 2,978,026, 4-4-61, Cl. 166—44.
Benade, Walter, G. Dittmar, and W. Scholl, to Farbenfabriken Bayer Aktiengesellschaft. Chromium-containing monoazo dyestuffs. 2,978,445, 4-4-61, Cl. 260—147.
Bender, Edward J., and H. H. Richardson, to The Patent and Licensing Corp. Device for accurately placing lanes of granular on moving web. 2,977,924, 4-4-61, Cl. 118—3.
Bender, Philip E.: *See*—
Sprouse, Verner E., and Bender. 2,978,216.
Bendix Corp., The: *See*—
Barfod, Frederik. 2,977,949.
Beatty, Eugene F. 2,978,080.
Beher, John T. 2,978,691.
Burnett, Richard T. 2,978,072.
Chambers, Warren D 2,977,809.
Champion, Carl E. 2,978,693.
Chapman, James R., Jr., and Byers. 2,977,982.
Hoof, Robert G. 2,977,812.
Lewis, Richard L. 2,977,761.
Mock, Frank C. 2,977,757.
Morris, Vernon B., Jr., Ogden, and Sobel. 2,978,102.
Segall, Louis H. 2,978,611.
Wiechhusen, Egon H. 2,978,550.

Benekam, William. Floating mushroom root trimming machine. 2,978,003, 4-4-61, Cl. 146—81.
Beneech, Alfred. Shoes for paralytic patients. 2,977,692, 4-4-61, Cl. 36—8.5.
Benisek, Edward J., to Automatic Electric Laboratories, Inc. Dust cover for automatic telephone switch mechanism. 2,978,137, 4-4-61, Cl. 220—18.
Bennis, Leslie J.: *See*—
Westall, Thomas E., and Bennis. 2,978,208.
Berg, Bengt, to AB Svenska Flaktfabriken. Regulating electric precipitators. 2,978,065, 4-4-61, Cl. 183—7.
Bergee, Arthur P.: *See*—
Rugland, Gerhard T., Yackel, and Bergee. 2,977,689.
Bergstedt, Karl A., to Aktiebolaget Penta. Marine inboard motor power unit. 2,977,923, 4-4-61, Cl. 115—34.
Bergstedt, Milton A., and R. H. Lamason, to Johnson & Johnson. Method for the manufacture of vinyl film, the resulting film, and paper spliced therewith. 2,978,372, 4-4-61, Cl. 154—43.
Bergstrom, Eric V., to Socony Mobil Oil Co., Inc. Method and apparatus for transferring contact material. 2,978,279, 4-4-61, Cl. 302—53.
Berman, Elliot, and D. B. McQuain, to The National Cash Register Co. Derivatives of 3'-methyl-spiro (2H-1-beta-naphthopyran-2,2'-[2'H-1' bensopyran]). 2,978,462, 4-4-61, Cl. 260—345.2.
Bernitz, Carl C., to Maxine A. Niebrugge. Expansion coupling. 2,977,777, 4-4-61, Cl. 64—23.
Bernotas, Ralph J., to General Motors Corp. Cradle loader. 2,978,124, 4-4-61, Cl. 214—140.
Berry, William R.: *See*—
Keeney, William E., Berry, and Stock. 2,978,223.
Bertsch, Joseph F., and K. H. Hansen, to General Motors Corp. Dual height suspension control mechanism. 2,978,256, 4-4-61, Cl. 280—124.
Bethlehem Steel Co.: *See*—
Simpson, Stanley F. 2,977,648.
Better, Bernard R., to Scully-Jones and Co. Overload release clutch. 2,978,082, 4-4-61, Cl. 192—56.
Bewley, Richard W.: *See*—
Doman, Glidden S., Du Pont, and Bewley. 2,978,038.
Bibb, William M.: *See*—
Gray, Cloyd E., Sherman, Fox, Ferrari, and Bibb. 2,977,914.
Bicking, John B.: *See*—
Sprague, James M., and Bicking. 2,978,457.
Bieber, Kasimir M. Ski-tow grippers. 2,977,895, 4-4-61, Cl. 104—202.
Biel, John H., to Lakeside Laboratories, Inc. Process of producing phenylalkylhydrazines. 2,978,461, 4-4-61, Cl. 260—340.5.
Biemiller, Philip E., and K. H. Schoenrock, to Hamilton Watch Co. Indexing mechanism. 2,977,750, 4-4-61, Cl. 58—28.
Bierman, Raymond C., to Motorola, Inc. Drive for tape recorder. 2,978,198, 4-4-61, Cl. 242—55.12.
Bierwirth, Henry C., and N. L. Rutgers, to Lennox Industries, Inc. Air distribution system for heating, cooling and ventilating. 2,977,870, 4-4-61, Cl. 98—40.
Bigelow, Charles G., A. J. Whitcomb, and A. J. Karsten, to Koppers Co., Inc. Stove system for blast furnaces. 2,978,219, 4-4-61, Cl. 251—81.
Bigot, Bernard: *See*—
Moyrand, Jean, and Bigot. 2,978,313.
Billeter, Henry R., and G. E. Richards, to Liquid Controls Corp. Liquid-level controlled devices. 2,977,972, 4-4-61, Cl. 137—202.
Birkhimer, Edwin R., to The Atlantic Refining Co. Stabilization of aqueous colloidal solutions of silica. 2,978,419, 4-4-61, Cl. 252—313.
Birkhols, Ulrich: *See*—
Hanlein, Walter, and Birkhols. 2,978,570.
Birmingham Small Arms Co. Ltd., The: *See*—
Jordison, Fred. 2,977,800.
Birmingham Sound Reproducers Ltd.: *See*—
Guest, Lawrence V. 2,977,815.
Biro, Edward W., and J. L. Pets. Dial indicators. 2,977,685, 4-4-61, Cl. 33—172.
Birtwell, Stanley, W. G. M. Jones, and R. F. Maisey, to Imperial Chemical Industries Ltd. Pyridine ketone derivatives of certain amino guanidines and process. 2,978,456, 4-4-61, Cl. 260—296.
Bishop, Arthur E. High pressure radial piston pump. 2,977,891, 4-4-61, Cl. 103—161.
Black, James F.: *See*—
Hollyday, William C., Jr., and Black. 2,978,395.
Black, James G., Jr.: *See*—
Knutsen, Wallace N., and Black. 2,977,928.
Blake, Theodore V., to United States of America, Navy. Sound impedance joint for torpedo. 2,977,919, 4-4-61, Cl. 114—20.
Blakeslee, G. S., & Co.: *See*—
Jackson, Thomas W. 2,978,229.
Blanding, Wendell S., and J. P. Hocker, to Corning Glass Works. Electric hot plate. 2,978,564, 4-4-61, Cl. 219—19.
Blanshine, Allison W., to Sperry Rand Corp. Infeed conveyor. 2,978,097, 4-4-61, Cl. 198—217.
Blaustein, Aaron, to Fairchild Camera and Instrument Corp. Automatic control system for precision resistor manufacture. 2,978,364, 4-4-61, Cl. 117—227.
Bless, William. Predetermined torque release hand tool. 2,977,832, 4-4-61, Cl. 81—52.4.
Bloch, Erich, and R. C. Paulsen, to International Business Machines Corp. Magnetic flip-flop. 2,978,593, 4-4-61, Cl. 307—88.
Blum, Edmund D., and L. R. E. Hutchings, to The Pure Oil Co. Process for recovery of aromatic hydrocarbons. 2,978,520, 4-4-61, Cl. 260—674.
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Boehringer, C. H., Sohn: *See*—
Jerchel, Dietrich. 2,978,465.
Boettcher, Otto, Jr.: *See*—
Cuff, Harold E., Boettcher, and Gammill. 2,978,265.
Bohme Fettchemie G.m.b.H.: *See*—
Wedell, Hans. 2,978,359.
Bolding, Hubert V., to Standard Packaging Corp. Packaging folder. 2,978,165, 4-4-61, Cl. 229—87.
Bomac Laboratories Inc.: *See*—
Duffy, John M., and Heins. 2,978,609.
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Borden, Howard C., to A. B. Dick Co. Electrostatic writing tube. 2,978,607, 4-4-61, Cl. 315—12.
Boretti, Napoleon P., A. F. Hessler, and T. W. Shearer, Jr., to General Motors Corp. Method and apparatus for forming holes in sheet metal. 2,978,569, 4-4-61, Cl. 219—69.
Borg-Warner Corp.: *See*—
Beegan, David T., and Boss. 2,977,802.
Campbell, Henry H. 2,978,264.
Doelcher, Harold S. 2,978,150.
Edwards, James D., and Wartel. 2,978,240.
Headings, William W. 2,977,983.
Krusan, Albert W. 2,978,282.
Norlin, Francis E. 2,977,887.
Orr, Palmer. 2,978,058.
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Boutillette, Edward J.: *See*—
Crawford, Ishmael, and Boutillette. 2,977,783.
Bowers, Rolland G., to Sun Oil Co. Oxidative sweetening with alkaline material and partial ester of polyhydric alcohol. 2,978,404, 4-4-61, Cl. 208—204.
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Winston, Elwyn C., and Holzman. 2,977,601.
Brace, Porter H., and J. C. Laffan, Jr., to United States of America, Navy. Method of making gun liner elements. 2,977,666, 4-4-61, Cl. 29—1.1.
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Fite, Wade L., and Brackmann. 2,978,603.
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Bradstreet, Samuel W., and H. L. Rechter, to Armour Research Foundation of Illinois Institute of Technology. Combustion catalysis. 2,978,360, 4-4-61, Cl. 117—104.
Brady, Charles V.: *See*—
Williams, Russell J., Brady, and Ottinger. 2,978,164.
Braeckman, Fernand, to Ateliers de Constructions Electriques de Charlerol. Conductor for transformer windings. 2,978,530, 4-4-61, Cl. 174—34.
Brandell, Nels O., to Art Metal Construction Co. Book stack units. 2,978,112, 4-4-61, Cl. 211—136.
Brandt Automatic Cashier Co.: *See*—
Buchholz, Arnold R., and Haban. 2,977,961.
Brandt, Hans-Ado, to Agfa Aktiengesellschaft. Ribbon advancing and reversing mechanism for stamping devices, typewriters and the like. 2,978,090, 4-4-61, Cl. 197—162.
Braymer, Noel B., to Beckman Instruments, Inc. Servomechanism. 2,978,625, 4-4-61, Cl. 318—448.
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Willemsen, Johannes. 2,977,657.
Breese, Lemuel R., to North Electric Co. Remote control system. 2,978,538, 4-4-61, Cl. 178—6.6.
Breil, Werner: *See*—
Trippe, Walter, and Breil. 2,977,964.
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Bremshey & Co.: *See*—
Trippe, Walter, and Breil. 2,977,964.
Bremshey, Fritz: *See*—
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Brightbill, Edgar N., and K. P. Lindland, to E. I. du Pont de Nemours and Co. Recovery process for polyethylene. 2,978,442. 4-4-61, Cl. 260—94.9.
Brindle, Theodore H. Cabinet structure for automotive vehicles. 2,978,153, 4-4-61, Cl. 224—42.42.
Brinkman, Earl W., to Davenport Machine Tool Co., Inc. Thread rolling attachment. 2,977,830, 4-4-61, Cl. 80—6.
Brisbin, John E. Machine for cleaning cartridge primer pockets. 2,977,618, 4-4-61 Cl. 15—104.1.
Brisley, Frank O., and R. E. Evans, to Owens-Corning Fiberglas Corp. Battery separator and method for manufacturing same. 2,978,529, 4-4-61. Cl. 136—145.
Bristol Aero-Engines Ltd.: *See*—
Soltau, William E., and Orchard. 2,977,760.
Bristol Siddeley Engines Ltd.: *See*—
Rice, Alec. 2,977,816.
Stanton, Francis P. 2,978,160.
British Thomson-Houston Co. Ltd., The: *See*—
Knight, Henry de B. 2,978,604.
Broman, Bror O.: *See*—
Hult, Nils R. R., and Broman. 2,978,378.
Brook, Leonard, E. H. Lazenby, and P. G. Wilson, to The Forgrove Machinery Co. Ltd. Wrapping machines. 2,977,731, 4-4-61, Cl. 53—74.

Brooks Equipment Corp.: *See*—
Quinn, Aloysius J. 2,977,776.
Brooks Eugene H., to Continental Gin Co. Lint cotton opener and cleaner. 2,977,641, 4-4-61, Cl. 19—93.
Broomall, Robert M.: *See*—
Beaman, Norman V., and Broomall. 2,978,096.
Broughton, Sidney H., to Omark Industries, Inc. Stud driving tool. 2,977,306, 4-4-61, Cl. 1—106.
Brown, Arthur S.: *See*—
Weiss, Irwin K., Mair, Jackman, Brown, and Sayers. 2,978,253.
Brown, Earl F., to Bell Telephone Laboratories, Inc. Optimal run length coding of image signals. 2,978,535, 4-4-61, Cl. 178—6.
Brown, Edward H., Jr.: *See*—
Brown, Edward H., Sr., Vernon, and Brown. 2,977,608.
Brown, Edward H., Sr., W. A. Vernon, and E. H. Brown, Jr. Fishing spot marker. 2,977,606, 4-4-61, Cl. 9—8.
Brown, John H., Jr., and N. B. Lorette, to The Dow Chemical Co. Esterification process. 2,978,469, 4-4-61, Cl. 260—410.9.
Brown, Leslie S., K. A. Ives, and L. H. L'Hollier, to Hook-Brown Co. Heel cup construction for ladies' overshoes. 2,977,691, 4-4-61, Cl. 36—7.3.
Browne, Lindsay H. Valve. 2,977,974, 4-4-61, Cl. 137—243.
Bruck, Rolf: *See*—
Harr, Walter, and Bruck. 2,978,414.
Brucken, Byron L., and G. B. Long, to General Motors Corp. Garbage grinder. 2,978,190, 4-4-61, Cl. 241—46.
Brunson, Glenn S., Jr., to United States of America, Atomic Energy Commission. Two-speed device. 2,977,814, 4-4-61, Cl. 74—424.6.
Bue, Saul R., to General Aniline & Film Corp. Treatment of iron chlorosis in chlorophyllaceous plants. 2,978,309, 4-4-61, Cl. 71—1.
Bucalo, Louis, to Specialties, Inc. Pneumatic probe assembly for detecting airstream direction. 2,977,793, 4-4-61, Cl. 73—180.
Buchholz, Arnold R., and F. Haban, to Brandt Automatic Cashier Co. Coin sorting machine. 2,977,961, 4-4-61, Cl. 133—3.
Buck, Eugene W., to Buck Mfg. Co. Electromagnetic drill support with auxiliary power supply. 2,977,525, 4-4-61, Cl. 77—7.
Buck Mfg. Co.: *See*—
Buck, Eugene W. 2,977,525.
Buisson, André, to Societe Anonyme dite: Societe Lorraine Des Anciens Etablissements de Dietrich & Cie de Luneville. Vehicle coupling system. 2,978,259, 4-4-61, Cl. 280—405.
Bull Dog Lock Co.: *See*—
Waller, Arthur, and Isensee. 2,978,078.
Bunch, Tillman T., to Western Electric Co., Inc. Centripetal extruder. 2,977,632, 4-4-61, Cl. 18—13.
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Bundorf, Ronald T., to General Motors Corp. Interconnected fluid suspension system. 2,978,254, 4-4-61, Cl. 280—104.
Bundy, Oswald M., and A. J. Nemeth, to The Clark Controller Co. Rotary cam switches. 2,978,553, 4-4-61, Cl. 200—38.
Bungardt, Walter, to Ronson Metals Corp. Pyrophoric alloys without iron. 2,978,322, 4-4-61, Cl. 75—182.
Bunnell, Glen R., to Special Engineering Service, Inc. Press feed mechanism. 2,978,160, 4-4-61, Cl. 226—151.
Burgess Cellulose Co.: *See*—
Fransene, Robert D. 2,977,619.
Burgess, Edward G., Jr.: *See*—
Newell, William H., Burgess, Zabb, and Frangoulis. 2,978,177.
Burlington Industries, Inc.: *See*—
Fahringer, Victor T. 2,978,291.
Burnett, Barrie S., and D. Marfleet, to Submarine Cables, Ltd. Moulding of thermoplastic materials. 2,978,532, 4-4-61, Cl. 174—65.
Burnett, Richard T., to The Bendix Corp. Automatic brake adjustor. 2,978,072, 4-4-61, Cl. 188—79.5.
Burns, Cecil H., Jr.: *See*—
Eckdahl, Donald E. Sprague, Dobbins, Burns, Edwards, and Donan. 2,978,685.
Burroughs Corp.: *See*—
Alexander, Rexford G., Jr. 2,978,683.
Pasinski, Arthur M. 2,978,172.
Burt Machine Co., Inc.: *See*—
Henthorn, Victor H. 2,978,091.
Busch, Andreas. Method and apparatus for coating metals. 2,978,356, 4-4-61, Cl. 117—50.
Bush, Robert C., to Corning Glass Works. Shipping and display package. 2,978,099, 4-4-61, Cl. 206—55.
Busnel, René-Guy. Acoustic attraction of carnivorous fish. 2,977,705, 4-4-61, Cl. 43—17.1.
Butler, Richard K., to Machinecraft, Inc. Apron guiding means for spinning frames. 2,977,643, 4-4-61, Cl. 19—131.
Buurman, Aart: *See*—
Limburg, Pieter C., Buurman, and Vroom. 2,978,292.
Buxton, Frank M. Means for securing concrete wall forms in position. 2,977,659, 4-4-61, Cl. 25—131.
Byers, James O., Jr.: *See*—
Chapman, James R., Jr., and Byers. 2,977,982.
C.G.S. Laboratories, Inc.: *See*—
Smith-Vaniz, William R. 2,978,624.
Sontheimer, Carl G. 2,978,660.
Cadman, Corlis D., E. W. Notbohm, and R. J. Picha, to The Parker Pen Co. Engraving machine. 2,977,681, 4-4-61, Cl. 33—21.
Cahn, Robert P., to Esso Research and Engineering Co. Diolefin manufacture. 2,978,522, 4-4-61, Cl. 260—680.
Caine, George E., W. H. Greeley, and F. E. Mooney, to United States of America, Army. Closure assembly. 2,978,134, 4-4-61, Cl. 215—47.
Calehuff, James M., G. A. Maciejewski, and W. L. Reiter, to Sylvania Electric Products Inc. Lead feed mechanism. 2,977,717, 4-4-61, Cl. 40—2.
California Research Corp.: *See*—
Bemis, Edwin G. 2,978,026.
Simm, Clarke N. 2,977,792.
Cameron Iron Works, Inc.: *See*—
Allen, Herbert. 2,977,975.
Allen, Herbert. 2,977,976.
Pennington, John V. 2,977,977.
Campanile, Arnold R., to United States of America, Navy. Neck-seal sizing template. 2,977,684, 4-4-61, Cl. 33—2.
Campbell, Henry H., to Borg-Warner Corp. Seal. 2,978,264, 4-4-61, Cl. 286—11.
Campbell, Ivor E., to United States of America, Atomic Energy Commission. Method of obtaining uniform coatings on graphite. 2,978,358, 4-4-61, Cl. 117—94.
Campbell Soup Co.: *See*—
Johannes, Erich H. L. 2,977,902.
Canada, David G., to Sarkes Tarzian, Inc. Vernier tuning circuit for high frequency tuner. 2,978,651, 4-4-61, Cl. 331—170.
Canadian Chemical Co., Ltd.: *See*—
Poynton, Arthur J. 2,978,514.
Candell, Ralph L., to Shoup Electronics Inc. Toll charge recording system. 2,978,171, 4-4-61, Cl. 234—16.
Candlin, James E., Jr., to Pullman Inc. Railway coach vehicle. 2,977,896, 4-4-61, Cl. 105—340.
Cariberg, Robert E., to United States of America, Navy. Carriage for a mobile missile mount. 2,977,857, 4-4-61, Cl. 89—40.
Carleton, Paul D., to Ford Motor Co. Fuel injection system. 2,977,947, 4-4-61, Cl. 123—119.
Carlisle, Benjamin H.: *See*—
Zarleng, Steve A., and Carlisle. 2,978,632.
Carlo, Clarence E., to Dubuque Products, Inc. Collable partition. 2,978,019, 4-4-61, Cl. 160—23.
Carlson, Elmer A., to Minneapolis-Honeywell Regulator Co. Control apparatus. 2,978,228, 4-4-61, Cl. 257—288.
Carmen, Hyman, to Talon, Inc. Attachment for sewing slide fasteners to garments. 2,977,904, 4-4-61, Cl. 112—2.
Carrier Corp.: *See*—
Ashley, Carlyle M. 2,978,325.
Carriere, Edmond M. Book supporting device. 2,977,712, 4-4-61, Cl. 45—90.
Carson, Frank J., and H. A. Leflet, Jr., to Libbey-Owens-Ford Glass Co. Apparatus for bending glass sheets. 2,977,720, 4-4-61, Cl. 49—67.
Carter, Charles E., and R. W. Smyth, to Gulf Research & Development Co. Oxo process. 2,978,513, 4-4-61, Cl. 260—604.
Cartwright, Louis A.: *See*—
Kurie, Frans N. D., and Cartwright. 2,978,668.
Kurie, Frans N. D., and Cartwright. 2,978,690.
Caswell, Arthur S., to I-T-E Circuit Breaker Co. Bushing mounted interrupter. 2,978,559, 4-4-61, Cl. 200—148.
Caterpillar Tractor Co.: *See*—
Backlund, Robert R. B., Bailey, Goloff, Dowdall, and Kiley. 2,977,778.
Mattheessen, William L., and Workman. 2,977,805.
Risk, Norman E., Holden, and Heisel. 2,978,050.
Risk, Norman E., and McCarthy. 2,978,051.
Catlin, Robert T., and A. J. Landa, to Remington Arms Co., Inc. Kiln gun. 2,977,855, 4-4-61, Cl. 89—24.
Cattermole, Frances L. Permanent wave device. 2,977,960, 4-4-61, Cl. 132—48.
Cavin, Secratus H. Gun. 2,977,951, 4-4-61, Cl. 124—15.
Celanese Corp. of America: *See*—
MacLean, Alexander F., and Hobbs. 2,978,302.
Central Farmers Fertiliser Co.: *See*—
Seymour, James E. 2,978,311.
Seymour, James E. 2,978,312.
Central Soya Co., Inc.: *See*—
Kruse, Norman F. 2,978,326.
Cernohorsky, Jiri: *See*—
Dubsky, Bohivoj, Straka, Cernohorsky, and Kobilsek. 2,977,791.
Cerveny, Ladislav. Method for protecting metal parts by means of vapor-phase inhibitors of metal corrosion. 2,978,293, 4-4-61, Cl. 21—2.5.
Chafets, Harry, and J. A. Patterson, to Texaco Inc. Dibasic acid manufacture. 2,978,473, 4-4-61, Cl. 260—452.
Chain Belt Co.: *See*—
Poheim, Walter. 2,978,105.
Chait, Herman N., to United States of America, Navy. Reflection circulator. 2,967,654, 4-4-61, Cl. 333—9.
Chakine, Alexander. Inflatable article with one-piece valve body. 2,977,973, 4-4-61, Cl. 137—223.
Chamberlain, Ralph J., to American Cyanamid Co. Guanidine soaps as dry cleaning detergents. 2,978,415, 4-4-61, Cl. 252—118.
Chamberlin, Coleman R. Label holders for binding backs of books. 2,977,698, 4-4-61, Cl. 40—16.
Chambers, Burl D., to Dempster Brothers, Inc. Transporting and dumping equipment. 2,978,126, 4-4-61, Cl. 214—317.
Chambers, Warren D., to The Bendix Corp. Apparatus for roll-burnishing aircraft wheels and the like. 2,977,660, 4-4-61, Cl. 29—90.
Champion, Carl E., to The Bendix Corp. Analog to digital conversion system. 2,978,693, 4-4-61, Cl. 340—347.
Chang, Winston H., to General Electric Co. High strength, low alloy steels. 2,978,319, 4-4-61, Cl. 75—128.
Chapman, George B. Silage handling machine. 2,978,121, 4-4-61, Cl. 214—17.
Chapman, James R., Jr., and J. O. Byers, Jr., to The Bendix Corp. Priority valve construction. 2,977,982, 4-4-61, Cl. 137—612.1.

Chapman, Weldin G., and C. C. Graves, to Phillips Petroleum Co. Method of stripping unreacted monomer using silicone coated apparatus. 2,978,387, 4-4-61, Cl. 202—46.
Charpentie, Yvan: *See*—
Freud'Homme, Jean, and Charpentie. 2,978,380.
Chater, William T., to Hughes Aircraft Co. Electric trigger circuits. 2,978,615, 4-4-61, Cl. 317—148.5.
Chemetron Corp.: *See*—
Hesson, James C. 2,978,187.
Chicago Hardware Foundry Co., The: *See*—
Sherwin, Raymond F., and Marabella. 2,977,676.
Chicago Railway Equipment Co.: *See*—
Soddy, Thomas C. 2,978,073.
Chiusoli, Gian P., to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Hydrogenated derivatives of 7-cyano-2,5-heptadienoic acid and its esters. 2,978,466, 4-4-61, Cl. 260—404.
Christensen, Edward R., to Texaco Inc. Preparation of oil-soluble lead soaps from petroleum oxidates as lubricant additives. 2,978,470, 4-4-61, Cl. 260—414.
Christensen, Kenneth M.: *See*—
Stroup, Earl L., and Christensen. 2,978,021.
Christenson, Roger M., to Pittsburgh Plate Glass Co. Water-insoluble condensation products of aldehydes and acrylamide interpolymers. 2,978,437, 4-4-61, Cl. 260—72.
Ciba Ltd.: *See*—
Ernst, Otto. 2,978,435.
Ciba Pharmaceutical Products Inc.: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Rinker. 2,978,444.
Clark Controller Co., The: *See*—
Bundy, Oswald M., and Nemeth. 2,978,553.
Zarleng, Steve A., and Carlisle. 2,978,632.
Clark Equipment Co.: *See*—
Hasbany, Woodrow A. 2,977,979.
Henyon, Lewis E. 2,978,083.
Clark, James W., to Lake Shore, Inc. Mine skip for inclines. 2,978,123, 4-4-61, Cl. 214—103.
Clark, Joseph B., Jr., to Pan American Petroleum Corp. Fracturing well formations. 2,978,025, 4-4-61, Cl. 166—42.
Clarke, Houghton W., 99% to Mealpack Corp. Rack. 2,978,109, 4-4-61, Cl. 211—13.
Clarke, John V., Jr.: *See*—
Siegel, Joel R., and Clarke. 2,978,302.
Clarke, Ray A., to E. I. du Pont de Nemours and Co. Stabilization of zinc ferricyanide. 2,978,345, 4-4-61, Cl. 106—192.
Clarke, Ray A., to E. I. du Pont de Nemours and Co. Production of triarylmethane colors. 2,978,352, 4-4-61, Cl. 117—36.
Clayden, David O.: *See*—
Newman, Edward A., and Clayden. 2,978,175.
Clemens, Ludwig. Stuffing material for packing purposes, and process and device for the manufacture thereof. 2,978,006, 4-4-61, Cl. 154—32.
Clements, John A., and L. Stallwood, to General Motors Corp. Automatic steering device. 2,978,056, 4-4-61, Cl. 180—79.2.
Clermont Machine Co., Inc.: *See*—
Surico, Carmine. 2,978,157.
Clever Things Inc.: *See*—
Keller, John R., and Kelly. 2,978,696.
Clinch, Raymond G. Apparatus for use in making shoes. 2,977,609, 4-4-61, Cl. 12—37.
Clyde Batteries Pty. Ltd.: *See*—
Hean, Alan R. 2,978,528.
Clyne, Joseph, to Napette Sanitary Napkin Holder, Inc. Sanitary napkin holders and holder units. 2,977,957, 4-4-61, Cl. 128—291.
Coats, Ralph S., and S. Koren, to Radio Corp. of America. Television test apparatus. 2,978,540, 4-4-61, Cl. 178—7.5.
Coats & Clark Inc.: *See*—
Morin, Louis H. 2,978,202.
Cobble, James A., Jr.: *See*—
Cobble, James A., Sr., and J. A., Jr. 2,977,905.
Cobble, James A., Sr., and J. A., Jr. Tufting machine. 2,977,905, 4-4-61, Cl. 112—79.
Cochran, Clarence W., to United-Carr Fastener Corp. Molding fastener. 2,977,652, 4-4-61, Cl. 24—73.
Cochran, Walter M., and F. Eber, to The Glidden Co. Process of preparing yeast-leavened baked goods. 2,978,329, 4-4-61, Cl. 99—90.
Cocker, John, III: *See*—
Freese, William L., Cocker, and Suggs. 2,977,662.
Cocker Machine and Foundry Co.: *See*—
Freese, William L., Cocker, III, and Suggs. 2,977,662.
Cohen, Albert, P. Davis, and J. F. Orabona, to United States of America, Air Force. Radome structural devices. 2,978,704, 4-4-61, Cl. 343—872.
Cohen, Leon B., to Globe Lighting Products, Inc. Light fixture. 2,978,575, 4-4-61, Cl. 240—147.
Colbert, Lee J., to Robertson Electric Co., Inc. Cable splice enclosure. 2,978,533, 4-4-61, Cl. 174—93.
Coler, Myron A.: *See*—
Louis, Arnold S., and Coler. 2,978,663.
Coles, Harold W.: *See*—
Lucanti, Joseph D., Davies, Hunter, Coles, and Altamura. 2,978,504.
Collaro Ltd.: *See*—
Hayward, Ronald S. 2,978,231.
Collins & Aikman Corp.: *See*—
Grajeck, Edwin J. 2,977,664.
Collins, Martin D., to General Electric Co. Method of preparing lantern slides. 2,978,374, 4-4-61, Cl. 154—96.
Columbus McKinnon Chain Corp.: *See*—
Mordick, William M., and Lorch. 2,977,894.
Compagnie de Pont-a-Mousson: *See*—
Breitenstein, Pierre. 2,977,633.
Compagnie de Saint-Gobain: *See*—
Moyrand, Jean, and Bigot. 2,978,313.
Compton, Frank G.: *See*—
Gehrkens, George E., and Compton. 2,977,553.
Computer Control Co., Inc.: *See*—
Dean, Franklin R., Herton, and Massard. 2,978,174.
Condis, John G. Coin counting and packaging means. 2,977,736, 4-4-61, Cl. 53—254.
Conklin, Lewis H., and E. A. McPherson, Jr., to The B. F. Goodrich Co. Process for preparing phenol derivatives. 2,978,515, 4-4-61, Cl. 260—619.
Conn, Russell T.: *See*—
Faix, William C. 2,977,823.
Conover, Clarence G. Household mixer attachment. 2,977,807, 4-4-61, Cl. 74—16.
Conso Realty Co.: *See*—
Thompson, Henry C. 2,977,637.
Consolidated Edison Co. of New York, Inc.: *See*—
Xenis, Constantine P. 2,977,994.
Constant, Irving: *See*—
McNamara, Ambrose J. 2,977,856.
Conti, John D., to American Viscose Corp. Heat sealing method and apparatus. 2,978,008, 4-4-61, Cl. 154—42.
Continental Can Co., Inc.: *See*—
Gibb, Alex S. 2,977,861.
Continental Gin Co.: *See*—
Brooks, Eugene H. 2,977,641.
Continental Oil Co.: *See*—
Coyne, Donald M., Hackett, and Poe. 2,978,528.
Contraves A.G.: *See*—
Schlatter, Wilhelm R. 2,978,620.
Cooper, Stewart A. Concealed pocket for football players pants. 2,977,002, 4-4-61, Cl. 2—247.
Cordt, Werner: *See*—
Lohs, Willy, Sommer, Lehmann, Haase, and Cordt. 2,978,556.
Corning Glass Works: *See*—
Blanding, Wendell S., and Hocker. 2,978,564.
Bush, Robert C. 2,978,099.
Dahlman, Frederick A. 2,977,718.
Covert, John N., to Union Special Machine Co. Sewing machines. 2,977,910, 4-4-61, Cl. 112—256.
Cowan, David M., to Joy Mfg. Co. Rotary rock drill. 2,978,043, 4-4-61, Cl. 175—127.
Cowher, Daniel M., Sr. Device for beneficiating concrete aggregate. 2,978,103, 4-4-61, Cl. 209—135.
Cox, Jack B. Safety belt assembly. 2,978,015, 4-4-61, Cl. 155—189.
Cox, Robert B., to Aerojet-General Corp. Sodium, calcium, lithium alloy hydrofuel. 2,978,304, 4-4-61, Cl. 52—5
Coyne, Donald M., H. L. Hackett, and R. L. Poe, to Continental Oil Co. Production of alpha-olefins. 2,978,528, 4-4-61, Cl. 260—683.15.
Cramer, Thomas F., to Holley Carburetor Co. Governor. 2,977,945, 4-4-61, Cl. 123—103.
Crane, Edward J.: *See*—
Barker, Seth S., Crane, and Sharp. 2,977,628.
Crane, Jack W., and A. W. Pellett, to Sperry Rand Corp. Harvester. 2,977,873, 4-4-61, Cl. 100—142.
Crawford, Ishmael, and E. J. Boutillette, to M.K.M. Knitting Mills, Inc. Swimsuit and method of knitting same. 2,977,783, 4-4-61, Cl. 66—176.
Crispell, Roger L., and W. A. Hanifan, to General Motors Corp. Domestic appliance. 2,978,567, 4-4-61, Cl. 219—37.
Croft, Richard D.: *See*—
Veatch, Franklin, Alford, and Croft. 2,978,339.
Veatch, Franklin, Alford, and Croft. 2,978,340.
Crook, Fred B.: *See*—
Skidmore, Sam C., and Crook. 2,978,049.
Crosman Arms Co., Inc.: *See*—
Mers, Rudolf. 2,977,706.
Cross Co., The: *See*—
Tech, Kurt O., and Martens. 2,978,559.
Crowe, Robert C.: *See*—
Bates, Arthur C., and Crowe. 2,978,560.
Crowson, Fred B., G. A. Locke, and R. R. MacLaughlin, to Bell Telephone Laboratories, Inc. Printing telegraph automatic switching system. 2,978,534, 4-4-61, Cl. 178—2.
Crull, Eberhard, to Vereinigte Glanzstoff-Fabriken AG. Screw conveyor and apparatus for melting synthetic polymer particles. 2,978,238, 4-4-61, Cl. 263—7.
Culbertson, Harry M., and P. J. Hahn, to Monsanto Chemical Co. Coating compositions containing modified urea resins. 2,978,425, 4-4-61, Cl. 260—21.
Culff, Harold E., O. Boettcher, Jr., and E. L. Gammill, to The Garrett Corp. Quick disconnect coupling. 2,978,265, 4-4-61, Cl. 287—130.
Cumpston, Edward H., Jr., to E. D. Jones Corp. Refining machine. 2,978,192, 4-4-61, Cl. 241—222.
Curtis, Daniel L., to Litton Industries, Inc. Electronic digital multipliers. 2,978,179, 4-4-61, Cl. 235—194.
Cushman, Walton W. Quick deflating means for pneumatic dunnage. 2,978,119, 4-4-61, Cl. 214—10.5.
Cutler-Hammer, Inc.: *See*—
Krueger, Howard H. 2,978,549.
Rhine, William C. 2,978,180.
Czajkowski, Norman, to United States of America, Navy. Detent release mechanism. 2,977,883, 4-4-61, Cl. 102—70.
Daams, Jasper, H. Koopman, and C. J. Schoot, to North American Philips Co., Inc. Method of producing a means for influencing plant growth. 2,978,310, 4-4-61, Cl. 71—2.3.
Dabich, Michael: *See*—
Agnello, Richard W., and Dabich. 2,978,120.
Daffin Corp.: *See*—
Giles, George W. 2,977,743.
Dahlman, Frederick A., to Corning Glass Works. Glass feeder shear mechanism activating means. 2,977,718, 4-4-61, Cl. 49—14.
Daimler-Benz Aktiengesellschaft: *See*—
Barenyi, Bela. 2,978,055.
Kraus, Ludwig. 2,978,054.

Dallas, Wilbur G., Jr., to Jet-Heet, Inc. Thermal blanket. 2,978,223, 4-4-61, Cl. 257—12.

Dalmine S.p.A.: *See*—
Fugazza, Francesco. 2,978,357.

Damaskus, Charles W., to Armour and Co. Stabilized chymotrypsin solution. 2,978,385, 4-4-61, Cl. 195—63.

Daniel, David W., to National Broach & Machine Co. Gear honing tool. 2,977,726, 4-4-61, Cl. 51—206.

Daras, Nestor, to Solvay & Cie. Process for the stabilization of chlorinated hydrocarbons. 2,978,518, 4-4-61, Cl. 260—653.5.

Daskam, Samuel W.: *See*—
Kestenbaum, Aaron L., and Daskam. 2,978,367.

Daub, Rudolph. Piston head structure. 2,978,284, 4-4-61, Cl. 309—14.

Daugherty, Joe, to Mullins Mfg. Co. Recording chart changer. 2,978,287, 4-4-61, Cl. 346—137.

Davenport Machine Tool Co., Inc.: *See*—
Brinkman, Earl W. 2,977,630.

Davey, Kingsley. Stabilized impeller. 2,978,233, 4-4-61, Cl. 259—96.

David, Constant V., to Ryan Aeronautical Co. Tip-jet driven ducted fan for aircraft. 2,978,205, 4-4-61, Cl. 244—23.

Davidson, Ivor M., to Power Jets (Research and Development) Ltd. Aircraft flying control systems. 2,978,204, 4-4-61, Cl. 244—15.

Davidson, Ivor M., to Power Jets (Research and Development) Ltd. Aircraft with jet flaps. 2,978,207, 4-4-61, Cl. 244—42.

Davies, John M.: *See*—
Loconti, Joseph D., Davies, Hunter, Coles, and Altamura. 2,978,584.

Davis, Douglass R., to Texaco Inc. Method of gravel packing well treatment. 2,978,024, 4-4-61, Cl. 166—15.

Davis, James C., Jr., to Raytheon Co. Stable oscillators. 2,978,650, 4-4-61, Cl. 331—144.

Davis, Phillip: *See*—
Cohen, Albert, Davis, and Orabona. 2,978,704.

Dawson, Robert H., to The Dole Valve Co. Ice level sensing mechanism. 2,977,772, 4-4-61, Cl. 62—137.

Daystrom, Inc.: *See*—
Winsor, Keith L. 2,978,653.

Dean, Franklin R., W. P. Horton, and R. L. Massard, to Computer Control Co., Inc. Counting apparatus. 2,978,174, 4-4-61, Cl. 235—92.

Dean, Hiram M. Hygrometer device. 2,977,798, 4-4-61, Cl. 73—335.

Dean, Reginald I. R. Dial type gauge instruments. 2,977,801, 4-4-61, Cl. 73—432.

Deary, George F., Sr., and A. A. Provost. Hard roll scorer and former. 2,977,901, 4-4-61, Cl. 107—8.

Deaver, Danny B., to Do-More Products Corp. Gas purifier. 2,978,064, 4-4-61, Cl. 183—4.

Debrie, Andre V. L. C. Arrangement for driving films in a machine treating kinematographic films. 2,978,161, 4-4-61, Cl. 226—183.

Deeley-Jones, Arnold E., to General Motors Corp. License plate installation. 2,977,700, 4-4-61, Cl. 40—202.

Deering Milliken Research Corp.: *See*—
Evans, Cyril G. 2,977,663.
Evans, Cyril G., Harmon, and Klein. 2,977,661.
Klein, Norman E., and Evans. 2,977,746.

Deitlhauser, Karl, to Durrwerke Aktiengesellschaft. Once-through vapor generator. 2,977,937, 4-4-61, Cl. 122—240.

De Kanter, Scipio, to General Electric Co. Heat pump including charge modulating means. 2,977,773, 4-4-61, Cl. 62—149.

De la Tour, Roger B., to Lear, Inc. Transistor current regulator. 2,978,630, 4-4-61, Cl. 323—4.

Dell, Thomas, 50% to Palisio, Inc. Apparatus for pressing the bottom heel region of a lasted upper. 2,977,610, 4-4-61, Cl. 12—53.5.

Demanuele, Frederick. Vibratory toothbrush. 2,977,614, 4-4-61, Cl. 15—22.

Dempster Bros., Inc.: *See*—
Chambers, Burl D. 2,978,120.
Dempster, George R., and Herpich. 2,978,122.

Dempster, George R. Leakproof sump-type containers. 2,978,139, 4-4-61, Cl. 220—32.

Dempster, George R., and W. A. Herpich, said Herpich assor. to Dempster Bros., Inc. Transporting equipment. 2,978,122, 4-4-61, Cl. 214—75.

Denseo, Inc.: *See*—
Flatray, Raymond L. 2,977,682.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Loebich, Otto, and Seidl. 2,978,363.
Seidl, Alois. 2,978,361.

De Vaan, Walter H. Collapsible drill bit assembly and method of drilling. 2,978,047, 4-4-61, Cl. 175—258.

De Vines, Hollis L.: *See*—
Kendrick, Marron, and De Vines. 2,977,786.

De Voors, Gerard J., and F. J. Fontein, to Stamicarbon N.V. Installation for the transport of lumpy material. 2,978,278, 4-4-61, Cl. 302—14.

Devore, Guy C., to Pittsburgh Plate Glass Co. Bending mold. 2,977,719, 4-4-61, Cl. 49—67.

Diamond Alkali Co.: *See*—
Ilenda, Frank P., and Noyes. 2,977,650.

Diamond Power Specialty Corp.: *See*—
Kruse, John R., Jr., and Hudson. 2,978,537.

Di Camillo, Eugene J., and D. I. Smith, to Airseco, Inc. Variable height scaffold assembly. 2,978,062, 4-4-61, Cl. 182—1.

Dick, A. B., Co.: *See*—
Borden, Howard C. 2,978,807.

Diebold, Edward J., to I-T-E Circuit Breaker Co. Constant D.-C. voltage output circuit. 2,978,628, 4-4-61, Cl. 321—16.

Dieterich, Ernest J., to Minneapolis-Honeywell Regulator Co. Electrical information processing apparatus. 2,978,679, 4-4-61, Cl. 340—172.5.

Di Gaeta, Ottavio, and A. Poggioli. Process for the preparation of food preserves, and particularly of fruit juices pulverised by sublimation under high vacuum. 2,978,337, 4-4-61, Cl. 99—206.

Dilworth, Thomas B., to General Motors Corp. Hydraulic governor pressure control mechanism. 2,977,762, 4-4-61, Cl. 60—51.

Di Maggio, Carmelo A., J. W. Healy, and R. M. Lamade, Jr., to Arthur D. Little, Inc. Tagging apparatus. 2,977,862, 4-4-61, Cl. 93—87.

Di Pasquale, Fred A.: *See*—
Morse, Roy E., and Di Pasquale. 2,977,627.

Dittmar, Gerhard: *See*—
Benade, Walter, Dittmar, and Scholl. 2,978,445.

Dobbins, Willis E.: *See*—
Eckdahl, Donald E., Sprague, Dobbins, Burns, Edwards, and Donan. 2,978,685.

Dobbs, Richard H. Pump jack. 2,977,808, 4-4-61, Cl. 74—37.

Dodge, Ronald D.: *See*—
Pearson, Eugene S., and Dodge. 2,978,088.

Dodge, Ronald D., and N. D. Walton, to International Business Machines Corp. Ribbon feed mechanism for typewriters. 2,978,089, 4-4-61, Cl. 197—161.

Dodington, Sven H. M., to International Telephone and Telegraph Corp. Radio repeating systems. 2,978,699, 4-4-61, Cl. 343—18.

Doelcher, Harold S., to Borg-Warner Corp. Plug-in pump assembly. 2,978,150, 4-4-61, Cl. 222—383.

Doherty, Edward T., and A. F. O'Connor. Load bracing means. 2,977,899, 4-4-61, Cl. 105—369.

Dole Valve Co., The: *See*—
Dawson, Robert H. 2,977,772.

Doman, Glidden S., S. Du Pont, and R. W. Bewley, said Doman and said Du Pont assors. to Doman Helicopters, Inc. Swash plate operating mechanism and combination with swash plate. 2,978,038, 4-4-61, Cl. 170—160.25.

Doman Helicopters, Inc.: *See*—
Doman, Glidden S., Du Pont, and Bewley. 2,978,038.

Dome, Robert B., to General Electric Co. Direct current transformer. 2,978,626, 4-4-61, Cl. 321—2.

Do-More Products Corp.: *See*—
Deaver, Danny B. 2,978,064.

Donahue, Lawrence E., to Minneapolis-Honeywell Regulator Co. Air conditioning apparatus having remote pilot condition sensors. 2,978,183, 4-4-61, Cl. 236—13.

Donan, John F.: *See*—
Eckdahl, Donald E., Sprague, Dobbins, Burns, Edwards, and Donan. 2,978,685.

Donath, Bernhard, and H.-J. Zetzmann, to Siemens & Halske Aktiengesellschaft. Apparatus for reducing the frequency band width of radar frequency mixtures and the like. 2,978,697, 4-4-61, Cl. 343—5.

Doran, Charles E., to Fairchild Camera and Instrument Corp. Variable-ratio drive for electronic line scan and recording machines. 2,978,536, 4-4-61, Cl. 178—6.6.

Dorendorf, Heinz, to Siemens & Halske Aktiengesellschaft Berlin and Munich. Diffusion transistor. 2,978,617, 4-4-61, Cl. 317—235.

Dover Corp.: *See*—
Hesse, William E., Shawhan, and Pohlman. 2,978,070.

Dow Chemical Co., The: *See*—
Brown, John H., Jr., and Loretta. 2,978,469.

Dowdall, Donald C.: *See*—
Backlund, Robert R. B., Bailey, Goloff, Dowdall, and Kiley. 2,977,778.

Dowdy, J Y Miller. Portable grill. 2,977,953, 4-4-61, Cl. 126—30.

Dreher, Edgar B. Fish line trollers. 2,977,707, 4-4-61, Cl. 43—42.12.

Dreyer, Herbert L., to Streeter-Amet Co. Digital convertor. 2,978,561, 4-4-61, Cl. 200—153.

Drobilits, Martin E., and G. H. Lantz, to Sterling Faucet Co. Single lever control faucet. 2,977,988, 4-4-61, Cl. 137—625.17.

Dubský, Bořivoj, and O. Straka, to Vyzkumny a skusebni letecky ustav. Electromagnetic rotary viscometer. 2,977,790, 4-4-61, Cl. 73—60.

Dubský, Bořivoj, O. Straka, J. Černohorský, and V. Kobliček, to Vyzkumny a skusebni letecky ustav. Torsional magnetostrictive pressure pick-up. 2,977,791, 4-4-61, Cl. 73—141.

Dubuque Products, Inc.: *See*—
Carlo, Clarence E. 2,978,019.

Ducto, George E. Right angle and radial line plotting instrument. 2,977,840, 4-4-61, Cl. 88—2.2.

Duffy, John M., and H. Heins, to Bomac Laboratories Inc. Transmit-receive tube. 2,978,609, 4-4-61, Cl. 315—30.

Duke, Edward T.: *See*—
Mauck, Victor, Duke, and Beld. 2,978,373.

Duke, John A., to Minneapolis-Honeywell Regulator Co. Measuring method and apparatus. 2,977,842, 4-4-61, Cl. 88—14.

Dunn, Jesus L., to United States of America, Air Force. Electronic pulse coder. 2,978,695, 4-4-61, Cl. 340—359.

Du Pont de Nemours, E. I., and Co.: *See*—
Brightbill, Edgar N., and Lindland. 2,978,442.
Clarke, Ray A. 2,978,345.
Clarke, Ray A. 2,978,352.
Furini, Bruno, Jr. 2,977,837.
Luckenbaugh, Raymond W. 2,978,480.

Du Pont, Stephen: *See*—
Doman, Glidden S., Du Pont, and Bewley. 2,978,038.

Du Rose, Arthur H., to The Harshaw Chemical Co. Nickel plating process and solution. 2,978,391, 4-4-61, Cl. 204—49.

Durrwerke Aktiengesellschaft: *See*—
Deitlhauser, Karl. 2,977,937.

Dutch, Emery. Apparatus for processing sheets such as photocopies and the like. 2,977,868, 4-4-61, Cl. 95—94.

Dykes, Roscie B. Ramp bed-pan. 2,977,603, 4-4-61, Cl. 4—112.

Dyksterhouse, Robert M. Ball contact switch. 2,978,554, 4-4-61, Cl. 200—61.35.

Early, Richard L.: *See*—
Allgeyer, Guy H., Early, and Sorbie. 2,978,619.

Eastern Products Corp.: *See*—
Walsh, John S., and Milton. 2,978,349.

Ebauches S.A.: *See*—
Meyer, Friedrich. 2,977,749.

Eber, Fred: *See*—
Cochran, Walter M., and Eber. 2,978,329.

Ebert Electronics Corp.: *See*—
Mitchell, Irving L., and Pressman. 2,978,588.

Eckdahl, Donald E., R. E. Sprague, W. E. Dobbins, C. H. Burns, Jr., W. G. Edwards, and J. F. Donan, to The National Cash Register Co. Tape unit control system. 2,978,685, 4-4-61, Cl. 340—174.1.

Edfors, Sven E., to Saco-Lowell Shops. Textile combing machines. 2,977,642, 4-4-61, Cl. 19—116.

Edington, Robert A.: *See*—
Goodman, Isaac, and Edington. 2,978,500.

Edington, Robert A., and I. Goodman, to Imperial Chemical Industries Ltd. Manufacture of aromatic disulphonic acids. 2,978,499, 4-4-61, Cl. 260—505.

Edwards, James D., and G. O. Warfel, to Borg-Warner Corp. Alternating current pilot control. 2,978,240, 4-4-61, Cl. 263—33.

Edward Valves, Inc.: *See*—
Pool, Elbert B. 2,978,221.

Edwards, Walter G.: *See*—
Eckdahl, Donald E., Sprague, Dobbins, Burns, Edwards, and Donan. 2,978,685.

Ehrenfreund, Herbert A., to Westinghouse Electric Corp. Refrigeration apparatus. 2,978,136, 4-4-61, Cl. 220—9.

Eisenberg, Bernard C. Container packer. 2,978,231, 4-4-61, Cl. 259—72.

Electraulic Presses Ltd.: *See*—
Towler, John M. 2,977,932.

Electro Engineering Works: *See*—
Wahlgren, Wallace W. 2,978,659.

Elenco Products Corp.: *See*—
Steinke, Joseph F., and Erickson. 2,977,779.

Elpern, Bill, to Sterling Drug Inc. Lower alkyl-4-phenyl-1-[(diloweralkoxy phenyl)-aliphatic] piperidine-4-carboxylates. 2,978,454, 4-4-61, Cl. 260—294.3.

Engineering Research and Application Ltd.: *See*—
Radford, William E. 2,977,826.

Engle, James D., to Union Carbide Corp. Composition containing polyethylene and a polypropylene glycol monoalkyl ether. 2,978,431, 4-4-61, Cl. 260—33.2.

English, William D., and A. L. McCloskey, to United States Borax & Chemical Corp. Production of organo-boron compounds. 2,978,502, 4-4-61, Cl. 260—551.

Epstein, Saul. Double wall vent pipe. 2,978,261, 4-4-61, Cl. 285—133.

Erickson, Lloyd C.: *See*—
Steinke, Joseph F., and Erickson. 2,977,779.

Ericson, Donald W., L. R. Herndon, Jr., and E. C. Thornber, to Pegasus Laboratories, Inc. Electro-hydraulic servo control valve. 2,977,985, 4-4-61, Cl. 137—623.

Ernissee, Clarence M.: *See*—
Hamberger, Henry A., and Ernissee. 2,977,822.

Ernst, Otto, to Ciba Ltd. Heat hardenable compositions comprising epoxide compounds and dicarboxylic anhydrides. 2,978,435, 4-4-61, Cl. 260—47.

Esso Research and Engineering Co.: *See*—
Cahn, Robert P. 2,978,522.
Gilbert, George R., Schriesheim, and McCormick. 2,978,524.
Guthrie, Donald A., and Knapp. 2,978,412.
Heath, Carl E., Jr., and Lucchesi. 2,978,397.
Holliday, William C., Jr., and Black. 2,978,395.
Lefebvre, Jean A. A. 2,978,342.
Leverberg, Rudolph R., and Baumgartner. 2,978,411.
McCulloch, William J. C., and Kirshenbaum. 2,978,420.
Shewmaker, James E., and Nelson. 2,978,396.
Siegel, Joel B., and Clarke. 2,978,302.
Tuttle, John R., Feldbauer, and Hoke. 2,978,407.
Wiese, Herbert K., and Lippincott. 2,978,464.
Zapp, Robert L. 2,978,426.

Esso Standard Societe Anonyme Francaise: *See*—
Tirtiaux, Robert, and Signouret. 2,978,423.

Euwe, Gerrit E., to Lever Bros. Co. Fluid flow compensating device. 2,977,871, 4-4-61, Cl. 99—244.

Evans, Cyril G.: *See*—
Klein, Norman E., and Evans. 2,977,746.

Evans, Cyril G., A. D. Harmon, and N. E. Klein, to Deering Milliken Research Corp. Yarn elasticizing apparatus. 2,977,661, 4-4-61, Cl. 28—1.

Evans, Cyril G., to Deering Milliken Research Corp. Yarn processing apparatus. 2,977,663, 4-4-61, Cl. 28—62.

Evans, Robert E.: *See*—
Brisley, Frank O., and Evans. 2,978,529.

Fahringer, Victor T., to Burlington Industries, Inc. Process and apparatus for treating textile materials with a liquid. 2,978,291, 4-4-61, Cl. 8—151.

Fairchild Camera and Instrument Corp.: *See*—
Bell, Donald G. 2,978,662.
Blaustein, Aaron. 2,978,364.
Doran, Charles E. 2,978,536.
Krause, Lawrence B. 2,978,314.

Fairchild Engine and Airplane Corp.: *See*—
Miller, Matthew N., and Smith. 2,977,978.

Fair, William C., to R. T. Conn. Blotter knives and method of making same. 2,977,823, 4-4-61, Cl. 76—101.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Benade, Walter, Dittmar, and Scholl. 2,978,445.
Graulich, Wilhelm, and Müller. 2,978,432.
Kayser, Heinrich, and Schrader. 2,978,479.
Kersting, Adolf. 2,978,439.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Fischer, Edgar. 2,978,519.

Farrar, Alvin J., to Republic Steel Corp. Removable covers for railroad cars. 2,977,900, 4-4-61, Cl. 105—377.

Fawick Corp.: *See*—
Banker, Oscar H. 2,977,813.
Banker, Oscar H. 2,977,886.

Fayolle, Marcel: *See*—
Ancet, Victor M. J., and Fayolle. 2,977,996.

Fayolle, Marius: *See*—
Ancet, Victor M. J., and Fayolle. 2,977,996.

Fearing, Alfred. Rotary internal combustion engines. 2,977,939, 4-4-61, Cl. 123—13.

Fearnside, Kenneth, to American Machine & Foundry Co. Amplifying systems. 2,978,583, 4-4-61, Cl. 250—71.5.

Featheringham, Earl L. Wall bracket. 2,978,218, 4-4-61, Cl. 248—205.

Feedmatic-Detroit, Inc.: *See*—
Lupo, Frits J. 2,978,230.

Fein, Marvin M., and C. A. Friedman, to Allied Chemical Corp. Concentrated aqueous detergent composition. 2,978,416, 4-4-61, Cl. 252—161.

Fekete, Frank, to Union Carbide Corp. Phosphinyl alkoxy silanes. 2,978,471, 4-4-61, Cl. 260—448.8.

Felbeck, George T., J. W. Heimaster, and J. D. Newlon, to Union Carbide Corp. Continuous mining machine having roof fall receiving conveying means. 2,978,235, 4-4-61, Cl. 262—7.

Feldbauer, George F., Jr.: *See*—
Tuttle, John R., Feldbauer, and Hoke. 2,978,407.

Fernsler, George L., to Radio Corp. of America. Automatic alignment system. 2,978,655, 4-4-61, Cl. 333—17.

Ferrari, Charles G., to J. R. Short Milling Co. Methods for producing baked goods. 2,978,330, 4-4-61, Cl. 99—90.

Ferrari, Charles G., to J. R. Short Milling Co. Bread improver compositions and methods for preparing the same. 2,978,331, 4-4-61, Cl. 99—91.

Ferrari, Charles G., to J. R. Short Milling Co. Bread improver compositions and methods for preparing the same. 2,978,332, 4-4-61, Cl. 99—91.

Ferrari, Uby: *See*—
Gray, Cloyd E., Sherman, Fox, Ferrari, and Bibb. 2,977,914.

Ferris, David R., to Kysor Heater Co. Air conditioning unit for motor vehicles. 2,977,774, 4-4-61, Cl. 62—212.

Ferro Stamping Co.: *See*—
Pickles, Joseph. 2,978,288.

Fessenden, George R., to C. C. Sieck. Method and composition for preserving foliage. 2,978,348, 4-4-61, Cl. 117—3.

Fierce, William L.: *See*—
Sandner, Walter J., and Fierce. 2,978,478.

Fillmore, Robert L., to Minneapolis-Honeywell Regulator Co. Servo motor control apparatus. 2,977,765, 4-4-61, Cl. 60—52.

Findley, Thomas W.: *See*—
Kuester, Frank E., and Findley. 2,978,463.

Fischer, Edgar, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of fluorocarbon waxes. 2,978,519, 4-4-61, Cl. 260—653.1.

Fisher, Donald H., to Pye Ltd. Interference limiters. 2,978,539, 4-4-61, Cl. 178—7.5.

Fisher, Walter, to The Torrington Co. Stamped retainer for roller thrust bearings. 2,978,282, 4-4-61, Cl. 308—235.

Fisk, James C. Fluid pressure power converter. 2,977,880, 4-4-61, Cl. 103—120.

Fite, Wade L., and R. T. Brackmann, to General Dynamics Corp. Photon counter. 2,978,603, 4-4-61, Cl. 313—93.

FitzSimmons, Vincent G.: *See*—
Zisman, William A., and FitzSimmons. 2,977,748.

Flaherty, Earl V. Weather stripping means for rotatable window. 2,977,646, 4-4-61, Cl. 20—53.

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Fletcher, David C., to United States of America, Army. Feeding mechanism for a salvo gun. 2,977,856, 4-4-61, Cl. 89—33.

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Smith, Warner B., and Baber. 2,977,658.

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Focke, Henrich C. J. Aircraft propellers for combined airplane-helicopter flying machines. 2,978,039, 4-4-61, Cl. 170—160.25.

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Shoffner, Willie M. 2,978,069.

Follender, Otto. Apparatus for inserting hair into the heads of dolls. 2,977,906, 4-4-61, Cl. 112—79.5.

Fontein, Freerk J.: *See*—
De Vooys, Gerard J., and Fontein. 2,978,278.

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Lamb, Miles A. 2,978,234.
Margulies, Paul H., and Kreesbach. 2,978,301.

Ford Motor Co.: *See*—
Barton, David W., and Ulrich. 2,978,057.
Carleton, Paul D. 2,977,947.

Ford, William W., and A. M. L. Kube, to Phillips Petroleum Co. System for recovery of valuable constituents from normally wasted materials. 2,978,063, 4-4-61, Cl. 183—2.

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Wenz, John. 2,977,827.
Fountain, Henry, to Viking Instruments, Inc. Flaw detecting apparatus. 2,978,636, 4-4-61, Cl. 324—54.
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Medlar, Lewis A. 2,978,633.
Fox, Robert E.: *See*—
Gray, Cloyd E., Sherman, Fox, Ferrari, and Bibb. 2,977,914.
France, Harold, and A. Lister, to Imperial Chemical Industries Ltd. Polymeric isocyanates and their manufacture. 2,978,449, 4-4-61, Cl. 260—248.
Franck, George E., to The Imperial Eastman Corp. Tube fitting. 2,978,262, 4-4-61, Cl. 285—248.
Frangoulis, Stamatios I.: *See*—
Nowell, William H., Burgess, Zabb, and Frangoulis. 2,978,177.
Frank, Arthur W., to Basic Products Corp. Heat treating apparatus. 2,978,237, 4-4-61, Cl. 263—6.
Frankel, Milton B.: *See*—
Klager, Karl, and Frankel. 2,978,474.
Frankel, Milton B., to Aerojet-General Corp. Pentanitropiperidine. 2,978,452, 4-4-61, Cl. 260—293.
Frankel, Milton B., to Aerojet-General Corp. 3,3,5,5-tetranitropiperidine. 2,978,453, 4-4-61, Cl. 260—293.
Frankel, Milton B., to Aerojet-General Corp. Esters of 2,2,4,4-tetranitrobutanol. 2,978,455, 4-4-61, Cl. 260—295.
Frankel, Milton B., to Aerojet-General Corp. N-nitrocarbamates. 2,978,485, 4-4-61, Cl. 260—479.
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Frankel, Milton B., to Aerojet-General Corp. Polynitro esters. 2,978,494, 4-4-61, Cl. 260—482.
Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Nitramino esters. 2,978,495, 4-4-61, Cl. 260—482.
Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Tris-nitramino esters. 2,978,496, 4-4-61, Cl. 260—482.
Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Nitraza esters. 2,978,497, 4-4-61, Cl. 260—482.
Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Nitro-substituted nitraza compounds. 2,978,498, 4-4-61, Cl. 260—482.
Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Aliphatic nitramines. 2,978,504, 4-4-61, Cl. 260—583.
Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Polynitro nitraza diamines. 2,978,506, 4-4-61, Cl. 260—583.
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Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Polynitro diaza alkanes. 2,978,510, 4-4-61, Cl. 260—583.
Frankel, Milton B., to Aerojet-General Corp. Nitrate and perchlorate salts of nitraza diamines. 2,978,511, 4-4-61, Cl. 260—583.
Frankel, Milton B., and G. B. Linden, to Aerojet-General Corp. Nitro substituted azaalkanols and their method of preparation. 2,978,512, 4-4-61, Cl. 260—584.
Franks, Roye W. Draft control device. 2,978,184, 4-4-61, Cl. 236—45.
Franzene, Robert D., to Burgess Cellulose Co. Sponge type wringer mop. 2,977,619, 4-4-61, Cl. 15—119.
Frechtmann, Jean, and W. Treu, Method and apparatus for forming sealed packages. 2,977,729, 4-4-61, Cl. 53—29.
Fredrikson, Gustav I. Discharge valves for milk and other foaming liquids. 2,978,188, 4-4-61, Cl. 239—575.
Freedman, Louis, and S. L. Shapiro, Process and composition for lowering blood serum cholesterol and chylomicron levels. 2,978,381, 4-4-61, Cl. 167—65.
Freeland Gauge Co.: *See*—
Mintz, Bill. 2,977,788.
Freeman, Carl R., to Sylvania Electric Products Inc. Grid loading device. 2,978,125, 4-4-61, Cl. 214—312.
Freese, William L., J. Cocker, III, and T. F. Suggs, to Cocker Machine and Foundry Co. Apparatus for treatment of textiles with liquids. 2,977,662, 4-4-61, Cl. 28—23.
Freise, William G.: *See*—
Arnett, Leslie, and Freise. 2,978,143.
French, Norman E., to The Sperry Gyroscope Co. Ltd. Position indicating navigation systems. 2,977,804, 4-4-61, Cl. 73—488.
Friedman, Cecil A.: *See*—
Fein, Marvin M., and Friedman. 2,978,416.
Frisell, Warren J., Jr., and V. J. Houska, to Union Carbide Corp. Anti-static vinyl chloride copolymer containing salts of dialkyl phosphates. 2,978,440, 4-4-61, Cl. 260—87.1.
Frohner, Rudolph: *See*—
Smith, William H., Frohner, and Adolphson. 2,977,956.
Frost, Brian R. T.: *See*—
Hornsey, Geoffrey W., Frost, and Maskrey. 2,978,368.
Frost, Lester P. Portable floating bridge. 2,977,612, 4-4-61, Cl. 14—27.
Fugassa, Francesco, to Dalmine S.p.A. Process of protectively coating tubular elements, structural shapes and the like with at least one thermoplastic resin sheath. 2,978,357, 4-4-61, Cl. 117—75.
Funston, Earl S.: *See*—
McGarty, James A., and Funston. 2,978,321.
Furiati, Bruno, Jr., to E. I. du Pont de Nemours and Co. Explosively expandable chemical rivet with compactible sealing means. 2,977,837, 4-4-61, Cl. 85—40.
Furnish, Arthur H. Clamping means for an outlet box. 2,978,135, 4-4-61, 220—3.6.
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Gabriel, Werner C., and H. K. 2,977,952.
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Gabrielson, Harold. Toy. 2,978,243, 4-4-61, Cl. 272—33.
Gabrielson, Harold M. Hobby horse type toy. 2,978,288, 4-4-61, Cl. 280—218.
Gaffney, John E., Jr., to International Business Machines Corp. Character synthesizing tube. 2,978,606, 4-4-61, Cl. 315—22.
Gagne, Charles A. Automatic grass trimmer. 2,977,742, 4-4-61, Cl. 56—241.
Gammill, Edward L.: *See*—
Culff, Harold E., Boettcher, and Gammill. 2,978,265.
Garrett Corp., The: *See*—
Culff, Harold E., Boettcher, and Gammill. 2,978,265.
Garvey, Leo J. Bottle structure. 2,978,131, 4-4-61, Cl. 215—1.
Gary, Lonnie: *See*—
Mulholland, James R. 2,978,370.
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Gebert, Russell C., A. Klein, and H. J. Smiley, to James Lees and Sons Co. Pattern shearing apparatus for pile fabric. 2,977,660, 4-4-61, Cl. 26—16.
Geckler, Richard D., and F. R. Hepner, to Aerojet-General Corp. Method and means for initiating the decomposition of propellant in a rocket motor. 2,977,755, 4-4-61, Cl. 60—35.6.
Gehrkens, George R., and F. G. Compton, to North American Aviation, Inc. Weapon delivery method and means. 2,977,853, 4-4-61, Cl. 89—1.5.
Geigy, J. R., A.-G.: *See*—
Bossard, Werner, and Voltz. 2,978,290.
General American Transportation Corp.: *See*—
Oesterreicher, Louis. 2,977,838.
General Aniline & Film Corp.: *See*—
Buc, Saul R. 2,978,309.
Gomsi, Arne E. 2,978,354.
Schmechanbecher, Arnold. 2,978,323.
General Dynamics Corp.: *See*—
Fite, Wade L., and Brackmann. 2,978,605.
General Electric Co.: *See*—
Baciu, Nick. 2,978,371.
Basler, Seward M. 2,977,630.
Chang, Winston H. 2,978,319.
Collins, Martin D. 2,978,374.
De Kauster, Sciplo. 2,977,773.
Dome, Robert B. 2,978,620.
Gifford, Richard P., and Suit. 2,978,684.
Klint, Robert V. 2,977,963.
Lafferty, James M. 2,978,605.
Lawson, Alfred C. 2,978,630.
McGurty, James A., and Funston. 2,978,321.
Oakes, William S. 2,978,635.
Olson, Albert L. 2,977,926.
Simms, Thomas S. 2,977,675.
Telfer, Thomas A. 2,977,672.
Wagner, James B., and Straney. 2,977,763.
Watters, Robert L. 2,978,576.
Wetsel, John W., and Goldblum. 2,978,296.
White, Vernon R. 2,978,226.
General Motors Corp.: *See*—
Arlauskas, Alfonsas. 2,978,242.
Bernotas, Ralph J. 2,978,124.
Bertsch, Joseph F., and Hansen. 2,978,256.
Borettl, Napoleon P., Hessler, and Shearer. 2,978,569.
Brucken, Byron L., and Long. 2,978,190.
Bundorf, Ronald T. 2,978,254.
Clements, John A., and Stallwood. 2,978,056.
Crispell, Roger L., and Hanifan. 2,978,567.
Deeley-Jones, Arnold E. 2,977,700.
Dilworth, Thomas B. 2,977,762.
Gorsky, Rudolph J. 2,977,821.
Graeber, Richard N., and Wanttaja. 2,977,843.
Graham, Robert W. 2,978,586.
Hahn, Kent L. 2,978,166.
Konopka, Joseph. 2,977,626.
Larson, William B., Thomson, and Webbere. 2,978,320.
Matthews, Hugh B. 2,977,764.
Norton, James A. 2,977,925.
Pamasewicz, Anton Z. 2,977,817.
Rosenkrands, Johannes. 2,978,255.

General Motors Corp.: *See*—Continued
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Schmitz, Harry W. 2,977,623.
Secunda, Kenneth. 2,978,101.
Stone, Milton C. 2,977,756.
Stronik, Conrad J. 2,977,818.
Weberman, Louis. 2,978,009.
Weinman, Eric W. 2,977,673.
Weiss, Irwin K., Mair, Jackman, Brown, and Sayers. 2,978,253.
Wente, Robert J. 2,978,034.
General Precision, Inc.: *See*—
Kaufmann, John, and Hayes. 2,977,841.
General Precision Systems Ltd.: *See*—
Annenberg, Robert H. W. 2,978,180.
General Steel Castings Corp.: *See*—
Lich, Richard L. 2,977,897.
Gerdes, Martin E. Occupant propelled multiple runner sled. 2,978,251, 4-4-61, Cl. 280—12.14.
Gewerkschaft Eisenhutte: *See*—
Hermann, Julius. 2,977,936.
Gibb, Alex S., to Continental Can Co., Inc. Carton making machine. 2,977,861, 4-4-61, Cl. 93—51.
Gibson, Blair W. Self propelled toy. 2,977,714, 4-4-61, Cl. 46—243.
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Mahon, Henry I., and Gill. 2,977,884.
Givens, Ralph L., Jr.: *See*—
Greenwald, Harold L., and Givens. 2,978,400.
Glaser, Hermann. Chuck for machine tool. 2,977,859, 4-4-61, Cl. 90—11.
Glasgow, Clarence O., to National Tank Co. Water separation means for emulsion treaters. 2,978,403, 4-4-61, Cl. 208—187.
Glaskyd, Inc.: *See*—
Howald, Arthur M. 2,978,434.
Glass, Douglas G.: *See*—
Tosoni, Anthony L., Moloney, Goldsmith, and Glass. 2,978,447.
Glidden Co., The: *See*—
Atwood, Kenneth F., Long, and Shobe. 2,978,424.
Cochran, Walter M., and Eber. 2,978,329.
Hampton, Burt L. 2,978,468.
Globe Lighting Products, Inc.: *See*—
Cohen, Leon E. 2,978,575.
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Goertz, Raymond C., J. H. Grimson, and F. A. Kohut, to United States of America, Atomic Energy Commission. Manipulator for slave robot. 2,978,118, 4-4-61, Cl. 214—1.
Goldblum, Kenneth B.: *See*—
Wetsel, John W., and Goldblum. 2,978,296.
Goldsmith, Louis: *See*—
Tosoni, Anthony L., Moloney, Goldsmith, and Glass. 2,978,447.
Goldtrap, Walter A., to Phillips Petroleum Co. Ash removal from polymerization products. 2,978,443, 4-4-61, Cl. 260—94.9.
Goloff, Alexander: *See*—
Backlund, Robert R. D., Bailey, Goloff, Dowdall, and Kiley. 2,977,778.
Gomsi, Arne E., to General Aniline & Film Corp. Laminated structure and process for preparing same. 2,978,356, 4-4-61, Cl. 117—62.
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Edington, Robert A., and Goodman. 2,978,499.
Goodman, Isaac, and R. A. Edington, to Imperial Chemical Industries Ltd. Manufacture of aromatic disulphonic acids. 2,978,500, 4-4-61, Cl. 260—505.
Goodrich, B. F., Co., The: *See*—
Adams, Quandt M. 2,978,501.
Bartlett, Paul D., and Tate. 2,978,460.
Conklin, Lewis H., and McPherson. 2,978,515.
Holloway, John A. 2,978,421.
Jones, John F. 2,978,436.
Goodyear Aircraft Corp.: *See*—
Schmidt, Clarence J. 2,978,074.
Gorman, William. Hand truck. 2,978,127, 4-4-61, Cl. 214—355.
Gorsky, Rudolph J., to General Motors Corp. Transmission. 2,977,821, 4-4-61, Cl. 74—732.
Gower, Kenneth N., and A. H. Schroeder, to International Business Machines Corp. Tape drive. 2,978,159, 4-4-61, Cl. 226—78.
Graeber, Richard N., and G. E. Wanttaja, to General Motors Corp. Apparatus for aiming lamps. 2,977,843, 4-4-61, Cl. 88—14.
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Graham, Robert W., to General Motors Corp. Rotational indicator. 2,978,586, 4-4-61, Cl. 250—83.3.
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Graves, Chester C.: *See*—
Chapman, Weldin G., and Graves. 2,978,887.
Grawey, William F. Method for reconditioning plastic coated bowling pins. 2,978,375, 4-4-61, Cl. 154—104.
Gray, Cloyd E., E. M. Sherman, R. E. Fox, U. Ferrari, and W. M. Bibb, to W. R. Ames Co. Tube mill and method of manufacture of thin walled tubing. 2,977,914, 4-4-61, Cl. 113—33.
Gray, Milo C., and J. Kozak, to Hall-Toledo, Inc. Force feed mechanism for cutting and grinding apparatus. 2,977,727, 4-4-61, Cl. 51—241.
Greathouse, Glenn A., to United States of America, Navy. Antifouling coatings. 2,978,338, 4-4-61, Cl. 106—15.
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Greeley, William H.: *See*—
Caine, George E., Greeley, and Mooney. 2,978,134.
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Greene, John H.: *See*—
Kirkwood, George B., and Greene. 2,978,472.
Greenwald, Harold L., and R. L. Givens, Jr., to Rohm & Haas Co. Composition and method for the elimination of water-block in oil wells. 2,978,409, 4-4-61, Cl. 252—8.55.
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Grimone, Frank H., to Sylvania Electric Products Inc. Work holders for use with spray devices. 2,977,930, 4-4-61, Cl. 118—500.
Grimson, John H.: *See*—
Goertz, Raymond C., Grimson, and Kohut. 2,978,118.
Gruber, Helmut, and H. Scheidig, to W. C. Heraeus, G.m.b.H. Magnetic field coil for concentrating the arc in a vacuum arc furnace. 2,978,525, 4-4-61, Cl. 13—9.
Grympas, Theodore J. Storage battery carrier. 2,978,271, 4-4-61, Cl. 294—92.
Guangorena, Jesus: *See*—
Moseley, Tomlinson L., and Guangorena. 2,978,224.
Guest, Lawrence V., to Birmingham Sound Reproducers, Ltd. Change-speed mechanism for the turntable of a disc talking machine. 2,977,815, 4-4-61, Cl. 74—472.
Gulf Oil Corp.: *See*—
Pope, Samuel H., and Stuntz. 2,977,796.
Gulf Research & Development Co.: *See*—
Carter, Charles E., and Smyth. 2,978,513.
Gunderson, Ralph B. Yielding support for vehicle hose lines. 2,978,217, 4-4-61, Cl. 248—204.
Guthrie, Donald A., and C. L. Knapp, Jr., to Esso Research and Engineering Co. Copolymers of phosphorus sulfides and unsaturated organic esters. 2,978,412, 4-4-61, Cl. 252—46.6.
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Gutperle, Georg: *See*—
von Gronow, Harald E., Gutperle, and Hager. 2,977,721.
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Haase, Wolfgang: *See*—
Lohs, Willy, Sommer, Lehmann, Haase, and Cordt. 2,978,556.
Haban, Frank: *See*—
Buchholz, Arnold R., and Haban. 2,977,961.
Hack, Carl H.: *See*—
Battle, James H., Hack, and Konig. 2,978,369.
Hackett, Homer L.: *See*—
Coyne, Donald M., Hackett, and Poe. 2,978,523.
Hackman, Amos W., to Tuttle Electric Products, Inc. Exposed resistance electric heater. 2,978,563, 4-4-61, Cl. 219—19.
Hager, Otto: *See*—
Von Gronow, Harald E., Gutperle, and Hager. 2,977,721.
Hagmann, Waldemar: *See*—
Haas, Eugen, Zinser, Hagmann, and Laukhuf. 2,977,640.
Hahn, Frank J.: *See*—
Culbertson, Harry M., and Hahn. 2,978,425.
Hahn, Kent L., to General Motors Corp. Compressor bleed control. 2,978,166, 4-4-61, Cl. 230—115.
Hall, Robert L., and D. R. Smith, to Phillips Petroleum Co. Bonding butadiene vinylpyridine formulations to metal. 2,978,377, 4-4-61, Cl. 154—129.
Hall-Toledo, Inc.: *See*—
Gray, Milo C., and Kozak. 2,977,727.
Halliday, John J.: *See*—
Larson, Stanley C., and Halliday. 2,978,200.
Halligan, Eugene P., to Nye Tool Co. Folding tripod with folding platform. 2,978,114, 4-4-61, Cl. 211—149.
Halsmer, Joseph L. Twin-engine arrangement. 2,978,206, 4-4-61, Cl. 244—53.
Halverson, Donald U., to Texaco Inc. Apparatus for use in correlating oil well logs. 2,977,680, 4-4-61, Cl. 33—1.
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Hamilton Watch Co.: *See*—
Biemiller, Philip E., and Schoenrock. 2,977,750.
Hammond, Roland P., Remote controls for plural locomotive units. 2,977,890, 4-4-61, Cl. 105—61.
Hampton, Burt L., to The Glidden Co. Polymerization, condensation and refining of fatty acids. 2,978,468, 4-4-61, Cl. 260—407.

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Anderson, Robert J., Hamrick, and Oppenheimer. 2,977,520.

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Sheek, Richard B. 2,977,782.

Hanifan, William A.: *See*—
Crispell, Roger L., and Hanifan. 2,978,567.

Hanlein, Walter, and U. Birkholz, to Siemens-Schuckertwerke Aktiengesellschaft. Method of joining thermoelectric components. 2,978,570, 4-4-61, Cl. 219—85.

Hanna, Robert P. Whip stock locking and releasing apparatus. 2,978,032, 4-4-61, Cl. 166—117.5.

Hansen, Kai H.: *See*—
Bertsch, Joseph F., and Hansen. 2,978,256.

Harless, Charles A., to R. Hoe & Co., Inc. Printing machine ink pump. 2,977,875, 4-4-61, Cl. 101—366.

Harmon, Albert D.: *See*—
Evans, Cyril G., Harmon, and Klein. 2,977,661.

Harp, Alonzo M., to American Machine and Metals, Inc. Fan unit with a removable blade assembly. 2,978,107, 4-4-61, Cl. 230—117.

Harris, Leon S. Amusement device. 2,978,248, 4-4-61, Cl. 273—97.

Harris Transducer Corp., The: *See*—
Harris, Wilbur T. 2,978,597.
Harris, Wilbur T. 2,978,646.
Harris, Wilbur T. 2,978,669.
Harris, Wilbur T. 2,978,671.

Harris, Wilbur T., to The Harris Transducer Corp. Circuit element transducer. 2,978,597, 4-4-61, Cl. 310—8.2.

Harris, Wilbur T., to The Harris Transducer Corp. High frequency transducers. 2,978,648, 4-4-61, Cl. 330—10.

Harris, Wilbur T., to The Harris Transducer Corp. Underwater electrodynamic acoustic transducer with air-filled composite diaphragm. 2,978,669, 4-4-61, Cl. 340—8.

Harris, Wilbur T., to The Harris Transducer Corp. Electrodynamic transducer. 2,978,671, 4-4-61, Cl. 340—12.

Harshaw Chemical Co., The: *See*—
Du Rose, Arthur H. 2,978,291.

Harshman, Richard C.: *See*—
Nicolaisen, Bernard H., and Harshman. 2,978,296.

Hartwell Aviation Supply Co.: *See*—
Poe, Lloyd R. 2,978,266.

Harwig, Stephen H., and D. W. Barkley, to Libbey-Owens-Ford Glass Co. Film removal method. 2,978,366, 4-4-61, Cl. 134—3.

Harz, Walter, and R. Bruck, to Agfa Aktiengesellschaft. Magnetic impulse record carrier. 2,978,414, 4-4-61, Cl. 252—62.5.

Hasbany, Woodrow A., to Clark Equipment Co. Regulating valve. 2,977,979, 4-4-61, Cl. 137—495.

Haskins, Lewis S. Rack-like holder for small articles. 2,978,110, 4-4-61, Cl. 211—69.

Hass, Henry B., and P. S. Skell, to Research Corp. Process for the preparation of piperazines. 2,978,451, 4-4-61, Cl. 260—268.

Hasspacher, Klaus, to Dr. Karl Thomae, G.m.b.H. Benzo-1,3-thiazine-dione-(2,4) and method of making the same. 2,978,448, 4-4-61, Cl. 260—243.

Hausbalter, Fred L. Vibration damper. 2,977,819, 4-4-61, Cl. 74—574.

Havens, Byron L., to International Business Machines Corp. Read-write amplifier system. 2,978,686, 4-4-61, Cl. 340—174.1.

Hawkins, Jacob W. Tool for aligning pipe and pipe fittings. 2,977,916, 4-4-61, Cl. 113—102.

Haworth, Lionel, R. J. Shire, and D. McLean, to Rolls-Royce Ltd. Propeller driving gas-turbine engines. 2,977,758, 4-4-61, Cl. 60—39.31.

Haworth, Lionel, to Rolls-Royce Ltd. Control mechanisms for variable-pitch propellers. 2,978,035, 4-4-61, Cl. 170—135.74.

Haworth, Lionel, to Rolls-Royce Ltd. Bladed rotor for axial-flow fluid machine. 2,978,168, 4-4-61, Cl. 230—132.

Hayes, Woodrow L.: *See*—
Kaufmann, John, and Hayes. 2,977,841.

Hayward, Ronald B., to Collaro Ltd. Thrust bearings. 2,978,281, 4-4-61, Cl. 308—227.

Headings, William W., to Borg-Warner Corp. Selector valve assembly. 2,977,983, 4-4-61, Cl. 137—622.

Healy, James W.: *See*—
Di Maggio, Carmelo A., Healey, and Lamade. 2,977,962.

Heap, Alan R., to Clyde Batteries Pty. Ltd. Charged accumulator plates in a continuous operation. 2,978,528, 4-4-61, Cl. 136—33.

Heath, Carl E., Jr., and P. J. Lucchesi, to Esso Research and Engineering Co. Radioalkylation of normal paraffins. 2,978,397, 4-4-61, Cl. 204—162.

Hebeisen, Ulrich. Dismountable trailer hitch. 2,978,360, 4-4-61, Cl. 280—495.

Hedegaard, Kristen N. A.: *See*—
Wiss, Kurt, and Hedegaard. 2,977,908.

Heimaster, John W.: *See*—
Feibeck, George T., Heimaster, and Newton. 2,978,235.

Heim, Edwin. Lockout device for switch panels. 2,978,913, 4-4-61, Cl. 317—119.

Heims, Harold: *See*—
Duffy, John M., and Heims. 2,978,609.

Heinz, Karl: *See*—
Trippe, Walter, and Breil. 2,977,964.

Heisel, Andrew G.: *See*—
Risk, Norman E., Holden, and Heisel. 2,978,050.

Heitman, Clarence H. Self-tightening rebuilt shoe last. 2,977,611, 4-4-61, Cl. 12—133.

Helland, Howard M., to Lockport Felt Co., Inc. Fourdrinier machine belt. 2,978,023, 4-4-61, Cl. 162—348.

Hendron, William D.: *See*—
Mebler, Ralph G., and Hendron. 2,977,927.

Henley's W. T., Telegraph Works Co., Ltd.: *See*—
Lloyd, Edward T., and Holderness. 2,978,194.

Henrion, Charles E. Butterfly or like valves. 2,978,222, 4-4-61, Cl. 251—173.

Henthorn, Victor H., to Burt Machine Co., Inc. Can arranging machine. 2,978,091, 4-4-61, Cl. 198—31.

Henyon, Lewis E., to Clark Equipment Co. Positive lock synchroniser. 2,978,083, 4-4-61, Cl. 192—114.

Hepner, Franklin R.: *See*—
Geckler, Richard D., and Hepner. 2,977,755.

Herseus, W. C., G.m.b.H.: *See*—
Gruber, Helmut, and Scheidig. 2,978,526.

Herbert George Co.: *See*—
Irwin, George. 2,977,865.

Hermann, Julius, to Gewerkschaft Eisenhutte. Vibrating motor apparatus. 2,977,936, 4-4-61, Cl. 121—123.

Herndon, Lee R., Jr.: *See*—
Ericson, Donald W., Herndon, and Thornber. 2,977,965.

Herpich, William A.: *See*—
Dempster, George R., and Herpich. 2,978,122.

Herr Equipment Corp., The: *See*—
Herr, Richard F. 2,978,158.

Herr, Richard F., to The Herr Equipment Corp. Feed apparatus. 2,978,158, 4-4-61, Cl. 226—46.

Hersh, Sidney, and J. J. Lacombe, to United States of America, Navy. Thrust bearing assembly. 2,977,881, 4-4-61, Cl. 89—1.

Hery, Vincent D., to The American Tool Works Co. Machine for producing containers. 2,977,860, 4-4-61, Cl. 93—47.

Heslop, Robert N.: *See*—
Barker, Peter W., Heslop, Poole, and Stephen. 2,978,289.

Hess, Anton, to Thompson Ramo Wooldridge Inc. Rotor construction for rotary regenerator. 2,978,227, 4-4-61, Cl. 257—268.

Hesse, William E., J. F. Shawhan, and R. B. Pohlman, Jr., to Dover Corp. Control system for elevator motors. 2,978,070, 4-4-61, Cl. 187—29.

Hessler, Arthur F.: *See*—
Borettl, Napoleon P., Hessler, and Shearer. 2,978,569.

Hesson, James C., to Chemetron Corp. Carbon dioxide fire extinguishing nozzle. 2,978,187, 4-4-61, Cl. 239—499.

Heussner, Gerda, to Koch Processes Ltd. Half-tone printing blocks. 2,976,324, 4-4-61, Cl. 96—35.

Hickerson, John E., to International Business Machines Corp. Key operated machines. 2,978,086, 4-4-61, Cl. 197—16.

Higby, Willard C. Snow blower. 2,977,694, 4-4-61, Cl. 37—43.

Highleyman, Wilbur H., to Bell Telephone Laboratories, Inc. Character recognition system. 2,978,675, 4-4-61, Cl. 340—149.

Hill Cross Co., Inc.: *See*—
Wood, Donald. 2,978,077.

Hill, Ralph W., to Pan American Petroleum Corp. Liquid metering system. 2,977,795, 4-4-61, Cl. 73—198.

Himes, Richard C.: *See*—
Miller, James F., and Himes. 2,978,661.

Hinderer, Gottlob, and J. K. Lyon, to Price-Pfister Brass Mfg. Co. Single-handled valve. 2,977,986, 4-4-61, Cl. 137—625.17.

Hobbs, Charles C., Jr.: *See*—
MacLean, Alexander F., and Hobbs. 2,978,302.

Hoch, Paul E., and P. Robitschek, to The Hooker Chemical Corp. Elastomeric permselective membranes. 2,978,303, 4-4-61, Cl. 204—98.

Hoch, Paul E., and P. Robitschek, to The Hooker Chemical Corp. Elastomeric permselective membranes. 2,978,401, 4-4-61, Cl. 204—296.

Hoch, Paul E., and P. Robitschek, to Hooker Chemical Corp. Permselective membranes. 2,978,402, 4-4-61, Cl. 204—301.

Hockel, Hans L., to Motoren-Werke Mannheim A.G. vorm. Benz. Self-igniting, air-compressing internal combustion engine. 2,977,941, 4-4-61, Cl. 123—32.

Hocker, James P.: *See*—
Blanding, Wendell S., and Hocker. 2,978,564.

Hodges, Daniel D. Ground speed computer. 2,977,752, 4-4-61, Cl. 58—128.

Hoe, R. & Co., Inc.: *See*—
Harless, Charles A. 2,977,875.

Hofer, Adolph: *See*—
Zabriskie, Douglas M., and Hofer. 2,978,288.

Hoffman, George R.: *See*—
Kilburn, Tom, Hoffman, and Maclean. 2,978,592.

Hoffmann, Karl-Heins, and G. Becker. Device for measuring the glass level in glass melting ovens. 2,977,797, 4-4-61, Cl. 73—304.

Hoke, Ronald C.: *See*—
Tuttle, John R., Feldbauer, and Hoke. 2,978,407.

Holan, J. H., Corp.: *See*—
Troche, Herman J. 2,977,760.

Holcomb, Donald E., Jr. Shock wave generator having a shock wave controller. 2,977,767, 4-4-61, Cl. 73—12.

Holden, Jesse L.: *See*—
Risk, Norman E., Holden, and Heisel. 2,978,050.

Holderness, Henry K.: *See*—
Lloyd, Edward T., and Holderness. 2,978,194.

Holley Carburetor Co.: *See*—
Cramer, Thomas F. 2,977,945.
Holley, George M., Jr. 2,977,944.
Kittler, Milton J. 2,977,946.
Largen, Ernest R. 2,977,946.

Holley, George M., Jr., to Holley Carburetor Co. Decelerator for fuel injection or pressure metering systems. 2,977,944, 4-4-61, Cl. 123—97.

Holloway, John A., to The B. F. Goodrich Co. Nitrile copolymers and method of preparing same. 2,978,421, 4-4-61, Cl. 260—17.4.

Holliday, William C., Jr., and J. F. Black, to Esso Research and Engineering Co. Gamma ray polymerisation of styrene with unsaturated esters. 2,978,396, 4-4-61, Cl. 204—154.

Holzman, Bernard S.: *See*—
Winston, Elwyn C., and Holzman. 2,977,601.

Holzwarth, Herbert, and W. Arens, to Siemens & Halske Aktiengesellschaft. Apparatus for simultaneously transmitting a plurality of messages. 2,978,544, 4-4-61, Cl. 179—15.

Homer, Willard J.: *See*—
Vassiliades, Sophocles J., and Homer. 2,977,647.

Hoof, Robert G., to The Bendix Corp. Actuator with dither in neutral. 2,977,812, 4-4-61, Cl. 74—322.

Hook-Brown Co.: *See*—
Brown, Leslie S., Ives, and L'Hollier. 2,977,691.

Hooker Chemical Corp., The: *See*—
Hoch, Paul E., and Robitschek. 2,978,401.

Hooker Chemical Corp.: *See*—
Hoch, Paul E., and Robitschek. 2,978,402.

Hoover, Hilton J. Work vehicle for cleaning drainage canals. 2,977,738, 4-4-61, Cl. 56—8.

Hopkins, Evan L., to Hopkins Mfg. Corp. Washing implement. 2,977,625, 4-4-61, Cl. 15—567.

Hopkins Mfg. Corp.: *See*—
Hopkins, Evan L. 2,977,625.

Hoppe, Clemens B. Mandrel for driving pile shells. 2,977,770, 4-4-61, Cl. 61—53.72.

Horn, Hans, to Schneeraumungsmaschinen AG. Rotary snow plow. 2,977,693, 4-4-61, Cl. 37—43.

Hornseth, Robert L. Violin. 2,977,835, 4-4-61, Cl. 84—275.

Horsley, Geoffrey W., B. R. T. Frost, and J. T. Maskrey, to United Kingdom Atomic Energy Authority. Corrosion inhibition in ferrous metals. 2,978,308, 4-4-61, Cl. 148—16.6.

Horton, William P.: *See*—
Dean, Franklin R., Horton, and Massard. 2,978,174.

Hostetler, Stanley F.: *See*—
Kennedy, William J., and Hostetler. 2,977,724.

Hotchkiss-Brandt: *See*—
Jasse, Joseph R. 2,977,858.

Houska, Vladimir J.: *See*—
Frissell, Warren J., Jr., and Houska. 2,978,440.

Houston Engineers, Inc.: *See*—
Webb, Derrel D. 2,978,028.

Howa Sangyo Kabushiki Kaisha: *See*—
Tamada, Kazumi, and Ota. 2,977,775.

Howald, Arthur M., to Glaskyd, Inc. Sulfur-stabilized polyester-containing molding composition. 2,978,434, 4-4-61, Cl. 260—45.7.

Howell, Robert N., to Servo Corp. of America. Optical pyrometer. 2,978,589, 4-4-61, Cl. 250—233.

Howling, Dennis H., to McGraw-Edison Co. Magnetic playback heads. 2,978,545, 4-4-61, Cl. 179—100.2.

Huck, Alfred J., to Knapp Monarch Co. Jug closure. 2,978,132, 4-4-61, Cl. 215—13.

Huck, Alfred J., to Knapp Monarch Co. Jug closure. 2,978,133, 4-4-61, Cl. 215—13.

Hudson Hosiery Co.: *See*—
Neu, Eugene C., and Panel. 2,977,745.

Hudson, Robert S.: *See*—
Kruse, John R., Jr., and Hudson. 2,978,537.

Huffman, Floyd G. Hub structure. 2,978,276, 4-4-61, Cl. 301—1.

Hughes Aircraft Co.: *See*—
Chater, William T. 2,978,615.

Hulse, Graham, to Monsanto Chemicals Ltd. Method for producing laminated articles. 2,978,376, 4-4-61, Cl. 154—110.

Hult, Nils R. R., and B. O. Broman, to Aktiebolaget A. Ekstroms Maskinaffar. Method and apparatus for cleaning heat exchange apparatus connected to receive flue gases from soda recovery-boilers. 2,978,378, 4-4-61, Cl. 162—30.

Hunter, Archibald S.: *See*—
Loconti, Joseph D., Davies, Hunter, Coles, and Altamura. 2,978,584.

Hurwitz, Melvin D., to Rohm & Haas Co. Thermosettable compositions of methyl methacrylate, methacrylic acid and aminoplast condensate, process of making same, and articles obtained. 2,978,433, 4-4-61, Cl. 260—45.2.

Hutchings, Le Roi E.: *See*—
Blum, Edmund D., and Hutchings. 2,978,520.

Hutchinson, William M., and C. A. Uraneck, to Phillips Petroleum Co. Potting composition comprising a butadiene-divinyl-benzene copolymer in admixture with a butadiene-2-methyl-5-vinylpyridine copolymer and process of making same. 2,978,429, 4-4-61, Cl. 260—30.8.

Huxtable, Ronald L., to American Telephone and Telegraph Co. Impedance-matching network. 2,978,542, 4-4-61, Cl. 178—45.

Hyde, Earl K., I. I. Katzin, and M. J. Wolf, to United States of America, Atomic Energy Commission. Solvent extraction process for protactinium. 2,978,294, 4-4-61, Cl. 23—14.5.

Hyrne, Clarence F. Wrapping machine. 2,977,735, 4-4-61, Cl. 53—198.

I-T-E Circuit Breaker Co.: *See*—
Bates, Arthur C., and Crowe. 2,978,560.
Caswell, Arthur S. 2,978,559.
Diebold, Edward J. 2,978,628.

Ihmig, Rudolf, to Alweg-Forschung, Gesellschaft mit beschrankter Haftung. Transportation systems. 2,977,892, 4-4-61, Cl. 104—26.

Ilenda, Frank P., and J. C. Noyes, Jr., to Diamond Alkali Co. Shell mold adhesive composition. 2,977,650, 4-4-61, Cl. 22—194.

Illinois Tool Works: *See*—
Knutsen, Wallace N., and Black. 2,977,928.
Lutton, Melvin C. 2,978,612.
Park, Kenneth L. 2,978,005.
Parker, Joseph, and Knutsen. 2,978,344.

Imperial Chemical Industries Ltd.: *See*—
Barker, Peter W., Heslop, Poole, and Stephen. 2,978,289.
Birtwell, Stanley, Jones, and Maisey. 2,978,456.
Edington, Robert A., and Goodman. 2,978,499.
France, Harold and Lister. 2,978,449.
Goodman, Isaac, and Edington. 2,978,500.

Imperial Eastman Corp., The: *See*—
Franck, George E. 2,978,262.

Imperial Glass Corp.: *See*—
Bastian, Richard R., and Ottoson. 2,978,341.

Imperial Knife Associated Companies, Inc.: *See*—
Swinden, David. 2,977,678.

Indest, Heinz, J. Kleine, and H. Stohr, to Vereinigte Glanzstoff-Fabriken AG. Continuous production of polyamides. 2,978,438, 4-4-61, Cl. 260—78.

Ine, Frank H., and R. Kellerman. Automatic clip fastening device. 2,977,600, 4-4-61, Cl. 1—329.

Ingwersen, Richard C., to Mechanical Products, Inc. Electric switch incorporating an automatic circuit breaker. 2,978,557, 4-4-61, Cl. 200—116.

Injection Molders Supply Co.: *See*—
Morse, Albert R. 2,977,684.

Inland Steel Co.: *See*—
Mehler, Ralph G., and Hendron. 2,977,927.

Intelligent Machines Research Corp.: *See*—
Shepard, David H. 2,978,590.

International Business Machines Corp.: *See*—
Bloch, Erich, and Paulsen. 2,978,593.
Dodge, Ronald D., and Walton. 2,978,089.
Gaffney, John E., Jr. 2,978,608.
Gower, Kenneth N., and Schroeder. 2,978,159.
Havens, Byron L. 2,978,686.
Hickerson, John E. 2,978,086.
Lockhart, Newton F. 2,978,176.
Mackay, James B. 2,978,595.
Mauer, Erwin R., and Micklus. 2,978,173.
McGregor, John E. 2,978,666.
Newman, Edward A., and Clayden. 2,978,175.
Nick, Howard H. 2,978,286.
Pearson, Eugene S., and Dodge. 2,978,088.
Winger, Wayne D., Jackson, and Witt. 2,978,678.

International Computers and Tabulators Ltd.: *See*—
Walker, John S. 2,978,594.

International Telephone and Telegraph Corp.: *See*—
Dodington, Sven H. M. 2,978,699.
Pickles, Sidney B. 2,978,701.

Irwin, George, to Herbert George Co. Flash camera and reflector. 2,977,865, 4-4-61, Cl. 95—11.

Iselin, Beat: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Riniker. 2,978,444.

Isensee, Otto, Jr.: *See*—
Waller, Arthur, and Isensee. 2,978,078.

Ishiwara, Hitoshi: *See*—
Kato, Jiro, Wakamatsu, and Ishiwara. 2,978,481.

Istel, Jacques A., and L. B. Sanborn, to Parachutes Inc. Parachute and attached sleeve. 2,978,212, 4-4-61, Cl. 244—148.

Ives, Kenneth A.: *See*—
Brown, Leslie S., Ives, and L'Hollier. 2,977,691.

Ivie, James O. Automatic oiler for air pumps. 2,978,170, 4-4-61, Cl. 230—207.

J.F.D. Mfg. Co., Inc.: *See*—
Mirrione, James J. 2,978,014.

Jackman, Charles W.: *See*—
Weiss, Irwin K., Mair, Jackman, Brown, and Sayers. 2,978,253.

Jackson, Philip W.: *See*—
Winger, Wayne D., Jackson, and Witt. 2,978,678.

Jackson, Thomas W., to Blakeslee, G. S. & Co. Parts treating machine. 2,978,229, 4-4-61, Cl. 259—3.

Jacobs, John H., to Vacu-Dry Co. Cooking utensil. 2,978,141, 4-4-61, Cl. 220—94.

Jamar-Olmen Co.: *See*—
Stout, Arthur G. 2,977,686.

Jarett, Charles R. Diaphragm valves. 2,977,981, 4-4-61, Cl. 137—558.

Jasse, Joseph R., to Hotchkiss-Brandt. Aiming device for mortars. 2,977,858, 4-4-61, Cl. 89—41.

Jasse, Joseph R., to Societe Nouvelle des Etablissements Brandt. Projectile fuse. 2,977,882, 4-4-61, Cl. 102—74.

Jenike, Andrew W. Elevating belt conveyor for discrete materials in bulk. 2,978,095, 4-4-61, Cl. 198—165.

Jenkins, John P.: *See*—
Bailey, Fred L., and Jenkins. 2,976,249.

Jenne, John G. Plastic composition for floor covering and method of applying same. 2,977,863, 4-4-61, Cl. 94—3.

Jensen, Irving J. Stopper for gas lines and the like. 2,977,992, 4-4-61, Cl. 138—89.

Jensen, Thormod, to St. Regis Paper Co. Bread wrapper sealing device. 2,978,007, 4-4-61, Cl. 154—42.

Jerchel, Dietrich, to C. H. Boehringer, Sohn. Disinfectants. 2,978,465, 4-4-61, Cl. 260—404.

Jersey Production Research Co.: *See*—
Graham, Richard H. 2,978,673.
O'Reilly, Wallace M., and True. 2,978,029.
Pitcher, Richard M., Rose, and Sparks. 2,978,033.
Rumble, Robert C. 2,978,688.
True, Martin E. 2,978,046.

Jervis Corp.: *See*—
Anderson, Lloyd L., Johnson, Metzger, and Van Noord. 2,978,118.

Jester, William J. Revolvable tray. 2,978,285, 4-4-61, Cl. 312—284.

Jet-Heet, Inc.: *See*—
Dallas, Wilbur G., Jr. 2,978,225.

Johannes, Erich H. L., to Campbell Soup Co. Apparatus for trimming and cutting predetermined lengths of spaghetti. 2,977,902, 4-4-61, Cl. 107—69.

Johannsen, Adolf: *See*—
Pfannmueller, Wilhelm, Johannsen, Wolf, and Wittmann. 2,978,297.

Johansson, Folke K. E.: *See*—
Kalling, Bo M. S., and Johansson. 2,978,318.

Johnson, Donald S. Radial flow lift device. 2,978,206, 4-4-61, Cl. 244—23.

Johnson, Henry W.: *See*—
Metcalf, Herbert E., and Johnson. 2,978,398.

Johnson Hinge Co., Inc.: *See*—
McIntyre, Robert R. 2,978,013.

Johnson & Johnson: *See*—
Bergstedt, Milton A., and Lamason. 2,978,372.
Larson, Stanley C., and Halliday. 2,978,200.

Johnson, Kenneth G.: *See*—
Wassel, Eugene S., and Johnson. 2,977,854.

Johnson, Robert E.: *See*—
Anderson, Lloyd L., Johnson, Metzger, and Van Noord. 2,978,113.

Jones, E. D., Corp.: *See*—
Cumpston, Edward H., Jr. 2,978,192.

Jones, Edward A., to Switchlock, Inc. Electric switch. 2,978,555, 4-4-61, Cl. 200—67.

Jones, Eldon D. Harrow drag cart. 2,978,042, 4-4-61, Cl. 172—323.

Jones, John F., to The B. F. Goodrich Co. Cyclic polymer and method of preparation. 2,978,436, 4-4-61, Cl. 260—63.

Jones, William G. M.: *See*—
Birtwell, Stanley, Jones, and Maisey. 2,978,456.

Jonsson, Arnold M.: *See*—
Karlsson, Marius, and Jonsson. 2,978,269.

Jordison, Fred, to The Birmingham Small Arms Co. Ltd. Means for sampling bulk material. 2,977,800, 4-4-61, Cl. 73—423.

Joseph, Walter F. Transistorized power supplies. 2,978,627, 4-4-61, Cl. 321—8.

Joy, Joseph F., to Joy Mfg. Co. Crawler mounted loop miner. 2,978,256, 4-4-61, Cl. 262—9.

Joy Mfg. Co.: *See*—
Cowman, David M. 2,978,043.
Joy, Joseph F. 2,978,236.

Julich, Edward M.: *See*—
Atwater, Arthur R., and Julich. 2,978,390.

Kahl, Maurice I., to Sylvania Electric Products Inc. Electron discharge device. 2,978,606, 4-4-61, Cl. 313—270.

Kalley, Theodore. Device for carrying vegetables. 2,978,154, 4-4-61, Cl. 224—55.

Kaiser Industries Corp.: *See*—
Aiken, William R. 2,978,601.

Kalbfell, David C. Magnetic commutator and measuring apparatus. 2,978,494, 4-4-61, Cl. 340—347.

Kalbrunner, Donaldson P., to Morlite Equipment Co. Fluorescent lighting fixture and supporting means therefor. 2,978,573, 4-4-61, Cl. 240—78.

Kalling, Bo M. S., and F. K. E. Johansson, to Stora Kopparbergs Bergslags Aktiebolag. Method of producing steel from pulverulent iron products rich in carbon. 2,978,318, 4-4-61, Cl. 75—43.

Kaman Aircraft Corp., The: *See*—
Wanniund, Wallace R., and Rhodes. 2,978,211.

Kappeler, Heinl: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Rinker. 2,978,444.

Karas, Albert J.: *See*—
Meizard, Douglas E., Kendall, and Karas. 2,978,328.

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Karsten, Arnold J.: *See*—
Bigelow, Charles G., Whitcomb, and Karsten. 2,978,219.

Kasa, Bernard H., to Machinery Mountings, Inc. Vibration isolation arrangements. 2,978,213, 4-4-61, Cl. 248—20.

Kassbohrer, Karl, Fahrzeugwerke G.m.b.H.: *See*—
Prestel, Rudolf. 2,978,115.

Kato, Jiro, H. Wakamatsu, and H. Ishiwara, to Ajinomoto Co., Inc. Synthetic process for producing aldehydes from acrylonitrile by oxo-reaction. 2,978,451, 4-4-61, Cl. 260—465.1.

Kato, Masao. Motor available for toys. 2,978,598, 4-4-61, Cl. 310—43.

Katzin, Leonard I.: *See*—
Hyde, Earl K., Katzin, and Wolf. 2,978,294.

Kaufmann, John, and W. L. Hayes, to General Precision, Inc. Interferometer optical system. 2,977,841, 4-4-61, Cl. 88—14.

Kavinski, Stephen E., to Sylvania Electric Products Inc. Ring forming mechanism. 2,977,909, 4-4-61, Cl. 140—88.

Kayser, Heinrich, and G. Schrader, to Farbenfabriken Bayer Akteingesellschaft. Pest control agents. 2,978,479, 4-4-61, Cl. 260—461.

Keen, John M. S., to Rolls-Royce Ltd. Jet propulsion nozzles. 2,978,061, 4-4-61, Cl. 181—41.

Keeney, William E., W. R. Berry, and A. L. Stock, to Westinghouse Electric Corp. Turbine apparatus. 2,978,223, 4-4-61, Cl. 253—39.

Keiter, William H. Trolling device. 2,977,709, 4-4-61, Cl. 43—43.13.

Keller, John A., to Phillips Petroleum Co. Bonding agent for composite type propellant. 2,978,308, 4-4-61, Cl. 52—.5.

Keller, John R., and R. R. Kelly, to Clever Things Inc. Illuminated bat. 2,978,696, 4-4-61, Cl. 340—366.

Kellersman, Robert: *See*—
Ine, Frank H., and Kellersman. 2,977,600.

Kelly, Rudolph J., to Sperry Rand Corp. Winding machines. 2,978,193, 4-4-61, Cl. 242—1.1.

Kelly, Russell R.: *See*—
Keller, John R., and Kelly. 2,978,696.

Kelsey-Hayes Co.: *See*—
Pulkownik, Lawrence E. 2,977,934.

Kendall Co., The: *See*—
Seltzer, Norman L. 2,977,997.

Kendall, David A.: *See*—
Meizard, Douglas E., Kendall, and Karas. 2,978,328.

Kendrick, Marron, and H. L. De Vines, to Schlage Lock Co. Pin tumbler cylinder lock. 2,977,786, 4-4-61, Cl. 70—364.

Kennard, Leslie J.: *See*—
Bailey, Christopher E. G., and Kennard. 2,977,687.

Kennedy, David F. Sound reproducing apparatus. 2,978,543, 4-4-61, Cl. 179—1.

Kennedy, William J., and S. F. Hostetler, to Textron Inc. Lens surfacing machine. 2,977,724, 4-4-61, Cl. 51—124.

Kerry, Thomas H., to Rolls-Royce Ltd. Aircraft gas-turbine power plant installation. 2,978,209, 4-4-61, Cl. 244—54.

Kershner, Richard B., to United States of America, Navy. Pin erector. 2,977,880, 4-4-61, Cl. 102—50.

Kersting, Adolf, to Farbenfabriken Bayer Aktiengesellschaft. Process for the purification of polyamides. 2,978,439, 4-4-61, Cl. 260—78.

Kesecker, Woodrow W. Snow remover. 2,977,695, 4-4-61, Cl. 37—53.

Kestenbaum, Aaron L., and S. W. Dankam, to Radio Corp. of America. Introduction of barrier in germanium crystals. 2,978,367, 4-4-61, Cl. 148—1.5.

Ketchledge, Raymond W., to Bell Telephone Laboratories, Inc. Noise reducing systems. 2,978,577, 4-4-61, Cl. 250—20.

Kidger, David P., and R. J. Baeuerlen, to Swift & Co. Whipping agent and method of preparing the same. 2,978,335, 4-4-61, Cl. 99—113.

Kilburn, Tom, G. R. Hoffman, and M. A. Maclean, to National Research Development Corp. Inductive control arrangements. 2,978,592, 4-4-61, Cl. 307—88.

Kiley, Harry M.: *See*—
Backlund, Robert R. B., Bailey, Goloff, Dowdall, and Kiley. 2,977,778.

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Kingery, Marion L. Shredder for baled hay. 2,978,191, 4-4-61, Cl. 241—154.

Kinkel, Christian F., R. S. Richards, G. Steven, and W. C. Troy, to United States of America, Navy. Detonator. 2,977,978, 4-4-61, Cl. 102—28.

Kinoshita, Yoshio. Anti-oxidation device for distributor point. 2,978,531, 4-4-61, Cl. 200—30.

Kircher, Nevin W.: *See*—
McGowen, Howell H., and Kircher. 2,978,300.

Kirkwood, George B., and J. H. Greene, to Texaco Inc. Corrosion inhibiting oxidates and process for their production. 2,978,472, 4-4-61, Cl. 260—451.

Kirshenbaum, Isidor: *See*—
McCulloch, William J. G., and Kirshenbaum. 2,978,420.

Kittler, Milton J., to Holley Carburetor Co. Automatic carburetor primer. 2,977,948, 4-4-61, Cl. 123—119.

Klager, Karl: *See*—
Frankel, Milton B., and Klager. 2,978,495.
Frankel, Milton B., and Klager. 2,978,496.
Frankel, Milton B., and Klager. 2,978,497.
Frankel, Milton B., and Klager. 2,978,498.
Frankel, Milton B., and Klager. 2,978,504.
Frankel, Milton B., and Klager. 2,978,510.
Vanneman, Clinton R., and Klager. 2,978,483.

Klager, Karl, to Aerojet-General Corp. Nitro keto alcohols and esters. 2,978,467, 4-4-61, Cl. 260—404.5.

Klager, Karl, and M. B. Frankel, to Aerojet-General Corp. Nitro-amino diisocyanates. 2,978,474, 4-4-61, Cl. 260—453.

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Klager, Karl, to Aerojet-General Corp. Alcohols. 2,978,516, 4-4-61, Cl. 260—632.

Klein, Adolph: *See*—
Gebert, Russell C., Klein, and Smiley. 2,977,660.

Klein, Norman E.: *See*—
Evans, Cyril G., Harmon, and Klein. 2,977,661.

Klein, Norman E., and C. G. Evans, to Deering Milliken Research Corp. Apparatus for processing thermoplastic yarns. 2,977,746, 4-4-61, Cl. 57—34.

Kleine, Johannes: *See*—
Indest, Heins, Kleine, and Stohr. 2,978,438.

Klint, Robert V., to General Electric Co. Dishwasher and water distributor therefor. 2,977,963, 4-4-61, Cl. 134—179.

Klove, Sherman, Co., The: *See*—
Rueb, Theodore O. 2,977,824.

Knapp, Carroll L., Jr.: *See*—
Guthrie, Donald A., and Knapp. 2,978,412.

Knapp Monarch Co.: *See*—
Huck, Alfred J. 2,978,132.
Huck, Alfred J. 2,978,133.

Knight, Henry de Boyne, to The British Thomson-Houston Co., Ltd. Electric arc discharge devices. 2,978,604, 4-4-61, Cl. 313—193.

Knutsen, Wallace N.: *See*—
Parker, Joseph, and Knutsen. 2,978,344.

Knutsen, Wallace N., and J. G. Black, Jr., to Illinois Tool Works. Resistor tape sprayer. 2,977,928, 4-4-61, Cl. 118—321.

Knutson, Kermit B. Tape dispenser. 2,978,155, 4-4-61, Cl. 225—25.

Koblizek, Vladimir: *See*—
Dubsky, Borivoj, Straka, Cernohorsky, and Koblizek. 2,977,791.

Koch Processes Ltd.: *See*—
Heussner, Gerda. 2,978,324.

Koch, Robert B., to The Polymer Corp. Nylon tubing with braided cover and method of making. 2,977,839, 4-4-61, Cl. 87—1.

Koch Supplies Inc.: *See*—
Rigall, Joseph P. 2,977,954.

Kocourek, Zdenek: *See*—
Kyselak, Eduard, and Kocourek. 2,978,094.

Koehler, James O., and H. Lamprey, to Union Carbide Corp. Organo-zirconium derivatives. 2,978,347, 4-4-61, Cl. 106—306.

Kohut, Frank A.: *See*—
Goertz, Raymond C., Grimson, and Kohut. 2,978,118.

Komarek-Greaves and Co.: *See*—
Komarek, Gustav and K. R. 2,977,631.

Komarek, Gustav and K. R., to Komarek-Greaves and Co. Method and apparatus for agglomerating particulate material. 2,977,631, 4-4-61, Cl. 18—12.

Komarek, Karl R.: *See*—
Komarek, Gustav and K. R. 2,977,631.

Konig, Otto: *See*—
Battle, James H., Hack, and Konig. 2,978,369.

Konopka, Joseph, to General Motors Corp. Friction hinge. 2,977,626, 4-4-61, Cl. 16—140.

Koopman, Harmannus: *See*—
Damm, Jasper, Koopman, and Schoot. 2,978,310.

Koppers Co., Inc.: *See*—
Bigelow, Charles G., Whitcomb, and Karsten. 2,978,219.

Koren, Saul: *See*—
Coate, Ralph S., and Koren. 2,978,540.

Kosak, John: *See*—
Gray, Milo C., and Kosak. 2,977,727.

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Kramer, Otto L. Binder header for textile swatch. 2,977,690, 4-4-61, Cl. 35—35.

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Krauss, Lawrence B., to Fairchild Camera and Instrument Corp. Compositions for electrical resistance films. 2,978,314, 4-4-61, Cl. 75—.5.

Kressbach, James H.: *See*—
Margulies, Paul H., and Kressbach. 2,978,301.

Krewer, William A.: *See*—
Ayers, George W., and Krewer. 2,978,406.

Kritzer, Richard W. Method of making heat transfer units. 2,977,918, 4-4-61, Cl. 113—118.

Krueger, Howard H., to Cutler-Hammer, Inc. Rotary switch. 2,978,549, 4-4-61, Cl. 200—11.

Kruse, John R., Jr., and R. S. Hudson, to Diamond Power Specialty Corp. Automatic amplitude control for television systems. 2,978,537, 4-4-61, Cl. 178—6.8.

Kruse, Norman F., to Central Soya Co., Inc. Thermal pressure preparation of high fat meal. 2,978,326, 4-4-61, Cl. 99—22.

Krusan, Albert W., to Borg-Warner Corp. Static dry mechanism for a clothes dryer. 2,978,232, 4-4-61, Cl. 259—81.

Kube, Adolph M. L.: *See*—
Ford, William W., and Kube. 2,978,063.

Kuecken, John A., to Avco Corp. Folded dipole antenna fabricated from a single metallic sheet. 2,978,703, 4-4-61, Cl. 343—803.

Kuester, Frank E., and T. W. Findley, to Swift & Co. Complex epoxy fatty esters. 2,978,463, 4-4-61, Cl. 260—348.

Kupfer, Armin. Electronic control system having predetermined output independent of input signal. 2,978,644, 4-4-61, Cl. 328—86.

Kurie, Franz N. D., and L. A. Cartwright, to United States of America, Navy. Expandable echo sounder. 2,978,668, 4-4-61, Cl. 340—2.

Kurie, Franz N. D., and L. A. Cartwright, to United States of America, Navy. Expandable lead line sounder. 2,978,690, 4-4-61, Cl. 320—224.

Kyselák, Eduard, and Z. Kocourek, to SVIL narodni podnik. Device for the transport of shoes. 2,978,094, 4-4-61, Cl. 198—84.

Kysor Heater Co.: *See*—
Ferris, David R. 2,977,774.

La Bonia, Vincent, and J. W. Platt, to The Platt & La Bonia Co. Shelf and mounting means therefor. 2,978,111, 4-4-61, Cl. 211—90.

Lacombe, John J.: *See*—
Hersh, Sidney, and Lacombe. 2,977,851.

La Coste, Lucien J. B., to La Coste & Romberg. Force measuring apparatus. 2,977,799, 4-4-61, Cl. 73—382.

La Coste & Romberg: *See*—
La Coste, Lucien J. B. 2,977,799.

Laffan, John C., Jr.: *See*—
Brace, Porter H., and Laffan. 2,977,666.

Lafferty, James M., to General Electric Co. Gaseous arc discharge device. 2,978,605, 4-4-61, Cl. 313—247.

Laithwaite, Eric R.: *See*—
Williams, Frederic C., and Laithwaite. 2,978,623.

Lake Shore, Inc.: *See*—
Clark, James W. 2,978,123.

Lakeside Laboratories, Inc.: *See*—
Biel, John H. 2,978,461.

Lamade, Ralph M., Jr.: *See*—
Di Maggio, Carmelo A., Healy, and Lamade. 2,977,862.

Lamason, Robert H.: *See*—
Bergstedt, Milton A., and Lamason. 2,978,372.

Lamb, F. Jos., Co.: *See*—
Angello, Richard W., and Dabich. 2,978,120.

Lamb, Miles A., to Food Machinery and Chemical Corp. Diffuser tube. 2,978,284, 4-4-61, Cl. 261—122.

Lambert, Harry E., to Packaging Corp. of America. Molded pulp carton. 2,978,162, 4-4-61, Cl. 229—2.5.

Lamprey, Headlee: *See*—
Koehler, James O., and Lamprey. 2,978,347.

Landa, Arthur J.: *See*—
Catlin, Robert T., and Landa. 2,977,855.

Landis Tool Co.: *See*—
Price, Donald F. 2,977,933.

Lane, Arthur W., to Sperry Rand Corp. Gyroscopic apparatus. 2,977,806, 4-4-61, Cl. 74—5.34.

Lang, Boris M. Music instruction device. 2,977,836, 4-4-61, Cl. 84—471.

Lanner, Arthur W., and R. A. Olney, to The Proctor & Gamble Co. Scorch resistant textile softening finish composition. 2,978,408, 4-4-61, Cl. 252—8.8.

Lantz, George H.: *See*—
Drobilits, Martin E., and Lantz. 2,977,988.

Lapeyre, James M., to The Peelers Co. Process for extracting meats from crustaceans. 2,978,534, 4-4-61, Cl. 99—111.

Larach, Simon, to Radio Corp. of America. Phosphors. 2,978,417, 4-4-61, Cl. 252—301.6.

Larges, Ernest R., to Holley Carburetor Co. Spark distributor. 2,977,946, 4-4-61, Cl. 123—117.

Larson, John C., to Minneapolis-Honeywell Regulator Co. Automatic pilots. 2,978,210, 4-4-61, Cl. 244—77.

Larson, Stanley C., and J. J. Halliday, to Johnson & Johnson. Apparatus for winding material with programmed tension. 2,978,200, 4-4-61, Cl. 242—75.51.

Larson, William B., E. F. Thomson, and F. J. Webbere, to General Motors Corp. Method for producing a high strength ferrous metal. 2,978,320, 4-4-61, Cl. 75—190.

Laskowski, Gunter: *See*—
Schulze, Joachim, and Laskowski. 2,978,687.

Laukhuf, Paul: *See*—
Haas, Eugen, Zinser, Hagmann, and Laukhuf. 2,977,640.

Lawrence, Ralph W., to Aerojet-General Corp. Propellant compositions. 2,978,305, 4-4-61, Cl. 52—.5.

Lawson, Alfred C., to General Electric Co. Moving magnet instrument. 2,978,639, 4-4-61, Cl. 324—146.

Lazenby, Edwin H.: *See*—
Brook, Leonard, Lazenby, and Wilson. 2,977,731.

Lear, Inc.: *See*—
De la Tour, Roger B. 2,978,630.

Lees, James, and Sons Co.: *See*—
Gebert, Russell C., Klein, and Smiley. 2,977,660.

Lefebvre, Jean A. A., to Esso Research and Engineering Co. Anti-stripping additive for asphalts. 2,978,342, 4-4-61, Cl. 106—123.

Leflet, Herbert A., Jr.: *See*—
Carson, Frank J., and Leflet. 2,977,720.

Lehmann, Jules, to Radio Corp. of America. Automatic alignment system. 2,978,647, 4-4-61, Cl. 330—2.

Lehmann, Werner: *See*—
Lohs, Willy, Sommer, Lehmann, Haase, and Cordt. 2,978,556.

Leitz, Ernst, Gesellschaft mit beschrankter Haftung: *See*—
Malfeld, Otto. 2,977,848.

Lehn, Armand M., to Societe Anonyme dite: H. Ernault-Batignolles. Copying device for lathes. 2,977,833, 4-4-61, Cl. 82—14.

Leland-Gifford Co.: *See*—
Abadjieff, Ivan V. 2,978,250.

Lennox Industries, Inc.: *See*—
Bierwirth, Henry C., and Rutgers. 2,977,870.

Leonard, Leslie G. A., and C. Smith, to United Gas Industries Ltd. Meat-stuffing machine. 2,977,732, 4-4-61, Cl. 53—124.

Leonard, Robert H.: *See*—
Steeneck, Robert, Walker, and Leonard. 2,978,541.

Lerch, Loren W.: *See*—
Mordick, William M., and Lerch. 2,977,894.

Lesser, David K. Method of applying a coating. 2,978,354, 4-4-61, Cl. 117—47.

Lever Bros. Co.: *See*—
Euwe, Gerrit E. 2,977,871.

Leverberg, Rudolph R., and F. N. Baumgartner, to Esso Research and Engineering Co. Aluminum soap hydrocarbon thickener with increased solvation. 2,978,411, 4-4-61, Cl. 252—37.

Lewis Engineering Co.: *See*—
Forde, Milton N. 2,978,527.

Lewis, Richard L., to The Bendix Corp. Fluid pressure system having open center and closed center portions. 2,977,761, 4-4-61, Cl. 60—51.

Lewis, Samuel. Cane with flag. 2,977,965, 4-4-61, Cl. 135—47.

Lewis-Shepard Co.: *See*—
Becker, Bernard R. 2,978,129.

L'Hollier, Leslie H.: *See*—
Brown, Leslie S., Ives, and L'Hollier. 2,977,691.

Libbey-Owens-Ford Glass Co.: *See*—
Carson, Frank J., and Leflet. 2,977,720.
Harwig, Stephen H., and Barkley. 2,978,366.

Lich, Richard L., to General Steel Castings Corp. Railway vehicle truck structure. 2,977,897, 4-4-61, Cl. 105—180.

Lieberherr, Hans U., to Nordberg Mfg. Co. Supercharged opposed piston engines. 2,977,943, 4-4-61, Cl. 123—51.

Limburg, Pieter C. A. Buurman, and R. A. Vroom, to American Enka Corp. Manufacture of rayon. 2,978,292, 4-4-61, Cl. 18—54.

Lindberg, Ramon E., to Yuba Consolidated Industries, Inc. Heat exchange test jig. 2,977,780, 4-4-61, Cl. 73—40.

Linden, Gustave B.: *See*—
Frankel, Milton B., and Linden. 2,978,512.

Linden, Gustave B., to Aerojet-General Corp. Nitro keto alkyl esters of aromatic sulfonic acids. 2,978,477, 4-4-61, Cl. 260—456.

Lindland, Kaare P.: *See*—
Brightbill, Edgar N., and Lindland. 2,978,442.

Lindsay, Maurice E. Crop treating apparatus. 2,977,715, 4-4-61, Cl. 47—1.7.

Lippincott, Samuel B.: *See*—
Wiese, Herbert K., and Lippincott. 2,978,464.

Liquefreeze Co., Inc.: *See*—
Morrison, Willard L. 2,978,336.

Liquid Controls Corp.: *See*—
Billeter, Henry R., and Richards. 2,977,972.

Lister, Arnold: *See*—
France, Harold, and Lister. 2,978,449.

Little, Arthur D., Inc.: *See*—
Di Maggio, Carmelo A., Healy, and Lamade. 2,977,862.

Litton Industries, Inc.: *See*—
Curtis, Daniel L. 2,978,179.

Livermore, William T. Hydraulic pump and control valve assembly. 2,977,888, 4-4-61, Cl. 103—42.

Lloyd, Edward T., and H. K. Holderness, to W. T. Henley's Telegraph Works Co., Ltd. Means for continuously spooling filamentary bodies. 2,978,194, 4-4-61, Cl. 242—25.

Locke, George A.: *See*—
Crowson, Fred B., Locke, and MacLaughlin. 2,978,534.

Lockhart, Newton F., to International Business Machines Corp. Multipath logical core circuits. 2,978,176, 4-4-61, Cl. 235—176.

Lockport Felt Co., Inc.: *See*—
Helland, Howard M. 2,978,023.

Loconti, Joseph D., J. M. Davies, A. S. Hunter, H. W. Coles, and M. R. Altamura, to United States of America, Army. Atomic burst locators. 2,978,584, 4-4-61, Cl. 250—83.

Losbich, Otto, and A. Seidl, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Insulated electrical conductors. 2,978,363, 4-4-61, Cl. 117—315.

Lofton, Jack. Amusement and attention attracting device. 2,977,699, 4-4-61, Cl. 40—30.

Lohest, Hans: *See*—
Weber, Wolfgang, and Lohest. 2,978,195.

Lohs, Willy, F. Sommer, W. Lehmann, W. Haase, and W. Cordt, to Siemens and Halske Aktiengesellschaft Berlin and Munich. Sealed-in contact relay. 2,978,536, 4-4-61, Cl. 200—104.

Long, Austin K.: *See*—
Atwood, Kenneth F., Long, and Shobe. 2,978,424.

Long, George B.: *See*—
Brucken, Byron L., and Long. 2,978,190.

Lonier, Isadore P.: *See*—
Mitchell, Charles F., and Lonier. 2,978,247.

Lorens, Anton: *See*—
Luckhardt, Johannes. 2,978,010.

Lorens, Anton. Reclining article of furniture. 2,978,011, 4-4-61, Cl. 155—106.

Lorette, Nicholas B.: *See*—
Brown, John H., Jr., and Lorette. 2,978,469.

Louderback, Richard G. Collapsible ornament. 2,977,701, 4-4-61, Cl. 41—11.

Louis, Arnold S., and M. A. Coler. Improved variable resistor. 2,978,663, 4-4-61, Cl. 338—160.

Lowe, Keith B.: *See*—
Becker, George D., and Lowe. 2,977,809.

Lowell, Benjamin W. Securing device for speaker baffles. 2,978,079, 4-4-61, Cl. 189—88.

Lowry, Ned E.: *See*—
Stayton, Robert D., Lowry, and Vogt. 2,978,085.

Lucchesi, Peter J.: *See*—
Heath, Carl E., Jr., and Lucchesi. 2,978,397.

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Luckhardt, Wassili: *See*—
Luckhardt, Johannes. 2,978,010.

Lundin, David M. E., to Aktiebolaget Bahco. Devices in ratchet wrenches. 2,978,081, 4-4-61, Cl. 192—43.1.

Lupo, Fritz J., to Feedmatic-Detroit, Inc. Feed hopper. 2,978,280, 4-4-61, Cl. 259—30.

Lustyan, John. Rotary lawnmower construction. 2,977,739, 4-4-61, Cl. 56—25.4.

Lutton, Melvin C., to Illinois Tool Works. Modularized radio receiver. 2,978,612, 4-4-61, Cl. 317—101.

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Lynch Corp.: *See*—
Ardiner, Robert L. 2,977,730.
McVickers, Robert F. 2,977,877.

Lyon, George A. Method of making wheel covers. 2,977,915, 4-4-61, Cl. 113—51.

Lyon, George A. Method of making wheel covers. 2,977,917, 4-4-61, Cl. 113—116.

Lyon, John K.: *See*—
Hinderer, Gottlob, and Lyon. 2,977,986.

Lyons, Joseph F.: *See*—
Odell, Norman R., and Lyons. 2,978,413.

M.K.M. Knitting Mills, Inc.: *See*—
Crawford, Ishmael, and Boutillette. 2,977,783.

MacDonnell, Wilfred D., and A. D. Shattuck, to National Steel Corp. Method of preserving materials. 2,978,386, 4-4-61, Cl. 202—1.

Mace, Harry W., to Aerojet-General Corp. Ammonium perchlorate asphalt base propellants. 2,978,306, 4-4-61, Cl. 52—5.

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Butler, Richard K. 2,977,643.

Machinery Mountings, Inc.: *See*—
Kass, Bernard H. 2,978,213.

Maciejewski, Glenn A.: *See*—
Calchuff, James M., Maciejewski, and Reiter. 2,977,717.

Mackay, James B., to International Business Machines Corp. Transistor level shifter. 2,978,595, 4-4-61, Cl. 307—88.5.

MacLaughlin, Ralph R.: *See*—
Crowson, Fred B., Locke, and MacLaughlin. 2,978,534.

MacLean, Alexander F., and C. C. Hobbs, Jr., to Celanese Corp. of America. Electrolytic process. 2,978,392, 4-4-61, Cl. 204—59.

Maclean, Michael A.: *See*—
Kilburn, Tom, Hoffman, and Maclean. 2,978,502.

Madden, Max. Box tuck and method of making same. 2,977,912, 4-4-61, Cl. 112—262.

Magnavox Co., The: *See*—
Piper, Chester L. 2,977,881.

Mahon, Henry I., and M. C. Gill, to Aerojet-General Corp. Propellant grain restriction. 2,977,884, 4-4-61, Cl. 102—96.

Mair, Alex C.: *See*—
Weiss, Irwin K., Mair, Jackman, Brown, and Sayers. 2,978,253.

Maisey, Roy F.: *See*—
Hirtwell, Stanley, Jones, and Maisey. 2,978,456.

Majendie, Alastair M. A., to Smiths America Corp. Navigational instruments. 2,978,674, 4-4-61, Cl. 340—27.

Majka, Edward J.: *See*—
Young, Harland H., and Majka. 2,978,882.

Malfeld, Otto, to Leitz, Ernst, Gesellschaft mit beschrankter Haftung. Device for simultaneously exchanging optical systems. 2,977,848, 4-4-61, Cl. 88—39.

Maness, Norman B. Tool holder. 2,977,668, 4-4-61, Cl. 29—80.

Marabella, Sam J.: *See*—
Sherwin, Raymond F., and Marabella. 2,977,676.

Marconi's Wireless Telegraph Co. Ltd.: *See*—
Sodin, Boleslaw M. 2,978,579.

Marcuse, Dietrich, to Bell Telephone Laboratories, Inc. Microwave mode filter. 2,978,657, 4-4-61, Cl. 333—98.

Marfleet, Douglas: *See*—
Burnett, Barrie S., and Marfleet. 2,978,532.

Margulies, Paul H., and J. E. Kreesbach, to Food Machinery and Chemical Corp. Process and composition for the dissolution of copper. 2,978,301, 4-4-61, Cl. 41—42.

Martens, Herbert A.: *See*—
Tech, Kurt O., and Martens. 2,978,689.

Martinek, Thomas W., to The Pure Oil Co. Motor. 2,978,621, 4-4-61, Cl. 318—29.

Maschinen- und Praxisionswerkszeugfabrik G.m.b.H.: *See*—
Thoma, Eugen. 2,977,829.

Maskrey, John T.: *See*—
Horsley, Geoffrey W., Frost, and Maskrey. 2,978,368.

Massard, Robert L.: *See*—
Dean, Franklin R., Horton, and Massard. 2,978,174.

Massey-Ferguson, Inc.: *See*—
Wells, Bernard L., and Michaels. 2,978,116.

Mateja, Edward J.: *See*—
Arbeiter, Alvin H., and Mateja. 2,978,640.

Matthessen, William L. and B. H. Workman, to Caterpillar Tractor Co. Hydraulic decelerator for a spring balanced engine governor. 2,977,805, 4-4-61, Cl. 73—523.

Matthews, Hugh B., to General Motors Corp. Actuator and control system therefor. 2,977,764, 4-4-61, Cl. 60—51.

Matthews, Russell B., to Baso Inc. Fluid pressure operated control devices. 2,977,966, 4-4-61, Cl. 137—66.

Mauck, Victor, E. T. Duke, and A. B. Reid. Helical air cell pipe covering. 2,978,373, 4-4-61, Cl. 154—45.

Mauer, Erwin R., and G. Micklus, to International Business Machines Corp. Scanner drum. 2,978,173, 4-4-61, Cl. 235—61.11.

Mayerchak, Pete. Mist and paint saver. 2,978,186, 4-4-61, Cl. 239—103.

Maynard, Wallace J. Valve structure. 2,977,987, 4-4-61, Cl. 137—625.17.

Mazzoni, Renato J., to Pittsburgh Plate Glass Co. Method of sealing glass to other elements. 2,977,722, 4-4-61, Cl. 49—82.

McCarthy, John H.: *See*—
Risk, Norman E., and McCarthy. 2,978,051.

McCloskey, Allen L.: *See*—
English, William D., and McCloskey. 2,978,502.

McCombe, Matthew K.: *See*—
Walsh, Joseph W., and McCombe. 2,978,263.

McCormick, John E.: *See*—
Gilbert, George R., Schriesheim, and McCormick. 2,978,524.

McCorquodale & Co. Ltd.: *See*—
Nash, James G. 2,978,547.

McCowen, Howell H., and N. W. Kircher, to The Standard Oil Co. Reaction vessel. 2,978,300, 4-4-61, Cl. 23—285.

McCoy, Clarence E., and J. F. Stoits, to Western Electric Co., Inc. Wire tension control device. 2,978,196, 4-4-61, Cl. 242—45.

McCulloch, William J. G., and I. Kirshenbaum, to Esso Research and Engineering Co. Catalyst for dehydration of secondary alcohols. 2,978,420, 4-4-61, Cl. 252—443.

McElrath, William W. Process for non-shrinking fibrous materials. 2,977,665, 4-4-61, Cl. 28—74.

McGill, Russell C.: *See*—
Perry, Henry A., Jr., and McGill. 2,977,885.

McGraw-Edison Co.: *See*—
Howling, Dennis H. 2,978,545.

McGraw, George E., Jr., to Western Electric Co., Inc. Feeding mechanism. 2,978,199, 4-4-61, Cl. 242—47.2.

McGregor, John E., to International Business Machines Corp. Fluid pressure connector for printed circuit card. 2,978,666, 4-4-61, Cl. 339—17.

McGuire, Robert D. Method of molding a hollow rubber article. 2,977,636, 4-4-61, Cl. 18—58.7.

McGurty, James A., and E. B. Funston, to General Electric Co. Oxidation resistant alloy. 2,978,321, 4-4-61, Cl. 75—150.

McIlvaine, Robert L., to Herbert Simpson Corp. Mixer for granular material. 2,978,147, 4-4-61, 222—185.

McIntyre, Robert R., to Johnson Hinge Co., Inc. Adjustable backrest for chair structure. 2,978,013, 4-4-61, Cl. 155—152.

McLean, Donald: *See*—
Haworth, Lionel, Shire, and McLean. 2,977,758.

McNamara, Ambrose J., to Irving Constant. Slider. 2,977,656, 4-4-61, Cl. 24—206.15.

McNamara, Raymond C.: *See*—
Sullivan, Kenneth L., and McNamara. 2,978,565.

McNeil Laboratories, Inc.: *See*—
Sam, Joseph. 2,978,458.

McPherson, Roland A., Jr.: *See*—
Conklin, Lewis H., and McPherson. 2,978,515.

McQuain, David B.: *See*—
Berman, Elliot, and McQuain. 2,978,462.

McVickers, Robert F., to Lynch Corp. Code dater. 2,977,877, 4-4-61, Cl. 101—377.

Mealpack Corp.: *See*—
Clarke, Houghton W. 2,978,109.

Mechanical Products, Inc.: *See*—
Ingwersen, Richard C. 2,978,557.

Medler, Lewis A., to Fox Products Co. Electrical control systems. 2,978,633, 4-4-61, Cl. 323—89.

Mehler, Ralph G., and W. D. Hendron, to Inland Steel Co. Roll cleaning device. 2,977,927, 4-4-61, Cl. 118—203.

Meier, Walter R. Safety stools. 2,978,553, 4-4-61, Cl. 117—37.

Meister, Gerard W., to Simonix Co. Pressurized polishing composition containing polyvinyl-alcohol and gum tragacanth. 2,978,422, 4-4-61, Cl. 260—17.4.

Melzard, Douglas E., D. A. Kendall, and A. J. Karas, to Tea Corp. Process for producing a tea concentrate. 2,978,328, 4-4-61, Cl. 99—77.

Mercier, Jean. Multi-torque circuits. 2,977,763, 4-4-61, Cl. 60—51.

Merck & Co., Inc.: *See*—
Sprague, James M., and Bicking. 2,978,457.

Merz, Rudolf, to Crosman Arms Co., Inc. Gas powered fishing rod. 2,977,706, 4-4-61, Cl. 43—19.

Metabowerk Closs, Rauch & Schnizler K.G.: *See*—
Wrobbel, Werner. 2,977,725.

Metcalf, Herbert E., and H. W. Johnson, to United States of America, Atomic Energy Commission. Neutronic Reactor. 2,978,398, 4-4-61, Cl. 204—193.2.

Metz, Paul L., and J. Nepper, to A.R.B.E.D., Acieries Reunies de Burbach-Eich-Dudelange, Societe Anonyme. Nozzle. 2,978,189, 4-4-61, Cl. 239—597.

Metzger, Robert G.: *See*—
Anderson, Lloyd L., Johnson, Metzger, and Van Noord. 2,978,118.

Meyer, Friedrich, to Ebauches S.A. Transmission device for time meters. 2,977,749, 4-4-61, Cl. 58—21.13.

Meyer-Arendt, Jurgen R., to The Ohio State University Research Foundation. Optical system for microscopes or similar instruments. 2,977,847, 4-4-61, Cl. 88—39.

Meynell, Lionel C., to Meynell & Sons, Ltd. Mixing valves for controlling the mixing of hot and cold fluids. 2,977,989, 4-4-61, Cl. 137—630.19.

Meynell & Sons, Ltd.: *See*—
Meynell, Lionel C. 2,977,989.

Mieg Muhlenbau und Industrie G.m.b.H.: *See*—
Topp, Johann B. 2,978,239.

Michael, Harry C. Tread reduction wheel. 2,978,272, 4-4-61, Cl. 295—8.5.

Michaels, John L.: *See*—
Wells, Bernard L., and Michaels. 2,978,116.

Micklus, George: *See*—
Mauer, Erwin R., and Micklus. 2,978,173.

Mikulas, William. Swimming pools. 2,977,613, 4-4-61, Cl. 15—1.7.

Miller, Bertha E. Invalid's bath tub. 2,977,604, 4-4-61, Cl. 4—185.

Miller, Carl D. Speed regulating device. 2,978,059, 4-4-61, Cl. 180—82.1.

Miller, Edith E.: *See*—
Welch, Felix F. 2,977,635.

Miller, James F., and R. C. Himes, to Battelle Memorial Institute. Semiconductor devices. 2,978,661, 4-4-61, Cl. 338—22.

Miller, Matthew N., and R. V. Smith, to Fairchild Engine and Airplane Corp. Relief valve. 2,977,978, 4-4-61, Cl. 137—470.

Milliken, Humphreys. Continuous external combustion engines. 2,977,759, 4-4-61, Cl. 60—39.63.

Mills, Herbert E. Fishing lure. 2,977,708, 4-4-61, Cl. 43—42.16.

Milne, David T., to American Viscose Corp. Dissolving and mixing apparatus. 2,978,299, 4-4-61, Cl. 23—267.

Milton, Clara L., Jr.: *See*—
Walsh, John S., and Milton. 2,978,349.

Ministerio Da Aeronautica, Diretor do Material, Aeroporto Santos-Dumont: *See*—
Focke, Henrich C. J. 2,978,087.

Minix, Bill, to Freeland Gauge Co. Pneumatic internal gauge device. 2,977,788, 4-4-61, Cl. 73—37.9.

Minneapolis-Honeywell Regulator Co.: *See*—
Bauer, William H. 2,977,990.
Bauer, William H. 2,977,991.
Carlson, Elmer A. 2,978,228.
Dieterich, Ernest J. 2,978,679.
Donahue, Lawrence E. 2,978,183.
Duke, John A. 2,977,842.
Fillmore, Robert L. 2,977,765.
Larson, John C. 2,978,210.
Nodolf, Keith M. 2,978,006.

Minnesota Mining and Mfg. Co.: *See*—
Vanstrum, Robert C. 2,977,850.

Mirrione, James J., to J. P. D. Mfg. Co., Inc. Adjustment means for reclining back chairs. 2,978,014, 4-4-61, Cl. 155—159.

Mitchell, Charles F., and L. P. Lonier. Bowling ball door guard. 2,978,247, 4-4-61, Cl. 273—54.

Mitchell, Irving L., and S. S. Pressman, to Ebert Electronics Corp. Flasher system. 2,978,588, 4-4-61, Cl. 250—215.

Mitchell, John G., to Socony Mobil Oil Co., Inc. Movement of granular solids into or out of high pressure vessels. 2,978,280, 4-4-61, Cl. 302—58.

Mock, Frank C., to The Bendix Corp. Gas turbine engine control. 2,977,757, 4-4-61, Cl. 60—39.26.

Modern Metal Products Co.: *See*—
Beckman, Ernest C. 2,977,785.

Moeller, Axel, to Moeller Mfg. Co., Inc. Bafler plug. 2,978,138, 4-4-61, Cl. 220—24.5.

Moeller Mfg. Co., Inc.: *See*—
Moeller, Axel. 2,978,138.

Moloney, Peter J.: *See*—
Tosoni, Anthony L., Moloney, Goldsmith, and Glass. 2,978,447.

Monsanto Chemical Co.: *See*—
Barkhuff, Raymond A., Jr., and Platner. 2,977,639.
Culbertson, Harry M., and Hahn. 2,978,425.

Monsanto Chemicals Ltd.: *See*—
Hulse, Graham. 2,978,376.

Montecatini Societa Generale per l'Industria Mineraria e Chimica: *See*—
Chiusoli, Gian P. 2,978,466.

Mooney, Fred E.: *See*—
Caine, George E., Greeley, and Mooney. 2,978,134.

Moore, Al J.: *See*—
Moore, Samuel N., Abelow, and Moore. 2,977,911.

Moore, Morgan: *See*—
Pullar, Harold B., and Moore. 2,978,427.

Moore, Samuel N., H. Abelow, and A. J. Moore. Sewing machine attachments. 2,977,911, 4-4-61, Cl. 112—260.

Mordick, William M., and L. W. Lerch, to Columbus McKinnon Chain Corp. Linked power chain for conveyors. 2,977,894, 4-4-61, Cl. 104—172.

Morgan, Frank A. Tire demounting apparatus. 2,978,016, 4-4-61, Cl. 157—1.2.

Morin, Louis H. Integral end stop for separable fasteners and the method of producing the same. 2,977,638, 4-4-61, Cl. 18—59.

Morin, Louis H., to Coats & Clark Inc. Ribbed barrel moulded plastic spools. 2,978,202, 4-4-61, Cl. 242—118.7.

Mork, Milo L.: *See*—
Musall, John, and Mork. 2,977,605.

Morlite Equipment Co.: *See*—
Kalbrunner, Donaldson P. 2,978,573.

Morris, Vernon B., Jr., W. L. W. Ogden, and F. Sobel, to The Bendix Corp. Apparatus for testing and sorting humidity-responsive electrical resistor or hygrometer. 2,978,102, 4-4-61, Cl. 209—81.

Morrison, Willard L., to The Union Stock Yard and Transit Co. of Chicago. Multi-spark ignition engine for fixation of nitrogen. 2,977,938, 4-4-61, Cl. 123—1.

Morrison, Willard L., to Liquefreeze Co., Inc. Method of preserving edible material. 2,978,336, 4-4-61, Cl. 99—192.

Morsch, Jesse J. Rotatably-mounted faucet washers. 2,978,220, 4-4-61, Cl. 251—88.

Morse, Albert R., to Injection Molders Supply Co. Bleed back for injection molding cylinders. 2,977,634, 4-4-61, Cl. 18—30.

Morse, Roy E., and F. A. Di Pasquale, to Reliable Packing Co. Electrical stunning of animals. 2,977,627, 4-4-61, Cl. 17—1.

Morton, Glen R. Molten metal feeding tube for metal casting machines. 2,977,649, 4-4-61, Cl. 22—68.

Moseley, Tomlinson L., and J. Guangorena, Barient Co. Winch. 2,978,224, 4-4-61, Cl. 254—186.

Motoren-Werke Mannheim A.G. vorm. Benz: *See*—
Hockel, Hans L. 2,977,941.

Motorola, Inc.: *See*—
Bierman, Raymond C. 2,978,196.

Mott, John R.: *See*—
Wing, Willis G., and Mott. 2,978,638.

Moyer, Samuel P., to American Cyanamid Co. Polyelectrolytes in electrolysis. 2,978,394, 4-4-61, Cl. 204—108.

Moyrand, Jean, and B. Bigot, to Compagnie de Saint-Gobain. Granular fertilizers and processes for making them. 2,978,318, 4-4-61, Cl. 71—37.

Mulconroy Co.: *See*—
Walsh, Joseph W., and McCombe. 2,978,263.

Mulholland, James R., to L. Gary, as trustee. Combined fluxing, cleaning, and tinning device and composition, and method of making the same. 2,978,370, 4-4-61, Cl. 148—24.

Müller, Karl E.: *See*—
Graulich, Wilhelm, and Müller. 2,978,432.

Müller, Kurt. Vibratory screening apparatus. 2,978,104, 4-4-61, Cl. 209—365.

Mullin, Daniel R.: *See*—
Thompson, William E., and Mullin. 2,978,430.

Mullins Mfg. Co.: *See*—
Daugherty, Joe. 2,978,287.

Munro, Jerrold A. Baby carriage brake. 2,978,071, 4-4-61, Cl. 188—20.

Murphy, Maxwell K. Electric heater. 2,978,568, 4-4-61, Cl. 219—39.

Musall, John, and M. L. Mork, to Pyramid Mouldings, Inc. Sink mounting device. 2,977,605, 4-4-61, Cl. 4—187.

Myers, Robert R. Printing plate construction. 2,977,876, 4-4-61, Cl. 101—375.

Myers, Thomas E. Semiconductor devices and method of making the same. 2,978,618, 4-4-61, Cl. 317—235.

Nagel, George W.: *See*—
Schultz, Mortimer A., and Nagel. 2,978,698.

Napette Sanitary Napkin Holder, Inc.: *See*—
Clyne, Joseph. 2,977,957.

Nash, James G., McCorquodale & Co. Ltd. Electric circuit controllers. 2,978,547, 4-4-61, Cl. 200—5.

National Broach & Machine Co.: *See*—
Daniel, David W. 2,977,726.

National Cash Register Co., The: *See*—
Berman, Elliot, and McQuain. 2,978,462.
Eckdahl, Donald E., Sprague, Dobbins, Burns, Edwards, and Donan. 2,978,685.
National Gypsum Co.: *See*—
Schneller, Joseph W. 2,978,076.
National Lead Co.: *See*—
Battle, James H., Hack, and Konig. 2,978,369.
National Lock Co.: *See*—
North, Edwin W., and Bates. 2,978,267.
National Research Development Corp.: *See*—
Kilburn, Tom, Hoffman, and Maclean. 2,978,592.
Williams, Frederic C., and Laithwaite. 2,978,623.
National Starch and Chemical Corp.: *See*—
Russo, Joseph D., and Weidener. 2,978,343.
National Steel Corp.: *See*—
MacDonnell, Wilfred D., and Shattuck. 2,978,386.
National Tank Co.: *See*—
Glasgow, Clarence O. 2,978,403.
Nelson, Brooks E., and R. O. Peterson, to The Osborn Mfg. Co. Reinforced rotary brush. 2,977,622, 4-4-61, Cl. 15—182.
Nelson, Joseph F.: *See*—
Shewmaker, James E., and Nelson. 2,978,396.
Nemeth, Alex J.: *See*—
Bundy, Oswald M., and Nemeth. 2,978,553.
Nepper, Joseph: *See*—
Mets, Paul L., and Nepper. 2,978,189.
Neu, Eugene C., and J. W. Panel, to Hudson Hosiery Co. Method of and apparatus for treating textile strands. 2,977,745, 4-4-61, Cl. 57—34.
Neukirch, Johannes, to G. M. Pfaff A.G. Thread guide and tensioning system for sewing and similar machines. 2,977,909, 4-4-61, Cl. 112—241.
Newcomer, James E. Shock absorbing mounting for a hay conditioner. 2,977,737, 4-4-61, Cl. 56—1.
Newell, William H., E. G. Burgess, Jr., N. J. Zabb, and S. I. Frangoulis, to Sperry Rand Corp. Device for predicting values of a fluctuating system at a predetermined future time. 2,978,177, 4-4-61, Cl. 235—186.
Newlon, John D.: *See*—
Felbeck, George T., Heimaster, and Newlon. 2,978,235.
Newman, Edward A., and D. O. Clayden, to International Business Machines Corp. Program control system for electronic digital computers. 2,978,175, 4-4-61, Cl. 235—157.
Newton, Benjamin I. Cable guards. 2,978,075, 4-4-61, Cl. 189—31.5.
New York Air Brake Co., The: *See*—
Ruhl, Charles A. L. 2,977,971.
Nick, Howard H., to International Business Machines Corp. Preaging method. 2,978,286, 4-4-61, Cl. 316—1.
Nicklasson, Ralf B. Feed devices for material, for example in bar form. 2,977,670, 4-4-61, Cl. 29—93.
Nicolaisen, Bernard H., and R. C. Harshman, to Olin Mathieson Chemical Corp. Manufacture of hydrazine dihydrohalides. 2,978,296, 4-4-61, Cl. 23—67.
Niebrugge, Maxine A.: *See*—
Bernitz, Carl C. 2,977,777.
Nilsson, Bengt E., to Aktiebolaget Electrolux. Device for cleaning rotatable brushes, especially floor polishing machine brushes. 2,977,620, 4-4-61, Cl. 15—142.
Noakes, Thomas E., to American Radiator & Standard Sanitary Corp. Thermostatic mixing valve and power element construction. 2,978,181, 4-4-61, Cl. 236—12.
Nodolf, Keith M., to Minneapolis-Honeywell Regulator Co. Gas cleaning apparatus. 2,978,066, 4-4-61, Cl. 183—7.
Nordberg Mfg. Co.: *See*—
Becker, George D., and Lowe. 2,977,809.
Lieberherr, Hans U. 2,977,943.
Nordell, Carl H. Rag catcher. 2,978,106, 4-4-61, Cl. 210—173.
Norfolk Products Corp.: *See*—
Ransom, Robert B. 2,978,002.
Norlin, Francis E., to Borg-Warner Corp. Pump. 2,977,887, 4-4-61, Cl. 103—37.
Norseen, Dale G. Foldable utility chair. 2,978,012, 4-4-61, Cl. 155—149.
North, Edwin W., and W. C. Bates, to National Lock Co. Latch construction. 2,978,267, 4-4-61, Cl. 292—169.
North Electric Co.: *See*—
Bauman, Edward E. 2,978,614.
Breese, Lemuel R. 2,978,538.
Roberts, Willard A. 2,977,811.
North American Aviation, Inc.: *See*—
Gehrkens, George R., and Compton. 2,977,858.
Silverman, Louis, Sallach, and Seitz. 2,978,399.
North American Philips Co., Inc.: *See*—
Daams, Jasper, Koopman, and Schoot. 2,978,310.
Turnbull, Andrew A. 2,978,389.
Norton, James A., to General Motors Corp. Apparatus for measuring the amount of radioactive material deposited on articles. 2,977,925, 4-4-61, Cl. 118—8.
Notbohm, Elmer W.: *See*—
Cadman, Corlis D., Notbohm, and Picha. 2,977,681.
Novick, Jack. Self stacking cans. 2,978,142, 4-4-61, Cl. 220—97.
Noyes, Joseph C., Jr.: *See*—
Ilenda, Frank P., and Noyes. 2,977,650.
Nye Tool Co.: *See*—
Halligan, Eugene P. 2,978,114.
Nyman, Francis G.: *See*—
Root, Nathan, and Nyman. 2,977,697.
Nystrom, Axel C., L. O. Reichelt, D. V. Waters, and J. R. Weigel, to Western Electric Co., Inc. Cable-guiding mechanism for cable-stranding apparatus. 2,977,747, 4-4-61, Cl. 57—66.5.
O.E.M. Corp.: *See*—
Smith, William H., Frohner, and Adolphson. 2,977,956.
O.K. Tool Co., Inc., The: *See*—
Williams, Thurston V. 2,977,696.
Oakes, William S., to General Electric Co. Electron tube tapping apparatus. 2,978,635, 4-4-61, Cl. 324—20.
O'Connor, Arthur F.: *See*—
Doherty, Edward T., and O'Connor. 2,977,899.
O'Day, Cortland N. Removable core air diffusers. 2,977,869, 4-4-61, Cl. 98—40.
Odell, Norman R., and J. F. Lyons, to Texaco Inc. Lubricating oils thickened to a grease consistency with cuprous N, N' diarylamidine compounds. 2,978,413, 4-4-61, Cl. 252—49.6.
Oestericher, Louis, to General American Transportation Corp. Square-recessed screws and punch means for making same. 2,977,838, 4-4-61, Cl. 85—45.
Ogden, William L. W.: *See*—
Morris, Vernon B., Jr., Ogden, and Sobel. 2,978,102.
Ogint, Adam: *See*—
Schoepe, Adolf, and Ogint. 2,978,582.
Ohio State University Research Foundation, The: *See*—
Meyer-Arendt, Jurgen R. 2,977,847.
Olin Mathieson Chemical Corp.: *See*—
Nicolaisen, Bernard H., and Harshman. 2,978,296.
Olney, Robert A.: *See*—
Lanner, Arthur W., and Olney. 2,978,408.
Olson, Albert L., to General Electric Co. Fluid coating apparatus. 2,977,926, 4-4-61, Cl. 118—105.
Olson, Ralph H., to Owens-Illinois Glass Co. Electrode assembly for glass furnace. 2,978,526, 4-4-61, Cl. 13—14.
Omark Industries, Inc.: *See*—
Broughton, Sidney H. 2,977,598.
Raney, Arthur H. 2,978,000.
Oppenheimer, Frank L.: *See*—
Anderson, Robert J., Hamrick, and Oppenheimer. 2,977,820.
Orabona, Joseph F.: *See*—
Cohen, Albert, Davis, and Orabona. 2,978,704.
Orchard, Peter F.: *See*—
Soltau, William E., and Orchard. 2,977,760.
Ordman, Theodore. Visor construction. 2,978,274, 4-4-61, Cl. 296—97.
Oreclone Concentrating Corp.: *See*—
Rodman, Norman H. A., and Arbetman. 2,978,100.
O'Reilly, Wallace M., and M. E. True, to Jersey Production Research Co. Plug for well boreholes. 2,978,029, 4-4-61, Cl. 166—63.
Orr, Palmer, to Borg-Warner Corp. Power steering devices. 2,978,058, 4-4-61, Cl. 180—79.3.
Osborn Mfg. Co., The: *See*—
Nelson, Brooks E., and Peterson. 2,977,622.
Osborne, Charles V. Suspension system for land wheeled vehicles. 2,978,252, 4-4-61, Cl. 280—79.2.
Ota, Keisuke: *See*—
Tamada, Kazumi, and Ota. 2,977,775.
Otis Engineering Corp.: *See*—
Green, William G., White, and Pritchard. 2,978,030.
Grimmer, George G. 2,978,031.
Ottinger, Agust F.: *See*—
Williams, Russell J., Brady, and Ottinger. 2,978,164.
Ottoson, Axel C.: *See*—
Bastian, Richard R., and Ottoson. 2,978,341.
Overhead Door Corp.: *See*—
Stroup, Earl L., and Christensen. 2,978,021.
Owens-Corning Fiberglas Corp.: *See*—
Brisley, Frank O., and Evans. 2,978,529.
Whitehurst, Harry B., and Warthen. 2,977,929.
Owens-Illinois Glass Co.: *See*—
Allgeyer, Guy H., Early, and Sorbie. 2,978,619.
Olson, Ralph H. 2,978,526.
PGAC Development Co.: *See*—
Rabson, William R. 2,978,585.
Packaging Corp. of America: *See*—
Lambert, Harry E. 2,978,162.
Packwood, George H., Jr. Dispenser for finely-divided and semi-liquid materials such as paste, creams, jelly, etc. 2,978,146, 4-4-61, Cl. 222—185.
Page Engineering Co.: *See*—
Page, John W. 2,977,854.
Page, John W., to Page Engineering Co. Rope wedge socket. 2,977,654, 4-4-61, Cl. 24—126.
Pakan, John J., to A. R. F. Products, Inc. Antenna polariser having two phase shifting medium. 2,978,702, 4-4-61, Cl. 343—753.
Pallisio, Inc.: *See*—
Dell, Thomas. 2,977,610.
Pan American Petroleum Corp.: *See*—
Clark, Joseph B., Jr. 2,978,025.
Hill, Ralph W. 2,977,795.
Pearce, Frank G., and Walker. 2,977,771.
Panasewicz, Anton Z., to General Motors Corp. Variable ratio lever mechanism. 2,977,817, 4-4-61, Cl. 74—516.
Panel, James W.: *See*—
Neu, Eugene C., and Panel. 2,977,745.
Papineau, Milton D. Sine wave zero comparator. 2,978,642, 4-4-61, Cl. 328—20.
Parachutes Inc.: *See*—
Istel, Jacques A., and Sanborn. 2,978,212.
Park, Kenneth L., to Illinois Tool Works. Apparatus for winding and mounting induction coils. 2,978,005, 4-4-61, Cl. 154—1.6.
Parker, Donald W., Jr., to Switzer Brothers, Inc. Water emulsifiable composition. 2,978,418, 4-4-61, Cl. 252—312.
Parker, Joseph, and W. N. Knutsen, to Illinois Tool Works. Paint recovery method. 2,978,344, 4-4-61, Cl. 106—193.
Parker Pen Co., The: *See*—
Cadman, Corlis D., Notbohm, and Picha. 2,977,681.
Parkinson, John: *See*—
Gutkowski, Janusz, and Parkinson. 2,978,107.
Parmatic Engineering Ltd.: *See*—
Gutkowski, Janusz, and Parkinson. 2,978,107.
Pasinski, Arthur M., to Burroughs Corp. Carriage overtravel mechanism for business machines. 2,978,172, 4-4-61, Cl. 235—60.5.

Patent and Licensing Corp., The: *See*—
Bender, Edward J., and Richardson. 2,977,924.
Patterson, C. J., Co.: *See*—
Beaman, Norman V., and Broomall. 2,978,006.
Patterson, John A.: *See*—
Chafetz, Harry, and Patterson. 2,978,473.
Patterson, Omar L., to Sun Oil Co. Computing circuits. 2,978,178, 4-4-61, Cl. 235—193.
Paulsen, Robert C.: *See*—
Bloch, Erich, and Paulsen. 2,978,593.
Paulsrude, Philip M., to Wood Specialty Products, Inc. Multiple slat type folding door. 2,978,020, 4-4-61, Cl. 160—183.
Pauly Jail Building Co.: *See*—
Tysdal, Theodore J. 2,977,645.
Pearce Development Co.: *See*—
Pearce, Lewis C. 2,977,716.
Pearce, Lewis C. 2,977,734.
Pearce, Frank G., and S. W. Walker, to Pan American Petroleum Corp. Processing gas mixtures. 2,977,771, 4-4-61, Cl. 62—13.
Pearce, Lewis C., to Pearce Development Co. Method of removing trees. 2,977,716, 4-4-61, Cl. 47—58.
Pearce, Lewis C., to American Greetings Corp. Sheet distributing mechanism and receptacle conveyor. 2,977,733, 4-4-61, Cl. 53—154.
Pearce, Lewis C., to Pearce Development Co. Envelope banding machine. 2,977,734, 4-4-61, Cl. 53—198.
Pearch, Leonard C. Air blast sprayer. 2,978,185, 4-4-61, Cl. 239—77.
Pearson, Eugene S., and R. D. Dodge, to International Business Machines Corp. Paper feeding device. 2,978,088, 4-4-61, Cl. 197—138.
Peek, Robert L., Jr., to Bell Telephone Laboratories, Inc. Compressional wave translating device. 2,978,670, 4-4-61, Cl. 340—11.
Peelers Co., The: *See*—
Lapeyre, James M. 2,978,334.
Pegasus Laboratories, Inc.: *See*—
Ericson, Donald W., Herndon, and Thornber. 2,977,985.
Pellett, Allwin W.: *See*—
Crane, Jack W., and Pellett. 2,977,873.
Pennington, John V., to Cameron Iron Works, Inc. Valve. 2,977,977, 4-4-61, Cl. 137—330.
Penoyer, Charles E., to The Sherwin-Williams Co. Paint latices from super bodied oils. 2,978,346, 4-4-61, Cl. 106—252.
Perry, Henry A., Jr., and R. C. McGill, to United States of America, Navy. Explosive bomb or weapon casing. 2,977,885, 4-4-61, Cl. 102—98.
Peters, Leo W. Buckles. 2,977,655, 4-4-61, Cl. 24—196.
Peterson, Ruben O.: *See*—
Nelson, Brooks E., and Peterson. 2,977,622.
Pettavel, Jacques, to Societe Genevoise d'Instruments de Physique. Optical projection apparatus. 2,977,846, 4-4-61, Cl. 88—24.
Petti, Dorn L., to Square D Co. Sequential switch operator assemblies. 2,978,548, 4-4-61, Cl. 200—6.
Pets, John L.: *See*—
Biro, Edward W., and Pets. 2,977,685.
Pfaff, G. M., A.G.: *See*—
Neukirch, Johannes. 2,977,909.
Schenkengel, Emerich. 2,977,913.
Wins, Karl, and Hedegaard. 2,977,908.
Pfannmueller, Wilhelm, A. Johannsen, H. Wolf, and G. Wittmann, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of gases containing sulfur dioxide and of solid roasted products free from arsenic and antimony by fluidized layer roasting of materials containing roastable sulfur in addition to arsenic and/or antimony. 2,978,297, 4-4-61, Cl. 23—178.
Pfau, Jean, to Ateliers des Charmilles S.A. Electrodes and devices for securing them in a machine for electrical machining. 2,978,616, 4-4-61, Cl. 317—163.
Pfeifenroth, Frank A.: *See*—
Rempel, Dietrich G., and Pfeifenroth. 2,978,244.
Phileo Corp.: *See*—
Topfer, Alvin R. 2,978,388.
Waring, John W. 2,978,578.
Phillips Petroleum Co.: *See*—
Chapman, Weldin G., and Graves. 2,978,387.
Ford, William W., and Kube. 2,978,063.
Goldtrap, Walter A. 2,978,443.
Hall, Robert L., and Smith. 2,978,377.
Hutchinson, William M., and Uraneck. 2,978,429.
Keller, John A. 2,978,308.
Pritchard, James E. 2,978,362.
Sherk, Fred T. 2,978,441.
Phillips, Richard H., and J. E. Solecki, to Western Electric Co., Inc. Accumulator for converging conveyors. 2,978,092, 4-4-61, Cl. 198—32.
Picha, Robert J.: *See*—
Cadman, Corlis D., Notbohm, and Picha. 2,977,681.
Pickles, Joseph, to Ferro Stamping Co. Latch mechanism. 2,978,268, 4-4-61, Cl. 292—280.
Pickles, Sidney B., to International Telephone and Telegraph Corp. Air navigation radio system. 2,978,701, 4-4-61, Cl. 343—106.
Pierfederici, Alfred J., to Purolator Products, Inc. Variable density air filter panel. 2,978,068, 4-4-61, Cl. 183—63.
Pioneer Gen-E-Motor Corp.: *See*—
Siwek, Stanley Z. 2,978,052.
Piper, Chester L., to The Magnavox Co. Trigger releasing means for detonation mechanism. 2,977,881, 4-4-61, Cl. 102—70.2.
Pitcher, Richard M., E. A. Rose, and W. O. Sparks, to Jersey Production Research Co. Drillable prepacked sand control liner. 2,978,033, 4-4-61, Cl. 166—228.
Pittsburgh Plate Glass Co.: *See*—
Christenson, Roger M. 2,978,437.
Devore, Guy C. 2,977,719.
Mazzoni, Renato J. 2,977,722.
Tilgner, Ralph F. 2,977,621.
Plastow, Ronald J., to Rose Bros. (Gainsborough) Ltd. Low stiffness spring units. 2,978,241, 4-4-61, Cl. 267—1.
Platt, John W.: *See*—
La Bonia, Vincent, and Platt. 2,978,111.
Platt & La Bonia Co., The: *See*—
La Bonia, Vincent, and Platt. 2,978,111.
Platzer, Norbert: *See*—
Barkhuff, Raymond A., Jr., and Platzer. 2,977,639.
Plaut Herman, to Aerojet-General Corp. 2,2-dinitropropane-1,3-dinitrate. 2,978,484, 4-4-61, Cl. 260—467.
Poe, Lloyd R., to Hartwell Aviation Supply Co. Sliding and rotating bolt latch. 2,978,266, 4-4-61, Cl. 292—57.
Poe, Ronald L.: *See*—
Coyne, Donald M., Hackett, and Poe. 2,978,523.
Poggioli, Aliero: *See*—
Di Gaeta, Ottavio, and Poggioli. 2,978,337.
Pohelm, Walter, to Chain Belt Co. Mechanism for removing screenings from bar screens. 2,978,105, 4-4-61, Cl. 210—159.
Pohlman, Raymond R., Jr.: *See*—
Hesse, William E., Shawhan, and Pohlman. 2,978,070.
Polevoy, Stephen V. Fishing reel. 2,978,201, 4-4-61, Cl. 242—84.54.
Polich, Anthony, Jr. Detachable gooseneck hydraulic connector for trailers. 2,978,128, 4-4-61, Cl. 214—506.
Polymer Corp., The: *See*—
Koch, Robert B. 2,977,839.
Pool, Eldert B., to Edward Valves, Inc. Resiliently seated valves and sealing structures therefor. 2,978,221, 4-4-61, Cl. 251—172.
Poole, Victor D.: *See*—
Barker, Peter W., Heslop, Poole, and Stephen. 2,978,289.
Pope, Samuel H., and R. M. Stunts, Jr., deceased, by E. W. Stunts, executrix, to Gulf Oil Corp. Automatic liquid measurement. 2,977,796, 4-4-61, Cl. 73—219.
Post, James D., to Republic Foil, Inc. Coating aluminum foil with silicone. 2,978,098, 4-4-61, Cl. 206—59.
Pottle, Ralph K., to American Can Co. Sheet slitting machine with strip holding and releasing device. 2,978,093, 4-4-61, Cl. 198—34.
Power Jets (Research and Development) Ltd.: *See*—
Davidson, Ivor M. 2,978,204.
Davidson, Ivor M. 2,978,207.
Poynton, Arthur J., to Canadian Chemical Co., Ltd. Separation of pentaerythritol and dipentaerythritol from solution. 2,978,514, 4-4-61, Cl. 260—615.
Pressman, Sidney S.: *See*—
Mitchell, Irving L., and Pressman. 2,978,588.
Prestel, Rudolf, to Karl Kassbohrer Fahrzeugwerke G.m.b.H. Truck-bound slewing crane. 2,978,115, 4-4-61, Cl. 212—49.
Preul'Homme, Jean, and Y. Charpentie, to Societe des Usines Chimiques Rhone-Poulenc. Process for obtaining separately spiramycin I, spiramycin II and spiramycin III. 2,978,380, 4-4-61, Cl. 167—65.
Previn, Arthur G.: *See*—
Schiavone, Edward L. 2,978,610.
Price, Berry G., and F. M. Wood, to Tuboscope Co. Apparatus for detecting discontinuities in insulation coatings. 2,978,637, 4-4-61, Cl. 324—54.
Price, Donald F., to Landis Tool Co. Mechanism for effecting smooth starting of a hydraulic motor. 2,977,938, Cl. 121—41.
Price-Pfister Brass Mfg. Co.: *See*—
Hinderer, Gottlob, and J. K. Lyon. 2,977,986.
Pritchard, James E., to Phillips Petroleum Co. Water-repellent fabric. 2,978,362, 4-4-61, Cl. 117—135.5.
Pritchard, Vernon M.: *See*—
Green, William G., White, and Pritchard. 2,978,030.
Proctor & Gamble Co., The: *See*—
Lanner, Arthur W., and Olney. 2,978,408.
Protect-O-Matic Corp.: *See*—
Racine, Roger R. 2,978,273.
Provost, Alfred A.: *See*—
Dreary, George F., Sr., and Provost. 2,977,901.
Puckering, Charles H., to West Fargo Mfg. Co. Teeth for sweeprakes or the like. 2,977,744, 4-4-61, Cl. 56—400.
Pulkownik, Lawrence F., to Kelsey-Hayes Co. Booster brake mechanism. 2,977,954, 4-4-61, Cl. 121—41.
Pullar, Harold B. Rubber composition. 2,977,864, 4-4-61, Cl. 94—22.
Pullar, Harold B. Paving composition. 2,978,351, 4-4-61, Cl. 117—32.
Pullar, Harold B., and M. Moore, said Moore, assor. to said Pullar. Method of incorporating rubber into a petroleum oil. 2,978,427, 4-4-61, Cl. 260—28.5.
Pullman Inc.: *See*—
Candlin, James E., Jr. 2,977,698.
Purdy, Edgar H. Garbage disposal apparatus. 2,977,903, 4-4-61, Cl. 110—8.
Pure Oil Co., The: *See*—
Ayers, George W., and Krewer. 2,978,406.
Blum, Edmund D., and Hutchings. 2,978,520.
Martinek, Thomas W. 2,978,621.
Sandner, Walter J., and Pierce. 2,978,478.
Purolator Products, Inc.: *See*—
Pierfederici, Alfred J. 2,978,068.
Pye Ltd.: *See*—
Fisher, Donald H. 2,978,530.
Pyramid Mouldings, Inc.: *See*—
Musall, John, and Mork. 2,977,805.
Quinn, Aloysius J., to Brooks Equipment Corp. Universal joints. 2,977,776, 4-4-61, Cl. 64—17.

Rabeon, William R., to PGAC Development Co. Neutron calibration method and apparatus. 2,978,585, 4-4-61, Cl. 250—83.

Racine, Roger R., to Protect-O-Matic Corp. Safety vehicle seat system. 2,978,273, 4-4-61, Cl. 296—65.

Radford, William E. A., to Engineering Research and Application Ltd. Machine tools and other machines for carrying out a sequence of operations. 2,977,826, 4-4-61, Cl. 77—32.3.

Radio Corp. of America: *See*—
Coate, Ralph S., and Koren. 2,978,540.
Fernsler, George L. 2,978,655.
Green, Milton W. 2,978,682.
Kestenbaum, Aaron L., and Daskam. 2,978,367.
Larach, Simon. 2,978,417.
Lehmann, Jules. 2,978,647.
Shumard, Charles C. 2,978,646.
Spencer, James A. 2,978,676.
Thomas, John J. 2,978,652.
Wilcox, Roy C. 2,978,599.

Randol, Glenn T. Master cylinder for hydraulic brake systems. 2,977,767, 4-4-61, Cl. 60—54.6.

Randol, Glenn T. Pressure differential operated brake booster mechanism. 2,977,935, 4-4-61, Cl. 121—41.

Raney, Arthur H., to Omark Industries, Inc. Saw chain having cutter inserts. 2,978,000, 4-4-61, Cl. 143—135.

Ransom, Robert B., to Norfolk Products Corp. Plug cutter. 2,978,002, 4-4-61, Cl. 145—120.

Rasmussen, Harry R., to Aktiebolaget Separator. Method and apparatus for deodorizing liquids. 2,978,327, 4-4-61, Cl. 99—61.

Ray Oil Burner Co.: *See*—
Winters, Harry K. 2,978,018.

Raytheon Co.: *See*—
Davis, James C., Jr. 2,978,650.
Sullivan, Kenneth L., and McNamara. 2,978,565.

Reaves, John H., to United States of America, Commerce. Low capacitance power supply. 2,978,658, 4-4-61, Cl. 336—69.

Recherches Etudes Production R.E.P.: *See*—
Boulet, Georges. 2,977,753.

Rechter, Harold L.: *See*—
Bradstreet, Samuel W., and Rechter. 2,978,360.

Red Lake County State Bank: *See*—
Schults, William L., and M. J. 2,978,017.

Redey, George. Educational cubic toy device. 2,977,688, 4-4-61, Cl. 35—26.

Reichelt, Lester O.: *See*—
Nystrom, Axel C., Reichelt, Waters, and Weigel. 2,977,747.

Reiter, William L.: *See*—
Calehuff, James M., Maciejewski, and Reiter. 2,977,717.

Reliable Packing Co.: *See*—
Morse, Roy E., and Di Pasquale. 2,977,627.

Remington Arms Co., Inc.: *See*—
Catlin, Robert T., and Landa. 2,977,855.

Rempel, Dietrich G., and F. A. Pfeifenroth, to Rempel Mfg., Inc. Toys. 2,978,244, 4-4-61, Cl. 272—52.

Rempel, Dietrich G., to Rempel Mfg., Inc. Toys. 2,978,245, 4-4-61, Cl. 272—52.

Rempel Mfg., Inc.: *See*—
Rempel, Dietrich G. 2,978,245.
Rempel, Dietrich G., and Pfeifenroth. 2,978,244.

Reppe, Walter, and M. Seefelder, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of vinyl compounds. 2,978,450, 4-4-61, Cl. 260—257.

Republic Foil, Inc.: *See*—
Post, James D. 2,978,098.

Republic Steel Corp.: *See*—
Farrar, Alvin J. 2,977,900.

Research Corp.: *See*—
Haas, Henry B., and Skell. 2,978,451.

Reuwer, Milton J., and B. Rogge, to United States of America, Army. Trigger mechanism. 2,977,852, 4-4-61, Cl. 89—1.

Reynolds, Blake, to Texaco Development Corp. Method of operating an internal combustion engine. 2,977,942, 4-4-61, Cl. 123—32.

Reynolds, R. J., Tobacco Co.: *See*—
Schumacher, Joseph N. 2,978,865.

Rhine, William C., to Cutler-Hammer, Inc. Motor control system. 2,978,130, 4-4-61, Cl. 214—656.

Rhodes, Wesley T.: *See*—
Waanlund, Wallace R., and Rhodes. 2,978,211.

Riniker, Bernhard: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Riniker. 2,978,444.

Rice, Alec, to Bristol Siddeley Engines Ltd. Automatic change-speed gearing. 2,977,816, 4-4-61, Cl. 74—472.

Rice, Millard L., and W. P. Barnes, Jr., to Atlantic Research Corp. Rocket projectile. 2,977,879, 4-4-61, Cl. 102—49.

Richards, George E.: *See*—
Billeter, Henry R., and Richards. 2,977,972.

Richards, Raymond S.: *See*—
Kinkel, Christian F., Richards, Steven, and Troy. 2,977,878.

Richardson, Howard H.: *See*—
Bender, Edward J., and Richardson. 2,977,924.

Riga, Jean J. L. E.: *See*—
Braconier, Frederic F. A., and Riga. 2,978,521.

Rigali, Joseph F., to Koch Supplies Inc. Smoke generator. 2,977,954, 4-4-61, Cl. 126—59.5.

Riley, Oliver V. Race-starting system. 2,978,602, 4-4-61, Cl. 340—322.

Rillinger, Alfons, and H. Wehmeyer, to Roto-Werke A.G. Self-emptying pressure vessels. 2,978,144, 4-4-61, Cl. 222—95.

Ringger, Walter A., Jr., to American Electric Mfg. Corp. Control means for a street lighting system. 2,978,591, 4-4-61, Cl. 250—239.

Risk, Norman E., J. L. Holden, and A. G. Heisel, to Caterpillar Tractor Co. Front end suspension for tractors. 2,978,050, 4-4-61, Cl. 180—9.5.

Risk, Norman E., and J. H. McCarthy, to Caterpillar Tractor Co. Final drive assembly for track-type tractors. 2,978,051, 4-4-61, Cl. 180—9.62.

Rittel, Werner: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Riniker. 2,978,444.

Ritzerfeld, Gerhard: *See*—
Ritzerfeld, Wilhelm and G. 2,977,874.

Ritzerfeld, Wilhelm and G. Operation control arrangement for duplicators. 2,977,874, 4-4-61, Cl. 101—145.

Roberts, Alfred H. Loudspeaker enclosure. 2,978,060, 4-4-61, Cl. 181—31.

Roberts, Willard A., to North Electric Co. Ratchet and pawl stepping mechanism. 2,977,811, 4-4-61, Cl. 74—142.

Robertshaw-Fulton Controls Co.: *See*—
Weber, Victor, Russell, and Sanders. 2,977,967.
Wehrli, Robert L. 2,978,581.

Robertson Electric Co., Inc.: *See*—
Colbert, Lee J. 2,978,535.

Robirds, William A. Portable conversion unit. 2,978,596, 4-4-61, Cl. 307—151.

Robitschek, Paul: *See*—
Hoch, Paul E., and Robitschek. 2,978,303.
Hoch, Paul E., and Robitschek. 2,978,401.
Hoch, Paul E., and Robitschek. 2,978,402.

Robjee, James R. Sectional boat construction. 2,977,607, 4-4-61, Cl. 9—2.

Rodman, Norman H. A., and A. Arbetman, to Oreclone Concentrating Corp. Method of and apparatus for concentrating and separating ore. 2,978,100, 4-4-61, Cl. 209—18.

Rogge, Bernhard: *See*—
Reuwer, Milton J., and Rogge. 2,977,852.

Rohm & Haas Co.: *See*—
Greenwald, Harold L., and Givens, Jr. 2,978,409.
Hurwitz, Melvin D. 2,978,433.

Rolls-Royce Ltd.: *See*—
Haworth, Lionel. 2,978,035.
Haworth, Lionel. 2,978,168.
Haworth, Lionel, Shire, and McLean. 2,977,758.
Keen, John M. S. 2,978,061.
Kerry, Thomas H. 2,978,209.

Roney, William S.: *See*—
Stevens, Lewis A., and Roney. 2,978,700.

Ronson Metals Corp.: *See*—
Bungardt, Walter. 2,978,522.

Root, Nathan, and F. G. Nyman, ½ to H. Baer, and ½ to B. Weidring. Steam diffuser for fabric pressing machines. 2,977,697, 4-4-61, Cl. 38—16.

Rose Bros. (Gainsborough) Ltd.: *See*—
Plastow, Ronald J. 2,978,241.

Rose, Elton A.: *See*—
Pitcher, Richard M., Rose, and Sparks. 2,978,033.

Rosen, Sidney. Variable pressure suck-back device for a pump. 2,978,149, 4-4-61, Cl. 222—318.

Rosen, Sidney. Piston pump with cam coupling and crank assembly. 2,978,283, 4-4-61, Cl. 309—2.

Rosenbaum, Kurt, to Alweg-Forschung G.m.b.H. Switch combinations for monobeam type railways. 2,977,893, 4-4-61, Cl. 104—130.

Rosenblatt, Maurice C. Luminous acoustical ceiling. 2,978,571, 4-4-61, Cl. 240—9.

Rosenfeld, Morton M.: *See*—
Rudinger, Fred. 2,977,723.

Rosenkrands, Johannes, to General Motors Corp. Independent front wheel suspension. 2,978,255, 4-4-61, Cl. 280—112.

Roto-Werke A.G.: *See*—
Rillinger, Alfons, and Wehmeyer. 2,978,144.

Royal McBee Corp.: *See*—
Wendt, Frederick C. 2,978,087.

Rudinger, Fred, to M. M. Rosenfeld. Bombshelter. 2,977,723, 4-4-61, Cl. 50—100.

Rueb, Theodore O., to The Sherman Klove Co. Wrench making method. 2,977,824, 4-4-61, Cl. 76—114.

Rugland, Gerhard T., J. P. Yackel, and A. P. Berges. Multiple choice response device. 2,977,689, 4-4-61, Cl. 35—48.

Ruhl, Charles A. L., to The New York Air Brake Co. Fluid distribution system and valves therefor. 2,977,971, 4-4-61, Cl. 137—108.

Rumble, Robert C., to Jersey Production Research Co. Displacement indicating apparatus. 2,978,686, 4-4-61, Cl. 340—203.

Russell, Helen T.: *See*—
Russell, James C. 2,978,552.

Russell, James C., deceased; H. T. Russell, administratrix. Timer. 2,978,552, 4-4-61, Cl. 200—33.

Russell, William J.: *See*—
Weber, Victor, Russell, and Sanders. 2,977,967.

Russo, Joseph D., and R. A. Weidener, to National Starch and Chemical Corp. Remoistenable adhesive compositions. 2,978,343, 4-4-61, Cl. 106—128.

Rutgers, Norman L.: *See*—
Bierwirth, Henry C., and Rutgers. 2,977,870.

Ryan Aeronautical Co.: *See*—
David, Constant V. 2,978,205.

Ryan, John W. Toy shooting shell pistol. 2,977,950, 4-4-61, Cl. 124—2.

S & C Electric Co.: *See*—
Barta, Henry J. 2,978,558.

SVII, narodni podnik: *See*—
Kyselak, Eduard, and Kocourek. 2,978,094.

Sabins Dohrmann, Inc.: *See*—
Sabins, Rolland C. 2,978,400.

Sabins, Rolland C., to Sabins Dohrmann, Inc. Reference half cell assembly. 2,978,400, 4-4-61, Cl. 204—195.

Saco-Lowell Shops: *See*—
Edfors, Sven E. 2,977,642.

Safeguard Mfg. Co.: *See*—
Vilkaitis, Hugo L. 2,978,084.

St. Regis Paper Co.: *See*—
Jensen, Thormod. 2,978,007.

Sallach, Robert A.: *See*—
Silverman, Louis, Sallach, and Seitz. 2,978,899.

Sam, Joseph, to McNeil Laboratories, Inc. 2-amino-6-chlorobenzoxazole and pharmaceutically acceptable salts 2,978,458, 4-4-61, Cl. 260—307.

Sanborn, Lewis B.: *See*—
Istel, Jacques A., and Sanborn. 2,978,212.

Sand, Darrel R., to General Motors Corp. De-sludging device. 2,977,766, 4-4-61, Cl. 60—54.

Sanders, William J.: *See*—
Weber, Victor, Russell, and Sanders. 2,977,967.

Sandner, Walter J., and W. L. Pierce, to The Pure Oil Co. Reaction of phosphorus oxychloride and polar polyhydric compounds. 2,978,478, 4-4-61, Cl. 260—461.

Sarkes Tarzian, Inc.: *See*—
Canada, David G. 2,978,651.

Sarvis, Howard C. Forearm gun. 2,977,703, 4-4-61, Cl. 42—94.

Sayers, Garth R.: *See*—
Weiss, Irwin K., Mair, Jackman, Brown, and Sayers. 2,978,253.

Schacht, Ewald. Choke with contacting finger and sleeve surfaces of concentric arcs. 2,977,702, 4-4-61, Cl. 42—79.

Scheidig, Helmut: *See*—
Gruber, Helmut, and Scheidig. 2,978,525.

Schenck, Hermann, and W. Wenzel. Electrical heating process and apparatus. 2,978,315, 4-4-61, Cl. 75—.5.

Schenkengel, Emerich, to G. M. Pfaff, A.G. Method of sewing parallel rows of zig-zag stitches. 2,977,918, 4-4-61, Cl. 112—264.

Scherer, Lewis F., to The Texas Pipe Line Co. Non-metallic pipe end closure. 2,977,993, 4-4-61, Cl. 138—96.

Schiavone, Edward L., ½ to A. G. Previn. Image producing device. 2,978,610, 4-4-61, Cl. 315—169.

Schiller, Arthur M., to American Cyanamid Co. Bis-(alpha-halotoyl) alkanes. 2,978,517, 4-4-61, Cl. 260—649.

Schlage Lock Co.: *See*—
Kendrick, Marron, and De Vines. 2,977,786.

Schlatter, Wilhelm R., to Contraves A.G. Remote control servosystem. 2,978,620, 4-4-61, Cl. 318—28.

Schmeckenbecher, Arnold, to General Aniline & Film Corp. Alloyed flocks from metal carbonyls and halides. 2,978,323, 4-4-61, Cl. 75—211.

Schmidt, Arthur O. Driving and steering apparatus for wheel chairs. 2,978,053, 4-4-61, Cl. 180—26.

Schmidt, Clarence J., to Goodyear Aircraft Corp. Spherical building structure with curved beams. 2,978,074, 4-4-61, Cl. 189—2.

Schmitz, Harry W., to General Motors Corp. Windshield cleaning mechanism. 2,977,623, 4-4-61, Cl. 15—250.02.

Schneeraumungsmaschinen AG.: *See*—
Horn, Hans. 2,977,993.

Schneider, Ernst, J. M. Voith, G.m.b.H. Control device for blades of cycloidal propellers. 2,978,036, 4-4-61, Cl. 170—151.

Schneller, Joseph W., to National Gypsum Co. Long length lath partition system. 2,978,076, 4-4-61, Cl. 189—34.

Schnering, Charles J., to Sylvania Electric Products Inc. Top lead bender and abrader. 2,977,667, 4-4-61, Cl. 29—25.2.

Schoenrock, Kenneth H.: *See*—
Biemiller, Philip E., and Schoenrock. 2,977,750.

Schoepe, Adolf, and A. Ogint. Smoke detector. 2,978,582, 4-4-61, Cl. 250—43.5.

Scholin, Axel B. Unidirectional valve for metering pumps and the like. 2,977,980, 4-4-61, Cl. 137—538.

Scholl, Walter: *See*—
Benade, Walter, Dittmar, and Scholl. 2,978,445.

Schoot, Cornelis J.: *See*—
Daams, Jasper, Koopman, and Schoot. 2,978,310.

Schott, Donald E., to Thomas C. Wilson, Inc. Overspeed safety devices. 2,977,931, 4-4-61, Cl. 121—38.

Schraber, Henry A. Dry cleaning apparatus. 2,977,784, 4-4-61, Cl. 68—38.

Schrader, Gerhard: *See*—
Kayser, Heinrich, and Schrader. 2,978,479.

Schriesheim, Alan: *See*—
Gilbert, George R., Schriesheim, and McCormick. 2,978,524.

Schroeder, Arthur H.: *See*—
Gower, Kenneth N., and Schroeder. 2,978,159.

Schulte, Harry J., Jr., to Bell Telephone Laboratories, Inc. Precession storage delay circuit. 2,978,680, 4-4-61, Cl. 340—172.5.

Schults, Matthew J.: *See*—
Schults, William L. and M. J. 2,978,017.

Schults, Mortimer A., and G. W. Nagel, to United States of America, Navy. Radar target tracking system. 2,978,698, 4-4-61, Cl. 343—7.3.

Schults, William L., and M. J., to Red Lake County State Bank. Bead breaker. 2,978,017, 4-4-61, Cl. 157—1.26.

Schulze, Joachim, and G. Laskowski, to VEB Elektronische Rechenmaschinen-Wissenschaftlicher Industriebetrieb-Karl-Marx-Stadt. Circuit arrangement for determining the polarity of pulses. 2,978,687, 4-4-61, Cl. 340—174.1.

Schumacher, Joseph N., to R. J. Reynolds Tobacco Co. Tobacco. 2,978,365, 4-4-61, Cl. 131—17.

Schwartz, Bennett M. Automatic fish feeder. 2,978,148, 4-4-61, Cl. 222—197.

Schwyzer, Robert, B. Iselin, H. Kappeler, W. Rittel, and B. Riniker, to Ciba Pharmaceutical Products Inc. Polypeptides and process of preparing same. 2,978,444, 4-4-61, Cl. 260—112.

Scotcraft Ltd.: *See*—
Allan, Ian. 2,977,907.

Scully-Jones and Co.: *See*—
Better, Bernard R. 2,978,062.

Secunda, Kenneth, to General Motors Corp. Hardness testing device. 2,978,101, 4-4-61, Cl. 209—73.

Seefelder, Matthias: *See*—
Reppe, Walter, and Seefelder. 2,978,450.

Segall, Louis H., to The Bendix Corp. Electrical discharge control system. 2,978,611, 4-4-61, Cl. 315—180.

Seidl, Alois: *See*—
Loebich, Otto, and Seidl. 2,978,363.

Seidl, Alois, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for the surface treatment of metals. 2,978,361, 4-4-61, Cl. 117—127.

Seiger, Harry W. Holder for tenacula. 2,977,958, 4-4-61, Cl. 128—346.

Seitz, Rachel L.: *See*—
Silverman, Louis, Sallach, and Seitz. 2,978,899.

Seltzer, Norman L., to The Kendall Co. Diaper. 2,977,997, 4-4-61, Cl. 139—383.

Servo Corp. of America: *See*—
Howell, Sabert N. 2,978,589.

Seyler, Leon Antoine. Pumps and compressors of the flexible-tube type. 2,977,890, 4-4-61, Cl. 103—149.

Seymour, James E., to Central Farmers Fertilizer Co. Processes for producing fertilizers. 2,978,311, 4-4-61, Cl. 71—33.

Seymour, James E., to Central Farmers Fertilizer Co. Processes for producing fertilizers and products thereof. 2,978,312, 4-4-61, Cl. 71—33.

Shaffer Tool Works: *See*—
Walker, Raymond W. 2,978,048.

Shanok, Jesse P.: *See*—
Shanok, Victor, and J. P. 2,978,215.

Shanok, Victor, and J. P. Magnetically mounted clock. 2,978,215, 4-4-61, Cl. 248—115.

Shapiro, Seymour L.: *See*—
Freedman, Louis, and Shapiro. 2,978,381.

Sharp, Allen W.: *See*—
Barker, Seth S., Crane, and Sharp. 2,977,628.

Shattuck, Albert D.: *See*—
MacDonnell, Wilfred D., and Shattuck. 2,978,386.

Shawhan, John F.: *See*—
Hesse, William E., Shawhan, and Pohlman. 2,978,070.

Shearer, Thomas W., Jr.: *See*—
Boretti, Napoleon P., Hessler, and Shearer. 2,978,569.

Sheek, Richard B., to Hanes Hosiery Mills Co. Knitted fabric. 2,977,782, 4-4-61, Cl. 66—173.

Sheets, Oren E. Eaves-trough hanger. 2,978,214, 4-4-61, Cl. 248—48.2.

Shell, John W., to The Upjohn Co. Crystalline 21-deoxy-9a-fluoro 6a-methyl prednisolone. 2,978,379, 4-4-61, Cl. 167—58.

Shepard, David H., to Intelligent Machines Research Corp. Scanning apparatus. 2,978,590, 4-4-61, Cl. 250—233.

Shepard, David H. Time interval marking apparatus. 2,978,643, 4-4-61, Cl. 328—63.

Sherk, Fred T., to Phillips Petroleum Co. Polyolefin reactor control. 2,978,441, 4-4-61, Cl. 260—93.7.

Sherman, Roger M.: *See*—
Gray, Cloyd E., Sherman, Fox, Ferrari, and Bibb. 2,977,914.

Sherwin, Raymond F., and Sam J. Marabella, to The Chicago Hardware Foundry Co. Ductile iron welding rod and method of welding. 2,977,676, 4-4-61, Cl. 29—495.

Sherwin-Williams Co., The: *See*—
Penoyer, Charles E. 2,978,346.

Shewmaker, James E., and J. F. Nelson, to Esso Research and Engineering Co. Radiation induced ethylene polymerisation. 2,978,396, 4-4-61, Cl. 204—154.

Shire, Ralph J.: *See*—
Haworth, Lionel, Shire, and McLean. 2,977,758.

Shlesinger, Bernard E., Jr. Vertical drop stapling machine. 2,977,599, 4-4-61, Cl. 1—106.

Shobe, Owen F.: *See*—
Atwood, Kenneth F., Long, and Shobe. 2,978,424.

Shoffner, Willie M., to The Fogarty Mfg. Co. Check out counter. 2,978,069, 4-4-61, Cl. 186—1.

Short, J. R., Milling Co.: *See*—
Ferrari, Charles G. 2,978,330.
Ferrari, Charles G. 2,978,331.
Ferrari, Charles G. 2,978,332.

Shoup Electronics Inc.: *See*—
Candell, Ralph L. 2,978,171.

Shramo, Daniel J.: *See*—
Stiglic, Paul M., and Shramo. 2,977,968.

Shumard, Charles C., to Radio Corp. of America. Automatic alignment system. 2,978,646, 4-4-61, Cl. 330—2.

Sieck, Claymore C.: *See*—
Fessenden, George R. 2,978,348.

Siedband, Melvin P., to United States of America, Navy. Residual voltage reactor circuits. 2,978,620, 4-4-61, Cl. 321—69.

Siegel, Joel R., and J. V. Clarke, Jr., to Esso Research and Engineering Co. Stabilized distillate fuels. 2,978,302, 4-4-61, Cl. 44—62.

Siemens & Halske Aktiengesellschaft: *See*—
Donath, Bernhard, and Zetzmann. 2,978,697.
Holzwarth, Herbert, and Arens. 2,978,544.
Voegtlen, Dieter. 2,978,641.

Siemens & Halske Aktiengesellschaft Berlin and Munich: *See*—
Dorendorf, Heinz. 2,978,617.
Lohs, Willy, Sommer, Lehmann, Haase, and Cordt. 2,978,556.

Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Hanlein, Walter, and Birkhols. 2,978,570.

Signouret, Jean B.: *See*—
Tirtiaux, Robert, and Signouret. 2,978,423.

Silverman, Jerome E., to Thompson Ramo Wooldridge Inc. Ionic brush. 2,978,600, 4-4-61, Cl. 310—232.

Silverman, Louis, R. A. Sallach, and R. L. Seitz, to North American Aviation, Inc. Homogeneous nuclear reactor fuel composition. 2,978,390, 4-4-61, Cl. 204—193.2.

Simendinger, Joseph A. Contact wheels. 2,977,725, 4-4-61, Cl. 51—141.

Simm, Clarke N., to California Research Corp. Method for detecting fluid flow in or near a well bore. 2,977,792, 4-4-61, Cl. 73—155.

Simms, Thomas S., to General Electric Co. Methods of making copper-aluminum joints. 2,977,675, 4-4-61, Cl. 29—479.

Simonis Co.: *See*—
Meister, Gerard W. 2,978,422.

Simpson, Herbert, Corp.: *See*—
McIlvaine, Robert L. 2,978,147.

Simpson, Stanley F., to Bethlehem Steel Co. Stamped metal casting mold. 2,977,648, 4-4-61, Cl. 22—57.

Sims, John C., Jr., and W. J. Bartik, to Sperry Rand Corp. Magnetic core memory device. 2,978,681, 4-4-61, Cl. 340—174.

Siwek, Stanley Z., to Pioneer Gen-E-Motor Corp. Self-propelled system for power tools. 2,978,052, 4-4-61, Cl. 180—19.

Skell, Philip S.: *See*—
Hass, Henry B., and Skell. 2,978,451.

Skidmore, Sam C., and P. B. Crook. Stabiliser for drill bit. 2,978,049, 4-4-61, Cl. 175—391.

Skovranek, John. Boat pumps. 2,977,922, 4-4-61, Cl. 114—183.

Smiley, Harry J.: *See*—
Gebert, Russell C., Klein, and Smiley. 2,977,660.

Smith, Clarence: *See*—
Leonard, Leslie G. A., and Smith. 2,977,782.

Smith, David R.: *See*—
Hall, Robert L., and Smith. 2,978,377.

Smith, Donald F., to United States of America, Army. Swivel closure for rotatable containers. 2,978,004, 4-4-61, Cl. 150—5.

Smith, Donald I.: *See*—
Di Camillo, Eugene J., and Smith. 2,978,062.

Smith, Gus T., to Ace Engineering Co. Carrier tube. 2,977,780, 4-4-61, Cl. 66—126.

Smith, Gus T., to Ace Engineering Co. Carrier tube. 2,977,781, 4-4-61, Cl. 66—126.

Smith Kline & French Laboratories: *See*—
Weinstock, Joseph. 2,978,482.

Smith, Patricia A.: *See*—
Battista, Orlando A., and Smith. 2,978,446.

Smith, Roy V.: *See*—
Miller, Matthew N., and Smith. 2,977,978.

Smith, Warner B., and C. Baber, to The Flexicore Co., Inc. Cores for manufacture of precast slabs. 2,977,658, 4-4-61, Cl. 25—128.

Smith, William H., R. Frohner, and R. T. Adolphson, to O.E.M. Corp. Incubators for infants. 2,977,956, 4-4-61, Cl. 128—1.

Smiths America Corp.: *See*—
Majendie, Alastair M. A. 2,978,674.

Smith-Vaniz, William R., to C.G.S. Laboratories, Inc. Multiple-feedback amplifier series motor control system. 2,978,824, 4-4-61, Cl. 318—249.

Smyth, Rex W.: *See*—
Carter, Charles E., and Smyth. 2,978,513.

Sobel, Frederick: *See*—
Morris, Vernon B., Jr., Ogden, and Sobel. 2,978,102.

Societe Anonyme dite: H. Ernault-Batignolles: *See*—
Lelan, Armand M. 2,977,833.

Societe Anonyme dite: Societe Lorraine Des Anciens Etablissements de Dietrich & Cie de Luneville: *See*—
Buisson, André. 2,978,259.

Societe Belge de l'Azote et des Produits Chimiques du Marly: *See*—
Braconier, Frederic F. A., and Riga. 2,978,521.

Societe des Usines Chimiques Rhone-Poulenc: *See*—
Preud'Homme, Jean, and Charpentie. 2,978,380.

Societe Genevoise d'Instruments de Physique: *See*—
Pettavel, Jacques. 2,977,846.

Societe Nouvelle des Etablissements Brandt: *See*—
Jasse, Joseph R. 2,977,882.

Socony Mobil Oil Co., Inc.: *See*—
Becker, Myron. 2,978,303.
Bergstrom, Eric V. 2,978,279.
Mitchell, John G. 2,978,280.

Soddy, Thomas C., to Chicago Railway Equipment Co. Bimetal brake drum. 2,978,073, 4-4-61, Cl. 188—218.

Solartron Electronic Group Ltd., The: *See*—
Bailey, Christopher R. G., and Kennard. 2,977,667.

Solecki, John E.: *See*—
Phillips, Richard H., and Solecki. 2,978,092.

Soltau, William E., and P. F. Orchard, to Bristol Aero-Engines Ltd. Annular combustion chambers for use with compressors capable of discharging combustion supporting medium with a rotary swirl through an annular outlet. 2,977,760, 4-4-61, Cl. 60—39.65.

Solvay & Cie: *See*—
Daras, Nestor. 2,978,518.

Sommer, Friedrich: *See*—
Lohs, Willy, Sommer, Lehmann, Haase, and Cordt. 2,978,556.

Sontheimer, Carl G., to C.G.S. Laboratories, Inc. Adjustable controllable inductance tuning apparatus. 2,978,660, 4-4-61, Cl. 336—135.

Sorbie, Thomas B.: *See*—
Allgeyer, Guy H., Earl, and Sorbie. 2,978,619.

Soun, Boleslaw M., to Marconi's Wireless Telegraph Co. Ltd. Signal mixers. 2,978,579, 4-4-61, Cl. 250—20.

Sparks, Warren O.: *See*—
Pitcher, Richard M., Rose, and Sparks. 2,978,033.

Special Engineering Service, Inc.: *See*—
Bunnell, Glen R. 2,978,160.

Specialties, Inc.: *See*—
Bucalo, Louis. 2,977,793.

Spencer, James A., to Radio Corp. of America. Selective signalling display system with checking and acknowledgment. 2,978,676, 4-4-61, Cl. 340—154.

Sperry Gyroscope Co. Ltd., The: *See*—
French, Norman E. 2,977,804.

Sperry Rand Corp.: *See*—
Blanshine, Allison W. 2,978,097.
Crane, Jack W., and Pellett. 2,977,873.
Kelly, Rudolph J. 2,978,193.
Lane, Arthur W. 2,977,606.
Newell, William H., Burgess, Zabb, and Frangoulis. 2,978,177.
Sims, John C., Jr., and Bartik. 2,978,681.
Wing, Willis G., and Mott. 2,978,638.
Wittke, Ernest C. 2,978,622.
Wittke, Ernest C. 2,978,631.

Sprague, James M., and J. B. Bicking, to Merck & Co., Inc. 5-acylamido-4-substituted-thiazole-2-sulfonamides having diuretic properties. 2,978,457, 4-4-61, Cl. 260—306.8.

Sprague, Richard E.: *See*—
Eckdahl, Donald E., Sprague, Dobbins, Burns, Edwards, and Donan. 2,978,685.

Sprouse, Verner E., and P. E. Bender, to Vernco Corp. Fan support bracket. 2,978,216, 4-4-61, Cl. 248—201.

Square D Co.: *See*—
Petti, Dorn L. 2,978,549.

Square Mfg. Co.: *See*—
Arnett, Leslie, and Freise. 2,978,143.

Stallwood, Leslie: *See*—
Clements, John A., and Stallwood. 2,978,056.

Stambaugh, Alberta H.: *See*—
Stambaugh, Lloyd A. 2,977,710.

Stambaugh, Lloyd A., ½ to A. H. Stambaugh. Bait harnesses. 2,977,710, 4-4-61, Cl. 43—44.2.

Stamicarbon, N.V.: *See*—
De Vooys, Gerard J., and Fontein. 2,978,278.

Standard Oil Co. (Ohio), The: *See*—
McCowen, Howell H., and Kircher. 2,978,300.
Sylvania Electric Products Inc.: *See*—
Vegtch, Franklin, Alford, and Croft. 2,978,339.
Veatch, Franklin, Alford, and Croft. 2,978,340.

Standard Packaging Corp.: *See*—
Bolding, Hubert V. 2,978,165.

Stanton, Francis P., to Bristol Siddeley Engines Ltd. Means for preventing the accumulation of ice or other solids in ducts. 2,978,169, 4-4-61, Cl. 230—132.

Starr, Charles W. Poison bait stations. 2,977,711, 4-4-61, Cl. 43—131.

Stavenau, Harold L., to Truth Tool Co. Closure operator. 2,977,810, 4-4-61, Cl. 74—96.

Stayton, Robert D., N. E. Lowry and L. O. Vogt. Vending machine. 2,978,085, 4-4-61, Cl. 194—10.

Steenock, Robert, D. J. Walker, and R. H. Leonard, to The Western Union Telegraph Co. Error detection in telegraph switching systems. 2,978,541, 4-4-61, Cl. 178—23.

Steinke, Joseph F., and L. C. Erickson, to Elenco Products Corp. Torque limiter. 2,977,770, 4-4-61, Cl. 64—30.2.

Stephen, William E.: *See*—
Barker, Peter W., Heslop, Poole, and Stephen. 2,978,599.

Sterling Drug Inc.: *See*—
Elpern, Bill. 2,978,454.

Sterling Faucet Co.: *See*—
Drobilits, Martin E., and Lants. 2,977,988.

Steven, Gary: *See*—
Kinkel, Christian F., Richards, Steven, and Troy. 2,977,878.

Stevens, Lewis A., and W. S. Roney, to United States of America, Navy. Radar reflecting tow target. 2,978,700, 4-4-61, Cl. 343—16.

Stiglic, Paul M., and D. J. Shramo, to Thompson Ramo Wooldridge Inc. Pressure relay. 2,977,908, 4-4-61, Cl. 137—80.

Stock, Alvin L.: *See*—
Keeney, William E., Berry, and Stock. 2,978,223.

Stohr, Helmut: *See*—
Indest, Heins, Kleine, and Stohr. 2,978,438.

Stoltz, James F.: *See*—
McCoy, Clarence E., and Stoltz. 2,978,196.

Stone, Milton C., to General Motors Corp. Fuel control for a turbo-prop engine using operating limits of power output temperature. 2,977,750, 4-4-61, Cl. 60—39.28.

Stora Kopparbergs Bergslags Aktiebolag: *See*—
Kalling, Bo M. S., and Johansson. 2,978,318.

Stout, Arthur G., to Jamar-Olmen Co. Apparatus for the manufacture of paper. 2,977,686, 4-4-61, Cl. 34—114.

Straka, OldRich: *See*—
Dubský, Bořivoj, and Straka. 2,977,700.
Dubský, Bořivoj, Straka, Černohorský, and Koblížek.

Straney, Kenneth O.: *See*—
Wagner, James B., and Straney. 2,977,768.

Strassheim, Frederick W. Filters. 2,978,108, 4-4-61, Cl. 210—346.

Straussler, Nicholas P. S. Boat. 2,977,606, 4-4-61, Cl. 9—2.

Streeter-Amet Co.: *See*—
Dreyer, Herbert L. 2,978,561.

Strickland, Royce M., to United-Greenfield Corp. Carbide drill. 2,977,828, 4-4-61, Cl. 77—67.

Stroman, Lawrence E. Mechanical cotton defoliator and topper. 2,977,741, 4-4-61, Cl. 56—25.4.

Stroup, Earl L., and K. M. Christensen, to Overhead Door Corp. Upwardly acting door and sections therefor. 2,978,021, 4-4-61, Cl. 160—191.

Strosik, Conrad J., to General Motors Corp. Parking brake actuating mechanism. 2,977,818, 4-4-61, Cl. 74—531.

Stunts, Esther W.: *See*—
Pope, Samuel H., and Stunts. 2,977,796.

Stunts, Rose M., Jr.: *See*—
Pope, Samuel H., and Stunts. 2,977,796.

Submarine Cables, Ltd.: *See*—
Burnett, Barrie S., and Marfleet. 2,978,632.

Suggs, Thomas F.: *See*—
Freese, William L., Cocker, and Suggs. 2,977,662.

Suit, Ross F.: *See*—
Gifford, Richard P., and Suit. 2,978,684.

Sullivan, Kenneth L., and R. C. McNamara, to Raytheon Co. Insulated wire strippers. 2,978,565, 4-4-61, Cl. 219—29.

Sun Oil Co.: *See*—
Bowers, Rolland G. 2,978,404.
Bowers, Rolland G. 2,978,405.
Patterson, Omar L. 2,978,178.
Thompson, William E., and Mullin. 2,978,430.
Young, Einar T. 2,977,970.

Sunbeam Lighting Co.: *See*—
Bodian, Marcus. 2,978,572.

Sundholm, Edwin P. Multi-fill grease gun. 2,978,151, 4-4-61, Cl. 222—386.5.

Surface Chemical Development Corp.: *See*—
Aberegg, David C. 2,978,428.

Surico, Carmine, to Clermont Machine Co., Inc. Spaghetti and macaroni handling machine. 2,978,157, 4-4-61, Cl. 223—97.

Sutcliffe, Richard, Ltd.: *See*—
Baines, Leslie. 2,978,044.

Swain, Lewis C. Pruning saw. 2,977,679, 4-4-61, Cl. 30—166.

Swift & Co.: *See*—
Kidger, David P., and Baeuerlen. 2,978,335.
Kuester, Frank E., and Findley. 2,978,463.
Young, Harland H., and Malka. 2,978,382.

Swinden, David, to Imperial Knife Associated Companies, Inc. Pocket knife and method of making same. 2,977,678, 4-4-61, Cl. 30—155.

Switchlock, Inc.: *See*—
Jones, Edward A. 2,978,555.

Switzer Bros., Inc.: *See*—
Parker, Donald W., Jr. 2,978,418.

Sylvania Electric Products Inc.: *See*—
Calehuff, James M., Maciejewski, and Reiter. 2,977,717.
Freeman, Carl R. 2,978,125.
Grimone, Frank H. 2,977,930.
Kahl, Maurice I. 2,978,606.
Kavinski, Stephen E. 2,977,999.
Schnering, Charles J. 2,977,667.

Szczepanski, Harry. Cleaning device. 2,977,615, 4-4-61, Cl. 15—50.

Szmuszkovicz, Jacob, and W. C. Anthony, to The Upjohn Co. Ketals of (3-indolyl)-aminoalkanones. 2,978,459, 4-4-61, Cl. 260—319.

Takakuwa, Tokuichi. Method of processing lateritic nickeliferous ores. 2,978,317, 4-4-61, Cl. 75—21.

Talon, Inc.: *See*—
Carmen Hymen. 2,977,904.

Tamada, Kasumi, and K. Ota, to Howa Sangyo Kabushiki Kaisha. Absorption refrigerator. 2,977,775, 4-4-61, Cl. 62—497.

Tarr, Robert G. Roller applicator tray and attachment. 2,977,624, 4-4-61, Cl. 15—257.06.

Tate, Bryce E.: *See*—
Bartlett, Paul D., and Tate. 2,978,460.

Taylor, Howard S., to Airguide Instrument Co. Marine speedometer. 2,977,794, 4-4-61, Cl. 73—182.

Tea Corp.: *See*—
Melzard, Douglas E., Kendall, and Karas. 2,978,328.

Tech, Kurt O., and H. A. Martens, to The Cross Co. Control mechanism for machine tools and the like. 2,978,089, 4-4-61, Cl. 340—222.

Technicolor Corp.: *See*—
Ames, Malcolm H. 2,977,866.

Tedford, Charles R., to United States of America, Navy. Electronic switching circuiting. 2,978,645, 4-4-61, Cl. 328—101.

Teigen, Ferdinand A., to Allium, Inc. Method of preparing onions for shipment. 2,978,333, 4-4-61, Cl. 99—100.

Telfer, Thomas A., to General Electric Co. Method of making bonded wire circuit. 2,977,672, 4-4-61, Cl. 29—155.5.

Texaco Development Corp.: *See*—
Reynolds, Blake. 2,977,942.

Texaco Inc.: *See*—
Chafets, Harry, and Patterson. 2,978,473.
Christensen, Edward R. 2,978,470.
Davis, Douglass R. 2,978,024.
Halverson, Donald U. 2,977,680.
Kirkwood, George R., and Greene. 2,978,472.
Odell, Norman R., and Lyons. 2,978,413.
Widmyer, Richard H. 2,978,027.

Texas Instruments Inc.: *See*—
Walters, Geoffrey K. 2,978,664.

Texas Pipe Line Co., The: *See*—
Scherer, Lewis F. 2,977,903.

Textron Inc.: *See*—
Kennedy, William J., and Hostetler. 2,977,724.

Theriault, Matthew A. Method of operation of internal combustion engines. 2,977,940, 4-4-61, Cl. 123—25.

Thiokol Chemical Corp.: *See*—
Bell, Harold S., Jr. 2,977,754.

Thoma, Eugen, to Maschinen-und Praxisionswerkzeugfabrik G.m.b.H. Machine reamer. 2,977,829, 4-4-61, Cl. 77—75.

Thomae, Dr. Karl, G.m.b.H.: *See*—
Hasspacher, Klaus. 2,978,448.

Thomas, John J., to Radio Corp. of America. Microwave modulator. 2,978,652, 4-4-61, Cl. 332—3.

Thompson, Earl A. Automatic loading device. 2,978,117, 4-4-61, Cl. 214—1.

Thompson, Henry C., to Conso Realty Co. Method of molding articles. 2,977,637, 4-4-61, Cl. 18—59.

Thompson Ramo Wooldridge Inc.: *See*—
Anderson, Robert J., Hamrick, and Oppenheimer. 2,977,820.
Hess, Anton. 2,978,227.
Silverman, Jerome H. 2,978,600.
Stiglic, Paul M., and Shramo. 2,977,968.

Thompson, William E., and D. R. Mullin, to Sun Oil Co. Polypropylene compositions. 2,978,430, 4-4-61, Cl. 260—31.8.

Thomson, Robert F.: *See*—
Larson, William B., Thomson, and Webbere. 2,978,320.

Thornber, Ernest C.: *See*—
Ericson, Donald W., Herndon, and Thornber. 2,977,985.

Thrasher, Ralph H., Jr. Balance-wheel lock. 2,977,751, 4-4-61, Cl. 58—107.

Tice, George A. Electric razor for shaving. 2,977,677, 4-4-61, Cl. 30—34.

Tilmer, Ralph F., to Pittsburgh Plate Glass Co. Wire and fiber filled industrial brush wheel. 2,977,621, 4-4-61, Cl. 15—182.

Tinsley, Kelvin R. Ice fishing tip-up. 2,977,704, 4-4-61, Cl. 43—17.

Tirtiaux, Robert, and J. B. Signouret, to Esso Standard Societe Anonyme Francaise. Anti-rust compositions. 2,978,423, 4-4-61, Cl. 260—19.

Topatron, Inc.: *See*—
Appleman, Leo H. 2,978,531.

Topfer, Alvin R., to Philco Corp. Electrochemical method. 2,978,388, 4-4-61, Cl. 204—16.

Topp, Johann B., to Miag Muhlenbau und Industrie G.m.b.H. Apparatus for treating granulated bulk material. 2,978,239, 4-4-61, Cl. 263—32.

Torrington Co., The: *See*—
Fisher, Walter. 2,978,282.

Tosoni, Anthony L., P. J. Moloney, L. Goldsmith, and D. G. Glass, to The Governors of the University of Toronto. Preparation of p-aminobenzyl penicillin and derivatives thereof. 2,978,447, 4-4-61, Cl. 260—239.1.

Towler, Frank H.: *See*—
Towler, John M. 2,977,932.

Towler, John M., deceased, by F. H. Towler, executor, to Electraulic Presses Ltd. Hydraulic actuator. 2,977,932, 4-4-61, Cl. 121—38.

Treu, William: *See*—
Frechtmann, Jean, and Treu. 2,977,729.

Trippe, Walter, and W. Breil, to Fritz Bremshey and Karl Heins, trading as the firm: Bremshey & Co. Umbrellas. 2,977,964, 4-4-61, Cl. 135—20.

Troche, Herman J., to J. H. Hoban Corp. Control for mobile aerial tower. 2,977,709, 4-4-61, Cl. 60—97.

Troy, Walter C.: *See*—
Kinkel, Christian F., Richards, Steven, and Troy. 2,977,878.

True, Martin E.: *See*—
O'Reilly, Wallace M., and True. 2,978,029.

True, Martin E., to Jersey Production Research Co. Off-bottom drill stem tester. 2,978,046, 4-4-61, Cl. 175—233.

Truth Tool Co.: *See*—
Stavenau, Harold L. 2,977,810.

Tuboscope Co.: *See*—
Price, Berry G., and Wood. 2,978,037.

Turnbull, Andrew A., to North American Philips Co., Inc. Method of tensioning thin meshes of metal. 2,978,389, 4-4-61, Cl. 204—24.

Tuthill, William A., to Flanders Mill, Inc. Actuating means for expansible filters. 2,978,067, 4-4-61, Cl. 183—59.

Tuttle Electric Products, Inc.: *See*—
Hackman, Amos W. 2,978,563.

Tuttle, John R., G. F. Feldbauer, Jr., and R. C. Hoke, to Esso Research and Engineering Co. Molecular sieve separation process. 2,978,407, 4-4-61, Cl. 208—310.

Tyjewski, Cezar. Shearing apparatus for chicken wire or the like including a toothed, pivoted wire guide. 2,977,834, 4-4-61, Cl. 83—447.

Tysdal, Theodore J., to Pauly Jail Building Co. Cell door. 2,977,645, 4-4-61, Cl. 20—19.

Ulrich, Glenn A.: *See*—
Barton, David W., and Ulrich. 2,978,057.

Union Carbide Corp.: *See*—
Engle, James D. 2,978,431.
Fekete, Frank. 2,978,471.
Felbeck, George T., Heimaster, and Newlon. 2,978,235.
Frissell, Warren J., Jr., and Houska. 2,978,440.
Koehler, James O., and Lamprey. 2,978,347.

Union des Verreries Mecaniques Belges, Societe Anonyme: *See*—
Verheggen, Albert. 2,978,270.

Union Oil Co. of California: *See*—
Worth, Harry J. 2,978,410.

Union Special Machine Co.: *See*—
Covert, John N. 2,977,910.

Union Stock Yard and Transit Co. of Chicago, The: *See*—
Morrison, Willard L. 2,977,938.

United Aircraft Corp.: *See*—
Barnes, Philip E. 2,977,984.

United-Carr Fastener Corp.: *See*—
Cochran, Clarence W. 2,977,652.

United Gas Industries Ltd.: *See*—
Leonard, Leslie G. A., and Smith. 2,977,732.

United-Greenfield Corp.: *See*—
Strickland, Royce M. 2,977,828.

United Kingdom Atomic Energy Authority: *See*—
Horsley, Geoffery W., Frost, and Mankrey. 2,978,368.

United Shoe Machinery Corp.: *See*—
Walsh, John E. 2,978,140.

United States Borax & Chemical Corp.: *See*—
English, William D., and McCloskey. 2,978,502.

United States of America
Air Force: *See*—
Cohen, Albert, Davis, and Orabona. 2,978,704.
Dunn, Jenus L. 2,978,695.
Wassel, Alexander A. 2,977,849.
Army: *See*—
Caine, George E., Greeley, and Mooney. 2,978,134.
Fletcher, David C. 2,977,856.
Loconti, Joseph D., Davies, Hunter, Coles, and Altamura. 2,978,584.
Reuwer, Milton J., and Rogge. 2,977,852.
Smith, Donald F. 2,978,004.
Wassel, Eugene S., and Johnson. 2,977,854.
Atomic Energy Commission: *See*—
Brunson, Glenn S., Jr. 2,977,814.
Campbell, Ivor E. 2,978,358.
Goeckermann, Robert H. 2,978,295.
Goertz, Raymond C., Grimson, and Kobut. 2,978,118.
Hyde, Earl K., Katzin, and Wolf. 2,978,294.
Metcalf, Herbert K., and Johnson. 2,978,398.
Commerce: *See*—
Reaves, John H. 2,978,658.
Navy: *See*—
Blake, Theodore V. 2,977,919.
Brace, Porter H., and Laffan. 2,977,666.
Campanile, Arnold R. 2,977,684.
Cariberg, Robert E. 2,977,857.
Chait, Herman N. 2,978,654.
Czajkowski, Norman. 2,977,883.
Greathouse, Glenn A. 2,978,338.
Hersh, Sidney, and Lacombe. 2,977,851.
Kershner, Richard B. 2,977,880.
Kinkel, Christian F., Richards, Steven, and Troy. 2,977,878.
Kurie, Frans N. D., and Cartwright. 2,978,668.
Kurie, Frans N. D., and Cartwright. 2,978,690.
Perry, Henry A., Jr., and McGill. 2,977,885.
Schultz, Mortimer A., and Nagel. 2,978,698.
Siedband, Melvin P. 2,978,629.
Stevens, Lewis A., and Roney. 2,978,700.
Tedford, Charles B. 2,978,645.
Wilcox, Dwight D., Jr. 2,978,656.
University of Toronto, The Governors of the: *See*—
Tosoni, Anthony L., Moloney, Goldsmith, and Glass. 2,978,447.
Upjohn Co., The: *See*—
Shell, John W. 2,978,379.
Szmuszkovicz, Jacob, and Anthony. 2,978,459.
Uraneck, Carl A.: *See*—
Hutchinson, William M., and Uraneck. 2,978,429.
VEB Elektronische Rechenmaschinen-Wissenschaftlicher Industriebetrieb-Karl-Marx-Stadt: *See*—
Schulze, Joachim, and Laskowski. 2,978,687.
VEB Vakutronik Dresden: *See*—
Von Ardenne, Manfred. 2,978,580.
Vacu-Dry Co.: *See*—
Jacobs, John H. 2,978,141.
Van Groningen, Theodorus B. Target device for base-ball pitchers. 2,978,246, 4-4-61, Cl. 273—26.
Vanneman, Clinton R.: *See*—
Klager, Karl, and Vanneman. 2,978,476.
Vanneman, Clinton R., and K. Klager, to Aerojet-General Corp. Nitrasa dinitrile compositions of matter. 2,978,483, 4-4-61, Cl. 260—465.5.
Van Noord, Andrew J.: *See*—
Anderson, Lloyd L., Johnson, Metzger, and Van Noord. 2,978,113.
Vanstrum, Robert C., to Minnesota Mining and Mfg. Co. Reflex-reflecting screen. 2,977,850, 4-4-61, Cl. 88—82.
Van Tassel, Earl K., to Bell Telephone Laboratories, Inc. Multiple output diode distributor and amplification circuits. 2,978,577, 4-4-61, Cl. 340—167.
Vassiliades, Sophocles J., and W. J. Homer. Apparatus for sterilising footwear and removing odors and moisture therefrom. 2,977,647, 4-4-61, Cl. 21—122.
Veatch, Franklin, H. E. Alford, and R. D. Croft, to The Standard Oil Co. Method of producing hollow glass spheres. 2,978,339, 4-4-61, Cl. 106—40.
Veatch, Franklin, H. E. Alford, and R. D. Croft, to The Standard Oil Co. Hollow glass particles and method of producing the same. 2,978,340, 4-4-61, Cl. 106—40.
Vereinigte Glasstoff-Fabriken AG.: *See*—
Crull, Eberhard. 2,978,238.
Indest, Heins, Kleine, and Stohr. 2,978,438.
Verheggen, Albert, to Union des Verreries Mecaniques Belges, Societe Anonyme. Horse for the transport of sheet materials. 2,978,270, 4-4-61, Cl. 294—67.
Verneo Corp.: *See*—
Sprouse, Verner R., and Bender. 2,978,216.
Vernet, Serqius, and G. Amakawa, to Antioch College. Regulator device for electric current. 2,978,666, 4-4-61, Cl. 338—223.
Vernon, William A.: *See*—
Brown, Edward H., Sr., Vernon, and E. H. Brown, Jr. 2,977,606.
Viking Instruments, Inc.: *See*—
Fountain, Henry. 2,978,636.
Vilkaitis, Hugo L., to Safeguard Mfg. Co. Safety interlock. 2,978,084, 4-4-61, Cl. 192—131.
Voegtlen, Dieter, to Siemens und Halske Aktiengesellschaft. Circuit ambiguity testing apparatus. 2,978,641, 4-4-61, Cl. 324—158.
Vogt, Leon O.: *See*—
Stayton, Robert D., Lowry, and Vogt. 2,978,085.
Voith, J. M., G.m.b.H.: *See*—
Schneider, Ernst. 2,978,036.
Volta, Jacques: *See*—
Bossard, Werner, and Volta. 2,978,290.
Von Ardenne, Manfred, to VEB Vakutronik Dresden. Process and device for the addition of slow electrons to polyatomic or high-molecular compounds. 2,978,580, 4-4-61, Cl. 250—41.9.
Von Gronow, Harald E., G. Gutperle, and O. Hager. Method of manufacturing light-weight, porous acid slag. 2,977,721, 4-4-61, Cl. 49—77.5.
Vroom, Robert A.: *See*—
Limburg, Pieter C., Buurman, and Vroom. 2,978,292.
Vyzkumny a skusebni letecky ustav: *See*—
Dubsky, Bofivoj, and Straka. 2,977,790.
Dubsky, Bofivoj, Straka, Černohorsky, and Koblifek. 2,977,791.
Wagner, James B., and K. O. Straney, to General Electric Co. Electrically controlled governing mechanisms for elastic fluid turbines. 2,977,765, 4-4-61, Cl. 60—97.
Wahlgren, Wallace W., to Electro Engineering Works. Moisture-proof winding. 2,978,659, 4-4-61, Cl. 336—96.
Wakamatsu, Hachiro: *See*—
Kato, Jiro, Wakamatsu, and Ishiwara. 2,978,481.
Walker, Donald J.: *See*—
Steeneck, Robert, Walker, and Leonard. 2,978,541.
Walker, John S., to International Computers and Tabulators Ltd. Pulse amplifiers. 2,978,594, 4-4-61, Cl. 307—88.5.
Walker, Raymond W., to Shaffer Tool Works. Bumper safety joint. 2,978,048, 4-4-61, Cl. 175—294.
Walker, Scott W.: *See*—
Pearce, Frank G., and Walker. 2,977,771.
Waller, Arthur, and O. Isensee, Jr., to Bull Dog Lock Co. Hanging assembly and elements for use in same. 2,978,078, 4-4-61, Cl. 189—88.
Walpole, Floyd K., to Aeroquip Corp. Pipe patch clamp. 2,977,995, 4-4-61, Cl. 138—99.
Walsh, John E., to United Shoe Machinery Corp. Container opening devices. 2,978,140, 4-4-61, Cl. 220—52.
Walsh, John S., and C. L. Milton, Jr., to Eastern Products Corp. Soil proofing. 2,978,349, 4-4-61, Cl. 117—16.
Walsh, Joseph W., and M. K. McCombe, to Mulconroy Co. Hose coupling having deformable sleeve with extrusion holes. 2,978,263, 4-4-61, Cl. 285—256.
Walters, Geoffrey K., to Texas Instruments Inc. Resistive element. 2,978,664, 4-4-61, Cl. 338—217.
Walton, Neil D.: *See*—
Dodge, Ronald D., and Walton. 2,978,089.
Wanniund, Wallace R., and W. T. Rhodes, to The Kaman Aircraft Corp. Aerial device having rotor for retarding descent. 2,978,211, 4-4-61, Cl. 244—138.
Wanttaja, Glenn E.: *See*—
Graeber, Richard N., and Wanttaja. 2,977,843.
Warfel, Gordon O.: *See*—
Edwards, James D., and Warfel. 2,978,340.
Waring, John W., to Philco Corp. Improved transistorized mixing circuit. 2,978,578, 4-4-61, Cl. 250—20.
Warthen, William P.: *See*—
Whitehurst, Harry B., and Warthen. 2,977,929.
Wassel, Alexander A., to United States of America, Air Force. Optical element holder assembly. 2,977,849, 4-4-61, Cl. 88—57.
Wassel, Eugene S., and K. G. Johnson, to United States of America, Army. Single-sprocket twin-barrel gun. 2,977,854, 4-4-61, Cl. 89—13.
Waters, Daniel V.: *See*—
Nystrom, Axel C., Reichelt, Waters, and Weigel. 2,977,747.
Watters, Robert L., to General Electric Co. Radio-frequency amplifier and converter circuits. 2,978,576, 4-4-61, Cl. 250—20.
Watts, William S., to AMP Inc. Miniature taper pin. 2,978,667, 4-4-61, Cl. 339—96.
Webb, Derrel D., to Houston Engineers, Inc. Well packer setting device. 2,978,028, 4-4-61, Cl. 166—63.
Webbere, Fred J.: *See*—
Larson, William B., Thomson, and Webbere. 2,978,320.
Weber, Victor, W. J. Russell, and W. J. Sanders, to Robertshaw-Fulton Controls Co. Burner control apparatus. 2,977,967, 4-4-61, Cl. 137—66.
Weber, Wolfgang, and H. Lohest, to Barmer Maschinenfabrik Aktiengesellschaft. Means for controlling filament tension in winding apparatus. 2,978,195, 4-4-61, Cl. 242—45.
Weberman, Louis, to General Motors Corp. Seat adjuster. 2,978,009, 4-4-61, Cl. 155—14.
Wedell, Hans, to Bohme Fettchemie GmbH. Preparation of hardenable water soluble condensation products and finishing of textile fabrics therewith. 2,978,359, 4-4-61, Cl. 117—103.
Wehmeyer, Helmut: *See*—
Rillinger, Alfons, and Wehmeyer. 2,978,144.
Wehrli, Robert L., to Robertshaw-Fulton Controls Co. Radiant energy detection device. 2,978,581, 4-4-61, Cl. 250—43.5.
Weidener, Richard A.: *See*—
Russo, Joseph D., and Weidener. 2,978,843.
Weigel, John R.: *See*—
Nystrom, Axel C., Reichelt, Waters, and Weigel. 2,977,747.
Weikly, William L. Angle cock or valve for air brake systems. 2,977,969, 4-4-61, Cl. 137—87.
Weinman, Eric W., to General Motors Corp. Method of forming composite metal bearings. 2,977,673, 4-4-61, Cl. 29—196.3.
Weinstock, Joseph, to Smith Kline & French Laboratories. Sulfamoylacetonitrile. 2,978,482, 4-4-61, Cl. 260—465.5.
Weir, Horace M. Production of elements and compounds by continuous vapor plating of particles. 2,978,316, 4-4-61, Cl. 75—10.
Weiss, Irwin K., A. C. Mair, C. W. Jackman, A. S. Brown, and G. R. Sayers, to General Motors Corp. Independent front wheel suspension caster and camber adjusting means. 2,978,253, 4-4-61, Cl. 280—96.2.

Weiss, Max T., to Bell Telephone Laboratories, Inc. Solid state microwave device. 2,978,649, 4-4-61, Cl. 330—56.
Welch, Felix F., to Edith E. Miller. Process for tinting art objects. 2,977,635, 4-4-61, Cl. 18—47.5.
Wells, Bernard L., and J. I. Michaels, to Massey-Ferguson, Inc. Swivel post and power oscillator assembly. 2,978,116, 4-4-61, Cl. 212—68.
Welsch, Samuel L. Ladies' garment. 2,977,959, 4-4-61, Cl. 128—541.
Wendt, Frederick C., to Royal McBee Corp. Apparatus for processing form cards. 2,978,087, 4-4-61, Cl. 197—128.
Wente, Robert J., to General Motors Corp. Turboprop engine idling control. 2,9178,034, 4-4-61, Cl. 170—135.72.
Wens, John, to Foster Wheeler Corp. Cutting apparatus. 2,977,827, 4-4-61, Cl. 77—55.
Wensel, Werner: *See*—
Schenck, Hermann, and Wensel. 2,978,315.
Westall, Thomas E., and L. J. Bennis, to The American Thread Co. Tension roller device. 2,978,203, 4-4-61, Cl. 242—155.
Western Electric Co., Inc.: *See*—
Bunch, Tillman T. 2,977,632.
Bunch, Tillman T. 2,977,831.
McCoy, Clarence E., and Stoltz. 2,978,196.
McGraw, George P., Jr. 2,978,199.
Nystrom, Axel C., Reichelt, Waters, and Weigel. 2,977,747.
Phillips, Richard H., and Solecki. 2,978,092.
Western Union Telegraph Co., The: *See*—
Steeneck, Robert, Walker, and Leonard. 2,978,541.
Zabriskie, Douglas M., and Hofer. 2,978,288.
West Fargo Mfg. Co.: *See*—
Puckering, Charles H. 2,977,744.
Westinghouse Electric Corp.: *See*—
Ehrenfreund, Herbert A. 2,978,136.
Keeney, William E., Berry, and Stock. 2,978,223.
Lyman, Wallace R. 2,978,145.
Wetzel, John W., and K. B. Goldblum, to General Electric Co. Process for producing hydrophobic aerogels. 2,978,298, 4-4-61, Cl. 21—182.
Whisler, Forrest B. Meat cutting band saw with blade cleaner. 2,978,001, 4-4-61, Cl. 143—158.
Whitcomb, Arthur J.: *See*—
Bigelow, Charles G., Whitcomb, and Karsten. 2,978,219.
White, Morris B.: *See*—
Green, William G., White, and Pritchard. 2,978,030.
White, Vernon R., to General Electric Co. Tube type heat exchanger. 2,978,226, 4-4-61, Cl. 257—224.
Whitehurst, Harry B., and W. P. Warthen, to Owens-Corning Fiberglas Corp. Metal applicator for filamentary material. 2,977,929, 4-4-61, Cl. 118—401.
Widmyer, Richard H., to Texaco, Inc. Well treatment. 2,978,027, 4-4-61, Cl. 166—51.
Wiegand, Gene M., to The Wooster Brush Co. Paint rollers. 2,977,671, 4-4-61, Cl. 29—116.
Wiese, Herbert K., and S. B. Lippincott, to Esso Research and Engineering Co. Epoxidation of cyclododecatriene process. 2,978,464, 4-4-61, Cl. 260—348.
Wieser, Friedrich. Machine for cutting and winding fleece and thread into pads. 2,977,644, 4-4-61, Cl. 19—149.
Wilcox, Dwight D., Jr., to United States of America, Navy. Interference filter. 2,978,656, 4-4-61, Cl. 333—75.
Wilcox, Roy C., to Radio Corp. of America. Indicating system. 2,978,599, 4-4-61, Cl. 310—168.
Willemsen, Johannes, to Bredero's Bouwbedrijf N.V. Die molding apparatus for concrete blocks. 2,977,657, 4-4-61, Cl. 25—120.
Williams, Chester M. Farm vehicles. 2,978,275, 4-4-61, Cl. 298—22.
Williams, Frederic C., and E. R. Laithwaite, to National Research Development Corp. Alternating current motors. 2,978,623, 4-4-61, Cl. 318—195.
Williams, Russell J., C. V. Brady, and A. F. Ottinger, to Bemis Bro. Bag Co. Bags. 2,978,164, 4-4-61, Cl. 229—66.
Williams, Thurston V., to The O.K. Tool Co., Inc. Grubber attachment for bulldozers. 2,977,696, 4-4-61, Cl. 37—145.
Willis, Robert S. Pig ball receiver. 2,977,616, 4-4-61, Cl. 15—104.06.
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Wilson, Peter G.: *See*—
Brook, Leonard, Lazenby, and Wilson. 2,977,731.
Wilson, Thomas C., Inc.: *See*—
Schott, Donald E. 2,977,931.
Wiltse, Dudley K. Hydraulic tooth extractor. 2,977,683, 4-4-61, Cl. 32—61.
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Winters, Harry K., to Ray Oil Burner Co. Firing rate control for oil burners and the like. 2,978,018, 4-4-61, Cl. 158—28.
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Witt, Victor R.: *See*—
Winger, Wayne D., Jackson, and Witt. 2,978,678.
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Wittke, Ernest C., to Sperry Rand Corp. Transformer pick-off. 2,978,631, 4-4-61, Cl. 323—45.
Wittmann, Georg: *See*—
Pfannmueller, Wilhelm, Johannsen, Wolf, and Wittmann. 2,978,297.
Woldring, Bert: *See*—
Root, Nathan, and Nyman. 2,977,607.
Wolf, Herbert: *See*—
Pfannmueller, Wilhelm, Johannsen, Wolf, and Wittman. 2,978,297.
Wolf, Michael J.: *See*—
Hyde, Earl K., Katzin, and Wolf. 2,978,294.
Wood, Donald, to Hill Cross Co., Inc. Three-dimensional structure and elements thereof. 2,978,077, 4-4-61, Cl. 189—34.
Wood, Fenton M.: *See*—
Price, Berry G., and Wood. 2,978,637.
Wood Specialty Products, Inc.: *See*—
Paulsrude, Philip M. 2,978,020.
Woodworth, John K. Multiple printing machine. 2,977,867, 4-4-61, Cl. 95—75.
Wooster Brush Co., The: *See*—
Wiegand, Gene M. 2,977,671.
Workman, Billy H.: *See*—
Mattheessen, William L., and Workman. 2,977,805.
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Rugland, Gerhard T., Yackel, and Bergee. 2,977,689.
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Yuba Consolidated Industries, Inc.: *See*—
Lindberg, Ramon E. 2,977,789.
Zabb, Norman J.: *See*—
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Zetzmann, Hans-Joachim: *See*—
Donath, Bernhard, and Zetzmann. 2,978,697.
Ziehr, Walter: *See*—
Haas, Eugen, Zinser, Hagmann, and Laukhuf. 2,977,640.
Zinser, Willy: *See*—
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ISSUED APRIL 4, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 106: 2,977,598
2,977,599
[179]: 2,977,600
2— [237]: 2,977,601
247: 2,977,602
4— 112: 2,977,603
185: 2,977,604
187: 2,977,605
8— 54.2: 2,978,289
[55]: 2,978,290
151: 2,978,291
9— 2: 2,977,606
2,977,607
8: 2,977,608
12— 37: 2,977,609
53.5: 2,977,610
133: 2,977,611
13— 9: 2,978,525
14: 2,978,526
14— 27: 2,977,612
15— 1.7: 2,977,613
22: 2,977,614
[30]: 2,977,615
104.06: 2,977,616
2,977,617
104.1: 2,977,618
119: 2,977,619
142: 2,977,620
182: 2,977,621
2,977,622
250.02: 2,977,623
257.06: 2,977,624
[267]: 2,977,625
16— 140: 2,977,626
17— 1: 2,977,627
11.2: 2,977,628
39: 2,977,629
18— 4: 2,977,630
12: 2,977,631
.13: 2,977,632
19: 2,977,633
[30]: 2,977,634
47.5: 2,977,635
[54]: 2,978,292
58.7: 2,977,636
[59]: 2,977,637
2,977,638
2,977,639
19— [29]: 2,977,640
[93]: 2,977,641
116: 2,977,642
[181]: 2,977,643
149: 2,977,644
20— 19: 2,977,645
53: 2,977,646
21— 2.5: 2,978,293
122: 2,977,647
22— 57: 2,977,648
[68]: 2,977,649
104: 2,977,650
[205]: 2,977,651
23— 14.5: 2,978,294
2,978,295
87: 2,978,296
178: 2,978,297
182: 2,978,298
[217]: 2,978,299
[255]: 2,978,300
24— 73: 2,977,652
113: 2,977,653
126: 2,977,654
196: 2,977,655
205.15: 2,977,656
25— 120: 2,977,657
128: 2,977,658
131: 2,977,659
26— 16: 2,977,660
28— 1: 2,977,661
28: 2,977,662
62: 2,977,663
74: 2,977,664
2,977,665
29— 1.1: 2,977,666
25.2: 2,977,667
[30]: 2,977,668
[50]: 2,977,669
116: 2,977,671
155.5: 2,977,672
196.3: 2,977,673
229: 2,977,674
[479]: 2,977,675
[495]: 2,977,676
30— 34: 2,977,677
155: 2,977,678
166: 2,977,679
32— 27: 2,977,682
61: 2,977,683

33— 1: 2,977,680
2: 2,977,684
21: 2,977,681
172: 2,977,685
34— 114: 2,977,686
35— 10.4: 2,977,687
[38]: 2,977,688
48: 2,977,689
[55]: 2,977,690
36— 7.3: 2,977,691
8.5: 2,977,692
37— 43: 2,977,693
2,977,694
[53]: 2,977,695
145: 2,977,696
38— 16: 2,977,697
40— 16: 2,977,698
[20]: 2,977,699
[202]: 2,977,700
41— 11: 2,977,701
42: 2,978,301
42— 79: 2,977,702
[94]: 2,977,703
43— 17: 2,977,704
17.1: 2,977,705
19: 2,977,706
42.12: 2,977,707
42.16: 2,977,708
43.13: 2,977,709
44.2: 2,977,710
131: 2,977,711
44— [62]: 2,978,302
[63]: 2,978,303
45— [80]: 2,977,712
46— 1: 2,977,713
[241]: 2,977,714
47— 1.7: 2,977,715
58: 2,977,716
[60]: P.P.2,041
61: P.P.2,040
P.P.2,042
62: P.P.2,043
P.P.2,044
49— 2: 2,977,717
14: 2,977,718
57: 2,977,719
2,977,720
77.5: 2,977,721
82: 2,977,722
50— [100]: 2,977,723
51— 124: 2,977,724
141: 2,977,725
[205]: 2,977,726
241: 2,977,727
[263]: 2,977,728
52— .5: 2,978,304
2,978,305
2,978,306
2,978,307
2,978,308
53— 29: 2,977,729
51: 2,977,730
74: 2,977,731
124: 2,977,732
154: 2,977,733
196: 2,977,734
2,977,735
[204]: 2,977,736
56— 1: 2,977,737
8: 2,977,738
35.4: 2,977,739
2,977,740
2,977,741
241: 2,977,742
[277]: 2,977,743
[400]: 2,977,744
57— 34: 2,977,745
2,977,746
60.5: 2,977,747
149: 2,977,748
58—21.13: 2,977,749
28: 2,977,750
107: 2,977,751
126: 2,977,752
60— 35.6: 2,977,753
2,977,754
2,977,755
39.28: 2,977,756
2,977,757
[39.31]: 2,977,758
[39.63]: 2,977,759
[39.65]: 2,977,760
51: 2,977,761
2,977,762
2,977,763
2,977,764
52: 2,977,765

60— 54: 2,977,766
54.6: 2,977,767
57: 2,977,768
[97]: 2,977,769
61—53.72: 2,977,770
62— 13: 2,977,771
137: 2,977,772
149: 2,977,773
[212]: 2,977,774
[497]: 2,977,775
64— 17: 2,977,776
21: 2,977,777
25: 2,977,778
30: 2,977,779
66— 126: 2,977,780
2,977,781
173: 2,977,782
176: 2,977,783
68— 28: 2,977,784
70— 141: 2,977,785
[364]: 2,977,786
71— 1: 2,978,309
2.3: 2,978,310
33: 2,978,311
2,978,312
37: 2,978,313
73— 12: 2,977,787
37.9: 2,977,788
[40]: 2,977,789
[60]: 2,977,790
141: 2,977,791
155: 2,977,792
[180]: 2,977,793
182: 2,977,794
[198]: 2,977,795
219: 2,977,796
[304]: 2,977,797
335: 2,977,798
382: 2,977,799
423: 2,977,800
432: 2,977,801
2,977,802
481: 2,977,803
488: 2,977,804
[53]: 2,977,805
74— 5.34: 2,977,806
16: 2,977,807
37: 2,977,808
87: 2,977,809
98: 2,977,810
142: 2,977,811
322: 2,977,812
368: 2,977,813
424.8: 2,977,814
472: 2,977,815
2,977,816
516: 2,977,817
531: 2,977,818
574: 2,977,819
665: 2,977,820
732: 2,977,821
75— .5: 2,978,314
2,978,315
10: 2,978,316
21: 2,978,317
43: 2,978,318
128: 2,978,319
130: 2,978,320
150: 2,978,321
152: 2,978,322
211: 2,978,323
76— 43: 2,977,822
101: 2,977,823
114: 2,977,824
77— 7: 2,977,825
32.3: 2,977,826
56: 2,977,827
67: 2,977,828
75: 2,977,829
80— 6: 2,977,830
81— 9.51: 2,977,831
52.4: 2,977,832
82— 14: 2,977,833
83— 447: 2,977,834
84— 275: 2,977,835
471: 2,977,836
85— 40: 2,977,837
45: 2,977,838
87— 1: 2,977,839
88— 2.2: 2,977,840
14: 2,977,841
2,977,842
2,977,843
16.6: 2,977,844
24: 2,977,845
2,977,846
39: 2,977,847

88— 39: 2,977,848
57: 2,977,849
82: 2,977,850
89— 1: 2,977,851
2,977,852
1.5: 2,977,853
13: 2,977,854
24: 2,977,855
33: 2,977,856
40: 2,977,857
41: 2,977,858
90— 11: 2,977,859
93— 47: 2,977,860
51: 2,977,861
87: 2,977,862
94— 3: 2,977,863
22: 2,977,864
95— 11: 2,977,865
75: 2,977,866
2,977,867
94: 2,977,868
96— 35: 2,978,324
98— 40: 2,977,869
2,977,870
99— 1: 2,978,325
2: 2,978,326
61: 2,978,327
77: 2,978,328
90: 2,978,329
2,978,330
91: 2,978,331
2,978,332
100: 2,978,333
111: 2,978,334
113: 2,978,335
192: 2,978,336
206: 2,978,337
244: 2,977,871
100— 17: 2,977,872
142: 2,977,873
101— 145: 2,977,874
306: 2,977,875
375: 2,977,876
377: 2,977,877
102— 28: 2,977,878
49: 2,977,879
50: 2,977,880
70.2: 2,977,881
74: 2,977,882
79: 2,977,883
98: 2,977,884
2,977,885
103— 11: 2,977,886
37: 2,977,887
42: 2,977,888
120: 2,977,889
149: 2,977,890
161: 2,977,891
26: 2,977,892
104— 130: 2,977,893
172: 2,977,894
202: 2,977,895
105— 61: 2,977,896
180: 2,977,897
340: 2,977,898
369: 2,977,899
377: 2,977,900
106— 15: 2,978,338
40: 2,978,339
2,978,340
50: 2,978,341
123: 2,978,342
128: 2,978,343
193: 2,978,344
2,978,345
252: 2,978,346
208: 2,978,347
107— 8: 2,977,901
69: 2,977,902
110— 8: 2,977,903
112— 2: 2,977,904
79: 2,977,905
79.5: 2,977,906
134: 2,977,907
153: 2,977,908
241: 2,977,909
256: 2,977,910
260: 2,977,911
262: 2,977,912
264: 2,977,913
113— 33: 2,977,914
51: 2,977,915
102: 2,977,916
116: 2,977,917
118: 2,977,918
114— 20: 2,977,919
46: 2,977,920

114— 179: 2,977,921
183: 2,977,922
115— 34: 2,977,923
117— 3: 2,978,348
16: 2,978,349
18: 2,978,350
32: 2,978,351
36: 2,978,352
37: 2,978,353
47: 2,978,354
51: 2,978,355
62: 2,978,356
73: 2,978,357
94: 2,978,358
104: 2,978,360
127: 2,978,361
135.5: 2,978,362
136.9: 2,978,359
215: 2,978,363
227: 2,978,364
118— 8: 2,977,924
2,977,925
105: 2,977,926
203: 2,977,927
[316]: Re.24,961
[321]: 2,977,928
401: 2,977,929
500: 2,977,930
121— 33: 2,977,931
[39]: 2,977,932
41: 2,977,933
2,977,934
2,977,935
123: 2,977,936
122— 240: 2,977,937
123— 1: 2,977,938
13: 2,977,939
25: 2,977,940
32: 2,977,941
2,977,942
51: 2,977,943
97: 2,977,944
[103]: 2,977,945
117: 2,977,946
119: 2,977,947
2,977,948
140: 2,977,949
124— 2: 2,977,950
15: 2,977,951
35: 2,977,952
126— 30: 2,977,953
50.5: 2,977,954
343.5: 2,977,955
128— 1: 2,977,956
[201]: 2,977,957
[346]: 2,977,958
[541]: 2,977,959
131— 17: 2,978,365
132— 48: 2,977,960
133— 3: 2,977,961
134— 3: 2,978,366
111: 2,977,962
179: 2,977,963
135— 20: 2,977,964
47: 2,977,965
136— 4: 2,978,527
33: 2,978,528
145: 2,978,529
137— 66: 2,977,966
2,977,967
86: 2,977,968
87: 2,977,969
100: 2,977,970
108: 2,977,971
302: 2,977,972
223: 2,977,973
243: 2,977,974
330: 2,977,975
2,977,976
2,977,977
470: 2,977,978
493: 2,977,979
528: 2,977,980
553: 2,977,981
612.1: 2,977,982
622: 2,977,983
623: 2,977,984
2,977,985
625.17: 2,977,986
2,977,987
2,977,988
630.19: 2,977,989
779: 2,977,990
781: 2,977,991
138— 89: 2,977,992
96: 2,977,993
97: 2,977,994

138— 99: 2,977,995
139— 370: 2,977,996
383: 2,977,997
384: 2,977,998
140— 88: 2,977,999
143— 135: 2,978,000
158: 2,978,001
145— 120: 2,978,002
146— 81: 2,978,003
148— 1.5: 2,978,367
16.6: 2,978,368
23: 2,978,369
24: 2,978,370
.5: 2,978,004
150— .5: 2,978,004
154— 1.6: 2,978,005
2.28: 2,978,371
32: 2,978,006
42: 2,978,007
2,978,008
43: 2,978,372
45: 2,978,373
95: 2,978,374
104: 2,978,375
110: 2,978,376
129: 2,978,377
155— 14: 2,978,009
106: 2,978,010
2,978,011
149: 2,978,012
152: 2,978,013
159: 2,978,014
189: 2,978,015
157— 1.2: 2,978,016
1.26: 2,978,017
158— 28: 2,978,018
160— 23: 2,978,019
183: 2,978,020
191: 2,978,021
[304]: 2,978,022
162— [30]: 2,978,378
179: 2,978,382
348: 2,978,023
166— 15: 2,978,024
42: 2,978,025
44: 2,978,026
51: 2,978,027
63: 2,978,028
2,978,029
98: 2,978,030
114: 2,978,031
117.5: 2,978,032
228: 2,978,033
[30]: Re.24,960
167— 58: 2,978,379
65: 2,978,380
2,978,381
170—135.72: 2,978,034
135.74: 2,978,035
181: 2,978,036
160.15: 2,978,037
160.25: 2,978,038
2,978,039
170: 2,978,040
172— 15: 2,978,041
[23]: 2,978,042
174— 34: 2,978,530
35: 2,978,531
65: 2,978,532
93: 2,978,533
175— 127: 2,978,043
144: 2,978,044
151: 2,978,045
233: 2,978,046
258: 2,978,047
294: 2,978,048
391: 2,978,049
178— 2: 2,978,534
6: 2,978,535
6.6: 2,978,536
6.8: 2,978,537
470: 2,978,538
7.5: 2,978,539
2,978,540
23: 2,978,541
45: 2,978,542
179— 1: 2,978,543
15: 2,978,544
100.2: 2,978,545
2,978,546
180— 9.5: 2,978,050
9.62: 2,978,051
19: 2,978,052
26: 2,978,053
70: 2,978,054
78: 2,978,055
79.2: 2,978,056
2,978,057

180— 79. 3: 2,978,058
82. 1: 2,978,059
181— 31: 2,978,060
41: 2,978,061
182— 1: 2,978,062
183— 2: 2,978,063
4: 2,978,064
7: 2,978,065
2,978,066
59: 2,978,067
63: 2,978,068
186— 1: 2,978,069
187— 29: 2,978,070
188— 20: 2,978,071
79. 5: 2,978,072
218: 2,978,073
189— 2: 2,978,074
31. 5: 2,978,075
34: 2,978,076
2,978,077
88: 2,978,078
2,978,079
192— 3: 2,978,080
43. 1: 2,978,081
56: 2,978,082
114: 2,978,083
131: 2,978,084
194— 10: 2,978,085
195— 47: 2,978,383
2,978,384
63: 2,978,385
197— 16: 2,978,086
128: 2,978,087
138: 2,978,088
161: 2,978,089
162: 2,978,090
198— 31: 2,978,091
32: 2,978,092
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84: 2,978,094
165: 2,978,095
181: 2,978,096
217: 2,978,097
200— 5: 2,978,547
6: 2,978,548
11: 2,978,549
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33: 2,978,552
38: 2,978,553
61. 35: 2,978,554
67: 2,978,555
104: 2,978,556
116: 2,978,557
146: 2,978,558
148: 2,978,559
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153: 2,978,561
202— 1: 2,978,386
46: 2,978,387
204— 16: 2,978,388
24: 2,978,389
46: 2,978,390
49: 2,978,391
59: 2,978,392
98: 2,978,393
108: 2,978,394
154: 2,978,395
2,978,396
162: 2,978,397
193. 2: 2,978,398
2,978,399
195: 2,978,400
200: 2,978,401
301: 2,978,402
206— 89: 2,978,098
65: 2,978,099
208— 187: 2,978,403
204: 2,978,404
206: 2,978,405
280: 2,978,406
310: 2,978,407
209— 18: 2,978,100
73: 2,978,101
81: 2,978,102
135: 2,978,103
365: 2,978,104
210— 159: 2,978,105
173: 2,978,106
210— 235: 2,978,107
346: 2,978,108
211— 13: 2,978,109
69: 2,978,110
90: 2,978,111
136: 2,978,112
146: 2,978,113
149: 2,978,114
212— 49: 2,978,115
68: 2,978,116
214— 1: 2,978,117
2,978,118
1. 4: 2,977,670
10. 5: 2,978,119
16: 2,978,120
16. 1: Re.24,963
17: 2,978,121
75: 2,978,122
103: 2,978,123
140: 2,978,124
312: 2,978,125
317: 2,978,126
355: 2,978,127
506: 2,978,128
653: 2,978,129
656: 2,978,130
215— 1: 2,978,131
13: 2,978,132
2,978,133
47: 2,978,134
219—10. 51: 2,978,592
19: 2,978,563
2,978,564
29: 2,978,565
32: 2,978,566
37: 2,978,567
39: 2,978,568
69: 2,978,569
85: 2,978,570
220— 3. 6: 2,978,135
9: 2,978,136
18: 2,978,137
24. 5: 2,978,138
32: 2,978,139
52: 2,978,140
94: 2,978,141
97: 2,978,142
222— 83: 2,978,143
95: 2,978,144
146: 2,978,145
165: 2,978,146
185: 2,978,147
197: 2,978,148
318: 2,978,149
333: 2,978,150
386. 5: 2,978,151
394: 2,978,152
224—42. 42: 2,978,153
55: 2,978,154
225— 25: 2,978,155
42: 2,978,156
97: 2,978,157
226— 46: 2,978,158
78: 2,978,159
151: 2,978,160
183: 2,978,161
229— 2. 5: 2,978,162
14: 2,978,163
66: 2,978,164
70: Re.24,962
87: 2,978,165
230— 115: 2,978,166
117: 2,978,167
132: 2,978,168
2,978,169
207: 2,978,170
234— 16: 2,978,171
235— 60. 5: 2,978,172
61. 11: 2,978,173
92: 2,978,174
157: 2,978,175
176: 2,978,176
186: 2,978,177
188: 2,978,178
194: 2,978,179
196: 2,978,180
236— 12: 2,978,181
2,978,182
13: 2,978,183
236— 45: 2,978,184
239— 77: 2,978,185
103: 2,978,186
499: 2,978,187
575: 2,978,188
597: 2,978,189
240— 9: 2,978,571
78: 2,978,572
2,978,573
146: 2,978,574
147: 2,978,575
222: 2,978,192
241— 46: 2,978,190
154: 2,978,191
242— 1. 1: 2,978,193
23: 2,978,194
45: 2,978,195
2,978,196
55. 12: 2,978,198
55. 2: 2,978,197
67. 2: 2,978,199
75. 51: 2,978,200
84. 54: 2,978,201
118. 7: 2,978,202
158: 2,978,203
244— 15: 2,978,204
23: 2,978,205
2,978,206
42: 2,978,207
53: 2,978,208
54: 2,978,209
77: 2,978,210
138: 2,978,211
148: 2,978,212
248— 20: 2,978,213
48. 2: 2,978,214
115: 2,978,215
201: 2,978,216
204: 2,978,217
205: 2,978,218
250— 20: 2,978,576
2,978,577
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2,978,580
41. 9: 2,978,580
43. 5: 2,978,581
2,978,582
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71. 5: 2,978,584
83: 2,978,585
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83. 3: 2,978,586
83. 6: 2,978,587
215: 2,978,588
233: 2,978,589
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239: 2,978,591
251— 81: 2,978,219
88: 2,978,220
172: 2,978,221
173: 2,978,222
252— 8. 55: 2,978,409
8. 8: 2,978,408
18: 2,978,410
37: 2,978,411
46. 6: 2,978,412
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62. 5: 2,978,414
118: 2,978,415
161: 2,978,416
301. 6: 2,978,417
312: 2,978,418
313: 2,978,419
443: 2,978,420
253— 39: 2,978,223
254— 186: 2,978,224
257— 12: 2,978,225
224: 2,978,226
268: 2,978,227
288: 2,978,228
259— 3: 2,978,229
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72: 2,978,231
81: 2,978,232
96: 2,978,233
260— 17. 4: 2,978,421
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21: 2,978,425
260— 23. 7: 2,978,426
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212: 2,978,446
239. 1: 2,978,447
243: 2,978,448
248: 2,978,449
257: 2,978,450
258: 2,978,451
293: 2,978,452
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294. 2: 2,978,454
295: 2,978,455
296: 2,978,456
306. 8: 2,978,457
307: 2,978,458
319: 2,978,459
332. 3: 2,978,460
340. 6: 2,978,461
345. 2: 2,978,462
348: 2,978,463
2,978,464
404: 2,978,465
2,978,466
404. 5: 2,978,467
407: 2,978,468
410. 9: 2,978,469
414: 2,978,470
448. 8: 2,978,471
451: 2,978,472
459: 2,978,473
459: 2,978,474
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466: 2,978,477
461: 2,978,478
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465. 1: 2,978,480
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465. 5: 2,978,482
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564: 2,978,512
604: 2,978,513
615: 2,978,514
260— 619: 2,978,515
632: 2,978,516
649: 2,978,517
652. 5: 2,978,518
653. 1: 2,978,519
674: 2,978,520
679: 2,978,521
680: 2,978,522
683. 15: 2,978,523
683. 53: 2,978,524
261— 122: 2,978,234
262— 7: 2,978,235
9: 2,978,236
263— 6: 2,978,237
7: 2,978,238
32: 2,978,239
33: 2,978,240
267— 1: 2,978,241
268— 121: 2,978,242
272— 33: 2,978,243
52: 2,978,244
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273— 26: 2,978,246
54: 2,978,247
97: 2,978,248
274— 10: 2,978,249
279— 48: 2,978,250
280—12. 14: 2,978,251
70. 2: 2,978,252
96. 2: 2,978,253
104: 2,978,254
112: 2,978,255
124: 2,978,256
179: 2,978,257
218: 2,978,258
405: 2,978,259
495: 2,978,260
285— 133: 2,978,261
248: 2,978,262
256: 2,978,263
286— 11: 2,978,264
287— 130: 2,978,265
292— 57: 2,978,266
169: 2,978,267
280: 2,978,268
294— 26: 2,978,269
67: 2,978,270
92: 2,978,271
295— 8. 5: 2,978,272
296— 66: 2,978,273
97: 2,978,274
298— 22: 2,978,275
301— 1: 2,978,276
111: 2,978,277
302— 14: 2,978,278
53: 2,978,279
2,978,280
307— 88: 2,978,592
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88. 5: 2,978,594
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131: 2,978,596
308— 227: 2,978,281
235: 2,978,282
309— 2: 2,978,283
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310— 8. 2: 2,978,597
43: 2,978,598
108: 2,978,599
232: 2,978,600
312— 284: 2,978,285
313— 92: 2,978,601
93: 2,978,602
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193: 2,978,604
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315— 12: 2,978,607
22: 2,978,608
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169: 2,978,610
190: 2,978,611
310— 1: 2,978,286
317— 101: 2,978,612
119: 2,978,613
146: 2,978,614
148. 5: 2,978,615
163: 2,978,616
235: 2,978,617
317— 235: 2,978,618
318— 24: 2,978,619
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195: 2,978,623
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324— 1: 2,978,634
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146: 2,978,639
151: 2,978,640
158: 2,978,641
326— 20: 2,978,642
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101: 2,978,645
330— 2: 2,978,646
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331— 144: 2,978,650
170: 2,978,651
332— 3: 2,978,652
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172. 5: 2,978,678
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174: 2,978,681
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174. 1: 2,978,685
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222: 2,978,689
224: 2,978,690
244: 2,978,691
223: 2,978,692
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359: 2,978,695
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343— 5: 2,978,697
7. 3: 2,978,698
18: 2,978,699
2,978,700
106: 2,978,701
783: 2,978,702
803: 2,978,703
872: 2,978,704
346— 137: 2,978,287
139: 2,978,288

Classification of Designs

D 3— 12: 190,016
D 5— 4: 190,017
D13— 1: 190,018
190,019
7: 190,020
190,021
190,022
D14— 3: 190,023
190,024
6: 190,025
D14— 30: 190,026
D16— 1: 190,027
D26— 1: 190,028
14: 190,029
D33— 11: 190,030
19: 190,031
D34— 2: 190,032
5: 190,033
190,034
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D34— 15: 190,036
190,037
190,038
D35— 3: 190,039
D44— 10: 190,040
15: 190,041
190,042
190,043
29: 190,044
190,045
D45— 4: 190,046
190,047
190,048
D48— 23: 190,049
D52— 7: 190,050
D55— 1: 190,051
190,052
D56— 2: 190,053
4: 190,054
D58— 4: 190,055
D58— 6: 190,056
190,057
8: 190,058
17: 190,059
25: 190,060
D62— 2: 190,061
D64— 11: 190,062
D67— 4: 190,063
D71— 1: 190,064
190,065
D81— 25: 190,066
D86— 10: 190,067
D87— 3: 190,068
D89— 1: 190,069
D92— 1: 190,070

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

April 4, 1961 Volume 765 Number 1

TRADEMARKS

NOTICES

First Assistant Commissioner of Patents

DELEGATION OF AUTHORITY TO SERVE AS ACTING COMMISSIONER OF PATENTS

Acting under the provisions of section 3 of Title 35 United States Code and of section 2 of Reorganization Plan No. 5 of 1950, I hereby authorise Mr. Arthur W. Crocker, First Assistant Commissioner of Patents, to be and serve as Acting Commissioner of Patents, beginning with the opening of business of the United States Patent Office on March 2, 1961. This authorization shall remain in force until a new Commissioner of Patents to fill the vacancy that will exist in that office as of March 2, 1961, is appointed and takes office.

(R.S. 161; 5 U.S.C. 22; 35 U.S.C. 3; Reorganization Plan No. 5 of 1950, 15 F.R. 3174).

LUTHER H. HODGES,
Secretary of Commerce.

Mar. 1, 1961.

[F.R. Doc. 61-2091; Filed, Mar. 7, 1961; 8:54 a.m.]

Published in 26 F.R. 2089, March 8, 1961

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 61,661 (57 VARIETIES), H. J. Heinz Company, Vinegar, baked beans, ketchup and sauces; **Reg. No. 696,095**, same, Canned, bottled, tinned and otherwise packaged prepared food products; **Reg. No. 697,478**, same, Canned and bottled grape juice, filed Feb. 14, 1961, D.C., W.D. Pa. (Pittsburgh), Doc. 61/101, *H. J. Heinz Company* v. *Donut Delite, Inc.*

Reg. No. 91,087 (HALLMARK), Hall, Hartwell & Co., Collars, cuffs, and dress, negligee and work shirts, filed Feb. 14, 1961, D.C., S.D.N.Y., Doc. 61/563, *Hallmark Shirt Company, Inc.* v. *Hallmark Neckwear Company, Inc.*

Reg. No. 340,574 (RAMON ALLONES), Cifuentes Pego y Compania, Cigars, cigarettes and smoking tobacco; **Reg. No. 356,751 (PARTAGAS)**, same, Cigars; **Reg. No. 440,817 (FLOR DE TABACOS, ETC.)**, Cifuentes y Compania, Cigars, cigarettes and cut tobacco; **Reg. No. 589,488 (RAMON ALLONES)**, same, Cigars; **Reg. No. 594,709**, same; **Reg. No. 642,257 (DESIGN OF LABEL)**, same; **Reg. No. 644,230 (PARTAGAS AND DESIGN)**, same; **Reg. No. 645,239 (EXPOSITION UNIVERSELLE AND DESIGN)**, same, filed Feb. 15, 1961, D.C., S.D.N.Y., Doc. 61/583, *Rafael Cifuentes et al., doing business as Cifuentes y Compania* v. *Faber, Coe & Gregg, Inc.*

Reg. No. 340,754 (NIVEA), P. Beiersdorf & Co., Inc., Toilet cream, filed Feb. 14, 1961, D.C., S.D.N.Y., Doc. 61/560, *Duke Laboratories, Inc.* v. *Bremen House, Inc.*

Reg. No. 277,130 (POR LARRANAGA AND DESIGN), Por Larranaga, Fabrica de Tabacos, S.A., Cigars; **Reg. No. 277,131**, same, filed Feb. 15, 1961, D.C., S.D.N.Y., Doc. 61/582, *Por Larranaga, Fabrica de Tabacos, S.A.* v. *Faber, Coe & Gregg, Inc.*

Reg. No. 277,131. (See Reg. No. 277,131.)

Reg. No. 336,751. (See Reg. No. 240,574.)

Reg. No. 440,817. (See Reg. No. 240,574.)

Reg. No. 561,766 (THE PRUDENTIAL HAS THE STRENGTH OF GIBRALTAR), The Prudential Insurance

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,477
Date of oldest new application	August 22, 1960
Date of oldest amended application	September 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	8-22-60	10-10-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	9-12-60	9-1-60
Renewals (All Classes)	2-1-61	-------
Sec. 12 (c) Publications (All Classes)	2-5-61	-------

Applications filed during the month of February 1961—1799

Registrations Issued	390—No. 713,312 to No. 713,701
Renewals Issued	75

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Company of America, Services in providing individual and group life insurance protection; Reg. No. 615,490; same, Providing individual and group life insurance protection; Reg. No. 698,698 (PRUDENTIAL), same, Services in providing individual and group life and sickness and accident insurance protection and annuities, filed Feb. 8, 1961, D.C., E.D. Mich. (Detroit), Doc. 20/904, *The Prudential Insurance Company of America* v. *Sidney Katzman et al., doing business as Prudential Investment Company.*

Reg. No. 666,211 (RAYCO), Rayco Mfg. Co., Automobile seat covers; Reg. No. 676,900 (RAYCO AND DESIGN), same; Reg. No. 668,301, same, Automovile mufflers, exhaust systems and tailpipe assemblies, filed Feb. 13, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c249, *Rayco Manufacturing Company* v. *John R. Dunn, doing business as Rayco Berwyn.*

Reg. No. 582,578 (ONE A DAY AND DESIGN), Miles Laboratories, Inc., Vitamin tablets, filed Feb. 15, 1961, D.C. Kans. (Topeka), Doc. FS-203, *Miles Laboratories, Inc.* v. *Mission Multiple Vitamin Company et al.*

Reg. No. 589,482. (See Reg. No. 240,574.)

Reg. No. 634,709. (See Reg. No. 240,574.)

Reg. No. 643,357. (See Reg. No. 240,574.)

Reg. No. 644,339. (See Reg. No. 240,574.)

Reg. No. 645,230. (See Reg. No. 240,574.)

Reg. No. 676,506. (See Reg. No. 606,311.)

Reg. No. 690,691. (See Reg. No. 61,051.)

Reg. No. 615,490. (See Reg. No. 501,706.)

Reg. No. 687,473. (See Reg. No. 61,051.)

Reg. No. 687,994 (BOWLERO AND DESIGN), Bowlero Consultants Company, Services in supervising the construction, operation and maintenance by others of bowling alleys with attached restaurants and snack bars, filed Sept. 6, 1960, D.C., E.D.N.Y. (Brooklyn), Doc. 60-C-840, *Jack H. and William N. Shirtsll, etc.* v. *Elmont Bowlero.* Consent judgment; injunction granted Feb. 15, 1961.

Reg. No. 690,706 (NITELIGHTER), The Fisher-Pierce Co., Inc., Automatic photo-electronic light switches, filed Feb. 13, 1961, D.C., N.D.N.Y. (Utica), Doc. 8478, *Sigma Instruments, Inc.* v. *Amsterdam Printing & Lithographing Co.*

Reg. No. 641,600 (HOOKOUT), O. Strader, doing business as Ardmore Specialties, Fisherman's pliers, filed Feb. 16, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c267, *Ardmore Specialties* v. *Anglers Manufacturing Corporation et al.*

Reg. No. 658,991. (See Reg. No. 606,311.)

Reg. No. 668,869 (HUSH PUPPIES), Wolverine Shoe and Tanning Corporation, Shoes, filed Feb. 14, 1961, D.C., W.D. Mich. (Grand Rapids), Doc. 4034, *Wolverine Shoe and Tanning Corporation* v. *Spiegel, Inc.*

Reg. No. 698,698. (See Reg. No. 501,706.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 27,009. Beaver Dam Sales Company, Vernal, Utah. Filed Mar. 27, 1957.

BEAVER DAM

For Lost Circulation Material Used in the Drilling of Oil Wells.
First use on or about Oct. 7, 1953.

SN 66,214. Gail Manufacturing Company, New York, N.Y. Filed Jan. 21, 1959.

#66

For Leather.
First use Oct. 27, 1958.

SN 68,715. G. Louis Lux, d.b.a. Allied Industries Co., Detroit, Mich. Filed Mar. 2, 1959.

Thermalon

For Filling Material and Insulation for Outerwear and Sleeping Bags.
First use June 1, 1958.

SN 73,768. Delta Oil Products Corp., Milwaukee, Wis. Filed May 15, 1959.

DELTA PARTEX

For Foundry Partings.
First use May 1942; Dec. 22, 1938, as to "Partex."

SN 75,051. Armour and Company, Chicago, Ill. Filed June 4, 1959.

MINIM

For Upper Leather.
First use Mar. 6, 1959.

SN 81,800. The Fluorocarbon Company, Fullerton, Calif. Filed Sept. 21, 1959.

LOX GRADE

Owner of Reg. No. 670,625.
For Plastic Materials Especially Adapted for Low Temperature Applications.
First use June 1959.

SN 86,488. Fiber Industries, Inc., Charlotte, N.C. Filed Dec. 2, 1959.

TERANA

For Synthetic Fibers.
First use Nov. 12, 1959.

SN 86,489. Fiber Industries, Inc., Charlotte, N.C. Filed Dec. 2, 1959.

TERISAN

For Synthetic Fibers.
First use Nov. 12, 1959.

SN 86,490. Fiber Industries, Inc., Charlotte, N.C. Filed Dec. 2, 1959.

VANARA

For Synthetic Fibers.
First use Nov. 12, 1959.

SN 86,491. Fiber Industries, Inc., Charlotte, N.C. Filed Dec. 2, 1959.

LINDEL

For Synthetic Fibers.
First use Nov. 12, 1959.

SN 91,622. Protection Equipment Company, Sunbury, Pa. Filed Feb. 25, 1960.

POLVONITE

Owner of Reg. No. 624,894.
For Cellular Plastic Material in Sheet Form Resembling Sponge Rubber.
First use at least as early as Jan. 4, 1955.

SN 92,964. Commercial Resins Corporation, St. Paul, Minn. Filed Mar. 16, 1960.

CO-REZYN

For Synthetic Polyester Resins.
First use Feb. 9, 1960.

SN 96,349. National Automotive Wholesalers Association, Atlanta, Ga. Filed May 3, 1960. COLLECTIVE MARK.

UDS

For Chamois.
First use Feb. 19, 1959.

SN 96,576. Durrant Seed & Supply, Scott City, Kans. Filed May 6, 1960.



The word "Coated" is disclaimed apart from the mark as shown.
For Hybrid, Grain, and Forage Sorghum Seed.
First use on or about Jan. 1, 1960.

SN 96,728. Phillips Petroleum Company, Bartlesville, Okla. Filed May 9, 1960.

TRANS-4

For Rubber.
First use Apr. 8, 1960.

SN 97,212. S. C. Johnson & Son, Inc., Racine, Wis. Filed May 16, 1960.

JOHNSON'S

Owner of Reg. Nos. 106,108, 669,613, and others.
For Phenol Derivatives and Synthetic Resinous Compositions, Both Kinds of Products Being for General Use in the Industrial Arts.
First use on or about Aug. 21, 1958 in connection with synthetic resinous compositions.

SN 97,433. Anglo-American Clays Corporation, New York, N.Y. Filed May 19, 1960.

SPS

For Clay Used Especially in the Manufacture or Preparation of Paper, Pottery, Textiles, Paints, and Plastics.
First use July 15, 1934.

SN 98,366. Lasco Industries, Los Angeles, Calif. Filed June 3, 1960.

Lasco Pipe

Applicant disclaims exclusive use of the word "Pipe" apart from the mark as shown.
For Plastic Pipe.
First use on or about May 1, 1958.

SN 98,367. Lasco Industries, Los Angeles, Calif. Filed June 3, 1960.

LASCOPIPE

For Plastic Pipe.
First use on or about Sept. 15, 1956.

SN 98,686. Union Carbide Corporation, New York, N.Y. Filed June 8, 1960.

VISQUEEN

Owner of Reg. Nos. 503,347, 540,794, and others.
For Plastic Film and Sheeting for General Use in the Industrial Arts.
First use on or about May 1, 1946.

SN 99,789. René H. M. Schönefeld, The Hague, Netherlands. Filed June 27, 1960.

SPARKCOAL

For Charcoal.
First use Feb. 21, 1960; in commerce Feb. 21, 1960.

SN 100,301. Seal, Inc., Shelton, Conn. Filed July 5, 1960.

SEALAMIN

For Laminating Film.
First use on or about Jan. 5, 1960.

SN 103,392. Brooklyn Better Bleach, Inc., New York, N.Y. Filed Aug. 25, 1960.

BBB

For Skins, Furs and Pelts.
First use January 1934.

SN 103,511. Anderson, Clayton & Co., Dallas, Tex. Filed Aug. 29, 1960.

CUE

For Charcoal.
First use July 28, 1960.

SN 105,161. Charles G. Hardy, Inc., Paramount, Calif. Filed Sept. 26, 1960.

volKOR-ROK

Owner of Reg. No. 699,208.
For Volcanic Rock in Natural State.
First use June 12, 1959.

SN 105,332. American Viscose Corporation, Philadelphia, Pa. Filed Sept. 28, 1960.

AVICEL

For Cellulose Crystallite Material and Compositions Containing That Material.
First use Sept. 9, 1960.

SN 105,437. The General Tire & Rubber Company, Akron, Ohio. Filed Sept. 29, 1960.

ISO-GEN

For Synthetic Rubber.
First use Aug. 17, 1960.

SN 105,438. The General Tire & Rubber Company, Akron, Ohio. Filed Sept. 29, 1960.

BUTA-GEN

For Synthetic Rubber.
First use Aug. 17, 1960.

SN 105,632. Drilling Specialties Company, Bartlesville, Okla. Filed Oct. 3, 1960.

DRISCOSE

Owner of Reg. No. 510,966.
For Drilling Mud Additives.
First use May 16, 1947.

SN 106,308. Bonded Fibers, Incorporated, Buena Vista, Va. Filed Oct. 13, 1960.



For Latex Impregnated Cellulose Fiber Sold in Roll and Sheet Form.
First use on or about Dec. 1, 1959.

SN 106,445. Thombert Incorporated, Newton, Iowa. Filed Oct. 14, 1960.

DYALON

Owner of Reg. No. 704,256.
For Urethane Elastomer Plastic Material in the Form of Bars, Strips, Sheets, or Pellets for Fabrication Into Various Manufactured Articles.
First use Jan. 5, 1959.

Class 2 — Receptacles

SN 80,347. Oneida Ltd., Oneida, N.Y. Filed Aug. 27, 1959.

FORTUNE TREE

For Hollow Tableware—Namely, Plates, Cups, Saucers, and Special Pieces for Services of So-Called Plastic or Synthetic Resin Material.
First use May 29, 1959.

SN 92,991. Levco Metal Finishers, Inc., Long Island City, N.Y. Filed Mar. 16, 1960.

JENFRED-WARE

For Salad Bowls, Salt and Pepper Shakers, and Notepaper Boxes.
First use Sept. 30, 1948.

SN 95,134. Allstate Paper Products, Inc., Woodhaven, N.Y. Filed Apr. 15, 1960.

JIFFY PACK

For Disposable Vacuum Cleaner Bags.
First use Mar. 21, 1960.

SN 100,607. International Beverage Supply, Inc., New York, N.Y. Filed July 11, 1960.

SAF-T-SHELTER

For Rolling Bin-Type Containers for Soft Drinks.
First use May 10, 1960.

SN 102,816. Clifford B. Hannay & Son, Inc., Westerlo, N.Y. Filed Aug. 9, 1960.

HANNAY

Owner of Reg. No. 505,129.
For Industrial Reels—Namely, Hose Reels and Reels for Electrical Wire and Cable.
First use at least as early as 1942.

SN 102,723. The American Thermos Products Company (Michigan corporation), Ann Arbor, Mich., assignee of The American Thermos Products Company (Ohio corporation), Norwich, Conn. Filed Aug. 16, 1960.

LITTLE BROWN COOLER

Applicant disclaims the term "Cooler" apart from the mark as shown. Owner of Reg. Nos. 422,554, 620,178, and 623,300.
For Thermally Insulated Containers.
First use 1948.

SN 104,594. Deka Plastics, Inc., Elizabeth, N.J. Filed Sept. 16, 1960.

deka

For Refrigerator Butter Dish and Refrigerator Food Containers, Both Made of Plastic.
First use in or about January 1960.

SN 105,240. Western Machinery Company, San Francisco, Calif. Filed Sept. 26, 1960.

WEMCO

Owner of Reg. Nos. 358,388 and 597,883.
For Receptacles for Use in Milling, Handling, and Processing Solid, Liquid and Suspended Materials.
First use July 3, 1937.

SN 105,285. The Hi-Jac Corporation, Chattanooga, Tenn. Filed Sept. 27, 1960.

ComBo

For Drinking Glasses and Coasters for Use on Said Drinking Glasses, the Coasters Being Made of Fibrous Bodies With Textile Coverings, and the Glasses and Coasters Being Packaged and Sold Together.
First use July 29, 1960.

SN 105,514. Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 30, 1960.

TITIAN

Owner of Reg. No. 665,506.
For Burial Vaults.
First use on or about Aug. 12, 1957.

SN 105,515. Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 30, 1960.

GOLDTEX

Owner of Reg. No. 664,888.
For Burial Vaults.
First use on or about Aug. 3, 1957.

SN 105,516. Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 30, 1960.

SILVERTEX

Owner of Reg. No. 664,887.
For Burial Vaults.
First use on or about Aug. 3, 1957.

SN 105,517. Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 30, 1960.

WHI-TEX

Owner of Reg. No. 665,565.
For Burial Vaults.
First use on or about Aug. 12, 1957.

SN 105,518. Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 30, 1960.

COPPERTEX

Owner of Reg. No. 664,889.
For Burial Vaults.
First use on or about Aug. 3, 1957.

SN 105,519. Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 30, 1960.

GRANITEX

Owner of Reg. No. 664,886.
For Burial Vaults.
First use on or about Aug. 5, 1957.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 102,753. Finnigan's, Limited, London, England. Filed Aug. 16, 1960.

FINNIGANS

Owner of Reg. No. 564,971.
For Luggage and Leather Goods—Namely, Suitcases, Bottle Cases, Brief Cases, Attaché Cases, Jewel Cases, Stud Boxes, Wallets, Billfolds, French Purses, Handbags, Passport Cases, and Card Cases.
First use November 1949; in commerce November 1949.

Class 4 — Abrasives and Polishing Materials

SN 100,784. S. C. Johnson & Son, Inc., Racine, Wis. Filed July 13, 1960.

DURAX

For Liquid Wax for Cleaning, Polishing, and Protecting Finished Surfaces of Automobiles, Furniture, and the Like.
First use on or about Feb. 11, 1950.

SN 107,673. General Motors Corporation, Detroit, Mich. Filed Nov. 2, 1960.

ACRY-MEL

For Polish and Cleaner for Automotive Finishes.
First use Oct. 7, 1960.

Class 5 — Adhesives

SN 85,153. Payne Enterprises, Inc., St. Paul, Minn. Filed Nov. 12, 1959.



The hands and face in the drawing is lined for pink, the cheeks, nose, lettering, border and background for red; other lining is for blue.
For White Paste.
First use Apr. 13, 1957.

Class 6 — Chemicals and Chemical Compositions

SN 90,231. Consolidated Laboratories, Inc., Chicago Heights, Ill. Filed Feb. 3, 1960.

COLAB

For Laboratory Chemicals and Reagents.
First use Jan. 5, 1960.

SN 90,232. Consolidated Laboratories, Inc., Chicago Heights, Ill. Filed Feb. 3, 1960.

COLAB

For Laboratory Chemicals and Reagents.
First use Jan. 5, 1960.

SN 92,800. Permasterile Corporation, Chicago, Ill. Filed Mar. 14, 1960.

PERMA/STERILE

For Germicide for Household and/or Industrial Use.
First use in June 1959.

SN 94,030. Vaughn, Incorporated, Memphis, Tenn. Filed Mar. 30, 1960.

UNI-VERSOL

For Anticoagulants for Laboratory Use and Purposes Only.
First use Mar. 12, 1956.

SN 94,404. Theron C. Long, d.b.a. Long Mfg. Co., San Leandro, Calif. Filed Apr. 5, 1960.

CYANI-KIL BOMB

The word "Bomb" is disclaimed apart from the mark as shown.
For Poison Gas Rodenticide.
First use in or about March 1948.

SN 94,455. Baltimore Biological Laboratory, Inc., Baltimore, Md. Filed Apr. 6, 1960.

TAXO

For Preparation for Laboratory Diagnosis for Detecting Tuberculosis.
First use on or about Jan. 29, 1957.

SN 94,600. Para-Industrial Corporation, Dover, Ohio. Filed Apr. 7, 1960.

PARACHLOR

For Chemical Composition Useful as a Fungicide and an Insecticide.
First use Oct. 10, 1957.

SN 95,003. Mud Control Laboratories, Inc., Oklahoma City, Okla. Filed Apr. 13, 1960.

CONTROL

Owner of Reg. Nos. 637,880, 640,859, and others.
For Oil Well Drilling Fluid Additives—Namely, an Anionic Surface Active Emulsifier Used for Preparing Both Oil-in-Water and Water-in-Oil Emulsion Muds To Reduce Surface Tension of the Water Phase.
First use on or about May 23, 1951.

SN 95,287. Industrial Chemicals, Inc., South Bend, Ind. Filed Apr. 18, 1960.

WATCO

For Industrial Water Modifier Compositions for Softening, Clarifying and Adapting the Water to Its Industrial Usage.
First use Apr. 6, 1960.

SN 95,745. Metro-Atlantic, Inc., Centredale, R.I. Filed Apr. 25, 1960.

ATCODRI

Owner of Reg. Nos. 601,442 and 705,777.
For Textile Water Repellents.
First use 1946.

SN 100,547. Sterling Drug Inc., New York, N.Y. Filed July 8, 1960.

TWEET

Owner of Reg. Nos. 563,924, 653,091, and others.
For Lice Powder for Birds.
First use Dec. 30, 1957.

SN 100,758. Braco Chemical Company, St. Louis, Mo. Filed July 13, 1960.

SOLV-O-MIST

For Solvent To Be Sprayed on Printing Plates or the Like To Remove Printing Ink Therefrom.
First use Apr. 5, 1960.

SN 100,885. Casting Materials Company, Inc., New Rochelle, N.Y. Filed July 15, 1960.

THERMAD

For Exothermic Alloy Addition Agents for Use With Molten Metal.
First use May 27, 1960.

SN 101,504. National Dairy Products Corporation, New York, N.Y. Filed July 26, 1960.

CHEMSOY

For Soy Bean Oil for Alkyd Resins and Coating Products.
First use July 8, 1960.

SN 102,924. Hydroponic Chemical Company, Inc., Copley, Ohio. Filed Aug. 18, 1960.

CATONeX

For Animal Repellent.
First use July 21, 1960.

SN 104,290. John McGregor, Edinburgh, Scotland. Filed Sept. 12, 1960.

PROGREG

Owner of British Reg. No. 765,948, dated May 25, 1957.
For Chemical Preparation (Not in the Nature of Paint) for Application to Metal Surfaces for Use as Anti-Friction Media.

SN 104,691. Celanese Corporation of America, New York, N.Y. Filed Sept. 19, 1960.

FORTIFLEX

Owner of Reg. No. 639,869.
For Synthetic Polyolefins.
First use on or before Apr. 9, 1956.

SN 104,819. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. Filed Sept. 20, 1960.

VARIOGEN

Owner of German Reg. Nos. 397,933 and 735,527, dated Jan. 31, 1929 and Apr. 8, 1960, respectively.
For Dyestuffs, Chemical Products for Industrial Purposes—Namely, Intermediate Products for the Production of Dyestuffs.

Class 7 — Cordage

SN 102,827. Chicago Printed String Company, Chicago, Ill. Filed Aug. 17, 1960.

LURTONE

For Non-Woven, Flocked Package Tying and Ornamenting Tape.
First use on or about July 22, 1960.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 77,287. Frank A. Hoppe, Inc., Philadelphia, Pa. Filed July 8, 1959.

HOPPE'S

Owner of Reg. Nos. 634,741, 637,326, and 638,180.
For Gun Cleaning Patches.
First use 1935.

SN 78,840. Alcan Company, Incorporated, Alton, Ill., by change of name from Alcan Paper Co., Inc., Alton, Ill. Filed Aug. 3, 1959.

MAX-FIRE

For Shot Shell Primers.
First use May 4, 1959.

SN 99,378. United Technology Corporation, Sunnyvale, Calif. Filed June 20, 1960.

THERMAPAC

For Rocket Engine Igniter.
First use Mar. 15, 1960.

Class 10 — Fertilizers

SN 67,133. Hi-Yield Fertilizer Company, Bonham, Tex. Filed Feb. 5, 1959.

Hi-Yield

For Fertilizers.
First use Sept. 6, 1950.

Class 12 — Construction Materials

SN 93,214. Silcos Products Inc., New York, N.Y. Filed Mar. 18, 1960.

AQUA-PLUG

For Hydraulic Cement for Filling Cracks and Holes and the Like.
First use Jan. 31, 1960.

SN 93,969. Aluminum Company of America, Pittsburgh, Pa. Filed Mar. 30, 1960.

ALCOA COLORIB

Owner of Reg. Nos. 288,976 and 288,977.
For Painted Aluminum Roofing and Siding.
First use Jan. 14, 1960.

SN 93,970. Aluminum Company of America, Pittsburgh, Pa. Filed Mar. 30, 1960.

ALCOA COLORIB

The drawing is lined for red and blue but those colors are not an essential feature of the mark. Owner of Reg. Nos. 288,976 and 288,977.
For Painted Aluminum Roofing and Siding.
First use Jan. 14, 1960.

SN 94,064. A. P. Green Fire Brick Company, Mexico, Mo. Filed Mar. 31, 1960.

GUNPATCH

For Quartz Base Refractory Lining Material.
First use at least as early as May 5, 1950.

SN 96,358. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed May 3, 1960.

RANCO

For Masonry Waterproofing Compounds, Asphaltic Floor Surfacers, Asphaltic Roofing Compounds, and Anchor Bolt Cements.
First use on or about Feb. 8, 1934.

SN 99,423. Frederic Friedel, Rockaway, N.J. Filed June 21, 1960.

STAIN GLAZE

For Decorative Resinous Composition Panels.
First use Apr. 26, 1960.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 73,155. Steelmasters, Inc., New York, N.Y. Filed May 7, 1959.

ALPINE BRAND

Applicant disclaims the notation "Brand" apart from the mark as shown.
For Sauce Pans, Frying Pans, Strainers, Colanders, Chicken Fryers, Dutch Ovens, Pot Covers, Tea Kettles, Percolators, Coffee Pots and Tea Pots, of Aluminum.
First use Apr. 7, 1958.

SN 94,850. Stuart Corporation, Baltimore, Md. Filed Apr. 11, 1960.

FLEXI-JET

For Nozzles.
First use Mar. 9, 1960.

SN 94,912. Polaris Fabrikker, A. og S. Schanche Olsen, Sandnes, near Stavanger, Norway. Filed Apr. 12, 1960.

POLARIS

For Stainless Steel Kitchenware—Namely, Bowls, Buckets, Dishes, Egg-Cups, Frying Pans With Copper Bottom, Jugs, Ladles, Salt and Pepper Shakers, Sauce Bowls, Saucepans With Copper Bottom, Soup Tureens, Plates.
First use May 5, 1936; in commerce Feb. 3, 1955.

SN 100,661. Unistrut Products Company, Chicago, Ill. Filed July 11, 1960.

Rotocon

For Rod, Tube and Pipe Clamps.
First use Mar. 24, 1960.

SN 102,531. Air Reduction Company, Incorporated, New York, N.Y. Filed Aug. 12, 1960.

AIR REDUCTION

For Gas Pressure Regulators; Hand Operated Gas Valves; Diaphragm Valves; Check Valves; and Diaphragms for Gas Regulators and Valves.
First use on or about Mar. 16, 1962.

SN 104,682. Black, Sivalls & Bryson, Inc., Kansas City, Mo. Filed Sept. 19, 1960.

CLIMAX

For Pneumatic Actuated Valves, Control Mechanisms, Liquid Level Controllers and Gas Pressure Regulators.
First use Sept. 1, 1945.

SN 105,113. United States Rubber Company, New York, N.Y. Filed Sept. 23, 1960.

CHEMEX

For Expansion Joints.
First use May 17, 1960.

SN 105,199. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Sept. 26, 1960.

ADD-A-FOLD

For Ported Manifold Base for Directional Control Valves.
First use Aug. 30, 1960.

SN 105,242. Yarnall-Waring Company, Philadelphia, Pa. Filed Sept. 26, 1960.

WELBLOC

For Gage Valves.
First use Aug. 25, 1960.

SN 105,347. Fabri-Valve Company of America, Portland, Oreg. Filed Sept. 28, 1960.

SELECT-A-FLOW

For Manifold for Connecting of Pipes.
First use July 19, 1960.

SN 105,348. Fabri-Valve Company of America, Portland, Oreg. Filed Sept. 28, 1960.

TIVALVE

For Gate Valves.
First use Aug. 3, 1960.

Class 14 — Metals and Metal Castings and Forgings

SN 102,637. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Aug. 15, 1960.

FRIXTRODE

Owner of Reg. No. 582,891.
For Metallic Welding Electrode.
First use prior to Aug. 10, 1960.

SN 102,638. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Aug. 15, 1960.

FORGETRODE

For Metallic Welding Electrode.
First use prior to Aug. 10, 1960.

SN 102,639. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Aug. 15, 1960.

NEU-TEC-TRONIC

For Solder-Type Alloy in Various Forms for Joining Metals.
First use prior to Aug. 10, 1960.

Class 15 — Oils and Greases

SN 95,535. Chicago Pneumatic Tool Company, New York, N.Y. Filed Apr. 22, 1960.

CP

Owner of Reg. No. 278,921.
For Lubricating Oils for Pneumatic Tools and Rock Drills.
First use 1954; May 1919 as to the mark in a modified form.

SN 104,585. Key Oil Company, Houston, Tex. Filed Sept. 15, 1960.



The drawing is lined for blue, red and silver.
For Motor Oil and Motor Fuel Products.
First use Jan. 15, 1959.

SN 105,560. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

ZOIL

For Lubricating Oils and Greases.
First use Dec. 10, 1930.

SN 106,376. Autol Incorporated, New York, N.Y. Filed Oct. 14, 1960.

AUTOL DESOLITE

Owner of Reg. No. 565,171.
For Additive for Diesel Oils.
First use Oct. 11, 1960.

Class 16—Protective and Decorative Coatings

SN 78,717. Anthony Mrozakowski, Milwaukee, Wis. Filed July 30, 1959.

TONY'S

For Paints, Varnishes, and Painter's Materials and Supplies.
First use July 1, 1949.

SN 95,406. Samuel Adler, d.b.a. Alma Barr International Co., Brooklyn, N.Y. Filed Apr. 20, 1960.

Alma Barr

For Paints.
First use Feb. 19, 1960.

SN 99,174. The Sherwin-Williams Company, Cleveland, Ohio. Filed June 16, 1960.

MULTI-SPERSE

For Pigments To Be Used in Making Paints.
First use Apr. 13, 1960.

SN 104,744. National Lead Company, New York, N.Y. Filed Sept. 19, 1960.

oncor

Owner of Reg. No. 696,960.
For Film-Forming Compositions, Paints, Varnishes, Lacquers and the Like.
First use Aug. 25, 1960.

SN 104,773. United Gilsonite Laboratories, Scranton, Pa. Filed Sept. 19, 1960.

SATIN ZAR

Owner of Reg. No. 696,989.
For Film-Forming Coating Material To Be Used for the Same Purposes as Varnish.
First use July 22, 1960.

SN 104,779. United Gilsonite Laboratories, Scranton, Pa. Filed Sept. 19, 1960.

AQUA ZAR

Owner of Reg. No. 696,989.
For Film-Forming Coating Material To Be Used for the Same Purposes as Varnish.
First use Sept. 27, 1959.

SN 104,870. Winfield Brooks Company, Inc., Woburn, Mass. Filed Sept. 20, 1960.

Even-Even

For Stain Composition and Finish Composition for Staining and Finishing Wood Surfaces or the Like, Particularly Furniture.
First use Aug. 29, 1960.

SN 105,109. Union Wallpaper and Paint Comp[illegible], Inc., Washington, D.C. Filed Sept. 23, 1960.

UNILITE-SPECK

Owner of Reg. No. 673,335.
For Paint.
First use June 16, 1960.

SN 105,115. U.S. Vehicle and Chemical Company, St. Louis, Mo. Filed Sept. 23, 1960.

PUF-IT

For Composition Used in the Manufacture of Paint, Enamel, Varnish and Related Products—Namely, a Bodying and Anti-Sagging Liquid and Viscosity Increaser and Agent for Flow Control.
First use Apr. 8, 1948.

Class 18—Medicines and Pharmaceutical Preparations

SN 89,639. J. Q. Adams, Kansas City, Mo. Filed Jan. 26, 1960.

C-LIFE

For Liquid Medicinal Preparation for the Relief of Muscular Aches and Pains.
First use July 14, 1959.

SN 94,948. Aktiebolaget Bofors, Bofors, Sweden. Filed Apr. 13, 1960.

NOBEPSOR

Owner of Swedish Reg. No. 80,107, dated Mar. 23, 1956.
For Dermatological Preparations.

SN 96,677. Contactisol Inc., Lindenhurst, N.Y. Filed May 9, 1960.

STERIFLUOR

For Ophthalmic Medicines, Particularly an Eye Stain Used as a Diagnostic Aid.
First use Jan. 12, 1960.

SN 97,223. Olin Mathieson Chemical Corporation, New York, N.Y. Filed May 16, 1960.

KENAGETIC

For Steroid- and Analgesic-Containing Preparations Useful in the Management of Rheumatic, Arthritic, and Inflammatory Conditions, and Related Disorders.
First use May 4, 1960.

SN 101,240. Ciba Limited, Basel, Switzerland. Filed July 21, 1960.

METOPIRONE

Priority claimed under Sec. 44(d) on Swiss Reg. No. 180,536, dated Apr. 26, 1960.
For Adrenostatic Drug, Diagnostic Agent.

SN 101,353. M. R. Thompson, Inc., New York, N.Y. Filed July 22, 1960.

Blessamin

For Dietary Supplement—Namely, Prenatal Capsule.
First use Aug. 20, 1958.

SN 101,709. Science Laboratories, Inc., Skokie, Ill., assignee of Topco Associates, Inc., Chicago, Ill. Filed July 29, 1960.

VALIANT

For Medicinal Preparations—Namely, Hydrogen Peroxide and Rubbing Alcohol.
First use June 30, 1960.

SN 104,539. McKesson & Robbins, Incorporated, New York, N.Y. Filed Sept. 15, 1960.

BEXELETTES

For Multivitamins and Minerals.
First use Sept. 17, 1959.

SN 104,928. Murray Hirsch, New York, N.Y. Filed Sept. 21, 1960.

SNOREX

For Preparation for the Relief and Control of Snoring.
First use Aug. 30, 1960.

SN 105,052. Bristol-Myers Company, New York, N.Y. Filed Sept. 28, 1960.

BRISTASORB

For Adsorbent and Detoxifying Agent Effective Against Bacterially Induced Dysentery.
First use July 29, 1960.

SN 106,396. Etepha Aktiengesellschaft, Schaan, Liechtenstein. Filed Oct. 14, 1960.

OMNISEDAN

Owner of Liechtenstein Reg. No. 832, dated Jan. 20, 1959.
For Sedative.

SN 106,482. Doak Pharmacal Co., Inc., New York, N.Y. Filed Oct. 17, 1960.

PANZALONE

For Medicated Skin Cream for External Non-Ophthalmic Use Only.
First use Sept. 20, 1960.

SN 107,272. Laboratoires Om Societe Anonyme, Geneva, Switzerland. Filed Oct. 27, 1960.

DICYNONE

Owner of Swiss Reg. No. 176,910, dated Aug. 25, 1959.
For Pharmaceutical and Veterinary Products for Hemostatic Purposes.

SN 107,722. American Home Products Corporation, d.b.a. Whitehall Laboratories, New York, N.Y. Filed Nov. 3, 1960.

SP-8

For Scopolamine Hydrobromide Incorporated as an Ingredient in a Medicinal Preparation.
First use Jan. 2, 1957.

SN 107,761. Imperial Chemical Industries Limited, London, England. Filed Nov. 3, 1960.

PROMINTIC

Owner of British Reg. No. 765,639, dated May 16, 1957.
For Veterinary Anthelmintics.

SN 108,545. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Nov. 16, 1960.

LEVISMON

Owner of German Reg. No. 738,642, dated July 26, 1960.
For Chemotherapeutic Agents and Pharmaceutical Drugs.

SN 109,382. Campbell Pharmaceuticals, Inc., New York, N.Y. Filed Dec. 1, 1960.

PROTOPAM

For Anticholinesterase Antidote Preparations for Use in Medicine.
First use Sept. 15, 1960.

SN 109,635. Sogespar S.A., Fribourg, Switzerland. Filed Dec. 5, 1960.

METOREN

Owner of Swiss Reg. No. 171,813, dated June 14, 1958.
For Pharmaceutical Products for the Treatment of Hypertension.

SN 109,636. Sogespar S.A., Fribourg, Switzerland. Filed Dec. 5, 1960.

METORENE

Owner of Swiss Reg. No. 172,236, dated Sept. 20, 1958.
For Pharmaceutical Products for the Treatment of Hypertension.

SN 109,948. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

QUOTULES

For Preparation for Treatment of Vitamin Deficiencies.
First use Mar. 14, 1946.

SN 109,953. The Central Pharmacal Company, Seymour, Ind. Filed Dec. 9, 1960.

DADEXAL

For Preparation for Relief From Mental and Emotional Distress.
First use Mar. 14, 1956.

SN 110,091. The Purdue Frederick Company, New York, N.Y. Filed Dec. 12, 1960.

GUAPLEX

For Preparation for the Treatment of Constipation.
First use Dec. 2, 1960.

SN 110,092. The Purdue Frederick Company, New York, N.Y. Filed Dec. 12, 1960.

COMAGNESIA

For Preparation for the Treatment of Constipation.
First use Dec. 2, 1960.

SN 110,498. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 19, 1960.

ADAZINE

Owner of Reg. No. 603,839.
For Gastric Antisecretory Agent.
First use May 10, 1960.

SN 110,499. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 19, 1960.

DILAMATE

For Coronary Vasodilator.
First use June 13, 1960.

SN 110,501. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 19, 1960.

CORTABA

Owner of Reg. No. 644,396.
For Steroid-Salicylate Preparation for Veterinary Use.
First use Apr. 10, 1959.

SN 110,502. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 19, 1960.

BIOTEF

For Antibiotic and Hormonal Preparation for Veterinary Use.
First use Feb. 7, 1960.

SN 110,504. The Wander Company, d.b.a. Dorsey Laboratories, Chicago, Ill. Filed Dec. 19, 1960.

ORSILICA

For Appetite Depressant.
First use Dec. 6, 1960.

SN 110,506. The Wander Company, d.b.a. Dorsey Laboratories, Chicago, Ill. Filed Dec. 19, 1960.

FRAIN

For Appetite Depressant.
First use Dec. 6, 1960.

SN 110,564. Sterling Drug Inc., New York, N.Y. Filed Dec. 20, 1960.

LORODERM

Owner of Reg. No. 584,679.
For Veterinary Preparation Used as an Antiseptic Healing Agent.
First use Nov. 3, 1960.

Class 19—Vehicles

SN 95,427. Eureka Williams Corporation, Bloomington, Ill. Filed Apr. 20, 1960.

KILOWATT

For Electric Powered Automobiles.
First use Mar. 31, 1960.

SN 103,792. Janney, Semple, Hill & Company, Hopkins, Minn. Filed Sept. 1, 1960.

Lawn King

The word "Lawn" is disclaimed apart from the mark as shown.
For Lawn Carts and Wheelbarrows.
First use Sept. 15, 1957.

SN 104,403. Stanray Corporation, Chicago, Ill. Filed Sept. 13, 1960.



For Boats, Off Highway Truck and Vehicle Bodies, and Body Parts Such as Canopies, Side and End Walls and Floors, Freight Car Components—i.e., Roofs, Ends, Bulkheads, Floor Protector Plates, Side Linings, End Linings, Side Plates, Release Riggings, Coupler Centering Devices, and Hopper Doors.
First use Apr. 6, 1960.

SN 100,325. Airstream, Inc., Jackson Center, Ohio. Filed Sept. 28, 1960.

DURA TORQUE

For Vehicle Axles—Namely, Trailer Axles.
First use Oct. 24, 1956.

Class 20—Linoleum and Oiled Cloth

SN 107,458. Kentile, Inc., Brooklyn, N.Y. Filed Oct. 31, 1960.

PALAZZO

For Floor and Wall Tile or Other Coverings of a Similar Nature Made in Whole or in Part From Vinyl and Other Ingredients.
First use Sept. 26, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 71,148. Rayclad Tubes, Inc., Redwood City, Calif. Filed Apr. 8, 1959.

POLYFORM

For Irradiated Polyethylene Tubes and Sleeving for Electrical Insulation for Cable and Wire Sold as Such.
First use Dec. 22, 1958.

SN 82,931. U.S. Components, Inc., New York, N.Y. Filed Oct. 8, 1959.

REMI

For Electrical Connectors.
First use June 29, 1959.

SN 83,364. General Railway Signal Company, Rochester, N.Y. Filed Oct. 16, 1959.

AIRTRAC

For Equipment for the Control, Registration and Display of Flight Clearance Data for Airway Traffic Control Systems.
First use Sept. 15, 1959.

SN 88,770. James R. Kearney Corporation, St. Louis, Mo. Filed Jan. 11, 1960.

LAP-TITE

For Electrical Connectors.
First use July 16, 1955.

SN 90,300. Automation Engineers, Inc., Trenton, N.J. Filed Feb. 4, 1960.

AUTONOMIC

For Business Machines.
First use Nov. 12, 1959.

SN 90,501. Erie Resistor Corporation, Erie, Pa. Filed Feb. 8, 1960.

TRANSCAP

For Electrical Capacitors for Use With Transistors.
First use Jan. 19, 1960.

SN 97,534. Industrionics Controls, Inc., New York, N.Y., by change of name from Wintries, Inc., New York, N.Y. Filed May 19, 1960.

INDUSTRIONICS

For Electronically Operated Control Equipment Used on Molding Machines, Presses and Automated Equipment, and Having Detectors Responsive to Pressures and Corresponding Movements of the Parts of the Mold or Presses for Detecting Irregularities in Operation and Initiating Operation of the Control To Stop Further Operation of the Mold or Press Promptly Upon the Detection of Such Irregular Operation.
First use May 9, 1960.

SN 101,118. Microwave Electronic Tube Company, Inc., Salem, Mass. Filed July 19, 1960.

CITRIMS

For Microwave Transmit-Receive and Shutter Tubes.
First use on or before May 28, 1960.

SN 102,532. Air Reduction Company, Incorporated, New York, N.Y. Filed Aug. 12, 1960.

AIR REDUCTION

For Electric Arc Welding Machines; Electrode Holders; Current Contact Tubes; Motorized Torch Holders; Arc Welding and Cutting Kits.
First use on or about Jan. 15, 1948.

SN 102,697. The Salvajor Company, Kansas City, Mo. Filed Aug. 15, 1960.

SCRAP MASTER

For Apparatus Having Water Flow Means for Rinsing Food Waste From Dishes and the Like, Means for Recovering Silverware, and Means for Separating the Water From the Waste as the Waste Flows to a Disposer.
First use July 29, 1960.

SN 103,328. Davidson Bros. Mfg. Co. Inc., Milesburg, Pa. Filed Aug. 24, 1960.

Dabo Power Vac

The words "Power Vac" are disclaimed apart from the mark as shown.
For Tonsorial Vacuum Cleaner, Which Is Comprised of a Suction Cleaning Device for Use in Barber Shops and Beauty Salons, for the Principal Purpose of Removing Loose Hair From the Person and Clothing of the Customer and From Tonsorial Instruments and Equipment.
First use May 1, 1959.

SN 103,335. Heated Concrete Products, Inc., Waynetown, Ind. Filed Aug. 24, 1960.

PAYOLA PIG BED

For Agricultural Product (Heating Pen) That Consists of a Concrete or Other Material Which Encloses an Electrical Heating Element That Maintains a Temperature of Approximately 72 Degrees and Is Used for a Portable Pig Farrowing Device.
First use June 20, 1960.

SN 103,456. International Flavor Machines, Inc., Olivette, Mo. Filed Aug. 26, 1960.

FLAVORAMA

For Electrical Mixers for Blending Flavors Into Ice Cream for Soda Fountain Use and the Like.
First use Apr. 15, 1960.

SN 103,921. General Automation Corp., Flushing, N.Y. Filed Sept. 6, 1960.

AUTOBEND

For Electrical Operating and Safety Controls for Machine Tools.
First use at least as early as Aug. 24, 1960.

Class 22—Games, Toys, and Sporting Goods

SN 52,701. Valley Bowling Pin Company, Sugarloaf, Pa. Filed June 2, 1958.



For Bowling Pins.
First use Apr. 18, 1958.

SN 87,419. Bi-U-Cards Mfg. Corp., Long Island City, N.Y. Filed Dec. 16, 1959.

CARD MAGIC

No claim of exclusive right is made to "Card" as used in connection with cards for playing a card game apart from such use in the mark as shown.
For Cards for Use in Playing a Card Game and Performing Card Tricks.
First use January 1954.

SN 95,607. Mag-Powr Games, Inc., Sausalito, Calif. Filed Apr. 22, 1960.

MAG-POWR

For Apparatus Sold as a Unit for Playing Simulated Football, Baseball, and Similar Sporting Event Board Games, Said Apparatus Including a Playing Board, Miniature Players, Means for Moving the Players on the Board, and Devices for Scoring and Keeping Data in Relation to the Play of the Game.
First use Mar. 6, 1959.

SN 96,700. Cast Rite Tackle Co., Lincoln, Nebr. Filed June 9, 1960.



For Fishing Lures.
First use Feb. 18, 1959.

SN 99,928. Food City, Longview, Tex. Filed June 29, 1960.



For Card Equipment Whereon Letters of the Alphabet Appear, and Instruction Leaflets for Playing a Customer Participation Game.
First use Apr. 11, 1960.

SN 101,341. Herbert Ritts, Inc., d.b.a. Ritts Co., Los Angeles, Calif. Filed July 22, 1960.

TROPI-TOYS

For Construction Kit From Which a Plurality of Ridable Toys May Be Assembled.
First use Jan. 22, 1960.

SN 102,063. South Bend Modern Molding, Inc., Mishawaka, Ind. Filed Aug. 4, 1960.

PUTTERFINGER

For Golf Ball Retriever.
First use Mar. 14, 1952.

SN 105,044. The American Pad & Textile Co., Pittsburgh, Pa. Filed Sept. 23, 1960.

SPORTSTER

For Adult's Life Vests.
First use on or before Jan. 31, 1941.

SN 106,488. Fawick Flexi-Grip Co., Akron, Ohio. Filed Oct. 17, 1960.

FINE LINE

For Golf Club Grips.
First use June 27, 1958.

SN 106,804. B. F. Gladding & Company, Inc., South Otselic, N.Y. Filed Oct. 20, 1960.

NYLO-CAST

For Fishing Lines.
First use Nov. 30, 1959.

SN 106,805. B. F. Gladding & Company, Inc., South Otselic, N.Y. Filed Oct. 20, 1960.

NYLO-FLY

For Fishing Lines.
First use Nov. 30, 1959.

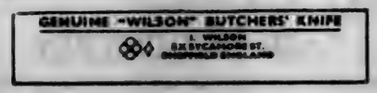
SN 106,863. United States Rubber Company, New York, N.Y. Filed Oct. 20, 1960.

FORTUNE

For Golf Balls.
First use June 30, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 68,446. John Wilson (Sheffield) Limited, d.b.a. I. Wilson, Sheffield, England. Filed Feb. 25, 1959.



Applicant disclaims the words "Genuine," "Butchers' Knife," and "Ex Sycamore St. Sheffield England." Owner of U.S. Reg. No. 87,657.
For Butchers' Knives.
First use June 1945; in commerce June 1945.

SN 94,321. M & H Engineering, Inc., Chicago, Ill. Filed Apr. 4, 1960.



For Abrasive Wheels, Cutting Tools, Control Units for Automatically Controlled Machine Tools, Continuous Feed Facing Heads, Boring Heads and Rotary Tables.
First use Jan. 29, 1960.

SN 94,762. R. Hoe & Co., Inc., New York, N.Y. Filed Apr. 11, 1960.

COLORMATIC

For Printing Machinery.
First use Feb. 11, 1960.

SN 99,137. Fostoria Corporation, Fostoria, Ohio. Filed June 16, 1960.

DYNASUMP

Owner of Reg. No. 598,464.
For Submersible Electric Pumps.
First use Oct. 30, 1959.

SN 100,502. Dansk Designs, Inc., Great Neck, N.Y. Filed July 8, 1960.

SHIBUI

For Teaspoons Made From Stainless Steel.
First use May 6, 1960.

SN 100,907. Huber Industries, Inc., Cincinnati, Ohio. Filed July 15, 1960.



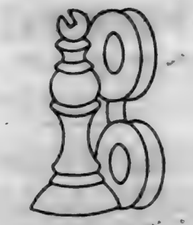
For Pumps.
First use May 15, 1960.

SN 102,485. Krogh Pump Company, d.b.a. Contract Machine Works, San Francisco, Calif. Filed Aug. 11, 1960.

ALLEY-MATIC

For Portable Fully Automatic Machines for Cleaning, Dressing, and Buffing Bowling Alleys and Parts Therefor.
First use on or before June 6, 1960.

SN 102,541. Bishop Spools, Inc., New York, N.Y. Filed Aug. 12, 1960.



The mark consists of a design comprising a chess piece and two spools, forming the letter "B."
For Business Machine Ribbon Spools.
First use Feb. 29, 1960.

SN 103,840. Rodney Hunt Machine Company, Orange, Mass. Filed Aug. 24, 1960.

AQUATROL

For Bow Expander Rolls for Spreading Webs of Paper, Rubber, Plastic, Textiles and the Like.
First use June 28, 1960.

SN 103,613. Southern Gear Works, Inc., Gastonia, N.C. Filed Aug. 29, 1960.



Applicant disclaims the exclusive right to the use of the gear design, apart from the mark as shown.
For Gears and Chain Drives.
First use on or about Mar. 15, 1957.

SN 104,885. Bartelt Engineering Company, Inc., Rockford, Ill. Filed Sept. 21, 1960.

BARTELT

For Packaging Machinery Including Machines for Forming, Filling and Closing Pouches, Machines for Erecting, Filling and Closing Cartons, Dispensing Machines, Weight Responsive Machines for Controlling Dispensing Devices and Apparatus for Supplying Material To Be Packaged to the Packaging Machinery.
First use at least as early as June 1948.

SN 105,006. Petroleum Tool Research, Inc., Fort Worth, Tex. Filed Sept. 23, 1960.

"MARK 29"

For Well Casing Perforators and Perforator Carriers for Producing Holes Through Oil Well Casings Into the Oil Formation by Means of an Explosive Charge.
First use Dec. 18, 1959.

SN 105,121. Wilson Manufacturing Company, Memphis, Tenn. Filed Sept. 16, 1960.

REAM-N-OUT

For Tube Reaming Device.
First use July 1, 1960.

SN 107,067. Societe d'Applications Plastiques, Mecaniques et Electroniques, Neuilly-sur-Seine (Seine), France. Filed Oct. 24, 1960.

FORMSEAL

Owner of French Reg. No. 472,737, dated June 5, 1958 (Seine); Natl. Inst. No. 108,813.
For Machines for Packing Goods With Plastic Materials.

SN 107,260. Hill Tool and Engineering Co., Melrose Park, Ill. Filed Oct. 27, 1960.

PROPEL-A-MATIC

For Automatic Cut-Off Machines.
First use Mar. 25, 1960.

SN 107,707. Societe Sival, Pour le Developpement de l'Activite des Affaires, S.A., Paris (Seine), France. Filed Nov. 2, 1960.

SILTO

Priority claimed under Sec. 44(d) on French Reg. No. 488,082, dated May 12, 1960 (Seine); Natl. Inst. No. 144,296.
For Fuel Injection Pumps for Motors and Parts Thereof, Regulators for Such Pumps, Fuel Injectors, Speed Governors, Automatic Injection Advance Regulators for Engines.

SN 107,836. Dempster Brothers, Inc., Knoxville, Tenn. Filed Nov. 4, 1960.

DEMPSTER DINOPACKER

Owner of Reg. Nos. 358,486, 597,881, and 668,949.
For Hoisting Units Adapted for Mounting on Motor Vehicles for Handling Containers and Materials.
First use May 2, 1960.

Class 24 — Laundry Appliances and Machines

SN 101,394. Hoffman International Corporation, New York, N.Y. Filed July 25, 1960.

MATADOR

For Dry Cleaning Machines.
First use February 1960.

Class 25 — Locks and Safes

SN 100,602. Donner Manufacturing Co., Sylmar, Calif. Filed July 12, 1960.

SMOOTHLOCK 800

For Locks and Lockets.
First use June 22, 1960.

Class 26 — Measuring and Scientific Appliances

SN 98,015. Meltronics Inc., Elkhart, Ind. Filed Apr. 28, 1960.

MEL

For Electronic Control Apparatus—Namely, Turbidity Measurement Apparatus, Brightness Meters, Apparatus for Control of Motor Driving Belts and Conveyors, Electrical Circuit Ground Detectors, Moisture Detectors, and Apparatus for Determining Hydrogen Content of Molten Metals.
First use Mar. 11, 1960.

SN 102,534. Air Reduction Company, Incorporated, New York, N.Y. Filed Aug. 12, 1960.

AIR REDUCTION

For Apparatus for Mixing and Proportioning Gases; and Pressure Gauges.
First use on or about Jan. 15, 1948.

Class 28 — Jewelry and Precious-Metal Ware

SN 100,290. Peter T. Schleissner, Los Angeles, Calif. Filed July 5, 1960.

RHODO

Owner of Reg. No. 661,860.
For Jewelry: Religious Jewelry—Namely, Neckchains, Medals and Insignia, Watch Bands, Costume Jewelry, Earrings, and Brooches, Any of Which May Be of Precious Metals, Semi-Precious Metals or Common Materials.
First use June 6, 1960.

Class 29 — Brooms, Brushes, and Dusters

SN 98,453. Diagraph-Bradley Industries, Inc., Herrin, Ill. Filed June 6, 1960.

MARK-X

Applicant makes no claim to the words "It's Expendable" apart from the mark as shown.
For Felt Type Stencil Ink Marker.
First use Nov. 4, 1958.

Class 30 — Crockery, Earthenware, and Porcelain

SN 100,500. Dansk Designs, Inc., Great Neck, N.Y. Filed July 8, 1960.

SHIBUI

For Casseroles, Cups and Saucers Made of Stonewear.
First use May 6, 1960.

Class 31 — Filters and Refrigerators

SN 105,047. Borg-Warner Corporation, Chicago, Ill. Filed Sept. 23, 1960.

SELEC-D-FROST

For Refrigerators, Freezers and Accessories, and Parts Thereof for Replacement and Repair.
First use on or prior to Mar. 8, 1960.

Class 32 — Furniture and Upholstery

SN 105,633. Edlow Manufacturing Co., Portland, Ohio. Filed Oct. 3, 1960.

STYLE-KING

For Furniture Upholstery.
First use on or about Sept. 1, 1958.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 102,533. Air Reduction Company, Incorporated, New York, N.Y. Filed Aug. 12, 1960.

AIR REDUCTION

For Oxyacetylene Welding and Cutting Apparatus; Torches or Blowpipes; Machines for Heating, Welding, and Cutting of Metals With Gases; and Torch Tips.
First use on or about Jan. 15, 1948.

SN 106,796. Colonial Candelabra Co., New Rochelle, N.Y. Filed Oct. 20, 1960.

COLONIAL

For Candelabra.
First use June 1956.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 100,447. The General Tire & Rubber Company, Akron, Ohio. Filed July 7, 1960.

LP

For Pneumatic Tires.
First use Dec. 23, 1958.

SN 103,793. Janney, Semple, Hill & Company, Hopkins, Minn. Filed Sept. 1, 1960.

Lawn King

The word "Lawn" is disclaimed apart from the mark as shown.
For Lawn Hose.
First use Sept. 16, 1957.

SN 104,518. Edwards Engineering Corporation, New Orleans, La. Filed Sept. 15, 1960.



Registration rights in the representation of the packing per se and apart from the trademark as shown, are disclaimed.
For Packing and Seals, Particularly for Mill Pistons Including Sugar Mill Pistons.
First use June 20, 1960.

SN 107,468. Laher Spring & Electric Car Corp., Oakland, Calif. Filed Oct. 31, 1960.

BIG STOP

For Brake Blocks and Brake Material.
First use Jan. 25, 1960.

SN 107,654. Dayco Corporation, Dayton, Ohio. Filed Nov. 2, 1960.

THORO-FLEX

Owner of Reg. Nos. 151,732, 688,209, and others.
For Hose.
First use Sept. 24, 1959.

Class 36 — Musical Instruments and Supplies

SN 84,250. Shure Brothers, Incorporated, Evanston, Ill. Filed Oct. 29, 1959.



For Phonograph Tone Arms and Phonograph Pickup Cartridge Units.
First use in or about May 1957.

SN 88,428. Raleigh Records, Inc., New York, N.Y. Filed Jan. 4, 1960.

CLASSICA

For Phonograph Records of the Circular Disc Type.
First use Dec. 18, 1959.

SN 100,725. F. A. Reynolds Co., Inc., d.b.a. Roth Reynolds Inst. Co., Cleveland, Ohio. Filed July 12, 1960.

REYNOLDS

For Band Musical Instruments.
First use February 1956.

SN 103,864. Monarch Record Mfg. Corp., Los Angeles, Calif. Filed Sept. 2, 1960.

MR

For Phonograph Records.
First use Aug. 1, 1960.

SN 106,122. Meulic Specialties Company, Bloomington, Ill. Filed Oct. 10, 1960.

Malverta

For Magnetic Tape Recording and Playback Devices.
First use June 15, 1960.

SN 107,208. Mercury Record Corporation, Chicago, Ill. Filed Oct. 26, 1960.

PERFECT PRESENCE SOUND

The word "Sound" is disclaimed except in connection with the mark as shown.
For Grooved Phonograph Records.
First use on or about Sept. 6, 1960.

Class 37—Paper and Stationery

SN 47,347. Cory Corporation, Chicago, Ill. Filed Mar. 10, 1958.

STENOPOINT

For Writing Instruments—Namely, Pens.
First use Sept. 1, 1933.

SN 48,395. Binney & Smith Inc., New York, N.Y. Filed S.R. Mar. 25, 1958; Am. P.R. Feb. 17, 1959.



Owner of Reg. No. 441,777.
For Crayons and Chalk.
First use Jan. 31, 1947, on crayons.

SN 87,097. White & Wyckoff Mfg. Co., Holyoke, Mass. Filed Dec. 10, 1959.

Crestwood

For Boxes of Stationery Including Writing Paper and Matching Envelopes.
First use Nov. 23, 1959.

SN 92,478. Lindy Pen Co., Inc., Culver City, Calif. Filed Mar. 9, 1960.

LADY LINDY

For Ballpoint Pen Refills.
First use May 1960.

SN 92,534. Joseph Dixon Crucible Company, Jersey City, N.J. Filed Mar. 10, 1960.

FTR

For Lead Pencils.
First use Mar. 1, 1960.

SN 94,552. Banco Corporation, Ltd., San Francisco, Calif. Filed Apr. 7, 1960.

BANCO

Owner of Reg. No. 260,944.
For Blank Forms—Namely, Laboratory and Clinical Report Forms for Hospital Use, Physician and Dental Forms, Hospital Stock Forms, Plastic Binders and Teletype Rolls.
First use in or about August 1928.

SN 102,143. Scripture Press Foundation, Wheaton, Ill. Filed Aug. 5, 1960.

FLEXI-RECORD

For Sunday School Record Systems—Namely, Record Cards, Notebooks, Honor Seals, Binders, and Envelopes.
First use on or about Aug. 1, 1960.

SN 103,289. The Multistamp Company, Norfolk, Va. Filed Aug. 23, 1960.

MULTI-ROLL

Owner of Reg. Nos. 532,011, 533,660, and others.
For Stencils.
First use Aug. 15, 1960.

SN 103,777. Food Fair Stores, Inc., Philadelphia, Pa. Filed Sept. 1, 1960.

Tulip

For Writing Paper, Letter Paper, Writing Tablets, Loose-leaf Filler Sheets, and Envelopes.
First use Aug. 8, 1960.

SN 103,930. David Kahn, Inc., North Bergen, N.J. Filed Sept. 6, 1960.

TransVue

For Mechanical Pencils and Parts Therefor.
First use March 1938.

SN 106,754. Standard Packaging Corporation, New York, N.Y. Filed Oct. 19, 1960.

RUN-RITE

For Paper for General Stationery Purposes.
First use Sept. 16, 1960.

SN 106,794. Codo Manufacturing Corporation, Leetsdale, Pa. Filed Oct. 20, 1960.

CODOMAT

For Offset Master Sheets Used With Typewriters.
First use Aug. 16, 1960.

Class 38—Prints and Publications

SN 96,075. The Firth Carpet Company, New York, N.Y. Filed May 31, 1960.

SPOTLIGHTING YOU

For Magazine Dealing With Interior Decorating.
First use Jan. 8, 1960.

Class 39—Clothing

SN 65,256. Merit Clothing Company, Mayfield, Ky. Filed Jan. 2, 1960.

Wancraft

For Boys' Suits and Coats.
First use Sept. 1, 1958.

SN 68,114. Canterbury Knitters, Ltd., New York, N.Y. Filed Feb. 20, 1959.

ERMILEUR

For Yarn Sold Only in Finished Apparel—Namely, Sweaters.
First use Jan. 12, 1959.

SN 84,818. Springfoot Sox, Inc., Des Moines, Iowa. Filed Nov. 6, 1959.

SPRINGFOOT

Owner of Reg. No. 411,745.
For Sweaters, Knit Shirts and Swim Wear.
First use Aug. 6, 1956, on sweaters and knit shirts.

SN 90,750. Amira Products, Inc., Newburgh, N.Y. Filed Feb. 11, 1960.

STAYDRY

Owner of Reg. No. 541,614.
For Panties.
First use Sept. 6, 1949.

SN 95,315. Reu-Ben Associates, Inc., Manchester, N.H. Filed Apr. 18, 1960.

STAR RUBY FINISH

Applicant disclaims the word "Finish" separately from the mark as shown.
For Finish for Fabrics Made Up Into Cotton T-Shirts.
First use Mar. 28, 1960.

SN 96,661. Maidenform, Inc., New York, N.Y., by change of name from Maiden Form Brassiere Company, Inc., New York, N.Y. Filed June 8, 1960.

DAY DREAMS

For Foundation Garments—Namely, Brassieres.
First use May 19, 1960.

SN 99,588. Louisiana Garment Manufacturing Company, Inc., New Orleans, La. Filed June 23, 1960.

GRAND ISLE

For Shirts and Blouses.
First use 1936.

SN 100,463. Piedmont Shirt Company, Greenville, S.C. Filed July 7, 1960.

GLADGAB

For Men's and Boys' Shirts, Sports Shirts, Pajamas and Jackets.
First use June 20, 1960.

SN 101,061. Corona Corset Corporation, Corona, N.Y. Filed July 19, 1960.

BEAUTY BACK

For Women's and Misses' Brassieres, Corsets, and Corselettes.
First use May 16, 1960.

SN 101,517. Surprise Brassiere Co. Inc., New York, N.Y. Filed July 26, 1960.

SURPRISE

Owner of Reg. Nos. 503,685 and 640,720.
For Brassieres and Girdles.
First use June 22, 1960.

SN 101,940. Andrew Geller, Inc., Brooklyn, N.Y. Filed Aug. 3, 1960.

SENIOR CITIZEN

For Ladies Shoes.
First use July 15, 1960.

SN 102,236. Hartwell Garment Company, Hartwell, Ga. Filed Aug. 8, 1960.

Bell-Grade

For Men's and Boys' Work Clothing—Namely, Slacks, Sport and Dress Shirts.
First use July 27, 1960.
Subj. to Intf. with SN 111,781.

SN 102,301. Byer-Rolnick Hat Corporation, Garland, Tex. Filed Aug. 9, 1960.

880

For Men's Hats.
First use Feb. 2, 1960.

SN 102,512. Shoe Corporation of America, Columbus, Ohio. Filed Aug. 11, 1960.

the INSIDE STORY SHOE
by ROBERT

For Shoes for Women and Girls.
First use Aug. 4, 1960.

SN 102,550. Educator Shoe Corporation, New York, N.Y. Filed Aug. 12, 1960.

KINNEY

Owner of Reg. Nos. 284,611, 285,149, and 325,162.
For Men's, Women's, and Children's Dress Shoes, Canvas Footwear (Casual Shoes, Tennis Shoes, Gym Shoes), Rubber Footwear (Galoshes, Boots), Socks, Sandals, Slippers; Men's Arctics, Hunting Boots and Work Shoes; Women's Stockings.
First use 1894.

SN 102,736. H. Daroff & Sons, Inc., Philadelphia, Pa. Filed Aug. 16, 1960.

Custom Royal

Owner of Reg. No. 395,474.
For Men's and Young Men's Suits, Topcoats and Sportcoats.
First use in or about September 1958.

SN 102,751. Excelsior Underwear, Inc., New York, N.Y. Filed Aug. 16, 1960.

MAGIC-FLEX

For Men's Undershorts and a Waistband for the Same.
First use on or about June 15, 1960.

SN 102,784. National Shoes, Inc., New York, N.Y. Filed Aug. 16, 1960.

Sneedles

For Shoes for Women and Children.
First use Feb. 9, 1960.

SN 103,022. House of Worsted-Tex, Inc., Philadelphia, Pa. Filed Aug. 19, 1960.

Gort-McLeed

Owner of Reg. Nos. 424,375 and 411,103.
For Men's and Young Men's Suits, Slacks, Sport Coats, Topcoats, and Overcoats.
First use on or about June 27, 1950.

SN 103,028. Ladybug Inc., Philadelphia, Pa. Filed Aug. 19, 1960.

LADYBUG

For Women's Dresses, Skirts, Smocks, Blouses, Slacks, Shorts, Raincoats and Belts.
First use Oct. 1, 1958.

SN 103,098. Capital Shirt Corp., New York, N.Y. Filed Aug. 22, 1960.

Harwyn

The drawing is lined for brown and gold.
For Men's and Boys' Shirts.
First use July 13, 1960.

SN 105,020. B. Rich's Sons, Washington, D.C. Filed Sept. 22, 1960.

CHEVY WALKERS

Owner of Reg. No. 627,434.
For Women's Shoes.
First use Aug. 30, 1960.

SN 105,134. A. J. Bergren Company, d.b.a. Moon Beam Co., Chicago, Ill. Filed Sept. 26, 1960.

NITE OWLS

For House Slippers.
First use Aug. 16, 1960.

SN 105,490. The Biltwell Company, Inc., St. Louis, Mo. Filed Sept. 30, 1960.

TRADS

For Men's and Boys' Trousers and Slacks.
First use Sept. 8, 1960.

SN 105,748. Chas. Macintosh & Co. Limited, Edmonton, London, England. Filed Oct. 4, 1960.

IMPERVION

For Coats, Macintoshes, Suits, Jackets, Trousers and Skirts.
First use July 15, 1960; in commerce July 15, 1960.

SN 105,752. Mishawaka Rubber Company, Inc., Mishawaka, Ind. Filed Oct. 4, 1960.

BASKETEER

For Basketball Shoes.
First use on or about Sept. 14, 1928.

SN 106,238. V.I. Blouse Corp., New York, N.Y. Filed Oct. 11, 1960.

v
casual dress
i

Applicant disclaims the wording "Casual Dress" apart from the mark.
For Ladies' and Girls' Dresses.
First use Sept. 7, 1960.

SN 109,181. Genesco Inc., Nashville, Tenn. Filed Nov. 28, 1960.

NUMBER 26

For Boots, Shoes, and Slippers of Leather, Rubber, Fabric, or a Combination of These Materials, for Men, Women, and Children.
First use Mar. 1, 1960.

SN 111,781. Bellgrade Manufacturing Co., Inc., Jefferson, Ga. Filed Jan. 13, 1961.

BELLGRADE

For Men's Pants, Overalls, Overall Shirts, Sport Slacks, Shirts and Jackets.
First use Dec. 31, 1909.
Subj. to Intf. with SN 102,286.

Class 40—Fancy Goods, Furnishings, and Notions

SN 80,796. E. Huf & Co., Post Blaitheim, Germany. Filed Sept. 3, 1959.

For Needle Threaders.
First use prior to July 1954; in commerce Dec. 2, 1954.

SN 89,291. Al Nyman & Son, Inc., New York, N.Y. Filed Jan. 19, 1960.

ALCO

For Sewing Baskets Sold With Assorted Needles and Dressmaker Pins, Thimble, Tape Measure, and Needle Threader Therefor.
First use Dec. 14, 1959.

SN 100,910. The Kaynar Company, Pico-Rivera, Calif. Filed July 15, 1960.

PONY
PIN-UP

For Coated Elastic Bands for Holding the Hair.
First use Jan. 14, 1958.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 94,265. Deering Milliken, Inc., Wilmington, Del., by merger and change of name from Deering, Milliken & Co. Inc., New York, N.Y. Filed Apr. 4, 1960.

WOODLYN

For Textile Fabrics Made of Wool and Synthetic Fibers and Combinations Thereof.
First use on or about Mar. 30, 1959.

SN 102,425. Solinger and Sons Co. Inc., New York, N.Y. Filed Aug. 10, 1960.

STELLAR

For Printed Cotton Piece Goods.
First use May 11, 1960.

SN 105,363. M. Lowenstein & Sons, Inc., New York, N.Y. Filed Sept. 23, 1960.

PARK CREST

For Bed Sheets, Made of Cotton and/or Synthetic Fibres.
First use Aug. 25, 1960.

SN 105,537. Ostow & Jacobs, Inc., New York, N.Y. Filed Sept. 30, 1960.

Ojay

Owner of Reg. No. 657,813.
For Bedspreads, Drapes, Sheets and Pillow Cases.
First use Apr. 2, 1953.

SN 105,624. City Products Corporation, Butler Brothers Division, Chicago, Ill. Filed Oct. 3, 1960.

LOOMCREST

Owner of Reg. Nos. 352,614, 540,814, and 579,436.
For Towels and Washcloths.
First use Apr. 30, 1960.

SN 106,657. J. P. Stevens & Co., Inc., New York, N.Y. Filed Oct. 18, 1960.

TAFFEBONNE

For Piece Goods of Synthetic Fibers for Lingerie and Lounge Wear.
First use Aug. 22, 1960.

SN 106,658. J. P. Stevens & Co., Inc., New York, N.Y. Filed Oct. 18, 1960.

FINE-TRIQUE

Owner of Reg. Nos. 647,168 and 686,003.
For Piece Goods of Synthetic Fibers for Lingerie, Dresses and Blouses.
First use Aug. 19, 1960.

SN 108,682. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Nov. 17, 1960.

CRYSTIQUE

For Textile Fabrics Containing Triacetate and Nylon Fibers for Use in Women's Wear—Namely, Dresses, Blouses and Lingerie.
First use on or about Oct. 14, 1960.

SN 108,751. Crompton Company, New York, N.Y. Filed Nov. 21, 1960.

GLAMOURCORD

Owner of Reg. No. 535,172.
For Corduroy Fabrics in the Piece.
First use Dec. 4, 1956.

SN 108,947. City Stores Company, New York, N.Y. Filed Nov. 23, 1960.

Cavalcade

For Towels, Bed Sheets, Pillows, Pillow Protectors, Pillow Ticks, Pillow Cases, Mattress Pads, Mattress Covers, Curtains, Bedspreads and Blankets.
First use Nov. 7, 1960.

SN 109,011. Stillwater Worsted Mills, Inc., Harrisville, R.I. Filed Nov. 23, 1960.

HERB TONES

For Worsted Cloth and Blended Fabrics of Wool and Synthetic Fibres.
First use Nov. 14, 1960.

Class 43—Thread and Yarn

SN 108,758. Dole & Roberts Sales Corp., Suncook, N.H. Filed Nov. 21, 1960.

DOLE

For Textile Yarns.
First use Nov. 2, 1960.

Class 44—Dental, Medical, and Surgical Appliances

SN 97,514. Ortho-Trac Incorporated, East Paterson, N.J. Filed May 19, 1960.

ORTHO-TRAC

For Orthopedic and Surgical Equipment—Namely, Fracture Frames, Fracture Tables, Cervical Units, Fracture Beds.
First use July 7, 1959.

Class 45—Soft Drinks and Carbonated Waters

SN 31,117. Sidney Harris, d.b.a. Tom Tucker Beverage Company, Pittsburgh, Pa. Filed May 31, 1957.

Champagne-o

For Citrus Flavored Drink.
First use in November 1956.

Class 46—Foods and Ingredients of Foods

SN 73,411. Tom H. Nichol, d.b.a. Nichol's Hi-Fly Feeds, Monmouth, Ill. Filed May 11, 1959.

HI-FLY FEEDS

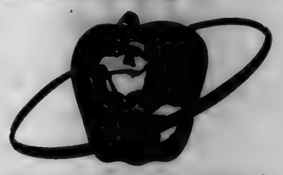
No claim of exclusive right is made to the word "Feeds," said word being the name of the goods.
For Packaged Wild Song Bird Seed.
First use Feb. 11, 1958.

SN 77,197. P. de Gruyter en Zoon N.V., 's-Hertogenbosch, Netherlands. Filed July 7, 1959.

TABLETTINES

Owner of Dutch Reg. No. 131,321, dated July 7, 1958.
For Cooking and Eating Chocolate Including Chocolate Candy.

SN 78,808. Northwest Wholesale Incorporated, Wenatchee, Wash. Filed July 31, 1959. COLLECTIVE MARK.



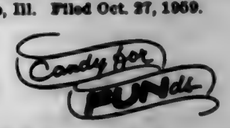
The representation of the apple is disclaimed.
For Fresh Apples.
First use June 30, 1959.

SN 83,032. Armour and Company (Delaware corporation), Chicago, Ill., assignee of Armour and Company (Illinois corporation), d.b.a. Armour Creameries, Chicago, Ill. Filed Oct. 12, 1959.



For Cheese.
First use September 1954.

SN 84,068. Flavour Candy Company, d.b.a. Candy For Funds, Chicago, Ill. Filed Oct. 27, 1959.



No claim of exclusive right is made to the word "Candy" as the name of the goods identified herein.
For Candy.
First use July 1, 1959.

SN 85,284. Notina AG, d.b.a. Notina Ltd., and Notina S.A., Rapperswil, St. Gall, Switzerland. Filed Nov. 16, 1959.

NOTINA

Owner of Swiss Reg. No. 176,922, dated Aug. 19, 1959.
For Eggs, Milk, Butter, Cheese, Margarine, Edible Oils and Edible Fats, Baking Fats, Baking Fat Mixtures, Sugar, Syrup, Flour, Pearl Barley, Groats, Grain Flakes, Semolina, Rice, Starch, Nutritive Sugar Preparations, Spaghettis, Macaronis and Like Products; Ingredients for Soup, Bread-Crumbs, Aromas for Food and Stimulants, Food Flavouring Sauces, Sauces, Sauce Powders, Cocoa, Pudding Powders, Honey, Sugar Preparations Containing Nuts, Purées, Pastes and Bread-Spreading Made of Nuts.

SN 86,367. Turlock Co-Operative Growers, Modesto, Calif. Filed Nov. 30, 1959.

Aunt Mary's

Owner of Reg. No. 352,750.
For Canned Fruits and Canned Vegetables.
First use Aug. 27, 1935, on canned fruits.

SN 88,185. T & A Coffee Co., Inc., New York, N.Y. Filed Dec. 29, 1959.

MEDALLION

For Coffee.
First use on or about Sept. 3, 1959.

SN 89,648. J. R. Clegg, d.b.a. Clegg Shrimp Company, Port Lavaca, Tex. Filed Jan. 26, 1960.

INDIANOLA

For Frozen Fresh Shrimp.
First use September 1947.

SN 92,195. Sunshine Biscuits, Inc., d.b.a. Krun-Chee Potato Chips, Long Island City, N.Y. Filed Feb. 26, 1960.

KRUN-CHEE

For Potato Chips, Shoe-String Potatoes, Popped Popcorn, Corn Chips and Pretzels.
First use 1937.

SN 93,428. General Foods Corporation, White Plains, N.Y. Filed Mar. 22, 1960.



Owner of Reg. No. 212,831.
For Coffee and Tea.
First use at least as early as 1898.

SN 94,477. Filler Products, Inc., Atlanta, Ga. Filed Apr. 6, 1960.

ONIONETTS

For Cornmeal Wafers.
First use Mar. 31, 1960.

SN 95,282. Rodrigues Hermanos de Córdoba S.A., Cordoba, Spain. Filed Apr. 18, 1960.



The word "Clasico" in the Spanish language means "classical." Owner of Spanish Reg. No. 294,045, dated Sept. 7, 1955.
For Olive Oils (Edible Oils).

SN 97,984. Foods Plus, Inc., New York, N.Y. Filed May 26, 1960.

SHRINK

For Caloric Food Concentrate for Weight Control.
First use May 16, 1960.

SN 99,375. Sorority Food Products, Inc., Salt Lake City, Utah. Filed June 20, 1960.



No claim of exclusive right is made to the word "Pie" as the name of the goods.
For Turnover Fruit Pies.
First use on or about May 24, 1960.

SN 100,658. William T. Thompson Company, Los Angeles, Calif. Filed July 11, 1960.

CALTROL

For Special Food Concentrate of High Nutritive Value for Use in Weight Reducing Diets.
First use Mar. 21, 1960.

SN 102,778. McCormick & Company, Incorporated, Baltimore, Md. Filed Aug. 16, 1960.

BON APPÉTIT

An English translation of the mark is "good appetite."
For Blend of Spices Adapted for Use in Seasoning Foods.
First use July 14, 1960.

SN 102,807. Toyo Shoji Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Aug. 16, 1960.

PETREET

For Cat and Dog Foods.
First use Sept. 3, 1959; in commerce Sept. 3, 1959.

SN 102,881. Yttrium Laboratories, Inc., Chicago, Ill. Filed Aug. 17, 1960.

THINAGEN

Owner of Reg. No. 627,257.
For Low Calorie Dieting Food Concentrate Containing Protein, Vitamins, Minerals, Carbohydrate, and Fat.
First use July 25, 1960.

SN 103,657. Columbian Hog and Cattle Powder Company, Kansas City, Mo. Filed Aug. 30, 1960.



For Animal Feeds and Feed Supplements.
First use April 1951; 1893 as to "Columbian."

SN 103,976. Star-Kist Foods, Inc., Terminal Island, Calif. Filed Sept. 6, 1960.



Owner of Reg. Nos. 686,974 and 689,200.
For Canned Tuna Fish; Frozen Seafood Products—Namely, Tuna Pies, Langostinos, Lobster Newburg, and Tuna Casserole.
First use Nov. 20, 1958, on canned tuna fish.

SN 103,977. Star-Kist Foods, Inc., Terminal Island, Calif. Filed Sept. 6, 1960.



Owner of Reg. Nos. 381,518, 689,200, and others.
For Canned Tuna Fish; Frozen Seafood Products—Namely, Tuna Pies, Langostinos, Lobster Newburg, and Tuna Casserole.
First use Nov. 20, 1958, on canned tuna fish; Apr. 30, 1940, as to "Star-Kist" on canned tuna fish.

SN 103,978. Star-Kist Foods, Inc., Terminal Island, Calif. Filed Sept. 6, 1960.

Star-Kist

Owner of Reg. Nos. 381,518, 686,974, and others.
For Canned Tuna Fish, Canned Tuna and Noodles, Frozen Seafood Products—Namely, Tuna Pies, Langostinos, Lobster Newburg, Tuna Casserole, and Frozen Fish.
First use Nov. 20, 1958; Apr. 30, 1940, on canned tuna fish, in a different display.

SN 104,205. Virginia Spice Company, Inc., Williamsburg, Va. Filed Sept. 9, 1960.

Olde Towne

For Preserves.
First use Apr. 18, 1960.

SN 104,234. Continental Baking Company, Rye, N.Y. Filed Sept. 12, 1960.

TWINKIES

For Cake.
First use June 25, 1930.

SN 104,278. Jewett & Sherman Products, d.b.a. Holsum Products, Milwaukee, Wis. Filed Sept. 12, 1960.

TOPSY-TURVY

For Peanut Butter.
First use Sept. 6, 1960.

SN 104,289. Mrs. J. G. McDonald Chocolate Company, d.b.a. Crestline Candies, Salt Lake City, Utah. Filed Sept. 12, 1960.

CRESTLINE

For Candy.
First use June 16, 1960.

SN 104,536. Leaf Brands, Inc., Chicago, Ill. Filed Sept. 15, 1960.

FONEY ADS

For Bubble Gum.
First use July 5, 1960.

SN 104,692. Columbia River Packers Association, Inc., Astoria, Oreg. Filed Sept. 19, 1960.

FIGARO

Owner of Reg. No. 113,694.
For Cat Food.
First use Apr. 27, 1960.

SN 105,193. Harry L. Noland and Virgil T. Norris, trustees of the estate of Reuben Walter Farley, deceased, d.b.a. Farley Fruit Company, Salinas, Calif. Filed Sept. 28, 1960.

RUSHMORE

Owner of Reg. No. 610,804.
For Fresh Melons.
First use May 31, 1955.

SN 106,857. Thriftway Supermarkets Inc., Cincinnati, Ohio. Filed Oct. 20, 1960.

Thriftway

For Meat Products—Namely, Wieners, Sliced Cooked Ham, Spiced Luncheon Meat, Pepper Loaf, Chopped Ham, Salami, Pickle Loaf, Sausage, Old Fashioned Loaf and Bologna; Bread and Sliced Buns.
First use Sept. 1, 1960.

SN 106,935. Mickey's Frozen Pizza Company, Chicago, Ill. Filed Oct. 21, 1960.

DONNA'S

For Pizza, Specifically, Frozen Cheese Pizza and Frozen Sausage and Cheese Pizza.
First use on or about Oct. 8, 1960.

SN 106,968. Continental Nut Company, Chico, Calif. Filed Oct. 24, 1960.

BLUE RIBBON

Owner of Reg. No. 614,949.
For Shelled and Unshelled Edible Nuts.
First use Jan. 2, 1936.

SN 107,061. Venus Foods, Los Angeles, Calif. Filed Oct. 24, 1960.

CELESTIAL

For Sandwich Cookie.
First use Apr. 1, 1960.

SN 107,100. L. L. Antle & Co., Inc., Atlanta, Ga. Filed Oct. 25, 1960.

COLOR-GUARD

For Chemical for Retarding Oxidation or Discoloration of Peeled and Cut Potatoes, Fruits and Vegetables.
First use on or about Nov. 5, 1959.

SN 107,101. L. L. Antle & Co., Inc., Atlanta, Ga. Filed Oct. 25, 1960.

VEGE-GUARD

For Chemical for Retarding Oxidation or Discoloration of Peeled and Cut Potatoes, Fruits and Vegetables.
First use on or about Nov. 5, 1959.

SN 107,102. L. L. Antle & Co., Inc., Atlanta, Ga. Filed Oct. 25, 1960.

TATER-WHITE

For Chemical for Retarding Oxidation or Discoloration of Peeled and Cut Potatoes, Fruits and Vegetables.
First use on or about Nov. 5, 1959.

SN 107,103. L. L. Antle & Co., Inc., Atlanta, Ga. Filed Oct. 25, 1960.

BRITE-TATER

For Chemical for Retarding Oxidation or Discoloration of Peeled and Cut Potatoes, Fruits and Vegetables.
First use on or about Nov. 5, 1959.

SN 107,104. L. L. Antle & Co., Inc., Atlanta, Ga. Filed Oct. 25, 1960.

WHITEY

For Chemical for Retarding Oxidation or Discoloration of Peeled and Cut Potatoes, Fruits and Vegetables.
First use on or about Nov. 5, 1959.

SN 107,105. L. L. Antle & Co., Inc., Atlanta, Ga. Filed Oct. 25, 1960.

TATER-FRESH

For Chemical for Retarding Oxidation or Discoloration of Peeled and Cut Potatoes, Fruits and Vegetables.
First use on or about Nov. 5, 1959.

Class 47 — Wines

SN 86,386. A. Steigenberger Hotelgesellschaft Kommanditgesellschaft auf Aktien, Frankfurt am Main-Sud, Germany. Filed Dec. 1, 1959.



Owner of German Reg. No. 727,129, dated July 16, 1959.
For Wines.

Class 49 — Distilled Alcoholic Liquors

SN 96,190. Canadian Schenley Ltd., Montreal, Quebec, Canada. Filed May 2, 1960.

ANCIENT MARINER

Owner of Canadian Reg. No. 106,639, dated Nov. 22, 1957; and U.S. Reg. No. 390,008.
For Rum.

Class 50 — Merchandise Not Otherwise Classified

SN 57,490. Howard J. McCarty, Hutchinson, Kans. Filed Aug. 19, 1958.

COMPANION MEMORIALS

No claim is made for the word "Memorials" apart from the mark shown.
For Monuments for Use in Cemeteries.
First use June 26, 1958.

SN 76,530. U.S. Cap & Closure, Inc., Chicago, Ill. Filed June 25, 1959.

DISPENSALL

For Dispensing Closure Comprising a Part To Be Incorporated With a Bottle of Tin Containing a Fluent Material and Another Part Movable With Respect to the First Part To Provide a Valve Action Whereby Flow From the Receptacle May Be Permitted or Interrupted.
First use Feb. 2, 1959.

SN 99,422. Faurot, Inc., New York, N.Y. Filed June 21, 1960.

DISPOSA-PAD

For Disposable Metal Backed Printing Plate Used for Taking Fingerprints or Footprints.
First use on or about Mar. 22, 1960.

SN 102,313. Gadjo Corporation, Great Neck, N.Y. Filed Aug. 9, 1960.

FLOWER FASHIONER

For Device for Supporting Cut or Artificial Flowers in a Container, Such as a Vase, Bowl, Etc., To Facilitate the Making of Floral Arrangements.
First use August 1948.

Class 51 — Cosmetics and Toilet Preparations

SN 73,473. Everett J. Connelley, d.b.a. Sculpt-on, Elkton, Md. Filed May 12, 1959.

SCULPT-ON

For Material for Patching Fingernails and Building Artificial Fingernails.
First use May 5, 1959.

SN 82,040. Trice Products, Inc., Brooklyn, N.Y. Filed Sept. 24, 1959.

MIST-ER

For Cosmetic Product Which Is Used as an After Shave Lotion, Skin Conditioner, Deodorant, Body Refresher and Cologne.
First use June 1, 1959.

SN 84,120. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 28, 1959.

CHAMPAGNE FROST

For Facial Cleanser.
First use June 1, 1959.

SN 85,870. The Andrew Jergens Company, Cincinnati, Ohio. Filed Nov. 23, 1959.

MIROLON

For 1-Tetradecanol, 1-Hexadecanol and 1-Octadecanol Incorporated as an Ingredient in a Cosmetic Skin Cream.
First use Nov. 11, 1958.

SN 87,449. Prince Matchabelli, Inc., New York, N.Y. Filed Dec. 16, 1959.



For Perfume, Cologne, Dusting Powder, Bath Salts, Bath Oils and Personal Deodorants.
First use Aug. 25, 1959.

SN 92,040. August J. Pacini, North Miami, Fla. Filed Mar. 2, 1960.

NATURELLA

For Lipstick.
First use July 30, 1959.

SN 94,248. Botany Industries, Inc., d.b.a. Rolley Co., Reno, Nev. Filed Apr. 4, 1960.

TANSATION

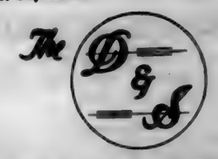
Owner of Reg. Nos. 636,462 and 649,848.
For Suntan Lotion.
First use Mar. 25, 1960.

SN 95,077. The Gillette Company, Boston, Mass. Filed Apr. 14, 1960.

DRIVE

Owner of Reg. No. 596,488.
For After Shave Lotion.
First use Nov. 16, 1953.

SN 96,122. Slater's Beauty Supply Co., Inc., Fort Smith, Ark. Filed Apr. 14, 1960.



For Blue Creme Rinse, Hair Spray, Creme Shampoo and Shampoo Concentrate.
First use Feb. 10, 1960.

SN 100,188. The R. G. Taylor Company, Inc., Kansas City, Mo. Filed July 1, 1960.

NEW DETERGO

Applicant disclaims exclusive rights to the use of the word "New."
For Cosmetic Cream Used To Relieve Excessive Dryness of the Skin and Scalp.
First use Apr. 27, 1960.

SN 102,984. George H. Weyer, Inc., Kansas City, Mo. Filed Aug. 18, 1960.

AFTER

For Creme Hair Rinse.
First use Apr. 27, 1957.

SN 105,618. John H. Breck, Inc., Springfield, Mass. Filed Oct. 3, 1960.

HAIR MAGIC

For Cosmetic Product—Namely, a Semi-Permanent Hair Coloring Shampoo.
First use Aug. 15, 1960.

Class 52—Detergents and Soaps

SN 69,883. Food Fair Stores, Inc., Philadelphia, Pa. Filed Mar. 19, 1959.

FYNE SUDS

For Liquid Detergent.
First use Aug. 10, 1958.

SN 103,679. Purex Corporation, Ltd., South Gate, Calif. Filed Aug. 30, 1960.

BIG BOSS

Owner of Reg. No. 505,311.
For Wax Remover and High Potency Cleaner.
First use Apr. 25, 1960.

SN 105,571. South Penn Oil Company, Oil City, Pa. Filed Sept. 30, 1960.

NuZip

For Chemical Preparation Used for the Removal of Gum, Varnish, and Sludge Deposits in Internal Combustion Engine Cylinders and Associated Parts.
First use June 1, 1939.

SERVICE MARKS

Class 100—Miscellaneous

SN 72,161. Technical Operations, Incorporated, Burlington, Mass. Filed Apr. 28, 1959.

techlops

Owner of Reg. Nos. 674,315 and 677,302.
For Research, Developmental, Advanced Theoretical, and Experimental Work for Industry and Government in Such Fields as Operations Research, Physics, Chemistry, Nucleonics, Electronics and Applied Mechanics.
First use on or about Apr. 26, 1957.

SN 84,653. Enthone, Incorporated, New Haven, Conn. Filed Nov. 5, 1959.

ENTHONE

Owner of Reg. Nos. 587,854, 683,027, and others.
For Research Services for Others Related to the Processing of Metals and Metal Products.
First use Apr. 26, 1954.

SN 87,415. Eastern Research Group, New York, N.Y. Filed Dec. 16, 1959.

ERG

For Consulting Services in Engineering Science and Development.
First use June 7, 1955.

SN 91,845. Rice Council for Market Development, Houston, Tex., by change of name from The Rice Industry, Houston, Tex. Filed Feb. 29, 1960.



Applicant disclaims any exclusive rights in the words "Fluffy Rice" apart from the mark as shown.
For Services Rendered to the Rice Industry and Consumers, Including Public Relation Services, Dissemination of Special Information Regarding the Consumption and Utilization of Rice, and Trade Association Services.
First use July 1, 1959.

SN 99,575. The Davey Tree Expert Company, Kent, Ohio. Filed June 28, 1960.



Without waiving of common law rights therein, the representation of a tree is disclaimed apart from the mark in its entirety.[1] Owner of Reg. Nos. 506,415, 612,329, and others.
For Tree Surgery, Tree Planting, and Tree Care Services.
First use May 1925.

SN 103,377. Washington Gas Light Company, Washington, D.C. Filed Aug. 24, 1960.



The drawing is lined for blue, gray, and yellow. Applicant makes no claim to the word "Gas" apart from the mark as shown. Owner of Reg. No. 617,997.
For Public Utility Gas Services.
First use July 13, 1960.

Class 101—Advertising and Business

SN 70,461. Florists' Nationwide Telephone Delivery Network America's Phone-Order Florists, Inc., Chicago, Ill. Filed Mar. 30, 1959.

PHONAFLOWER

For Advertising and Promoting the Sale of Flowers and Floral Accessories in Behalf of Its Members.
First use Dec. 7, 1955.

SN 83,062. Cooper-Trent Blueprint and Microfilm Corporation, Arlington, Va. Filed Oct. 12, 1959.

CAPITOLINE

For Artwork to the Specifications of Others for Offset and Letterpress Printing; Preparation of subject Matter for Photographs Used in Offset and Letterpress Printing; Custom Printing; Setting Up Photographic Filing Systems According to the Specifications of Others.
First use Oct. 22, 1958.

SN 86,106. New York & New England Apple Institute, Inc., Kingston, N.Y. Filed Apr. 14, 1960.

Crisp-aire

For Services Consisting of Advertising and Promoting the Use of Apples Stored in Controlled Atmosphere Storage, Said Services Including Radio Advertising to Consumers, Trade Advertising To Produce Buyers, Distribution of Point-of-Sale Materials to Wholesalers, Retailers, Growers and Shippers.
First use Jan. 29, 1960.

SN 98,169. Snelling and Snelling, Inc., Philadelphia, Pa. Filed Jan. 8, 1960.

SNELLING AND SNELLING

For Executive-Administrative Personnel Placement Service.
First use June 1, 1951.

SN 102,315. Melvin F. Hall Advertising Agency Inc., Buffalo, N.Y. Filed Aug. 9, 1960.

SELLVERTISING

For Advertising, Marketing and Sales Promotion Services.
First use July 12, 1960.

Class 102 — Insurance and Financial

SN 67,248. William E. Richards, d.b.a. William E. Richards Co., Washington, D.C. Filed Feb. 6, 1959.

SCRIP-PARK

For Advisory Services in Connection With the Installation and Maintenance of Credit Systems for Automobile and Other Parking Facilities.
First use Dec. 12, 1958.

SN 91,002. Financial Planning Corporation, New York, N.Y. Filed Feb. 16, 1960.



For Analyzing, Planning and Executing for Others a Comprehensive Financial Program in the Fields of Investments, Estate Planning, Tax Considerations, Family Protection Programs, Retirement Incomes, Trust Funds and Corporate Planning.
First use Jan. 6, 1960.

SN 99,247. Seaboard Finance Company, Los Angeles, Calif. Filed June 17, 1960.



Applicant disclaims the wording "Loans" and "Coast-To-Coast" and also the notation "Est. 1927," apart from the mark as shown.
For Consumer Loans.
First use on or about Oct. 1, 1946.

SN 100,009. Citizens Bank & Trust Company, Park Ridge, Ill. Filed June 30, 1960.

GSS

For Banking Services—Namely, Savings Account Services.
First use on or about June 1, 1960.

SN 103,438. The Chase Manhattan Bank, New York, N.Y. Filed Aug. 26, 1960.

CHASE MANHATTAN

Owner of Reg. Nos. 597,775, 597,776, and 675,122.
For Banking Services—Namely, Financing, Credit and Loan Services, Compound Interest Accounts, Checking Accounts, Special Checking Accounts, Foreign Exchange, Letters of Credit and Travelers' Checks, Commercial Savings and Trust Department Services.
First use Mar. 31, 1955.

SN 103,439. The Chase Manhattan Bank, New York, N.Y. Filed Aug. 26, 1960.

THE CHASE MANHATTAN BANK

Owner of Reg. Nos. 597,775, 597,776, and 675,122.
For Banking Services—Namely, Financing, Credit and Loan Services, Compound Interest Accounts, Checking Accounts, Special Checking Accounts, Foreign Exchange, Letters of Credit and Travelers' Checks, Commercial Savings and Trust Department Services.
First use Mar. 31, 1955.

Class 103 — Construction and Repair

SN 98,743. Reynolds-French and Company, Tulsa, Okla. Filed June 9, 1960.

REYNOLDS FRENCH

For Repair Services in Connection With Cracked or Broken Castings.
First use Apr. 4, 1960.

SN 99,260. C. H. Wheeler Manufacturing Company, Philadelphia, Pa. Filed June 17, 1960.

WHEELERWELD

For Welding Services and Rendering Technical Advice With Regard to Welding Problems.
First use May 1, 1956.

SN 103,430. American Building Maintenance Co. of California, d.b.a. American Building Maintenance Company, San Francisco, Calif. Filed Aug. 26, 1960.



Applicant disclaims the expression "World's Largest Janitorial Contractors" apart from the mark. Owner of Reg. Nos. 606,547, 697,917, and 699,978.
For Building Janitorial and Maintenance Services.
First use July 5, 1960.

Class 105 — Transportation and Storage

SN 84,634. American in Paris, S.A.R.L., Paris, France. Filed Nov. 5, 1959.

AMERICAN IN PARIS CLUB

For Travel Agency Services—Namely, the Disseminating to American Students and Visitors in Paris of Information Concerning Various Events in Paris as Well as Other European Countries, the Arranging, Conducting, and Supervising of Trips and Tours and Making Reservations and Procuring Other Accommodations in Connection Therewith, the Arranging of Business, Professional, and Social Introductions, and Related Public Relations, Secretarial and Shopping Services.
First use Feb. 24, 1958; in commerce Feb. 24, 1958.

SN 92,046. H. R. Ritter Trucking Company, Paramus, N.J. Filed Mar. 2, 1960.



The drawing is lined for green. Without claiming common law rights, applicant disclaims "Safe" and "Clean" apart from the mark as shown.
For Transportation of Industrial Oil, Fuel Oil, Chemicals and Solvents by Tank Trucks.
First use Jan. 24, 1947.

SN 103,473. Robert S. Nash, d.b.a. Metropolitan Warehouse Company, Washington, D.C. Filed Aug. 26, 1960.

METROPOLITAN

For Merchandise and Household Storage, Warehousing and Trucking Services.
First use in March 1923.

Class 106 — Material Treatment

SN 93,249. Allied Biological Control Corporation, Boston, Mass. Filed Mar. 21, 1960.

SELECTROL

For Services in Making Surveys and Inspections of Weeds and Other Undesirable Vegetation and Eradicating Said Weeds and Vegetation by Chemical Treatment.
First use Mar. 8, 1960.

Class 107 — Education and Entertainment

SN 91,068. Bayanihan Folk Arts Association, Inc., Manila, Philippines. Filed Feb. 26, 1960.

BAYANIHAN

The word "Bayanihan" is derived from the word "Bayani" meaning "group work." "Bayanihan" means "getting together to push through a common project."
For Group Singing and Dancing, Particularly of the Philippines, Rendered Through the Medium of Stage, Television and Radio Performances.
First use in 1956; in commerce in or about June 1958.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 99,006. Phi Kappa Theta Fraternity, Worcester, Mass. Filed June 14, 1960.



The drawing is lined to indicate shading.
For Indicating Membership in a National Collegiate Fraternal Organization.
First use spring of 1959.

SN 103,818. Society of Industrial Realtors of the National Association of Real Estate Boards, Washington, D.C. Filed Sept. 1, 1960.



The drawing is lined for the colors blue and gold.
For Indicating Membership in Applicant.
First use at least as early as 1941.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

713,312. BRI-LON. British Nylon Spinners Limited. SN 72,186. Pub. 5-17-60. Filed 4-24-59.

713,313. F TE. Forté-Fairbairn Inc. SN 87,553. Pub. 1-17-61. ..led 12-18-59.

713,314. FOAMSPUN. Los Angeles Felt Co., Inc. SN 88,403. Pub. 1-17-61. Filed 1-4-60.

713,315. DERASPAN. The Dow Chemical Company. SN 91,357. Pub. 1-17-61. Filed 2-23-60.

713,316. ARBOR ACRES AND DESIGN. Arbor Acres Farm, Inc. SN 91,969. Pub. 1-17-61. Filed 3-2-60.

713,317. ACRI-FLO. The General Tire & Rubber Company. SN 97,200. Pub. 1-17-61. Filed 5-16-60.

713,318. BEAUTILITY. Lakeland Nurseries Sales Corporation. SN 98,226. Pub. 1-17-61. Filed 6-1-60.

713,319. GOBI. William Greiner Company. SN 102,234. Pub. 1-17-61. Filed 8-8-60.

713,320. DIENE H. The Firestone Tire & Rubber Company. SN 102,383. Pub. 1-17-61. Filed 8-10-60.

713,321. LAKODA. Fouke Fur Company. SN 102,646. Pub. 1-17-61. Filed 8-15-60.

Class 2—Receptacles

713,322. AGA. Svenska Aktiebolaget Gasaccumulator. SN 11,716. Pub. 2-10-59. Filed 7-6-56.

713,323. GOLDEN CREST. Republic Molding Corporation. SN 91,280. Pub. 9-27-60. Filed 2-19-60.

713,324. SOFTY. Art Industries, Inc. SN 93,978. Pub. 8-23-60. Filed 3-30-60.

713,325. ELGIN. Elgin Metal Casket Company. SN 99,315. Pub. 1-17-61. Filed 6-20-60.

713,326. FCC AND DESIGN. Formed Container Corporation. SN 103,070. Pub. 1-17-61. Filed 8-15-60.

713,327. TEXOMA AND DESIGN. Roberts, Sanford & Taylor Company. SN 103,876. Pub. 1-17-61. Filed 9-2-60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

713,328. SCOTTIE PAK. Sterling Products Co., Inc. SN 42,246. Pub. 7-1-58. Filed 12-11-57.

Class 4—Abrasives and Polishing Materials

713,329. SPEEDIE RUB. McAleer Manufacturing Corp. SN 94,926. Pub. 1-17-61. Filed 11-9-59.

713,330. GLOBITE AND DESIGN. The Globe Steel Abrasive Company. SN 100,361. Pub. 1-17-61. Filed 7-6-60.

713,331. SHOE'SHEEN. Shoe-Sheen Products Corporation. SN 100,545. Pub. 1-17-61. Filed 7-8-60.

Class 6—Chemicals and Chemical Compositions

713,332. FRESTONE AND DESIGN. Union Carbide Corporation. SN 73,633. Pub. 1-17-61. Filed 5-13-59.

713,333. VIDDEN. The Dow Chemical Company. SN 81,259. Pub. 1-17-61. Filed 9-14-59.

713,334. CUBIDOW. The Dow Chemical Company. SN 81,260. Pub. 1-17-61. Filed 9-14-59.

713,335. TIPPON. The Dow Chemical Company. SN 81,261. Pub. 1-17-61. Filed 9-14-59.

713,336. F AND DESIGN. Fisher Scientific Company. SN 82,419. Pub. 1-17-61. Filed 9-30-59.

713,337. DDI. Fuld Brothers, Inc., d.b.a. Just Distributors, Inc. SN 89,360. Pub. 1-17-61. Filed 1-20-60.

713,338. CUVAN. R. T. Vanderbilt Company, Inc. SN 90,667. Pub. 1-17-61. Filed 2-9-60.

713,339. WELL-FOAM. Well Completions, Incorporated. SN 90,968. Pub. 1-17-61. Filed 2-15-60.

713,340. WELL-PARCH. Well Completions, Incorporated. SN 90,969. Pub. 1-17-61. Filed 2-15-60.

713,341. ELUDE. Emily E. Armbruster, d.b.a. Emily Armbruster Associates. SN 91,327. Pub. 1-17-61. Filed 2-23-60.

713,342. P-1-K. Baxter Laboratories, Inc., d.b.a. Wallerstein Company. SN 91,746. Pub. 1-17-61. Filed 2-29-60.

713,343. HOSTAFIL. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, assignee of Carbic-Hoechst Corporation. SN 92,706. Pub. 1-17-61. Filed 3-14-60.

713,344. FORMALIZED MORTAR AND PESTLE DESIGN. Vereinigte Ultramarinfabriken Aktiengesellschaft vormals Leverkus, Zeitner & Consorten. SN 94,530. Pub. 1-17-61. Filed 4-6-60.

713,345. FORMALIZED RETORTS DESIGN. Vereinigte Ultramarinfabriken Aktiengesellschaft vormals Leverkus, Zeitner & Consorten. SN 94,531. Pub. 1-17-61. Filed 4-6-60.

713,346. DURAMIR. General Development Corporation. SN 95,267. Pub. 1-17-61. Filed 4-18-60.

713,347. FELCO. Farmers Elevator Service Company. SN 98,962. Pub. 1-17-61. Filed 6-14-60.

713,348. LIQUID WRENCH AND DESIGN. Radiator Specialty Company. SN 99,657. Pub. 1-17-61. Filed 6-24-60.

713,349. COLGATE. Colgate-Palmolive Company. SN 99,721. Pub. 1-17-61. Filed 6-27-60.

713,350. TA-TEST. Hyland Laboratories. SN 100,256. Pub. 1-17-61. Filed 7-5-60.

713,351. ZONYL. E. I. du Pont de Nemours and Company. SN 100,355. Pub. 1-17-61. Filed 7-6-60.

Class 12—Construction Materials

713,352. DESIGN (FANCIFUL). Abram Finkel, d.b.a. Keystone Shower Door Co. SN 57,778. Pub. 1-17-61. Filed 8-25-58.

713,353. TRANSITRIM. Johns-Manville Corporation, assignee of Western Products Corporation, Inc. SN 61,078. Pub. 5-5-59. Filed 10-30-58.

713,354. SOUNDSEAL. William G. Kemp. SN 72,216. Pub. 6-7-60. Filed 4-24-59.

713,355. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 82,359. Pub. 2-9-60. Filed 9-29-59.

713,356. CONDO-WALL. Dresser Industries, Inc., d.b.a. Dresser-Ideco Company. SN 92,733. Pub. 3-29-60. Filed 3-14-60.

713,357. PLASTICOMB. Monostructure, Inc. SN 95,915. Pub. 1-17-61. Filed 4-27-60.

713,358. HOLT END TO END. Holt Hardwood Company. SN 98,283. Pub. 1-17-61. Filed 6-2-60.

713,359. GBC CO. AND DESIGN. Green Bag Cement Company. SN 100,770. Pub. 1-17-61. Filed 7-13-60.

713,360. MULTI-SET. Monarch Tile Manufacturing Inc. SN 103,036. Pub. 1-17-61. Filed 8-19-60.

713,361. ERO-ZIST. Fibrico Company. SN 103,040. Pub. 1-17-61. Filed 8-19-60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

713,362. REPRESENTATION OF A SILVER BAND ENCIRCLING TOP OF FENCE POST. Missouri Rolling Mill Corporation. SN 38,834. Pub. 3-17-59. Filed 10-14-57.

713,363. COPES VULCAN. Blaw-Knox Company. SN 87,310. Pub. 1-17-61. Filed 12-14-59.

713,364. HI-TROL. Grayson-List & Co. SN 95,430. Pub. 1-17-61. Filed 4-20-60.

713,365. DISPENS-O-BOX. Sterling Bolt Company. SN 98,599. Pub. 1-17-61. Filed 6-7-60.

713,366. SICLE. Joe Lowe Corporation. SN 98,802. Pub. 1-17-61. Filed 6-10-60.

713,367. TAPZALL. Superior Valve and Fittings Company. SN 100,548. Pub. 1-17-61. Filed 7-8-60.

713,368. SANI-GUIDE. H & H Enterprises. SN 100,608. Pub. 1-17-61. Filed 7-11-60.

713,369. EYEFRESHNER. Speakman Company. SN 100,646. Pub. 1-17-61. Filed 7-11-60.

713,370. KA-SAVER. Edward W. Bonslett, d.b.a. Material Handling Specialties Co. SN 100,752. Pub. 1-17-61. Filed 7-13-60.

Class 14—Metals and Metal Castings and Forgings

713,371. ATLANTIC 33. Atlantic Steel Corp. SN 83,846. Pub. 1-17-61. Filed 10-16-59.

713,372. KALCOLOR. Kaiser Aluminum & Chemical Corporation. SN 86,266. Pub. 1-17-61. Filed 11-30-59.

713,373. BON-AIR. The Morgan Sign Machine Co. SN 97,508. Pub. 1-17-61. Filed 5-19-60.

713,374. GOLDENCAST. Martin Golden & Son, Inc. SN 98,470. Pub. 1-17-61. Filed 6-6-60.

713,375. MICRO-CHIP. Kaiser Aluminum & Chemical Corporation. SN 98,491. Pub. 1-17-61. Filed 6-6-60.

713,376. FACETTE. Fromson Orban Company, Inc. SN 98,578. Pub. 1-17-61. Filed 6-7-60.

713,377. UNIVERSAL. Universal Marketing Association, Inc. SN 99,379. Pub. 1-17-61. Filed 6-20-60.

713,378. CUNILOK W AND DESIGN. Waterbury Rolling Mills, Inc. SN 99,976. Pub. 1-17-61. Filed 6-29-60.

Class 15—Oils and Greases

713,379. CP AND DESIGN. The Creamery Package Mfg. Company. SN 90,656. Pub. 4-5-60. Filed 10-15-58.

713,380. GERMAN CA AND DESIGN. Hill Chemical Co. SN 77,102. Pub. 3-29-60. Filed 7-6-59.

713,381. LABO. Societe des Huiles Labo, Societe Anonyme. SN 94,023. Pub. 1-17-61. Filed 3-30-60.

713,382. LABO MAJOR. Societe des Huiles Labo, Societe Anonyme. SN 94,024. Pub. 1-17-61. Filed 3-30-60.

713,383. SUPER-MOLY. J. A. Pastell. SN 102,051. Pub. 1-17-61. Filed 8-4-60.

Class 16—Protective and Decorative Coatings

713,384. PLASMAKOTE. Plasmakote Corporation. SN 80,557. Pub. 7-5-60. Filed 8-31-59.

713,385. TREADSURE. Sun Chemical Corporation. SN 99,676. Pub. 1-17-61. Filed 6-24-60.

713,386. COTAREX. Perry-Austen Manufacturing Company, Inc. SN 99,777. Pub. 1-17-61. Filed 6-27-60.

Class 17—Tobacco Products

713,387. CORINA AND DESIGN. General Cigar Co., Inc. SN 85,330. Pub. 1-17-61. Filed 11-16-59.

713,388. RENAISSANCE. Rembrandt Tobacco Corporation (Overseas) Limited. SN 97,783. Pub. 1-17-61. Filed 5-24-60.

713,389. RJR. R. J. Reynolds Tobacco Company. SN 104,638. Pub. 1-17-61. Filed 9-16-60.

Class 18—Medicines and Pharmaceutical Preparations

713,390. SEKAPS. American Cyanamid Company. SN 69,311. Pub. 1-17-61. Filed 8-11-59.

713,391. REPRESENTATION OF A TREE. Carnegies of Welwyn Limited. SN 77,263. Pub. 1-17-61. Filed 7-8-59.

713,392. DELFUCIN. Koninklijke Nederlandsche Gist-en Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries. SN 91,044. Pub. 1-17-61. Filed 1-8-60.

713,393. QUICK-O-VER. Tri-Kem Corporation. SN 92,830. Pub. 1-17-61. Filed 3-14-60.

713,394. ALVODINE. Sterling Drug Inc., d.b.a. Winthrop Laboratories. SN 93,109. Pub. 1-17-61. Filed 3-17-60.

713,395. DESIGN OF MORTAR AND PESTLE. Johnson & Johnson. SN 93,187. Pub. 1-17-61. Filed 3-18-60.

713,396. FERRO-DESICOL. Parke, Davis & Company. SN 100,634. Pub. 1-17-61. Filed 7-11-60.

713,397. HUMACORT. Parke, Davis & Company. SN 103,190. Pub. 1-17-61. Filed 8-22-60.

713,398. P-D. Parke, Davis & Company. SN 103,191. Pub. 1-17-61. Filed 8-22-60.

713,399. INGALDRIN. C. H. Boehringer Sohn. SN 103,264. Pub. 1-17-61. Filed 8-23-60.

713,400. CORTACAPS. Nelson-Boyer Company, Inc. SN 103,587. Pub. 1-17-61. Filed 8-29-60.

713,401. UNIVIMS. University Drug Company. SN 103,628. Pub. 1-17-61. Filed 8-29-60.

713,402. PROGIATRIC. Max Derfler, d.b.a. Nutrition Control Products. SN 104,516. Pub. 1-17-61. Filed 9-15-60.

713,403. STETHOTRAN. Merck & Co., Inc. SN 104,625. Pub. 1-17-61. Filed 9-16-60.

713,404. ARISTOSPRAY. American Cyanamid Company. SN 104,671. Pub. 1-17-61. Filed 9-19-60.

713,405. NEO-ARISTOMOL. American Cyanamid Company. SN 104,672. Pub. 1-17-61. Filed 9-19-60.

713,406. CANDEPTIN. Julius Schmid, Inc. SN 104,768. Pub. 1-17-61. Filed 9-19-60.

713,407. FLUOETHER. American Home Products Corporation, d.b.a. Ayerst Laboratories. SN 104,877. Pub. 1-17-61. Filed 9-21-60.

713,408. REHIBIN. Aktiebolaget Ferrosan. SN 105,040. Pub. 1-17-61. Filed 9-23-60.

713,409. TIGACOL. Hoffmann-La Roche Inc. SN 105,075. Pub. 1-17-61. Filed 9-23-60.

713,410. RYTHMOL. Hoffmann-La Roche Inc. SN 105,078. Pub. 1-17-61. Filed 9-23-60.

713,411. AQUAPALM. Hoffmann-La Roche Inc. SN 105,079. Pub. 1-17-61. Filed 9-23-60.

713,412. LEVAMINE. Meyer Laboratories, Inc. SN 105,089. Pub. 1-17-61. Filed 9-23-60.

713,413. KAON. The Warren-Teed Products Company. SN 105,401. Pub. 1-17-61. Filed 9-28-60.

713,414. CONVIZOL. Pritchard Pharmaceutical Products, Inc. SN 105,669. Pub. 1-17-61. Filed 10-3-60.

713,415. ANESTOMIST. Bristol-Myers Company. SN 105,790. Pub. 1-17-61. Filed 10-5-60.

713,416. W AND DESIGN. Carter Products, Inc. SN 106,045. Pub. 1-17-61. Filed 10-10-60.

Class 19—Vehicles

713,417. MAVERICK AND DESIGN. Riverside Trailer Mfg. Co. Inc. SN 56,273. Pub. 2-24-59. Filed 7-29-58.

713,418. STAR DESIGN. Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries Ltd. SN 58,522. Pub. 1-17-61. Filed 9-8-58.

713,419. REPRESENTATION OF RABBIT IN OVAL. Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries Ltd. SN 58,523. Pub. 12-22-59. Filed 9-8-58.

713,420. SWIFT. Delaware Mercantile Company Inc. SN 87,335. Pub. 1-17-61. Filed 12-15-59.

713,421. SHIP SHAPE. I. Goldberg Marine World, Inc. SN 88,536. Pub. 1-17-61. Filed 1-6-60.

713,422. S-WITCH-CART "600" AND DESIGN. SI Handling Systems, Inc. SN 96,266. Pub. 1-17-61. Filed 5-2-60.

713,423. SEA RAY. Ray Industries, Inc. SN 97,705. Pub. 1-17-61. Filed 5-23-60.

713,424. HUSTLER. F.A.B. Manufacturing Company Incorporated. SN 99,317. Pub. 1-17-61. Filed 6-20-60.

713,425. YARD HUSTLER. F.A.B. Manufacturing Company Incorporated. SN 99,318. Pub. 1-17-61. Filed 6-20-60.

Class 20—Linoleum and Oiled Cloth

713,426. NYRACORD. American Mat Corporation. SN 100,412. Pub. 1-17-61. Filed 7-7-60.

Class 21—Electrical Apparatus, Machines, and Supplies

713,427. DURASTART. Mid-States Buying Group, Inc. SN 673,674. Pub. 8-27-57. Filed 9-23-54.

713,428. OPTA. Loewe Opta Aktiengesellschaft. SN 36,523. Pub. 11-25-58. Filed 8-30-57.

713,429. ELCOTRON. Societe Anonyme: ELCO. SN 68,609. Pub. 2-2-60. Filed 2-27-59.

713,430. AMP-FRA-LITE. Ampere Industries. SN 85,203. Pub. 4-12-60. Filed 11-13-59.

713,431. AMLAB AND DESIGN. American Electronics Laboratories, Inc. SN 92,690. Pub. 1-17-61. Filed 3-14-60.

713,432. MIN RAC 17. Amphenol-Borg Electronics Corporation. SN 99,033. Pub. 1-17-61. Filed 6-15-60.

713,433. MILLIMIN. Lear, Incorporated. SN 99,759. Pub. 1-17-61. Filed 6-27-60.

713,434. W AND DESIGN. Whirlpool Corporation. SN 100,332. Pub. 1-17-61. Filed 7-5-60.

713,435. MINIKAY. Connector Seals Corporation. SN 101,543. Pub. 1-17-61. Filed 7-27-60.

713,436. THE VEGA. Metalcraft Products Company, Inc. SN 101,634. Pub. 1-17-61. Filed 7-28-60.

713,437. FPL. Metalcraft Products Company, Inc. SN 101,635. Pub. 1-17-61. Filed 7-28-60.

713,438. EXFLEX. Lewis Engineering Company. SN 101,688. Pub. 1-17-61. Filed 7-29-60.

713,439. FLORALITE. The Pyle-National Company. SN 102,138. Pub. 1-17-61. Filed 8-5-60.

713,440. NOMAD. Magnasyne Corporation. SN 102,252. Pub. 1-17-61. Filed 8-8-60.

713,441. PENN-SPECIAL. Penn-Union Electric Corporation. SN 102,502. Pub. 1-17-61. Filed 8-11-60.

713,442. PENN-STANDARD. Penn-Union Electric Corporation. SN 102,504. Pub. 1-17-61. Filed 8-11-60.

713,443. VALIANT. Slumberest Company. SN 102,515. Pub. 1-17-61. Filed 8-11-60.

713,444. SILVER LINE AND DESIGN. Greylock Electronics Supply Co., Inc. SN 102,761. Pub. 1-17-61. Filed 8-16-60.

713,445. ULTRA-FI. Dextrex Chemical Industries, Inc. SN 102,832. Pub. 1-17-61. Filed 8-17-60.

713,446. BMC. Bowers Manufacturing Co. Inc. SN 102,886. Pub. 1-17-61. Filed 8-18-60.

713,447. CME. The CME Manufacturing Company, Inc. SN 103,103. Pub. 1-17-61. Filed 8-22-60.

713,448. SILVER POWER. Nic-L-Silver Battery Co. SN 103,183. Pub. 1-17-61. Filed 8-22-60.

Class 22—Games, Toys, and Sporting Goods

713,449. GKN ETC. AND DESIGN. Georg Köhler. SN 80,484. Pub. 1-17-61. Filed 1-21-60.

713,450. TRAMBOUNCER. Bayshore Industries, Incorporated. SN 93,755. Pub. 1-17-61. Filed 3-28-60.

713,451. SONNY'S FAVORITE. The Behrens Drug Company. SN 97,282. Pub. 1-17-61. Filed 5-17-60.

713,452. DUTCH BLITZ. Werner E. Muller. SN 99,165. Pub. 1-17-61. Filed 6-16-60.

713,453. BINGO. Sidney A. Tarrson Co. SN 100,170. Pub. 1-17-61. Filed 7-1-60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

713,454. NUKROME. National Automotive Parts Association. SN 27,456. COLLECTIVE MARK. Pub. 9-17-57. Filed 4-3-57.

713,455. POCKET PRINCE. The W. R. Bassett Company. SN 74,023. Pub. 1-17-61. Filed 5-19-59.

713,456. HI-PRO. Morton Manufacturing Company. SN 76,011. Pub. 6-7-60. Filed 6-18-59.

713,457. RUGGED REELER. Aero-Motive Manufacturing Co. SN 85,801. Pub. 10-25-60. Filed 11-23-59.

713,458. UNIFLEX. Link-Belt Company. SN 87,241. Pub. 1-17-61. Filed 12-14-59.

713,459. ENSIGN. Ensign Carburetor Company. SN 87,551. Pub. 1-17-61. Filed 12-18-59.

713,460. GBL. Foremost Machine Builders, Inc. SN 95,066. Pub. 1-17-61. Filed 4-14-60.

713,461. SAG. Soc. Grasiano & C. SN 95,405. Pub. 1-17-61. Filed 4-15-60.

713,462. SERVCO. The Servco Company. SN 96,750. Pub. 1-17-61. Filed 5-9-60.

713,463. SERVCO AND DESIGN. The Servco Company. SN 96,751. Pub. 1-17-61. Filed 5-9-60.

713,464. SERVCOLOY ETC. AND DESIGN. The Servco Company. SN 96,753. Pub. 1-17-61. Filed 5-9-60.

713,465. TOUCH 'N' HOLD. William J. Faso, d.b.a. Beaver Tool Company. SN 99,132. Pub. 1-17-61. Filed 6-16-60.

713,466. McKISSICK ETC. AND DESIGN. American Hoist & Derrick Company. SN 99,478. Pub. 1-17-61. Filed 6-22-60.

713,467. TUF-FLEX. Diamond Chain Company, Inc. SN 99,725. Pub. 1-17-61. Filed 6-27-60.

713,468. F FERGUSON AND DESIGN. Universal Match Corporation, assignee of Ferguson Machine Corporation of Indiana. SN 99,732. Pub. 12-27-60. Filed 6-27-60.

713,469. CLEATFORMER. The Lockformer Company. SN 99,809. Pub. 1-17-61. Filed 6-27-60.

713,470. KEYSTONE AND DESIGN. Wilmot Engineering Company. SN 99,829. Pub. 1-17-61. Filed 6-27-60.

713,471. C/L SLING RING. C-L Sling Ring Co., Inc. SN 99,839. Pub. 1-17-61. Filed 6-28-60.

713,472. BLOCK M AND DESIGN. Mueller Brass Co. SN 99,951. Pub. 1-17-61. Filed 6-29-60.

713,473. PCP DESIGN. Precision Chemical Pump Corporation. SN 100,286. Pub. 1-17-61. Filed 7-5-60.

713,474. PLEASURE CHECKED. Outboard Marine Corporation. SN 100,461. Pub. 1-17-61. Filed 7-7-60.

713,475. JACKMASTER. Saul Kron, d.b.a. Hydraulic Jack Packing & Tool Co. SN 100,524. Pub. 1-17-61. Filed 7-8-60.

713,476. SPRINGENERATOR. Murray G. Clay, d.b.a. Clay Engineering & Manufacturing Co. SN 100,690. Pub. 1-17-61. Filed 7-12-60.

713,477. SHARK. West Bend Aluminum Co. SN 100,960. Pub. 1-17-61. Filed 7-15-60.

713,478. PORTOMAG. Lupear Products, Inc. SN 101,017. Pub. 1-17-61. Filed 7-18-60.

713,479. DART CLAW TOOTH. The DoAll Company. SN 103,910. Pub. 1-17-61. Filed 9-6-60.

Class 26—Measuring and Scientific Appliances

713,480. THERMO-GARD. Viewlex, Inc. SN 37,099. Pub. 10-21-58. Filed 9-23-57.

713,481. TECAM AND DESIGN. Techne (Cambridge) Limited. SN 68,179. Pub. 1-17-61. Filed 2-20-59.

713,482. TEJAX. Tejax Engineering Corporation. SN 70,404. Pub. 1-17-61. Filed 3-27-59.

713,483. TAIKA. Earl F. Seymour, d.b.a. Seymour's. SN 78,929. Pub. 5-24-60. Filed 8-3-59.

713,484. HELIAR. Voigtlander A.G. SN 83,842. Pub. 1-17-61. Filed 10-22-59.

713,485. VOCAMETER. Cubic Corporation. SN 90,902. Pub. 1-17-61. Filed 2-15-60.

713,486. DESIGN OF THREE ARROWHEAD-LIKE SYMBOLS. Space Electronics Corporation. SN 94,843. Pub. 1-17-61. Filed 4-11-60.

713,487. ZEFIR. Ferrania S.p.A. SN 94,979. Pub. 1-17-61. Filed 4-13-60.

713,488. WINTRONIX. Jetronic Industries, Inc. SN 97,211. Pub. 1-17-61. Filed 5-16-60.

713,489. HI-REZ AND DESIGN. General Precision, Inc. SN 98,788. Pub. 1-17-61. Filed 6-10-60.

713,490. TATONE "D-T TICK OFF." John Tatone, d.b.a. Tatone Products. SN 99,802. Pub. 1-17-61. Filed 6-27-60.

713,491. AGFACHROME. Agfa Aktiengesellschaft. SN 102,158. Pub. 1-17-61. Filed 8-3-60.

713,492. LECTROLEVER. Toledo Scale Corporation. SN 103,504. Pub. 1-10-61. Filed 8-8-60.

713,493. MASTERGRAM. H. A. Hadley, Inc. SN 103,925. Pub. 1-17-61. Filed 9-6-60.

Class 27—Horological Instruments

713,494. DURACLAD. Wyler Watch Corporation. SN 103,380. Pub. 1-17-61. Filed 8-24-60.

713,495. MARIEX. Walter R. Thomas, Incorporated. SN 104,340. Pub. 1-17-61. Filed 9-12-60.

713,496. EXCITING HOUR. Jefferson Electric Company. SN 104,391. Pub. 1-17-61. Filed 9-13-60.

713,497. VILLEREUSE. Jacob Braun, d.b.a. Villereuse Watch Co. SN 105,494. Pub. 1-17-61. Filed 9-30-60.

Class 28—Jewelry and Precious-Metal Ware

713,498. MAJORICA. Industria Española de Perlas Imitación, S.A. SN 56,636. Pub. 3-15-60. Filed 8-5-58.

713,499. MAJORICA PEARLS AND DESIGN. Industria Española de Perlas Imitación, S.A. SN 57,629. Pub. 3-15-60. Filed 8-21-58.

713,500. COLIBRI. Colibri Lighters Limited. SN 63,377. Pub. 4-19-60. Filed 11-28-58.

713,501. LUCKY SPIKE. Lindsey L. Vance, d.b.a. Lane Enterprises. SN 93,567. Pub. 1-31-61. Filed 3-23-60.

713,502. BATEAU. Gorham Manufacturing Company. SN 103,719. Pub. 1-17-61. Filed 8-31-60.

Class 29—Brooms, Brushes, and Dusters

713,503. SPONGEE. Wilbert Products Co., Inc. SN 69,774. Pub. 1-17-61. Filed 3-17-59.

713,504. SHAMPOO QUEEN. Bissell Inc. SN 90,894. Pub. 9-13-60. Filed 2-15-60.

713,505. SHAMPOO KING. Bissell Inc. SN 90,895. Pub. 9-13-60. Filed 2-15-60.

Class 30—Crockery, Earthenware, and Porcelain

713,506. WONDERWARE. Stetson China Company. SN 101,344. Pub. 1-17-61. Filed 7-22-60.

Class 31—Filters and Refrigerators

713,507. COLDMASTER. Construction Machinery Company. SN 85,104. Pub. 1-17-61. Filed 11-12-59.

713,508. HANDY DAN'S. Council Manufacturing Corporation, d.b.a. Council Mfg. Co. SN 99,723. Pub. 1-17-61. Filed 6-27-60.

713,509. VISUAL VACUUM. Charles C. Whitmer. SN 99,827. Pub. 1-17-61. Filed 6-27-60.

Class 32—Furniture and Upholstery

713,510. BY ALL MEANS. Warren Lloyd, Inc. SN 41,461. Pub. 1-17-61. Filed 11-27-57.

713,511. IMSLIDE. Alfred Imhof Limited. SN 96,223. Pub. 1-17-61. Filed 5-2-60.

713,512. PORTA-PAD. Dayco Corporation. SN 98,877. Pub. 1-17-61. Filed 6-13-60.

713,513. SPECTRAFOAM. Cecil Greenwold, Inc., d.b.a. Spectrafoam Corp. SN 103,147. Pub. 1-17-61. Filed 8-22-60.

713,514. LULLAMATIC. Graco Metal Products, Inc. SN 103,275. Pub. 1-17-61. Filed 8-23-60.

713,515. PUMPLITE. Hodgman Rubber Company. SN 103,929. Pub. 1-17-61. Filed 9-6-60.

713,516. FASHION FLAIR. Curtis Companies, Incorporated. SN 104,237. Pub. 1-17-61. Filed 9-12-60.

Class 33—Glassware

713,517. DISPOSABOTTLE. Owens-Illinois Glass Company. SN 77,307. Pub. 9-6-60. Filed 7-8-59.

Class 34 — Heating, Lighting, and Ventilating Apparatus

713,518. FAIRWAY. Montgomery Ward & Co., Incorporated. SN 33,824. Pub. 7–15–58. Filed 7–16–57.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

713,519. HERCULES. Cooper Tire & Rubber Company. SN 72,796. Pub. 10–20–59. Filed 5–4–59.

713,520. ENCO. Humble Oil & Refining Company, by merger from Penola Oil Company. SN 82,356. Pub. 2–9–60. Filed 9–29–59.

713,521. COLEDGE. H. K. Porter Company, Inc. SN 83,395. Pub. 1–17–61. Filed 10–16–59.

713,522. FIRESTONE INTERSTATE AND SHIELD DESIGN. The Firestone Tire & Rubber Company. SN 92,456. Pub. 6–28–60. Filed 3–9–60.

713,523. SCANDURA–GOLD LINE. British Belting & Asbestos Limited. SN 92,701. Pub. 1–17–61. Filed 3–14–60.

713,524. SCANDURA–THIN LINE. British Belting & Asbestos Limited. SN 92,702. Pub. 1–17–61. Filed 3–14–60.

713,525. MICROFLEX. Dayco Corporation. SN 102,740. Pub. 1–17–61. Filed 8–16–60.

713,526. DYNAFLEX. Dayco Corporation. SN 102,742. Pub. 1–17–61. Filed 8–16–60.

713,527. ARC. Associated Rubber Company, Inc. SN 103,384. Pub. 1–17–61. Filed 8–25–60.

713,528. ARC AND DESIGN. Associated Rubber Company, Inc. SN 103,385. Pub. 1–17–61. Filed 8–25–60.

Class 36 — Musical Instruments and Supplies

713,529. TRIUMPH. Pentron Sales Co., Inc., by change of name from Pentron Corporation. SN 76,889. Pub. 11–24–59. Filed 7–1–59.

713,530. DECCA AND DESIGN. Decca Records, Inc. SN 96,792. Pub. 1–17–61. Filed 5–10–60.

713,531. STENO DISC AND DESIGN. Mary Jane Keane, d.b.a. Keane Records. SN 98,364. Pub. 1–17–61. Filed 6–3–60.

Class 37 — Paper and Stationery

713,532. TRAYCO. Trayco, Inc. SN 87,004. Pub. 1–17–61. Filed 12–9–59.

Class 38 — Prints and Publications

713,533. FILMSET. Esquire, Inc. SN 84,658. Pub. 1–17–61. Filed 11–5–59.

713,534. VELVETONE. Velvetone Advertising Displays, Inc., d.b.a. Velvetone Company. SN 86,461. Pub. 1–17–61. Filed 12–1–59.

713,535. THE BEAVER. The Governor and Company of Adventurers of England, Trading Into Hudson's Bay, d.b.a. Hudson's Bay Company. SN 88,230. Pub. 1–17–61. Filed 12–30–59.

713,536. SPACEMAN. National Comics Publications, Inc. SN 88,936. Pub. 1–17–61. Filed 1–13–60.

713,537. JNOTATION. Leticia Jay. SN 88,992. Pub. 1–17–61. Filed 1–14–60.

713,538. CHEMICAL TITLES. American Chemical Society. SN 96,386. Pub. 1–17–61. Filed 5–4–60.

713,539. TEMPLA-SHEET. Fox River Paper Corporation. SN 98,966. Pub. 1–17–61. Filed 6–14–60.

713,540. THINGS ORIGINAL. Robert M. Stilgenbauer. SN 99,795. Pub. 1–17–61. Filed 6–27–60.

Class 39 — Clothing

713,541. IVYCASUAL. The Enro Shirt Company, Inc. SN 689,558. Pub. 3–27–56. Filed 6–15–55.

713,542. IVY LOOM. Superba Cravats, Inc. SN 694,930. Pub. 4–17–56. Filed 9–19–55.

713,543. IVY HALL. Superba Cravats, Inc. SN 694,931. Pub. 4–24–56. Filed 9–19–55.

713,544. RR AND DESIGN. Redwood & Ross, Inc. SN 57,418. Pub. 11–18–58. Filed 8–18–58.

713,545. ALERT. Joyce, Inc. SN 58,929. Pub. 1–17–61. Filed 9–15–58.

713,546. PERSONAL AND DESIGN. Personal Sportswear, Inc. SN 60,839. Pub. 4–26–60. Filed 10–17–58.

713,547. CRIMPLENE. Imperial Chemical Industries Limited. SN 82,116. Pub. 1–17–61. Filed 9–25–59.

713,548. SPECTACULAR. Metter Manufacturing Company. SN 82,128. Pub. 6–7–60. Filed 9–25–59.

713,549. PREFERRED STOCK. B. W. Harris Manufacturing Co. SN 84,139. Pub. 1–17–61. Filed 10–28–59.

713,550. PAMELA FOSTER. Pam Foster, Inc. SN 85,327. Pub. 1–17–61. Filed 11–16–59.

713,551. AMO. Triumph Textil- und Bekleidungswerke Aktiengesellschaft, d.b.a. Textile and Clothing Factory. SN 92,939. Pub. 1–17–61. Filed 3–15–60.

713,552. WINNIE-THE-POOH CHRISTOPHER ROBIN. Stephen Slesinger, Inc. SN 94,199. Pub. 1–17–61. Filed 4–1–60.

713,553. PANTALONE. Churchill Sportswear Co., Inc. SN 94,736. Pub. 10–11–60. Filed 4–11–60.

713,554. PROTEGEE. Saks & Company. SN 97,785. Pub. 1–17–61. Filed 5–24–60.

713,555. LOWELL HALL. Byer-Rolnick Hat Corporation. SN 97,985. Pub. 1–17–61. Filed 5–27–60.

713,556. VARSITY AND DESIGN. Varsity Pajamas, Incorporated, d.b.a. Varsity Underwear Corporation. SN 99,107. Pub. 1–17–61. Filed 6–15–60.

713,557. TROUT MASTER. Legettes Inc. SN 99,397. Pub. 1–17–61. Filed 6–23–60.

713,558. PENNY WALKER. G., H. & E. Freydberg, Inc. SN 99,509. Pub. 1–17–61. Filed 6–22–60.

713,559. SIL-KOK. H. E. Schniewind. SN 99,663. Pub. 1–17–61. Filed 6–24–60.

713,560. YOUTH CHARM. Worcester Underwear Co., Inc. SN 99,687. Pub. 1–17–61. Filed 6–24–60.

713,561. STANCE. Fortuna Foundations, Inc. SN 99,734. Pub. 1–17–61. Filed 6–27–60.

713,562. WHITE BOAR AND DESIGN. Good Luck Glove Company. SN 100,021. Pub. 1–17–61. Filed 6–30–60.

713,563. MANSON. Earl R. Shaw, d.b.a. Tie Rite Neckwear Company. SN 100,163. Pub. 1–17–61. Filed 7–1–60.

713,564. APPLE SKIN. Wembley, Inc. SN 100,200. Pub. 1–17–61. Filed 7–1–60.

713,565. FIBE-R-LIFE. Joseph H. Cohen & Sons, Inc. SN 100,354. Pub. 1–17–61. Filed 7–6–60.

713,566. MICKEY LEE. Boulevard, Inc. SN 100,575. Pub. 1–17–61. Filed 7–11–60.

713,567. TABARD. United Sheeplined Clothing Company, Inc. SN 100,665. Pub. 1–17–61. Filed 7–11–60.

713,568. FIESTA HATS. Dorothy Nugent Wieand. SN 100,673. Pub. 1–17–61. Filed 7–11–60.

713,569. VANITA ETC. AND DESIGN. J. Freeser & Son, Inc. SN 100,772. Pub. 1–17–61. Filed 7–13–60.

713,570. TAHR-BET AND DESIGN. Seagull Imports, Inc. SN 100,809. Pub. 1–17–61. Filed 7–13–60.

713,571. PLEAT-O-SEAT. Robert Reis & Co. SN 100,862. Pub. 1–17–61. Filed 7–14–60.

713,572. MISS MARY GREY. Grey Hosiery Mills, d.b.a. Mary Grey Hosiery Mills. SN 100,904. Pub. 1–17–61. Filed 7–15–60.

713,573. TAMMY. The H. W. Gossard Co. SN 101,259. Pub. 1–17–61. Filed 7–21–60.

713,574. TYROL. Bear Brand Hosiery Co. SN 102,208. Pub. 1–17–61. Filed 8–9–60.

713,575. COMET. Alpha Mills Corporation. SN 102,602. Pub. 1–17–61. Filed 8–15–60.

713,576. K. S. H. Kress and Company. SN 103,162. Pub. 1–17–61. Filed 8–22–60.

Class 40 — Fancy Goods, Furnishings, and Notions

713,577. PINK CLOUD PUFF. Taylor-Bell Co., Inc. SN 92,663. Pub. 1–17–61. Filed 3–11–60.

713,578. CHROMONIC. The Union Pin Company. SN 98,406. Pub. 1–17–61. Filed 6–3–60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

713,579. YOUNG AMERICA. A. & M. Karagheusian, Inc. SN 71,853. Pub. 4–26–60. Filed 4–20–59.

713,580. DURAMIDE. Chicopee Manufacturing Corporation. SN 79,764. Pub. 1–17–61. Filed 8–18–59.

713,581. HARDILITE. Milbank-Hardy Inc. SN 97,316. Pub. 1–17–61. Filed 5–17–60.

713,582. HARDILUX. Milbank-Hardy Inc. SN 97,317. Pub. 1–17–61. Filed 5–17–60.

713,583. SANI-GARD. Southern Bedding Accessories, Inc. SN 100,941. Pub. 1–17–61. Filed 7–15–60.

713,584. DURASORB. United Cotton Goods Company, Inc. SN 102,960. Pub. 1–17–61. Filed 8–18–60.

713,585. DESIGN OF A BED AND A LAMP. Shapiro & Son Curtain Corporation. SN 103,055. Pub. 1–17–61. Filed 8–19–60.

713,586. FORT-A-CLOUD. United Merchants and Manufacturers, Inc. SN 103,066. Pub. 1–17–61. Filed 8–19–60.

713,587. BROECKTEN. J. P. Stevens & Co., Inc. SN 103,216. Pub. 1–17–61. Filed 8–22–60.

713,588. SOFT-TRIQUE. J. P. Stevens & Co., Inc. SN 103,218. Pub. 1–17–61. Filed 8–22–60.

Class 43 — Thread and Yarn

713,589. CELACRIMP. Celanese Corporation of America. SN 102,825. Pub. 1–17–61. Filed 8–17–60.

713,590. CORO-DYED. Owens-Corning Fiberglas Corporation. SN 73,428. Pub. 1–17–61. Filed 5–11–59.

Class 44 — Dental, Medical, and Surgical Appliances

713,591. DURA-FOAM. Dura-Design Plastics Limited. SN 54,219. Pub. 1–17–61. Filed 11–7–60.

713,592. TRACTIONAID. Simmons Company, assignee, by mesne assignments, of Ray K. Hausted, d.b.a. Hausted Manufacturing Company. SN 62,077. Pub. 1–17–61. Filed 11–7–58.

713,593. CREATOR KIT. Martha Sparks. SN 72,456. Pub. 1–17–61. Filed 4–28–59.

713,594. RELAX-A-TRON. Relax-A-Tron Products, Inc. SN 76,980. Pub. 1–17–61. Filed 7–2–59.

713,595. VIBRAPOOL AND DESIGN. Profile, Inc. SN 77,391. Pub. 1–17–61. Filed 7–9–59.

713,596. FACIALIFT. Willoslim, Inc. SN 77,631. Pub. 1–17–61. Filed 7–13–59.

713,597. TEENETTE. Hi-G, Inc. SN 86,149. Pub. 1–17–61. Filed 11–27–59.

713,598. MAGIC FINGERS. John J. Houghtaling, d.b.a. Magic Fingers Massage Company. SN 87,316. Pub. 1–17–61. Filed 12–14–59.

713,599. PROTOCOL. Afco Products, Inc. SN 88,630. Pub. 1–17–61. Filed 1–8–60.

713,600. CROSS WITHIN A CIRCLE DESIGN. Chirana Praha, Narodni Podnik. SN 94,049. Pub. 1–17–61. Filed 3–31–60.

713,601. QUIK-DON. Sierra Engineering Co. SN 96,000. Pub. 1–17–61. Filed 5–12–60.

713,602. SICLE. Joe Lowe Corporation. SN 98,800. Pub. 1–17–61. Filed 6–10–60.

713,603. DR. FIXZIT. William R. Daniel. SN 99,419. Pub. 1–17–61. Filed 6–21–60.

713,604. SCULPTOUR. Electra Industries, Inc. SN 103,713. Pub. 1–17–61. Filed 8–31–60.

Class 46 — Foods and Ingredients of Foods

713,605. OVAL AND BAR DESIGN. The Frito Company. SN 60,282. Pub. 6–14–60. Filed 10–8–58.

713,606. FIOR DI CUCAMONGA. Joe Cangemi & Son. SN 66,015. Pub. 1–17–61. Filed 1–19–59.

713,607. LUIS LOZANO. Olivarera Peninsular, S.A. SN 76,420. Pub. 1–17–61. Filed 6–24–59.

713,608. BON VIV. Geriatric Foods, Ltd. SN 76,943. Pub. 1–17–61. Filed 7–2–59.

713,609. DICKSEE AND DESIGN. Dick Coffee Co., Inc. SN 79,101. Pub. 1–17–61. Filed 8–6–59.

713,610. AMY JOY AND DESIGN. Amy Joy Donuts, Inc. SN 81,071. Pub. 1–17–61. Filed 9–9–59.

713,611. AMY JOY. Amy Joy Donuts, Inc. SN 81,073. Pub. 1–17–61. Filed 9–9–59.

713,612. RITE-PACK. Rock City Box Sales Company, assignee of Rite Pack Company. SN 85,991. Pub. 1–17–61. Filed 11–24–59.

713,613. CHEESE TWIRL-EES. Rudolph Foods Company. SN 88,495. Pub. 1–17–61. Filed 1–5–60.

713,614. RISOL. K. F. Drew & Co., Inc. SN 90,034. Pub. 1–17–61. Filed 2–1–60.

713,615. KATY'S PARTY NUTS. Paul F. Beich Company. SN 90,140. Pub. 1–17–61. Filed 2–2–60.

713,616. KREY GOURMET HAM AND DESIGN. Krey Packing Company. SN 90,170. Pub. 1–17–61. Filed 2–2–60.

713,617. KREY SMOKETTES AND DESIGN. Krey Packing Company. SN 90,847. Pub. 1–17–61. Filed 2–12–60.

713,618. GOLDEN R SUPREME. Reuther's Sea Food Company, Inc. SN 93,359. Pub. 1–17–61. Filed 3–21–60.

713,619. HADDON HOUSE. Haddon House Food Products, Inc. SN 96,413. Pub. 1–17–61. Filed 5–4–60.

713,620. EFFIE'S. John Morrell & Co. SN 97,951. Pub. 1–17–61. Filed 5–26–60.

713,621. EFFIE'S AND DESIGN. John Morrell & Co. SN 97,952. Pub. 1–17–61. Filed 5–26–60.

713,622. HARQUAHALA. Fred G. Hilvert Company, Inc., Distributors. SN 98,900. Pub. 1–17–61. Filed 6–13–60.

713,623. PRIDE OF GEORGIA. Southern State Canning Co. SN 98,942. Pub. 1–17–61. Filed 6–13–60.

713,624. CITRA BELLE AND DESIGN. Halco Products, Inc. SN 99,057. Pub. 1-17-61. Filed 6-15-60.

713,625. RED ROSE. R C McAteer Company. SN 99,071. Pub. 1-17-61. Filed 6-15-60.

713,626. NUTRAMENT. Mead Johnson & Company. SN 99,158. Pub. 1-17-61. Filed 6-16-60.

713,627. ARNOLD BUTTERMARK ETC. AND DESIGN. Arnold Bakers, Inc. SN 99,193. Pub. 1-17-61. Filed 6-17-60.

713,628. TONY AND DESIGN. Kellogg Company. SN 102,397. Pub. 1-17-61. Filed 8-10-60.

713,629. SWEETWOOD. Safeway Stores, Incorporated. SN 102,795. Pub. 1-17-61. Filed 8-16-60.

713,630. STUHMER'S AND DESIGN. Geo. F. Stuhmer & Company. SN 102,801. Pub. 1-17-61. Filed 8-16-60.

713,631. STUHMER'S. Geo. F. Stuhmer & Company. SN 102,802. Pub. 1-17-61. Filed 8-16-60.

713,632. STUHMER'S AND DESIGN. Geo. F. Stuhmer & Company. SN 102,803. Pub. 1-17-61. Filed 8-16-60.

Class 47 — Wines

713,633. OLD CHATEAU. Franzia Brothers Winery, d.b.a. Old Chateau Wine Co. SN 97,643. Pub. 1-17-61. Filed 5-23-60.

Class 49 — Distilled Alcoholic Liquors

713,634. SHOOTING LODGE. D. Cameron & Company Limited, d.b.a. Andrew Laing & Co. SN 97,753. Pub. 1-17-61. Filed 5-24-60.

Class 50 — Merchandise Not Otherwise Classified

713,635. PEG-TUBE. Alfred L. Lind, d.b.a. Alfred L. Lind Company. SN 87,972. Pub. 1-17-61. Filed 12-24-59.

713,636. TWINKLE TREE AND DESIGN. Emerson Henthorn, d.b.a. Henthorn Advertising. SN 90,686. Pub. 9-13-60. Filed 2-10-60.

713,637. ADJUST-O-MATIC. Harrison Home Products, Inc. SN 99,739. Pub. 1-17-61. Filed 6-27-60.

713,638. DECOR-MAT. Evans Specialty Company, Inc. SN 100,899. Pub. 1-17-61. Filed 7-15-60.

713,639. JEROME THE GNOME. General Plastics Corporation. SN 100,989. Pub. 1-17-61. Filed 7-18-60.

713,640. WIFE SAVER. Dwight E. Reynolds. SN 101,036. Pub. 1-17-61. Filed 7-18-60.

713,641. BEND-A-SCORE. Schenley Industries, Inc. SN 101,040. Pub. 1-17-61. Filed 7-18-60.

713,642. HOLI-GAY. Holi-Gay Mfg. Co. SN 101,552. Pub. 1-17-61. Filed 7-27-60.

713,643. MAGNESIGN. Richard V. Joiner, d.b.a. Dick Joiner & Associates. SN 101,787. Pub. 1-17-61. Filed 8-1-60.

Class 51 — Cosmetics and Toilet Preparations

713,644. PAR AND DESIGN. Erwin J. Merar, d.b.a. Merit Products Co. SN 63,862. Pub. 1-17-61. Filed 12-8-58.

713,645. SERAIL. Hans Schwarzkopf. SN 72,078. Pub. 1-17-61. Filed 4-22-59.

713,646. SORARE. Viviane Woodard Corporation, by change of name from Viviane Woodard Cosmetics. SN 74,622. Pub. 1-17-61. Filed 5-27-59.

713,647. NAIL QUICK. Richard Hudnut. SN 80,877. Pub. 1-17-61. Filed 9-4-59.

713,648. LONGCILS. Les Parfums Robert Piguet. SN 81,496. Pub. 1-17-61. Filed 9-16-59.

713,649. FJORD AND DESIGN. Elizabeth of Sweden. SN 82,564. Pub. 1-17-61. Filed 10-2-59.

713,650. JRP. John Robert Powers Products Co. Inc. SN 84,165. Pub. 1-17-61. Filed 10-28-59.

713,651. RATHER. Eversharp, Inc. SN 88,656. Pub. 1-17-61. Filed 1-8-60.

713,652. GOOD BYE GRAY. Clairol Incorporated. SN 92,592. Pub. 1-17-61. Filed 3-11-60.

713,653. HAPPY TALK. Revlon, Inc. SN 95,632. Pub. 1-17-61. Filed 4-22-60.

713,654. SILKEN LEGS. Colgate-Palmolive Company. SN 96,832. Pub. 1-17-61. Filed 5-11-60.

713,655. SHADO-RAMA. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics. SN 97,403. Pub. 1-17-61. Filed 5-18-60.

713,656. NEUTRA-TONE. Jon Pierre Cosmetics, Inc. SN 98,135. Pub. 1-17-61. Filed 5-31-60.

713,657. NOUVELLE VIE. Jon Pierre Cosmetics, Inc. SN 98,136. Pub. 1-17-61. Filed 5-31-60.

713,658. FORMULA 88. E. F. Young, Jr. Mfg. Co. SN 99,392. Pub. 1-17-61. Filed 6-20-60.

713,659. ULTRA CLASIQUE. Colonial Dames Company, Ltd. SN 99,490. Pub. 1-17-61. Filed 6-22-60.

Class 52 — Detergents and Soaps

713,660. WOOLANA. Last-O-Lon, Inc. SN 95,905. Pub. 1-17-61. Filed 4-27-60.

713,661. POLYSTRIPPA. Polycell Products Limited. SN 100,388. Pub. 1-17-61. Filed 7-6-60.

Service Marks

Class 100 — Miscellaneous

713,662. CAPTAINS CLUB. Captains Club, Inc. SN 65,238. Pub. 1-17-61. Filed 1-2-59.

713,663. CC AND DESIGN. Captains Club, Inc. SN 65,239. Pub. 1-17-61. Filed 1-2-59.

Class 101 — Advertising and Business

713,664. ARIZONA RANCHEROS. Arizona Land Corporation. SN 77,055. Pub. 1-17-61. Filed 7-6-59.

Class 102 — Insurance and Financial

713,665. FARMER'S UNION INSURANCES AND DESIGN. Farmers Educational and Cooperative Union of America, d.b.a. National Farmers Union. SN 80,080. Pub. 1-17-61. Filed 8-24-59.

713,666. GOAL-GETTER. Harris Trust and Savings Bank. SN 86,660. Pub. 1-17-61. Filed 12-4-59.

713,667. STATE FARM INSURANCE ETC. AND DESIGN. State Farm Mutual Automobile Insurance Company. SN 90,368. Pub. 1-17-61. Filed 5-3-60.

Class 103 — Construction and Repair

713,668. TERMICIDE. American Termicide Company, Inc. SN 687,038. Pub. 8-14-56. Filed 5-9-55.

713,669. EXTRUDA-CAST. R. A. Hanson Co., Inc. SN 88,751. Pub. 1-17-61. Filed 1-11-60.

Class 105 — Transportation and Storage

713,670. QUAKER. Quaker Storage Company, Inc. SN 59,488. Pub. 1-17-61. Filed 9-24-58.

713,671. AMERICAN YOUTH ABROAD. Americans Abroad, Incorporated. SN 86,009. Pub. 1-17-61. Filed 11-25-59.

Class 106 — Material Treatment

713,672. MAY-O-RIM. May Research, Inc. SN 89,692. Pub. 1-17-61. Filed 1-26-60.

Collective Membership Marks

Class 200

713,673. SKI PATROL. National Ski Patrol System, Inc. SN 100,147. Pub. 1-17-61. Filed 7-1-60.

Certification Marks

Class A — Goods

713,674. PGA RYDER CUP ETC. AND DESIGN. The Professional Golfers' Association of America. SN 87,906. Pub. 1-17-61. Filed 12-23-59.

713,675. SELECTED BY MRS. AMERICA ETC. AND DESIGN. Mrs. America, Inc. SN 96,970. Pub. 1-17-61. Filed 5-12-60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

713,676. The Goodyear Tire & Rubber Company, Akron, Ohio. SN 102,314. Filed P.R. 8-9-60; Am. S.R. 1-11-61.

Super-cushion

For Inflatable Rubber Dunnage Bags.
First use Jan. 23, 1959.

Class 4 — Abrasives and Polishing Materials

713,677. Universal Spray Can Corp, New York, N.Y. SN 78,389. Filed P.R. 7-24-59; Am. S.R. 5-26-60.

10 SECOND COLOR 'N' SPEED SHINE

For Shoe Shine Compositions.
First use Jan. 1, 1957.

713,678. Universal Spray Can Corp., New York, N.Y. SN 78,390. Filed P.R. 7-24-59; Am. S.R. 5-26-60.

10 SECOND COLOR 'N' SHINE

For Shoe Shine Compositions.
First use Jan. 1, 1957.

Class 6 — Chemicals and Chemical Compositions

713,679. Walter Stuart Loebl, d.b.a. The Ultra-White Company, Roanoke, Va. SN 83,225. Filed P.R. 10-14-59; Am. S.R. 1-23-61.

BRIGHT WHITE

For Laundry Whitener in Liquid and Powdered Form.
First use November 1956.

Class 12 — Construction Materials

713,680. Aluminum Homes of America, Inc., New York, N.Y. SN 89,726. Filed P.R. 1-27-60; Am. S.R. 1-13-61.

ALUMINUM HOMES OF AMERICA

For Building Products and Material, i.e., Windows, Doors, Insulating Foil, Aluminum Roofing, Sheathing, Railings, Fences and Aluminum Siding.
First use Dec. 8, 1959.

Class 21 — Electrical Apparatus, Machines, and Supplies

713,681. The Okonite Company, Passaic, N.J. SN 82,906. Filed P.R. 10-9-59; Am. S.R. 2-9-61.

WATERTITE

For Insulated Wires and Cables.
First use on or about June 22, 1938.

Class 22 — Games, Toys, and Sporting Goods

713,682. Max F. Wilhelmi, d.b.a. Buckaroo Tackle Company, Lawrence, Kans. SN 74,351. Filed P.R. 5-22-59; Am. S.R. 1-9-61.

FLOATER FLY

No claim of exclusive right is made to "Fly" as used on artificial fishing lures.
For Artificial Fishing Lures.
First use Sept. 20, 1958.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

713,683. Union Carbide Corporation, New York, N.Y. SN 97,893. Filed P.R. 5-25-60; Am. S.R. 2-2-61.

TITE-PRESS

For Machines for Molding and Packaging Meats.
First use on or about Dec. 4, 1958.

713,684. Union Carbide Corporation, New York, N.Y. SN 97,894. Filed P.R. 5-25-60; Am. S.R. 2-2-61.

TITE-WRAP

For Meat Packaging Machines.
First use on or about Dec. 1, 1954.

Class 32 — Furniture and Upholstery

713,685. The Stearns & Foster Company, Cincinnati, Ohio. SN 89,963. Filed P.R. 1-29-60; Am. S.R. 2-6-61.

WEIGHT BALANCED

For Mattresses.
First use May 23, 1957.

713,686. The Stearns & Foster Company, Cincinnati, Ohio. SN 89,964. Filed P.R. 1-29-60; Am. S.R. 2-6-61.

LOCKED EDGE

For Mattresses.
First use Dec. 3, 1959.

Class 37 — Paper and Stationery

713,687. Dresser Products Incorporated, Providence, R.I. SN 54,216. Filed P.R. 6-25-58; Am. S.R. 1-13-61.

tape-file

For Envelopes, Binder Fillers, Mailing Boxes and Reels, All for Filing and Storing Coded Tape.
First use Mar. 27, 1956.

713,688. Crocker, Burbank Papers Inc., Fitchburg, Mass. SN 79,555. Filed P.R. 8-14-59; Am. S.R. 1-13-61.

WEBTEXT

For Coated or Uncoated Book Papers.
First use Sept. 20, 1958.

713,689. Smith-Lee Co., Inc., Oneida, N.Y. SN 86,204. Filed 11-27-59.

SAUCER SOPPER

For Cup Coasters Made of Paper.
First use Oct. 1, 1958.

Class 39 — Clothing

713,690. Silver Knit Hosiery Mills, Inc., High Point, N.C. SN 59,346. Filed P.R. 9-22-58; Am. S.R. 1-16-61.

HYGENIK

For Hosiery.
First use Aug. 1, 1958.

713,691. B. W. Harris Manufacturing Co., St. Paul, Minn. SN 73,361. Filed P.R. 5-11-59; Am. S.R. 2-3-61.

QUARTER COAT

For Men's and Women's Jackets, Coats, and Suits.
First use Mar. 1, 1958.

Class 46 — Foods and Ingredients of Foods

713,692. I. Rokeach & Sons, Inc. (new corporation), New York, N.Y., by assignment and change of name from I. Rokeach & Sons, Inc. (New York corporation), Flushing, N.Y. SN 29,489. Filed P.R. 5-6-57; Am. S.R. 1-18-61.

REDI-JELLED

For Foods—Namely, Glass Packed, Cooked, Stuffed Fish Products (Gefilite Fish).
First use Jan. 10, 1956.

713,693. Kern Foods, Inc., Cincinnati, Ohio. SN 55,926. Filed P.R. 7-24-58; Am. S.R. 5-2-60.

KOF-E-MINTS

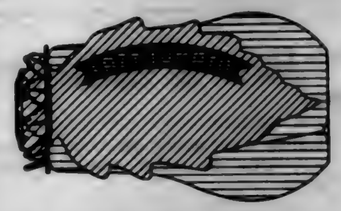
For Candy.
First use Apr. 28, 1958.

713,694. Ripon Foods, Inc., d.b.a. Mom's Cookie Co., Ripon, Wis. SN 73,613. Filed P.R. 5-13-59; Am. S.R. 5-19-60.

OLE' FASHION

For Cookies.
First use Jan. 12, 1959.

713,695. S.L.I.A. Sicule Lombarde Industrie Associate Societa Per Azioni, Milan, Italy. SN 75,212. Filed 6-5-59.



The drawing is lined for red and green. Owner of Reg. Nos. 683,365, 687,656, and others.
For Tomato Powder Food Seasoning.
First use Dec. 3, 1956.

713,696. Salad Oil Distributors, Los Angeles, Calif. SN 83,002. Filed P.R. 10-9-59; Am. S.R. 1-23-61.

GRID'L-FRY

For Flavored and Colored Vegetable Oil for Use in Surface Frying, Basting, Washing on Bread and Rolls, and as a Flavoring for Cooked Vegetables.
First use Aug. 27, 1959; Jan. 16, 1959 as to "Griddle-Fry."

713,697. International Refining & Packaging Corp., Paterson, N.J., assignee of Fulmar Foods, Paterson, N.J. SN 83,301. Filed P.R. 10-16-59; Am. S.R. 1-18-61.

FRI-N-BAKE

For Shortening Made From Vegetable Oils and Meat Fats.
First use July 30, 1959.

713,698. Reitz & Colucci, Fresno, Calif. SN 87,580. Filed P.R. 12-18-59; Am. S.R. 12-12-60.

BIOLA'S CHOICE

For Fresh Grapes.
First use Oct. 12, 1959.

713,699. J. Paul Haman, Yonkers, N.Y. SN 87,946. Filed P.R. 12-24-59; Am. S.R. 12-27-60.

WHOLORANGE

Owner of Reg. No. 686,093.
For Orange Juice.
First use Dec. 17, 1959.

Class 50 — Merchandise Not Otherwise Classified

713,700. Continental Can Company, Inc., New York, N.Y. SN 91,241. Filed P.R. 2-19-60; Am. S.R. 2-8-61.

FLIP-CAP

For Plastic Nozzle and Cap Closures for Containers.
First use Oct. 5, 1959.

Service Marks

Class 101 — Advertising and Business

713,701. Matt Gaye, d.b.a. Commercial Investigators, Boston, Mass. SN 62,547. Filed P.R. 11-17-58; Am. S.R. 3-21-60.

NATION-WIDE SERVICE

For Collecting Debts for Others.
First use July 1, 1945.

TRADEMARK REGISTRATIONS RENEWED

138,259. DUBBLEWARE OVERALLS AND DESIGN. Cl. 39. 12-21-20.
139,126. REPRESENTATION OF A MAN CARRYING BUCKETS. Cl. 46. 1-25-21.
139,235. AEROGRAPH. Cl. 23. 2-1-21.
140,512. ADRENALIN AND DESIGN. Cl. 18. 3-15-21.
140,802. FIBERLOID. Cl. 1. 3-29-21.
141,469. AIRCO. Cl. 34. 4-26-21.
142,412. JUMBO. Cl. 7. 5-17-21.
142,414. LIGHTNING. Cl. 7. 5-17-21.
142,415. BOND. Cl. 7. 5-17-21.
142,583. MONEL. Cl. 14. 5-17-21.
142,656. CHERRY CRUSH AND DESIGN. Cl. 46. 5-17-21.
142,777. STALEY'S. Cl. 46. 5-17-21.
142,943. BOSS HIKER. Cl. 39. 5-24-21.
142,977. NAPOLITAN FLUX. Cl. 6. 5-24-21.
143,023. GOODRICH. Cl. 39. 6-7-21.
143,682. MARSHALL AND DESIGN. Cl. 46. 6-7-21.
144,585. HYCO. Cl. 23. 7-12-21.
144,600. SPEED. Cl. 12. 7-12-21.
144,682. JOLLY TIME. Cl. 46. 7-19-21.
144,955. VICTORY. Cl. 7. 7-19-21.
376,712. ELASTI GLASS. Cl. 39. 4-2-40.
377,713. ELASTI-GLASS. Cl. 50. 5-14-40.
381,693. EXPOSE. Cl. 39. 10-1-40.
384,370. LANESE. Cl. 42. 1-14-41.
384,687. DINETTE. Cl. 29. 1-28-41.
384,688. DAGGER. Cl. 37. 1-28-41.
384,726. PECTINA-AGAREN DEXTRO MALTO. Cl. 46. 1-28-41.
384,753. TEMPO. Cl. 18. 2-4-41.
384,791. DESIGN OF GIRL AND CALF. Cl. 46. 2-4-41.
384,798. RENAISSANCE AND DESIGN. Cl. 16. 2-4-41.
384,800. HIS CO AND DESIGN. Cl. 39. 2-4-41.
384,830. MOBILHEAT. Cl. 15. 2-4-41.
384,941. PRESTO. Cl. 18. 2-11-41.
385,189. CELANESE. Cl. 1. 2-18-41.
385,324. SAVE-MORE SERVICE SYSTEM. Cl. 15. 2-25-41.
385,340. MASTER KURE. Cl. 12. 2-25-41.
385,504. AULTA. Cl. 11. 3-4-41.
385,506. CREST. Cl. 11. 3-4-41.
385,508. FINESSE. Cl. 11. 3-4-41.
385,571. SUPER-Y. Cl. 14. 3-11-41.
385,658. SMART-SET. Cl. 40. 3-11-41.
385,684. ENGLANDER BODY-GUARD. Cl. 32. 3-11-41.
386,219. AIR N AND DESIGN. Cl. 34. 4-1-41.
386,310. FULTONET. Cl. 2. 4-1-41.
386,328. NAMAQUIN. Cl. 18. 4-1-41.
386,563. JAMAICA INN. Cl. 49. 4-15-41.
386,722. CELLU. Cl. 46. 4-22-41.
386,729. SANTOLOID. Cl. 1. 4-22-41.
386,967. NTH AND DESIGN. Cl. 15. 4-29-41.
386,989. CASTOLIN. Cl. 14. 4-29-41.
387,003. CIAGEN. Cl. 18. 4-29-41.
387,013. THIALKENE. Cl. 6. 4-29-41.
387,044. ENDO-OVATRIN. Cl. 18. 4-29-41.
387,211. PEPSODENT. Cl. 29. 5-6-41.
387,467. 88. Cl. 46. 5-20-41.
387,640. TARGET WITH BULL'S EYE. Cl. 37. 5-27-41.
387,945. PICCO AND DESIGN. Cl. 6. 6-10-41.
388,237. TATER STATE. Cl. 46. 6-17-41.
388,313. ESPECOL. Cl. 18. 6-17-41.
388,409. NU-DENT DENTACRYL AND DESIGN. Cl. 44. 6-24-41.
388,445. MAGNESYN. Cl. 21. 6-24-41.
388,596. THE PRINCESS ANNE. Cl. 32. 7-1-41.
388,618. VANTEX. Cl. 51. 7-1-41.
388,620. MIRACLE BLEACH. Cl. 6. 7-1-41.
388,621. THE ENTHUSIAST. Cl. 38. 7-1-41.
388,719. GOLDEN GATE BRAND MOUNTAIN GROWN. Cl. 46. 7-8-41.
388,893. ESSEN 8-X. Cl. 39. 7-15-41.

388,804. SUPER ESSEX AND DESIGN. Cl. 39. 7-18-41.
388,921. TUFTON. Cl. 43. 7-15-41.
388,981. CELLU. Cl. 18. 7-22-41.
389,010. NOSEGAY. Cl. 51. 7-22-41.
389,037. URECHOLINE. Cl. 18. 7-22-41.
389,056. MULSAVITE. Cl. 18. 7-22-41.
389,060. SANDOZOL. Cl. 4. 7-22-41.
389,109. SURPLEX. Cl. 18. 7-22-41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

298,600. REPRESENTATION OF CAPSULE WITH BLACK BAND. Cl. 18. 11-1-32.
298,601. REPRESENTATION OF CAPSULE LINED FOR GREEN. Cl. 18. 11-1-32.
375,443. REPRESENTATION OF BLACK BAND. Cl. 18. 2-20-40.
375,444. REPRESENTATION OF BROWN BAND. Cl. 18. 2-20-40.
375,445. REPRESENTATION OF ORANGE BAND. Cl. 18. 2-20-40.
375,446. REPRESENTATION OF PURPLE BAND. Cl. 18. 2-20-40.
375,447. REPRESENTATION OF WHITE BAND. Cl. 18. 2-20-40.
375,448. REPRESENTATION OF BLUE BAND. Cl. 18. 2-20-40.
397,508. PICTURE OF A CAPSULE. Cl. 6. 9-8-42.
397,509. CAPSULE LINED FOR BLACK. Cl. 6. 9-8-42.
397,510. CAPSULE LINED FOR YELLOW. Cl. 6. 9-8-42.
397,511. CAPSULE LINED FOR LAVENDER. Cl. 6. 9-8-42.
504,136. RED BAND ETC. Cl. 6. 11-23-48.
506,627. PINK BAND ETC. Cl. 6. 2-15-49.
506,628. BLUE BAND ETC. Cl. 6. 2-15-49.
506,629. WHITE BAND ETC. Cl. 6. 2-15-49.
533,130. GRAY BAND ETC. Cl. 18. 11-7-50.
540,732. PURPLE BAND ETC. Cl. 18. 4-10-51.

Section 8

72,875. ZENITH ETC. AND DESIGN. Cl. 34. 3-2-09.
355,219. ZENITH AND DESIGN. Cl. 21. 3-8-38.
442,994. SAUZETTE. Cl. 46. 6-28-49.

The following registrations issued Feb. 15, 1955

601,996. FORESTRONG. Cl. 1.
601,997. CELION. Cl. 1.
602,006. MIR-OO. Cl. 3.
602,011. PRIME. Cl. 6.
602,013. CYANATEX. Cl. 6.
602,018. FOSFODRIL. Cl. 6.
602,021. K-PELLS. Cl. 6.
602,022. R-PELLS. Cl. 6.
602,028. LEVUFLEX. Cl. 6.
602,035. PALMID. Cl. 6.
602,036. PALMIN. Cl. 6.
602,037. MOROCCO. Cl. 6.
602,040. CLEAN HOUSE AND DESIGN. Cl. 6.
602,041. TV JR. Cl. 6.
602,043. ZEST. Cl. 10.
602,057. QUADULAR. Cl. 12.
602,058. FABRILOC. Cl. 12.
602,060. LAMALYTE. Cl. 12.
602,061. LANAI-LYTE. Cl. 12.
602,066. ROCKET. Cl. 13.
602,067. BRUSH-A-TUNE. Cl. 13.
602,082. FEMO. Cl. 18.
602,086. ANA-VITA. Cl. 18.
602,099. DERMACAP. Cl. 18.
602,100. INDACETINA. Cl. 18.
602,102. JOHN'S ONGO-CIDE. Cl. 18.
602,106. G-R & T. Cl. 18.
602,109. LIPTRIL. Cl. 18.
602,113. LOADAIR. Cl. 19.
602,114. ACOUSTACOIL COATED WITH SILENCE. Cl. 19.
602,115. SKYLON. Cl. 19.
602,118. THE ROLFE ETC. AND DESIGN. Cl. 19.
602,127. REAL-FEEL. Cl. 22.
602,130. GOLDENROD AND DESIGN. Cl. 22.
602,132. MR. WEATHERMAN. Cl. 22.
602,133. INDIANAPOLIS 500 CHAMPIONS. Cl. 22.
602,134. PAWNEE BILL AND DESIGN. Cl. 22.
602,138. JIFFY-CLICK. Cl. 23.
602,139. MAGICAIR. Cl. 23.
602,140. CAWI AND DESIGN. Cl. 23.
602,141. KO ETC. AND DESIGN. Cl. 23.
602,145. TUBE-U-LURE. Cl. 23.
602,148. REGAL. Cl. 25.
602,149. AUSTRAL. Cl. 25.
602,150. LADDER. Cl. 26.
602,153. VIVIDEX. Cl. 26.
602,160. MAGIC LITE. Cl. 34.
602,166. RADIAMATIC. Cl. 34.
602,170. BREATHING WAIST. Cl. 39.
602,172. SHAMP-HAT. Cl. 39.
602,173. KAY THOMPSON FANCY PANTS AND DESIGN. Cl. 39.
602,177. GEORGIA BULLOCK. Cl. 39.
602,180. NYLODEBS. Cl. 39.
602,181. NYLINKS. Cl. 39.
602,182. NYLOROLE. Cl. 39.
602,185. SLICK SHIRT. Cl. 39.
602,186. SLICK JAC. Cl. 39.
602,187. GOLDEN SHEERS AND DESIGN. Cl. 39.
602,190. LINKS BY LINX. Cl. 39.
602,193. PETTI-SOL. Cl. 39.
602,194. WALTER J. MUNRO "TOPSY TERRY." Cl. 39.
602,199. MEL-O-POPS. Cl. 46.
602,202. ALL-WED. Cl. 46.
602,211. NUT BROWN BOCK BEER AND DESIGN. Cl. 48.
602,214. TWIN STAR. Cl. 48.
602,225. NITE WALKER AND DESIGN. Cl. 50.
602,226. QUITS. Cl. 51.
602,229. JEL-KLENE. Cl. 52.
602,231. REPRESENTATION OF INSIGNIA WITH GREEK LETTERS. Cl. 100.
602,232. LINOPRESS. Cl. 101.
602,236. LORD BALTIMORE FILLING STATIONS, INC. AND DESIGN. Cl. 103.
602,239. VACATIONS TO SUIT YOUR PERSONALITY AND DESIGN. Cl. 105.
602,247. THE HITCHING POST. Cl. 107.
602,250. SAFETVISION FILTER AND DESIGN. Cl. 26.

Section 15

270,682. ROY KNIT. Cl. 39. 5-13-30.
384,850. FRUITABS. Cl. 6. 2-4-41.
500,763. TWENTY ONE. Cl. 38. 6-29-48.
553,583. BOUNTIFUL. Cl. 1. 1-15-52.
611,155. CHEF'S DELIGHT BRAND. Cl. 46. 8-23-55.
622,873. NYCORE. Cl. 7. 3-13-56.
672,986. FRESH-AID. Cl. 45. 1-20-59.
673,676. FRESH-ADE. Cl. 45. 2-3-59.
689,438. FIVE-UP. Cl. 22. 12-8-59.
693,052. TORQUE SEAL. Cl. 13. 2-16-60.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

130,990. TYPACOUNT. Cl. 37. 5-4-20. Byron Weston Company, Dalton, Mass. Corrected: In the certificate, lines 2 and 17, in the heading and signature and in the statement, column 1, line 1, "Co." should be deleted and *Company* should be inserted.

131,828. SANOLIN. Cl. 20. 5-25-20. Salem Manufacturing Company. Congoleum-Nairn Inc., Kearny, N.J. Amended to appear:

SANOLIN

384,494. UNICO AND DESIGN. Cl. 6. 1-21-41. United Co-Operatives, Inc., Alliance, Ohio. Amended: In the statement, column 2, lines 12 and 13 are deleted, and the drawing is amended to appear:

UNICO

618,164. CINEMATAR. Cl. 26. 12-27-55. Elgeet Optical Company, Inc., Rochester, N.Y. Corrected: In the statement, column 2, line 1, before "moving" *lenses for* should be inserted.

663,777. ENGINSCOPE. Cl. 26. 7-1-58. Allen D. Du Mont Laboratories, Inc., Clifton, N.J. Corrected: In the statement, column 2, line 3, "Feb. 20, 1957" both occurrences, should be deleted and *June 21, 1956* should be inserted.

704,044. SPRITE AND DESIGN. Cl. 45. The Sprite Corporation, assignee of T. C. Evans. The Coca-Cola Company, New York, N.Y. Amended to appear:

Sprite

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials

272,577. July 8, 1930. The Mackie-Clemens Fuel Company, Pittsburg, Kans. and Kansas City, Mo. Pub. by registrant.



JAY HAWK COAL

For Coal.

384,592. Jan. 21, 1941. Hercules Powder Company, Wilmington, Del. Pub. by registrant.

FLEXALYN

For Synthetic Resin Used as a Plasticizer and Softening Agent for Starch, Casein, Nitrocellulose and the Like.

Class 4—Abrasives and Polishing Materials

141,498. Apr. 26, 1921. Brillo Manufacturing Company, Inc., Brooklyn, N.Y. Pub. by registrant.

BRILLO

For Soaps, Cleaning, Scouring and Polishing Wads, Rolls, and Cloths of Abradant Nature, and Abrasive and Polishing Material for Removing Foreign Matter From Metal and Other Surfaces.

141,499. Apr. 26, 1921. Brillo Manufacturing Company, Inc., Brooklyn, N.Y. Pub. by registrant.

SUPREME

For Cleaning, Scouring, and Polishing Wads, Pads, Rolls, and Cloths of Abradant Nature for Removing Foreign Matter From Metal and Other Surfaces.

Class 6—Chemicals and Chemical Compositions

233,392. Sept. 27, 1927. McLaughlin Gormley King Company, Minneapolis, Minn. Pub. by registrant.

EVER GREEN

For Plant Spray.

352,464. Nov. 30, 1937. McLaughlin Gormley King Company, Minneapolis, Minn. Pub. by registrant.

Multicide

For Insecticides.

366,210. Apr. 4, 1939. McLaughlin Gormley King Company, Minneapolis, Minn. Pub. by registrant.

PYROCIDE

For Insecticides and Concentrated Extracts for Use Therein.

383,729. Dec. 24, 1940. Dewey and Almy Chemical Company, Cambridge, Mass. Pub. by W. R. Grace & Co., Cambridge, Mass.

DAREX

For Chemicals, Particularly Insecticides and for Insecticidal Pastes Containing Dispersed Sulphur.

425,604. Nov. 26, 1946. McLaughlin Gormley King Company, Minneapolis, Minn. Pub. by registrant.

EVERCIDE

For Insecticides.

Class 12 — Construction Materials

324,687. May 28, 1935. H. K. Porter Company, Inc., Pittsburgh, Pa. Pub. by registrant.

SUPREZIST

For Refractory Brick.

329,783. Nov. 12, 1935. H. K. Porter Company, Inc., Pittsburgh, Pa. Pub. by registrant.

FURNASCOTE

For Ground Refractory Material.

386,692. Apr. 22, 1941. Baldwin-Hill Company, Trenton, N.J. Pub. by Baldwin-Ehret-Hill, Incorporated, Trenton, N.J.

MONO-BLOCK

For Rock Wool Insulating Blocks.

Class 16 — Protective and Decorative Coatings

141,220. Apr. 12, 1921. Thomas Sealy, New York, N.Y. Pub. by Stallworth Pine Products Company, Incorporated, Mobile, Ala.

"PINE TREE"



For Spirits of Turpentine.

386,560. Apr. 15, 1941. United Chemical Company, Inc., Kansas City, Mo. Pub. by registrant.

FLOR-MASTER

For Varnish for Use on Floors, Furniture, and Analogous Surfaces.

387,689. May 27, 1941. Dupli-Color Products Company, Chicago, Ill. Pub. by Dupli-Color Products Co., Inc., Chicago, Ill.

Dupli-Color

For Ready Mixed Paints.

Class 22 — Games, Toys, and Sporting Goods

385,568. Mar. 11, 1941. Earl J. Smith, d.b.a. E. J. Smith Company, Charlotte, N.C. Pub. by E. J. Smith & Sons Company, Charlotte, N.C.

Pargo

For Golf Tees and Golf Bags.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

139,039. Dec. 14, 1920. Kellogg Manufacturing Co., Rochester, N.Y. Pub. by American Brake Shoe Company, New York, N.Y.

KELLOGG

For Power Driven Pumps.

383,580. Dec. 17, 1940. White Sewing Machine Corporation, Lakewood, Ohio. Pub. by registrant.

White

For Sewing Machines, Electric Sewing Machines, and Parts Thereof.

Class 26 — Measuring and Scientific Appliances

386,850. Apr. 22, 1941. Nuodex Products Co., Inc., Elizabeth, N.J. Pub. by Heyden Newport Chemical Corporation, New York, N.Y.

SIMPLICATOR

For Mechanical Calculating Devices for Calculating Quantities of Paint and Varnish Ingredients.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

384,093. Jan. 7, 1941. Ramsey Accessories Manufacturing Corporation, St. Louis, Mo. Pub. by Ramsey Corporation, St. Louis, Mo.

SPIRO SEAL

For Piston Rings and Piston Ring Expanders.

Class 37 — Paper and Stationery

383,956. Dec. 31, 1940. George A. Brown, d.b.a. Hydrawlik Company, Roselle, N.J. Pub. by registrant.

Hydrawlik

For Liquid Applicators and Moisteners for Stamps, Envelopes, Etc.

Class 39 — Clothing

171,775. Aug. 14, 1923. Gotham Knitting Mills, New York, N.Y. Pub. by Gotham Knitting Mills, Inc., New York, N.Y.

GOTHAM

For Sweaters, Scarfs, Knitted Suits; Knitted Dresses; Bathing Suits; and Knitted Capes.

385,498. Mar. 4, 1941. The H. A. Seinsheimer Company, Cincinnati, Ohio. Pub. by registrant.

Slack Coolers

For Men's Clothing—Namely, Suits, Overcoats, Topcoats and Trousers.

400,630. Mar. 23, 1943. Marcus Breier's Sons, New York, N.Y. Pub. by White Stag Manufacturing Co., Portland, Oreg.



For Sports Wear and Wearing Apparel for Men, Women, and Boys—Namely, Golf Jackets, Rain Coats, Ski Jackets, Windbreakers, Ski Pants, Sports Pants, Swimming Trunks, Hats, Mackinaws, Overcoats, and Outer Shirts.

407,965. July 11, 1944. Marcus Breier's Sons, New York, N.Y. Pub. by White Stag Manufacturing Co., Portland, Oreg.

UMBRELLA



For Men's, Women's and Boys' Wearing Apparel—Namely, Rain Coats, Golf Jackets, Ski Jackets, Sports Jackets, Leather and Sheepskin Coats, Overcoats, Sweaters, Mackinaws, Ski Pants, Sports Pants, Swimming Trunks, Hats, and Outer Shirts.

438,803. May 11, 1948. Marcus Breier's Sons, New York, N.Y. Pub. by White Stag Manufacturing Co., Portland, Oreg.

"IN THE BAG"

For Men's, Women's and Boys' Wearing Apparel—Namely, Rain Coats, Golf Jackets, Ski Pants, Sports Jackets, Leather and Sheepskin Coats, Overcoats, Sweaters, Mackinaws, Sports Pants, Swimming Trunks, Hats, and Outer Shirts.

443,226. Aug. 16, 1949. Marcus Breier's Sons, New York, N.Y. Pub. by White Stag Manufacturing Co., Portland, Oreg.

NorTherm

For Men's, Women's and Boys' Wearing Apparel—Namely, Rain Coats, Golf Jackets, Ski Jackets, Sports Jackets, Leather and Sheepskin Coats, Overcoats, Sweaters, Mackinaws, Ski Pants, Sports Pants, Swimming Trunks and Hats.

Class 43 — Thread and Yarn

141,080. Apr. 12, 1921. Barbour Flax Spinning Company, Paterson, N.J. Pub. by The Linen Thread Co., Inc., New York, N.Y.

RELIANCE

For Shoe and Linen Thread.

Class 44 — Dental, Medical, and Surgical Appliances

387,083. Apr. 29, 1941. Parke, Davis & Company, Detroit, Mich. Pub. by registrant.

SANABANS

For Absorbent Pads.

Class 45—Soft Drinks and Carbonated Waters

384,198. Jan. 7, 1941. The H. R. Nicholson Company, Baltimore, Md. Pub. by registrant.

LEMO-NIZER

For Soft Drinks and Syrups and Extracts for Making Same.

Class 46—Foods and Ingredients of Foods

388,246. June 17, 1941. The Great Western Sugar Company, Denver, Colo. Pub. by registrant.

BEVROSE-A

The notation "A" is disclaimed apart from the mark as shown.

For Sugar.

INDEX OF REGISTRANTS

APRIL 4, 1961

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 389,109, ren. 4–4–61. Cl. 18.
Aerograph-De Vilbiss Co. Ltd., London, England. 139,235, ren. 4–4–61. Cl. 28.
Aero-Motive Mfg. Co., Kalamazoo, Mich. 713,457, pub. 10–25–60. Cl. 23.
Afco Products, Inc., New York, N.Y. 713,599, pub. 1–17–61. Cl. 44.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 713,491, pub. 1–17–61. Cl. 26.
Air Reduction Co., Inc.: *See*—
Davis-Bournonville Co.
Air Reduction Co., Inc., New York, N.Y. 141,469, ren. 4–4–61. Cl. 34.
Aktiebolaget Ferrosan, Malmo, Sweden. 713,408, pub. 1–17–61. Cl. 18.
Alford, Vernon L., San Antonio, Tex. 602,202, canc. Cl. 46.
Alpha Mills Corp., Schuylkill Haven, Pa. 713,575, pub. 1–17–61. Cl. 39.
Aluminum Homes of America, Inc., New York, N.Y. 713,680. Cl. 12.
American Brake Shoe Co.: *See*—
Kellogg Mfg. Co.
Americans Abroad, Inc., Minneapolis, Minn. 713,671, pub. 1–17–61. Cl. 105.
American Chemical Society, Washington, D.C. 713,538, pub. 1–17–61. Cl. 38.
American Cyanamid Co., New York, N.Y. 602,013, canc. Cl. 6.
American Cyanamid Co., New York, N.Y. 713,390, pub. 1–17–61. Cl. 18.
American Cyanamid Co., New York, N.Y. 713,404–5, pub. 1–17–61. Cl. 18.
American Electronics Laboratories, Inc., Union City, N.J. 713,431, pub. 1–17–61. Cl. 21.
American Hoist & Derrick Co., St. Paul, Minn. 713,466, pub. 1–17–61. Cl. 23.
American Home Products Corp., d.b.a. Ayerst Laboratories, New York, N.Y. 713,407, pub. 1–17–61. Cl. 18.
American-Marietta Co.: *See*—
Master Builders Co., The.
American Mat Corp., Toledo, Ohio. 713,426, pub. 1–17–61. Cl. 20.
American Mfg. Co., Inc.: *See*—
American Mfg. Co.
American Mfg. Co., Boston, Mass., and Brooklyn, to American Mfg. Co., Inc., Brooklyn, N.Y. 142,412, ren. 4–4–61. Cl. 7.
American Mfg. Co., Brooklyn, N.Y. 622,873, canc. Cl. 7.
American Mfg. Co., Boston, Mass., Brooklyn, to American Mfg. Co., Inc., Brooklyn, N.Y. 142,414–15, ren. 4–4–61. Cl. 7.
American Oil Co., The: *See*—
Lord Baltimore Filling Stations, Inc.
American Pop Corn Co., Sioux City and Schaller, to American Pop Corn Co., Sioux City, Iowa. 144,682, ren. 4–4–61. Cl. 46.
American Termicide Co., Inc., Atlanta, Ga. 713,668, pub. 8–14–56. Cl. 103.
American Viscose Corp., Philadelphia, Pa. 388,921, ren. 4–4–61. Cl. 43.
Ampere Industries, Newark, N.J. 713,430, pub. 4–12–60. Cl. 21.
Amphenol-Borg Electronics Corp., Broadview, Ill. 713,432, pub. 1–17–61. Cl. 21.
Amy Joy Donuts, Inc., Boston, Mass. 713,610–11, pub. 1–17–61. Cl. 46.
Animal Industry Development Co., Sunland, Calif. 602,086, canc. Cl. 18.
Arbor Acres Farm, Inc., Glastonbury, Conn. 713,316, pub. 1–17–61. Cl. 1.
Arizona Land Corp., Phoenix, Ariz. 713,664, pub. 1–17–61. Cl. 101.
Armbruster, Emily, Associates: *See*—
Armbruster, Emily E.
Armbruster, Emily E., d.b.a. Emily Armbruster Associates, Arlington, N.J. 713,341, pub. 1–17–61. Cl. 6.
Aroostook Potato Growers, Inc., Presque Isle, Me. 388,237, ren. 4–4–61. Cl. 46.
Art Industries, Inc., Dayton, Ohio. 713,324, pub. 8–23–60. Cl. 2.
Associated Rubber Co., Inc., Tallapoosa, Ga. 713,527–8, pub. 1–17–61. Cl. 35.
Atlantic Candy Co.: *See*—
Favia, Dominic.
Atlantic Steel Corp., New York, N.Y. 713,371, pub. 1–17–61. Cl. 14.
Atlas Bolt & Screw Co., The, Cleveland, Ohio. 693,052, canc. Cl. 13.
Ault & Wiborg Carbon & Ribbon Co., Inc., Cincinnati, Ohio, and New York, to Interchemical Corp., New York, N.Y. 385,504, ren. 4–4–61. Cl. 11.
Ault & Wiborg Carbon & Ribbon Co., Inc., Cincinnati, Ohio, and New York, to Interchemical Corp., New York, N.Y. 385,506, ren. 4–4–61. Cl. 11.
Ault & Wiborg Carbon & Ribbon Co., Inc., Cincinnati, Ohio, and New York, to Interchemical Corp., New York, N.Y. 385,508, ren. 4–4–61. Cl. 11.
Austral Products Corp., New York, N.Y. 602,149, canc. Cl. 25.
Ayerst Laboratories: *See*—
American Home Products Corp.
Bakers, Arnold, Inc., Port Chester, N.Y. 713,627, pub. 1–17–61. Cl. 46.
Baldwin-Ehret-Hill, Inc.: *See*—
Baldwin-Hill Co.
Baldwin-Hill Co., by Baldwin-Ehret-Hill, Inc., Trenton, N.J. 386,692, 12(c) pub. 4–4–61. Cl. 12.
Barber, W. H., Co., Minneapolis, Minn., to The Pure Oil Co., Palatine, Ill. 385,324, ren. 4–4–61. Cl. 15.
Barbour Flax Spinning Co., Paterson, N.J., by The Linen Thread Co., Inc., New York, N.Y. 141,080, 12(c) pub. 4–4–61. Cl. 48.
Bassett, W. E., Co., The, Derby, Conn. 713,455, pub. 1–17–61. Cl. 23.
Baxter Laboratories, Inc., d.b.a. Wallerstein Co., Morton Grove, Ill. 713,342, pub. 1–17–61. Cl. 6.
Bayshore Industries, Inc., Elkton, Md. 713,450, pub. 1–17–61. Cl. 22.
Bear Brand Hosiery Co., Chicago, Ill. 713,574, pub. 1–17–61. Cl. 39.
Beaver Tool Co.: *See*—
Faso, William J.
Behrens Drug Co., The, Waco, Tex. 713,451, pub. 1–17–61. Cl. 22.
Beich, Paul F., Co., Bloomington, Ill. 713,615, pub. 1–17–61. Cl. 46.
Bendix Aviation Corp., Bendix, to The Bendix Corp., Teterboro, N.J. 388,445, ren. 4–4–61. Cl. 21.
Bendix Corp., The: *See*—
Bendix Aviation Corp.
Bennett Laboratories, Inc., Redwood City, Calif. 602,250, canc. Cl. 26.
Best Plastics Corp., Brooklyn, N.Y. 602,133, canc. Cl. 22.
Bissell Inc., Grand Rapids, Mich. 713,504–5, pub. 9–13–60. Cl. 29.
Blatz Brewing Co., Milwaukee, Wis. 602,214, canc. Cl. 48.
Blaw-Knox Co., Pittsburgh, Pa. 713,363, pub. 1–17–61. Cl. 13.
Boehringer, C. H., Sohn, Ingelheim am Rhein, Germany. 713,399, pub. 1–17–61. Cl. 18.
Bonsiett, Edward W., d.b.a. Material Handling Specialties Co., Chicago, Ill. 713,370, pub. 1–17–61. Cl. 13.
Borden Co., The, New York, N.Y. 384,791, ren. 4–4–61. Cl. 46.
Boss Mfg. Co., The, Kewanee, Ill. 142,943, ren. 4–4–61. Cl. 39.
Boulevard, Inc., Middlesex, N.J. 713,506, pub. 1–17–61. Cl. 39.
Bowers Mfg. Co. Inc., Los Angeles, Calif. 713,446, pub. 1–17–61. Cl. 21.
Braun, Jacob, d.b.a. Villereuse Watch Co., New York, N.Y. 713,497, pub. 1–17–61. Cl. 27.
Breier's, Marcus, Sons, New York, N.Y., by White Stag Mfg. Co., Portland, Oreg. 400,630, 12(c) pub. 4–4–61. Cl. 39.
Breier's, Marcus, Sons, New York, N.Y., by White Stag Mfg. Co., Portland, Oreg. 407,965, 12(c) pub. 4–4–61. Cl. 39.
Breier's, Marcus, Sons, New York, N.Y., by White Stag Mfg. Co., Portland, Oreg. 438,803, 12(c) pub. 4–4–61. Cl. 39.
Breier's, Marcus, Sons, New York, N.Y., by White Stag Mfg. Co., Portland, Oreg. 443,226, 12(c) pub. 4–4–61. Cl. 39.
Brillo Mfg. Co., Inc., Brooklyn, N.Y. 141,498–9, 12(c) pub. 4–4–61. Cl. 4.
Bristol Myers Co., New York, N.Y. 713,415, pub. 1–17–61. Cl. 18.
British Belting & Asbestos Ltd., Cleckheaton, England. 713,523–4, pub. 1–17–61. Cl. 35.
British Nylon Spinners Ltd., Pontypool, Monmouthshire, England. 713,312, pub. 5–17–60. Cl. 1.
Brown, George A., d.b.a. Hydrawlik Co., Roselle, N.J. 383,956, 12(c) pub. 4–4–61. Cl. 37.
Buchsbaum, S., & Co., Chicago, Ill., to Cable Raincoat Co., Boston, Mass. 376,712, ren. 4–4–61. Cl. 39.
Buchsbaum, S., & Co., Chicago, Ill., to Cable Raincoat Co., Boston, Mass. 377,713, ren. 4–4–61. Cl. 50.
Buckaroo Tackle Co.: *See*—
Wilhelmi, Max F.
Bullock, Georgia, Inc., Kansas City, Mo. 602,177, canc. Cl. 39.
Byer-Rolnick Hat Corp., Garland, Tex. 713,535, pub. 1–17–61. Cl. 29.
C-L Sling Ring Co., Inc., Brooklyn, N.Y. 713,471, pub. 1–17–61. Cl. 23.
CME Mfg. Co., Inc., The, San Diego, Calif. 713,447, pub. 1–17–61. Cl. 21.
Cable Raincoat Co.: *See*—
Buchsbaum, S., & Co.
Cameron, D., & Co. Ltd., d.b.a. Andrew Laing & Co., Inverness, Scotland. 713,634, pub. 1–17–61. Cl. 40.
Cangemi, Joe, & Son, Ontario, Calif. 713,606, pub. 1–17–61. Cl. 46.

Captains Club, Inc., New York, N.Y. 713,662–3, pub. 1–17–61. Cl. 100.
Carbic-Hoechst Corp.: *See*—
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning.
Carnegies of Welwyn Ltd., Welwyn Garden City, England. 713,391, pub. 1–17–61. Cl. 18.
Carter Products, Inc., New York, N.Y. 713,416, pub. 1–17–61. Cl. 18.
Celanese Corp. of America, New York, N.Y. 384,370, ren. 4–4–61. Cl. 42.
Celanese Corp. of America, New York, N.Y. 385,189, ren. 4–4–61. Cl. 1.
Celanese Corp. of America, New York, N.Y. 713,589, pub. 1–17–61. Cl. 43.
Chadbourn Hosiery Mills, Inc., Charlotte, N.C. 602,187, canc. Cl. 39.
Champion Paper and Fibre Co., The, Hamilton, Ohio. 384,688, ren. 4–4–61. Cl. 37.
Chicago Dietetic Supply House, Inc., The, Chicago, Ill. 380,722, ren. 4–4–61. Cl. 46.
Chicago Dietetic Supply House, Inc., The, Chicago, Ill. 388,981, ren. 4–4–61. Cl. 18.
Chicago Malleable Castings Co., Chicago, Ill. 385,571, ren. 4–4–61. Cl. 14.
Chicopee Mfg. Corp., New Brunswick, N.J. 713,580, pub. 1–17–61. Cl. 42.
Chirana Praha, Narodni Podnik, Praha, Czechoslovakia. 713,600, pub. 1–17–61. Cl. 44.
Churchill Sportswear Co., Inc., Boston, Mass. 713,553, pub. 10–11–60. Cl. 39.
Clairol Inc., New York, N.Y. 713,652, pub. 1–17–61. Cl. 51.
Clay Engineering & Mfg. Co.: *See*—
Clay, Murray G.
Clay, Murray G., d.b.a. Clay Engineering & Mfg. Co., Chicago, Ill. 713,476, pub. 1–17–61. Cl. 23.
Coca-Cola Co., The: *See*—
Sprite Corp., The.
Cohen, Joseph H. & Sons, Inc., New York, N.Y. 713,565, pub. 1–17–61. Cl. 39.
Colgate-Palmolive Co., New York, N.Y. 713,349, pub. 1–17–61. Cl. 6.
Colgate-Palmolive Co., New York, N.Y. 713,654, pub. 1–17–61. Cl. 51.
Colibri Lighters Ltd., London, England. 713,500, pub. 4–19–60. Cl. 28.
Colonial Dames Co., Ltd., Montebello, Calif. 713,659, pub. 1–17–61. Cl. 51.
Commercial Investigators: *See*—
Gaye, Matt.
Congoleum-Nairn Inc.: *See*—
Salem Mfg. Co.
Connector Seals Corp., Pasadena, Calif. 713,435, pub. 1–17–61. Cl. 21.
Consolidated Foods Corp.: *See*—
Western Grocer Co.
Construction Machinery Co., Waterloo, Iowa. 713,507, pub. 1–17–61. Cl. 31.
Continental Can Co., Inc., New York, N.Y. 713,700. Cl. 50.
Continental Oil Co., Ponca City, Okla. 386,967, ren. 4–4–61. Cl. 15.
Continental Oil Co., Ponca City, Okla. 387,013, ren. 4–4–61. Cl. 6.
Cooper Tire & Rubber Co., Findlay, Ohio. 713,519, pub. 10–20–59. Cl. 35.
Cooperatieve Producenten Handelsvereeniging, d.b.a. "De Producent," Gouda, Netherlands. 139,126, ren. 4–4–61. Cl. 46.
Council Mfg. Co.: *See*—
Council Mfg. Corp.
Council Mfg. Corp., d.b.a. Council Mfg. Co., Fort Smith, Ark. 713,508, pub. 1–17–61. Cl. 31.
Creamery Package Mfg. Co., The, Chicago, Ill. 713,379, pub. 4–5–60. Cl. 15.
Crocker, Burbank Papers Inc., Fitchburg, Mass. 713,689. Cl. 37.
Crown Products Corp., to Lady's Choice Foods, Los Angeles, Calif. 388,620, ren. 4–4–61. Cl. 6.
Cubic Corp., San Diego, Calif. 713,485, pub. 1–17–61. Cl. 26.
Curtis Companies, Inc., Clinton, Iowa. 713,516, pub. 1–17–61. Cl. 32.
Daniel, William R., Westville, N.J. 713,603, pub. 1–17–61. Cl. 44.
Darworth, Inc., Simsbury, Conn. 602,229, canc. Cl. 52.
Davis-Bournonville Co., to Air Reduction Co., Inc., New York, N.Y. 142,977, ren. 4–4–61. Cl. 6.
Dayco Corp., Dayton, Ohio. 713,512, pub. 1–17–61. Cl. 32.
Dayco Corp., Dayton, Ohio. 713,525–6, pub. 1–17–61. Cl. 35.
Decca Records, Inc., New York, N.Y. 713,530, pub. 1–17–61. Cl. 36.
Delaware Mercantile Co. Inc., Stamford, N.Y. 713,420, pub. 1–17–61. Cl. 19.
Dell, Ruth, New York, N.Y. 602,239, canc. Cl. 105.
"De Producent": *See*—
Cooperatieve Producenten Handelsvereeniging.
Derfler, Max, d.b.a. Nutrition Control Products, New York, N.Y. 713,402, pub. 1–17–61. Cl. 18.
Deskfinder Co., The, Costa Mesa, Calif. 602,232, canc. Cl. 101.
Dewey and Almy Chemical Co., by W. R. Grace & Co., Cambridge, Mass. 383,729, 12(c) pub. 4–4–61. Cl. 6.
Dextrex Chemical Industries, Inc., Detroit, Mich. 713,445, pub. 1–17–61. Cl. 21.
Diamond Chain Co., Inc., Indianapolis, Ind. 713,467, pub. 1–17–61. Cl. 23.
Dick Coffee Co., Inc., New York, N.Y. 713,609, pub. 1–17–61. Cl. 46.
Dilworth Pharmacy, Charlotte, N.C. 602,102, canc. Cl. 18.
DoAll Co., The, Des Moines, Ill. 713,479, pub. 1–17–61. Cl. 23.
Dominion Corset Co., Ltd., Quebec, Quebec, Canada. 602,170, canc. Cl. 39.
Dow Chemical Co., The, Midland, Mich. 713,315, pub. 1–17–61. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 713,333–5, pub. 1–17–61. Cl. 6.
Dresser-Ideco Co.: *See*—
Dresser Industries, Inc.
Dresser Industries, Inc., d.b.a. Dresser-Ideco Co., Dallas, Tex. 713,356, pub. 8–30–60. Cl. 12.
Dresser Products Inc., Providence, R.I. 713,687. Cl. 37.
Drew, E. F., & Co., Inc., New York, N.Y. 713,614, pub. 1–17–61. Cl. 46.
Du Mont, Allen B., Laboratories, Inc., Clifton, N.J. 663,777, cor. Cl. 26.
Dupli-Color Products Co., by Dupli-Color Products Co., Inc., Chicago, Ill. 387,689, 12(c) pub. 4–4–61. Cl. 16.
Dupli-Color Products Co., Inc.: *See*—
Dupli-Color Products Co.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 713,351, pub. 1–17–61. Cl. 6.
Dura-Design Plastics Ltd., Toronto, Ontario, Canada. 713,591, pub. 1–17–61. Cl. 44.
Electra Industries, Inc., Seattle, Wash. 713,604, pub. 1–17–61. Cl. 44.
Elgeet Optical Co., Inc., Rochester, N.Y. 618,164, cor. Cl. 26.
Elgin Metal Casket Co., Elgin, Ill. 713,325, pub. 1–17–61. Cl. 2.
Elizabeth of Sweden, Paterson, N.J. 713,649, pub. 1–17–61. Cl. 51.
Endo Laboratories Inc.: *See*—
Endo Products, Inc.
Endo Products, Inc., New York, to Endo Laboratories Inc., Richmond Hill, N.Y. 386,328, ren. 4–4–61. Cl. 18.
Endo Products, Inc., New York, N.Y., to Endo Laboratories Inc., Richmond Hill, N.Y. 387,003, ren. 4–4–61. Cl. 18.
Endo Products, Inc., New York, N.Y., to Endo Laboratories Inc., Richmond Hill, N.Y. 387,044, ren. 4–4–61. Cl. 18.
Englander Co., Inc., The, to The Englander Co., Inc., Chicago, Ill. 385,684, ren. 4–4–61. Cl. 32.
Enro Shirt Co., Inc., The, Louisville, Ky. 713,541, pub. 3–27–56. Cl. 39.
Ensign Carburetor Co., Fullerton, Calif. 713,459, pub. 1–17–61. Cl. 23.
Esquire, Inc., New York, N.Y. 713,538, pub. 1–17–61. Cl. 38.
Eutectic Welding Alloys Corp.: *See*—
Eutectic Welding Alloys, Inc.
Eutectic Welding Alloys, Inc., to Eutectic Welding Alloys Corp., New York, N.Y. 386,989, ren. 4–4–61. Cl. 14.
Evans Specialty Co., Inc., Richmond, Va. 713,638, pub. 1–17–61. Cl. 50.
Evans, T. C.: *See*—
Sprite Corp., The.
Eversharp, Inc., New York, N.Y. 713,651, pub. 1–17–61. Cl. 51.
F.A.B. Mfg. Co. Inc., Oakland, Calif. 713,424–5, pub. 1–17–61. Cl. 19.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 602,028, canc. Cl. 6.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, from Carbic-Hoechst Corp., New York, N.Y. 713,343, pub. 1–17–61. Cl. 6.
Farm Equipment Co., Inc., Columbus, Ohio. 602,021–2, canc. Cl. 6.
Farmers Educational and Cooperative Union of America, d.b.a. National Farmers Union, Denver, Colo. 713,665, pub. 1–17–61. Cl. 102.
Farmers Elevator Service Co., Fort Dodge, Iowa. 713,347, pub. 1–17–61. Cl. 6.
Faso, William J., d.b.a. Beaver Tool Co., Huntington Station, N.Y. 713,465, pub. 1–17–61. Cl. 23.
Favia, Dominic, d.b.a. Atlantic Candy Co., Brooklyn, N.Y. 602,199, canc. Cl. 46.
Ferguson Machine Corp. of Indiana: *See*—
Universal Match Corp.
Ferrania S.p.A., Milan, Italy. 713,487, pub. 1–17–61. Cl. 26.
Fiberloid Corp., The, Indian Orchard, Mass., to Monsanto Chemical Co., St. Louis, Mo. 140,802, ren. 4–4–61. Cl. 1.
Finkel, Abram, d.b.a. Keystone Shower Door Co., Southampton, Pa. 713,352, pub. 1–17–61. Cl. 12.
Firestone Tire & Rubber Co., The, Akron, Ohio. 713,320, pub. 1–17–61. Cl. 1.
Firestone Tire & Rubber Co., The, Akron, Ohio. 713,522, pub. 6–28–60. Cl. 35.
Fisher Scientific Co., Pittsburgh, Pa. 713,336, pub. 1–17–61. Cl. 6.
Folger, J. A., & Co., Kansas City, Mo. 388,719, ren. 4–4–61. Cl. 46.
Food Machinery and Chemical Corp., New York, N.Y. 602,018, canc. Cl. 6.
Foremost Machine Builders, Inc., Livingston, N.J. 713,460, pub. 1–17–61. Cl. 23.
Forestrong Co., from Eldon Mfg. Co., Los Angeles, Calif. 601,996, canc. Cl. 1.
Formed Container Corp., Orangeburg, N.Y. 713,326, pub. 1–17–61. Cl. 2.
Forte-Fairbairn Inc., Needham Heights, Mass. 713,313, pub. 1–17–61. Cl. 1.
Fortuna Foundations, Inc., New York, N.Y. 713,561, pub. 1–17–61. Cl. 39.
Foster, Pam, Inc., Seattle, Wash. 713,550, pub. 1–17–61. Cl. 39.
Fouke Fur Co., St. Louis, Mo. 713,321, pub. 1–17–61. Cl. 1.
Fox River Paper Corp., Appleton, Wis. 713,539, pub. 1–17–61. Cl. 38.
Frankenmuth Brewing Co., Frankenmuth, Mich. 602,211, canc. Cl. 48.

Frania Brothers Winery, d.b.a. Old Chateau Wine Co., Ripon, Calif. 713,633, pub. 1–17–61. Cl. 47.
Fredenburgh Hecht Co., The, Concord, Mass. 602,099, canc. Cl. 18.
Freeser, J., & Son, Inc., New York, N.Y. 713,569, pub. 1–17–61. Cl. 39.
Freydberg, G., H. & E., Inc., New York, N.Y. 713,558, pub. 1–17–61. Cl. 39.
Frito Co., The, Dallas, Tex. 713,605, pub. 6–14–60. Cl. 46.
Fromson Orban Co., Inc., New York, N.Y. 713,376, pub. 1–17–61. Cl. 14.
Fuji Heavy Industries Ltd.: *See*—
Fuji Jyukogyo Kabushiki Kaisha.
Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries Ltd., Chiyoda-ku, Tokyo, Japan. 713,418, pub. 1–17–61. Cl. 19.
Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries Ltd., Chiyoda-ku, Tokyo, Japan. 713,419, pub. 12–22–59. Cl. 19.
Fuld Brothers, Inc., d.b.a. Just Distributors, Inc., Baltimore, Md. 713,337, pub. 1–17–61. Cl. 6.
Fulmar Foods: *See*—
International Refining & Packaging Corp.
Fulton Bag and Cotton Mills, to Fulton Industries, Inc., Atlanta, Ga. 386,310, ren. 4–4–61. Cl. 2.
Fulton Industries, Inc.: *See*—
Fulton Bag and Cotton Mills.
G-R & T Co., Minot, N. Dak. 602,106, canc. Cl. 18.
Gaye, Matt, d.b.a. Commercial Investigators, Boston, Mass. 713,701. Cl. 101.
General Aniline & Film Corp., New York, N.Y. 602,153, canc. Cl. 26.
General Biochemicals, Inc., Chagrin Falls, Ohio. 602,035–6, canc. Cl. 6.
General Cigar Co., Inc., New York, N.Y. 713,387, pub. 1–17–61. Cl. 17.
General Development Corp., Miami, Fla. 713,346, pub. 1–17–61. Cl. 6.
General Plastics Corp., Marion, Ind. 713,639, pub. 1–17–61. Cl. 50.
General Precision, Inc., Pleasantville, N.Y. 713,489, pub. 1–17–61. Cl. 26.
General Tire & Rubber Co., The, Akron, Ohio. 713,317, pub. 1–17–61. Cl. 1.
Geriatric Foods, Ltd., Lakeland, Fla. 713,608, pub. 1–17–61. Cl. 46.
Globe Steel Abrasive Co., The, Mansfield, Ohio. 713,330, pub. 1–17–61. Cl. 4.
Goldberg, I., Marine World, Inc., Philadelphia, Pa. 713,421, pub. 1–17–61. Cl. 19.
Golden, Martin, & Son, Inc., Providence, R.I. 713,374, pub. 1–17–61. Cl. 14.
Good Luck Glove Co., Carbondale, Ill. 713,562, pub. 1–17–61. Cl. 39.
Goodrich, B. F., Co., The, Akron, Ohio. 143,623, ren. 4–4–61. Cl. 39.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 713,676. Cl. 2.
Gorham Mfg. Co., Providence, R.I. 713,502, pub. 1–17–61. Cl. 28.
Gossard, H. W., Co., The, Chicago, Ill. 713,573, pub. 1–17–61. Cl. 39.
Gotham Knitting Mills, by Gotham Knitting Mills, Inc., New York, N.Y. 171,775, 12(c) pub. 4–4–61. Cl. 39.
Gotham Knitting Mills, Inc.: *See*—
Gotham Knitting Mills.
Governor and Co. of Adventurers of England, Trading into Hudson's Bay, The, d.b.a. Hudson's Bay Co., London, England and Winnipeg, Manitoba, Canada. 713,535, pub. 1–17–61. Cl. 38.
Grace, W. R., & Co.: *See*—
Dewey and Almy Chemical Co.
Graco Metal Products, Inc., Elverson, Pa. 713,514, pub. 1–17–61. Cl. 32.
Gray, Dorothy, Salons, to Lehn & Fink Products Corp., to Lehn & Fink Products Corp., Bloomfield, N.J. 389,010, ren. 4–4–61. Cl. 51.
Grayson-List & Co., Secaucus, N.J. 713,364, pub. 1–17–61. Cl. 13.
Great Western Sugar Co., The, Denver, Colo. 388,246, 12(c) pub. 4–4–61. Cl. 46.
Green Bag Cement Co., Pittsburgh, Pa. 713,359, pub. 1–17–61. Cl. 12.
Greenwold, Cecil, Inc., d.b.a. Spectrafoam Corp., Los Angeles, Calif. 713,513, pub. 1–17–61. Cl. 32.
Greiner, William, Co., Chicago, Ill. 713,319, pub. 1–17–61. Cl. 1.
Grey Hosiery Mills, d.b.a. Mary Grey Hosiery Mills, Bristol, Va. 713,572, pub. 1–17–61. Cl. 39.
Grey, Mary, Hosiery Mills: *See*—
Grey Hosiery Mills.
Greylock Electronics Supply Co., Inc., New York, N.Y. 713,444, pub. 1–17–61. Cl. 21.
H & H Enterprises, River Falls, Wis. 713,368, pub. 1–17–61. Cl. 13.
Haddon House Food Products, Inc., Camden, N.J. 713,619, pub. 1–17–61. Cl. 46.
Hadley, H. A., Inc., Winooski, Vt. 713,493, pub. 1–17–61. Cl. 26.
Halco Products, Inc., Orlando, Fla. 713,624, pub. 1–17–61. Cl. 46.
Haman, J. Paul, Yonkers, N.Y. 713,699. Cl. 46.
Hancock, Annie M., Appomattox, Va. 689,438, canc. Cl. 22.
Hanson, R. A., Co., Inc., Palouse, Wash. 713,669, pub. 1–17–61. Cl. 103.
Harley-Davidson Motor Co., to Harley-Davidson Motor Co., Milwaukee, Wis. 388,621, ren. 4–4–61. Cl. 38.
Harris, B. W., Mfg. Co., St. Paul, Minn. 713,549, pub. 1–17–61. Cl. 39.
Harris, B. W., Mfg. Co., St. Paul, Minn. 713,691. Cl. 39.
Harris Trust and Savings Bank, Chicago, Ill. 713,666, pub. 1–17–61. Cl. 102.
Harrison Home Products, Inc., Harrison, N.J. 713,637, pub. 1–17–61. Cl. 50.
Hausted, Ray K.: *See*—
Simmons Co.
Henthorn Advertising: *See*—
Henthorn, Emerson.
Henthorn, Emerson, d.b.a. Henthorn Advertising, Cincinnati, Ohio. 713,636, pub. 9–13–60. Cl. 50.
Hercules Powder Co., Wilmington, Del. 384,592, 12(c) pub. 4–4–61. Cl. 1.
Heyden Newport Chemical Corp.: *See*—
Nuodex Products Co., Inc.
Hi-G, Inc., Long Island City, N.Y. 713,597, pub. 1–17–61. Cl. 44.
Hill Chemical Co., Idaho Falls, Idaho. 713,380, pub. 3–29–60. Cl. 15.
Hilvert, Fred G., Co., Inc., Distributors, Glendale, Ariz. 713,622, pub. 1–17–61. Cl. 46.
His & Co. Aktiengesellschaft, Murgenthal, Switzerland. 384,800, ren. 4–4–61. Cl. 39.
Hodgman Rubber Co., Framingham, Mass. 713,515, pub. 1–17–61. Cl. 32.
Hoffman, M., & Co., Inc.: *See*—
Hoffman, Max.
Hoffman, Max, to M. Hoffman & Co., Inc., Boston, Mass. 138,259, ren. 4–4–61. Cl. 39.
Hoffmann-La Roche Inc., Nutley, N.J. 713,409–11, pub. 1–17–61. Cl. 18.
Holl-Gay Mfg. Co., Chicago, Ill. 713,642, pub. 1–17–61. Cl. 50.
Holt Hardwood Co., Oconto, Wis. 713,358, pub. 1–17–61. Cl. 12.
Houghtaling, John J., d.b.a. Magic Fingers Massage Co., Glen Rock, N.J. 713,598, pub. 1–17–61. Cl. 44.
Hudnut, Richard, Morris Plains, N.J. 713,647, pub. 1–17–61. Cl. 51.
Hudson's Bay Co.: *See*—
Governor and Co. of Adventurers of England, Trading into Hudson's Bay, The.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 713,355, pub. 2–9–60. Cl. 12.
Humble Oil & Refining Co., Houston, Tex., by merger from Penola Oil Co., New York, N.Y. 713,520, pub. 2–9–60. Cl. 35.
Huston, Tom, Peanut Co., Columbus, Ga. 602,226, canc. Cl. 51.
Hyde Mfg. Co., Southbridge, Mass. 144,585, ren. 4–4–61. Cl. 23.
Hydraulic Jack Packing & Tool Co.: *See*—
Kron, Saul.
Hydrawlik Co.: *See*—
Brown, George A.
Hyland Laboratories, Los Angeles, Calif. 713,350, pub. 1–17–61. Cl. 6.
Imhof, Alfred, Ltd., London, England. 713,511, pub. 1–17–61. Cl. 32.
Imperial Chemical Industries Ltd., London, England. 713,547, pub. 1–17–61. Cl. 39.
Industria Espanola de Perlas Imitacion, S.A., Barcelona, Spain. 713,498–9, pub. 3–15–60. Cl. 28.
Interchemical Corp.: *See*—
Ault & Wiborg Carbon & Ribbon Co., Inc.
International Nickel Co., Inc., The: *See*—
International Nickel Co., The.
International Nickel Co., The, to The International Nickel Co., Inc., New York, N.Y. 142,583, ren. 4–4–61. Cl. 14.
International Refining & Packing Corp., from Fulmar Foods, Paterson, N.J. 713,697. Cl. 46.
Interwoven Stocking Co., New Brunswick, N.J. 388,893–4, ren. 4–4–61. Cl. 39.
Jay, Leticia, New York, N.Y. 713,537, pub. 1–17–61. Cl. 38.
Jefferson Electric Co., Bellwood, Ill. 713,496, pub. 1–17–61. Cl. 27.
Jetronic Industries, Inc., Philadelphia, Pa. 713,488, pub. 1–17–61. Cl. 26.
Johns-Manville Corp., New York, N.Y., from Western Products Corp., Inc., Albuquerque, N. Mex. 713,353, pub. 5–5–50. Cl. 12.
Johnson & Johnson, New Brunswick, N.J. 713,395, pub. 1–17–61. Cl. 18.
Joiner, Dick, & Associates: *See*—
Joiner, Richard V.
Joiner, Richard V., d.b.a. Dick Joiner & Associates, Lemont, Ill. 713,643, pub. 1–17–61. Cl. 50.
Joyce, Inc., Cincinnati, Ohio. 713,545, pub. 1–17–61. Cl. 39.
Just Distributors, Inc.: *See*—
Fuld Brothers, Inc.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 713,372, pub. 1–17–61. Cl. 14.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 713,375, pub. 1–17–61. Cl. 14.
Karagheusian, A. & M., Inc., New York, N.Y. 713,579, pub. 4–26–60. Cl. 42.
Kayser, Henry, & Fils, Inc.: *See*—
Levin Brothers.
Kay-Tee Enterprises, Inc., New York, N.Y. 602,173, canc. Cl. 39.
Keane, Mary J., d.b.a. Keane Records, Hollywood, Calif. 713,531, pub. 1–17–61. Cl. 36.
Keane Records: *See*—
Keane, Mary J.
Kellogg Co., Battle Creek, Mich. 713,628, pub. 1–17–61. Cl. 46.
Kellogg Mfg. Co., Rochester, by American Brake Shoe Co., New York, N.Y. 138,039, 12(c) pub. 4–4–61. Cl. 23.
Kemp, William G., Pontiac, Mich. 713,354, pub. 6–7–60. Cl. 12.
Kern Foods, Inc., Cincinnati, Ohio. 713,693. Cl. 46.

Keystone Shower Door Co.: *See*—
Finkel, Abram.
King Candy Co., Fort Worth, Tex. 142,656, ren. 4-4-61. Cl. 46.
Kohler, Georg, Nuernberg, Germany. 713,449, pub. 1-17-61. Cl. 22.
Koninklijke Nederlandsche Gist- en Spiritusfabriek N.V., d.b.a. Royal Netherlands Distilleries, Delft, Netherlands. 713,392, pub. 1-17-61. Cl. 18.
Krah, Walter F., Chicago, Ill. 384,850, canc. Cl. 6.
Kramer Bros., Inc., New York, N.Y. 602,180-2, canc. Cl. 39.
Kress, S. H., and Co., New York, N.Y. 713,576, pub. 1-17-61. Cl. 39.
Krey Packing Co., St. Louis, Mo. 713,616-17, pub. 1-17-61. Cl. 46.
Kron, Saul, d.b.a. Hydraulic Jack Packing & Tool Co., Bloomfield, N.J. 713,475, pub. 1-17-61. Cl. 23.
Kurt Orban Co., Inc., New York, N.Y. 602,140-1, canc. Cl. 23.
Laclede-Christy Clay Products Co., St. Louis, Mo., by H. K. Porter Co., Inc., Pittsburgh, Pa. 324,687, 12(c) pub. 4-4-61. Cl. 13.
Laclede-Christy Clay Products Co., St. Louis, Mo., by H. K. Porter Co., Inc., Pittsburgh, Pa. 329,783, 12(c) pub. 4-4-61. Cl. 12.
Lady's Choice Foods: *See*—
Crown Products Corp.
Laing, Andrew, & Co.: *See*—
Cameron, D., & Co. Ltd.
Lakeland Nurseries Sales Corp., New York, N.Y. 713,318, pub. 1-17-61. Cl. 1.
Lane Enterprises: *See*—
Vance, Lindsey L.
Larson, Orion G., d.b.a. Tubular Vise Co., Denver, Colo. 602,145, canc. Cl. 23.
Last-O-Lon, Inc., Boston, Mass. 713,660, pub. 1-17-61. Cl. 52.
Lear, Inc., Santa Monica, Calif. 713,433, pub. 1-17-61. Cl. 21.
Legettes Inc., Boise, Idaho. 713,557, pub. 1-17-61. Cl. 39.
Lehn & Fink Products Corp.: *See*—
Gray, Dorothy, Salons.
Lehn & Fink Products Corp., d.b.a. Tussy Cosmetics, Bloomfield, N.J. 713,655, pub. 1-17-61. Cl. 51
Lennards Ltd., Bristol, England. 602,150, canc. Cl. 26.
Les Parfums Robert Piguet, Paris, France. 713,648, pub. 1-17-61. Cl. 51.
Lever Brothers Co.: *See*—
Pepsodent Co., The.
Lever Brothers Co., New York, N.Y. 387,467, ren. 4-4-61. Cl. 46.
Levin Brothers, to Henry Kayser & Fils, Inc., New York, N.Y. 385,658, ren. 4-4-61. Cl. 40.
Lewin, Willard J., Co., Inc., New York, N.Y. 602,193, canc. Cl. 39.
Lewis Engineering Co., Naugatuck, Conn. 713,438, pub. 1-17-61. Cl. 21.
Lind, Alfred L., d.b.a. Alfred L. Lind Co., Minneapolis, Minn. 713,635, pub. 1-17-61. Cl. 50.
Linen Thread Co., Inc., The: *See*—
Barbour Flax Spinning Co.
Link-Belt Co., Chicago, Ill. 713,458, pub. 1-17-61. Cl. 23.
Linx, Marc, Birmingham, Ala. 602,190, canc. Cl. 39.
Lloyd, Warren, Inc., Paterson, N.J. 713,510, pub. 1-17-61. Cl. 32.
Lockformer Co., The, Chicago, Ill. 713,469, pub. 1-17-61. Cl. 23.
Loebl, Walter S., d.b.a. The Ultra-White Co., Roanoke, Va. 713,679. Cl. 6.
Loewe Opta Aktiengesellschaft, Berlin-Steglitz, Germany. 713,428, pub. 11-25-58. Cl. 21.
Logan Electric Specialty Mfg. Co., Chicago, Ill. 602,182, canc. Cl. 22.
Lord Baltimore Filling Stations, Inc., to The American Oil Co., Baltimore, Md. 602,236, canc. Cl. 103.
Los Angeles Felt Co., Inc., Los Angeles, Calif. 713,314, pub. 1-17-61. Cl. 1.
Louisville Cement Co., Louisville, Ky. 144,600, ren. 4-4-61. Cl. 12.
Lowe, Joe, Corp., New York, N.Y. 713,366, pub. 1-17-61. Cl. 13.
Lowe, Joe, Corp., New York, N.Y. 713,602, pub. 1-17-61. Cl. 44.
Lupear Products, Inc., Farmington, Mich. 713,478, pub. 1-17-61. Cl. 23.
Mackie-Clemens Fuel Co., The, Pittsburg, Kans. and Kansas City, Mo. 272,577, 12(c) pub. 4-4-61. Cl. 1.
Magic Chef, Inc., St. Louis, Mo. 602,160, canc. Cl. 34.
Magic Fingers Massage Co.: *See*—
Houghtaling, John J.
Magnasync Corp., North Hollywood, Calif. 713,440, pub. 1-17-61. Cl. 21.
Malvern Brick and Tile Co., Malvern, Ark. 602,057, canc. Cl. 12.
Marshall Canning Co.: *See*—
Western Grocer Co.
Marshall Canning Co., Marshalltown, Iowa, to Sales Producers Associates, Inc., Kansas City, Kans. 143,682, ren. 4-4-61. Cl. 46.
Marshall-Wells Co., Duluth, Minn. 355,219, canc. Cl. 21.
Marshall-Wells Hardware Co., Duluth, Minn. 72,875, canc. Cl. 34.
Master Builders Co., The, Cleveland, Ohio, to American-Marietta Co., Chicago, Ill. 385,340, ren. 4-4-61. Cl. 12.
Material Handling Specialties Co.: *See*—
Bonsiett, Edward W.
May Research, Inc., Minneapolis, Minn. 713,672, pub. 1-17-61. Cl. 106.
McAleer Mfg. Corp., Detroit, Mich. 713,329, pub. 1-17-61. Cl. 4.
McAteer, R C Co., Ripley, N.Y. 713,625, pub. 1-17-61. Cl. 46.
McKeon Canning Co., Inc., Burbank, Calif. 442,994, canc. Cl. 46.
McLaughlin Gormley King Co., Minneapolis, Minn. 238,392, 12(c) pub. 4-4-61. Cl. 6.
McLaughlin Gormley King Co., Minneapolis, Minn. 352,464, 12(c) pub. 4-4-61. Cl. 6.
McLaughlin Gormley King Co., Minneapolis, Minn. 366,210, 12(c) pub. 4-4-61. Cl. 6.
McLaughlin Gormley King Co., Minneapolis, Minn. 425,664, 12(c) pub. 4-4-61. Cl. 6.
Mead Johnson & Co., Evansville, Ind. 384,726, ren. 4-4-61. Cl. 46.
Mead Johnson & Co., Evansville, Ind. 713,626, pub. 1-17-61. Cl. 46.
Merar, Erwin J., d.b.a. Merit Products Co., Milwaukee, Wis. 713,644, pub. 1-17-61. Cl. 51.
Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Merck & Co., Inc., Rahway, N.J. 389,037, ren. 4-4-61. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 713,403, pub. 1-17-61. Cl. 18.
Merit Products Co.: *See*—
Merar, Erwin J.
Metalcraft Products Co., Inc., Philadelphia, Pa. 713,436-7, pub. 1-17-61. Cl. 21.
Metter Mfg. Co., Metter, Ga. 713,543, pub. 6-7-60. Cl. 39.
Meyer Laboratories, Inc., Detroit, Mich. 713,412, pub. 1-17-61. Cl. 18.
Mid-States Buying Group, Inc., Grand Forks, N. Dak. 713,427, pub. 8-27-57. Cl. 21.
Millbank-Hardy Inc., New York, N.Y. 713,581-2, pub. 1-17-61. Cl. 42.
Minson, Inc., Atlanta, Ga., to Richardson-Merrell Inc., New York, N.Y. 384,753, ren. 4-4-61. Cl. 18.
Missouri Rolling Mill Corp., St. Louis, Mo. 713,362, pub. 3-17-59. Cl. 13.
Mom's Cookie Co.: *See*—
Ripon Foods, Inc.
Monarch Tile Mfg. Inc., San Angelo, Tex. 713,360, pub. 1-17-61. Cl. 12.
Monostructure, Inc., Sarasota, Fla. 713,357, pub. 1-17-61. Cl. 12.
Monsanto Chemical Co.: *See*—
Fiberloid Corp., The.
Monsanto Chemical Co., St. Louis, Mo. 380,729, ren. 4-4-61. Cl. 1.
Montgomery Ward & Co., Inc., Chicago, Ill. 713,518, pub. 7-15-58. Cl. 34.
Morgan Sign Machine Co., The, Chicago, Ill. 713,373, pub. 1-17-61. Cl. 14.
Morrell, John, & Co., Ottumwa, Iowa. 713,620-1, pub. 1-17-61. Cl. 46.
Morton Mfg. Co., Muskegon Heights, Mich. 713,456, pub. 6-7-60. Cl. 23.
Mrs. America, Inc., New York, N.Y. 713,675, pub. 1-17-61. Cl. A.
Mueller Brass Co., Port Huron, Mich. 713,472, pub. 1-17-61. Cl. 23.
Muller, Werner E., Southampton, Pa. 713,452, pub. 1-17-61. Cl. 22.
Munro, Walter J., New York, N.Y. 602,194, canc. Cl. 39.
National Automotive Parts Association, Detroit, Mich. 713,454, pub. 9-17-57. Cl. 23.
National Cash Register Co., The, Dayton, Ohio. 387,640, ren. 4-4-61. Cl. 37.
National Comics Publications, Inc., New York, N.Y. 713,536, pub. 1-17-61. Cl. 38.
National Farmers Union: *See*—
Farmers Educational and Cooperative Union of America.
National Pressure Cooker Co., to National Presto Industries Inc., Eau Claire, Wis. 384,941, ren. 4-4-61. Cl. 13.
National Presto Industries Inc.: *See*—
National Pressure Cooker Co.
National Ski Patrol System, Inc., Denver, Colo. 713,673, pub. 1-17-61. Cl. 200.
Nellemann & Drewsen A/S, Copenhagen, Denmark. 602,115, canc. Cl. 19.
Nelson-Boyer Co., Inc., Glendale, Calif. 713,400, pub. 1-17-61. Cl. 18.
New England Lock & Hardware Co., The, South Norwalk, Conn. 602,148, canc. Cl. 25.
Nicholson, H. R. Co., The, Baltimore, Md. 384,198, 12(c) pub. 4-4-61. Cl. 45.
Nic-L-Silver Battery Co., Santa Ana, Calif. 713,446, pub. 1-17-61. Cl. 21.
Nidia Botanical Garden, New York, N.Y. 602,037, canc. Cl. 6.
Nite-Walker Co., Inc., Newton Center, Mass. 602,225, canc. Cl. 50.
Nucel Corp., Syracuse, N.Y. 601,997, canc. Cl. 1.
Nu-Dent Porcelain Studio, Inc., New York, N.Y. 388,409, ren. 4-4-61. Cl. 44.
Nuodex Products Co., Inc., Elizabeth, N.J., by Heyden Newport Chemical Corp., New York, N.Y. 386,950, 12(c) pub. 4-4-61. Cl. 26.
Nutrition Control Products: *See*—
Derfler, Max.
Okonite Co., The, Passaic, N.J. 713,681. Cl. 21.
Old Chateau Wine Co.: *See*—
Franzia Brothers Winery.
Old Quaker Co., The, Lawrenceburg, Ind., to Schenley Distillers, Inc., Schenley, Pa. 386,563, ren. 4-4-61. Cl. 49.
Olivarera Peninsular, S.A., Malaga, Spain. 713,607, pub. 1-17-61. Cl. 46.
Outboard Marine Corp., Waukegan, Ill. 713,474, pub. 1-17-61. Cl. 23.
Owens-Corning Fiberglas Corp., Toledo, Ohio. 713,590, pub. 1-17-61. Cl. 43.

Owens-Illinois Glass Co., Toledo, Ohio. 713,517, pub. 9-6-60. Cl. 33.
Panel Parquetry Ltd., North Wales, England. 602,058, canc. Cl. 12.
Panepinto, Frank W., Philadelphia, Pa. 384,708, ren. 4-4-61. Cl. 16.
Paramount Bedding Corp., Norfolk, Va. 388,596, ren. 4-4-61. Cl. 22.
Parents' Institute, Inc., The, New York, N.Y. 500,763, canc. Cl. 38.
Parke, Davis & Co., Detroit, Mich. 140,512, ren. 4-4-61. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 298,600-1, canc. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 375,443-8, canc. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 387,083, 12(c) pub. 4-4-61. Cl. 44.
Parke, Davis & Co., Detroit, Mich. 397,508-11, canc. Cl. 6.
Parke, Davis & Co., Detroit, Mich. 533,130, canc. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 504,186, canc. Cl. 6.
Parke, Davis & Co., Detroit, Mich. 506,627-9, canc. Cl. 6.
Parke, Davis & Co., Detroit, Mich. 540,732, canc. Cl. 18.
Parke, Davis & Co., Detroit, Mich. 713,396-8, pub. 1-17-61. Cl. 18.
Parker Industries, Inc., Constantine, Mich. 602,127, canc. Cl. 22.
Pennsylvania Industrial Chemical Corp., Clairton, Pa. 387,945, ren. 4-4-61. Cl. 6.
Penn-Union Electric Corp., Erie, Pa. 713,441-2, pub. 1-17-61. Cl. 21.
Penola Oil Co.: *See*—
Humble Oil & Refining Co.
Pentron Corp.: *See*—
Pentron Sales Co., Inc.
Pentron Sales Co., Inc., by change of name from Pentron Corp., Chicago, Ill. 713,529, pub. 11-24-59. Cl. 36.
Pepsodent Co., The, Chicago, Ill., to Lever Brothers Co., New York, N.Y. 387,211, ren. 4-4-61. Cl. 29.
Perry-Austen Mfg. Co., Inc., Staten Island, N.Y. 713,386, pub. 1-17-61. Cl. 16.
Personal Sportswear, Inc., Boston, Mass. 713,546, pub. 4-26-60. Cl. 39.
Pfeiffer Co., The: *See*—
Pfeiffer, S., Mfg. Co.
Pfeiffer, S., Mfg. Co., to The Pfeiffer Co., St. Louis, Mo. 388,318, ren. 4-4-61. Cl. 18.
Pierre, Jon, Cosmetics, Inc., New York, N.Y. 713,656-7, pub. 1-17-61. Cl. 51.
Plasmakote Corp., Culver City, Calif. 713,384, pub. 7-5-60. Cl. 16.
Plibrico Co., Chicago, Ill. 713,361, pub. 1-17-61. Cl. 12.
Plough, Inc., Memphis, Tenn. 602,082, canc. Cl. 18.
Pneumatic Products, Inc., Hamden, Conn. 602,139, canc. Cl. 23.
Polycell Products Ltd., London, England. 713,661, pub. 1-17-61. Cl. 52.
Ponsell, Athalia, New York, N.Y. 602,138, canc. Cl. 23.
Porter, H. K., Co., Inc.: *See*—
Laclede-Christy Clay Products Co.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 713,521, pub. 1-17-61. Cl. 35.
Post, Norman W., Philadelphia, Pa. 602,006, canc. Cl. 3.
Postell, J. A., Atlanta, Ga. 713,383, pub. 1-17-61. Cl. 15.
Precision Chemical Pump Corp., Waltham, Mass. 713,473, pub. 1-17-61. Cl. 23.
Prichard, William W., d.b.a. The Zest Co., Decatur, Ill., to A. E. Staley Mfg. Co., Swampscott, Mass. 602,043, canc. Cl. 10.
Pritchard Pharmaceutical Products, Inc., Kansas City, Mo. 713,414, pub. 1-17-61. Cl. 18.
Professional Golfers' Association of America, The, Dunedin, Fla. 713,674, pub. 1-17-61. Cl. A.
Profile, Inc., Northvale, N.J. 713,595, pub. 1-17-61. Cl. 44.
Pure Oil Co., The: *See*—
Barber, W. H., Co.
Pyle-National Co., The, Chicago, Ill. 713,439, pub. 1-17-61. Cl. 21.
Quaker Storage Co., Inc., Philadelphia, Pa. 713,670, pub. 1-17-61. Cl. 105.
Radiator Specialty Co., Charlotte, N.C. 713,348, pub. 1-17-61. Cl. 6.
Ramsey Accessories Mfg. Corp., by Ramsey Corp., St. Louis, Mo. 384,093, 12(c) pub. 4-4-61. Cl. 35.
Ramsey Corp.: *See*—
Ramsey Accessories Mfg. Corp.
Ray Industries, Inc., Oxford, Mich. 713,423, pub. 1-17-61. Cl. 19.
Redwood & Ross, Inc., Kalamazoo, Mich. 713,544, pub. 11-18-58. Cl. 39.
Reis, Robert, & Co., New York, N.Y. 713,571, pub. 1-17-61. Cl. 39.
Reitz & Colucci, Fresno, Calif. 713,698. Cl. 46.
Relax-A-Tron Products, Inc., Flint, Mich. 713,594, pub. 1-17-61. Cl. 44.
Rembrandt Tobacco Corp. (Overseas) Ltd., Stellenbosch, Union of South Africa. 713,388, pub. 1-17-61. Cl. 17.
Republic Molding Corp., Chicago, Ill. 713,323, pub. 9-27-60. Cl. 2.
Reuther's Sea Food Co., Inc., New Orleans, La. 713,618, pub. 1-17-61. Cl. 46.
Revlon, Inc., New York, N.Y. 713,658, pub. 1-17-61. Cl. 51.
Reynolds, Dwight E., El Monte, Calif. 713,640, pub. 1-17-61. Cl. 50.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 713,389, pub. 1-17-61. Cl. 17.
Richardson-Merrell Inc.: *See*—
Minson, Inc.
Ripon Foods, Inc., d.b.a. Mom's Cookie Co., Ripon, Wis. 713,694. Cl. 46.
Rite Pack Co.: *See*—
Rock City Box Sales Co.
Riverside Trailer Mfg. Co. Inc., Brownwood, Tex. 713,417, pub. 2-24-59. Cl. 19.
Robert, John, Powers Products Co. Inc., New York, N.Y. 713,650, pub. 1-17-61. Cl. 51.
Roberts, Sanford & Taylor Co., Sherman, Tex. 713,327, pub. 1-17-61. Cl. 2.
Rock City Box Sales Co., Norcross, from Rite Pack Co., Hapeville, Ga. 713,612, pub. 1-17-61. Cl. 46.
Rocket Devices Corp., New York, N.Y. 602,066, canc. Cl. 18.
Rokeach, I., & Sons, Inc., New York, by assignment and change of name from I. Rokeach & Sons, Inc., Flushing, N.Y. 713,692. Cl. 46.
Rolfe Mfg. Co. Ltd., The, Smethwick, Birmingham, England. 602,118, canc. Cl. 19.
Royal Knitwear Co., Buffalo, N.Y. 270,632, canc. Cl. 39.
Royal Netherlands Distilleries: *See*—
Koninklijke Nederlandsche Gist-en Spiritusfabriek N.V.
Rudolph Foods Co., Lima, Ohio. 713,613, pub. 1-17-61. Cl. 46.
SI Handling Systems, Inc., Easton, Pa. 713,422, pub. 1-17-61. Cl. 19.
S.I.I.A. Sicule Lombarde Industrie Associate Societa per Azioni, Codogno (Milan), Italy. 713,695. Cl. 46.
Safeway Stores, Inc., Oakland, Calif. 713,629, pub. 1-17-61. Cl. 46.
Saks & Co., New York, N.Y. 713,554, pub. 1-17-61. Cl. 39.
Salad Oil Distributors, Los Angeles, Calif. 713,696. Cl. 46.
Salem Mfg. Co. Congoleum-Nairn Inc., Kearny, N.J. 131,828. Am. 7(d). Cl. 20.
Sales Producers Associates, Inc.: *See*—
Marshall Canning Co.
Sandoz Chemical Works, Inc., to Sandoz, Inc., New York, N.Y. 389,060, ren. 4-4-61. Cl. 4.
Sandoz, Inc.: *See*—
Sandoz Chemical Works, Inc.
Sarah-Worth Corp., Beverly Hills, Calif. 602,041, canc. Cl. 6.
Schenley Distillers, Inc.: *See*—
Old Quaker Co., The.
Schenley Industries, Inc., New York, N.Y. 713, 641, pub. 1-17-61. Cl. 50.
Schmid, Julius, Inc., New York, N.Y. 713,406, pub. 1-17-61. Cl. 18.
Schniewind, H. E., Haan, Germany. 713,559, pub. 1-17-61. Cl. 39.
Schwarzkopf, Hans, Hamburg-Altona, Germany. 713,645, pub. 1-17-61. Cl. 51.
Seagull Imports, Inc., New York, N.Y. 713,570, pub. 1-17-61. Cl. 39.
Sealy, Thomas, New York, N.Y., by Stallworth Pine Products Co., Inc., Mobile, Ala. 141,220, 12(c) pub. 4-4-61. Cl. 16.
Seinsheimer, H. A., Co., The, Cincinnati, Ohio. 385,498, 12(c) pub. 4-4-61. Cl. 39.
Selas Corp. of America, Philadelphia, Pa. 602,166, canc. Cl. 34.
Servco Co., The, Long Beach, Calif. 713,462-4, pub. 1-17-61. Cl. 23.
Service Seed Co. Ltd., Crystal Springs, Miss. 553,583, canc. Cl. 1.
Seymour, Earl F., d.b.a. Seymour's, New York, N.Y. 713,483, pub. 5-24-60. Cl. 26.
Seymour's: *See*—
Seymour, Earl F.
Shapiro & Son Curtain Corp., New York, N.Y. 713,585, pub. 1-17-61. Cl. 42.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 389,056, ren. 4-4-61. Cl. 18.
Shaw, Earl R., d.b.a. Tie Rite Neckwear Co., Asheboro, N.C. 713,563, pub. 1-17-61. Cl. 39.
Shoe-Sheen Products Corp., New York, N.Y. 713,331, pub. 1-17-61. Cl. 4.
Sierra Engineering Co., Sierra Madre, Calif. 713,601, pub. 1-17-61. Cl. 44.
Silver Knit Hosiery Mills, Inc., High Point, N.C. 713,690. Cl. 39.
Simmons Co., New York, N.Y., from Ray K. Hausted, d.b.a. Hausted Mfg. Co., Medina, Ohio. 713,592, pub. 1-17-61. Cl. 44.
Siesinger, Stephen, Inc., New York, N.Y. 713,552, pub. 1-17-61. Cl. 39.
Slumberest Co., Georgetown, Ky. 713,443, pub. 1-17-61. Cl. 21.
Smith, E. J., Co.: *See*—
Smith, Earl J.
Smith, E. J., & Sons Co.: *See*—
Smith, Earl J.
Smith, Earl J., d.b.a. E. J. Smith Co., by E. J. Smith & Sons Co., Charlotte, N.C. 385,568, 12(c) pub. 4-4-61. Cl. 22.
Smith Kline & French Laboratories, Philadelphia, Pa. 602,109, canc. Cl. 18.
Smith-Lee Co., Inc., Oneida, N.Y. 713,689. Cl. 37.
Soc. Accom. Mugolio di Seaf & C., Milan, Italy. 602,100, canc. Cl. 18.
Soc. Graziano & C., Alessandria, Italy. 713,461, pub. 1-17-61. Cl. 23.
Societe Anonyme; ELCO, Paris, France. 713,429, pub. 2-2-60. Cl. 21.
Societe des Huiles Labo, Societe Anonyme, Paris, France. 713,381-2, pub. 1-17-61. Cl. 15.
Socony Mobil Oil Co.: *See*—
Socony-Vacuum Oil Co., Inc.
Socony-Vacuum Oil Co., Inc., to Socony Mobil Oil Co., Inc., New York, N.Y. 384,830, ren. 4-4-61. Cl. 15.
Southern Bedding Accessories, Inc., New York, N.Y. 713,583, pub. 1-17-61. Cl. 42.
Southern State Canning Co., Fort Valley, Ga. 713,623, pub. 1-17-61. Cl. 46.
Southwester Co., Chicago, Ill. 602,130, canc. Cl. 22.
Space Electronics Corp., Glendale, Calif. 713,486, pub. 1-17-61. Cl. 26.

Sparks, Martha, Seattle, Wash. 713,563, pub. 1-17-61. Cl. 40.
Speakman Co., Wilmington, Del. 713,369, pub. 1-17-61. Cl. 13.
Spectrafoam Corp.: *See*—
Greenwold, Cecil, Inc.
Sprite Corp., The, from T. C. Evans, The Coca-Cola Co., New York, N.Y. 704,044. Am. 7(d). Cl. 45.
Staley, A. E., Mfg. Co.: *See*—
Prichard, William W.
Staley, A. E., Mfg. Co., Decatur, Ill. 142,777, ren. 4-4-61. Cl. 46.
Stallworth Pine Products Co., Inc.: *See*—
Sealy, Thomas.
State Farm Mutual Automobile Insurance Co., Bloomington, Ill. 713,667, pub. 1-17-61. Cl. 102.
Stearns & Foster Co., The, Cincinnati, Ohio. 713,685-6. Cl. 32.
Sterling Bolt Co., Chicago, Ill. 713,365, pub. 1-17-61. Cl. 13.
Sterling Drug Inc., d.b.a. Winthrop Laboratories, New York, N.Y. 713,394, pub. 1-17-61. Cl. 18.
Sterling Products Co., Inc., St. Paul, Minn. 713,328, pub. 7-1-58. Cl. 3.
Stetson China Co., Lincoln, Ill. 713,500, pub. 1-17-61. Cl. 30.
Stevens, J. & E., Co., Cromwell, Conn. 602,134, canc. Cl. 22.
Stevens, J. P., & Co., Inc., New York, N.Y. 713,587-8, pub. 1-17-61. Cl. 42.
Stilgenbauer, Robert M., Los Angeles, Calif. 713,540, pub. 1-17-61. Cl. 38.
Stuhmer, Geo. F., & Co., Brooklyn, N.Y. 713,630-1, pub. 1-17-61. Cl. 46.
Sun Chemical Corp., New York, N.Y. 713,385, pub. 1-17-61. Cl. 16.
Superb Food Products, Kalamazoo, Mich. 611,155, canc. Cl. 46.
Superba Cravats, Inc., Rochester, N.Y. 713,542-3, pub. 4-17-56. Cl. 39.
Superior Valve and Fittings Co., Pittsburgh, Pa. 713,367, pub. 1-17-61. Cl. 13.
Svenska Aktiebolaget Gasaccumulator, Stockholm-Lidingo, Sweden. 713,322, pub. 2-10-59. Cl. 2.
Tarrson, Sidney A., Co., Chicago, Ill. 713,463, pub. 1-17-61. Cl. 22.
Tatone, John, d.b.a. Tatone Products, San Francisco, Calif. 713,490, pub. 1-17-61. Cl. 26.
Tatone Products: *See*—
Tatone, John.
Taylor-Bell Co., Inc., New York, N.Y. 713,577, pub. 1-17-61. Cl. 40.
Techne (Cambridge) Ltd., Duxford, England. 713,481, pub. 1-17-61. Cl. 26.
Tejax Engineering Corp., Pawtucket, R.I. 713,482, pub. 1-17-61. Cl. 26.
Textile and Clothing Factory: *See*—
Triumph Textil- und Bekleidungswerke Aktiengesellschaft.
Thomas, Walter R., Inc., Atlanta, Ga. 713,495, pub. 1-17-61. Cl. 27.
Tie Rite Neckwear Co.: *See*—
Shaw, Earl R.
Toledo Scale Corp., Toledo, Ohio. 713,402, pub. 1-10-61. Cl. 26.
Trane Co., The, La Crosse, Wis. 386,219, ren. 4-4-61. Cl. 34.
Trayco, Inc., New York, N.Y. 713,532, pub. 1-17-61. Cl. 37.
Tri-Kem Corp., Washington, D.C. 713,393, pub. 1-17-61. Cl. 18.
Tripoli Barbers' Supply Co., Philadelphia, Pa. 388,618, ren. 4-4-61. Cl. 51.
Triumph Textil- und Bekleidungswerke Aktiengesellschaft, d.b.a. Textile and Clothing Factory, Munich, Germany. 713,551, pub. 1-17-61. Cl. 39.
Troy, Seymour: *See*—
Troy, Seymour, Inc.
Troy, Seymour, Inc., to S. Troy, New York, N.Y. 381,692, ren. 4-4-61. Cl. 39.
Tubbs Cordage Co., San Francisco, Calif. 144,955, ren. 4-4-61. Cl. 7.
Tubular Vise Co.: *See*—
Larson, Orion G.
Tussy Cosmetics: *See*—
Lehn & Fink Products Corp.
Ultra-White Co., The: *See*—
Loebl, Walter S.
Union Carbide Corp., New York, N.Y. 713,332, pub. 1-17-61. Cl. 6.
Union Carbide Corp., New York, N.Y. 713,683-4. Cl. 23.
Union Carbide and Carbon Corp., New York, N.Y. 602,011, canc. Cl. 6.
Union Pin Co., The, Winsted, Conn. 713,578, pub. 1-17-61. Cl. 40.
United Chapters of Phi Beta Kappa, Williamsburg, Va. 602,231, canc. Cl. 100.
United Chemical Co., Inc., Kansas City, Mo. 386,560, 12(c) pub. 4-4-61. Cl. 16.
United Co-Operatives, Inc., Alliance, Ohio. 384,494. Am. 7(d). Cl. 6.
United Cotton Goods Co., Inc., Griffin, Ga. 713,584, pub. 1-17-61. Cl. 42.
United Merchants and Manufacturers, Inc., New York, N.Y. 713,586, pub. 1-17-61. Cl. 42.
United Sheeplined Clothing Co., Inc., New York, N.Y. 713,567, pub. 1-17-61. Cl. 39.
Universal Marketing Association, Inc., New York, N.Y. 713,377, pub. 1-17-61. Cl. 14.
Universal Match Corp., Ferguson, Mo., from Ferguson Machine Corp. of Indiana, St. Louis, Mo. 713,468, pub. 12-27-60. Cl. 23.
Universal Spray Can Corp., New York, N.Y. 713,677-8. Cl. 4.
University Drug Co., St. Louis, Mo. 713,401, pub. 1-17-61. Cl. 18.
Vance, Lindsey L., d.b.a. Lane Enterprises, Denver, Colo. 713,501, pub. 1-31-61. Cl. 28.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 713,338, pub. 1-17-61. Cl. 6.
Vapoñer Corp., Chicago, Ill. 602,060-1, canc. Cl. 12.
Varsity Pajamas, Inc., d.b.a. Varsity Underwear Corp., New York, N.Y. 713,556, pub. 1-17-61. Cl. 39.
Varsity Underwear Corp.: *See*—
Varsity Pajamas, Inc.
Velvetone Advertising Displays, Inc., d.b.a. Velvetone Co., San Francisco, Calif. 713,534, pub. 1-17-61. Cl. 38.
Velvetone Co.: *See*—
Velvetone Advertising Displays, Inc.
Vereinigte Ultramarinfabriken Aktiengesellschaft vormals Leverkus, Zeltner & Consorten, Cologne, Germany. 713,344-5, pub. 1-17-61. Cl. 6.
Vic Gene Mfg. Co., Inc., Kansas City, Mo. 602,185-6, canc. Cl. 39.
Viewlex, Inc., Long Island City, N.Y. 713,480, pub. 10-21-58. Cl. 26.
Villeroese Watch Co.: *See*—
Braun, Jacob.
Voigtlander A.G., Braunschweig, Germany. 713,484, pub. 1-17-61. Cl. 26.
Wal-Feld Co., The, Lynbrook, N.Y. 602,067, canc. Cl. 18.
Wallerstein Co.: *See*—
Baxter Laboratories, Inc.
Warren-Teed Products Co., The, Columbus, Ohio. 713,413, pub. 1-17-61. Cl. 18.
Waterbury Rolling Mills, Inc., Waterbury, Conn. 713,378, pub. 1-17-61. Cl. 14.
Watkins, J. R., Co., The, Winona, Minn. 672,986, canc. Cl. 45.
Watkins, J. R., Co., The, Winona, Minn. 673,676, canc. Cl. 45.
Well Completions, Inc., Denver, Colo. 713,339-40, pub. 1-17-61. Cl. 6.
Wembley, Inc., New Orleans, La. 713,564, pub. 1-17-61. Cl. 39.
West Bend Aluminum Co., West Bend, Wis. 713,477, pub. 1-17-61. Cl. 23.
Western Grocer Co., d.b.a. Marshall Canning Co., Marshalltown, Iowa, to Consolidated Foods Corp., Chicago, Ill. 384,687, ren. 4-4-61. Cl. 29.
Western Products Corp., Inc.: *See*—
Johns-Manville Corp.
Weston, Byron, Co., Dalton, Mass. 130,990, cor. Cl. 37.
Whirlpool Corp., St. Joseph, Mich. 713,434, pub. 1-17-61. Cl. 21.
White, George L. C., Los Angeles, Calif. 602,040, canc. Cl. 6.
White Sewing Machine Corp., Lakewood, Ohio. 383,580, 12(c) pub. 4-4-61. Cl. 23.
White Stag Mfg. Co.: *See*—
Breier's, Marcus, Sons.
Whiting Corp., Harvey, Ill. 602,113, canc. Cl. 19.
Whitmer, Charles C., Cleveland, Ohio. 713,509, pub. 1-17-61. Cl. 31.
Wieand, Dorothy N., Philadelphia, Pa. 713,568, pub. 1-17-61. Cl. 39.
Wilbert Products Co., Inc., New York, N.Y. 713,503, pub. 1-17-61. Cl. 29.
Wilhelmi, Max F., d.b.a. Buckaroo Tackle Co., Lawrence, Kans. 713,682. Cl. 22.
Willoslim, Inc., Beverly Hills, Calif. 713,596, pub. 1-17-61. Cl. 44.
Wilmot Engineering Co., White Haven, Pa. 713,470, pub. 1-17-61. Cl. 23.
Winthrop Laboratories: *See*—
Sterling Drug Inc.
Woodard, Viviane, Corp., by change of name from Viviane Woodard Cosmetics, Panorama City, Calif. 713,646, pub. 1-17-61. Cl. 51.
Woodard, Viviane, Cosmetics: *See*—
Woodard, Viviane, Corp.
Worcester Underwear Co., Inc., Worcester, Mass. 713,560, pub. 1-17-61. Cl. 39.
Wyler Watch Corp., New York, N.Y. 713,494, pub. 1-17-61. Cl. 27.
Young, E. F., Jr. Mfg. Co., Meridian, Miss. 713,658, pub. 1-17-61. Cl. 51.
Young, L. A., Spring and Wire Corp., Detroit, Mich. 602,114, canc. Cl. 19.
Younghusband, James L., Chicago, Ill. 602,247, canc. Cl. 107.
Zeits, Ann N., Brooklyn, N.Y. 602,172, canc. Cl. 39.
Zest Co., The: *See*—
Prichard, William W.

U.S. GOVERNMENT PRINTING OFFICE: 0—1961

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April 11, 1961 Volume 765 Number 2

PATENTS

NOTICES

Errata

All references to Patent No. 2,975,165 to Archibald N. Bolstad, assignor to Minnesota Mining and Manufacturing Company, for Polymerization Process and Apparatus for Use Therein, appearing in the OFFICIAL GAZETTE of Mar. 14, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

All references to Patent No. 2,976,172 to Alexander T. Wilson, assignor to Standard Oil Company, for Process for Irradiating High Hydrocarbon Coatings on Metal to Form Polymeric Coatings and Resultant Article, appearing in the OFFICIAL GAZETTE of Mar. 21, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

Board of Appeals Decisions Rendered in the Month of February 1961

Examiner affirmed	150
Examiner affirmed in part	23
Examiner reversed	49
Total	222

Disclaimer

2,765,373.—*Alonso L. Smith*, Houston, Tex. HEARING AID, CONSTRUCTION AND SUPPORT THEREFOR. Patent dated Oct. 2, 1956. Disclaimer filed Mar. 6, 1961, by the inventor.

Hereby enters this disclaimer to claims 1, 8 and 6 of said patent.

Patents Available for Licensing or Sale

2,663,295. Baby Cuff. Bernard C. Lewandowski and Frank V. Lewandowski, Buffalo, N.Y. Correspondence to: James J. Ralabate, 716 Brisbane Building, Buffalo 3, N.Y.

2,951,136. Electric Switch Actuating Mechanism. Columbus C. Petrino, 409 Fenno St., Revere 51, Mass.

2,952,828. Terminal Board Arrangement for Selective Interconnection. Contraves A.G., Zurich, Switzerland. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,963,280. Filling and Discharging Device for Surface Finishing Machines (Electroplating, Degreasing, Tumbling With Abrasives, Etc.). Kovo-Finis, narodni podnik, Ledec nad Sazavou, Czechoslovakia. Correspondence to: Richard Low, 1060 Broad St., Newark 2, N.J.

2,964,218. Collapsible Tube Dispenser. Vernon H. Shermer, Route 1, Box 915, Klamath Falls, Oreg.

2,972,366. Miter Gage Attachment for Box-Joints (Adaptable to Both Bench Saw and Radial Saw). Anthony Caruso, 445 Catherine St., Fort Lee, N.J.

Design Pat. 184,905. Portable Aquarium Holder. Harold M. Adams, Route 1, Box 245, Wimauma, Fla.

Correspondence concerning the following 3 patents should be directed to: Frank Ledermann, 154 Nassau St., New York 38, N.Y.

2,556,584. Holder and Protector for Collapsible Paste Tubes. Frank J. Hofmann, New York, N.Y.

2,661,123. Barrel Bung Bit. Joseph J. Guarino, New York, N.Y.

2,800,688. Durable Tubular Rubber Mat. Simon Lobel, Brooklyn, N.Y.

General Electric Company is prepared to grant non-exclusive licenses under the following 6 patents upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

2,887,500. Redistribution of Organosilanes.

2,887,501. Preparation of Higher Alkylated Alkyl Halogenosilanes.

2,887,502. Preparation of Alkyl Chlorosilanes.

2,891,083. Process for the Preparation of Flame-Retardant Silicone Rubber and Composition Thereof.

2,945,817. Silica-Silicone Aerogels and Their Preparation.

2,945,838. Amide Stabilized Organopolysiloxane Compositions and Their Preparation.

First Assistant Commissioner of Patents

DELEGATION OF AUTHORITY TO SERVE AS ACTING COMMISSIONER OF PATENTS

Acting under the provisions of section 3 of Title 35 United States Code and of section 2 of Reorganization Plan No. 5 of 1950, I hereby authorize Mr. Arthur W. Crocker, First Assistant Commissioner of Patents, to be and serve as Acting Commissioner of Patents, beginning with the opening of business of the United States Patent Office on March 2, 1961. This authorization shall remain in force until a new Commissioner of Patents to fill the vacancy that will exist in that office as of March 2, 1961, is appointed and takes office.

(R.S. 161; 5 U.S.C. 22; 35 U.S.C. 3; Reorganization Plan No. 5 of 1950, 15 F.R. 3174).

LUTHER H. HODGES,
Secretary of Commerce.

Mar. 1, 1961.

[F.R. Doc. 61-2091; Filed, Mar. 7, 1961; 8:54 a.m.]

Published in 26 F.R. 2089, March 8, 1961

New Applications Received During February 1961

Patents	5,913
Designs	327
Plant Patents	1
Reissues	18
Total	6,259

Issue

Patents	1,016	No. 2,978,705 to No.	2,979,720, incl.
Designs	40	No. 190,071 to No.	190,110, incl.
Plant Patents	1	No. 2,045	
Reissues	2	No. 24,964 to No.	24,965, incl.
Total	1,059		

CONDITION OF PATENT APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of pending applications (excluding Designs)	191, 475
Total number of pending Design applications	5, 539
Total number of applications awaiting action (excluding Designs)	89, 577
Total number of Design applications awaiting action	1, 618
Date of oldest new application	October 2, 1959
Date of oldest amended application	October 2, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 32, 48, 46, 50, 58, 59, 60, 65, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 43, 44, 49, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 27, 29, 61, 81, 83.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 36, 52, 63.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 20,22, 25, 45, 53, 65.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 28, 33, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 42, 55, 57.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	8-8-60	7-25-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	8-15-60	7-20-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	7-11-60	5-3-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Storage Service; Conveyors, Chutes, Skids, Guides and Ways	5-16-60	5-19-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	1-25-60	1-25-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	5-17-60	5-24-60
7. (IV) ANDERSON, E. G., Optics	5-16-60	6-7-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	8-4-60	8-5-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	7-6-60	7-25-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	6-24-60	6-17-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clinching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	5-2-60	5-4-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	5-16-60	5-3-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	5-4-60	5-5-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	5-30-60	5-11-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	5-16-60	5-3-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	1-25-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	5-11-60	5-12-60
18. (VI) BLUM, A. (LEVINE, S. acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	5-6-60	5-2-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-20-60	5-17-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Cases; Undertaking; Electrical Connectors	5-6-60	5-5-60
21. (III) MADER, R. C., Textiles	6-30-60	6-3-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	6-6-60	5-2-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	15-3-59	10-3-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	6-28-60	7-15-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	5-10-60	5-9-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	5-5-60	4-15-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	7-5-60	5-25-60
28. (VI) BRAUNER, E. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Clutches or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-22-60	5-18-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	5-5-60	5-7-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	5-15-60	5-1-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	6-15-60	6-9-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	7-5-60	5-25-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-11-60	4-14-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	5-4-60	5-3-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	7-5-60	7-1-60
36. (V) EVANS, R. L., Measuring and Testing (part)	4-6-60	4-25-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	4-6-60	4-13-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	4-4-60	4-6-60
39. (IV) WEIL, L., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	8-10-60	6-17-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	8-1-60	8-1-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-1-60	4-20-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	5-25-60	5-25-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	3-2-60	1-25-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-23-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	8-2-60	8-1-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-5-60	5-27-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	5-12-60	5-2-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	4-12-60	4-13-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-25-60	5-10-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	3-25-60	3-28-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-20-60	4-11-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	5-29-60	5-19-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	8-4-60	8-5-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-25-60	6-1-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	6-2-60	5-27-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-17-60	5-10-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	5-2-60	4-15-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	7-1-60	7-12-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	2-24-60	2-4-60
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	6-2-60	6-6-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	7-20-60	7-13-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	5-5-60	5-5-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	5-9-60	4-5-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	8-7-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	6-6-60	6-9-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	2-1-60	1-5-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	6-1-60	5-19-60
81. (III) MONCURE, J. A., Industrial Arts	12-2-60	12-12-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	12-12-60	12-16-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	7-8-60	7-5-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	9-7-60	10-11-60
93. WAHL, R. A., Wire Working	9-7-60	10-5-60
94. BERLOWITZ, W., Gas Separation	8-24-60	8-15-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-1-60	6-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e.g., Steroids; Synthetic Resins (part), i.e., Polyethylenes—Butadiene	5-23-60	5-10-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during April 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1960*.

Patents	Numbers 2,945,520 to 2,947,690, inclusive
Plant Patents	Numbers 622 to 625, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE THE DOBECKMUN COMPANY (THE DOW CHEMICAL COMPANY, ASSIGNEE, SUBSTITUTED)

No. 6613. Decided December 8, 1960. Petition for Rehearing Denied Feb. 21, 1961

[CCPA —; 286 F.2d 187; — USPQ —]

1. TRADEMARK — REGISTRABILITY — "FILMS," "FOILS" AND "WRAPPING MATERIALS" AS RELATED GOODS.

Upon consideration of the issue whether Section 2(d) of the Lanham Act supported the refusal below to register the mark "DURAFILM" for "laminated and/or extrusion-coated translucent or transparent packaging films" over a prior registration of the trademark "DUROFOIL" for "wrapping material, namely, paper laminated to a metallic foil and transparent film material laminated to a metallic foil," *Held* that "While there may be a technical difference between the 'packaging films' recited in the application and the 'wrapping material' recited in the reference, this difference is of no legal significance in the resolution of the issue here"; that "'Films,' 'foils,' and 'wrapping materials' are related goods as shown by appellant's specimen label and by appellant's advertising cited by the Examiner"; that "We are therefore unwilling, in the absence of definite evidence of the registrant's intent to so limit the term, to assign a technically restricted meaning to the term 'wrapping material'"; and that "The owner of the prior registered mark has the right to use his mark on such closely related goods."

2. SAME — SAME — CONFUSING SIMILARITY — LANHAM ACT, SECTION 2(d).

With reference to the application for trademark registration at bar and the cited prior registration, *Held* that "Section 2(d) requires us to determine not whether the goods are identical but only whether applicant's mark so resembles the prior mark as to be likely when applied to its goods to cause confusion, or mistake, or to deceive purchasers."

3. SAME—SAME—SAME.

In determining confusing similarity, *Held* that "It is an elemental proposition that the marks must be considered in their entireties."

4. SAME — SAME — SAME — "DURAFILM" AND "DUROFOIL"— DISCRIMINATING PURCHASERS.

Held that "Appellant's entire mark 'DURAFILM' when applied to its goods so resembles the registered mark 'DUROFOIL' that confusion or mistake or deception of purchasers is likely"; and *Held* that even a discriminating purchaser in the packaging industry "might well assume that the names 'DURAFILM' and 'DUROFOIL' were trademarks on companion products, i.e., the 'films' and 'foils' of a single producer."

AFFIRMED.

Ely, Pearne & Gordon (*A. L. Ely, Jr.* of counsel) for appellant.

Clarence W. Moore for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN and SMITH, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania.*

SMITH, *J.*, delivered the opinion of the court.

The single issue here is whether Section 2(d) of the Lanham Act (15 U.S.C. 1052(d)) supports the refusal of the Examiner, affirmed by the Trademark Trial and Appeal Board, to register applicant's mark "DURAFILM" for "laminated and/or extrusion-coated translucent or transparent packaging films," over prior Registration No. 564,274 of the trademark "DUROFOIL" for "wrapping material, namely, paper laminated to a metallic foil and transparent film material laminated to a metallic foil."

Appellant urges that the refusal to register its mark is not proper and should be reversed because:

1. The goods are different;
2. The marks are different; and
3. The goods are sold to discriminating purchasers.

[1] While there may be a technical difference between the "packaging films" recited in the application and the "wrapping material" recited in the reference, this difference is of no legal significance in the resolution of the issue here. Applicant supplies plastic films which are used in various ways in the packaging industry. The specimen submitted with the application to register its mark further identifies appellant as being "converters, printers, laminators of films and foils." It appears, therefore, that appellant offers to supply either films or foils as may be requested by its customers and that both films and foils are used by appellant's customers in packaging their goods for resale to the public. In addition, applicant advertises laminated aluminum foil and paper as an "outerwrap" for boxes used in the packaging industry. This "outerwrap" product appears to be a "wrapping material" as this term is used in the cited registration.

Appellant's argument that the marks presently are being used on goods which the packaging industry considers to be technically different is predicated solely upon an assumption that "wrapping material" in the packaging industry is a different material than is a "packaging film." There is no evidence of record to support this argument. Even if such evidence were before us, this fact is not determinative of the issue.

"Films," "foils," and "wrapping materials" are related goods as shown by appellant's specimen label and by appellant's advertising cited by the Examiner. We are therefore unwilling, in the absence of definite evidence of the registrant's intent to so limit the term, to assign a technically restricted meaning to the term "wrapping material." The owner of the prior registered mark has the right to use his mark on such closely related goods.

Similarity of the products of appellant and of registrant is of greater legal significance in applying Section 2(d) than are the possible semantic differences urged upon us by appellant. [2] Section 2(d) requires us to determine not whether the goods are identical but only whether applicant's mark so resembles the prior mark as to be likely when applied to its goods to cause confusion, or mistake, or to deceive purchasers.

Appellant's argument that the marks "DURAFILM" and "DUROFOIL" are different is predicated upon dictum found in our decision in *The May Department Stores Co.* v. *Schloss Bros. & Co., Inc.*, 43 CCPA 980, 234 F.2d 870, 110 USPQ 282. Relying upon this dictum, appellant urges that the prefixes "DURO" and "DURA" are common, descriptive terms without trademark significance. A sufficient answer to this argument is that the court in the *May* case found no confusing similarity in the marks "Duro-Style Fabrics" and "Durosheen."

[3] It is an elemental proposition that the marks must be considered in their entireties. *Sears, Roebuck and Co.* v. *Hofman*, 46 CCPA 708, 258 F.2d 958, 119 USPQ 137; *Meyer Chemical Co.* v. *Anahist Co., Inc. (Warner-Lambert Pharmaceutical Co., Assignee, substituted)*, 46 CCPA 784, 268 F.2d 344, 120 USPQ 483.

While it may be necessary to dissect marks as was done in the *May* case, supra, in analyzing specific similarities and differences of the marks, the determination of the issue here requires, as it did in the *May* case, a comparison of the entire marks. [4] Appellant's entire mark "DURAFILM" when applied to its goods so resembles the registered mark "DUROFOIL" that confusion or mistake or deception of purchasers is likely.

In so holding, we have given consideration to and reject appellant's argument that since the goods are sold to the packaging industry the sales are made to discriminating purchasers. Even such a discriminating purchaser might well assume that the names "DURAFILM" and "DUROFOIL" were trademarks on companion products, i.e., the "films" and "foils" of a single producer.

It was the purpose of Section 2(d) of the Lanham Act to prevent registration of a mark such as that here in issue which so resembles a previously registered mark as to be likely, when applied to the goods of applicant, to cause confusion or mistake or to deceive purchasers.

For the foregoing reasons, we affirm the decision of the Trademark Trial and Appeal Board.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,942,439, J. Rabinow, Automatic regulation of timepieces; **2,958,029**, same, Self-actuated automatic regulation of timepieces, filed Feb. 14, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 29/235, *Jacob Rabinow et al.* v. *Hamilton Watch Company.*

2,945,554, R. L. Meadows, Heavy-duty trailer and tractor hitch, Suit for Declaratory Judgment, filed Oct. 9, 1958, D.C., E.D. Pa. (Philadelphia), Doc. 25/412, *L. B. Smith, Inc.* v. *Luther J. Hughes, doing business as Hughes Trailers.* Certain claims of patent held invalid, but if valid would be held infringed by plaintiff (notice Feb. 10, 1961).

2,946,389, A. C. Barlow et al., Method of molding thermosetting synthetic resin materials, filed Feb. 14, 1961, D.C. Del. (Wilmington), Doc. 2300, *Kaumagraph Company* v. *Fairhaven Properties Corporation.*

2,958,998, R. D. Grayson, Universal safety temperature control, filed Feb. 3, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 125/61–T, *General Controls Company* v. *Deutsch Controls Corporation.*

2,958,654, L. H. Conover, Tetracycline, filed Feb. 8, 1961, D.C., W.D. Tex. (San Antonio), Doc. 2929, *Chas. Pfizer & Co., Inc.* v. *Noramco Pharmaceuticals, Inc.*

2,711,811, L. A. Hautau et al., Mechanical loader and unloader for production machines, filed Feb. 25, 1960, D.C., E.D. Mich., Doc. 19/873, *Llewellyn A. Hautau et al.* v. *Kearney & Trecker Corporation and General Mtrs. Corporation.* Order dismissing complaint Feb. 15, 1961.

2,717,015, M. J. Berry, Bag; **2,795,258**, same; Doc. 147,477, M. Shanser, Combined bottle and diaper utility bag, filed Feb. 20, 1957, D.C., S.D.N.Y., Doc. 117/306, *Morris J. Berry etc., doing business as Fashioncraft Products* v. *Alexander Miner Mfg. Co. et al.* Consent judgment; Patent 2,795,258 held valid and infringed; defendants enjoined Feb. 17, 1961.

2,717,929, H. F. Klingener, Phonograph pick-ups; **2,798,126**, R. W. Sabol, same; **2,840,644**, H. F. Klingener, same; **2,849,239**, Dieter and Michalko, Phonograph pickups, filed Mar. 21, 1960, D.C., S.D.N.Y., Doc. 60/1146, *Sonotone Corporation* v. *Qualitone Industries, Inc. et al.* Stipulation and order of discontinuance Sept. 16, 1960.

2,735,373, T. McCartan, Booth unit, filed Feb. 10, 1960, D.C. Conn. (New Haven), Doc. 8692, *Bee and Gee Manufacturing Co., Inc.* v. *De Ponte Enterprises, Inc.*

2,739,157, S. G. Webb, Jr., Roller seed bed former and planter, filed Feb. 7, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 2517–SD–K, *Sam Webb, Jr.* v. *K-C Welding, Inc.*

2,751,716, C. B. Pletcher, Blast gun; **Reg. No. 615,231** (HYDROAIR AND DESIGN), C. B. Pletcher, doing business as Hydro-Silica Manufacturers, Air guns; **Reg. No. 635,230**, same, filed July 15, 1958, D.C., E.D. Mo. (St. Louis), Doc. 58–C–285(1), *Clarence B. Pletcher, doing business as Hydro-Silica Manufacturers et al.* v. *The Vittert Building Cleaning Company et al.* Dismissed by stipulation with prejudice Feb. 7, 1961.

2,754,910, Derrick and Kaltenberger, Method of temporarily closing perforations in the casing, filed Feb. 20, 1961, D.C., N.D. Okla. (Tulsa), Doc. 5125 (originally filed D.C. Del. (Wilmington), Doc. 2264), *The Dow Chemical Company* v. *B.J. Service, Inc.*

2,755,188, A. T. Cape, Nickel-silicon-boron alloys, filed Jan. 18, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 58/61–Y, *Coast Metals, Inc.* v. *Wall Colmonoy Corporation.*

2,777,588, J. D. Cochin, Vehicle frame engaging accessory for automobile hoists, filed Feb. 9, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39/728, *John D. Cochin* v. *Western Manufacturing Company.*

2,783,988, E. L. Sharts, Containers having flap hold-down means, filed May 13, 1958, D.C., N.D. Calif. (Los Angeles), Doc. 37/316, *Weyerhaeuser Timber Company* v. *Royal Container Company.* Patent held invalid Feb. 1, 1961.

2,795,258. (See 2,717,015.)

2,798,126. (See 2,717,929.)

2,800,524, G. M. Van Lear, Electric cable, filed Feb. 15, 1961, D.C., S.D.N.Y., Doc. 61/574, *Glenwood M. Van Lear* v. *Phelps Dodge Copper Products Corporation.*

2,828,184, Hopkins and Easley, Etching, filed Feb. 14, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 2518-SD-K, *The Dow Chemical Company* v. *Progressive Engraving Company.* Same, filed Feb. 24, 1961, same, Doc. 188/61, *The Dow Chemical Company* v. *Security Engraving Company.* Same, filed Feb. 20, 1961, D.C., S.D.N.Y., Doc. 61/632, *Dow Chemical Company* v. *Regal Photo Engraving Co., Inc.*

2,831,594, Sterges and Dillon, Glass bottle handle structures, filed Feb. 16, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c270, *Purex Corporation, Ltd.* v. *Linco Products Corporation.*

2,835,546, H. H. Rothschild, Carrier for dishware and like articles, filed Feb. 15, 1961, D.C., S.D.N.Y., Doc. 61/566, *Caddy Corporation of America* v. *Glamorglas, Inc.*

2,840,644. (See 2,717,929.)

2,849,239. (See 2,717,929.)

2,856,639. (See 2,542,430.)

2,877,510, J. C. Jurelt, Connector, filed Feb. 15, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c262, *Gang-Nails, Inc.* v. *Truss-O-Matic, Inc.*

2,880,695, C. H. Nehls, Locking closure, filed Sept. 15, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c1486, *Wayne Metalcraft Company* v. *Berkson Products, Inc.* Order holding patent valid and claims 1 to 5 infringed; defendant enjoined (notice Feb. 16, 1961).

2,886,843, C. R. Rockriver, Coffee brewer, filed Feb. 14, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 155/61–WM, *Coffee Equipment, Inc.* v. *APCO Products Corporation, etc.*

2,890,672, M. A. Weiss, Conveyor racks, filed Feb. 5, 1960, D.C.N.J. (Newark), Doc. 98/60, *White Machine Company* v.

Bon Ton Cleaners & Dyers et al. Claims 7 to 10 of Patent 2,899,072 held invalid and not infringed; complaint dismissed Feb. 16, 1961.

2,982,042, H. A. Steelman, Phase conversion motor system, filed Feb. 9, 1961, D.C., S.D. Ill. (Springfield), Doc. 2891, *Steelman Electric Manufacturing Co., Inc. et al.* v. *System Analyzer Corporation.*

2,981,470, D. A. Brown, Structural member, filed Jan. 6, 1961, D.C., W.D. Ky. (Louisville), Doc. 4089, *Donn Products, Inc.* v. *Charles J. Knight & Sons, Inc. et al.*

2,944,816, J. B. Dixon, Recreational apparatus, filed Aug. 26, 1960, D.C., District of Columbia, Doc. 2828/60, *Tigrett Industries, Inc.* v. *Giant Foods, Inc.* Dismissed with prejudice Feb. 9, 1961.

2,949,488, Andreadis and Miklean, Dihydroxyacetone compositions for tanning the human epidermis, filed Aug. 17, 1960, D.C.N.J. (Newark), Doc. 718/60, *John T. Andreadis et al.* v. *Tan-O-Rama, Inc.* Consent order of dismissal Feb. 14, 1961.

2,961,166, J. M. Shubin, Refuse vehicle and loading apparatus therefor, filed Feb. 8, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 136/61-WB, *S. Vincen Bowles, Inc.* v. *John M. and Peter E. Shubin.*

2,969,646, J. L. Wright, Combination evaporative cooler and ice box, filed Jan. 12, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 39/61-WB, *Wright Manufacturing Company* v. *G & B Manufacturing Co., Inc. et al.*

Re. 23,943 (of 2,559,990), R. J. Once et al., Insulating tape, filed Apr. 15, 1960, C.C.A., 8th Cir., Doc. 16/471, *Minnesota Mining & Manufacturing Company* v. *Superior Insulating Tape Company.* Decree of District Court affirmed Dec. 1, 1960.

Re. 24,518 (of 2,691,550), B. W. Nickerson, Jr., Side wall for tires, filed Sept. 24, 1958, D.C., N.D. Ohio (Cleveland), Doc. 34/813, *Bryan W. Nickerson, Jr.* v. *The Bearfoot Sole Company, Inc. et al.* Order holding Reissue 24,518 valid and infringed as to claims 1, 2 and 3; injunction granted; counterclaim dismissed Feb. 9, 1961.

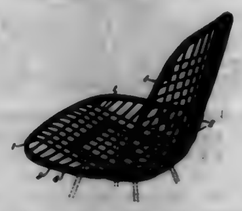
Des. 187,477. (See 2,717,015.)

REISSUES

APRIL 11, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

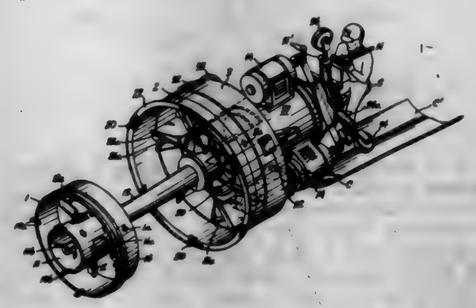
24,964
FURNITURE FRAME CONSTRUCTION
Charles Eames, Venice, Calif., assignor to Herman Miller, Inc., a corporation of Michigan
Original No. 2,708,476, dated May 17, 1955, Ser. No. 324,518, Dec. 6, 1952. Application for reissue May 14, 1957, Ser. No. 659,458
8 Claims. (Cl. 155—187)



1. Furniture frame comprising a plurality of longitudinal wires and a plurality of transverse wires having portions welded in crossed relation to form a body supporting mesh with portions of said mesh deformed to provide in effect a body supporting member of inherent curved contour, and an upper rim wire welded to upper surfaces and a lower rim wire welded to lower surfaces of end portions of said longitudinal and transverse wires.

24,965
MINING MACHINE
Max B. Kirkpatrick, Anchorage, Alaska, assignor to Alkirk, Inc., Seattle, Wash., a corporation of Delaware
Original No. 2,864,600, dated Dec. 16, 1958, Ser. No. 527,098, Aug. 8, 1955. Application for reissue Sept. 22, 1960, Ser. No. 57,858
30 Claims. (Cl. 262—7)

29. *Earth or like boring apparatus comprising a mobile support, a power driven bore forming assembly mounted on said support and comprising essentially a relatively large cutter assembly rotatable about an axis, means on the support for rotating said cutter assembly, a member coaxial with said cutter assembly and reciprocably mounted with respect to said support for projection forwardly of said rotary cutter assembly into a smaller*



advance bore formed ahead of said rotary cutter, means on said member selectively expansible to anchor the projected member in said smaller bore, and means reacting from said anchored projection member in the smaller bore for drawing said cutter assembly essentially in the same direction as said advance bore, said rotary cutter being driven during such advance thereof to cut a main bore substantially centered with said advance bore.

PLANT PATENTS

GRANTED APRIL 11, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,845
ROSE PLANT
Walter E. Lammerts, Livermore, Calif., assignor to Amling-Devor Nurseries, Inc., Livermore, Calif., a corporation of California
Filed July 6, 1960, Ser. No. 41,220
1 Claim. (Cl. 47—61)

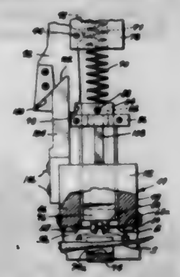
A new and distinct variety of hybrid tea rose plant, substantially as herein shown and described, particularly characterized by its fluoribunda blooming habit and prolific production of very large high quality flowers; by the distinctive red anthocyanin pigmentation appearing on both surfaces of the sepals; by the very large size and abundance of its foliage; by its vigorous, very luxuriant, and free-branching but compact habit of growth; and by its retention of substantially the same red rose color of its pollen parent.

PATENTS

GRANTED APRIL 11, 1961

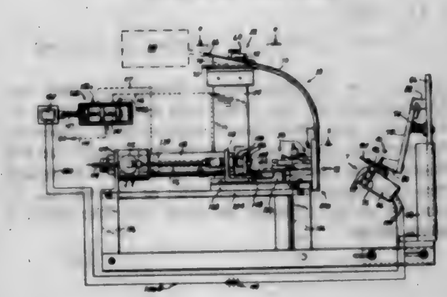
GENERAL AND MECHANICAL

2,978,705
MACHINE FOR APPLYING TAGS
Sigurd M. Moberg, Pompton Plains, N.J., assignor to E. J. Brooks Company, Newark, N.J., a corporation of New Jersey
Filed Feb. 11, 1959, Ser. No. 792,626
8 Claims. (Cl. 1—2)



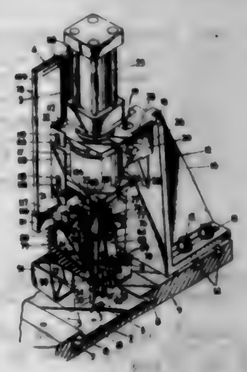
1. A tag-applying machine comprising a magazine adapted to hold a stack of tag blanks in an upright position, a feeder element reversibly movable substantially horizontally, transversely of such a stack and adapted to laterally push a blank from said stack to an applying position, an anvil underlying and spaced from said applying position, punch means movable substantially vertically in line with said anvil, a reciprocating motor for vertically moving said punch means, control means for said motor, arranged to operate in response to said movement of said feeder element, to cause said vertical movement of said punch means and coaction of the latter with said anvil to angularly bend portions of downwardly extending prong means on such a blank, and pivotal, blank-supporting fingers for supporting a tag blank in said applying position.

2,978,706
TAG APPLYING APPARATUS
Sigurd M. Moberg, Pompton Plains, N.J., assignor to E. J. Brooks Company, Newark, N.J., a corporation of New Jersey
Filed Oct. 20, 1959, Ser. No. 847,654
21 Claims. (Cl. 1—2)



1. Apparatus for applying a tag to a soft, meat-like article, comprising a tag-holding head having a forward portion adapted to engage said article, a pair of jaws associated with said head, and jaw-actuating means coacting with said pair of jaws to move the latter translationally forwardly of said head to a position in which said jaws protrude from said head and to move the jaws relatively to each other laterally of the line of forward translational movement of said pair of jaws, to cause the latter to bend the prongs of a tag held by said head and fixedly embed said prongs in said article.

2,978,707
AUTOMATIC MACHINES FOR MOUNTING ELECTRICAL COMPONENTS ON BASE MEMBERS
Robert Davidson Runciman, Coventry, England, assignor to The General Electric Company Limited, London, England
Filed June 10, 1959, Ser. No. 819,279
Claims priority, application Great Britain June 19, 1958
7 Claims. (Cl. 1—323)



1. An automatic machine for mounting electrical components, each having a pair of wire leads projecting in opposite directions, on base members, the machine comprising a magazine for holding a plurality of the components, an insertion head, and feeding means for feeding one component at a time from the magazine into the insertion head, the insertion head comprising means for cutting the leads of a component to a desired length, means for bending the leads of a component so that the ends of the leads are pointed towards the base member on which the component is to be mounted, and a reciprocable forcing member for moving a component towards the base member so that the ends of the leads of the component are inserted into holes in the base member, said cutting means including a pair of movable members which respectively have two cutting edges that are arranged to cooperate with two cutting edges formed on at least one fixed member, said movable members being movable with the forcing member during at least part of a return stroke of the forcing member so as to be moved past the cutting edges of said at least one fixed member and thereby shearing off the ends of the leads of a component and the forcing member being operative to insert the leads of the component with cut leads into the holes in the relevant base member during the next operating stroke of the forcing member.

2,978,708
HEAD-PIECES FOR PRESSURIZED CLOTHING
Kenneth G. Williams, Heath End, Farnham, and Jack Raymond Green, Weybridge, England, assignors to Vickers Limited, London, England
Filed Sept. 5, 1958, Ser. No. 759,364
9 Claims. (Cl. 2—3)



1. For use in conjunction with a protective garment having a neck portion, a head piece, comprising, two complementary component members which together form a substantially spherical hollow casing and which are adapted to be connected to the neck portion of said garment, said members being hinged together and including separable peripheral edges arranged to permit the edges to be moved between an open position with the edges separated and a closed position with the edges in contact, and separate means (A) for moving said members from an open edge separated position to a closed edge contacting position, and (B) for sealing the peripheral edges of said two members when in a closed position.

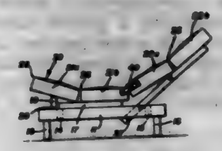
2,978,709
FACE SHIELD
Floyd L. Atha, 930 Acoma St., Denver, Colo.
Filed Mar. 11, 1957, Ser. No. 645,153
2 Claims. (Cl. 2—9)



1. A transparent face shield formed as an arched sheet adapted to cover the face of a wearer and including a direct vision opening within the body of the sheet and a rigid conformingly arched glass plate within the direct vision opening, said sheet being formed of comparatively thin, tough, flexible, transparent material and including groove-forming folds about the direct vision opening adapted to receive the edges of the glass plate to contain the plate within said direct vision opening.

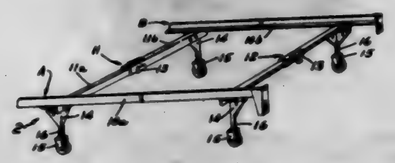
2,978,710
FURNITURE
Martin Borenstein, 177 Florence Ave., Oakland, Calif.
Filed Sept. 12, 1958, Ser. No. 760,895
6 Claims. (Cl. 5—37)

5. An article of furniture comprising in combination a base having supporting legs, a transverse support member hingedly mounted on said base at the forward edge thereof having a raised and lowered position, blocks mounted on either side of said base of even height with said transverse support member in its lowered position, and a pair of uniform transverse upholstered seat members each having a solid backing, resilient interior and covering, said seat members being joined by the said covering along the top marginal edge of their abutting



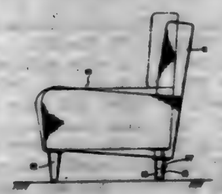
face, the rear seat member only being secured to the said base on said blocks, with the front member being free to assume the support of said transverse support member in either the raised or lowered position.

2,978,711
BEDFRAME STRUCTURE
Martin Hyman, 1012 N. Beverly Drive, Beverly Hills, Calif.
Filed Mar. 3, 1959, Ser. No. 796,945
8 Claims. (Cl. 5—279)



1. A bedframe, comprising: an angle side rail having one leg extending horizontally and its other leg extending vertically upwardly; an angle crossbar having a horizontally extending leg portion in face engagement with the horizontal leg of said side rail, and its other leg extending vertically downwardly; an angle clip extending along the side rail and having a horizontal leg, portions of which extend over portions of the horizontal legs of said side rail and crossbar, and its other extending vertically downwardly; a leg member having right angled wing portions at its upper end, one of said wings being secured to the vertical leg of said clip and the other to the vertical leg of said crossbar; and means connecting the contiguous horizontal leg of the crossbar and the horizontal leg of said clip to the horizontal leg of the side rail for unitary pivoted swinging movement.

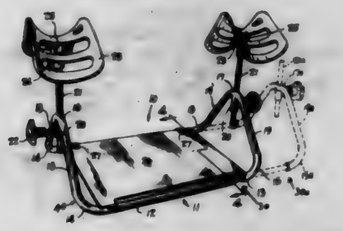
2,978,712
ADJUSTABLE FURNITURE LEG
Nathan Eugene Blanke, 1537 Luxor Road, East Cleveland 18, Ohio
Filed July 29, 1959, Ser. No. 830,274
8 Claims. (Cl. 5—310)



1. In a furniture piece, the combination of a body to be supported, a telescopic leg assembly for said body, said leg assembly including a ground-engaging member and a body-engaging member longitudinally movable relatively to each other, first retaining means provided on

said leg assembly for limiting relative longitudinal movement of said members to a predetermined first position, second retaining means associated with said leg assembly for limiting relative longitudinal movement of said members to a predetermined second position, said first position establishing a greater effective length of said members than said second position, and third means responsive to sequential raising and lowering of said body for guiding said members alternately into said first and second positions.

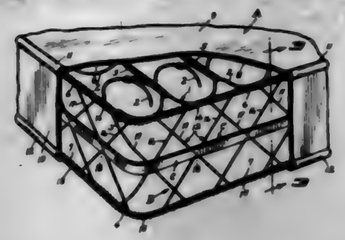
2,978,713
LEG SUPPORTING APPARATUS
Edward Scalzitti, 11580 Richard Drive, Parma 30, Ohio, and Eleanor Ragan, 6201 Orchard Grove Ave., Cleveland 9, Ohio
Filed Dec. 16, 1959, Ser. No. 859,947
1 Claim. (Cl. 5—327)



Portable leg supporting apparatus, comprising in combination, a base frame composed of two faced and interfitted, substantially U-shaped tubular sections, each of said tubular sections having horizontally extending and laterally spaced leg portions which slidably interfit each other in telescopic engagement, the intermediate portion of each section being bent upward to form an inverted V perpendicular to its horizontal legs, a socket positioned at the apex of each V, a support rod, including a leg rest, mounted in each of said sockets and movable vertically thereof between adjusted positions, the two support rods and attached leg rests being adjustable horizontally relative to each other by telescopic movement between the interfitted leg portions, lock means mounted on the leg of one section and engaged with the leg of the other section to lock same in adjusted positions, and, a table hingedly mounted on one leg, across the base, and movable between a first horizontal position across the base, and a second horizontal position adjacent one edge of the base.

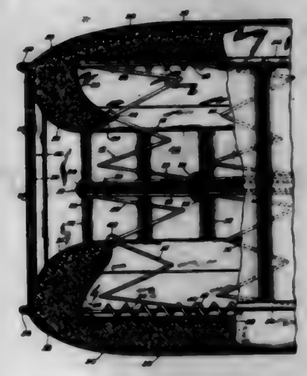
2,978,714
INNERSPRING MATTRESS CONSTRUCTION AND REINFORCING MEANS FOR THE SIDE WALLS THEREOF
Michael Bechik, St. Paul, Minn., assignor to Bechik Products Inc., St. Paul, Minn., a corporation of Minnesota
Filed June 23, 1960, Ser. No. 38,268
1 Claim. (Cl. 5—351)

Reinforcing means for the side walls of innerspring mattresses of the type which include upper and lower border wires adjacent the upper and lower limits respectively of said side walls, said means comprising a plurality of flexible resilient wire elements bent in generally zigzag shape and so arranged with respect to each other as to define generally opposed horizontal upper and lower connecting portions which are spaced apart vertically generally a distance equal to the distance between said upper and lower border wires, and angularly disposed portions which are in side-by-side crisscross arrangement; and means associated with said criss-crossed portions for holding said upper and lower connecting portions in substantial alignment to facilitate attachment thereof to the border wires of said mattress, said means permitting unrestricted angular movements of said criss-



crossed portions with respect to each other after such attachment, said last mentioned means comprising opposed strips of pressure-sensitive adhesive tape.

2,978,715
MATTRESS CONSTRUCTION
Raymond H. Blocker, Kenosha, Wis., assignor to Simmons Company, New York, N.Y., a corporation of Delaware
Filed Jan. 16, 1958, Ser. No. 709,297
3 Claims. (Cl. 5—351)

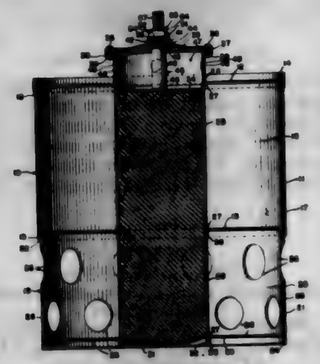


2. A mattress including a spring assembly comprising two coextensively superposed innerspring constructions secured together by connections along their marginal edges, a substantially rigid sheet which is locally inflexible and which is interposed between said constructions for distributing to a large area of one of said constructions loads applied locally to the other, said sheet being less than coextensive with said innerspring constructions and being secured to the inner faces of said constructions centrally thereof with the edges of said sheet in inwardly spaced relation to said interconnected marginal edges of said innerspring constructions, padding material surrounding said assembly, and an envelope of ticking surrounding the whole.

2,978,716
SMOKE FLOAT
Leonard D. Jackson, Alexandria, Va.
Filed Oct. 24, 1944, Ser. No. 560,089
10 Claims. (Cl. 9—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)

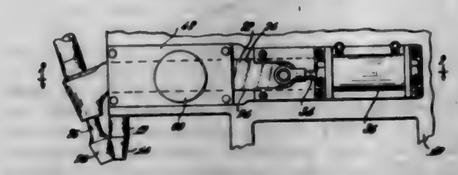
1. A smoke emitting device adapted to float upon the surface of a body of water for a predetermined period of time comprising an outer cylindrical casing having upper and lower walls secured thereto and providing a floatation chamber therebetween, means including a perforated

cylindrical skirt secured to the lower portion of said casing and having a perforated end wall secured thereto for entraining a mass of water as said smoke emitting device is launched within the water, an inner container having a heat and pressure chamber enclosed therein and supported within said casing by said upper, lower and perforated walls respectively and in spaced relation with respect thereto, said inner container having a quantity of smoke producing mixture therein subjacent the heat and pressure chamber, fusible means for preventing said mixture from shifting within said container, a closure for hermetically sealing said container, a pyrotechnic container supported by said closure and extending into said heat and pressure chamber, a firing unit arranged in said pyrotechnic container, said firing unit including means for



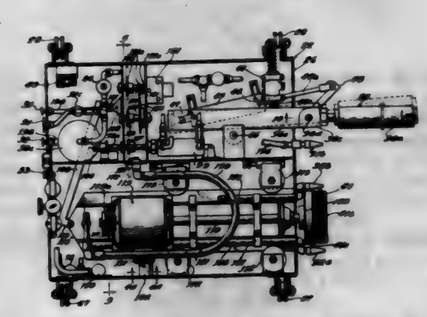
igniting said smoke mixture, said inner container having a plurality of sealed exhaust ports arranged therein in communication with said heat and pressure chamber, said ports being adapted to be unsealed by heat and pressure thereon produced by the burning of said mixture thereby to permit the escape of smoke therethrough from said inner container, said casing having a port arranged in the lower portion thereof in communication with said floatation chamber for admitting water thereto and an additional port arranged in the upper portion thereof to permit the escape of air therefrom as the water rises within said floatation chamber whereby sufficient water may enter the floatation chamber to cause the smoke emitting device to sink when a predetermined period of time has elapsed after the device has been launched.

2,978,717
APPARATUS FOR LASTING SHOES AND COVERING PANELS
Jacob S. Kamborian, West Newton, Mass.
(% International Shoe Machine Corp., 292 Main St., Cambridge, Mass.)
Filed July 16, 1958, Ser. No. 748,971
6 Claims. (Cl. 12—8.3)



1. In a machine of the kind in which a pair of rolls are arranged to have contact with the opposite sides of the margin of flexible material passing between the rolls, a frame, a slide, on which one of the rolls is carried, means movably mounting said slide in the frame, an abutment provided by the slide intermediate its ends, said abutment facing away from the slide-carried roll, a shaft having an end facing the abutment and the slide-carried roll, and means engaged with the end of the slide remote from the slide-carried roll for yieldably urging the abutment against said shaft end.

2,978,718
VEHICLE WHEEL WASHING DEVICE
James Vani, Midlothian, and Albert J. Malpede, Chicago, Ill., assignors to Service Metal Fabricators, Inc., a corporation of Illinois
Filed Aug. 27, 1957, Ser. No. 680,602
8 Claims. (Cl. 15—21)

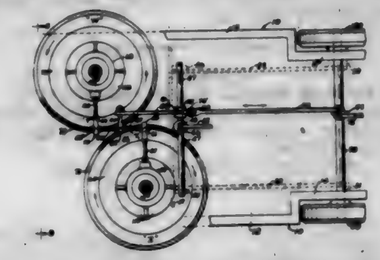


1. A washing device for washing the wheels of a vehicle as the vehicle moves along a predetermined path of travel comprising two elongated tracks mounted on opposite sides of said path of travel in substantially parallel relation thereto, two carriages, each of said carriages being mounted on a respective one of said tracks and reciprocable therealong between a rearward and forward position, each of said carriages normally being disposed in said rearward position, two arms, each of said arms being pivotally mounted on a respective one of said carriages for movement between an outwardly projecting position and a collapsed position, said arms, when disposed in said outwardly projecting positions, projecting into said path of travel in position to be engaged by said wheels to be washed to thereby push said carriages along said tracks from said rearward position to said forward positions, said arms, when disposed in said collapsed positions, being disposed in substantially parallel relation to said tracks and out of said path of travel, actuating means at said rearward positions on said tracks, other actuating means at said forward positions on said tracks, means mounted on said carriages for wetting and scrubbing said wheels during said movement of said carriages from said rearward position to said forward position in response to engagement of said wheels with said arms, means, including a valve mounted on said carriage and engageable by said other actuating means when said carriages are at said forward positions, for returning said carriages to said rearward positions, and means, including a valve mounted on said carriage and engageable by said first mentioned actuating means when said carriages are disposed in said rearward positions, for stopping the movement of said carriages in said rearward positions.

2,978,719
MOBILE FLOOR TREATING MACHINE
Daniel A. Aronen, Minneapolis, Minn., assignor to Advance Machine Company, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 30, 1957, Ser. No. 705,897
19 Claims. (Cl. 15—49)

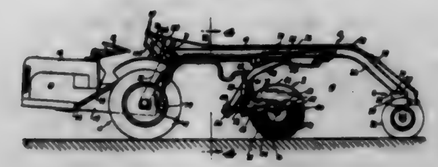
1. In a mobile floor treating machine, frame means having wheel means connected thereto, a pair of disc members mounted on said frame means for contact with

a surface, means for rotating said disc members in opposite directions, means for manipulating each of said disc members independently of said frame means whereby por-



tions of each of said disc members contact a surface with greater pressure than other portions to cause the machine to move upon the surface on which the machine rests and simultaneously treat the surface.

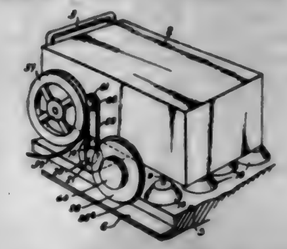
2,978,720
ROTARY SWEEPER OR BROOM
Le Grand H. Lull, Minneapolis, Minn. (% Lull Engineering Co., 3445 Highway 13, St. Paul, Minn.)
Filed Feb. 17, 1958, Ser. No. 715,551
12 Claims. (Cl. 15—82)



1. In a sweeper of the character described, a wheel borne and self-propelled frame having spaced apart front and rear wheeled units and including an engine operative to provide propulsion power for the frame, an elongated elevated boom element connecting said units, a broom located between the units and below the boom element, a bearing mechanism including upper and lower bearing plates connecting the broom to the boom element for swinging movements of said broom about an upright axis and in a generally horizontal plane from a transport position with the broom in line with the direction of travel and directly beneath said boom element to either of two oppositely angled working positions, means connected from said frame to the lowermost bearing plate for adjusting the angle of the broom, hangers depending from the lowermost bearing plate and including a rock shaft supporting the broom for up and down movements with respect to said boom element, means connected from the hangers to the broom for raising and lowering the broom about said rock shaft, said broom including a rotatable brush, and means for rotating the brush in either of two opposite directions of rotation and in any angularly adjusted position thereof.

2,978,721
BOWLING ALLEY SANDER AND WAXER
James F. Stevenson, 78 Mill Road, Latham, N.Y.
Filed Oct. 14, 1959, Ser. No. 846,324
10 Claims. (Cl. 15—98)

1. A self-propelled machine for polishing the portion of a bowling alley surface lying between its gutters, comprising a frame; vertical spindle means journaled in the frame and depending therebelow; polishing head means disposed in a horizontal plane and carried at the lower end of the spindle means, said head means covering substantially the width of said surface; polishing cylinder means journaled transversely of the frame and disposed tangent to said horizontal plane and thereabove; a motor carried by said frame; transmission means connecting rotary drive from the motor to the spindle means and to the cylinder means, the latter driving the machine



longitudinally forwardly; alley engaging wheels journaled on axes disposed transversely of the frame, said wheels extending below said horizontal plane and traveling in the gutters of the alley to guide the machine along said surface of the alley; and means for adjusting the distribution of weight between the head means and the cylinder means.

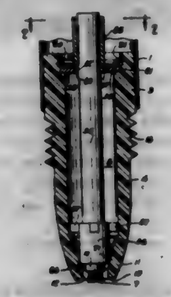
2,978,722
TUBE CONTAINER
Hisao Kanekabe, 1766-1 Maiko-cho, Tarumi-ku, Kobe-shi, Japan
Filed Oct. 7, 1957, Ser. No. 688,523
Claims priority, application Japan Aug. 14, 1957
4 Claims. (Cl. 15—556)



1. A combined brush and paste container comprising, in combination, a hollow rigid cylinder made of synthetic resin, said cylinder being open at both ends and being provided with an integral inner flange at a first end and with an internal screw thread at the opposite second end thereof, a finger-activated piston positioned in said cylinder to engage slidably the inner wall of said cylinder, said piston being made of soft synthetic resin and being provided with a pair of flanges serving for double sealing, said pair of flanges being separated by a circular recess, one of said pair of flanges having a substantially larger diameter than the inside diameter of said cylinder, and the other of said pair of flanges having a diameter slightly larger than said inside diameter, one of said pair of flanges having a thickness which decreases in the direction of the outside peripheral edge thereof, said circular recess being dimensioned to frictionally receive said integral inner flange of said hollow rigid cylinder whereby to close said first end of said cylinder sealingly when said piston is in fully retracted position but is adapted to be disengaged from said inner flange upon inward pressure on the piston in activating said piston to eject the contents of said cylinder toward said

second end, a bristled brush head threadedly engageable with said second end of said cylinder, said head being made of soft synthetic resin and being provided with an inner bore communicating with the interior of said cylinder, and a plurality of small short tubes made of soft synthetic resin moulded integrally with said brush head communicating with said bore, said tubes being adapted to allow the paste contained in the cylinder to exit in a plurality of streams substantially above the base of the bristles.

2,978,723
MAGNETICALLY CONTROLLED APPLICATOR
Cecil L. Hopkins, Galion, Ohio
Original application Dec. 30, 1955, Ser. No. 556,631, now Patent No. 2,849,738, dated Sept. 2, 1958. Divided and this application May 21, 1958, Ser. No. 736,927
12 Claims. (Cl. 15—537)



1. A liquid applicator of the retractable brush type comprising a hollow container having a neck formed with an outlet through which liquid is dispensed from the interior of the container; a tubular nonmagnetic nozzle body fast to the container and having an axial through passage, the passage having an inner end opening continuous with the neck outlet and an outer end discharge opening; a brush assembly disposed in the nozzle passage, said brush assembly comprising an elongated stem of nonmagnetic material, a brush tuft mounted on and projecting axially from one end of the stem, and a tubular sleeve element of magnetic material tightly embracing the stem in surrounding relation to and intermediate and spaced from both ends of the latter for movement therewith; the brush assembly being axially shiftable in the nozzle passage between a use position in which the brush tuft projects from the discharge opening and a storage position in which the brush tuft is retracted, and a magnetic ring element carried by the nozzle body, said ring element being in surrounding relation and coaxial to the stem, one of the magnetic elements being magnetized to influence the axial position of the brush assembly in the nozzle passage.

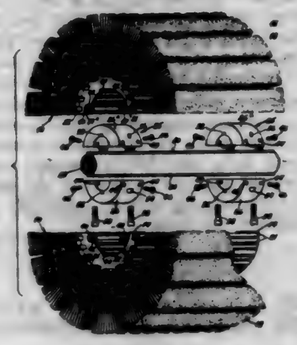
2,978,724
TOOTHBRUSH
Carlos Coy Gracian, Rosa Lee 2, Apt. 1, Mexico City, Mexico
Filed Apr. 29, 1958, Ser. No. 731,647
1 Claim. (Cl. 15—167)

A toothbrush comprising a handle and an oblong flat head integrally connected to said handle through an intermediate neck portion, said neck portion being sharply curved from the plane of said head, and said handle extending generally lengthwise the handle but being curved less sharply than and in reverse direction to said neck and terminating out of the plane of said head sufficiently that one's fingers gripping said handle will be outside the plane of said head, a plurality of rows of bristle tufts secured to said head, the tufts of the several rows decreasing in length from one end of said head toward the other, and defining a substantially continuous bristle surface, said surface being formed with a plurality of arcuate tooth receiving grooves extending transverse said



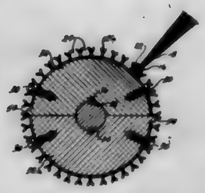
surface and a plurality of smaller arcuate grooves extending lengthwise said surface, the crossing of said grooves defining a multiplicity of spaced bristle peaks of progressively varying height arranged in straight lines extending lengthwise said head.

2,978,725
CYLINDRICAL BRUSH
Henry B. Whitman, Windsor, Conn., assignor to The Fuller Brush Company, East Hartford, Conn., a corporation of Connecticut
Filed May 20, 1957, Ser. No. 660,417
9 Claims. (Cl. 15—183)



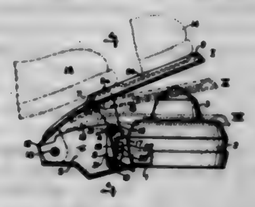
2. A brush unit adapted for combination with other similar units to constitute a cylindrical brush rotatable about a central longitudinal axis, said brush unit including: two similar transverse end plates which are formed of sheet metal and are longitudinally spaced and have uniformly arcuate peripheral edges, a plurality of longitudinal brush strips equally spaced along said peripheral edges of the end plates and each of them comprising a rigid holder and a layer of fibers held solely by said holder and extending radially outwardly therefrom, means carried solely by said end plates thereof and independent of any other parts for rigidly and fixedly connecting said end plates with said holders near the ends of the latter so that said holders and said connecting means constitute the sole connection between the end plates when the brush unit is separated from the other brush units, and means for connecting the several end plates each independently of any other end plate to a rotatable central hub means in such manner that the arcuate peripheral edges of said end plates are concentric with said central axis.

2,978,726
ROTARY CYLINDRICAL BRUSH
Richard B. Park, West Hartford, Conn., assignor to The Fuller Brush Company, Hartford, Conn., a corporation of Connecticut
Filed June 20, 1958, Ser. No. 743,371
2 Claims. (Cl. 15—183)



1. A cylindrical brush rotatable about a central longitudinal axis and comprising a plurality of similar longitudinal brush strips each comprising a rigid holder having a layer of fibers extending radially outwardly therefrom, two similar brush strip carriers each comprising a longitudinal shell with open ends and having a substantially uniform generally arcuate cross section of less than 180° which shell has a plurality of circumferentially distributed longitudinal grooves for respectively receiving and retaining therein the holders of said brush strips, two similar generally cylindrical hubs adapted to be attached to a central shaft in longitudinally spaced positions thereon and adapted respectively to enter and fit the end portions of said two brush strip carriers, each of said hubs comprising two separable generally semi-cylindrical half-sections each of which half-sections has integrally formed thereon a longitudinal flange which extends radially outwardly at the periphery thereof, the adjacent side edges of said carriers being spaced apart with the flanges on said hubs being disposed substantially diametrically opposite each other and between and in engagement with the end portions of said carrier side edges to prevent rotation of said carriers relative to said hubs, and means for detachably connecting said carriers to said hubs, said last mentioned means being adapted to restrain said end portions of the side edges of said carriers from moving radially outwardly out of engagement with said hub flanges.

2,978,727
APPARATUS FOR OPERATION OF WINDSHIELD CLEARING DEVICES ON AUTOMOTIVE VEHICLES
Johann Förster, Frankfurt am Main, Germany, assignor to Fa. VDO Tachometerwerke Adolf Schindling G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed June 7, 1960, Ser. No. 34,553
3 Claims. (Cl. 15—250.02)



1. An apparatus for operation of windshield clearing devices on automotive vehicles comprising a pump having a pressure extension for operating the pump for the feeding of cleaning fluid, a foot actuated lever, an electric switch adapted to control the windshield wiper drive, said foot actuated lever operating solely said electric switch, and said foot operated lever having an opening at least complementary to said pressure extension of said pump, said pressure extension projecting through said opening upon depression of said foot actuated lever.

2,978,728
WINDSHIELD WIPER SYSTEM
William C. Rieder, Buffalo, and Raymond D. Page, Eggertsville, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed Dec. 24, 1957, Ser. No. 704,951
22 Claims. (Cl. 15—250.02)



1. A windshield cleaner comprising a washer system including a spring actuated pump normally cocked for a jetting stroke to wet a surface, a trigger operable to release the pump for such stroke, a wiper system responsive to the pump during its operation for wiping the wet surface, and means for automatically arresting the wiper system in response to continued operation thereof after a pump stroke.

2,978,729
REVOLVING WINDSHIELD WIPER
Franz Pschibul, Jersey City, N.J.
(Veterans Administration Hospital, East Orange, N.J.)
Filed Apr. 19, 1957, Ser. No. 653,779
4 Claims. (Cl. 15—250.16)



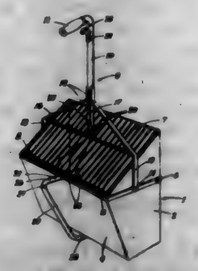
1. In combination with the hood of an automotive vehicle, said vehicle having a windshield extending exteriorly of the hood in angular relation thereto, the hood having a passageway along the juncture of the windshield therewith, a closure member movable to open and close said passageway, windshield wiper mechanism comprising a guide track member formed by joined semi-circular half sections comprising a forward half section disposed beneath the hood top in a plane substantially parallel to the latter and a rearward uptilted half section disposed in a plane substantially parallel to the windshield, means to support said guide track member within the hood adjacent to said passageway, a shaft adapted to be driven by an electric motor, said shaft extending centrally through the guide track member, wiper blade means adapted to be continuously revolved by said shaft for movement upon and around said guide track member, whereby the revolved wiper blade means is adapted to pass through the open passageway so as to make wiping contact with the windshield, a motor circuit control switch, a movable switch actuator means opposed to said switch, manually operable means to move said switch actuator means to and from closing engagement with said switch to start and stop operation of the wiper blade means, means also controlled by said manually operable means whereby to open and close said closure means in timed relation to the closing and opening of said control switch, said switch actuator means being supported to move transverse to the axis of the driven shaft, stop spring means supported by the switch actuator means and adapted, in the normal initial retracted position of the latter, to oppose said shaft, and said shaft having an indentation in a side thereof to receive the stop spring means when operation of the wiper blade means is discontinued, whereby to stop the latter in a predetermined position within the interior of the hood.

2,978,730
WINDSHIELD WIPER BLADE ASSEMBLY
John W. Anderson, Gary, Ind.
Filed Aug. 31, 1959, Ser. No. 836,853
18 Claims. (Cl. 15—250.42)



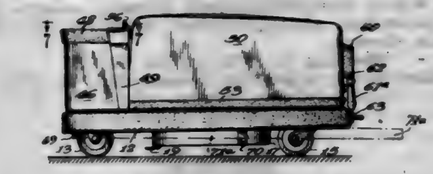
15. In a windshield wiper blade and in combination, a resilient wiping element, a first pressure-transmitting member having one end portion operatively connected with said wiping element, a second pressure-transmitting member pivotally connected with the other end portion of said first member and being slidably connected with said wiping element at longitudinally spaced-apart points, and means carried by said other end portion of said first member and extending into engaging relation with said wiper element at a point intermediate said spaced-apart points during at least a portion of the pivotal movement between said first and second members.

2,978,731
LEAF AND TRASH GATHERER
Fred V. Bellusomini, P.O. Box 644, Jackson, Calif.
Filed June 29, 1959, Ser. No. 823,614
3 Claims. (Cl. 15—257.4)



1. A manually portable leaf and trash gatherer comprising a receptacle normally disposed in a vertical carrying position, the receptacle including a bottom, front, back, and sides; a fork-legged handle upstanding from the receptacle, the fork legs straddling the receptacle, means transversely pivoting the fork legs at their lower ends to adjacent sides intermediate the front and back of said receptacle whereby with the handle remaining upstanding the receptacle is swingable forwardly and downwardly from said vertical carrying position to a horizontal loading position, the handle including a post from which the fork legs extend above a lower end portion of said post, said lower end portion of the post being adjacent the back of the receptacle when the latter is in said horizontal loading position, and means between said lower end portion of the post and the back of the receptacle operative when the same are in said adjacent relation to automatically but releasably lock the receptacle in said horizontal loading position; said releasable locking means including a member vertically slidably mounted on said lower end portion of the post, the lower end of said member being formed as a catch element, and a bar fixed on the back of the receptacle formed with a notch into which said element is adapted to snap-engage; said bar being included in another handle on the receptacle at the rear thereof.

2,978,732
VACUUM CLEANER
Clarence E. Hansen, Chicago, Ill., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 24, 1957, Ser. No. 685,977
6 Claims. (Cl. 15—323)



1. A vacuum cleaner, comprising: a platform; an enclosing chamber having a bottom wall and side walls beneath said platform, the side walls forming generally a cord supporting surface; supporting wheels on said platform spaced outwardly of said chamber extending to beneath said chamber; a suction unit on said platform having an inlet above the platform and an outlet within said chamber and including a motor provided with an electric cord leading to the exterior of the cleaner, the chamber having an air outlet beneath the platform; means on said chamber to aid in retaining said cord on said continuous surface when wound thereon; and means on said platform for supporting said cleaner in a bottom exposed, cord winding position.

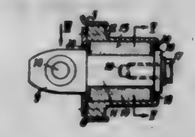
2,978,733
VACUUM CLEANER SUCTION REGULATOR
Karl John Wahlborg, Stockholm-Vallingby, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Jan. 14, 1958, Ser. No. 708,934
Claims priority, application Sweden Jan. 18, 1957
5 Claims. (Cl. 15—421)



1. A vacuum cleaner having a suction line including a nozzle having a suction inlet and an elongated hollow wand, means connecting the nozzle and the wand, said connecting means being so constructed and arranged that when the nozzle is in its normal operating position on a horizontal surface to be cleaned with its suction inlet in physical contact therewith, the wand is at an acute angle to the vertical, means comprising the wand for manually moving the nozzle forward and rearward on the surface with its suction inlet in physical contact with the surface during such movement, the effective size of the suction inlet of the nozzle being the same during the forward and rearward movements thereof, the wall of the wand having an opening, structure embodied in the wand for decreasing the size of the opening during forward

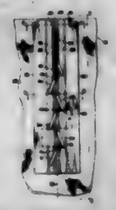
movements of the nozzle responsive to force applied downwardly on the inclined wand along its axis when manually moving the nozzle forward with its suction inlet in physical contact with the surface, and said structure including means for increasing the size of the opening in the wand during rearward movement of the nozzle responsive to a pulling force having a horizontal component applied to the inclined wand when manually moving the nozzle rearward with its suction inlet in physical contact with the surface, said structure being so constructed and arranged that, irrespective of the size of the opening in the wand and even when the opening is fully closed, suction effect will always be transmitted through the wand to the nozzle.

2,978,734
DOOR LOCATING DEVICE FOR VEHICLES
Karl Wilfert, Stuttgart-Degerloch, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Aug. 12, 1955, Ser. No. 528,025
Claims priority, application Germany Aug. 24, 1954
6 Claims. (Cl. 16—82)



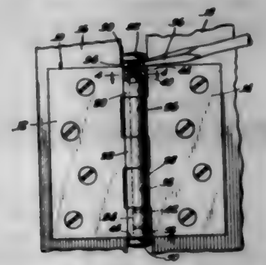
2. Means for fastening a vertically pivoted door of a motor vehicle to a side wall of said vehicle, comprising a locating device secured to said side wall, a second member mounted on said door in such a position that said second member engages said locating device when said door is closed, said locating device comprising a locating member including a shaft, a pair of hard non-resilient members engaging vertically aligned top and bottom portions of said shaft, said portions being located in a substantially vertical central plane extending through said shaft, and a pair of resilient members for supporting the remaining portions of said shaft, said resilient members laterally abutting said non-resilient members.

2,978,735
HOOK BRACKET FOR A CURTAIN HEADING
Henry Petzal, Shrewsbury, N.J., assignor to Bartmann & Bixer, Inc., New York, N.Y., a corporation of New York
Filed Aug. 21, 1959, Ser. No. 835,228
7 Claims. (Cl. 16—87.2)



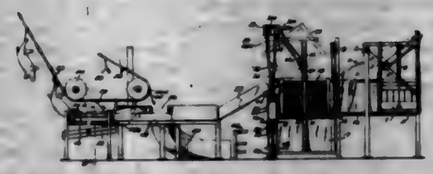
1. A hook bracket for attachment to a curtain heading and for operatively supporting a curtain hook member having a shank portion, a hook portion and a bottom loop portion connecting said shank and hook portions, said bracket including a first portion for securement thereof to said heading, and a second portion for receiving and supporting said shank portion, said second portion comprising a longitudinally extending wall area having a plurality of slotted portions upwardly inclined with respect to the longitudinal medial portion of said wall and proportioned to receive therein the shank of said hook member, the upper terminals of adjacent slotted portions when in operative position being spaced apart vertically, a distance at least no greater than the length of a slot, whereby said curtain heading is provided with smaller vertical increments of adjustment as the said loop portion is moved between adjacent upper slot terminals for seating engagement with the respective terminals.

2,978,736
HINGE WITH NONRISING HINGE PIN
Adam E. Welker, Rock Falls, Ill., assignor to Lawrence Brothers, Inc., Sterling, Ill., a corporation of Illinois
Filed Sept. 26, 1957, Ser. No. 686,413
1 Claim. (Cl. 16—169)



A hinge construction comprising a pair of leaves having axially offset knuckles interfitted with the bores thereof aligned, an end knuckle being curled from the material of the hinge leaf presenting a free longitudinal edge and rendering the knuckle resiliently expandible, a hinge pin including a head disposed adjacent and overlying the end of said end knuckle and a shank axially inserted through the bores of said knuckles, said shank having a knurled enlargement adjacent the head of a diameter greater than the normal diameter of the bore in said end knuckle and received therein to expand the said end knuckle for resiliently retaining the hinge pin in the bore of said end knuckle with the remainder of said shank fitting loosely in all of the bores below the said knurled enlargement, the outer end of said end knuckle having an internally relieved portion to facilitate guiding of the hinge pin and the force fitting of the knurled enlargement therein, said head having an internal peripheral shoulder adjacent and projecting toward said knurled enlargement and adapted to seat on the said end knuckle overlying said relieved portion to leave a peripheral recess between the outer periphery of the head and the said end knuckle for receiving a tool facilitating removal of the hinge pin.

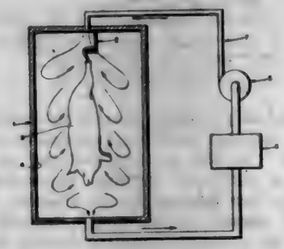
2,978,737
APPARATUS FOR GASSING ANIMALS AND FOWL PRELIMINARY TO SLAUGHTER
Alvin W. Hughes, Milwaukee, Wis.
(4N194 Church Road, Bensenville, Ill.)
Filed Sept. 26, 1955, Ser. No. 536,369
14 Claims. (Cl. 17—1)



1. The combination with a gassing chamber disposed above floor level and in which gas is retained by gravity, of an elevator cage and guides upon which said cage is

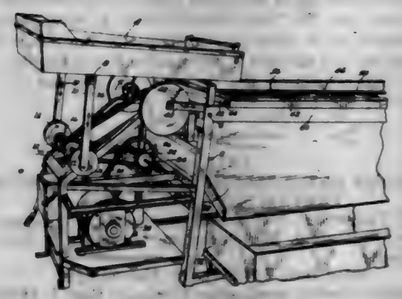
movable vertically into and from the chamber, a loading ramp having a terminal loading station portion with which the cage is registrable, a discharge chute having an unloading station portion with which the cage is registrable, together with means for tilting the bottom of the cage at the unloading station to deliver gassed creatures by gravity onto such chute.

2,978,738
METHOD OF TREATING ANIMAL CARCASSES
Olle Sigurd Jönsson, Kellgrensgatan 24, Boras, Sweden
Filed Sept. 11, 1958, Ser. No. 760,417
Claims priority, application Sweden Sept. 14, 1957
2 Claims. (Cl. 17—45)



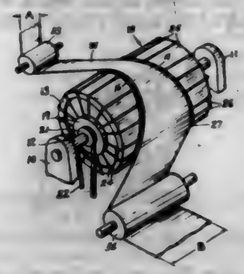
1. The method of treating carcasses to give them durable, dry and firm surfaces which comprises conveying them in sequence along a path and subjecting each of them in succession to the action of hot dry air having a temperature in the range from about 500° C. to about 800° C. for a period of not over one minute, said air circulating over the surfaces of the successive carcasses and flowing generally in a direction transverse to said path, whereby said surfaces are pasteurized and thoroughly dried, thereby inhibiting spoilage.

2,978,739
METHOD OF DEBONING COOKED POULTRY
Mark L. Goldberg, 1182 Oak Ridge Drive, Glencoe, Ill., assignor of one-third to Joseph E. Goldberg, Chicago, Ill., and one-third to Louis S. Kahn, Deerfield, Ill.
Filed Feb. 2, 1959, Ser. No. 790,528
2 Claims. (Cl. 17—45)



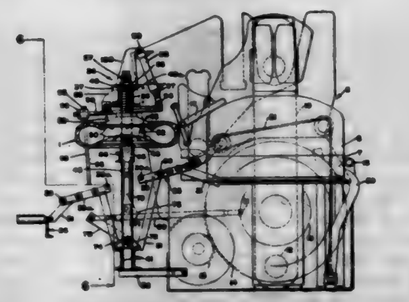
1. A method of deboning cooked fowl comprising the steps of agitating said cooked fowl carcasses in an agitation zone to induce a partial separation and removal of the cooked meat from the bones, then conducting said carcasses to a second zone, then subjecting said fowl carcasses to further agitation and succession until the meat is completely separated from the bones, then removing the separated bones.

2,978,740
WEB STRETCHING METHOD AND APPARATUS
Karl W. Maier, Cheshire, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Apr. 29, 1959, Ser. No. 809,784
6 Claims. (Cl. 18—1)



1. A web stretching device comprising a drum formed with a cam track, a cylindrical frame mounted concentrically with respect to said drum and movable relative thereto, said frame carrying resilient means, cam followers connected to said means and in contact with said cam track so that as said frame moves relative to the drum the resilient means is extended and retracted in accord with the contour of the cam track.

2,978,741
MECHANISM FOR HOLDING AND INFLATING TIRES AFTER VULCANIZATION
Leslie E. Soderquist, Silver Lake, Ohio, assignor to The McNeil Machine & Engineering Company, Akron, Ohio, a corporation of Ohio
Filed July 5, 1957, Ser. No. 670,068
9 Claims. (Cl. 18—2)

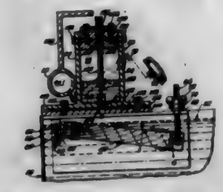


1. Mechanism for holding and inflating tires during a cooling period following vulcanization comprising a support for the cured tire, independently movable upper and lower plates located on opposite sides of the support, each plate having a seat for a tire bead, a passage for the lower plate through the support, means for raising the lower plate through the passage and toward the upper plate, means to locate the tire in register with the seats, and means to inflate the tire when the plates are closed together against the beads.

2,978,742
PROCESS AND APPARATUS FOR PRODUCING SPHERICAL METAL PELLETS
Louis W. Bliemeister, 5410 W. 99th St., Los Angeles 45, Calif.
Filed Feb. 8, 1960, Ser. No. 7,241
11 Claims. (Cl. 18—2.4)

7. An apparatus to form spherical metal pellets, comprising: a reservoir to hold a supply of the metal in

melted form; a plurality of passage means to release bodies of the melted metal from the reservoir in drop form; means confining a body of quenching liquid close to said passage means in the path of fall of the metal bodies from said passage means to cause the metal bodies to fall through the quenching liquid and to solidify while falling; and means in said liquid extending across the paths of fall of the metal bodies to interrupt the falls

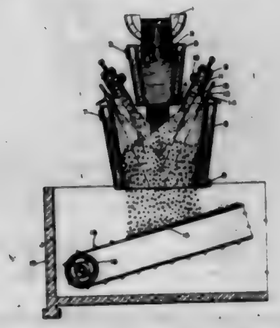


momentarily while the metal bodies are still molten and to impart spin to the metal bodies before they solidify, said interrupting means providing an inclined surface blocking the path or fall of the metal bodies from said passage means, said surface being made of liquid-absorbing material of low thermal conductivity and being inclined from horizontal to cause the metal bodies to travel along the inclined surface while they are still molten thereby to impart spin to the molten bodies.

2,978,743
APPARATUS FOR MAKING LIGHT WEIGHT AGGREGATE

Fred Osborne, Birmingham, Ala., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Dec. 28, 1954, Ser. No. 478,138
1 Claim. (Cl. 18—2.5)

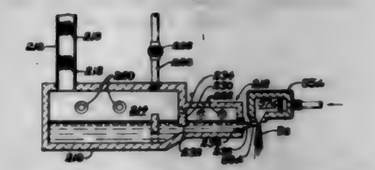


Apparatus for converting molten furnace slag into high strength light weight aggregate, comprising means for collecting and discharging molten slag as a free falling column of substantially uniform cross-section, an open ended vertically disposed cellulating chamber into which the slag column is received for free falling gravitational passage therethrough, a plurality of slag disintegrating nozzles disposed about the upper end of said chamber for projecting converging streams of gaseous fluid under pressure upon the molten slag column within said chamber and disrupting same into small substantially molten discrete masses, a plurality of slag cellulating nozzles disposed about the upper end of said chamber for projecting a fog of atomized water into the chamber upon the said discrete masses freely falling therethrough, and conveyor means beneath said chamber for receiving and removing the cellulated slag from further contact with said water, said slag disintegrating nozzles having means for inclusion in the gaseous fluid small quantities of water in amounts insufficient to materially cool the falling slag stream.

2,978,744
METHOD AND APPARATUS FOR FORMING FIBERS

Charles F. Schroeder, Toledo, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Sept. 9, 1955, Ser. No. 533,289
16 Claims. (Cl. 18—2.5)



1. A method of producing fibers from heat-softenable, fiber-forming material including the steps of establishing a quantity of the fiber-forming material in a molten condition in a stationary chamber, impressing pressure effective on molten material in the chamber, projecting a plurality of streams of the molten material from the chamber by the pressure impressed on the molten material, establishing a high velocity gaseous blast wherein the gases of the blast move in directions normal to the projected streams and in engagement with the streams, the pressure on the molten material being of sufficient magnitude to project the streams by their energy of motion into the gaseous blast, and attenuating the material of the streams to fibers by the gaseous blast.

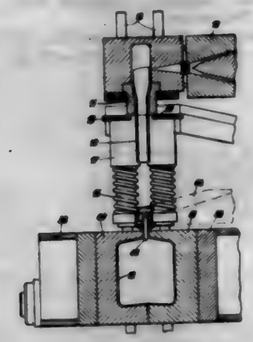
11. Apparatus of the character disclosed, in combination, a stationary receptacle adapted to contain a supply of molten fiber-forming material, a stationary feeder arranged to receive molten mineral from the supply, pressurizing means for maintaining pressure on the material in the feeder, means for regulating the pressure in the feeder, said feeder being formed with a plurality of orifices in a side wall thereof through which streams of molten material are projected substantially horizontally of the feeder by the pressure on the material, means for establishing a high velocity blast, said pressurizing means being adapted to establish sufficient pressure effective on the material at the region of the orifices to project the streams at substantial velocities through the blast induced air stream into the blast, the attenuating blast engaging the streams in a direction substantially normal thereto to attenuate the streams to fibers of varying lengths, and means for restricting the flow of air induced by the velocity of the blast.

2,978,745
PROCESS AND A MACHINE FOR THE PRODUCTION OF HOLLOW BODIES

Erhard Langecker, Meinerzhagen, Germany, assignor to Gebr. Battenfeld, Meinerzhagen, Germany, a German company

Filed June 3, 1957, Ser. No. 663,258
Claims priority, application Germany Dec. 7, 1956
6 Claims. (Cl. 18—5)

1. A machine for the production of hollow bodies from thermoplastic synthetic material which comprises means for downwardly extruding a tubular body, means for severing the extruded tubular body from the remainder of the material in the extruding means and carrying the severed extruded body in a hanging position while maintaining the upper end of the tubular body open, an openable mould consisting of two sections and spaced from the extruding means for an amount sufficient to permit at least continuous extrusion, means to open and close the mould, means for lowering the said severing means with the severed tubular body longitudinally so as to bring said tubular body to a position between the mould sections while they are open, a mandrel having an air passage therethrough, means to shift said mandrel to a position above and coaxial to the lowered tubular body and to insert said mandrel into the upper end of the said tubular body in the mould before the mould sections are closed, the edges of the

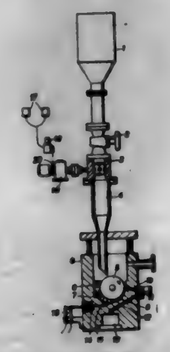


mould sections being provided with means for closing the lower end of the tubular body and for calibrating its upper end around said mandrel within the mould when the mould is closed, means for introducing air into the tubular body in the mould through said air passage in the mandrel whereby the tubular body is expanded to the shape of the mould, and means to strip the shaped body from the mandrel after the mould is opened, the cycle of operations utilized permitting the achievement of a continuous bottle-blowing operation with a single mould.

2,978,746
METHOD OF AND APPARATUS FOR MELTING ORGANIC THERMOPLASTIC PLASTICS

Wolf Rodewacker, Dormagen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Mar. 29, 1956, Ser. No. 574,925
Claims priority, application Germany Apr. 2, 1955
5 Claims. (Cl. 18—8)

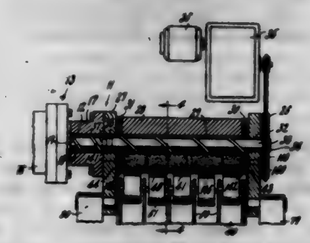


3. Apparatus for melting plastic material comprising a trough-shaped vessel of substantially semi-circular cross-sectional shape, means defining a continuously moving roller eccentrically positioned in said vessel and partially extending below the normal liquid level of said vessel to define a space between it and the adjacent wall of the vessel, said space being of constricted arcuate cross-sectional shape decreasing in cross-sectional size from one side to the opposite side in the direction of rotation of the roller, means for introducing solid material into said vessel on the side of said roller where it begins its path of movement below the liquid level of said vessel, an outlet for molten material on the side of said roller where it completes its path of movement below the liquid level of said vessel, and means responsive to liquid level change of material in said vessel controlling said means for introducing solid material to maintain a substantially constant level in said vessel.

2,978,747
RUBBER SHAPING AND VULCANIZING APPARATUS

Thomas J. Rhodes, Smoke Rise, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Original application Aug. 31, 1954, Ser. No. 453,321, now Patent No. 2,842,796, dated July 15, 1958. Divided and this application Apr. 18, 1958, Ser. No. 729,302
3 Claims. (Cl. 18—12)



1. An apparatus for forming a rubber sheet comprising a stuffer assembly for advancing under pressure a rubber stock in a heated, plastic condition, said stuffer assembly having an internal bore, a stuffer screw rotatably disposed within said stuffer bore and having a predetermined uniform thread diameter, means for rotating said stuffer screw to advance the stock to the delivery end of said stuffer assembly, an extrusion head assembly secured to the delivery end of said stuffer assembly, said extrusion head assembly containing a second bore coaxial with said first-mentioned stuffer bore and having substantially the same diameter as said stuffer bore and forming a continuation thereof, an extrusion head screw rotatably mounted within said extrusion head bore and having substantially the same uniform thread diameter as said stuffer screw and having a thread of greater pitch than said stuffer screw, a second driving means, connected to the extrusion head screw, for driving the extrusion head screw at a speed different from the speed of the stuffer screw and for advancing the stock along said extrusion head bore, and the said extrusion head assembly being provided with a longitudinal extrusion passage extending radially from the extrusion head bore to an outer surface of the extrusion head assembly.

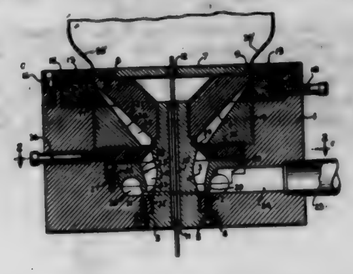
2,978,748
DIE FOR EXTRUDING TUBULAR PLASTIC FILM

Thomas M. McCauley, La Grange, and George Svoboda, Western Springs, Ill., assignors to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 6, 1958, Ser. No. 713,693
8 Claims. (Cl. 18—14)

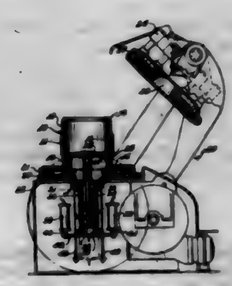
1. A die for extruding tubular plastic film which comprises in combination: a die body, said body being provided with an annular recess, a post positioned in said

recess and defining with said body at one end of said recess an annular extrusion orifice, an annular feed ring carried by said body in said recess and terminating at the opposite end of said recess from said extrusion orifice, said ring partially defining an annular header chamber substantially coaxial with said extrusion orifice and said recess, single means carried by said body for feeding plastic material in plastic condition under pressure at a predetermined small portion of said header chamber, an edge of said feed ring remote from said extrusion orifice and a portion of said body defining an end of said recess together defining a fixed annular communicating space between said header chamber and an annular



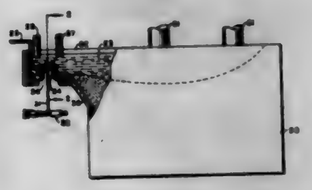
chamber defined by said center post and said feed ring for the flow of plastic from said header chamber to said annular chamber, said annular chamber being relatively large whereby turbulence due to the flow of plastic material thereinto is damped, said communicating space increasing in width from said predetermined portion of said header chamber to a portion removed substantially 180° therefrom so that the pressure of the plastic fed to said recess is maintained substantially uniform throughout the circumference of said recess whereby said plastic material is uniformly fed to all portions of said orifice.

2,978,749
TIRE MANUFACTURE
Roger A. Del Mar, San Gabriel, Calif., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 27, 1955, Ser. No. 524,717
13 Claims. (Cl. 18—17)



1. A press for the shaping and curing of tires from bands in which the pressure shaping and curing medium is in direct contact with the interior of the tire, two relatively movable mold sections, means for moving the mold sections together with an uncured tire band between them, a pair of bead clamping rings located between the edges of the band, and means to separate the rings when the mold is closed to exert pressure against the inside surfaces of the bead portions of the band.

2,978,750
METHOD AND APPARATUS FOR FIBERIZING REFRACTORY MATERIALS
John C. McMullen, Niagara Falls, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Mar. 3, 1953, Ser. No. 339,996
11 Claims. (Cl. 18—47.3)



9. The process of making refractory fibrous material comprising melting refractory material, applying a regulated amount of heat to the molten refractory material just prior to its passing through at least one releasing orifice to superheat the material being released, releasing through said orifice by gravity a continuous uniform stream of molten refractory material for subsequent fiberizing, cooling said orifice by passing a fluid coolant through the walls thereof to form a solidified layer of refractory material on the surface of said orifice, and subsequently fiberizing said released stream of molten refractory material.

2,978,751
METHOD OF MAKING COMPOSITE MOLDED PLASTIC WHEELS
Roy A. Bright, Buffalo, N.Y., assignor to Du Bois Plastic Products, Inc., Buffalo, N.Y., a corporation of New York
Filed May 29, 1958, Ser. No. 738,800
1 Claim. (Cl. 18—59)



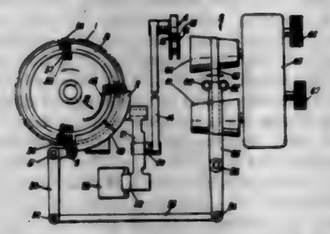
The method of making a composite wheel, which comprises forming a strip of flexible thermoplastic plastic material to have side edges and to have a series of transverse slots along one face arranged in alternation with a series of transverse slots along the other face, said slots extending from one edge to the other, arranging said strip in a circle with one face forming the periphery thereof and holding said strip by contact with the opposing faces of the slots along said face forming the periphery, pouring a thermoplastic plastic material into said circle to bond to the inner face of said strip and to the faces of the slots in said inner face.

2,978,752
PROCESSING TOW
Eugene Francis Cloutier and Svend A. Petersen, Charlotte, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Feb. 11, 1958, Ser. No. 714,622
25 Claims. (Cl. 19—65)



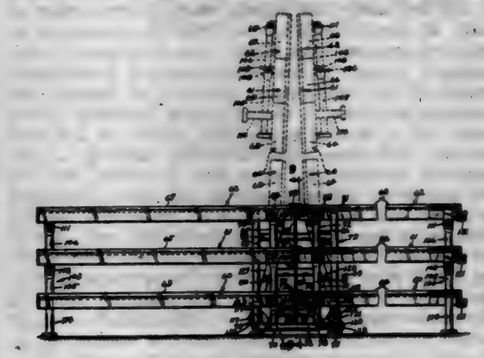
1. The process which comprises longitudinally pulling a crimped multifilament tow from a first point to a second point and intermittently preventing advance and slippage of said tow at a location intermediate said two points while still pulling at said second point.

2,978,753
TEXTILE DRAFTING APPARATUS
John Kay Pringle Mackie, Belfast, Northern Ireland, assignor to James Mackie & Sons Limited, Belfast, Northern Ireland, a British company
Filed Apr. 8, 1958, Ser. No. 727,081
Claims priority, application Great Britain Apr. 15, 1957
8 Claims. (Cl. 19—70)



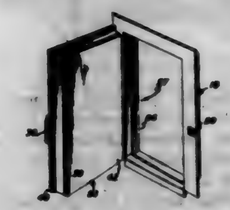
1. In combination with a textile sliver drafting machine, means for measuring the size of textile slivers fed into said machine, and a time-delay mechanism for controlling the draft of said textile slivers in said machine in accordance with variations in the size of sliver entering the drawing head of said machine, said mechanism comprising a plurality of slidable members mounted on a rotatable carrier, each of said members slidable in a direction axially of the path of rotation of said carrier, each of said slidable members having a surface sloping at an angle to the direction of sliding, setting means for positioning said members relative to said carrier spaced from said carrier and connected to said sliver measuring means, the spacing of said setting means from said carrier being responsive to variations in the size of the sliver in said measuring means, said setting means engaging and slidably positioning each of said members relative to said carrier, a plurality of rods on said carrier and projecting radially therefrom, each of said rods engaging a sloping surface of a slidable member, each of said rods movable in a direction radially from said carrier in response to the sliding movement of said sloping surface of said slidable member, means for locking said rod in engagement with said sloping surface after said member has been slidably positioned on said carrier by said setting means, transmitting means for controlling the draft of said drawing head of said machine, said transmitting means disposed adjacent said carrier and successively engaged by the radially extending end of each of said rods traveling about said path of rotation, and means for subsequently disengaging said locking means to again permit movement of said slidable member relative to said rod and said carrier.

2,978,754
PORTABLE STAGE
Kermit H. Wilson, % Sico Mfg. Co., 5212 Eden Ave. S., Minneapolis, Minn.
Filed Nov. 16, 1959, Ser. No. 853,323
17 Claims. (Cl. 20—1.123)



1. In a device of the kind described, a normally horizontally disposed generally flat top element, a supporting frame for one end portion of said top element, supporting means for the opposite end portion of said top element, means pivotally connecting said one end portion of the top element to said frame for swinging movements of said top element between its normally horizontal position and a generally vertically disposed storage position and on a horizontal axis generally parallel to the adjacent end of said top element, a plurality of wheels, wheel carrying means mounted on said frame for movements toward and away from supporting engagement of said wheels with the ground, and linkage operatively connected to said top element and the wheel carrying means and responsive to movement of said top element to its normally horizontal position to move said wheel carrying means upwardly whereby said supporting frame rests upon the ground, said linkage being responsive to movement of said top element to said storage position to lower said wheel carrying means into engagement of said wheels with the ground and elevate said frame from engagement with the ground.

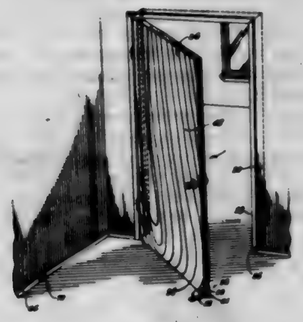
2,978,755
VAPOR PROOF COVER OR FREEZER DOOR ASSEMBLY
Robert L. Walker, New Lisbon, Wis.
Filed July 23, 1958, Ser. No. 750,494
1 Claim. (Cl. 20—16)



In a device of the character described, a body member provided with an enlarged opening, a frame member mounted in the opening in said body member in fixed relation thereto, said body member including a wall member, said body member being hollow and having insulation therein, said wall member being shaped to include a first portion, a second portion arranged at right angles to said first portion, a third portion arranged

angularly with respect to said second portion, a fourth portion arranged angularly with respect to said third portion, a fifth portion which is arranged in spaced parallel relation with respect to said fourth portion, a strip including a first section secured to the first portion of said wall member, a second section arranged at right angles to said first section and secured to the second portion of said wall member, said second section terminating in an angularly arranged third section, said third section terminating in a fourth section which is secured to the fourth portion of said wall member, a layer of material surrounding said strip, a frame member including a base piece that is secured to the fifth portion of said wall member, said frame member further including a right angularly arranged end piece that is parallel with the first portion of said wall member and which is arranged in contact with the layer of material surrounding the said strip; and a door hingedly mounted on said wall member for selectively closing said opening and said door including a wall piece that is disposed in complementary relation with the opening in said body member, said wall piece embodying a first portion, a right angularly arranged second portion extending from said first portion, an inclined third portion extending from said second portion, a lip extending from the third portion of said wall piece, said wall piece further including a fourth portion extending at right angles from and in spaced parallel relation to said lip, parallel plate members one of which is secured to the inner surface of the fourth portion of said wall piece and the other plate member being secured to said lip, gaskets carried by said door in sealing engagement with the body member when the door is in closed position, insulation within said door, and a layer of plastic surrounding said door.

2,978,756
HIDE-A-WAY DOOR STOP
Richard A. Pedersen, 18812 Ambler Ave., Gardena, Calif.
Filed Mar. 2, 1959, Ser. No. 796,569
1 Claim. (Cl. 20—16)



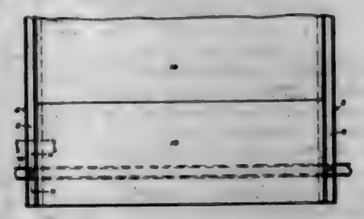
In a door hingedly mounted to open and close an aperture in a wall, an automatically retractable and extendible door stop comprising: an elongate flat element, said element being pivotably mounted adjacent one of its extremities on a horizontal edge of the door to pivot about a vertical axis from a retracted position within the planes of the faces of the door, to an extended position substantially perpendicular to the door; spring means urging said element to its extended position; said element including an outwardly facing arcuate toothed segment disposed fixedly in relation to, and at, the extremity of said element most proximate to the point of pivotal mounting; and cooperating means fixedly disposed in the portion of the wall defining said aperture, the last said means being further provided with orifices disposed to engage said arcuate toothed segment when the door is closed into the said aperture, thereby to cause said element to pivot about its axis in opposition to the urging of said spring means to its retracted position.

2,978,757
LOCK
John M. Ammerman, Indianapolis, Ind., assignor, by mesne assignments, to Spicheimer Industries, Inc., Indianapolis, Ind., a corporation of Indiana
Filed May 17, 1957, Ser. No. 659,906
4 Claims. (Cl. 20—52)



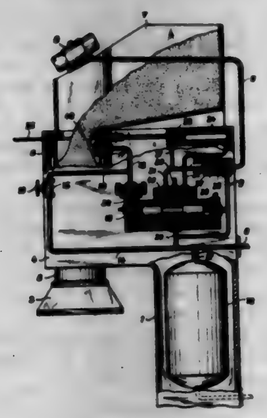
1. A lock for two sliding window sash having interengaging first and second meeting rails provided respectively with first and second flanges which overlap each other in abutting relation when the sash are in closed position, said lock comprising a latch member pivotally mounted on said first meeting rail on an axis parallel thereto for swinging movement between a locked position in which it engages said second flange to clamp it against said first flange and a released position permitting separation of said flanges, an operating member pivotally mounted on said first meeting rail for swinging movement about an axis parallel to that of said latch member, the respective axes of said latch member and operating member lying on opposite sides of said first flange, said first flange having an opening, a link extending through such opening, operatively interconnecting the latch member and operating member and forming therewith a toggle which assumes a locked condition as the operating member swings the latch member into its said locked position, said link being pivotally connected to said latch member and passing between the axis thereof and the point at which the latch member engages said second flange to a point of connection with said operating member when the latch member is in locked condition, and a closure for said opening, said closure being formed of resilient material, embracing said link between the first flange and the latch member, and overlapping the edges of said opening.

2,978,758
WATER-BEAM CANOPY
Harold S. Dunn, 163 Fiesta Way, Fort Lauderdale, Fla.
Filed Mar. 28, 1960, Ser. No. 17,862
6 Claims. (Cl. 20—57.5)



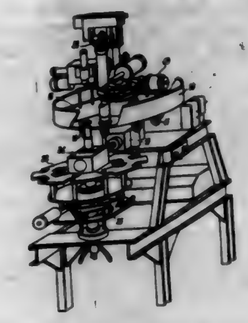
1. A canopy structure for overlying relation to a patio or other area to be protected, comprising a plurality of metallic supporting beams of H-shape that are connected at their inner ends to an adjacent building and inclined downwardly and outwardly, the H-beams being equidistantly spaced apart and parallel, an upper channel of the beams constituting water drainage troughs, elongated closure panels formed of expanded polystyrene foam that are cumulative in spanning relation to the spaces between the beams, metallic connector strips engaged with the opposite ends of the panels, the strips constituting the means for connecting the ends of the panels to adjacent upper edges of the beams, the strips also constituting a flashing whereby water flowing from the panels will be directed into the trough of the beams, the panels being longitudinally upwardly bowed throughout their length whereby water falling upon the panels will be drained in opposite directions to be discharged into the troughs of the beams, and means to support the beams at their outer end portions, the said means also conveying the water away from the beams.

2,978,759
MACHINE FOR FORMING FOUNDRY CORES AND CHARGING CORE BOXES WITH MOLDING SAND
Fritz Hansberg, Via Archirola 13, Modena, Italy
Filed June 18, 1958, Ser. No. 742,935
Claims priority, application Germany July 13, 1957
18 Claims. (Cl. 22—10)



1. A moulding machine for the production of foundry cores and foundry moulds comprising a replenishable closable sand storage container for conveying sand from said sand storage container into mould boxes to be filled, a conduit for working pressure air, a charging device for the periodic replenishment of said sand storage container, said charging device being connected to said conduit and controlled by the working air supplied to it, a pressure-reducing valve which is pneumatically connected to said conduit for the working pressure air and reduces the excess pressure of the pressure to a fraction of an atmosphere, said low pressure air constituting control air, a diaphragm valve having a resilient diaphragm and a control air pipe for pneumatically connecting said pressure reducing valve and said diaphragm valve, said diaphragm valve being mounted in the sand storage container in such a manner that a predetermined supply of sand in said container abuts against said resilient diaphragm thereby flexing the same, flexing of said diaphragm varying the air pressure in the control air pipe, and a control means responsive to the variation in the control air pressure and controlling the working air supplied to the charging device.

2,978,760
CORE MAKING MACHINE
Georges Barrallon, Firminy, France, assignor to Compagnie des Ateliers et Forges de la Loire, Paris, France, a corporation of France
Filed July 11, 1958, Ser. No. 748,571
Claims priority, application France July 16, 1957
5 Claims. (Cl. 22—10)

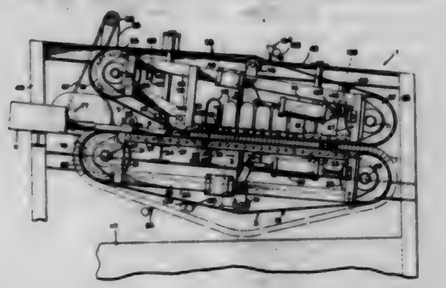


1. In a machine for foundry cores, the combination comprising a first table rotatable about a vertical axis, a series of sand receptacles having lower and upper openings supported by said table along the circumference thereof, a second table rotatable about a vertical axis offset from the axis of said first table, a core box having an upper opening supported by said second table comprising two half boxes opening and closing in a vertical plane, a pair of camping devices located respectively in general vertical alignment with said two vertical axes, each half box being fixed to one of said clamping devices, means for synchronizing the rotation movements of said two tables, means for operating said clamping devices for closing and opening said two half boxes when a sand receptacle is directly above said core box thereby defining a filling station for said box when the axis of a receptacle is located in the closing plane of said core box with a lower opening of the receptacle directly superposed to said upper opening of said core box, a reservoir for sand, means for filling each receptacle with a charge of sand from said sand reservoir before said station, means for blowing air located above said receptacle and operable at the same time that each receptacle is presented to said station for the discharge of the sand from the receptacle into said core box, means for operating said two tables and said means for blowing air to fill with sand said core box at said filling station.

2,978,761
CONTINUOUS CASTING APPARATUS
John J. Foye and William O. Stauffer, New Orleans, La., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed May 3, 1957, Ser. No. 656,872
8 Claims. (Cl. 22—57.2)

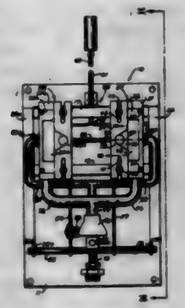
8. A continuous casting apparatus including endless members, means for moving said members to form a substantially horizontally traveling mold, a molten metal distributor comprising a tubular body portion on one end of which is an inlet portion and at the other end of which is an outlet portion, said inlet portion and said outlet portion being connected by a channel, said channel fanning out at said outlet portion and having a plurality of deflectors disposed therein, said inlet portion being in communication with a source of molten metal, said outlet portion having on its outer surfaces gasket material, said gasket material being covered with shim stock, said gasket

and said shim stock effecting a substantially sealed relationship between said outlet portion of said distributor and said traveling mold and being in molten metal flow relationship therewith, said outlet portion being provided



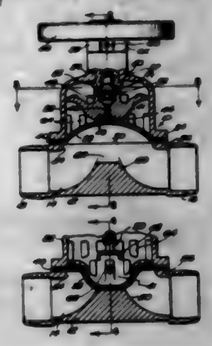
at its exit end with a plurality of orifices extending substantially across said exit end, the axes of said orifices being parallel to each other and parallel to the axis of said traveling mold.

2,978,762
BURN CASTER
Charles H. McAlpine, Box 317, R.R. 1, Coloma, Mich.
Filed June 17, 1957, Ser. No. 666,010
2 Claims. (Cl. 22—58)



2. A mold for forming a battery terminal post and a connecting bar, comprising in combination: a first plate of highly heat-conductive material; a second plate positioned above said first plate and having a recess formed in one edge thereof, said recess defining a mold cavity for said connecting bar and said first plate defining the bottom of said connecting bar mold cavity; a cylinder extending downwardly and defining a mold cavity for said terminal post; a third plate separate from said first plate and disposed above said cylinder and defining a passage for molding material extending between said connecting bar mold cavity and said post mold cavity; an elongated burner positioned below said first plate and extending for substantially the entire length of said first plate whereby the entire length of said first plate may be substantially uniformly heated; and upwardly directed nozzle means below said first plate and adapted to be connected to a supply of water whereby water may be sprayed on said first plate to rapidly cool the molding material thereon.

2,978,763
METHOD OF MAKING DIAPHRAGM VALVE COMPRESSORS
Albert J. Loepsinger, Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Original application Sept. 15, 1954, Ser. No. 456,141, now Patent No. 2,936,998, dated May 17, 1960. Divided and this application June 20, 1957, Ser. No. 667,010
4 Claims. (Cl. 22—195)



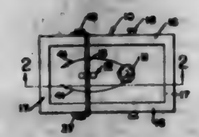
1. A method of making a back up member for a molded diaphragm including; the steps of clamping the periphery of the diaphragm beneath a valve bonnet to prevent movement; then forcing the diaphragm from its molded position to a distorted position by forcing the diaphragm over a portion lesser in area than the remaining unclamped area, the distorted position being unpredictable; pouring a plaster-like mixture into the bonnet over the back surface of the distorted diaphragm; permitting said mixture to set thus forming a replica of the shape of the distorted diaphragm; removing said bonnet with said replica and inverting said bonnet with said replica; enclosing said replica and the inner periphery of said bonnet; coating said replica with a parting agent; pouring a plaster-like mixture over said replica in said bonnet; permitting said mixture to set and removing said set mixture thus obtaining a female form of a diaphragm in its naturally distorted closed position.

2,978,764
CASTING OF CORED MACHINE PARTS
Joseph V. Hrabovsky, Garden City, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 18, 1957, Ser. No. 640,848
2 Claims. (Cl. 22—203)



1. The process of producing an internal combustion engine casting including a ferrous cylinder barrel enclosed in an aluminum cylinder block, said cylinder block being cored for the production of engine coolant passages, comprising casting around the cylinder barrel a zinc coolant jacket core shaped to correspond to the desired coolant passage, casting around the assembly of cylinder barrel and coolant jacket core an aluminum cylinder block, heating the cylinder block, coolant jacket core and cylinder barrel to a temperature intermediate the melting point of the cylinder block and the coolant jacket core, and pouring from the cylinder block the liquefied core.

2,978,765
METHOD AND MEANS FOR ALLOYING MOLTEN METALS
Robert G. Brown, Parma, Ohio, assignor to Cleveland Electro Metals Co., Cleveland, Ohio, a corporation of Ohio
Filed June 13, 1957, Ser. No. 665,883
33 Claims. (Cl. 22—215)



1. The method of treating steel as it is poured into an ingot mold comprising the steps of supporting an elongated aluminum bar in the ingot mold in such a manner that the sides of the bar are substantially spaced from the sides and ends of the ingot mold and with its longitudinal axis generally vertical and continuously pouring steel into the ingot mold in such a manner that the stream of molten steel does not contact the bar to continuously fill the ingot mold, the side surface area of the bar and the fill rate of the molten steel in the ingot mold being defined by the following approximate relationship: S.A.=18+.123 F.R., where S.A. equals the surface area (neglecting the end cross sectional area) of the bar per pound of aluminum, and F.R. equals the fill rate of the ingot mold in inches per minutes.

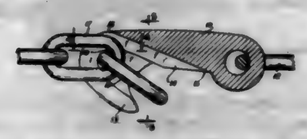
33. In an aluminum bar for the treating of steel as it is poured into an ingot mold, the improvement which comprises: an elongated aluminum member having a weight per foot of from 2.80 to 7 pounds, and a surface area per pound of aluminum related to the fill rate of an ingot mold in inches per minute, as approximately defined by the following formula: surface area equals 18+.123 times the fill rate.

2,978,766
SAFETY HOOK
Charles L. Arnett, 3211 52nd Ave., Hyattsville, Md.
Filed June 4, 1958, Ser. No. 739,927
1 Claim. (Cl. 24—116)



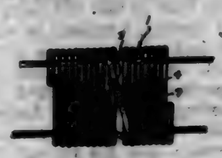
A safety grab hook for attaching to a lifting chain, comprising a shank, a bight and a hook portion parallel with said shank, said hook portion having an outwardly curved pointed end, said shank and hook portion having inwardly inclined side walls, said shank having a recess in the inner surface thereof confronting said hook portion, the rear wall of said recess being inclined providing a stop, said shank also having an enlarged recess communicating with said first mentioned recess and opening on the outer side of said shank, a latch arm having an outwardly inclined end, pivotally mounted in said first mentioned recess, adapted to engage said stop limiting rearward movement of said latch arm, said outwardly inclined end of said latch arm adapted to extend into a chain link and contact said hook portion a substantial distance from said pointed end of said hook portion, drawing adjacent links of a chain into engagement with said inwardly inclined walls of said shank and hook portion, normally securing the grab hook to the chain.

2,978,767
CHAIN HOOK
Herbert A. Goss, 1375 Madras Highway, Prineville, Oreg.
Filed Mar. 10, 1959, Ser. No. 798,542
3 Claims. (Cl. 24—116)



1. Chain hook for engaging a chain having oval links interengaged with each other and with alternate links lying in planes at right angles to each other, comprising an elongated central portion having means at one end to attach a chain thereto, a pair of claws at the other end of said central portion, said claws being positioned on opposite sides of said central portion and having bight portions extending in a direction longitudinally of said central portion beyond said other end of said central portion, said bight portions having curved, concave, inner surfaces rounded in two directions so as to correspond to the general toroidal curvature of a received link so as to engage said received link over a broad area, said claws being laterally spaced a distance slightly wider than the thickness of a first chain link positioned between said claws so that said first chain link rests in a slot closely confining the link, and said hook having web portions extending between said central portion and said bight portions to brace said claws, said web portions being laterally spaced adjacent said bight portions a distance greater than the width of a succeeding chain link so as to receive said succeeding link between said webs when said succeeding link is at right angles to said first chain link and has an end engaging said bight portions.

2,978,768
CORD CLAMP
Marvin O. Heapy, 445 Fairgreen Drive, Dayton, Ohio
Filed Jan. 19, 1959, Ser. No. 787,537
12 Claims. (Cl. 24—134)



3. A clamp apparatus, including a coil spring providing a cylindrical housing, a disc within said spring having diametral projections lodged between adjacent coils of said spring, said disc being biased thereby to substantially bridge said spring and close the passage therethrough, one of said disc projections providing means for pivoting said disc against the bias of the spring to permit the free

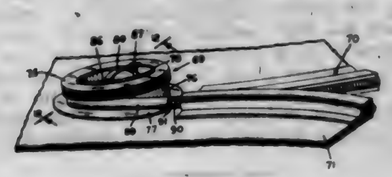
ends of cords or the like to be passed through the spring to either side of said projections, the said adjacent coils being operative to bias said disc to pivot to its bridging relation to the spring to clamp the cords to the inner wall of the spring, said disc being angularly inclined to the plane of said projections to thereby accommodate an increase of tension on the cords while maintaining a lock thereof to said spring.

2,978,769
PLASTIC BAG OR CONTAINER
Ralph E. Harrah, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania
Filed July 7, 1958, Ser. No. 746,729
2 Claims. (Cl. 24—201)



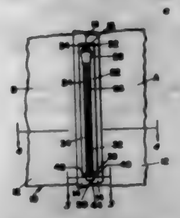
1. Closure means of the class described, comprising a pair of elongated closure strips made from a flexible material disposed in overlapped relation, each of said closure strips having co-operating interlocking means arranged on confronting faces thereof and extending continuously therealong, and means arranged integral with said closure strips temporarily interconnecting the same so that the space between said closure strips is completely sealed and which means may be broken to permit access through the space between said strips when the interlocking means of said closure strips is disengaged.

2,978,770
FLUID-TIGHT FASTENER AND CLOSURE
Charles R. Sperry, Cambridge, and Carleton S. Marden, Boston, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Dec. 9, 1958, Ser. No. 779,252
11 Claims. (Cl. 24—203)



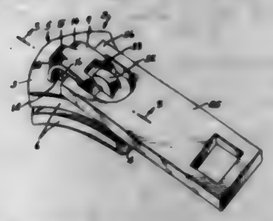
1. A fluid-tight fastener comprising a piece of impermeable material having opposed internal edges defining an opening therein, channel-like ribs on said edges, each rib having spaced apart lips extending lengthwise of said edges, the ends of said ribs being united at opposite ends of said opening, a passage in said material communicating with said opening at one end thereof, a flexible shaft slidable in said passage and movable lengthwise of said opening, means mounted on said piece of material for moving said shaft, a fastener member including a plurality of substantially coaxial loops secured to each rib between said lips thereof, the loops being movable into interposed, overlapping relation to receive said shaft to connect said fastener members, the lips on one rib being in opposed fluid-tight, edge-to-edge engagement with the lips on the other rib when the fastener members are connected, and sealing means for preventing leakage of fluid from one side of said piece of material to the other along said shaft and said means for moving it.

2,978,771
CLOTH ARTICLE
Kenneth F. Dicken, Temple, and William T. Leonard, Reading, Pa., assignors to Irving Constant, New York, N.Y.
Filed Mar. 17, 1958, Ser. No. 722,047
6 Claims. (Cl. 24—205.1)



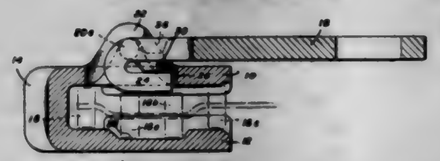
1. A concealed slide fastener including a pair of tapes, a welt on the inner edge of each of said tapes, a series of interlocking fastener elements each having an inner end for effecting interlocking cooperation with a neighboring fastener element on the other tape and an outer end which embraces the welt on the inner edge of its tape with its tape extending upwardly and overlapping said outer end when said slide fastener elements are in their closed disposition whereby each of the tapes is folded above and overlaps the slide fastener elements with the folded portion of the tapes being in tight abutting engagement, a slider on said tapes and a bottom stop, said bottom stop being substantially C-shaped in transverse cross-section, said bottom stop straddling the welts and some of the fastener elements of each of the tapes and being juxtaposed to a free end of the tapes, said bottom stop extending across the free ends of the tapes only on one sides of the tapes so that at least a portion of said bottom stop is hidden by said tapes when the slide fastener is viewed from the other side of the tapes.

2,978,772
AUTOMATIC LOCK SLIDER FOR SLIDE FASTENERS
Alexander M. Brown, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania
Filed June 9, 1958, Ser. No. 740,913
9 Claims. (Cl. 24—205.14)



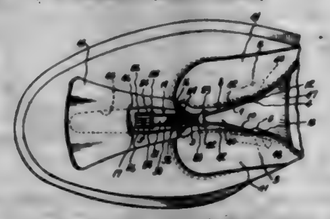
1. In a lock slider for slide fasteners, a slider body comprising a pair of spaced-apart wing portions connected at one end by a neck portion so as to provide a channel therebetween, a relatively flat, yieldable locking member mounted on one of said wing portions having a loop-like portion arranged therein intermediate the length thereof, a pair of opposed transversely extending trunnion-like portions carried by said locking member immediately rearwardly of said loop portion, means arranged on said wing portion adjacent said neck portion which co-operates with said trunnion-like portions to hold the locking member hingedly in position on said wing portion, said locking member having a tongue-like portion struck up from the material of said body member between said trunnion-like portions and positioned thereabove and bearing against said last mentioned means, a locking projection arranged on the opposite end of said locking member which extends through an opening in said wing into the slider channel forwardly of said loop portion, means carried by said wing portion adjacent said opening which co-operates with the locking member adjacent the locking projection to limit the outward movement of said locking projection, and a pull member having a trunnion portion on one end thereof which is disposed between the loop-like portion of said locking member and said wing portion.

2,978,773
SLIDE FASTENERS
Hans Erdmann, Maplewood, N.J., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Aug. 26, 1958, Ser. No. 757,272
7 Claims. (Cl. 24—205.14)



1. In a cam-lock slider for a slide fastener comprising a slider body constituted by spaced front and rear wings connected at one end by a neck defining with said wings a Y-shaped slider channel for movement of the fastener chain therethrough, a pull tab pivotally connected to the front wing having raised and lowered positions with respect thereto and when raised providing pull means for actuating the slider body along the fastener in fastener opening and closing directions, and a locking cam on the pull tab adapted in the lowered position of the pull tab to project through an opening in the front wing into frictional engagement with at least one fastener element of the fastener chain then contained within the channel, said cam comprising a fingerlike extension on the top end of the pull tab said pull tab and extension being of substantially the same uniform thickness and said extension underlying the pull tab proper and being disposed in spaced, generally parallel relation therewith, the improvement comprising an embossment on and protruding from the under side of the pull tab into substantial engagement with the cam, said embossment reinforcing the cam against forces tending to distort and/or crush the cam against the pull tab.

2,978,774
SHOE FASTENING DEVICE
Thane E. Hawkins and Stanley E. Welkal, Meadville, Pa., assignors to Talon, Inc., a corporation of Pennsylvania
Filed Mar. 24, 1958, Ser. No. 723,238
6 Claims. (Cl. 24—207)



2. In a shoe fastening device, a resilient slide wire member bent to a substantially V-shape so as to provide a pair of spaced-apart arm portions integrally connected together at one end by a transversely extending trunnion portion, a manipulating member having a spaced-apart bearing-like portion arranged on one end thereof which is hingedly connected to the trunnion portion of said wire member, a plate-like member having a hook-like bearing portion arranged therewith which is adapted to be disposed around said trunnion portion in the space between said bearing-like portions, means arranged with said plate-like member for securely attaching the same to a shoe, a rigid member having one end thereof pivotally attached to said manipulating member at a spaced distance from its detachably pivotal connection with said trunnion portion, means arranged on the opposite end of said rigid member slidably engaging the arms of said wire member for opening and closing the assembly, and means carried by said manipulating member which co-operates with means carried by said rigid member for locking the manipulating member in its closed position substantially parallel to the arms of said wire member.

2,978,775
WEB-TO-TUBE FASTENINGS
Hyman Kramer, 2764 E. 16th St., Brooklyn, N.Y.
Filed Mar. 13, 1958, Ser. No. 721,233
18 Claims. (Cl. 24—265)



1. A fastening of the character described comprising a tubular frame member having a slot-like opening, a flexible webbing strip a drive-type fastener comprising a flat shank portion and a wedge-like part extending laterally from the approximately medial portion of said shank, said shank having appreciable width dimension and being disposed in face engagement with an end portion of the webbing strip, said opening having width slightly less than the combined thickness of the fastener and webbing-strip end portion engaged thereby, said fastener and webbing-strip end portion extending through said opening into the tubing and being disposed substantially radially thereof and said fastener having a drive fit in said opening whereby to clamp said webbing against at least one side edge of said opening.

2,978,776
ATTACHMENT DEVICE FOR HANDBAG HANDLE OR THE LIKE
Daniel I. Reiter, 11 E. 31st St., New York 16, N.Y.
Filed June 16, 1959, Ser. No. 820,771
3 Claims. (Cl. 24—265)



1. An attachment device for a handbag handle or the like, said device being formed from a single sheet of stiff material having a main body portion of generally rectangular configuration and a pair of substantially parallel elongated extensions at one end of said body portion, said extensions lying side-by-side in a common plane,

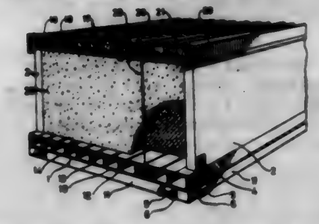
and said extensions having arrow-heads at their respective free extremities, the tips of said arrow-heads being substantially perpendicular to the remainder of said extensions, whereby said extensions may be inserted within passages in the handle so that the tips and trailing vertices of said arrow-heads may engage different portions of the walls of said passages.

2,978,777

APPARATUS FOR MAKING A PLURALITY OF VERTICAL CUTS THROUGH LIGHT-WEIGHT CONCRETE

Bengt Orvar Carlsson and Karth Ekland, Skavde, Sweden, assignors to Durox International Societe Anonyme, a company of Luxembourg

Filed Feb. 14, 1956, Ser. No. 565,483
Claims priority, application Sweden Feb. 15, 1955
4 Claims. (Cl. 25—108)



1. Apparatus for making a plurality of parallel spaced vertical cuts through a moulded mass of light-weight concrete comprising parallel spaced top and bottom walls between which the mass is positioned for cutting, said top and bottom walls each being provided with a plurality of parallel spaced longitudinally extending slots, the slots in said bottom wall being located directly below correspondingly positioned slots in said top wall, means providing top and bottom guide channels individual to said slots in said top and bottom walls, said top guide channels being located above said top wall and said bottom guide channels being located below said bottom wall, top guide members individual to and displaceable longitudinally in said top guide channels, bottom guide members individual to and displaceable longitudinally in said bottom guide channels, said top and bottom guide members being in vertical alignment and located initially at one end of said guide channels adjacent one end face of the mass to be cut, cutting members of wire like material individual to and located in each pair of vertically aligned slots in said top and bottom walls, each of said cutting members including a vertical cutting portion extending between the corresponding top and bottom guide members, one end of said vertical cutting portion being anchored to one of said guide members and the other end of said vertical cutting portion being passed over the other guide member and extended longtiudinally to the opposite end of the corresponding guide channel in the vertical plane containing the slot therein, and means applying a pulling force to the longitudinally extended portions of said cutting members thereby to cause the vertical portions thereof to be tensioned and to cut vertically through said mass simultaneous with longitudinal displacement of said top and bottom guide members.

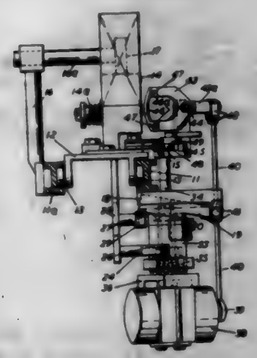
2,978,778

MACHINES FOR TRIMMING APPENDAGES OR ARTICLES

Hans Stramer, 94 Trent Valley Road, Penkull, Stoke-on-Trent, England

Filed Sept. 28, 1956, Ser. No. 611,071
6 Claims. (Cl. 25—109)

1. In a machine for trimming, particularly clay articles, having a holder for the article, guide means on said holder, the article holder and guide means being movably positioned on a structural support, means moving the article-holder and the guide means to and fro, and an arm having a blade holder for a cutting blade pivotally mounted in spaced relation to the article holder, a cutting blade carried in the blade holder, a support in which the blade holder is pivotally supported, a structure carrying the support, guide rollers carried by the blade holder operatively engaging with the guide means of the article-holder and acting on the blade holder whereby said cut-



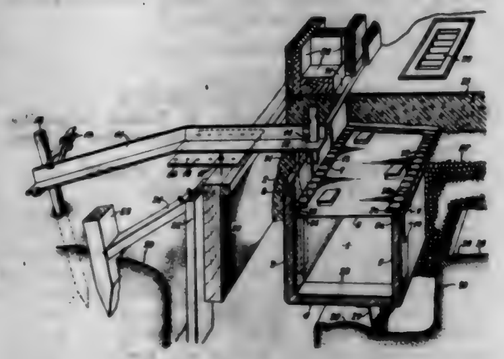
ting blade is constrained to make a cutting stroke in a predetermined path and produce a predetermined contour upon the article, a motor structurally attached to the blade holder attached to said structure, an eccentric driven by said motor and a reciprocatable shaft operatively connected to said eccentric and said blade holder, said eccentric imparting to the blade holder an oscillatory movement of high frequency and low amplitude whereby said cutting blade is oscillated transverse to the line of cut simultaneously with the said guided cutting stroke.

2,978,779

CONSTRUCTION AND INSTALLATION OF HEATING CONDUITS OF BUILDINGS

Richard Tatsch, 901 W. 6th St., Silver City, N. Mex.

Filed May 4, 1956, Ser. No. 582,827
7 Claims. (Cl. 25—118)



1. Equipment for pouring concrete to form a floor slab and a circumscribing foundation wall of a building and simultaneously install a perimeter under-floor air conduit, the said equipment comprising an outside foundation wall formwork defining the upright outer surface of the foundation wall to be poured and comprising ground-

engaging means for supporting it fixedly with the upper edge of its wall-defining surface at substantially the level of the floor surface of the slab to be poured; a combined air conduit and perimeter insulation structure having mutually-connected outside, inside, top and bottom wall portions with its outside wall projecting upward to a level substantially higher than its top wall and having good thermal insulating properties, the conduit being disposed parallel to the outside formwork with its outside wall spaced inward therefrom a distance equal to the thickness of the foundation wall to be poured and with the top of its outside wall at the floor level of the slab to be poured; and conduit-supporting means comprising a rigid structure extending across the top of the outside formwork and the intervening space between the formwork and the conduit and further comprising means for disengageably connecting said rigid structure to the formwork and means for disengageably connecting said rigid structure to the conduit structure, the conduit supporting means when operatively connected to the outside formwork and to the conduit structure serving to fixedly support the latter from the outside formwork and in the stated relation to it; whereby the conduit structure, spaced inwardly from the outside formwork as specified, is adapted to serve, when the foundation wall and floor slab are poured, as formwork for the inner side of the foundation wall and permanently thereafter as perimeter air conduit and as perimeter insulation between the conduit interior and the foundation wall and between the periphery of the floor slab and the foundation wall.

2,978,780

MOLD

Stanley Clarkson, R.R. 2, Delphi, Ind.

Filed Apr. 7, 1958, Ser. No. 726,747
2 Claims. (Cl. 25—118)



2. A mold comprising a mold member having an open end for the introduction of sludge and a completely closed end and a side wall for retaining the sludge, a male member mounted on the closed end of the mold member and extending from said closed end and spaced from said side wall to provide therewith a female portion surrounding the male member for receiving the sludge, the free extended end portion of the male member terminating inwardly of the open end of the mold member and being entirely closed, and a socket forming member of reduced diameter extending from the extended closed end of the male member and cooperating therewith to form a socket adapted to receive an anchor rod.

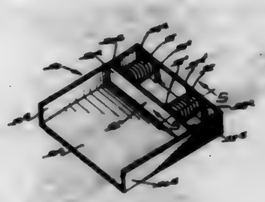
2,978,781

MOLD EXPANSION AND CONTRACTION COMPENSATING DEVICE

Everett C. Sherman, Toledo, Ohio, assignor, by mesne assignments, to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Oct. 28, 1957, Ser. No. 692,809
9 Claims. (Cl. 25—121)

1. In a mold for indurating heat-setting fluid materials, a molding member shiftably mounted within said mold and defining part of the molding surface therefor, said molding member being shiftable between alternative positions relative to other parts of the molding surface of said mold thereby varying the volumetric molding capacity of said mold, compensating means responsive to temperature variations for shifting said molding member between said alternative positions in directions compensating for changes in the volumetric molding capacity resulting from thermal expansion and contraction of said mold.

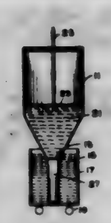


2,978,782

MOLDING AND EXTRUSION

Herman B. Wagner, Metuchen, N.J., assignor to The Council of America, Incorporated, a corporation of New York

Filed Feb. 10, 1958, Ser. No. 714,180
6 Claims. (Cl. 25—155)



1. A process for producing shaped articles of hydraulic cement in which the residence time in a shaping means is substantially reduced, which comprises preparing a viscous mixture comprising hydraulic cement, water and methyl cellulose, introducing said mixture into a shaping means, heating the viscous mixture to a temperature of about 88° to 212° F. for a period of time sufficient to jell the methyl cellulose to thereby provide rigidity to the viscous mixture but insufficient to set the Portland cement, thereby giving a permanency to the shape imparted to said viscous mixture by said shaping means, removing the jelled shaped mixture from the shaping means and subsequently curing the jelled shaped mixture out of the mold for a period of time sufficient to set the hydraulic cement therein to thereby form a hard, rigid article.

2,978,783

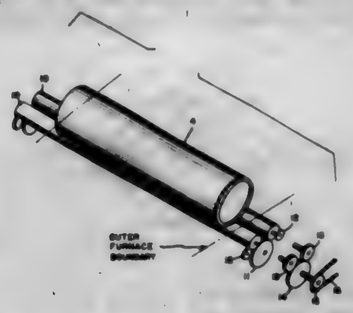
SINGEING APPARATUS

Francis J. Clendening, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 31, 1957, Ser. No. 675,411
2 Claims. (Cl. 26—6)

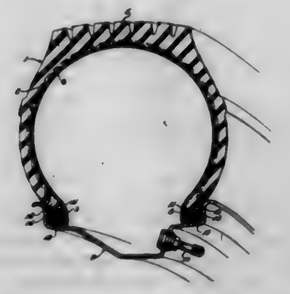
1. A singeing apparatus comprising a hollow metal roll the lower portion only of which is suspended in a heating chamber, a pair of friction rolls located entirely inside the heating chamber for rotating the hollow roll and both rolls being in contact with the said hollow roll throughout its length, the said pair of rolls being mounted on bearings which are outside the said heating chamber, means outside the heating chamber

for driving the said pair of rolls, heating means within the heating chamber along the sides thereof parallel to and facing the said hollow metal roll, a narrow air gap



separating the roll from the chamber sides, and means for passing a fabric in wiping contact with the top surface only of the said hollow roll.

2,978,784
METHOD OF MAKING AN AIR IMPERVIOUS SHEET OF RUBBERIZED COTTON FABRIC
Robert C. Koch, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Nov. 28, 1958, Ser. No. 775,284
12 Claims. (Cl. 28—72)



1. A method of making an air impervious sheet of cotton fabric cords comprising the steps of dewaxing cotton cord, soaking said cord in a water dispersion comprised of a polyhydric phenol and an aldehyde and a latex of a terpolymer comprised of a diene hydrocarbon, an aromatic substituted vinyl monomer, and vinyl pyridine for at least one minute, slowing drying the cord at a temperature not exceeding 200° F., and forming said cord into a fabric sheet of cords.

2,978,785
BONDED BATTING, OR NON-WOVEN FABRIC
Louis P. Wenzell, Jr., Charlotte, and Leak G. Lovin, Jr., Burlington, N.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 5, 1956, Ser. No. 569,292
8 Claims. (Cl. 28—72.2)

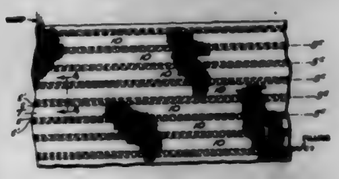
1. Process for the production of a batting, which comprises needling a batting of staple fibers, and applying a polymeric bonding agent to said batting to bond the staple fibers together at their points of contact, said bonding agent being applied in an amount sufficient to produce an open, porous, springy bonded structure, said amount being between 2 and 75% by weight based on the weight of the final product.

2,978,786
PROCESS FOR MAKING NON-WOVEN FABRIC
Richard G. Turner, Worcester, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed June 13, 1958, Ser. No. 741,860
3 Claims. (Cl. 28—72.2)



1. The method of forming a nonwoven fabric from two webs of loosely assembled textile fibers consisting in the following steps: feeding the two webs into face to face engagement with each other in a manner to form a nip therebetween, gathering fibers beyond the nip to be drawn from both webs into a group, some of the fibers of which are rooted into one web and other fibers of which are rooted into the other web, and forming successive groups thus formed into interconnected knitted loops.

2,978,787
SYNTHETIC VASCULAR IMPLANTS AND THE MANUFACTURE THEREOF
William J. Liebig, Harrington Park, N.J., assignor to Meadox Medicals, Inc., Haledon, N.J., a corporation of New Jersey
Filed Apr. 18, 1957, Ser. No. 653,562
24 Claims. (Cl. 28—73)



1. A synthetic tubular vascular implant unit comprising a plurality of elongate fabric plies individually synchronously woven of transverse warp yarns and longitudinal filling yarns, the elongate fabric plies being integrally joined into an open-end tube by longitudinal woven-in sealing seams formed by warp crossings, said seams spaced in the warp direction according to the selected diameter and contour for the implant, and said fabric plies extending laterally beyond said seams and being there again sealingly interjoined along further lines of warp crossings paralleling the adjacent tube axis.

2,978,788
PROCESS FOR TREATING SYNTHETIC YARN
Robert L. Keefe, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 13, 1955, Ser. No. 521,871
11 Claims. (Cl. 28—75)

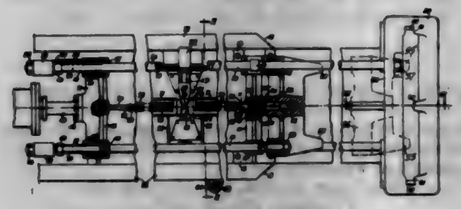
1. The process of preparing bulky yarn which comprises subjecting a continuous synthetic filament yarn having a dry non-tacky, solid, water-sensitive size on its surface to a high velocity jet of air under conditions such that the individual filaments thereof are separated and whipped about to form individual filament convolutions, and thereafter subjecting the yarn to a warm, humid atmosphere until the size becomes tacky.

2,978,789
ELECTRICAL CONDENSERS AND THEIR MANUFACTURE
Robert B. Randels, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Application Feb. 17, 1958, Ser. No. 715,901, which is a division of application Ser. No. 421,871, Apr. 8, 1954. Divided and this application Nov. 9, 1959, Ser. No. 851,731
1 Claim. (Cl. 29—25.42)



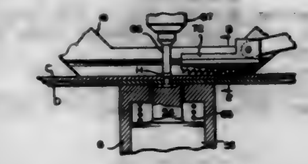
The method of manufacturing a condenser assembly which includes assemblying a stack of glass and metal foil elements with each alternate metal foil element arranged between two of the glass foil elements projecting from one lateral edge of the glass foil elements and the remaining foil elements projecting from the opposite lateral margin thereof, arranging metal foil over the marginal portions of the surface of the top glass foil element and over terminal lug portions by first folding the end portions of the foil elements of the stack over such glass foil element and, after arranging portions of terminal lugs over part of such metal foil portions, folding the remaining exposed portions of such metal foil elements over such lug portions, bridging such portions of the terminal lugs with a glass cover, heating the assembly to the softening temperature of the glass to bond the metal and glass foil elements, and the cover into a unitary mass with the metal foil covered terminal lug portions gripped between the cover and the pile of glass and metal foil elements of the stack.

2,978,790
APPARATUS FOR HANDLING NUCLEAR REACTOR FUEL ELEMENTS
Ronald Scott Challender, Appleton, near Warrington, and Herbert Chilvers Knights, Mobrow, Risley, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed July 30, 1957, Ser. No. 675,201
Claims priority, application Great Britain Aug. 22, 1956
7 Claims. (Cl. 29—33)



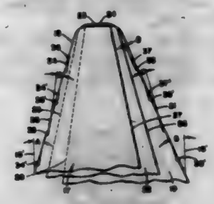
1. Apparatus for separating a tubular casing from a body enclosed therewithin, comprising an annular die having an inside diameter no greater than the diameter of the body and a cutting edge at one end thereof, first means slidably mounted within and co-axial with the annular die for positioning the body, means mounted opposite the cutting edge of the die and to reciprocate relative to the die for moving the body relative to the die, and second means mounted on the reciprocating means co-axial with the first means and for positioning the body, whereby the reciprocating means forces the body through the die as it is suspended between the first and second positioning means to separate the casing therefrom.

2,978,791
ASSEMBLING AND FINISHING METHOD AND APPARATUS
Milton Clar, Washington, D.C., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 27, 1958, Ser. No. 717,934
3 Claims. (Cl. 29—34)



3. In an apparatus for assembling components having aligned rivet apertures provided with a flaring opening, means including an arm to clamp said components together, means movable relative to said clamp means to upset the ends of a rivet element positioned in said apertures to form heads projecting from remote surfaces of said components, guide means provided on said arm, a cutter having teeth of progressively increasing length, said cutter being slidably mounted on said guide means for reciprocative movement transversely of said rivet element, and means to move said cutter to progressively remove excess metal from the outer end of rivet head seated in said flaring opening in one stroke of the cutter to provide a smooth outer surface on the component assembly, the last stated means including a pressurized fluid, a piston mounted in a cylinder and connected to one arm of a bell crank lever mounted for pivotal movement about a pin, the other arm of the lever being connected by a link to the said cutter whereby release of the pressurized fluid to the piston causes movement of the cutter.

2,978,792
ROUGHING CUTTER FOR SPIRAL BEVEL AND HYPOID GEARS
Ensign T. Slayton, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed July 16, 1958, Ser. No. 748,944
4 Claims. (Cl. 29—105)



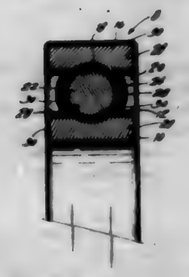
1. A face mill cutter, for gears and other toothed parts, comprising a plurality of blades each of which has its cutting side face and its tip face relieved in the direction of the cutter axis, the axial lead of the relief being the same for both of said faces whereby the angular relationship of the side and tip cutting edges to each other and to the cutter axis is maintained as the front faces of the blades are sharpened back, each cutting side face having at least one groove extending from end to end thereof, said groove being of substantially constant cross-section from end to end and the surfaces thereof being relieved in the direction of the cutter axis and being of substantially the same axial lead as the relief of said side and tip faces, every surface portion of the groove, as considered in a plane passing therethrough which contains the cutter axis, being inclined to said

axis in the same sense, although not necessarily to the same degree, that the related cutting side face is inclined to said axis in said plane.

2,978,793
METHOD OF LUBRICATING ANTI-FRICTION BEARINGS

Edward R. Lamson, Box 88, R.D. 4, Greentree Road, Sewell, N.J., and Martin J. Devine, 2560 Prescott Road, Havertown, Pa.

Filed Apr. 16, 1958, Ser. No. 729,041
15 Claims. (Cl. 29—148.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)

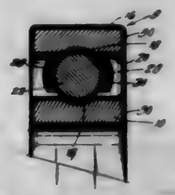


1. A method of lubricating an anti-friction bearing comprising treating the unassembled components of said bearing to form roughened external surfaces thereon, coating the roughened unassembled components of the bearing with a comminuted solid lubricant suspended in a thermosetting composition, heating the coated unassembled components to harden the thermosetting composition and thereby tightly bond the comminuted lubricant to the unassembled components, and assembling the components of said bearing into an operative unit to thereby provide an anti-friction bearing having a solid lubricant bonded on the coacting surfaces of the components thereof.

2,978,794
METHOD OF LUBRICATING ANTI-FRICTION BEARINGS WITH BONDED LUBRICANT FILMS

Edward R. Lamson, Box 88, R.D. 4, Greentree Road, Sewell, N.J., and Martin J. Devine, 2560 Prescott Road, Havertown, Pa.

Filed Apr. 16, 1958, Ser. No. 729,042
15 Claims. (Cl. 29—148.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of lubricating an anti-friction bearing the components of which are unassembled and include inner race means having a raceway therein, outer race means having a raceway therein, rolling elements associated with said raceways and retainer means having pockets therein for receiving said rolling elements and thereby separating said rolling elements, comprising the steps of coating said rolling elements and said inner and outer race means with a solid comminuted lubricant suspended in a thermosetting resin, heating said coated components at a predetermined temperature for a predetermined time to harden said thermosetting resin and thereby tightly bond said comminuted lubricant to said coated components, preheating said retainer means to a predetermined temperature, cooling said retainer means to a predetermined temperature, coating said retainer means with a thermosetting water emulsion of tetrafluoroethylene, drying said coated retainer means in air for a predetermined time heating said air dried retainer means at a predetermined temperature for a predetermined time to polymerize said tetrafluoroethylene and thereby tightly bond said tetrafluoroethylene to said retainer means, quenching said coated retainer means to harden said tetrafluoroethylene, and assembling the coated components of said bearing into an operative unit to thereby provide an anti-friction bearing having a lubricating film bonded on the friction surfaces of the components thereof.

2,978,795
METHOD OF LUBRICATING ANTI-FRICTION BEARINGS WITH BONDED FILM LUBRICANTS

Edward R. Lamson, Box 88, R.D. 4, Greentree Road, Sewell, N.J., and Martin J. Devine, 2560 Prescott Road, Havertown, Pa.

Original application Apr. 16, 1958, Ser. No. 729,039. Divided and this application Oct. 27, 1958, Ser. No. 769,958
20 Claims. (Cl. 29—148.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of lubricating an anti-friction bearing comprising coating the unassembled components of the bearing with a comminuted solid lubricant suspended in a thermosetting composition, heating the coated unassembled components to harden the thermosetting composition and thereby tightly bond the comminuted lubricant to the unassembled components, and assembling the components of said bearing into an operative unit to thereby provide an anti-friction bearing having a solid lubricant bonded on the coacting surfaces of the components thereof.

2,978,796
METHOD OF SECURING USING AN EXPLOSIVE CHARGE

George A. Kemeny, Export, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 7, 1958, Ser. No. 726,953
4 Claims. (Cl. 29—156.8)



1. A method of forming a sheet metal root portion of a fluid utilizing blade and of securing it to a support member having an undercut recess defined partially by side walls, said method comprising the steps of, providing said blade with a pair of flat sheet metal plates having the large surface of one plate opposite and abutting a similar surface of the other plate, deforming at least a portion of the large surfaces of said plates to provide a chamber therebetween, placing an explosive charge in the chamber between said sheet metal plates, inserting said sheet metal plates with the explosive charge in place in the recess, igniting the explosive charge, and providing means for containing the gas pressure produced by the charge between the sheet metal plates, whereby to build up between said sheet metal plates a gas at a pressure sufficient to force said sheet metal plates against said side walls and impart to said sheet metal plates the shape of said side walls.

2,978,797
TUBULAR FINNED METAL SECTIONS AND MANUFACTURE THEREOF

Anders Elnar Ekelund, Vasteras, Sweden, assignor to Aktiebolaget Svenska Metallverken, Vasteras, Sweden, a limited joint-stock company of Sweden

Filed Feb. 21, 1955, Ser. No. 489,631
Claims priority, application Sweden Feb. 22, 1954
2 Claims. (Cl. 29—157.3)



1. The method of making a finned metal tube suitable for heat exchanging purposes which comprises initially extruding a metal blank having a tubular core portion and a plurality of external longitudinally extending fins projecting substantially tangentially from said core portion, the configuration of the blank as extruded being such that the envelope of the external surface of the peripherally continuous core portion alone of the blank presents a ratchet-like configuration comprising a series of substantially flat tangential surfaces which at their radially inner edges coincide with the circle defining the outer surface of the wall of said tubular core portion at the places of minimum radial thickness of said wall and which substantially flat tangential surfaces at their radially outer edges lie outside said circle by a distance substantially equal to the thickness of the fins and with the fins projecting in generally tangential direction beyond the aforementioned surfaces along substantially straight lines deviating slightly in radially outward direction from the surfaces from which they respectively project so that each of said fins diverges in radially outward direction from the adjacent fins on the opposite sides thereof, and thereafter bending said fins laterally from their initially extruded and radially divergent positions into final positions in which adjacent fins are brought into at least non-divergent relationship to each other.

2,978,798
ALUMINUM AND SILICON CONTAINING METAL POWDER AND METHOD OF PRODUCING WORKPIECES THEREFROM

Günter Wassermann, Clarenthal-Zellerfeld, and Richard Weber and Werner Hübinger, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

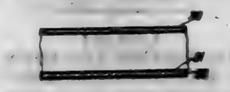
No Drawing. Filed June 9, 1958, Ser. No. 740,558
Claims priority, application Germany Aug. 31, 1955
4 Claims. (Cl. 29—182.5)

1. An aluminum-silicon powder composition for powder metallurgy comprising a mixture of a flake aluminum powder and globular aluminum powder, the proportions of flake aluminum powder to globular aluminum powder being 75% to 25% : 25% to 75%, and containing 20–35% of silicon.

2,978,799
INTERNALLY AND EXTERNALLY COPPER-COATED STEEL TUBES AND THEIR MANUFACTURE

Helmut Benteler, Bielefeld, Germany, assignor to Benteler-Werke Aktiengesellschaft Werk Neuhaus, Neuhaus, Kreis Paderborn, Germany

Filed May 16, 1955, Ser. No. 508,731
Claims priority, application Germany May 19, 1954
5 Claims. (Cl. 29—183.5)

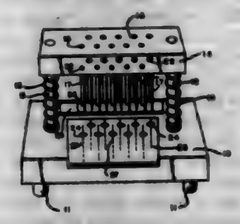


3. The method of producing a seamless steel tube provided with an internal and an external metallic coating of copper or the like for use as conduit for lubricants, brake fluids, liquid fuel and the like particularly in vehicles and in machinery, comprising the steps of electroplating a seamless raw or stock steel pipe having a length of less than about six meters and an inner diameter of more than about 10 millimeters with a metallic coating having a thickness of about 20μ to 50μ; annealing the thus electroplated stock pipe in a nonoxidizing medium at a temperature slightly below the melting point of the coating metal; and thereafter cold drawing the coated stock pipe in a plurality of steps to a length of up to about 100 meters while reducing the inner diameter to below about 15 millimeters, the initial drawing steps being performed in a die plate with mandrel and the final drawing steps in a die plate alone.

2,978,800
MEMORY PLANE WIRING TECHNIQUES

Albert Blain, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

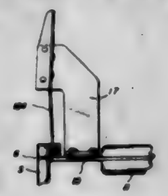
Filed Nov. 30, 1955, Ser. No. 549,924
3 Claims. (Cl. 29—203)



1. In a wiring apparatus, support means having a surface adapted to support both a circuit board having a plurality of apertures and conductor members to be wired on said board, shaft means extending substantially perpendicular to said surface of said support means, an elongated bar engaging said shaft means, said shaft means being slidable relative to either said support means or said elongated bar whereby the position of said elongated bar may be changed relative to the position of said support means under the guidance of said shaft means, helical spring means surrounding said shaft means between said support means and elongated bar for resiliently positioning said support means and bar relative to one another, and needle means extending from said elongated bar toward said support means, said needle means including hook portions remote from said elon-

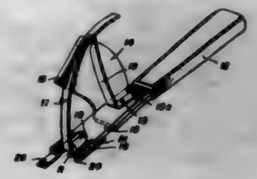
gated bar adapted to engage said conductor members to change the position of portions of said conductor members relative to said circuit board upon change in position of said elongated bar relative to said support means, said support means surface having a plurality of apertures therethrough complementary in location to the location of said needles on said elongated bar so as to receive said needles and the engaged conductor members when said apertures on said circuit board are aligned with respect to those of said support means and upon relative change of position of said elongated bar and support means, whereby said relative change of position initiates assembly of said conductor members on said circuit board.

2,978,801
MEANS FOR ASSEMBLING OPEN SPRING-RETAINING RINGS
Hans Erdmann, Maplewood, N.J., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Feb. 2, 1955, Ser. No. 485,785
8 Claims. (Cl. 29—212)



1. A tool for dispensing open retaining rings and applying them to grooved shafts and the like comprising, in combination, an applicator blade having a working end provided with a substantially semi-circular cut-out which opens through its end edge, the edge-defining wall of said cut-out having a step therein whereby the cut-out opening defines adjacent, substantially semi-circular smaller- and larger-diameter recess portions, of which the smaller-diameter recess portion has a radius slightly greater than that of the shaft on which ring assembly is to be effected as enables said working end to straddle the shaft and the larger-diameter recess portion has a radius coresponding substantially to that of the outer diameter of said rings thereby to define a ring-receiving recess for a ring lowering thereinto from above and which is closed on the bottom by the aforesaid step acting as a radially inward ring-supporting flange, the edge defining wall of the larger-diameter recess portion further defining a ring-engaging push shoulder having height not greater than the thickness of a ring for forcing the ring received in said ring-receiving recess into the groove of said shaft solely by bodily movement of the applicator held with its said working-end recess in the plane of said groove against the shaft to a position in which it straddles the latter, a stack rod for maintaining a supply of the rings to be applied in column formation above the applicator blade and having a flexible lower-end portion terminating just above the ring-receiving recess and being normally disposed in general axial alignment therewith, and means operative between the applicator blade and the upper-end portion of the stack rod for rigidly connecting said parts together as a working unit, the construction and arrangement being such that, when the applicator blade is moved bodily aginst the shaft as aforesaid, the lower rings of the ring column immediately above the recess move a limited distance rearwardly as permitted by the flexibility of the lower-end portion of the stack rod and hence do not interfere with the final movement of the applicator blade against the shaft, and that, upon retraction of the applicator blade from said shaft following completion of the ring-applying operation, said lower rings return to their initial position with return of said lower end portion of the stack rod to its normal position as enables the lowermost ring to drop by gravity into the then empty recess, thereby to condition the tool for the next ring dispensing and applying operation.

2,978,802
COMBINATION RETAINING RING DISPENSING AND APPLYING TOOLS
Hans Erdmann, Maplewood, N.J., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Mar. 14, 1958, Ser. No. 721,478
11 Claims. (Cl. 29—229)



1. In a device for dispensing open retaining rings and applying them to grooved shafts and the like comprising an applicator blade and a ring magazine operatively connected thereto in such manner as to render said device actuable solely by bodily movement of the blade together with said magazine relatively toward and away from the shaft to which a ring is to be assembled, said applicator blade having a bifurcated working end adapted to straddle said shaft and providing a recess for receiving a ring to be assembled in an assembly-readiness position and including ring abutment means for effecting transfer of such ring to the shaft groove when said blade is moved bodily relatively toward the shaft, said magazine including a stack rod operatively related to said recess for mounting a supply of the rings in position to move one at a time to said recess, and means responsive to applicator-blade movement relatively toward and away from the shaft in effecting a ring-assembly operation as aforesaid for also effecting automatic feed of a ring from the stack rod to said recess, the improvement comprising a guide finger extending forwardly from one bifurcation of said working end in the plane of the ring-receiving recess and having an inner guide edge adapted to be disposed substantially tangent to the circle of the bottom of the shaft groove for guiding the device throughout its final bodily movement towards the shaft in a path which insures transfer of a ring in said assembly-readiness position to the shaft groove as aforesaid, and cooperating means on the rearward end of said guide finger and the other bifurcation of said working end adapted by the engagement which said rearward end makes with the outer edge of the just-assembled ring when the device is being backed off from the shaft following completion of the ring-assembly operation to guide the device in a sidewardly inclined path as enables said rearward end of the guide finger to move past said just assembled ring without its movement being impeded by said ring.

2,978,803
HAND PRESS FOR INSTALLING BUSHINGS IN EXCAVATOR BOOMS AND THE LIKE
Lester F. Davies, Windsor, Vt., assignor to Cone Automatic Machine Company Inc., Windsor, Vt., a corporation of Vermont
Filed Mar. 26, 1957, Ser. No. 648,684
3 Claims. (Cl. 29—282)

2. A hand press for installing bushings in openings of a member, comprising a shank having an elongated slot extending axially thereof and adapted to extend through the opening in which a bushing is to be inserted; a first circular cam rotatable in said slot and having a circular aperture offset from the center thereof; a second circular cam received in said aperture and eccentrically mounted in said slot for rotation about a fixed axis, said first cam being rotatable about said second cam with the camming surface of the second cam in contact with the entire periphery of the aperture of the first cam, a removable collar mounted adjacent one end of said shank and adapted to retain a bushing thereon; a block



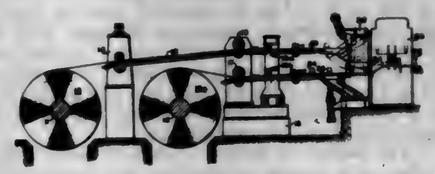
slidably mounted in said slot between said first cam and said collar and adapted to abut the member; and means to rotate said second cam, the first cam being rotatable about the second cam for adjustable movement of the block relative to the collar to abut the member and place an associated bushing in tight contact with the member and in alignment with the opening therein and thereafter movable by the eccentric camming rotation of said second cam to further move said block relative to said collar, thereby drawing the bushing into the opening.

2,978,804
METHOD OF CLASSIFYING NON-MAGNETIC ELEMENTS
Ralph B. Soper, North Weymouth, and Richard C. Tonner, Braintree, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Aug. 13, 1958, Ser. No. 754,859
6 Claims. (Cl. 29—413)



1. The method of separating from a quantity of small elements formed by the subdivision of a body of non-magnetic material those elements which include a portion of a predetermined external surface region of the original body, said method including the steps of coating an external surface region of said body with a magnetic material, subdividing said body into a quantity of small elements, and subjecting the quantity of small elements to a magnetic field to remove elements which include a portion of said external surface region of the original body from said quantity by magnetic attraction of the magnetic field for the magnetic material.

2,978,805
METHOD OF AND APPARATUS FOR HANDLING AND JOINING STRIP MATERIAL
Joseph I. Greenberger, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1955, Ser. No. 546,424
11 Claims. (Cl. 29—439)



1. In combination with a means for joining together the leading end of one strip to the trailing end of another strip of material, strip feeding and positioning apparatus comprising a pair of strip end supporting means arranged normally one above and one below a pass line and at the entry side of a zone containing said joining means, means engageable with and for advancing said strip ends onto said supporting means, independent means for moving either of said supporting means in a horizontal and vertical direction with a strip leading end supported thereon from a position remote from and to a position adjacent to said zone for positioning the leading end of the strip carried thereby adjacent to the trailing end of a strip previously fed into and through said joining means, and means for clamping the strip ends together within said zone when the strip ends are to be joined together.

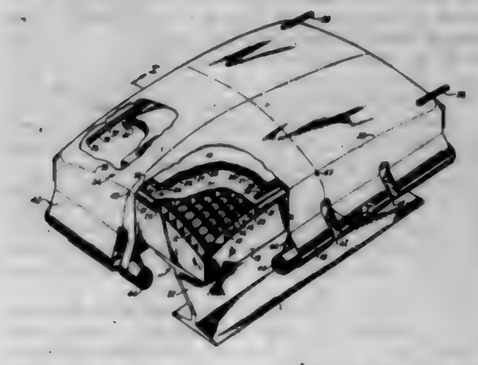
7. The method of feeding to and positioning the ends of strip material in a zone for joining the leading end of one strip to the trailing end of another in which feeding means are employed including a pair of tables adapted to be brought from a position remote from said zone to a position adjacent thereto comprising advancing the leading end of one strip to one of said tables, moving said table in a horizontal and vertical direction into a position to feed said strip material carried thereby through said zone and interrupting the trailing end of said strip in said zone while maintaining said strip trailing end in a horizontal plane, advancing the leading end of a second strip to said other table, retracting said first table from its advanced position to the remote position thereof while permitting the strip trailing end to remain within said zone and in substantially the same horizontal plane, moving said other table in a horizontal and vertical direction into a position adjacent to said zone for placing said strip leading end upon and for joining to the trailing end of the first-mentioned strip, clamping said strip ends together to prevent relative movement therebetween, retracting said other table to the remote position thereof and joining the strip ends together.

2,978,806
APPARATUS AND METHOD FOR MAKING SANDWICH PANELS
Thomas A. Herbert, Jr., Chula Vista, Calif., assignor to Rohr Aircraft Corporation, Chula Vista, Calif., a corporation of California
Filed Apr. 18, 1955, Ser. No. 501,820
15 Claims. (Cl. 29—471.1)

7. In the construction of a sandwich panel wherein the edges of a metallic cellular core are brazed to the opposing faces of two spaced apart metallic skins at least one of which is curved, means for holding said skins and core in assembled relationship during the brazing operation, comprising: a rigid support having an upper supporting surface arranged and constructed to support said

panel in assembled position with the other of said skins adjacent said supporting surface, said surface conforming to the surface of said other of the skins and terminating in a rigid peripheral edge having lateral dimensions greater than said skins; a flexible metallic envelope having spaced layers adapted to contain said assembled panel therebetween, said envelope having lateral dimensions greater than those of said upper supporting surface; and tensioning means connected to the extending edges of said envelope and directed to tension the envelope over said peripheral edge and downwardly thereof whereby said layers are drawn toward each other against the assembled panel to press said skins and core into firm contact with each other and said envelope and panel are drawn into conformity with said support surface.

14. The method of making a sandwich panel wherein the edges of a metallic cellular core are secured to the opposing faces of two spaced apart metallic skins at least one of which is curved comprising the steps of covering



the edges of said core with thin sheets of brazing alloy; placing said core between said skins in assembled relationship therewith; enclosing said assembled skins and core within a sealed flexible metallic envelope having lateral dimensions substantially greater than those of said assembled skins and core; placing said envelope containing said assembled skins and core on the upper surface of a rigid support with the other one of said skins adjacent said surface, said surface conforming to the surface of said other one of the skins and terminating in a rigid peripheral edge having lateral dimensions greater than said skins and less than said envelope; applying tension to the edges of said envelope and tensioning the same over said peripheral edge in a downwardly direction to tension the layers of said envelope to thereby press said skins and core into intimate contact with said sheets of alloy; heating said skins and core to a brazing temperature; cooling said skins and core; and removing the brazed panel from within the envelope.

2,978,807
CARTON OPENING DEVICE
August J. Lurie, 7018 W. 35th St., Berwyn, Ill.
Filed Sept. 9, 1959, Ser. No. 839,620
2 Claims. (Cl. 30—2)

1. A convertible carton opening device for forming trays from the bottoms and tops of cartons comprising a cutting blade having a square aperture substantially in the center thereof, a handle to carry said blade, said handle comprising a pair of mating halves, each being formed with a male and female offset respectively to form a blade retaining passageway when the said halves are aligned each of said halves having a bulged portion at one end, a laterally depoced flange at the other end and a flat portion in between, an elongated slot in said flat portion of each half, said slots being in register when the halves are aligned, directional guides mounted on said handle, one of said guides being substantially U-shaped in cross section, having a saddle portion formed to fit said handle and having offset portions on each upright of said U, the said saddle portion being provided with an elongated slot substantially similar in dimension to the slots on said handle, said guides being adapted to be used in cutting a tray from the bottom of the carton, a second directional guide mounted on the other side of said handle, adapted to be used in cutting a tray from the top of the carton,



said second guide having a shank portion conforming to the width and shape of the handle, an offset portion and a wing portion, the said shank portion being provided with a similar elongated slot, an adjusting screw through the said slots and blade aperture for adjusting the position of the blade in said handle, the said guides being also adjustable on said handle to provide positive measuring and guiding means to cut various size trays from the top or bottom of the carton, whereby by merely turning the device to bring an appropriate guide means in position top and bottom trays may be cut from a carton.

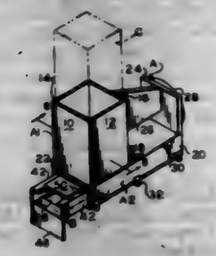
2,978,868
THONG CUTTING DEVICE
Denny L. Reed, 113 S. Kalamath St., Denver, Colo.
Filed Dec. 15, 1958, Ser. No. 780,583
1 Claim. (Cl. 30—293)



A thong cutting device comprising a support piece having a transverse channel providing a work opening, a blade holder mounted for reciprocal movement on said support piece and having a notch adapted for mating alignment with the transverse channel of said support piece, said blade holder further providing an elongated opening, a fastening member for engagement through said elongated opening for holding said blade holder in surface to surface engagement with said support piece, a narrow slot in said blade holder, and a cutter blade of lesser length than said slot adapted to be received in said slot, said cutter blade further having a width just slightly greater than the depth of said slot so the cutting edge thereof will be exposed above the surface of said blade

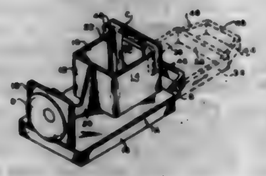
holder for position holding engagement with the surface of said support piece when said fastening member is tightened, said arrangement providing for adjustment of the work opening through interaction of said fastening member and the elongated opening of said blade holder and for the presentation of a new cutting edge of said cutter blade by reciprocally moving said blade in the narrow slot of said blade holder.

2,978,809
BUTTER PAT SLICER
Charles W. Dunnet, 1525 N. American St., Philadelphia, Pa.
Filed May 29, 1958, Ser. No. 738,789
3 Claims. (Cl. 31—21)



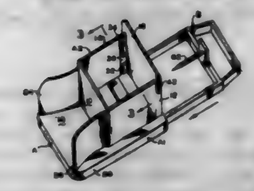
1. A butter pat slicer comprising an enclosure having top, bottom and side walls, said top and bottom walls being aligned, pat-receiving openings therein, a butter slab container on said top wall in register with the opening in said top wall, a drawer in said enclosure, said drawer having side and bottom walls, said bottom wall having a pat-receiving opening in register with said pat-receviing openings in said enclosure, a cutter plate having a cutting edge on the top of the side walls of said drawer above said pat-receiving opening, and a stop member in said enclosure depending from the top wall thereof while being substantially co-planar with a side of said opening in said top wall and spaced inwardly from the side walls thereof, and substantially in contact with said cutting edge when the drawer is in closed position.

2,978,810
BUTTER PAT SLICER
Charles W. Dunnet, 3 E. Lodges Lane, Cynwyd, Pa.
Filed July 20, 1959, Ser. No. 828,084
1 Claim. (Cl. 31—21)



A butter pat slicing device comprising a generally rectangular base defined by oppositely disposed longitudinal side walls, an end wall at one end, and a top wall, the opposite end and the bottom of said base being open, an aperture in said top wall, an open-ended, vertical hopper extending upwardly from said aperture for holding a cake of butter, said hopper being defined by a plurality of side walls, two of said side walls being in oppositely disposed positions, said oppositely disposed side walls each having a plurality of vertical, linear grooves adjacent corresponding edges, the grooves on one of said oppositely disposed side walls being aligned with the grooves on the other of said oppositely disposed side walls, a removable side wall plate selectively positioned between corresponding aligned grooves on said oppositely disposed side walls, a spring pressure finger on the internal surface of said removable plate, oppositely disposed flanges extending toward each other from the side walls of said base, a slicing means slidable on said flanges in said base through the open end of said base, said slicing means being substantially open and defined by a generally rectangular frame adapted to slidably fit within said base, said slicing means having a handle at one end, a cutter extending transversely thereacross from one side of said frame to the opposite side thereof and a butter cake supporting ledge on at least one end thereof, and a mounting plate connected to the top wall of said base and extending upwardly therefrom in spaced, parallel relationship to said hopper, said mounting plate being provided with a suction cup.

2,978,811
BUTTER PAT SLICER
Charles W. Dunnet, 3 E. Lodges Lane, Cynwyd, Pa.
Filed Oct. 22, 1959, Ser. No. 848,138
4 Claims. (Cl. 31—21)



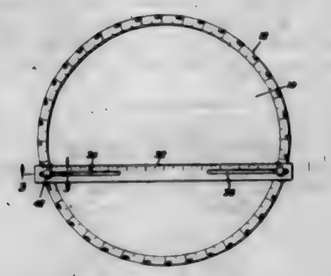
1. A butter pat slicing device comprising a generally rectangular base defined by oppositely disposed longitudinal side walls, an end wall at one end, and a top wall, the opposite end and the bottom of said base being open, an aperture in said top wall, an open-ended, vertical hopper extending upwardly from said aperture for holding a cake of butter, said hopper being defined by a plurality of side walls, two of said side walls being in oppositely disposed positions, said oppositely disposed side walls each having a plurality of slots spaced from each other longitudinally thereof, the slots on one of said oppositely disposed side walls being aligned with the corresponding slots on the other of said oppositely disposed side walls, a removable side wall plate extending between said aforementioned oppositely disposed side walls and selectively positioned between aligned slots on said oppositely disposed side walls whereby said plate is adjustable to selectively increase and decrease the area of said hopper, oppositely disposed flanges extending toward each other from said longitudinal side walls of said base, a slicing means slidable on said flanges in said base through the open end of said base, said slicing means being substantially open and defined by a generally rectangular frame adapted to slidably fit within said base, said slicing means having a handle at one end and a platform at the opposite end, a cutter extending transversely across said frame adjacent to but spaced inwardly of said platform and between said platform and said handle, an upwardly projecting extension on said frame adjacent said handle, and a piercing member having one end fixed to said extension, and having its opposite end extending toward but spaced from said cutter.

2,978,813
DENTURE FIXATIVES
Murray W. Rosenthal, New Brunswick, N.J., and Herbert A. Cohen, Brooklyn, N.Y., assignors to Block Drug Company, Inc., a corporation of Delaware
No Drawing. Filed May 9, 1958, Ser. No. 734,125
15 Claims. (Cl. 32—2)

1. An improved artificial denture provided with a securing surface carrying a substantially anhydrous fixa-

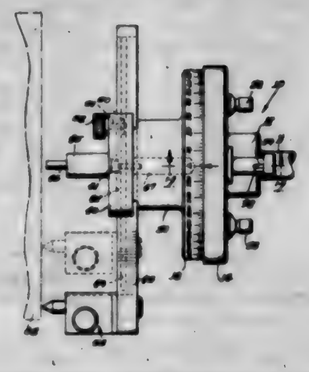
tive comprising from 0.5% to 100% by weight of ethylene oxide homopolymers having an average molecular weight of between approximately 500,000 and 5,000,000.

2,978,813
SKETCH BOARD
James B. Gill, Fort Wayne, Ind.
(331 Tweedwood Drive, New Haven, Ind.)
Filed Dec. 22, 1958, Ser. No. 782,690
2 Claims. (Cl. 33—80)



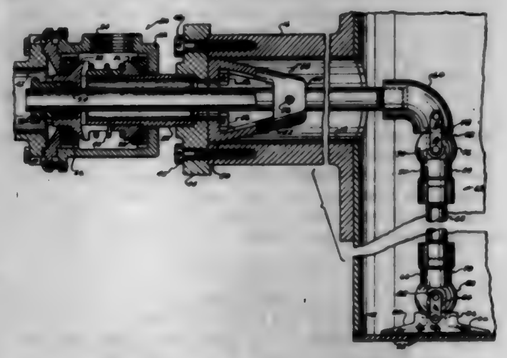
1. A sketch board for facilitating precision drawing comprising a base, a top ring superposed on said base, degree indicia on said top ring, a straightedge, said straightedge movably supported on said ring forming a chord of said ring, a bottom ring, said bottom ring and said top ring fixed to said base sandwiching said base therebetween, said bottom ring and said top ring having substantially the same inner and outer diameters, said rings being vertically aligned, a pair of C-shaped slides, said slides enclosing aligned circumferential portions of said rings whereby said slides are slidably retained on said rings, an upwardly extending vertical pin fixed to each of said slides, a pair of slots in said straightedge, said pins slidably received in slots.

2,978,814
PRECISION HOLE CENTERING AND MARKING DEVICE
Walter L. Barhams, 305 E. 136th Place, Chicago 27, Ill.
Filed Dec. 4, 1959, Ser. No. 857,401
3 Claims. (Cl. 33—189)



1. A locating device for a machine tool having a holding member including a bore, and a rotatable work holder spaced longitudinally and concentrically along the axis of said holding member, said work holder being adapted to rotate a work piece carried thereon; comprising a first non-rotatable cylindrical member, a shank on said first non-rotatable member and adapted to be held in non-rotating engagement within the bore of said holding member, a second rotatable cylindrical member rotatably connected to said first member, said second member having an inner face including a plurality of circumferentially uniformly spaced bores opening in the direction of said first member, an annular T-slot in said face opening in the direction of said first member, said second member having an outer periphery including indicia from 0 degrees to 360 degrees, indicating indicia on said first member adapted to coordinate with first mentioned indicia, means on said first member engageable with said T-slot for releasably securing said second member against rotation, a releasable member on said first member movable into and out of engagement with said bores to lock said second member against rotation, an arm slidably supported on said second member and being rotatable therewith, said arm being adapted to move transversely with respect to the axis of rotation of said second member, releasable means for locking said arm in position relative to said second member, and marking means on said arm, said marking means including a spring actuated pointed element releasable into engagement with the work piece to mark the same.

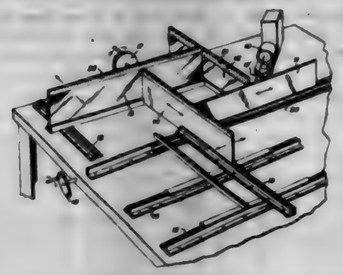
2,978,815
JOURNAL-INSERTED SYPHON PIPE
John W. Hieronymus, Three Rivers, Mich., assignor to The Johnson Corporation, Three Rivers, Mich., a corporation of Michigan
Filed May 7, 1957, Ser. No. 657,680
7 Claims. (Cl. 34—125)



1. A syphon pipe assembly for use with a dryer drum having a hollow, open-end journal comprising, in combination, an annular flange attachable to the end of said hollow journal, a first conduit extending through said flange, means mounted on said flange supporting said conduit, a first flexible joint attached to said first conduit, a second conduit affixed to said flexible joint at one end in fluid communication with said first conduit through said first joint, a second flexible joint affixed to said second conduit at the other end and intake means connected to said second joint in fluid communication with said second conduit through said second joint adapted to engage the inside periphery of the drum.

2,978,816
GREATEST COMMON DIVISOR FINDER
Andrés Zavrotsky, Universidad de Los Andes, Merida, Venezuela
Filed Feb. 4, 1960, Ser. No. 6,650
2 Claims. (Cl. 35—31)

1. A device to determine the greatest common divisor of two numbers, comprising four mirrors arranged to form the four sides of a rectangle of a length and breadth measured in units corresponding to the two numbers, one of said mirrors being at one end spaced slightly from the surface of the adjacent mirror to provide a slot at the corner of the rectangle, means to produce a pencil of light, said means to produce a pencil of light being so positioned exteriorly of said rectangle that said pencil of light impinges on said adjacent mirror in the plane of said



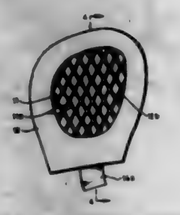
one mirror at an angle of 45°, and means to measure the distance from said point of impingement of said pencil of light on said adjacent mirror to the point closest thereto illuminated by said pencil of light measured in units twice the units used in determining the lengths of the sides of said rectangle.

2,978,817
SANDALS AND SLIPPERS
Murry J. Brenner, Highland Park, Ill.
(2024 S. Wabash Ave., Chicago, Ill.)
Filed Sept. 25, 1959, Ser. No. 842,489)
2 Claims. (Cl. 36—2.5)



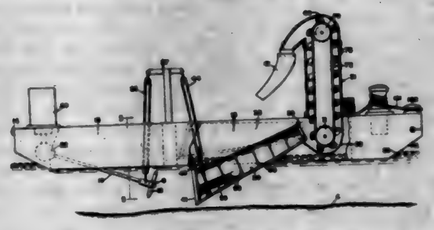
1. A sandal, house slipper and the like, comprising a substantially flat sole and heel, a flexible non-elastic upper extending across the sole and secured to said sole along one side thereof and capable of being packed flat against the sole, an elongated elastic strip secured to said upper along the opposite side of said upper and substantially along the full length of the upper, the opposite side of said elastic strip being secured to the sole so that said upper is adjustable to accommodate feet of various sizes.

2,978,818
METATARSAL FOOT SUPPORTS
William Baumann, Mosbach, Baden, Germany, assignor to Firma Bama-Werk Curt Baumann, Mosbach, Baden, Germany
Filed Sept. 17, 1958, Ser. No. 761,583
Claims priority, application Germany Sept. 18, 1957
2 Claims. (Cl. 36—71)



1. For use in the front part of a shoe, a metatarsal support having a bottom face and a top face, said top face being convexly curved and composed of a central dome-shaped rough surface portion and an inclined peripheral smooth surface portion rising from the periphery of said support to said dome-shaped central rough surface portion and said bottom face having a longitudinal axis of sufficient length to place said dome-shaped rough surface portion under the metatarsals and a transverse axis of less length than the width of the shoe in which the support is adapted to be placed, whereby during slipping on of the shoe the foot will be supported by the peripheral smooth surface portion of the support and guided over said central surface portion, facilitating insertion of the foot into the shoe, while during wearing of the shoe the weight of the body exerted on the foot will cause frictional engagement of the sole with said central rough surface portion of said support, keeping the foot in place.

2,978,819
SHELL DREDGER
Everett L. Paulson, Redwood City, Calif., assignor to Fairley, Inc., Belmont, Calif., a corporation of California
Filed Aug. 1, 1957, Ser. No. 675,589
1 Claim. (Cl. 37—57)

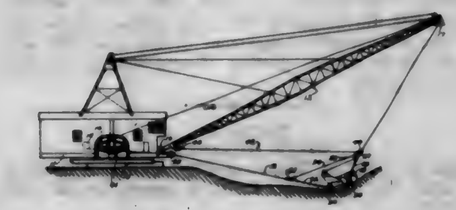


In a dredging barge for retrieving shell materials from the floor of a body of water, the combination of a propeller mounted on the hull of the barge and positioned above the floor of the water body, means to operate said propeller, a transport tube mounted on said barge having a mouth facing the water stream created by said propeller when in operation, said transport tube disposed at an angle whereat the mouth of said transport tube is disposed in spaced relation above the floor of the body of water and below the surface of the water and the discharge end of said transport tube is disposed above the water level, and whereby the water stream is disposed to place material on said floor in suspension and force the material in suspension through said transport tube, said transport tube having walls formed of foraminous material to classify a portion of water and smaller particles of materials in suspension from the tube during transportation therethrough, a hopper disposed adjacent the discharge end of said transport tube to retrieve shells and water material discharged through the discharge end of said tube, said hopper having walls of a foraminous material and positioned above the water line of said barge whereby water and smaller particles deposited within said hopper are classified, and a bucket hoist for transporting shell material in said hopper to elevated positions, said bucket hoist formed with buckets formed of a foraminous material to further classify water and smaller particles from the shell material.

2,978,820
DRAG LINE CRANE
Algot F. Johnson, Minneapolis, Minn., assignor to American Hoist & Derrick Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 13, 1957, Ser. No. 696,211
2 Claims. (Cl. 37—116)

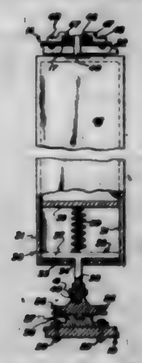
1. In a drag line crane, the combination with a supporting platform, a boom mounted on said supporting

platform for swinging movement in a vertical plane, first and second drums mounted on the suporting platform, a bucket, a hoist line cable on said first drum extending upwardly along and over a fairlead on the upper end of said boom and downwardly therefrom and connected to said bucket, first means for forcibly rotating said first drum, a first clutch for releasably securing the first drum to said first means, a first brake for said first drum, a drag line cable on said second drum and connected to the bucket, second means for forcibly rotating said second drum, a second clutch for releasably securing the



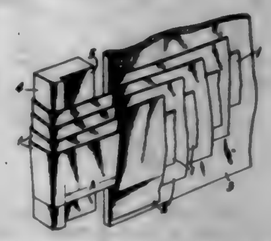
second drum to said second cable and a second brake for said second drum, of a third drum mounted on said supporting platform, an auxiliary line cable on said third drum extending over a fairlead adjacent to the lower end of the boom and connected with said hoist line cable at a location between the boom and said bucket, third means for forcibly rotating said third drum, a third clutch for releasably securing the third drum to said third means, means for actuating said third clutch selectively to cause said third means and said third drum to be in firm clamping or slipping engagement and a third brake for said third drum.

2,978,821
ROTATING OUTDOOR SIGN CONSTRUCTION
Julian E. Kaufmann, Jr., P.O. Box 372, 311 Revell Drive, Florence, S.C.
Filed July 23, 1958, Ser. No. 750,512
1 Claim. (Cl. 40—33)



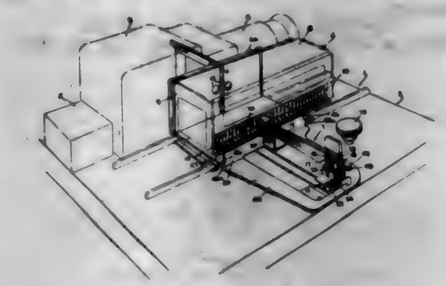
In a rotating outdoor sign construction, a horizontally disposed platform, a rectangular open frame supported above said platform, a motor arranged contiguous to said platform, a plurality of support members rotatably supported in said frame and operably connected to said motor, a T-shaped member having the horizontal portion thereof disposed within each of said support members and the vertical portions thereof being disposed to extend through each of said support members and rotatably mounted on said platform, each of said support members having a partition therein, a coil spring extending between each of said partitions and the horizontal portions of each of said T-shaped members, trunnions extending from the upper portion of each of said support members and engaging bearings on the upper portion of said frame.

2,978,823
ADVERTISEMENT SCREENS
Witold Nowicki, Ul. Szopena 8, Zyrardow, Poland
Filed June 12, 1958, Ser. No. 741,641
Claims priority, application Poland Oct. 18, 1957
10 Claims. (Cl. 40—65)



1. An advertisement device adapted for periodically changing background color comprising, in combination, a rigid frame having laterally spaced-apart side members, a first set of strips stretched longitudinally across said frame with the ends of each strip being secured to said side members, said strips being disposed in partially-overlapping relationship so that only a portion of each strip is visible and the remainder of each strip is overlain by the next adjacent strip, and a second set of strips interleaved between the strips of said first set, the strips of said second set being disposed in partially-overlapping relationship so that only a portion of each strip is visible and the remainder of each strip is overlain by the next adjacent strip, means defining an extended surface disposed between said side members and being movable relatively to said side members in a direction parallel to said side members, one end only of the strips of said second set being secured to said surface, and motive means for automatically and periodically reciprocating said surface and thereby moving said second set of strips relatively to said first set of strips to selectively cover and uncover the visible portions of said first set of strips, said motive means comprising an electric motor, a reduction gear, a crank, and a connecting rod.

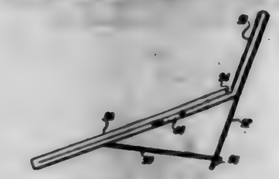
2,978,823
SLIDE CHANGER
Carl H. Wiklund, New Rochelle, N.Y., assignor to Airequipt Manufacturing Co., Inc., New Rochelle, N.Y., a corporation of New York
Filed May 28, 1958, Ser. No. 738,364
8 Claims. (Cl. 40—79)



1. A slide changer comprising means to move slides stored in a magazine to and from a viewing position, indexing means including a gear adapted to mesh with

a rack on the magazine and operatively coupled to the first said means to advance the magazine to present successive slides to said first said means, indexing control means comprising a detent wheel connected to said gear, a detent lever positioned to engage a detent in said detent wheel to arrest the movement of said detent wheel, resilient means to urge said detent lever into the next consecutive detent on the detent wheel during the indexing of the magazine to limit the advance of the detent wheel to one detent, and auxiliary means adapted to force said detent lever into said next consecutive detent during a portion only of the indexing of the magazine comprising a cam surface having a locking projection therein, and a control pin on said detent lever positioned to engage the locking projection on the cam surface during only a portion of the indexing of the magazine whereby the locking projection moves the detent lever into said next consecutive detent during the indexing of the magazine.

2,978,824
DISPLAY MOUNTS
Don F. Paschal, % Chronicle Publishing Company, St. Charles, Ill.
Filed Apr. 8, 1959, Ser. No. 804,972
5 Claims. (Cl. 40—120)



1. A display mount comprising a first sheet of stiff paper board having aligned slots extending from the lateral edges thereof toward the center thereof, the top and bottom portions of said board being folded to lie in surface contact with the main body of said board and the end edges of said folded portions being spaced apart in the region of said slots whereby the assembly may be bent about a hinge line extending along the single thickness of the board connecting the inner ends of said slots, thin flexible sheet material covering said board, cooperating easel members rigid with the respective portions of said board at opposite sides of said hinge line, and cooperating locking formations on said easel members operative when said board is bent about said hinge line to lock said easel members in operative position.

2,978,825
TOGGLE FIRING MECHANISM FOR FIREARMS
George H. Tichenor IV, 841 S. Oakland Ave., Pasadena, Calif.
Filed Apr. 8, 1958, Ser. No. 727,164
12 Claims. (Cl. 42—69)



1. In combination, a gun housing, a hammer pivoted thereto, toggle means to hold said hammer in cocked position, trigger means pivoted to the housing to break the toggle, spring means to move said hammer to uncocked position upon breaking the toggle, said toggle means including a toggle arm pivoted to said hammer, a second toggle arm pivoted to the pivotal point of the trigger means, and means on the trigger means to engage the second toggle arm for moving the same upon pulling the trigger, said second toggle arm having an extension shaped to contact the first toggle arm when said toggle arms are in alignment, to hold said toggle arms in alignment, said first toggle arm having a counterweight extension.

2,978,826
TRIGGER SAFETY LATCH FOR FIREARMS
Jessie T. Ivy, 523 Henderson St., Seattle, Wash.
Filed Oct. 28, 1958, Ser. No. 770,196
2 Claims. (Cl. 42—70)

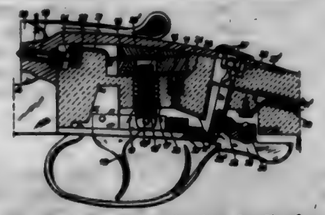


1. The combination with a firearm of the character described, having a pull trigger for firing it, of a chambered piston grip fixed to the frame immediately rearward of said trigger in position to be tightly gripped for firing, by the hand from which the trigger pulling finger extends; a safety latch mechanism for said trigger comprising a block slidably mounted in the upper end portion of said chambered piston grip for limited movement in directions from and toward the finger engaging portion of the trigger, yieldable means acting against said block and urging it forwardly, a pin slidably mounted in said pistol grip in abutting engagement at one end with said block and normally urged thereby into contact at its other end with the trigger to prevent its being pulled for firing, a latch lever contained in the lower portion of the chambered pistol grip and yieldingly pivotally mounted therein at its lower end with its upper end portion normally yieldably disposed in the path of rearward movement of said block as a stop therefor and to positively retain said block and pin in trigger holding position; said lever having a press portion between its ends projecting rearwardly from the pistol grip whereby said lever will be actuated, incident to tightening the hand hold about the pistol grip preparatory to firing, to swing its upper end portion from holding contact with said block thus to free the block and pin for rearward movement of the trigger for firing.

2,978,827
MEANS FOR ELECTRICALLY FIRING FIRE-ARMS
Charles Rouby, St.-Etienne, France, assignor to Societe Moderne de Fabrications Mecaniques, St.-Etienne, France, a French limited-liability company
Filed June 15, 1956, Ser. No. 591,736
Claims priority, application France Apr. 28, 1956
11 Claims. (Cl. 42—84)

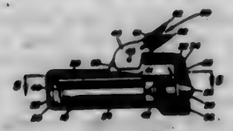
1. In an electric firing system for fire-arms, a member controlling the firing of the fire-arm; a metal mass; a cartridge housed in said metal mass; a cartridge primer within said cartridge; a source of electric current enclosed in said fire-arm; an electric circuit consisting of rigid and stationary members fed by said source of cur-

rent, said members comprising the mass of the fire-arm and said primer and a rod permanently engaging said primer; a switch in said circuit, said switch comprising stationary contact means and a movable rod-shaped stud adapted to contact directly said contact means and disposed at a right angle to said contact means and sub-



stantially at a right angle to the longitudinal axis of the fire-arm, said stud being controlled by the firing controlling member to close and energize the circuit and produce thereby incandescence of the member of the circuit formed by the primer and consequently ignition of the latter.

2,978,828
SIGNALLING DEVICE
Horace L. McQuiston, 500 S. Washington St., El Dorado, Kans., and Frank E. Taylor, 1416 S. Wichita St., Wichita, Kans.; Horace Lemon McQuiston, executor of said Horace L. McQuiston, deceased
Filed Apr. 24, 1959, Ser. No. 808,691
3 Claims. (Cl. 43—17)



1. A signal device adapted for mounting on a fishing rod equipped with the conventional fishing line, said device comprising a housing, means extending from the housing and adapted to secure the housing to a fishing rod, said housing having a hollow bore, a flexible contact spring longitudinally positioned in the housing, the rearward portion of the spring being relatively fixed with respect to the housing, the forward end of the contact spring being movable, a switch lever pivotably mounted on the housing, a cam portion on the lever for engaging and depressing the forward end portion of the contact spring, a lever pivotally mounted on the housing and extending transversely and beneath the depressable portion of the contact spring to act as a fulcrum for said spring so that by varying the position of the lever along the length of the depressable spring portion a varying force will be required to depress said spring portion, power and signalling means engaging and electrically connected to the rearward end of the contact spring and the forward end of the contact spring when same is depressed to complete the circuit, and means on the switch lever adapted to frictionally hold the fishing line so that a pull on the line will pivot the lever causing said cam portion to depress the forward end of the contact spring to complete the electrical circuit and actuate the signal means.

2,978,829
TROLLING SPOON
Lyman R. Nofsorton, 40 Le Blanc St., and Jesse G. Baker, 44 Le Blanc St., both of River Rouge, Mich.
Filed May 8, 1959, Ser. No. 811,856
3 Claims. (Cl. 43—42.22)

1. A trolling spoon comprising a generally flat and longitudinally elongated plate, said plate having a forward end, a rear end, and side edges flaring rearwardly from said forward end, a flat head on and extending forwardly from said forward end, fishing line attaching means on the forward edge of said head, said plate having a notch in its rear end extending forwardly in the plate and having a forward edge and side edges, a rearwardly declining water foil on and extending rearwardly



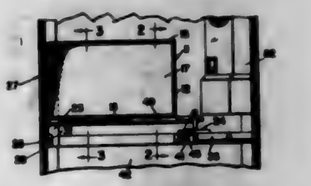
from the forward edge of said notch, said foil having side edges spaced from the side edges of the notch, said foil being bendable to different declining angles relative to the generally horizontal plane of said plate, and fishhook attaching means on said foil at the rear end thereof, said head having ends, and depending longitudinally extending stabilizing vanes on the ends of said head.

2,978,830
FISH LURE HOLDER
Gaddis W. Killian, Rte. 6, Fort Payne, Ala.
Filed Feb. 17, 1959, Ser. No. 793,799
1 Claim. (Cl. 43—57.5)



A fish lure holder comprising a generally rectangular, resilient, reversible pad of a material of uniform thickness and including flat, duplicate, selectively usable opposite faces adapted to be easily penetrated by hooks of fish lures for removably mounting said lures thereon, said pad having a pair of spaced, parallel, preformed passages extending longitudinally therethrough midway between said faces, and a pair of continuous elastic armbands extending through the passages and providing means for mounting the pad on an arm of a fisherman, said bands being slidably adjustable in the pad and frictionally retained thereby in adjusted position, said pad being reversible on said bands whereby either of said faces may be exposed for use.

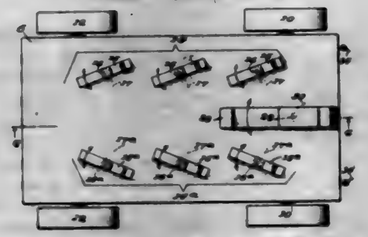
2,978,831
RACK FOR TELEPHONE DIRECTORIES
Rollie B. Newman, Oakland, and Robert L. Newman, Orinda, Calif., assignors to Bonner-Newman, Inc., Oakland, Calif., a corporation of California
Filed Dec. 11, 1957, Ser. No. 702,102
2 Claims. (Cl. 45—85)



1. In a rack for telephone directories of the type adapted for use in a telephone booth, a tray having a substantially flat upper surface, means for securing one

or more telephone directories on said trays on said upper surface to permit opening and use of said telephone directories when said tray is in a substantially horizontal in-use position, means adapted to be secured to the telephone booth and for mounting said tray to permit swinging movement of said tray about a horizontal axis, said means serving to mount the tray in such a manner that the axis of movement of the tray is adapted to be parallel to and adjacent one of the walls of the telephone booth, means yieldably lifting said tray together with the directories attached thereto from a substantially horizontal in-use position to maintain said tray and directories in a normal substantially vertical out-of-the-way position whereby the telephone directories are adapted to be held in engagement with the wall of the telephone booth adjacent which the tray is mounted, and means for limiting movement of said tray between said out-of-the-way and in-use positions, said means for mounting said tray to permit swinging movement thereof consisting of a pair of end brackets adapted to be fixed to the telephone booth, each of the brackets carrying members which rotatably mount the tray, and an additional shelf mounted on said first named shelf, one of said brackets being a part of said shelf.

2,978,832
SWIMMING DUCK TOY
Otto W. Berberich, Rte. 1, Sandy Lane, Richmond, Va.
Filed Aug. 12, 1959, Ser. No. 833,319
7 Claims. (Cl. 46—107)



1. A toy comprising a platform, wheeled supporting means upon which said platform is mounted, said wheeled supporting means including a wheel driven axle having a crank, two longitudinal rows of simulations over said platform, individual vertical shafts secured to said simulations respectively and extending downwardly through said platform, the lower ends of said vertical shafts having crank arms respectively, the crank arms allotted to each of said rows of simulations extending toward those allotted to the other of said rows, a first longitudinal link pivotally connected to the crank arms allotted to one of said rows, a second longitudinal link pivotally connected to the crank arms allotted to said other of said rows, a cross link extending between and having connections with said first and second links, said connections being constructed to allow movement of said first and second links toward and from each other, and a longitudinal pitman between said first and second links and pivoted at one end to said cross link, the other end of said pitman being engaged with said crank of said axle; whereby rotation of said axle will cause oscillation of said simulations.

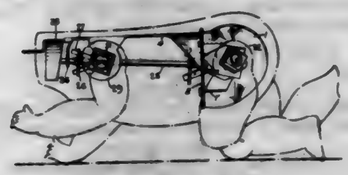
2,978,833
DRINKING, WETTING, AND CRYING DOLL
Charles C. Tancredi, Brooklyn N.Y. (% Happy Doll Co., Inc., 465-469 West Broadway, New York 12, N.Y.)
Filed Aug. 5, 1958, Ser. No. 753,353
4 Claims. (Cl. 46—135)

1. In a drinking, wetting and crying doll comprising a body and a hollow head having a mouth opening, a pair of eye sockets, a pair of tearing tubes extending rearwardly from said sockets, and a feeding tube extending rearwardly from said mouth opening: a one-piece liquid reservoir of plastic material located in said head, said reservoir including top, front, back, bottom and side walls, the bottom wall including a raised portion between the side walls and extending from the front wall to the back wall, the interior of said reservoir being unobstructed except for said raised portion of the bottom wall, means providing an unblocked intake opening on the front wall above the level of the mouth opening,



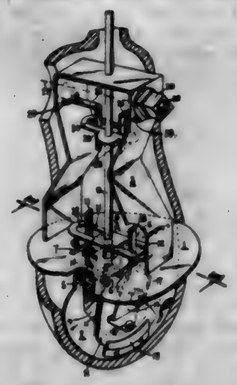
near the top wall and connected to the mouth opening by the feeding tube, means providing a pair of unblocked crying holes on the front wall at the level of the eye socket, adjacent the bottom wall and each connected to a different eye socket by a crying tube, said crying holes being located on opposite sides of said raised portion of the bottom wall, means providing an unblocked vent opening in the top wall near the front wall rearwardly of the eye sockets, and means providing an unblocked wetting hole in the raised portion of the bottom wall rearwardly of the front wall and a substantial distance forwardly of the back wall.

2,978,834
DOLL CRAWLING MECHANISM
Robert Gardel, 11 Riverside Drive, New York 23, N.Y., and Arthur Rogovin, 32—35 Mott Ave., Far Rockaway, N.Y.
Filed Apr. 21, 1958, Ser. No. 729,581
4 Claims. (Cl. 46—149)



1. A doll crawling mechanism comprising, a rigid frame having a horizontal part shaped to fit within a doll body at approximately the waist line, a vertical part fixed to the horizontal part and extending downwardly therefrom and an upper part fixed to the horizontal part and extending upwardly at least to approximately shoulder height, leg mounting members attached to the lower vertical part for oscillation about a horizontal axis, pins connected to said members and projecting upward through slots in the horizontal frame part, arm mounting members attached to the upper frame part for oscillating movement about a fixed horizontal axis, cranks connected to said arm mounting members and projecting away from said axis, a driving rod having its ends journalled in said frame, a first rocker fixed on said driving rod adjacent its lower end and provided with apertures to receive the said pins and a second rocker fixed on said driving rod adjacent its upper end and provided with apertures to receive the said cranks, said first rocker being above the axis of rotation of the leg mounting members and said second rocker being above the axis of rotation of the arm mounting members.

2,978,836
DOLL CRAWLING MECHANISM
Robert Gardel, 11 Riverside Drive, New York 23, N.Y., and Arthur Rogevin, 32—28 Mott Ave., Far Rockaway, N.Y.
Filed May 21, 1959, Ser. No. 814,814
6 Claims. (Cl. 46—149)



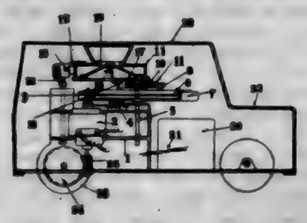
1. A doll construction comprising, a hollow doll body, a rigid frame fixed in said body, spaced journals in said frame with a driving rod journaled vertically therein, leg mounting members pivotally mounted on said frame for rocking movement about a first horizontal axis, means for securing legs adjustably to said members at points below said axis, a first rocker fixed to the driving rod above said axis, parts projecting from said members into operative reciprocating engagement with said first rocker, arm mounting elements pivotally mounted on said frame for rocking movement about a second horizontal axis, means for securing arms to said elements while permitting adjustment of the arms between selected positions about said second horizontal axis, a second rocker fixed to the driving rod between the first rocker and the second horizontal axis, and crank means projecting from said arm mounting elements into operative reciprocating engagement with said second rocker.

2,978,837
GRASS GUARD FOR TREES
Neale James Daniels, 9310 Linden, Bloomington, Calif.
Filed May 20, 1959, Ser. No. 814,468
3 Claims. (Cl. 47—25)



1. A grass guard for trees comprising a flat horizontal base plate, a vertically disposed circular wall formed integrally with and depending from the peripheral edge of said base plate for engaging in the ground, and a conical member integrally formed on said base plate and extending upwardly therefrom, said conical member having a circular tree trunk passage opening formed in the upper inner end thereof, a plurality of generally horizontal circumferential ribs formed integrally with the inner surface of said conical member adjacent to and parallel with the upper end of said conical member for reinforcing said conical member, said circumferential ribs also forming demarkation lines for cutting off the upper end of said conical member to increase the circumference of the opening therein as the tree grows, said base plate and said conical member being formed of a pair of demountable sections.

2,978,836
MOVABLE TOYS PROVIDED WITH PHONOGRAPH
Mamo Kato, 5 Azumabashi Sanchome Sumida-ku, Tokyo, Japan
Filed Jan. 7, 1959, Ser. No. 785,518
1 Claim. (Cl. 46—232)



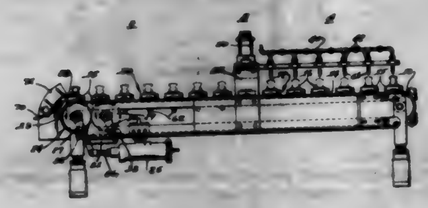
A toy having moving elements and sound producing means synchronized therewith comprising a toy body, an electric motor carried by said body, means for supplying electrical current to said motor, a sound plate rotatably supported on said body, a shaft driven by said motor engaging the periphery of said sound plate for rotating the same, a sound box pivotally supported on said body, a vibration plate connected to said sound box, a needle, a support connecting said needle to said vibration plate, an elastic band connected to said needle and said vibration plate, a base plate mounted on said sound plate, a curved forked end lever pivotally connected to said base plate and positioned for being engaged by said needle while contacting said sound plate for moving said needle to its starting position on said sound plate, a spring connecting said lever to said base plate tending to retain said lever in position for being engaged by said needle, elements connected to said body and means operable by said motor in synchronization with said shaft for operating said moving elements.

2,978,838
METHOD FOR CHANGING THE BEARING YEARS OF FRUIT TREES
Robert H. Beatty, Philadelphia, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
No Drawing. Filed Sept. 15, 1958, Ser. No. 760,856
3 Claims. (Cl. 47—58)

1. A method of converting biennial fruit bearing trees to annual fruit bearing trees which comprises applying a polyhalogenated benzoic acid compound in a non-phytotoxic concentration to the trees during their fruit bearing years and during the period of their fruit-producing stage between full bloom and terminal growth.

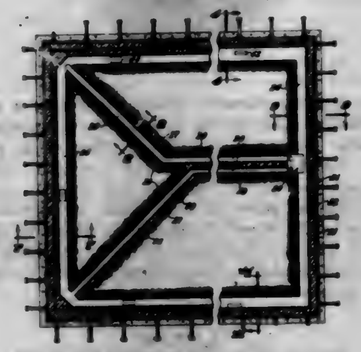
2,978,839
APPARATUS FOR FINISHING APERTURED GLASS ARTICLES
Harold L. Eastes and Earl Hiatt, Muncie, Ind., assignors to Kimble Glass Company, a corporation of Ohio
Filed Apr. 14, 1958, Ser. No. 728,427
6 Claims. (Cl. 49—28)

1. In combination, apparatus for removing a thin window portion disposed within an aperture of freshly formed glass articles comprising conveyor means adapted to transport intermittently a series of said articles as formed, means to drive said conveyor means in stepwise advancing movement, said conveyor means having a plurality of movable contoured receptacles adapted to support the lower portion of each conveyed article surrounding its aperture, means disposed coaxially with the apertures of said articles as conveyed to direct a cooling fluid



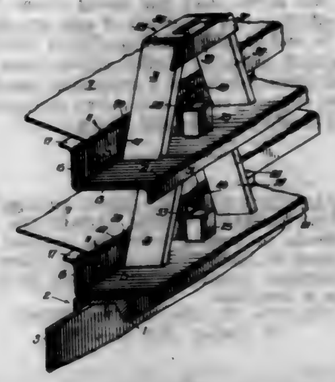
therein, a window knock-out device having a vertically operable rod-like element disposed coaxially with the apertures of said articles at a knock-out station, means to operate said rod-like element through the aperture of a stationary article in alignment therewith and heating means disposed adjacent to and coaxially with the apertures of the conveyed articles to heal the glass after window removal.

2,978,840
BUILDING CONSTRUCTION AND AIR CONDUIT STRUCTURE THEREFOR
Richard Tasch, Silver City, N. Mex. (212 N. Grandview, Covina, Calif.)
Filed July 25, 1955, Ser. No. 524,224
11 Claims. (Cl. 50—100)



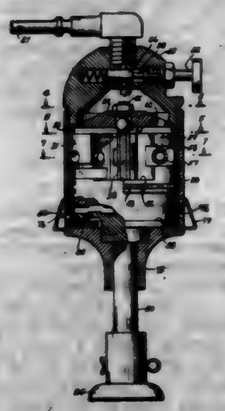
1. A heating or cooling forced-air conduit for perimeter installation against the inner surface of the foundation wall and the under surface of the floor of a building, the conduit comprising an upright outer side wall part formed of heat-insulating material, a bottom wall part extending inwardly from the lower portion of the outside wall, an inner side wall part extending upwardly from the bottom wall, and a top wall part extending from the upper portion of the inner side wall to the outer side wall and joining the latter on a line spaced downwardly from the upper edge of the outer side wall, all of the conduit wall parts having interior surfaces formed of metal and that portion of the outer side wall part disposed above the level of the top wall part of the installed conduit serving as thermal insulation and the thermal insulation between the periphery of the floor and the surrounding foundation wall of the building.

2,978,841
INTERLOCKING STACKING SPACER AND GUIDE PIN ASSEMBLY
Roy W. Miller, Highland, Ind., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 10, 1959, Ser. No. 858,685
5 Claims. (Cl. 50—103)



1. An interlocking stacking spacer and guide pin assembly for a removable railroad car roof, including a roof sheet terminating in a peripheral turned-down flange secured to an extension member forming a horizontal mounting surface comprising, a spacing frame having two spaced legs secured to said horizontal surface inclined upwardly toward each other and terminating in a supporting bar defining a central aperture, a mounting block secured to said horizontal surface beneath said frame and including a downwardly projecting guide pin, a mounting strap secured to said turned-down flange and including a flange extending between each of said legs and said turned-down flange and including a central brace secured to said block, said guide pin projecting downwardly through said extension member in vertical alignment with said aperture.

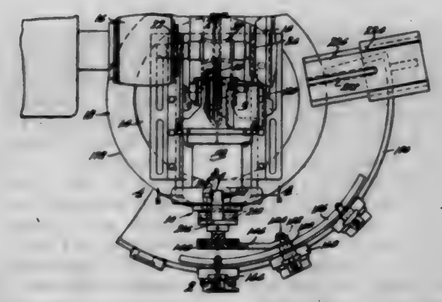
2,978,842
AIR OPERATED VALVE GRINDER
Frank L. Davis, 129—07 7th Ave., College Point, N.Y.
Filed Oct. 27, 1959, Ser. No. 848,951
7 Claims. (Cl. 51—29)



1. An air operated valve grinder comprising the combination of a housing containing a vane chamber, a drive shaft journaled in said housing and carrying an oscillating vane operating in said chamber, means for automatically alternately directing actuating fluid to and releasing it

from opposite ends of said vane whereby to impart oscillating movement to said drive shaft, a driven shaft journaled concentrically in said housing in end to end relation with said drive shaft, companion jaw clutch elements on the opposing ends of said driving and driven shafts, ratchet teeth on said driven shaft, companion stationary ratchet teeth in said housing engageable by the ratchet teeth on said driven shaft and spring means for automatically effecting the separation of said jaw clutch elements at the end of the forward oscillating movement of said drive shaft, including a collar slidably keyed on the end of said driving shaft and a companion socket for the same in the opposing end of said driven shaft, said collar being held in said socket by said spring.

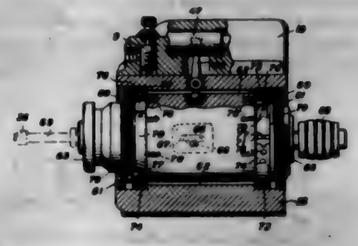
2,978,843
APPARATUS FOR GRINDING DOUBLE-ENVELOPING WORM ELEMENTS
Fred E. Birch, Bloomfield Township, Oakland County, and Bernard H. Johnson, Traverse City, Mich., assignors to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Filed May 29, 1956, Ser. No. 588,641
12 Claims. (Cl. 51—33)



1. Apparatus for grinding the thread of a double-enveloping worm element comprising, in combination, means for rotatably supporting the worm element, a support member mounted for rotation in timed relationship with respect to the rotation of the worm element about an axis perpendicular to the axis of the worm to be ground, a rotatable grinding wheel having a grinding surface adapted to contact a flank of the thread on the worm element for substantially the entire depth of the thread, means pivotally connecting said grinding wheel to said support member, and means responsive to the angular movement of said support member for varying the angular position of said grinding wheel relative to the element as a function of the angular movement of said support member relative to the element.

2,978,844
VIBRATING INTERNAL GRINDING MACHINE
Mineo Umeda, Funakoshi-cho, Aki-gun, Hiroshima-ken, Japan, assignor to Toyo Kogyo Company Limited, Aki-gun, Hiroshima-ken, Japan
Filed May 1, 1958, Ser. No. 732,404
3 Claims. (Cl. 51—34)

1. In a vibrating internal grinding machine having a table, a head housing having a center hole slidable on said table, a valve housing fixed to the top of the head housing, a swinging lever attached to said valve housing, a wheel head proper fitted to the center hole of the head housing, a piston valve in said valve housing, both ends of said swinging lever joining the wheel head proper and said piston valve whereby axial reciprocations of the wheel head proper are effected by reciprocations of said piston valve, an adjustable bolt, a guide piece attached to the head housing by means of said adjustable bolt, a guide groove formed on the wheel head proper to provide the wheel head proper an accurate axial reciprocating movement without rotation.



2,978,845
ABRASIVE DEVICES
Edward S. Haven, Scotia, and Raymond A. Brooks, Latham, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed Jan. 27, 1960, Ser. No. 5,053
3 Claims. (Cl. 51—193.5)



1. An annular abrasive wheel comprising a plurality of abrasive coated sheets, said sheets being secured in an annular row, each side of said wheel being provided with at least one annular groove having a reinforcing ring positioned therein, at least one annular groove in the internal periphery of said wheel, said groove being narrowest at its inner diameter and widest at its outer diameter, and a reinforcing member positioned in said groove, said reinforcing member conforming to the shape of said groove.

2,978,846
DRILL AND COUNTERSINK TOOL
Lee H. Barron, 612 W. Elk Ave., Glendale 4, Calif.
Filed Oct. 8, 1956, Ser. No. 614,698
4 Claims. (Cl. 51—206)



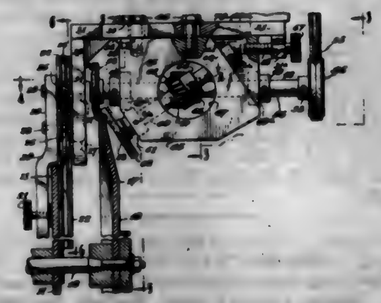
1. A composite concentric hole cutting and boring tool comprising a metal shank adapted to be attached for rotation to a drill press or the like; a guide rod extending longitudinally from said shank and coaxial therewith said guide rod being cylindrical and smooth; a concentric boring head extending from the free end of said guide rod, said boring head being rounded on its end portion, and being provided with a cutting surface consisting of a compact aggregate of diamond grits of multiple particle thickness held together and to said round end surface by a bond of nickel; and a hole cutter comprising a concentric metal body disposed intermediate said shank and said guide rod, the surface of said concentric body being cylindrical and smooth, tapered joining surface between said concentric body and said guide rod on the face contiguous to said rounded end of the boring head, said joining surface being provided with a coating consisting of a compact aggregate of diamond grits of multiple particle thickness held together and to said metal surface by a bond of electrodeposited nickel.

2,978,847
ABRASIVE CUTTING WHEEL
Hendrikus Schoenmakers, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 730,886
Claims priority, application Netherlands Dec. 24, 1957
2 Claims. (Cl. 51—206)



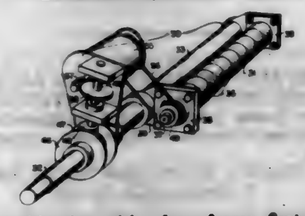
1. A grinding wheel having cutting surfaces provided with a multiplicity of abrasive grains bonded to said wheel for cutting relatively hard materials into predetermined lengths, the cutting surfaces of said grinding wheel being provided with a relatively large number of small, irregularly distributed recesses in addition to the inherent recesses of the grinding wheel, said recesses being conical in shape with an apical angle of approximately 60°, the cutting surface on one side of said grinding wheel having said recesses in spaced sections therein, while the cutting surface on the opposite side of said grinding wheel has said recesses in spaced sections located in a staggered relation with respect to the spaced sections on said one side of the grinding wheel.

2,978,848
GRINDER FOR INVOLUTE BACON KNIFE
Raymond A. Raine, Oak Lawn, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Illinois
Filed July 17, 1957, Ser. No. 672,415
5 Claims. (Cl. 51—247)



1. In a sharpening apparatus for rotary involute slicing machine knives, the combination of a grinder framework, means for movably mounting said grinder framework in automatically adjustable relationship to said slicing machine knife, a guide mounted on said grinder framework, said guide being adapted to ride upon the knife edge and thereby to automatically maintain a fixed relationship between the grinder framework and the knife edge, a rotary grinding wheel mounted on said grinder framework and adapted to be rotated at a point in fixed relationship to said grinder framework and thereby to said guide and to the rotary knife upon which said guide is carried.

2,978,849
SHARPENER FOR ENDLESS BAND BLADE BREAD SLICING MACHINE
Kenneth Visnaw, Saginaw, Mich., assignor to Bettendorf Bakery Equipment Co., Bettendorf, Iowa, a corporation of Iowa
Filed Sept. 22, 1959, Ser. No. 841,511
11 Claims. (Cl. 51—247)



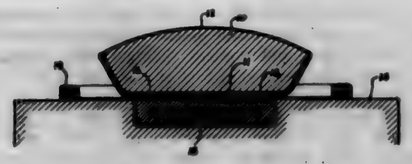
1. The combination with a base frame, first and second parallel, spaced-apart drum means rotatably mounted on said base frame, and endless slicing bands turning on and reaching between said first and second drum means, said slicing bands each having a cutting edge and said slicing bands each having first and second reaches both of which extend from a position in contact with and tangent to said first drum means to a position in contact with and tangent to said second drum means, and each of said first and second reaches having a twist of 180 degrees therein, of: a stationary shaft on said base frame extending parallel to the axes of said drum means, a sharpener carriage having a sleeve portion received for sliding and oscillating motion on said stationary shaft, a cylindrical abrading member rotatably mounted on said sharpener carriage for reciprocation and oscillation bodily therewith and for rotation relative thereto about an axis parallel to said stationary shaft, said oscillatory motion of said abrading member bodily with said sharpener carriage accomplishing movement of said abrading member into and out of engagement with one side of one edge of said bands, spaced guide plates fixed to said stationary shaft and having apposite guiding faces normal to said stationary shaft, a drive shaft mounted on said sharpener carriage and extending radially outwardly with respect to said stationary shaft, an eccentric wheel eccentrically mounted on said drive shaft and engaged between said guiding faces for accomplishing reciprocation of said sleeve on said shaft by a mechanical relationship which is independent of said oscillatory movement of said sharpener carriage about said stationary shaft, motor means carried bodily on said sharpener carriage and in driving association with said cylindrical abrading member for powering the rotation thereof relative to said sharpener carriage and in driving association with said drive shaft, yielding means normally biasing said sharpener carriage for oscillatory positioning of said abrading member out of contact with said blades, means limiting the angular velocity of said oscillatory movement of said abrading member into contact with said blades, said two last-named means including an abutment shaft positioned for engagement by said sharpener carriage toward the one limit of oscillatory movement of the carriage relative to said sharpener carriage which corresponds to engagement of said abrading member with said bands, spring means biasing said abutment shaft to yieldingly oppose displacement upon engagement by said carriage, and a dashpot limiting the rate of displacement of said shaft against the biasing of said spring.

2,978,850
TUMBLE FINISHING PROCESS
Kenneth Merrill Gleazer, Westport, Conn., assignor to Dixon Sintaloy, Inc., Stamford, Conn., a corporation of Connecticut
Filed May 1, 1958, Ser. No. 732,375
1 Claim. (Cl. 51—282)



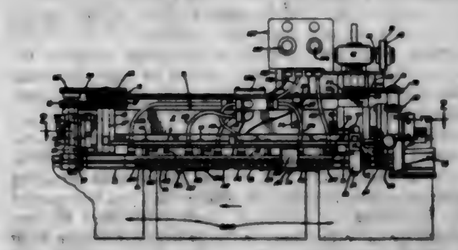
An improved process for finishing the surfaces of work pieces which comprises, tumbling the work pieces in a medium of pellets, said pellets made of sintered powdered metal and formed with regular file-like surface serrations thereon.

2,978,851
PROCESS AND APPARATUS FOR PACKAGING MEATS AND OTHER ARTICLES
Roy Stuart Smith, Palmyra, N.Y., assignor to National Distillers and Chemical Corporation, a corporation of Virginia
Filed Dec. 18, 1958, Ser. No. 781,390
2 Claims. (Cl. 53—33)



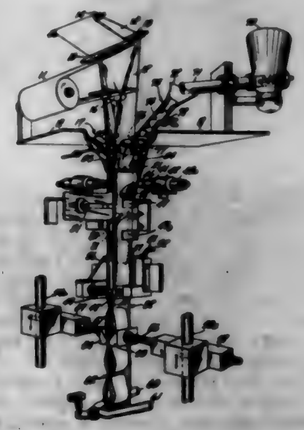
1. The method of packaging articles in a heat fusable thermoplastic film material such as polyethylene film, consisting essentially of the steps of wrapping the article in the film by folding the film under the article so that the edge portions thereof overlap, placing the wrapped article on a plate-like heat transfer member freely movable in all directions over the surface of a heated platen having an upper surface which is nonadherent to the film when fused, sliding said member and package together over said heated platen so that the folded overlapping edges of the film are fused together to form a tightly sealed package, and removing the sealed package from the member.

2,978,852
BAG TOP CLOSING AND SEALING MACHINE
Frank L. Hopkins and Richard H. Ayres, Minneapolis, Minn., assignors to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri
Filed Mar. 7, 1960, Ser. No. 13,376
12 Claims. (Cl. 53—137)



1. In an apparatus for applying a strip of thermoplastic coated tape over the upper marginal edge portions of the walls of a bag top whose walls have previously been secured together in flatwise relation by a row of chain stitching extending the length of the bag top, means for guiding a strip of sealing tape over the top edge of each sewn bag top and folding the side wall portions thereof downwardly into flatwise engagement with the opposed wall surfaces of the bag top and whereby the tape overlays and conceals the chain stitching, pairs of dual belt runs cooperating to form a travel path for the bag tops, the belt runs of each pair of dual belt runs being vertically spaced apart to receive the chain stitching therebetween, heating means for pressing the belt runs of each pair of dual belt runs into engagement with the tape walls closely adjacent to the opposite sides of the chain stitching, thereby to heat and reactivate the tape walls and cause them to become intimately bonded to the bag top walls.

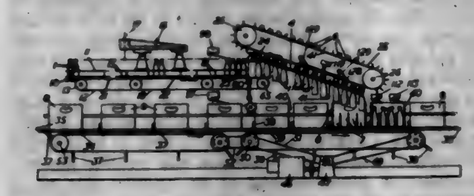
2,978,853
APPARATUS FOR PRODUCING MULTIPOCKET PACKAGES
Robert G. Price, Teaneck, N.J., assignor to Thomas J. Lipton, Inc., Hoboken, N.J., a corporation of Delaware
Filed Jan. 23, 1959, Ser. No. 788,558
5 Claims. (Cl. 53—178)



1. An apparatus for manufacturing multipocket packages comprising a funnel-like folding member having a pair of downwardly converging side walls, a back wall and an open front, means for moving a strip of sheet material in one direction over said open front in engagement with said side walls, a plate-like member extending between said side walls toward said back wall and engaging the opposite side of said strip from that against which the side walls bear to fold the strip along its longitudinal center line, means to fold lateral edge portions of the strip against the outsides of said side walls to render said folded sheet material substantially double-U in cross-section, means to seal the free edges of the folded strip to its mid-portion along said longitudinal center line and transversely to form at least two pockets and separate feed chute means extending downwardly from the lower end of said funnel-like member into the folds of said strip for directing the product into the respective pockets.

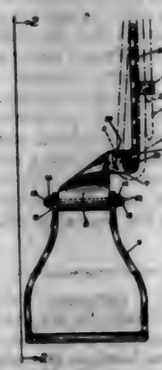
2,978,854
BOTTLE-CRATING MACHINES
Barry M. Fairest, Sheffield, England, assignor to Morgan Fairest Limited, Sheffield, England
Filed Apr. 9, 1958, Ser. No. 727,369
Claims priority, application Great Britain Apr. 13, 1957
6 Claims. (Cl. 53—246)

4. A crating machine for bottles with protruding rims round their mouths, comprising a pair of rails spaced a fixed distance apart, means to release bottles successively into one end of the rails for each bottle to be suspended by its rim and only able to escape at the other end of the rails, means for keeping the bottles in spaced continuously moving sequence along the rails, a crate conveyor below and gradually converging towards the other end



of the rails, and means for moving the crate conveyor continuously and in phase with the moving bottle sequence so that an empty crate moving with the conveyor receives successive bottles as the bottles fall when they are allowed to escape by reaching that other end of the rails.

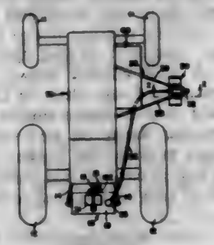
2,978,855
ATTACHMENT FOR SADDLE STIRRUPS
Ralph William Horst, Adams County, Colo.
(Rte. 1, Box 73, Denver 16, Colo.)
Filed Mar. 2, 1959, Ser. No. 796,524
6 Claims. (Cl. 54—47)



1. A stirrup support comprising a body having an upper planar portion, a lower extension portion and an interconnecting portion between said upper and lower portions, the lower portion having means substantially to one side of the plane of the planar portion providing a pivotal support for a stirrup with the pivotal axis maintained substantially perpendicular to the plane of said planar portion whereby the stirrup is maintained substantially to one side of said plane of the planar portion, and guide means on said upper portion for securing a loop of saddle leather in supporting relatoin to said body with the stretches of said loop substantially parallel to said planar portion and the sides of an animal with which the stirrup is used.

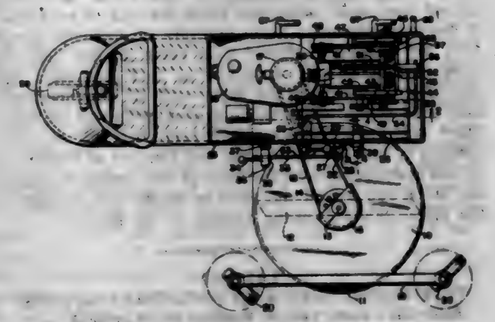
2,978,856
MOWER WITH SANDBLAST CUTTING MEANS
Curtiss L. Cook, Syracuse, N.Y., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Jan. 6, 1958, Ser. No. 707,403
11 Claims. (Cl. 56—25)

1. A highway maintenance device for cutting weeds and the like at the side of the highway, said device comprising a mobile support movable along the edge of the highway, a source of air under pressure carried by said support, a nozzle for directing an air blast toward the plant growth at the side of the highway, means supporting said nozzle on the portion of said support adjacent the edge of the highway and in a position close to the



ground and directed laterally outwardly of the mobile support generally parallel to the ground toward weeds and the like at the edge of the highway, and means connected with the nozzle for entraining abrasive particles into said air blast.

2,978,857
LAWN MOWER AND PROPELLING VEHICLE
Alexander Smith, Box 1466, and Burton D. Beggs, Jr., 2429 Laurel Ave., both of Sanford, Fla.
Filed Sept. 26, 1958, Ser. No. 763,637
6 Claims. (Cl. 56—25.4)



1. A power operated lawn mower comprising a vehicle having a steerable front wheel and a power driven rear wheel in substantial alignment, a laterally extending mower frame having cutter means thereon for mowing vegetation, said laterally extending frame being pivotally connected to said vehicle on a transversely extending pivot, and caster wheel support means on said laterally extending mower frame whereby said vehicle will be maintained in upright position and said mower frame will adapt itself to the contour of the surface being mowed.

2,978,858
YIELDABLE DRIVE CONNECTION FOR A ROTARY LAWN MOWER
Warren E. Moody, Rte. 7, P.O. Box 173, Greensboro, N.C.
Filed July 8, 1958, Ser. No. 747,273
2 Claims. (Cl. 56—295)

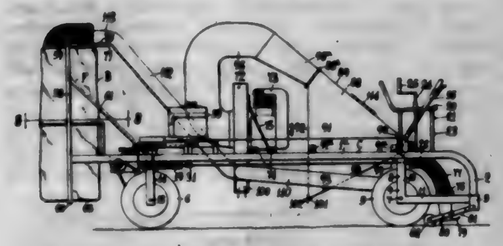
1. A driving unit for a rotary lawn mower, comprising a substantially vertically disposed drive shaft, a hub on the lower end of said shaft, said hub having a central opening, the lower end of said shaft being rigidly secured in said central opening, said hub being provided with a plurality of openings terminating at its lower face, said plurality of openings being arranged in an annular zone around said shaft and being disposed equal distances apart

in said zone and being equally spaced from the axis of said shaft, a rotary cutting blade, bolt means removably securing said blade to said shaft, said blade being provided with a central opening, a washer around said bolt means, said washer having an annular flange extending upwardly through said opening in said blade and surrounding said bolt means, an interior annular flange on said hub partially closing the lower end of said opening in said hub, the upper side of said interior annular flange limiting downward movement of said shaft in said hub, and the lower side of said interior flange limiting upward movement of said annular flange on said washer as the bolt means is tightened to draw the washer into engagement with said hub, a ball in each of said plurality of openings, a spring in each of said plurality of openings above said



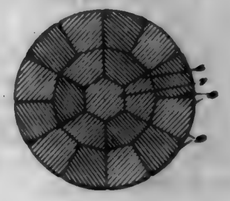
ball to normally urge the ball beyond the lower face of said hub, said blade being provided with a plurality of spaced apertures, said apertures being annularly arranged around said central opening in said blade and being spaced from each other and from the axis of said shaft in the same manner as said plurality of openings in said hub, the diameters of said balls being greater than the cross section of said apertures so that said balls will normally be seated in the upper ends of said apertures, said balls acting under force of said springs to normally cause said blade to rotate with said shaft but on overloading of said blade the balls will ride out of their seats in said apertures against the force of said springs to release the blade and permit the shaft to rotate with relation to the blade thus preventing damage to the mower.

2,978,859
NUT GATHERING AND BAGGING MACHINE
Elton H. Tubbs, 162 N. Portage St., Westfield, N.Y.
Filed July 2, 1958, Ser. No. 746,112
11 Claims. (Cl. 56—328)



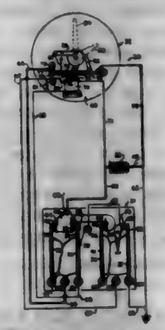
1. A machine for gathering nuts from the surface of the ground which comprises, in combination: a self-propelled wheeled chassis; a transverse series of nut pickers at the front end of the chassis, each consisting of a section of flexible tubing and a tubular open-ended picker element carried by the section at its free end; a separating chamber extending lengthwise of the machine in which a suction influence is created, the separating chamber having front and rear ends, the sections of flexible tubing being connected to the front end of the separating chamber for communication therewith, the suction influence being transmitted through the sections of flexible tubing to the picker elements; the separating chamber being formed to effect the separation by gravity of the nuts from the pebbles which are carried into the separating chamber by the suction influence and to effect the discharge by gravity of the pebbles and the nuts at separate points; a conduit connected to the rear end of the separating chamber and extending from it lengthwise of the machine, the conduit being subject to the same suction influence, the leaves carried into the separating chamber with the nuts passing into the conduit and being separately discharged; a nut collecting chamber which is subject to a pressure influence and which receives the nuts from the separating chamber; a rotary air pump having a negative side and a positive side, the air pump at its negative side being connected to the conduit and creating the suction influence aforesaid and at its positive side being connected to the nut collecting chamber and creating the pressure influence aforesaid; a motor carried by the chassis for the operation of the air pump; an airlock chamber interposed between the separating chamber and nut collecting chamber, and including a cylindrical casing in communication with the separating chamber and with the nut collecting chamber and a series of rotatable radially extending partitions within the casing which define rotatable compartments, the nuts as issuing from the separating chamber falling into the compartments of the air lock chamber and falling from them into the nut collecting chamber; means operatively associated with the chassis for effecting the rotation of the partitions of the air lock chamber; and a nut conveying and discharging conduit communicating with the nut collecting chamber and subject to the pressure influence within the nut collecting chamber, the air delivered under pressure to the nut collecting chamber flowing through the nut conveying and discharging conduit and conveying the nuts through it to the point of discharge, the nut conveying and discharging conduit having a nut receiving and a nut discharging end, the nut discharging end being elevated relatively to the nut receiving end, the air lock chamber by means of its casing and the rotatable partitions occluding communication between the separating chamber and the nut collecting chamber.

2,978,860
WIRE ROPES
Robert Edward Campbell, Doncaster, England, assignor to British Ropes Limited, Doncaster, England
Original application Sept. 10, 1954, Ser. No. 455,300. Divided and this application Apr. 21, 1958, Ser. No. 729,673
Claims priority, application Great Britain Nov. 18, 1953
6 Claims. (Cl. 57—148)



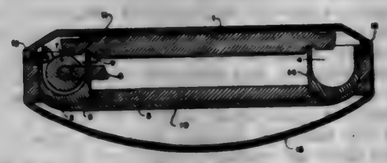
1. A multi-layered steel wire rope comprising a central king wire and having at least one intermediate layer of wires and an outer layer of wires arranged around the king wire, said king wire being of polygonal cross-section and faceted corresponding to the number of wires in the first layer of wires surrounding it, the wires in the intermediate layers being individually of flat faced polygonal cross-section, and the cross-section of the wires of the outer layer being that of a keystone with an arcuate head, the arc of said head being that of the curved outer circumference of said rope, the wires in the first layer of wires surrounding said king wire each having one face engaging flush against a respective face of said king wire, the wires in each layer of wires having side faces engaging flush against the side faces of the wires adjacent thereto in the respective layer, the outer surfaces of the wires of each intermediate layer of wires having alternating flat faces disposed at an inclination to one another with each wire in the respective layer defining at least one of said faces, the inner surfaces of the wires of the next outward layer having complementary flat faces engaging flush against the said faces of the next inward layer, the faces of the individual wires in the rope being firmly engaged flush against the complementary flat faces of adjacent wires and, whereby successive layers of wire are disposed in interpenetrating relationship and the wires and the layers of wire are retained against rolling relative to each other.

2,978,861
TIME-MEASURING METHOD AND APPARATUS
Theodore J. Sasalski, Gary, Ind., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana
Filed June 10, 1955, Ser. No. 514,446
11 Claims. (Cl. 58—23)



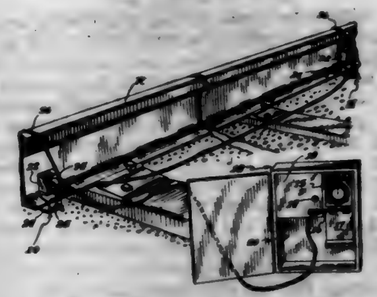
1. In a timer or the like, a pair of temperature-responsive means each having a physical characteristic which changes with changes in temperature, means for cyclically and sequentially heating and permitting the cooling of each of said means, and means controlled by changes in said physical characteristics and arranged to respond alternately to the cooling time of one of said temperature-responsive means and thereafter to the cooling time of the other of said temperature-responsive means for registering the number of said cooling cycles of said pair of means, each of said temperature-responsive means being heated while the other is cooling.

2,978,862
ELECTRIC WATCH
Helmut Epperlein, Ersingen, near Pforzheim, Germany, assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1958, Ser. No. 775,070
8 Claims. (Cl. 58—23)



1. A battery-powered electric watch having an annular casing member; a back closing one opening in said casing; a battery mounted adjacent said back; a watch movement centrally positioned in said casing member; an annular insulating member between said watch movement and said casing member, said insulating member having an interior void for housing at least a portion of the motive power mechanism for said watch, said insulating member being provided with means bearing against said battery to urge it against said back, whereby said battery will be fixed in position in said watch.

2,978,863
ELAPSED TIME SPEED CHECK ARRANGEMENT
Arthur J. Strobel, Topeka, Kans., assignor to Eltic, Inc., a corporation of Kansas
Filed Feb. 6, 1957, Ser. No. 638,528
6 Claims. (Cl. 58—145)

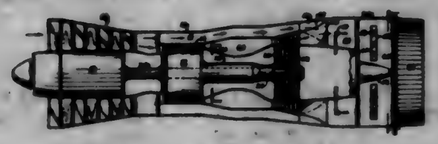


1. In an elapsed time measuring apparatus for automatically checking the speed of a vehicle traversing a path of known length, the combination of a watch having clockwork mechanism including a balance wheel, shiftable means in said watch, operable externally thereof and movable from a release position to a locking position and vice versa, said shiftable means when in locking position positively preventing said clockwork from being operated, and when being moved from locking position to release position tangentially engaging the periphery of said balance wheel to start it and said clock mechanism in operation, electromagnetic means including an electromagnet and an armature, said armature being operatively secured to said shiftable means whereby when said electromagnet is energized, said shiftable means is moved to its release position and when de-energized said shiftable means is moved to its locking position, and an energizing circuit for controlling operation of said electromagnet, said circuit including a power source in series with said electromagnet and a pair of switches separately located at opposite ends of said path for operation successively by a vehicle traversing said path, the switch at the vehicle entering end of said path being normally open, and said other switch being normally closed whereby said circuit is energized only during that period of time that the vehicle is traversing said path of known length.

2,978,864
AMMONIUM NITRATE EXPLOSIVES
Leonard A. Stengel, Terre Haute, Ind., assignor to Commercial Solvents Corporation, Terre Haute, Ind., a corporation of Maryland
No Drawing. Filed May 19, 1958, Ser. No. 735,987
7 Claims. (Cl. 60—35.4)

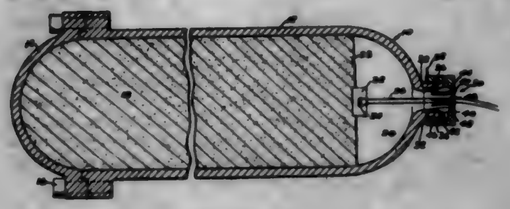
2. A process for creating thrust in monopropellant burning reaction motors which comprises burning within said reaction motors mixtures of ammonium nitrate, from about 6 to 15 weight percent of monomethylamine, and from about 1 to 20% of an inert additive material selected from the group consisting of hydrazine, lower alkylhydrazines, and lower alkanols and exhausting the resultant gases.

2,978,865
TURBO FAN EXHAUST MIXING DEVICE
Ercld F. Fiora, Allendale, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 6, 1956, Ser. No. 563,479
1 Claim. (Cl. 60—35.6)



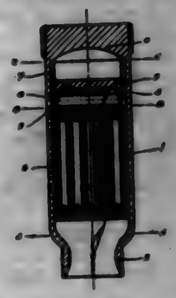
A gas turbine jet engine having a turbine, a combustion chamber for supplying turbine motive fluid to said turbine for driving said turbine, said combustion chamber and turbine providing a first fluid path; means providing a second fluid path by-passing said combustion chamber and turbine; compressor means drivably connected to said turbine for supplying air to said by-pass path and to said first path for combustion with fuel in the combustion chamber of said first path; an exhaust duct into which discharges relatively cool by-pass fluid from said second path and relatively hot fluid exhausting from the turbine end of said first path, said exhaust duct having a rearwardly directed nozzle through which said fluids discharge into the surrounding atmosphere; means for conveying said relatively hot fluid from its path into said exhaust duct so as to split up said fluid into a plurality of spaced streams; means for adding fuel to the fluid within said exhaust duct for combustion therein; and a plurality of spaced flameholder elements each disposed in said exhaust duct in the flow path of one of said hot fluid streams for initiating combustion therein.

2,978,866
ADJUSTABLE NOZZLE FOR ROCKET
Kendall Clark, Bloomfield Hills, Mich., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Sept. 30, 1957, Ser. No. 687,147
2 Claims. (Cl. 60—35.6)



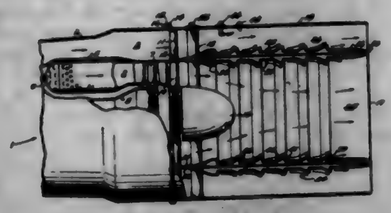
1. In a rocket motor having a body member containing a propellent charge producing hot exhaust gases, adjustable nozzle means adapted to said body member, said means comprising an internal nozzle member having a venturi-shaped interior portion and an annularly undercut exterior portion adjacent thereto, a plurality of longitudinal flexible fingers formed in said nozzle member, a nut member threadably engaging said body, complementary cam surfaces between said nut member and said nozzle member, ambient temperature indicia and an index mark associated with said nut member and said body so as to indicate the relative angular position therebetween.

2,978,867
POWDER REACTOR FOR SELF-PROPELLED PROJECTILES
Charles A. Somville, 41a Chaussee d'Anvers, Borcht-lez-Anvers, Belgium
Filed Jan. 6, 1958, Ser. No. 707,295
Claims priority, application Belgium Mar. 29, 1957
5 Claims. (Cl. 60—35.6)



1. A powder reactor for self-propelled projectiles comprising a combustion chamber having a recess therein, a safety piston partitioning said chamber and a powder self-propellent charge disposed within said chamber between a nozzle of said reactor and the rear end of said piston, said piston having a shoulder and being frangibly secured to the wall of said combustion chamber by means of the shoulder with the latter inserted into the recess in the wall so that when such overpressures occur the shoulder will shear to allow the piston to move, whereby overpressures of gases generated by the combustion of said self-propellent charge and exceeding a predetermined magnitude axially displace said piston and increase the combustion volume to thereby reduce said overpressures.

2,978,868
CONCENTRIC COMBUSTION SYSTEM WITH COOLED DIVIDING PARTITION
Samuel R. Peffer, Hartland, Vt., assignor to General Electric Company, a corporation of New York
Filed Dec. 21, 1959, Ser. No. 861,075
7 Claims. (Cl. 60—35.6)



1. In a ducted fan type turbine engine including an afterburner, a concentric fuel combustion system comprising, in combination; a cylindrical duct, an annular partition concentrically spaced within said duct to divide and maintain the separation of the fluid exhausted by said turbine from the working fluid exhausted by said fan, said partition including a pair of concentric radially spaced-apart cylindrical walls enclosing an annular fuel-vaporizing chamber, and means for supplying streams of fuel to said chamber, said walls each being formed with a plurality of spaced-apart orifices for injection of vaporized fuel into said passages from said chamber, such that said walls are cooled internally by vaporization of fuel and cooled externally by vaporized fuel injected into said passages through said orifices.

2,978,869
ENGINE ACCESSORY MOUNTING ARRANGEMENTS
George Henry Hiscock and William Edward Dennis Vivian, Bristol, England, assignors, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Oct. 14, 1957, Ser. No. 690,135
Claims priority, application Great Britain Nov. 1, 1956
4 Claims. (Cl. 60—39.33)



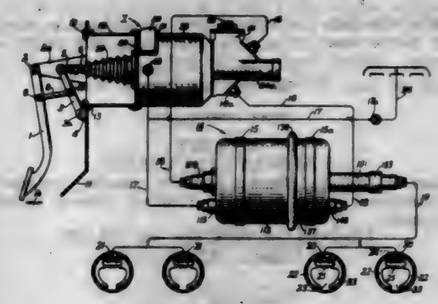
1. A gas turbine engine including an engine casing, an inner wall within the casing and defining with the engine casing an annular working fluid passage, an inner gear casing surrounded by and spaced from said inner wall, a first cylindrical wall surrounding an opening in said inner gear casing, a hollow tube open at both ends extending from the inner wall to the engine casing through the annular working fluid passage, a second cylindrical wall surrounding the open end of the tube remote from said inner casing, a hollow member comprising two pistons in sliding and fluid tight engagement respectively with said cylindrical walls and a tubular part extending through said tube, an accessory device outside said engine casing and a drive transmission extending from said inner gear casing to said accessory device through said hollow member.

2,978,870
FUEL INJECTOR FOR A COMBUSTION CHAMBER
John W. Vdoviak, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 26, 1957, Ser. No. 705,266
2 Claims. (Cl. 60—39.74)



1. In combination with a combustion chamber of generally circular section, means for injecting fuel into said combustion chamber comprising fuel supply means providing a source of fuel under pressure, a fuel manifold connected to receive fuel from said fuel supply means, a plurality of spray bar assemblies disposed in spaced relationship circumferentially of said combustion chamber, each said spray bar assembly including wall means defining a valve chamber disposed exteriorly of said combustion chamber and connected to receive fuel from said manifold, said wall means further defining a plurality of separate flow passages extending from said valve chamber into said combustion chamber and being of staggered lengths with their inner ends disposed in radially spaced relation within said combustion chamber, each said fuel flow passage having adjacent its inner end at least one discharge orifice relatively large in flow area so as to have small pressure drop, and spring loaded valve means disposed in said valve chamber operative to meter fuel flow from said manifold to said fuel flow passages so as to maintain manifold fuel pressures sufficient to prevent boiling of fuel in the manifold.

2,978,871
EMERGENCY SLACK TAKE-UP AND COMPOUND BOOSTER SYSTEM FOR BRAKES
Edward A. Rockwell, 167 Ashdale Place, Los Angeles 49, Calif.
Filed June 23, 1955, Ser. No. 517,413
10 Claims. (Cl. 60—54.5)

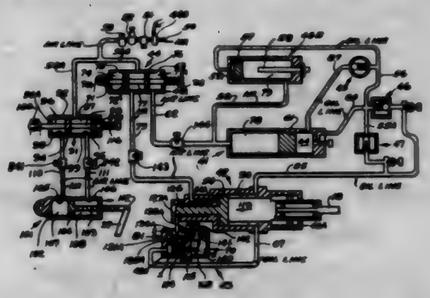


1. In a hydraulic braking system having a pedal and wheel cylinders to apply the brakes, the combination comprising, a first stage cylinder with a piston therein for producing hydraulic pressure for the wheel cylinders, an expansible motor mechanism for acting on said piston to increase the hydraulic pressure in said cylinder, a source of power to operate said expansible motor mechanism, pedal operated valve means to direct power from said source to said expansible motor mechanism in the first boost stage until power source run-out is reached, means connecting said pedal to said piston for continued movement of the piston after run-out to increase the hydraulic pressure in said cylinder, and a second stage hydraulic booster cylinder with a differential piston therein having a larger area responsive to the hydraulic pressure in said first stage cylinder after run-out and a smaller area for producing hydraulic pressure for the wheel cylinders, whereby the hydraulic pressure in the first stage cylinder is hydraulically multiplied after run-out to obtain a second stage boost.

2,978,873
POWER FEED APPARATUS
Charles F. Curran, Jr., and Harold Kazarian, Providence, and William Tingle, Pawtucket, R.I., assignors to The Holdsworth Manufacturing Co. Inc., Pawtucket, R.I., a corporation of Rhode Island
Filed Aug. 21, 1957, Ser. No. 679,499
8 Claims. (Cl. 60—97)

1. A machine comprising a horizontally moving work carriage and a horizontally reciprocating tool carriage positioned at right angles to said work carriage, each carriage movable relatively to the other in a horizontal plane, an air operated cylinder provided with a piston head, mechanical indexing means connecting said piston head to said work carriage to index said work carriage horizontally through the movement of said piston head, a source of fluid pressure for said piston head, a solenoid

actuated valve having a plunger interposed between said source of fluid pressure and said piston head, an electrical timing mechanism controlling said plunger to operate said plunger in opposite directions alternately to



control the fluid pressure to said piston head to operate said piston head in opposite directions alternately and thereby impart horizontal indexing movement to said work carriage through said mechanical means.

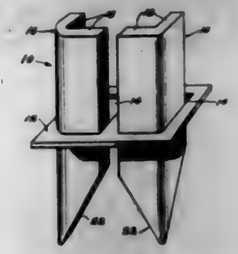
2,978,873
FISHWAY STRUCTURE
James M. Wardle, Ottawa, Ontario, Canada, assignor to Northwest Power Industries Limited, Ottawa, Ontario, Canada
Filed Oct. 20, 1958, Ser. No. 768,139
5 Claims. (Cl. 61—21)



1. A fishway comprising a multiplicity of pool enclosures arranged in ascending order in a helix, said helix comprising a plurality of vertically aligned uniform convolutions, each said convolution having therein a plurality of said pool enclosures, each said pool enclosure having an imperforate bottom wall, end walls common to adjoining ones of said pool enclosures, and side walls joining said end walls, said side and end walls being contiguous with said bottom wall, and walls forming a resting pool extending laterally from and communicating with one of said pool enclosures in each said convolution, each said end wall having an orifice forming a fish passageway extending therethrough to permit passage of fish from one of said pool enclosures to another.

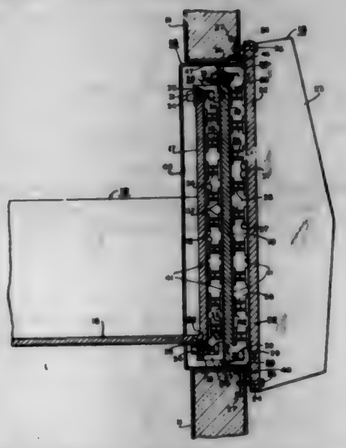
2,978,874
SPLICER CLIP UNIT FOR H-BEAM BEARING PILES
Jack R. Beittinger, 2 Wheatley Court, Scotch Plains, N.J., assignor of one-half to John J. Dougherty, Cedar Grove, N.J.
Filed Apr. 6, 1959, Ser. No. 804,200
1 Claim. (Cl. 61—53)

A splicer clip unit for guiding sections of an H-beam bearing pile into alignment for splicing comprising a rectangular plate having a pair of spaced rectangular-shaped openings therein, and a pair of elongated bars disposed in said openings perpendicularly to the plane of the plate, said bars being L-shaped in cross-section, each bar disposed in a corner and extending to an adjacent corner, said bars being secured to the plate intermediate their ends, one end portion of the bars protruding on one side of the plate and the other end portion protruding on the opposite side of the plate, one of the protruding end portions having its long edges tapered, the other of the protruding end portions having a flat end edge, the bars being arranged in the openings with their long edges in opposed closely spaced relation, the plate defining a space between the surfaces to be welded cor-



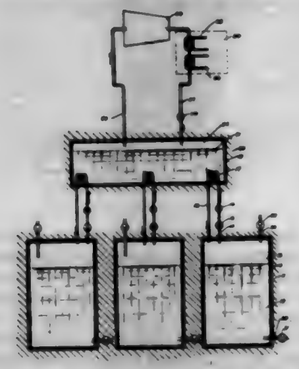
responding to its thickness when the beam sections are in aligned position preparatory to welding, said plate having a split centrally thereof between the openings therein, said split intersecting one long edge of the plate and extending to a point just short of the other long edge thereof.

2,978,875
PLURAL-STAGE THERMOELECTRIC HEAT PUMP
Robert S. Lackey, Pittsburgh, William L. Wright, Monroeville, and Jack D. Moses, Export, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 4, 1960, Ser. No. 211
4 Claims. (Cl. 62—3)



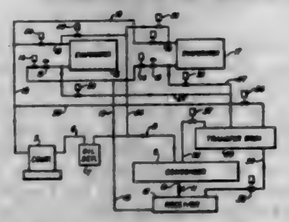
1. In a plural-stage, thermoelectric heat pump, the combination of a heat absorbing plate, an intermediate plate and a heat dissipating plate, said plates being of graduated face areas in the order named with the heat absorbing plate having the smallest area of the three, said plates being disposed in facing, parallel, spaced relationship, a first thermoelectric array disposed between said heat absorbing plate and said intermediate plate for pumping heat from the former to the latter, a second thermoelectric array disposed between said intermediate plate and said heat dissipating plate for pumping heat from the former to the latter, first means mechanically connecting said heat absorbing plate to said intermediate plate for compressing said first array between said last-named plates and for supporting said heat absorbing plate from said intermediate plate, and second means mechanically connecting said intermediate plate to said heat dissipating plate for compressing said second array between said last-named plates and for supporting said heat absorbing plate, said intermediate plate and said first array from said heat dissipating plate.

2,978,876
RELIQUEFACTION SYSTEM FOR LIQUEFIED GASES
Alexis Pastuhov, Harvard, Mass., assignor, by mesne assignments, to Couch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas
Filed Jan. 16, 1958, Ser. No. 709,290
3 Claims. (Cl. 62—54)



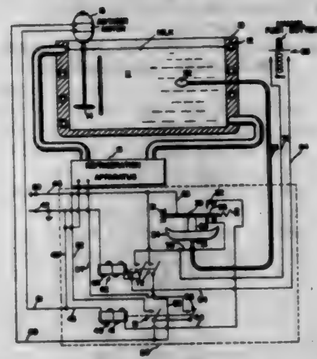
1. Method of recovering gas boiled off from a plurality of tanks containing liquefied gas at about atmospheric pressure and for return of the liquid to each of said tanks in about the amount boiled off to maintain balance which comprises conducting said gas from each of said tanks through closed circuits passing through a liquid bath in a recondensing system at a temperature below the boiling point and above the solidifying point of said liquefied gas, thereby causing said gas to liquefy, returning the resulting liquefied gas to said tanks, compressing, cooling, and expanding the vapor boiled off from said liquid bath, and returning the resulting liquefied vapor to said liquid bath.

2,978,877
HOT GAS DEFROSTING SYSTEM WITH GRAVITY LIQUID RETURN FOR REFRIGERATION SYSTEMS
Joseph N. Long, Wauwatosa, Wis., assignor to The Vilter Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 4, 1958, Ser. No. 752,739
5 Claims. (Cl. 62—155)



1. A refrigeration system comprising a compressor having a high pressure refrigerant line for passing refrigerant through a condenser and receiver and into an evaporator, and also having a suction line for returning evaporated refrigerant back to the compressor, a liquid transfer drum connected between said evaporator and said receiver for returning liquid refrigerant to said receiver, a hot gas line between the compressor and said evaporator, and temperature responsive electrical control means including a defrost timer and valves for regulating refrigerant flow in said system and adapted to close said pressure and suction lines and open said hot gas line to thereby permit hot gas to enter and defrost said evaporator, said control means also adapted to block communication between said drum and receiver and permit liquid refrigerant to pass under pressure from said evaporator to said drum when pressure in said evaporator exceeds a predetermined amount, and at the end of the defrost cycle said control means being adapted to place said drum in communication with said receiver and isolate said drum from the suction side of said system whereby liquid refrigerant can drain by gravity from the drum to the receiver.

2,978,878
CONTROL APPARATUS FOR LIQUID COOLER
Aaron I. Curtis, Plymouth Township, Hennepin County, and William J. Larson, St. Louis Park, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 18, 1958, Ser. No. 729,365
5 Claims. (Cl. 62—162)

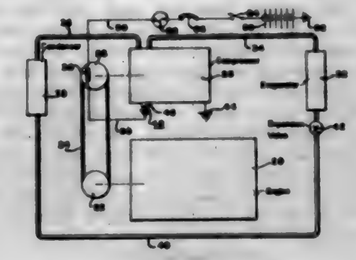


1. In control apparatus for controlling refrigeration apparatus and a circulation device of a milk storage installation automatically and providing normal selective control of the circulation device, switch means having a normally closed contact and a normally open contact, temperature response means adapted to be responsive to the temperature of the stored milk, means connecting said responsive means to said switch means so that when the temperature of the milk is above a predetermined value said normally open contact is closed, first relay means adapted to control the refrigeration apparatus and the circulation device, means including said normally open switch for connecting said first relay means to a source of power, second relay means adapted to independently control the circulation device, a manually operated switch, circuit means including said manual switch and said normally closed switch connecting said second relay means to said source, and a holding circuit including said normally closed switch for maintaining said second relay means energized when said manual switch is open.

2,978,879
REFRIGERATING APPARATUS
John H. Heldorn, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1958, Ser. No. 745,735
3 Claims. (Cl. 62—289)

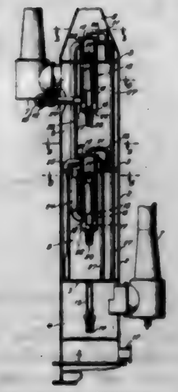
1. Refrigerating apparatus containing a refrigerant including a compressor having a suction inlet and a discharge outlet, a condenser and a flow controlling device

and an evaporator connected in circuit between said outlet and inlet, drive means for said compressor, and means responsive to the combined effect of the temper-



ature of the compressor and the refrigerant pressure within the compressor for preventing operation of said compressor.

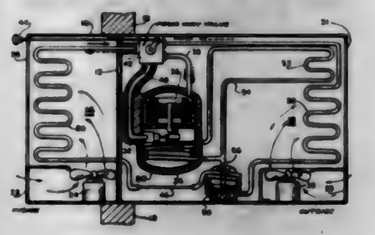
2,978,880
STEAM VACUUM REFRIGERATION UNIT
Frederick D. Berkeley III, Rochester, N.Y., assignor to Graham Manufacturing Co., Inc., Great Neck, N.Y., a corporation of New York
Filed July 30, 1959, Ser. No. 830,487
10 Claims. (Cl. 62—268)



8. A header for steam vacuum refrigerating apparatus comprising a plurality of spaced upright walls, top and bottom plates secured to selected upright walls and cooperating therewith to form a feeder chamber and a by-pass chamber, said walls being formed to provide communication at the bottom portion between said chambers, said walls having discharge openings at the top of said chambers, a liquid inlet connection with the lower end of said header, and a by-pass opening at the upper end of said header in communication with said by-pass chamber.

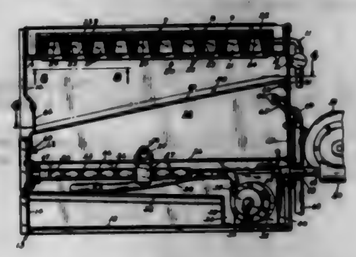
2,978,881
AIR CONDITIONING APPARATUS
Carl F. Alsing, Wilbraham, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 2, 1960, Ser. No. 6,273
5 Claims. (Cl. 62—324)

1. Air conditioning apparatus including a reversible, compression refrigeration system utilizing a volatile refrigerant for heating or cooling a conditioning medium and comprising: a cabinet provided interiorly with first and second compartments; a first heat exchanger disposed in said first compartment and means for supplying outside air thereto; a second heat exchanger disposed in said second compartment, and means for supplying the conditioning medium thereto; compression means for the volatile refrigerant disposed in said first compartment, and means surrounding said compression means providing heat insulation therefor; means for serially directing the refrigerant from said compression means through said heat exchangers, first through said first heat exchanger when cooling said conditioning medium or first through said second heat exchanger when heating said conditioning medium; means for expanding the refrigerant in the second heat exchanger of the series; and means utilizing



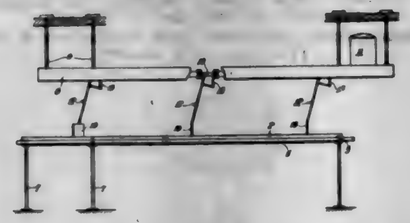
a fluid for dissipating heat from said compression means when said apparatus is cooling said conditioning medium and comprising: a third heat exchanger disposed outside said insulation means in heat transfer relationship with the outside air, a conduit having a portion thereof in heat transfer relationship with said compression means and connected to said third heat exchanger to define therewith a circuit for said fluid, and means promoting the circulation of said fluid through the circuit when the conditioning medium is being cooled, and retarding the circulation of said fluid through the circuit when the conditioning medium is being heated.

2,978,882
ICE CUBE MAKING MACHINE
Dwight L. Bollefer, 1806 Riverside Ave., Minneapolis 4, Minn.
Filed Sept. 24, 1959, Ser. No. 842,111
6 Claims. (Cl. 62—347)



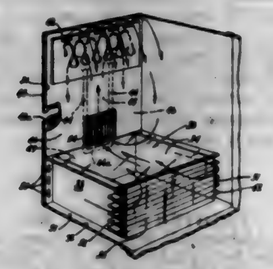
1. In a machine for making ice blocks, a row of inverted freezing cells having substantially closed top walls and open bottoms, refrigeration apparatus including an evaporator for refrigerating the wall surfaces of said cells to cool liquid received therein, a spray head having an upwardly directed discharge aperture in underlying spaced relation to said row of cells, pump means for forcing liquid upwardly through said spray head aperture, means mounting said head to direct said liquid through said aperture in a spray toward said row of cells in a direction generally perpendicular to the plane of the row of cells and for movements of said head longitudinally of said row of cells, means for imparting said movements to the spray head, whereby said spray head makes a plurality of passes under all of said freezing cells in succession, each succeeding pass of said spray head under a given cell being made prior to total congealing of the liquid sprayed thereinto during a preceding pass of the spray head thereunder, and means for harvesting the ice blocks when said freezing cells are filled.

2,978,883
APPARATUS FOR CONVEYING PRODUCTS OVER A FROZEN SURFACE
Jan Evert Jessee, Oss, Netherlands, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Aug. 22, 1956, Ser. No. 605,587
Claims priority, application Netherlands Aug. 31, 1955
5 Claims. (Cl. 62—381)



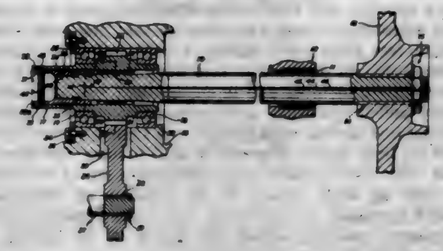
5. Apparatus for conveying perishable articles while preserving them from deterioration which comprises a trough for containing a liquid to be frozen, means for freezing a liquid in said trough, a scraper-conveyor mounted above the trough and having downwardly depending blades pivotally mounted and spring loaded so as to press down on the surface of the frozen liquid while sweeping the articles along said surface.

2,978,884
REFRIGERATION APPARATUS
Nicholas J. D'Alessandro, Walter G. Mocey, and Elmer W. Zearfoss, Jr., Philadelphia, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 9, 1959, Ser. No. 838,953
10 Claims. (Cl. 62—413)



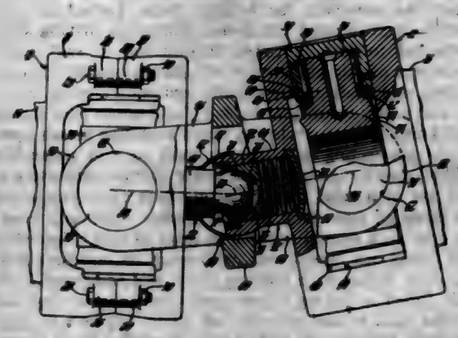
10. In a refrigerator including a compartment having a substantially sealed chamber disposed in a lower portion thereof, a duct system disposed in fluid flow communication with said compartment, said duct system including first conduit means through which air moves upwardly, second conduit means communicating with said first conduit means and through which air moves downwardly, third conduit means communicating with a portion of said second conduit means and disposed adjacent, and in high heat exchange relation with, said sealed chamber, a cooling element disposed in heat exchange relation with said second conduit means, and air moving means disposed and adapted to withdraw air from the compartment and into said first conduit means for cyclic serial flow through said first, second, and third conduit means.

2,978,885
ROTARY OUTPUT ASSEMBLIES
Roger Alan Davison, Milton, Ontario, Canada, assignor to Orenda Engines Limited, Malton, Ontario, Canada, a corporation
Filed Jan. 18, 1960, Ser. No. 3,071
7 Claims. (Cl. 64—1)



1. An assembly for delivery a rotary input to a gear wheel from an incompletely balanced rotary member subject to very high rotational speeds, the assembly comprising a shaft secured to said member, an outer sleeve surrounding an end portion of the shaft, a gear pinion secured to the exterior of the sleeve intermediate the ends thereof to mesh with said gear wheel, a pair of fixed, spaced apart bearings embracing the sleeve and rotatably supporting it at positions at either side of said pinion, internal splines extending axially of a portion of the bore of the outer sleeve, an inner sleeve received within another portion of the bore of the outer sleeve, internal screw threads within the bore of the inner sleeve, external screw threads and external splines on the shaft to mate with the internal screw threads and internal splines respectively, the mating threads and splines being dimensioned so that at the splines and at the threads the shaft has limited freedom of movement relative to the sleeves in all radial directions, releasable means operable to prevent relative rotation between the inner and outer sleeves, abutment means to locate the inner sleeve longitudinally relative to the outer sleeve, a narrow internal bearing surface on one of said sleeves and located between said screw threads and said splines, and an external bearing surface on the shaft to mate with said internal bearing surface thus to provide a fulcrum for oscillations of the shaft.

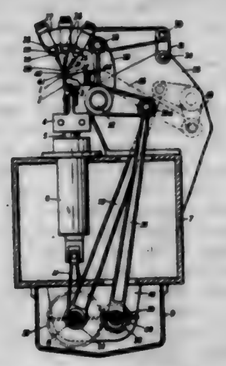
2,978,886
UNIVERSAL JOINT
Donald P. Marquis, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 29, 1958, Ser. No. 783,536
3 Claims. (Cl. 64—21)



1. A universal joint comprising first and second yoke members, a trunnion and bearing assembly rotatably se-

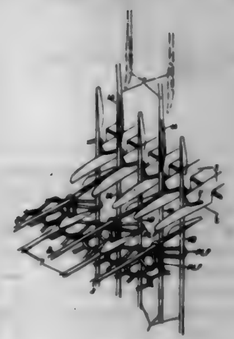
cured in each of said yoke members, a connecting member secured to said trunnion and bearing assemblies to transmit torque from one of said yoke members to the other of said yoke members, a spherically ended extension extending from said first yoke member toward said second yoke member and axially disposed with respect thereto, a tubular extension formed from said second yoke member and axially extending therefrom to enclose said spherically ended extension on said first yoke member, a two piece block having a cavity of toric contour formed therein disposed in said tubular extension of said second yoke member and in engagement with said spherically ended extension, said spherically ended extension having line contact engagement with said two piece block, and resilient means disposed in said tubular extension to bias said block against said spherically ended extension to take up wear caused by the rotation of spherically ended extension in said block, said yoke members being angularly rotatable about the center of the sphere on said spherically ended extension.

2,978,887
WARP KNITTING MACHINERY
Alfan William Henry Porter, Burton-on-Trent, England, assignor to Hobourn-F.N.F. Limited
Filed Aug. 6, 1956, Ser. No. 602,388
Claims priority, application Great Britain Aug. 24, 1955
6 Claims. (Cl. 66—86)



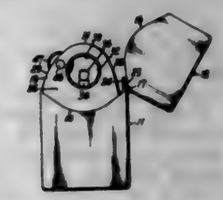
1. A flat warp knitting machine of the type comprising a row of reciprocable needles each having a hook and a shank, means for periodically closing the open side of each hook, warp thread guide members for laying warp threads in the hooks of said needles and means for cyclically displacing said guide members lengthwise along said row of needles to perform a lapping movement and at least one shogging movement in each knitting cycle, sinker-like members for holding loops knitted by said needles down around the shanks thereof, a driving shaft connected to turn in timed relationship to said cyclic movement of said guide members, means operatively connecting said shaft to said needles and hook closing means for alternately opening and closing said hooks once during each knitting cycle, cyclically timed actuating means operatively connecting said driving shaft to said sinker-like holding down members to oscillate them transversely to said row of needles from a first position extending across the plane of movement of said needles while said hooks are open to a second position in front of said plane while said hooks are closed and back again to said first position once during each knitting cycle, and additional cyclically timed actuating means operatively connecting said driving shaft to said warp thread guide members to oscillate them transversely to said row of needles from a position in front of the plane of movement thereof to a position to the rear of said plane and back again to the front of said plane twice during each knitting cycle, said machine being characterized by the fact that said cyclically timed actuating means keep said warp thread guide members in front of said needles and said sinker-like holding down members near their first position while said lapping movement takes place and also when one shogging movement is initiated and while the major portion of said last mentioned movement takes place.

2,978,888
PRODUCTION OF GARMENTS ON STRAIGHT BAR KNITTING MACHINES
Neville Cuthbert Ladbrooke, Leicester, England, assignor to William Cotton Limited, Loughborough, England
Filed Oct. 30, 1958, Ser. No. 770,866
Claims priority, application Great Britain Nov. 5, 1957
13 Claims. (Cl. 66—88)



1. A straight bar knitting machine having means for effecting changes between rib and non-rib loop formations in fabric during the latter's production on a straight bar knitting machine, comprising a first bed of simultaneously operable needles and means for causing needles of this bed to knit one facial set of loops of a rib formation, a second bed of simultaneously operable needles and means for causing the needles of this second bed to knit the second facial set of loops of said rib formation, means for positively effecting relative positioning between new yarn and old loops on the needles of said second bed to ensure satisfactory drawing of this new yarn through these old loops, and means for transferring said second facial set of rib loops from the needles of said second bed to needles of said first bed, which latter loops consequently provide jointly with loops already on needles of said one bed a non-rib loop formation.

2,978,889
LIGHTER STRUCTURE
Frank W. Atchley, 821 Lois Ave., Sunnyvale, Calif.
Filed Dec. 19, 1957, Ser. No. 703,883
10 Claims. (Cl. 67—7.1)



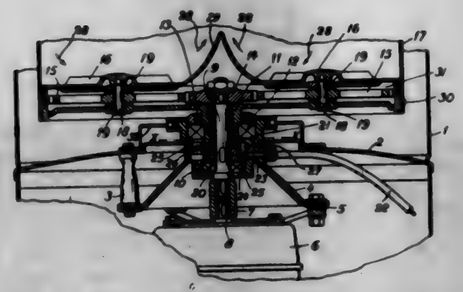
1. A pipe lighter comprising a relatively thin compact casing including a lower portion and a cover hinged thereto, a pipe bowl cover extending upwardly from said lower portion and adapted to fit over a pipe bowl, a venturi tube including a throat portion cooperating with said bowl cover, a wick extending into the throat portion of said venturi tube, and means for igniting the wick, said bowl cover serving to cause the air to be drawn downwardly through the venturi tube to provide an efficient lighting action.

2,978,890
COATED PHOTOFLASH LAMP
Vincent Chiola, Towanda, and William C. Fink, Williamsport, Pa., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 28, 1958, Ser. No. 711,622
2 Claims. (Cl. 67—31)



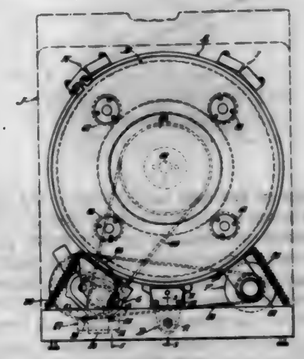
1. A photoflash lamp comprising a sealed glass envelope enclosing a combustible flash material, a combustion supporting material and means for igniting the flash material, said envelope having on its outer surface a protective lacquer coating comprising the partially cured residue of drying at temperatures not exceeding 100° C. a film of a solution containing cellulose acetate and N,N',N'' tris (methoxy methyl) melamine.

2,978,891
WASHING AND DRYING MACHINE
Christian Oskar Rasmussen, 4 Edlevej, Hellerup, Denmark
Filed Sept. 15, 1958, Ser. No. 761,849
Claims priority, application Denmark Sept. 25, 1957
6 Claims. (Cl. 68—23)



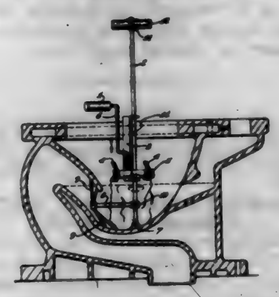
1. In a washing and extracting machine, a vertical hollow rotatable shaft, a rotatable spinning basket secured to said hollow shaft for rotation therewith, said spinning basket being provided, eccentrically of said hollow shaft, with a plurality of shafts parallel to said hollow shaft and extending into said spinning basket, an agitating impeller keyed to each said plurality of shafts, a drive shaft extending axially through said hollow shaft, drive means on said drive shaft, and driven means on each said plurality of shafts cooperating with said drive means whereby said agitating impellers may be positively rotated, and means to selectively drivingly couple or uncouple said drive shaft to said hollow shaft, whereby said spinning basket may be rotated to remove water from the contents of the spinning basket.

2,978,892
SUSPENSION SYSTEM FOR AN AUTOMATIC WASHER
Curtis E. Behrens, Muskegon, and Robert D. Shapter, North Muskegon, Mich., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 14, 1958, Ser. No. 728,321
7 Claims. (Cl. 68—24)



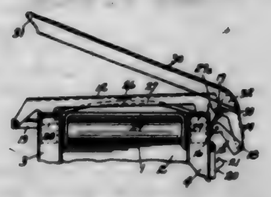
1. In a clothes washing machine, adapted to have a washing period and an extraction period, a tub, a basket journalled in said tub for rotation about a horizontal axis, a base structure, means for rotating said basket at a low speed during the washing period and at a high speed during the extraction period, means for solely supporting said tub and basket on said base structure, said means comprising pivot means on the bottom of said tub beneath the center of said tub for attaching said tub to the base structure, and means on opposite sides of said pivot and attached to said tub and said base structure to resist deflections of said tub in a horizontal direction.

2,978,893
DIAPER RINSER
Walter Harris, 149 S. Kenmore Ave., Apt. 9, Los Angeles, Calif.
Filed May 14, 1959, Ser. No. 813,313
3 Claims. (Cl. 68—213)



1. A diaper rinser for use in a toilet bowl, including, a first rod to be vertically positioned in the toilet bowl, a handle supported at one end of said first rod, a second rod pivoted on said first rod adjacent the other end of said first rod for partial insertion into the drain opening of the toilet bowl, a number of flexible prongs attached to an end of said second rod for insertion into the drain opening to screen the drain opening and block the passage of a diaper when the toilet bowl is flushed, and a movable member slidingly and rotatably mounted on said first rod and including at least one clamp supporting the diaper to be rinsed.

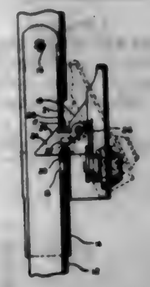
2,978,894
WRINGER
Raymond G. Miller and James William Brandt, Erie, Pa., assignors to Lovell Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1959, Ser. No. 789,618
1 Claim. (Cl. 68—263)



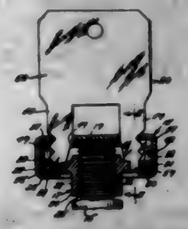
In a wringer of the type having upper and lower rolls carried in a bottom frame, said bottom frame having vertical side members with pockets at their upper ends, a roll pressure bar extending over the upper roll, said roll pressure bar having tabs projecting from the bottom thereof which enter the pockets at the upper ends of the vertical side members of the lower frame, said roll pressure bar having a projection at one end on its lower face pivotally attached to a bracket extending outwardly from the top of the bottom frame, the other end of the roll pressure bar likewise having a projection extending downwardly from the end of the pressure bar and being pivotally connected to one end of a first link of a toggle, the other end of the first link being pivotally connected to one end of a second link, the other end of said second link being pivotally connected to a bracket extending outwardly from the other side of the lower frame, and a reset lever of channel shape completely overlying the upper roll and the projections extending on each side of the roll pressure bar, said reset lever having a bracket at one end on its under side pivotally connetced to the roll pressure bar and to said one end of said first link of the toggle mechanism about a common pivot, the common pivot connection for the reset lever and the roll pressure bar and the first link being outwardly offset from a plane passing through the pivotal connection between the first and second links and the pivotal connection of the other end of the second link to the bracket on the lower frame member, whereby in a closed position the toggle links are unstable, and a pressure release mechanism carried on the outer side of the upright of the lower frame engaging the end of the second lever adjacent the pivotal connection to the first lever to release the unstable toggle links.

2,978,895
LOCKING LATCH ASSEMBLY
Harold Heisler, Lombard, Ill., assignor to Midwest Fielding Products Mfg. Corp., Roselle, Ill., a corporation of Illinois
Filed Apr. 2, 1958, Ser. No. 725,836
8 Claims. (Cl. 70—57)

8. In a locking latch structure for use in selectively constraining relative movement of a pair of pivotally connected members, a first member having a base wall provided with an opening therein, a second member having a base wall provided with an opening therein and being pivotally connected to said first member for movement between a closed position wherein said base walls are in adjacency and an open position wherein said base walls are separated, said openings being in communication with each other when said members are closed, a pivot pin carried by said first member along the opening therein, a latch finger pivotally supported upon said pin and being extemible through said openings and having a recess adapted to seat a portion of the base wall of said second member therein, means biasing said latch finger toward such engagement with said second member, an actuator pivotally supported by said pin, and a lock carried by said actuator and having a lug engageable with said latch finger when said lock is in its unlocked condition to pivot the latch finger in one direction into a position of escapement from said second member when the actuator is rotated in the same direction about said pin, said lug being movable into a position of disengagement with said latch finger when said lock is operated to the lock position thereof so that when said actuator is pivoted, said lug is ineffective to pivot said latch finger.



2,978,896
COMBINATION HUB CAP AND AIR VALVE LOCK
John V. Saccone, Hasbrouck Heights, N.J., assignor, by mesne assignments, to Gemex Precision Metals, Inc., Union, N.J., a corporation of Delaware
Filed Aug. 21, 1958, Ser. No. 756,486
2 Claims. (Cl. 70—231)



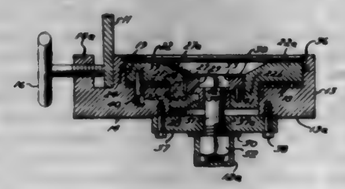
1. In an air valve closure device for use in conjunction with a tire valve stem, said closure including a valve stem engaging element, a flange member integral with and extending radially from said element in a plane substantially normal to said valve stem, the flange member having a plurality of bores extending therethrough, and an outer shield element freely rotatable with respect to said valve stem engaging element and having a plurality of alignable openings overlying said bores and a key element selectively engageable with said plurality of openings for preventing relative rotational movement between said valve stem engaging element and said outer shield element, the improvement comprising: resilient gasket means disposed between said valve stem engaging element and said outer shield element for resiliently closing the openings in said outer shield element, said gasket means having resiliently expandable slits underlying the openings in said outer shield element, said slits having straight parallel side walls normally contiguous along their entire lengths when said key element is disengaged therefrom, and surrounding said key element when the latter is in engagement with said outer shield element; said valve stem engaging element having a threaded bore extending therethrough, said slits in said gasket means being laterally displaced with respect to the principal axis of said valve stem engaging element, whereby said gasket means may form an inner seal upon the end portion of said valve stem.

2,978,897
KEY HOLDER
Elio Capitani, 33 Jefferson St., Waukegan, Ill.
Filed Aug. 26, 1957, Ser. No. 680,234
3 Claims. (Cl. 70—456)



2. In a key holder, mounting means including a plate, a series of snap fastener elements on said plate, a series of links each forming a slide means, a complemental snap fastener element on each of said links for engagement with an element on said plate, a loop interlocked with each said link for pivotal and slidable movement relatively thereto, said slidable movement affording positioning of the key within the holder or at a desired location outside of the holder selectively, and key holding means pivotally connected with each said loop.

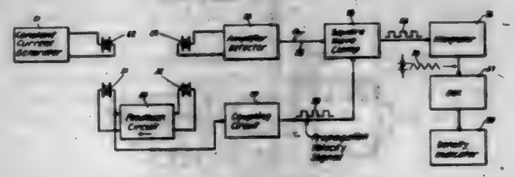
2,978,898
WRENCH CALIBRATOR AND BOLT TESTER
Richard H. Skidmore, Lyndhurst, Ohio, assignor to John W. Wilhelm, Cleveland, Ohio
Filed Dec. 21, 1955, Ser. No. 554,561
9 Claims. (Cl. 73—1)



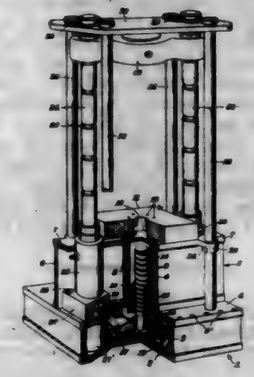
1. A wrench calibrator and bolt tester comprising a body having a recess therein, a unitary piston having a head snugly fitting in said recess for slight reciprocation therein, sealing means between the periphery of said piston and the walls of said recess, there being normally a chamber provided between said piston and the bottom of said recess to receive and hold a liquid, said piston floating directly on said liquid, there being concentric openings centrally through said piston and through the bottom of said recess, sealing means preventing leakage of liquid out said recess bottom opening, means for securing a liquid pressure gauge in communication with said chamber, and separable means for holding against turning relative to said body, the head of a bolt passing through said opening.

2,978,899
ULTRASONIC SYSTEM FOR MEASURING THE PHYSICAL CHARACTERISTICS OF A GAS
Jack Kritz, 60—02C 192nd St., Flushing, N.Y.
Filed Feb. 10, 1956, Ser. No. 564,751
15 Claims. (Cl. 73—24)

1. A system for measuring a physical characteristic of a gas comprising means for producing pressure waves in said gas having an amplitude proportional to the acoustic impedance thereof, said means including a first transducer in acoustic contact with the gas and means for energizing said transducer with constant current oscillations having a frequency equal to a resonant frequency of the transducer, a second transducer for receiving the pressure waves transmitted through the gas from the first transducer and producing electrical oscillations proportional to the amplitude of said waves, and means connected to said second transducer for measuring the amplitude of the oscillations produced by the second transducer.

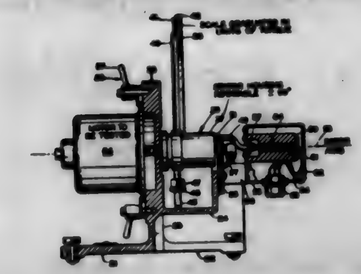


2,978,900
MATERIALS TESTING MACHINE
Donald E. Lee, Springfield, Pa., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania
Filed Apr. 16, 1956, Ser. No. 578,324
5 Claims. (Cl. 73—93)



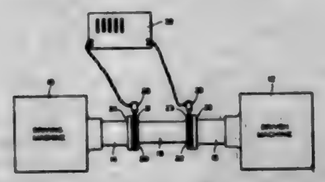
1. A materials testing machine comprising, in combination, a base, a vertical guide cylinder supported thereby, a hollow ram disposed within and slidably guided by said cylinder for vertical movement therein, a specimen loading platen mounted on the upper end of the ram, screw and nut elements, said screw extending within the hollow ram in telescopic relation thereto, one of said elements being operatively connected to the ram to move axially therewith during loading of a specimen, means for supporting the other of said elements against axial movement, means for effecting relative rotation between said nut and screw elements thereby to raise and lower said ram and the loading platen thereon, a load sensitive frame having a specimen engaging crosshead disposed in opposed relation to the loading platen and means including columns rigidly supported by said base and extending upwardly therefrom to support said crosshead, the platen and crosshead having provision for loading a specimen in either tension or compression, and means responsive to either tension or compression specimen load transmitted through said columns and constituting a rigid portion thereof.

2,978,901
DIRECT READING DYNAMOMETER
Alfred A. Sundberg, Dumont, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,873
1 Claim. (Cl. 73—136)



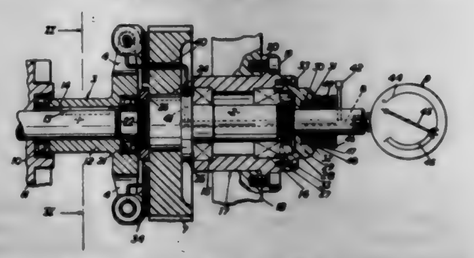
A torque indicator for a device to be tested, comprising a motor including a casing, a rotor, means rotatably supporting the rotor in the casing, other means rotatably supporting the casing, electromagnetic means carried by the casing and cooperating with the rotor to drive the same, and said rotor including coupling means to connect the rotor to the device to be tested, an indicator arm projecting from said casing, means including pendulous weight means projecting from the casing for yieldingly biasing said casing to a null position, and said said indicator arm adapted to be moved by said motor a distance corresponding to the torque of said device to be tested, electrical conductor means associated with said motor to supply electrical energy to said electromagnetic means, said electrical means including flexible electrical conductors external to said motor and connected therewith, guide means for said conductors, one end of said guide means being secured to said casing and an opposite end portion of said guide means extending longitudinally in axial alignment with the axis of the rotor, slip rings carried by said end portion of the guide means and connected to said electrical conductors, and slidable brushes cooperating with said slip rings so as to connect said electrical conductors to a source of electrical energy.

2,978,902
TORQUE MEASUREMENT APPARATUS
Howard B. Felder, Berrien Springs, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Sept. 5, 1956, Ser. No. 608,146
7 Claims. (Cl. 73—136)



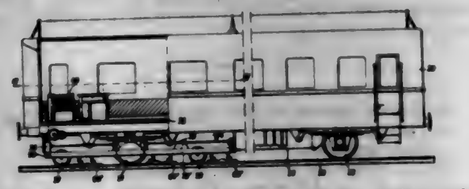
1. A torque measurement apparatus comprising an elongated torsionally resilient rotatable member arranged to be connected between a driving and a driven machine, two circular indicia carrying portions located in coaxial spaced-apart relation on the said resilient member, means for deriving signals from the said indicia carrying portions, and indicia counting means responsive to said signals for determining the difference between the quantity of indicia on one said portion passing a first reference point adjacent thereto and the quantity of indicia on the other said portion passing a second reference point adjacent thereto, for determining the torsional displacement of one of the said indicia carrying portions with respect to the other.

2,978,903
TORQUE TRANSMISSION COUPLING
Donald Cameron Nicholas, Ipswich, England, assignor to B.X. Plastics Limited, Highams Park, London, England, a British company
Filed Mar. 20, 1957, Ser. No. 647,431
Claims priority, application Great Britain Mar. 23, 1956
2 Claims. (Cl. 73—136)



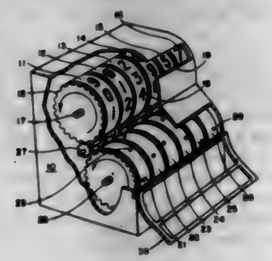
1. A torque transmission coupling comprising two coaxial shafts, one of said shafts having at least one engaging means offset from its axis and comprising means defining an expansible chamber having a movable wall, the other shaft having a corresponding number of abutments disposed for engaging said movable walls to couple the shafts together whereby one shaft may drive the other, means defining fluid-conducting passages communicating with each of said chambers and charged with liquid under pressure, each of said movable walls being arranged to transmit force arising from contact between it and its respective abutment to the liquid within said chamber and passages, a pressure gauge fixedly mounted on said one shaft for rotation therewith and in communication with said passages, said gauge including electrical switch means, said switch means being responsive to liquid pressure applied to said gauge to operate at predetermined maximum and minimum pressures of the liquid in said chambers corresponding respectively to the maximum desired torque to be transmitted by the coupling and to a pressure above atmospheric pressure but below that at which the system is initially pressurized, and sliding contact means establishing electrical connections from said switch means to means remote from said one shaft serving upon operation of said switch means at said minimum pressure to disable the drive to the coupling and at said maximum pressure to prevent any further increase in the torque transmitted.

2,978,904
TRACK INSPECTION CAR
Oszkar Berczai, Budapest, Hungary, assignor to Licencia Találmányokat Értékesito Vállalat, Budapest, Hungary
Filed Sept. 18, 1956, Ser. No. 610,521
Claims priority, application Hungary Sept. 21, 1955
7 Claims. (Cl. 73—146)



1. A track-recording vehicle for measuring and recording data which determine the state of the track including the relative level of the two rails, comprising a running gear and a vehicle body, recording equipment in said vehicle body, a measuring carriage mounted on running wheels beneath said vehicle body, means connecting said vehicle body and said measuring carriage for movement of the latter from the former, said measuring carriage having a frame subdivided into two relatively angularly deflectable component members pivoted on a common axis and mounted unsprung on the carriage wheels, means actuated by the component members for transmitting their relative angular deflections to said recording equipment, said last-named means including a cable attached at one end to the deflectable end of one component member of the frame, taken over the deflectable end of the other component member of the frame, and then around the common pivot axis of the two component members of the frame, and then to the recording equipment to actuate the same to record the relative level of the two rails, the length of the cable between the measuring carriage and the vehicle body being embodied in a Bowden cable, means for elastically suspending the other end of the cable from the vehicle body, elastically loaded slipper elements on said measuring carriage, and means to transmit measurements determined by said slipper elements to said recording equipment.

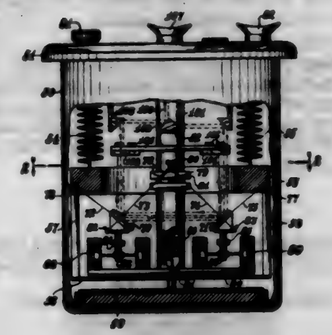
2,978,905
CODED MESSAGE ERROR INDICATING DEVICE
Alan W. Baldwin, Oxon Hill, Md.
(4406 Panorama Drive SE., Washington 21, D.C.)
Filed July 15, 1957, Ser. No. 672,100
2 Claims. (Cl. 73—156)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A device for indicating errors in the transfer of printed and punch coded data which comprises a plurality of equally spaced dial cylinders having digits from zero through nine about the outer surface thereof for setting up the data to be transferred, a plurality of corresponding similar equally spaced repeater cylinders in visual proximity of said dial cylinders and operable by the rotation thereof, each of said repeater cylinders having a solid color different from the color of the punch coded data about the outer surface thereof with periodically spaced dots of the same color as said punch coded data, said repeater cylinders adapted to indicate a mismatch between the setting of the digits on said dial cylinder and the punch coded data to be transferred by said dial cylinders.

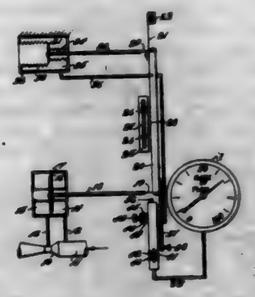
2,978,906
GRAVIMETERS
Fritz Hasick, Berlin-Wilmersdorf, Germany, assignor to Askania-Werke A.G., Berlin-Friedenau, Germany, a corporation of Germany
Filed Apr. 14, 1958, Ser. No. 728,438
Claims priority, application Germany Apr. 2, 1958
2 Claims. (Cl. 73—382)

1. In a gravimeter, a normally stationary but at least minutely tiltable structure; a gravimeter spring having one end secured to said structure; a gravimeter mass supported by the other end of said spring for vertical displacement upon a change of the force of gravity acting on said mass, the spring and mass being subject to other displacements upon any tilting of said structure; and a mechanism for indicating said vertical displacements without disturbance by said other displacements, said mechanism comprising: first and second pendulum bodies, each having at least a pair of spaced suspension points, first and second suspension systems having at least two flexible filaments each, at least one of the filaments of each system being secured to and depending from said structure, at least one of the filaments depending from said mass, the lower ends of



the filaments of each system being secured to said suspension points of one of said pendulum bodies, the filaments of the first system being dimensioned and oriented generally similarly to the corresponding filaments of the second system, and indicator means jointly responsive to relative displacements of the suspension points of the so suspended pendulum bodies, said indicator means comprising reflector means on each of said pendulum bodies, a reading device on said structure, and means for directing light over a path which includes at least one portion extending from reflector means of one of said pendulum bodies to reflector means of the other pendulum body for reflection into said reading device.

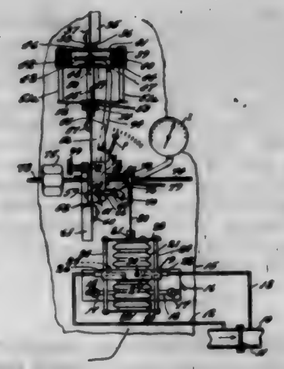
2,978,907
PNEUMATIC MEASURING APPARATUS
Emory Frank Stover, 1224 Lafayette Road, Gladwyne, Pa.
Filed Jan. 25, 1957, Ser. No. 636,360
7 Claims. (Cl. 73—407)



6. Measuring apparatus comprising a body member having a surface portion, said body member having a first discharge orifice terminating at said surface portion, a fluid connection in communication with a source of fluid under pressure connected to said first discharge orifice, a second body member, a device for hingedly

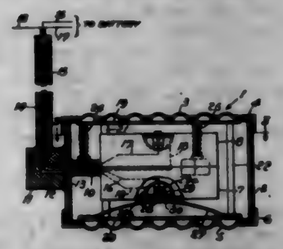
mounting said second body member with respect to said first body member, a member for moving said second body member, said second body member having a surface portion in predetermined closely spaced opposed relation to said first mentioned surface portion, said second body member having an interior fluid space and a first receiving orifice in communication with said space and extending to said second mentioned surface portion for relative movement with respect to said first discharge orifice and for delivery of pressure fluid from said first discharge orifice, a pressure take off connection in communication with said space, a block adjustably mounted on said first body member and having a surface portion coplanar with said first surface portion, and fluid delivery connections from said space including an additional fluid delivery orifice in said second body member terminating at its surface portion and an additional fluid receiving orifice in said block and terminating at its surface portion for delivery of pressure fluid, the pressure delivered through said additional fluid receiving orifice being proportional to the square of the displacement of said second body member.

2,978,908
PNEUMATIC MEASURING APPARATUS
Emory Frank Stover, 1224 Lafayette Road, Gladwyne, Pa.
Filed Jan. 15, 1958, Ser. No. 709,012
8 Claims. (Cl. 73—407)



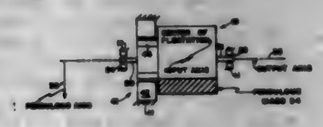
1. Measuring apparatus comprising a support, a control lever, a resilient hinge connection between said control lever and said support, a rod extending perpendicularly from said control lever, means connected to said rod for applying a variable force on said control lever with a constant lever arm about said support, fluid pressure responsive means having a resilient hinge connection to said support and a resilient hinge connection to said control lever, said hinge connections being disposed for bending in a common plane, said fluid pressure responsive means applying a force on said control lever at a predetermined location in a direction substantially lengthwise of said control lever with a moment arm about said support increasing linearly with the motion of said control lever and in opposition to the force applied by said first force applying means, and means for determining the force applied by said fluid pressure responsive means as a linear function of the motion of said lever comprising a device carried by said control lever and having an exterior surface portion with an orifice terminating at said surface portion, and a fixedly mounted member on said support having an exterior surface portion in closely spaced relation to said first mentioned surface portion with an orifice terminating at said second mentioned surface portion and capable of delivering fluid pressures at or below atmospheric zero, a fluid pressure supply connection in communication with one of said orifices for the delivery of fluid therethrough, and a fluid delivery connection in communication with the other of said orifices and said fluid pressure responsive means for delivery thereto of pressure fluid picked up by said other orifice from said one orifice.

2,978,909
DENSITY SENSING DEVICE
Stanford B. Silverschotz, New York, N.Y., and Eleanor Jorow, Fort Lee, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Feb. 11, 1958, Ser. No. 714,566
5 Claims. (Cl. 73—438)



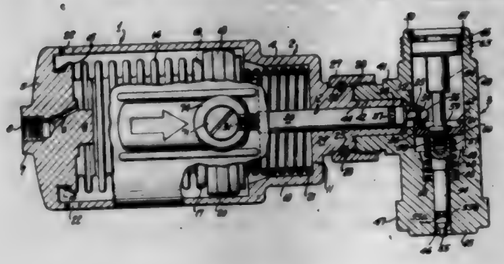
1. A device for determining changes in the density of a liquid comprising a hollow body closed on the top and bottom ends by diaphragms, means coupling said diaphragms together for movement of said diaphragms in unison, a microphone having a pressure responsive element, means disposing said microphone within said body, an actuating member movable in unison with the motion of said bottom diaphragm and disposed to contact the pressure responsive element of said microphone, whereby when pressure is applied to said top and bottom diaphragms by immersion of said body within said liquid the differential pressure variations therebetween caused by density changes in said liquid will move said actuating member producing varying signals proportional to said differential pressure variations.

2,978,910
INERTIAL INSTRUMENTS
Vernon H. Aske, Hopkins, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Apr. 30, 1958, Ser. No. 732,077
15 Claims. (Cl. 73—515)



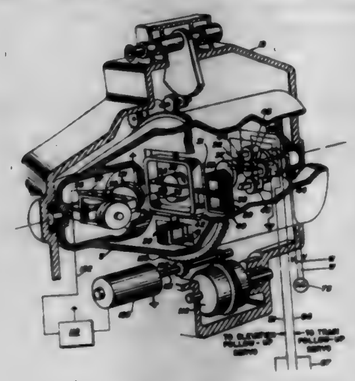
8. In a floated instrument: a housing; a gimbal member positioned in said housing; pivot means and bearing means connected to said housing and said gimbal member for rotatably supporting said gimbal member for rotation about an output axis relative to said housing, said pivot means and said bearing means having a transverse clearance therebetween; fluid means in said housing surrounding said gimbal member; and means for oscillating said gimbal member about an axis perpendicular to said output axis, said oscillating means including coacting means on said housing and on said gimbal member.

2,978,911
PRESSURE RELAYING DEVICE
Walter M. Haessler, Chatham, N.J., assignor to The Fyr-Fyter Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 21, 1957, Ser. No. 679,359
5 Claims. (Cl. 74—2)



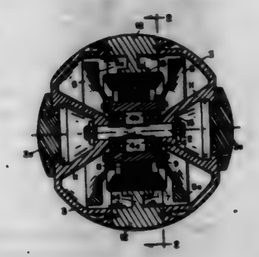
5. A latching mechanism for use with a pressure relaying device, the latching mechanism comprising a housing having a passageway therethrough, a boss on the housing, the boss having a passageway therethrough, a latch rod slideably received in the boss, a latch head, at one end of the latch rod, the inner surface of the head shaped as a portion of a spherical surface, a trigger rod slideably received in the housing passageway, a cup shaped trigger member carried by the trigger rod, and a spring urging the trigger member into releasable engagement with the latch head, the trigger member surface in engagement with the latch head surface also shaped as a portion of a spherical surface and conforming to the adjacent latch head surface.

2,978,912
GYROSCOPE ANTI-TUMBLING APPARATUS
Nathaniel B. Nichols, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 15, 1949, Ser. No. 99,265
7 Claims. (Cl. 74—5.2)



1. Anti-tumbling apparatus of the character disclosed comprising, in combination, means including radar for obtaining an A.-C. error signal containing two components, means including a reference generator operatively connected to said radar for obtaining an A.-C. reference voltage, phase discriminator means having both said signal and voltage applied thereto and constructed and arranged to provide a D.-C. output signal substantially proportional to the magnitude of one of said components, D.-C. amplifier means including a level setting device for said D.-C. signal, torque motor means energized from said amplifier means to produce a follow-up rate, a precessable gyroscope operatively connected to said torque motor means and adapted to be precessed upon the energization of said torque motor means, transformer means operatively coupled to said gyroscope and responsive to the amount the rate of precession thereof differs from the follow-up rate, the winding of the transformer means coupled to a switching circuit means, and said switching circuit means having the output thereof coupled to said amplifying means, said switching means being constructed and arranged to selectively switch conduction on the output thereof in accordance with the direction of precession to limit the torque of said torque motor means and hence limit the rate of precession of said gyroscope.

2,978,913
INTERNAL GIMBAL GYROSCOPE
Darwin L. Freebairn, Jr., Whittier, and Joseph S. Acterman, Long Beach, Calif., assignors to North American Aviation, Inc.
Filed Sept. 7, 1956, Ser. No. 608,509
7 Claims. (Cl. 74—5.7)

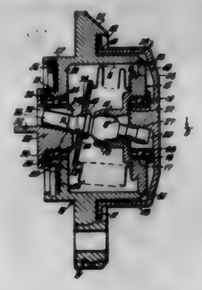


1. A gyroscope comprising a central shaft, a rotor bilaterally symmetrical about a plane normal to the axis of rotation; said rotor mounted for rotation on said shaft; said rotor having a centrally located electrical core, a gimbal having an outer ring, an inner ring and a web between and substantially at right angles to said rings, a motor stator secured on the inner periphery of said inner ring, said rotor core being surrounded by said motor stator; spherical casing means encasing said shaft, rotor and stator; said gimbal being mounted interiorly of said casing means, said casing means having inwardly directed truncated cones connected to and supporting said shaft, said rotor having bifurcated portions extending radially outward from said core, the periphery of said bifurcated portions having annular masses extending to a portion outside of said stator.

2,978,914
BALL BEARING SEALED ROTATION TRANSMISSION DEVICE
Stanley J. Gut, Packanack Lake, N.J., assignor to General Precision, Inc., a corporation of Delaware
Filed May 1, 1958, Ser. No. 732,377
4 Claims. (Cl. 74—18.1)

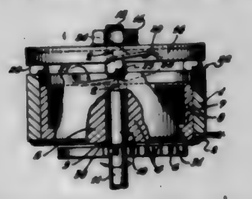
1. A sealed rotation transmission coupling for externally controlling a rotative part within a casing; comprising a housing having an integral substantially circular end wall adjacent one end thereof, the end of the housing opposite the end wall having an open tubular section integral therewith, a seal member of substantially circular contour fixedly attached to the open tubular end of the housing, said seal member having an integral extension projecting into the housing, with a spherical segmental seat in the interior of the extension, a nutatory shaft having a spherical segmental section intermediate its ends supported by the spherical segmental seat, a first antifriction bearing fitted to the end wall of the housing, a

second anti-friction bearing spacedly located relative to and axially aligned with the first anti-friction bearing, supported by the seal member, said anti-friction bearings being co-axial with the housing, a first substantially cylindrical member having an angularly located cavity therein for receiving and supporting one end of the nutatory shaft supported by the first anti-friction bearing, a second cylindrical member, co-axial with the first cylindrical member, supporting the opposite end of the central shaft, supported by the second anti-friction bearing, a flexible bellows surrounding the nutatory shaft, a circular member attached to the central shaft beyond the spherical segmental pivot section thereof, fixedly attached and sealed to one end of the bellows, the seal member having a substantially circular section thereof extending into the housing, the outer circumference of the circular section of the seal member being of arcuate cross-sectional contour, the adjacent end of the bellow being spun around



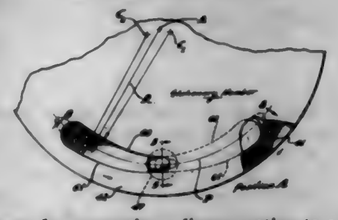
the outer circumference of the circular section of the seal member and heat-sealed thereto to seal the end of the bellows, opposite the end attached to the circular member, the second cylindrical member having manually controllable means fixedly attached thereto, operative to rotate the nutatory shaft, the first cylindrical member having means fixedly attached thereto, operative to engage an externally mounted device for controlling the rotation thereof, coordinated with the rotation of the manually controllable means, the manually controllable means integral with the outer end of the second cylindrical member consisting of a cap of substantially circular cross-sectional contour, said cap having a tubular section surrounding the outer tubular end of the housing, to support and guide the cap, the circular member attached to the nutatory shaft being a substantially circular disc, the adjacent end of the bellows being spun around the outer circumference of the circular disc, and heat sealed to the circular disc.

2,978,915
ROTARY ACTUATOR
Herbert E. Metcalf, P.O. Box 35, Malibu, Calif.; Carol R. Metcalf, administratrix of said Herbert E. Metcalf, deceased
Filed Mar. 25, 1957, Ser. No. 648,139
8 Claims. (Cl. 74—89)



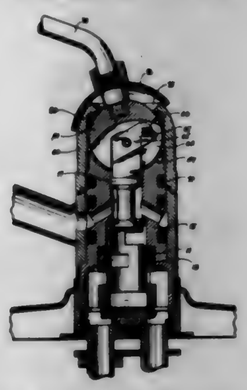
1. A rotary actuator comprising a pair of spaced concentric cylinders, means defining a plurality of pairs of opposed substantially identical parallel edged slots in the walls of said cylinders, said slots having both an axial and circumferential extent, a plurality of balls positioned between said cylinders, and a ball entering each slot of an opposed slot pair and bearing solely on the edges of said slots whereby when one of said members is axially moved with respect to the other, relative rotary movement will also occur.

2,978,916
MOTION CONVERTER
Herbert E. Metcalf, P.O. Box 35, Malibu, Calif.; Carol R. Metcalf, administratrix of said Herbert E. Metcalf, deceased
Filed Nov. 19, 1956, Ser. No. 623,082
11 Claims. (Cl. 74—99)



1. Means for converting a linear motion to a combined linear and circular motion comprising a pair of members having parallel adjacently spaced surfaces, one of said members being rotatably mounted with respect to the other, a plurality of pairs of opposed arcuate shaped slots in said surfaces of said members, said slots being substantially identical in shape and size and being defined by arcuate, longitudinally divergent slot edges in the planes of said parallel surfaces, each of said slot pairs having a ball positioned therein and in engagement with said edges thereof, said ball having a diameter greater than the greatest width of said slots and greater than the distance between said surfaces whereby said balls bear on at least two opposite edges of said arcuate slots, said slots being formed to clear said balls between said edges thereof, the arcuity and position of said slot edges being such that a motion of said rotatable member toward and away from said other member, will move said rotatable member both linearly and rotationally.

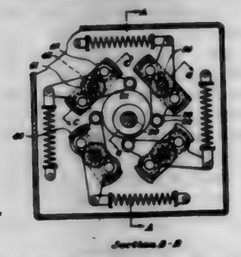
2,978,917
HANDLE AND VALVE STEM CONNECTION FOR MIXING FAUCET
Alfred M. Moen, 377 Woodland Ave., Elyria, Ohio
Filed Oct. 1, 1956, Ser. No. 613,032
2 Claims. (Cl. 74—104)



1. An actuator comprising a housing, a mounting plug joined to and extending from said housing, a stem

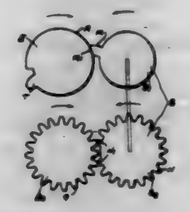
mounted in said plug for rotational and longitudinal movement, the outer end of the stem extending from and above said plug, a plug housing surrounding said plug and enclosing the outer end portion of the stem, a spherical, ball-like bearing contained in and engageable with said plug housing above the plug, a diametrically directed slot in said bearing into which the outer end portion of stem extends, an arm fixed to the stem and contained in said slot and projecting radially from the stem, means at the outer end of said arm pivotably connecting the arm to said bearing at a point radially spaced from the axis of the stem, a semi-spherical seat on the upper end of said plug on which said bearing is adapted to seat, a bearing retaining outer end portion within said plug housing engageable by said bearing, a handle means secured to and extending from said bearing for effecting adjustment thereof and a closure cap secured to said stem spaced from the upper end of said plug housing.

2,978,918
TRANSMISSION
Erwin P. Pollitt, 7515 S. Essex Ave., Chicago 49, Ill.
Filed July 25, 1958, Ser. No. 750,929
17 Claims. (Cl. 74—124)



1. A transmission comprising in combination: a system of input shafts, rotatable at equal speeds, an output shaft, a first set of mechanisms driven by an input shaft adapted to convert uniform input motion into a number of motions proportional to primary cyclic motions which have equal velocity characteristics, equal periods of constant acceleration, and are phase shifted with respect to one another by equal angles in a fixed relationship; a second set of mechanisms driven by an input shaft adapted to convert uniform input motion into the same number of motions proportional to secondary cyclic motions, having the same frequency, velocity, acceleration, and phase shift characteristics as the primary motions, each secondary motion being correlated to a primary motion in such a manner that their periods of equal constant acceleration partly coincide so that the speed differences between these motions, during said periods, are uniform and of equal magnitude, said periods of uniform speed difference between pairs of correlated primary and secondary motions following one another during each cycle and covering sufficiently large portions of a cycle so that uniform speed difference exists during the whole cycle; a third set of mechanisms having, in combination, a first input member driven by the first said set of mechanisms, a second input member driven by the second said set of mechanisms, an output member, and overrunning clutches adapted to transmit motions of said output member to the output shaft, said output member adapted to co-act with the said two input members in such a manner as to perform a motion which is proportional to the difference of the motions of said two input members, so as to have periods of constant speed during a portion of a cycle, the various output members of said third set of mechanisms successively imparting uniform motion pulses to the output shaft such that the output shaft is caused to rotate at uniform speed during the whole cycle.

2,978,919
MECHANICAL SYSTEM FOR THE CONSTRUCTION OF CYBERNETICAL MECHANISMS
Marceau Roger Petit, Clichy, France, assignor, by mesne assignments, to Cyber Société Anonyme, Yverdon, Switzerland
Filed Aug. 6, 1957, Ser. No. 676,608
Claims priority, application Morocco Nov. 22, 1956
16 Claims. (Cl. 74—435)

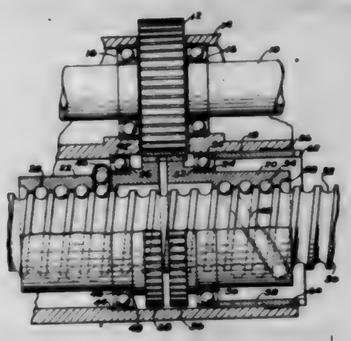


1. A mechanical system for the processing of numerically coded information, comprising a main rotary driving member; at least one rotary controlled element; and at least two independently rotatable rotary controlling elements cooperating with each said rotary controlled element; at least one of said controlling elements carrying a locking means and an excitation means and being capable of being rotated by an external impulse, another of said controlling elements being driven by said main rotary driving member and carrying driving means for rotating said controlled element; said controlled element carrying stopping means cooperating with said locking means of said one controlling element to stop the rotation of said controlled element in a predetermined position of the latter and form a non-homokinetic coupling, the said controlled element also carrying detecting means cooperating with said excitation means at a predetermined position of the rotation of said one controlling element to move said controlled element from said stopped position; said controlled element further carrying means cooperating with the aforesaid driving means for rotating said controlled element in homokinetic movement between successive stopped positions of said controlled element.

2,978,920
MEANS FOR PRELOADING BALL-TYPE SCREW AND NUT ASSEMBLIES
Richard E. Sears, Birmingham, and Walter H. Morris, Rochester, Mich., assignors to Beaver Precision Products, Inc., Clawson, Mich., a corporation of Michigan
Filed Oct. 20, 1958, Ser. No. 768,201
5 Claims. (Cl. 74—441)

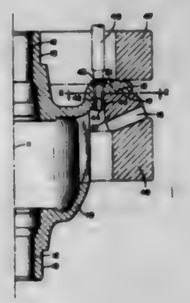
1. In combination, a rotary driving member, a gear fixed on said driving member to rotate therewith, a pair of co-axially aligned gears having teeth meshing with the teeth of the first mentioned gear, a pair of axially aligned nuts fixed one to each of said aligned gears, a shaft extending axially through said aligned nuts, said nuts and shaft each having a helical ball groove thereon of like pitch, a series of balls in each nut interengaging the ball grooves of the nuts with the ball groove on the shaft, a common support for said two nuts, means journalling one of said nuts for rotation on said support in an axially fixed position, means journalling the other nut for rotation on said support and permitting axial movement of said other nut toward and away from said one nut and also permitting relative rotation of the two nuts within the clearance tolerance between said meshing teeth, said balls providing a reversible drive between the nuts and the shaft such that axial movement of the shaft produces rotary movement of said other nut, an annular

sleeve threaded on said support for movement axially of said shaft, and means permitting relatively free rotary movement between and interconnecting the sleeve and said other nut in axial driving relation for moving said other nut axially toward the one nut whereby to preload



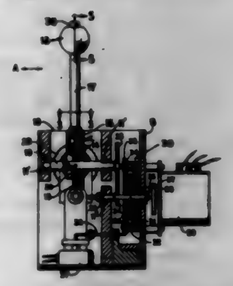
the two portions of the shaft engaged by said nuts in opposite directions and to cause the teeth of said pair of gears to mesh in opposite directions with the teeth of said driving gear and thereby eliminate back-lash between the gears and between the nuts and shaft.

2,978,921
RING GEAR AND DIFFERENTIAL CASE ASSEMBLY
Martin A. Donohoe, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Mar. 5, 1959, Ser. No. 797,519
2 Claims. (Cl. 74—447)



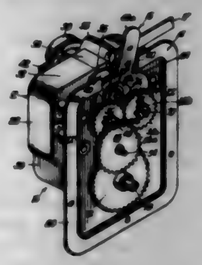
1. An assembly comprising a ring gear and a flanged member constituting a gear hub, said gear having a cylindrical bore and a plane back face seating respectively on a cylindrical surface of said member and on an approximately plane surface of the flange of said member, the bore of the gear and said cylindrical surface having complementary semi-cylindrical recesses whose cylinder axes are parallel to the axis of said bore, and said member having substantially cylindrical openings aligned with and constituting extensions of said complementary recesses, and headed rivets extending through said aligned openings and recesses, each of said rivets having at one end thereof a preformed head abutting the member and having at the opposite end thereof a deformed head of which a portion abuts said gear and another portion abuts said member.

2,978,922
RESOLVER MECHANISMS
Robert H. Peterson, Woodbury Heights, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 25, 1955, Ser. No. 490,701
5 Claims. (Cl. 74—471)



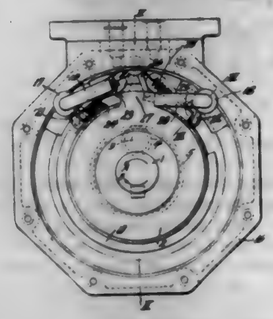
1. A resolver mechanism for providing a plurality of outputs comprising, a housing, first and second mutually perpendicular shafts rotatably supported in said housing, a manually operable hand lever extending through an opening of said housing, a roller type bearing having its outer race secured to said first shaft, a yoke having said hand lever fastened thereto, said yoke having a tubular portion fastened inside the inner race of said roller type bearing, at least one shoe of spring material secured to the inside surface of said tubular portion, a pin extending diametrically through said second shaft, said at least one shoe being in slidable contact with said pin and movable in a direction parallel to the longitudinal axis of said second shaft, and dampening means for dampening the shaft rotation of each said first and second shafts.

2,978,923
BI-DIRECTIONAL TRANSMISSION AND MOTOR SYSTEM
Reuben C. Carlson, Bensenville, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 15, 1959, Ser. No. 806,547
10 Claims. (Cl. 74—472)



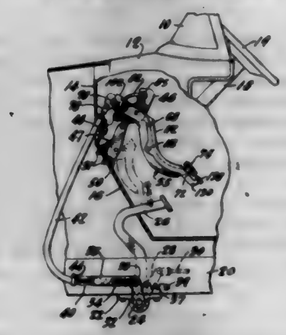
6. A bi-directional motor system comprising a casing, a unidirectional motor means including an output driving means, means responsive to operation of said motor means to move said output driving means from an inoperative position to an operative position, support means pivotally supported from said casing and movable between a first and second operative position, and gearing means partially supported by said support means and including a first and second input gear means and an output means, said first input gear means being in driving engagement with said output driving means when the motor means is operative and the support means is in its first operative position to drive said gearing output means in a first direction and said second input gear means being in driving engagement with said output driving means when the motor means is operative and the support means is in its second operative position to drive said gearing output means in a second direction.

2,978,924
MOVEMENT CONTROL MEANS
Felix Georges, Uccle, Belgium, assignor to Societe Auxiliarie d'Industrie (Sadi) S.P.R.L., Forest, Belgium, a company
Filed May 6, 1958, Ser. No. 733,804
Claims priority, application Belgium May 14, 1957
14 Claims. (Cl. 74—526)



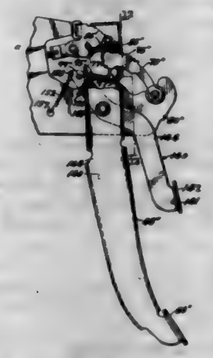
1. A stroke selector, comprising a drive shaft, hub means keyed on the drive shaft, a screw-threaded member entrained in rotation by said drive shaft, a fixed first and an adjustable second stop means, nut means arranged on said screw-threaded member for movement between said first and said second stop means, catch trigger members arranged to be actuated by said nut means, projection means arranged on said hub means for co-operation with said catch trigger members, and actuating means engageable by and movable with said nut means at the opposite extremities of its said movement, said actuating means being connected to said catch trigger members and utilizing the rotational forces on said nut means for moving said catch trigger members into the rotational path of said projection means.

2,978,925
MECHANISM CONTROL
Robert S. Hinsey, Toledo, Ohio, assignor to The Bingham-Herbrand Corporation, Toledo, Ohio, a corporation of Ohio
Filed June 5, 1957, Ser. No. 663,640
7 Claims. (Cl. 74—529)



1. Apparatus of the character disclosed for controlling parking brakes of a vehicle, in combination, a support, a foot operated main lever fulcrumed intermediate its ends on the support, means operatively connected with the foot operated lever and support for retaining the lever in various positions of adjustment, said foot-operated main lever being equipped with a foot pad, means connecting the foot operated main lever with the vehicle brake mechanism to be controlled, means adapted for controlling the lever retaining means, a supplemental lever fulcrumed on the main lever and having operative connection with the lever retaining control means, resilient means biasing said lever retaining means toward lever retaining position, said supplemental lever being provided with a toe pad extending rearwardly of the foot pad on the lever, said foot pad and toe pad being in adjacent relation and generally aligned with a central longitudinal plane through the lever, said supplemental lever being arranged whereby pressure on the toe pad effects release of the lever retaining means, and means independent of the supplemental lever for rendering said lever retaining means ineffective throughout a portion of the travel of the main lever.

2,978,926
MECHANISM CONTROL
Robert S. Hinsey, Toledo, Ohio, assignor to The Bingham-Herbrand Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 25, 1958, Ser. No. 723,683
5 Claims. (Cl. 74—534)

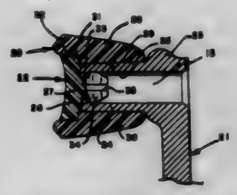


1. Mechanism control of the character disclosed, in combination, a support, a main foot-operated lever fulcrumed on the support, a member formed with ratchet teeth movably mounted upon the support, a pawl pivotally mounted on the main lever, resilient means normally biasing the pawl into engagement with the teeth of the member, a cam surface mounted by the support, a bar disposed between the cam surface and the ratchet member and arranged to support the ratchet member in a position to be engaged by the pawl, said cam surface and bar being shaped whereby movement of the bar relative to the cam surface permits movement of the ratchet member out of engaging relation with said pawl, means for effecting movement of the bar relative to the cam surface, said means including a supplemental lever having operative connection with the bar, and abutment means for limiting the movement of said supplemental lever in one direction.

2,978,927
HANDLE ASSEMBLY
Charles H. Blanton, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 14, 1959, Ser. No. 859,493
2 Claims. (Cl. 74—545)

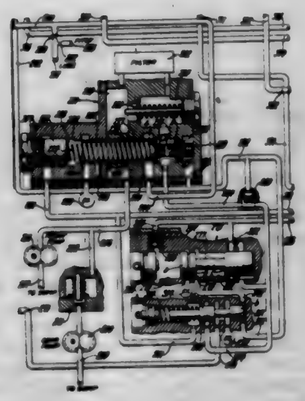
1. A handle assembly comprising a crank handle having a bushing with an internal annular shoulder defining

an aperture circumscribed by said shoulder, a knob having a cavity at one end and an internal diameter concentric with the axis of said cavity, said internal diameter being of a smaller dimension than the cavity but larger than the external diameter of the bushing, a plug comprising a head of similar configuration to but slightly smaller than the cavity in the knob, said cavity of the knob receiving the head of said plug, and a shank on said plug provided with a tapered shoulder which is larger



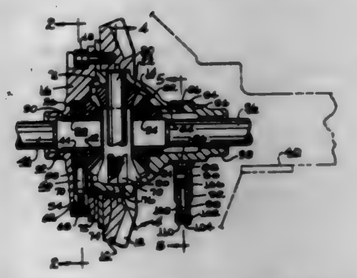
in diameter than said shank, a portion of said shank and said tapered shoulder having at least one diametral slot, said slot being of a sufficient width to permit said tapered shoulder to be compressed to fit the diameter of the aperture defined by the internal annular shoulder in the bushing as it is forced through said aperture, said tapered shoulder upon projecting through said aperture into the internal diameter of said bushing expanding to its original free dimension, thereby retaining said knob and said plug on said crank handle.

2,978,928
TRANSMISSION
Robert M. Tuck, Indianapolis, and Mark E. Fisher, Carmel, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 6, 1957, Ser. No. 657,432
25 Claims. (Cl. 74—645)



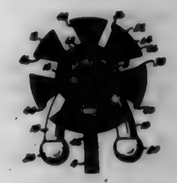
1. In a transmission assembly, a multiratio gear unit selectively providing a plurality of drive ratios, fluid motor means to engage said drive ratios, a source of fluid under pressure, a regulator valve to control the pressure of said source, control means movable to a plurality of positions to selectively connect said source to said fluid motor means to selectively provide a plurality of ratios and to provide a signal pressure in certain ratios, means connecting said signal pressure to said regulator valve to change the pressure level of the regulated pressure, and a governor responsive to the input speed in said multiratio gear unit connected to said regulator valve effective on said regulator valve to vary the regulated pressure proportional to increasing speed.

2,978,929
LOCKING DIFFERENTIAL
Albert O. Roberts, 116B Latta Road, Rte. 2, Durham, N.C., assignor of forty percent to Arthur M. Smith, Dearborn, Mich.
Filed Jan. 12, 1959, Ser. No. 786,159
6 Claims. (Cl. 74—711)



1. In a fluid type locking differential for use with a power source, the combination of, a differential carrier adapted to be positioned in an axle housing; a differential case rotatably positioned in said carrier; a pair of side gears and differential pinion gears positioned in said differential case; a multi-lobed cam positioned adjacent one of said side gears; a plurality of openings extending through said differential case in alignment with said multi-lobed cam; a piston positioned in each of said openings; means for limiting travel of said pistons; each of said pistons having a restricted escape orifice therein; means for maintaining each of said pistons in contact with said multi-lobed cam; and fluid supply means; the restricted escape orifices in each of said pistons to control the quantity of fluid discharged, thereby limiting the relative movement thereof.

2,978,930
TOOL FOR SHARPENING ICE SKATES
Roy R. Bratton, Rte. 4, Lee's Summit, Mo.
Filed Aug. 27, 1959, Ser. No. 836,355
6 Claims. (Cl. 76—83)

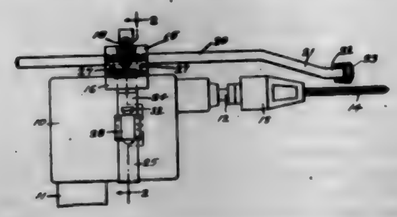


1. A tool for sharpening ice skates comprising a frame including a shaft, a cutter wheel having cutting teeth on its periphery and mounted coaxially on said shaft, and a pair of circular guide discs mounted coaxially on said shaft for independent rotation thereon, each of said discs having a series of radial slots formed in angularly spaced relation in the edge thereof, said discs being of greater diameter than said cutter wheel and said notches extending to a diameter less than that of said cutter wheel, said notches being generally of graduated widths, with notches of successive widths being formed alternately in one disc and the other.

2,978,931
DRILL STOP
Albert W. Broden, 6621 Elliot Ave., Minneapolis, Minn.
Filed Sept. 9, 1959, Ser. No. 838,928
3 Claims. (Cl. 77—7)

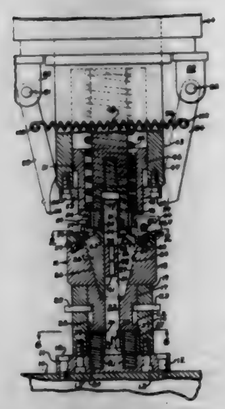
1. A depth gauge for a portable electrical drill having a substantially cylindrical housing, a driving shaft, and

a chuck mounted on the driving shaft adapted to carry a drill bit, said depth gauge including a saddle having an arcuate bottom surface adapted to fit the housing of the electrical drill and a hole extending lengthwise therethrough, a stop rod positioned in the hole in the saddle so as to extend in parallel relation to the driving shaft, chuck and drill bit carried by the latter, a band in two



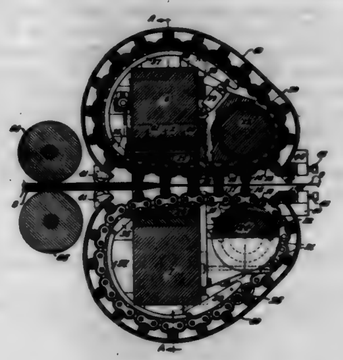
sections adapted to be positioned around the cylindrical housing of the drill with the sections connected at one end to the saddle on the opposite sides of the latter, a clamp adjustably connecting the other ends of the sections of the band, and arcuately spaced adjustment screws positioned on the opposite sides of and symmetrically with respect to the stop rod extending through the saddle for abutting the cylindrical housing of the drill.

2,978,932
FORMING PRESS
Harry D. Fruesaff, Jr., Birmingham, Ala. (P.O. Box 4768, Panama City, Fla.)
Filed Nov. 4, 1957, Ser. No. 694,149
4 Claims. (Cl. 78—9)



1. A die assembly for a forming press comprising a separable die for receiving a work piece and having a generally downwardly tapered outer surface, a die holder having a downwardly tapered recess therein for receiving said die and corresponding generally to said outer surface of said die, at least one material forming member disposed for axial movement in forming the work piece in said die, means urging the separable portions of said die outwardly away from each other whereby the die is urged upwardly and outwardly within said recess, dogs mounted for pivotal movement on said die holder in position to engage said separable die, and means operatively connected to said material forming member and disposed to move said dogs into engagement with said die upon movement of said material forming member toward said work piece prior to forming said work piece and to move said dogs out of engagement with said die upon movement of said material forming member away from said work piece whereby the die is positioned and held within said recess prior to and while the work piece is being formed and is released after the work piece is formed.

2,978,933
BEAMBACKED PLANETARY ROLLING MILL
Tadeusz Sendzimir, % The Sendzimir Co., Oxford Circle, Waterbury, Conn.
Filed Mar. 5, 1958, Ser. No. 719,315
28 Claims. (Cl. 80—38)



1. In a planetary mill, a transverse beam bearing an anvil member on one of its surfaces, a planetary roll chain assembly surrounding said beam, said chain assembly made up of shafts extending in the direction of the length of said beam, casters mounted on said shafts in spaced relationship, links interconnecting said shafts in the spaces between said casters, whereby said shafts are interconnected by said links at spaced intervals throughout the length of said shafts, working rolls resting on and supported by the casters on adjacent shafts, a driven shaft, means for mounting said driven shaft in a position adjacent said beam, said driven shaft having a plurality of sprockets spaced along its length, said sprockets having recesses shaped to engage the links and teeth engaging the ends of the links, said sprockets engaging and driving directly said chain links whereby said chain assembly is driven throughout its width, and caused to traverse the surface of said anvil member under tension, and guide means for carrying said chain from said driven shaft, around said beam and to said anvil member.

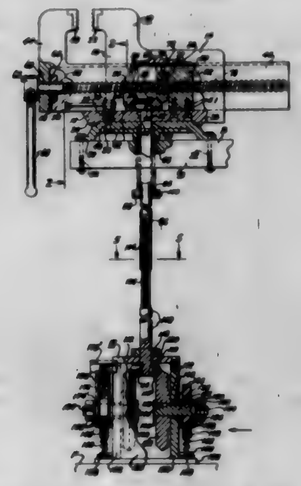
2,978,934
WIRE STRIPPING DEVICE
Marion W. Bradley, Norwalk, Calif. (14206 E. Coolbank Drive, La Mirada, Calif.)
Filed June 15, 1959, Ser. No. 820,279
1 Claim. (Cl. 81—9.5)



A wire stripper device for removing the insulation from the conductor in insulated wire comprising: an elongate body member, a cutter member portion formed at one end of said body member, said cutter member portion being formed by extending said elongate member upwardly and rearwardly at a radius of curvature through an arc of more than ninety degrees with respect to said elongate body member, a cutting groove defined by said

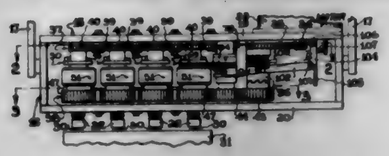
cutter member extending downwardly from the upper end of said cutter member substantially along the longitudinal axis of said device, said cutting groove having downwardly convergent side walls, said side walls being beveled to form opposed cutting edges, the upper end of said side walls being at a width greater than the diameter of said insulation, a slot of substantially constant width extending downwardly from and coextensive with said convergent side walls, both the width and length of said slot each being substantially equal to but greater than the diameter of the conductor, the opposite end of said elongate body extending in a direction opposite to that of said cutter end portion, downwardly and forwardly at a radius of curvature through an arc of more than two hundred seventy degrees with respect to said elongate body portion to form a finger gripping portion, said finger gripping portion being twisted laterally through an angle in a plane normal to that of the elongate body portion such that when supported around a finger of and gripped in the hand of the user the said finger gripping portion will lie in alignment with and concentrically of the finger.

2,978,935
FOOT-OPERATED VISE HAVING BEVEL GEAR DRIVE
John H. De Hart, 497B New Haven Ave., Milford, Conn.
Filed Sept. 16, 1959, Ser. No. 840,384
4 Claims. (Cl. 81—17)



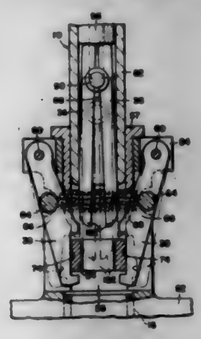
1. A vise comprising a body including a stationary jaw, a movable jaw slidably mounted in said body for movement toward and from the stationary jaw, a feed screw for shifting the movable jaw, threaded nut means cooperating with said screw for shifting the movable jaw including a bevel gear mounted on an upright driving shaft, means mounting said body for angular adjustment about said shaft and means for locking the body in different angular positions, said shaft comprising upper and lower sections, splines provided on and connecting said sections operable to permit relative longitudinal adjustment between them while providing positive rotary driving connection between these sections, a driven bevel gear connected to the lower section of the shaft, a driving bevel gear meshing with said driven gear on each of the opposite sides thereof to drive it in opposite directions for turning the shaft and shifting the movable jaw in opposite directions, and foot-operated ratchet driving means for each driving bevel gear for operating it with a step-by-step action.

2,978,936
MULTI-STAGE POWER OPERATED TORQUE WRENCH
Harry Orner, 2479 Glen Canyon Road, Altadena, Calif.
Filed July 16, 1956, Ser. No. 597,927
31 Claims. (Cl. 81—52.4)



1. In apparatus for tightening a plurality of threaded fasteners simultaneously, a power source, separate driven means for each of said fasteners, driving means actuated by said power source for driving said separate driven means, said driving means including a plurality of clutch means individual to the driven means and operable to disengage as each of said fasteners is wrenched with a predetermined torque moment, and means for thereafter wrenching said fasteners through a final arc of uniform extent.

2,978,937
FEEDING AND RETAINING MECHANISM
Harold C. Reynolds and Richard W. Lees, Athens, Pa., and Anthony F. Gagne, Jr., Binghamton, N.Y., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 20, 1959, Ser. No. 807,637
9 Claims. (Cl. 81—53)



1. Apparatus for linearly feeding and axially rotating a fastener adapted to be connected to a fixed mating member by axial rotation of the fastener, comprising a housing having a forward portion and a rear portion, an elongated member having a forward end portion and a rear end portion, said elongated member having the forward end portion thereof mounted in the rear portion of the housing for slidable endwise movement through said housing, a hollow elongated member having a forward end portion and an opposite rear end portion, said hollow elongated member being connected at the rear end portion in the forward portion of said housing for rotation about the longitudinal axis thereof and disposed in spaced endwise, coaxial relationship to said elongated member, the forward end portion of said hollow elongated member being disposed with said fixed mating member within the forward end portion thereof, said elongated member being dimensioned for slidable longitudinal movement within said housing and said hollow elongated member, means for actuating said elongated member for linear movement within said housing and said hollow elongated member toward and away from said fixed mating member, second means for imparting

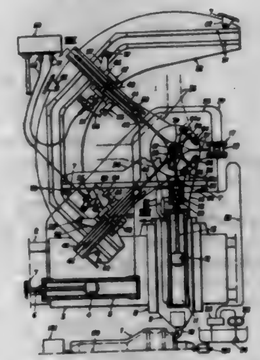
to said hollow elongated member rotation about its longitudinal axis, jaw means within said housing in the space between adjacent ends of said elongated member and the hollow elongated member for receiving and holding said fastener against movement, said housing having an opening therein to permit entry of a fastener into engagement with said jaw means, said jaw means including means for mounting the jaw means for movement toward the fastener to hold the same and away from the fastener to release the latter, a feeding means carried by the forward end portion of said elongated member and constructed to engage and hold said fastener upon forward linear movement of the elongated member relative to said housing in a direction toward said fixed mating member, the forward end portion of said elongated member cooperating with said jaw means upon forward linear movement of the elongated member and after the feeding means engages the fastener to cause the jaw means to move away from the fastener to release the latter and permit the fastener to be carried by said feeding means through the housing and the hollow elongated member to the fixed mating member, and third means in said hollow elongated member for engaging said fastener to rotate the latter about its axis to connect the fastener to said fixed mating member.

2,978,938
WRENCH HAVING AN ANGULARLY ADJUSTABLE HANDLE
William C. Nalley, West Columbia, Tex.
Filed Jan. 21, 1959, Ser. No. 788,122
5 Claims. (Cl. 81—177.8)



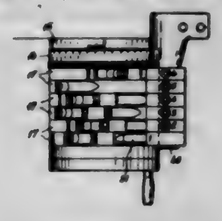
1. In a wrench, a handle, an adjustable head on said handle, a fixed jaw and a movable jaw on said head, said handle having upwardly extending projections and a horizontal passageway therethrough and an enlarged chamber in said passageway adjacent one side of said handle, a port leading into said chamber, said head having projections matching with said projections on said handle and having a bore therethrough in alignment with the passageway in said handle, a rectangular chamber in one side of said head in alignment with said ports and opposite said chamber in said handle and a shaft extending through said ports and bore joining said handle and head, said shaft having an enlarged polygonal head on one end seated in said chamber in said head and being maintained thereby in a non-rotatable relation and being externally threaded at the other end, a nut on said threaded end of said shaft yieldingly seated in said port in said handle, and a spring on said shaft bearing against one end wall of said chamber in said handle and against said nut yieldingly holding the shaft and nut in locking position and said shaft being movable in said passageways to move said enlarged head in said chamber in said head out of said chamber and moving said nut in said port in said handle into said chamber in said handle to permit the head to be pivoted on said shaft.

2,978,939
METHODS OF AND APPARATUS FOR MACHINING OF WORKPIECES BY MEANS OF COPYING MACHINE TOOLS
Ottomar von Zelewsky, Neuhausen am Rheinfall, Switzerland, assignor to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland, a Swiss company
Filed Mar. 12, 1956, Ser. No. 570,989
Claims priority, application Switzerland Mar. 12, 1955
10 Claims. (Cl. 82—14)



1. An arrangement for imparting to a rotating workpiece a profile in accordance with predetermined surface contours of template means; saddle means arranged for reciprocal traverse parallel to the axis of rotation of said workpiece, first power means operatively connected to said saddle means for effecting said reciprocal traverse of the latter, tool slide means mounted on said saddle means for movement therewith parallel to said axis and for reciprocal displacement relative to said saddle means in a direction perpendicular to said axis, second power means operatively connected to said tool slide means for effecting said reciprocal displacement thereof on said saddle means toward and away from said workpiece, respectively, feeler means located adjacent and engageable with said template means and arranged for shifting movements relative to said template means, means operatively connected to said feeler means for exerting a force on the latter so as to bring the same into engagement with and exerting a constant pressure against the contoured surface of said template means, feed means operatively connected to said feeler means for effecting displacement of the latter along said template means, and control means operatively connected to said first and second power means and operated in response to said shifting movements imparted to said feeler means in accordance with said surface contours of said template means during displacement of said feeler means along said template means by said feed means so that said saddle means and said tool slide means are traversed along said workpiece and said tool slide means is simultaneously reciprocally displaced relative to said workpiece in direct dependence on said shifting movements of said feeler means induced by said surface contours of said template means to enable a tool, when held by said tool slide means and when in engagement with said workpiece, to form said profile on said workpiece.

2,978,940
ARRANGEMENT FOR ACCURATELY POSITIONING A WORM-CONTROLLED SLIDE IN A MACHINE TOOL
Jules Louis Jeanneret, 13a 21 Rue Henri Gelin, Niort, France
Filed Dec. 5, 1956, Ser. No. 626,404
Claims priority, application France Dec. 30, 1955
3 Claims. (Cl. 82—24)



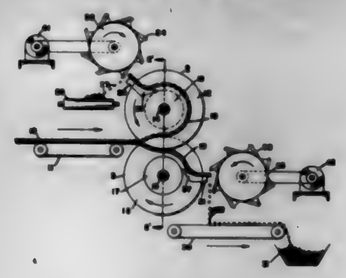
1. In a machine-tool, an arrangement for the accurate positioning of a worm-controlled slide, comprising a handwheel actuating the slide-controlling worm, a sleeve coaxially carried by the handwheel, at least one collar locked in angularly adjustable position over the sleeve, said collar being provided with a broad recess bounded substantially by a plane extending along one half chord of the collar periphery and substantially radial plane extending between the inner end of said half chord and the outer periphery of the collar, a counterstop threadedly engaging the radial plane bounding the recess in said collar and projecting to an adjustable amount into the recess, a stationary spindle extending in parallelism with the axis of the sleeve and lying in proximity with the outer surface of the collar, at least one stop carried by the spindle in a plane permanently registering with the corresponding collar, said stop being adapted to occupy selectively at least one inoperative angular position extending entirely outside the outer periphery of the corresponding collar and an angular position within the recess in the corresponding collar to engage the counterstop in said recess upon rotation of the handwheel and worm urging the counterstop towards the stop.

2,978,941
SHEET CLASSIFIER
Albert R. Geiszler, Warren, and Willard P. Tolbert, Niles, Ohio, assignors to The Wean Engineering Company, Inc., Warren, Ohio, a corporation of Ohio
Filed Feb. 9, 1955, Ser. No. 487,036
5 Claims. (Cl. 83—106)



2. Sheet classifying apparatus in which strip approaches shear means and sheets are cut from the strip and carried away from the shear means, said apparatus comprising shear means, conveyor means moving away from said shear and carrying sheets away from said shear to a point of classifying at a higher speed than the strip approaches the shear, strip fault detection means, magnetic signal retention means synchronized to the strip speed, signal means in operative relationship with said detection means and operable to impress a signal on said magnetic means corresponding to faults in the strip, signal pick-up means positioned to pick-up signals when a fault passes the point of shearing, signal holding means in operative relation with said pick-up means, second magnetic signal retention means synchronized to the speed of the conveyor means, second signal means associated therewith and said shear means whereby a held signal is impressed upon said second magnetic means when a sheet having a fault is cut from the strip, second pick-up means in operative relation with classifying means and positioned to pick-up signals from said second magnetic means and operate said classifying means, said second pick-up means being in adjustably spaced relation from said second signal means whereby said classifying means is operated as a defective sheet closely approaches said classifying means.

2,978,942
DICING MACHINE HAVING SPACED TRANSVERSE CUTTERS ASSOCIATED WITH ROTARY SLITTERS
Frank P. Re Cusino, Parsippany, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed Feb. 21, 1957, Ser. No. 641,723
4 Claims. (Cl. 83—355)

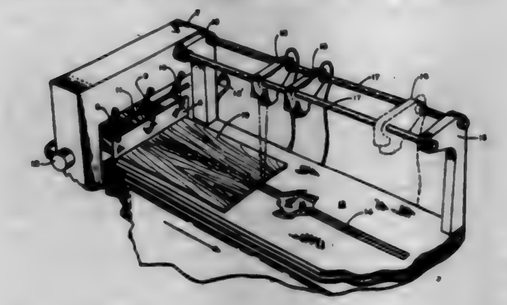


1. A machine for cutting soft, tacky sheet material into a plurality of small pieces or chips of rectangular shape and uniform size, which comprises two intermeshing sets of slitting discs rotating in opposite direction which the sheet of said material is fed, adapted to slit said sheet lengthwise into a plurality of strips and to wedge alternate ones of said strips between different pairs of adjacent slitting discs so that the alternate strips are wedged in one set of discs, an individual rake associated with each of said sets adapted when that set has been rotated to a particular point in its cycle to rake out the strips of wedged material from between the discs thereof and an individual cutter associated with each of said rakes, operating in conjunction with a shearing edge to continuously cut successive portions from said strips by cutting said strips transversely at a point not substantially beyond the point of said strips passing from between said discs while said next succeeding portion of each of said strips is held by said adjacent discs.

2,978,943
PHOTOELECTRIC CONTROL CIRCUIT IN COMBINATION WITH A TOGGLE ACTUATED CUTTER DEVICE
John E. Balint, Eugene, Oreg., assignor to Controls & Communications Co., Inc., Eugene, Oreg., a corporation of Oregon
Filed Sept. 17, 1956, Ser. No. 610,110
6 Claims. (Cl. 83—362)

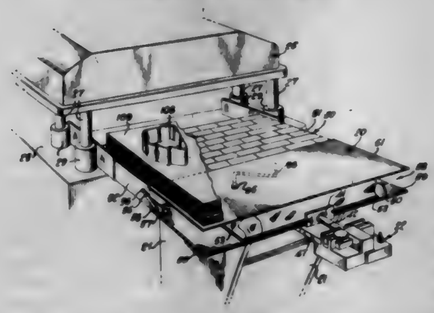
1. In the cutting operation of sheet material which progressively moves at preselected speeds over a support and under a knife, means mounting said knife for reciprocal operation transversely and vertically for cutting said sheet material during each reciprocal operation, an electronic control circuit for determing the length of cut of said material and for timing and initiating the reciprocal actuation of said knife, including a plurality of

phototubes adapted to be placed along the path of travel of said material, the particular placement of each of said phototubes determining the length of the desired cut, means for illuminating said phototubes, said illuminating means being so arranged as to be obstructed by said material upon progressively reaching the position of said phototubes, pulse generating means associated with each of said phototubes and an amplifier connected thereto for amplifying the generated pulse, switching means for selectively energizing the amplifier associated with the particular phototube placed at the distance of the desired cut, pulse transfer means having bi-directional transfer characteristics of alternate conductivity, circuit means



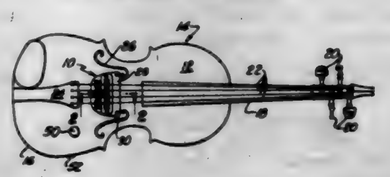
for applying said amplified pulse to said transfer means, a first pulse delay means, and pulse responsive electronic means associated therewith, a first power means for actuating said knife upon response of said electronic means in one of said reciprocal operation; a second pulse delay means and pulse responsive electronic means associated therewith, a second power means for actuating said knife in the alternate of said reciprocal operations upon response of said second pulse responsive means, and a circuit interconnecting said first delay means with said transfer means for one of said conductive operations, and a circuit interconnecting said second delay means with said transfer means for said alternate conductive operations.

2,978,944
ADJUSTABLE WORK SUPPORT USABLE WITH DIE CUTTING PRESS
Elmer G. Overly, 7301 Penn Ave., Pittsburgh 8, Pa.
Filed Apr. 11, 1958, Ser. No. 727,891
7 Claims. (Cl. 83—539)



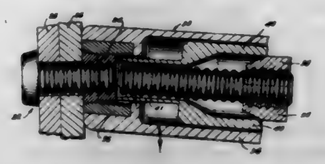
1. A die press for cutting sheet material comprising a vertically reciprocable ram member, a base member below said ram, said base including cutting board supporting means, and a cutting board slidably mounted on said supporting means, said cutting board comprising a wooden block cutting portion of substantial area and a vertically reciprocatable work supporting surface portion forming the remaining area attached to the wooden block portion, said wooden block surface being capable of being planed evenly after wear due to the cutting of work thereon by said die press, and means to reciprocate said work supporting surface portion to affect realignment thereof with said wooden block cutting surface portion after the latter is planed.

2,978,945
MAGNETIC PICK UPS
Rudolph Dopera and Edward E. Dopera, both of 124 Concert St., El Monte, Calif.
Filed Sept. 8, 1959, Ser. No. 838,717
17 Claims. (Cl. 84—1.15)



13. A magnetic pick up for a stringed musical instrument which includes: a plate adapted to be attached to a stringed instrument; a fixed bridge extending from said plate; a movable bridge extending from said plate parallel to said fixed bridge; holding means securing said bridges together; resilient means held between said plate and said movable bridge; and co-acting means for changing an electrical value mounted on said plate and said movable bridge.

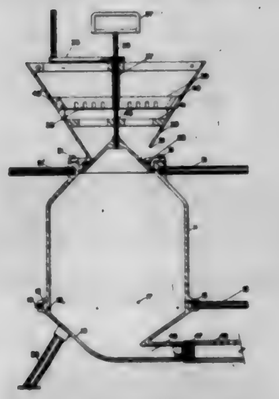
2,978,946
GROOVED PIN WITH REFORMABLE COLLAR TO ACCOMMODATE VARIOUS THICKNESSES
Robert Looker, Santa Monica, Calif., assignor to Brown-Line Corporation, El Segundo, Calif., a corporation of California
Filed Feb. 11, 1957, Ser. No. 639,474
4 Claims. (Cl. 85—5)



1. The combination of a plurality of rigid members each having an opening therethrough of a common uniform diameter, said members being adapted to be abutted with said openings aligned, each of said members being of at least a given minimum individual thickness and the combined thickness of said members being within the range of thicknesses extending from a given minimum total thickness to a given maximum total thickness, and a fastening means to extend through said aligned openings to cooperate with a deformable collar for interconnecting the members, said fastening means comprising a pin with a shank and a head on one end of the shank, said shank having a substantially uniform maximum diameter throughout and having a series of axially spaced circumferential grooves, each providing the minimum diameter of the shank and forming a series of frangible breaknecks and forming therebetween spaced ribs of said maximum diameter to seat snugly in of any said openings and to be engaged by said collar by swaging of the collar into the breaknecks, said series of breaknecks extending from the second end of the pin to at least a point spaced from said head by said given minimum total thickness so that the collar will engage a rib of the pin adjacent a plurality of the members of said given minimum total thickness as

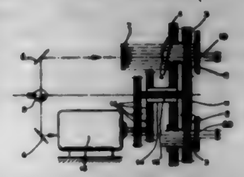
well as adjacent any plurality of said members of greater total thickness within said range, the spacing of said ribs being substantially less than said given minimum individual thickness so that when said series of breaknecks extend through any of said members at least one of the ribs will lie between the planes of the opposite faces of such members to maintain said openings of the members in alignment, said shank being of a length substantially greater than said given maximum total thickness plus the axial dimension of said collar whereby the shank may extend through a plurality of said members of said given maximum total thickness and through and beyond said collar to be engaged by tool means and whereby in securing together any plurality of said members of a total thickness within said range, the shank may be broken off at a breakneck immediately adjacent the outer end of said collar.

2,978,947
BORE HOLE LOADING DEVICE
John M. Jeffries, Chadds Ford, Pa., assignor to Atlas Powder Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 17, 1958, Ser. No. 761,588
2 Claims. (Cl. 86—20)



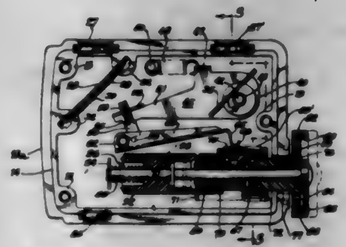
1. A device for loading bore holes with bulk ammonium nitrate comprising a supply tank adapted to be connected to a compressed air source, an inlet in said supply tank for bulk ammonium nitrate comprising a conical closure member positioned in the top portion of said supply tank, a supply hopper attached to said supply tank adapted to hold a supply of ammonium nitrate and positioned to allow a supply of ammonium nitrate to feed through said inlet into said supply tank, said supply hopper having a stationary screen mounted therein and rotatable stirrer means positioned contiguous to said screen, a crank mechanism connected to and adapted to rotate said stirrer means, said supply tank having a plurality of gas inlets arranged circumferentially thereof and positioned to direct a flow of gas therethrough in a swirling motion about the inside of said supply tank said supply tank having a discharge outlet located in the lower portion thereof for the removal of a mixture of compressed air and particulate ammonium nitrate said tank having at least one enlarged gas inlet, located circumferentially of said supply tank positioned and arranged to direct a flow of about 20 to about 50% of compressed gas entering said supply tank along a straight line path through said tank into said outlet, said supply tank having a smooth, downwardly tapered internal surface extending along the lower portion thereof from said at least one enlarger gas port to said outlet.

2,978,948
OPTICAL SCANNING DEVICE
Raymond Arthur Kimber, Leicester, England, assignor to The Mullard Radio Valve Company Limited, London, England
Filed July 25, 1956, Ser. No. 600,127
7 Claims. (Cl. 88—1)



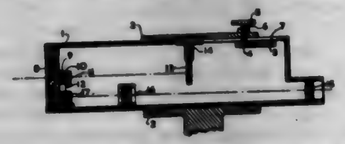
1. An optical scanning device comprising a light source, a parallel-sided elongated scanning element having a minor axis and an elongated major axis relative to said minor axis for transmitting light from said light source positioned with its major axis in a predetermined position, stationary masking means having a window with a minor axis and an elongated major axis relative to said minor axis for transmitting light from said light source, the minor axis of said window being substantially shorter than the major axis of said scanning element, and means for moving said scanning element in a substantially circular direction in a plane substantially parallel to that of said masking means interposed between said light source and the said masking means with the major axis of the said scanning element transverse to that of said window and maintained substantially parallel to its initial position in motion whereby the said window transmits a substantially rectilinearly moving beam of light.

2,978,949
PHOTOGRAPHIC FLASH METER
Homer L. Seeger, Oak Park, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Aug. 9, 1956, Ser. No. 603,682
2 Claims. (Cl. 88—2.4)



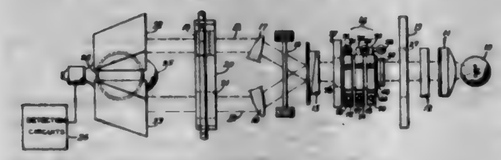
1. A computing device of the class described, comprising a box-like case, a range finder disposed within said case including an angularly adjustable mirror, means coupled to said range finder for determining, for various film speeds and flash bulb characteristics, appropriate diaphragm openings for optimum flashlight exposures at various distances and at constant shutter speed, said coupled means comprising a shaft arranged in said case for rotation and axial translation, said shaft extending through a wall of said case and having a manipulating member fixed thereon outside said case, said shaft being spring-loaded, whereby it is normally retained in one position and is longitudinally translatable against the action of said spring to another position, cam means carried by said shaft for transmitting motion from said shaft to said adjustable mirror to find the distance to an object, means normally connecting said shaft to said cam means and disconnectable therefrom when the shaft is translated against the action of said spring, a drum keyed to said shaft and bearing circumferentially therearound a plurality of linear series of diaphragm-opening indicia, each line of indicia representing a series of diaphragm openings corresponding to a particular film emulsion speed, and each circumferential row of indicia representing a series of openings corresponding to a certain type of flash bulb, a second series of indicia disposed linearly on the case and aligned with said first series, said second series representing various flash bulbs of different characteristics, means carried by said shaft outside said case and disengageable from the shaft when the latter is translated against the action of said spring and carrying a third series of indicia annularly arranged and representing emulsion speeds, and datum indication on said manipulating member cooperating with the third indicia series whereby, when the shaft and drum have been angularly coordinated with a particular emulsion speed, the finding of distance to an object will adjust the appropriate linear series of diaphragm openings in coordination with the second series of indicia.

2,978,950
UNIVERSAL ALIGNMENT INSTRUMENT
Walter Mandler, Midland, Ontario, Canada, assignor to Ernst Leitz G.m.b.H., Wetzlar, Germany
Filed Dec. 6, 1957, Ser. No. 701,255
Claims priority, application Germany Dec. 10, 1956
6 Claims. (Cl. 88—14)



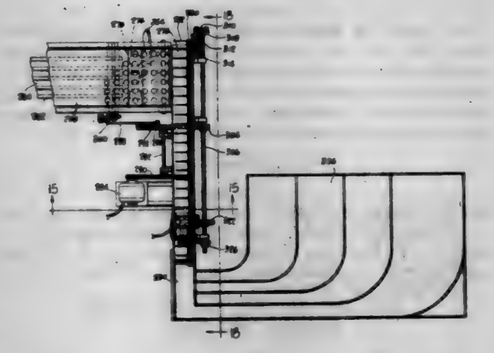
1. An optical alignment instrument for simultaneous observation of an infinite distance and a finite distance object point and defining an optical axis, which comprises, an objective lens on said axis and defining a focal plane intercepted by the axis, a first reticle in the focal plane, an eye piece for observing the first reticle and an image of the infinite distance object point at the first reticle, a beam divider having a partially transmitting surface positioned on the axis between the objective and the focal plane, and being movable in the direction of the optical axis, light deflecting means and a second reticle adjacent said objective, said deflecting means so constructed and arranged to deflect light transmitted by the objective and reflected by said surface onto said second reticle so as to focus the image of the finite distance object point and means affording a view of the second reticle and an image of the finite distance object point to an observer in the vicinity of said eyepiece.

2,978,951
METHOD AND SYSTEM OF COLOR MONITORING
John S. Christie, Oreland, Pa., assignor to The Proctor-Silex Corporation, a corporation of Connecticut
Filed Feb. 13, 1958, Ser. No. 714,988
8 Claims. (Cl. 88—14)



1. The method of monotoring the color of a fluid bath comprising placing in a light beam a standard to stimulate the desired fluid color, withdrawing a sample of predetermined size from the bath, constantly replacing the fluid sample from the bath, passing a light beam through the standard interposing means for sequentially limiting the frequency of the light in the beam to predetermined frequency bands in a particular sequence, interposing means for splitting the beam into two beams having different intensities, passing one of the beams through the sample, and continuously comparing the intensities of the two beams after the one has passed through the sample to detect any deviation from the predetermined relative light intensities of the beams which obtains when the sample matches the color represented by the standard.

2,978,952
EGG CANDLER
Jonas L. Stucky, 211 N. Ash St., McPherson, Kans.
Filed Feb. 28, 1956, Ser. No. 568,280
7 Claims. (Cl. 88—14.5)

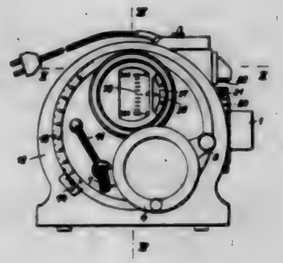


1. In an egg candling apparatus having an endless-type conveyor and a candling section, said conveyor including a floor and traveling pin means for moving the eggs across the floor and through the candling section, said candling section comprising adjacent pairs of roller means, each pair being mounted for rotation on fixed parallel axes, one of said pair of roller means having its axes of rotation perpendicular to the axes of rotation of a second pair, and light means for directing a beam of light between each pair of roller means respectively, said conveyor placing the eggs successively on each pair of roller means for tumbling the eggs after they have been rolled on the preceding pair of roller means.

2,978,953
READING DEVICE FOR MEASURING SCALES
Kurt Räntsch, Wetzlar, Germany, assignor to M. Hensoldt & Sohne Optische Werke A.G., Wetzlar, Germany
Filed July 31, 1957, Ser. No. 675,388
Claims priority, application Germany Aug. 2, 1956
21 Claims. (Cl. 88—24)

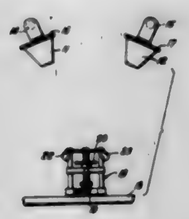
1. Reading device for an indexing head comprising a movable circular measuring scale having double scale lines and the distance between each two pairs of said double scale lines being 10°, optical means for projecting an image of a portion of said circular measuring scale onto a plane viewing screen, a plane glass plate provided with a straight micrometric scale arranged adjacent said plane viewing screen and subdividing an interval of the image of said measuring scale appearing on said screen, means for shifting said plane glass plate with said micrometric scale in its plane relative and lengthwise of said image of said measuring scale, said means comprising a pin carried by said plane glass plate and

a manually rotatably adjustable eccentric ring engaging said pin, said eccentric ring being provided with a circular scale appearing with said straight micrometric scale on said viewing screen, said circular scale indicating the amount of shifting of said straight micrometric scale,



and means for adjusting said circular measuring scale about its center of curvature so as to project an image of different portions of said circular measuring scale onto said viewing screen, said circular measuring scale being provided with double scale lines and the distance between each two pairs of said double scale lines being 10°.

2,978,954
AUTOMATIC PROJECTOR CONTROL APPARATUS FOR PHOTOGRAMMETRIC INSTRUMENTS
Joseph H. Watson, Fairfax, Va., assignor to Watson Electronics & Engineering Co., Inc., Arlington, Va., a corporation of Virginia
Filed Dec. 10, 1959, Ser. No. 858,807
4 Claims. (Cl. 88—24)



1. Apparatus for automatically controlling the intensity of superposed projected images on a movable screen from a plurality of projector units of stereoscopic photogrammetric plotting instruments and the like to maintain image balance at the screen over a substantial range of screen positions comprising a number of projector control channels corresponding to the number of projector units, each of said control channels including a photocell dominantly responsive to the light intensity of the image on the screen projected by its associate projector unit, a saturable reactor having a primary control winding and a secondary winding for varying the exciting voltage applied to the light source for the associated projector unit in response to variation in the current flowing in the primary control winding, means intercoupling the photocell and primary control winding of the saturable reactor for each channel to vary the current in the control winding in response to variation in light intensity sensed by the intercoupled photocell in a direction to provide substantially constant and balanced illumination of the image at said screen emanating from each of the projectors, and means interconnecting said channels to produce degenerative action in the current variations in the primary control windings of the control channels.

2,978,955
DETACHABLE MOUNT FOR OPTICAL DEVICES ON SPECTACLE FRAMES
Moses Frommer, 1646 Carroll St., Brooklyn, N.Y.
Filed July 3, 1957, Ser. No. 669,804
2 Claims. (Cl. 88—41)



1. A detachable mount for a spectacle frame having a nose bridge, lens frames on opposite sides of said bridge and temples connected to said lens frames remote from said bridge, said mount consisting of a unitary horizontal metallic bar of rectangular cross-section extending across the top of said bridge and lens frames, a clip near each end of said bar for engaging the upper edge of each lens frame, integral substantially straight resilient arms extending downwardly and inwardly from the ends of said horizontal bar and each provided with a clip near the free end thereof for engagement with the distal side of the respective lens frame, metallic hinge brackets mounted on said horizontal bar each comprising an inverted U-shaped support resting non-rotatably on the top of said bar with the opposite arms of said support straddling said bar, a vertical plate extending upwardly between the opposite arms of said support and below said bar, a clamping bolt detachably interconnecting said plate and said arms with said bar, and an optical device hingedly connected to said vertical plates forwardly of said spectacle frame for movement about a horizontal axis to swing said optical device into predetermined operative position forwardly of said lens frames or alternatively into inoperative position above the lens frames.

2,978,956
VISIBLE AND INFRARED TRANSMITTING LENS COMBINATION
Sabert N. Howell, Huntington, N.Y., assignor to Servo Corporation of America, New Hyde Park, N.Y., a corporation of New York
Filed Feb. 12, 1957, Ser. No. 639,708
1 Claim. (Cl. 88—57)



A lens combination, for separate collection on a common optical axis and for common focus of visible and infrared images of an object to be observed, the infrared image being beyond the range of optimum radiation transmission of visual light-transmitting materials, comprising two individual lens elements concentrically secured to each other and disposed about said axis to collect individual and mutually exclusive ray bundles concentrically of said axis, the material of one of said elements being selected for a first spectral characteristic having optimum transmission of visible light and transmitting visible light substantially to the exclusion of the infrared radiation, the material of the other of said elements being selected for a second and different spectral characteristic having optimum transmission of the infrared radiation and transmitting the infrared radiation substantially to the exclusion of visible light, said lens element transmitting the visible radiations having the same focal length for wavelengths near the middle of the visible spectrum as said lens element transmitting the infrared radiations for wavelengths of about 3.5 microns.

2,978,957
OPTICAL LENS SYSTEM HAVING A RELATIVE APERTURE LARGER THAN f/1
Johannes Becker, Delft, and Henricus Wilhelmus Bulthuis, The Hague, Netherlands, assignors to N.V. Optische Industrie de Oude Delft, Delft, Netherlands, a corporation of the Netherlands
Filed Mar. 23, 1959, Ser. No. 801,361
Claims priority, application Netherlands Apr. 3, 1958
3 Claims. (Cl. 88—57)



1. An optical lens system for photography, projection and the like having a relative aperture larger than $f/1$, which system is corrected for a flat field and is made up of the following four components, listed in the order in which they are traversed by the light rays when the lens is used as a photographic objective:

a convergent single element front component;

a compound convergent second component made up of a convergent front and a divergent rear element and having the form of a meniscus which is convex towards the front;

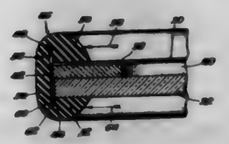
a compound third component also having the form of a meniscus which is convex towards the front and being made up of a convergent front and a divergent rear element, the total axial thickness of this component being at least 0.35 f where f is the equivalant focal length of the system, the convergent element being made of a material having a mean refractive index not less than 0.04 lower than that of the divergent element;

a compound fourth component comprising a divergent front and a convergent rear part and having a convex front surface, the rear surface of the component having a radius of curvature not less than 2 f and the total axial thickness of this component being at least 0.3 f, the front component having a convex front surface whose radius of curvature lies between f and 2.2 f, the index of refraction of the glass of the front component being lower than 1.65 and that of the glass of the convergent element of the second component being lower than 1.675, the latter index being not less than 0.02 and not more than 0.04 lower than the refractive index of the glass of the divergent element of the second component, the radius of curvature of the dividing surface between the convergent and divergent elements of the second component lying between 1.5 f and 3 f and the axial thickness of the front element being smaller than 0.2 f, said lens system further satisfying the following inequalities:

$$|\phi_2|<0.1\phi$$
$$0.6\phi<\phi_3<0.7\phi$$
$$-0.38\phi<\phi_4<-0.31\phi$$
$$1.2\phi<\phi_5<1.35\phi$$
$$-3.4\phi<\phi_6<-2.9\phi$$
$$0.9\phi<\phi_7<1.1\phi$$

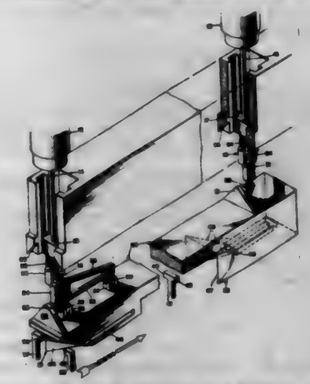
wherein ϕ_2, ϕ_3, ϕ_4, ϕ_5, ϕ_6, ϕ_7 are the surface powers of the rear surface of the front component, the front and rear surfaces of the second and third components and the front surface of the fourth component, respectively and ϕ is the equivalent power of the lens system.

2,978,958
REFLECTOR MOUNTING ELEMENT
Samuel M. Dover, 1462 S. Michigan Ave., Chicago, Ill.
Filed Oct. 8, 1956, Ser. No. 614,480
3 Claims. (Cl. 88—96)



1. A mirror head or like article comprising a backing which is a metal stamping having forwardly extending projection means and rearwardly extending projection means at its periphery, one of said projection means comprising tongues defined by cuts in the backing with all of the cuts terminating along a line of bend adjacent to the periphery of the backing and with the tongues separated from the rest of the backing at the lines of cut and projecting in one direction from the backing, the material of the backing between adjacent tongues extending from the rest of the backing in a direction opposite to the tongues along said line of bend and constituting the other of said projection means, a reflector overlying the front of the backing, one of said projection means surrounding said reflector and extending forwardly thereof, and a continuous rubber-like band surrounding the perimeter of the backing and reflector and enclosing both of the projection means and grippingly engaging the front and rear surfaces of the reflector and the backing, respectively, at positions laterally inwardly of the projection means, said band being symmetrical forward and rearwardly thereof on opposite sides of a longitudinal center line therethrough so that either side of the band may be positioned at the front or rear surfaces at will.

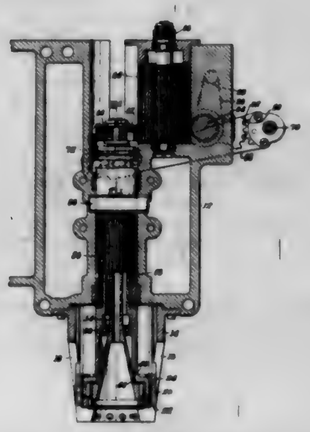
2,978,959
SELF-ALIGNING GUIDE FOR LOADING IN MISSILE LAUNCHING SYSTEMS
Robert E. Carlberg, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 27, 1953, Ser. No. 357,937
8 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A launcher for an elongate missile having fore and aft suspension lugs, said launcher comprising a car-

rier member disposable in a substantially horizontal position above the missile for loading, a bar below the carrier member having fore and aft portions equipped with subjacent fixtures for connection with the respective fore and aft suspension lugs of the missile, fore and aft lift members carried by said carrier member, fore and aft sets of linkage respectively connecting the fore and aft portions of said bar to said fore and aft lift members, said sets of linkage including joints permitting lateral and angular movement of said bar relative to said carrier member whereby alignment of the fixtures subjacent the bar with the fore and aft suspension lugs of a missile disposed for instance in skew relation below said carrier member during loading is facilitated.

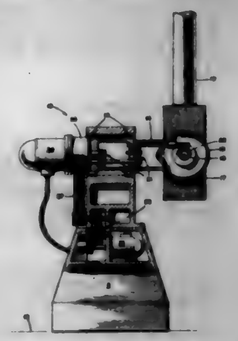
2,978,960
FUSE-SETTING MECHANISM
Sidney J. Finn, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Oct. 12, 1945, Ser. No. 622,012
33 Claims. (Cl. 89—6)



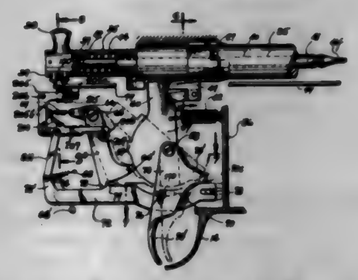
1. Fuse-setting mechanism comprising a carriage, a pawl supported by said carriage for engagement with a notch in a projectile, a support rotatable in said carriage, a pawl carried by said support engageable with a notch in the fuse ring of the projectile, means for turning said support including a slip connection arranged to yield under a light load, and other means for positively turning said support.

2,978,961
OVERHEAD COVERAGE GUN MOUNT
Raymond W. Warren, McLean, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 15, 1953, Ser. No. 398,448
4 Claims. (Cl. 89—37)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An overhead coverage gun mount which provides continuous tracking coverage along an overhead path from horizon to horizon and passing through the zenith comprising a pedestal, an elevation shaft supported by the pedestal for rotation about its longitudinal axis through an angle of at least 180°, a traverse axle supported for rotation about its longitudinal axis through an angle of at least 180° by said elevation shaft, the longitudinal axis of said elevation shaft and the longitudinal axis of said traverse axle being disposed in normal relationship to one another and in a common plane, means carried by said traverse axle for receiving a gun, means rotating the elevation shaft relative to the pedestal, and means rotating the traverse axle relative to the elevation shaft.



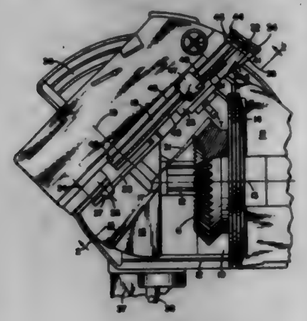
2,978,962
SELECTIVE AUTOMATIC FIRE CONVERTER FOR BOLT ACTION RIFLE
Jessie T. Ivy, 523 Henderson St., Seattle, Wash.
Filed Apr. 20, 1959, Ser. No. 807,645
6 Claims. (Cl. 89—140)



2. In a bolt action repeating rifle including a reciprocally movable and rotatably adjustable bolt, and a reciprocable bolt actuating rod to which limited rotative movements, in opposite directions, are imparted for unlocking and locking the bolt in the automatic rearward and forward reciprocal action thereof, a selective fire control mechanism including a spring loaded hammer, means movable with the rifle bolt in its opening movement to actuate the hammer to its cocked position, a sear engagable with the hammer to restrain it in cocked position when so moved, a trigger, a trigger actuated means, operable by initial trigger pull to release the sear for semi-automatic operation and another means, operable by the final rotative action of the bolt actuating rod that effects the bolt locking operation, operable to disengage the sear from the hammer for fully automatic firing, if the trigger and said trigger actuated means is held in pulled position.

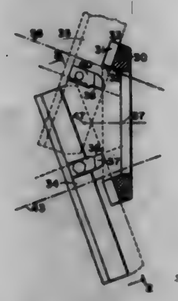
2,978,963
MACHINE FOR PRODUCING GEARS
Harry Pedersen, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed July 1, 1959, Ser. No. 824,321
14 Claims. (Cl. 90—2)

1. In a machine for producing gears comprising a work support, a tool support and a tool thereon adapted for reciprocation lengthwise of a tooth to be cut on a gear on the work support, means providing for relative infeed between the tool support and the work support, and a former and a follower therefor for guiding the tool support during said infeed to determine the tooth profile shape, said follower being connected to the tool support for effecting such guiding action, the combination of a carrier for the follower mounted for back and forth motion relative to the tool support for thereby effecting



relative motion between the follower and the tool support in a direction to vary the cutting depth of the tool, and means for effecting such back and forth motion in time with reciprocation of the tool, for thereby effecting lengthwise crowning of the gear teeth.

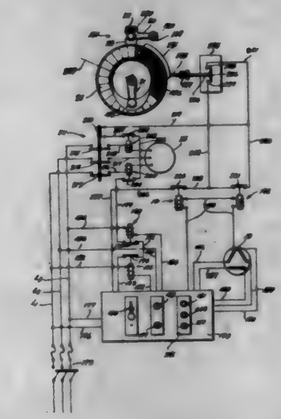
2,978,964
METHOD AND APPARATUS FOR CUTTING GEARS
Ernest Wildhaber, 124 Summit Drive, Rochester 20, N.Y.
Filed Dec. 2, 1954, Ser. No. 472,621
24 Claims. (Cl. 90—5)



1. The method of producing longitudinally curved tooth tapered gears having spirally-arranged teeth, which comprises engaging a pair of rotary face hobs with a tapered gear blank on opposite sides of the axis of the blank with the axes of said hobs angularly disposed to and offset from each other, and rotating the gear blank continuously on its axis while rotating said hobs in timed relation with the rotation of the blank and while effecting a feeding motion between said hobs and blank in which one hob follows more one side of the teeth of the blank than the other side while the other hob follows more the other side of the teeth until said hobs reach full-depth cutting position in which the cutting edges of each hob describe respectively the sides of the teeth which they have followed during said feed motion.

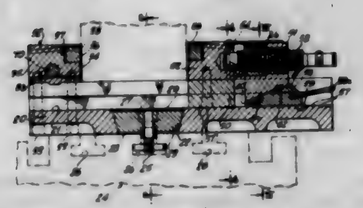
15. A machine for cutting teeth in a process in which the tool is fed depthwise relative to the blank and in which each side tooth surface of the blank is described by a cutting edge lying in said surface, comprising a rotatable work support, a pair of rotatable cutter spindles for supporting a pair of face-type cutters, means for angularly adjusting each cutter spindle about a pivot to set the cutter spindles angularly with respect to the axis of the work support and to each other, means for effecting straight line adjustments of said pivots, means for rotating said cutting spindles, means for rotating the work support on its axis, and means for effecting a depthwise feeding motion between said cutter spindles and work support comprising two components, one of which is in the direction of the axis of the work support.

2,978,965
TORQUE LIMITING CONTROL
Joseph B. Armitage, Milwaukee, and James N. Flannery, West Allis, Wis., assignors to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin
Filed June 13, 1955, Ser. No. 515,076
7 Claims. (Cl. 90—21)



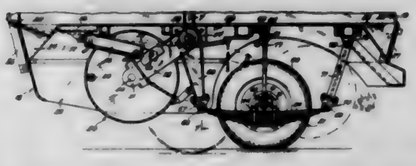
1. In a milling machine, a column, a spindle journalled in said column, a cooperating work support movably mounted on said column for movement relative to said spindle, a pair of coordinately operable driving motors respectively connected to drive said tool spindle and said work support at a selected rate, a variable speed transmission mechanism operatively interposed between said spindle and said driving motor respectively associated therewith in a manner to selectively transmit power therebetween at a selected speed in a high or a low range, said transmission mechanism having a maximum torque transmitting capacity sufficient to transmit the full power of said driving motor when adjusted to operate in the high range but insufficient to transmit the full power of said motor when adjusted to operate at reduced speeds in the low range, a first torque limiting control operative to deenergize said work feeding motor on the occurrence of a degree of load on said spindle driving motor exceeding the full power transmitting capacity of said transmission mechanism, a second torque limiting control operative to a deenergize said work feeding motor on the occurrence of a degree of load on said spindle driving motor exceeding the reduced power transmitting capacity of said transmission mechanism, speed selecting means operative to adjust said variable speed transmission mechanism, and a selector device operating in conjunction with said speed selecting means and connected to render operative one or another of said torque limiting controls depending on whether said transmission mechanism is adjusted to operate at high speeds with full power transmitting capacity or at low speeds with reduced power transmitting capacity.

2,978,966
MILLING MACHINE DEVICE
Henry F. Swenson, 87 Dorne Ave., West Orange, N.J.
Filed June 12, 1956 Ser. No. 590,888
7 Claims. (Cl. 90—60)



1. A machine vise comprising a base having a fixed jaw thereon, and a sliding jaw, slidable to co-operate with said fixed jaw, each jaw having a cutout at its upper edge and a bar mounted in said cutout, each of said bars being pivoted to its jaw at its upper inner edge and having a work-engaging face on its outer side, spring means for urging said bar outwardly about its pivot, whereby on clamping a work piece between said jaws, each bar is rotated about its pivot to force the work downwardly against the base.

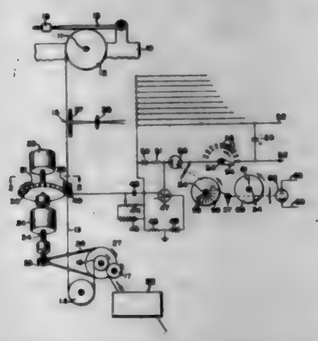
2,978,967
ROAD ROLLER
Raymore D. MacDonald, Eureka, Ill., assignor to Harry J. Seaman, Milwaukee, Wis.
Filed Dec. 24, 1956, Ser. No. 630,283
10 Claims. (Cl. 94—50)



2. A road rolling vehicle comprising a ballast retaining frame, a support for said frame comprising a plurality of pairs of pneumatic tired wheels disposed in transverse spaced relationship with said frame, independent axles for each pair of wheels, independent spring suspension means for each of said axles, said independent spring suspension means being fixedly attached intermediate its ends to each of said independent axles between each pair of said wheels, a plurality of pairs of spaced spring supports pivotally mounted on said frame, each of said independent spring suspension means having its ends pivotally connected to respective pairs of said pivotally mounted spring supports, said individual spring suspension means yieldably resisting the lateral tilting movement of its associated pair of wheels, an upwardly directed member rigidly mounted and positioned between each pair of wheels, and cooperating stop means disposed adjacent the upper end of said upwardly extending member and engageable therewith to limit the extent of lateral tilting movement of each of said pair of wheels.

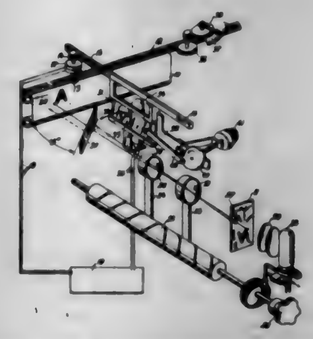
2,978,968
RECORDING APPARATUS AND METHOD
Frederick A. Schwertz, Pittsford, N.Y., assignor to Haloid Xerox Inc., a corporation of New York
Filed Apr. 14, 1958, Ser. No. 728,138
4 Claims. (Cl. 95—1.1)

1. Information recording apparatus comprising movable support means for a recording member bearing a light sensitive photographic layer, means to expose said layer to an image of light and shadow to be recorded, an input for a coded electrical signal corresponding to alphanumeric information to be recorded and means to convert said signal to a timed electric pulse, at least one reference electrode and means to advance the recording member against said electrode, an adjacent energizable rotatable character wheel bearing on a peripheral surface a plurality of conductive alphanumeric character faces disposed adjacent to said reference electrode and positioned to receive the recording member between said character wheel and said reference electrode and timed means to pulse said character faces in response to the input signal



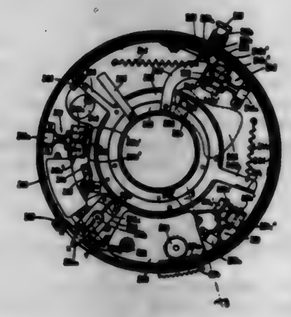
with a pulse having a pulse duration less than 10 microseconds and of short ending duration to produce a sharp image on the photographic layer, and uniform speed drive means to advance the recording member progressively between the reference electrode and the character wheel, said drive means being timed synchronously with the timed electric pulse to position the recording member with respect to the character wheel at the instant of pulse, whereby a latent image is formed of alphanumeric information combined with optical information.

2,978,969
PHOTOGRAPHIC TYPE-COMPOSING APPARATUS
Hugo Heine, 47 Fortstrasse, Braunschweig-Querum, Germany
Filed May 28, 1957, Ser. No. 662,076
14 Claims. (Cl. 95—4.5)



1. Photographic type-composing apparatus comprising a symbol carrier provided with at least one typographic symbol of a certain width and with a characteristic located at a point of said carrier representative of said width, a support of light-sensitive sheet material, a photographic projection system including relatively movable lenses disposed between said carrier and said support and a source of light for projecting an image of said symbol upon said light-sensitive sheet material at a magnification ratio depending on the relative position of said lenses, ratio-changing means for relatively adjusting said lenses with respect to said symbol carrier and said support, feeding means for imparting an intermittent feed movement to said support, optical sensing means including a photoelectric cell for sensing the location of said characteristic and for producing a controlling impulse, said optical sensing means including a movable optical element cooperatively connected with said feeding means for timing said impulse with respect to the operation of said feeding means in dependence on the location of said point, means controlled by said impulse for controlling the duration of said intermittent feed movement in dependence on the timing of the impulse to variably determine the length thereof in dependence on the location of said characteristic, means controlling said projection system and operative, whenever said intermittent feed has been completed and said support is at rest, for rendering said system effective to project said image upon said sheet material, and motion-transmitting means having a variable ratio of transmission for cooperatively connecting said movable optical element with said feeding means, said ratio of transmission being variable by said ratio-changing means.

2,978,970
PHOTOGRAPHIC SHUTTER CONSTRUCTION
Paul Fahlenberg, Baierbrunn, near Munich, Germany, assignor, by mesne assignments, to Compur-Werk Friedrich Deckel OHG, Munich, Germany, a German firm
Filed Aug. 20, 1957, Ser. No. 679,270
Claims priority, application Germany Aug. 23, 1956
6 Claims. (Cl. 95—11.5)



4. A photographic shutter including blades movable between closed and open positions, a first blade ring and a second blade ring both rotatably mounted for movement between respective rest positions and tensioned positions and both operatively connected to said blades to open said blades when said first ring moves from tensioned position to rest position and to close said blades when said second ring moves from tensioned position to rest position, spring means resiliently urging both of said rings toward their respective rest positions, a first magnet having a permanent magnet core for holding said first ring in its tensioned position against the force of said spring means, a first coil serving, when energized, to alter the magnetic flux of said first magnet sufficiently to release said first ring for movement to its rest position, a second magnet having a permanent magnet core for holding said second ring in its tensioned position against the force of said spring means, a second coil serving, when energized, to alter the magnetic flux of said second magnet sufficiently to release said second ring for movement to its rest position, first electronic timing means serving, when activated, to energize said first coil and said second coil in predetermined timed sequence with respect to each other, to cause said rings to open and close said blades, a shutter trigger switch, a second switch, second electronic timing means serving, when activated, to close said second switch at a controlled time interval after activation of said second timing means, and switching means movable between one position in which said trigger switch is directly connected to said first electronic timing means and serves to activate said first timing means upon closing of said trigger switch, and a second position in which said trigger switch is directly connected to said second electronic timing means and serves to activate said second timing means upon closing said trigger switch and closing of said second switch by the activated second timing means serves to activate said first timing means.

2,978,971
PHOTOGRAPHIC PRODUCT
William H. Eburn, Jr., East Weymouth, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 18, 1960, Ser. No. 9,476
32 Claims. (Cl. 95—13)

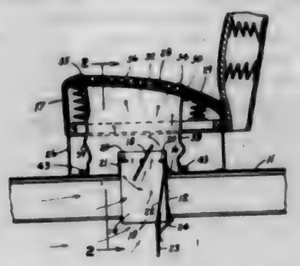


1. A photographic film assemblage for use in photographic apparatus such as a camera wherein the photosensitive elements of a film unit is exposed and said film unit is thereafter withdrawn from said apparatus for distributing a fluid processing composition within said film unit to effect the treatment of said photosensitive element; said assemblage comprising, in combination, a container; a film unit including a photosensitive element mounted within said container in position for exposure; said container including an opening for allowing the withdrawal of said film unit; and at least another element, not a component of said film unit and unconnected therewith, mounted within said container for withdrawal therefrom through said opening prior to exposure and withdrawal of said film unit; said film unit including a leader disposed entirely within said container and providing means for withdrawing said film unit through said opening from said container and from said apparatus; said other element including a leader extending from said container through said opening and providing means for engaging and withdrawing said other element from said container through said opening and from said apparatus; said other element including a first engagement portion at the trailing end thereof; said leader of said film unit including a second engagement portion disposed apart from said first engagement portion in position for engagement therewith during withdrawal of said other element from said container; said first and second engagement portions cooperating, when engaged with one another, to join said leader of said film unit to the trailing end portion of said other element whereby continued withdrawal of said other element withdraws said leader of said film unit through said opening.

2,978,972
VENTILATING AND COOLING SYSTEM FOR AUTOMOBILE SEATS
Wesley F. Hake, 2900 College Ave., Terre Haute, Ind.
Filed Nov. 3, 1958, Ser. No. 771,411
4 Claims. (Cl. 98—2)

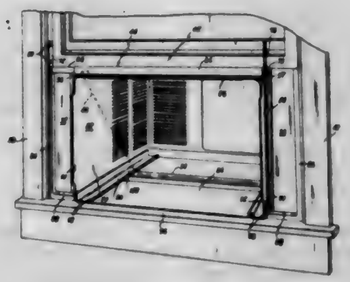
1. An automobile seat ventilating system comprising an air scoop adapted to be mounted on and extend through the floor of an automobile beneath a seat therein, a duct consisting of four walls formed of flexible material and adapted to be hung from said seat over said

scoop, said walls each including a weight at the bottom edge thereof for holding said edge in movable contact



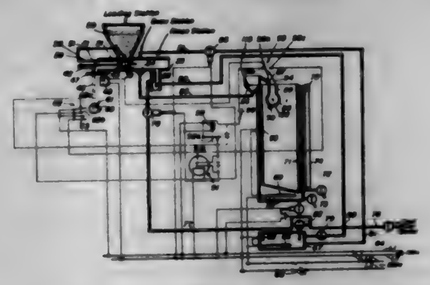
and sliding relation to said floor, and a cushion member aligned with said duct and having air venting holes therein for passing air entering said scoop.

2,978,973
WINDOW AIR CONDITIONER MOUNTING ASSEMBLIES
James M. Sweedyk and Glen L. Gleason, Belding, Mich., assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Dec. 5, 1956, Ser. No. 626,436
2 Claims. (Cl. 98—94)



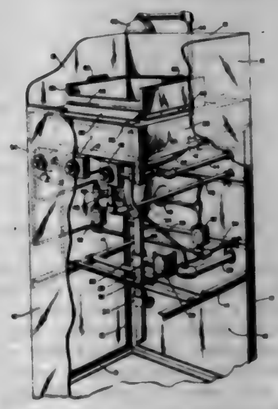
1. An apparatus for mounting an air conditioner having a shell-like housing enclosing a condenser, a compressor and an evaporator and adapted to be positioned in the opening of a sliding sash window comprising a hollow tubular frame member extending across the top of said housing at said window opening forwardly of the window sash, bracket members slidably mounted within said tubular frame member and projecting from the opposite ends of said tubular frame member, cooperating means on said tubular member and said bracket members to prevent rotation of said bracket members with respect to said hollow tubular frame member, vertically extending attaching portions formed integrally with the outer ends of said bracket members and adapted to be attached to the sides of said window opening above said frame member and forwardly of said window sash, side members rigid with said frame member and extending downwardly closely adjacent the opposite sides of said shell-like housing, means securing said side members to the lower portion of said housing, a bottom frame member rigid with the bottom of said housing and having a downwardly projecting flange engageable with the outer edge of the window sill, brace members extending diagonally along the opposite sides of said housing and pivotally attached at one end to said tubular frame member, and means adjustably attaching the opposite end of said diagonal brace members to the lower portion of said housing outwardly of said opening.

2,978,974
RECIPROCATING COFFEE BREWER
Clyde R. Rockriver, Burbank, Calif., assignor, by mesne assignments, to Coffee Equipment, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 9, 1958, Ser. No. 779,147
12 Claims. (Cl. 99—283)



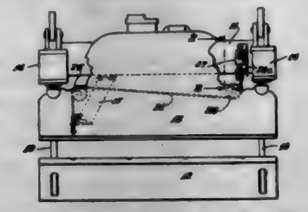
1. A reciprocating coffee brewer, comprising, in combination, a hopper for ground coffee to be brewed, a support for the hopper, said support comprising a hollow casing, a measuring slidable brewing container for ground coffee reciprocable in the support at the bottom of the hopper, operating means for successively, intermittently and repeatedly moving the container through three operating stages; namely, a loading stage, a brewing stage and a rinsing stage, said operating means comprising a motor, a crank on a shaft driven by the motor in the support, a link connecting the crank to the measuring container, automatically timed switches in the motor circuit, a switch actuator mounted on the crank shaft, a water heating tank, a reservoir for brewed coffee connected to the tank and means for maintaining the tank and the reservoir at pre-determined temperatures, said means including a water jacket, a thermally controlled electric heater in the jacket and automatic means for continually maintaining the contents of the brew reservoir at a maximum filled stage, said automatic means including a tumble tank positioned in the top of the reservoir.

2,978,975
APPARATUS FOR COOKING FARINACEOUS MATERIALS
Peter Rossi, Pocono Gardens Lodge, Cresco, Pa.
Filed Nov. 10, 1958, Ser. No. 772,952
4 Claims. (Cl. 99—330)



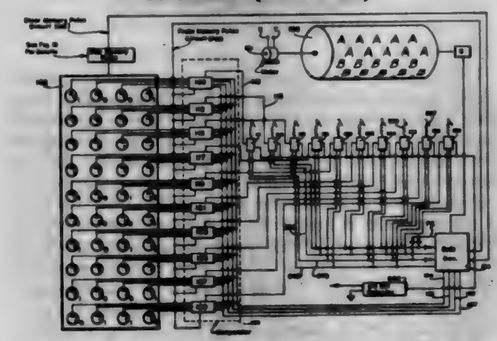
4. Apparatus for the controlled cooking of farinaceous materials comprising an upwardly open ended cooking liquid well having an axially disposed dependent end portion of reduced cross-sectional area and an enlarged upper portion sized to receive and contain a removable cooking container beneath the operative liquid level therein, a valved drain connected to the dependent end of said well, a rinsing head disposed above said well, liquid valve means for effecting the selective introduction of cooking liquid into said well or into said rinsing head, heating means for selectively applying heat to the external surfaces of the dependent end portion of said well to raise cooking liquid contained therein to the boiling point and effect a flow of said boiling liquid from the longitudinal axis of said well outwardly toward the periphery thereof and timing means operative after expiration of a presettable time interval to automatically open said valved drain and to deactivate said heating means.

2,978,976
LEVEL CONTROL FOR PRESS BRAKES AND THE LIKE
Merrill W. Hazelton, Richard E. Griesheimer, and Carl J. Ostendorf, Cincinnati, Ohio, assignors to The Cincinnati Shaper Company, Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 21, 1959, Ser. No. 788,184
9 Claims. (Cl. 100—46)



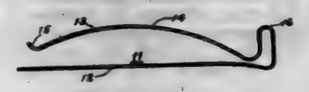
1. In a hydraulic press brake and the like having a frame and a bed, and having a pair of hydraulic cylinders equipped with pistons, and a ram connected to said pistons for actuation thereby, a ram level control mechanism comprising means to detect continuously which of said pistons is in advance of its proper position in either direction of movement thereof, means to bleed hydraulic fluid from the pressure side of the cylinder of said advanced piston at a rate which is proportional to the lead error of said advanced piston, and a continuously operative connection between said detecting means and said bleeding means.

2,978,977
HIGH SPEED PRINTER
John Presper Eckert, Jr., Philadelphia, and Earl E. Masterson, Bryn Mawr, Pa., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Feb. 4, 1955, Ser. No. 486,206
30 Claims. (Cl. 101—93)



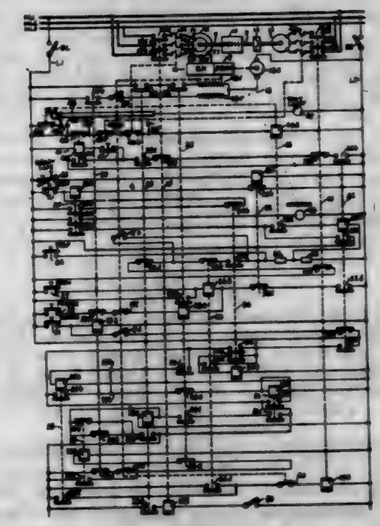
1. A cylindrical type wheel having type thereon staggered in axial rows and circumferential columns in a checkerboard fashion, one of said columns containing a plurality of different type faces, and others of said columns containing a like plurality of type faces corresponding to said type faces of said one column.

2,978,978
SPRING CONSTRUCTION FOR A TYPE RACK
Andrew R. Lang, Detroit, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 31, 1959, Ser. No. 837,161
6 Claims. (Cl. 101—109)



1. In a type rack having a housing, a plurality of transversely movable elongated type elements mounted in said housing, and a biasing spring for restraining said elements against displacement, said spring comprising a normally straight leg portion having a free terminal, a bowed leg portion having a free terminal and a central fulcrum section of substantially constant curvature, and a loop portion joining said straight leg portion and said bowed leg portion, said leg portions in constant slidable abutment proximate said free terminals, said straight leg portion engaging a portion of each of said type elements, and said bowed portion bearing with said central fulcrum section against the inside surface of said housing.

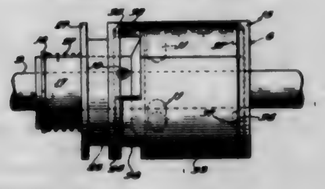
2,978,979
CONTROL SYSTEM FOR PRINTING PRESS
William H. Rouse, Brookfield, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 15, 1958, Ser. No. 755,356
16 Claims. (Cl. 101—219)



1. In combination, a printing press adapted to run at a preselected constant threading speed and over a range of higher printing speeds, and a controller for said press, said controller comprising first and second control devices, means to run said press at said threading speed only upon initial operation of said first control device and to run said press at a printing speed upon the second operation of said first control device, said means further operable upon the third or subsequent operation of said

first control device to increase the printing speed of said press, and means for decreasing the printing speed of said press to not lower than a predetermined minimum printing speed upon the initial operation of said second control device, said last mentioned means further operable upon a second or subsequent operation of said second control device when said press is running at said predetermined minimum printing speed to run said press at said threading speed.

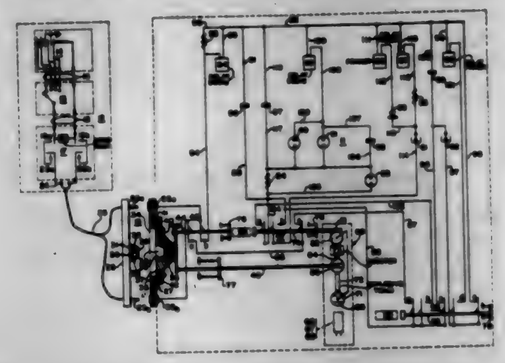
2,978,980
IMPRINTING PLATE CYLINDER
Jack J. Kessler, Chicago, Ill., assignor to Uarco, Incorporated, a corporation of Illinois
Filed Dec. 12, 1958, Ser. No. 779,878
5 Claims. (Cl. 101—378)



1. An imprinter roll for imprinting continuous form stationery, comprising: a cylindrical base having a longitudinal bore for mounting the base on a rotatable shaft, means mounted on said base securing said base to the shaft and causing said base to turn therewith, said base having a cylindrical surface adjacent one end and a radially directed flange extending outwardly beyond said surface; a collar mounted upon said base in spaced relation to said cylindrical surface and slidable longitudinally of the base, said collar and flange having annular sloping surfaces facing each other and said cylindrical surface; a conical section on said base interposed between said collar and said cylindrical surface; an arcuate plate having an inner surface shaped to mate with said cylindrical surface in contiguous contact thereagainst, said plate having opposite end surfaces shaped to mate with said sloping surfaces whereby the collar and flange sloping the base, said plate having an outstanding neck portion at one end, said neck portion being adapted to overlie surfaces may engage said plate and hold the same against said conical section thereby allowing easy removal of said plate; and releasable means encircling and supported by said base urging said sloping surfaces toward each other to maintain said plate therebetween.

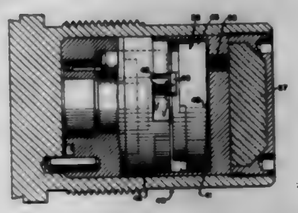
2,978,981
BOMB FUZE
Herbert E. Ruehlemann, Huntingdon Valley, Pa., Richard J. Burke, Silver Spring, and Renato Bianchi, Beltsville, Md., and Thomas C. Smith and Dell K. Tower, Poughkeepsie, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 11, 1956, Ser. No. 577,617
7 Claims. (Cl. 102—70.2)

1. An ordnance fuze arrangement comprising, in combination, a fuze detonating mechanism, a source of a plurality of available unidirectional potentials, first and second capacitors electrically coupled to and chargeable by said source, first electroresponsive exploder means being ignitable by said source, means for selectively connecting said capacitors and said first exploder means to said source, first electrical switching means operatively connected to said first exploder means, said first switching means being operated from an initial position to a moved position upon ignition of said first exploder means, second electroresponsive exploder means being discretely ignitable by the charge on said first capacitor upon operation of said first switching means to said moved position, second electrical switching means operatively connected to said second exploder means, said second switching means being operated from an initial to a moved position in response to ignition of said second exploder means, a first initially nonoperable electroresponsive detonating means being coupled to and rendered discretely operable by the charge on said first capacitor upon operation of said second switching means



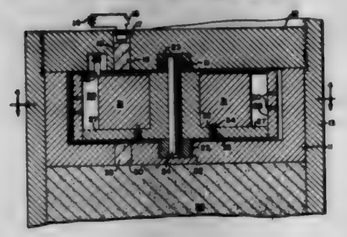
to a moved position, said first detontating means being ignitable to actuate said fuze detonating mechanism upon target impact, and second initially nonoperable electroresponsive detonating means being coupled to and rendered operable by the charge on said second capacitor upon operation of said first switching means to said moved position, said second detonating means being ignitable to actuate said fuze detonating mechanism upon subjection of said fuze to an impact force.

2,978,982
MAGNETICALLY DELAYED ARMING DEVICE FOR A FUZE
Renato Bianchi, Laurel, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 23, 1953, Ser. No. 382,015
7 Claims. (Cl. 102—79)
(Granted under Title 35, U.S. Code (1952), sec. 266)



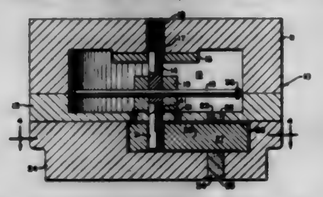
2. A delayed arming device for a spin projectile comprising a casing composed of conductive material, a magnetic rotor movable within said casing, means for locking said rotor in an initial safe position and for releasing the rotor for rotation to an armed position as the rotor is moved a predetermined amount to a release position in response to the initial angular acceleration of the projectile as the projectile is fired from a gun, resilient means operatively connected to said rotor for rotating the rotor from said release position to an armed position when the spin of the projectile has decreased to a predetermined value, the movement of said rotor from said release position to said armed position being retarded by the eddy-currents induced in response to the rotation of said magnetic rotor within said conductive casing.

2,978,983
MECHANICAL TIMING DEVICE
Paul Okstein, Brooklyn, N.Y., and Philip A. Studer, Lancaster, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 10, 1958, Ser. No. 727,755
2 Claims. (Cl. 102—79)



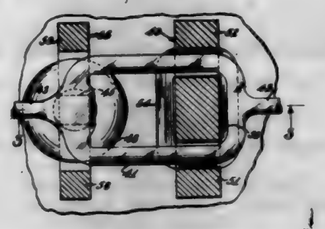
1. An inertia time delay mechanism for use in a projectile comprising; a hollow casing affixed within the projectile for rotation therewith, a shaft rotatably disposed within said casing, a balanced rotor having a plurality of radial guideways therein and affixed to said shaft, a pair of mutually aligned detonating elements disposed within said casing and initially mutually separated by said rotor, a plurality of inertia weights each slideably disposed within a respective guideway in said rotor in a manner to maintain substantial balance of the rotor and to promote initial conjunct rotation of the rotor and the casing, said inertia weights being slideable radially outwardly upon rotation of said projectile, thereby to change the moment of inertia of said shaft and said rotor to effect relative movement between said rotor and said casing, means disposed within said rotor adapted to operatively connect said detonating elements in said casing upon a predetermined movement of said rotor relative to said casing.

2,978,984
INERTIA TIME DELAY MECHANISM
Norman Czajkowski, Chevy Chase, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 10, 1958, Ser. No. 727,744
4 Claims. (Cl. 102—80)
(Granted under Title 35, U.S. Code (1952), sec. 266)



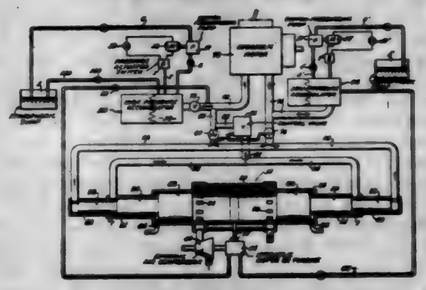
1. An inertia time delay mechanism for use in a projectile comprising; a casing having therein a threaded bore and a second bore spaced from said first bore along the axis of spin of the projectile, a rotatable rod having a threaded portion disposed within said threaded bore and an unthreaded portion rotatably extending through said second bore, a third bore formed within said casing and laterally spaced from said second bore, a primer explosive substantially filling said last-named bore, an explosive lead adapted to detonate the projectile and disposed in alignment with said primer explosive, an eccentric arming disc disposed between said primer explosive and said explosive lead and having a bore therethrough containing an explosive detonator normally displaced laterally from said primer and said explosive lead, a recess formed in said disc adapted to initially receive the unthreaded portion of said rod to prevent rotation of said disc, a transverse member fixed to said rod intermediate its ends to define a cross arm on each side of said rod, an inertia weight slideably disposed on each of the cross arms, detent means disposed in said casing and restraining said inertia weights in proximate relation to said rod, said detent means adapted to release said inertia weights upon the firing of the projectile, whereby said inertia weights move along the cross arm portion away from said rod to change their moment of inertia and produce relative rotational movement between said rod and said casing to thread said rod into said threaded bore in said casing withdrawing said rod from the recess in said disc thereby permitting said disc to rotate and align the explosive detonator with said primer explosive and said explosive lead to arm the projectile.

2,978,985
ELECTROMAGNETIC PUMPS
Nils E. Lindenblad, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 1, 1955, Ser. No. 525,734
6 Claims. (Cl. 103—1)



1. An electromagnetic pump comprising means for directing a conductive fluid in a closed loop, inlet and outlet ports communicating with said loop, a winding magnetically linked with said loop, means coupled to said winding for applying alternating current to said winding for inducing an alternating current around said loop into said fluid in said loop, and means disposed adjacent to said loop near said outlet port for providing an alternating magnetic field transversely to said loop near said outlet port for propelling said fluid through said outlet port.

2,978,986
FREE PISTON ENGINE
Frank B. Carder, Darien, Conn., and Leopold Strauss, East Rockaway, N.Y., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Sept. 28, 1956, Ser. No. 612,740
22 Claims. (Cl. 103—27)



1. A free piston engine comprising a first accumulator means, engine cylinder means; a pair or opposed engine piston means reciprocally mounted in said engine cylinder means including two opposed power pistons and two opposed pumping and bounce piston means; said pumping

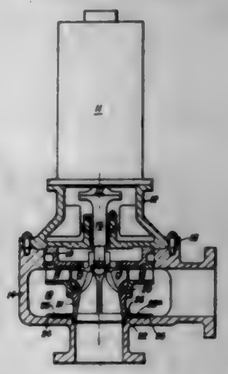
and bounce piston means maintaining said first accumulator means filled with a working hydraulic fluid under pressure when said engine is in operation; a second low pressure accumulator connected to said pumping and bounce means and normally filled with said working fluid; and control means for starting and stopping said engine in response to the pressure of said fluid in said first accumulator means, said control means being hydraulically connected to: said first accumulator means, said second low pressure accumulator and to said pumping and bounce piston means; said control means including a pilot piston hydraulically connected to said first accumulator means; a spring connected to one end of said pilot piston to oppose the pressure exerted on said pilot piston by said fluid, said pilot piston being operated by and being responsive to pressure of the working fluid contained in said first accumulator means, said pressure acting on one side, or head, of said pilot piston in the direction opposite to the direction of the pressure exerted on the other end of said pilot piston by said spring, and a valve closed and opened with the aid of said pilot piston and the fluid from said first accumulator means; said valve being hydraulically connected in the circuit of said pumping and bounce piston means, said valve becoming closed when pressure of the fluid on said pilot piston reaches a maximum pressure p_1, and becoming open when said last recited pressure drops to a minimum pressure p_2.

2,978,987
FUEL INJECTION PUMPS
Pierre Etienne Bessiere, 55 Blvd. Charcot, Neuilly-sur-Seine, France
Filed May 20, 1957, Ser. No. 660,362
Claims priority, application France May 24, 1956
6 Claims. (Cl. 103—41)



1. In combination with a fuel injector adapted to open under the action of the pressure of fuel fed thereto when said pressure reaches a first predetermined value, a fuel feed pump which comprises, in combination, a pump body forming a cylinder, a piston reciprocable in said cylinder, a delivery conduit in communication with the inside of said cylinder and leading toward said injector, driving means for reciprocating said piston in said cylinder, said driving means being arranged to give an increasing speed to said piston during the inward stroke thereof, means in said pump body forming a leak passage for fuel from said cylinder to the outside thereof, a slide valve distinct from said piston and movable in a path with respect to said pump body between opening and closing positions at opposite ends of said path to control said leak passage, said slide valve being mounted to be hydraulically urged by the fuel pressure in the cylinder toward its leak passage closing position, and biasing means interposed between said pump body and said slide valve for opposing the hydraulic thrust of said fuel pressure on said slide valve to maintain said slide valve in leak passage opening position at all times when said fuel pressure is below a second predetermined value which is lower than said first predetermined value and to let said slide valve close said leak passage as soon as said fuel pressure in the pump cylinder has reached said second predetermined value.

2,978,988
CENTRIFUGAL PUMP
Thomas McAlpine, Cathcart, Glasgow, Scotland, assignor to G. & J. Weir Limited, Cathcart, Glasgow, Scotland, a corporation of Great Britain and Northern Ireland
Filed Nov. 12, 1958, Ser. No. 773,453
1 Claim. (Cl. 103—87)

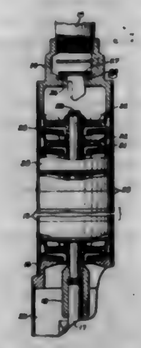


A centrifugal pump comprising a pump casing having a suction inlet, a cover fitted to said pump casing, a driving motor supported by said cover, an impeller located within said casing and operatively connected to said motor, a diffuser connected to said cover and surrounding the impeller, a suction inlet guide carried by said diffuser and extending to the suction inlet in the casing, a flexible sealing plate on said inlet guide and engaged with said pump casing around the suction inlet, and impeller packing located adjacent said suction inlet guide between said diffuser and said impeller, said impeller, diffuser, impeller packing and suction inlet guide constituting an assembly the parts of which are all centered on said cover in relation to the axis of the impeller, so that said assembly may be lowered into said pump casing as a unit without risk of impairment of the relatively fine clearances between said impeller and said impeller packing.

2,978,989
PUMPS
Kenneth R. Lang, Dayton, Ohio, assignor to The Tait Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Jan. 10, 1957, Ser. No. 633,412
3 Claims. (Cl. 103—102)

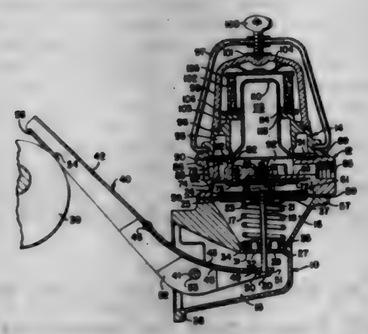
1. A multi-stage centrifugal pump of the character described comprising a housing, a drive shaft extending through said housing, a plurality of pumping units stacked axially within said housing and each including a casing of generally cup shape having a central opening in the front thereof, an impeller splined on said shaft for axial movement thereon within each said casing and including a hub and a back shroud extending generally radially therefrom, a front shroud on each said impeller, inlet means on each said front shroud for receiving liquid through said opening in the front of the associated casing and including an annular boss projecting forwardly and of larger diameter than said opening for engagement with the surface portion of said casing surrounding said opening when said pump is at rest to maintain space between said front shroud and said casing open to the discharge pressure of said impeller, a diffuser including

an annular web received in each said casing behind said impeller therein, means maintaining said casings and said diffusers in axially and angularly fixed relation with said housing, means on the front of said diffuser web adjacent the inner periphery thereof forming an annular bearing surface for engagement with said back shroud, the axial spacing between said bearing surface of each said diffuser and said inner surface portion of the associated said casing being greater than the axial spacing between said back shroud and the front end of said boss on the associated said impeller to provide for free axial movement of said impeller with respect to said diffuser and casing through a predetermined distance, the area of said front shroud



being greater than that of said back shroud to establish a greater effective pressure axially of said impeller between said front shroud and said casing than between said back shroud and said diffuser web and thereby to cause said impeller to be moved out of engagement with the associated said casing in response to operation of said pump, and the axial length of said hub of each said impeller being proportioned to provide sufficiently greater axial clearance between said hubs of adjacent impellers than said predetermined distance of movement of each impeller to assure maintained running sealing engagement between said back shroud of each said impeller and the associated said bearing surface during operation of said pump.

2,978,990
FLUID PUMPS
George W. Lewis, 2411 Evergreen Road, Toledo, Ohio
Filed May 3, 1956, Ser. No. 582,403
5 Claims. (Cl. 103—150)



1. A fuel pump comprising a main flexible diaphragm, a secondary flexible diaphragm, a composite housing made up of three superimposed housing members having flanges arranged to be joined together in different angular relationships clamping in spaced relation said main and secondary flexible diaphragms by their marginal surfaces, the said secondary diaphragm having spaced arcuate perforations surrounded by an outwardly disposed imperforated section connecting its marginal surface to an imperforated central section, the first of said housing members forming with one face of the main diaphragm a closed pumping chamber carrying annular inlet valve means and a centrally located outlet valve, said first housing member having its outer wall pierced by an aperture forming an outlet connector for the delivery of fluid discharged from the pumping chamber, cup-like means centrally carried by the second housing member forming a central and annular open-ended chambers to provide with the centrally and outwardly disposed imperforated sections of said secondary diaphragm a centrally located closed pulsator outlet chamber and annular distendable inlet fuel pulsations damping means, said second housing member having its outer wall formed with an inlet connector for the ingress of fuel transversing the spaced perforations to said pulsation damping means, and the third housing member located on the reverse face of the main diaphragm forming a chamber for housing the mechanism for actuating the main diaphragm.

2,978,991
CABLE RETAINER ON SUSPENDED FILM CARRIER
Robert A. Oswald, 5701 W. Adams Blvd., Los Angeles 16, Calif.
Filed July 31, 1959, Ser. No. 830,780
1 Claim. (Cl. 105—151)

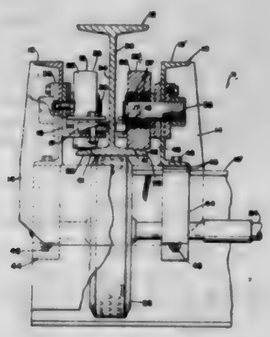


In a cable retaining device for a pulley on a frame supporting a film carrier for movement along a downwardly inclining cable, the combination comprising: a plunger mounted in the frame, said plunger projecting outwardly on opposite sides of the frame and slidably rotatably movable in the frame; cable retaining means secured to one end of said plunger and normally maintained below the pulley to retain a cable on the pulley; an actuating knob at the other end of said plunger; a spring mounted on said plunger intermediate said knob and the outer face of the frame to return said plunger to cable retaining position, said knob actuable to push said plunger through the frame and move said cable retaining means out of cable retaining position.

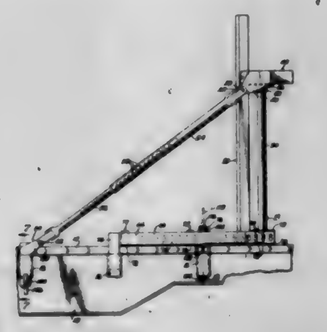
2,978,992
TRUCK FOR UNDERHUNG TYPE OVERHEAD CRANE
Wallace E. Wason, Cleveland, Ohio, assignor to Mechanical Equipment Co., Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 16, 1959, Ser. No. 827,566
1 Claim. (Cl. 105—154)

A truck for an underhung type overhead carrier, comprising spaced frame members and at least two pairs of crowned support wheels between said frame members, the wheels of each pair being spaced apart a distance less than the spacing of the frame members, said truck being

adapted to roll on any beam having a lower horizontal flange narrower than the spacing between the spaced frame members and wider than the spacing between the support wheels, said beam also having a vertical web substantially bisecting the upper surface of the flange, said frame members being interconnected in substantially parallel relationship, said pairs of support wheels being mounted on the frame members in position to engage and roll along the upper surface of said lower flange, a pair of side guide rollers on each frame member, said guide rollers extending toward said web and being positioned at a height to adapt them to engage the web for rolling contact therealong, and a drive wheel mounted on the frame members and rotatable on an axis generally perpendicular to said web, said drive wheel engaging frictionally the lower surface of the lower flange and bearing adapted to roll therealong to drive said truck along the beam, whereby said truck is adapted to be mounted on any one of a variety of beams having lower flanges of a width less than the spacing of the frame members and greater than the spacing of the crowned support wheels.

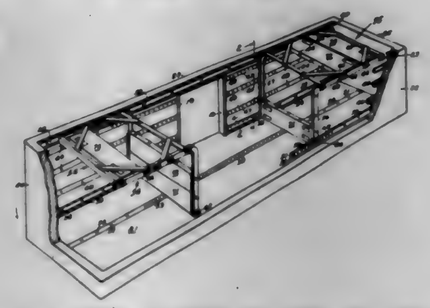


2,978,993
ATTACHMENT FOR RAILROAD FLAT CAR
James L. Hall, 1500 60th St., Des Moines, Iowa
Filed Apr. 2, 1957, Ser. No. 650,148
14 Claims. (Cl. 105—374)



9. A removable attachment adapted for use on an elongated railroad flat car that is provided with stake pockets on the floor thereof including side stake pockets along the longitudinal edges of the flat car; said removable attachment being adapted to be mountable on and demountable from a flat car without adding any structure to, or requiring modification of, the existing structure of the flat car, said attachment comprising, in combination, upright barrier means of substantially the same width as the flat car and adapted to be positioned transversely of the flat car, said barrier means presenting a front side, against which a load may abut, and a rear side; an elongated abutment engaging the rear side of said barrier means adjacent the lower end of said barrier means and said abutment extending across the width of said barrier means, and first connecting means attached to said elongated abutment and adapted for securing said elongated abutment to side stake pockets on said flat car, said first connecting means including a pair of elongated legs connected to laterally spaced portions of said abutment and extending transversely of said abutment, each of said legs extending longitudinally of said flat car and carrying stake-pocket anchor means adapted for connection to side stake pockets of a flat car; elongated inclined braces spaced laterally outwardly of the lateral edges of the barrier means and extending forwardly of the front side of said barrier means and being connected at their upper ends to said barrier means at points spaced above said elongated abutment, and second connecting means adapted to connect the lower ends of said braces to side stake pockets on said flat car.

2,978,994
BULKHEAD CARGO BRACING
Orin E. Miller, 2607 Beaumont St., Green Bay, Wis.
Filed July 21, 1960, Ser. No. 44,320
10 Claims. (Cl. 105—376)



1. In a railway car having side walls and a floor, a movable partition means for said car comprising: fixed substantially horizontal trackway means adjacent the upper edge of said side walls, said trackway means extending longitudinally of said car; carriage means rollably supported on said fixed trackway means, said carriage means including L-shaped guideway means one leg thereof disposed substantially parallel to the car floor and the other leg extending substantially vertically downwardly; bulkhead means mounted in said guideway means for movement therealong; and balance spring means mounted on said bulkhead means, said balance spring means including a spring having one end connected to said bulkhead means and the other end connected to rotatable means rollably engaged with said guide means for tensioning said spring as said bulkhead means is moved toward the lower end of said guideway means.

2,978,995
WALL STRUCTURE, PARTICULARLY FOR RAILWAY CARS
Albert G. Dean, Narberth, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 2, 1958, Ser. No. 725,873
3 Claims. (Cl. 105—401)

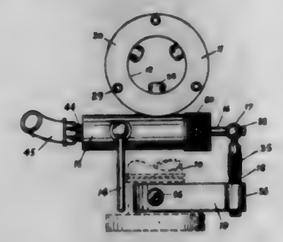
1. In an elongated prismatic vehicle body, having a side wall with window openings therein between vertical

posts on each side of the openings and between upper and lower longitudinal panels secured on the outer sides of the posts, in combination, a window frame secured in each window opening, the frame including Z-shaped horizontal frame chord elements at the top and bottom rigidly connected by vertical frame elements, the intermediate webs of the Z-shaped frame chord elements being substantially the same width as the posts, the exterior flange legs of the Z-shaped chord elements having their marginal edges extending inwardly of the opening and the interior flange legs of the Z-shaped elements extending outwardly, Z-shaped horizontal body chord elements of like size and disposition as the frame chord elements located between



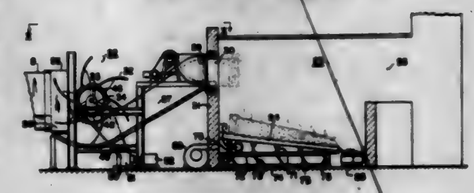
and beside the window openings in alignment with said upper and lower frame chord elements, means securing the exterior legs and the interior legs respectively of all of said Z-shaped chord elements together and to said posts to form through-running load transmitting body chord members, and the exterior legs of all Z-shaped chord elements being secured along their length to said upper and lower longitudinal panels, and deadlight panels secured exteriorly to said posts and to said upper and lower longitudinal panels, said vertical frame elements having flange legs aligning with the exterior flange legs of the horizontal frame chord elements and secured to said deadlight panels.

2,978,996
VARIEGATOR ATTACHMENT FOR SOFT FROZEN CONFECTION FREEZER
Frank T. Moser, Allentown, Pa., assignor, by mesne assignments, to Mister Softee, Inc., Runnemede, N.J., a corporation of Pennsylvania
Filed Mar. 24, 1959, Ser. No. 801,517
6 Claims. (Cl. 107—1)



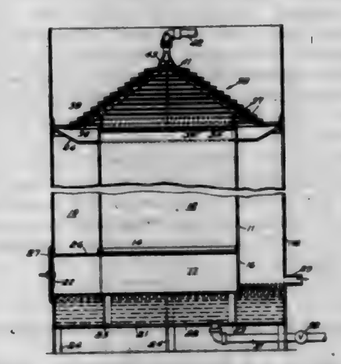
1. An attachment for securing to a soft frozen confection extruder having a draw-off valve and discharging a cylindrical core of the confection, comprising a hollow ring adapted to be detachably secured to the extruder coaxial with said core, a plurality of equispaced nozzles radially extending from the hollow ring and extending inwardly from the inner surface of the ring to intersect the core to form a plurality of grooves therein as the core moves, a rotary valve movable to discharge a sauce through the ring to the nozzles and adjustable means connecting the draw-off valve of the extruder with said rotary valve.

2,978,997
METHOD AND APPARATUS FOR THE CONTINUOUS COMBUSTION OF REFUSE AND THE LIKE
Edgar M. Pierce, Starlight Drive, Morristown, N.J.
Filed Nov. 13, 1957, Ser. No. 696,166
3 Claims. (Cl. 110—18)



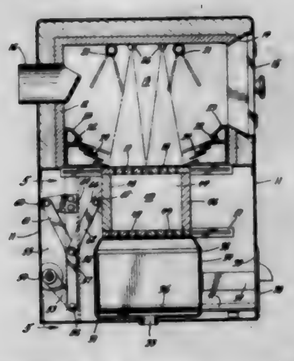
3. A method for the continuous combustion of municipal and industrial refuse and the like comprising storing the refuse and compacting the stored refuse by continuously moving it upwardly through a passageway towards a furnace having a grate for burning refuse and a refuse discharging opening above one end of the grate, delivering said refuse through said opening to a position in the furnace above said end of said grate, temporarily maintaining the refuse in compacted form in a position above the grate and extending from said opening to expose said refuse while at said position above the grate to heat from the furnace, igniting the refuse at said position, dropping the burning refuse onto the grate, and moving the refuse while burning along the grate and towards the other end of the grate.

2,978,998
INCINERATOR
Samuel D. Frankland, 1235 107th Ave., Oakland, Calif., assignor of one-half to Maynard E. Hill, Alameda, Calif.
Filed June 17, 1958, Ser. No. 742,514
2 Claims. (Cl. 110—18)



1. An incinerator comprising an inner jacket defining a combustion chamber with an open top, an outer jacket about said inner jacket in spaced relation thereto and defining a reservoir at the bottom thereof, a stub cylinder adapted for removable engagement with said inner jacket atop same, a plurality of step supports secured to said stub cylinder and extending upwards therefrom to a point, a plurality of annular plates disposed upon the steps of said supports and inclined inwardly and upwardly with each plate overhanging a substantial portion of the next lower plate to define annular gas egress slots therebetween, and water inlet means removably engaging the point of said supports for directing a uniform flow of water over the plates whereby substantially continuous streams of water pass across said slots and gas egressing therethrough is purified.

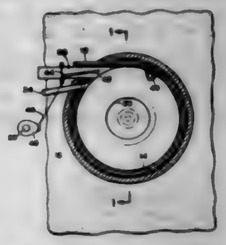
2,978,999
INCINERATOR WITH COMPACTER
Robert F. Smith, Grosse Pointe Woods, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 25, 1959, Ser. No. 822,882
4 Claims. (Cl. 110—18)



4. In combination, an incinerator provided with an incinerating chamber, a compacter compartment therebelow, a reticulated receptacle removably located beneath said compartment and a drain for the incinerator, a first door at the bottom of said incinerating chamber, a grate-like door at the bottom of said compacter compartment, said incinerating chamber receiving a composite refuse including combustible materials and noncombustible articles, means for burning the combustible materials of the refuse in said chamber while retaining noncombustible articles admixed therewith, said first door being movable to open the bottom of said incinerating chamber and dump said noncombustible articles therefrom into said compacter compartment, means for directing water through said incinerating chamber into said compacter compartment over the noncombustible articles dumped therein and through said reticulated receptacle to flush products of combustion therefrom into said drain, said compacter compartment comprising in addition to said grate-like door a fixed wall portion and a movable wall portion, means for shifting said movable wall portion of said compartment toward said fixed wall portion thereof to crush and compress said noncombustible articles therein into a compacted mass, said grate-like door being movable relative to said compacter compartment for releasing said compacted mass therefrom into said receptacle, and said receptacle being removable from said incinerator for disposal of the compacted mass received therein.

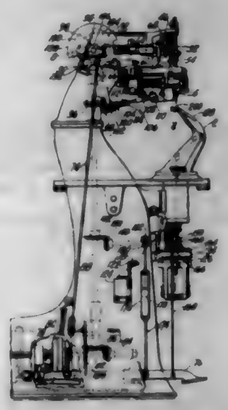
2,979,000
CYCLONE FURNACE UNIT AND METHOD OF OPERATING THE SAME
Andreas Sifrin and Hermann Hennecke, Oberhausen, Germany, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 25, 1955, Ser. No. 483,902
Claims priority, application Germany Feb. 16, 1954
5 Claims. (Cl. 110—28)

1. In a cyclone furnace for burning a slag forming fuel at temperatures above the fusion temperature of the ash or slag in the fuel, means including fluid conducting wall tubes forming a combustion chamber of circular cross section, a plurality of secondary air inlet means extending through the circumferential wall of the combustion chamber to form secondary air inlet ports along a line parallel with the longitudinal axis of the combustion chamber, a row of other inlets or nozzles circumferentially spaced and aligned with the row of secondary air inlets and similarly leading through the circumferential wall of the combustion chamber to conduct streams of primary air and particle form slag forming fuel into the combustion chamber in converging relationship to the streams of the secondary air, secondary air control means including separately operable dampers or valves in the respective secondary air inlets, and means



operating said valves or dampers in succession to periodically shut off or reduce the flow of secondary air through the separate secondary air inlets, without correspondingly reducing the corresponding primary air-fuel streams, to melt down frozen slag accumulations on the combustion chamber wall in front of said inlets.

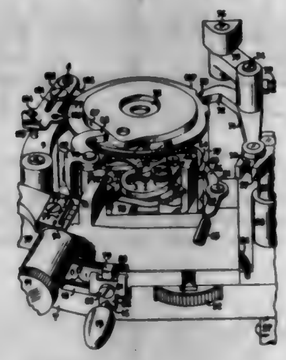
2,979,001
LOCKSTITCH SHOE SEWING MACHINES
Charles F. Fitzgerald, Beverly, and Arthur J. Murphy, Saugus, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Feb. 8, 1957, Ser. No. 638,986
7 Claims. (Cl. 112—36)



1. A lockstitch shoe sewing machine having a rotatably mounted shoe-entering horn, stitch-forming and setting devices including a hook needle, a take-up for drawing each loop of needle thread partially down to the surface of the work on the horn to leave sufficient thread for one side of the needle loop during the formation of the next succeeding stitch, a shuttle acting to draw off thread from the supply for the next stitch and thereafter to set the previously formed stitch, a thread lock against which the stitch is set, a sewing shaft for actuating the stitch-forming and setting devices and for closing the thread lock at a predetermined point in the movement of the shuttle, and means for driving the sewing shaft, in combination with treadle controlled means for disconnecting the sewing shaft from its driving means and for rendering the needle inoperative after a loop of thread has been drawn through the work by the needle and before the needle starts its succeeding work penetrating

stroke while the shuttle enters the final loop of thread retracted from the work by the needle and draws thread from the supply through the thread lock for the completion of the last formed stitch, the sewing shaft continuing to rotate after being disconnected from its driving means.

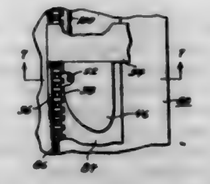
2,979,002
SEWING MACHINES
Ramon Casas-Robert, Jean Court, and Rolando Gianinazzi, Geneva, Switzerland, assignors to Mefina S.A., Fribourg, Switzerland, a corporation of Switzerland
Filed Feb. 5, 1957, Ser. No. 638,321
Claims priority, application Switzerland Feb. 18, 1956
12 Claims. (Cl. 112—158)



1. In a sewing machine comprising a needle bar and a feeder member, a primary cam means for imparting a predetermined number of successive reciprocating lateral movements to said needle bar during one revolution thereof, means for continuously rotating said primary cam means, said rotating means being operatively connected to said primary cam means, and a control means for varying the amplitude of said lateral movements of said needle bar, whereby there is formed a predetermined number of stitches during each revolution of said primary cam thereby forming an ornamental seam, the combination comprising an auxiliary cam, said auxiliary cam having a cammed surface, means for intermittently rotating said auxiliary cam, said means including a stationary spindle, a lever pivoted about said spindle, said lever including a first arm member having a feeler finger in contact with said primary cam means, the geometric axis of rotation of said primary cam means coinciding with the geometric axis of rotation of said auxiliary cam, said means for intermittently rotating said auxiliary cam including a means for varying the ratio of the number of revolutions of the primary cam to each revolution of the auxiliary cam, a lever member having at one end thereof a feeler member, said feeler member being in contact with said cammed surface of said auxiliary cam, said lever member being operatively associated with said control means, whereby there is formed a greater number of stitches during each cycle of said auxiliary cam than are formed during each cycle of the primary cam.

2,979,003
METHOD FOR SEWING CONCEALED SLIDE FASTENERS
Philip E. Crystal, Scarsdale, N.Y., assignor to Irving Constant, Esq., New York, N.Y.
Filed Jan. 16, 1958, Ser. No. 709,379
4 Claims. (Cl. 112—265)

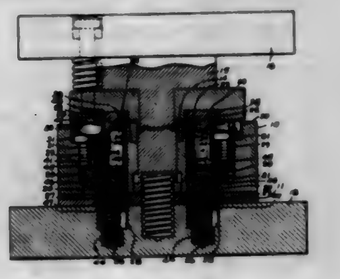
1. The process of sewing a concealed slide fastener comprising a pair of tapes carrying fastener elements at their inner edges and a slider which engages the fastener elements and which is substantially concealed when the slide fastener is in its closed disposition by one face of each of the tapes which is opposite to the face juxtaposed to the slider to a pair of cloth members in such manner as to closely simulate a sewn seam when the slide fastener is in its closed disposition which comprises folding each of the cloth members along a straight fold line to form two plies, arranging said folded cloth members side by side with their fold lines being adjacent, joining one of the tapes which carries the fastener's elements to a folded ply of one of the cloth members by juxtaposing the face of said tape which conceals the slider to said ply, stitching a first portion of said one tape to said ply with the slider being disposed away from said first portion of stitching and with the fastener elements of said slide fastener adjacent said first portion of stitching being disengaged, guiding said first portion of stitching by means which straddle the fastener elements of said one tape to produce a line of stitching which is adjacent to and parallel to the fastener elements carried by said one tape with said fastener elements being disposed intermediate the fold line of the cloth member and the line of stitching, continuing said line of stitching of said one tape to a point appreciably less than the requisite full line of stitching, stopping said first portion of stitching, removing the means which straddle the fastener elements of said one tape, moving the slider to a point adjacent said first portion of stitching, and completing said line of stitching with a second portion of stitching, said second portion of stitching being effected while the fastener elements of the one tape adjacent to said second portion of stitching are engaged with the fastener elements of



the other tape, said second portion of stitching being collinear with said first portion of stitching and closely adjacent to and parallel to the fastener elements carried by said one tape so that said fastener elements are disposed intermediate the fold line of the cloth member and said second portion of stitching, reversing the cloth members, joining the other of the tapes which carries the fastener's elements to a folded ply of the other of the cloth members by juxtaposing the face of said tape which conceals the slider to said ply, stitching a first portion of said other tape to said ply with the slider being disposed away from said first portion of stitching and with the fastener elements of the tapes of the slide fastener being engaged with each other adjacent said first portion of stitching of said other tape to its juxtaposed ply of said other folded cloth member, continuing the stitching of said other tape to a point appreciably less than the requisite full line of stitching, said first portion of stitching of said other tape being a line of stitching which is adjacent to and parallel to the fastener elements carried by said tape so that said fastener elements are disposed intermediate the fold line of the other cloth member and the line of stitching, stopping said first portion of stitching of said other tape, moving the slider to a point adjacent said first portion of stitching of said other tape, straddling the fastener elements of said other tape with guide means, completing said line of stitching of said other tape with a second portion of stitching, said second portion of stitching being guided by the guide means which straddle the fastener elements of said other tape and said second portion of stitching being effected while the fastener elements of said other tape adjacent to said

second portion of stitching are disengaged from the fastener elements of said one tape, said second portion of stitching being collinear with said first portion of stitching of said other tape and being adjacent to and parallel to the fastener elements carried by said other tape so that said fastener elements are disposed intermediate the fold line of the other cloth member and said second portion of stitching, removing the guide means from engagement with said slide fastener, and superposing the remaining ply of each of said cloth members over said lines of stitching by bending such remaining plies along the fold lines.

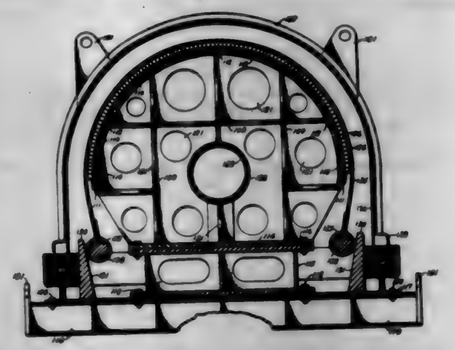
2,979,044
STOCK LIFTER FOR USE WITH DIES
Roy H. Kenville, 1802 Peabrook Lane, and Max K. Kenville, 1929 Bayberry Lane, both of Flint, Mich.
Filed July 24, 1958, Ser. No. 750,717
5 Claims. (Cl. 113—42)



1. A stock lifter for use in pairs and at opposite edge portions of strip stock for separating and supporting the strip stock out of engagement with a pair of relatively movable die members during separation of said die members while performing die operations upon said stock, said stock lifter comprising a tubular body slidably supported by one of said die members for endwise movement parallel with the relative movement of the die members, spring means yieldably projecting an end portion of said slidable tubular body outwardly of the above mentioned die member and in a direction towards the other die member, and a head seated on the projected end of said tubular body and having a reduced neck portion thereon within said tubular body, said head being engaged by the second mentioned die member so as to depress said tubular body relative to said first mentioned die member upon closing of said die members, said reduced neck of said head having in the side thereof a transverse groove, said tubular body having a deformed end portion within said transverse groove so as to retain said head on said tubular body and provide therewith the bottom of said groove, said groove having an edge portion of the strip stock extending therethrough so as to raise and lower the strip stock upon opening and closing of said die members.

2,979,005
APPARATUS FOR MAKING CURVED SANDWICH PANELS
Thomas A. Herbert, Jr., Chula Vista, Calif., assignor to Rohr Aircraft Corporation, Chula Vista, Calif., a corporation of California
Filed Jan. 13, 1956, Ser. No. 558,973
10 Claims. (Cl. 113—99)

1. In the construction of a metallic sandwich structure wherein the open ends of a metallic cellular core are brazed to the opposed faces of inner and outer spaced apart metallic skins curved about a central axis in excess of 180° and, means for holding said skins and core in assembled relationship during the brazing operation comprising: supporting means having a curved supporting surface in excess of 180° and in contact with said inner skin and arranged to support said skins and core in assembled relationship; a flexible metallic blanket arranged to press against said outer skin and hold said skins and core firmly together in assembled relationship



and against said supporting surface during the brazing operation, said blanket having depending ends, means attached to said depending ends of the blanket for drawing the same downwardly, and means for simultaneously moving said depending ends inwardly toward each other.

2,979,006
SIGNAL TRANSLATING SYSTEM
Ronald F. Wick, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 4, 1944, Ser. No. 516,927
6 Claims. (Cl. 114—23)

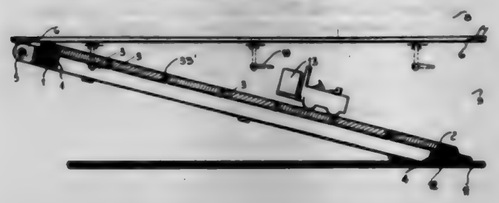


1. A signal-controlled steering system for a moving body having a rudder, actuating means for said rudder and control means for said actuating means, said system comprising a pair of signal translating devices mounted in spaced relation and effective to convert signals received thereat into output voltages, means for deriving from each of said devices a voltage proportional to the output voltage thereof and delayed a preassigned time with respect thereto, means for combining the output voltage of each of said devices with the derived voltage corresponding to the output voltage of the other device, means for rectifying the two combined voltages, means for combining the rectified voltages in difference relation, and means for supplying the resulting difference voltage to said control means.

2,979,007
RETRACTABLE RAMPS FOR INTERCONNECTING SPACES SITUATED AT DIFFERENT LEVELS
Henri Kammerman, Paris, France, assignor to Ateliers et Chantiers de Bretagne (Anciens Ets. de la Brosse et Fouche), Nantes, and MacGregor-Comarmin, Paris, France, both companies of France
Filed Aug. 26, 1958, Ser. No. 757,234
Claims priority, application France Sept. 20, 1957
8 Claims. (Cl. 114—72)

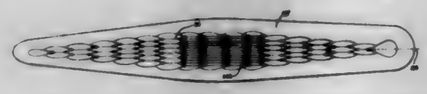
1. In a ship having a weather deck, a lower deck and a hatch opening in the weather deck: retractable closing means for said hatch opening comprising a ramp including an open frame member conformably fitting said open-

ing and retractable hatch cover sections supported by said frame to close and open the opening in the latter, said sections being retractable to provide access to the lower deck through the opening in said frame; and means for securing said ramp in weather-tight engagement with said



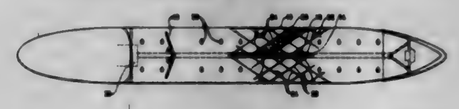
weather deck; said open frame member being hingedly secured to said weather deck at one edge of said hatch opening to swing between a substantially horizontal hatch closing position and an inclined position in which said ramp forms a sloping gangway between said two decks.

2,979,008
BULK LIQUID CARRIER
William Whipple, 3200 Bryn Mawr Drive, Dallas 25, Tex.
Filed May 10, 1960, Ser. No. 28,112
16 Claims. (Cl. 114—74)



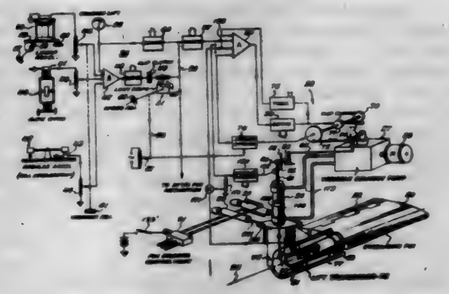
12. A bulk liquid carrier comprising an upwardly opening flexible liquid-impervious envelope of substantially oval shape in plan having a generally horizontal bottom and an upwardly directed collapsible marginal wall peripherally surrounding said bottom, a horizontally disposed and horizontally deformable cable network of substantially constant length flexible tension members extending across the upward opening in said envelope and connected to the upper peripheral edge of said wall at a plurality of locations around said wall, floats connected to the upper edge portion of said wall for buoyantly supporting same within a body of liquid, said network having the inherent characteristic of being simultaneously stretchable in the direction of tow and contractible in a relatively transverse direction, and vice versa, incident to the exertion of towing and wave forces thereon, and means symmetrical to the major axis of said oval envelope for connecting a tow line to said network adjacent its peripheral edge.

2,979,009
TANKERS OR LIKE SHIPS
Rolf Martin Johannes Sörman, Goteborg, Sweden, assignor to Aktiebolaget Gotaverken, Goteborg, Sweden, a corporation of Sweden
Filed Mar. 4, 1957, Ser. No. 643,699
Claims priority, application Sweden June 7, 1956
6 Claims. (Cl. 114—74)



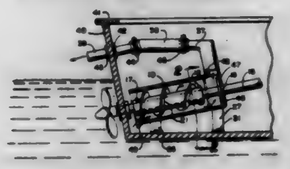
5. A ship having a hull including a bow, a stern and a deck, a longitudinal bulkhead, a series of spaced substantially parallel cross bulkheads on each side of said longitudinal bulkhead dividing the hull into tank compartments, said cross bulkheads diverging from said longitudinal bulkhead towards the bow of the ship and being spaced apart so that at least two of the diverging bulkheads on one side of the longitudinal bulkhead overlap one another in any plane perpendicular to said longitudinal bulkhead.

2,979,010
SHIP STABILIZATION SYSTEM
Frederick D. Braddon, Babylon, Lennox F. Beach, Sea Cliff, and Joseph H. Chadwick, Jr., Levittown, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed June 20, 1955, Ser. No. 516,662
26 Claims. (Cl. 114—126)



1. In a ship stabilization system, a fin, mounting means for supporting said fin on a ship to rotate about an axis extending generally longitudinally of said fin and normally in a generally athwartship direction, drive means having an output coupled with said fin for rotating the same about said axis, means for producing a signal in accordance with rolling motions of said ship, means coupled with said fin for obtaining a repeat-back signal proportional to the lift exerted by said fin, control means coupled with said drive means and responsive to both said signals for controlling said drive means in accordance with the algebraic sum thereof whereby to produce a displacement of said fin in accordance with the lift exerted thereby, means for limiting the maximum value of the signal controlling said drive means, and further means coupled with said drive means for limiting the maximum displacement output of said drive means independently of the lift exerted by said fin.

2,979,011
BOAT BAILER
Leslie N. Mattson, 212 W. Broad St., Paulsboro, N.J.
Filed Nov. 6, 1959, Ser. No. 851,409
3 Claims. (Cl. 114—183)



1. A boat bailer comprising a sleeve having a spiral vane on the outer surface thereof providing a screw thereon, means for mounting the sleeve with the vane thereon on the propeller shaft of a boat, a tubular casing extended around the vane, and a connection from the discharge end of the vane through the wall of the boat above the water line.

2,979,012
METHOD OF AND DEVICE FOR CONTROLLING THE CLOSING PANELS OF SHIPHOLDS, RAILWAY CARS AND THE LIKE
Henri Kummerman, Paris, France, assignor to International MacGregor Organization (I.M.G.O.), Casablanca, Morocco, a body corporate of Morocco
Filed Dec. 31, 1957, Ser. No. 706,362
Claims priority, application France Jan. 7, 1957
6 Claims. (Cl. 114—202)



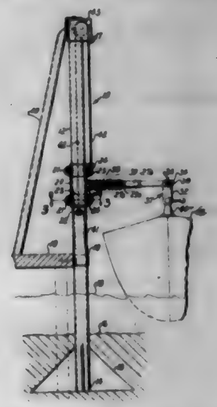
1. Apparatus for selectively opening and closing a substantially rectangular opening in a floor, deck, or roof, comprising, in combination, a plurality of tiltable panels extending across the opening and riding on the side edges thereof, said panels being divided into two groups each associated with a different end of the opening; said groups, when extending in closing position from each end of the opening, having an open space therebetween; cooperating means on said panels and at the ends of the opening effective, upon movement of a panel to its associated end of the opening, to tilt such panel into an upended position in a stowage space at the associated end of the opening; flexible means interconnecting the panels of each group; a non-tiltable control panel disposed between the two groups of panels and riding on the side edges of the opening, said control panel, when said tiltable panels are in the closing position, closing the open space between said two groups; said control panel being movable along the opening in either direction and independently of said two groups of tiltable panels; propelling means on said control panel to move the same in either direction along the opening; said control panel, when moved in one direction in the closed condition of the panel, pushing the tiltable panels of one group successively into the associated stowage space, and then being selectively movable in the opposite direction to abut the innermost tiltable panel of the other group and push the tiltable panels of such other group into the associated stowage space; the control panel then being free to move in either direction along the opening, or for lifting from the opening independent of the tiltable panels; said control panel being selectively connectible to the innermost tiltable panel of either group to draw the connected group into closing position.

2,979,013
REMOTE ACTUATED SNAP-ON ATTACHMENT
James P. Whittall, 40 N. Brigham Hill Road, North Grafton, Mass.
Filed June 10, 1959, Ser. No. 819,344
3 Claims. (Cl. 114—221)



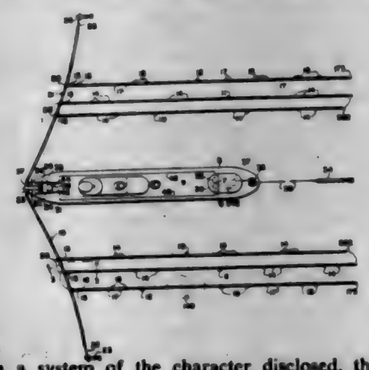
3. A device of the class described comprising an elongated tubular handle member, said tubular handle member being bifurcated adjacent an end thereof to receive a snap fastener, a snap fastener received in said bifurcations, means for positioning said snap fastener with the bight thereof exposed and facing forwardly with respect to the bifurcated end, said handle member having grip at the opposite end thereof, said snap fastener being temporarily held and capable of being secured to an object by thrusting the same forwardly and said snap hook being detachable from the handle member by a rearward motion of the latter after the attaching motion aforesaid.

2,979,014
BOAT MOORING DEVICE
Arthur H. Yordi, 5942 3rd Ave., Kenosha, Wis.
Filed June 22, 1959, Ser. No. 822,027
3 Claims. (Cl. 114—230)



1. A mooring device for a boat, comprising a rod, means for detachably securing an end of said rod to the boat, a hollow cylindrical post, a collar having spaced rollers mounted on said collar, said collar rotatably mounted on said post and slidable through said rollers along the outside surface of said post, a second rod secured to said collar and extending outwardly therefrom, said second rod telescopically mounted in said first rod, a longitudinal extending slot formed in said second rod, an aperture formed in said first rod, a removable pin inserted in said aperture to slide along in said slot and prevent separation of said rods, a coil secured to said second rod adjacent said collar, another coil secured to said first rod adjacent said aperture, a coil spring, said spring enclosing said rods between said coils and locked to said coils, said collar and rods movable up and down relative to said post as said boat moves up and down relative to said post.

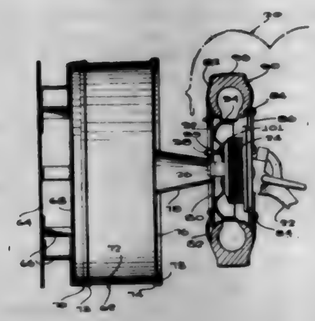
2,979,015
ANTI-TORPEDO SYSTEM
Nelson N. Estes, Austin, Tex.
Filed Jan. 6, 1944, Ser. No. 517,281
23 Claims. (Cl. 114—240)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a system of the character disclosed, the combination of a plurality of destroying means, each of

which is adapted to destroy an automotive device and arranged in spaced relation within the path of travel thereof, a plurality of control circuit for each of said plurality of destroying means respectively, each one of said circuits including a normally open switch, a distributor device including a starting magnet and adapted to close each of said switches momentarily in predetermined sequence as the distributor operates, said magnet normally preventing operation of the distributor, distributor operating means, and means responsive to a signal received from said automotive device for controlling the operation of said starting magnet.

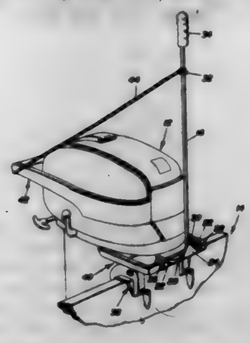
2,979,016
AMPHIBIOUS CONVERSION ATTACHMENTS FOR AUTOMOBILES AND LIKE VEHICLES
Sidney J. Rossi, 4307 Airline Highway, Rainbow Motel, New Orleans, La.
Filed Apr. 12, 1957, Ser. No. 652,514
4 Claims. (Cl. 115—1)



1. In an assembly for converting a wheeled land vehicle into an amphibious vehicle, a plurality of flotation wheels having a buoyancy sufficient to float a vehicle to which they are attached; and means for fixedly, detachably connecting said flotation wheels to the several wheels of the vehicle, for steering and driving of the flotation wheels responsive to steering and driving, respectively, of the vehicle wheels, comprising spindles projecting inwardly from said flotation wheels, and mounting plates on the spindles apertured to receive the conventional wheel-attaching lugs of the vehicle wheels, said means further including, for each flotation wheel, a plurality of U-shaped clamps connected at one end to the mounting plate thereof in positions angularly, uniformly spaced about the circumference of the mounting plate, and means connected between the other ends of the clamps tending to shift the same radially inwardly of the vehicle wheel into gripping engagement with said vehicle wheel.

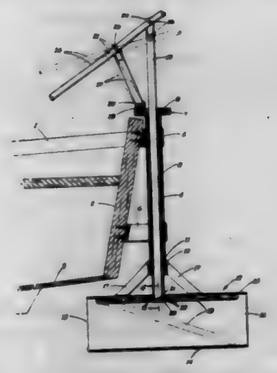
2,979,017
OUTBOARD MOTOR TILTING DEVICE
Donald H. Soper, P.O. Box 104, Nevada, Iowa
Filed Apr. 15, 1958, Ser. No. 728,639
7 Claims. (Cl. 115—17)

1. In combination with an outboard motor of the type having a forward tilting handle and a rearward tilting handle, an outboard motor tilting device comprising an elongated rod, means on one end of said rod adapted to detachably connecting the latter to said forward tilting handle, and means secured to the other end of said rod releasably connected between said rod and the rear tilting handle, said last mentioned two means cooperating to retain said rod in a substantially upright position ready for instant use when the latter is not being used, said releasable connection means including a cable having one end connected to said rod near its upper end, a stop element fixed to said rod near the upper end for preventing said cable from sliding therebelow, and a handle on the uppermost end of said rod, said detachable means including a bracket member fixed on the bottom end of



said rod, said bracket member comprising a transversely extending element having a downwardly opening U-shaped retaining element on each end thereof embracing said forward tilting handle from above.

2,979,018
PROPELLING AND STEERING DEVICE FOR WATERCRAFT
Clarence E. Birdsall, Rte. 2, Box 2747, Loomis, Calif.
Filed Oct. 19, 1959, Ser. No. 847,132
3 Claims. (Cl. 115—29)



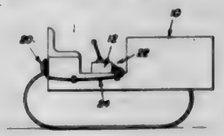
1. A propelling device for a watercraft comprising an upstanding tubular post depending to a level below the bottom of the watercraft, means mounting the post on the watercraft, a substantially horizontal, under-water tunnel fixed on the lower end of the post, the latter opening into the tunnel, a vertically swingable pressure vane disposed in and extending lengthwise of the tunnel, a vertically reciprocal rod in the post and projecting therefrom into the tunnel, a transverse axis pivotal connection between the lower end of the rod and the pressure vane at a point ahead of the center of the latter lengthwise thereof, and means operative by an occupant of the watercraft to reciprocate said rod; the rod including a portion projecting above the upper end of the post, and said last named means comprises a vertically swingable lever arm transversely pivoted in connection with said projecting portion of the rod and thence extending in overhanging relation to the watercraft, and a link pivotally connected between the post and said lever arm, the link diverging upwardly and outwardly relative to said post.

2,979,019
OUTBOARD MARINE DRIVE
Lyman O. Leavitt and Donald Pitt, Salt Lake City, Utah, assignors to Anchor Boat & Steel Co., Salt Lake City, Utah, a corporation of Utah
Filed Apr. 30, 1958, Ser. No. 731,926
1 Claim. (Cl. 115—34)



An outboard marine drive comprising a housing having an upper housing portion for attachment to the stern of a boat at the exterior thereof; a lower housing disposed below the said upper portion, and an intermediate connecting portion between said upper and lower portions; a drive wheel disposed in said upper housing portion at a point above the water line of the housing; a propeller shaft and driven wheel disposed in said lower housing portion at a point below the water line of the housing, said propeller shaft having an appreciable diameter and being hollow with open ends thereby to permit the passage of water through the center of the propeller shafts; a belt extending between and passing around said wheels, said intermediate housing portion comprising a pair of spaced, slender, hollow members extending vertically between the upper and lower housing portions and enclosing respectively the ascending and descending portions of the belt, the space between said hollow members being free of obstruction from front to rear, thereby to make possible the unimpeded passage of water between the members.

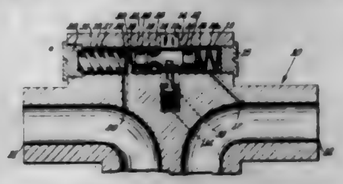
2,979,020
TRANSMISSION DRIVEN BACKUP ALARM
Max von Radics, Box 2266, Anchorage, Alaska
Filed Apr. 18, 1958, Ser. No. 729,284
6 Claims. (Cl. 116—57)



1. A backup alarm driving means for mounting in an opening in the transmission housing adjacent the end of a countershaft therein, comprising a casing, fastening means fixedly securing the casing to the housing over the opening therein, a pair of aligned inner and outer bearings mounted on the casing and in alignment with the countershaft end, an overrunning clutch having oppositely extending supporting shafts journaled respectively in the aligned bearings, one of said shafts being adjacent to the countershaft end, interengaging members respectively fixed for rotation with said countershaft end and said adjacent clutch shaft end, a flexible rotatable shaft for operating the alarm, and means for fixing the driven end of the flexible shaft nonrotatably to the other aligned clutch shaft.

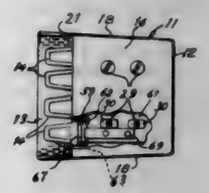
2,979,021
FILTER UNIT
William J. Scavuzzo, Clark, N.J., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Jan. 6, 1959, Ser. No. 785,244
6 Claims. (Cl. 116—117)

1. A filter unit comprising a housing having an inlet and outlet therein for flowing fluid to be filtered therethrough, a signal device having a signal position for indicating the need for servicing the unit, a piston chamber having a slidable piston therein, said piston being operatively connected to said signal device to normally maintain it out of its signal position, sealing means sealing off the opposite ends of said piston from the peripheral portion therebetween, fluid passage means communicating with said inlet and said piston chamber adjacent one end of said piston, other fluid passage means communicating



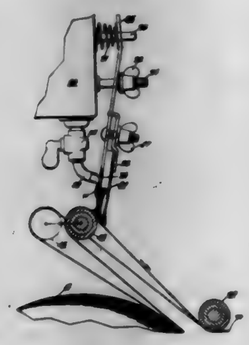
with said outlet and said piston chamber adjacent the opposite end of said piston, an air passage communicating with the exterior of the housing and said piston chamber around the central portion of said piston between said sealing means to permit air to enter the space around said piston between said sealing means, said piston being movable in response to changes in the differential pressure between said inlet and outlet to release said signal device to its signal position when said differential pressure exceeds a predetermined value.

2,979,022
SONIC SENDER
Alf F. Adel, Chicago, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 16, 1957, Ser. No. 702,872
1 Claim. (Cl. 116—137)



A striking mechanism for striking a sonic transmitter comprising, a manually held casing having a front end and a rear end, a base mounted in said casing, a movable carrier slidably mounted on said base for longitudinal movement relative to said casing, a striker resiliently mounted in juxtaposition to said rear end and operatively associated with said carrier for actuation thereby, a finger actuatable trigger pivotally mounted on said base near said front end of said casing to present a finger-engaging portion which automatically directs the manually held casing in a desired frontal direction, said finger-engaging portion being located in a position on said casing such that comfortable and secure manual retention of said casing is obtained during operation thereof, said trigger having an arm engageable with said carrier to translate manual pivotal actuation of said trigger to longitudinal movement of said carrier, and a spring mounted between said base and said carrier for biasing said carrier toward said front end and against said arm, said arm engageable with said carrier to move said carrier in response to manual actuation of said trigger through a predetermined distance towards said rear end until said arm disengages from said carrier to release said striker.

2,979,023
AUTOMATIC ADHESIVE APPLICATOR FOR LARGE WRAPPING PAPER ROLLS
Ulman H. Benedict, Atlanta, Ga., assignor to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1959, Ser. No. 809,995
5 Claims. (Cl. 118—43)



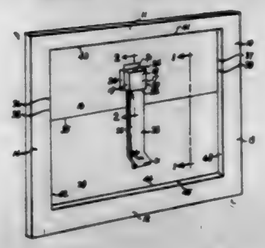
1. A dispensing roll stand assembly for wrapping paper and the like which comprises a liquid reservoir, a discharge conduit for said reservoir, a spring loaded valve at the end of said conduit, a liquid applicator mounted under said valve, a stand on which a roll of wrapping material is rotatably mounted, a guide over which a free end of said material is carried, support and control means for said guide permitting movement of the guide from a contacting position with the applicator to an at-rest non-contacting position, and means for urging the guide into the non-contacting position.

2,979,024
APPARATUS FOR FUSING CONTACTS ONTO SEMICONDUCTIVE BODIES
Leendert Pellekaan, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 8, 1958, Ser. No. 754,088
Claims priority, application Netherlands Aug. 8, 1957
2 Claims. (Cl. 118—500)



1. Apparatus for fusing contact material to impurity-sensitive semiconductive bodies, comprising support means for receiving and supporting a semiconductive wafer, and a thin mica plate arranged parallel to and mounted on said support and overlying and contacting a surface of said wafer, said mica plate containing two closely-spaced apertures overlying the wafer surface for receiving and positioning a pair of masses of contact material in engagement with the wafer surface for melting in contact with the said wafer while confined within the said apertures, said apertures having a diameter less than the thickness of the said mica plate and being spaced apart a distance less than the thickness of the said mica plate.

2,979,025
SELF ADJUSTING WINDOW MASKING DEVICE
Morris Mund, 704 Towne Bldg., Philadelphia 7, Pa., assignor of one-tenth to Karl L. Spivak and one-fifth to Paul J. O'Brien, both of Philadelphia, Pa.
Filed July 28, 1959, Ser. No. 830,136
3 Claims. (Cl. 118—505)

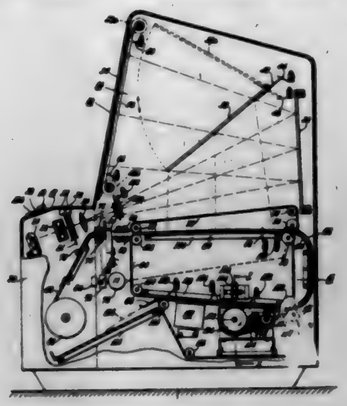


1. A self adjusting window masking device for covering the glass portion of a window structure while painting the window frames thereof, comprising in combination a first member having a shape complementary to the inner upper portion of said window frame, said first member having a longitudinal axis; a second member having a shape complementary to inner lower portion of said window frame, the bottom portion of said first member being in contact with the upper portion of said second member and said second member having a longitudinal axis, said longitudinal axis coinciding with and continuing after longitudinal axis of first member; a pocket having a longitudinal axis rigidly connected to said first member and connected so that the longitudinal axis of pocket is directly above and in line with longitudinal axis of first member, said pocket having one open front in direction of said second member and closed rear in direction away from said second member; a compression spring having two ends mounted within said pocket, said spring having force of action applied in direction of said longitudinal axis of pocket, one end of spring mounted in stationary relation against said closed rear of pocket, and other end in moveable relation with said open front of pocket; a bar lock having two ends and a longitudinal axis rigidly connected to said second member, said longitudinal axis of bar lock being directly above and in line with longitudinal axis of second member, said bar lock comprising a body portion connected to said second member; a handle portion extending out from second member at said end furtherest from said upper portion of second member and an engaging portion at second end extending beyond upper portion of said second member, said engaging portion arranged for slideable insertion into said open front of said pocket whereby said compression spring is depressed causing first and second members to be urged against said frame thereby completely covering glass portion and masking the window.

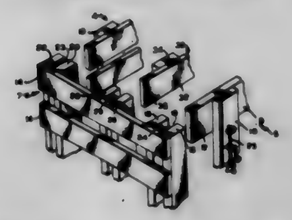
2,979,026
FILM VIEWER AND REPRODUCER
Henry G. Reuter, Jr., Merchantville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 19, 1958, Ser. No. 743,145
6 Claims. (Cl. 118—637)

1. In apparatus of the type wherein a sheet of photoconductive material has been uniformly electrically charged and exposed to a light image to provide a charge pattern on said sheet, means to develop said charge pattern comprising a source for a developer mixture, said mixture comprising a toner powder and magnetic particles, magnetic field producing means spaced apart from said source, means to move said sheet along a predetermined path between said source and said magnetic

field producing means with its exposed surface exposed to said mixture in spaced relationship thereto, means actuated by the leading edge of said moving sheet to intensify said magnetic field in the region between said source and said charge pattern on said sheet to cause said mixture to contact said charge pattern and to develop said charge pattern, said last-mentioned means being actuated by the trailing edge of said moving sheet to diminish said magnetic field, heat producing means disposed along said path of movement of said sheet, and switching means actuated by the movement of said sheet to turn said heat on before said sheet passes said heat producing means and to turn said heat off after said sheet has passed said heat producing means.

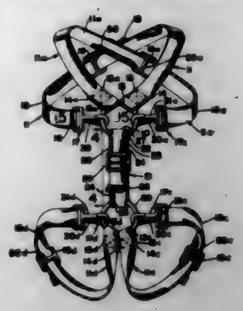


2,979,027
PORTABLE ANIMAL STALL
Thomas E. Corwin, Woodhaven, and Chester Knipple, Glenwood Landing, N.Y., assignors to Joseph E. Harder, Westbury, N.Y.
Filed Jan. 20, 1959, Ser. No. 787,947
2 Claims. (Cl. 119—15)



1. A separable component stall comprising detachable longitudinal members, transverse members, and locking means for holding said members in interlocking engagement, said longitudinal members comprising a plurality of slats including separate stringer members positioned adjacent but spaced from each end of each longitudinal member and rigidly secured to the respective longitudinal members to hold said slats in spaced apart relation while defining extending tongue portions on each end of said longitudinal members, said transverse members having a plurality of spaced apart slats including a pair of stringer members rigidly secured to each end of said transverse slats to hold the same in spaced apart relation while defining channels or grooves between each pair positioned to be engageable with said longitudinal tongue portions to embrace the same thereby eliminating sway in said transverse members; and removable fastening means for releasably holding said longitudinal and transverse members in assembled relation.

2,979,028
BODY HARNESS
Rudolph F. Zakely, Lyndhurst, Ohio, assignor to Kingely Rescue Harness Inc., Lyndhurst, Ohio, a corporation of Ohio
Filed Mar. 5, 1959, Ser. No. 797,426
7 Claims. (Cl. 119—96)



1. A body harness comprising an upper attachment member, a lower attachment member, a connecting member which interconnects said upper and lower attachment members, said upper and lower attachment members and the interconnecting member therebetween being disposed in substantially the same plane, a pair of flexible shoulder straps, each having a portion connected to said upper attachment member and means spaced from said connected portion for releasable attachment to said upper attachment member, and a pair of flexible leg straps, each having a portion connected to said lower attachment member and means spaced from said last-mentioned connected portion for releasable attachment to said lower attachment member.

2,979,029
EYEBROW PENCIL AND SHARPENER THEREFOR
Zachary Melnikoff, Beverly Hills, Calif.
(351 S. Fuller Ave., Los Angeles 36, Calif.)
Filed Oct. 28, 1957, Ser. No. 692,885
2 Claims. (Cl. 120—1)



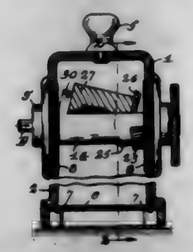
1. An eyebrow pencil holder and sharpener therefor comprising a hollow body section, a crayon holder section for holding a crayon and adapted to be accommodated within a portion of said body section, a crayon sharpener mounted on said holder section, a cap mounted on said sharpener, a rotatable screw within said body section and threaded into one end of said holder section for rotating said crayon and moving said crayon axially into said sharpener, means surrounding a portion of said holder section and adapted to contact a portion of the inner surface of said body section, and means for exerting axial pressure on said screw when said screw is in a predetermined position in said body section, said holder section being step tapered, said sharpener being mounted on the larger diameter portion of said holder section, said diameter being less than the outside diameter of said body section, a portion of said sharpener forming a portion of the exterior surface of said pencil.

2,979,030
WRITING INSTRUMENTS
William J. Harrington, South Bend, Ind., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Feb. 25, 1957, Ser. No. 642,203
8 Claims. (Cl. 120—42.03)



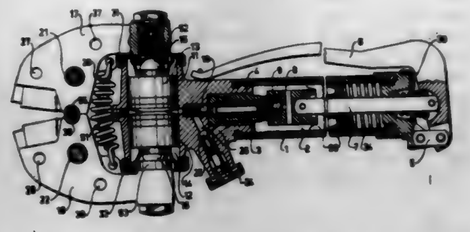
7. A ball point writing instrument cartridge comprising an ink tube containing ink, a writing ball at one end of said tube, and an ink repellent material on the exterior of said tube adjacent said ball, said material being repellent to the ink in said tube, wherein said material is silicone rubber.

2,979,031
PENCIL SHARPENER
Gaston Philbotte, 2218 Visitation St., Montreal, Quebec, Canada
Filed Oct. 8, 1959, Ser. No. 845,168
1 Claim. (Cl. 120—96)



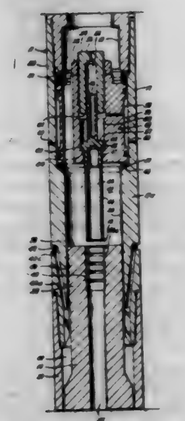
A pencil sharpener comprising a casing having threaded circular openings of equal diameter in opposite side walls thereof, interchangeable identical cap elements in threaded engagement with and closing said respective openings, each cap element having a stepped central bore and inclined gear teeth forming a bevelled crown gear at the periphery of said bore adjacent the inside face of the respective cap element, a pencil bearing block disposed within said casing and having stepped end journal portions respectively journalled in said cap elements, one of said end journal portions having a pencil receiving bore made therethrough, the portion of said block intermediate said end journal portions forming a cradle of trough like section having an inclined bottom face extending from said bore and terminating short of the other of said end journal portions to define a slot therewith, an ear outwardly projecting from said cradle adjacent said slot, a pinion extending in said slot, journaled in said ear and in said other of said end journal portions and meshing with said crown gear, a cylindrical cutter rotatably mounted on said block and extending in said cradle for rotation about an axis inclined with respect to the axis of pencil receiving bore and to the axis of said pinion, a bevelled gear wheel fast with one end of said cutter and meshing with said pinion, and manual means for rotating said block in said cap elements.

2,979,032
HYDRAULICALLY OPERABLE HAND TOOLS
Arne Engquist, Enkoping, and Eber Oscar Svanell, Skultorp, Sweden, assignors to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 30, 1959, Ser. No. 810,075
Claims priority, application Sweden May 12, 1958
8 Claims. (Cl. 121—3)



1. In a hydraulically operated hand tool comprising a tool head having a cylinder provided axially therein, and having a pair of pistons displaceable in the cylinder and manual pump means connected to the tool head for displacing the pistons; the improvement which comprises working members pivoted together for complemental movement about an axis transverse to the cylinder, said cylinder having opposing open outer ends, said members having complemental outer ends and inner ends fitting over the outer ends of the cylinder and engaged by the pistons and the length of the cylinder being such that, when the members are brought close together with their other ends locked together, the inner ends thereof may be freely removed over the outer ends of the cylinder after relieving the pressure on the pistons so that the pistons are no longer in engagement with the inner ends of the members.

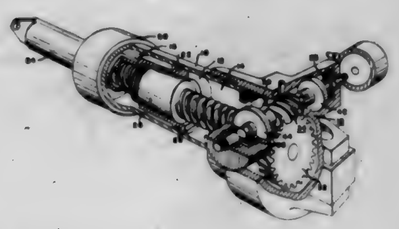
2,979,033
FLUID ACTUATED IMPACT TOOL
Ross Basinger, San Antonio, Tex., assignor to Basinger Tool Company, San Antonio, Tex.
Filed Dec. 31, 1958, Ser. No. 784,390
14 Claims. (Cl. 121—16)



1. An impact tool powered by a compressible fluid which comprises, in combination, an anvil, fluid supply conduit means, a hammer mounted to beat upon the

anvil and having opposing endwise surfaces upon which fluid from the conduit means can act to move the hammer in its power and return strokes, passageway and valve means adapted to communicate one endwise hammer surface with the exterior of the tool during at least a finite portion of the hammer's power stroke and to interrupt such communication during at least a portion of the hammer's return stroke, a passageway in the hammer which when open provides fluid communication between said endwise surfaces of the hammer, a finger reciprocally carried by the conduit means and adapted to telescope into the hammer passageway to restrict flow thereinto during movement of the hammer in at least an initial portion of its power stroke, and means for reciprocating the finger so that it dives from a retracted position to an extended position in the hammer passageway after the hammer has moved through an initial portion of its return stroke including first cylinder and piston means connected to the finger with the cylinder means in fluid communication with the conduit means so that pressure from the conduit means urges the piston means in a direction to move the finger to extended position, a second cylinder in communication with the exterior of the tool, said finger having an end thereof reciprocally disposed in the second cylinder to provide one endwise surface against which the exterior pressure acts to urge the finger to extended position and an opposite endwise surface alternately exposed to pressure in the conduit means and to pressure in the hammer passageway as the hammer and finger reciprocate out of and into telescoping relation with each other, said opposite endwise surface being sufficiently larger than the first piston means that upon exposure to conduit means pressure, the finger is moved to retracted position.

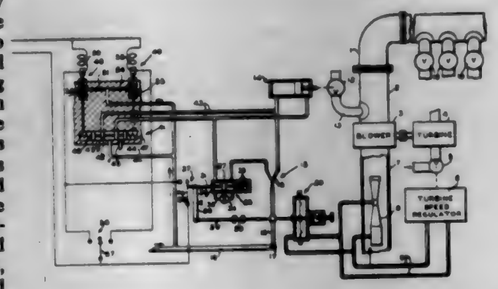
2,979,034
HYDRAULIC ACTUATOR WITH LOAD PROPORTIONAL LOCKING MEANS
Howard M. Geyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 18, 1959, Ser. No. 794,112
20 Claims. (Cl. 121—40)



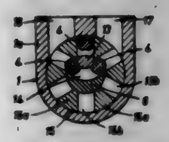
1. An actuator assembly including, a cylinder, a reciprocable piston disposed in said cylinder, a member rotatably journalled in said cylinder and operatively connected to the piston such that piston movement is dependent upon and effects rotation of said member, and self-engageable, bidirectional, load sensitive locking means operatively connected with said member for preventing rotation thereof in either direction so as to prevent movement of said piston in either direction due to an external load.

2,979,035
AUXILIARY RELAY POWER UNIT CONTROL
Ralph E. Patterson, Chicago, Ill., assignor to Gpe Controls, Inc., a corporation of Illinois
Filed Sept. 12, 1955, Ser. No. 533,580
2 Claims. (Cl. 121—41)

1. An auxiliary control device for a relay regulator that includes a primary control member movable in response to changes in a control signal to vary rate of delivery of operating energy to a power unit; said device comprising a supplemental system for delivering operating energy to a power unit controlled by said regulator and including control means convertible between first and second conditions respectively establishing and preventing energy delivery by said system and provided with a control element that is movable between first and second positions respectively to convert said control means to its said first and second conditions, a motor device including a part movable by operating energy delivered in response to movement of said primary control member, means biasing said part to a zero position, and means actuated by said part in arriving at and departing from a position spaced a preselected distance from its zero position respectively to move said control element to its said first and second positions.



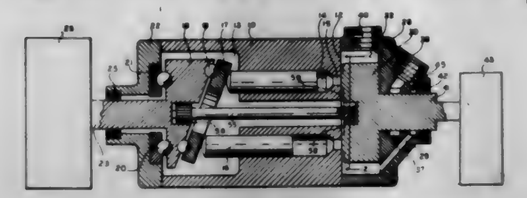
2,979,036
HYDRAULIC ROTARY ENGINE
Sven A. Noren, Valhallavagen 79, Stockholm 70, Sweden
Filed May 6, 1959, Ser. No. 811,375
Claims priority, application Sweden May 9, 1958
5 Claims. (Cl. 121—53)



1. A hydraulic rotary engine comprising in combination a cylindrical working chamber, a cylindrical hub portion concentric with said chamber so as to form an annular working space therein, said hub portion including two parts defining therebetween an arcuate groove eccentric with respect to the axis of said hub portion and intersecting said annular working space within the outer circumference thereof, a first rotor having axial teeth extending into said annular working space and making a sealing fit with said annular space, and a second rotor having axial teeth extending into said arcuate groove and its portion intersecting the annular working space from one side thereof to cooperate with the tooth spaces of said first rotor and making a sealing fit only with said arcuate groove.

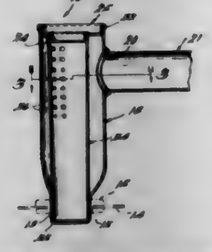
2,979,037
CONSTANT SPEED DRIVE
Tadeusz Budzich, 3344 Colwyn Road, Cleveland 20, Ohio
Filed Oct. 1, 1959, Ser. No. 843,875
12 Claims. (Cl. 121—119)

1. For use in a device having a stationary cylinder barrel with pistons reciprocable therein and a rotatable cam plate arranged to be driven by some of the pistons while returning others, and having a rotatable valve having passages for effecting the distribution of fluid acting on the pistons, and having an output shaft arranged to be driven by the cam plate, and having means for supplying a constant fluid pressure difference to the valve passages, the combination of a separate variable speed low power rotating control input arranged to



rotate the valve, and means interposed between cam plate and valve for driving one from the other while permitting relative angular displacement of the two whereby the device may act as a continuous rotation variable speed torque multiplier with variations in input speed each producing a corresponding change in the rotational speed of the cam and any load connected thereto.

2,979,038
CRANKCASE VENTILATOR
Walter Zubro, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Aug. 7, 1959, Ser. No. 832,306
5 Claims. (Cl. 121—194)



1. A crankcase ventilator comprising a tubular body member having a necked-down portion at one end thereof, a closure member sealably closing said body member at the other end thereof, an inner tube having a vent means extending between and sealably secured to said closure member and within said necked-down portion and defining an annular chamber within said body member, said body member having an aperture therein, and a vent tube secured to said body member and communicating with said aperture and said vent means to restrict fluid flow outwardly of said crankcase and maintain said crankcase at approximately atmospheric pressure.

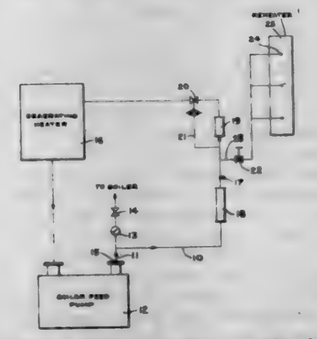
2,979,039
FLUID HEATING UNIT
Edwin Durham, Westfield, N.J., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Original application May 20, 1954, Ser. No. 431,123, now Patent No. 2,840,049, dated June 24, 1958. Divided and this application Apr. 7, 1958, Ser. No. 726,860
2 Claims. (Cl. 122—6)

1. Fluid heat exchange apparatus comprising, in combination, circular wall means forming an elongated setting of circular cross-section, said circular wall means including a plurality of parallel fluid heating tubes extending longitudinally of said elongated setting, buckstay band means encompassing and contacting said tubes at at least two positions spaced longitudinally of said setting, each of said band means being welded to each of said tubes in said circular wall means, rectangularly shaped metallic casing sheets having their short edges welded together in fluid-tight joints to form a ring encompassing said tubes in tangent and touching relationship, said ring of sheets being between and having its edges adjacent said



longitudinally spaced band means, means supporting one edge of said ring of sheets adjacent one of said band means, and flexible flanged channel members each encircling and having its recessed portion fitting over one of said band means with the flanges of each channel member welded in a fluid-tight joint to an edge portion of a ring of sheets adjacent each of the opposite edges of said band means.

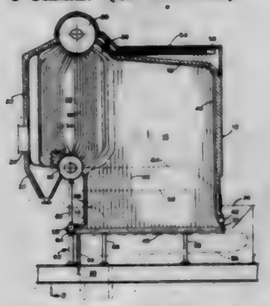
2,979,040
CONTROL OF SPRAY WATER TO REHEATER ATTEMPERATORS
Igor J. Karassik, Maplewood, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed July 2, 1957, Ser. No. 669,664
1 Claim. (Cl. 122—459)



A power plant including a boiler, a boiler feed pump having discharge means, a valve, a reheater, throttle means for continually reducing the pressure on said valve said valve operatively associated with said reheater to regulate the flow of attemperation spray water to said reheater, delivery means for conducting water from said discharge means to said boiler; said throttle means comprising a by-pass line bypassing a portion of said delivery means, a conduit communicating with said by-pass line so that spray water is conducted from said by-pass line to said valve, a first pressure reducing orifice in said by-pass line downstream from said discharge means and upstream of said conduit, a second pressure reducing orifice in said by-pass line downstream from said conduit, an intermediate region of continual low pressure in said by-pass line between said orifices, flow control means for controlling the flow of water through said by-pass line, said control means connected in said by-pass line downstream of said second orifice, pressure sensitive signaling means communicating between said intermediate region and said flow control means auotmatically to regulate

operation of said flow control means so that the pressure is maintained substantially constant in said intermediate region.

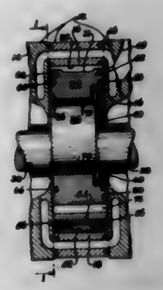
2,979,041
VAPOR GENERATOR
Norman W. Young, Huntington Station, N.Y., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 7, 1957, Ser. No. 638,704
5 Claims. (Cl. 122—510)



1. A bottom supported vapor generating unit having a natural circulation fluid circulation system and comprising walls forming a setting containing pressure parts including horizontally disposed upper and lower drums, and a bank of upwardly extending tubes connected at their opposite ends to said drums; some of said walls including fluid cooled tubes and forming sides of a furnace chamber laterally adjacent and opening to said tube bank; column support means constructed and arranged to provide column strength sufficient to support at least a predominant proportion of the weight of said drums and tube bank; said column support means constituting horizontally extending header means disposed below said lower drum, a plurality of laterally spaced upright tubes disposed along the length of said lower drum and connected at their opposite ends to the lower drum and to said header means, and means for bottom supporting said header means; said upright tubes being of sufficient diameter and thickness to resist bending moment stresses in carrying said drums and tube bank and to withstand the compression forces transmitted to them; said upright tubes, said header means, and said bottom support means for said header means constituting the normal support means for the predominant proportion of the weight of said drums and tube bank; means connecting said fluid cooled tubes and said header means into said fluid circulation system; and means for bottom supporting said fluid cooled wall tubes at approximately the same elevation as the means for bottom supporting said header means to thereby minimize relative vertical expansion movements between said fluid cooled wall tubes and said drums and tube bank.

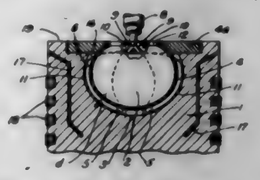
2,979,042
SEAL VENT ARRANGEMENT FOR ROTATING COMBUSTION ENGINES
Max Bentele, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 5, 1960, Ser. No. 6,968
12 Claims. (Cl. 123—8)

9. A rotary mechanism comprising an outer body having axially-spaced end walls and a peripheral wall interconnecting said end walls to form a cavity therebetween; a rotatable inner body received within said cavity with its axis parallel to but offset from the axis of the cavity and having axially-spaced end faces disposed adjacent to said end walls and also having a plurlity of circumferentially-spaced apex portions for engagement with the inner surface of said peripheral wall to form a plurality of working chambers between said rotor and wall, said outer body having an intake port and an outlet port for said chambers controlled by relative rotation of said bodies with said intake port opening through only one end wall of said outer body; first and second



radially-spaced seal means carried by each end face of said inner body for engagement with the adjacent end wall of the outer body, one of said bodies having passage means, other than said intake port, for periodically connecting to said intake port the space between the first and second seal means carried by the inner body end face remote from said intake port.

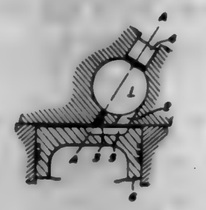
2,979,043
INTERNAL COMBUSTION ENGINE AND METHOD OF OPERATING SAME
Siegfried Meurer and Erhard Mühlberg, Nurnberg, Germany, assignors to Maschinenfabrik Augsburg-Nurnberg A.G., Nuruberg, Germany
Filed Nov. 12, 1957, Ser. No. 695,618
Claims priority, application Germany Nov. 17, 1956
15 Claims. (Cl. 123—25)



1. A process for forming gaseous fuels with a recovery of heat in the interior of an internal combustion engine having a combustion space and a reaction chamber in said space, comprising heating the reaction chamber in the engine with the hottest combustion gases occurring during a combustion stroke, introducing fuel and water into said chamber while still highly heated by said gases, endothermically reacting the fuel and water to form carbon monoxide and hydrogen by heat withdrawn from the previously heated chamber, and then mixing the hydrogen and carbon monoxide with air, igniting the mixture and burning the same.

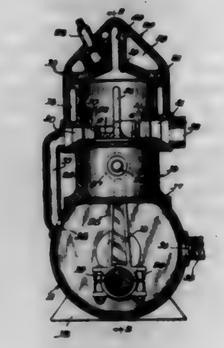
2,979,044
SWIRL COMBUSTION CHAMBER FOR DIESEL ENGINES
Tadashi Yamada, Higashisumiyoshi-ku, Osaka, and Motohiko Uno, Nishinomiya-shi, Japan, assignors to Yasuhito Yamaoka, Sakyo-ku, Kyoto, Japan
Filed July 6, 1959, Ser. No. 825,170
Claims priority, application Japan Jan. 28, 1959
2 Claims. (Cl. 123—32)

1. A swirl chamber type diesel engine, comprising a cylinder head having a substantially spherical swirl chamber therein and a fuel injection nozzle opening into the swirl chamber, an engine cylinder on which said cylinder head is mounted and a piston in said cylinder with a main combustion chamber within the engine cylinder above the piston, said cylinder head having a main passage interconnecting the swirl chamber and the main



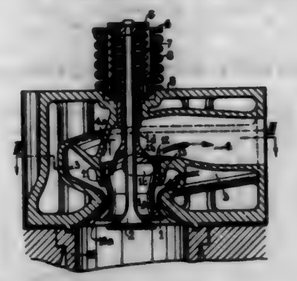
combustion chamber, said cylinder head further having an auxiliary passage therein extending directly from the swirl chamber to the main combustion chamber and disposed in substantial alignment with the fuel injection nozzle and having a diameter smaller than that of said main passage.

2,979,045
BLADE BAFFLED TWO-CYCLE ENGINE
Frank R. Busch, 5235 W. 79th St., Oak Lawn, Ill.
Filed Sept. 4, 1959, Ser. No. 838,217
3 Claims. (Cl. 123—65)



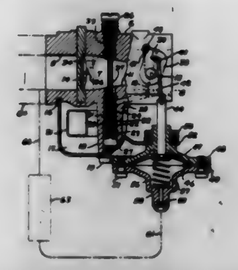
1. In an internal combustion engine, the combination with a cylinder having a part providing a cylinder head and a piston mounted within the cylinder for reciprocating movement, of inlet and exhaust ports located in the walls of the cylinder and which are fully open when the piston is in bottom dead center position, a baffle fixed to the top wall of the piston and extending from one side of the cylinder to the other to separate the inlet and exhaust ports without however contacting the cylinder walls, and a slot in the cylinder head located in alignment with the baffle and adapted to receive the baffle when the piston is located in top dead center position, said baffle having a flame transfer opening in its base adjacent the top wall of the piston, a diverting wall on the said top wall of the piston in associated relation with the flame transfer opening and located entirely on one side of the baffle, and said baffle having a length such that the baffle completely leaves the slot approximately simultaneously with the opening of the exhaust port.

2,979,046
INLET AND OUTLET ELEMENTS FOR PISTON ENGINES
Alfred J. Buchi, Archstrasse 2, Winterthur, Switzerland; Hermann Walder, executor of said Alfred J. Buchi, deceased
Filed May 19, 1959, Ser. No. 814,291
8 Claims. (Cl. 123—79)



1. An internal combustion engine of the type comprising piston cylinders, in each cylinder an inner outlet mushroom valve having a stem for timed reciprocation thereof and a hollow outer inlet valve forming a seat for said outlet valve and having a tubular extension also for timed reciprocation thereof, a common axis for both said valves, said tubular extension surrounding and guiding said stem of the inner outlet valve, said outer inlet valve being seated against an opening in the cylinder head, and both said valves controlling, respectively, the flow of the exhaust gas and the inlet of the air charge from and to said cylinder, said outer valve being formed with a lower bell-shaped circular wall portion and an upper arcuate wall portion, said upper arcuate wall portion forming a vaulted head above said lower portion, inner and outer surfaces of said head, through-flow openings around said tubular extension in the wall of said head for the exhaust gas controlled by said inner valve, said lower wall portion diverging towards its uppermost area, and forming there a maximal through-flow area for the exhaust gas, said vaulted head forming a single vault over said uppermost area of said lower wall portion, axial sections of at least said inner surface of said vault having radii of curvature of equal size, said radii having center points on said common axis of the valves.

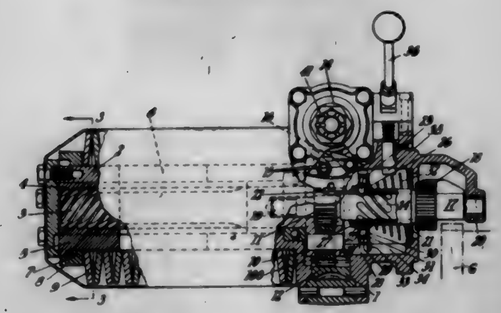
2,979,047
AUTOMATIC CHOKE FOR SMALL CARBURETORS
Eugene L. Rappleam, Ferguson, Wenford E. Highley, Normandy, and Martin E. Fuchs, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed July 8, 1957, Ser. No. 670,452
6 Claims. (Cl. 123—119)



1. In a carburetion system for an internal combustion engine, a choke valve, suction means including a diaphragm motor responsive to manifold suction for open-

ing and closing said choke responsive to starting and stopping of the engine, heat responsive means interposed between said suction means and choke valve to resist full closing movement of said choke valve upon stopping of the engine to provide a leaner fuel mixture for restarting of the engine in a heated condition, and means for varying the suction applied to said motor responsive to variations in temperature of the engine.

2,979,048
STARTERS FOR INTERNAL COMBUSTION ENGINES
Ludomir Daniewicz, London, England, assignor to Aircraft Steel Structures Limited, London, England
Filed June 19, 1959, Ser. No. 821,582
7 Claims. (Cl. 123—179)



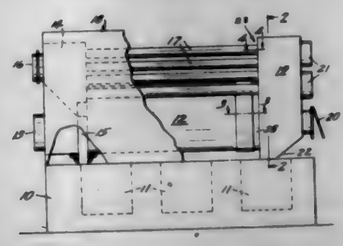
1. A starter for an internal combustion engine including a starter drive input means, a spring means adapted to be energized to store up a starting effort that can be released when a start is to be effected, a starter pinion, a helical screw mechanism to move said pinion axially between a retracted position and an advanced engine-engaging position, and a differential gear including at least three components, one of said components being connected to said starter drive input means, another of said components being operably coupled to the spring means, and the third component being operably coupled with the starter pinion.

2,979,049
ARCHERY BOW
Maldwyn E. Jones, Ferguson, Mo.
(5424 E. 3rd St., Mesa, Ariz.)
Filed Aug. 20, 1958, Ser. No. 756,224
3 Claims. (Cl. 124—24)



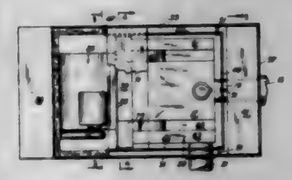
1. An archery bow device comprising a bow, a string connected at its ends to the ends of said bow and stressing said bow arcuately, a handle-forming intermediate section of said bow elongated lengthwise of and in axial alignment with said bow and having its transverse cross section elongated at an acute angle to the common plane defined by said bow and said string.

2,979,050
HEADER ASSEMBLY FOR SPACE HEATER
George T. Costello, St. Paul, Minn., assignor to National Heater Company, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Dec. 31, 1956, Ser. No. 631,525
6 Claims. (Cl. 126—104)



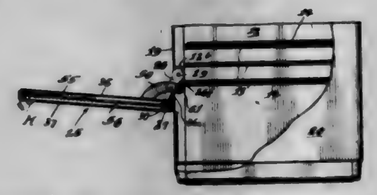
1. In a space heater, a header assembly comprising, a supporting structure, an elongated horizontal combustion chamber constructed of uninsulated thin-shelled metal having high heat resistance, said chamber having an inlet end portion fixed to the supporting structure for introduction of combustible substances and an outlet at the opposite end thereof, a header fixed with respect to the supporting structure and inlet end of said chamber for receiving combustion gases from said combustion chamber, said header having a plate transverse to the longitudinal disposition of said chamber with an opening formed therethrough adapted to register with the outer margin of said thin-shelled combustion chamber and conformed substantially to the same cross section as that of the thin-shelled chamber, a flange extending normally outward along the peripheral length of said opening and adapted to support the horizontal combustion chamber marginally of the outlet end thereof, and a shield secured about the periphery of said chamber adjacent the outlet margin of the combustion chamber and lying in close overlapping relation with said flange whereby said combustion chamber, during elongation and shortening thereof, under the influence of heating and cooling will slide with respect to said plate yet maintain close-fitting relation with said header.

2,979,051
FLOOR FURNACE
Robert D. Porter, 4245 Franklin Blvd., Eugene, Oreg.
Filed Oct. 17, 1958, Ser. No. 767,883
6 Claims. (Cl. 126—110)



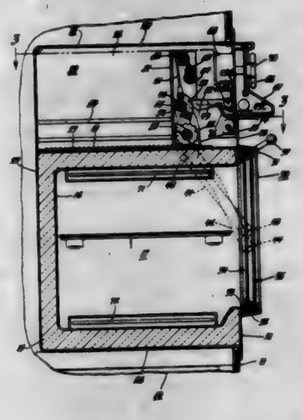
1. An air heating furnace comprising a generally rectangular housing having an open top, a vertical divider wall dividing said housing into two compartments, said wall having an opening formed therein in substantially spaced relation to the marginal edges of said divider wall, an air blower in one compartment of said housing for directing air horizontally through said opening into the other compartment of said housing, a rectangular firebox disposed within said other compartment and having an end wall the major portion of which confronts said opening, said firebox being spaced from but disposed adjacent to said divider wall and the walls of said housing, means for directing an air-fuel mixture horizontally into said firebox toward the mentioned end wall so that the products of combustion impinge directly on such end wall, a heat exchanger having interconnected duct sections disposed adjacent to but spaced from the side and bottom walls of said firebox and disposed adjacent to but spaced from the side and bottom walls of said housing, said duct sections communicating with said firebox at upper portions of said firebox near said divider wall, said heat exchanger having an outlet passageway at the lower portion thereof remote from said divider wall, and baffle means for directing a major portion of the air from said blower next to and around said firebox and a minor portion next to the outer side surfaces of said heat exchanger.

2,979,052
DOOR STRUCTURE
Robert G. Moss, Wisconsin Rapids, Wis., assignor to Preway, Inc., a corporation of Wisconsin
Filed Sept. 17, 1958, Ser. No. 761,617
1 Claim. (Cl. 126—194)



An oven having a front, side walls and a front opening, and a readily attachable door therefor, said door comprising, an upright rear door panel, a pair of hinge lugs outstanding on the front of the rear panel one adjacent each lower corner thereof, a pair of generally planar hinge plates each having a lower end portion one of said hinge plates being pivotally attached to each of the hinge lugs to form a door hinge pivotally mounting the rear panel to swing forwardly about a horizontal pivot axis, said hinge plates each having an upper coplanar end portion extending rearwardly through the rear panel in rearwardly extending planes parallel to the oven sidewalls, means for attaching said hinge plates to said oven side walls after assembly of the oven with the hinge plates and side walls in parallel planar arrangement including an opening in each side wall and an outwardly turned flange on each hinge plate fitted in the associated side wall opening, a pair of stop arms on said rear panel, one adjacent each lower corner thereof each extending rearwardly therefrom, a lateral stop abutment on each hinge plate, a stop lug on each stop arm, one engageable with each stop abutment for limiting forward swinging movement of the door, a pair of bearings on the front of the rear panel one adjacent each top corner of the rear panel, adjusting screws mounted respectively in the bearings, a pair of connecting links slidable on the rear panel each having one end slidable on one of said adjusting screws, a nut on each screw retaining the link thereon for adjustment, a pair of coiled tension springs one connected to each connecting link, and a pair of connecting rods each having one end connected to one spring, having its other end pivotally connected to one hinge plate to bias the door rearwardly toward closed position and otherwise unconfined in movement, and a front cover panel attachable to the rear panel to enclose the hinge lugs, the bearings, the screws, the links, the springs and the connecting rods between said panels, the upper end portions of said hinge plates being unenclosed and enabling mounting of the entire door structure solely by attaching said hinge plates to an oven frame.

2,979,053
DOMESTIC APPLIANCE
Roger L. Crispell, Birmingham, and Clarence I. Vellner, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,874
10 Claims. (Cl. 126—194)



1. In combination, a plurality of walls forming an oven structure having a cooking compartment therein provided with a front access opening, a vertically disposed door on said structure normally closing the compartment opening, a forwardly enterable door receiving cavity within the confine of walls of said structure separate from and spaced above said compartment, leverage means connecting a portion of said door substantially centrally of its top and bottom edges to a member mounted on said structure for movement in a straight line direction relative thereto, said top edge of said door being swingable about said leverage means outwardly away from said compartment to raise said bottom edge of the door upwardly above the access opening thereof and to support said door in a horizontal open position aligned with the cavity in said structure, means locking said member against movement with respect to said structure during swinging of said door, said locking means being unlockable from said member in response to the movement of said door into said horizontal supported position thereof, and said member thereafter being movable rearwardly along said structure upon applying force to said door while same is supported in its said open position for guiding the door into said cavity.

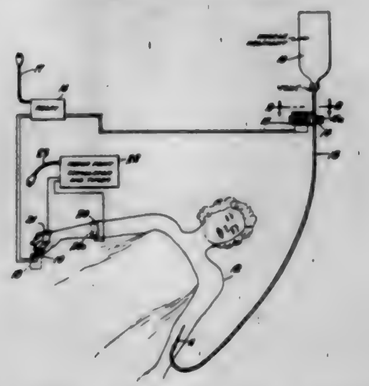
2,979,054
DOOR CONTROLLED SLIDING RACKS
Elmer T. Jenkins, 2154 N. Keystone Ave., Chicago 39, Ill.
Filed May 17, 1957, Ser. No. 659,891
11 Claims. (Cl. 126—340)



1. In combination with an oven and its hinged door, a plurality of rack guides in vertical disposition within

the oven, a plurality of racks in their respective guides, a rack selecting and actuating means including a vertical rack actuating rod, connecting arms between the vertical rod and the racks, means for selectively connecting the vertical rod to any one of the arms, and means connected to the oven door for pivotally moving the vertical rod to actuate a selected arm and rack upon movement of the oven door.

2,979,055
METHOD FOR THE ADMINISTRATION OF MUSCLE RELAXANT DRUGS
Edwin J. de Beer, Tuckahoe, Charles H. Ellis, Scarsdale, and Walter Ide, Eastchester, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York
Filed June 18, 1954, Ser. No. 437,631
9 Claims. (Cl. 128—214)



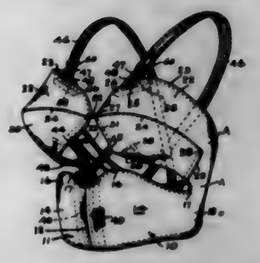
1. A method for the intravenous administration of muscle relaxant drugs comprising the steps of periodically applying a low amperage electrical stimulus to a muscle motor point controlling a movable body element of the patient and employing the contractive force of the muscle due to the stimulus when unimpaired by myoneural block to control the admission of additional relaxant drug into the patient through movement of said body element.

2,979,056
DENTAL DEVICE AND METHOD
Adolph D. Wiseman, 1068 Mission St., San Francisco, Calif.
Filed Jan. 15, 1957, Ser. No. 634,228
1 Claim. (Cl. 128—278)



A tooth and gum engageable nozzle tip for connection with a suction device for use in removing undesirable material from tooth cavities, comprising: a body of soft, resilient rubber having an open ended through bore providing an inlet at one end of said bore within which a rigid support is adapted to be held and an outlet at the opposite end of said bore, said body being relatively thick radially of said bore around its said inlet and said bore being formed with an enlargement therein adjacent to said inlet adapted to enclose such rigid support in tight engagement therewith, and outer surface of said body around and adjoining said outlet being relatively wide radially of said outlet and terminating in a thin flexible annular lip coaxial with said outlet and projecting axially of said bore, said lip being adapted to flex outwardly relative to said outlet to enable a portion thereof to seal against a tooth under the gum when said body is passed axially of said outlet against a tooth with a side of said lip at the gum line.

2,979,057
BRASSIERE
Alberta L. Miller, 6130 Carvel Ave., 10, Indianapolis 20, Ind.
Filed July 16, 1959, Ser. No. 827,500
3 Claims. (Cl. 128—484)



1. A brassiere comprising a belt in one piece and having front, side and rear portions wrapping around approximately the waist of a wearer, and detachably opening in said rear portion; the front portion of the belt rising to a height greater than the rear portion and terminating in a top edge; vertically disposed stays spaced from a vertical center line of the belt front portion maintaining said front portion in approximately vertically taut condition; upper breast pocket portions fixed to said belt rear portion, one on each side of said belt rear opening portion and extending diagonally upwardly and forwardly to terminate in opposing, spaced apart convex lines, and each having an under concave line spaced above said top edge of said belt front portion; an under pocket portion attached along said concave line in each instance and terminating in an opposing front line continuing from said upper pocket opposing line, said under portion having an under line continuing around to the side portion of said belt; a stay in each of the under pocket portion front ends extending upwardly and forwardly; a rear stay in the rear end portion of said under pocket portion extending upwardly and rearwardly, each stay extending from the concave line of each portion; said under lines of said under pocket portions being spaced above the top edge of said belt and providing an elongated opening between the belt and those pocket portions continuing from a front central opening to said belt side portions, said central opening extending upwardly from said belt and between said under and upper pocket portion opposing lines; elastic tapes extending, one each, diagonally across said central opening from each side of the center line of said belt front portion to each of said under pocket portion opposing lines; means restraining a predetermined amount of spacing apart of the combined upper and lower pocket portions across said central opening; and suspender means extending from said belt rear portion and interconnecting with uppermost portions of said upper pocket portions.

2,979,058
MANUFACTURE OF LAMINATED FILTER TIP
Milton O. Schur, Asheville, N.C., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
Filed Jan. 15, 1957, Ser. No. 634,341
1 Claim. (Cl. 131—10)

As an article of manufacture a composite cigarette-filter rod assembly including at least two spaced columns

of tobacco straddling a filter rod, said filter rod consisting only of two spaced, solid filter segments and an intermediate hollow tube abutting said solid segments, said segments and said tube having the same external diameter, said rod being sandwiched snugly between the tobacco columns, said segments and said tube each having unitary structure so as to be susceptible of individual handling, said segments and said tube being enclosed collectively in a single wrapper, said single wrapper being



the only instrumentality operative to bind the segments and the tube into a package susceptible of handling as a unit, and an additional single wrapper enclosing the tobacco columns and the filter rod to bind the rod and the tobacco columns into said composite cigarette-filter rod assembly, said additional single wrapper being the only instrumentality operative to bind the rod and the columns of tobacco into a package susceptible of handling as a unit.

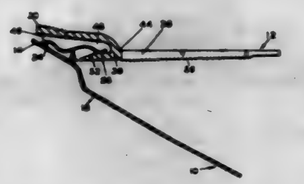
2,979,059
CIGAR TIP END ATTACHMENT
George Markovich, 926 Overton Drive, Akron 19, Ohio
Filed May 11, 1959, Ser. No. 812,147
1 Claim. (Cl. 131—13)



A cigar tip end attachment comprising a generally cylindrical, hollow heat-resistant stem of substantial annular thickness, one end of said hollow stem being conically beveled inwardly to a thin continuous annular edge, an annular flange on the other end of said hollow stem extending radially outward from said stem, said flange having a concave surface conforming to the shape of the mouth end tip of a cigar, said concave surface being on the side facing the beveled end, and a convex surface on the opposite side of said flange, said convex surface having a greater curvature than that of said concave surface thereby providing a flange of substantial thickness at the stem junction and terminating in a feather edge, whereby said beveled thinned conical end of said stem facilitates insertion of said stem axially into the mouth tip end of the cigar, said concavo-convex flange abutting the cigar mouth tip end and said flange convex surface merging with the surface of the tip end of the cigar, said thick hollow stem resisting the crushing effect of a bite on the cigar adjacent said cigar mouth end beyond said flange.

2,979,060
CLAMP BIASED CLOSED BY SPRING MEANS
Kenneth Reiser, 7875 Telegraph Road, Rivera, Calif.
Filed June 16, 1958, Ser. No. 742,167
7 Claims. (Cl. 132—48)

1. A clamp comprising top and bottom superposed elongated members extending longitudinally with each other, each comprising a rearwardly extending handle and a forwardly extending clamping portion attached to said handle and pivot means in the area of juncture of the said handle and clamping portion, the pivot means of each of said members engaging the pivot means of the other member to hold said members against shifting relatively to each other, the clamping portion of said top member having a chamber therein, said chamber having a bottom wall and a rearwardly facing open end adjacent said pivot means, said chamber extending longitudinally forwardly from said open end, the bottom member having an integral spring tongue attached at its root to the handle thereof and having a free end extending



forwardly across said pivot means, the free end of said spring tongue being slidably engaged within said chamber in contact with said bottom wall whereby the spring tongue is effective to tend to hold the members in assembled relationship and to urge the clamping portions toward their closed position.

2,979,061
NAIL COVERINGS AND METHODS OF MAKING SAME
Joseph Greenman, New York, Paul Shalita, Roslyn Heights, Thomas Taverna, Bronx, and Paul Cohen, Harrison, N.Y., assignors to Technical Tape Corporation, Bronx, N.Y.
Filed Aug. 2, 1957, Ser. No. 675,939
13 Claims. (Cl. 132—73)

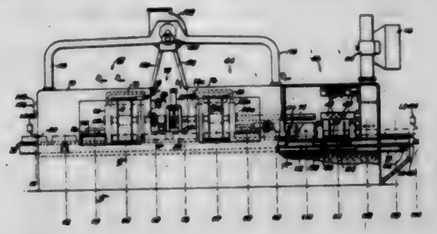


1. A fingernail blank which comprises a first sheet of thin flexible extensible sheet of a copolymer of vinyl chloride and vinyl acetate highly plasticized with a non-exuding plasticizer, said first sheet being pre-cut to form a plurality of members adapted to conform to the curvature of the cuticles of human fingernails, each of said members having adhesively attached to the underside of its innermost edge a lift sheet, said first sheet being highly glossy on one side thereof, the opposite side of said first sheet being covered with a hyperpressure-sensitive adhesive composition, the tackiness of said adhesive to a standard panel being at least 80 ounces per inch, said first sheet being supported by a relatively stiffer carrier release sheet in direct contact with said adhesive, the adherence of said adhesive to said carrier sheet being less than 25 ounces per inch.

2,979,062
POWER WASHING APPARATUS
Emil Umbricht, Jackson, and Dewey Evans, Belleville, Mich., assignors to Ajem Laboratories, Detroit, Mich.
Filed Nov. 9, 1954, Ser. No. 467,746
16 Claims. (Cl. 134—66)

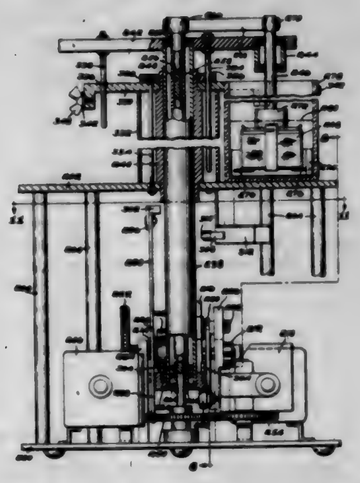
1. A parts washer comprising a machine frame, a track extending longitudinally of said frame having an intermediate open section therein, a transfer mechanism including a longitudinally reciprocating unitary bar extending along parallel to both portions of said track on opposite sides of said open section and also extending past said open section, said transfer mechanism being arranged to intermittently advance a plurality of parts along said track, indexing means on said frame passing through said open section of the track and arranged to remove said parts in sequence from said open section of said track and to index them step by step along a path

while turning them over and then returning them in sequence to said open section of the track, spray jets positioned along said path arranged to spray cleaning liquid



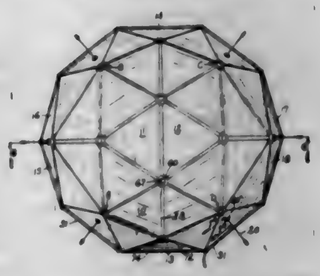
on the parts in said indexing means, and a master control arranged alternately to actuate said transfer mechanism and said indexing means.

2,979,063
WASHING MACHINE
Stanley C. Hilton, Brookline, Mass., assignor to C. Yardley Chittick, Boston, Mass.
Filed Mar. 27, 1958, Ser. No. 724,448
1 Claim. (Cl. 134—77)



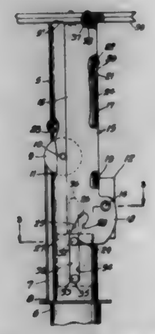
A washing machine comprising vertically spaced upper and lower plates, a plurality of liquid containers circularly arranged on said upper plate for successively receiving a basket containing articles to be cleaned, means for raising and lowering said basket with respect to each container, means for actuating the basket when in the liquid of a container, means for causing said basket to spin off when in the upper part of each container above the liquid, means for causing said basket to be moved from one container to the next when in a position above said containers, said means comprising a first motor mounted on the lower plate, a cam shaft continuously driven thereby, first, second and third cams on said cam shaft, a second motor mounted on the lower plate for causing actuating and spinning of said basket when in a container, a switch for closing the circuit of said second motor and intermittently operated by said first cam, a rotatable and vertically extensible shaft having two concentric parts, one of said parts having a horizontally disposed gear thereon connected with and driven by said second motor, a centrally located opening through said upper plate, a tubular bearing having its lower end mounted in said opening, a vertically movable supporting shaft slidable in said tubular bearing and surrounding said extensible shaft and having a collar on its lower end, a lever arm actuated by said second cam, said lever arm having one end thereof positioned under said collar whereby when said lever arm is raised said supporting shaft will be raised, said second cam shaped to hold said lever arm stationary for predetermined periods while said basket is in said liquid and while said basket is above said liquid and within said container and while said basket is above said container, the other of the parts of said extensible shaft rotatably carried by said supporting shaft whereby upon upward movement of said supporting shaft said other part of said extensible shaft will be correspondingly moved upward while still in rotative engagement with said one part of said extensible shaft, a spider mounted on the upper end of said tubular bearing, said spider having arms which act to locate said containers on said upper plate, a transverse basket shaft arm and a basket shaft carried thereby and operatively related to said supporting shaft, means actuated by the other part of said extensible shaft for rotatably driving said basket shaft, said basket operatively connected to said basket shaft so that upon rotation of said basket shaft the basket will be actuated, said transverse arm extending beyond said supporting shaft and away from said basket, two pins depending from said transverse basket arm, one pin being between said supporting shaft and basket shaft and the other pin being on the opposite side of said supporting shaft, corresponding holes in said spider to receive said pins upon downward movement of said supporting shaft when said basket is aligned with a container, said pins acting to insure the angular position of said transverse arm with respect to said containers and to minimize vibration of said basket during its operation, a plurality of angularly spaced elements on said collar, said elements spaced according to the angular spacing of said containers, a lever actuated by said third cam when said collar and supporting shaft are in maximum raised position and said basket is above said containers, said lever including element engaging means whereby one of said elements will be engaged and moved angularly thereby to move said basket through a corresponding angle to the position of the next container and with said pins located over another pair of corresponding holes in said spider, said first cam for actuating said second motor and basket timed with respect to said second cam so that said second motor will be in operation for predetermined times while said basket is submerged in said liquid and while said basket is above said liquid and within said container.

2,979,064
INFLATABLE BUILDING CONSTRUCTION
William H. Fischer, Sandy Hook, Conn., assignor to The Berger Brothers Company, New Haven, Conn., a corporation of Connecticut
Filed Oct. 9, 1958, Ser. No. 766,255
8 Claims. (Cl. 135—1)



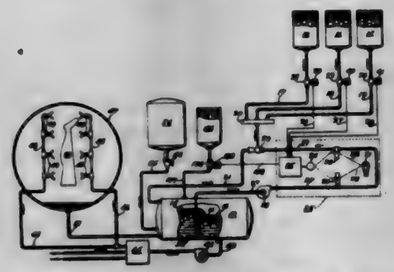
1. A light weight collapsible shelter structure formed of a multiplicity of substantially triangular inflatable panels, said panels being disposed edge to edge to form a dome-shaped structure and being secured together along their abutting edges, said structure having a plurality of apices at which a plurality of panels meet each of said panels having spaced fabric walls and sealed at its edges to provide a closed chamber, the walls being connected by filaments which hold them in flat substantially parallel relation, and inflating conduits adapted for connection to a source of pressure and leading at the under side of the structure to the said apices and there separately communicating with the panels.

2,979,065
MECHANISM FOR TILTING AND SUPPORTING UMBRELLA TOPS
Samuel N. Small, Valley Stream, N.Y., assignor to Alfred G. Cohen and Paul Weiss, both of Flushing, N.Y.
Filed Sept. 10, 1958, Ser. No. 760,195
10 Claims. (Cl. 135—46)



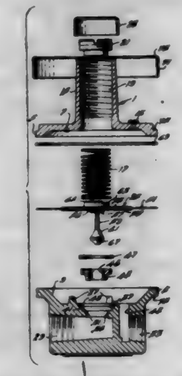
1. An umbrella comprising a single elongated tubular post, an umbrella top supporting member tiltably mounted on the post near the upper end portion of the post to leave an extension on the post, said member partially covering said extension and extending to the upper end of said extension of the post, interengaging means between said post and member to normally retain said member in position against the post, an umbrella top supported on said member, and said means including an element movable longitudinally of the post and operatively engaging said member and post in support of the member in position against the post and in tilted position with respect to the post.

2,979,066
COLOR CONTROL OF LIQUIDS
John S. Christie, Oreland, Pa., assignor to The Proctor-Silex Corporation, a corporation of Connecticut
Filed Sept. 17, 1956, Ser. No. 610,159
21 Claims. (Cl. 137—3)



12. The method of obtaining a mixture of color from component fluids comprising continuously monitoring the color of the mixture by sequentially examining it constituent color components to determine deviations of each of the color components of the mixture from the corresponding component color of the standard and alternatively feeding into the mixture, as required, diluent and component fluids of such components as deviate from the standard until the deviation is corrected.

2,979,067
PRESSURE REGULATOR
Frank Kern, Jr., Detroit, and Charles Stang, Jr., St. Clair Shores, Mich., assignors to Maxitrol Company, Detroit, Mich., a corporation of Michigan
Filed Sept. 21, 1953, Ser. No. 381,298
16 Claims. (Cl. 137—15)

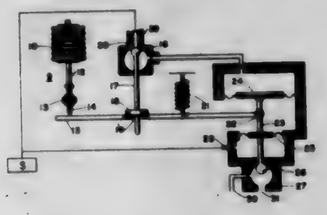


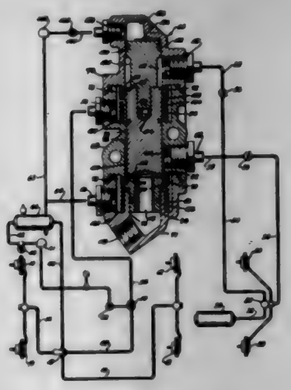
1. In a gas pilot and appliance type regulator the combination of a body having a bottom section and a top section secured to the bottom section, recesses formed in the confronting faces of said top and bottom sections and cooperating to provide a diaphragm cavity, said bottom section having a bottom wall and a valve seat receiving aperture formed in the bottom section above said wall and opening into said cavity and having a shoulder facing said top section, an inlet aperture formed in said bottom section and opening into said aperture, an outlet passage in said bottom section connected with said cavity so that gas will flow under a diaphragm in the cavity between said seat and outlet passage, a rubber valve seat member mounted in said valve seating aperture and having a flange seated on said shoulder, means secured to said bottom section and holding said rubber member seated on said shoulder, said member having a through opening connecting said inlet with said cavity, the bottom wall of said bottom section below said aperture being integral with and non-removable from the section so that there is no access to the bottom of said seat member except through said opening and said inlet aperture, and a diaphragm and valve assembly mounted in said cavity including a valve body member of greater diameter than said opening located on the side of said valve seat member remote from said cavity, said valve seat member being deformable to permit passage of the valve body therethrough, one of said members being tapered to facilitate passage of the valve body member through the opening.

11. The method of manufacturing a gas pilot and appliance type regulator for maintaining constant outlet pressure beginning with top and bottom sections of the housing which have formed therein the diaphragm cavity, the valve seat, the spring retainer chamber, and the inlet and outlet conduit connections with said cavity, comprising the steps of threading the spring chamber, threading the inlet and outlet conduit apertures, inserting a rubber valve seat in the valve seat aperture, staking a washer against said rubber valve seat on the diaphragm

cavity side thereof to hold it in place, assembling the valve, the diaphragm clamping plates, and the diaphragm together, said valve being of larger diameter than the opening through said valve seat, forcing the valve while assembled with said diaphragm through the opening in said valve seat and positioning the periphery of the diaphragm on the bottom section, placing the top section on the periphery of the diaphragm and forcing it against the bottom section, placing a metal clamping ring around the joint between the top and bottom sections, and turning over at least one end of the clamping ring against a radial shoulder on one of the sections to firmly secure the sections together.

2,979,068
STEP-TYPE CONTROL SYSTEM AND RELAY THEREFOR
Augustus W. Griswold, Rochester, and Harvey A. Klumb, Pittsford, N.Y., assignors to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York
Filed Sept. 27, 1956, Ser. No. 612,460
13 Claims. (Cl. 137—82)





1. In combination, a main valve, a pilot valve, and first and second expansible and contractible chamber devices, said pilot valve being supplied with pressure fluid and having a control element movable in one given sense or in another given sense respectively to admit or exhaust said pressure fluid respectively to or from said first expansible and contractible chamber device, said main valve being connected to said first expansible and contractible chamber device to be moved correspondingly by expansion or contraction thereof, said first expansible and contractible chamber device being connected to said control element to move same in said given sense concurrently and only with said main valve in such manner that if the said control element is initially moved so as to admit pressure fluid to said first expansible and contractible chamber device, said first expansible and contractible chamber device expands and moves said control element so as to admit pressure fluid to said first expansible and contractible chamber device, whereby movement of said main valve by said first expansible and contractible chamber device is accelerated; said second expansible and contractible chamber device being connected to said first expansible and contractible chamber device and adapted to be connected to a source of pressure fluid for expanding in opposition to expansion of said first expansible and contractible chamber device, whereby movement of said main valve by said first expansible and contractible chamber device is controllable by pressure in said second expansible and contractible chamber device.

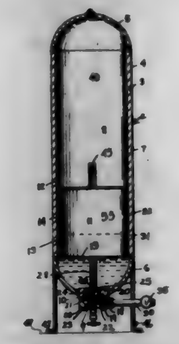
2,979,069
TRACTOR PROTECTION VALVE
Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Feb. 20, 1959, Ser. No. 794,710
4 Claims. (Cl. 137—102)

1. A tractor protection valve adapted to connect tractor and trailer service and emergency lines of a tractor-trailer fluid pressure operated brake system, comprising a casing provided with axially aligned serially arranged control chamber, service outlet and inlet chambers, emergency outlet and inlet chambers and an exhaust port, said outlet and inlet chambers respectively adapted to be connected with said trailer and tractor service and emergency lines, and said exhaust port communicating with atmosphere, an emergency valve within said emergency inlet chamber, a spring acting on said emergency valve to normally close communication between said emergency inlet and outlet chambers, a piston in said control chamber movable towards or away from said inlet and outlet chambers, a part integral with said piston and extending through said service outlet and inlet chambers and terminating in said emergency outlet chamber, a service valve within said service inlet chamber and integrally connected to the part of said piston in said latter chamber, a spring acting on said piston to urge it to a position wherein said service valve normally closes communication between said service inlet and outlet chambers, the part of said piston in said emergency outlet chamber when said valves are in closed position being spaced from said emergency valve but being engageable with said valve to open the same when said piston is moved in a valve opening direction, and a passageway through said emergency valve normally connecting said emergency outlet chamber and said exhaust port when said valves are in their normal closed position but being closed by the part of said piston in said emergency outlet chamber when said piston is moved in a valve opening direction.

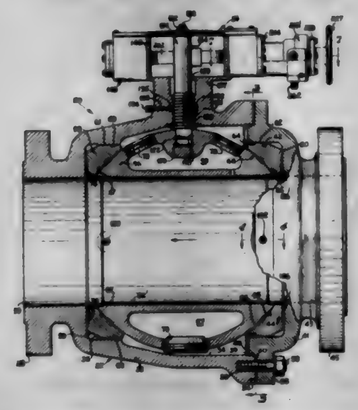
2,979,070
ENERGY STORAGE OR ACCUMULATOR DEVICE
Vivian H. Payne, P.O. Box 9363, Houston, Tex.
Filed Nov. 27, 1956, Ser. No. 624,579
3 Claims. (Cl. 137—192)

1. In a device wherein liquid is acted upon by a gaseous pressure to provide a source of energy, a cylindrical housing having its ends closed to form a reservoir for receiving the liquid and gas, there being opening means in said housing for charging the reservoir with the gas and liquid and for discharging the liquid from the housing, a hollow cylindrical float means within said housing, said float having an opening therein exposed to the gas within said reservoir and closed to move up and down in said housing in response to variations in the liquid level within said reservoir, said cylindrical float being slightly smaller in diameter than the diameter of said reservoir, said cylindrical float having substantially the same cross-

sectional area substantially throughout its extent whereby the contact area between the liquid and gas in the reservoir is substantially the same regardless of the liquid level and pressure of the gas in said housing.



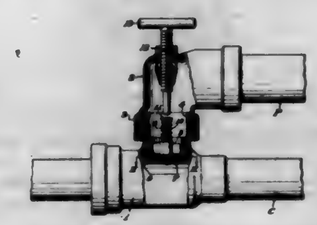
2,979,071
LUBRICATED BALL VALVE
Robert H. Herring, Sulphur Springs, Tex., and Louis L. Neubauer, San Francisco, Calif., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 11, 1953, Ser. No. 379,496
5 Claims. (Cl. 137—246.13)



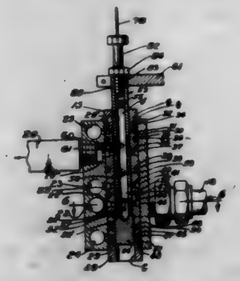
1. In a lubricated valve having a valve body containing a plug rotatable to control fluid flow therethrough, cooperating seating surfaces on said body and plug, lubricating means comprising a reservoir adapted to contain a body of lubricant under pressure, a pump, a passage between the reservoir and pump inlet, a passage between the pump outlet and said seating surfaces, and means for rotating said plug having means for actuating said pump including means for disconnecting the plug rotating means and at the same time increasing the pump outlet pressure whenever and so long as the plug turning torque requirements exceed a certain value.

2,979,072
VALVES
Henry N. Webster, Sebring, Fla., assignor to Webster Corporation, Sebring, Fla., a corporation of Florida
Filed Mar. 9, 1956, Ser. No. 570,514
3 Claims. (Cl. 137—322)

1. In a coupling valve having a body in the form of an elbow with its inlet swivelly connected to a conduit extending from a source of fluid under pressure and its outlet connected to a delivery conduit, and a downwardly-flared seat within the conduit at the inlet end: a closure disk normally held in closed position by spring means, said disk having a bevelled peripheral flare complemental to the seat, a square section circumferential groove in the bevel face parallel to the general plane of the disk, at least one relief port extending up from the rear corner of the groove to the top surface of the disk, and an O ring gasket lodged, with capacity for limited up and down play, within the groove of the disk but of a diameter to project peripherally beyond the disk for maintenance normally alone in sealing engagement with the seat by the force of the spring means and the action of the fluid pressure upon the disk from beneath whereby, upon slight depression of the disk at the initiation of valve opening, pressurized fluid is allowed to by-pass upwardly about the inside of the gasket through the relief port aforesaid while said gasket is still in sealing engagement with the seat, before the disk is moved to full open position.

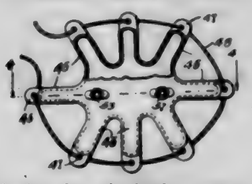


2,979,073
CONTROL MECHANISM FOR FLUID UNDER HIGH PRESSURES
John S. Edison, 1434 Broadway, Burbank, Calif.
Filed Nov. 12, 1957, Ser. No. 695,924
15 Claims. (Cl. 137—331)



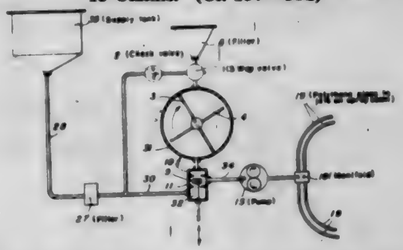
1. In a mechanism for controlling a system having a plurality of fluid pressure supply lines, the combination of a source of fluid pressure, manifold means in communication with said source, valve means associated with said manifold means for controlling the communication of said source with said lines, each valve means including a sleeve non-rotatably supported by said manifold means, and a part movable in response to pressure in the related line and operable to control said pressure, and being carried by said sleeve for movement therein, means for oscillating the said movable parts of the several valve means, a pivoted beam operatively connected with each said movable valve part and operable to balance its respective part against said pressure in the line, weight carrying means movable along each beam, the weights initially supplied to the carrying means serving to establish a given ratio between the pressures supplied to the lines, and means for simultaneously moving said carrying means along their beams to vary said pressure while preserving said ratio.

2,979,074
POUCH SAFETY VALVE HEATER
John D. Yanda, Maple Lane, Bethlehem, Wheeling, W. Va.
Filed May 28, 1959, Ser. No. 816,616
1 Claim. (Cl. 137—340)



A heating device for air brake system valves comprising a closed pouch having radial fingers for being fitted around said valve, said fingers having flanged ends with openings therethrough, flexible means extending through said openings for drawing said fingers about said valve and attaching the same thereon and said pouch having couplings for connecting the same to a source of heated liquid.

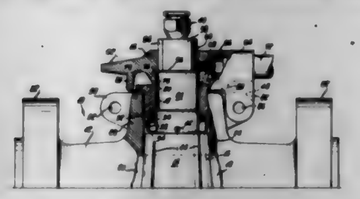
2,979,075
SPRAYING DEVICE
Gilbert Spencer Hartley, Fulbourn, and Robert Thompson Brunskill and Rudolf Koloman Pfeiffer, Cambridge, England, assignors to Fisons Pest Control Limited, Bourn, England
Filed July 2, 1956, Ser. No. 595,400
Claims priority, application Great Britain July 2, 1955
15 Claims. (Cl. 137—351)



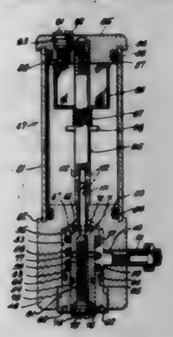
1. An apparatus and a vehicle on which said apparatus is mounted, said vehicle having a land wheel, said apparatus comprising a first liquid supply tank, a mixing vessel and a pump, said mixing vessel consisting of a substantially airtight chamber provided with a first liquid inlet pipe for filling said mixing vessel having a second liquid inlet therein at the point where it enters said mixing vessel, said first and second liquid inlets having means therein for connecting said second liquid inlet and disconnecting said first liquid inlet with said mixing vessel and connecting said first liquid inlet and disconnecting said second liquid inlet with said mixing vessel, an outlet pipe leading to spray nozzles and an agitator inside the chamber, said first liquid inlet pipe being connected with said first liquid supply tank, said pump being in one of said pipes causing liquid to flow from the mixing vessel through the outlet pipe and at the same time from the first liquid supply tank to the mixing vessel, and being geared to the land wheel of the vehicle.

2,979,076
COMBINED WRENCH, LOCK, HOOD AND INDICATOR FOR VALVES
Nicholas W. Kish, Barberton, Ohio, assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 17, 1957, Ser. No. 634,638
2 Claims. (Cl. 137—382)

1. In a valve structure having a valve body having a gland receiving boss and a longitudinally adjustable packing gland therein, a rotatable valve plug having an operating valve stem extending through said packing gland to the exterior of said body, and circumferentially spaced stop means on the exterior of said boss, the improvement comprising a valve operating member formed with an aperture therein non-rotatably surrounding said valve stem and having an outer depending skirt disposed around a portion of and closely adjacent the packing gland, a relatively shorter inner depending skirt surrounding said valve stem in closely spaced relation above the upper end of the gland, two circumferentially spaced apart stop members projecting from said valve operating member outwardly of said outer skirt so as to cooperatively abut said stop means on the valve body in open and closed valve positions, and a projecting valve plug position indicator on said member in fixed circumferentially spaced relation to said stop members.

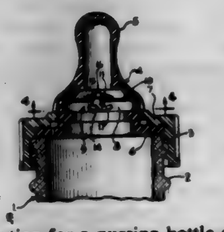


2,979,077
HYDRAULIC SYSTEM
Carl F. Swenson, Hillsdale, N.J., assignor to Star Parts, Inc., South Hackensack, N.J., a corporation of New Jersey
Filed Mar. 14, 1957, Ser. No. 646,128
4 Claims. (Cl. 137—493.3)



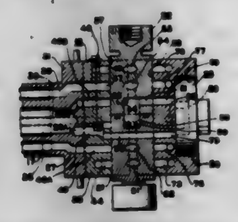
1. Hydraulic apparatus comprising a housing, an elongated chamber in said housing, an inlet port in said housing communicating with said chamber, an outlet port in said housing communicating with one end of said chamber, said outlet port being axially aligned with said chamber, an elongated relief valve member movable within said chamber, a valve seat in said chamber at said outlet port, one end of said relief valve being adapted to cooperate with said valve seat, a cylindrical retaining nut at the other end of said chamber, a first spring positioned between said nut and a portion of said relief valve, said spring normally urging said relief valve against said valve seat to close said outlet port, said relief valve being movable away from said seat against the action of said first spring when fluid pressure within said chamber exceeds the force of said first spring, said relief valve being movable longitudinally within said retaining nut, an elongated check valve cavity positioned axially within the interior of said relief valve member, a relief port at one end of said valve member establishing direct communication between said check valve cavity and said outlet port, a retaining screw positioned in the other end of said check valve cavity, a movable check valve in said check valve cavity, a second spring positioned between said retaining screw and said check valve normally urging said check valve against said relief port and at least one lateral port in said relief valve member establishing communication between said check valve cavity and said chamber.

2,979,078
VALVE FOR NURSING BOTTLE NIPPLES
Henry W. Witz, Barrington, Ill., assignor to Nursmatic Corporation, Crystal Lake, Ill., a corporation of Delaware
Filed Feb. 2, 1959, Ser. No. 790,504
1 Claim. (Cl. 137—533.29)



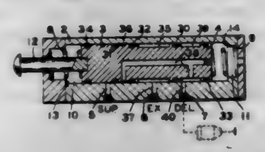
A valve construction for a nursing bottle comprising in combination, a flat stainless steel disc dimensioned to fit transversely across the valve compartment of a conventional nursing bottle nipple and having a central circular opening with which are connected three radially positioned clover-leaf openings, a valve member comprised of a shank of lesser diameter than said central circular opening and fitting loosely therein and of a length substantially in excess of the thickness of said disc for movement in a direction perpendicular to the plane of said disc, a head on one end of said shank having a diameter greater than the maximum radial extent of said clover-leaf openings and having a flat surface on the side adjacent said disc and being dome-shaped on the opposite side, a diametrically disposed orienting rib having a substantially flat upper surface extending completely across said dome-shaped side, three radiating arms on the other end of said shank curving at their extremities towards the disc, each being of a length greater than the radial extent of said clover-leaf openings and of a width to pass through the narrowest dimension of said clover-leaf openings, said arms being comprised of polyethylene resin characterized by non-toxicity and a degree of resilience sufficient to permit their being bent to fit longitudinally within said clover-leaf openings and then capable of springing back to their original form, said shank and head also being comprised of polyethylene resin and integral with said arms.

2,979,079
PLURAL DISPENSING VALVE
Anthony Turak, 11208 Lorain Ave., Cleveland, Ohio
Filed Dec. 30, 1957, Ser. No. 705,970
15 Claims. (Cl. 137—599)



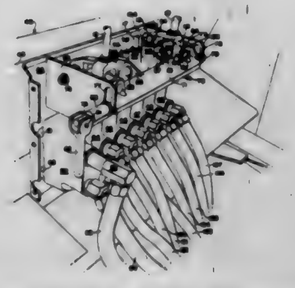
1. A valve comprising, in combination, a body having an inlet line and a discharge opening, first, second, and third valve plugs in said valve body each having a first operative position and a neutral position and said third valve plug additionally having a second operative position, a fluid diffuser in said valve, first conduit means in said first valve plug and said body and connecting said inlet line through said diffuser to said discharge opening with said first valve plug in said first operative position, land means in said first valve plug closing off said first conduit means in said neutral position of said first valve plug, and second conduit means in said first, second and third valve plugs and said body and connecting in series said first, third, and second valve plugs, and again said first valve plug and effecting fluid communication therethrough from said inlet line through said diffuser to said discharge opening with said first and second valve plugs in said neutral positions and said third valve plug in said first position.

2,979,080
VALVE DEVICE WITH ANNULAR RESILIENT VALVING ELEMENTS
Ellis E. Hewitt, Ruffsdale, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Jan. 29, 1959, Ser. No. 789,911
3 Claims. (Cl. 137—620)



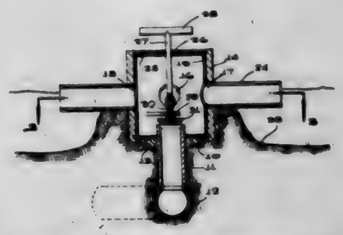
1. A valve device for controlling pressure of fluid in a fluid pressure controlled mechanism, said valve device comprising a casing providing a bore, a supply port, an exhaust port, and a delivery port via which pressure fluid is conveyable to and from the mechanism, said exhaust port being open to the bore at a point intermediate the points at which the supply port and delivery port are open to the bore; a generally cylindrical valve-carrying member reciprocable in the bore and having one cavity constantly open to the exhaust port and having another cavity and a third cavity both of which are sealingly isolated from and disposed adjacent opposite ends of said one cavity, said valve-carrying member also having a delivery passage constantly interconnecting said other cavity and third cavity; and one valve and another valve both of the annular resilient valve type carried in axially spaced annular grooves adjacent the remote ends of said one cavity and said other cavity for axial movement by said valve-carrying member; said one valve being movable in one direction past the adjacent end of said delivery port for uncovering said delivery port to the exhaust port via said one cavity for causing release of pressure fluid from the mechanism via the delivery port in bypass of the delivery passage, and movable in the opposite direction past said delivery port for sealing off said delivery port from said one cavity; said other valve being movable in said opposite direction past the adjacent end of said supply port for uncovering the latter to said other cavity for causing supply of pressure fluid to the mechanism via said other cavity, delivery passage, third cavity and delivery port, and movable in said one direction past said supply port for sealing off the latter from said other cavity, whereby the fluid pressure differential across said supply port and delivery port will act to maintain said other valve in its groove during movement of said other valve in either of said directions past said supply port, and the fluid pressure differential across said delivery port and exhaust port will act to maintain said one valve in its groove during movement of said one valve in either of said directions past said delivery port, thereby to prevent "nibbling" of said other valve and one valve, respectively.

2,979,881
CONTROL MECHANISM
James E. McCanse, Moline, Ill., and Douglas C. Ager, Muscatine, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 17, 1959, Ser. No. 834,240
15 Claims. (Cl. 137—620)



1. A valve control mechanism for a valve system having at least two spaced apart valve control elements supported by a main frame, said valve elements being alined in and movable in a vertically disposed plane; comprising: a main support pivotally mounted on the frame for movement about a horizontal axis in the aforesaid plane; a first control arm extending forwardly from a first of said valve control elements and having a forward terminal end; a first articulate connection between said first valve element and said first control arm; a second control arm extending forwardly from a second of said valve control elements and including a portion thereof extending to one side of said second control element and having a terminal end adjacent the terminal end of said first arm; a second articulate connection between said second control element and said second arm; means pivotally interconnecting the terminal ends of said control arms permitting vertical movement of said first arm relative to said second arm; fore-and-aft pivotal support means between said second control arm and the main support; a lever fixed to the first of said control arms effective in movement in a direction having a fore-and-aft component to adjust said first control arm vertically and in movement in a direction having a transverse component to adjust said second control arm vertically; and means between said main support and frame for adjusting the main support vertically about its horizontal axis.

2,979,882
IRRIGATION WATER DISTRIBUTING DEVICE
Frank T. Neves, 38191 Highway 99, Kingsburg, Calif.
Filed Jan. 4, 1957, Ser. No. 632,606
5 Claims. (Cl. 137—625.11)



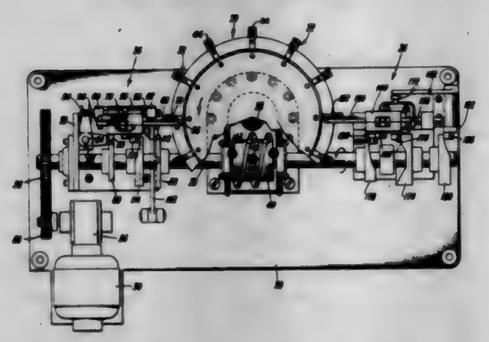
1. In an irrigation device, the combination of a tubular substantially upright casing having an open upper end, a lower end adapted for connection to a source of irrigating water, and four laterally disposed orifices substantially equally spaced about the casing, the casing having a cavity defined by an inwardly disposed surface of revolution concentric to an erect axis; a sleeve having an external surface of revolution rotatably fitted in the cavity against the internal surface of the casing and providing three laterally disposed ports therein of substantially the same size and shape as the orifices, adjacent first and second of said ports being spaced substantially the same distance as the orifices in the casing and adjacent second and third ports being spaced a distance different from the spacing of the orifices by an amount equal to substantially the width of an orifice measured circumferentially of the casing; means in the lower end of the casing defining a valve seat concentric to the sleeve circumscribing a water receiving opening; bridge elements mounted in the upper and lower ends of the sleeve; a valve adapted for sealing engagement with the valve seat having an operating stem screw-threadably mounted axially concentrically of the sleeve in the bridge element of the lower end of the sleeve; and a valve wrench rotatably mounted axially concentrically of the sleeve in the bridge element of the upper end of the sleeve in releasably driven connection to the stem of the valve, the sleeve being frictionally engaged in the casing and with the bridge elements, valve and wrench mounted therein being movable into and out of the open upper end of the casing.

2,979,883
VALVE ARRANGEMENT
Fernand Usselmann, Sceaux, and Alfred Verbelle, La Garenne Colombes, France, assignors to société anonyme dite: Compagnie des Freins et Signaux Westinghouse, Paris, France
Filed Jan. 3, 1958, Ser. No. 706,938
Claims priority, application France Jan. 10, 1957
2 Claims. (Cl. 137—637.3)



1. In a valve assembly having a valve body provided with inlet and outlet apertures therein, a valve bonnet on said body, a primary valve member internally of said body and a secondary valve member having a greater diameter then the primary valve member and being operable to a seated position closing the valve and unseated positions opening the valve, means in the valve body defining an elongated passageway between the valve inlet and outlet providing separate seats for said primary and secondary valve members disposed axially on inner sidewalls of said passageway and circumferentially of said passageway, the improvement which comprises a rotatable hollow shaft extending through said bonnet in a sealed condition into said body and connected at an inner end thereof to said secondary valve member, said bonnet having an internally threaded bore through which said shaft extends and the shaft having external threads cooperative with said bonnet threads for moving the shaft axially in opposite directions when rotated in opposite directions, an externally threaded spindle extending axially through said shaft connected at an inner end thereof to said primary valve member so that primary valve member is disposed axially of the secondary valve member, said shaft having internal threads cooperative with the spindle external threads for allowing presetting of the relative axial positions of the shaft and spindle thereby to preset the relative axial positions of the valve members, said spindle having an outer hexagonal end portion adapted for engagement by a tool to rotate the spindle separately from the shaft, and a manually operable wheel removably connectable with the outer end of said shaft having a recess for receiving the outer end of the spindle and flattened side walls cooperative with said hexagonal end portion to hold the spindle in its preset relative position with respect to the hollow shaft and in an inaccessible condition so long as said wheel is on the shaft, the wheel being manually operable at will for bodily rotating the shaft thereby to bodily rotate the spindle in conjunction with the shaft and jointly displace them axially to displace and position the primary and secondary valve members.

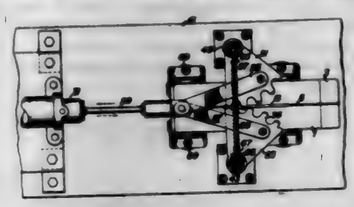
2,979,884
WIRE SPREADING MACHINE
Henry W. Roeber, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Nov. 23, 1955, Ser. No. 548,629
16 Claims. (Cl. 140—71.6)



5. In a machine for orienting leads of an electrical device, a feed carrier and means to move the same, said carrier including a holder adapted to receive said electrical device for movement along a feed path, a lead parting wedge forming a part of said holder adapted to separate the leads of said electrical device into two groups, and a lead bending mechanism including a head mounted for pivotal movement into an inclined position, jaws on said head adapted to be engaged about said one group of leads for angularly positioning said one group in response to said pivotal movement, and means operatively connected to said head for pivoting said head to thereby effect angular positioning of said one group of leads.

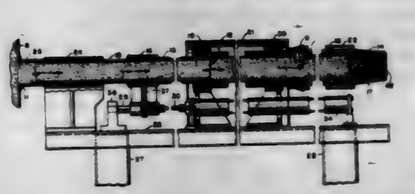
2,979,885
CRIMPING DEVICE
Bernhard Rogge, Baldwin, Md., assignor to the United States of America as represented by the Secretary of the Army
Original application Dec. 17, 1954, Ser. No. 476,094, now Patent No. 2,868,125, dated Jan. 13, 1959. Divided and this application Oct. 20, 1958, Ser. No. 772,645
2 Claims. (Cl. 140—105)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A crimping device comprising a base and two parallel columns positioned perpendicularly thereon, each column having a longitudinal bore, a first bell-mouthed bearing mounted in the base adjacent the end of the respective column, a shaft in each bore journalled in said first bearings, said bores being of such size and shape as to permit said shafts to tilt in said first bell-mouthed bearings in the plane passing through the axes of said shafts, a toothed sector slidably mounted on each column, a second bell-mouthed bearing mounted in each said sector and journalled on the respective shaft, the teeth of said sectors meshing when said shafts are urged toward each other, resilient yielding means engaging the shafts adjacent said



sectors and biasing the upper end of said shafts toward each other, a pair of links, each of said links being connected at one end to a sector, and common operating means connected to the other ends of said links.

2,979,886
FILLING MACHINE
Robert L. Hegman and Robert W. Hess, Cincinnati, Ohio, assignors to The Safegard Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed May 7, 1959, Ser. No. 811,584
7 Claims. (Cl. 141—67)

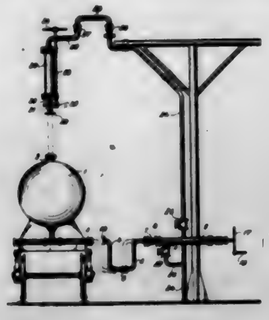


1. A valveless machine for extrusion of predetermined quantities of air-buoyant material comprising, in combination: means for supplying air under pressure and containing the material in suspension, stationary conduit means having an intake end in communication with said supply means and a perforated screen on which said material collects and an open convergent delivery end, a hollow tubular ram member concentrically disposed in relation to and mounted for reciprocal movement relative to and in said screen, and means for projecting said ram into said screen to eject said material and retracting said ram to permit said material to collect on said screen and at said delivery end, said ram member being formed to define a passage through which material is blown from the supply means to the conduit means.

2,979,887
DEVICE FOR THE FLUID FLOW CONNECTING OF STATIONARY CONDUITS AND PORTABLE FLUID CONTAINERS SUCH AS TANK CARS
Ludwig Vogt, Duisburg-Hamborn, Germany, assignor to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany, a German corporation
Filed Aug. 15, 1957, Ser. No. 678,482
Claims priority, application Germany Aug. 22, 1956
12 Claims. (Cl. 141—113)

1. Device for the fluid flow connecting of stationary conduits and portable fluid containers such as tank cars which comprises a first substantially rigid Z bent pipe having means at one end thereof for fluid flow connection with a portable fluid container, a second bent substantially rigid pipe, fluid tight connection means rotatably connecting the other end of said first pipe and one end of said second pipe for at least limited rotation about the axis of the connected portions, fluid tight connection means rotatably connecting the other end of

said second pipe to a feed pipe, said feed pipe being connected with said stationary conduit for at least limited rotation about an axis substantially parallel to the axis of rotation of said first connection means, the free end of said feed pipe extending within a sleeve, said sleeve having a pipe section positioned therein for axial movement in and out with a fluid tight fit connected in flow communication with said pipes between said means for fluid



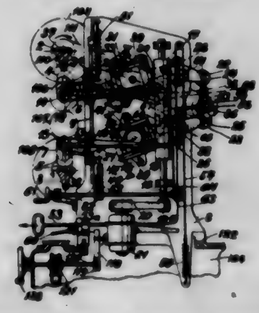
flow connection with a portable container and said feed pipe substantially parallel to the axis of rotation of said bent pipes, a screw nut connected to the end of said pipe section positioned in said sleeve, a threaded spindle extending through the end of said sleeve opposite said pipe section in engagement with said screw nut, and means for manually rotating said threaded spindle for moving said pipe connection axially in and out of said sleeve.

2,979,088

DUPLICATING MILLING MACHINE FOR WOOD

Leopold Bischoff, Vienna, Austria, assignor to Fa. Maschinenfabrik Zuckermann Komm. Ges. Wien, Vienna, Austria

Filed July 30, 1956, Ser. No. 600,947
Claims priority, application Austria July 30, 1955
10 Claims. (Cl. 142—7)



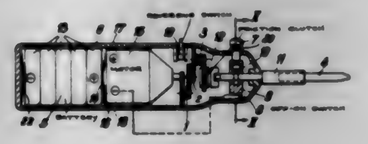
1. In a copying machine for simultaneously manufacturing a pair of complementary parts, such as a pair of shoe lasts, from a single pattern, in combination, pattern support means for supporting a pattern for rotation about a predetermined axis; a pair of pattern followers respectively located at opposite sides of said axis for simultaneously engaging diametrically opposed portions of a pattern carried by said support means; a pair of follower carriages respectively carrying said followers; guide means engaging said follower carriages for guiding the latter to move said followers toward and away from said axis; a pair of work support means for respectively supporting a pair of workpieces for respective rotation about a pair of additional axes; a pair of tool carrying and operating means respectively located adjacent said pair of additional axes; a pair of additional carriages respectively carrying said pair of tool carrying and operating means; second guide means guiding said pair of additional carriages for movement toward and away from said pair of additional axes, respectively; a pair of lever means respectively interconnecting said pair of first-mentioned carriages with said pair of additional carriages for moving said pair of additional carriages in correspondence with the movement of said pair of first-mentioned carriages when the latter move in response to movement of said followers toward and away from said first-mentioned axis; and means urging said followers toward said first-mentioned axis.

2,979,089

PORTABLE BATTERY-ENERGIZED SCREW DRIVER

Richard Plesker, Buffalo, N.Y., assignor to Hanns Fickert and Richard Wenninger, both of Frankfurt am Main, Germany

Filed Apr. 17, 1959, Ser. No. 807,133
Claims priority, application Germany Apr. 24, 1958
5 Claims. (Cl. 144—32)



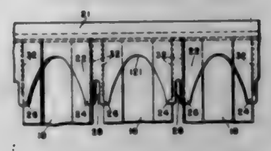
1. An electric screw driver comprising a hollow handle forming a housing, an electric battery, an electric motor, speed reduction gearing, and a tool-supporting member disposed in alignment with each other within said housing, and an electric switch mounted on and partly within said housing and having an operating part extending toward the outside of said housing for connecting said motor to said battery and for disconnecting it therefrom, said switch having means for locking said tool-supporting member to said housing when said switch is in the disconnecting position and for releasing said tool-supporting member from said housing so as to be rotatable by said motor when said switch is in the connecting position.

2,979,090

LOG DEBARKING DRUM

Gordon F. McClay, Lennoxville, Quebec, Canada, assignor to Canadian Ingersoll-Rand Co., Ltd., Montreal, Quebec, Canada, a corporation of Canada

Filed Nov. 17, 1958, Ser. No. 774,518
2 Claims. Cl. 144—208)



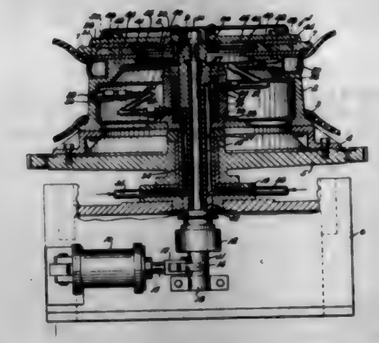
1. A log debarking drum comprising, a plurality of rotatable hoops spaced axially relative to each other, a plurality of elongated staves within said hoops and mounted in spaced relation around the hoops, said hoops having outwardly tapered projections, each of said projections being divided to form outwardly tapered fingers, the one side of each finger for its entire length overhanging an edge of an associated stave, said hoops being secured to the staves by a lineal weld between the hoop and stave and extending from the end of the finger along the inner periphery of the hoop.

2,979,091

QUICK ACTING TIRE MOUNTING CHUCK

John Nosill, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 31, 1958, Ser. No. 784,327
8 Claims. (Cl. 144—288)



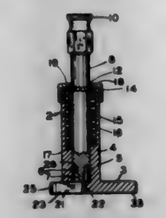
1. A quick acting device for mounting and inflating a pneumatic tire comprising annular means seating against and sealing one bead of the tire against the escape of air and partially bridging the space between the tire beads, means seating against and supporting the other bead of the tire against axial displacement, said last named means radially adjustable to permit the beads of the tire to slip axially thereover, and expandible means bridging the space between said other tire bead and said first named means to seal against the escape of inflation air pressure from the tire.

2,979,092

AUTOMATICALLY POSITIONING NAIL SET

Robert J. Bradford, 4003 N. 22nd Ave., Phoenix, Ariz.

Filed Mar. 20, 1959, Ser. No. 800,719
2 Claims. (Cl. 145—46)



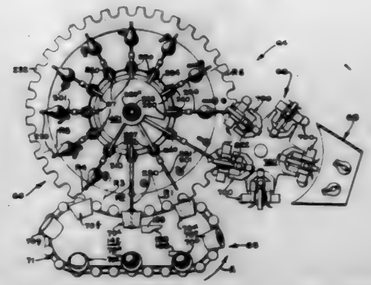
1. An automatically positioning nail set composed of a metal base having a top and a flat bottom face, a vertical edge having a V-shaped notch that is adapted to receive a nail to be set, the inner end of said V-shaped notch having an arcuate curved face substantially conforming to the periphery of the head of a nail to be set, a guide cylinder attached to the upper face of said base and extending upwardly therefrom and having its axis aligned with the axis of the curved inner end of said notch; said cylinder having an axial bore hole providing a lower shaft guide and a counterbore above said guide hole forming an annular return spring cavity, a cylindrical setting shaft having a striking head at its upper end, a tip support of reduced diameter at its lower end, a setting tip at the lower end of said tip support, an annular shoulder on said shaft above said tip support adapted to contact said base adjacent the side walls of said V notch, a return spring in said cavity resiliently holding said tip upward, a cap attached to the top of said cylinder and having a guide hole guiding the upper portion of said shaft, a split ring attached to said shaft confining the upper end of said shaft and contacting said cap to provide a stop for the upward travel of said shaft.

2,979,093

PEAR PEELING MACHINE

Sherman H. Creed, Campbell, and Sandor Csimma, Sunnyvale, Calif., assignors to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware

Filed Nov. 30, 1956, Ser. No. 625,368
15 Claims. (Cl. 146—43)



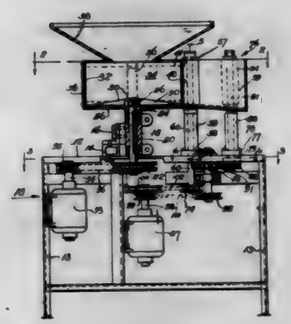
14. In a fruit preparation machine, a rotary turret, an impaling tube mounted for rotation on said turret and arranged to support a fruit impaled thereon, a stationary gear disposed concentrically of said turret, gear means keyed to said tube to rotate said tube on its axis upon engagement of said gear means with said stationary gear, a pusher member mounted on said turret for movement radially of the turret closely adjacent said tube, a rotary cutter mounted on said turret, means for rotating said turret, stationary cam operatively associated with said pusher member and coordinated with the movement of said turret whereby said pusher member is moved inwardly of the turret along the impaling tube to contact and seat a fruit thereon, and the gear means on said tube moves into engagement with said stationary gear to begin rotation of said tube.

2,979,094

CUCUMBER PUNCTURING MACHINE

Hideo J. Tokimoto, 3520 N. Reta Ave., Chicago, Ill.

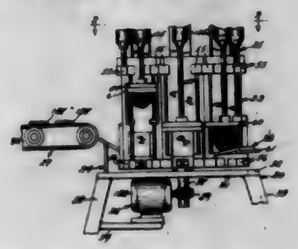
Filed Nov. 13, 1957, Ser. No. 696,209
6 Claims. (Cl. 146—56)



4. A machine for puncturing cucumbers for pickling purposes comprising in combination, a receptacle for receiving cucumbers in disarranged form, said receptacle having a side discharge opening, a trough in communication with said discharge opening and extending laterally thereof, a horizontally mounted rotating member at the

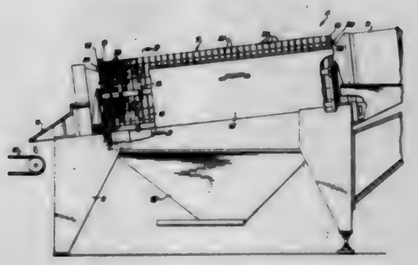
lower end of said receptacle for throwing the cucumbers laterally outward to discharge same through said discharge opening to said trough, a pricking member mounted in said trough for rotation on a vertical axis, and means for rotating said pricking member to puncture said discharged cucumbers.

2,979,695
MACHINE FOR TEARING MUFFINS
Arthur Jovis, 152 W. 42nd St., New York, N.Y.
Filed June 19, 1958, Ser. No. 743,178
5 Claims. (Cl. 146—72)



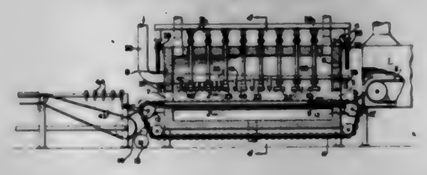
1. A machine for tearing english muffins and the like comprising: a rotating stage element, a plurality of muffin tearing elements mounted upon said stage element, means for rotating said stage element; each of said muffin tearing elements including a base plate member, a tine supporting frame slideably mounted on said base plate member, said frame including a first reciprocating member and a second member pivotally mounted on said reciprocating member stationary means and means rotated by said stage element to operate the tine supporting frame and its first and second members, said first and second members having muffin tearing tines thereon and having first and second relative positions, said tines on said first and second members being disposed in said first position in coplanar relation, and in said second position in non-coplanar relation; said frame having first and second positions relative to said base plate member; a muffin retaining member pivotally connected to said base plate member and including means selectively supporting a muffin in the path of sliding movement of said frame, and means selectively interconnecting said second pivotal member of said frame and said muffin supporting member in one of said relative positions of said frame with respect to said base plate member.

2,979,696
POCKETS FOR BEAN SNIPPER
Max R. Karge, Sanborn, and Wyman I. Carlson, Lewiston, N.Y., assignors to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York
Filed Apr. 7, 1958, Ser. No. 726,730
3 Claims. (Cl. 146—86)



1. A bean snipper comprising a rotatable drum comprising a pair of end plates having centrally alined journals, at least one intermediate baffle plate having a centrally disposed opening, uniformly spaced rods interconnecting peripheral portions of all of said plates, tubular spacers on said rods engaging opposed portions of said plates, and segments having elongated openings therethrough, each segment frictionally and removably engaging a pair of adjacent spacers and substantially filling the space between a pair of said spaced plates.

2,979,697
APPARATUS FOR PEELING TOMATOES
Grant H. Rogers, Los Gatos, and Edwin L. Mitchell, San Jose, Calif., assignors to Richmond-Chase Company
Filed Jan. 23, 1956, Ser. No. 560,663
2 Claims. (Cl. 146—227)



1. Apparatus for peeling tomatoes comprising: a heating compartment having an inlet at one end thereof and an outlet at the opposite end thereof, an endless, horizontally extending conveyor having its upper run extending across said compartment and through said inlet and said outlet, means connected with said conveyor for moving it at a uniform rate of speed through said conveyor from said inlet to said outlet, said conveyor being adapted to support a layer of tomatoes on said upper run for movement from said inlet to said outlet, a horizontally extending row of radiant heaters within said chamber spaced above said upper run and spaced longitudinally of said row and positioned for directing radiant heat against tomatoes adapted to be carried on said upper run, a row of air discharge nozzles within said compartment spaced above said upper run, each of said nozzles having a downwardly directed discharge opening formed therein extending substantially the width of said upper run in a direction transversely of the direction of travel thereof for directing air against tomatoes on said upper run, said air discharge nozzles being disposed between adjacent pairs of said heaters that are adjacent to said outlet whereby tomatoes adapted to be supported on said upper run will be alternately subjected to heat from heaters and from air from said blowers during movement of said tomatoes to said outlet, means connected with said nozzles for supplying relatively cool air thereto for discharge therefrom, means supporting said heaters for movement as a unit relative to said discharge nozzles in direction toward and away from said upper run and means connected with said heaters for so moving them whereby the effective cooling of said tomatoes adjacent to said outlet by air from said nozzles may be controlled according to the proximity of said heaters to the tomatoes on said upper run.

2,979,698
SADDLE BAG FOR AUTOMOBILES
Ruth K. Greaves, 2458B Adlan Drive N.E., Atlanta, Ga.
Filed Sept. 4, 1958, Ser. No. 758,958
1 Claim. (Cl. 150—1)

A saddle bag comprising a pair of identical sections constructed in part of semi-rigid material, each section embodying a semi-rigid flat rear wall and a front wall spaced forwardly of said rear wall, said front wall having an extension on its bottom folded upwardly and overlying said rear wall and being joined thereto to cover said

rear wall, side wall members tapered towards the lower edge thereof and stitched to the sides of the front and rear walls providing an expansible main pocket, transversely disposed vertically displaced and partially overlapping strips of flexible material, lines of stitching secured along the side and bottom edges of said vertically displaced strips, securing said vertically displaced strips to said front wall providing a plurality of pockets between said strips and the front wall, additional transversely disposed strips of flexible material having scalloped upper edges, secured by lines of stitching along the side and bottom edges thereof to said vertically displaced strips providing additional pockets with said vertically displaced strips, vertical lines of stitching dividing said latter pockets into smaller pockets, and substantially long straps having their ends secured to said pair of identical sections, connecting said sections, and said straps being crossed intermediate their ends and secured together at their points of crossing.



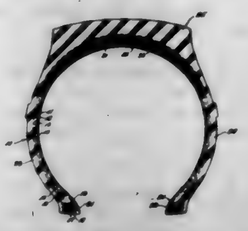
2,979,699
STAIN RESISTANT WHITE SIDEWALL TIRE
Walter C. Rowe, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 11, 1958, Ser. No. 720,639
7 Claims. (Cl. 152—330)



1. In a white sidewall tire, in combination, a fabric body portion having a rubbery coating containing migratory staining materials which would normally stain the sidewall terminating at the edges in two bead portions, a tread portion superimposed upon and bonded to said body portion and a non-staining, weather resistant, white sidewall portion bonded to one side of said body portion, said white sidewall portion comprised of a chlorinated rubbery copolymer of from 80 to 99.5 parts of an isoolefin having from 4 to 8 carbon atoms, from .5 to 20 parts of a conjugated diolefin having from 4 to 7 carbon atoms, said copolymer containing from .8% to 1.5% chlorine based on the weight of said material and from 2–15 parts of a nonheat-reactive phenol-aldehyde resin prepared by reacting one mole of a para substituted phenol with one mole of an aldehyde in an acid medium.

2,979,100
TIRE CONSTRUCTION
William R. Woodall, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 17, 1957, Ser. No. 653,320
1 Claim. (Cl. 152—354)

A vulcanized pneumatic tire of substantially circular cross-section having a body comprising a plurality of rubberized plies extending from bead to bead, said plies comprising strain elements having their ends wrapped about and anchored to inextensible bead core members, and annular pads of substantially equal width separating all said rubberized plies, said pads extending under the tread and terminating in tapered edges at the shoulders



of said tire, said pads comprising rubbery members which have been at least partially vulcanized prior to assembly into said tire, whereby said elements embed themselves in said pads to a depth corresponding to the tension on said elements when said tire is inflated.

2,979,101
CHAFER FOR TIRE BEAD AREA PROTECTION
James M. Willis, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 10, 1954, Ser. No. 474,547
4 Claims. (Cl. 152—362)

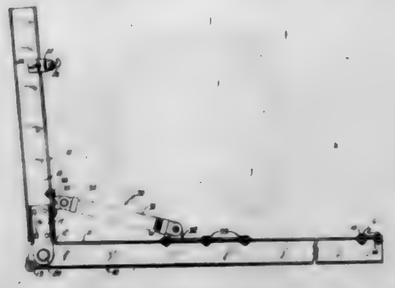


1. A vulcanized inflatable tubeless tire comprised of a hollow annular body of resilient rubbery material open at the radial inner portion and having beads at the inner periphery thereof adapted to seat on a rim so that the tire and the rim form an air chamber, each of said beads having a sheet of cords imbedded in and completely surrounded by the rubbery material of the tire and folded around and positioned in close proximity to the surfaces of the bead which engage the bead seat and rim flange of the rim, said sheet coated with a rubbery composition, said rubbery composition containing at least 60 parts by weight of silica per 100 parts by weight of rubber in said composition, the amount of said silica being sufficient to yield a Williams plasticity Y–3 value of at least 6 when tested at 212° F. under a 5 kilogram load for three minutes.

2,979,102
STRAIGHTENING TOOL
Harry C. Ferguson and John E. Brunsock, Wauwatosa, Wis., assignors to Blackhawk Mfg. Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 31, 1958, Ser. No. 712,373
3 Claims. (Cl. 153—39)

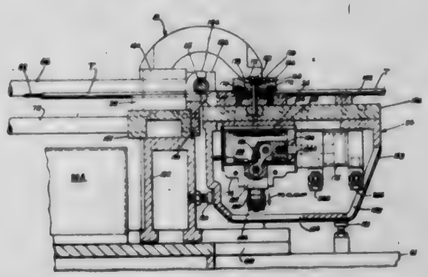
2. A straightening mechanism for automobile body parts comprising, a generally horizontally disposed I beam base member having upper and lower flanges and a web therebetween, said upper flange being cut away at one end of said beam, a generally upright I beam pressure arm having a plate secured thereto and extending downwardly from each side thereof, said plates extending on opposite sides of said web and pivotally secured thereto at one end of said base member, means at the other end

of said base member for connection to the automobile body part, a hydraulic ram pivotally connected between said base member and adjacent the lower end of said arm below the mid-point thereof, and a dolly bracket



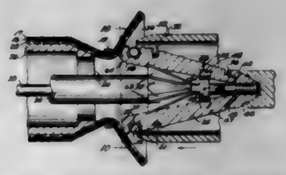
embracing a flange of said I beam arm and adjustably secured thereto in any one of a plurality of vertical positions along the length thereof between the ram connection and the upper end of said arm.

2,979,103
METHOD AND APPARATUS FOR BENDING TUBES
Henry Victor Bowman, 3460 34th Ave. S., Minneapolis, Minn.
Filed Sept. 19, 1956, Ser. No. 610,851
16 Claims. (Cl. 153—40)



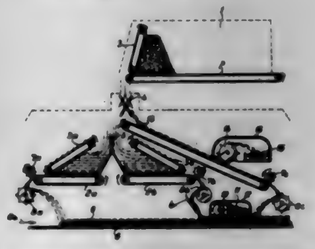
2. A tube bending machine comprising a frame upon which is supported a two part bed providing a feed end and a bending end, the two parts being separated, said feed end comprising a loading table having a plurality of spaced grooves, said bending end comprising plurality of bending dies and a rotary bending member, a loading means reciprocable on said loading table and having projections adapted to engage the ends of tubes for the centering and loading thereof, said bending means including a plurality of extending mandrel rods secured at their distal end and unsecured at the end proximal to said bending member, said rods adjacent said bending member each being provided with a rounded surface about which a tube may be bent, adjustable means for limiting the penetration of said rods in the said tubes, an external mandrel having ends rotatably supported in bearing block means, and positioned between said bending member and the rounded surfaces of said rods, said bending dies comprising a front die positioned adjacent said loading end and carried by said bending member and a rear die positioned on the other side of said external mandrel, said dies being provided with aligned guide recesses and said external mandrel being grooved in cooperation therewith, said bending member including a clamping means positioned adjacent said front die for clamping the tube securely therebetween, a pair of rack bars positioned in spaced relation for simultaneous movement, each engaging a spur gear for actuating said bending member and eject means for movement of said external mandrel for ejecting said tubes from said bending end after bending.

2,979,104
APPARATUS FOR MAKING PNEUMATIC AIR SPRINGS
Horace D. Stevens, Sarasota, Fla., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 7, 1956, Ser. No. 626,966
16 Claims. (Cl. 154—1)



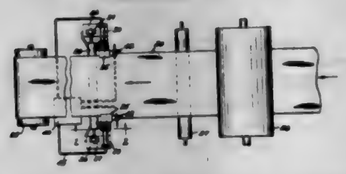
1. Apparatus for expanding the body of an air spring around a bead ring after the body plies have been turned radially inwardly over the shoulder of a supporting drum and the bead ring has been set in position against the inturned plies at said drum shoulder, said apparatus comprising a plurality of longitudinal fingers grouped together to form an expanding mandrel, a longitudinal shaft supporting said fingers and terminating in an enlarged head having a groove open toward said shaft, said fingers having reduced portions at their outer ends extending into the said groove and having bearing contact with the walls of said groove, means having relative longitudinal movement with respect to said fingers to move said fingers in a radially outward direction in a pivoting movement about said reduced end portions as pivots, whereby the free ends of said fingers engage said plies and force said plies radially outwardly about said bead ring.

2,979,105
METHOD AND APPARATUS FOR PRODUCING PARTICLE COMPOSITION PRODUCTS
Wolfgang Bürkner, Darmstadt, Germany, assignor of one-half to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany, a corporation of Germany, and one-half to Alwood Inc., Glarus, Switzerland, a corporation of Switzerland
Filed Jan. 14, 1959, Ser. No. 786,748
Claims priority, application Germany Jan. 21, 1958
10 Claims. (Cl. 154—1)



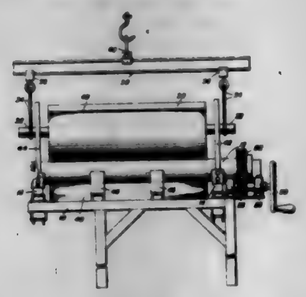
1. In the manufacture of pressed composition products from a continuously formed mat of particle material of approximately uniform mat width and thickness, the method comprising the steps of supplying a mixture of coarse and fine particles to a series of dispensing stations following each other in the longitudinal direction of the mat to be formed, one of said stations being located at an end of the series, dispensing the mixture in said one dispensing station upon an advancing carrier by classifying throw in said longitudinal direction to generally separate fine particles from coarse particles whereby a surface zone of the mat being formed is predominantly composed of fine particles, and dispensing the mixture in another one of said stations onto the carrier by substantially indiscriminate sprinkling so as to form another mat zone of coarse and fine particles mixed substantially in the same proportion as the mixture supplied to said other station.

2,979,106
PREPARATION OF COATED FABRIC MATERIAL
Wilhelm Brey, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 10, 1957, Ser. No. 701,864
5 Claims. (Cl. 154—1.8)



1. A die for shaping the edge area of a longitudinally moving web having a self-adhesive coating, said coating having a longitudinally aligned lower edge and an overlying thin fin extending laterally of said edge, comprising, a plate having a curved work surface gradually inclined toward the web, a first disc disposed on and near one end of said plate being in conterminous relation with said curved surface and having a peripheral edge portion in contact with said fin, a second disc on said plate disposed beneath and at substantially right angles with said first disc and having a peripheral edge portion in contact with said fin, and a member disposed near the other end of said plate having one end adjacent to said second disc and presenting an elongated upper surface in contacting relation to said fin, said plate surface, first disc, second disc and elongated member cooperating in such manner as to cause said fin to wrap around and under said lower edge into adherence with said web inwardly of said lower edge as the web moves across said die.

2,979,107
APPARATUS FOR COVERING STEEL COVERED ROLLERS WITH BONDED PLY RUBBER
John G. Streckfus, 4306 Wentworth Road, Baltimore, Md.
Filed June 27, 1958, Ser. No. 745,063
1 Claim. (Cl. 154—1.8)

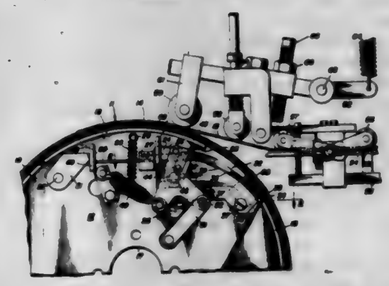


A mandrel machine for making a roller covered with a known material and having a journal at its opposite ends, comprising, a base, an arrangement including a mandrel, means for rotating said mandrel on said base, means including a spreader bar having a pair of spaced slings depending therefrom to engage said end journals of said roller so that said roller can be mounted parallel to and against the surface of said mandrel, and means for retaining said roller in an operative position against the surface of said mandrel including pairs of spaced, parallel retainer rods depending from said base and having said roller positioned therebetween so that when a sheet of material is positioned between said mandrel and roller and said mandrel is rotated, the sheet of material adheres to the surface of said roller due to the weight of gravity pushing said roller down against said mandrel.

2,979,108
SOLUTION AND METHOD FOR TREATING MICA PRODUCTS AND ARTICLES PRODUCED THEREFROM
John S. Thompson, Detroit, Mich., assignor to Oxalloy Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Sept. 24, 1956, Ser. No. 611,767
11 Claims. (Cl. 154—2.6)

2. Particulate mica in sheet form having at least a portion of the pores of said sheet impregnated with an aqueous acidic solution consisting essentially of ingredients in relative quantities of about 730 parts by weight of PO_4, between about 34 and about 80 parts by weight of aluminum, up to about 34 parts by weight of magnesium, between about 300 and about 1,550 parts by weight of water, and up to 770 parts by weight of powdered mica, said particulate mica having been in sheet form prior to the impregnation with said solution.

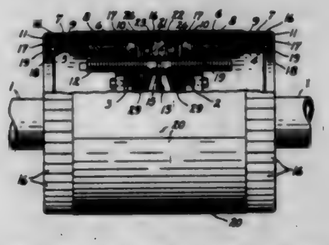
2,979,109
METHOD AND APPARATUS FOR FORMING TIRE BEAD GROMMETS
James Robert Dieckmann, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Dec. 10, 1956, Ser. No. 627,434
7 Claims. (Cl. 154—9)



1. In an apparatus for forming an annular tire bead grommet by spirally winding in a plurality of convolutions a ribbon of tacky, rubbery material having reinforcing wire longitudinally embedded therein with a permanently set inward bend imparted to the inner terminal portion of the ribbon at a location spaced a substantial distance from the end thereof, the combination of a rotatable circular winding form having a cylindrical peripheral surface to support the ribbon during the winding operation, said form having an opening extending inwardly from said peripheral surface to receive the inner terminal portion of the ribbon, one wall of said opening intersecting said peripheral surface at an acute angle to form a knife edge therebetween, gripping means positioned inwardly of said peripheral surface and circumferentially spaced a substantial distance from said knife edge to releasably retain the inner terminal portion of said ribbon, means providing an outwardly facing surface extending inwardly from the general vicinity of said knife edge to

said gripping means to support the ribbon adjacent said gripping means, the outer end of said last-named surface adjacent said knife edge being off-set radially inwardly from the peripheral surface of said form to leave the ribbon unsupported immediately inward of said knife edge, and means to apply tension to said ribbon during the winding operation of sufficient magnitude to pull said ribbon tautly across said knife edge to impart a permanently set inward bend to the inner terminal portion of said ribbon about said knife edge.

2,979,110
EXPANSIBLE TIRE BUILDING DRUM
Virgil E. Henley, Akron, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 2, 1958, Ser. No. 706,673
8 Claims. (Cl. 154—10)



1. In a tire building drum having two coaxial axially spaced externally cylindrical expansible and contractible end members and provided with means for expanding and contracting said members and means for limiting the expansion and contraction thereof to maximum and minimum external diameters, the combination therewith of an expansible and contractible bridging band telescopically receiving said end members, conforming to the curvature thereof and bridging the space between them, said band comprising a series of arcuate resilient sheet metal segments overlapping circumferentially, each segment overlapping one adjacent segment and being overlapped by the other adjacent segment, and spring means within said band for exerting a radial inward thrust on each of said segments at circumferentially and axially spaced points to yieldingly resist expansion of said band and to hold said band in place on said end members, said points of thrust on said segments being alined circumferentially in axially spaced rows.

2,979,111
TIRE CONSTRUCTION
Joseph M. Schutz, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 22, 1954, Ser. No. 445,115
5 Claims. (Cl. 154—14)



1. A tubeless tire comprised of an open bellied vulcanized rubberized fabric body portion terminating at its edges in two inextensible hoop shaped beads, said body portion having superimposed thereon a vulcanized rubbery tread portion, a substantially air impervious vulcanized rubbery liner adhered to the belly of said tire from bead to bead, said inextensible bead portions covered over at least part of the radially inner and axially outer surfaces thereof by chafer elements comprised of at least two layers of rubbery material, one said layer of each chafer comprised of a vulcanized rubbery polymer which has been stiffened to a substantially nonflowable state by a first vulcanization before application to the bead of the unvulcanized tire and which has received a second vulcanization as said tire is molded and vulcanized and another layer of each chafer comprised of a rubbery polymer which is in a soft tacky state after said first vulcanization adhered in face to face relation with the rubberized fabric body portion at each bead of said tire.

2,979,112
CORRUGATING SINGLE FACER
Harry W. Wilson, 301 Elder Ave., Millbrae, Calif.
Filed Sept. 9, 1957, Ser. No. 682,699
6 Claims. (Cl. 154—31)



1. In a paper corrugating system wherein a corrugating medium is fed between two corrugating rolls and then around the surface of one roll, adhesive being applied to the tips of the corrugations on the outer surface thereof by an adhesive-applying roll, the combination therewith of: a paper-liner-applying roll adjacent and beyond said adhesive-applying roll and spaced away from said one roll but closely adjacent to it, said paper-liner-applying roll being mounted in such manner that no nip pressure is applied to said liner by said paper-liner-applying roll and said one roll when said liner is fed between them, wherein in a liner sheet is fed into unpressurized contact with the tips of the corrugations between the liner-applying roll and the corrugating roll upon which the corrugating medium is being carried; and a pressure-applying roll at an angular position lying beyond the liner-applying roll for applying pressure to the liner and corrugating medium to firmly adhere them together, the time interval between the application of the liner to the corrugating medium and the nip of the pressure-applying roll against the corrugating roll serving to aid the penetration of the adhesive into the paper members.

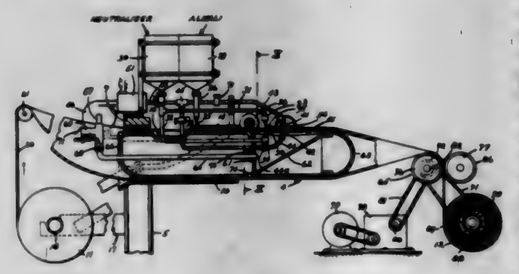
2,979,113
HEAT SEALING APPARATUS
Wilfred E. Stageberg, Terre Haute, Ind., assignor to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri
Continuation of application Ser. No. 631,827, Dec. 31, 1956. This application Jan. 11, 1960, Ser. No. 1,820
7 Claims. (Cl. 154—42)

1. Apparatus for heat-sealing two or more superimposed layers of heat-sealable sheet material along aligned edges thereof comprising a heating means, and means for feeding two ore more such superimposed layers of heat-sealable sheet material toward and past said heating means with said layers traveling in a predetermined path and with said aligned edges traveling in a predetermined plane normal to said path up to said heating means, said heating means comprising an elongate heater and means supporting said heater in a fixed position extending alongside said edges throughout a portion of said path with the rearward end of said heater in respect to the direction of travel of the layers positioned



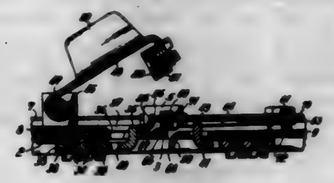
outward of but closely adjacent said plane, and with said heater angled inward in the direction toward the edges of the layers from its rearward end toward its forward end and adapted to melt back said edges and form a fused bead therealong without contacting said edges.

2,979,114
MANUFACTURING OF FLEXIBLE SHEETS INTO CASINGS
David T. Milne, Fredericksburg, Va., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Original application Oct. 6, 1954, Ser. No. 460,571, now Patent No. 2,845,357, dated July 29, 1958. Divided and this application June 28, 1957, Ser. No. 674,000
5 Claims. (Cl. 154—42)



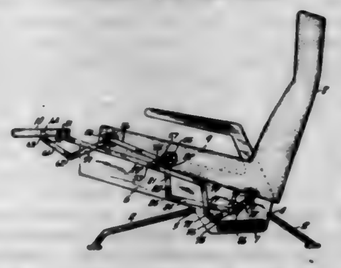
1. In an apparatus for the production of a tubular casing, the combination of a hollow member, means in closely-spaced relation with a substantial portion of the circumference of the member for guiding a running sheet traveling lengthwise of the member into circumjacent relation with the outer periphery thereof, means mounted adjacent said periphery for pressing overlapping edge portions of the sheet together, means mounted adjacent said periphery spaced from the pressing means rearwardly with respect to the direction of movement of the sheet for applying a liquid to separated opposing surfaces of said edge portions before such surfaces are joined by the pressing means, the member having a lateral opening in subjacent relation with a path traversed by a longitudinal joint in the casing comprising said overlapping edge portions while advancing away from the pressing means, means mounted outside of the member along said path for applying a second liquid to the outwardly-facing surface of said joint, means supported within the member for applying said second liquid to a portion of the inwardly-facing surface of said joint exposed within said opening, duct means supported within the member for directing a gas against said inwardly-facing surface at a station spaced forwardly in said direction from said interior means for applying the second liquid, and means supported outside the member for directing a gas against said outer surface at a station spaced forwardly in said direction from the exterior means for applying the second liquid.

2,979,115
FILM SPLICER
Willy Henschemer and Herbert Reinsch, Stuttgart, Germany, assignors to Eugen Bauer G.m.b.H., Stuttgart, Germany
Filed Jan. 24, 1957, Ser. No. 636,101
Claims priority, application Germany Feb. 28, 1956
9 Claims. (Cl. 154—42.1)



1. In a film splicer, in combination, a pair of jointly and independently movable overlying plates between which a film end portion to be spliced to another film end portion is adapted to be carried; support means supporting said pair of plates for movement to and from an operating position where a film end portion carried by said plates is joined to another film end portion; means located between said plates for maintaining a space of predetermined thickness between said plates; and a leaf spring of a thickness substantially less than that of said space located and extending in said space and carried in prestressed condition by one of said plates in a position spaced from both of said plates so that said leaf spring can freely move toward one or the other of said plates, said leaf spring having a free end portion which presses on a film end portion carried between said plates to press the film end portion against another film end portion to which it is being spliced, said free end portion of said leaf spring terminating in a cutting edge which is adapted to cooperate with another cutting edge to cut across a film end portion which is to be joined to the film end portion carried by said plates; stop means provided on said leaf spring and on said one of said plates for limiting the free movement of said leaf spring toward one or the other of said plates, so that the splicing pressure provided by said leaf spring is independent of the pressure required for cutting and is determined only by the characteristics of said leaf spring.

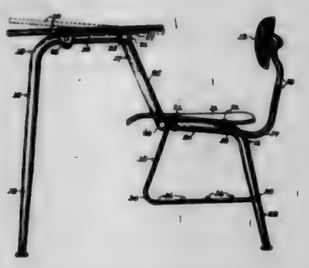
2,979,116
RECLINING CHAIRS
Fridtjof F. Schliephacke, Berlin-Schmargendorf, Germany, assignor to Anton Loreuz, Boynton Beach, Fla.
Original application June 18, 1957, Ser. No. 666,337, now Patent No. 2,875,814, dated Mar. 3, 1959. Divided and this application June 10, 1958, Ser. No. 741,039
5 Claims. (Cl. 155—106)



1. A reclining chair comprising a base unit having opposed, spaced side frames, a seat and backrest unit located between said side frames, a lever pivotally connected to the rear portion of said seat and backrest unit and pivotally mounted on an opposed side frame and

supporting the rear portion of said seat and backrest unit for swinging movement on said side frame, a second lever pivotally mounted on said side frame and pivotally connected to the front portion of said seat and backrest unit and supporting the front portion of said seat and backrest unit for swinging movement on said side frame, a third lever pivotally mounted on said side frame at a point between the ends of said lever, a link pivotally connected to said seat and backrest unit and pivotally connected to one end of said third lever, a leg rest mounted to swing on the forward end of said seat, and means including a leg rest actuating lever pivotally connected to the other end of said third lever to actuate said leg rest upon swinging movement of said seat and backrest unit on said side frame.

2,979,117
COMBINATION CHAIR-DESK STRUCTURE
Chester J. Barecki, Alfred C. Hoven, Walter E. Nordmark, and Benjamin J. Oom, all of Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey
Continuation of application Ser. No. 703,054, Dec. 16, 1957. This application Dec. 21, 1959, Ser. No. 861,422
1 Claim. (Cl. 155—124)



In a combination chair-desk structure: a pair of tubular front frame elements having horizontal, forwardly-rearwardly extending top-supporting portions and front leg portions depending from the forward ends of said top-supporting portions; a pair of tubular rear frame elements having forwardly-rearwardly extending seat-supporting portions below and rearwardly of the top-supporting portions of the front frame elements and having rear leg portions depending from the rearward ends of said seat-supporting portions; an intermediate tubular frame element having a transversely extending upper forward arm connected to the rearward ends of the front frame elements' top-supporting portions, a transversely extending lower rearward arm connected to the forward ends of the rear frame elements' seat-supporting portions, and a connecting portion connecting the ends of said arms at one side of the chair-desk structure; a chair seat mounted on the seat-supporting portions of the rear frame elements; a desk top having straps secured to and depending from the rearward underside of the desk top, said straps extending around the upper forward arm of said intermediate frame member whereby the desk top is pivotally mounted on said arm for swinging movement between a horizontal position resting on the front frame elements' top-supporting portions and a forwardly-upwardly inclined position; brackets depending from the forward underside of the desk top alongside the front frame elements' top-supporting portions; and means connecting said brackets to said top-supporting portions at selected elevations whereby the desk top may be secured in horizontal position or in a position of forward-upward inclination.

2,979,118
HIGH CHAIR CONSTRUCTION
Harry A. Gelman, Chicago, Ill., assignor to Comfort Lines, Inc., Chicago, Ill., a corporation of Illinois
Filed May 8, 1958, Ser. No. 734,010
2 Claims. (Cl. 155—127)



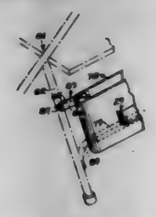
1. A tray assembly for detachable use with a pair of parallel supporting arms on an infant's high chair, said tray assembly comprising a molded plastic one-piece tray formed with a recessed central planar region, a peripheral rim extending upwardly from said recessed region, a ledge extending around and outwardly from the upper edge of said rim, and a peripheral skirt having an upper portion extending downwardly in spaced relation to said rim from the outer edge of said ledge to below the plane of said recessed region and terminating in a reinforcing, outwardly offset flange portion of relatively lesser height than the upper portion of the skirt and extending substantially vertically downwardly along the lower margins of the front and sides of said skirt in position to protect said skirt from damaging blows.

2,979,119
WEB-TO-TUBE FASTENINGS
Hyman Kramer, Brooklyn, N.Y.
Filed Sept. 29, 1958, Ser. No. 763,951
13 Claims. (Cl. 155—187)



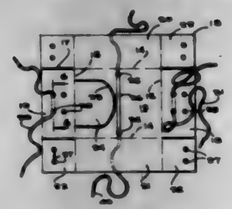
1. In tubular-frame furniture construction, a webbing-strip fastening assembly comprising the combination of a frame member having an opening in its wall shaped operatively to accept a fastener shank portion inserted therein, a webbing strip folded on itself adjacent its end so as to have overlying and folded-under end portions extending as a partial wrap about said frame member, and a fastener operatively securing said webbing-strip end to the frame member, said fastener having substantial T-configuration in front elevation and including an elongated bar-like head portion having length corresponding substantially to the width of the webbing strip and an integral prong-like shank portion extending from the middle length portion of said head portion and having width substantially less than the length of said head portion, said webbing strip being folded over the relatively forward longitudinal side edge of the head portion and said shank portion extending through both an opening in the folded-under end portion of the webbing strip and said elongated opening and thence well into the interior of said frame member, said shank portion having push fit in said opening and including integral locking means enabling said shank portion to self-lock itself and thereby the fastener and webbing-strip end to the frame member when pushed into said opening, said locking means comprising a relatively upwardly-forwardly inclined locking barb on at least the forward face of the shank portion and progressively increasing the effective thickness of the shank portion to in excess of the effective width of said opening, said barb terminating at its relatively upper end in an abrupt locking shoulder which is spaced from the under side of the head portion a distance substantially equaling the wall thickness of the frame member thereby to engage against the inside wall portion of the frame member defining said opening with increasing force as the webbing strip is tensioned.

2,979,120
DETACHABLE BOOK RACK FOR FOLDING CHAIRS
Duane W. Amburn, Bule's Creek, N.C.
(1974 Mims, Fort Worth, Tex.)
Filed Oct. 25, 1956, Ser. No. 618,226
1 Claim. (Cl. 155—188)



A demountable book rack for folding chairs having parallel rear legs and a horizontal cross-bracing rod therebetween, said book rack being primarily comprised of a single sheet of material and having a vertical base panel and a front panel spaced therefrom, said panels being connected along corresponding edges thereof and open at the top to provide a book receiving opening, spacer members between said panels and arranged to position a book therein, a hook on said book rack located to engage said cross-brace of said chair, and laterally extending straps on the sides of said book rack, the outer ends of said straps having recesses therein shaped to engage separately said legs of said chair.

2,979,121
FOLDABLE CHAIR ATTACHMENT FOR INFANTS
Ruth E. Gates, Richland, Wash., assignor to Tie-Chair, Inc., Richland, Wash.
Filed May 26, 1959, Ser. No. 815,882
3 Claims. (Cl. 155—189)



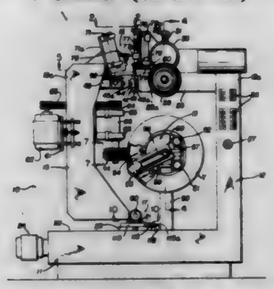
2. A foldable chair attachment for infants comprising a generally rectangular body of relatively rigid sheet material formed with fold creases spaced equally from and located parallel to its respective edges to define a rectangular center panel, said body being slit longitudinally from the corners of said center panel to the front and rear edges of the body to define foldable front and rear flaps and foldable side flaps, said center panel being formed with a slit extending inwardly from the fold crease between the rear flap and said center panel to define a foldable back rest flap and an opening exposed when said back rest flap is folded away from the plane of said center panel, and a flexible cable member carried by each of the front and rear flaps.

2,979,122
CHAIR FRAME AND SUPPORTING STRUCTURE
Florence S. Knoll, New York, N.Y., assignor, by mesne assignments, to Knoll Associates, Inc., a corporation of New York
Original application June 29, 1956, Ser. No. 594,740. Divided and this application Sept. 22, 1958, Ser. No. 762,530
10 Claims. (Cl. 155—191)



5. A chair or the like, comprising a chair frame including a pair of vertical rear legs, a back engaging crossbar connecting the top of said legs, a pair of vertical front legs substantially shorter than said rear legs, a pair of side rails connecting the respective rear legs to the tops of the front legs, forward and rearward seat crossbars connecting said side rails, said rearward seat crossbar being spaced forwardly from said rear legs; a seat frame comprising a rear frame member supported on the rearward seat crossbar, a pair of side frame members extending forwardly from the ends of said rear frame member and projecting beyond said front legs, a front frame member connecting the front ends of said side frame members, an intermediate member extending between said rear and front frame members and parallel to and spaced from said side frame members, and means rigidly connecting said intermediate member to one of said seat crossbars.

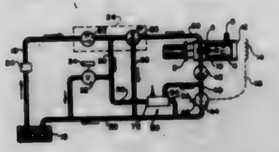
2,979,123
TIRE BUFFING MACHINE
Adolf Fröhlich and Edward J. Harris, Akron, Ohio, assignors to The Cleveland Trust Company, Cleveland, Ohio
Filed Nov. 5, 1956, Ser. No. 620,411
9 Claims. (Cl. 157—13)



1. A tire-buffing machine of the character described, comprising; a base; a support frame projecting substantially normal to said base; tire-supporting means carried by said base and defining an axis of rotation substantially parallel to said base; a second elongate frame hinged at one end thereof to said base and projecting therefrom in the same direction as said first frame; buffing means carried by said second frame adjacent a central portion thereof; means for oscillating said second frame about

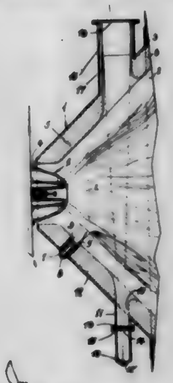
said axis of rotation, shifting means moving said buffing means towards and from said axis of rotation; and indexing means actuating said shifting means during each oscillation of said second frame, whereby said buffing means may be progresively advanced towards said axis of rotation.

2,979,124
AIR HEATER FUEL CONTROL SYSTEM
Harold L. Kirk, Bettendorf, Iowa, assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Sept. 29, 1958, Ser. No. 764,070
11 Claims. (Cl. 158—28)



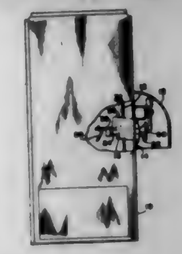
1. A fuel control system for a fluid fuel burning air heater, comprising: a burner; a main fuel line connected to supply fuel to said burner; fuel pump means for supplying fuel to said main fuel line; a primary bypass line connected to said main fuel line; a two-position valve in said primary bypass line; switch means adapted to be closed upon the need for heat; electrical means operative in response to closure of said switch means to close said two-position valve; means including a by-pass line from said burner and a throttle valve therein for normally controlling the supply of fuel to said burner in response to a differential between a sensed air temperature produced by said burner and a selected air temperature; a valve in parallel with said throttle valve operative, when open, to remove control of fuel flow from said throttle valve; and fuel pressure responsive means operative to progressively close said parallel valve and thereby progresively restore control of fuel flow to said throttle valve in response to an increase in the fluid pressure condition in said primary bypass line corresponding to closure of said two-position valve.

2,979,125
FLAME SUPERVISION INSTRUMENTATION
Oskar Katorsky, 4269 Dorchester St. W., Montreal, Quebec, Canada
Filed Oct. 6, 1958, Ser. No. 765,529
3 Claims. (Cl. 158—28)



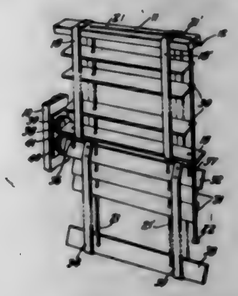
1. In a furnace having a mouth, and a burner having a nozzle spaced from said mouth, said nozzle being outside the furnace; an at least partly conical enclosed adapter fastened to the mouth and having a portion surrounding the nozzle of said burner, said adapter having two diametrically opposite tubular extensions with a common axis perpendicular to the axis of said adapter and spaced from the nozzle, a light sensitive flame supervision instrument mounted in one extension, with a limited field of vision coaxial with said common axis, said other extension comprising an outer closure plate covering all the field of vision of said instrument and spaced from the wall of the adapter at such a distance that it is not heated by the flame of the burner to light emitting temperature.

2,979,126
FLAME PULSATION SUPPRESSOR FOR INSHOT GAS BURNERS
Raymond H. Hara, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 25, 1959, Ser. No. 801,789
5 Claims. (Cl. 158—116)



1. A flame pulsation suppressor for an inshot type gas burner including, a burner tube, a pair of radially spaced coaxial tubes, the outer of which is telescoped over the end of the burner tube and is attached thereto, the inner tube extending into the burner tube so as to form an annular space between the inner wall of the burner tube and the outer wall of the inner tube, and a pair of rings interconnecting said coaxial tubes adjacent their outer ends and defining an annular chamber therebetween that communicates with the annular space between the inner tube and the burner tube, said rings being axially spaced, the inner ring having a plurality of circumferentially spaced, circumferentially elongate arcuate slots therein and the outer ring having a row of circumferentially spaced circular openings therein.

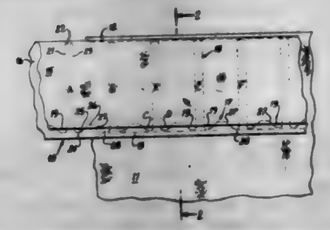
2,979,127
VENETIAN BLIND
William Brown, Livingston, N.J.
Filed June 5, 1956, Ser. No. 589,525
9 Claims. (Cl. 160—115)



1. In a Venetian blind, a window frame having spaced elongated vertically extending side-frame members defining an opening, an elongated relatively rigid upper bar, a first series of slats suspended from said upper bar,

relatively rigid intermediate bar means at the lower end of said series of slats, a second series of slats suspended from said intermediate bar means, a relatively rigid lower bar at the lower end of said second series of slats, said bars and bar means and slats extending across said opening between said side-frame members, connecting means directly tying said upper bar to said intermediate bar means and individually supporting the slats of said first series in spaced relation, connecting means directly tying said lower bar to said intermediate bar means and individually supporting the slats of said second series in spaced relation, means for pivotally mounting the spaced ends of said upper bar in said frame, hoisting means including a cord based on said upper bar and extending through aligned openings in said slats and in said intermediate bar means and anchored to said lower bar, and pivot mechanism for said intermediate-bar means, said pivot mechanism comprising two frame-based devices secured respectively to said side-frame members in opposed relation and at the same vertical location intermediate the upper and lower limits of said opening, said pivot mechanism including detent means and each of said frame-based devices having removable engagement with the corresponding adjacent end of said intermediate-bar means.

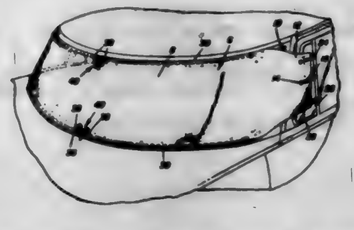
2,979,128
PLEAT PIN AND TAPE
Nicholas Murgolo, 400 Maple Grove Ave., Uniondale, N.Y.
Filed Mar. 12, 1958, Ser. No. 720,915
1 Claim. (Cl. 160—348)



In an integral continuous folded drapery tape having a fold forming a front panel having a horizontal edge and a rear panel having a portion extending beyond said edge of said front panel, said front panel and said rear panel being sewn together by a continuous stitch line, said stitch line having a plurality of spaced-apart horizontal sections disposed entirely in said extending portion of said rear panel parallel to and below said edge of said front panel, and vertical pocket forming stitch line sections disposed through both said front and said rear panel in perpendicular relationship to and respectively between said horizontal stitch line sections, said vertical stitch line sections extending substantially to said fold, the improvement comprising a center segment of each of said horizontal stitch line sections extending upwardly to provide a portion disposed through said front and said rear panel and adjacent the horizontal edges of said front panel, whereby said horizontal stitch line section is provided with two additional pockets, said additional pockets being disposed one each side of and contiguous to said vertical pocket forming stitch line sections.

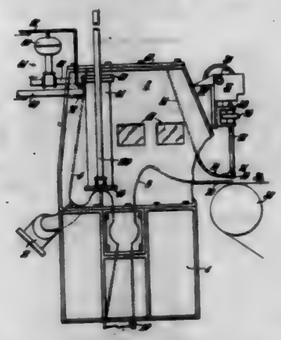
2,979,129
WINDSHIELD COVER
Calvin E. Ketchum, 2205 Cleveland St., Klamath Falls, Oreg.
Filed Mar. 28, 1958, Ser. No. 724,759
1 Claim. (Cl. 160—368)

A vehicle windshield protector comprising, in combination, a horizontally elongated, flexible cover for application to the windshield, said cover including longitudinal marginal upper and lower hems, an intermediate portion of said cover having upper and lower pairs of holes therein communicating with said hems, coil springs on outer end portions of the cover, clips on the coil springs engageable with the adjacent side portions of the vehicle beyond the front windshield thereof for securing the cover in position and, in conjunction with



said coil springs holding the cover taut, and separate upper and lower pairs of drawstrings in the upper and lower hems respectively having outer ends anchored in the end portions thereof, the other ends of said pairs of drawstrings being free and passing slidably through the holes for drawing together the upper and lower hems by different amounts causing the cover to conform to different configurations of different windshields.

2,979,130
PAPER MAKING APPARATUS
Robert E. Smith, Hudson Falls, N.Y., assignor to The Sandy Hill Iron and Brass Works, Hudson Falls, N.Y., a corporation of New York
Filed Oct. 16, 1958, Ser. No. 767,731
1 Claim. (Cl. 162—340)



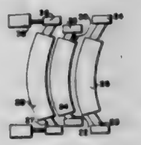
Paper making apparatus comprising, opposite and adjacent walls forming a closed head box having an inlet for stock and an adjustable outlet for the flow of stock onto a forming element, air inlet means for a flow of air under pressure into said head box, discharge means for discharging air from said head box to the atmosphere including a pneumatically operated valve operable as air pressure is applied thereto to restrict the flow of air out said discharge means, a closed chamber in vertically disposed relation adjacent a wall of said head box and provided with openings into said closed chamber whereby the level of stock in said closed chamber corresponds to the level thereof in said head box, a sensing valve in said closed chamber having an air outlet to atmosphere and an inlet for air under pressure and provided with a movable plug to control the flow of air from said inlet to said outlet, connections for air under pressure to said pneumatically operated valve and sensing valve, actuating means in said closed chamber operably connected to said

plug operable by the level of stock in said closed chamber and including a weight suspended by a spring from a part of said closed chamber and a rod connecting said weight and plug of said sensing valve whereby as the stock level increases the flow of air to atmosphere is restricted so that air pressure to said pneumatically operated valve is increased to restrict the discharge of air from said head box.

2,979,131
METHOD AND APPARATUS FOR TREATING PAPER

Itzhak Bentov, Cambridge, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed June 10, 1959, Ser. No. 819,421
7 Claims. (Cl. 162—361)

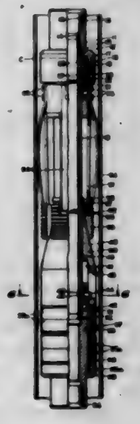


1. An apparatus for biaxially shrinking a piece of fibrous paper comprising a bowed roll having a resilient surface, a deformable endless belt adapted to cooperate with and in engagement with said roll and defining a nip therebetween, means for moving said belt about a portion of said roll, and means for varying the amount of engagement between said bowed roll and said belt at said nip, said last recited means including a second bowed roll in the same plane as the first bowed roll and in alignment therewith, the concave side of said second roll having the same degree of bow as the convex side of the first roll, said second roll being adapted to be moved toward said endless belt to push toward said first roll.

2,979,132
WELL PACKER

Francis A. Taylor, Houston, Tex., and Thomas M. Thomas, Jr., Downey, Calif., assignors, by mesne assignments, to H. U. Garrett, Longview, Tex.

Continuation of application Ser. No. 476,784, Dec. 21, 1954. This application Mar. 23, 1959, Ser. No. 801,408
18 Claims. (Cl. 166—138)

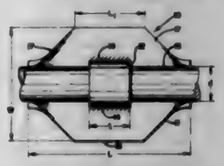


1. A well packer comprising: a mandrel connectible to a running-in string for moving and setting said packer within a well casing; a collar slidably mounted on said mandrel; latch means for releasably connecting said collar to said mandrel at a predetermined location, against longitudinal sliding movement thereon, said latch means being actuatable to disconnect said collar from said mandrel upon applying simultaneous upward force on and rotation to the mandrel in one direction relative to said collar to permit upward movement of said mandrel relative to said collar, said latch means also being actuatable to reconnect said collar to said mandrel at said predetermined location upon applying downward longitudinal movement of said mandrel with respect to said collar; means connected to said collar for making frictional engagement with a surrounding casing; a slip expander slidable on said mandrel; a plurality of slips on said slip expander and coupled to said collar for longitudinal movement thereby relative to said mandrel and said slip expander; a packing element supporting sleeve connected to said mandrel and detachable from said mandrel upon rotation of said mandrel relative to said supporting sleeve in said one direction, to permit upward withdrawal of said mandrel, free of said supporting sleeve and said slip expander; and releasable connection means interconnecting said supporting sleeve and slip expander comprising longitudinal slots formed in said slip expander and key pins extending from said supporting sleeve and resiliently held in slidable position in said slots, said pins and slots normally preventing rotational movement and permitting only limited longitudinal movement between said supporting sleeve and said slip expander while said mandrel is connected to said supporting sleeve the means for resiliently holding said pins being effective on disconnection of said mandrel from said supporting sleeve to withdraw said pins from said slot to permit rotation and unlimited longitudinal sliding movement between said supporting sleeve and said slip expander.

2,979,133
OIL WELL TUBING CLEANERS

Robert Lee Winegar, Borger, Tex., assignor to J. M. Huber Corporation, Borger, Tex., a corporation of New Jersey

Filed Aug. 20, 1957, Ser. No. 679,266
2 Claims. (Cl. 166—176)



1. An oil well tubing cleaner comprising a sucker rod, a generally flat steel scraper blade predominantly lying at one side of said rod in a plane parallel to the axis of said rod, and a single rigid U-shaped clamp having its central portion tightly fitted upon said rod from one side of said rod with its legs embracing and extending to the opposite side of said rod and there welded at their ends to said blade by welding beads covering substantially the full length of the end of each of said legs, said blade comprising a central portion formed at opposite sides of said rod with opposite scraping edges substantially parallel to the axis of said rod, and comprising tapering opposite end portions each having opposite side edges sloped toward said rod from ends of said parallel side edges, the end of at least one of said tapering end portions being cupped into an arcuate configuration embracing the surface of said rod to enhance the rigidity of the blade, the length of said blade at said scraping edges being from one-half to one and one-half times the greatest width of said blade, and the length of each of said leg ends and welding beads being at least as great as the diameter of said rod, whereby said blade is permanently and rigidly clamped upon said rod, without recrystallization or uneven straining of the rod in the region of the welding beads, for movement with reciprocation and limited rotation of the rod to scrape deposits from the inside of oil well tubing.

2,979,134
CORE HOLE TESTING APPARATUS

Edwin E. Reed and Carl T. Brandt, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 20, 1955, Ser. No. 509,776
7 Claims. (Cl. 166—187)



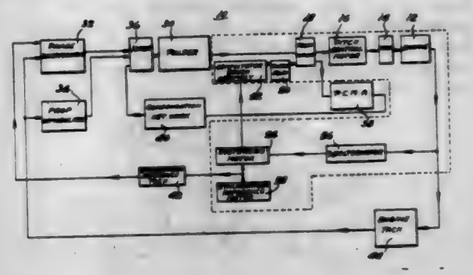
1. Core hole testing apparatus comprising an upper inflatable packer and a lower inflatable packer adapted to seal off a confined sampling and testing zone between said packers and the wall of a core hole, each packer comprising a pair of spaced-apart coaxial cylindrical plugs connected by a rubber tube surrounding at least the adjacent end sections of said plugs in sealed relation therewith, and including rigid supporting means connecting the lower plug of the upper packer with the upper plug of the lower packer; means for inflating said packers; a first conduit extending through said upper packer from a point above same to the upper section of said sampling zone; and a second conduit extending through said upper packer from a point above same to the lower section of said sampling zone.

2,979,135
PHASE SYNCHRONIZING SYSTEM

Donald C. McDonald, Evanston, Ill., and Eugene A. Reich, Kenosha, Wis., assignors, by mesne assignments, to Cook Electric Company, Chicago, Ill., a corporation of Delaware

Filed June 1, 1956, Ser. No. 588,797
10 Claims. (Cl. 170—160.17)

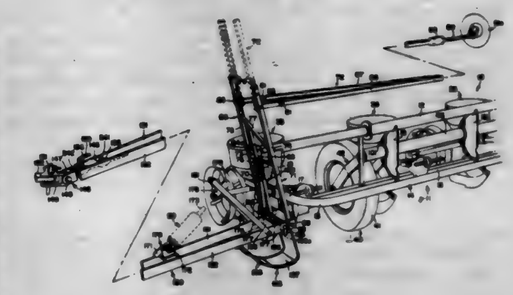
10. In a rotational synchronizing system, the combination comprising a continuously rotatable member subject to variations in speed, tachometer means coupled to said rotatable member for producing a position signal representing the instantaneous angular position of said rotatable member, a source of reference signal representing a desired angular position of said rotatable member, comparator means coupled to said tachometer means and said reference source for developing an error signal having a magnitude representing any instantaneous error in the angular position of said rotatable member, an integrator coupled to said comparator means for producing an integrated signal representing an integrated function of said error signal, a pulse generator coupled to said integrator for producing a pulse in response to said integrated signal, means operable by said pulse generator for restoring said integrator to its original condition to start another integrating cycle, whereby the repetition frequency of the pulses generated by said pulse generator will be proportional to the magnitude of said error signal, and means coupled to said pulse generator and operative in response to said pulses for changing the speed of said rotatable member in a direction to restore the desired angular relationship between said rotatable member and said reference signal from said source.



2,979,136
PLANTERS

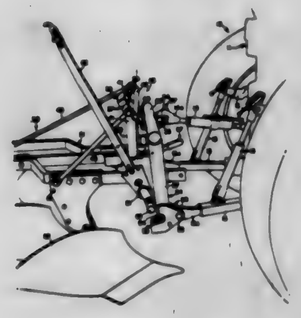
William P. Oehler, Moline, and Harold V. Hansen, Hillsdale, Ill., assignors, by mesne assignments, to Deere & Company, a corporation of Delaware

Filed Oct. 31, 1957, Ser. No. 693,710
12 Claims. (Cl. 172—126)



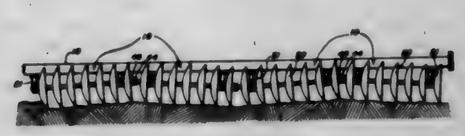
1. The combination with a tractor having power actuated means including a remote cylinder flexibly connected with the tractor, of a multi-row planter having an elongated frame normally disposed transversely with respect to the direction of travel during planting, shiftable ground wheels normally supporting said frame during planting, means connected with said frame and ground wheels for detachably receiving said remote cylinder, whereby extension and retraction of the latter acts to raise and lower the ground wheels with respect to said frame, and means providing for endwise travel of said frame for transport purposes, said means comprising transport wheel means detachably connectible with said frame when said cylinder has been operated to raise said frame on said ground wheels, a rigid transport hitch adapted to be detachably pivoted to said other end of said frame for generally vertical swinging relative thereto, and means on said hitch and said frame to receive said remote cylinder, whereby operation of the latter, when connected between said frame and transport hitch acts to raise and lower said other end of said frame relative to said transport wheel means.

2,979,137
TRACTOR-PICKUP HITCH
Christian H. Hess, Waterloo, Iowa, assignor, by mesne assignments, to Deere & Company, a corporation of Delaware
Filed Mar. 17, 1958, Ser. No. 721,853
12 Claims. (Cl. 172—272)



1. The combination with a tractor having a three-point hitch linkage, of a generally vertical adapter frame having at its upper and lower portions means receiving the rear ends of the upper and lower links of said linkage and a pair of generally rearwardly facing notches, a rearwardly and upwardly extending hook portion at the upper part of the adapter frame, and an implement comprising an implement frame having at its forward portion an upwardly extending mast section including a hook-receiving portion at the upper part of the mast section, means on the lower forward portion of the implement forming laterally outwardly extending frame-engaging means adapted to engage said adapter frame above the lower forward part when the hook portion first engages the implement, and latch means at the lower part of said adapter frame adapted to receive said frame-engaging means and hold the latter in said notches.

2,979,138
FLEXIBLE DISK TILLER
Uwe H. Martensen, Burlington, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Jan. 28, 1959, Ser. No. 789,617
9 Claims. (Cl. 172—579)



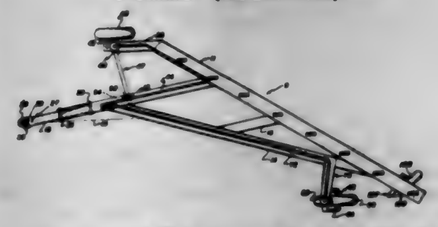
1. In a disk tiller including a supporting frame extending diagonally of the direction of travel and wheel supports for the front and rear ends of said frame, a plurality of disk gangs, means connecting each said gang to said frame accommodating independent vertical movement of opposite ends of said gang to adapt it to changes in ground contour, and connecting means between adjacent ends of said gangs, accommodating relative angling between said gangs while preventing relative vertical movement between said adjacent ends thereof, said connecting means including means accommodating limited relative axial movement between said gangs.

2,979,139
LOCKING DEVICE FOR ADJUSTING ARM OF HARROW SHOCK ABSORBING DEVICE
Eugene J. Birkenbach, Des Plaines, and John J. Frelichowski, Lemont, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 4, 1959, Ser. No. 818,855
7 Claims. (Cl. 172—635)



1. In a harrow of the type comprising a frame and pivotal tooth bars and linkage operatively interconnecting all of the tooth bars to move in unison and a shock absorbing device in the linkage including an adjusting bar with downwardly open slots and an anchor, a pivot member on the anchor selectively engageable with the slots for holding the tooth bars in selected angularly set positions, and a latch mechanism comprising an element pivoted on said pivot member and having a jaw portion loosely embracing said adjusting bar.

2,979,140
MOLDBOARD PLOW FRAME CONSTRUCTION
Ross B. McKenzie, 8115 Rio Linda Blvd., Elverta, Calif.
Filed Jan. 28, 1957, Ser. No. 636,542
3 Claims. (Cl. 172—676)



1. A plow comprising an elongated and horizontal plowshare bar extending obliquely to the direction in which the plow is adapted to be pulled, a plurality of plowshares attached to the underside of the bar, each plowshare having a moldboard to turn a furrow and a landside to take the side pressure when the furrow is turned and resist lateral movement of the plowshare, a forwardly extending elongated and generally horizontal stiff hitch rigidly attached at its rear end to the plowshare bar to prevent any vertical movement of the hitch relative to the plowshare bar, means for attaching the forward end of the stiff hitch to a tractor, the stiff hitch being rigid for its entire length and firmly supported against vertical deflection at any point intermediate its ends, and a pair of wheels mounted on the plow along a line substantially parallel to the plowshare bar to support it as it is pulled by the tractor and to rotate about parallel axes which are substantially perpendicular to the direction in which the plow is to be pulled, one of the wheels being mounted at the forward end of the bar, and the other wheel being mounted at the rear end of the bar to ride on unplowed ground.

2,979,141
EARTH BORING APPARATUS
Charles W. Kandle, La Grange Park, Ill.
(1845 S. 55th Ave., Cicero, Ill.)
Filed Nov. 13, 1957, Ser. No. 696,179
1 Claim. (Cl. 175—19)

Apparatus for drilling a horizontal hole in the earth comprising a drill member of substantial length with a gradually tapered conical body and an additionally tapered screw flight of increasing radial depth spirally disposed

thereabout for substantially the length thereof and secured thereto, a cylindrical compacter at the trailing end of said member and having a diameter corresponding substantially to the largest diameter of said tapered flight and a forward face converging forwardly to the rear end



of said conical body, and means coupled to the trailing end of said member and of substantially smaller diameter than said compacter to secure the member to a rotary drive, said apparatus being characterized by progressive compacting of the earth outwardly to form a hole as the flight screws its way through the earth.

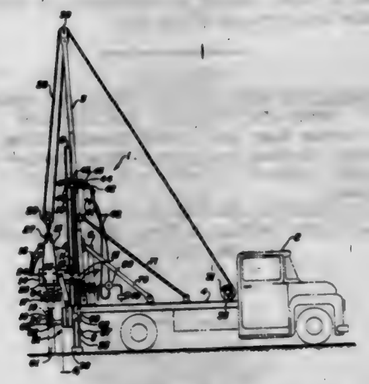
2,979,142
APPARATUS FOR DRILLING WELLS
James A. Reid, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Original application Sept. 28, 1954, Ser. No. 456,911, now Patent No. 2,825,534, dated Mar. 4, 1958. Divided and this application July 3, 1957, Ser. No. 669,763
4 Claims. (Cl. 175—105)



1. Apparatus for drilling a well which comprises, in combination, a drilling tool including an elongated drill stem, a motor connected to the upper end of said drill stem, and a bit connected to the lower end of said drill stem, means for suspending said tool in a well, means for actuating said motor to apply repetitive reciprocatory power impulses through said stem to said bit and thereby produce a drilling action, and a device secured to said drill stem and having a member engageable with the walls of said well, said device including a housing rotatably mounted and fixed longitudinally and concentrically with said stem, a series of curved ribs protruding outwardly from said housing and defining helices therearound, means engaging said ribs and said housing for urging said ribs into engagement with the walls of said well, said housing having a series of ratchet teeth formed interiorly thereof in a plane perpendicular to the axis of the drill stem, and a plurality of ratchet pawls pivotally secured to said drill stem and engageable with said ratchet teeth to cause rotation of the drill stem with said device in one direction and not in the opposite direction.

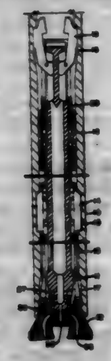
2,979,143
VERTICAL DRILL SYSTEM FOR INSTALLING PIPE
Charles W. Kandle, La Grange Park, Ill.
(1845 S. 55th Ave., Cicero, Ill.)
Filed May 29, 1958, Ser. No. 738,772
5 Claims. (Cl. 175—130)

1. An apparatus for drilling a relatively large vertical bore through pavement and the like and subsequently into the earth and for installing pipe therein, comprising a long rotary drill having cutting means at its lower end and having spiral convolutions extending upwardly from said cutting means, a motor unit connected to the upper end of said drill for rotatably driving the same to effect boring operations, vertically disposed track means securing said motor unit for movement thereon, a vertically movable member disposed between said track means and supported for vertical movement therebetween, clamping means securing the upper end of a pipe to said member whereby said pipe concentrically surrounds said drill, a second motor, mechanical power means driven



by said second motor to selectively raise and lower said member and associated pipe independently of and relative to said drill, means to selectively connect or disconnect said member and said motor unit whereby said drill and pipe may be simultaneously fed downwardly by said mechanical power means to bore through relatively hard surface material incapable of being penetrated by gravity feed when said member and said motor unit are connected, and a hoist connected to said motor unit to selectively provide controlled gravity feed of the latter when said member and said motor unit are disconnected whereby said drill is fed downwardly by gravity when relatively softer material is being penetrated beneath the hard surface material.

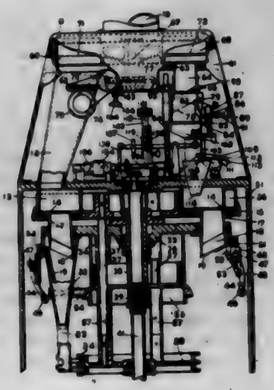
2,979,144
RETRACTABLE DRILL
John Edward Eckel and John M. Camp, Tulsa, Okla., assignors, by mesne assignments, to Jersey Production Research Company
Filed Aug. 22, 1957, Ser. No. 679,652
12 Claims. (Cl. 175—232)



8. In a retractable and expansible drill including a mandrel carrying a plurality of bit elements and a tubular

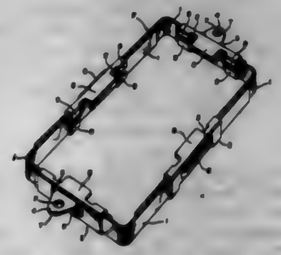
member adapted to receive the mandrel and bit elements and cooperable therewith to expand the bit elements at one end of the tubular member after passage therethrough, the improvement which comprises means to wedge said mandrel between the expanded bit elements and to urge the bit elements into contact with the tubular member, interengaging means provided upon contacting portions of each bit element and said tubular member to resist rotational movement therebetween, an abrasive cutting surface on each bit element, contacting portions of each bit element and said tubular member being shaped to define curved bearing surfaces to enable the bit element to pivot relative to said tubular member upon expansion and retraction of the drill.

2,979,145
APPARATUS FOR THE FEEDING OF POWDER AND LIKE FLUENT MATERIALS
James Arthur Kay and Alfred German Rose, Gainsborough, England, assignors to Rose Brothers (Gainsborough) Limited, Gainsborough, England, a British company
Filed May 20, 1955, Ser. No. 509,978
Claims priority, application Great Britain May 22, 1954
4 Claims. (Cl. 177—103)



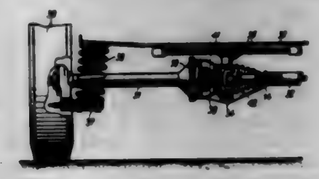
4. Apparatus for feeding powder in successive quantities substantially equal by volume, comprising a succession of subsidiary hoppers mounted on a movable member for movement over a closed path, means for filling said hoppers during their movement over a portion of said closed path, said hoppers having a telescopic construction so that their capacity can be varied by adjustment, means for simultaneously adjusting the capacity of said hoppers, a check-weighing hopper of the same adjustable construction as the subsidiary hoppers and arranged for adjustment simultaneously therewith, the check-weighing hopper receiving its charge from a source other than said filling means, a weighing device including a beam balance adapted periodically to receive a given volume of powder from the check-weighing hopper and to discharge it into said filling means after the weighing operation, a movable detecting member operable by the beam during weighing movement thereof to detect variation in weight of the given volume from a pre-determined weight, a photo-electric device responsive to movement of the detecting member from a neutral position beyond a pre-determined initial amount, means responsive to operation of the photo-electric device for initiating operation of said adjusting means, the photo-electric device being movable in response to operation of said adjusting means to render inactive the photo-electric device responsive means and thus cause cessation of operation of the adjusting means after a period determined by the amount of movement of the detecting member.

2,979,146
STORAGE BATTERY BOX CLAMPS
Arnold B. Fogle, 705 Miller Ave., Box 25, Shelbyville, Ind.
Filed May 5, 1959, Ser. No. 811,883
8 Claims. (Cl. 189—68.5)



1. A device for holding batteries comprising a frame constructed of four angle sections having overlapping legs, clamping sleeves surrounding the overlapping legs, clamping tabs on said sleeves for tightly holding said overlapping legs in adjusted position, strap members struck from said sleeves to define pockets, a battery retaining flange projecting inwardly from each sleeve, and a pair of anchoring brackets having bifurcated plates inserted into the pockets of opposing sleeves, the legs of said bifurcated plates being bent to engage said pockets, said pocket being longer than the width of said plate so that said plate may be adjustably positioned therein.

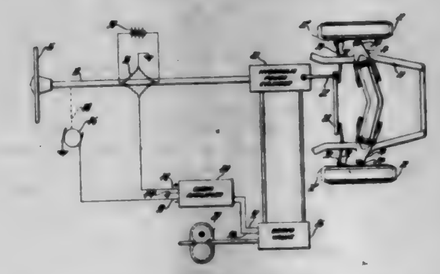
2,979,147
COUPLING FOR VEHICLE HALF AXLE DRIVE ASSEMBLY
Willy R. Naumann, Stuttgart-Degerloch, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 19, 1955, Ser. No. 509,583
Claims priority, application Germany May 19, 1954
7 Claims. (Cl. 180—73)



4. In a motor vehicle having an upper body, at least two wheels facing each other on opposite sides of said vehicle, a pivotable half-axle carrying each of said wheels and adapted to move upwardly and downwardly relative to said upper body, means for pivotally supporting said half-axles on said upper body, said means comprising a pivot member extending longitudinally of said motor vehicle, the inner ends of said half-axles being mounted on said pivot member and turning thereabout, means for driving said wheels, said last-named means comprising a drive shaft within one of said half-axles, a second drive shaft for driving said first drive shaft, said shafts having pivotal connecting means therebetween adapting said shafts for relative angular movement about a pivot point in said connecting means common to the axes of said shafts, said pivot point being spaced from the axis of said pivot member, resilient means for resiliently suspending said half-axles relative to said upper body, said

connecting means comprising an inner shaft portion and an outer shaft portion concentric therewith, anti-friction bearing means disposed intermediate said shaft portions and operatively connecting said shaft portions with each other for rotation in unison and for relative axial movement, said bearing means comprising interengaging projections and recesses provided with substantially radial surfaces forming raceways extending axially of said shaft portions, roller anti-friction elements disposed between said projections and recesses and forming a series of rows, said roller anti-friction elements being adapted to move along said surfaces, means for guiding said roller anti-friction elements comprising guiding surfaces on said inner shaft portion and guiding surfaces on said outer shaft portion, said first-named guiding surfaces being disposed parallel to said second-named guiding surfaces, the axes of said roller anti-friction elements intersecting said first-named and said second-named guiding surfaces, said inner shaft portion being provided at the longitudinal ends of said projections with portions of reduced diameter, and a ring mounted on each of said portions of reduced diameter, each said ring comprising a plurality of radial projections each having walls in contact with two of said substantially radial surfaces of one of said recesses, each of said radial projections being provided with arcuate channel means cooperating with said raceways for passage of said roller anti-friction elements.

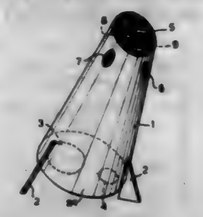
2,979,148
VEHICLE STEERING SYSTEM WITH OSCILLATION DAMPING
Joseph B. Bidwell, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 27, 1957, Ser. No. 699,214
2 Claims. (Cl. 180—79.2)



1. In combination with a self-propelled vehicle having dirigible wheels, a manually controlled steering mechanism including a power actuator connected with said wheels, a steering signal generator for developing a signal quantity corresponding to the driver applied torque on said steering mechanism, a rate signal generator connected to said steering mechanism for developing a signal quantity corresponding to the time rate of change of the steering angle of said dirigible wheels, and control means interconnecting said generators with said power actuator for energizing said power actuator in accordance with the algebraic summation of the steering and rate signal quantities.

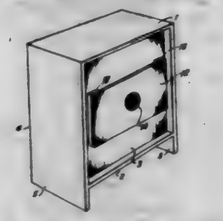
2,979,149
LOUDSPEAKER APPARATUS
Stig Carlsson, Holbergsgatan 16B, Stockholm-Bromma, Sweden
Filed Sept. 27, 1954, Ser. No. 458,650
Claims priority, application Sweden Oct. 2, 1953
12 Claims. (Cl. 181—31)

1. A loudspeaker cabinet comprising a substantially frusto-conical casing having a plate closing the larger end thereof, said plate having a loudspeaker opening and a resonance port therein, the smaller end of said casing providing an opening for the reception of a loudspeaker, said



casing having at least one loudspeaker opening in the side thereof adjacent its smaller end, and supporting legs attached to the larger end thereof for supporting said casing at a desired location on a floor.

2,979,150
HIGH FIDELITY LOUD SPEAKER CABINET
Jesse C. Irby, Jr., 2008 W. Five-Mile Parkway, Dallas, Tex.
Filed Oct. 21, 1958, Ser. No. 768,802
2 Claims. (Cl. 181—31)

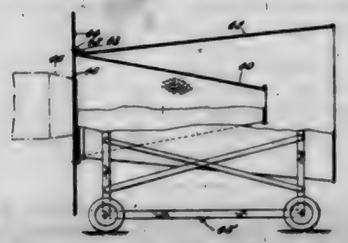


1. In a loud speaker cabinet, the combination of a resonant box providing a chamber having a front wall, a circular opening in the front wall, a cone-type speaker in the chamber facing the opening and having a circumferential flange secured to the front wall about the opening, an elongated rectangular board, having a width corresponding substantially to the diameter of the speaker flange, arranged parallel to the front wall, in spaced apart relation thereto, exteriorly of the box, with its longitudinal edges disposed horizontally, spacer members connecting the ends of the board to the front wall and defining a passage between the board and the front wall, the board providing a front baffle for the speaker and having a circular opening therein arranged concentrically of the speaker, a funnel shaped non-resonant collecting cone facing the speaker and having its smaller end secured to the board about the opening therein, and a low frequency pass acoustic filter extending across the opening of the board and secured between the board and the collecting cone.

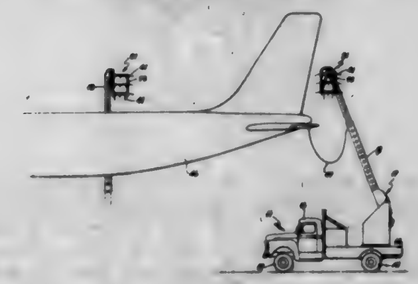
2,979,151
SILENCERS
Basil Davenport Blackwell and George Clifford Chick, Bristol, England, and Raymond Peter Cane, Alton, Ontario, Canada, assignors, by mesne assignments, to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed June 20, 1957, Ser. No. 666,809
Claims priority, application Great Britain June 21, 1956
6 Claims. (Cl. 181—51)

1. A mobile exhaust gas silencer comprising a wheeled carriage, a divergent imperforate diffuser member carried by said carriage and formed at one end with an inlet opening and at its other end with an outlet opening

which is open to atmosphere; and a perforated tubular member which is mounted within and connected to the diffuser member, the perforated member being formed at one end with an inlet opening which is disposed adjacent the inlet opening of the diffuser member and having a cross-sectional area which decreases from the inlet opening in the downstream direction to form between the diffuser member and the perforated member a passage of increasing cross-sectional area in the downstream direction.



2,979,152
SAFETY APPARATUS FOR MOBILE LIFTING EQUIPMENT
Jay M. Ettel, 239 Frances Drive, Los Altos, Calif.
Filed May 8, 1959, Ser. No. 811,942
10 Claims. (Cl. 182—2)



1. In a safety apparatus for lifting equipment usable about a body having conducting surfaces, the lifting equipment being of the type having a boom structure, drive means for operating the boom structure, and control means for controlling the drive means, conducting spring-like elements adapted to be mounted on the boom structure, a power supply, means connecting one side of the power supply to the boom structure, means connecting the other side of the power supply to the body, and means operated when one of said elements engages the body to disable the control means.

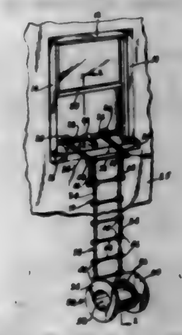
2,979,153
SAFETY SUIT
Earl J. Hoogland, Barrington, and Lawrence E. Dickson, Wheatka, Ill., assignors to Standard Safety Equipment Co., a corporation of Illinois
Filed Jan. 24, 1958, Ser. No. 711,080
11 Claims. (Cl. 182—3)

1. Means for safely supporting a person's body in an upright manner during a hoisting thereof, comprising: a garment arranged to extend around the torso of the body; means secured to the garment to define therewith generally annular guide passages, a first pair of said guide passages being arranged to extend around opposite sides of the upper torso over the shoulder and under the armpit thereof and a second pair of said guide passages being arranged to extend around opposite sides of the lower torso over the thigh, around the buttock thereof; and strap means defining a plurality of nooses one each extending through each guide passage and having a loop at one end and an elongated portion passing freely



through said loop and extendnig outwardly from the guide passage, said nooses being guided by said guide passages tightly around said torso portions when the elongated portion of each is drawn through the loop thereof.

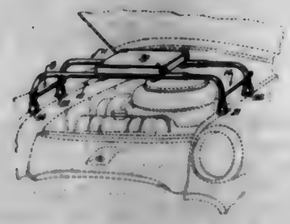
2,979,154
PORTABLE METAL FIRE ESCAPE LADDER
Thomas A. Bell, Englewood Cliffs, N.J.
(66 Linden Ave., Park Ridge, N.J.)
Filed Mar. 16, 1959, Ser. No. 799,690
1 Claim. (Cl. 182—73)



In a portable fire escape, an elongated rod of sufficient length to span the opening in a window casing, elongated sectional angle bars spaced along the rod and extending radially therefrom and adapted to seat on the sill of a window casing, said angle bars each including a body section and an extension section pivotally connected to the end of the body section, said extension section constituting an outrigger adapted to project beyond the outside of the sill of the window casing, flexible chains fastened at one end to the ends of the body sections of the angle bars, rods constituting rungs spaced along the chains and secured thereto, means for fastening the chains to the outer free ends of the outriggers, a flanged spool secured to the other ends of the chains for supporting the chains and rungs in coiled relation thereon, said body sections and extension sections having overlapping ends, said overlapping ends having aligned round openings and radial intersecting keyways, two removable headed bolts having round shanks slidably mounted in the aligned openings, the shanks having ends with threaded socket openings therein, headed screws in said socket openings for holding the bolts in position in the aligned openings, and

keys on the end portions of the shanks engaging in the keyways to prevent rotation of the extension sections on the body sections, the shanks of the bolts being longer than the combined widths of the overlapped ends of said sections, whereby opposed axial movement of the bolts inward of said body section clears said keys from the sections and permits rotation of the extension sections on round portions of the shanks adjacent the heads of the bolts, the bolts remaining positioned with the keys thereof selectively engaged with and disengaged from the keyways when the body and extension sections are extended in alignment.

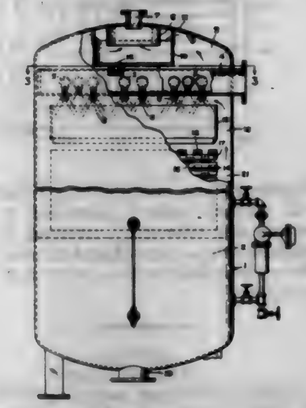
2,979,155
WORKMAN'S SUPPORTING DEVICE
Irvin T. Scharfenberger, 7267 Jethve Lane, Madeira, Cincinnati, Ohio
Filed Apr. 17, 1957, Ser. No. 653,371
1 Claim. (Cl. 182—222)



Means for supporting the body of a workman for unhampered access to the engine compartment of an automotive vehicle, comprising: a frame adapted to bridge said engine compartment, said frame including two elongated side rails made up of telescoping tubular members with transverse openings therethrough, means locking the telescoping members in adjustable relation, spacer rods passing through said openings, said rods being smaller in diameter than the openings in said side rails to permit limited angular movement of said rods relative to said side rails, means adjustably interconnecting said rails and said rods including nuts threaded on said rods engaging said rails therebetween whereby said rails are held in generally spaced parallel relation and are independently adjustable in an axial direction, a removable rest mounted on said side rails by means of four gripper clips that permit the rest to be mounted in any position along said side rails, and means mounted on ends of said side rails and adapted to bear against a supporting surface.

2,979,156
VACUUM DEGASIFIER
Joseph F. Sebald, Bloomfield, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Continuation of application Ser. No. 323,625, Dec. 2, 1952. This application May 1, 1959, Ser. No. 810,345
1 Claim. (Cl. 183—2.5)

In a vacuum degasifier, a cylindrical tower forming a degasifying section in the upper end thereof and a water storage section at the lowermost end thereof, inlet means for delivering fluid to said tower at the upper end of said degasifying section for flow therein by action of gravity, a fluid directing element of substantially square horizontal cross-section mounted in said tower about the inlet means to direct fluid delivered from said inlets toward the center of said degasifying space, said fluid directing element mounted in spaced relation to the inner wall of said tower to form vapor flow spaces therebetween which vapor flow spaces communicate at their upper ends with said vent means, packing at substantially square horizontal cross-section in said degasifying section mounted therein in spaced relation to and between the outlet end of said fluid directing element and the water storage section to receive fluid from said inlet means, vertical vapor flow passages formed along the length of said packing and said vapor flow passages between the outer periphery of said packing and said tower, said vapor flow passages connected at their upper ends with said vapor flow spaces and opening at their lower ends into the degasifying space above said water storage section whereby substantially uniform total pressure may be maintained in said degasifying section, said packing including a plurality of stacked



slats forming a plurality of stacked lateral passageways through the length of said packing, said passageways directly connected at one of their ends with said vertical flow passages to coact therewith to maintain substantially uniform total pressure in said degasifying section, and means for venting oxygen and non-condensible gases centrally located in the uppermost end of said tower and equidistantly spaced from said vapor flow spaces to coact therewith to provide for uniform flow of said non-condensible gases out of said vacuum degasifier.

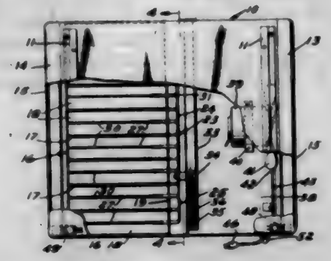
2,979,157
PROCESS FOR PRODUCING GAS-PROOF AND GAS-ADSORBENT MATERIALS AND THE ARTICLES SO PRODUCED
James Andrew Clark, Port Chester, N.Y., assignor, by mesne assignments, to American Viscose Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 23, 1942, Ser. No. 463,078
13 Claims. (Cl. 183—4)

1. A material permeable to air but impermeable to heavy gases comprising a fibrous support combined with an alkali-soluble water-insoluble cellulosic colloid carrying a solid material which is an adsorbent of said heavy gases.

2,979,158
ELECTROSTATIC PARTICLE SEPARATING APPARATUS
Blaine H. Vller, Jr., Compton, Calif., assignor of sixty percent to Gordon M. Gouge & Company, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 17, 1958, Ser. No. 767,890
3 Claims. (Cl. 183—7)

1. Electrical precipitator apparatus, comprising: a housing open for the flow of particle laden fluid therethrough; a plurality of hexagonal tubular members having uninterrupted inner exposed surfaces and secured together to form a unitary honeycomb structure; an insulating support carried by the housing at one end of said honeycomb structure, said honeycomb structure being removably carried in said housing whereby said structure may be removed as a unit in a direction away from said

support; a plurality of support wires carried by said insulating support and respectively extending axially into each of said tubular members and offset from the axes thereof; a plurality of electrically interconnected filimentary members and each carried by a support wire to



extend lengthwise and centrally of a tubular member; a high D.C. potential source connected to said tubular members and said filimentary members for establishing an electrostatic field in each of said tubular members; and means for moving said particle laden fluid through said tubular members.

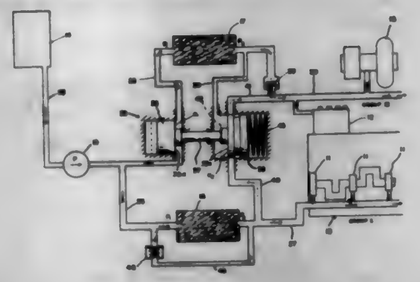
2,979,159
AIR FILTERS
Hugh E. Pritchard, Detroit, and Gregory P. Shaltz, Ann Arbor, Mich., assignors to Fram Corporation, Providence, R.I., a corporation of Rhode Island
Filed Dec. 2, 1958, Ser. No. 777,624
1 Claim. (Cl. 183—70)



A two-stage air filter cartridge of the outside-in flow type comprising an apertured center core, a pleated paper filter element surrounding said core, a thick replaceable filter batt surrounding the pleated paper element, an end plate secured at one end of the pleated paper element and a second end plate having a central air discharge passage secured at the other end of said element so that these end plates are retained in permanent fixed relation to each other, each end plate having a smooth beveled annular flange that projects outwardly from the pleated paper filter a distance approximately equal to the thickness of the batt, and which flanges diverge from each other in an outward direction throughout said distance to form inclined slideways for the ends of the batt so that these flanges exert a wedging pressure on the ends of the batt when it embraces the pleated paper filter, and a removable split clamping jacket constructed to embrace the batt and force it inwardly to wedgingly engage the batt ends with said diverging flanges.

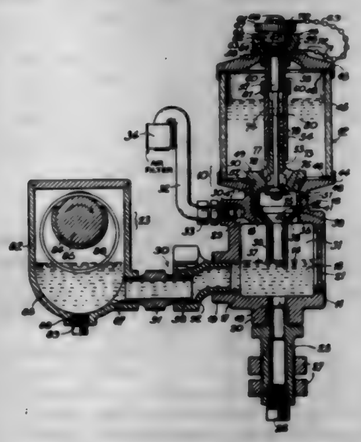
2,979,160
LUBRICATION SYSTEM
Herbert H. Haas, Royal Oak, Mich., assignor, by mesne assignments, to Continental Motors Corporation, Muskegon, Mich., a corporation of Virginia
Filed Nov. 5, 1956, Ser. No. 620,334
6 Claims. (Cl. 184—6)

1. In an internal combustion engine having two sets of separate operating components respectively requiring lubrication by oil under pressure and filtered to different degrees, a lubrication system comprising a source of pressure oil supply, a fine filter and a coarse filter each having an oil inlet and an oil outlet, said fine filter being operable to effect a finer degree of oil filtration than said coarse filter, means connecting said inlets with said oil supply, means normally connecting said outlets respectively with said sets of separate operating engine components, and bypass means disposed intermediate said filters, normally closed means connecting the coarse filter outlet with the set of engine components which are normally connected with the fine filter outlet, means actu-



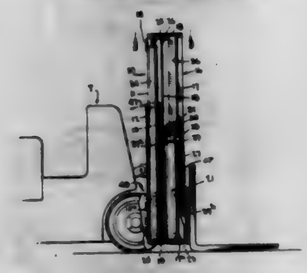
ating said bypass means in response to an increase above a predetermined value of pressure differential between the fine filter inlet and outlet to openly connect said coarse filter outlet with the set of engine components normally connected with the fine filter outlet, and means actuating said bypass means in response to a decrease below said predetermined value of the aforesaid pressure differential to close the aforesaid connection of said coarse filter outlet with the set of engine components normally connected with the fine filter outlet.

2,979,161
CONSTANT LEVEL OILERS
Frank J. Lyden, 1115 N. 9th St., Manitowoc, Wis.
Filed July 2, 1958, Ser. No. 746,220
5 Claims. (Cl. 184—103)



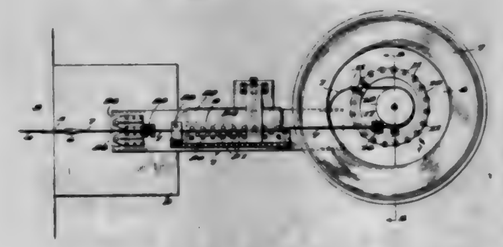
1. In an oiler, a cup member having an oil chamber therein and a surge space above the oil level in said chamber, said cup member having an oil outlet below said oil level and a vent opening above said oil level, means including a reservoir disposed in fixed superposed relation to said cup member for feeding oil into said cup member to maintain the oil level therein, and means for supporting said cup member at an adjusted elevation with respect to a device to be lubricated, said means comprising a conduit connecting said oil outlet with the lubricated device, and said conduit including a rotatively adjustable eccentric coupling rotatively adjustable on a horizontal axis to adjust the oil level in the lubricated device.

2,979,162
UPRIGHT ASSEMBLY FOR INDUSTRIAL TRUCKS
George F. Quayle, Philadelphia, Pa., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Jan. 28, 1957, Ser. No. 636,733
7 Claims. (Cl. 187—9)



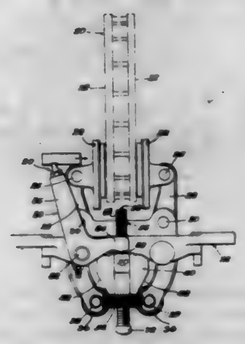
1. An upright assembly for an industrial truck comprising a pair of channel uprights in spaced relation to one another, a pair of front and rear plates welded to and extending vertically on both uprights to form with said uprights a vertical box-like structure, the channels of said uprights facing outwardly toward opposed sides of the truck, a member extending between said plates and uprights to close a lower portion of the box-like structure whereby to form with the plates and uprights a fluid reservoir for the truck, a lifting member, means engaged in the channels of said uprights to mount said lifting member on said uprights for vertical movement, a hydraulic ram arranged vertically in the space between said uprights and supported relatively to said uprights, and means extending from said ram past said front plate on the uprights whereby the ram when actuated lifts the lifting member relatively to said uprights.

2,979,163
LOW INERTIA ENERGY ABSORPTION UNIT
Willem D. Van Zelm, Ruxton, Edward S. Knochel, Baltimore, and Martin A. Jackson, Bradshaw, Md.; said Knochel and said Jackson assignors to Van Zelm Associates, Inc., Baltimore, Md., a corporation of Maryland
Filed May 26, 1958, Ser. No. 737,786
15 Claims. (Cl. 188—1)



1. A low inertia, energy absorber comprising an elongated strip of metal, said strip of metal formed in a stationary flat coil, means to feed said metal strip from the inside of said flat coil, deforming means to engage and pre-tension said metal strip as it passes from said coil to progressively and successively deform increments of said metal strip by bending beyond the elastic limit of said metal, and means connected to said strip to effect relative motion between said metal strip and said deforming means.

2,979,164
ROTOR BRAKE ARRANGEMENT
Russell G. Altherr, Hazel Crest, Ill., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Jan. 16, 1958, Ser. No. 709,356
9 Claims. (Cl. 188—59)



1. In a package rotor brake arrangement for a vehicle having a rotatable friction member, the combination of: a brake frame detachably secured to said vehicle adjacent said member; a pair of friction elements engageable with said member; a pair of dead brake levers fulcrumed intermediate their ends to the frame for pivotal movement about parallel axes and connected at corresponding ends to respective friction elements; rollers pivoted to opposite corresponding ends of the brake levers on axes parallel to said first mentioned axes; an operating lever having a pivotal connection to the frame accommodating limited axial movement of the operating lever relative to the frame on an axis extending in a direction generally normal to said axes and having a recess therein; a wedge element operatively carried in the recess of said operating lever for operative engagement with the rollers of the respective brake levers, said wedge element having a floating interlocking relationship with the operating lever free of any positive connection therebetween wherein the wedge element has limited free horizontal and vertical movement relative to the operating lever and is self-aligning relative to the brake levers to insure application of equal braking pressures on opposite sides of said friction member.

2,979,165
FLUID-DYNAMIC EMERGENCY BRAKES
Joseph McCambridge, Watson Lane, Setauket, N.Y.
Filed Apr. 7, 1960, Ser. No. 20,615
3 Claims. (Cl. 188—87)

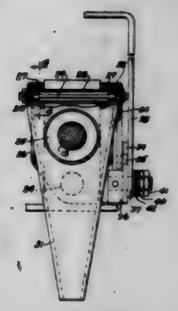
1. In a high speed vehicle having an outer surface and traveling in a forward direction and having a fluid dynamic brake with a braking member, said braking member being pivotably attached to said vehicle to rotate from a closed inoperative position parallel with said direction of travel and thereby but slightly increasing the fluid resistance to the travel of said vehicle, to an open operative position less than normal to said direction of travel thereby increasing the fluid resistance to the travel of said vehicle, said braking member in the open position being subjected to a positive fluid pressure on the front of said braking member and a negative pressure on the back, an improved fluid dynamic brake comprising a braking member symmetrically dished to define a center orifice for centering said positive fluid pressure on the front

of said braking member and thereby stabilizing the passage of the vehicle through said fluid, and an eductor means secured to said braking member and congruent with said center orifice and extending in the opposite and rearward direction to that in which the vehicle is traveling, said eductor device being activated by fluid



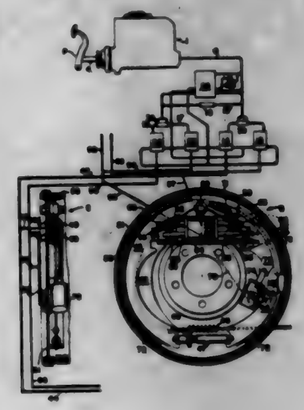
pressure from said positive pressure front of the braking member to increase said negative pressure back of said braking member and thereby increasing the total fluid resistance to travel of said vehicle and braking member without increasing the size of said braking member.

2,979,166
BRAKE MECHANISM FOR TRAILER VEHICLES
Howarth Padgett Henry, 140 W. 42nd St., New York, N.Y.
Filed Sept. 8, 1958, Ser. No. 759,588
Claims priority, application Great Britain Sept. 12, 1957
2 Claims. (Cl. 188—112)



1. A braking mechanism for use with a tractor-drawn trailer, comprising a master cylinder having a piston registering therewith, a rod connecting said trailer and tractor for limited relative movement therebetween, means effecting engagement between said rod and said piston to urge said piston into said cylinder upon approach between said tractor and trailer, a movable sprag arm coupled to said piston and depending below the level thereof, a pivoted hand lever coupled to said piston and movable therewith between a fully advanced and retracted position, a first angularly disposed leg carried by said hand lever and having a cam-defining edge provided with a latching recess, and a second angularly disposed leg coupled to said sprag arm and carrying a follower defining pin bearing upon said cam edge and registering with said latching recess when said hand lever is in its fully advanced position.

2,979,167
HYDRAULICALLY OPERATED, MECHANICALLY POWERED SAFETY BRAKE SYSTEM
Albert P. Denis, 46 Alvin St., Springfield, Mass.; Marguerite D. Sullivan, administratrix of the estate of Albert P. Denis, deceased
Filed Mar. 6, 1953, Ser. No. 719,678
13 Claims. (Cl. 188—141)

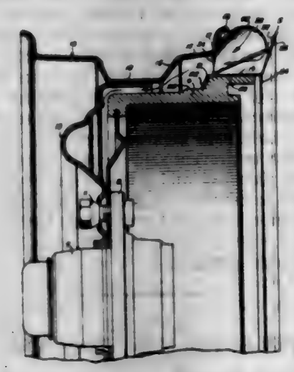


1. In a hydraulically operated braking system, frictionally engageable rotatable and non-rotatable brake members, first and second brake actuating cylinders for initially and commonly moving said brake members into frictional engagement, first and second double headed control cylinders each having a floating piston therein separating the interior of the control cylinders into first and second chambers, a master hydraulic cylinder, respective lines hydraulically connecting said master cylinder to the first chamber of each of said control cylinders to supply pressure thereto, hydraulic lines connecting the second chambers of said first and second control cylinders to said first and second brake actuating cylinders respectively, a power cylinder hydraulically connected to said second brake actuating cylinder, a friction clutch member movable into engagement with the rotatable brake member, means to move said clutch member into driven engagement with the rotatable brake member, upon actuation of either the first or second brake actuating cylinders, to power said power cylinder from the torque of said rotatable brake member, a cut off valve in the line supplying pressure to said first chamber of the second control cylinder and means responsive to a predetermined pressure in said line to automatically actuate said cut-off valve to close said line prior to the application of substantial pressure to said second brake actuating cylinder by said power cylinder.

2,979,168
BRAKE DRUM COOLING RING STRUCTURE
George Albert Lyon, 13831 W. Chicago Blvd., Detroit 28, Mich.
Filed Apr. 4, 1958, Ser. No. 726,408
6 Claims. (Cl. 188—264)

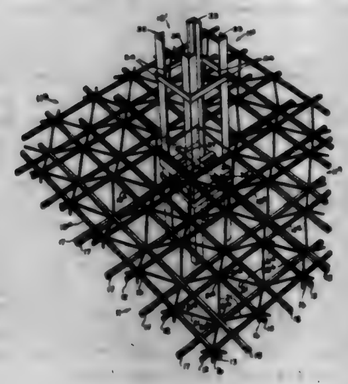
1. In a wheel structure including a brake drum and a wheel having a tire rim generally encompassing the brake drum in gap relation at the axially inner side of the wheel, a cooling ring member having a generally axially extending annular body portion about the axially inner margin of the brake drum and a free edge generally radially outwardly extending annular scoop flange

disposed axially inwardly relative to the tire rim and defining therewith an annular scoop-in mouth for scoop-



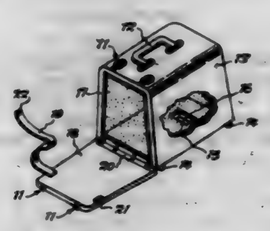
ing air into the gap incident to forward rotary movement of the wheel.

2,979,169
BUILDING STRUCTURE
Morden Saul Yolles, 111 Richmond St. W., Toronto, Ontario, Canada
Filed Aug. 16, 1954, Ser. No. 450,049
7 Claims. (Cl. 189—34)



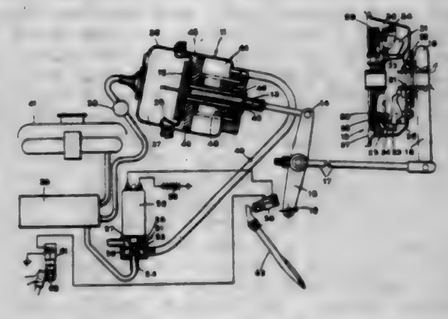
1. A beamless building framework having rectangular bays, comprising vertical columns at the corners of the bays, and an all metal open-lattice load-supporting beamless structure spanning the bays and secured to and supported solely by the columns at the corners of the bays, said structure comprising a plurality of all metal similar rectangular prefabricated grid units that abut and are secured together along their edges, each grid unit comprising an upper grid and a lower grid generally parallel to the upper grid and spaced therefrom, each grid comprising a first set of parallel rods and a second set of parallel rods, the rods of the first sets being parallel to the same edge of the grid unit, the rods of the second set of each grid crossing over the rods of the first set at right angles and being connected to the rods of the first set at the crossings, the first set of rods of the upper grid lying below the second set of rods of the upper grid, the first set of rods of the lower grid lying above the second set of rods of the lower grid, the distances between adjacent crossings being short compared to the lengths of individual rods of both the first and second sets and compared to the distances between any of the columns at the corners of the bays, the rods of the lower grid being staggered relative to the rods of the upper grid so that a plane containing a given rod of the lower grid and normal to the grids is substantially midway between the nearest parallel rods of the upper grid, and a plurality of sinuous rods between the grids and holding the grids in their spaced apart relationship, each sinuous rod lying in a plane that is inclined relative to the grids and that is parallel to the rods of the first sets, each sinuous rod consisting of a wave-like series of alternate peaks and dips connected by straight lengths of the rod, the sinuous rods at the dips being connected to the rods of the lower grid at the crossings of the lower grid where the dips contact and rest upon the rods of the second set of the lower grid and lean against the rods of the first set of the lower grid, the sinuous rods at the peaks being connected to the rods of the upper grid at the crossings of the upper grid where the peaks contact and support from below the rods of the second set of the upper grid and lean against the rods of the first set of the upper grid, adjacent sinuous rods leaning in opposite directions against opposite sides of the rods of the first sets at the crossings, the straight lengths of the sinuous rods defining, between a given crossing of rods of the upper grid and the four closest crossings of rods of the lower grid, the edges of an imaginary four-sided regular pyramid the base of which is defined by rods of the lower grid and the vertex of which is at the given crossing, said structure being capable of distributing loads in at least the directions of the rods of both the first and second sets and providing, within bays and from bay to bay, space between the upper and lower grids for passage of ducts and conduits for the building.

2,979,170
COMBINED TRAVELLING CASE AND HEAD PROTECTOR
Harry E. Lotz, 50 Elmwood Ave., East Aurora, N.Y.
Filed July 20, 1959, Ser. No. 828,376
4 Claims. (Cl. 190—42)



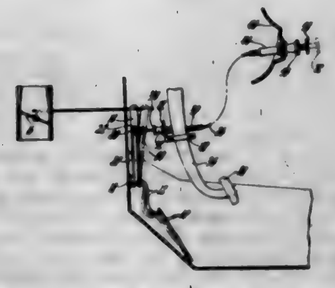
1. A device useable as a travelling case and head protector, said device having a body portion formed of a rigid plastic foam covered with an outer skin of a tough material adhering thereto, said body portion being of a size capable of fitting over the head of a person, a shock-absorbing sponge-like resilient lining in said body portion, a side of said body portion having an opening covered with a transparent plate, a lid for said body portion hinged on the side thereof having said opening and forming a chest protector for the wearer, said lid being hinged to said body portion to close the same when used as a case, said opening being spaced from the side thereof closed by said lid at such distance as to be in front of the eyes of the wearer when the wall of said device opposite to the side closed by said lid rests on his head.

2,979,171
CLUTCH OPERATING MECHANISM FOR MOTOR VEHICLES
Albert Norman Bland and David Aubrey Davies, Leamington Spa, England, assignors to Automotive Products Company Limited, Leamington Spa, England
Filed Mar. 24, 1958, Ser. No. 723,420
Claims priority, application Great Britain Mar. 27, 1957
14 Claims. (Cl. 192—.052)



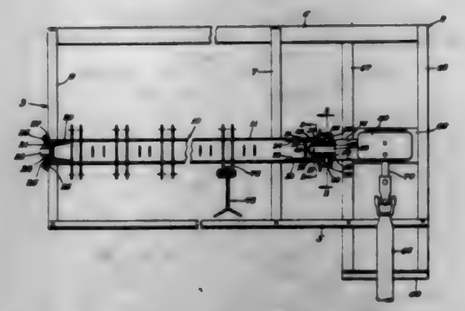
1. Clutch operating mechanism for a motor vehicle having a centrifugal clutch which includes a driving plate, a driven plate engageable therewith, a pressure plate engageable with the driven plate, a reaction plate, clutch springs urging the reaction plate toward the pressure plate, centrifugal weights carried by the reaction plate thrust members interposed between said centrifugal weights and said pressure plate, release levers, and strut means through which said release levers act on the reaction plate; said clutch operating mechanism including a release bearing cooperating with the release levers, a servo-motor for moving the release bearing in a direction to compress the clutch springs, a stop means for limiting the stroke of the servo-motor in the direction to extend the clutch springs, spring means supporting the stop means and being strong enough to overcome the clutch springs, in a position such that the clutch is engageable only by operation of the centrifugal weights, power means to retract said stop and allow further extension of the clutch springs being brought into operation by means responsive to the vehicle speed.

2,979,172
THROTTLE CONTROL MECHANISM
Jesse E. Eshbaugh and John A. McDougal, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 24, 1958, Ser. No. 763,005
4 Claims. (Cl. 192—3)



1. In a throttle control mechanism for an automotive vehicle engine having a throttle valve and linkage including an accelerator pedal connected therewith and controlling said valve, adjustable stop means engageable with a portion of said throttle linkage to prevent return of said throttle valve to the zero throttle position and movable to a non-engageable zero throttle position, a control unit for said stop means including a first linearly movable member having said stop means attached thereto for movement therewith and a second linearly movable member normally movable with said first movable member and means for linearly adjusting said first movable member relative to said second movable member and detent means operatively engaging said first and second movable members to hold said members and said stop means in a first position to prevent said throttle valve from returning to zero throttle, and means for overcoming said detent means to permit movement of said first and second movable members and said stop means to the non-engageable position whereby said throttle may be returned to the zero throttle position.

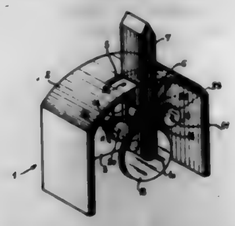
2,979,173
CHOPPER ROTOR MOUNTING AND DRIVE THEREFOR
Robert H. Witt, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Sept. 30, 1959, Ser. No. 843,435
5 Claims. (Cl. 192—3.5)



1. In a forage chopper, the combination of a support frame including laterally spaced structures, a gear box mounted upon one of the structures and having an input shaft and an output shaft, a rotor having a center shaft, means rotatably mounting one end of the center shaft from the other of said structures, said center shaft having a telescoping relationship with said output shaft and rotatable thereon in overrunning relationship thereto, and overrunning one-way drive means operatively associated with said output and said center shafts.

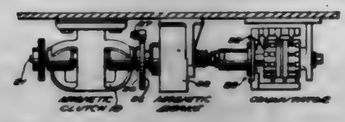
2,979,174
CHANGE SPEED GEAR FOR TOYS AND REDUCED SCALE MODELS
Robert Ernest Mercier, Paris, France, assignor to Librairie Hachette, Paris, France, a corporation of France
Filed Mar. 30, 1959, Ser. No. 802,831
Claims priority, application France Apr. 11, 1958
8 Claims. (Cl. 192—4)

1. A change speed gear, chiefly for toys and reduced scale models, comprising a carrier adapted to be shifted in parallelism with a plane between a medial inoperative position and either of two extreme positions, a driven pinion revolubly carried by the carrier round an axis perpendicular to the plane of shifting of said carrier, a gear coplanar and in permanent mesh with said driven pinion and revolubly carried by the carrier round an axis parallel with the first-mentioned axis, two driving pinions coplanar with said driven pinion and gear and rotating in opposite directions round stationary axes parallel with the first-mentioned axes and located to either side of said pinion and gear for the inoperative position of said carrier, the coplanar gear engaging respectively one of the two driving pinions for the corresponding operative positions of the



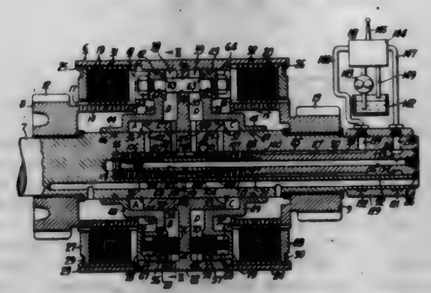
carrier, and a stationary toothed sector engaging the coplanar gear for the medial inoperative position of the carrier to hold said gear and therewith the driven pinion against rotation.

2,979,175
CONTROL APPARATUS
Robert F. Schalk, Madison, Wis., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 12, 1956, Ser. No. 570,789
11 Claims. (Cl. 192—12)



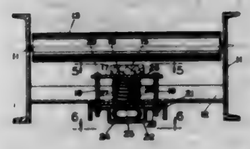
1. An indexing drive comprising indexing means, means for driving the indexing means, magnetic clutch means for actuating the driving means, magnetic brake means for stopping the driving means, power supply means for applying a high exciting voltage and a low sustaining voltage to the magnetic clutch means, and a second power supply means for applying a high exciting voltage and a low sustaining voltage to the magnetic brake means.

2,979,176
DOUBLE ACTING CLUTCH
James W. Voth, Springfield, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 27, 1958, Ser. No. 769,721
15 Claims. (Cl. 192—87)



1. Mechanism for engaging an axially spaced pair of frictional gripping devices of a transmission comprising a support member; an actuator member mounted on said support member for axial reciprocable movement between said pair of gripping devices, said actuator having axially outer end portions; partitioning means associated with said support and said actuator to form a first and second pair of pressure chambers respectively at opposite axial ends of said actuator, the end portions of said actuator defining end walls for said pairs of pressure chambers; a fluid port for each of said pressure chambers; a fluid pressure means including a fluid supply passage for delivering pressurized fluid to the fluid port of one of the pressure chambers of said first pair for shifting said actuator in one axial direction into engagement with one of said gripping devices; a fluid transfer passage interconnecting the fluid ports of one of said second pair of pressure chambers with the other of said first pair of pressure chambers; and pressure sensitive regulating means for controlling fluid flow through said fluid transfer passage, said regulating means being responsive to a predetermined pressure within said one pressure chamber of said first pair for isolating the fluid port of said one of said second pair of pressure chambers from the fluid port of said other pressure chamber of said first pair and for alternatively connecting the fluid ports of said first pair of pressure chambers in fluid communication with each other whereby fluid pressure from said fluid pressure means may be directed into both of said first pair of pressure chambers.

2,979,177
BRAKE SYSTEM FOR A ROLLER TYPE CONVEYOR
Norman M. Sullivan, Cincinnati, Ohio, assignor to The Alvey-Ferguson Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 7, 1957, Ser. No. 688,520
5 Claims. (Cl. 193—35)

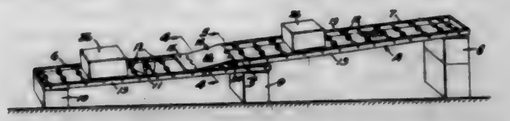


1. In combination with a gravity feed, roller-type conveyor including a supporting frame and a plurality of article-supporting and conveying rollers rotatably carried by said frame; a brake shoe positioned longitudinally in said frame and movable toward and away from a braking position; brake-applying and releasing units supported by said frame and disposed along said shoe; each of said units comprising a shoe-supporting bracket attached to said shoe and movable therewith, a relatively fixed bracket supported by said frame, a compression spring positioned between said shoe-supporting bracket and said fixed bracket and arranged normally to maintain said shoe in a braking position, a conduit-confining bracket disposed in spaced relation to said fixed bracket and connected for movement with said shoe-supporting bracket; and a flexible fluid-pressure inflatable conduit positioned between the fixed bracket and the conduit-confining bracket of each of said units and operable upon inflation to move said shoe away from said braking position in opposition to the springs of said units.

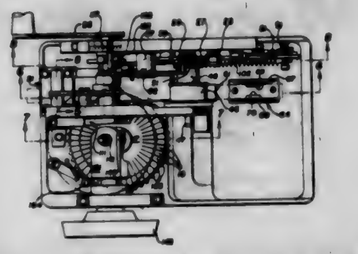
2,979,178
ROLLER ASSEMBLY TRANSFER RAMP
Hiram O. Hamre, 1622 49th Ave. N., Minneapolis, Minn., assignor of one-half to Mayme R. Hamre, Minneapolis, Minn.
Filed May 21, 1958, Ser. No. 736,725
5 Claims. (Cl. 193—35)

1. In a longitudinally extensible roller type conveyor assembly including a pair of inclined roller sections arranged in superimposed relation to each other and being movable one longitudinally of the other, a ramp for

facilitating transfer of conveyed articles from one section to another, said ramp extending between the lower end portion of the top section and the bottom section and being adapted for securement to said top section, and locking means pivotally suspended from said ramp extending downwardly between adjacent rollers of said bottom section for engagement therewith, and restraining means cooperatively interconnecting said ramp and said locking means limiting the swinging movement of said locking means in one direction and preventing relative longitudinal contracting movement between said sections.



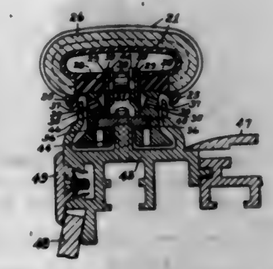
2,979,179
TAPE EMBOSSING AND LABEL MAKING MACHINE
Charles E. Anglin, Berkeley, and William M. Bell, San Pablo, Calif., assignors to Dymo Industries, Inc., a corporation of California
Filed Nov. 30, 1959, Ser. No. 856,186
8 Claims. (Cl. 197—6.7)



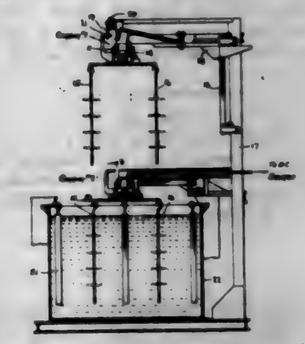
1. A machine for embossing a series of characters on an elongated tape comprising die means positionable to receive tape at an embossing position and actuatable to emboss characters in said tape, tape cut-off means providing a tape cut-off position at a pre-determined spacing from said embossing position and in alignment therewith, tape supporting means including a drive for advancing tape to said embossing and cut-off positions, a manually displaceable operating member engageable with and for actuating said die means and effecting a step by step advancement of said tape toward embossing and cut-off positions, and means operating said tape cut-off means and including a tape drive for advancing and retracting said tape and functioning on a forward stroke to advance said tape by a distance equal to said spacing plus a desired margin and then to actuate said tape cut-off means to cut off said tape and on a reverse stroke to retract tape in the machine from said cut-off position by a distance equal to said spacing minus said margin whereby delivered tape-length labels will have embossed characters substantially centered thereon between margins at each end.

2,979,180
HAND RAILS FOR MOVING STAIRS
Leo V. Cole, Richmond, Ind., assignor to The Peelle Company, Brooklyn, N.Y., a corporation of New York
Filed Mar. 16, 1959, Ser. No. 799,799
2 Claims. (Cl. 198—16)

1. In a hand rail for moving stairs, a hand rail drive chain adapted to run over spaced-apart sprockets provided therefor with a hand rail track being located in close proximity with relation to the hand rail drive chain, a series of bellows members secured together in end-to-end relation and carried in an orbit about the spaced-apart sprockets by means of the hand rail drive chain, said bellows being provided with a plurality of clip members secured in engagement with the hand rail drive chain, a shoe member fitted onto each of the clips with each of the shoes having a track-receiving channel formed therein, and with the hand rail being sustained in spaced relation with the track throughout its orbit by means of the track-receiving channels of the shoes engaging the track.

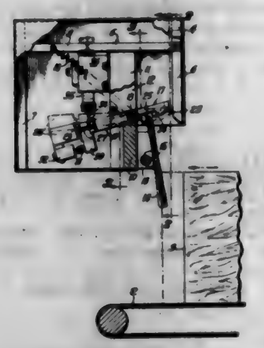


2,979,181
ELECTRICAL POWER CONNECTORS AND BRAKING DEVICES FOR FREE-WHEELED CARRIERS IN CONVEYOR SYSTEMS
Harold G. Abbey, 189—10 Aberdeen Road, Jamaica 23, N.Y.
Filed Jan. 22, 1959, Ser. No. 788,393
14 Claims. (Cl. 198—19)



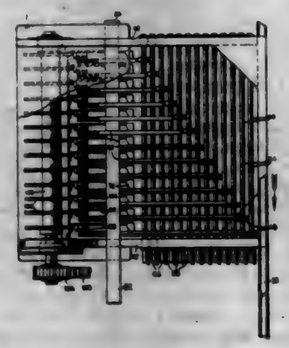
1. In a conveyor system provided with work carriers and a trackway for conveying said carriers to various work stations disposed below said track, said trackway including removable rail segments vertically disposed above said stations and means operatively coupled to said segments to lower same to a work station therebelow, apparatus for electrifying said carrier when it enters a removable segment in said trackway comprising a first contact member attached below said segment and insulated therefrom, a second contact member borne by said carrier and engageable with said first contact member when said carrier enters said segment, and means to apply a power supply voltage to said removable segment at all positions thereof whereby said carrier is electrified both at the trackway position and at the work station position.

2,979,182
STOP ASSEMBLY
Gordon W. Haab, 2203 Oakwood Lane, Richmond 28, Va.
Filed Dec. 1, 1959, Ser. No. 856,437
6 Claims. (Cl. 198—34)



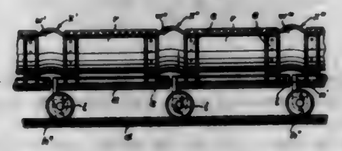
1. A stop assembly for positioning an article moving along a conveyor comprising, a frame, a stop plate pivotally mounted intermediate its ends and the frame adapted to be positioned to have one end in the path of movement of articles along the conveyor, a latch pivotally mounted on the frame, said latch including a latch body and a latch trigger slidably mounted on the latch body, the latch body and latch trigger having companion notches for engagement over the end of the stop plate, the effective span of the combined notch being determined by the position of the latch trigger relative to the latch body, means to retract the latch trigger to reduce the effective span of the notch, a micro-switch carried by the latch body and actuated by contact of the latch trigger when in retracted position, a solenoid connected to the latch to swing the latch to locking engagement with the stop plate actuated by the micro-switch when contact between the micro-switch and latch trigger is broken by forward sliding movement of the latch trigger, said trigger when in retracted position having its notch engageable with the stop plate for forward movement by the stop plate when the stop plate is rocked about its pivot.

2,979,183
CODE ELEMENT SHIFTING DEVICE
Adolfo A. Capanna, Stamford, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Mar. 20, 1959, Ser. No. 800,891
9 Claims. (Cl. 198—38)



1. In a device for effecting shifting of a code wheel from a home position to a position adjacent said home position; diametrically opposed rocker fingers engaging one side of the code wheel, a motion-translating element having one end linked to each rocker finger, means to urge the motion-translating element to a finger rocking position, a stop pawl engaging an abutment end of said motion-translating element to retain same in a non-operating position, a selectively controlled solenoid connected to said stop pawl, and means coacting with the motion-translating element to effect freedom of movement of the stop pawl before solenoid operation thereof, and to further control the movement of the motion-translating element and associated rocker fingers.

2,979,184
CONVEYOR TRAINS
Wilhelm Becker, Fritz Schmelzmeier, and Karl Feja, Recklinghausen, and Wilhelm Schuster, Munich, Germany
Filed Sept. 19, 1957, Ser. No. 685,012
Claims priority, application Germany Sept. 26, 1956
1 Claim. (Cl. 198—109)

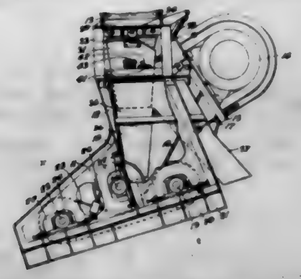


A conveyor train consisting of a plurality of under carriage units each having a single horizontally disposed axle; track engaging wheel means rotatably mounted on said axle at opposed terminal ends thereof; a shaft extending forwardly from the middle portion of said axle; one element of a universal type coupling on the forward end of said shaft; a member extending rearwardly from said shaft at the middle portion of said axle, said member being provided with an element of a universal type coupling adapted to cooperate with an element of a universal type coupling on the forward end of the shaft of the following under carriage unit thereby to enable each of said units to be interconnected in end to end relationship through said universal couplings; material supporting means comprising at least one transversely disposed concavely arched rung means rigidly connected to the shaft of each of said under carriage units; a trough-like section of rigid sheet material mounted on said arched rung means and extending a substantial portion of the axial length of said shaft whereby the load of material carried by the conveyor train is transmitted to the wheel means through said shaft; and resilient sheet material of a transverse cross-section similar to and coextensive with said trough-like sections at the juncture of said material and said trough-like sections and interconnecting the forward edge of each of said trough-like sections with the trailing edge of each of said trough-like sections immediately in advance thereof, said material being of greater length than the interval between adjacent trough-like sections.

2,979,185
APPARATUS FOR THROWING DISCRETE SUBSTANCES
Samuel Walter Lucas, 6 Marlborough St., Sherwood, Brisbane, Queensland, Australia
Filed Oct. 28, 1958, Ser. No. 770,269
Claims priority, application Australia Oct. 31, 1957
5 Claims. (Cl. 198—128)

1. Apparatus for throwing discrete substances including a frame; an endless thrower belt mounted on pulleys rotatably mounted on the frame; an electric motor mounted on the frame and adapted to drive one of the pulleys; a guide chute mounted on the frame; means for

delivering discrete substances gravitationally to the guide chute; a bifurcated delivery chute mounted on the frame below the guide chute and having a front arm directed down to the thrower belt and a rear arm leading downwards from the frame clear of the thrower belt; a feed transfer chute, its upper end pivotally connected to the frame and disposed about the lower end of the guide chute, the pivoted feed transfer chute having its lower end within the upper part of the bifurcated delivery chute and being adapted to be moved pivotally into communication with either one of the arms of the bifurcated de-



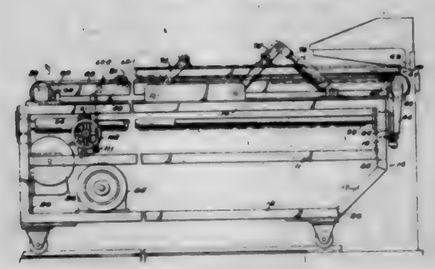
livery chute; means for moving the feed transfer chute pivotally into communication with either the front arm or the rear arm of the bifurcated delivery chute, a switch connected in the circuit of the motor and mounted on the frame, and a switch actuator on the feed transfer chute adapted automatically to open the switch when the feed transfer chute is moved into communication with the rear arm of the delivery chute, and to permit the switch automatically to close when the feed transfer chute is moved into communication with the front arm of the feed delivery chute.

2,979,186

SHEET MATERIAL HANDLING APPARATUS FOR USE WITH A POWER SHEAR OR THE LIKE

Francis J. Sehn, 3515 Brookside Drive, Bloomfield Hills, Mich., and Maurice M. Clemons, Birmingham, Mich.; said Maurice M. Clemons assignor to said Francis J. Sehn

Filed Apr. 16, 1959, Ser. No. 806,925
14 Claims. (Cl. 198—160)



1. Sheet material supporting and positioning means for handling apparatus of the type used with a machine such as a shear for feeding and gauging such material into work piece lengths, said supporting and positioning means comprising a series of parallel spaced supporting belts extending between the receiving and discharging ends of said handling apparatus, each of said belts being carried by one of a series of first pulleys mounted on a drive shaft adjacent and parallel to the said discharge end of said apparatus and by a series of second pulleys, means for mounting each of said second pulleys adjacent the receiving end of said apparatus, said mounting means being resiliently supported for limited downward movement from a normal position whereby each pulley of said second series can be moved independently of each other pulley of said second series, and means for positioning sheet material against said supporting belts in feeding contact therewith, said positioning means comprising a feed roll assembly having a series of roll carrying members each extending parallel to and above one of said supporting belts from a location above said second series of pulleys to a location adjacent said first series of pulleys.

2,979,187

APPARATUS FOR CONVEYING MATERIAL

Lester E. Erickson, Duluth, Minn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 270,175, Feb. 6, 1952. This application June 20, 1958, Ser. No. 743,368
1 Claim. (Cl. 198—184)



Bulk material conveyor apparatus comprising a pair of longitudinal laterally-spaced parallel conveyor frame members, an upper tier of transversely bowed troughing idler pulleys on said frame members, the troughing pulleys of said upper tier being spaced apart lengthwise of the frame members and bridging transversely from one frame member to the other parallel each other, a lower tier of idler pulleys spaced apart lengthwise of the frame members and bridging transversely from one frame member to the other parallel each other, a head pulley rotatable between and supported by said frame members at one end thereof, a tail pulley rotatable between and supported by said frame members at the opposite ends of said frame members with said upper and lower tier of idler pulleys between the head pulley and the tail pulley, an endless flat bulk material conveyor belt having many fabric reinforcing plies and a surrounding rubber cover trained longitudinally of said frame members endlessly around said head pulley and said tail pulley, said conveyor belt having an upper load-carrying reach extending from said head pulley to said tail pulley and supported by said upper tier of troughing idlers intermediate said head and said tail pulleys, and the belt being transversely flexible to conform to the bowed contour of said troughing idlers to form a trough for material carried on the belt, the belt having a clean surface directly contacting said idlers and pulleys and a dirty side on which material in said trough region is deposited, the conveyor belt further having a lower return reach below said load-carrying reach extending from said head pulley to said tail pulley and supported by said lower tier of idlers intermediate said head and said tail pulleys, a first roller of substantially greater diameter than said lower tier idler pulleys mounted transversely on said frame in spaced longitudinal relation from said head pulley, the portion of the return reach of the belt between said tail pulley and said first roller being longitudinally twisted 180° about the central axis of the belt and below the load-carrying reach, said first roller engaging the clean side of the belt to define the forward terminus of said twisted portion whereby the surfaces of the belt are inverted as the belt enters the return reach thereof and said clean side of the belt is presented to said lower tier of idlers, a pair of spaced-apart second rollers each of substantially greater diameter than said lower tier idler pulleys mounted transversely between said frame members, both said second rollers being located between said lower tier

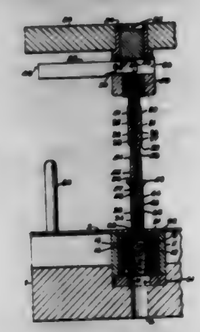
of idlers and said tail pulley with one of said second rollers adjacent said tail pulley and with the end portion of the return reach extending between said second rollers, the portion of the return reach extending between said second rollers being longitudinally twisted 180° about the central axis of the belt so that each said second roller engages the clean side of the belt to define the opposite termini of the latter twisted portion, both said twisted portions having edge portions of generally helical configuration in the same direction and said belt being stretchable longitudinally at the edge regions to conform to said configuration, means for mounting the tail pulley for movement longitudinally of the belt parallel said head pulley, said means including means biasing said tail pulley away from the head pulley to dampen tension fluctuations in said belt, and a drive unit for rotating said head pulley in a direction to pull said upper load-carrying reach toward said head pulley and said lower reach upward around said tail pulley, said upper load-carrying reach passing progressively over said head pulley and being progressively twisted to invert its faces by said first roller as it enters the return reach and then further twisted in the same direction to reinvert its faces as it exits from the return reach.

2,979,188

STRIPPER MECHANISM

Albert J. Duffield, Woodbridge, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

Filed Apr. 14, 1958, Ser. No. 728,344
1 Claim. (Cl. 205—4)



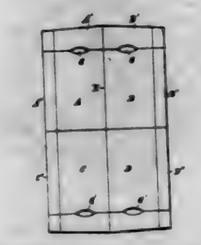
A stripper mechanism for deep drawing by means of a drawing punch and die assembly comprising open-ended draw die, a sectional segmental stripper element fixedly mounted below said die and having an axial opening therethrough for receiving the punch and drawn article thereon, mounted in axial alignment with and below the open end of said die, and characterized by plurality of separable circumferentially arranged stripper members assembled as a unitary element adapted to engage with the punch adjacent the mouth edge of the drawn article, means to yieldably maintain said segmental members biased inwardly into said engagement as a unitary element, said drawing punch being an axial alignment with said die and with the opening of said stripper element, said punch having a drawing nose portion cylindrical over part of its length formed at the upper end of this drawing nose portion an enlargement substantially as large as said article and forming a clipping shoulder adapted to sever a predetermined length of the drawn article in cooperation with said die, said shoulder after severing abutting the severed mouth edge of said drawn article in substantially flush relationship, means to impart a forward stroke to said punch through said die and into said axial opening of said stripper element to draw said article and to seat said segmental members on said enlargement above the shoulder of said punch, and to further impart a retraction stroke to said punch, an axial plunger slidably mounted in said punch and adapted to project beyond the forward surface thereof, means for causing relative movement between said punch and said plunger during the terminal part of forward stroke, and means determining the coordination of said last named means with the movement of said plunger to actuate the punch after said severing and after said segmental members have seated on said enlargement to break the initial grip of said punch on said article and to move the drawn article along said punch sufficiently to separate the mouth from said shoulder to form a gap which will receive said segmental member in overlying relation to the mouth edge for stripping the drawn article from said punch upon return movement thereof.

2,979,189

ENVELOPES

Charles Risdon Allen, 3525 9th Ave. N., St. Petersburg 13, Fla.

Filed Aug. 8, 1958, Ser. No. 753,941
3 Claims. (Cl. 206—15.1)



1. As an improved article of manufacture, an envelope or wrapper for paint brushes made of a single integral piece of paper or similar foldable material having four rectangular parallelograms attached at their adjacent inner or centrally located sides thereof, and adapted to fold upon each other vertically, said vertical folds forming a closed side wall; each parallelogram having an end flap, said end flaps being provided with openings which register in a folding position to form the locking means for said brush, at least two of the said parallelograms being provided with side flaps, and folded inwardly to form an envelope for the reception of said brush.

2,979,190

WORKING COVER AND TOOL HOLDER

Andrew Daigle, 3816 Wilson Ave., Castro Valley, Calif.

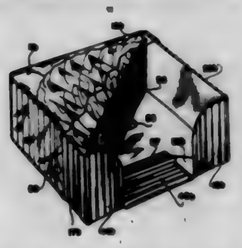
Filed Nov. 18, 1957, Ser. No. 697,164
5 Claims. (Cl. 206—19.5)



1. A device of the character described comprising a generally pliant protective cover having a medial portion adapted to overlie the upper surface of a fender of a

vehicle, a first end portion adapted to extend into the engine compartment to overlie the inner fender wall and a second opposed end portion adapted to overlie the outer exposed fender wall, said cover being provided with a pocket secured to said first end portion, an article receiving receptacle carried in said pocket so as to be positioned entirely within the engine compartment adjacent the inner fender wall, a flexible strap overlying said cover and including a pair of converging arms having respective distal ends thereof secured in spaced relation to one another to said receptacle, a band member connected to converging ends of said arms, and an adjustable hook element carried on the free end of said band member for releasably engaging the lower outer edge of said outer fender wall adjacent said second end portion of said cover.

2,979,191
CONTAINER
Emanuel Kvassay, Los Angeles, and James B. Andrews, Pasadena, Calif., assignors, by mesne assignments, to William Douglas Sellers, Pasadena, Calif.
Filed May 28, 1957, Ser. No. 662,118
6 Claims. (Cl. 206—45.33)



3. A display and protective tray for foodstuffs and similar merchandise which tray is open across the top and centrally along one pair of opposed side walls and wherein the side walls are so folded and arranged that the weight of the tray contents is effective to hold the walls assembled in an upright position without need for holding and fastening expedients, said tray comprising a unitary blank of relatively stiff sheet material creased from edge to edge by two pairs of parallel lines one pair of which intersect the other pair at right angles and cooperating therewith to provide a center panel forming the bottom of said tray and a first pair of narrow opposed side wall panels and a second pair of relatively wide opposed side wall panels, diagonal crease lines traversing said narrow pair of panels and converging outwardly toward one another from the corners of said center panel, the center portions of said narrow panels being foldable inwardly into contact with said center panel as their opposite ends flare outwardly along said diagonal crease lines and the center portions of said wide panels fold into upright positions with their opposite ends forming upright square corners for said tray, the resulting tray assembly being adapted to be held so assembled by the weight of its contents resting against the center portions of said inwardly folded narrow panels leaving said contents exposed to display across the top and along the center portions of one pair of opposed side panels thereof.

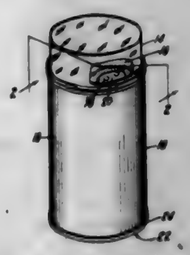
2,979,192
DISPLAY PACKAGE
Howard Blender, Downey, Calif., assignor to Jaybee Manufacturing Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 22, 1960, Ser. No. 16,716
5 Claims. (Cl. 206—46)

1. A display package for a doorknob set comprising two doorknobs and a spindle connected to the knobs at opposite ends, and for exposing one of the knobs at the upper end of the package, the package being made of a unitary blank printed on one side; the package including a front wall, two side walls, and a rear wall; each of the side walls having a triangular flap extending from upper edges of the side walls; the front wall also having a flap extending from its upper edge; the upper edges of each side wall extending from a lower corner common to an



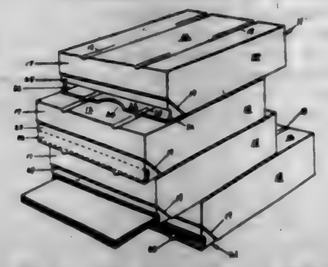
end of the upper edge of the front wall, and upwardly to an upper corner located at the rear wall; the flap of the front wall having an aperture for passage of the spindle; the average height of the side walls being slightly greater than the length of the assembled set less the length of the exposed knob; the triangular flap having points falling closer to the rear wall than to the front wall whereby the points may be locked behind the exposed knob as the exposed knob nests in the frame thereby provided.

2,979,193
MERCHANDISING PACKAGE
Joseph Henry Fredette, New York, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 2, 1959, Ser. No. 790,529
2 Claims. (Cl. 206—47)



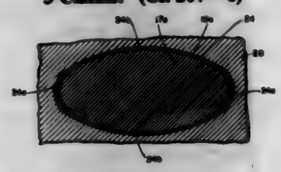
1. A merchandising package comprising a cylindrical container having a body wall and a top end member secured thereto in an end seam, said end member including a flat countersunk panel wall terminating in an annular channel of inverted U-shape enclosing the upper end of said body wall, circumferentially spaced seam portions of said end member extending radially inwardly to constitute upstanding hollow locking lugs, and an inverted cup-shaped receptacle of resilient transparent plastic material seated on said end member panel wall for holding a commodity compatible with the container contents, said receptacle having a radially outwardly projecting annular bead at its open end for removable snapping engagement at random beneath said end member locking lugs for holding said receptable and its contents visible on the top of said container to promote the sale of the package.

2,979,194
DISPENSER PACKAGE
William Andrea, Los Angeles, Calif. (8534 Bothwell Road, Northridge, Calif.)
Filed May 25, 1959, Ser. No. 815,616
19 Claims. (Cl. 206—57)



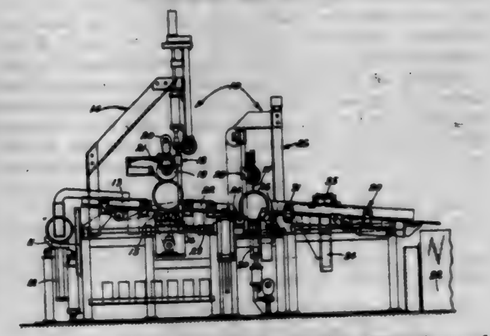
1. A combination shipping, storage and dispenser package comprising a container member, a telescoping cover on said container member, and a plurality of individual sheets of paper disposed within said container member; said container member consisting of a bottom, a back panel, a pair of side panels, and a front panel; said front panel being of shorter width than said side and back panels and containing a severable portion extending across the lower part thereof; said bottom containing a die-cut opening adjacent said front panel and register grooves extending from the front panel to the back panel; each of said side panels having the upper front corner cut away and a die-cut opening adjacent said front panel; said telescoping cover consisting of a top, a back panel, a pair of side panels, and a front panel of shorter width than said back and side panels and located to expose said severable portion; said top containing register grooves extending from the front panel to the back panel; each of said side panels having the lower front corner cut away.

2,979,195
METHOD OF AND APPARATUS FOR EXTRUDING METAL COLLAPSIBLE TUBES
Joseph D. Martin, Far Hills, N.J., assignor, by mesne assignments, to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 26, 1956, Ser. No. 612,150
3 Claims. (Cl. 207—6)



1. A method of making a metal collapsible tube provided with a discharge nozzle projecting from an end wall formed with sloping shoulders, the body of said tube having a cross-section with a major axis substantially greater than its minor axis, said method comprising forming a slug of metal having the contour of the desired cross-section of the tube and having a slightly less thickness in the regions adjacent the ends of the major axis of its contour than adjacent the minor axis thereof, subjecting said slug while in a female die the cavity of which has in cross-section the contour of said slug to impact extrusion by forcing into said cavity and against said slug, with such a force and at such a velocity, as to effect impact extrusion of the metal of said slug, a male die having a surface at its lower end of substantially the same contour as said slug and arranged to cooperate with the surrounding wall of said female die cavity to provide an extrusion orifice therebetween, and bringing the cooperating surfaces of said male and female dies and said slug into impact extrusion relationship, the variable thickness of said slug serving to retard upward extrusion adjacent the ends of the major axis of the tube and thereby causing the metal of said slug to flow through all portions of said extrusion orifice substantially simultaneously and at the same rate outwardly along said male die.

2,979,196
AUTOMATIC PIPE COUPLING INSPECTOR
William C. Harmon, Cleveland, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed June 20, 1955, Ser. No. 516,402
49 Claims. (Cl. 209—3)

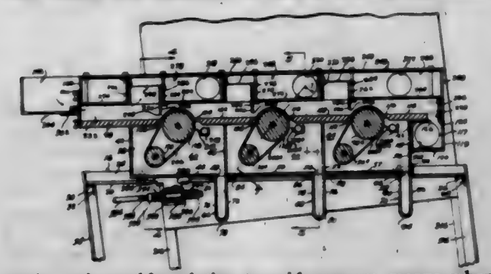


1. A machine for successively cleaning, inspecting and sorting pipe couplings and the like comprising, in combination, a cleaning machine for cleaning the outer surface of the coupling, means for delivering couplings one at a time to the cleaning machine, an inspecting machine having an electronic flaw detecting apparatus for detecting imperfections in the cleaned coupling and including a detector head electrically connected to the detecting apparatus and adapted to scan the outer surface of the coupling means for automatically transferring couplings from the cleaning machine to the inspecting machine, and discharge means for separating a defective coupling from the remaining couplings when the detecting apparatus locates an imperfection while scanning the coupling, means for causing the said means for delivering couplings to deliver a coupling to the cleaning machine, for causing the cleaning machine to clean the coupling, for causing the means for transferring couplings to transfer the coupling from the cleaning machine after cleaning to the inspecting machine, for causing the detector head and the detection apparatus to inspect the coupling, and for causing the means for removing the coupling to remove the coupling from the inspecting machine after the detection step, said discharge means functioning after the means for removing has removed the inspected coupling from the inspecting machine.

2,979,197
ORE SEPARATING APPARATUS
Benjamine F. Hearn, 1324 E. Thomas Road, Phoenix, Ariz., assignor of forty-nine percent to Harry J. Valenthe, Phoenix, Ariz.
Filed June 21, 1957, Ser. No. 667,079
1 Claim. (Cl. 209—39)

Ore separating apparatus comprising a supporting frame, said frame including a pair of oppositely-disposed longitudinally-extending flanges, a plurality of connected chambers disposed in side-by-side relation and coacting as a unit, each of said connected chambers having a pair of opposed side walls, rollers mounted on each of said side walls, said rollers engaging and supporting said unit for reciprocable movement on said flanges relative to said frame, a first roller extending between and supported for

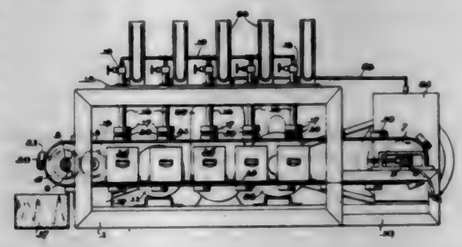
rotation between said side walls in each of said chambers, said first rollers being formed of non-magnetic material, a plurality of permanent magnets embedded circumferentially in each of said first rollers to create a magnetic field completely therearound, a second roller for each of said chambers, each of said second rollers extending across and being supported for rotation on each of said pair of side walls below said first rollers, said second rollers each being formed of a non-magnetic material, an endless belt trained around each pair of said first and second rollers, said belt being formed of non-magnetic material, and each of said second rollers being positioned outside of the magnetic field of said first rollers, a platform fixedly secured to said side walls between each adjacent pair of said first rollers, a compartment for each of said chambers, said compartment being positioned above its respective associated chamber, each of said compartments having an opening formed therein, a filter extending across each of said openings, a second platform supported on said side wall and having an end thereof proximate to but spaced from one of said first rollers, all of said platforms being in the same plane and inclined at a small angle to the horizontal, an ore hopper opening on said last named platform to feed ore thereon, vacuum means disposed adjacent said unit and rigidly secured on said frame, said chambers of said unit being simultane-



ously reciprocable relative to said vacuum means when said unit is reciprocated, resilient conduits connecting each of said chambers and compartments with said vacuum means to draw said ore from said hopper across said platforms for successive impingement against said first rollers, the lighter dust-like portions of said ore being filtered through said filters for deposit in said compartments, the ore bearing magnetic material adhering to said belts until said belts move out of the magnetic field of said first rollers, a substantially U-shaped channel member disposed within each of said chambers, said U-shaped channel members extending between and being fixedly secured to said side walls adjacent to but spaced from one of said platforms, respectively, each of said U-shaped channel members having a side wall inclined towards its immediately adjacent one of said first rollers to receive therein the lighter magnetic ore discharged from each of said first rollers, the heavier magnetic ore bearing material adhering to said belts until said belts are moved out of the magnetic field of said first rollers whereupon said heavier magnetic ore bearing material is released from said belts and falls into said chambers, and the dust and lighter ore bearing non-magnetic materials being withheld or removed from said platforms and said belts by said vacuum means.

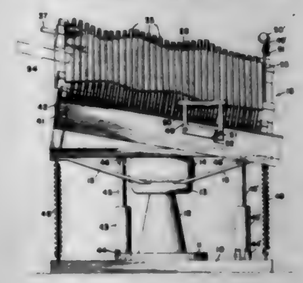
2,979,198
APPARATUS FOR CLASSIFYING LIGHT-WEIGHT OBJECTS
Irvin I. Klein, Baltimore, Md., assignor to Catalyst Research Corporation, a corporation of Maryland
Filed May 13, 1958, Ser. No. 734,901
5 Claims. (Cl. 209—74)

2. Apparatus for classifying light-weight objects according to weight, comprising a conveyor provided with a line of uniformly spaced supports with uniformly spaced openings between them larger than said objects, a line of downwardly facing suction heads a short distance above said line of supports and spaced apart the same distance as said supports, each of the heads having a passage therethrough open at the bottom of the head, each support in said first-mentioned line when the conveyor is moving passing underneath and close to each successive suction head in said second-mentioned line, means for indexing the conveyor to position supports and then openings directly beneath said heads, each support being adapted to receive one of said objects before that supports is in-



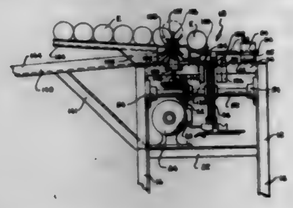
dexed beneath any of said heads, and means for connecting the upper ends of said head passages simultaneously with a source of vacuum when the supports are indexed beneath the heads and for maintaining the vacuum until the supports are moved between the heads, whereby the objects lifted from the supports by the heads will be dropped through said openings when the latter are indexed beneath the heads, said connecting means including means for controlling the vacuum to the heads to produce more suction at each successive head in the direction of movement of the line of supports so that an object too heavy to be lifted from a support by the first head may be lifted by a succeeding head.

2,979,199
POTATO SEPARATOR
Milford P. Higgins, Sr., P.O. Box 1, Westfield, Maine
Filed June 3, 1957, Ser. No. 663,190
6 Claims. (Cl. 209—114)



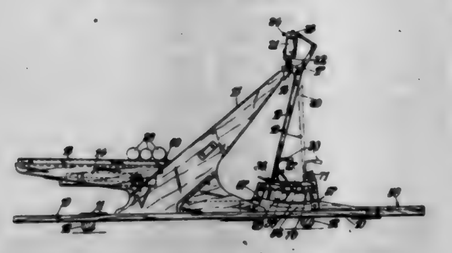
1. Apparatus for separating potatoes from extraneous substances, subsequent to the potato harvesting cycle, including a supporting frame, a separator assembly carried by the frame, the assembly comprising a bed of parallelly arranged belts adapted to operate in the same direction, at variable speeds, for conveying the extraneous material over one terminal of the bed, the bed being disposed at an inclination to permit the potatoes to gravitate over the opposite terminal of the bed, and an undulated to effect agitation of the potatoes and extraneous material plate mounted on the bed subjacent the top run of belts, when the belt is traveling under load.

2,979,200
EGG GRADER
William E. McBride, R.D. 2, E. Lake Road, Woodstown, N.J.
Filed May 22, 1958, Ser. No. 737,163
19 Claims. (Cl. 209—121)



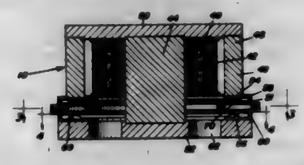
1. In an egg grading machine, the combination of a frame, an endless chain having an upper flight and a lower flight of links connected by pins, a pair of shafts, means including said shafts supporting said endless chain on said frame, a plurality of spaced egg holders attached to the chain each egg holder having a body pinned to the outer ends of a link pin, a pivoted lever on said body and having a cradle at one end on which the eggs are adapted to be deposited, means constraining the pivotal movement of said pivoted lever and located at the opposite end of said pivoted lever, said constraining means including a pair of upper and lower rails attached to said frame along the side of the upper flight of links, said opposite end of said pivoted lever being disposed between said rails, the upper rail being of stiff sheet material and having separate adjustably weighted portions hinged at spaced weighing stations said portions having eccentrically mounted weight discs on top for adjustment of the spacings of their centers of gravity in front of their hinges in accordance with the desired egg gradings at the successive stations, said portions being adapted to be swung upwardly by said pivoted lever when an egg of a predetermined weight is on said cradle thereby tilting the cradle and discharging the egg from said cradle.

2,979,201
GRADING ARTICLES BY WEIGHT
Minden Vaughan Blake, Carnanton, Woodlands Road E., Virginia Water, England
Filed Aug. 18, 1958, Ser. No. 755,645
19 Claims. (Cl. 209—121)



14. Apparatus for grading articles by weight comprising a support, a beam pivoted on said support about a horizontal axis and having a downwardly extending arm and a counterweight arm, a releasable holder on said downwardly extending arm, which holder comprises two pairs of inwardly directed fingers arranged to form a cradle for the article, one of the pairs of fingers being pivotally mounted on said downwardly extending arm to be movable away from the other pair a sufficient distance to cause the article to drop when the fingers are moved apart, a feed system positioned on said support with respect to said beam so that the counterweight arm urges said downwardly extending arm towards said feed system, which feed system includes means for feeding articles singly into said holder, a latch for holding the beam when said downwardly extending arm is swung into a position adjacent the feed system, means operative when an article has been fed into said holder to release the latch so that due to the weight of the article the downwardly extending arm of the beam swings away from the feed system, a set of fixed abutments on said support, a pawl on said downwardly extending arm operatively connected to said pivotally mounted pair of fingers arranged to ride over said fixed abutments as said downwardly extending arm swings away from the feed system but to engage one of these abutments as the arm starts to swing back towards the end of the feed system and thereby to move said pair of fingers to release the article from said holder, the beam being arranged so that the center of mass of the downwardly extending arm and the article to be carried is at a point, in the plane of movement of the beam, which is off-set from a plane through the pivot axis and the center of mass of the counterweight arm so that the extent of swing and hence the point at which the article is dropped depends on the weight of the article.

2,979,202
MAGNETIC BAFFLE SEPARATOR
Andre Orbeliani, Salmo, British Columbia, Canada (% Birkett Creek Mine Operators, Merritt, British Columbia, Canada)
Filed Dec. 30, 1958, Ser. No. 783,747
6 Claims. (Cl. 209—223)

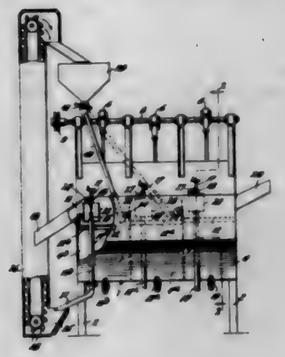


1. In a device for magnetically separating magnetic and non-magnetic particles, the combination of an approximately flat circular pan having a bottom wall and side walls, means including an inlet port in the outer wall for introducing a heterogeneous stream of magnetic and non-magnetic particles tangentially into said pan and for propelling the stream in a circular path within the pan, means including a pair of flat circular pole pieces disposed above and below said pan for producing a magnetic field across said stream extending toward the inner edge of said path at an angle to the general direction of movement of said stream for magnetically deflecting the magnetic particles of said heterogeneous stream towards said inner edge, a portion of said pan at said inner edge having at least one outlet port through which the magnetic particles that are deflected by the magnetic field producing pole pieces are adapted to pass.

2,979,203
MINERAL JIG
James H. Moore, 410 Park Ave., Irvine, Ky.
Filed Oct. 22, 1958, Ser. No. 768,933
7 Claims. (Cl. 209—455)

1. A mineral jig comprising a series of cells, each of said cells comprising a hutch, a sieve mounted on said hutch near the top thereof adapted to receive a supply of particles to be classified, means supplying a flow of water to said hutch and through said sieve, means pulsating said water causing said particles to stratify, a concentrate ring for each of said cells located immediately above its sieve, a concentrate draw-off tube extending

from a point above said sieve within said ring through said hutch, a supporting member fixedly secured to said concentrate ring having vertical guides therefor on the top of said hutch above said sieve, said supporting member having at least one gear rack attached thereto, a pin-



ion for engaging said rack rotatable with a shaft journalled in the top of said hutch, and a hand wheel for said shaft readily available to an operator of the jig for raising and lowering said concentrate ring with respect to its sieve.

2,979,204

HORIGONTAL LEAF FILTER AND METHOD OF OPERATING THE SAME

Frank M. Yeiser, Morristown, N.J., assignor to T. Shriver & Co., Inc., Harrison, N.J., a corporation of New Jersey

Filed Dec. 16, 1958, Ser. No. 780,690
8 Claims. (Cl. 210—65)



7. The method of operating a pressure filter having a filter tank and a series of vertically stacked filter leaves located therein which comprises the steps of introducing liquid into said tank at a point above a horizontal filter leaf which is uppermost in a series of vertically stacked horizontal filter leaves, maintaining the liquid in the respective leaves at a predetermined level while decanting excess liquid from each of the upper leaves of the stack onto the leaf immediately therebelow until the liquid in the tank has been exhausted and then simultaneously displacing liquid from all of the filter leaves by applying air under pressure to said tank.

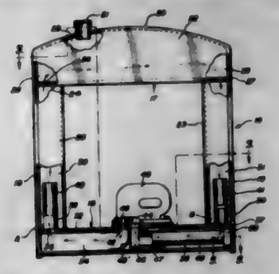
2,979,205

HYDRAULIC TANK AND RADIATOR GUARD

George S. Allin, Sr., Flossmoor, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Apr. 8, 1959, Ser. No. 804,998
3 Claims. (Cl. 210—167)

1. A hydraulic tank adapted to be supported on a vehicle comprising a housing including laterally spaced upright side walls, a top wall and a bottom wall, a transversely extending upper wall below said top wall, first front and rear walls defining with said side, top and transverse upper walls a first chamber, said top wall including a fluid inlet communicating with said first chamber, a pair of vertically extending laterally spaced members, each of said vertical members being connected to said side walls to provide first and second upright passages, said upper wall having a first pair of openings, each of said openings communicating with first chamber and one of said passages, a transversely extending lower wall spaced above said bottom wall, second front and rear walls connecting said bottom and lower walls, a partition between said lower, bottom, and second front and rear walls to provide second and third chambers, said lower wall including a second pair of openings, said first and second pair of openings being smaller in cross-sectional area than the cross-sectional area of said passages, one of said second pair of openings providing communication between said first upright passage and said second chamber, said other of said second pair of openings providing communication between said second



upright passage and said third chamber, a first tubular member in said first passage, a second tubular member in said second passage, said tubular members communicating with said second pair of openings and extending upwardly from said lower wall, said tubular members being spaced laterally from said side walls and vertical members to provide therebetween a pair of sediment traps, said tubular members having open upper ends offset laterally with respect to the first pair of openings, a pump supported on said lower wall, said pump having inlet and outlet ports communicating respectively with said second and third chambers, and a filter element in said third chamber communicating with said inlet port, whereby fluid from said third chamber is pumped to said second chamber through said first passage to said first chamber, to said second passage, to said third chamber and through said filter element, whereby sediment in said fluid is removably deposited in said second and third chambers and permanently in said sediment traps of said passages.

2,979,206

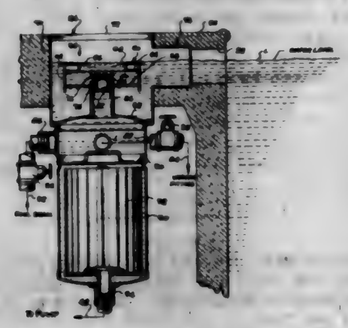
SWIMMING POOL FILTER

Alfred Z. Konopka, Van Nuys, and Richard Owen Lightfoot, Los Angeles, Calif., assignors to Paddock Pool Equipment Co., Los Angeles, Calif., a corporation of California

Filed May 5, 1958, Ser. No. 733,110
7 Claims. (Cl. 210—169)

1. A combination filtering and surface skimming device for swimming pools comprising a hollow, unitary, normally upright casing means including an internal partition which divides the casing means into an upper collector tank and a lower filter tank and means defining a passage communicating said tanks through which water flows from the collector tank to the filter tank during normal operation of the device, said casing means having a first lateral inlet to said collector tank, a second inlet

to said filter tank, and an outlet from the filter tank, an adjustable proportioning and shut-off valve mounted directly in said casing means for controlling water flow through said passage and including a valve member which is accessible from the upper end of the casing



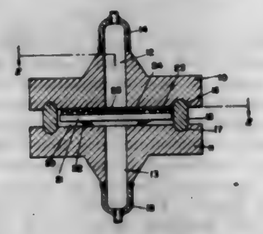
means to regulate water flow through said passage to any desired flow rate and to completely cut off flow of water from said collector tank to said filter tank, surface skimming means in said collector tank, and filter means in said filter tank to filter water flowing through the tank to said tank outlet.

2,979,207

HIGH TEMPERATURE ANALYTICAL FILTER

Alfred A. Sugalski, Scotia, Sherman L. Williams, Elnora, and Wilfred F. Mathewson, Jr., Ithaca, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 11, 1959, Ser. No. 792,680
1 Claim. (Cl. 210—193)



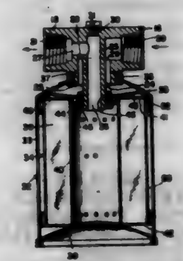
Filtering apparatus which provides a pressure-tight filtering chamber and permits ready access thereto, said apparatus comprising complemental sections, each section being generally similarly constructed with a central passageway extending therethrough and normal to a flat surface, said sections being disposed in horizontal superposed relation with their flat surfaces opposing each other, an annular groove in each flat surface in opposed relationship and having a common diameter, an annular gasket having its upper edge in the upper groove and its lower edge in the lower groove, said gasket spacing said sections and forming a central cylindrical compartment in communication with said passageways, a filter disc disposed horizontally of and extending substantially across said central compartment, a corrugated gasket supported by the filter disc and having a central aperture providing a pocket between and aligned with said central passageways, conical spring means between the inner surface of the lower section and the filter disc to permit uninterrupted passage of fluid between the passageways and a precoat medium within said pocket for ready inspection when the upper section is removed.

2,979,208

FLUID LINE SUPPORTED FILTER AND FILTER MOUNTING

Kingsley E. Humbert, Jr., Gastonia, N.C., assignor to Wix Corporation, Gastonia, N.C., a corporation of North Carolina

Filed Dec. 17, 1956, Ser. No. 628,690
11 Claims. (Cl. 210—232)



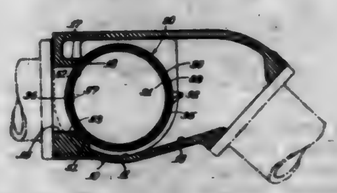
9. As a new combination, a filter unit comprising a cylinder shell having inner and outer end walls, the inner end wall having an opening defined by a threaded mounting collar, an elongate filter body in the shell of smaller external transverse dimensions than the interior of the shell and having a central longitudinal passage therethrough, the filter body being positioned centrally in the shell and having one end spaced from said inner end wall, said passage being closed at the outer end of the body, an annular gasket secured in the inner end of the passage coaxial with and spaced from said mounting collar, and a mounting unit comprising a substantially T shaped structure embodying oppositely extending tubular arms adapted to be coupled with a pair of pipe ends in a fluid line and a threaded extension intermediate the arms and directed substantially at right angles to the axis of the arms, the threaded extension forming a screw threaded collar adapted to have said threaded mounting collar of the filter unit shell coupled therewith, a tubular body having a bore therethrough and being of smaller outside diameter than the inside diameter of the threaded collar extension, the tube body extending through and projecting at one end a substantial distance from the inner end of the threaded collar extension and frictionally engaging at said one end in said filter body gasket, the inner end of the tube body extending across the axis of the tubular arms and having a lateral opening communicating the bore with one only of said tubular arms, and said tube body being spaced from the surrounding portion of the threaded collar extension and forming therewith a fluid passage space and said fluid passage space having communication with the other one only of said tubular arms.

2,979,209

STRAINERS

William Nolden, Geneva, Ill.
(329 Wilson St., West Chicago, Ill.)

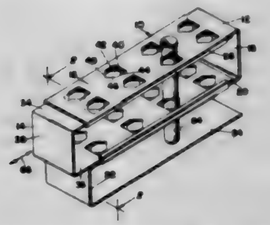
Filed Oct. 2, 1957, Ser. No. 687,670
5 Claims. (Cl. 210—435)



5. A strainer basket comprising a straining member of generally cylindrical shape formed from sheet screen ma-

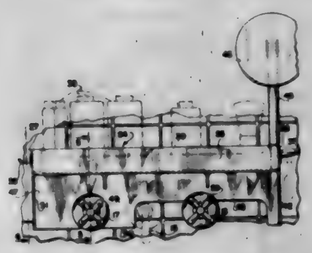
terial, a rigid shroud member of generally cylindrical shape formed from bendable perforate sheet material concentrically around said straining member, said shroud having a plurality of spaced projections engaging said straining member and spacing said members except at the areas of engagement between said projections and said straining member, each of said members having an inlet opening in a side wall registering with the inlet opening in the other member, a seating plate secured to the outer face of said shroud surrounding said inlet opening and having surface portions providing a seating surface, and rigid circular end members secured to the ends of said screen and shroud and having surface portions providing seating surfaces for seating said basket in a housing.

2,979,210
TEST TUBE RACK
Edward B. Patterson, Philadelphia, Pa., assignor to Arthur H. Thomas Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 19, 1960, Ser. No. 23,278
5 Claims. (Cl. 211—74)



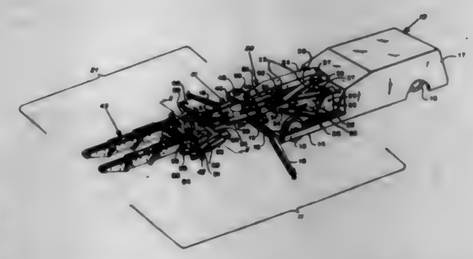
1. A test tube rack comprising an S-shaped body, a multi-sided hole in the top and middle walls of said body, said holes being axially aligned, an adjustable slide having top and bottom spaced walls disposed between said top and middle walls on said body, an axially aligned multi-sided hole in each of the spaced walls of said slide selectively positionable in alignment with the multi-sided hole in the top and middle walls of said body whereby movement of said slide varies the opening through said holes so that various sized tubular elements may be accommodated on said body.

2,979,211
TRAY
Henry J. Fritzel, 15904 Indes St., Granada Hills, Calif.
Filed Oct. 9, 1957, Ser. No. 689,100
1 Claim. (Cl. 211—88)



A toilet article tray mountable against a wall on bathtub and shower fixtures equipped with trim caps adapted for selectively tightened engagement with said wall or means disposed between said trim caps and said wall, comprising a basic tray arrangement having a plurality of open receptacles for receiving articles, a downwardly extending vertical flange mounting member integrally formed with said basic tray arrangement at the rear thereof and adapted to abut against said wall above said fixtures, said flange mounting member having a pair of downwardly opening slots, one of said slots being adapted for downwardly slidable disposition about a fixture, the other of said slots being horizontally elongated and adapted for downwardly slidable disposition about at least another fixture and providing for such disposition over a range of horizontal spacings of the fixtures, and said basic tray arrangement extending outwardly from said flange member and said slots in said flange member terminating a distance from said tray arrangement providing for vertically spatially supporting said tray arrangement in a position affording ready access to said fixtures.

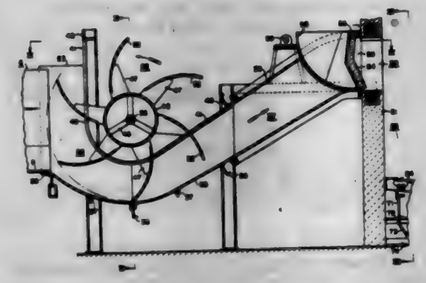
2,979,212
MATERIAL HANDLING APPARATUS
Leo Dragonuk, Plymouth Meeting, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 29, 1959, Ser. No. 849,693
18 Claims. (Cl. 214—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



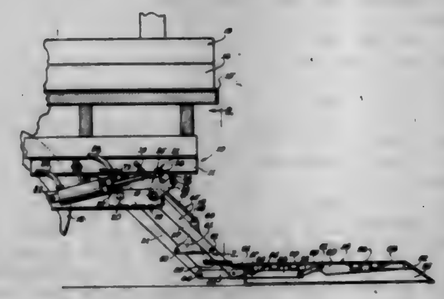
3. A material handling apparatus comprising, support means, a universal head member pivotally connected to said support means for pivotal movement about a transverse axis, a pair of forwardly extending arm means pivotally connected to said universal head member for pivotal movement about a longitudinal axis, first hydraulic motor means pivotally connected to said support means and said universal head means for turning the latter about the transverse axis thereof, second hydraulic motor means connected to said universal head means and said arm means for turning the latter about the longitudinal axis thereof, material handling means carried by said arm means, third hydraulic motor means connected to said arm means and said material handling means for tilting the latter about a transverse axis thereof, and fourth hydraulic motor means for laterally sliding said material handling means relative to said arm means.

2,979,213
ROTARY FEEDER FOR REFUSE AND THE LIKE
Edgar M. Pierce, Starlight Drive, Morristown, N.J.
Original application Nov. 13, 1957, Ser. No. 696,166. Divided and this application Mar. 31, 1959, Ser. No. 806,736
13 Claims. (Cl. 214—18)

1. Apparatus for continuously feeding refuse and the like, said feeder comprising an enclosed, upwardly inclined passageway having a lower opening through which the refuse is fed into the passageway, and means for advancing the refuse through said passageway, said means comprising a plurality of arms extending outwardly from a common axis positioned adjacent said opening and being spaced from each other along said axis and across the passageway, said arms being backwardly curved in the rotational sense and of sufficient length to extend substantially across said opening and means for forwardly rotating the arms about said common axis whereby said arms upon rotation in the forward sense push refuse in front of said opening into said opening and through and up the passageway.

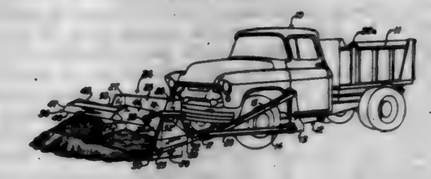


2,979,214
POWER ACTUATED END GATE ELEVATOR FOR MOTOR VEHICLES
John Selzer, 15021 Aboits Center Road, Fort Wayne, Ind.
Filed Jan. 22, 1958, Ser. No. 710,570
3 Claims. (Cl. 214—77)



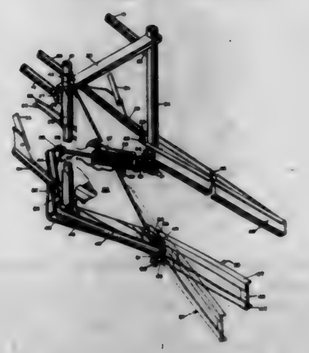
1. An elevating structure for an automotive vehicle having a body provided with a horizontal floor vertically spaced above the ground comprising, a combination load-carrying and end gate member adapted to be raised and lowered to and from the level of said floor while disposed in a substantially horizontal rearwardly extending position and moved into a vertical position at one end of the body, a pair of arms swingable in unison, each of said arms having one end pivotally connected to the vehicle at horizontally spaced and aligned points, the other end of one of said arms being pivotally connected to said member, said arms being a part of a first parallelogram linkage system, and a second parallelogram linkage system operatively interconnecting said vehicle and said arms including a section of one of said arms comprising an axially adjustable, elongated rod having one end pivotally connected to the vehicle at a point vertically spaced above the pivotal connection of said arms to the vehicle and its opposite end pivotally connected to the apex of a triangularly-shaped plate, said plate being pivotally connected to said arms at horizontally aligned points, said rod being disposed in a transversely extending plane parallel and spaced from transversely extending planes containing the arms during swinging movement of said arms.

2,979,215
LOADER BUCKET AND GRAPPLE APPARATUS
John R. Brinson, Norway, Mich., assignor to Lodal Inc., Norway, Mich., a corporation of Michigan
Filed Dec. 19, 1957, Ser. No. 703,964
8 Claims. (Cl. 214—78)



1. A self-filling material loader comprising, a vertically positionable support frame, a transversely elongated bucket pivotally mounted on a transverse and normally horizontal axis on said frame and having a scraping edge along its lower side, said bucket being normally disposed in an upright position on said frame and adapted for forward pivotal movement therefrom, a first power means between said frame and said bucket for tilting the latter, a grapple pivotally mounted on a normally upper front portion of said bucket and on an axis parallel to the first said axis, said grapple having a cutting edge swingable between a closed position adjacent said scraping edge and an open position, a second power means between said bucket and grapple for swinging the latter between said positions, a power source common to both said power means, and control means interconnecting said first and second power means and preferential to actuation of said second power means whereby said shovel may be maintained substantially in a selected position during actuation of said grapple.

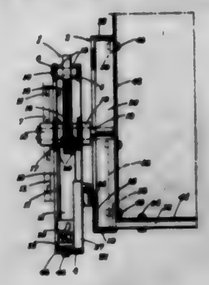
2,979,216
BALE LIFTER
Lewis A. Edwards, Clearwater, Nebr.
Filed Sept. 2, 1955, Ser. No. 532,261
2 Claims. (Cl. 214—147)



1. A grab for a bale lifter comprising: a frame forming a back side of said grab, a first jaw means rigidly connected to a forward side of said frame and extending forwardly therefrom, a lever pivotally connected intermediate its ends to said frame and adapted to pivot about a substantially vertical axis, said lever having a front end spaced laterally from said first jaw means and extending forwardly from the forward side of said frame, a second jaw means pivotally mounted intermediate its ends to the front end of said lever opposite said first jaw means and adapted to pivot about a substantially

vertical axis, said first and second jaw means being very elongated and said first jaw means having straight inner gripping surfaces for freely sliding along and stabbing between oppositely disposed adjacent vertical sides of two bales disposed alongside of each other, said lever having a rearward end disposed rearwardly of said second jaw means, said jaw means both being of a vertical dimension for gripping only a lowermost tier of standard bales to be lifted so that the normal lack of vertical alignment of the sides of those bales which are of different tiers and one above the other does not cause the first jaw means to be prevented from stabbing between vertical stacks of bales, said first jaw means having an innermost surface being substantially firmly fixed thereto so that said innermost surface can engage bales directly substantially free of any interfering mechanism—said grab having only one bale-engaging jaw on the side of its first jaw means whereby as said one jaw of said first jaw means is stabbed longitudinally of itself into a stack of bales, the stack is engaged substantially only by surfaces of the one jaw of said first jaw means which are substantially continuous lengthwise of the said one jaw so bales are less likely to be knocked over during forward movement of said first jaw means and hydraulic cylinder means operatively connected to said rearward end of said lever for swinging said second jaw means toward said first jaw means for gripping a bale and away from said first jaw means for releasing a gripped bale, said grab having only one bale-engaging jaw means on the fixed jaw means side thereof whereby as said fixed first jaw means is stabbed longitudinally of itself between two stacks of bales it presents a surface substantially continuous lengthwise of said fixed first jaw means so bales are less likely to be knocked over during forward sliding of said first jaw between adjacent bales.

2,979,217
LOAD ROTATING DEVICE
Martin Tomasovich, Rte. 1, Box 26, Live Oak, Calif.
Filed Sept. 11, 1958, Ser. No. 760,311
2 Claims. (Cl. 214—701)



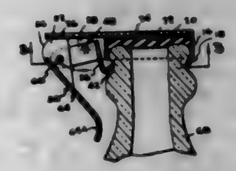
1. In a lift truck which includes an upstanding boom having a guided carriage mounted thereon for up and down movement; a first upstanding frame secured to the carriage in front of the boom, a second upstanding frame having load retaining means thereon disposed in front of the first frame, supporting means for the second frame comprising a centrally located shaft secured thereto and projecting rearwardly therefrom, axially spaced journals for the shaft in the first frame, a pinion fixed on the shaft between the journals, a segmental gear mounted on the first frame and engaging the pinion, a radial arm rigid with the gear and projecting therefrom in a direction away from the teeth of the gear, a hydraulic ram in the first frame connected at one end to said arm, and means mounting the ram at its other end on the first frame in substantially a common plane with the gear transversely of the truck.

2,979,218
CLOSURE CAP AND SEALED PACKAGE
Harry E. Stover, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Sept. 30, 1957, Ser. No. 687,035
4 Claims. (Cl. 215—40)



2. In a sealed package of the press-on closure type, the combination of a glass container having an annular enlargement on the side thereof adjacent the container mouth comprising in vertical cross section a pair of maximum diameter bead-like portions spaced vertically from one another with a relatively shallow groove therebetween, a closure cap seated on the glass container comprising a metal shell having a top and a peripherally depending skirt having an uppermost cylindrical portion and a lowermost outwardly flaring portion and a rubber gasket bonded to the inner surface of the metal shell and forming an imperforate covering over the entire inner walls of said top and depending skirt and comprising a gasket skirt portion having an upper cylindrical relatively thick sealing zone engaging said bead-like portions of the container and a lower relatively thin outwardly flaring zone, said zones being bonded directly to the correspondingly shaped portions of the skirt of the metal shell and comprising also a gasket top area having a relatively thin central and peripheral zones connected by a substantially thicker zone for making sealing engagement with a relatively wide zone of the container top whereby said relatively thin peripheral zone of said gasket top area forms a groove into which gasket material may flow when displaced from the adjacent cylindrical zone of the gasket skirt portion and the thicker zone of the gasket top area when the cap is pressed onto the container and both of said last named zones of the gasket become deformed to the shape of the container finish, and the lower edge of the outwardly flaring skirt of the metal shell extending inwardly and upwardly about the lower edge portion of the lower outwardly flaring zone of the gasket.

2,979,219
LIQUID DISPENSING CLOSURE CAP
Domenick P. Barravecchia, 54 Stillman Ave., Westerly, R.I.
Filed Mar. 6, 1959, Ser. No. 797,661
4 Claims. (Cl. 215—45)



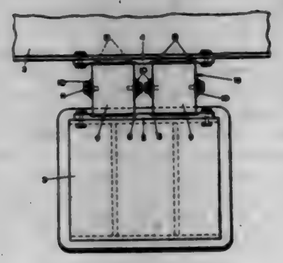
1. A closure cap for a liquid receptacle having a neck and including a beaded open end, said closure cap comprising a hollow cylindrical member having an end wall extending across one end thereof, a tongue fixedly secured to said end wall and projecting laterally therefrom, a resilient sealing element disposed within said cylindrical member and substantially filling the same, said cylindrical member adjacent the open end thereof having a depending arcuately shaped bead engaging clip formed integral therewith, a lever pivotally mounted on said tongue, said lever having a bead engaging clip at an end thereof, said last named bead engaging clip being pivotal towards and away from said bead to releasably secure said cap on said neck, and means securing said lever with said last named clip engaging said bead.

2,979,220
CONTAINERS
Myles Basil Hailes, Milan, Italy, assignor to Unilever Limited, Port Sunlight, England, a company of Great Britain
Filed Feb. 8, 1957, Ser. No. 639,016
Claims priority, application Italy Feb. 15, 1956
2 Claims. (Cl. 215—100)



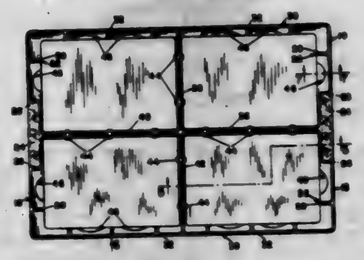
1. A label-bearing container comprising a receptacle having an opening, a closure member detachably engaging the receptacle to close the opening, and a sleeve-like label of inverted frusto conical shape surrounding a portion of the receptacle, said label having a smaller end abutting part of the receptacle and a larger end abutting the closure member and retained thereby on said receptacle whereby on removal of the closure member the label is free to be lifted off the receptacle.

2,979,221
LOAD SUPPORTING MEANS
Ronald Frank Bishop and Stanley Little, Darlington, England, assignors to Wheeroe Limited, Darlington, England
Filed Apr. 22, 1958, Ser. No. 730,160
5 Claims. (Cl. 220—15)



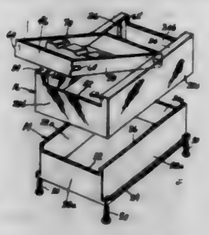
1. A vessel comprising an enclosing shell carrying inwardly projecting brackets, vertical support members which rest at their lower ends on the upper ends of said brackets, and a substantially circular horizontal load carrying platform disposed within and spaced from said shell, said platform resting on the upper ends of said support members, which are arranged in groups symmetrically spaced around the center of the platform, the members of each group being disposed closely adjacent one another along the same radius of said platform and each support member having its upper and lower end surfaces shaped as parts of a cylinder the axis of which is disposed horizontally and perpendicular to said radius.

2,979,222
CASE FOR CARTONS
Morton Levine, % Commonwealth Plastics Corp., 98 Adams St., Leominster, Mass.
Filed June 24, 1959, Ser. No. 822,615
3 Claims. (Cl. 229—21)



1. A case of the class described comprising a bottom wall, side walls, and end walls, said side and end walls being inclined outwardly from the bottom wall and the top of the case being open, generally triangular ribs on the side and end walls having substantially vertical inner edges, said ribs defining a rectangular receptacle for cartons or the like, an indented handle in each end wall, said handles each comprising a pair of spaced generally triangular vertical walls having edges aligned with the vertical edges of the triangular ribs in the end walls, the triangular end wall ribs and the vertical walls of the handle together defining a plane at each end of the case which planes are parallel.

2,979,223
ASH TRAY AND SILENT BUTLER
Richard G. Rideout, 3 Arlington St., Cambridge 40, Mass.
Filed May 19, 1957, Ser. No. 658,309
4 Claims. (Cl. 220—38)



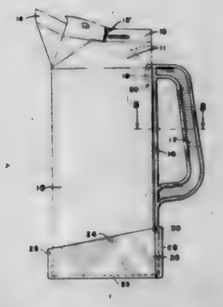
1. A rectangular box comprising two chief members one of which is an open receptacle with a bottom, end walls and side walls, the other said member being a bottomless rectangular frame having end walls and side walls adjacent to the walls of the receptacle and forming double walls therewith, the side walls of said frame having at their top edges inturned flanges overhanging the top edges of the side walls of said receptacle and spaced therefrom to form a horizontal slot under each said flange, a cover member having side walls fitted between the inner edges of said flanges, a pair of trunnions projecting in opposite directions from said side walls of the cover into said slots near an end thereof and horizontally movable in said slots to the other end thereof, and stop means at the ends of said slots limiting the movement of said trunnions therein.

2,979,224
PACKAGE CLOSURE AND METHOD OF FORMING SAME
John Henchert, River Forest, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 6, 1957, Ser. No. 664,075
2 Claims. (Cl. 220—67)



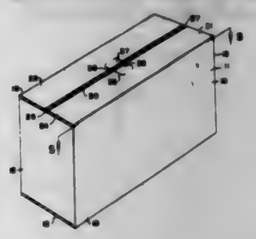
1. In a container of the character described, a body having a bottom and a surrounding side wall defining a product receiving space, said body being defined at its upper extremity by a perimeter ledge merging outwardly into a flange turned downwardly outwardly and upwardly to provide a shallow sealing compound receiving channel and a closure securing flange, sealing compound in said channel, and a closure sheet overlying said ledge and sealing compound within said securing flange, said securing flange being turned inwardly then outwardly over and against said sheet outwardly of said ledge as an open curl holding the margin of said sheet in tight sealing contact with the sealing compound, said curl being disposed entirely above the plane of said ledge whereby said sheet is deflected only a minor amount by said curl, and said curl being spaced from said ledge and said channel in the area of said sheet a distance greater than the thickness of said sheet whereby direct clamping of said sheet between portions of said body is avoided.

2,979,225
HOLDER FOR MILK CARTONS
Harold E. Noffsinger, 875 S. 3rd E., Salt Lake City, Utah
Filed Sept. 15, 1958, Ser. No. 761,057
1 Claim. (Cl. 220—85)



A holder for a cardboard milk carton comprising: a tray adapted to receive and enclose the bottom of the carton; an upwardly opening post socket formed on the rear of said tray; a vertical handle post receivable in said socket; a pointed, hooked fang formed on and extending downwardly from the upper extremity of said handle post in spaced relation to the forward face of said post so that the point thereof will pierce the top of said carton adjacent the rear wall of the latter when said post is forced downwardly into said socket; a hand grip formed on the rear face of said handle post; means for removably retaining said handle post in said socket; an internal ridge formed in said socket; a notch formed in said handle post with which said ridge engages when said handle post is inserted in said socket; a chisel-shaped lower extremity on said handle post to facilitate insertion thereof into said socket, having a pointed V-shape with relatively sharp edges for easily piercing the top of said carton; four side walls on said tray portion intersecting to form four vertical corners thereon; and inwardly-projecting vertical ridges on the inner faces of the four side walls of said tray portion to slidably engage said carton.

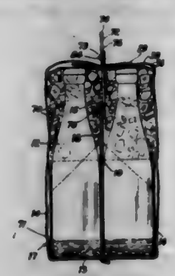
2,979,226
CONTAINER CARRIER
Joseph Vesak, Vancouver, British Columbia, Canada, assignor, by mesne assignments, to Unipak Cartons Ltd., Vancouver, British Columbia, Canada
Filed Aug. 12, 1957, Ser. No. 677,560
4 Claims. (Cl. 220—105)



1. A container carrier comprising a casing having side and end walls formed of a single strip of material formed into a rectangle, a bottom and an operable top connected to edges of said strip of material, said top when closed having a longitudinal slot therein centrally thereof, a vertical partition fitted in the casing extending longitudinally and centrally from end to end thereof, said partition having an upper edge located immediately below and bearing against the casing top when the latter is closed, stop means on the partition along the upper edge thereof, flaps connected to the ends of said partition and having portions extending parallel to an adjacent end wall of the casing, said flap portions being connected to said end walls by suitable securing means, spaced vertical lateral dividers extending from the partition to the side walls forming therewith a plurality of container-receiving cells, a unitary handle at and movable vertically relative to the longitudinal partition and aligned with the casing top slot, said handle being completely within the casing when the top thereof is closed and in line with and near the casing top slot and being of such size as to be able to move through said top slot, and means on the handle for engaging the partition stop means to limit upward movement of the handle, said handle being movable from within the casing through the top slot to an outer position projecting above the casing top where it may be grasped for carrying purposes, said upward movement of the handle being stopped by the partition stop means and the closed casing top bracing the longitudinal partition under load when the casing is being carried by the handle, said partition taking the full load when the casing top is open.

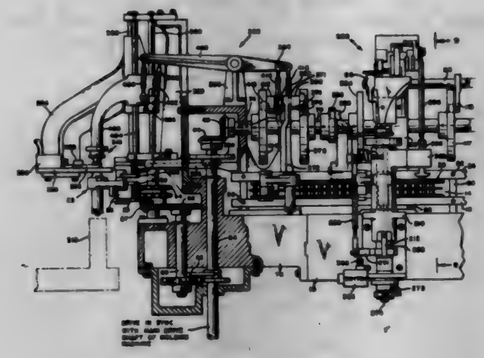
2,979,227
CONTAINER FOR MAINTAINING TEMPERATURE OF BOTTLED BEVERAGES
Jerome H. Norton, Union Township, Clermont County, Ohio (9107 Old Orchard Drive, Cincinnati 30, Ohio), and Russell E. Taber, 6722 Hammerstone Way, Mariemont, Cincinnati 27, Ohio
Filed May 15, 1958, Ser. No. 735,416
2 Claims. (Cl. 220—105)

1. A package for refrigerated beverages which comprises a carton having a bottom for supporting a plurality of bottles and an upright panel having a handle opening therein, an outer cover of flexible liquid-impervious sheet material comprising an enclosed lower section surrounding the carton, the upper end thereof being open, and upper panels for closing the open upper end, there being perforations in the upper panels, a handle member comprising an upper hand grip section, side arms, and hooks at lower ends of the side arms, the side arms of



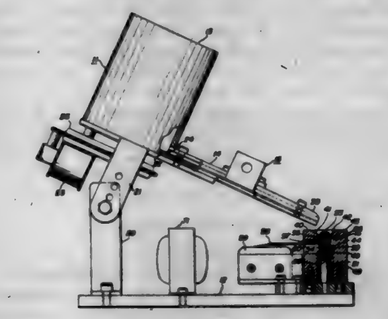
the handle member extending through the perforations of the upper panels with the hooks engaging the upright panel of the carton at the handle opening for carrying the package to hold the outer cover in a position embracing the carton and bottles therein, the outer cover being adapted to hold water formed by melting of ice surrounding the bottles.

2,979,228
LEAD WIRE FEED
Ralph A. Englert, Jersey Shore, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed May 16, 1957, Ser. No. 659,725
16 Claims. (Cl. 221—9)



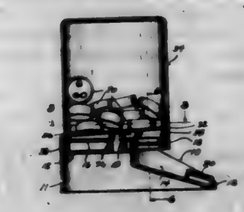
1. A wire feed mechanism comprising a drive shaft, a conveyor with spaced carriers thereon, means coupling the drive shaft and conveyor to impart indexing motion to the conveyor, a constantly driven shaft driven by said drive shaft, a cam on said driven shaft, an oscillatable shaft, a drive arm fast on said oscillatable shaft and cooperating with said cam to cause oscillating motion of said last named shaft, a wire feed hopper above the carriers, and means controlled by the motion of the oscillatory shaft to feed a wire from said hopper to a carrier, when the same has been indexed to a position directly beneath the hopper, comprising a dispensing wheel having lead wire retaining slots in its periphery with said periphery penetrating the interior of the hopper, a ratchet fast with the dispensing wheel, a mechanism having a pawl engageable with the ratchet to move the same, a driven arm fixed on the oscillatable shaft and connected to the pawl to oscillate the same about the axis of the ratchet, said cam being contoured to impart several oscillatory motions to the pawl and wheel without advancing the wheel and to jiggle the wires in the hopper to cause one of them to enter a slot and further contoured to impart a large step movement to the pawl to cause the ratchet to be advanced one step to a position from which a wire would be fed to the underlying carrier.

2,979,229
OBJECT DISPENSER HAVING RECEIVER-ACTUATED OBJECT RELEASE MEANS
Richard D. Reeder, Alliance, and Joseph W. Longobardi, Beloit, Ohio, assignors to The Alliance Manufacturing Company, Division of Consolidated Electronics Industries Corporation, a corporation of Delaware
Filed Feb. 24, 1958, Ser. No. 717,043
14 Claims. (Cl. 221—22)



1. A dispenser for dispensing objects to be received by a tool, comprising, a pick-up stand, a central stud in said stand, apertured plunger means surrounding said stud and movable in said stand relative to said stud, a depression in the upper end of said stand to receive and center said objects, said stud capable of limiting vertical movements of said objects, gate means to permit only a single object at a time to exit into said depression, supply means to supply objects to said gate means, gate power means to actuate said gate means, and means interconnecting said pick-up stand and said gate power means to actuate said gate means upon movement of a tool into said depression to vertically move said plunger means to receive an object.

2,979,230
TABLET DISPENSER
George H. Calverley, Racine, Wis., assignor to Whitman Publishing Company, Racine, Wis., a corporation of Wisconsin
Filed Sept. 12, 1957, Ser. No. 683,491
2 Claims. (Cl. 221—186)



1. In a device for dispensing flat round tablets, the combination with a base provided with a horizontal wall

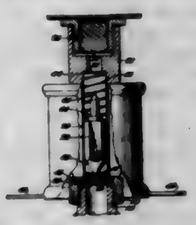
and with a chute opening downwardly and laterally from the wall and with a post projecting upwardly from the wall adjacent the chute and having a bearing portion and an anchor portion, of a rotor rotatable upon the wall and in bearing engagement with the bearing portion of the post, the rotor being provided with at least one aperture of a length and diameter substantially corresponding to the thickness and diameter of the tablet to be dispensed and so positioned radially of the post as to be registrable with said chute in the course of rotor rotation for the discharge of a tablet fitting the aperture, baffle means mounted on the anchorage portion of the post above the rotor and extending over the chute, the baffle means holding the rotor unitarily to the base and also precluding delivery through the chute of any tablet which does not pass beneath the baffle in an aperture of the rotor, and a tablet container connected with the rotor and constituting a handle for effecting rotation of the rotor and also supplying tablets for reception into the rotor aperture to be moved thereby into registry with the chute for discharge through the chute, the container comprising an inverted cup having a mouth portion in frictional telescopic connection with the rotor and freely detachable therefrom for loading with tablets, the baffle extending diametrically across the rotor, the portion overlying the chute being convexly rounded in cross section, and the portion diametrically opposite the chute having relatively flat camming surfaces terminating in sharp edges in substantial face contact with the rotor, the rotor having beveled surfaces about said aperture.

2,979,231

SOLENOID VALVE AND DISPENSER

Jack Witherspoon, Jr., Knoxville, Tenn., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware

Filed Mar. 14, 1958, Ser. No. 721,559
4 Claims. (Cl. 222—83.5)



1. A fluid dispensing device comprising a casing, means on said casing for securing a fluid container thereto, a solenoid disposed around said casing, an armature movable between a plurality of positions in said casing, puncturing means on said armature, a valve seat in said casing, means positioned at the lower end of said armature forming a valve member, said armature moving to one of said plurality of positions in response to initial inrush of current in said solenoid to puncture the container and then receding to another of said plurality of positions to permit fluid flow through said casing, and said armature being movable to still another of said plurality of positions in response to cessation of current flow in said solenoid to restrain fluid flow.

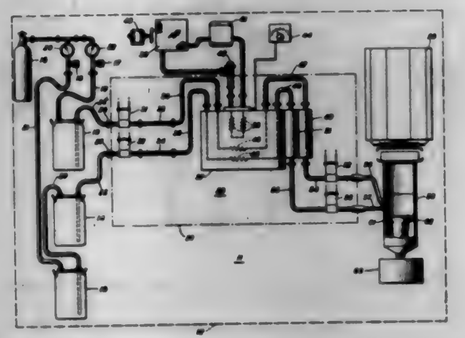
2,979,232

BEVERAGE DISPENSING SYSTEM

Leonard J. Wood, Rockaway, N.J.
(135 Patricia Place, Clifton, N.J.)

Filed Jan. 23, 1957, Ser. No. 635,634
3 Claims. (Cl. 222—129.1)

1. A beverage dispensing system comprising a carbonated beverage storage tank, a high pressure source for maintaining the beverage in said tank under pressure, valve means for controlling the flow of beverage from said storage tank, pressure and turbulence reducing means having a restricted beverage passageway connected to the outlet side of said valve means, beverage cooling means, said cooling means being thermally insulated from said beverage storage tank, cooling coils in said cooling means, means connecting said pressure reducing means to said cooling coils, a storage and turbulence reducing



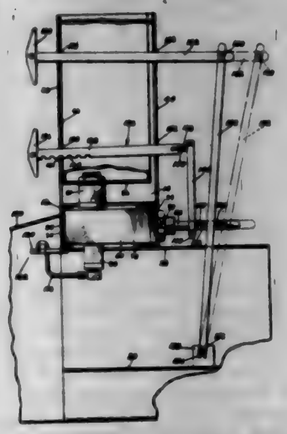
tank adjacent said cooling means, said storage and turbulence reducing tank having a plurality of beverage passageways therein, means for conveying the cooled beverage to said storage and turbulence reducing tank, beverage dispensing means, means for conveying the beverage stored in said storage and turbulence reducing tank to said dispensing means, and valve means for controlling the flow of beverage from said storage and turbulence reducing tank to said dispensing means.

2,979,233

PAINT COLOR DISPENSING MACHINE

James T. Smith, 163 S. Long Beach Ave., and John Deans, 100 Lexington Ave., both of Freeport, N.Y.

Filed Feb. 27, 1959, Ser. No. 796,695
9 Claims. (Cl. 222—135)



1. A dispensing machine comprising a frame, a plurality of reservoirs carried by said frame, each reservoir adapted to contain a liquid, means carried by said frame and operatively associated with each reservoir for discharging a predetermined quantity of liquid therefrom, each reservoir having similar means connected therewith for individual selection of a liquid from individual reservoirs, said means including a normally closed flutter valve

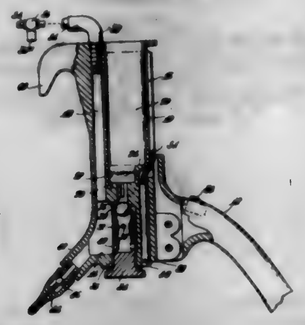
connected with the reservoir, a pump having a pump chamber in communication with said normally closed valve, a second normally closed outflow valve also connected with said pump chamber, one of said valves being opened in response to pressure in said chamber, and the other of said valves being closed in response to the same pressure in said chamber so that a quantity of liquid from said pump chamber is expressed through said outflow valve in response to operation of said pump during the compression stroke thereof, an outflow tube connected with said chamber and controlled by said outflow valve, each pump chamber having a similar outflow tube, an orifice block with which the discharge ends of said outflow tubes are connected, and means connected with said outflow valve for conducting the expressed liquid therefrom.

2,979,234

GUN-TYPE ADHESIVE APPLICATOR

Jacob S. Kamberian, West Newton, Mass.
(% International Shoe Machine Corp., 292 Main St., Cambridge, Mass.)

Filed Jan. 7, 1959, Ser. No. 785,494
5 Claims. (Cl. 222—146)



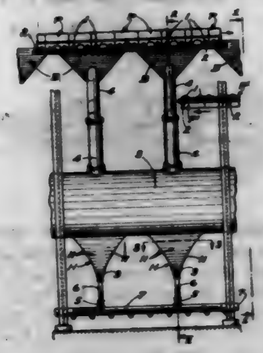
1. An applicator gun comprising a slender light weight barrel of substantially circular cross-section and hand grip attached to the lower end, to hold the barrel upright, a chamber at the lower end of the barrel, a bore extending from the upper end of the barrel downwardly toward the chamber but terminating short thereof for receiving a stick of solid adhesive of substantially corresponding cross-section, a well of smaller cross-section than the bore at the bottom, a ledge at the junction of the lower end of the bore and tip of the well for supporting the lower end of the stick with adhesive at the top of the well to allow adhesive melted from the lower end of the stick to flow into the well without obstruction, a port connecting the bottom of the well to the chamber through which melted adhesive in the well can flow to the chamber, a normally open valve supported at the lower end of the port, a nozzle containing a check valve normally closing against discharge of adhesive from the chamber, said nozzle inclining forwardly and downwardly from the chamber opposite the handle, a rib projecting into the bore containing a passage of smaller diameter than the bore parallel thereto, the upper end of which is adapted to receive a nipple fitting for connection to a source of air pressure and the lower end of which terminates at the top of the chamber, laterally of the valve, said passage being adapted to conduct air under pressure to the chamber simultaneously to close the valve at the lower end of the port and to force the adhesive through the check valve in the nozzle, and a trigger on the handle operable to control admission of air to said last-named means.

2,979,235

HOPPER HAVING MEANS CAUSING ATMOSPHERIC INFLOW

Melvin J. Greaves, Parma, Ohio, assignor to Arthur G. McKee & Company, Cleveland, Ohio, a corporation of Delaware

Filed Jan. 9, 1958, Ser. No. 707,939
7 Claims. (Cl. 222—185)



2. In combination, a hopper having a bottom discharge outlet of reduced area for flowable material, a rigid bottom wall converging downwardly to said outlet, said bottom wall being curved on a vertical plane therethrough whereby the angle of said wall to the horizontal is greatest adjacent said discharge outlet and becomes progressively smaller at successively higher points on the wall, the minimum value of said angle being approximately equal to the angle of repose of the material intended to be handled in said hopper, and means for maintaining conditions inside and outside of said hopper at said outlet such that atmosphere will tend to enter said hopper through said outlet.

2,979,236

DISPENSER CAPS FOR FLUID CONTAINERS

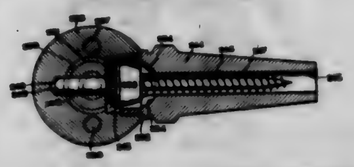
Morris Fuhr, 1337 S. Highland Ave., Los Angeles 19, Calif.

Filed Feb. 10, 1958, Ser. No. 714,231
3 Claims. (Cl. 222—207)



1. A dispenser unit for attachment to a container for dispensing the contents thereof comprising a cap having a tapered portion for insertion within an opening of said container, said cap having portions external of said container consisting of interconnected front and rear walls and a top wall, said front wall being greater in height than said rear wall, the top wall of said cap extending from the upper edge of said front wall to the rear wall at an angle to the plane of the opening in said container, a protuberance from said front wall, said protuberance having a slit therein, said slit forming a valve for extruding the contents of said container, and a ball in said tapered portion forming a valve in series with said slit valve, said tapered portion, said front and rear walls, said top wall and said protuberance being integral and resilient.

2,979,237
APPLICATOR AND MIXER FOR VISCOUS MATERIALS
Floyd E. Snow, Pasadena, and James O. York, Burbank, Calif., assignors, by mesne assignments, to Coast Pro-Seal & Mfg. Co., Los Angeles, Calif., a corporation of California
Original application July 28, 1952, Ser. No. 301,174. Divided and this application July 8, 1957, Ser. No. 677,171
3 Claims. (Cl. 222—413)



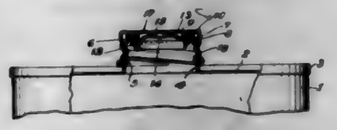
1. In a mixer structure: a hollow open-ended body having a pair of separate inlet openings at one end angularly spaced about the longitudinal axis of said body; a support within the body, and having a central recess substantially aligned with said axis; an axially elongated driving gear mounted in said recess and having provisions for coupling to a source of rotary motion; said recess having an opening at one end for access to the corresponding end of the driving gear and at the other end for coupling of said source of motion to said driving gear; said support having a plurality of auxiliary recesses parallel to but intersecting the central recess; axially elongated supplemental gears in the auxiliary recesses and engaging the driving gear; means forming a pair of passages opening respectively only into the corresponding ends of two of the auxiliary recesses, and registering with said inlets, said passages being substantially spaced from the other corresponding ends of said auxiliary recesses; a plate covering said other end of said recess and having apertures through which material is forced by said gears; means secured to said body member and defining a chamber receiving the material from said plate opening, and having an outlet; and pump means located in said chamber and driven upon operation of said main gear for urging material to the outlet.

2,979,238
SIP-THROUGH AND POUR-THROUGH CLOSURE FOR VACUUM BOTTLES OR THE LIKE
Carl Bramming, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Apr. 15, 1959, Ser. No. 806,594
4 Claims. (Cl. 222—484)



1. In a closure for vacuum bottles or the like, the combination comprising a stopper adapted to be received in the mouth of a vacuum bottle, said stopper having first and second passages extending between the top and bottom thereof, an elongated tube connected to the lower end of said first passage and adapted to extend downwardly into the liquid contained in the vacuum bottle, a generally cylindrical valve member rotatably mounted in the upper end of said stopper, said stopper having a cylindrically curved seat for receiving said valve member, said first and second passages being connected at the upper ends to first and second ports spaced along said cylindrically curved seat, said valve member having an upwardly extending stem thereon with a valve passage extending therethrough, said valve member being rotatable between a first position with said valve passage connected to said first port, a second position with said valve passage connected to said second port, and a third position with said valve passage closed off at its lower end by the blind wall of said seat, said valve member having first and second channels thereon, said first channel being disposed to afford communication between said first port and the atmosphere above said stopper when said valve member is in said second position, so as to admit air to said first port and thereby provide for pouring out the contents of the vacuum bottle through said second passage and said valve passage, said second channel being disposed to afford communication between said second port and the atmosphere when said valve member is in said first position, so as to admit air to the vacuum bottle through said second passage when the contents of the vacuum bottle is sipped out of the vacuum bottle through said first passage and said valve passage by the application of suction to said stem.

2,979,239
SPOUT WITH SEALING COVER THEREFOR
Arthur J. Collins, 6023 N. Sauganash Ave., Chicago 30, Ill.
Filed Nov. 29, 1956, Ser. No. 625,062
2 Claims. (Cl. 222—530)

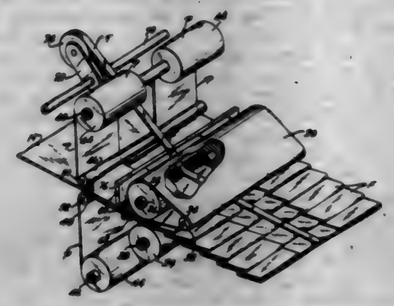


1. In combination, a hollow container having a discharge neck, means defining an inwardly positioned skirtlike portion in said neck, and a separable discharge spout, said spout being formed of elastic material and comprising a cylindrical portion terminating at one end with a laterally extended flange and having below said flange a second laterally extending flange, said spout including also a bowed, resilient, integral disk-like portion having semi-rigid characteristics, said disk-like portion being bowed outwardly with respect to said cylindrical portion and extending upwardly beyond the surface of said first mentioned flange, said disk-like portion being provided with a perforation, said spout when in position within said skirtlike portion being in sealing contact therewith, the first mentioned flange extending laterally above said skirtlike portion, said cylindrical portion being in contact with said skirtlike portion and the second flange being positioned against the lower end of said skirtlike portion to cooperate in holding said spout in position, and a cap adapted to be removably secured to said neck and to contact the upwardly extending portion of said spout to exert pressure on said spout for sealing about said perforation and additionally to tend to flatten said disk and thereby to increase the compression and sealing effect of said cylindrical portion within said skirtlike portion.

2,979,240
PLEATING APPARATUS AND METHOD
Mack Liebeskind, Lawrence, N.Y., assignor to Ideal Pleating Company, New York, N.Y., a partnership
Filed July 6, 1959, Ser. No. 825,060
7 Claims. (Cl. 223—30)

1. A machine for simultaneously pleating and counter-pleating a sheet of material comprising means including

pleating knives for forming said sheet into pleats having cusps, supply means adapted to receive and feed a supply of adhesive tape past said pleating knives, and means for guiding said adhesive tape into engagement with said



sheet during pleating thereof such that said tape adhesively engages a portion of said cusps to create a drag thereon and thereby form counter-pleats directed oppositely to said pleats.

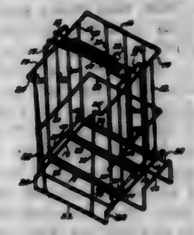
2,979,241
ADJUSTABLE GARMENT HANGER
Louis L. Malek, R.D. 2, Port Jervis, N.Y.
Filed July 11, 1957, Ser. No. 671,168
13 Claims. (Cl. 223—94)



1. In a garment hanger having a pair of arms disposed in end to end relation, the improvement in combination therewith comprising a flexible connection between said arms and affixed thereto, comprising a multiplicity of flexible plies substantially parallel to the longitudinal plane of said hanger upon said arms being disposed substantially coaxial, said plies slidably engaging one another so that said connection is substantially flexible only in a direction generally perpendicular to the planes in which said plies lie permitting movement of said arms in said direction, whereby the angle between said arms may be readily adjusted and means operatively connected with said plies for securing said plies at desired flexed positions.

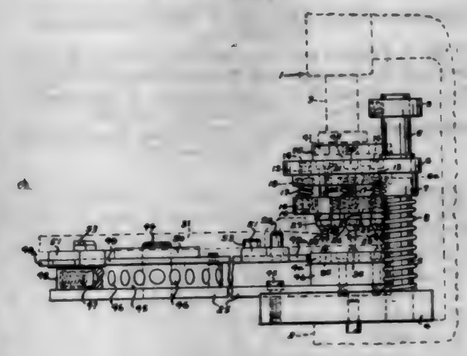
2,979,242
EGG CRATE
Robert L. Van Hale, Holland, Vernon G. Llanabary, Jackson, and Kenneth G. Clark, Parma, Mich., assignors to The Automatic Poultry Feeder Co., Zeeland, Mich.
Filed Nov. 1, 1957, Ser. No. 693,956
2 Claims. (Cl. 224—45)

1. In a wire egg crate for use with filler flats, a frame including a series of planar U-shaped side members having vertical leg portions and a horizontal leg interconnecting portion, the planes of said side members being in spaced, parallel, side-by-side relation, a substantially rectangular rim wire member affixed to the upper ends of the leg portion of said side members, a base wire member having opposed side portions attached to the leg interconnecting portion of said side members adjacent said leg portions and having leg portions extending therebelow, wire members disposed between said rim wire and said base wire enclosing one end of said frame, retaining members partially enclosing the other end of said frame providing access to the interior of said frame the entire depth thereof, a shelf within said frame affixed to said side members in spaced parallel relation to said side member horizontal leg interconnecting portions for support of said filler flats, a retractable



rack supported by said frame adapted to be extended laterally therefrom to provide a supporting surface for unused filler flats, said rack slidingly engaging the horizontal leg interconnecting portions of at least two of said U-shaped side members, and being totally supported by said crate, and a handle attached to said frame centrally related above said rim wire.

2,979,243
RIVET REMOVAL DEVICE FOR AIRCRAFT BRAKES
Max O. Moeckel, 5740 S. 2700 W., Roy, Utah
Filed May 13, 1959, Ser. No. 813,644
7 Claims. (Cl. 225—97)
(Granted under Title 35, U.S. Code (1952), sec. 266)



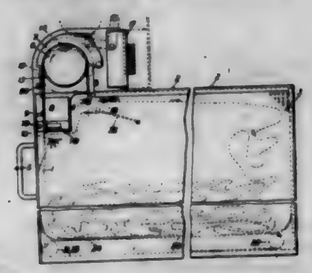
1. A disk brake rivet punch for use with a punch press having a punching head and a supporting pedestal, a base plate adapted to rest on the pedestal, a brake disk supporting spider rotatably carried by said base plate, means between said spider and said base plate for indexing said spider in predetermined rotative positions above said base plate, indexing means on said spider for indexing on said spider a flat circular brake disk having a flat circular brake lining riveted thereon, in predetermined rotative positions under said punching head, a punch retainer plate, a plurality of adjustable punches carried by said punch retainer plate for independent lateral shifting adjustment in any direction with their centers adapted to be disposed in a predetermined grouping arrangement substantially over the centers of rivets in predetermined groups of the rivets in the brake disk when the brake disk is disposed on the spider and indexed by said indexing means, means between said base plate and said punch retainer plate adapted to yieldably exert punch withdrawal pressure on said punch retainer plate toward the punching

head of the punch press, a punch guide bushing supporting plate mounted on said punch retainer plate for limited movement toward and away from said punch retainer plate, a punch guide bushing for each of said rivet punches, adjustably carried by said punch guide bushing supporting plate for limited lateral shifting adjustment in any direction with its rivet punch, relative to said guide bushing supporting plate, said punch guide bushing having lower end portions normally surrounding the lower ends of the rivet punches having a size to fit the rivet receiving recesses in the brake disks and linings when indexed on said spider with the outer extremities of the said lower ends adapted to contact with the heads of the rivets in the disks and linings, with the punching ends of the rivet punches substantially flush with the lower ends of the punch guide bushings, said lower ends of said guide bushings each having an annular downwardly and inwardly beveled outer end for centering the punch guide bushing's lower end into the rivet receiving recesses of the brake disks and liners to center the rivet punches over the centers of the rivets in the brake disks and liners, said rivet punches each having an outer punch end portion slidable through the punch guide bushing having a diameter not exceeding the diameter of the shanks of the rivets in the brake disk when indexed on said spider securing the lining thereto, and resilient means between the guide bushing supporting plate and the punch retainer plate for urging the guide bushing supporting plate away from the punch retainer plate to retract the said lower end portion of said rivet punches into the guide bushings to strip the rivet punches from the brake disk when the punch retainer plate is retracted by said retracting means.

2,979,244
RECORD TAPE ASSEMBLY AND MAGAZINE THEREFOR

Willy H. P. Pouliart and Leo Jacobin, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 13, 1956, Ser. No. 628,148
Claims priority, application Great Britain Dec. 30, 1955
5 Claims. (Cl. 226—118)



1. A record tape assembly for continuous tape comprising a printing and reading head, said assembly having a width slightly greater than the width of said tape, means at the top of said assembly for moving said tape within said assembly, means for directing an air jet against said tape leaving said moving means so as to form successive folds of said tape, a conveyor disposed at the bottom of said assembly, means for driving said conveyor, said conveyor having a conveying surface substantially parallel to the bottom of said assembly, said conveying surface adapted to receive a portion of said tape and to convey it in a direction opposite to the movement of the air from said jet whereby said tape is formed in successive folds above said conveyor without jamming at either end of said assembly.

5. A record tape assembly and magazine therefor for assemblies of continuous record tape comprising a chassis, a plurality of tape assemblies, each of said assemblies having a width slightly greater than the width of said tape, means at the top of each of said assemblies for moving said tape within said assemblies, means in each of said assemblies for directing an air jet against said tape leaving said moving means so as to form successive folds of said tape, said chassis and said assemblies being provided with plug in coupling, said couplings being provided with means to supply power for said moving, driving, and air jet directing means, said chassis having means for guiding each of said assemblies towards said plug in couplings, a platform pivotally connected to said chassis having a retracted and a normal position, said platform having guiding means which are aligned with said guiding means of said chassis when said platform is in a retracted position whereby said assembly when inserted in said chassis cooperates first with the guiding means of said platform and then with the guiding means of said chassis, and said platform adapted to pivot in its normal position after said assembly is inserted into said chassis.

2,979,245
MOLDED PULP CARTON

Walter Hall Randall, Waterville, and Urban H. Despres, Clinton, Maine, assignors to Keyes Fibre Company, Portland, Maine, a corporation of Maine

Filed Sept. 25, 1957, Ser. No. 686,172
11 Claims. (Cl. 229—3.5)



1. A molded pulp carton comprising a pocketed section and a tray-like cover section, said sections each having an upwardly and outwardly inclined peripheral wall defined at its upper edge by an outwardly-extending rim, said sections being integrally and hingedly connected at adjacent portions of their rims, said pocketed section having a plurality of parallel rows of pockets separated by alternate parallel rows of hollow posts, the posts in each row being connected by ribs, half-posts positioned at each end of each row of posts and connected to the adjacent posts by said ribs, at least one of said half-posts on the side of said pocketed section opposite to its hinged connection with said cover section being substantially lower in height than the height of its adjacent peripheral rim, an opening in the top of said at least one-half post, a hinged flap on that edge of said cover section which is opposite its hinged connection with said pocketed section, and at least one button on said flap to correspond to the opening in the half-post, said flap being insertable within the confines of the peripheral wall of said pocketed section with the button locked beneath said opening when said cover section hingedly overlies said pocketed section.

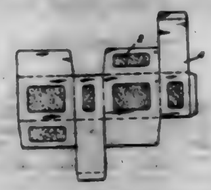
2,979,246
FOAM PLASTIC COATED CARTON

Arthur S. Liebenfeld, Baltimore, Md., assignor, by mesne assignments, to The Lord Baltimore Press, Incorporated, New York, N.Y., a corporation of Maryland (1959)

Filed May 7, 1956, Ser. No. 583,183
3 Claims. (Cl. 229—14)

1. A flat unfolded carton blank of fibrous sheet material cut and scored to provide a plurality of panels adapted for erection as an article carton comprising the combination of a plurality of at least unfoamed cushions on the inner face of a plurality of its panels, each

unfoamed cushioned panel being only partially covered by its unfoamed cushion and said unfoamed cushions being adapted to cooperate to provide article holding foamed cushions in the erected carton, said unfoamed

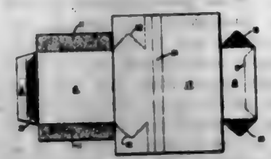


cushions each comprising a body of foam-type plastic in an at least partially unfoamed condition whereby said unfoamed cushions may be expanded by causing the plastic to foam at any time subsequent to the application of the plastic to the carton blank panels.

2,979,247
HEAT SEALABLE CARTON AND METHOD OF SEALING SAME

Ernest C. Pelleton, Larkspur, and Wilfred A. Klapperich, San Jose, Calif., assignors to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware

Filed May 27, 1957, Ser. No. 661,845
5 Claims. (Cl. 229—14)



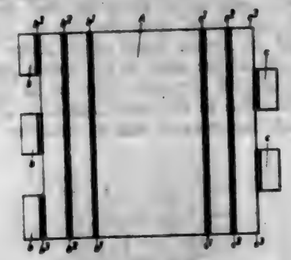
1. A carton comprising a blank having a plurality of side wall panels and a plurality of end wall panels hingedly connected together in alternate side by side relationship, triangularly shaped like top and bottom tabs hingedly connected only to each of the end wall panels, like top and bottom cover flaps hingedly connected only to each of the side wall panels, at least one of said cover flaps having a portion extending beyond the adjacent cover flap, a preformed tubular flexible carton liner having both end portions thereof open and substantially unobstructed, said liner when flattened being of a width substantially equal to the combined widths of a pair of adjacent end and side wall panels and of a length sufficient to extend over the wall panels and the tabs and the cover flaps connected thereto and terminate within the marginal confines of the portion of the one cover flap, adhesive means securing a part of the outer surface of said liner to the inner surface of said tabs and said cover flaps, and heat sealable material on at least the inner surface of said liner, said heat sealable material being effective to both seal the open end portions of said liner and position the cover flaps over the adjacent tabs to close the blank and define the carton.

2,979,248
PACKAGING OF FRAGILE ARTICLES

Harold Washington, Romiley, England, assignor to Washington Box Limited, Manchester, England, a company of Great Britain

Filed Oct. 18, 1959, Ser. No. 846,679
1 Claim. (Cl. 229—14)

A device for cushioning an article as a packing comprising, a rectangular flat member having opposite and parallel outer longitudinal edges and a central longitudinal portion and sets of three parallel longitudinally extending scored lines between the adjacent longitudinal edge and the adjacent side of the central longitudinal portion, each outer longitudinal edge of said flat member being provided with a series of spaced outwardly extending projections coplanar with the surface of said flat member, each side of said flat member being foldable into a tri-

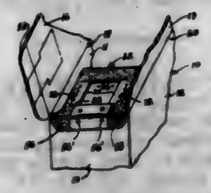


angular formation with a portion of the central longitudinal portion in cross section and with the projections of one longitudinal edge of said flat member being receivable in the spaces between the projections of the other longitudinal edge of said flat member in inter-engagement and with the projections of each longitudinal edge being slidable in opposite directions upon the central portion of said flat member.

2,979,249
BOX WITH SELF LOCKING TAB

Lester D. Gill, 342 North Road, Smoke Rise, Butler, N.J.

Filed June 3, 1959, Ser. No. 817,916
10 Claims. (Cl. 229—17)



1. A container having a wall made of a plurality of panels including a top panel and a second panel located under the top panel, both of the panels having openings therethrough and each of the panels having a flap formed of material displaced from the opening but connected to the panel along a hinge line at the rearward end of the opening, the openings being in at least approximate alignment with one another and forming a discharge outlet for the container, the flaps being secured together to form a multi-ply closure for the discharge outlet, the side edges of the opening in the top panel extending inward beyond and overlapping the side edges of the opening through the second panel for a portion of the length of said discharge outlet, the overlapping side edges terminating at least at said hinge line and being of short overlapping dimensions whereby the closure formed by said flaps clears the overlapping side edges when moved into its open position, the overlapping edges being below the closure and being depressed thereby into locking positions when the closure is moved toward its closed position, and adhesive securing the panels together beyond the openings.

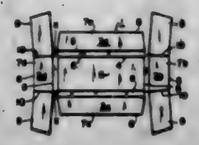
2,979,250
CARTONS

Harry C. Hobbs, 214 Cambridge Road, Bethel Park, Pa.

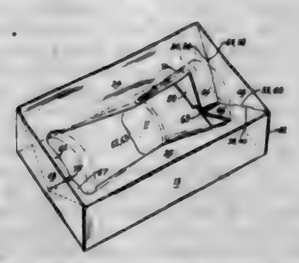
Filed Nov. 6, 1959, Ser. No. 851,383
24 Claims. (Cl. 229—32)

1. A blank made from flexible sheet material adapted for folding into a carton, comprising a bottom panel

and a side panel extending along each side of the bottom panel for substantially the length of the side, being integral with the bottom panel and being separated therefrom by a fold crease, each of said side panels being divided into a downfold panel and an upfold panel by a score line which runs substantially parallel to the fold crease, each of said side panels being severed from its adjacent corner side panel from the fold crease which separates the side panel from the bottom panel to the outer edge of the upfold panel which forms the top of the carton, each of the ends of the upfold panels tapering inwardly towards the center part of its upfold panel from said score line to its outer edge, each upfold panel having an end flap integral with at least one end thereof, said end flap being separated from its upfold panel by a fold line which tapers inwardly towards the center part of its upfold panel from said score line to its outer edge, said fold line which separates an end flap from its upfold panel comprising an end of the upfold panel, each of said downfold panels being adapted to be folded downwardly from the bottom panel along the fold crease to form a recessed bottom for the carton and each of said upfold panels being adapted to be folded upwardly and backwardly upon its downfold panel along said score line to form inwardly and upwardly sloping sides of the carton with each end flap of the side panels being adapted to be in engagement with its adjacent corner upfold panel.

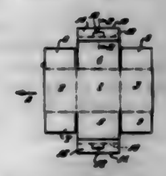


2,979,251
FOLDING BOXES OF THE TRAY TYPE
Robert Francis Friesky and Donald Schnepfe Wall, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 11, 1960, Ser. No. 8,098
6 Claims. (Cl. 229—34)



1. A tray of foldable sheet material comprising, in combination, a bottom panel; a pair of side walls articulated to opposite sides of the bottom panel; a pair of end panels articulated to opposite ends of the bottom panel; an end liner panel articulated to the top of each of the end panels and folded back flat over the end panel on the inside of the tray; a pair of side flaps laterally articulated to said side walls and folded with respect thereto and inserted between the respective end panel and its liner panel; an inner side panel articulated to the top of each of the side walls, said inner side panels being of a length greater than the height of the side walls and being disposed at a slant to the side walls and to the bottom panel to enclose a space of substantially triangular cross section between the inner side panels, the side walls, and the bottom panel, the inner side panels having a cutout therein extending into the respective panels centrally from its bottom edge so as to leave two full-length portions adjacent the liner panels forming legs, the cutouts of opposite side panels forming a central article supporting recess in the tray; lateral lock tabs on said legs, said liner panels having slanted slots therein into which said lock tabs extend.

2,979,252
COVER LOCK BOX
Robert M. Bergstein, Wyoming, Ohio, assignor to Bergstein Packaging Trust
Filed Dec. 30, 1957, Ser. No. 706,666
1 Claim. (Cl. 229—47)



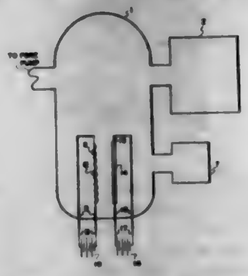
In a cover lock box, a bottom part having a bottom wall, side and end walls projecting upwardly from said bottom wall, attachment flaps hingedly connected to the ends of said side walls and infolded to lie along the inner surfaces of said end walls, end overlap flaps hingedly connected to the upper ends of said end walls, a strip of metal foil having dead-folding characteristics adhesively secured to the inner surfaces of each of said end overlap flaps throughout substantially the full lengths and widths thereof and to adjoining areas of said end walls throughout substantially the full widths thereof, locking tongues struck from said end overlap flaps and said foil strips, said tongues having their base edges lying along the upper edges of said end walls, and a cover part for said box having openings therein in alignment with said tongues, whereby said strips of metal foil will serve to lock said end overlap flaps in infolded condition upon being infolded over said attachment flaps and, at the same time, will serve to lock said tongues in folded position when said cover part is associated with said bottom part and said tongues passed through said openings from which position they are folded over to secure said cover part to said bottom part.

2,979,253
CONTAINER HANDLE CONSTRUCTION
Wallace G. Phillips, 3498 Seabro St., Hayward, Calif., and William O. Hall, 15075 Churchill St., and Henry H. Overstreet, 60 Via Amigos, both of San Lorenzo, Calif.
Filed Aug. 16, 1956, Ser. No. 604,474
3 Claims. (Cl. 229—54)



1. A bag-type container having opposite side walls substantially coextensive with each other providing an open end structure, a U-shaped closure band covering the end structure with the legs thereof extending downwardly upon and into engagement with the side walls, the closure band being longer in length than the width of the bag and extending beyond the side walls on each side of the bag, a cord overlying one of the legs of the closure band intermediate the vertical height thereof and being of a greater length than the closure band, the cord having a central portion and leg portions, the leg portions of the cord lying along the outer face of the closure band and the ends of the leg portions terminating substantially at the corresponding ends of the closure band with the central portion of the cord being bowed away from the leg of the closure band, a row of stitching coextensive with and intermediate the vertical height of the closure band and extending substantially along the medial portion of the leg portions of the cord, the stitching passing through the leg portions of the cord, the legs of the closure band and the opposite side walls of the bag and effecting the closing and sealing of the entire end structure of the bag and leaving the central portion of the cord free a portion of which extend slightly away from the end structure of the bag and the closure band providing a handle loop for carrying the closed bag.

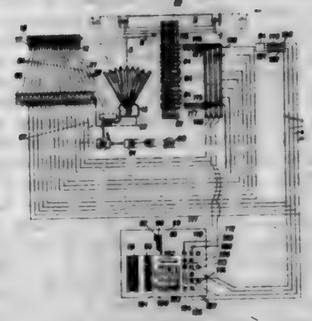
2,979,254
VACUUM DEVICE
Gustav Reich, Koln-Zollstock, Germany, assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 21, 1958, Ser. No. 722,867
4 Claims. (Cl. 230—69)



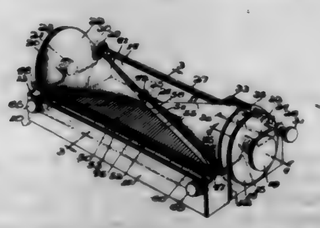
1. In the process of producing a high vacuum by means of an ion getter pump wherein a getter material is vaporized and condensed in position to sorb gases in the pump, said getter having a catalytic effect on sorbed gases with attendant gaseous reaction products, the improvement which comprises vaporizing phosphorus in a location which permits the phosphorus vapors to condense on the condensed getter material, said phosphorus inhibiting said catalytic effect, whereby the formation of said gaseous reaction products is prevented.

2,979,255
FLUID OPERATED AUTOMATIC BUSINESS MACHINE
Franz Hübl, Gotaborg, Sweden, assignor to Kienzle Apparate G.m.b.H., Villingen, Schwarzwald, Germany
Filed Dec. 9, 1955, Ser. No. 552,286
11 Claims. (Cl. 235—60.47)

1. In an accounting machine, in combination, a plurality of movable elements, one of said movable elements being a carriage means adapted to cooperate with printing means and the other movable elements being adapted to actuate movable parts of the machine for effecting actuation of computing means and storage means; fluid-operated operating means connected to each of said movable elements for moving the same; a source of fluid having non-atmospheric pressure; operating conduit means for connecting said source of fluid with said fluid-operated operating means and comprising a plurality of operating conduits respectively connected with said fluid-operated operating means; a plurality of control valve means in said operating conduits, respectively, each control valve means being movable between a first position connecting said source of fluid with the respective operating conduit and a second position connecting the respective operating conduit and the respective fluid-operated operating means with the atmosphere; a plurality of fluid-operated actuating means respectively operatively connected with said control valve means for actuating the same; control conduit means including ducts for connecting the source of fluid for movement therewith with said fluid-operated actuating means and a plurality of control conduits open at one end thereof and respectively connected with said fluid-operated actuating means; a reciprocable member; connecting means connecting said reciprocable member with said carriage means for movement therewith; a control plate removably mounted on said reciprocable member and adapted to be exchanged for another control plate, said control plate having perforations arranged in accordance with a predetermined program; a stationary sensing member slidably engaging said control plate and having a set of openings respectively communicating with said open ends of said control conduits, so that during movement of said carriage means, said reciprocable member, and said control plate said control conduits are opened by said perforations in a selected sequence in accordance with said predetermined program for actuating said control valve means and said operating means for intermittently moving said carriage and for selectively operating said movable elements in accordance with said program.



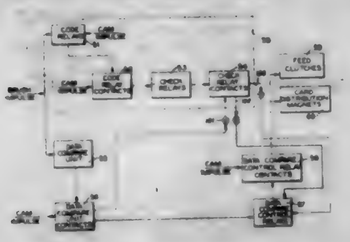
2,979,256
CARGO BALANCE COMPUTER FOR AIRCRAFT
Walton W. Cushman, 6428 Lamar Drive SE., Washington, D.C.
Filed July 2, 1958, Ser. No. 746,305
5 Claims. (Cl. 235—61)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A weight and balance computer for an aeroplane, comprising a support, a pair of substantially identical cones, means mounting said cones on said support for rotation relative thereto, said cones being disposed on said support in opposed and laterally offset relation with parallel axes and adjacent apices, said cones having spaced and opposed parallel peripheries, said cones being formed with spaced inch station designating indicia, said indicia of one cone designating cargo stations on one side of the center of gravity of an aeroplane and

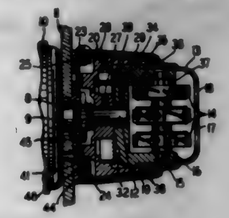
said indicia of the other cone designating cargo stations on the other side of said center of gravity, means for rotating said cones in opposite directions, at least one register for registering the weight of each cargo item upon rotation of said cones, each rotation or partial rotation of said cones registering a predetermined weight unit on said register, a friction wheel, shaft means mounting said friction wheel, said shaft means being disposed between said parallel peripheries of said cones in equidistant parallel relation thereto, said friction wheel being manually slidable along said shaft means to any selected indicia of both cones, said friction wheel being in frictional engagement with one cone or the other at all times whereby said shaft means and friction wheel are rotated with said cones, a scale carried by said support in laterally offset parallel relation to said cones, said scale being formed with spaced inch station designating indicia in alignment with said indicia on said cones, there being a fixed aeroplane center of gravity designating indicia on said support centrally thereof, a threaded shaft rotatably mounted on said support in offset parallel relation to said scale, a nut threadedly engaging said threaded shaft, means preventing rotation of said nut with said threaded shaft whereby to cause said nut to travel along said threaded shaft as the latter is rotated, means connecting said threaded shaft to said shaft means for rotation therewith as the latter is rotated by said cones, said friction wheel being alternately located at an inch station on one cone and then at an inch station on the other cone, said cones being rotated after each location of said friction wheel sufficiently to register the weight of a selected cargo item on said register whereby to cause said nut to travel successively in opposite directions from said center of gravity indicia, and the balance or imbalance of said loaded aeroplane being indicated by the position of said nut relative to said center of gravity indicia after the weight of the last cargo item has been registered.

2,979,257
DATA COMPARATOR
Julius Jancin, Jr., Binghamton, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 29, 1954, Ser. No. 419,420
7 Claims. (Cl. 235—61.7)



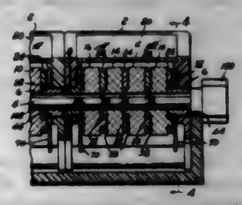
6. In a record card controlled machine having a primary record card data reading station, a secondary record card data reading station, means for feeding primary and secondary record cards past respective data reading stations, one-by-one, and comparing means for comparing primary and secondary card data and producing equal or unequal signals in response thereto, the combination of a data comparator comprising means operatively connected to said primary reading station for storing primary card data read at the primary station, means operatively connected to said secondary reading station for storing secondary card data read at the secondary station, normally inoperative means governed by said primary and said secondary data storing means in response to an unequal signal from said comparing means for comparing orders of stored primary and secondary data arranged in a first relationship so as to detect first relationship orders of matched and unmatched data, means for rendering said comparing means operative, selectively operable means controlled by the primary and secondary data storing means for shifting the orders of secondary data from a first relationship arrangement to a second relationship arrangement, and means controlled by said comparing means in response to said unequal signal for rendering operative said shifting means in response to the detection of a predetermined number of first relationship orders having unmatched primary and secondary data therein.

2,979,258
INDICATING DEVICE
De Witt T. Van Alen, Delavan, Wis., assignor, by mesne assignments, to Amphenol-Borg Electronics Corporation, Broadview, Ill., a corporation of Delaware
Filed July 20, 1955, Ser. No. 523,218
3 Claims. (Cl. 235—103)



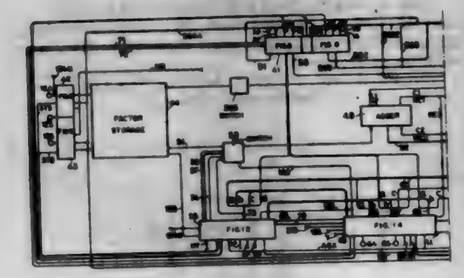
1. An indicating device adapted to be mounted on a panel and connected to the shaft of a rotary instrument, said device comprising a mounting plate, means for fastening said plate to the panel, at least one leg extending from the margin of said plate, a counter having at least one numbered element mounted on said leg, a hollow knob surrounding the shaft and offset radially within said leg for relative rotation of the knob with respect to the leg, means directly connecting said knob to the shaft and motion transmitting gearing within said knob interconnecting the knob and numbered element for rotation of said numbered element on rotation of the knob.

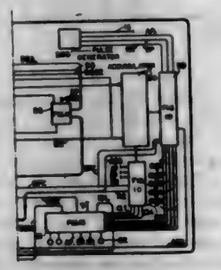
2,979,259
COUNTER
Sterling Graydon, Jr., Harwinton, Conn., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed July 13, 1953, Ser. No. 367,391
4 Claims. (Cl. 235—117)



1. In a counter, a casing, a shaft journaled in said casing, said shaft being axially movable relative to said casing for withdrawal therefrom a row of number wheels rotatably supported on said shaft, annular telescopically interfitting means on said number wheels extending axially thereof and engageable in the absence of said shaft for the mutual self support of said wheels in a row, and means on the casing for vertically supporting the end wheels in said row and maintaining said interfitting means in telescopic engagement in the absence of said shaft, each wheel in said row of number wheels having radially extending means drivingly engageable with said shaft upon rotation thereof in a direction to advance the count thereby to permit resetting of the counter by rotation of said shaft.

2,979,260
DATA TRANSFER SYSTEM
Raoul Estrems, Saint-Maude, France, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 21, 1956, Ser. No. 611,272
15 Claims. (Cl. 235—159)

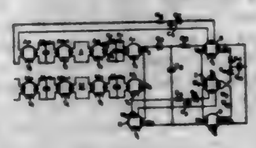




1. A data transfer network in an electronic computing system having a first means for storing a first factor, a second means for storing a second factor and adding means for operating upon said two factors, comprising means for selecting one of a plurality of groups of digits forming the first factor in said first storage means for transfer to said adding means during an operation cycle, means for selecting any ordered number of a predetermined quantity of digits forming said second factor in said second storage means for transfer to said adding means during the same operation cycle, and flexibly operating means controlled by control signals developed during each operating cycle of said computer and capable of developing an operation cycle of variable length for controlling the operation of both said selecting means.

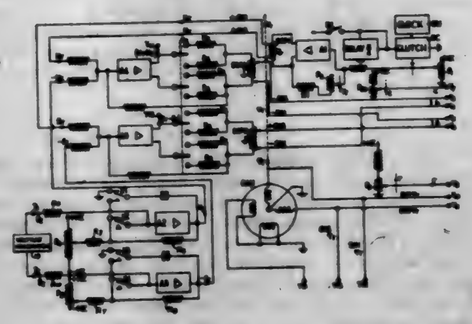
2,979,261
DEVICE FOR ADDING TWO NUMBERS
Nicolaas Cornelis de Vreije, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 683,989
Claims priority, application Netherlands Oct. 31, 1956
2 Claims. (Cl. 235—176)

1. A circuit arrangement for adding two binary numbers, comprising a first group of magnetic cores and a second group of magnetic cores, each of said cores being composed of a magnetic material having a substantially rectangular hysteresis loop, means for storing information in binary form in said first group, means linking all of said cores comprising a first winding on each core, the number of turns of said first windings of the first group being equal, the number of turns of said first windings of the second group being unequal, all of said first windings being connected in series, transfer means for transferring information from said first group to said second group comprising a second winding arranged on each core of said first group, means for applying a first reading pulse at a first predetermined time simultaneously to all of said second windings of said first group, means



linking all the cores of said second group comprising a second winding on each core of said second group, said second windings of said second group being connected in series, one of said second windings being wound in a direction opposite from the other, and a third winding on each of the cores of said second group but one, and means for applying a second reading pulse at a second predetermined time simultaneously to said third windings.

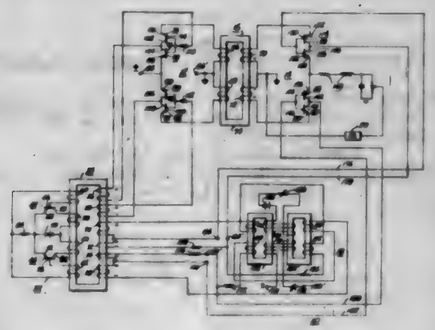
2,979,262
INTERCEPTION COMPUTERS FOR AIRCRAFT OR THE LIKE
William Henry Pesley, 6 Western Close, Great Malvern, England, and Cecil John Wayman, 68 Old Church Lane, Stanmore, England
Filed Oct. 24, 1953, Ser. No. 388,358
Claims priority, application Great Britain Oct. 31, 1952
3 Claims. (Cl. 235—187)



1. An interception computer for guiding an interceptor aircraft on one of two types of pursuit interception manoeuvre, namely the simple and the crossing course types of manoeuvre, to arrive at a predetermined inbehind distance behind and on the same course as a target aircraft, said computer comprising means to supply information as to the initial position of the target aircraft relative to the interceptor aircraft at the beginning of a computation, means to supply information as to the course of the target aircraft, means to supply information as to the speed of the target aircraft, means to supply information as to the speed of the interceptor aircraft, means to supply information as to the minimum turning

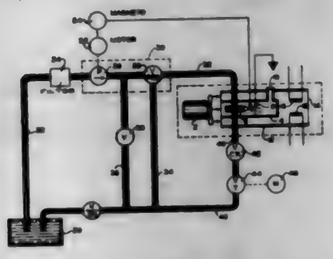
radius of the interceptor aircraft, means to supply information as to the in-behind distance, means to compute from the information supplied by said information supplying means the course on which the interceptor aircraft should fly to effect the simple type of interception manoeuvre, means to compute from the information supplied by said information supplying means the course on which the interceptor aircraft should fly to effect the crossing course type of manoeuvre, course indicating means, means to determine from information supplied by said information supplying means whether the simple type of interception manoeuvre would involve the interceptor aircraft making a turn with a turning radius less than said minimum turning radius, means to select one of said two course computations in dependence upon and determined by the last mentioned means, the course associated with the crossing course type of interception manoeuvre being selected if the simple type of interception manoeuvre would have involved the interceptor aircraft in making a turn with a turning radius less than said turning radius, and means to supply to said course indicating means information as to the computed course of the interceptor aircraft selected by the last mentioned means.

2,979,263
MULTIPLIER CIRCUIT
Glenn L. Keister, Seattle, Wash., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Apr. 22, 1957, Ser. No. 654,270
3 Claims. (Cl. 235—194)



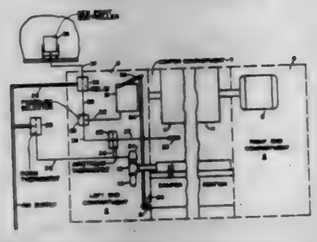
3. In a voltage multiplier for obtaining at a load the product of a first and a second signal, the combination comprising, an oscillator having an output, magnetic core means, winding means disposed in inductive relationship with said magnetic core means, switching means interconnected with the output of said oscillator, circuit means for interconnecting said switching means with said winding means and for applying said first signal to said winding means in accordance with the switching operation of said switching means, other winding means disposed in inductive relationship with said magnetic core means for obtaining an alternating voltage having a substantially rectangular wave shape whose amplitude is proportional to the magnitude of said first signal and whose frequency is proportional to the frequency of said oscillator, other switching means, adapted to control the flow of current to said load, other circuit means for interconnecting said other winding means with said other switching means, and a phase-shift circuit including magnetic core means, load windings disposed in inductive relationship with the magnetic core means of the phase-shift circuit, further circuit means for so interconnecting said other switching means with said load windings and with the output of said oscillator that the switching operation of said other switching means varies in accordance with the flux level in the magnetic core means of the phase-shift circuit, control winding means disposed in inductive relationship with the magnetic core means of the phase-shift circuit, and still further circuit means for rendering said control winding means responsive to said second signal to thus vary the flux level in the magnetic core means of the phase-shift circuit in accordance with the magnitude of said second signal, to thereby vary the switching operation of said another switching means in accordance with the magnitude of said second signal.

2,979,264
AIR HEATER FUEL CONTROL SYSTEM
Aubrey H. Robson, Rock Island, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Sept. 29, 1958, Ser. No. 764,170
4 Claims. (Cl. 236—10)



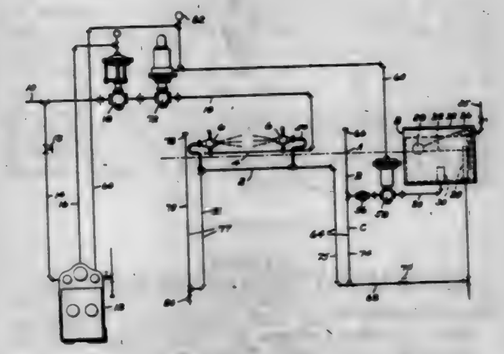
1. In an air heater of the type having a liquid fuel burner into which fuel is discharged at a rate inversely proportional to the degree to which a fuel return conduit connected to said burner is throttled by a throttling valve therein, a fuel control system including: fuel supply means; a source of electrical power; motorized means for operating said throttling valve; circuit means connecting said motorized means for energization in a valve throttling direction or in an opposite valve opening direction in response to variations in heater discharge air temperatures during operation of said heater after starting; heater discharge air temperature control means including switch means in said motorized means circuit responsive to a departure in temperature of said heater discharge air above a selected temperature range to energize said motorized means in a valve opening direction, and responsive to a departure in temperature of said heater discharge air below said selected temperature range to energize said motorized means in a valve throttling direction, said switch means being biased to a neutral position so that said motorized means will be de-energized so long as said heater discharge air temperature is within said selected temperature range; a relay having an actuating coil and first and second associated switches controlled by said coil, said first relay switch in its actuated position completing a portion of said motorized means circuit; a starting circuit connected to said source of power and including said first relay switch in its non-actuated position for energizing said motorized means in a valve opening direction, said starting circuit including a first limit switch operable to an open position in response to operation of said motorized means to a position corresponding to a fully open valve position; an initial energizing circuit for said relay coil including a second limit switch operable to a closed position simultaneously with operation of said first limit switch to said open position; circuit means responsive to a temperature of said heater discharge air above a selected overheat temperature to actuate an overheat cut-out switch to an open position; a holding circuit for maintaining said relay coil energized after initial energization of said relay coil by said initial energizing circuit, said holding circuit including in series said second relay switch in its actuated position and said overheat cut-out switch in its non-actuated position; a circuit connecting said air temperature responsive switch means to said source of power through said second relay switch in its actuated position so that said motorized means is prevented from being operated in a throttling direction in response to a heater discharge air temperature below said selected temperature range until said motorized means has first been operated to a position corresponding to a fully open valve position; and circuit means for operating said fuel supply means, said circuit means being connected to be energized to supply fuel to said burner only after said throttling valve has been operated to said fully open position.

2,979,265
ROOM VENTILATING METHOD AND APPARATUS
Charles S. Stock, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Dec. 31, 1956, Ser. No. 631,732
4 Claims. (Cl. 236—44)



1. A control system for a room unit ventilator of the type having a motorized fan operating continuously to discharge a fan-induced flow of air into the room, motorized damper means operative one way to increase the relative amount of fresh air and another way to increase the relative amount of room air in said fan-induced flow and an air heater for said fan-induced flow, comprising: an air pressure supply; a first air pressure branch; a thermostatic control valve connecting the supply to the first branch and operating, in thermostatic response to rising and falling room temperatures, respectively to increase and decrease the first branch pressure; a pneumatic air-heater control valve operating, in response to rising and falling first branch pressures, over a predetermined range, respectively to reduce and increase the quantity of heat supplied to said air heater; a pneumatic damper-control means normally operating, in response to rising and falling first branch pressures, over a range relatively higher than said predetermined range, respectively to operate said damper means one way and the other; and dew point controller means including, a second air pressure branch, humidity control valve means connecting said supply to said second branch and operative in response to rising and falling values of humidity of localized air along a room surface which reflects the outdoor temperature respectively to increase and decrease said second branch pressure, and balance means placing the pressures of said first and second branches in opposition and operative to subject said damper control means to the stronger of said opposed pressures, whereby said dew point controller means is operative when the humidity of said localized air rises to within a predetermined degree of the dew point to override the normal operation of said damper control means and to operate said damper said one way to increase the relative amount of fresh air in said fan-induced flow for preventing the formation of condensation upon said room surface.

2,979,266
MODULATING SYSTEM FOR HUMIDIFICATION OF ENCLOSURES
Luther Bailey, Charlotte, N.C., assignor to Parks-Cramer Company, a corporation of Massachusetts
Filed June 24, 1957, Ser. No. 667,360
6 Claims. (Cl. 236—44)



1. A humidifying system for an enclosure comprising means including a plurality of water vaporizing units of the atomizer type for providing continuous humidification of the enclosure at a rate lower than the maximum capacity of said units when less than maximum output of said units is required to maintain the enclosure condition, said means comprising a piping system for supplying water to said units from a level below the outlets of said units, a conduit for supplying air under superatmospheric pressure to said units, a valve at the entrance to said water piping system for supplying water continuously to the system during normal operation, means for modulating said valve in accordance with the enclosure condition and thereby varying the rate of flow of water therethrough, said piping system including means between said valve and units for maintaining a variable water level therein by which, as a consequence of one or more units being shut off, the rate of water output of each of said units which remain in operation is increased, said last named means comprising a vertically extending pocket which receives the water flowing from said valve into said system and serves as a pool from which water is withdrawn, said pocket having a vertical length in the order of several feet below the outlets of said units and comprising a first leg in which said variable water level is maintained, the horizontal cross-sectional area of said first leg being in the order of a few square inches or less, and a discharge leg leading to said units with its lower entrance end leading from the lower end of said first leg.

2,979,267
DRINKING TUBE
Frederick W. Miller, 5846 Bellona Ave., Baltimore 12, Md.
Filed June 18, 1958, Ser. No. 742,871
1 Claim. (Cl. 239—33)

A drinking straw arrangement, comprising, structure defining a plastic internally tapered tube having the oppo-

site ends thereof open, and a plurality of evenly spaced fin-shaped elements in the form of spoon shells provided integrally at one end of said tube, said one end of said



tube also having slots provided therein and extending in the longitudinal direction of said tube from said one end thereof and positioned between said fin-shaped elements to prevent sealing of said tube.

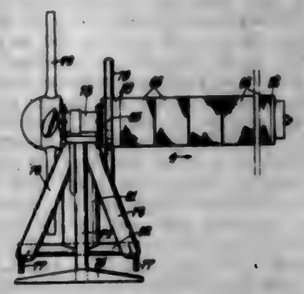
2,979,268
COMBINATION PACKAGE AND DIFFUSION DEVICE
Pierre Constant Emile Brun, Saint-Benoit, France, assignor to Societe Poitevine de Conditionnement (Societe Anonyme), Saint-Benoit, France, a French company
Filed Dec. 23, 1957, Ser. No. 704,640
Claims priority, application France Jan. 30, 1957
10 Claims. (Cl. 239—55)



1. A combination package and diffusing device comprising a mass containing volatilizable air-treating components, a bag-like casing of pliable vapor resistant material hermetically enveloping said mass and extending beyond at least some of the margins thereof to provide unoccupied overlap areas, means forming a plurality of channels traversing said mass and extending into said overlap areas, portions of said overlap areas adapted to be readily removed to break the seal of said casing and permit communication of the ends of said channels with the ambient atmosphere while retaining the body of said mass enveloped within the remaining casing.

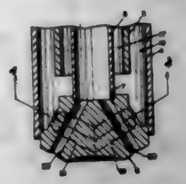
2,979,269
SPRAYING APPARATUS FOR TREATING CROPS AND PESTS
Edward Julius Bals, Battersea, London, England, assignor to Micron Sprayers Limited, Birmingham, England, a British company
Filed Feb. 23, 1956, Ser. No. 566,387
Claims priority, application Great Britain Feb. 28, 1955
10 Claims. (Cl. 239—77)

1. A liquid spraying apparatus for crops comprising a fixed hollow supply head for the liquid to be sprayed and adapted for attachment to a support, a gauze drum rotatably and coaxially mounted on the fixed supply head, said head having at least one passage formed therein directed



outwardly towards the inner surface of the gauze drum, and an air impeller connected to said gauze drum.

2,979,270
OXYGEN LANCES FOR OPEN-HEARTH FURNACES AND THE LIKE
Leland H. Hatton, 2518 Claver Road, University Heights, Ohio
Filed Feb. 27, 1959, Ser. No. 796,157
2 Claims. (Cl. 239—132)

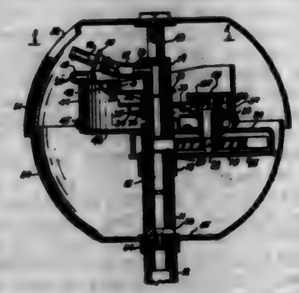


1. In a device of the character described, a supporting collar, three concentrically arranged spaced tubular members secured to said collar and depending therefrom, a nozzle or tip supported by at least one of said tubular members, said nozzle or tip made as a one-piece member of copper having a series of passageways consisting of circumferentially-spaced inclined bores diverging downwardly and outwardly through said nozzle or tip for the passage of oxygen therethrough, and a series of circumferentially-spaced passageways therein for the passage of a cooling fluid, said last-named passageways consisting of bores arranged circumferentially alternately with said first-named passageways, and extending inwardly and downwardly toward the center of said tip and converging in a common junction near the center of said tip, said junction being separated from the outer ends of said first-named passageways by a mass of said one piece member.

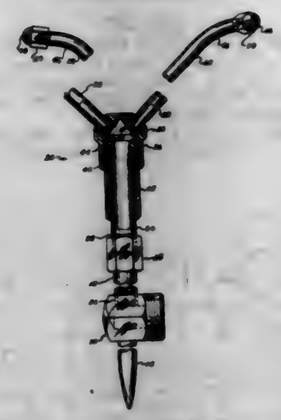
2,979,271
WATER SPRINKLING DEVICE
Robert E. Boyden, Granby, Conn. (5408 Sultana St., Temple City, Calif.)
Filed Oct. 28, 1957, Ser. No. 692,674
6 Claims. (Cl. 239—236)

1. A water sprinkler comprising the combination of an elongate tubular base forming a water conduit extending along the length thereof, said base having an opening in the side thereof communicating with said water conduit, said opening being located intermediate the ends of said base, a turbine wheel, means carried by said base for rotatably supporting said turbine wheel for rotation about an axis offset from said conduit, said turbine wheel extending in said opening and being rotatable by water moving through said conduit, a nozzle unit rotatably supported by said base for movement

about a vertical axis, means operatively connecting said turbine wheel to said nozzle unit for rotating said nozzle unit, said nozzle unit comprising a nozzle communicating with said water conduit adjacent one end thereof whereby to direct a jet of water outwardly and means for conveying water under pressure to the opposite end of said water conduit.

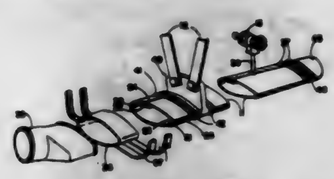


2,979,272
NYLON SPRINKLER HEAD
Camiel Thorrez, 2001 Spring Arbor Road, Jackson, Mich.
Filed May 15, 1957, Ser. No. 659,236
1 Claim. (Cl. 239—259)



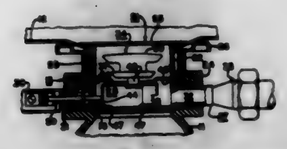
A rotatable reaction type sprinkler comprising in combination, a stake adapted to be inserted into the ground, a hose fitting having an internal chamber affixed to said stake, rigid conduit means affixed to said fitting in communication with said chamber, a tubular pivot member affixed at one end to said conduit in communicating therewith, an annular radially extending flange integrally formed on and defining the other end of said pivot member and provided with a sealing surface, a tubular uniformly cylindrical sleeve axially movable and rotatably supported on said pivot member below said flange, one end of said sleeve being provided with a sealing surface adapted to engage the sealing surface of said flange during operation of the sprinkler, a bulbous housing affixed to said sleeve adjacent the sealing surface thereof defining a chamber enclosing said flange, the bore of said flange end of said pivot member communicating directly with said chamber such that the flow of water entering said chamber is parallel to the axial movement of said sleeve, tubular conduit arms supported on said housing in communication with said chamber, and nozzle means affixed to the ends of said arms, said pivot member, sleeve, housing, arms and nozzle means being formed of a thermoplastic polyamide resin.

2,979,273
SPRAY BOOM FOR AIRCRAFT
Dorsey M. Liebhart, 8224 NE. 42nd Ave., Portland, Oreg.
Filed Dec. 8, 1958, Ser. No. 778,914
5 Claims. (Cl. 239—550)



1. An aircraft spray boom comprising a tube having an approximately elliptical cross section with an internally thickened wall portion forming a stiffening rib extending longitudinally within said tube, spray nozzles mounted in said rib, an end cap on the outer end of said boom, a supply hose adapter on the inner end of the boom, rubber hose connectors securing said end cap and adapter to the boom, hanger brackets having portions conforming to the contour of the boom, and strap type hose clamps on said hose connectors and hanger brackets encircling the boom.

2,979,274
FOOD WASTE DISPOSER
Robert H. Tull, Wilbraham, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 9, 1957, Ser. No. 677,385
6 Claims. (Cl. 241—32.5)

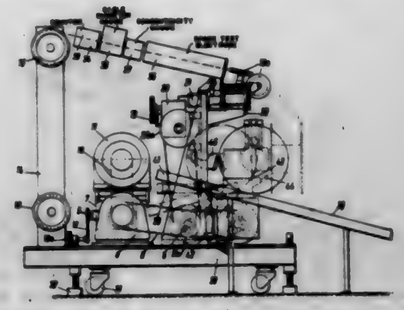


1. In a comminuting device, the combination of a housing having an inlet for receiving material to be comminuted, means for securing said housing to a sing in a position where said housing inlet is substantially aligned with a drain outlet for the sink, a removable insert secured between said securing means and said housing and defining a passage between the sink outlet and the housing inlet, and means providing communication between an exterior surface of said insert and said passage whereby fluent material can be conveyed to said housing inlet through said insert, said sink outlet and said housing inlet having respective mating surfaces which are adapted to be held by said securing means in sealing relationship with each other in the absence of said insert whereby said comminuting device is operative with and without said insert secured between the sink outlet and the housing inlet.

2,979,275
AUTOMATIC COILING MACHINES
Bernard Keith Bigland, Ainsworth, near Bolton, and Ronald Frederick Garner, Bury, England, assignors to General Engineering Company (Radcliffe) Limited, Radcliffe, Lancashire, England, a British company
Filed Oct. 15, 1957, Ser. No. 690,331
Claims priority, application Great Britain Oct. 15, 1956
8 Claims. (Cl. 242—25)

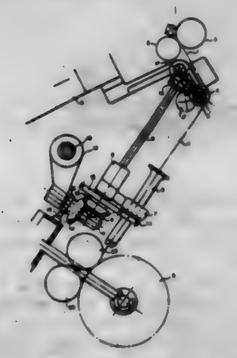
4. Apparatus for winding a metal filament, such as an insulated electric conductor, into a plurality of packages from a longer length presented without delivery interruption to correspond with the termination of each pack-

age, comprising an accumulator with tensioning apparatus to receive and redeliver the filament, at least two heads adapted to receive and wind the filament, means for driving each head, testing apparatus for the filament and



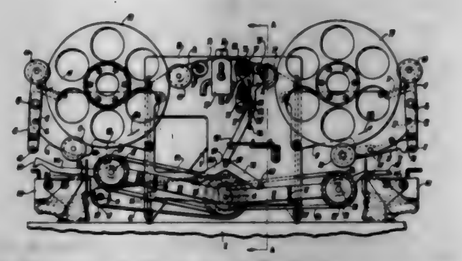
means adjacent the heads operably connected with at least one of said testing apparatus for the filament for delivering the packages in at least two groups according to the result of the test by the testing apparatus.

2,979,276
SLIVER DELIVERY UNIT FOR STATIONARY BALLING HEAD
Gianni Bider, Corso Matteotti 1A, Milan, Italy
Filed Jan. 17, 1955, Ser. No. 482,343
Claims priority, application Italy Dec. 18, 1954
3 Claims. (Cl. 242—54.4)



1. In a baller, in combination, elongated balling means adapted to have wound thereon a sliver supplied substantially within a delivery plane; sliver supplying means spaced from said balling means and having a delivery point lying exteriorly of said plane; first sliver guide means for guiding substantially within said delivery plane the sliver supplied by said supplying means, said first guide means being arranged between said supplying means and said balling means and adjacent the latter for reciprocating movement relative thereto in the direction of the length thereof so that a sliver guided by said first guide means may be balled evenly onto said balling means, said first guide means during its reciprocating movement occupying different positions wherein the paths along which the sliver moves from said delivery point of said supplying means to the point at which it is wound upon said balling means tends to be of different lengths; second sliver guide means arranged in the region of said delivery plane between said delivery point of said supplying means and said first guide means for guiding the sliver supplied by said supplying means substantially into said plane, said second guide means being pivotable transversely to said delivery plane about a first pivot axis extending in the direction of said balling means so as to be capable of occupying different positions wherein the sliver moves along different paths forming different angles with said delivery plane; and connecting means interconnecting said first and second guide means for pivoting the latter transversely to said delivery plane in such a manner that during reciprocating movement of said first guide means, said second guide means moves throughout such positions as to guide the sliver along different paths forming such angles with said delivery plane that the length of the sliver path is maintained substantially constant at all times, said connecting means including an elongated connecting member connected at one end thereof to said first guide means for reciprocating movement therewith and for pivotal movement about a second pivot axis normal to said delivery plane, said connecting member being connected at its opposite end to said second guide means for pivotal movement relative thereto about a third pivot axis also normal to said delivery plane and for reciprocating movement relative to said second guide means in a direction coextensive with said third pivot axis, whereby said second guide means will, during reciprocating movement of said first guide means, pivot about said third axis, thereby moving transversely to said delivery plane and guiding the sliver along different paths forming different angles therewith.

2,979,277
RECORD TAPE TRANSPORTS
Paul F. Page, Newington, Harry L. Lambert, West Hartford, and Alton G. Snyder, Newington, Conn., assignors to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York
Filed Oct. 14, 1957, Ser. No. 690,120
13 Claims. (Cl. 242—55.12)

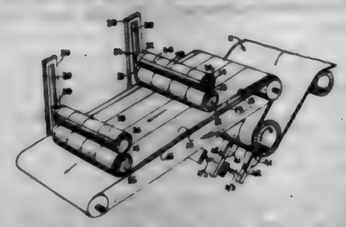


1. A record transport device; comprising, a frame, a first and a second flanged spool rotatably supported in said frame, a lever movably mounted on said frame, a third flanged spool rotatably supported on said lever, said spools being adapted to peripherally support a tape reel and disposed so as to subtend more than 180 degrees of the periphery of said reel, and means for driving one of said spools.

2,979,278
TEXTILE MACHINES
Edward W. Jones, Waterville, N.Y., assignor to Elastic Fabric Co., Inc., New York, N.Y., a corporation of Delaware
Filed June 16, 1959, Ser. No. 820,636
16 Claims. (Cl. 242—56.4)

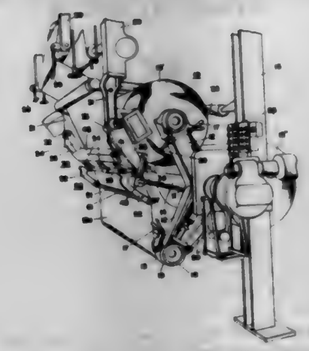
1. The method of separating and rolling onto individual rolls, separate layers of a continuous multi-layer sheet of fabric arranged in a single plane which comprises floatingly supporting said individual rolls on an endless conveyor belt; feeding said sheet of fabric to said rolls; connecting successive layers of said fabric to separate of said

floatingly supported rolls; and moving said conveyor belt in a manner to cause said rolls to turn in a direction to



roll each layer of fabric onto the corresponding roll to which it is connected.

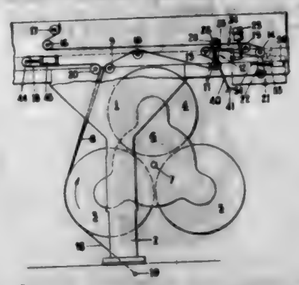
2,979,279
WEB CONTROL DEVICE
Miles F. Kreston, Drexel Hill, and Robert E. White, Sharon Hill, Pa., assignors to Triangle Publications, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Jan. 13, 1958, Ser. No. 708,553
5 Claims. (Cl. 242—58.3)



1. In a web supply mechanism including severing means adapted to change the feed of a web from an expiring roll to a replacement roll, a retractable web control device extending across the expiring web below the severing means and having structure adapted to engage the expiring web at a location intermediate the expiring roll and the replacement roll, means for continuously maintaining said structure of said device in engagement with said web during the severing thereof to minimize the flutter of said web as it leaves the expiring roll and thereby minimize breakage of the web during the change of feed operation, and means for automatically pivoting said device under gravity bias relative to the severing means to a collapsed inactive position.

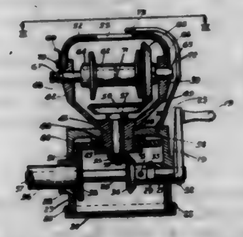
2,979,280
WEB TENSION CONTROL
Frederick Wallace Ralph, Wembley, England, assignor to Witton-James Limited, London, England
Filed Dec. 10, 1958, Ser. No. 779,329
Claims priority, application Great Britain Dec. 12, 1957
8 Claims. (Cl. 242—75.42)

1. An arrangement for maintaining the tension at a substantially constant value in a web being run from a reel mounted in a reelstand, said arrangement comprising: tensioning equipment mounted on the reelstand for imparting a tension to the web at the reel, regulator means adjustable to set the tensioning equipment to provide a desired tension in the web, a roller web support mounted for movement in a direction transverse to its longitudinal axis and over which the web from the reel runs with said web support disposed with its length across the width of the web and with the web wrapped partially



around said web support, and actuating means adjusted by said regulator means for applying a force to said web support in a direction opposing the component of the tension in the web acting on said web support.

2,979,281
APPARATUS FOR UNTWISTING LINES
Alvin O. Shafer, 2003 Lakeway, Kalamazoo, Mich.
Filed Mar. 26, 1959, Ser. No. 802,092
7 Claims. (Cl. 242—84.1)



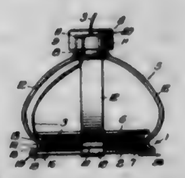
1. In a device for untwisting a twisted fishing line, the combination of elements including: a suitable housing including opposite walls adapted to be mounted in a suitable location; a primary drive shaft extending through the housing and mounted rotatably in opposite walls thereof; a primary driving gear and a slidably adjustable driving friction disk mounted on the primary drive shaft and rotatable therewith; a yoke including a stem and a pair of arms having its stem bored longitudinally and mounted rotatably in a wall of the housing with its longitudinal axis co-planar with, and extending normally to, the longitudinal axis of the primary drive shaft and with the arms of the yoke outside the housing; a driven friction disk secured to the yoke stem inside the housing adapted to engage and be driven rotatably by the driving friction disk whereby the yoke can be rotated around the longitudinal axis of its stem; a spool shaft extending between and mounted rotatably in the arms of the yoke having a line-receiving spool mounted thereon to rotate therewith; a secondary driven gear associated with and rotatable with the spool and spool shaft; a secondary drive shaft mounted rotatably in the longitudinal bore of the yoke stem; a primary driven gear secured to the end of the secondary drive shaft inside the housing in mesh with the primary driving gear; and a secondary driving gear mounted on the end of the secondary drive shaft opposite the primary driven gear and adapted to mesh with the secondary driven gear whereby, upon rotation of the primary drive shaft, the line-receiving spool can be caused to rotate around the longitudinal axis of the spool shaft and the spool shaft can be caused to rotate in end-over-end fashion with its longitudinal axis rotating in a plane.

2,979,282
AUTOMATIC REEL
Chester J. Barecki, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey
Filed Apr. 15, 1959, Ser. No. 806,497
14 Claims. (Cl. 242—107.4)



4. In an automatic reel: a housing; a shaft rotatably mounted on the housing; an elongated, flexible, non-stretchable element connected to the shaft and adapted to be wound thereon and unwound therefrom; means for normally yieldingly urging the shaft in the winding direction; an actuating member having a projection thereon mounted on the shaft rotatably therewith; a follower pivotally mounted in the housing and adapted to bear against the actuating member during said member's rotation with the shaft, said follower riding over said projection during normal rotation of the shaft below a predetermined velocity, and said follower being impelled radially outwardly from the actuating member by said projection upon rotation of the shaft at or above said predetermined velocity; means operating automatically to maintain said follower in outwardly impelled position; and locking means associated with the follower for locking the shaft against rotation in the unwind direction when said follower is in said outwardly impelled position.

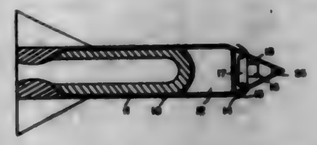
2,979,283
FILAMENT HOLDING AND TENSIONING DEVICE
Raymond O. Letsch, 329 Mulberry Ave., Waterloo, Iowa
Filed Apr. 16, 1959, Ser. No. 806,911
7 Claims. (Cl. 242—129.8)



1. A filament holding and tensioning device comprising, in combination, means for gripping over and holding the periphery of a first flange on a spool of filament for withdrawal of the filament from the spool in generally conical path over the edge of an opposite second flange spaced on said spool from said first flange, tension means cooperable with the filament upon withdrawal from the spool, and connecting means resiliently connecting said gripping and holding means to said tension means and resiliently holding said gripping and holding means in gripping and holding engagement with said first flange on said spool.

2,979,284
MISSILE GUIDANCE SYSTEM
Seymour A. Gruden and Harold D. Puget, Detroit, Mich., assignors to Continental Aviation & Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Mar. 5, 1956, Ser. No. 569,438
4 Claims. (Cl. 244—14)

1. A ballistic missile having a predetermined drag coefficient and operable to travel a predetermined ballistic flight trajectory, a guidance system for said missile and comprising adjustable drag means carried by said missile and selectively variably increasing the drag coefficient of the missile symmetrically with respect to the axis



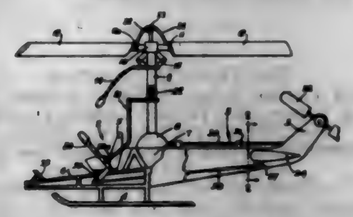
thereof to variably alter the trajectory of said missile in the vertical plane only, and remote control actuating means selectively increasing and decreasing the drag effect of said drag means in flight to control within limits the trajectory of said missile.

2,979,285
MISSILE STRUCTURES
Erich Planitzer, Nurtingen, Wurttemberg, Germany, assignor to Bolkow-Entwicklungen Kommanditgesellschaft, Ottobrunn, near Munich, Germany
Filed Sept. 30, 1959, Ser. No. 843,445
Claims priority, application Germany Oct. 10, 1958
19 Claims. (Cl. 244—14)



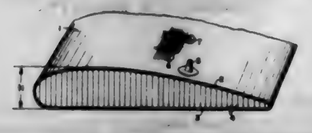
1. In a missile having a head member and a body member, a coupling member for coupling said head member to said body member, said coupling member having center-of-gravity adjusting means in the form of an adjustable fine thread connection of small lead with said body member and a gross thread connection of large lead with said head member.

2,979,286
HORIZONTAL TAIL PLANE FOR HELICOPTERS
Joseph Stuart III, Palo Alto, Calif., assignor, by mesne assignments, to Hiller Aircraft Corp., Palo Alto, Calif., a corporation of California
Filed Aug. 31, 1959, Ser. No. 836,962
4 Claims. (Cl. 244—17.19)



1. A rotary wing aircraft comprising a fuselage having a pilot's station thereon, a main lift rotor above said fuselage and rotatable thereover, said rotor comprising a hub and a plurality of rotor blades each of which is pivotable about its own axis relative to said hub whereby the pitch of each of said blades may be varied, a pilot operable control member movably positioned adjacent said pilot's station, means operatively interconnecting said control member with each of said rotor blades whereby simultaneous pivotal movement of said blades in the same direction about their respective axes may be effected by movement of said control member whereby blade pitch may be collectively and selectively modified, a tail plane stabilizer pivotally mounted on said fuselage for enhancing flight stability of said aircraft, said stabilizer extending transversely of said fuselage and being pivotable about an axis which is angularly related to the longitudinal axis of said fuselage, and means operatively connecting said stabilizer directly to said collective pitch control member so that movement of said member in a predetermined direction effects corresponding pivotal movement of said stabilizer in a predetermined direction in conjunction with modification of the collective pitch of said rotor blades.

2,979,287
INFLATABLE WING WITH VARIABLE CAMBER
Robert S. Ross, Cleveland, Ohio, assignor to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Sept. 2, 1959, Ser. No. 837,725
5 Claims. (Cl. 244—44)



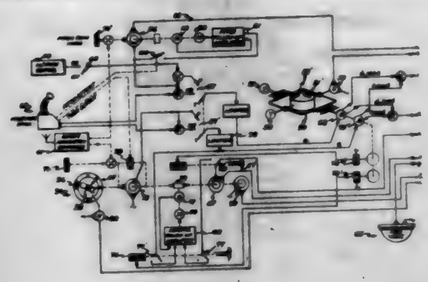
1. An inflatable wing for an aircraft including flexible fabric formed to the shape of a wing, an air-impervious coating on the fabric, a plurality of tie threads extending substantially vertically of the wing and connecting the upper and lower wing surfaces together, and of proper length to contour the wing in cross section to airfoil shape, the flexible fabric having warp threads extending substantially longitudinally of the wing and weft threads extending substantially transversely, the weft threads on the upper surface of the wing being more readily extensible than the warp threads throughout the wing and more readily extensible than the weft threads on the lower surface of the wing, and means for inflating the wing to different internal pressures to change the camber of the wing and the lift-drag ratio thereof.

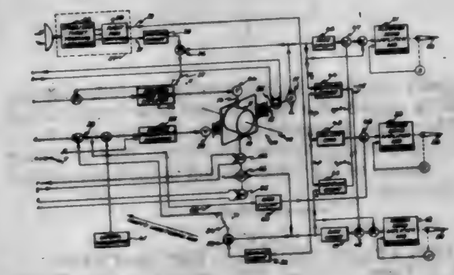
2,979,288
AIRCRAFT PROPELLER ARRANGEMENT AND MEANS FOR ELONGATING SAME
Albert Klein, 1561 Glenmont Road, Cleveland, Ohio
Filed Jan. 15, 1959, Ser. No. 786,985
5 Claims. (Cl. 244—55)



5. In an aircraft of the character described, a pair of inboard engines, a pair of outboard engines, all of the engines having conventional propellers of fixed length, such that these propellers cannot touch the ground when the aircraft has landed and the engines are rotating, at least one pair of said engines having additional propellers whose overall length can be extended, such that they would contact the ground if the aircraft landed with the engines of said additional propellers rotating, whereby the aircraft can be flown with said extensible propellers, when extended, and means for extending said extensible propellers.

2,979,289
AUTOMATIC PILOT FOR AIRCRAFT
Malcolm J. Abzug, Pacific Palisades, Calif., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Mar. 31, 1955, Ser. No. 498,352
21 Claims. (Cl. 244—77)



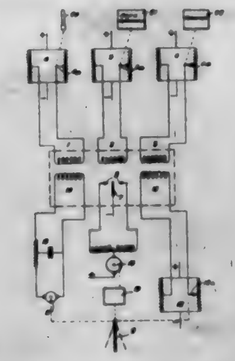


1. In a control system for aircraft having roll and yaw control surfaces for controlling the azimuthal orientation of the longitudinal axis of said aircraft and including stabilized apparatus for defining a first space-stabilized azimuthal reference direction, automatic pilot means for said aircraft comprising, gyroscope means for defining a second space-stabilized azimuthal reference direction, means responsive to the azimuthal orientation of said gyroscope for controlling said yaw control surface whereby to control the orientation of said craft longitudinal axis in accordance with the orientation of said gyroscope, and means responsive to the difference between the orientation of said gyroscope and the orientation of said apparatus for controlling said gyroscope orientation and said roll control surface.

2,979,290
MIXED CORRESPONDENCE CONTROL DEVICE FOR THE CONTROL MEMBERS OF AN AIRCRAFT
Michel Paul Baliguet, Dammarie-les-Lys, Günther Ernst, Suresnes, and Jean Jardinier, Vitry-sur-Seine, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Nov. 29, 1957, Ser. No. 699,681
Claims priority, application France Dec. 4, 1956
3 Claims. (Cl. 244—77)

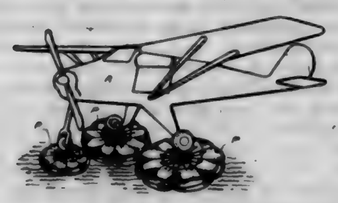
1. A control device for the control surfaces of a vertical take-off and landing aircraft comprising a control member at the disposal of the pilot, a gyrometer and a gyroscope each including means for producing an input signal, whereby the three input signals are a function of parameters of the movement of the aircraft about its center of gravity and in particular about the axes of references corresponding to one of the control surfaces of the aircraft, an amplifier supplied with said input signals, a motor connected to said amplifier and driving said

control surface, means sensitive to the position of said control surface for producing a first follow up signal and means sensitive to the speed of said control surface for producing a second follow up signal and a delay circuit for delaying said second follow up signal, said first follow up signal being first applied to said amplifier where



it opposes said input signals, said second follow up signal being applied after delay in said delay circuit to said amplifier where it opposes said input signals in order to make said motor movable in a direction and of an amount which depends on the algebraic sum of the input and follow up signals.

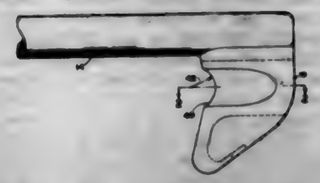
2,979,291
INFLATABLE PONTOON FOR AIRCRAFT
Philip A. Lirio, Vineland, N.J., assignor to Lirio Chemical Company, Inc., Vineland, N.J., a corporation of New Jersey
Filed July 25, 1957, Ser. No. 674,147
12 Claims. (Cl. 244—102)



1. A collapsible, displaceable aircraft pontoon assembly which may be inflated or deflated while the aircraft is in flight comprising, an inflatable float, a float-support structure and means securing said float thereto, a pressurized gas conduit system communicating with the interior of said float for conducting pressurized gas thereto from a gas supply whereby said float may be inflated for use, and means coupled to said float for deflating and collapsing the latter and spirally winding the same about the said float-support structure while the aircraft is in flight to provide a compact unit affording relatively small air drag.

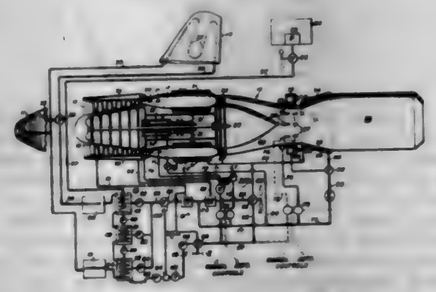
2,979,292
AIRCRAFT ARRESTING HOOK HEAD
Robert W. Creger, Philadelphia, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Aug. 30, 1956, Ser. No. 607,029
9 Claims. (Cl. 244—110)

1. In aircraft arresting gear for intercepting an aircraft when making a landing on a runway, including an arresting cable of predetermined diameter and lay length formed of a plurality of helically wound strands and secured transversely of said runway, and a cable engaging hook attachable to an aircraft for engagement with said cable to arrest the forward motion of said aircraft, the improvement in said cable engaging hook comprising: a cable engaging curved surface on said hook of constant



radius determined by the predetermined lay length of said cable so as to provide engagement by said hook with one-half lay length of cable wrap at the moment of first impact between said cable and said hook, whereby each cable strand will be simultaneously tensioned by said hook.

2,979,293
COOLING FOR SUPERSONIC AIRCRAFT
Jay A. Mount, 5808 Highland Drive, Kenwood, Md.
Filed Mar. 2, 1956, Ser. No. 569,095
12 Claims. (Cl. 244—117)



1. Apparatus for cooling aerodynamically heated components of aircraft and supplying fuel for the operation of a reaction jet engine therein comprising in combination, an aircraft having aerodynamically heated components, a reservoir on said aircraft for liquid fuel, means for continuously transferring heat from one of said components to a relatively fixed quantity of said fuel to vaporize a portion of it, means maintaining said quantity of fuel fixed and isolated from air, a vacuum pump associated with said quantity of fuel to maintain it at lower than atmospheric pressure and to remove vapor as rapidly as formed, conduit and control means associated with said vacuum pump to deliver said vapor to said engine for burning, and a source of compressed air for mixing with said vapor for burning in said engine.

2,979,294
PARACHUTE COMBINATION AND EJECTION DEVICE
Wilhelm Buss, 1528 Orange Ave., El Centro, Calif., assignor of one-half to Paul O. Tobeler, doing business as Trans-Oceanic, Los Angeles, Calif.
Filed June 25, 1956, Ser. No. 593,399
11 Claims. (Cl. 244—148)

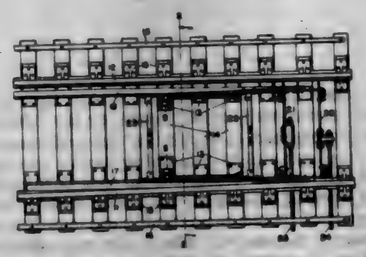
1. In combination, a parachute harness, a first parachute pack secured to said harness, a pilot parachute secured in a stored-energy ejection device, said device being secured on said first pack, a second pack removably secured in said first pack, a main parachute in said second pack, a brake parachute container removably held in said

first pack; said container being an elongated, narrow sack having one open end; a ribbon brake parachute, said container detachably holding said brake parachute snugly therein, a first line connecting the shrouds of said pilot parachute to the closed end of said brake parachute container, a second line undetachably connecting the shrouds of said brake parachute to said second pack, and a third line undetachably connecting said second pack to the top of the canopy of said main parachute, the shrouds of said main parachute connected to said harness by straps, said second pack having a flap cover over its opening,



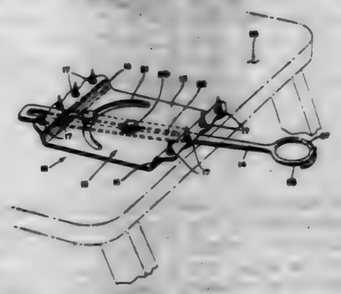
said flap cover held closed by shrouds of said main parachute, said shrouds zigzaggedly interlaced over said cover and through loops adjacent said cover in said second pack, said last-mentioned shrouds held snugly in said loops, said main parachute shrouds being adapted to disengage from said loops when tension is created in said straps and said third line, means on said second pack and said straps to delay the disengaging of said shrouds from said loops when said tension is created, said tension being caused by filling said brake parachute with air, whereby said flap cover is caused to open and said main parachute is caused to be pulled out of said second pack.

2,979,295
ROLLER BEARING SUPPORTS FOR RAILWAY SWITCH POINTS
Ralph W. Hewes, Rochester, N.Y., assignor to General Railway Signal Company, Rochester, N.Y.
Filed May 6, 1957, Ser. No. 657,372
5 Claims. (Cl. 246—435)



1. In a roller bearing support for a railway track switch point rail, a torque rod positioned parallel to and adjacent said switch point rail and having one end fixedly mounted thereto and the other end rotatably mounted thereto in a bearing support fixed to said switch rail for receiving the rotatable end of the said torque rod, a lever arm fixed to the rotatable end of said torque rod and a roller mounted on the free end of said lever arm, said lever arm positioned to have said roller bear on a tie plate, whereby said torque rod resiliently supports said switch point rail above the surface of said tie plate.

2,979,296
ELECTRIC CORD SUPPORT FOR AN IRONING BOARD
Edith Groocock, 363 Ellis Park, Toronto, Ontario, Canada
Filed Dec. 2, 1957, Ser. No. 700,902
1 Claim. (Cl. 248—51)

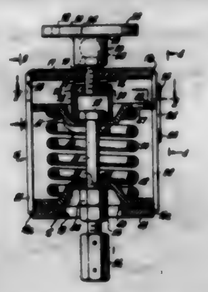


An electric cord support for an ironing board, comprising a bracket adapted to be attached to the underside of the ironing board, the bracket comprising a channel shaped member having a central web with an L-shaped flange on each of two opposing sides, each of the L-shaped flanges having one leg generally perpendicular to the central web and another leg parallel to the central web, the legs that are parallel to the central web being adapted to be fastened to the underside of the ironing board so that the bracket may be attached to the ironing board, and an arcuate guide slot in the central web, and an arm having an elongated opening, the arm being mounted on the bracket by a pivot member extending through the opening and a pin having a head at each end and passing through the slot and the opening so that the arm is pivotally and slidably mounted on the bracket, the pin and the guide slot limiting arcuate movement of the arm, and adjustable frictional means for restraining the slidable and rotational motion of the arm, the arm having an end that has two prongs that are curved to form an electric cord retaining aperture in which the cord is free to slide, the prongs having ends that overlap in the first plane but are spaced in a plane perpendicular to said first plane so that the cord may be removed from said aperture.

2,979,297
COMBINED SUPPORT AND SHOCK ABSORBER FOR PIPING AND THE LIKE
Leonard S. Sauzre, Hackensack, N.J., assignor to Bergen Pipesupport Corp., New York, N.Y., a corporation of New York
Filed May 20, 1959, Ser. No. 814,493
9 Claims. (Cl. 248—54)

1. In a combined spring hanger and shock absorber for piping and the like, a housing including a top wall, a bottom wall having a through opening and at least one side wall, said housing having a window defined at least in part by the side wall a pair of vertically spaced transverse movable plates consisting of a lower movable plate at least partly within the housing and an upper movable plate wholly within the housing, each plate having a through opening which is aligned with the opening in the housing bottom wall, means within the housing for limiting downward movement of the lower plate, spring means disposed between and bearing against both plates, a rod slidable through the spring means and the openings in the plates and the housing bottom wall, means connected to the rod and engaging the upper side of the upper

plate, means connected to the rod and engaging the lower side of the lower plate, and means wholly within the housing for varying the loading on the spring means, said last mentioned means comprising a threaded rod connected to the housing top wall and projecting into the



interior of the housing, said threaded rod being substantially coaxial with the first mentioned rod, and a threaded tubular member engaging the threaded rod and bearing against the upper side of the upper plate said tubular member being accessible through the window.

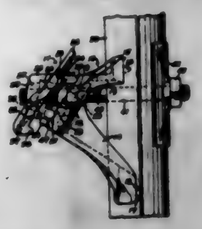
2,979,298
HANGER ASSEMBLY
Paul A. Kenyon, Rte. 3, Box 360, Parkville, Mo.
Filed Aug. 26, 1957, Ser. No. 680,145
12 Claims. (Cl. 248—62)



1. In a hanger assembly, an elongated strip provided with a plurality of spaced shoulders; a substantially U-shaped device provided with a pair of legs receiving the strip therebetween; means on at least one of said legs securing the device to the strip and engaging one of said shoulders; a bracket; and means on the bracket securing the latter to the strip and engaging another of said shoulders.

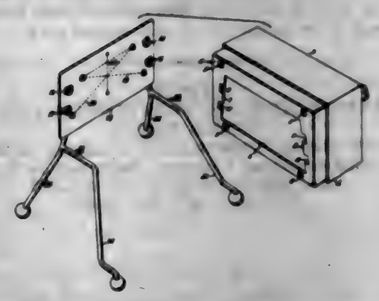
2,979,299
AERIAL CABLE CLAMP
Owen R. Huggins, Darien, Conn., assignor to Malleable Iron Fittings Company, Branford, Conn., a corporation of Connecticut
Filed Mar. 20, 1959, Ser. No. 800,862
10 Claims. (Cl. 248—67.5)

1. In an aerial cable clamp for attachment to utility line poles or the like, a clamp body including a face portion generally disposed in a downwardly and forwardly inclined plane and having a horizontal through-bolt receiving hole opening to its forward surface, a part of said forward surface immediately surrounding said hole being disposed to provide a bearing surface normal to the axis of said hole for bearing engagement of a nut screwed upon a horizontal through-bolt extending diametrically through the pole and projected through said hole, and pole-engaging means for supporting said face portion in outwardly spaced relation to the pole including leg means extending rearwardly from its upper portion for engaging the pole above the through-bolt and leg means extending



rearwardly from its lower portion for engaging the pole below the through-bolt, a clamping plate opposed to said face portion, said clamping plate and face portion having cooperative fulcrum means disposed above said bearing surface and longitudinally extending complementary cable receiving grooves disposed below said bearing surface, said grooves being in forwardly offset relation to said fulcrum means, and clamping bolt means connected between said clamp body and said clamping plate for exerting clamping pressure upon said clamping plate.

2,979,300
CAN OPENER MOUNTING STRUCTURE
Edward D. Howell, New York, and James Green, Jr., Spencerport, N.Y., assignors to General Electric Company, a corporation of New York
Filed Aug. 28, 1959, Ser. No. 836,783
4 Claims. (Cl. 248—146)



1. A can opener comprising a casing having a front wall and a rear wall, cutter means on the front wall of said casing adapted to support a can and sever the lid thereof, the rear wall of said casing having an opening of generally rectangular configuration, each of the side edges of said opening having at least one notch therein, a mounting plate including a plurality of laterally projecting tabs secured thereto and adapted to pass through said notches and be shifted into engagement with the side edges of the opening in said rear wall of said casing, said mounting plate having a plurality of apertures therein, at least one supporting frame including leg portions adapted to rest on a horizontal surface and a mounting portion including a pair of apertures therein spaced so that each is in alignment with one of the apertures in said mounting plate when the supporting frame and mounting plate are assembled in operative position, and a plurality of removable fasteners adapted to be positioned in said apertures in engagement with said supporting frame and said mounting plate.

2,979,301
CUP HOLDER
Gordon Reveal, 6512 W. 34th St., Berwyn, Ill.
Filed Mar. 27, 1958, Ser. No. 724,348
11 Claims. (Cl. 248—214)



1. A cup holder in the form of a cup-embracing flexible strip of thin flat material scored and notched to form a pair of integral circumferentially-spaced inwardly-notched sections within the lateral edges of the material bent on the scores to form outwardly-extending parallel arms, the strip being embracively positionable adjacent the open end of a cup to permit the outwardly-extending notched arms to seat over a narrow object to suspend a cup in a vertical position.

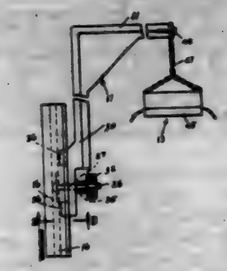
2,979,302
CARGO BATTEN HANGER FOR SHIPS
Stanley Archbold, 1921 21st Road, Astoria, N.Y.
Filed Aug. 12, 1959, Ser. No. 833,327
1 Claim. (Cl. 248—247)



A unitary hanger for use in supporting battens in the hold of a ship comprising an elongated rectangular flat plate having an L-shaped cutout portion along one long edge thereof adjacent one end thereof, a reinforced rectangular-shaped strip fastened along one long edge to the side of the plate along the long edge of the cutout portion and disposed perpendicularly to the plane of the body of the plate, an L-shaped plate unit having its long leg spaced away from the strip and from the adjacent edge of the plate and having its short leg centrally seated on and secured to the short edge of the cutout portion of the plate, whereby said L-shaped plate unit is disposed across the edge of the elongated plate, said L-shaped plate unit and reinforcing strip defining a compartment to receive a batten, means on the long leg of the plate unit to receive a fastening element for fastening a batten to the hanger, and means on the other end of the rectangular plate to receive a fastening element for fastening the hanger to a rib in the hold of a ship.

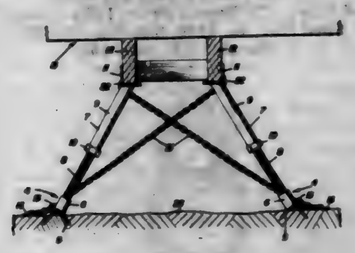
2,979,303
ADJUSTABLE LAMP
Lewis G. Freeman, R.R. 3, Kokomo, Ind.
Filed Apr. 20, 1959, Ser. No. 807,471
1 Claim. (Cl. 248—287)

An adjustable lamp comprising a pair of upright wood members arranged in a spaced parallel relationship and each having a hollowed-out interior and a vertical slot communicating between said interior and the outside of the upright member, a pair of bearing members provided for each upright member, each of a respective pair of bearing members covering one of the walls forming one of said slots and the portion of the hollowed-out interior and the portion of the outside of the upright member adjacent to said slot, a washer having a transverse dimension larger than said slot received within each hollowed-out interior, a bolt seated in each washer and having its screw threaded portion extending through its respective slot outwardly of its respective upright member, a pair of mounting elements each having an aperture through which a respective one of said bolts pass, a pair of knobs each having a screw threaded aperture for reception on



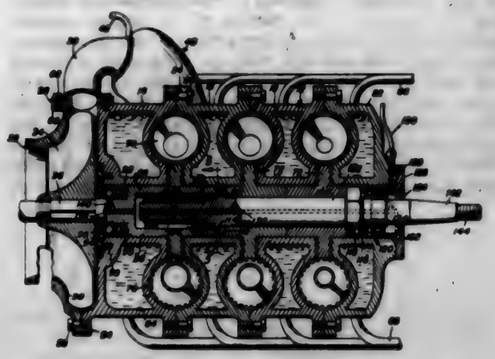
said bolts and for fixing said mounting elements against said bearing members whereby vertical adjustability of each mounting element is provided, each of said mounting elements being formed as an elbow having a pair of mutually perpendicular portions, one of which extends vertically upwardly and includes said mounting element aperture and the other of which projects horizontally from the most upward end of said vertical portion, an elongated bar having a pair of aligned slots therein arranged longitudinally of said bar, a pair of screws projecting through respective ones of said slots, each of said screws adjustably fixing said bar to the distal end of a respective one of the horizontal portions of said mounting elements, and an elongated electric light hung from said bar in parallel relationship therewith.

2,979,304
MOBILE HOME SUPPORT
William A. Teel, % J. R. Lomax, Rte. 3, Ada, Okla.
Filed Nov. 16, 1959, Ser. No. 853,332
5 Claims. (Cl. 248—354)



1. A vehicle support and stabilizer comprising: a pair of units including spaced bases to be positioned beneath the vehicle, upwardly convergent jacks on said bases comprising heads on their upper end portions engageable with the vehicle, crossed braces connecting the units for preventing the bases from spreading, and means for tightening said braces, said means including levers hingedly mounted on the bases and connectible to one end portion of the braces.

2,979,285
TURBINE WITH FUNNEL DRIVE VANES
Stanislaw Kwiatek, 13812 Linn Ave., Cleveland 25, Ohio
Filed May 31, 1957, Ser. No. 662,918
2 Claims. (Cl. 253—48)



1. A multi-stage turbine comprising a plurality of aligned annular chambers with the inner peripheries thereof defining a longitudinal passage, a power shaft rotatably supported within the longitudinal passage, a plurality of disc rotors mounted on said power shaft with the inner periphery of each annular chamber having a slot receiving the periphery of a disc rotor, and a plurality of circumferentially spaced vanes rigidly mounted on the periphery of each rotor and having a cross-sectional area only slightly less than the cross-sectional area of the interior of the annular chamber, each annular chamber having an intake communicated therewith and a discharge spaced circumferentially from the intake, the intake of the first annular chamber receiving combustion products from a source of supply, the intake of succeeding annular chambers being communicated with the discharge from the immediately preceding annular chamber, the discharge of the last annular chamber being communicated with the atmosphere, each of said vanes having a passage extending therethrough with the cross-sectional area of the passage being less than the cross-sectional area of the annular chamber for permitting passage of a portion of the combustion products through the vane into contact with the adjacent vane on the same disc located nearer to the discharge.

2,979,306
FLUID DRIVE MECHANISM
Edward Maye, 224 Rogers Drive, Falls Church, Va.
Filed Nov. 16, 1956, Ser. No. 622,549
5 Claims. (Cl. 253—105)



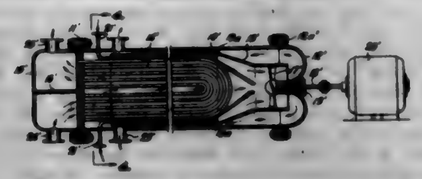
3. An hydraulic drive mechanism comprising a housing having a turbine therein, a rotary sleeve valve member in said housing adjacent said turbine, ports in said valve and housing for operatively connecting said valve and turbine, means on said mechanism for operating said valve to direct fluid to said turbine, inlet and outlet means for delivering and discharging fluid to and from said housing and valve, including a bypass within the housing and a port in said valve in communication therewith for bypassing the fluid around said turbine, said housing having a port adjacent said bypass, said port in said valve being coextensive in area with that of said last named port in said housing, and means driven by the turbine for cleaning the fluid therefrom at a point remote from said valve, the turbine being positioned between said valve and cleaning means.

2,979,307
HIGHWAY GUARD RAIL AND POST THEREFOR
Alfred F. Cross, Williamsville, N.Y., assignor to Acme Highway Products Corporation, Buffalo, N.Y.
Filed Feb. 10, 1958, Ser. No. 714,379
1 Claim. (Cl. 256—13.1)



A post to be driven into the ground at a side of a highway for supporting a guard rail and of substantially S-shape cross section having a pair of flanges extending substantially parallel to each other to be positioned to extend substantially parallel to the highway, a diagonally extending web having flat faces and connecting the opposite edges of said flanges by means of rounded edges, said post having its opposite ends provided with bolt holes for securing a guard rail to either end thereof, said post when secured with one end thereof in the ground has said diagonal web arranged with the flat faces thereof inclined toward the direction of travel of vehicles along the adjacent side of the highway, said post being invertible and when secured with the other end thereof in the ground having said flat faces of said diagonal web inclined in the opposite direction and toward the direction of travel of vehicles on the other side of the highway.

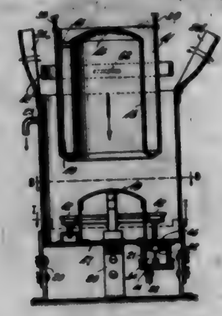
2,979,308
APPARATUS FOR CONTROLLING TEMPERATURE CHANGE OF BLENDS OF FLUIDS OR FLUIDS AND FINELY DIVIDED SOLIDS
David H. Putney, Kansas City, Kans., assignor to Stratford Engineering Corporation, Kansas City, Mo., a corporation of Delaware
Filed July 2, 1957, Ser. No. 669,530
3 Claims. (Cl. 257—73)



1. In an apparatus for reducing the temperature change of a blend of fluids or fluids and finely divided solids including an elongate casing having a discharge outlet opening, a hollow open-ended circulating tube positioned axially within said casing and spaced from the interior wall thereof whereby to form an annular passage therewith, an impeller at one end of the circulating tube for creating a cyclic flow of fluids through said tube and in the annular space surrounding said tube, a removable

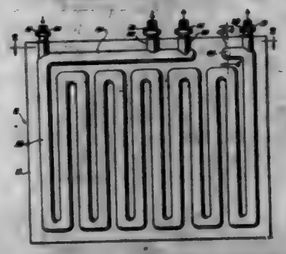
circulating head forming the end of the casing adjacent to and including the impeller, a removable header at the other end of the casing, a plurality of relatively small diameter heat exchanging tubes connected into said header, all of said tubes extending axially of said casing into said circulating tube and substantially filling said portion of the tube enclosing them, whereby heat exchange between the fluids circulating in the cyclic stream through and about the circulating tube and heat exchanging medium passing through said heat exchange tubes is substantially isolated within the circulating tube, the improvement which comprises at least two fluid input lines penetrating the casing between the header and the end of the circulating tube next the header and extending into the end of the circulating tube away from the impeller, said fluid input lines extending within said circulating tube a distance greater than the heat exchange tubes therein whereby the discharge ends thereof are each positioned between the terminus of the heat exchange tubes adjacent the impeller and the impeller to discharge input fluids therebetween and obtain a maximum heat exchanging effect on the lines, said lines also so positioned relative to the heat exchanging tubes and impeller as to permit removal of the circulating head with the impeller and header with the heat exchanging tubes without removal of the imput lines.

2,979,309
FLUID COOLING APPARATUS
John W. Sadler, Albuquerque, N. Mex. (Alburnett, Iowa)
Filed Sept. 26, 1958, Ser. No. 763,736
3 Claims. (Cl. 257—195)



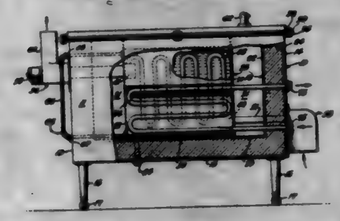
1. A fluid cooler comprising a vertically extending receptacle, a fluid container centered within said receptacle, a centering device located in the bottom of said receptacle, a closure on the top of said receptacle for permitting the insertion or removal of the fluid container, said fluid container having a wall section of substantially toroidal contour terminating in a top end wall which is disposed immediately below said closure when said container is wholly inserted in said receptacle, said container including interior and exterior walls interconnected at the bottom thereof for forming an annular jacket for fluid and wherein the interior wall of said jacket engages said centering device for spacing said container concentrically within said receptacle, means for circulating a cooling fluid through said receptacle and around the interior and exterior walls of said jacket, a yieldably mounted annular seat disposed in the bottom of said receptacle surrounding the centering device, the bottom of said jacket engaging said seat and receiving the centering device and aligned thereby, a valve connected to said receptacle, a fluid pressure source connected to said valve, and means connecting said valve with said seat for control by the movement of said seat under the mass of said jacket for controlling the flow of fluid from said fluid pressure source through said valve into said receptacle.

2,979,310
HEAT EXCHANGERS
Ralph A. Nicholson, Brady, Tex., assignor to Intercontinental Manufacturing Company, Inc., Garland, Tex., a corporation of Texas
Filed Oct. 8, 1956, Ser. No. 614,422
2 Claims. (Cl. 257—247)



1. A heat exchanger comprising a pair of abutting inner flat plates having opposite outer sides and having corresponding outwardly displaced portions forming a refrigerant passage having inlet means and outlet means at opposite ends, and a pair of outer flat plates, said outer plates abutting opposite outer sides of the inner plates, said outer plates having outwardly displaced portions forming with the outwardly displaced portions of the inner plates fluid passages on opposite sides of said refrigerant passage, said inner plates having registering apertures affording communication with one pair of adjacent ends of said fluid passages, the other ends of said fluid passages being provided with inlet and outlet means, respectively.

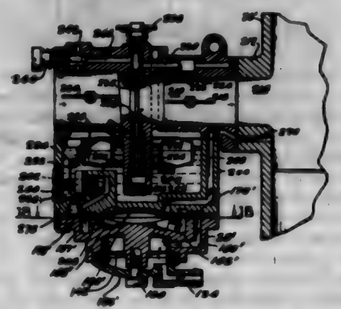
2,979,311
PORTABLE AIR CIRCULATING HEAT EXCHANGE UNIT
George Bengas, 417 Charles St., Pittsburgh 10, Pa.
Filed June 24, 1958, Ser. No. 744,126
5 Claims. (Cl. 257—303)



4. A portable air circulating heat exchange unit freely movable from one location to another, comprising a generally rectangular housing open at the top, a generally rectangular casing open at the top and disposed interiorly of said housing with the side, end and bottom walls of said casing spaced inwardly from the corresponding walls of said housing and with the space between said walls filled with heat insulating material, a generally rectangular tank open at the top and disposed interiorly of said casing and supported on the bottom wall of said casing, the side and end walls of said tank being spaced inwardly from the side and end walls of said casing to provide a dead air heat insulating space, whereby said tank is doubly insulated to prevent injury from contact therewith, a common cover plate removably secured to said housing, an air inlet manifold at one end of said tank, an air outlet manifold at the opposite end of said tank, a plurality of coils disposed in said tank and connected between said manifolds, an inlet conduit connected to said inlet manifold and extending exteriorly of said housing, an air outlet conduit connected to said outlet manifold and extending exteriorly of said housing, a blower connected to one of said conduits for forcing air through said coils and discharging the same to the atmos-

phere and means for varying the temperature of liquid in said tank, whereby the temperature of air flowing through said coils will be varied.

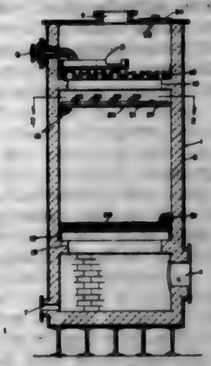
2,979,312
FUEL FEED AND CHARGE FORMING APPARATUS
Bernard C. Phillips, Toledo, Ohio, assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Application Apr. 15, 1957, Ser. No. 652,891, now Patent No. 2,903,250, dated Sept. 8, 1959, which is a division of application Ser. No. 549,978, Nov. 30, 1955, now Patent No. 2,796,838, dated June 25, 1957. Divided and this application Mar. 9, 1959, Ser. No. 798,110
6 Claims. (Cl. 261—5)



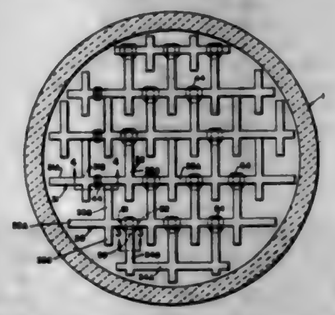
1. In combination, a body member formed with a mixing passage, means providing a fuel chamber associated with the body member, said body member being formed with a fuel discharge orifice opening into the mixing passage, channel means for conveying liquid fuel from the fuel chamber to the fuel discharge orifice, means providing a fuel inlet for the fuel chamber, valve means in said fuel inlet, a float member contained in said fuel chamber arranged to actuate said valve means for regulating admission of fuel into said fuel chamber, fuel pumping means including an element secured to the means associated with the body member formed with a recess, a pumping diaphragm extending across the recess providing therewith a fuel receiving compartment, passage means formed in said body member in communication with a source of varying fluid pressure effective for actuating said diaphragm for pumping fuel into and out of said fuel receiving compartment, fuel inlet and outlet ports for said compartment, said diaphragm being integrally formed with valve means adjacent said inlet and outlet ports for controlling flow of liquid fuel through said ports into and out of said compartment, passage means in communication with said outlet port for conveying liquid fuel from said compartment to the float-actuated valve means to supply fuel to said fuel chamber from said compartment.

2,979,313
HOLD-DOWN PLATE
John S. Eckert, Silver Lake, Ohio, assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Oct. 16, 1958, Ser. No. 767,539
1 Claim. (Cl. 261—94)

In a packed treating tower which has a support plate therein, a gas inlet and liquid outlet below the support plate, a bed of packing elements on the support plate, and above the bed a gas outlet and a liquid inlet, and a hold-down plate resting on the bed, the improvement constituted of a hold-down plate composed of a plurality of sections, each inner section of the hold-down plate having members angular in cross section each with an upright portion along the sides thereof with the upright portions of the members in adjacent sections in contact with one another and bolted together, with relatively thin elongated elements held lengthwise in each section between the angular side members by several horizontal cross pieces which are fastened alternately above and below the same, the space between each two of said elongated elements being so small that the hold-down plate will remain on top of the bed and at least largely prevent displacement of the packing elements at the top of the bed during local flooding of the bed, at least some of the cross pieces being attached at their ends to the angular members.

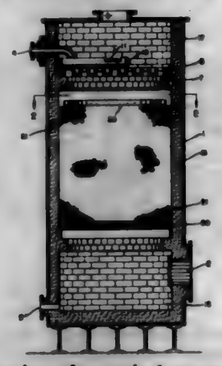


2,979,314
PACKING TOWER WITH HOLD-DOWN PLATE
John S. Eckert, Silver Lake, Ohio, assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Oct. 16, 1958, Ser. No. 767,541
1 Claim. (Cl. 261—94)



In a packed treating tower which has a support plate therein, a bed of packing elements on the support plate, and a hold-down plate, the improvement which consists of a hold-down plate which is composed of a plurality of parts tied together, each part comprising a main arm with cross arms extending outwardly therefrom in the same plane, the main arms of the various parts being parallel to one another, all of the cross arm portions on one side of the main arms being shorter than the cross arm portions on the other side of the main arms, the longer and shorter arms being located directly opposite one another and spaced substantially uniformly along the main arm, the ends of the longer arms of a first part abutting the main arm of an adjacent part and forming a substantially open parallelogram therewith, a short arm of said adjacent part projecting only part way across said opening and thereby reducing the size of an object that can be passed therethrough, with the hold-down plate resting on the bed and the size of the openings constituting at least 50 percent of the area of the hold-down plate and with the openings so small as to prevent substantial displacement of the packing elements on the top of the bed and prevent substantial numbers thereof to pass through the plate during local flooding on the top of the bed.

2,979,315
HOLD-DOWN PLATES
John S. Eckert, Silver Lake, Ohio, assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Oct. 16, 1958, Ser. No. 767,542
1 Claim. (Cl. 261—94)



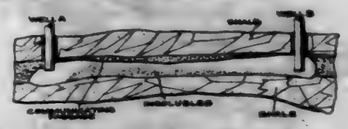
In the combination of a packed treatment tower containing a bed of packing elements, and a hold-down plate, the improvement which consists of the hold-down plate being ceramic and in one piece and having a generally circular outer portion with a small plurality of at least three spacer projections, each of the same length, extending a short distance outwardly from said outer portion, and thin, relatively closely spaced, substantially parallel, elongated grid members extending across said circular portion, the area of the solid portion of the plate being less than 50% of the cross-sectional area of the tower, with the hold-down plate resting on the bed, the length of the projections and the distance between the grid members being substantially equal to the smallest dimension of the packing elements whereby upon flooding of the tower the packing elements are prevented from passing through or around the hold-down plate, and whereby the hold-down plate maintains the bed of substantially uniform thickness and prevents the packing elements at the surface of the bed from being re-distributed to any substantial extent when liquid accumulates at the surface of the bed.

2,979,316
LIQUID AND GAS CONTACTING APPARATUS
William L. Houston, Jr., Old Ocean, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 10, 1957, Ser. No. 689,311
3 Claims. (Cl. 261—114)



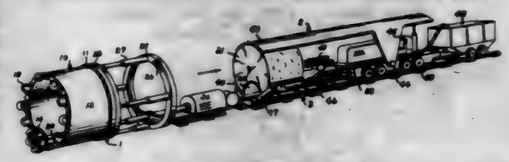
1. A vapor liquid contacting apparatus adapted for use in a fractionation column comprising a tray having at least one planar opening, a cover placed loosely upon said opening detached from said tray, said cover comprising a peripheral rim, at least two and not more than three supports for said cover, said supports being so positioned and dimensioned that the plane of said rim of said cover, in tray engaging position, forms an acute angle with said tray, travel limiting and retaining means for said cover, said means permitting said cover to move away from said tray but retaining said cover in position to contact said tray to cover said opening when in tray engaging position.

2,979,317
SOLUTION MINING OF TRONA
Carl A. Bays, Urbana, Ill., assignor, by mesne assignments, to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1959, Ser. No. 833,332
7 Claims. (Cl. 262—3)



1. The method or recovering a clarified trona solution from an underground body of trona approximately twelve feet in thickness and containing insoluble inclusions therein, in the amount of about 5%, which comprises sinking a plurality of wells into the trona formation, interconnecting said wells through the trona formation, forming a cavity in the trona formation and circulating a dissolving liquid into one well and out of another at a rate of less than 2.2 gallons per minute for each 1000 gallons of cavity space to dissolve and remove trona from the formation and separate and deposit the insoluble material from the trona solution within the formation and remove only a clarified trona solution therefrom.

2,979,318
TUNNELING BY CORE-FORMING AND REMOVAL
John C. Haspert and Thomas N. Williamson, Houston, Tex., assignors to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Oct. 11, 1957, Ser. No. 689,593
3 Claims. (Cl. 262—7)



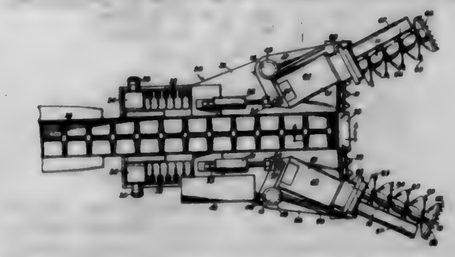
1. In a coring type tunneling machine, a core drill adapted to cut a kerf having an outer diameter substantially equal to the diameter of the desired tunnel bore, a pilot bit mounted to rotate about an axis eccentric to the axis of the core bit and to cut a pilot hole in advance of the core bit, means for driving and advancing said core drill and pilot bit, and core catching means movable with said drill and bit to enter the pilot hole in the core and the kerf opposite the pilot hole to support and move sections of core from within the core bit.

2,979,319
MECHANICAL MINER HAVING OFFSET ROTARY HEADS
Edward L. Anderson, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 7, 1958, Ser. No. 753,763
15 Claims. (Cl. 262—19)

1. For use in a mining and loading machine, a cutting and dislodging member comprising a body rotatable

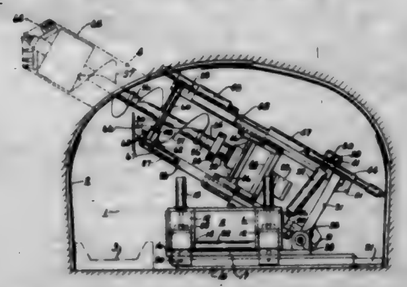
about an axis having a plurality of cutter bits mounted thereon with an axial spacing which progressively increases toward one end of the body.

12. In a mining machine of the class described, a mobile frame, a side cutting mining head extending in advance of said frame and mounted on said frame for rotation about a laterally swingable generally horizontal axis, said mining head including a rotatable drum having axially and circumferentially spaced bits projecting from the surface thereof, power means for rotatably driving said drum, a rigid boom pivotally mounted on said frame for movement about an upright axis and forming a later-



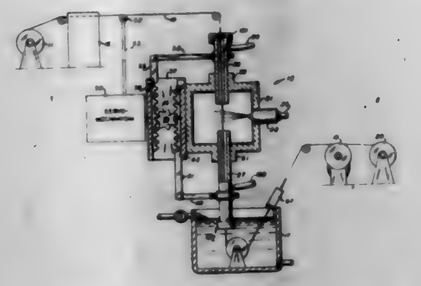
ally swingable support for said mining head and extending rearwardly of said drum, power means for swinging said boom and mining head laterally, to feed said drum across a working face, said drum being retained from reciprocating movement along its axis during rotation thereof and said upright axis of said boom and drum being spaced a substantial distance rearwardly of said drum, the axis of rotation of said drum being offset angularly with respect to a line intersecting said upright axis at an angle of 90° and intersecting the axis of rotation of said drum between the ends of said drum at an angle of less than 90° to position said drum at an oblique angle with respect to said line.

2,979,320
TILTABLE DEEP MINING AUGER MACHINE
George L. Adams, Salem, Ohio, assignor to The Salem Tool Company, Salem, Ohio, a corporation of Ohio
Filed Mar. 12, 1958, Ser. No. 720,925
15 Claims. (Cl. 262—26)



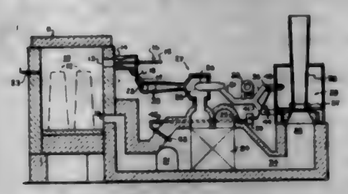
1. An auger mining machine comprising a base, an open frame having spaced parallel front and rear plates connected by upper and lower bar members, pivot means connecting the lower rear end of said base with the lower rear end of said frame below said rear plate, elevator motor means in the form of jacks pivotally connected between the base and frame in a transverse plane adjacent to said rear plate to raise and lower said frame on said pivot means to different angles relative to said base, a carriage within said frame having rollers engaging each of said bar members for movement longitudinally on said frame, rotary motor drive means on said carriage, a sectional auger with a mining head connected to said motor drive for rotation, said auger sections replaceable through said frame, and power means to move said carriage along said frame to feed and retract the rotating auger and mining head into the material to be mined.

2,979,321
STRAND ANNEALING APPARATUS
Charles L. Peterson, Cicero, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 8, 1956, Ser. No. 570,239
10 Claims. (Cl. 263—3)



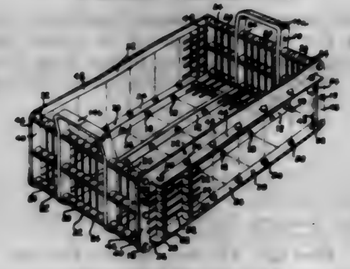
10. A heat-treating control system for materials of indefinite length which comprises a furnace including heating means for heating and annealing such a material, means for normally advancing the material at a predetermined speed through the furnace, a sleeve mounted slidably within the furnace for receiving the material therethrough, a device for moving the sleeve to and from a first position to shield the material completely from the heating means and a second position to expose a predetermined length of the material to said heating means, means responsive to a condition of the material, and a servo-mechanism connected to said responsive means for actuating said device in response to variations in said condition to vary the location of the sleeve to any position between said first and said second positions and thereby to vary the incremental lengths of the material exposed to the heating means in accordance with said condition of the material.

2,979,322
FURNACE PRESSURE CONTROL
William H. Dailey, Jr., Toledo, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 3, 1957, Ser. No. 650,482
8 Claims. (Cl. 263—40)



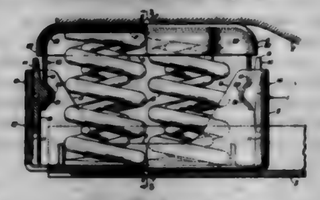
1. In a furnace having wall means forming a combustion and heating chamber and an outlet for flue gases therefrom, burner means for supplying heating gases to such chamber, and flue means forming an exhaust flue from said outlet, the improvement which comprises, in combination: a first motive fluid nozzle arranged to direct a pressurized fluid in a direction away from said chamber for exhausting flue gases from said chamber through said exhaust flue; a second motive fluid nozzle arranged to direct a pressurized fluid tangentially into the flue to form a vortex having a component of motion towards the combustion chamber; first and second conduits for supplying pressurized fluid to said first and second nozzles respectively; and control means responsive to pressure of said flue gases upstream of said nozzles for controlling the flow of pressurized fluid through said first and second conduit means in a manner to reduce flow through said first conduit and increase flow through said second conduit as pressure decreases, and increase flow through said first conduit and reduce flow through said second conduit as pressure increases in a manner to maintain said pressure substantially constant.

2,979,323
HEAT TREATING BASKET
Leon C. Bixby, Fairgrounds Road, Wellington, Ohio
Filed May 5, 1958, Ser. No. 733,981
3 Claims. (Cl. 263—47)



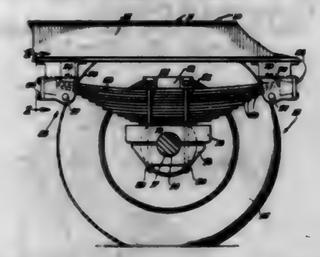
1. In a basket, a plurality of rods and means supporting said rods in spaced parallel relation in a generally U-shaped configuration to form the bottom and ends for the basket, said means including a pair of side walls for the basket each comprising a pair of generally U-shaped frame elements, the first of the frame elements in each side wall cooperating with the rods to form the bottom and ends for the basket, the second of said frame elements being inverted with respect to the first, said first and second frame elements having juxtaposed leg portions, said leg portions having aligned apertures therein receiving the ends of those rods which form the ends for the basket, said first frame elements having apertures therein receiving the ends of those rods which form the bottom for said basket, said rods having the extreme ends thereof enlarged beyond the size of the apertures in said frame elements so as to trap the frame elements thereon.

2,979,324
PACKAGE SPRING GROUP
Glenn F. Couch, Bergen, N.Y., assignor to Symington Wayne Corporation, a corporation of Maryland
Filed June 24, 1957, Ser. No. 667,400
8 Claims. (Cl. 267—9)



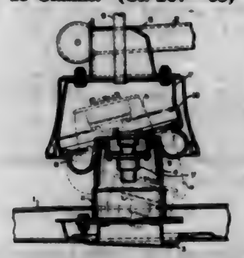
1. In a railway truck, the combination with spaced relatively movable supporting and supported members and interposed supporting spring means, of a friction surface movable with one of said members, a friction shoe separate from said members and having a friction face engageable with said friction surface, and plate spring means clamped by said supporting spring means to said other member and connected to and acting on said shoe, said plate spring means connecting said shoe for movement with said other member and urging said friction face and surface into frictional engagement.

2,979,325
MOUNTING STRUCTURE FOR SPRING AND AXLE ASSEMBLY
Julius F. Marquardt, Westchester, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed May 11, 1959, Ser. No. 812,419
10 Claims. (Cl. 267—20)



8. In a wheel support for supporting a vehicle chassis, said support including an axle and a leaf spring connected to said axle; a mounting structure for connecting said wheel support to said chassis comprising, a bracket connected to said chassis adjacent one end of said leaf spring, said leaf spring engaging said bracket in supporting relation, said bracket having a socket, a sleeve disposed in said socket, said sleeve having an inner wall tapering axially inwardly in a direction away from said assembly, a tapered plug supported within said sleeve, said plug having a thrust face and a thrust end, resilient means supported on said sleeve and cooperating with said plug for urging said thrust face against said leaf spring during a nonmoving position of said vehicle chassis, and a thrust plate connected to said bracket adjacent said thrust end, whereby during movement of said vehicle said leaf spring engages said thrust face and said thrust end engages said thrust plate.

2,979,326
PNEUMATIC SUSPENSION SYSTEM AND LIQUID EXPULSION VALVE UNIT THEREFOR
Jesse A. Wilson, Jr., Littleton, Colo., assignor to C. A. Norgren Co., Englewood, Colo., a corporation of Colorado
Filed Feb. 25, 1957, Ser. No. 642,172
15 Claims. (Cl. 267—65)



1. A pneumatic suspension system for supporting a load exposed to varying shocks and impacts comprising a flexible bag containing a volume of compressed air at a desired pressure under static load but which pressure will vary in accordance with the impacts and shocks, expulsion valve assembly means incorporated in the bag for automatically and selectively removing to the exclu-

sion of air any liquid that accumulates within the bag, said assembly having a liquid collecting chamber disposed beneath the bag normally in fluid communication with the bag whereby air and any liquid within the bag will flow into said chamber, and said assembly means being operable only upon liquid being present in the chamber to discharge liquid from said chamber and to close the fluid communication between the bag and chamber during discharge of liquid from said chamber.

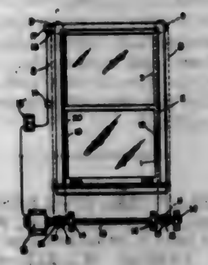
2,979,327
FLUSH TYPE VEHICLE WINDOW
Gordon R. Swanson and Peter W. Wessna, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 17, 1958, Ser. No. 774,459
7 Claims. (Cl. 268—124)



7. A window actuating mechanism for raising and lowering a window of the type adapted to be mounted on a hollow support structure, said support structure including at least one outer wall with which said window is adapted to be mounted in flush relationship when the window is in its fully closed position, said mechanism comprising a plurality of roller elements mounted on said window, guide means generally aligned in the direction of up and down window movement, said rollers being disposed in said guide means, means operatively connected to said window for moving said window in up and down directions causing said rollers to track within said guide means, said guide means including a main guide section terminating at one end in a first portion extending laterally from said section, a second portion extending laterally from said section and longitudinally spaced from the first portion, said plurality of rollers including a pair of linked rollers adapted to coact with said main guide section and each laterally extending guide portion whereby one roller of each pair is moved laterally relative to said window thereby moving said window to a flush position with respect to said wall when the window is in its closed position, said guide means and rollers coacting to move the window laterally away from said wall during the initial movement of the window from its closed toward an open position.

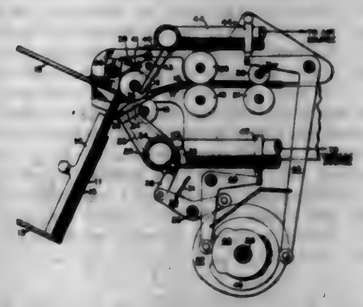
2,979,328
ELECTRICALLY OPERATED WINDOW
David E. Henrikson, 5686 Ridge Ave., Chicago, Ill.
Filed Apr. 25, 1957, Ser. No. 655,077
1 Claim. (Cl. 268—128)

In an electrically operated window including a window sash and stops for the sash, an actuating means including open ended chain drives, a connecting member mounted on each side of the sash comprising an angular bracket, a vertical chain receiving slot in each side stile of the window sash, a longitudinal flange on the front edge of the bracket to receive members for fastening the bracket to the window, a set of upper and lower flanges at the rear edge of the bracket receiving the ends of the



chain, said last mentioned flanges projecting into the chain receiving slot and being spaced to receive the chain therebetween, the flanges being formed from the bracket material, the rearmost flange being greater in length than the next closest flange.

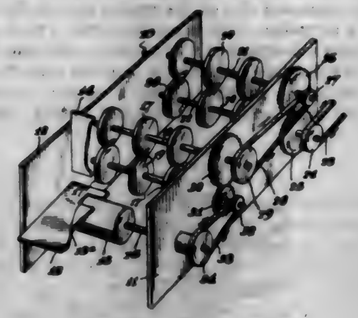
2,979,329
PAPER FEEDING MECHANISM
James M. Cunningham, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 24, 1956, Ser. No. 630,286
2 Claims. (Cl. 271—39)



1. A feeding mechanism for paper and the like comprising a hollow sucker member having an arcuate surface provided with an opening communicating between the exterior and interior of said member, a hopper bottom plate for supporting a stack of papers in part with the unsupported end of said papers projecting above said arcuate surface, a weight member positioned on top of said stack, means for supplying vacuum to the interior of said member to cause the end paper to overlap said arcuate surface, means for directing a blast of air between the partially separated end paper and the remainder of the stack, said plate and stack cooperating to effect a build-up of air pressure between the separated portion of said end paper and the remainder of the stack, and means for feeding said end paper from the stack.

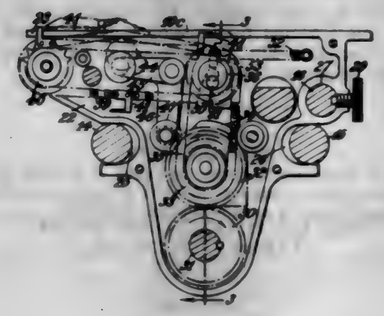
2,979,330
SHEET SEPARATING DEVICE
Carl Weber, 6941 N. Mendota Ave., Chicago, Ill.
Filed Apr. 15, 1957, Ser. No. 652,923
16 Claims. (Cl. 271—36)

1. A device for separating sheets of material superimposed on each other, comprising: opposed advancing means arranged to frictionally receive said sheets therebetween, and means for driving said advancing means at



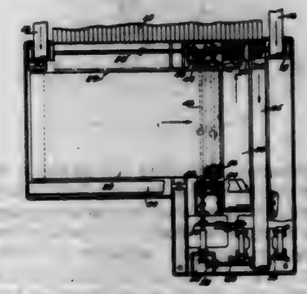
different speeds in the same linear direction to separate said sheets.

2,979,331
SHEET FEEDING MACHINES
Headley Townsend Beckhouse, Les Rayons, Corsy-Conversion (Vaud), Switzerland
Filed July 2, 1958, Ser. No. 746,147
Claims priority, application Great Britain July 8, 1957
2 Claims. (Cl. 271—46)



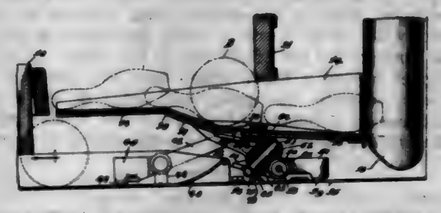
1. In a sheet feeding machine comprising a feed table over which sheets are fed in succession to a front lay station where each sheet in turn is arrested with its front edge against front lays in order to obtain accurate registration of the sheet, means for slowing down each sheet as the sheet approaches the front lay station which means comprise an endless flexible element, means for constraining the element around an endless path in an upright plane beneath the table, the path having upper and lower laps extending in the direction of travel of the sheets, means for moving the flexible element around the path in the direction such that the upper lap travels in the same direction as the sheets, the lower lap travelling in the opposite direction, a slow down device attached to the element for movement therewith, the slow down device projecting outwardly from the path and upwardly above the top of the table when travelling along the upper lap for engagement with the front edge of a sheet approaching the front lay station, and the slow down device being withdrawn below the top of the table when travelling along the lower lap, and means for producing a hump in the upper lap at a position intermediate in the length thereof whereby as the slow down device travels along the upper lap it is first raised relative to the table and then lowered.

2,979,332
CONVEYOR SYSTEM FOR THE PIT FLOOR OF BOWLING ALLEYS
Kenneth C. Sherman, Glen Burnie, Md. (168 Beach Drive, Hillsmere Shores, Annapolis, Md.)
Original application Aug. 2, 1955, Ser. No. 526,933, now Patent No. 2,920,891, dated Jan. 12, 1960. Divided and this application Jan. 7, 1960, Ser. No. 1,039
3 Claims. (Cl. 273—43)



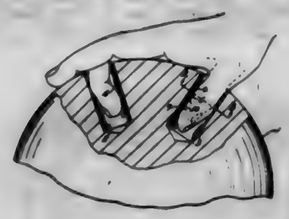
1. In combination, a bowling alley having a pin receiving pit at its far end and a pin receiving and elevating mechanism adjacent to one far corner of the pit; an endless conveyor approximately as wide as a bowling pin having a horizontal top reach disposed parallel with the alley along one margin of the pit to the elevating mechanism, a second conveyor having a horizontal top reach alongside the first said conveyor and running in the opposite direction, an endless conveyor having a horizontal top reach extending transversely of the alley from the other margin of the pit to said second conveyor, and driving connections for driving the conveyors to move the first named reach toward the elevating mechanism, the second named reach in the opposite direction, the third named reach in a direction toward the second named reach.

2,979,333
BOWLING BALL RETURN MECHANISM
Alexander J. Albrecht, West Englewood, N.J., and Frank E. Riedl, New Rochelle, N.Y., assignors to The Brunswick Automatic Pinsetter Corporation, a corporation of Delaware
Filed Dec. 18, 1958, Ser. No. 781,370
9 Claims. (Cl. 273—49)



9. A bowling mechanism comprising, a member positionable in an alley pit beneath the level of an alley bed onto which a ball and pins may fall from the alley bed, a ball discharge opening in said member, means within the opening blocking the entry of pins thereinto, and means responsive to the presence of a ball for unblocking the opening and permitting passage of a ball therethrough.

2,979,334
SMOOTH SURFACED BOWLING BALL WITH APERTURES THEREIN
Charles F. Mitchell, 181 Crescent Drive, Akron, Ohio
Filed Apr. 23, 1958, Ser. No. 730,343
2 Claims. (Cl. 273—63)



1. In combination, a bowling ball having a thumb and a finger hole therein and a bowling ball hole pad comprising a flexible backing sheet means engaging a surface in one of the bowling ball holes, said backing sheet means having a pressure sensitive adhesive on both surfaces thereof, and a flexible layer of uniform thickness secured to and extending the length of said backing layer on the outer surface thereof, said layer having only one hole therein, said hole having a diameter several times the thickness of the strip provided therein in the axially outer section of the strip as positioned in said hole, said hole in said layer extending normal to the layer and having sharp outer corners thereon, said hole being engageable by a bowler's thumb adjacent the joint therein.

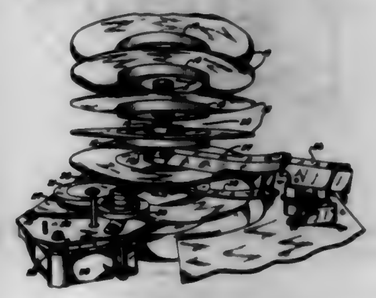
2,979,335
COMBINATION GOLF CLUB AND MAGNETICALLY HELD MARKER
Mark W. Pruitt, 2282 Dunhaven St., San Diego, Calif.
Filed July 25, 1960, Ser. No. 44,981
4 Claims. (Cl. 273—162)



1. The combination with a golf club handle, said handle having an open top recess in the upper end thereof; a permanent magnet disposed in the upper end of the handle with the upper side thereof below the top of the handle; and a marker of magnetizable material above the magnet and completely within the recess, the maximum width of the marker being less than the minimum width of the recess, whereby the marker is removable through the top of the recess, the upper end of the magnet having a lesser width than any width of the marker whereby the upper outer edge of the magnet functions as a fulcrum about which the marker can be tilted by depression adjacent an outer edge of the marker.

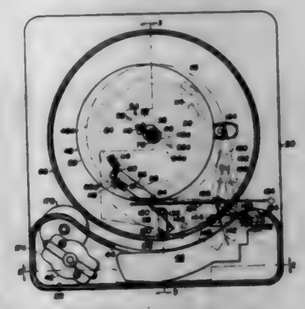
2,979,336
TURNTABLES FOR AUTOMATIC RECORD-CHANGING PHONOGRAPHS AND DRIVING MECHANISM THEREFOR
Alfred G. Ristau and Arnold E. Ristau, both of 329 Taylor St., Kaukauna, Wis.
Filed Aug. 15, 1956, Ser. No. 604,239
6 Claims. (Cl. 274—19)

1. In an automatic phonograph having a record shifting wheel disposed in a vertical plane and provided with radially projecting arms, a turntable rotatably supported on each arm near its outer end, each turntable having a peripheral edge rotatable to a position beyond the outer end of the arm and having means insertable through the central hole of a record and being of substantially less diameter than the record to be supported thereon so that there will be a substantial exposed record area on the turntable supported side of the record beyond the periphery of the turntable which is unobstructed, a plate pivoted for swinging movement in a horizontal plane into and out of an inwardly lapping position between records on adjacent turntables of the wheel, a source of rotation carried by said swingable plate and having inner and



outer positions both of which are beyond the periphery of records on the turntable, a rotatable driving member rotatably carried by said plate and positioned for movement with a portion of the plate from an external position clear of the records to a position between records and overlapped thereby where said driving member is engageable with said periphery of a turntable which is in playing position, and transmission means between said source of rotation and driving member carried by said plate and swingable therewith.

2,979,337
PHONOGRAPH
Willard J. Faulkner, Coloma, and Jack E. Bayha, Benton Harbor, Mich., assignors to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Aug. 17, 1956, Ser. No. 604,695
19 Claims. (Cl. 274—10)



1. A phonograph mechanism comprising a tone arm mounted for limited universal movement and including a control arm, a cam follower operatively associated with said control arm for moving said tone arm in both vertical and horizontal directions for predetermined distances, a cam for actuating said cam follower, a selectively movable element mounted on said cam, a position-determining device operatively associated with said movable element for selectively positioning said element, a turntable, and a pick-up member carried by said turntable, said pick-up member being selectively engageable with said movable element for operating said cam.

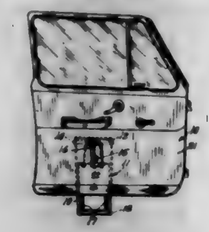
2,979,338
GAME CART
Arthur J. Dwyer, Box 494, McLean, Tex.
Filed May 8, 1959, Ser. No. 811,857
10 Claims. (Cl. 280—47.3)



1. In a manual knock-down type game cart comprising a ground engaging wheel, a wheel mounting section, and a handle bar section separably secured to said wheel mounting section, said wheel mounting section including a frame having substantially vertical members permanently connected at their upper ends by elongated bar means and means connected between said wheel and vertical members for mounting said wheel for rotation in said frame, said handle section including an elongated handle having inner and outer end portions, said handle having a longitudinally extending socket in said inner end portion, said elongated bar means rigidly secured to said vertical members and extending substantially horizontally relative to said vertical members, a transverse hinge pin disposed on said bar means adjacent one end thereof, a transverse bearing shaft disposed on said handle adjacent said socket, said one end of said bar means being telescopically and removably inserted in said socket, and a readily releasable clamp in substantial radial alignment with the wheel and pivotally mounted on said hinge pin and removably engaging said bearing shaft so as to releasably retain said handle in a fixed position on said bar means.

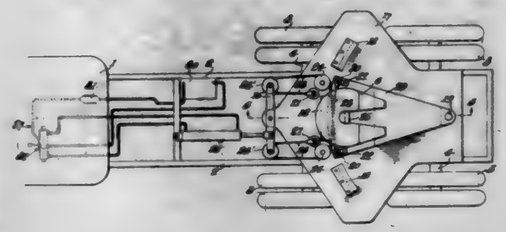
2,979,339
WITHDRAWN

2,979,340
AUTOMOBILE SHOE SCRAPER AND BRUSH ASSEMBLY
Carl H. Morrissey, Rte. 1, Box 180, Naperville, Ill.
Filed Jan. 28, 1959, Ser. No. 789,557
4 Claims. (Cl. 280—164)



1. A vehicle accessory for cleaning footgear telescopically mounted within a door shell which comprises: a frame member rigidly secured between the interior and exterior panels of a vehicle door; a reciprocable assembly slidably mounted on said frame member between a fully withdrawn and a fully extended position, said assembly being extendable with respect to said frame member through an opening in the bottom of said door; cleaning means attached to the lower portion of said assembly, said cleaning means being positioned to enable the wiping of footgear thereon when said assembly is at the extended position; and means to selectively lower and raise said assembly with respect to said frame member.

2,979,341
FIFTH WHEEL ASSEMBLY
John E. Thomas, Rte. 1, Box 34-2, Tabb, Va.
Filed Sept. 25, 1958, Ser. No. 763,422
5 Claims. (Cl. 280—423)
(Granted under Title 35, U.S. Code (1952), sec. 266)

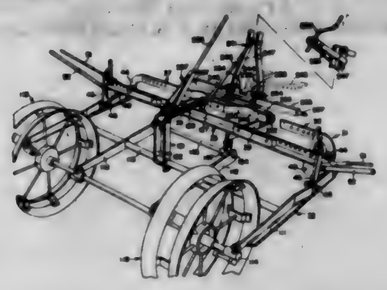


1. A coupling for a tractor trailer having a chassis comprising a base member transversely secured to the tractor trailer chassis, a plurality of flange means arcuately disposed on said base member transversely of said chassis, a plate rotatably disposed upon said base member and adapted to ride under said plurality of flange means, a fifth wheel rockably mounted upon said plate, spaced connector means secured in fixed position on said plate and aligned transversely of the longitudinal center line of the chassis, a first set of spaced pulleys adjacent said plate and aligned transversely of the longitudinal axis of the chassis, said first set of pulleys mounted on vertically disposed shafts carried by said base member, a centrally pivoted lever carried by said base member and normally aligned transversely of the longitudinal axis of the chassis, said lever spaced from said first set of pulleys along the longitudinal axis of the chassis, a second set of spaced pulleys mounted on vertically disposed shafts carried adjacent the ends of said lever, said second set of pulleys vertically aligned with said first set of pulleys, a pair of transversely aligned anchors secured to said base member intermediate said first and second sets of pulleys, a pair of cables, each one of said pair of cables connected at one end thereof to one of said spaced connector means and at the other end thereof to one of said anchors and intermediately engaging the sheaves of one of said first pair of pulleys and one of said second pair of pulleys in alignment with the longitudinal axis of the chassis, each one of said pairs of cables configured by the arrangement of said spaced connectors, anchors and first and second sets of pulleys to extend transversely and longitudinally relative to the chassis, remotely controlled fluid actuated reversible drive means eccentrically connected to said lever whereby upon operation of said reversible drive means said lever is moved to selectively operate one of said pair of cables to shift the fifth wheel transversely of the tractor trailer chassis.

2,979,342
PLANTERS
William P. Oehler and Arthur J. Immesoete, Moline, Ill., assignors, by mesne assignments, to Deere & Company, a corporation of Delaware
Original application Sept. 14, 1953, Ser. No. 380,012, now Patent No. 2,917,117, dated Dec. 15, 1959. Divided and this application July 10, 1958, Ser. No. 747,795
1 Claim. (Cl. 280—474)

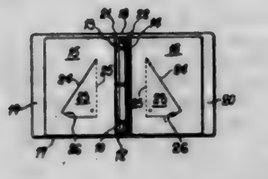
A hitch device for connecting an implement to a tractor having generally vertically swingable link means, said device comprising a generally vertical frame having at its lower portion a pair of bar-receiving sockets fixed to said vertical frame in laterally spaced apart relation, a hitch bar disposed in said sockets and including an abutment in the form of an angle member extending along

said bar and having ends engageable with said sockets to limit lateral shifting of said bar in said sockets, said angle member having a vertical flange notched centrally,



and means engageable with the central notched portion of said abutment member to limit lateral movement of said vertical frame relative to the tractor.

2,979,343
EASEL FORMING BINDER
Robert C. Cline, Robert G. Rose, and Clarence L. Wiands, Saugerties, N.Y., assignors to F. L. Russell Corporation, Saugerties, N.Y., a corporation of New York
Filed Oct. 1, 1959, Ser. No. 843,668
1 Claim. (Cl. 281—33)



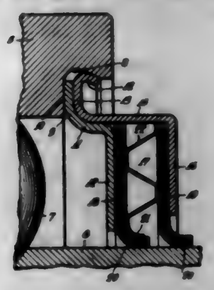
A book form of folding easel comprising a base made up of a back and hingedly connected front and back covers which can be opened into the form of a flat base or folded into closed book formation, an easel board made up of an intermediate back and hingedly connected side panels, said easel board overlying said base with the hinge lines of said side panels substantially in register with the hinge lines of said front and back covers and whereby said intermediate back and side panels will conform to the folded book formation, a flexible hinge connecting the lower edges of said base and easel board enabling said easel board to be hinged upwardly over the base into inclined position thereon, props for supporting said easel board in raised inclined relation on said base, said props including members hinged to said side panels on lines substantially parallel with the hinging lines of said side panels enabling said members to be hinged rearwardly of the side panels into extended position over the front and back covers and having supporting portions at the lower edges thereof inclined in respect to the hinge axes of the props engageable with the front and back covers in the rearwardly hinged position of the props to support the easel board at a selected angle of inclination, and means for automatically hinging said props from the panels as said easel board is hinged upwardly into inclined position over the base, including a flexible tape-like connection connected with said props at points adjoining the hinge lines of the props and connected with said back so that lifting of the easel board will tension said tape connection to automatically pull the props back into extended position as the easel board is raised.

2,979,344
EXPULSION BAG FITTING
Henry H. Kolbe, Los Angeles, Calif., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Feb. 13, 1958, Ser. No. 715,082
2 Claims. (Cl. 285—200)



1. A fitting for anchoring cooperating structure to the marginal edges defining an opening in a flexible container, comprising an annular member having axially and radially extending flanges, a rubber ring having surfaces abutting the axially inner and radially outer sides of each said flange respectively and having a surface extending therebetween, a conical surface on the radial inner face of said axial flange, an annular collar having a radially outer frustro conical surface coaxial with and seated within said axial flange and the marginal edges of the bag defining the opening clamped between said conical surfaces and bonded to the continuous surface of said rubber ring.

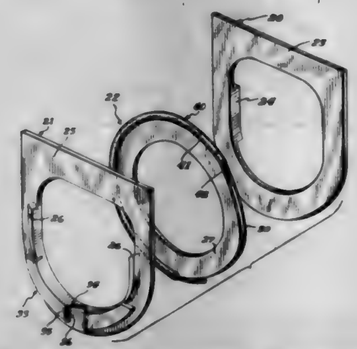
2,979,345
BEARING SEAL
Howell L. Potter, New Britain, Conn., assignor to The Fafnir Bearing Company, New Britain, Conn., a corporation of Connecticut
Filed Apr. 30, 1957, Ser. No. 656,136
5 Claims. (Cl. 286—5)



1. In a seal for a bearing having inner and outer bearing rings with interposed anti-friction bearing members, said seal comprising a pair of plates secured to the outer of said rings and having spaced apart peripheral surfaces forming an open U-shaped annular chamber opening to the adjacent cylindrical surface of the inner of said rings, a seal washer of resilient material in said chamber and having a peripheral portion deformed into seating engagement with the cylindrical surface of said inner of said rings, and a presser member having portions extending across said chamber to press said washer against one of said plates and having resilient spring fingers engaging said peripheral portion of said washer and urging said

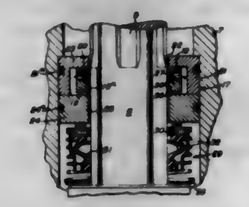
peripheral portion into resilient sealing seating engagement with the cylindrical surface of said inner of said rings independently of the inherent resiliency of said peripheral portion.

2,979,346
COMBINATION JOURNAL STOP, OIL SEAL, DUST GUARD
David S. Campbell, Glen Ellyn, Ill., assignor to Cardwell Westinghouse Company, a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,389
8 Claims. (Cl. 286—6)



1. In an assembly for mounting at the inner end of a journal box, said inner end including laterally spaced outer and inner walls defining a dust guard well, with said assembly being receivable in the dust guard well and forming a central opening for receiving a journal that extends through the well and into the box, said assembly including an inner plate-like member adjacent said inner wall and having a lower sealing lip engageable with the upper portion of the bottom end of said inner wall for raising the effective level thereof, and outer plate-like member adjacent said outer wall, and a dust guard engageable between said members; the improvement wherein said inner plate-like member has fore and aft spaced journal stops fixed thereon and offset therefrom for engagement with oppositely facing vertical edges of said inner wall, said outer plate-like member has fore and aft spaced journal stops fixed thereon and offset laterally therefrom for engagement with oppositely facing vertical edges of said outer wall, and said dust guard has a laterally protuberant resilient ring about its outer edge in compressed sealing engagement between said members.

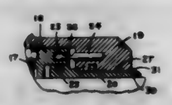
2,979,347
CENTRIFUGAL PRESSURE SEAL FOR ROTARY SHAFTS
Armais Arutunoff, Bartlesville, Okla., assignor to Reda Pump Company, Bartlesville, Okla., a corporation of Delaware
Filed Nov. 19, 1956, Ser. No. 622,994
7 Claims. (Cl. 286—7)



1. A combined mechanical and centrifugal seal device for a rotary motor shaft running in a motor casing filled

with a lubricating and protecting fluid, said device comprising an annular housing coaxial with said shaft, a ring member coaxial with said housing and forming therewith an annular pressure chamber surrounding said shaft, an impeller member fixed to said shaft, running in said chamber, its intake communicating with the fluid in said casing at one end of said housing, a sealing ring surrounding said shaft, fixed against rotation with respect to one of said members and adapted for rotary engagement with a complementary surface on the other of said members, and means normally urging said sealing ring into rotary sealing engagement with said complementary surface, said sealing ring and complementary surface closing off the area within said chamber from escape at the opposite end of said housing.

2,979,348
SEAL
Georges Rosniansky, New York, N.Y., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed May 23, 1958, Ser. No. 737,418
4 Claims. (Cl. 286—11.14)



1. A seal unit of the cartridge type comprising a main housing including a rotatable shaft, stationary and rotating seal means disposed around said shaft and in face-engaging relation with each other to preclude leakage therebetween, a plurality of tension means in said main housing and operatively abutting said stationary seal means for maintaining said stationary seal means in face-engaging relation with said rotating seal means, a secondary housing around said shaft and disposed in said main housing, first and second sealing gland members disposed around said secondary housing and on one side of the face formed by the stationary and rotating seal means, a third sealing gland member on the other side of said face formed by the stationary and rotating seal means and disposed around the rotatable shaft, pin means disposed with the axis thereof being parallel to the shaft axis and said pin means having one end mounted in said main housing and the other end thereof comprising a ball being disposed within said stationary seal to prevent axial rotation thereof relative said shaft, and the vertical centerline of the ball end of the pin means passing through the vertical centerline of the second sealing gland member.

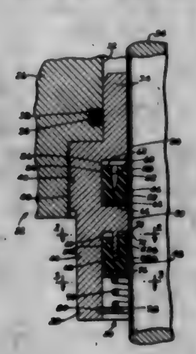
2,979,349
SHAFT PACKING DEVICE
André Guyennon, 22 Rue Ernest Michel, Montpellier (Herault), France
Filed Dec. 4, 1956, Ser. No. 626,238
Claims priority, application France Jan. 10, 1956
2 Claims. (Cl. 286—11.15)



1. A packing device for ensuring a fluid-tight connection between a shaft and a member rotatably mounted thereon and having an inner end surface, said shaft extending beyond said end surface; said packing device comprising a flexible and resilient collar, a rigid, hollow casing having an inner cylindrical wall fixedly mounted on said

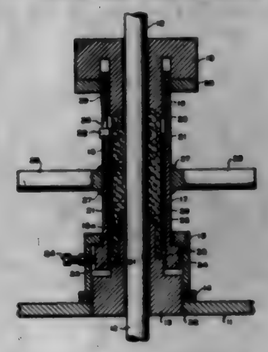
collar and substantially coextensive therewith, said casing also having an outer cylindrical wall of substantially the same length as said inner wall and an annular end wall connecting said inner and outer walls at one end thereof, the opposite end of said casing being open, said collar being adapted to be frictionally mounted on said shaft with the open end of said casing proximate to said end surface, a first toroidal, deformable seal member axially slidably mounted on said inner casing wall, a second ring-shaped seal member of hollow frusto-conical shape turnably received within said casing and having its end of smaller diameter extending out of the open end of said casing and adapted to slidably engage said end surface, said second seal member having a peripherally extending shoulder at its outer periphery spaced intermediate the ends thereof, said first seal member being located between said casing end wall and said second seal member and being at least partially located within said second seal member, spring means enclosed in said casing between said casing end wall and said first seal member for exerting an axial thrust on said first seal member against said second seal member, said outer cylindrical wall having an inturned annular peripheral flange at the open end of said casing which is located to engage the said shoulder of said second seal member to stop the axial movement thereof outwardly of said casing.

2,979,350
SEALS FOR RODS AND SHAFTS
Zdenek J. Lansky, North Riverside, Ill., assignor to Parker-Hannifin Corporation, a corporation of Ohio
Filed June 29, 1956, Ser. No. 594,906
19 Claims. (Cl. 286—26)



1. Combination sealing and wiping apparatus for use between inner and outer telescopically disposed elements adapted for relative actuation by fluid pressure, said apparatus comprising, in combination, an annular seal-supporting member adapted to be secured to one end of the outer element and having a bore for receiving the inner element, a sealing ring disposed along said bore for preventing any substantial leakage of fluid around the inner element, a wiping ring spaced along said bore behind said sealing ring for wiping fluid off the inner element, said seal-supporting member having means forming an enclosed space between said sealing and wiping rings, said seal-supporting member having a first annular retaining wall to the rear of said sealing ring for retaining said sealing ring against rearward axial movement under the action of fluid pressure, said seal-supporting member having a second annular retaining wall to the rear of said wiping ring, said wiping ring having a hollowed out compressible rear portion of reduced cross section so that any pressure that may build up in said enclosed space due to wipeage of fluid from the inner member will compress said wiping ring against said second annular retaining wall so as to enlarge said space, said wiping ring being of resilient rubberlike material and thus being fully self-restoring when the pressure on said wiping ring is relieved.

2,979,351
DISTRIBUTED PRESSURE PACKING GLAND
Paul E. Wilkins, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 30, 1957, Ser. No. 681,312
12 Claims. (Cl. 286—37)



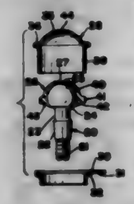
1. A packing gland comprising, in combination, a body member having first and second end portions, first means for attaching the first end portion to a support, an opening of uniform cross section along the axis of said body member for accommodation of a shaft, an annular surface around said body member intermediate its end portions, said annular surface facing the second end portion of said body member, said body member having a greater outside diameter from said first end portion to said annular surface than from said annular surface to said second end portion, a packing disposed around said body member and extending from said annular surface beyond the second end portion, a helically wound metallic coil surrounding said packing and extending from the end of said packing adjacent said annular surface substantially to the other end of said packing, second means holding the end of said coil near said annular surface against rotation, a rotatable sleeve surrounding said coil, said rotatable sleeve, said helically wound coil and said body member being positioned along a common axis, third means holding said rotatable sleeve against longitudinal movement from said body member, fourth means holding the other end of said coil nonrotatable with respect to said sleeve, a packing nut disposed operatively at the end of said packing remote from said body member, and fifth means for holding said sleeve nonrotatable with respect to said body member.

2,979,352
ARM CONNECTOR
John W. Anderson, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Oct. 17, 1955, Ser. No. 540,713
18 Claims. (Cl. 287—53)



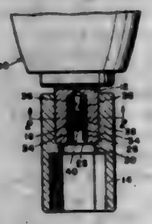
1. A connector including: a member adapted for connection with a support, a casing attached to the member and provided with an opening, a lever pivotally carried on the member having an operating portion and a catch-engaging portion, the operating portion being stationed opposite said opening and accessible therethrough, the catch-engaging portion having means to engage the support and prevent its withdrawal from the member, and means normally pivoting the lever to engage said means with the support.

2,979,353
ELASTOMER BALL JOINT AND METHOD OF ASSEMBLING SAME
John P. Sellers, Jr., deceased, late of Brecksville, Ohio, by Jean W. Sellers, administratrix, Brecksville, Ohio, assignor to Clevite Harris Products, Inc., a corporation of Ohio
Filed Nov. 8, 1956, Ser. No. 621,102
11 Claims. (Cl. 287—85)



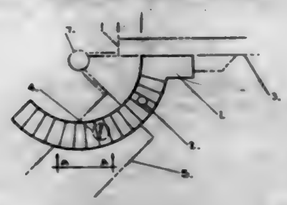
1. An elastomer ball joint assembly including a stud member provided with a ball at one end, a socket member surrounding said ball in radially spaced relationship thereto, a window in the socket through which the stud projects, the window and stud defining a clearance therebetween of sufficient magnitude to allow relative movement between the stud and the socket without allowing the ball to pass through the window, an elastomer layer surrounding the ball and bonded firmly thereto, the layer being radially compressed between the socket and ball to mount the same together resiliently, the layer, in the free state, being provided with a zone of reduced thickness diametrically opposite the stud, the zone defining a flow chamber with the socket, when the joint is assembled, and portions of the layer contiguous with the zone being deformed thereinto, an amount dependent upon the magnitude of the compressive forces acting between the ball and the socket.

2,979,354
SOCKET RETAINER
Jack S. Vaughn, Sayre, and Elmer B. Burnett, Monroeton, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 7, 1959, Ser. No. 832,276
7 Claims. (Cl. 287—126)



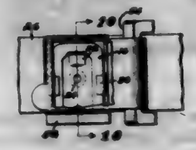
1. The combination of a driven member, a driving member to be releasably connected to the driven member, said driving member having a bore leading inwardly from the side of said driving member and a hole with a portion open to said bore, an element movably disposed in said bore insertable therein from said side only of said driving member having an end projecting outwardly from said side to engage the driven member and having the other end terminating in said hole, and spring means in said hole interlocked with said end of said element, said spring means being the sole means to hold said element resiliently against movement in either direction in said bore.

2,979,355
DOOR BRAKE
Vergil K. Brown, Jr., 10042 S. Prospect Ave., Chicago 43, Ill.
Filed Apr. 18, 1958, Ser. No. 729,400
2 Claims. (Cl. 292—76)



1. A brake for hinged closures comprising, in combination, a substantially rigid member; means for attaching said member to the frame of a hinged closure; a plurality of irregularities in a surface of the said member, arranged in such manner as to approximately describe the arcuate path of the hinged edge of said closure when the member is mounted on the frame; a second member consisting of a screw to be mounted in the edge of the said closure adjacent to the hinged edge thereof and in such manner that the driving end of the screw engages the irregularities of the first-mentioned member in slidable contact, thus materially increasing the resistance of the closure to any material change in the angular position thereof with respect to its frame.

2,979,356
LOCKING FASTENER
Winthrop F. Ashworth, Wenham, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 29, 1958, Ser. No. 783,479
2 Claims. (Cl. 292—317)



1. A locking fastener comprising a plug receptacle, a plug receptacle cover and a plug, said plug receptacle having two side walls in spaced parallel relationship, a base portion in right angle relationship with said side walls, extending the full length of said side walls, and an end wall in right angle relationship with said base portion, said base portion having a latch member sheared therefrom in acute angular relationship thereto, said side walls each having a tab in right angle relationship therewith and in spaced parallel relationship with said base portion, said plug receptacle cover having a rectangular cap, a fore wall and an after wall in spaced parallel relationship with each other and in right angle relationship with said cap, and a flank wall in right angle relationship with said cap, said walls and cap forming a four sided compartment, said fore wall having an aperture formed therein, whereby said plug can be passed between the walls of said aperture in said fore wall, between the base

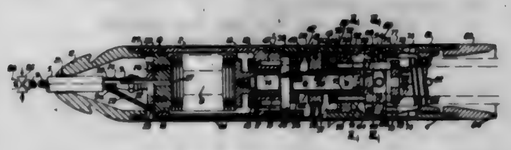
portion and said tabs to engage said latch member, thereby locking the said plug receptacle to the said plug receptacle cover.

2,979,357
BUMPER-CONDUIT EXHAUST ASSEMBLY
Clayton B. Leach and Lester V. Ostrander, Pontiac, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 27, 1956, Ser. No. 612,476
9 Claims. (Cl. 293—69)



2. A bumper exhaust structure for motor vehicles and the like and comprising a bumper wall having an opening therein, exhaust conduit means having an end extending into said opening, insulating means supporting said exhaust conduit means in said opening and spaced from said bumper wall, a shield surrounding the end of said exhaust conduit means and disposed on the side of said bumper wall receiving the discharge from said exhaust conduit means, and means securing said insulating means and said shield against opposite sides of said bumper wall.

2,979,358
LIFTING DEVICES
Ernest Edward Jerkins, Culcheth, Warrington, and Dennis James Dawson, Glazebrook, England, assignors to The United Kingdom Atomic Energy Authority, London, England
Filed Apr. 17, 1957, Ser. No. 653,453
Claims priority, application Great Britain June 15, 1956
4 Claims. (Cl. 294—106)



1. Apparatus for lifting a remotely positioned body, comprising a tubular casing, a flexible tubular cable adapted to pass actuating fluid therethrough and connected to one end of said casing, means for grasping said body mounted at the other end of said casing, means connected to said cable for controlling the flow of fluid therethrough, and fluid operated means mounted within said casing in engagement with said grasping means and communicating with said cable for actuating said grasping means in response to flow of fluid through said cable.

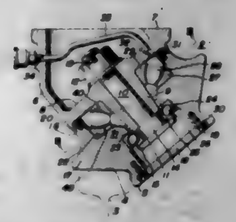
2,979,359
FLANGED WHEELS
Guy T. Tripp, 3903 Exeter Road, Richmond, Va.
Filed Mar. 2, 1959, Ser. No. 796,513
3 Claims. (Cl. 295—9.5)

1. A supporting wheel for heavy duty trucks and other similar land vehicles which is adapted to replace the heavy duty tires in common use on highways whereby said trucks or other vehicles may be coupled together in series and operatively connected to the coupling on railroad cars for transportation on railroad tracks, comprising, a circular, shield-like continuous member of a diameter and rigidity to support the truck chassis and its depending appendages out of contact with the railroad bed, the central portion of said wheel being substantially flat and surrounding a central circular opening of sufficient size to accommodate the hub cap of the axle of said truck, said central opening being circumscribed by a plurality of smaller openings for the passage of bolts to secure the wheel to said truck or motor vehicle, the outer peripheral portion of said wheel shaped to form a circular trough



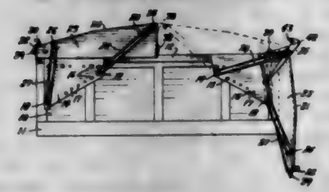
on the inner face of sufficient size to receive the outer face of the usual balloon tire in common use on such trucks without deflation, said wheel terminating at its outer edge in an angular inturned flat flange-like circular rim of a width substantially equal to that of a railroad track rail, and conforming to the surface of said rail, and the inner edge of said flange-like rim having an angular flange substantially perpendicular to said flat surface and extending outwardly therefrom for contact with the inner face of said rail for guidance in translating said motor vehicle along said railroad track.

2,979,360
CAR WHEELS
Takeo Nojima, 542 Kosugi-cho 1-Chome, Kawasaki City, Japan
Filed Aug. 25, 1959, Ser. No. 835,937
Claims priority, application Japan Sept. 2, 1958
3 Claims. (Cl. 295—44)



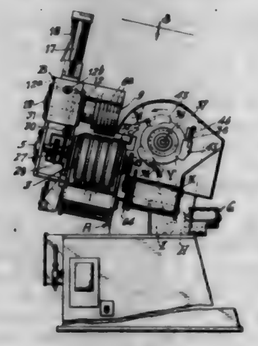
1. A car wheel comprising a stationary body having a cylindrical sleeve projecting downwardly therefrom at an angle about 30 to 40 degrees with respect to the vertical, a generally frusto-conical hollow wheel member having a conical tread with its axis coincident with that of said cylindrical sleeve, a center bolt passing through and secured to said cylindrical sleeve, means on said center bolt for holding said wheel member in place and rotatably about said center bolt, a pair of cooperating bearing rings respectively provided on said body and said wheel member, and a plurality of cop-shaped solid rollers held between said bearing rings and arranged in a circle, said bearing rings each having a series of circumferentially spaced recesses formed therein in their opposed faces, said rollers each being partially received in a recess of each of said bearing rings, said circle of rollers being in a plane perpendicular to said axis, and the longitudinal axes of said rollers conjointly forming a portion of an imaginary conical surface having its point on said axis near the lower end of said center bolt.

2,979,361
TRUCK BOX COVERS
Charles E. Eppinger, 3240 S. Utica St., Denver, Colo., and Edwin G. Flanagin, Gem, Kans.
Filed Aug. 10, 1959, Ser. No. 832,786
4 Claims. (Cl. 296—100)



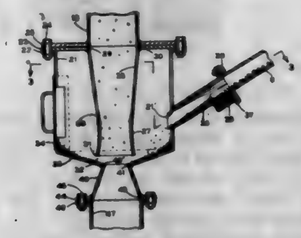
4. A cover mechanism for covering a truck box of the type having two side walls joined by two end walls comprising: a cross member arranged to be positioned on each end wall so as to extend transversally of said body at the ends thereof; a first cover member arranged to be positioned over and along one side wall and resting at its extremities on said cross members and covering substantially one half of said box; a similar second cover member arranged to be positioned along the other side of said box and resting on said cross members and substantially covering the remaining half of said box; a pair of swinging links suspended from each extremity of each cover member; means for hingedly suspending said links from said cross members forwardly and rearwardly of said box so as to support said cover members when the latter are swung toward and away from each other; a slip means mounted on each cross member adjacent the extremities thereof; a first flexible member extending from an attachment to the forward inner corner of each cover member through said slip means to an attachment to the rear outer corner of the cover member; and a second flexible member extending from an attachment to the rear inner corner of each cover member through said slip means to an attachment to the forward outer corner of the cover member said flexible members acting to transmit vertical movements of opposite direction between the diagonally positioned corners of the cover members to prevent twist and distortion of the latter.

2,979,362
BRISTLE SIEVING MACHINE
Jiri Hovorka, Maplewood, N.J., assignor to Hanlon and Goodman Company, Belleville, N.J., a corporation of New York
Filed Apr. 17, 1959, Ser. No. 807,188
13 Claims. (Cl. 300—18)



3. A bristle sieving machine comprising means for holding a mat of bristles with the butt ends of some bristles and the flag ends of other bristles haphazardly disposed in close side-by-side relation at one edge of the mat, a plurality of pins free at one end disposed in parallel relation and spaced apart in a direction approximately parallel to said edge of the mat distances less than the diameters of the butt ends of the bristles and greater than the diameter of portions of the bristles intermediate their ends, and means for forcing said pins endwise with their free ends leading through said mat between said ends of the bristles at a point intermediate the length of the bristles and moving the pins laterally of themselves and longitudinally of the bristles from said point to a point beyond said edge of the mat, providing for catching of the butt ends of the bristles between said pins and the separation of the corresponding bristles from the mat.

2,979,363
SHOT MIXING DEVICE
Jerzy Brzeski, Glasgow, Scotland, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed July 2, 1957, Ser. No. 669,684
Claims priority, application Great Britain July 4, 1956
4 Claims. (Cl. 302—53)

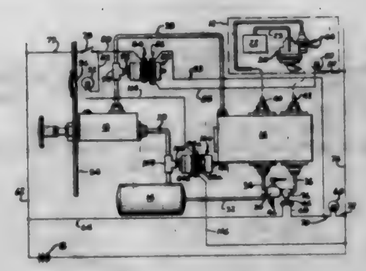


1. A mixing device for supplying particles to a fluid carrier medium in a conveying system comprising walls defining an upright chamber of circular cross-section having a top and bottom closure, a nozzle having an upright axis positioned with its discharge end flush with the bottom closure of said chamber and arranged to discharge fluid carrier medium into the lower portion of said chamber, a tubular member coaxial with said nozzle and extending downwardly through said chamber to a position spaced upwardly from the fluid discharge end of said nozzle, said tubular member having its lower end opening of greater diameter than said nozzle, and particle inlet means located in a side wall of said chamber intermediate the height thereof for the delivery of particles to said chamber, the particle inlet means being located so that the angle of repose of the particles delivered by said inlet means to said chamber is spaced below the lower end of said tubular member whereby particles passing through said inlet means scatter in approximately symmetrical manner around the axis of the tubular member.

2,979,364
PNEUMATIC SIGNALLING SYSTEM FOR TRACTOR-TRAILER COMBINATIONS
Donald M. Putnam, Chicago, Ill., assignor to Power Brake Parts Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 5, 1958, Ser. No. 778,585
3 Claims. (Cl. 303—1)

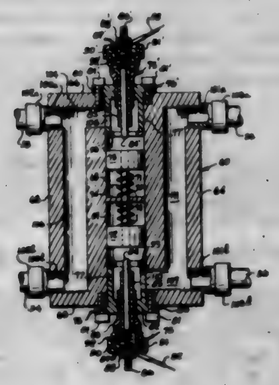
1. In a braking apparatus for tractor-trailer combinations, pneumatically operable brakes for the trailer, a stop-light signal lamp mounted on the trailer, a pressure tank for air mounted on the tractor, an emergency line connected to the trailer brakes for operation of the latter, an emergency valve interposed between the emergency line and tractor pressure tank, a service line connected to the trailer brakes for operation of the latter, a service

valve interposed between the service line and the tractor pressure tank, and a normally closed brake-operating valve interposed between said service valve and the tractor pressure tank for operation of the tractor and trailer brakes upon opening said brake-operating valve, of a signalling system for energizing said signal lamp during trailer brake application and at such times as the air pressure within said emergency line falls below a predetermined minimum, said signalling system comprising a first electric circuit for said signal lamp including a normally open stop-light switch and a pair of normally open contacts disposed in series in the circuit, said brake operating valve being operable upon opening thereof to close said stop-light switch, said contacts and switch,



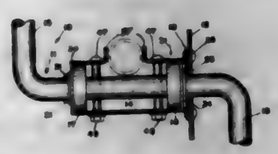
when closed, serving to energize said circuit and illuminate said signal lamp, a second electric circuit for said signal lamp including a pair of normally closed contacts, a source of current for said circuits, one contact of the normally closed pair being connected directly to said source and one contact of the normally open pair being connected directly to the signal lamp, means connecting the other contact of the normally closed pair to said one contact of the normally open pair whereby when said normally closed pair remain closed said first circuit will override said second circuit and maintain said signal lamp energized, and pressure responsive means operable when the air pressure in said emergency line exceeds a predetermined minimum to close said pair of normally open contacts and to open said pair of normally closed contacts.

2,979,365
SAFETY VALVE FOR BRAKING SYSTEM
Coy V. Jones, Charlotte, N.C., assignor to Trailer Safety Valve, Inc., a corporation of North Carolina
Filed June 10, 1958, Ser. No. 741,150
2 Claims. (Cl. 303—84)



1. A safety valve for fluid pressure braking systems comprising a housing having a longitudinally extending valve chamber therein; valve closure means slidably mounted in said chamber, said valve closure means comprising a piston rod, piston members fixed on the opposite ends of said rod, a pair of resilient springs encircling said rod, and means in said valve chamber intermediate said piston members against which the proximal ends of said springs abut, the distal ends of said springs abutting against said piston members respectively; said housing being provided with a pair of spaced inlet openings, each of said inlets communicating with said valve chamber at positions beyond the respective outer ends of said piston members carried therein in normal operation, said housing also being provided with first and second pairs of outlet openings for receiving the brake lines for the front and rear pairs of wheels of a vehicle respectively, means defining first and second passages in said housing communicating with the opposite ends of said valve chamber, said first passage interconnecting said first pair of outlets and said second passage interconnecting said second pair of outlets, whereby said piston members are exposed to the pressure in the corresponding passage and the pair of outlets interconnected thereby, valve seats at the opposite ends of said valve chamber, said valve seats being spaced from the corresponding piston member of said valve closure means in normal operation, and said valve closure means being movable toward an end of said valve chamber in response to a lowered pressure condition at that end for engaging the corresponding one of said piston members with said valve seat at that end of said valve chamber in sealing relationship to shut off communication between the respective one of said first and second passages and said valve chamber, whereby the pair of outlets interconnected by said one passage are blocked from the corresponding inlet associated with said valve chamber.

2,979,366
BICYCLE SPROCKET WHEEL ASSEMBLY
Philip Steller, Great Neck, N.Y., assignor to Stelber Cycle Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 10, 1958, Ser. No. 760,132
8 Claims. (Cl. 308—179.5)



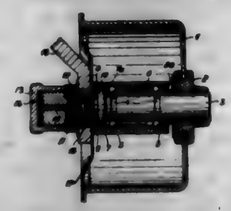
1. A velocipede sprocket wheel assembly comprising a crank including a crank shaft portion and a pair of integral crank arms respectively extending from the opposite ends of said shaft portion, a sprocket wheel mounting plate extending transversely of said shaft portion adjacent one of said crank arms, a weldment securing said plate to said shaft portion, a sprocket wheel coaxially related to said shaft portion and independent thereof, said sprocket wheel being located between said plate and said one crank arm, means securing abutting portions of said plate and sprocket wheel together at points radially spaced from said shaft portion, a bearing assembly comprising a pair of opposed bearing units slidably mounted on said shaft portion, one of said bearing units abutting said mounting plate, means on said shaft portion adjacent the other crank arm for limiting the outward movement of the other bearing unit, and bearing housing means between and engageable with said bearing units for maintaining said units in spaced relation.

2,979,367
DYNAMIC BEARING
Bruce L. Mims, Danbury, Conn., and Henry Konet, Hoboken, N.J., assignors to The Barden Corporation, Danbury, Conn., a corporation of Connecticut
Filed Feb. 10, 1958, Ser. No. 714,318
4 Claims. (Cl. 308—183)



1. A dynamic bearing including in combination a housing, a first bearing carried by the housing within said housing, a rotatable support, means mounting said support on said first bearing and within said housing, electromagnetic means comprising a permanent magnet and a winding adapted to be energized with alternating current to oscillate said magnet, means mounting said winding and said permanent magnet within said housing on said housing and on said support, a second bearing and means mounting said second bearing within said housing on said support.

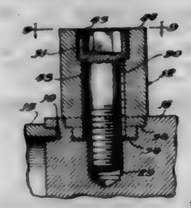
2,979,368
IDLER PULLEYS FOR BELT DRIVES
Joseph Steichele, Stuttgart-Wellmadorf, Germany, assignor to Firma SKF Kugellagerfabriken G.m.b.H., Stuttgart-Bad Cannstatt, Germany
Filed Mar. 17, 1958, Ser. No. 721,928
Claims priority, application Germany Mar. 16, 1957
25 Claims. (Cl. 308—190)



1. An idler pulley assembly comprising, in combination, a supporting member; an idler pulley having a cylindrical portion and a base member; a shaft coaxial with said pulley, fixed to one of said members and extending toward but short of the other of said members; a single outer race coaxially arranged with and surrounding a portion of said shaft and having a free and unengaged cylindrical exterior surface; means coaxial with said shaft and operatively connected to said outer race for pressing said outer race in axial direction toward the other of said members for removably connecing said outer race to the other of said members; and a plurality of annularly disposed rolling elements, located between and engaging said outer race and said shaft.

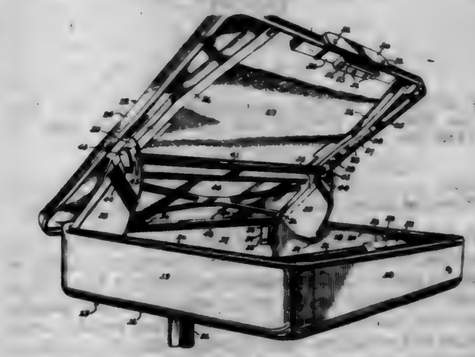
2,979,369
REMOVABLE TRUNNION FOR PISTON AND CYLINDER DEVICES
Francis S. Flick, Oak Park, and Walter J. Kudlaty, Elmhurst, Ill., assignors to Flick-Reedy Corporation, a corporation of Illinois
Filed May 31, 1960, Ser. No. 32,899
8 Claims. (Cl. 309—2)

8. A removable trunnion mount for a piston and cylinder device, comprising: means on the piston and cylinder device having cavities on opposite sides to removably receive the trunnion pin, each cavity being aligned on a common center line perpendicular to the center line of the cylinder and having a circular cylindrical side wall concentric with said common center line; a step in each cavity adjacent the bottom of the cavity including said circular cylindrical surface and an annular flat surface at one end of said concentric surface lying in a plane normal to said common center line, said head having a threaded bore extending centrally inward from the bottom of each cavity; a pair of hollow trunnion pins, one for each cavity, each pin having a longitudinal axis and an exterior annular step at its inner end to mate with the step of said cavity, each said step on the pin comprising a circular cylindrical surface adapted to mate with the concentric surface in said cavity to hold said pin concentric with said common center line upon assembly of the pin into the cavity and a shoulder lying in a plane normal to the pin axis and positioned to mate with said flat surface in said cavity



to align the axis of the pin on said common center line, a circular cylindrical knurled surface on the pin concentric to said pin axis, said cavity having a side wall to receive the knurled surface, the latter having a diameter slightly larger than the diameter of the cavity side wall, and being adapted to frictionally lock with said cavity side wall when the pin is pressed into said cavity in assembled relation therewith, said knurled surface preventing rotation of the pin in the cavity during use; and means removably securing the pin to said cylinder head with said mating and engaging surfaces in contact holding the trunnion pin in proper position on the cylinder head including a cap screw adapted to threadably engage said central threaded bore in said cavity and having a shank extending loosely through said pin central bore with its head bearing against said pin to draw the trunnion pin tightly within the cavity.

2,979,370
DESK TOP CONSTRUCTION
George C. Bradley, Alfred C. Hoven, and Walter E. Nordmark, Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey
Filed Feb. 29, 1960, Ser. No. 11,848
7 Claims. (Cl. 312—316)



1. In a desk structure of the character described: an upwardly opening top box and a cover therefor; a hinge

panel hinged at its front to the upper front edge of the top box and hinged at its rear to the cover's underside intermediate the cover's front and rear edges; a rear torsion bar disposed adjacent the rear edge of the hinge panel and having one end thereof rigidly connected to the hinge panel and the other end thereof rigidly connected to the cover whereby the cover is biased upwardly in the rear and downwardly at the front; and a front torsion bar disposed adjacent the front edge of the hinge panel and having one end thereof rigidly connected to the hinge panel and the other end thereof rigidly connected to the top box whereby the hinge panel is biased toward a position of rearward-upward inclination.

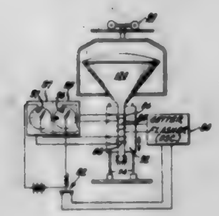
2,979,371

ART OF MAKING AND TESTING GETTERED ELECTRON TUBES

Richard L. Spalding, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Original application Dec. 11, 1959, Ser. No. 858,935. Divided and this application June 17, 1960, Ser. No. 36,954

5 Claims. (Cl. 316—30)



1. Apparatus for use in ascertaining the quantity of flashed getter material on the inner surface of an evacuated envelope which, normally, has been subjected to the flash of a flashable metallic getter, said apparatus comprising: a high-frequency oscillator having an output circuit including an inductance coil adapted to be disposed adjacent to an area of said surface upon which the metallic vapor released upon flashing said getter has been deposited, and means cooperatively associated with said oscillator for measuring the effect upon its oscillations of the presence of said metallic deposit within the field of said inductance coil.

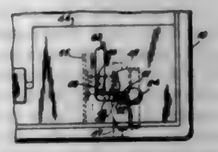
2,979,372

RECORD CLAMPING AND STRIPPING MECHANISMS FOR FACSIMILE MACHINES AND THE LIKE

Charles J. Digney, Franklin Park, N.J., assignor, by mesne assignments, to Westrex Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 9, 1958, Ser. No. 779,143

7 Claims. (Cl. 346—138)



1. A facsimile machine of the kind having a rotatable scanning drum around which a sheet is to be removably wrapped and clamped, a sheet clamping member for holding one edge of the sheet against the drum, a sheet stripping member, said drum having a coaxial shaft extending interiorly along the drum and on which said clamping and stripping members are mounted, both of said members being in the form of elongated leaf springs having free ends which pass in a substantially radial direction through respective openings in the drum wall, the remainder of each leaf spring being flexed at an angle for engaging an operating member, said operating member being in the form of a cam sleeve for controlling the flexure of said leaf springs and mounted concentrically within the drum and having an end extending beyond one end of the drum, said cam sleeve extending along said shaft and in engagement with said flexed portion of each leaf spring for controlling said flexure, manually operable means separate from said drum and having a portion selectively movable into and out of engagement with the said end of said operating member to operate said member and thereby to move said clamping and stripping members in substantial unison whereby the movement of said clamping member into non-clamping position is accompanied by movement of said stripping member into stripping position.

CHEMICAL

2,979,373

LAUNDRY AIDS

Theodore A. Seegrist, McLean, Va.

No Drawing. Original application Jan. 26, 1951, Ser. No. 208,051. Divided and this application May 13, 1955, Ser. No. 514,410

1 Claim. (Cl. 8—77)

(Granted under Title 35, U.S. Code (1952), sec. 266)

A process comprising dispersing a dry mixture of an insoluble bluing powder, laundry starch and CMC in water to give a CMC concentration of about from .10 to 5.0 percent based on the water with the bluing powder suspended therein, the amount of bluing powder being such as to give a blue color of proper intensity for bluing rinse water purposes, rinsing a washed fabric therein, and drying the rinsed fabric.

2,979,374

FIBROUS TEXTILE CELLULOSIC PHOSPHONOMETHYL ETHERS AND PROCESS OF PREPARATION

George L. Drake, Jr., and Wilson A. Reeves, Metairie, and John D. Guthrie, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Oct. 31, 1957, Ser. No. 693,787

4 Claims. (Cl. 8—120)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for preparing chemically modified fibrous cellulosic textile material containing from about 0.02% to about 5.0% phosphorus in the form of phosphonomethyl ether of cellulose comprising: padding a fibrous cellulosic textile material having at least one free hydroxyl group per anhydroglucose unit of the cellulose molecule with an aqueous solution containing from 5 to 20% by weight of an alkali metal salt of chloromethyl phosphonic acid and 15 to 25% by weight of an alkali metal hydroxide to a wet pickup of from 125 to 200%, heating the padded fibrous cellulosic textile material for from 5 to 30 minutes at temperatures of from 16 to 140° C., the higher temperatures being used with the shorter heating times.

3. A chemically modified cellulosic textile in which some of the hydroxyl groups have been converted to $-OCH_2PO_3X_2$ groups in which X is a member of the group consisting of hydrogen, alkali metal, and NH_4, the degree of conversion being such that the modified cellulosic textile contains from 0.01% to 4.0% by weight of the modified cellulosic textile of phosphorus.

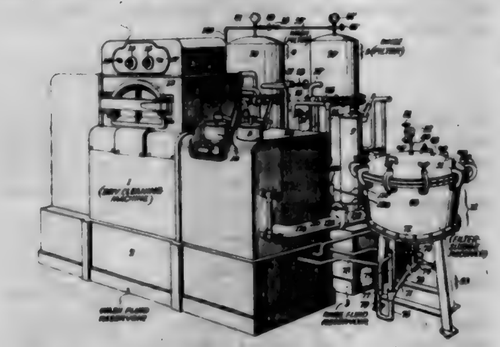
2,979,375

DRY-CLEANING APPARATUS AND METHODS OF OPERATION

Charles E. Kircher, Jr., and Robert J. Jones, Detroit, Mich., assignors to Detrex Chemical Industries, Inc., Detroit, Mich., a corporation of Michigan

Filed Aug. 10, 1955, Ser. No. 527,514

20 Claims. (Cl. 8—142)



1. A method of recovering water-immiscible solvent from filter aid sludge, comprising the steps of backwashing the sludge from the filter by reverse flow of solvent through said filter, intercepting said sludge in an auxiliary filter, and passing water through the sludge in said auxiliary filter to displace solvent from the sludge.

14. In a dry cleaning apparatus, a dry cleaning machine having a rotary drum for the material to be cleaned, motor means for rotating the drum, and means for starting and stopping the motor means to carry out successive treating cycles; a storage reservoir for chlorinated solvent such as perchlorethylene to which a quantity of filter aid in powder form has been added; an upright up-flow filter having screen means positioned medially of its height; a conduit extending from the reservoir and connected to an inlet to the lower part of the filter; a conduit extending to the machine from an outlet of the filter positioned at the top half thereof; a conduit extending from the machine to the reservoir; a pump in the first mentioned conduit for drawing solvent from the reservoir and causing it to traverse the filter and the machine before return to the reservoir during each treating cycle; a drain conduit having a normally closed valve therein and extending from the machine to the reservoir; automatic timing means for opening the valve to permit the machine to drain at the end of each cycle, and automatic means for stopping the pump for a time sufficient to permit part of the solvent to flow from the filter back into the reservoir by way of the first mentioned conduit and thereby break liquid flow communication between the pump and the inlet side of the filter during a portion of each cycle whereby clinging filter aid is sloughed from the filter screen by interrupting the liquid flow and allowing solvent gravitation through the screen from the top of the filter to the inlet side thereof; a sludge receiver; a conduit with a normally closed valve therein extending from a drain outlet at the bottom of the filter whereby, upon opening of said valve after protracted use of the apparatus, the sludge is permitted to pass to the sludge receiver; means for admitting a quantity of water or other displacing liquid into the sludge receiver to displace the solvent from the sludge; and a conduit leading from the receiver to the reservoir and having therein a normally closed valve and a water separator whereby, upon opening the last mentioned valve, the displacing water can be separated by gravity from the solvent and the recovered solvent conducted to the reservoir.

2,979,376

PRODUCTION OF RAYON

Marion R. Lyttos, West Chester, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 29, 1955, Ser. No. 518,990

5 Claims. (Cl. 18—54)

1. In a method of producing shaped bodies of regenerated cellulose having enhanced tensile strength, the step which comprises extruding viscose containing from about 0.25% to about 5%, based on the weight of the cellulose in the viscose, of an alkali-soluble polyoxyalkylene glycol ether of p,p'-isopropylidiphenol into an aqueous spinning bath containing from about 10% to about 25% sodium sulfate, from about 3% to about 15% zinc sulfate and sulfuric acid, the sulfuric acid content of the spinning bath being between the slubbing point and about 9%.

2,979,377

MICROBIOLOGICAL CORROSION PROTECTION BY GERMICIDAL ZONE AND PROTECTIVE COATING

Donald O. Hitzman, Bartlesville, Okla., and Ralph P. Schneider, Houston, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 7, 1956, Ser. No. 620,799

6 Claims. (Cl. 21—2.5)

5. A method for preventing microbiological corrosion of a metal object which is to be at least partially buried in an excavation in the earth, said corrosion being due to the presence of microorganisms in the soil from said excavation and which soil is to be employed as fill around said object, which method comprises: mixing a first germicide into a bituminous coating material, applying a layer of said bituminous coating caterial to said metal object to form a first protective zone around said object; incorporating a second germicide with at least a portion of said microorganism-infected soil in an amount sufficient to effectively inhibit growth of said microorganisms; placing said object in said excavation; and placing said soil having said germicide incorporated therewith into said excavation in a manner so as to surround said object and thus establish a second zone of protection around said object.

2,979,378

PROCESSING OF URANIUM ORES

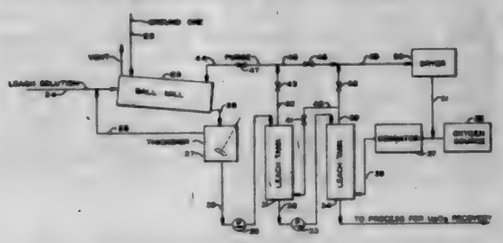
Robert A. Koble, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 18, 1957, Ser. No. 703,569

9 Claims. (Cl. 23—14.5)

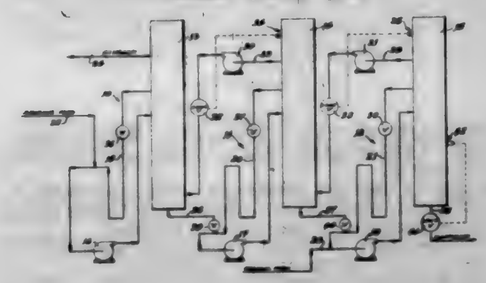
1. In a continuous process for leaching uranium from uranium ore by forming a leach solution, pulverizing said uranium ore, forming a slurry of the pulverized ore in said solution, and passing said slurry through a series of leaching tanks, the improved method of increasing the solubility of said uranium in the leach solution which comprises passing oxygen through an ozonator thereby forming an ozone-oxygen gas stream, passing said gas

stream countercurrently to said slurry through said leaching tanks thereby increasing the solubility of uranium in said leach solution, removing the unreacted oxygen in a



vent gas stream, purging a portion of said vent gas to said slurry forming step, drying the remainder of said vent gas, and recycling the dried vent gas to said ozonator.

2,979,379
EXTRACTION OF URANIUM
Earl G. Schmieding, Pampa, Tex., and Archie E. Ruehle, Pacific, Mo., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 1, 1958, Ser. No. 725,769
8 Claims. (Cl. 23—14.5)



6. In a method of extracting metal values from an aqueous feed containing said values wherein said aqueous feed is passed through at least a first decanting zone and a second decanting zone countercurrent to an organic extractant, and wherein a portion of the mixture contained in each decanting zone is recycled through a mixing zone associated therewith, the improvement comprising passing more solvent from the top of the second decanting zone to the bottom of the first decanting zone than can rise to the top thereof, and recycling that portion of the solvent that does not rise to the top of the first decanting zone back to the second decanting zone through the mixing zone associated with the second decanting zone in admixture with aqueous phase.

2,979,380
CARBONATE MANUFACTURE
Thomas C. Miller, Tonawanda, N.Y.
Filed Nov. 28, 1958, Ser. No. 776,878
12 Claims. (Cl. 23—66)

1. The method of making extra-fine $CaCO_3$ of uniform particle size, generally substantially below one micron, comprising the steps of admixing a solution of Na_2CO_3, having a temperature of from 20° to 40° C. with a suspension of fine $Ca(OH)_2$ having a temperature substantially equal to the temperature of said solution, said $Ca(OH)_2$ suspension having a concentration of from 175 to 194 grams per liter, the ratio of the weight of Na_2CO_3 to $Ca(OH)_2$ being from about 1.0:1.0 to about 1.40:1.0, completing said admixture prior to any gelling formation within the mixture of said solution and said suspension, said mixture having a total weight to solids weight ratio of from about 5.1:1.0 to about 5.8:1.0, thoroughly agitating said mixture with a controlled mild turbulence prior to said gelling formation, allowing said mixture to form completely to a gel, avoiding disrupting said gel for a period immediately thereafter of at least about fifteen minutes, disrupting said gel and forming a resuspension, and separating substantially completely by filtration the $CaCO_3$ fine precipitate and NaOH liquor reaction products of which said resuspension consists, whereby a superior filter cake of fine, uniform $CaCO_3$ is formed.

2,979,381
PROCESS FOR PRODUCING ZEOLITE X
Joseph G. Gottstine, Buffalo, and Emery H. Westerland, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 1, 1958, Ser. No. 777,219
9 Claims. (Cl. 23—113)

1. An improved process for the production of sodium zeolite X which comprises: (1) preparing at about ambient temperature a reactant mixture having the composition expressed in terms of oxide mole ratios about as follows:

$$Na_2O/SiO_2=1.2–1.5$$
$$SiO_2/Al_2O_3=2.5–5.0$$
$$H_2O/Na_2O=35–60$$

(2) maintaining said reactant mixture at about ambient temperature for at least about two hours; (3) heating said reactant mixture to an elevated temperature; and (4) maintaining said reactant mixture at said elevated temperature until sodium zeolite X has crystallized.

2,979,382
METHOD FOR PREPARING INFRARED TRANSMITTIBLE ARSENIC TRISULFIDE
Rudolf Frerichs, Evanston, Ill., assignor to Research Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed May 10, 1951, Ser. No. 225,666
2 Claims. (Cl. 23—136)

1. A method of making arsenic trisulfide having a high transmission in the infrared region of the spectrum which comprises distilling arsenic trisulfide in a stream of hydrogen sulfide and thereafter boiling the excess hydrogen sulfide out of the arsenic trisulfide.

2,979,383
PREPARATION OF INORGANIC SULFUR BROMIDES
Joseph Nils Oppenson, Concord, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Oct. 4, 1956, Ser. No. 613,821
4 Claims. (Cl. 23—203)

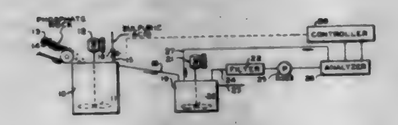
1. A process for the production of inorganic sulfur bromides which comprises reacting an inorganic sulfur chloride selected from the class consisting of sulfur monochloride, sulfur dichloride, and thionyl chloride with an excess of the stoichiometric quantities of hydrobromic acid in a liquid aqueous medium at temperatures below about 10° C.

2,979,384
PROCESS FOR PRODUCTION OF HYDROGEN AND SULFUR
Joseph G. Weiner, Los Angeles, and Charles William Leggett, Alhambra, Calif., assignors to The Ralph M. Parsons Company, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Dec. 22, 1958, Ser. No. 781,869
8 Claims. (Cl. 23—212)

1. A process for producing hydrogen and sulfur from hydrogen sulfide which process comprises the steps of

passing gaseous hydrogen sulfide in contact with a lower sulfide of a metal selected from the group consisting of iron, nickel and cobalt to produce hydrogen and a higher sulfide of said metal; separating the hydrogen from the higher sulfide of the metal; heating the higher sulfide of said metal to regenerate the lower sulfide of said metal and to produce vaporous sulfur; separating the vaporous sulfur from the lower sulfide of the metal; and cyclically repeating the steps of passing gaseous hydrogen sulfide in contact with the regenerated lower sulfide of said metal and regenerating the lower sulfide of said metal by heating the higher sulfide of said metal.

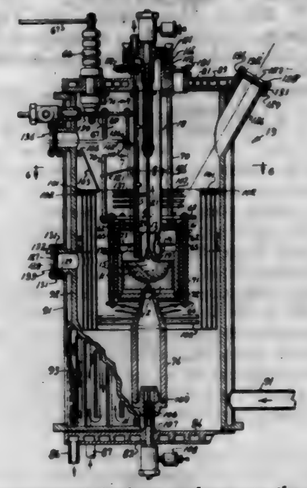
2,979,385
ANALYZER AND METHOD OF CONTROL
Francis W. Karasek, Bartlesville, Okla., and John G. Skinner, Corvallis, Oreg., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed June 15, 1956, Ser. No. 591,621
4 Claims. (Cl. 23—253)



1. Apparatus for use in the production of phosphoric acid and for maintaining the sulfate ion concentration thereof within a predetermined range, comprising: a first mixing vessel; means to add phosphate rock to said vessel; means to add sulfuric acid to said vessel; means to withdraw a sample stream from said vessel; analyzer means to measure the concentration of sulfate ions in said removed sample stream, said analyzer means comprising first and second sample cells, means to direct first and second radiation beams through said first and second cells, respectively, a second mixing vessel, means to direct a reagent through said first cell into said second vessel, said reagent being a reagent which will react with said sulfate ions in said sample stream and change the light transmission properties thereof, means to add at least a portion of said removed sample stream to said second vessel, means to direct the resulting mixture of said reagent and said portion of said sample stream from said second vessel through said second cell, and comparison means to compare the radiation beams transmitted through said first and second cells; means responsive to said comparison means to control the relative rates of addition of said sulfuric acid and said phosphate rock to said first mixing vessel; and means for recovering phosphoric acid product having a predetermined sulfate ion concentration.

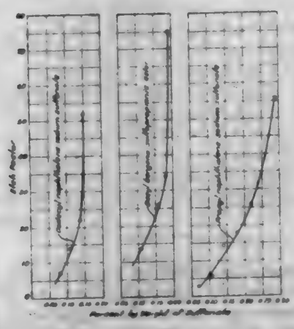
2,979,386
CRYSTAL GROWING APPARATUS
William Shockley, 23466 Corta Via, Los Altos, Calif., and Richard V. Jones, Palo Alto, Calif., assignors, by mesne assignments, to William Shockley, Los Altos, Calif.
Filed Aug. 2, 1956, Ser. No. 601,815
6 Claims. (Cl. 23—273)

1. A crystal growing apparatus for growing a crystal from a mass of the same material comprising means adapted to maintain the temperature of the mass near its melting point, means effecting a heat exchange to an upper localized region of the mass whereby the region is raised above the melting point of the material to form a pool of the material which is contained by the mass, and means for viewing the upper surfaces of said material



and serving to control the heat exchange to the upper surface whereby the volume of the region pool is controlled.

2,979,387
ETCHING
John A. Easley and Charles W. Hopkins, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 27, 1956, Ser. No. 606,508
21 Claims. (Cl. 41—42)



1. The method of etching a photoengraving plate consisting of magnesium, magnesium base alloys containing at least 90 percent magnesium, zinc and zinc base alloys containing at least 90 percent zinc, which comprises paddling an etching bath comprising a mixture of (1) an aqueous solution containing from 3 to 20 percent by weight of nitric acid, from 0.1 to 2.0 percent by weight of an alkylarylsulfonate selected from the group consisting of the alkylbenzene sulfonates wherein the alkyl portion contains from 8 to 18 carbon atoms and the alkylnapthalene sulfonates wherein the alkyl portion contains from 3 to 18 carbon atoms and (2) a water-immiscible organic liquid selected from the group consisting of petroleum hydrocarbons and hydrocarbon derivatives boiling within the range of 70° to 390° C. and substantially unreactive with the aqueous nitric acid solution and present in an amount of from 1 to 14 percent by weight of the aqueous nitric acid solution, said paddling being sufficiently vigorous to intermittently throw the bath against said plate in sheets and continuing this paddling action until the plate has been etched to a satisfactory depth.

2,979,388
METHOD OF HEAT HARDENING OF FLUID COKE BRIQUETTES

James W. Brown, Mountainside, and Edward A. Dostrempe, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

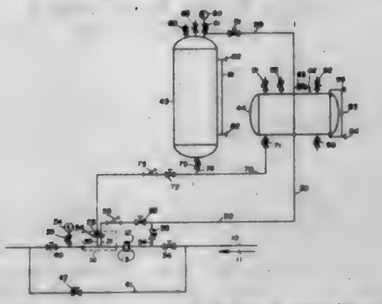
No Drawing. Filed Dec. 24, 1956, Ser. No. 630,057
10 Claims. (Cl. 44—16)

1. In the heat hardening of briquettes of fluid coke containing about 5 to 25 weight % of an agglutinating carbonaceous binder substance at temperatures at which the briquettes normally tend to deform and fuse, the improvement which comprises incorporating a compound selected from the group consisting of sulfur and P_2O_5 into the fluid coke briquettes during their preparation in an amount between about 10 and 60 weight % based on the agglutinating carbonaceous binder and heating the briquettes while in the form of a downwardly moving bed to a temperature in the range of 1000° to 3000° F. by countercurrent contacting with hot inert gases which first contact the briquettes at a temperature in the range of 800° F. to 1500° F. to cause rapid reaction before softening and heating for a total time in the range of ¼ to 5 hours.

2,979,389
APPARATUS FOR TREATING HIGH PRESSURE GAS SYSTEMS

Floyd E. Blount and John W. Anthony, Dallas, Tex., assignors, by mesne assignments, to Socony Mobil Oil Company, Inc., New York, N.Y., a corporation of New York

Filed Apr. 18, 1957, Ser. No. 653,682
6 Claims. (Cl. 48—195)



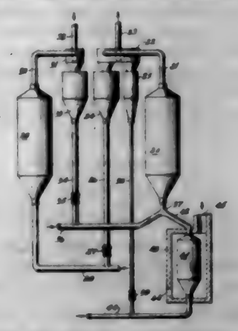
1. In apparatus for injecting liquid in mist form into a high pressure gas line, the combination of a restriction in said high pressure gas line to effect a pressure differential in said line, an atomizer positioned in said high pressure gas line on the downstream side of said restriction, liquid feed tank means, supply gas conduit means leading from said high pressure gas line upstream from said restriction to said tank means and to said atomizer for introducing supply gas directly into said atomizer by the pressure within said high pressure gas line upstream from said restriction, and a liquid supply conduit leading from said tank means to said atomizer to permit forcing liquid into said atomizer by the pressure within said high pressure gas line upstream from said restriction.

2,979,390
PROCESS FOR CARRYING OUT ENDOTHERMIC REACTIONS

Paul W. Garbo, Freeport, N.Y., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Filed Nov. 19, 1956, Ser. No. 623,257
6 Claims. (Cl. 48—202)

1. In an endothermic process of producing a combustible gas from a solid carbonaceous material containing a fusible ash, wherein said carbonaceous material in comminuted form is treated while undergoing fluidization in a conversion zone to effect the desired conversion at a high-temperature below the fusion temperature of said ash, the improvement in supplying heat to said endothermic process and effecting said conversion at said high



temperature below the fusion temperature of said ash which comprises simultaneously passing through said conversion zone a particulate inert solid thermophore which is at a temperature higher than the fusion temperature of the ash in said carbonaceous material when said thermophore is introduced into said conversion zone.

2,979,391
DEFOLIATION

Francis X. Markley, Bound Brook, N.J., assignor to Pittsburgh Coke & Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

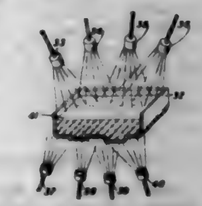
No Drawing. Filed Sept. 12, 1958, Ser. No. 760,548
4 Claims. (Cl. 71—2.7)

1. A method of defoliating cotton which comprises applying thereto when the plant contains bolls, in an amount effective to defoliate the cotton, a trimonohaloalkyl thiophosphite having 1 to 3 sulfur atoms linking the haloalkyl groups to the phosphorus atom, the balance of the linking atoms between the alkyl groups and the phosphorus atom being oxygen, and the haloalkyl groups of said trimonohaloalkyl thiophosphite being lower alkyl.

2,979,392
FOAMING OF GRANULATED METAL

Stuart O. Fiedler, Johan Bjorksten, and William S. Fiedler, Madison, Wis., assignors, by direct and mesne assignments, to Lor Corporation, a corporation of Delaware

Original application Dec. 12, 1957, Ser. No. 702,745. Divided and this application June 18, 1958, Ser. No. 742,854
9 Claims. (Cl. 75—28)

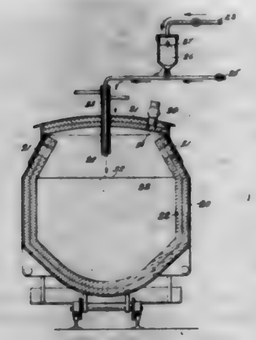


1. A method for making a metal foam body comprising providing a preheated mold, placing in said mold solid particles obtained as the mixing product of metal and a solid substance which decomposes and liberates gas when heated, then while providing substantially only said mold to restrain said particles, heating said particles to provide molten metal and to decompose said substance to liberate said gas in the molten metal thus provided, thus forming discrete unconnected closed cells in said metal, then cooling said mold and said metal to form a metal foam body.

2,979,393
PROCESS OF DESULFURIZING PIG IRON

Russell Pearce Heuer, Jr., 1241 Ridgewood Road, Bryn Mawr, Pa.

Filed Oct. 2, 1958, Ser. No. 764,840
6 Claims. (Cl. 75—51)

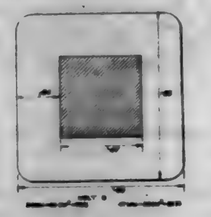


1. The process of desulfurizing molten pig iron which comprises holding the molten pig iron under reducing conditions in a closed vessel which excludes air and is provided with a vent above the surface of the molten pig iron and blowing from a lance whose mouth is above the surface of the molten pig iron onto that surface a downwardly directed stream of inert gas at a pressure in the gas before it leaves the lance of at least one atmosphere above the pressure in the vessel and treating said molten iron with a desulfurizing agent until at least 20 cubic feet of inert gas at standard conditions of temperature and pressure per tone of pig iron has been discharged by the lance downward into the molten pig iron and thence passes upward through the molten iron, over said iron and outward through said vent.

2,979,394
METHOD FOR PREPARING HIGH GRADE RIMMED STEEL WITH WIDE FERRITIC PERIPHERAL ZONE

Wilhelm Werz, Rheinhausen, Germany, assignor to Niederrheinische Hütte Aktiengesellschaft, Duisburg, a corporation of Germany

Filed Nov. 13, 1958, Ser. No. 773,797
Claims priority, application Germany Nov. 14, 1957
7 Claims. (Cl. 75—57)

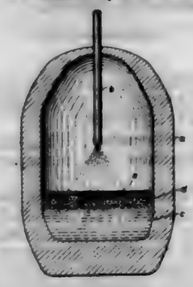


1. A method for the production of high grade rimmed steel having a wide ferritic peripheral layer and a correspondingly narrow central zone, consisting of saturating the melt with nascent hydrogen prior to casting then allowing said hydrogen to boil off during the solidification stage.

2,979,395
METHOD OF PREPARING PRELIMINARY METAL OR STEEL PIG IRON CONTAINING PHOSPHORUS

Johannes Kosmider, 37 Hesterstrasse, and Herbert Neuhaus, 5 Swolinskystrasse, both of Hagen-Haspe, Germany

Filed Jan. 21, 1958, Ser. No. 710,295
Claims priority, application Germany Jan. 22, 1957
2 Claims. (Cl. 75—60)

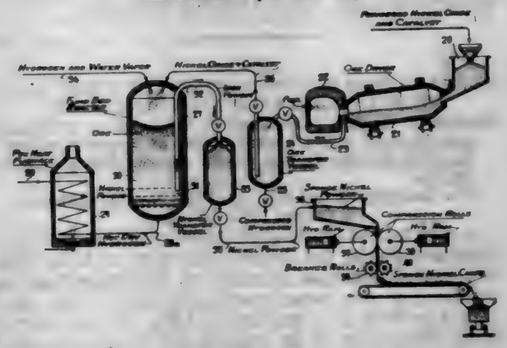


1. In the method for producing preliminary metal and steel from a pig iron melt having an arbitrary phosphorus content by refining said melt with oxygen-containing agents with the simultaneous addition of slag-forming substances in a refining vessel, in which a refining gas is blown onto the layer of the slag in such a manner that, during an initial stage of the refining process, said gas will not penetrate the slag layer and reach the surface of said melt and contact the latter, thereby continuously oxidizing the FeO contained in the slag to Fe_2O_3, the Fe_2O_3 causing dephosphorization at the interface between the slag and the melt and the FeO thereby formed being reoxidized to Fe_2O_3 by the oxygen of the refining gas, the improvement which comprises stopping the said blowing with refining gas at a stage wherein dephosphorization of the melt is completed and said melt has a carbon content higher than that finally required and wherein said carbon content can be adjusted to the final carbon content required by a subsequent heat treating step; maintaining the temperature of said melt to permit further boiling thereof, and adjusting the carbon content of said melt to the content finally required during said further boiling.

2,979,396
METHOD TO CATALYZE THE REDUCTION OF ORES

Frederick C. Langenberg, Pittsburgh, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed May 31, 1957, Ser. No. 662,848
12 Claims. (Cl. 75—91)



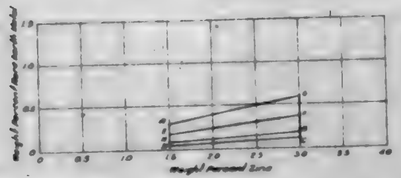
1. A method of increasing the rate of reduction of a finely divided metal deficit compound of the group con-

sisting of metal oxides and sulfides to the metal state, which comprises: forming, by method selected from the group consisting of co-precipitation and solid-solid diffusion, a solid solution of said compound and metal cations which have a higher valence than the cations of the metal deficit compound to be reduced to introduce said metal cations into the lattice structure of said compound, and exposing said solution to a reducing gas at an elevated reducing temperature below the melting point of said metals and the compounds thereof.

2,979,397
ALUMINUM BRONZE ALLOY HAVING IMPROVED WEAR RESISTANCE BY THE ADDITION OF COBALT AND MANGANESE
John F. Klement, Milwaukee, Wis., assignor to Ampco Metal, Inc., Milwaukee, Wis., a corporation of Wisconsin
No Drawing. Filed Nov. 21, 1958, Ser. No. 775,351
6 Claims. (Cl. 75—161)

1. An aluminum bronze alloy, consisting essentially by weight of 13.0% to 16.0% aluminum, 3.0% to 6.0% iron, cobalt in a ratio of 0.07 to 0.31 part per part of aluminum, manganese in a ratio of 0.07 to 0.31 part per part of aluminum and the balance being essentially copper, said alloy being characterized by having excellent corrosion resistance and having improved toughness and wear resistance.

2,979,398
MAGNESIUM-BASE ALLOY
George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 3, 1958, Ser. No. 746,410
4 Claims. (Cl. 75—168)

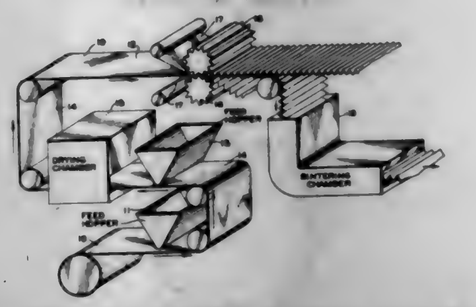


1. A magnesium-base alloy consisting of from 1.5 to 3.0 percent of zinc, rare earth metal in an amount in percent by weight which is from 0.04 to 0.2 of the zinc percentage, said rare earth metal being selected from the group consisting of cerium, lanthanium, praseodymium, neodymium, misch metal, and mixtures thereof, from 0.2 to 0.8 percent of zirconium which is soluble in hydrochloric acid on subjecting the alloy to the dissolving action of the acid, and the balance magnesium.

2,979,399
PREPARATION OF COMPACTS MADE FROM URANIUM AND BERYLLIUM BY SINTERING
Roswell P. Angier, New York, N.Y., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Dec. 27, 1950, Ser. No. 203,043
9 Claims. (Cl. 75—214)

1. The method of uniformly distributing U in Be which comprises mixing the desired proportion of UBe_9 with the desired proportion of powdered Be, compacting the powdered mixture under pressure and sintering the compacted material at a temperature lying between the eutectic temperature of the mixture and the melting point of Be by instantaneous heating to the desired temperature.

2,979,400
POROUS MEDIA
Herman C. Mouwen, Elberon, N.J., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Feb. 4, 1959, Ser. No. 791,697
6 Claims. (Cl. 75—222)



1. The method of making a convoluted porous filter article of desired configuration comprising depositing a mixture of viscous resinous material consisting of depolymerizable polymerized-mono-olefinic resin and metal powder on a screen member to form a continuous phase thereon, solidifying said resinous material, convoluting said member into the desired filter configuration, applying a setter material to said filter, and sintering said screen member to volatilize said resinous material and fuse the metal powder and screen member together.

2,979,401
SLIP CASTING
Jan W. Szymanek, Niagara Falls, Ontario, Canada, assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 27, 1957, Ser. No. 705,475
5 Claims. (Cl. 75—223)

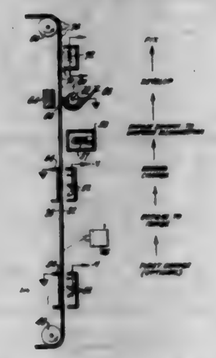
1. The method of forming cast articles of at least one material selected from the group consisting of metals and metallic compounds, comprising providing a powder of said selected material, coating the particles of said powder with a resin while suspending said coated particles in a non-polar organic suspending medium in intimate contact with a porous mold of desired shape, absorbing said organic suspending medium through said porous mold to form a green casting of selected material and desired shape in said mold, removing said green casting from said mold and sintering said green casting to form a strong dense article of desired shape.

2,979,402
ELECTROSTATIC PRINTING
Harold G. Greig, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 31, 1956, Ser. No. 601,221
13 Claims. (Cl. 96—1)



1. An electrophotographic recording element including a photoconducting insulating stratum comprising particles of photoconducting zinc oxide dispersed in an electrically-insulating, solid, film-forming vehicle in contact with a semiconducting substratum comprising particles of a semiconducting material selected from the group consisting of semiconducting zinc oxide, stannic oxide, titanium dioxide and basic lead carbonate, in a solid, film-forming vehicle, said photoconducting stratum having a long dark decay relative to the dark decay of said substratum, the weight ratio of photoconducting zinc oxide to vehicle in said stratum being between 50/50 and 90/10, and the vehicle being present in said substratum in proportions up to one part by weight vehicle to two and a half parts by weight semiconducting material.

2,979,403
ELECTROSTATIC PRINTING
Edward C. Giaimo, Jr., Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 24, 1958, Ser. No. 769,494
7 Claims. (Cl. 96—1)



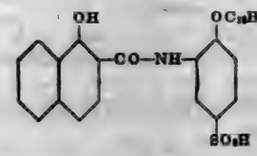
1. A method of electrostatic printing comprising the steps of applying a first uniform electrostatic charge of one polarity to a surface of a photoconductive insulating layer, projecting a pattern of radiant energy to which said layer is sensitive to provide a second electrostatic image trostatic image, then applying a second uniform electrostatic charge of said one polarity to said surface, briefly flooding said surface with radiant energy to which said layer is positive to provide a second electrostatic image in reverse configuration with respect to first electrostatic image, and applying an electrostatically charged developer substance to said surface whereby a reverse visible image is produced.

2,979,404
METHOD FOR SIMULTANEOUS PHOTOGRAPHIC PRINTING AND DEVELOPING
Ivan W. Ellsworth, 57 Spruce St., and Kenneth S. Johnson, 34 Andrea St., both of Framingham Center, Mass.
Original application Oct. 26, 1953, Ser. No. 388,184, now Patent No. 2,817,279, dated Dec. 24, 1957. Divided and this application Nov. 7, 1957, Ser. No. 695,899
1 Claim. (Cl. 96—49)

The method of printing and developing a substantially translucent original image in a substantially enclosed chamber which contains a source of light in one area of the chamber and a source of ammonia vapor at another area of the chamber, said method comprising the steps of placing an original image on a sensitized paper whose sensitized coating decomposes under the influence of light, in said chamber between the light and the source of ammonia vapor, said paper being dry process paper and requiring printing by light and development by ammonia vapor, passing light through the original image to the paper at one side of the paper and simultaneously causing the application of substantially dry ammonia vapor through the other side of the paper, the ammonia vapor developing the image in the paper simultaneously with the printing by the exposure to light, without regard to the length of time of the exposure to the light or to the ammonia vapor.

2,979,405
LIGHT-SENSITIVE PHOTOGRAPHIC ELEMENT CONTAINING A 1-HYDROXY-2-NAPHTHOIC ACID ANILIDE COLOR COUPLER
Arthur Henri De Cat, Mortsel-Antwerp, and Bernard Hippoliet Tavernier, Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V.
No Drawing. Filed June 19, 1957, Ser. No. 666,746
Claims priority, application Belgium June 22, 1956
8 Claims. (Cl. 96—55)

1. Light-sensitive photographic element comprising a silver halide emulsion layer and the compound of the following formula



2,979,406
SINGLE POWDER PHOTOGRAPHIC DEVELOPERS
John B. Taylor and Jerry S. Krizka, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 11, 1956, Ser. No. 577,452
8 Claims. (Cl. 96—66)

1. A single powder photographic developing composition containing an organic photographic developing agent, an alkali metal sulfite, an alkali selected from the group consisting of sodium carbonate, sodium hydroxide, sodium tetraborate and sodium metaborate, an antifogging agent, a sufficient amount of an acid stabilizer selected from the group consisting of phthalic acid, anhydrous oxalic acid, boric anhydride, metaboric acid and potassium metabisulfite to produce 0.5 to 12 grams per liter in solution and a sufficient amount of alkali metal hexametaphosphate to produce at least 1 gram per liter in solution.

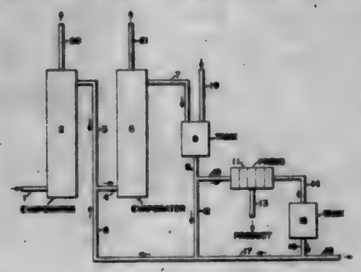
2,979,407
BLOOM INHIBITED CHOCOLATE AND METHOD OF PRODUCING SAME
William N. Duck, Manor Township, Lancaster County, Pa. (607 Capri Road, Lancaster, Pa.)
No Drawing. Filed May 28, 1959, Ser. No. 816,373
5 Claims. (Cl. 99—23)

1. A bloom inhibited chocolate product comprising a major portion of edible chocolate and a minor portion of from 0.5% to 5% by weight of a stabilizing material, said stabilizing material comprising a mixture of triglyceride esters based on the ratio of 2 moles of lauric acid, 1.2 moles of myristic acid, and 2 moles of palmitic acid, the stabilizing material having a melting point in the range from 104° F. to 118° F.

2,979,408
DEHYDRATION OF FLUID FATTY MIXTURES
Charles Greenfield, 3 Templeton Arms, N. Broad St., Elizabeth, N.J.
Filed Oct. 24, 1956, Ser. No. 617,987
15 Claims. (Cl. 99—56)

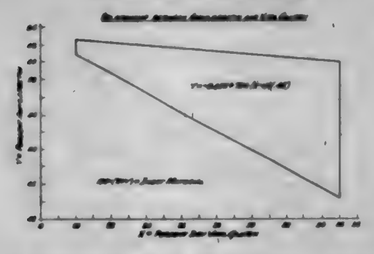
1. In a process of dehydrating a fluid system comprising a mixture of fat, non-fat solids and water by heating the continuous fluid system at sub-atmospheric pressures, said system being normally characterized by gel-like formation at some point in the dehydration the improvement which comprises adding a fat liquid medium to the mixture so as to obtain a minimum ratio of total fat to non-fat solids of about 2 and increasing the concentra-

tion of discrete non-fat solids in the continuous fluid system undergoing the sub-atmospheric dehydration process



and prior to normal gel formation whereby the gel formation is prevented.

2,979,409
CHIP-TYPE FOOD PRODUCT
Pericles Markakis, New York, Thomas M. Freeman, Hollis, and Walter H. Harte, White Plains, N.Y., assignors to DCA Food Industries Inc., New York, N.Y., a corporation of New York
Filed Nov. 20, 1957, Ser. No. 697,718
4 Claims. (Cl. 99—100)

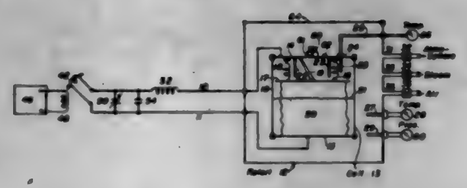


1. An improved method of producing a chip-type food product comprising forming a dough containing 44% to 63% gelatinized amylopectin, 20% to 35% vital gluten, the remainder of the dry ingredients being an inert material selected from the group consisting of amylose, initially denatured gluten and cellulose, and between about 15% and 100% water based on said dry ingredients, wherein said percentages of said gelatinized amylopectin and vital gluten by dry weight are related in accordance with the formula $y=-0.65x+75\pm(x-18)(.45)$ where y is amylopectin and x is vital gluten, shaping said dough, reducing the water content thereof to below about 15% in the absence of substantial devitalization of said vital gluten and thereafter cooking said shaped dough in a substantially non-aqueous medium.

2,979,410
FOOD PACKAGE AND PACKAGING FILM THEREFOR
A. Kenneth Parlour, Chicago, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 13, 1957, Ser. No. 658,538
7 Claims. (Cl. 99—171)

1. A package comprising a food product normally susceptible to spoilage by fungus, molds, and bacteria, encased within a food packaging film, said film comprising an oriented, heat-shrinkable film and at least one lamina of water-sensitive material selected from the group consisting of gums, gelatins, glues and plastics, said material containing a fungicide, said film being shrunk onto said food product by the application of heat thereto for intimately contacting the surfaces thereof with the said film.

2,979,411
METHOD OF PROCESSING MEAT
Ladislav J. Pircon, Stickney, Ill., assignor to A. W. Brickman, Victor Conquest, Frank J. Madden, Wrisley B. Olesen, and Emery T. Filbey, all of Chicago, Ill., as trustees for the benefit of American Meat Institute Foundation, Chicago, Ill., a non-profit corporation of Illinois
Filed Apr. 26, 1957, Ser. No. 655,205
5 Claims. (Cl. 99—187)



1. The method of processing meat which comprises the steps of placing said meat in a retort, coupling electrical energy to said meat to raise the temperature of the meat to a desired value, creating a pressure differential between the pressure in said retort and the pressure of the atmosphere external to said retort, and suddenly venting said retort to said external pressure to effect agitation of the liquid in the meat and thereby produce a substantially uniform temperature distribution throughout said meat.

2,979,412
PREPARATION OF DEHYDRATED FRUIT HAVING THE CHARACTERISTICS OF SUN-DRIED FRUIT
Melvin E. Lazar, Oakland, George S. Smith, Concord, and Edward O. Chapin, Albany, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Oct. 14, 1959, Ser. No. 846,514
3 Claims. (Cl. 99—204)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of preparing dehydrated fruit having the desirable characteristics of sun-dried fruit which comprises sulphuring fresh fruit pieces, subjecting the fruit to rapid dehydration in a current of hot air at a temperature of about from 150 to 180° F. until the weight of the fruit is reduced to about 40–60% of its initial fresh weight, contacting the partly-dehydrated fruit with steam for a period within the range about 2 to 6 minutes, long enough to cause a shrinking and densification of the fruit and to expel air from the tissues to render the fruit translucent but not long enough to obtain slabbing, and subjecting the steamed fruit to rapid dehydration in a current of hot air at a piece temperature not exceeding 160° F. until the moisture content of the fruit is about 15 to 20%.

2,979,413
METHOD OF GROWING CORUNDUM CRYSTALS
Albert A. Ballman, Woodbridge, and Anthony J. Caporaso and Robert A. Laudise, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 14, 1957, Ser. No. 665,685
3 Claims. (Cl. 106—42)

1. The method of growing crystals of synthetic ruby in a closed system which comprises depositing corundum containing chromium ion impurities on a seed crystal of corundum from an aqueous medium containing corundum and a soluble chromium compound dissolved therein, said aqueous medium being present in an amount sufficient to occupy at least 65 percent of the free space within said closed system at room temperature and being in contact with a mass of solid corundum, said mass of solid corundum being at a temperature higher than that of said seed crystal, the temperature differential between said mass of solid corundum and said seed crystal being not greater than about 20° C., the temperature of said seed crystal being at least 395° C., and the temperature of said mass of solid corundum being not more than 520° C.

2,979,414
CERAMIC TOOL MATERIAL
Eugene I. Rynkewitch, Ridgewood, N.J., and Hiram Taylor, Shreve, Ohio, assignors to United States Ceramic Tile Company, Canton, Ohio, a corporation of Delaware
No Drawing. Filed Nov. 15, 1957, Ser. No. 696,600
12 Claims. (Cl. 106—44)

1. A wear-resistant, dense, non-porous material consisting essentially of an intimate mixture of fine-grained silicon carbide particles and fine alumina particles, the silicon carbide particles constituting from about 8 to about 50% by volume of the mixture, wherein the particles are in intimate contact without gaps therebetween.

2,979,415
CEMENTITIOUS MATERIAL
John Boris Taylor, West Bridgford, Nottingham, England, assignor to The British Plaster Board (Holdings) Limited, London, England, a British company
No Drawing. Filed Feb. 11, 1958, Ser. No. 714,493
Claims priority, application Great Britain Feb. 18, 1957
10 Claims. (Cl. 106—88)

1. A cementitious material in the form of cellular granular particles, said particles consisting essentially of a major proportion of at least one material selected from the group consisting of soluble anhydrite and calcium sulphate hemihydrate.

2,979,416
METHOD FOR SEALING ERODED ARTICLES AND THIXOTROPIC COMPOSITION THEREFOR
Stanley Drexler, Pennsauken, N.J., assignor to Magna-Bond, Inc., Camden, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 29, 1958, Ser. No. 731,613
7 Claims. (Cl. 117—2)

3. A method for restoring eroded surfaces comprising the steps of preparing a blend of liquid organic solvents and diluents including a solvent having a vapor pressure substantially higher than that of water, a solvent having a vapor pressure substantially lower than that of water, and a diluent having a vapor pressure substantially equal to that of water; mixing with said blend a plasticizer selected from the group consisting of high molecular weight polyester resins and epoxidized soybean oil; adding a copolymerized vinyl chloride-vinyl acetate resin binder; adding colloidal silica to impart thixotropic characteristics; suspending a filler in the form of a highly particulated powder selected from the group consisting of atomized metal, glass, wood and cork; and applying the resultant composition to the eroded surface, thereafter allowing the composition to air dry at ambient temperature.

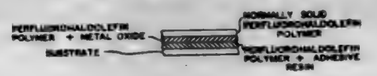
2,979,417
METHOD OF PREPARING SELF-LUBRICATING WATCH AND CLOCK PARTS AND THE COATED ARTICLE
Gustav Krüger, Eric Schlitz, and Hans Bourquin, all of Waldenburg, Basel-Campagne, Switzerland, assignors to Institut Dr. Ing. Reinhard Straumann A.G., Basel-Campagne, Switzerland, a Swiss company
Filed June 23, 1958, Ser. No. 743,959
Claims priority, application Switzerland June 26, 1957
6 Claims. (Cl. 117—65.2)

1. A self-lubricating component for clocks and watches, having at least its frictional wearing surface coated with a thin, firmly adherent, non-tacky film of an oil free



lubricating substance consisting essentially of a stearate and an adhesion-promoting substance.

2,979,418
CHEMICALLY RESISTANT COATINGS AND METHOD FOR PREPARATION THEREOF
Charles D. Dipner, Cranford, N.J., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 3, 1958, Ser. No. 718,407
18 Claims. (Cl. 117—72)



1. A process which comprises applying successively to a substrate a first, metal oxide free, coating composition comprising a polymer of a fluorine-containing olefin having between 2 and 5 carbon atoms and having at least one atom of a normally gaseous halogen for every two carbon atoms of said olefin, and at least one adhesive resin selected from the group consisting of epoxide resin and phenolic resin, the adhesive resin-to-polymer ratio ranging from about 10 : 90 to about 90 : 10, and a second coating composition being free of said adhesive resin and comprising a metal oxide of a metal above the fourth group of the periodic table, said metal having a melting point between 600° C. and 1500° C., and a polymer of a fluorine-containing olefin, the metal oxide-to-polymer ratio ranging from about 5 : 100 to about 60 : 100, and finally heating said coatings to a temperature between about 420° F. and about 600° F. to provide a fused adherent coating on the surface of the substrate.

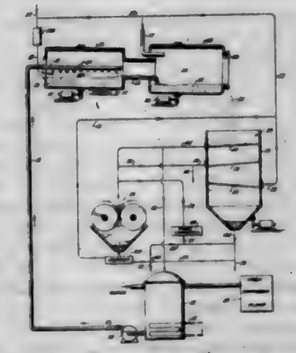
2,979,419
PROCESS FOR UPGRADING ARTICLES PREPARED FROM MONOALKENYL AROMATIC POLYMERS
Richard L. Hill and William R. R. Park, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 28, 1958, Ser. No. 757,661
18 Claims. (Cl. 117—72)

1. A process for upgrading thermoplastic articles fabricated from the polymerizates of monoalkenyl aromatic monomers consisting of the sequential steps of (1) applying to at least one surface of said thermoplastic article a continuous uniform coating of a film-forming latex of a copolymer of a monoalkenyl aromatic monomer and a conjugated diolefin, (2) drying said coating to a clear coherent coating, (3) applying to the so-treated surface a continuous uniform coating of a film-forming dispersion of (*a*) from about 67 to 85 percent by weight of a first aqueous latex of a copolymer of vinylidene chloride and acrylonitrile and (*b*) from about 33 to 15 percent by weight of a second aqueous latex of a ternary polymer of vinylidene chloride, vinyl chloride and acrylonitrile and (4) drying said coating of step (3) to a clear coherent coating.

2,979,420
SILICONE PRIMERS FOR ROOM TEMPERATURE VULCANIZING SILICONE RUBBER
Jack R. Harper, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Sept. 15, 1958, Ser. No. 760,841
1 Claim. (Cl. 117—72)

The method which consists essentially of (1) applying to a surface a liquid coating comprising a composition selected from the group consisting of (*a*) silanes of the formula $RSi(OZ)_3$ in which each R is selected from the group consisting of the phenyl radical and aliphatic hydrocarbon radicals of less than 4 carbon atoms and each Z is an acyl radical of less than 4 carbon atoms and (*b*) partial hydrolyzates of such silanes, (2) allowing the coating to dry and (3) applying on said dried coating a silicone compound capable of curing at room temperature.

2,979,421
UREA GRANULATION PROCESS
James E. Rissman and Arthur L. Kohl, Whittier, Calif., assignors to The Fluor Corporation, Ltd., Los Angeles, Calif., a corporation of California
Filed Jan. 27, 1958, Ser. No. 711,389
11 Claims. (Cl. 117—100)

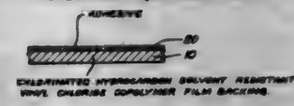


1. The process of building up sub-product size urea seed particles to granular product size so that the product granules have lower biuret concentration than a urea feed solution from which said seed particles are derived, that includes passing a stream of said seed size particles through wetting and drying zones and therein wetting the particles with an aqueous urea feed solution and drying the wetted particles to deposit thin coatings of urea thereon and at temperatures sufficiently below urea melting temperature that substantially no additional biuret forms, agitating said stream in said zones to inhibit coated particle agglomeration and to flake off as fines the outermost deposited coatings in which biuret concentrates, separating contents of the resultant stream into product granules, seed particles and fines smaller than said seed and product, said seed particles being larger than 40 mesh Tyler scale, returning a side stream of said separated seed particles to said wetting zone, said steps being carried out so that the seed particles being returned to the wetting zone remain discrete and unmelted between and during said return and passage thereof through said wetting and drying zones, said fines and seed particles separation being sufficiently complete that fines smaller than 40 mesh Tyler scale in the seed particle stream being returned to said wetting zone comprise less than 8% of the side stream weight, and permanently removing from said process streams the bulk of the separated fines which are not returned to the wetting zone in said seed particle stream.

2,979,422
COATING PROCESS
Theodor Bersin, 19 Ludwigstrasse, and Arthur Müller, 176 Vernbueistrasse, both of St. Gallen, Switzerland
No Drawing. Filed Mar. 7, 1958, Ser. No. 719,738
8 Claims. (Cl. 117—106)

1. A method of coating a hydrophobic synthetic plastic substance which has been treated to have anionic groups on its surface and to have an MBR value within the range of 0.08 to 0.25, comprising the steps of: applying an aqueous solution of a water-soluble protein having a concentration of protein of 1% to 5% by weight, to the surface of the plastic whereby the protein is bound to the surface of the plastic, and drying the protein coated surface.

2,979,423
ISOCYANATE MODIFIED VINYL CHLORIDE CO-POLYMER FILM BACKED ADHESIVE TAPE
Marvin A. Weinberg, Metuchen, N.J., assignor, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey
Filed Sept. 25, 1957, Ser. No. 686,146
4 Claims. (Cl. 117—122)



1. A novel tape comprising a chlorinated hydrocarbon resistant, flexible backing film formed from a composition comprising (1) a vinyl chloride co-polymer containing an iso-cyanate reactive group in an amount from about 10% to about 70% by weight of said composition, (2) a compatible plasticizer containing an iso-cyanate reactive group in an amount from about 35% to about 90% by weight of said composition, (3) and a polyisocyanate in an amount from about 3% to about 15% by weight of said composition to effect a chemical linkage between said vinyl chloride copolymer and said plasticizer, (4) and a coating of a thermoplastic adhesive on at least one major surface of said backing film.

2,979,424
METAL COATED GLASS FIBERS AND METHOD OF MAKING THEM
Harry B. Whitehurst, Albert R. Morrison, and Theodore J. Collier, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
No Drawing. Filed Sept. 17, 1953, Ser. No. 380,868
7 Claims. (Cl. 117—227)

5. The method of producing glass fibers having a thin film of metal formed on the surfaces thereof without excessive deterioration of the physical and mechanical properties of the glass fibers, comprising sizing the individual glass fibers to coat the glass filaments with a thin coating formed of an oil vehicle and the formate of a metal selected from the group consisting of copper and the noble metals contained in an oil vehicle, heating the coated glass fibers to an elevated temperature above 400° F. but below 750° F., to ignite the oil whereby the metallic salt decomposes to eliminate the formate and deposit the metal as a thin film on the surfaces of the individual glass fiber.

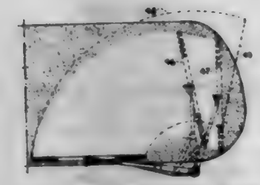
2,979,425
METHOD FOR WIPING A CURVED WINDSHIELD
Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Original application Jan. 17, 1955, Ser. No. 482,278. Divided and this application Nov. 30, 1955, Ser. No. 549,920
10 Claims. (Cl. 134—6)

1. A method of wiping two differently formed areas of a windshield which consists in causing a wiper blade, carried by an arm, to move longitudinally of the arm when traversing both areas, pivot to vary the angularity



between the longitudinal axes of the arm and blade, and tilt about its longitudinal axis when traversing one of the areas to maintain the blade normal to such area.

2,979,426
WINDSHIELD WIPER ARM ASSEMBLY
Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Original application Mar. 26, 1954, Ser. No. 418,932. Divided and this application Jan. 24, 1958, Ser. No. 710,925
4 Claims. (Cl. 134—6)



1. The method of wiping a windshield having a convex surface comprising oscillating an elongate wiper blade-and-arm assembly transversely of its length along the convex surface of the windshield about a fixed axis while progressively varying the distance between the wiper blade and said fixed axis throughout a predetermined stroke of oscillation and angularly adjusting the wiper blade relative to the arm in a path substantially parallel to the surface of the windshield through an outer portion only of said stroke of oscillation.

2,979,427
SEMICONDUCTOR DEVICE AND METHOD OF MAKING THE SAME
William Shockley, 23466 Corta Via, Los Altos, Calif.
Filed Mar. 18, 1957, Ser. No. 646,625
17 Claims. (Cl. 148—1.5)



1. A semiconductor device comprising a crystal of semiconductor material having three grain boundaries, regions of impurity semiconductive material disposed along said grain boundaries and supported by the crystal, two of said regions being of one conductivity type and the other of said regions being of opposite conductivity type, said regions having a portion in operative relationship with one another, said crystal being substantially less conductive than the impurity material, and ohmic contacts formed to said regions.

2,979,428
SEMICONDUCTOR DEVICES AND METHODS OF MAKING THEM
Dietrich A. Jenny and Joseph J. Wysocki, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 11, 1957, Ser. No. 652,280
7 Claims. (Cl. 148—1.5)



1. A circuit element comprising a body of semiconductive gallium arsenide, said body having at least one rectifying electrode attached thereto, and at least one ohmic electrode fused to said body, said ohmic electrode consisting of indium.

2,979,429
DIFFUSED TRANSISTOR AND METHOD OF MAKING
Boyd Cornelison, Dallas, and Elmer A. Wolff, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 9, 1958, Ser. No. 747,457
5 Claims. (Cl. 148—1.5)



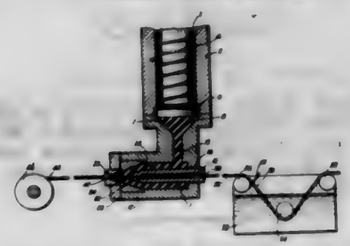
1. The method of fabricating a semiconductive body having a plurality of layers of different conductivities and at least one layer of intrinsic conductivity comprising placing a body of semiconductive material of an N-type conductivity in a chamber evacuating air from the chamber, subjecting the body simultaneously to the vapor of the elements gallium, indium and arsenic at a temperature and for a time sufficient to produce diffusion of said elements into said body.

2,979,430
HEAT RESISTANT PHOSPHATE COATINGS, METHODS AND ARTICLES PRODUCED THEREFROM
Heinz Keller, Rudolf Brodt, and Karl Lampatzer, Frankfurt am Main, Germany, assignors to Parker Rust Proof Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed June 4, 1956, Ser. No. 588,967
Claims priority, application Germany June 4, 1955
4 Claims. (Cl. 148—6.15)

1. A method of forming heat resistant coatings on a surface of ferrous metal and alloys thereof comprising contacting said surface with a solution containing as the essential coating producing ingredients between about 70 grams PO_4 per liter and 400 grams PO_4 per liter of calcium monophosphate, an amount of phosphoric acid sufficient to prevent the formation of a precipitate from the said monophosphate in said solution, and up to 50% based

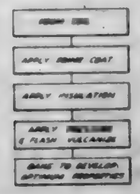
on said monophosphate of a thermally decomposable phosphate selected from the group consisting of ammonium phosphate, urea phosphate and aniline phosphate, said thermally decomposable phosphate being present in concentrations always less than 115 grams PO_4 per liter, and thereafter subjecting said surface to temperatures between about 300° C. to 1200° C. for a period of time sufficient to yield a firmly adherent phosphate coating on said surface.

2,979,431
METHOD AND APPARATUS OF PRODUCING RE-ENFORCED THERMOPLASTIC BODIES
Lewis Perrault, Tulsa, Okla., assignor to Ralph T. Hays, Tulsa, Okla., trustee
Filed Mar. 14, 1956, Ser. No. 571,498
4 Claims. (Cl. 154—2.24)



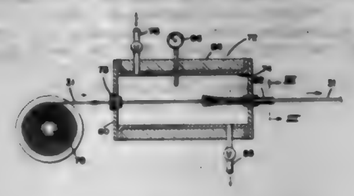
1. The process of forming re-enforced thermoplastic bodies which consists of kneading heated thermoplastic granules into a thermoplastic mass, simultaneously dipping an elongated filler with a thermosetting resin characterized by providing a low order shrinkage during curing to preclude discharge of volatiles, and impregnating the voids between the filler with the thermosetting resin, feeding the impregnated filler into contact with the thermoplastic mass for bonding the thermoplastic mass with the filler, uniformly impregnating the thermoplastic around the resin dipped filler as the filler is fed into contact with the mass, extruding the re-enforced thermoplastic through a constricted orifice, forming the extruded re-enforced thermoplastic mass and laminating the re-enforced patterns by heating and compression to complete the final thermosetting of the resin to provide a re-enforced body of high tensile strength.

2,979,432
INSULATING METHOD
Elmer E. Thiessen, La Grange, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 13, 1954, Ser. No. 474,775
3 Claims. (Cl. 154—80)



3. The method of making a void-free insulating jacket for an electrical coil having plural conductor turns of metallic copper to be operated at a high temperature comprising inserting insulating material between adjacent turns, coating the exposed surfaces of said conductor turns with orange shellac varnish, curing said varnish until its resoftening temperature exceeds said high temperature, applying plural layers of glass supported partially vulcanized silicone rubber over said varnish, compressing said rubber against said coil, passing a current through said coil to effect vulcanization of said rubber at a temperature of 175 degrees C. within seven minutes, and baking said coil in an air circulating oven at a temperature exceeding said high temperature to develop optimum properties of said jacket.

2,979,433
METHOD OF RESHAPING FIBROUS FILTER RODS
Richard MacHenry, Prospect Park, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 9, 1956, Ser. No. 570,590
3 Claims. (Cl. 154—91)



1. The method of making a fibrous rod having the form of a circular cylinder comprising forming a loose sliver of non-adhesive and potentially adhesive fibers, activating the potentially adhesive fibers, compressing the sliver into circular cylinder configuration to bring the fibers into intimate contact with one another whereby at least some of the potentially adhesive fibers adhere to at least some of the non-adhesive fibers and form a relatively stiff rod of fibers, winding the rod into a package whereby the rod is deformed from its circular cylinder configurations, unwinding the deformed rod, subjecting the unwound rod to the action of steam to soften the fibers, and drawing the rod while the fibers are still softened through a die to restore the circular cylinder configuration.

2,979,434
POLYAMINE NEMATOCIDES
Philip H. Santmyer, Robertson, Mo., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 7, 1953, Ser. No. 396,784
8 Claims. (Cl. 167—22)

1. A method of controlling endoparasitic worms which comprises treating soil infested by said worms with a composition containing a quantity toxic to said worms of a compound having the structure

$$R—NH—(CH_2—CH_2—NH)_n—H$$

wherein R is an alkyl radical having from six (6) to twenty (20) carbon atoms and *n* is an integer from one (1) to six (6).

2,979,435
ETHYLENE-SULFONYL FUNGICIDES
Maynard S. Raasch, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 13, 1957, Ser. No. 645,665
6 Claims. (Cl. 167—22)

1. A method for the prevention and destruction of fungi comprising applying to the organic material to be protected, in an amount sufficient to exert fungicidal action, a compound of the formula

$$R—SO_m—\underset{\displaystyle X}{\overset{}{C}}=\underset{\displaystyle H}{\overset{}{C}}—SO_n—R'$$

wherein R and R' are alkyl radicals having from 1 to 12 carbon atoms, inclusive, *m* and *n* are positive whole numbers not greater than 2, and X is halogen.

2,979,436
TREATMENT OF TOMATO PLANTS TO PREVENT EARLY BLIGHT DISEASE
Arthur Lawrence Fox, Greenwood, Va., and Irving Joseph Krems, Vienna, Austria, assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 28, 1958, Ser. No. 768,058
10 Claims. (Cl. 167—30)

3. A method of treating tomato plants to prevent early blight disease which comprises spraying tomato plants with an aqueous higher alkyl benzene sulfonate salt of a heavy metal of the third period selected from the group consisting of iron, zinc, and copper, said alkyl radical having a branched chain and containing from about 8 to about 20 carbon atoms and said aqueous spray containing said salt in a small but effective amount sufficient to prevent early blight disease up to about 6000 parts per million.

2,979,437
SUBSTITUTED STYRYL, AND THIENYLETHENYL, PYRIDYLETHENYL SULFONYLUREAS AND METHOD OF TREATING DIABETES
William M. McLamore, Kew Gardens, and Gerald D. Laubach, Jackson Heights, N.Y., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 2, 1958, Ser. No. 758,559
7 Claims. (Cl. 167—65)

1. An aralkenesulfonylurea of the formula

$$RCH=CHSO_2NHCONHR'$$

wherein R is an aryl moiety selected from the group consisting of phenyl, thienyl, pyridyl, substituted phenyl, substituted thienyl and substituted pyridyl, each substituent of such substituted moieties being selected from the group consisting of halogen, lower alkyl and lower alkoxy, nitro and acetylamino; and R' is a member of the group consisting of alkyl having from one to ten carbon atoms, alkenyl having from three to eight carbon atoms, cycloalkyl having from three to six carbon atoms, cycloalkylalkyl having from four to nine carbon atoms, phenyl, p-chlorophenyl, p-bromophenyl, p-nitrophenyl, p-acetylaminophenyl, p-tolyl, p-anisyl, 2-thienyl and 2-pyridyl.

2. The method of orally treating diabetes, which method comprises orally administering a compound of claim 1 to a diabetic patient, the daily dose amount administered being from about 4.0–40 mg./kg. of body weight of said patient.

2,979,438
EXTRACTION OF COLLAGEN
John H. Highberger, Marblehead, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 7, 1958, Ser. No. 753,603
3 Claims. (Cl. 195—4)

1. A process for extracting collagen in soluble, reconstitutable form from skin material which comprises immersing the skin material in an aqueous solution containing the enzyme fraction salted out from a pH 4 to 5 aqueous extract of pancreas by ammonium sulfate by increasing the concentration of ammonium sulfate from an initial value of 20% of saturation to a final value of 40% of saturation, incubating the skin material in said solution at a pH in the range of 7 to 9 for at least ¼ of an hour at approximately 37° C. to break the linkages holding collagen against solution, removing said skin material from said solution before substantial degradation of the collagen and soaking the skin material in an aqueous extraction bath having a pH of 3 to 4.5 and an ionic strength below 0.5 to dissolve a high proportion of the collagen content of said skin material and to form a concentrated solution of acid soluble collagen.

2,979,439
METHOD OF PRODUCING L-LYSINE BY FERMENTATION
Shukuo Kinoshita, Kiyoshi Nakayama, and Sohei Kitada, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Kabushiki Kaisha, a corporation of Japan
No Drawing. Filed Nov. 4, 1958, Ser. No. 771,732
5 Claims. (Cl. 195—47)

1. A method of producing L-lysine by fermentation which comprises culturing in a culturing medium under aerobic conditions a nutritionally deficient mutant of *Micrococcus glutamicus*, which mutant requires for its growth a member selected from the group consisting of (*a*) homoserine, (*b*) threonine and methionine, (*c*) threonine and cystathione, and (*d*) threonine and homocysteine, maintaining the pH of the culturing medium within a range of from about 5.1 to 8.5 until a substantial amount of L-lysine is accumulated in said medium and recovering L-lysine from the medium.

2,979,440
STABILIZED DIASTATIC ENZYME COMPOSITIONS
Carl V. Smythe, Moorestown, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Apr. 3, 1957, Ser. No. 650,320
5 Claims. (Cl. 195—64)

1. A dry free-flowing diastatic composition which comprises a mixture of dry particles of fungal diastase and glycerol, said diastase having an activity of at least 5,000 SKB units per gram, said glycerol being intimately admixed with said diastase in an amount ranging from about 0.01 to 30 percent of the weight of the diastase, and the diastase of said diastatic composition having improved stability with respect to mechanical processing.

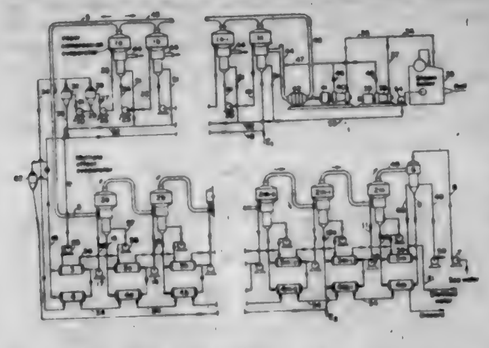
2,979,441
METHOD FOR PREPARING COKE OVEN FEED FROM COAL-CHAR BLENDS
Robert J. Friedrich, Library, Pa., assignor to Consolidation Coal Company, a corporation of Pennsylvania
No Drawing. Filed Apr. 19, 1957, Ser. No. 653,732
2 Claims. (Cl. 202—33)

1. The method for preparing a coke oven feed blend of suitable controlled bulk density for metallurgical coke oven use from 80 to 90 parts by weight of a moisture containing high volatile coal having a moisture content of up to about 8 percent by weight and 20 to 10 parts by weight of low temperature carbonization char obtained from a fluidized process which method comprises the steps, in sequence, of first blending ⅛ to 1 gallon of a predominantly aliphatic hydrocarbon oil containing not less than ⅛-gallon of aliphatic constituents with each ton of said coal and thereafter blending thus oil-treated coal with said char crushed to pass through a 20 mesh Tyler Standard screen, and recovering the resulting blend of increased bulk density compared with an untreated coal-char blend as a coke oven feed blend.

2,979,442
PROCESS FOR THE PREVENTION OF SCALE IN SEA WATER EVAPORATORS
Walter L. Badger, Ann Arbor, Mich., assignor to the United States of America as represented by the Secretary of the Interior
Filed June 28, 1957, Ser. No. 668,824
4 Claims. (Cl. 202—57)

4. A process for the evaporation of sea water into a vapor and a distilland in a plurality of evaporating zones,

including a first zone, a terminal zone, and a number of intermediate zones therebetween, comprising introducing the sea water into the first zone, introducing extraneously produced finely divided solid material having the composition of sea water scale into a predetermined one of said evaporating zones to provide therein freely dispersed nuclei, heating the sea water in said first, subsequent intermediate, and terminal zones, passing the sea water distilland as a flow successively from one zone to the next towards the said terminal zone, removing the vapors overhead from each zone, successively increasing the concentration of the sea water distilland in each successive zone, removing a partially concentrated distilland from one of said intermediate evaporation zones, the partially concentrated distilland containing a suspension of scale forming materials comprising at least one member of the group consisting of calcium carbonate and magnesium hydroxide, separating the scale forming material in the form of slurry from the partially concentrated distilland, leaving a separated distilland, recycling said slurry to the said predetermined one of the evaporating zones to further provide therein freely dispersed nuclei, introducing the said separated distilland together with finely divided calcium sulfate into the evaporating zone next and subsequent in series to the said one of the intermediate zones, removing concentrated sea water distilland from the terminal evaporating zone, said concentrated distilland from said terminal evaporating zone containing calcium sulfate in suspension, removing said calcium sulfate in the form of a slurry from the concentrated terminal distilland and recycling the calcium sulfate slurry to the evaporation zone into which the said separated distilland is introduced.

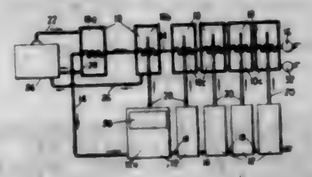


2,979,443

MULTI-STAGE FLASH EVAPORATOR

Adolf Frankel, Gosforth, Newcastle-on-Tyne, England, assignor to Richardsons, Westgarth & Co. Limited, Northumberland, England

Filed Aug. 6, 1957, Ser. No. 676,643
Claims priority, application Great Britain Aug. 7, 1956
4 Claims. (Cl. 202—173)



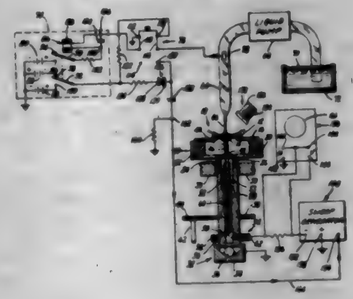
1. A multi-stage flash evaporator plant comprising a series of heaters wherein a stream of brine is heated, a series of flash chambers wherein brine heated in said heaters is evaporated, brine-conveying means between said series of heaters and said series of flash chambers, a steam boiler connected to at least one of said heaters whereby said heater receives steam as a heating medium, a main group of flash chambers in said series of flash chambers constructed to produce vapour distillate of a purity below the purity required of make-up water for said boiler, at least one differently-constructed flash chamber not in said main group having a horizontal cross-section which is larger than the horizontal cross-section of said flash chambers in said main group, water-separation means arranged in said one flash chamber whereby vapour distillate produced by said one flash chamber is of a purity substantially equal at least to the purity required of make-up water for said boiler, vapour-conveying means between said main group of flash chambers and a main group of said heaters whereby flashed vapour from said main group of flash chambers is condensed in said main group of heaters, distillate-extraction means connected to said main group of heaters for withdrawing distillate therefrom and removing said distillate from said evaporator plant, vapour-conveying means between said one flash chamber and at least one of said heaters not in said main group of heaters whereby flashed vapour from said one flash chamber is condensed in said one heater, and distillate-conveying means connected between said one heater and said steam boiler whereby distillate from said one heater serves as make-up water for said boiler.

2,979,444

ELECTROCHEMICAL METHOD AND APPARATUS THEREFOR

John W. Tiley, Hatboro, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed July 16, 1957, Ser. No. 672,180
7 Claims. (Cl. 204—143)



1. In a method for producing a region of particular thickness in an n-type semiconductive body having a rectifying barrier therein, the steps of: applying to an exposed surface of said body opposing said barrier an electrically-conductive solution containing ions of a metal forming a surface-barrier when applied to said body; supplying to said solution during a first group of time-spaced intervals a first input current having a sense such as to establish said solution at a potential negative with respect to that of said body, thereby to produce electrolytic etching of said body; supplying to said solution during a second group of time-spaced intervals intermediate said first group a second input current having a particular intensity and a sense opposite said first-named sense, thereby to cause said metal to be electrodeposited on said opposing surface and said electrodeposited metal to inject holes into said semiconductive body; applying to said rectifying barrier at least during said intervals of said second group a potential negative with respect to that of said body and having a magnitude less than that producing an abrupt decrease in the impedance between said two rectifying contacts when said region has said particular thickness, thereby to collect those of said injected holes diffusing into the vicinity of said first rectifying barrier; and detecting the proportion of said injected holes collected at said rectifying barrier by sensing the intensity of the current flowing therethrough, thereby to obtain an indication of the thickness of said body region.

2,979,445

PROCESS FOR CONVERTING CIS-ETHYLENIC COMPOUNDS TO THEIR TRANS-ISOMERS

Joe B. Lavigne and Irving E. Levine, Berkeley, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Feb. 11, 1957, Ser. No. 639,175
11 Claims. (Cl. 204—154)

1. A process for the conversion of cis-ethylenic compounds to the corresponding trans-isomers thereof, which comprises subjecting a cis-ethylenic compound at substantially atmospheric temperatures and pressures to ionizing radiation having an energy from about 0.001 mev. to about 20.0 mev. for a period of time sufficient to impart a total radiation dose of from 0.001 to 25.0 megareps. in the presence of a catalyst capable of initiating a chain reaction under the influence of said ionizing radiation.

2,979,446

POLYMERIZATION PROCESS

Herbert R. Anderson, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Mar. 17, 1958, Ser. No. 721,647
14 Claims. (Cl. 204—154)

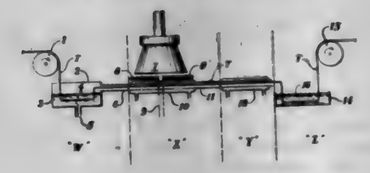
1. A process for polymerizing unsaturated organic compounds which comprises subjecting unsaturated organic monomers which are capable of being polymerized by a free radical mechanism in a bulk polymerization system to from 10^8 to 10^{11} reps. of high energy, ionizing radiation in the presence of a metal salt of an aliphatic acid containing at least 8 carbon atoms per molecule, said metal salt being present in an amount of from 0.01 to 0.1 mol per 100 grams of monomers to be polymerized.

2,979,447

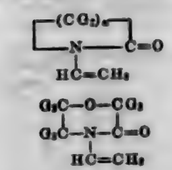
PROCESS FOR THE PREPARATION OF GRAFT COPOLYMERS

Charles A. Levine, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 18, 1958, Ser. No. 749,478
18 Claims. (Cl. 204—154)



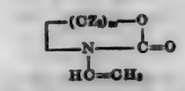
1. Process for improving the dyeability of fiber-forming acrylonitrile polymers that contain in the polymer molecule at least about 80 weight percent of acrylonitrile, any balance being another ethylenically unsaturated monomer that is copolymerizable with acrylonitrile, which process comprises (1) preparing a fiber-forming acrylonitrile polymer in aquagel form; (2) incorporating in said aquagel a minor proportion of a monoethylenically unsaturated N-vinyl heterocyclic monomeric compound selected from the group of N-vinyl cyclic amides and N-vinyl cyclic carbamates which consists of those and mixtures thereof having the structural formulae:



(I)

(II)

and



(III)

wherein each G is independently selected from the group consisting of hydrogen and alkyl radicals of from 1 to about 4 carbon atoms; each Z is independently selected from the group consisting of hydrogen, alkyl radicals of from 1 to about 4 carbon atoms, and aryl radicals containing from 6 to about 10 carbon atoms; *n* is an integer from 3 to 5; and *m* is an interger from 2 to 3; (3) exposing the monomer-impregnated acrylonitrile polymer aquagel substrate to a field of high energy ionizing radiation at a temperature between about 10 and 100° C. until a dosage between about 0.2 and 10 megarads is effected; then (4) subsequently, within about 120 seconds after the termination of exposure of said monomer-impregnated acrylonitrile polymer aquagel substrate to said high energy radiation, subjecting said monomer-impregnated substrate to heat at an actual substrate temperature between about 90 and 102° C. for a period of time between about 180 and 20 seconds without irreversibly drying said aquagel structure whereby a graft copolymer of said N-vinyl heterocyclic monomer is formed on said acrylonitrile polymer substrate.

2,979,448

PROCESS FOR CHLORINATING ALIPHATIC CHAIN SUBSTITUTED AROMATIC HYDROCARBONS

George A. Miller, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Oct. 13, 1958, Ser. No. 766,704
14 Claims. (Cl. 204—163)

1. The method of preparing a chain chlorinated aliphatic chain substituted aromatic hydrocarbon comprising chemically reacting chlorine and aliphatic chain substituted aromatic hydrocarbons at a temperature of about 50° to 150° C. in the presence of an aryl phosphate and an aliphatic polyhydroxy substituted hydrocarbon under the catalytic influence of illumination.

2,979,449

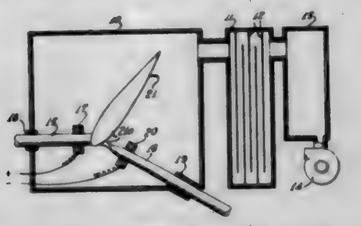
CARBOTHERMIC REDUCTION OF METAL OXIDES

Charles Sheer, Teaneck, N.J., and Samuel Korman, Cedarhurst, N.Y., assignors to Sheer-Korman Associates Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 5, 1958, Ser. No. 778,545
3 Claims. (Cl. 204—164)

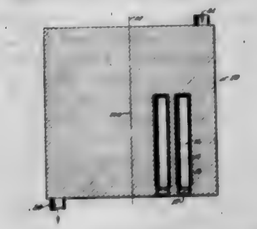
1. The process of reducing the oxidized ores of any of the group of elements consisting of beryllium, aluminum, magnesium, calcium, barium, manganese, titanium, zirconium, silicon and boron, which comprises maintaining a high erosion arc with an anode comprising the ore to be reduced, mixed with a stoichiometrical quantity of carbon, whereby the contents of the anode are reduced to ionized elemental form, and whereby as the vapors start to cool, the carbon vapor included in the ionized

vapors will fix the oxygen vapor, and then rapidly cooling the product gases below the temperature at which a back



reaction between the metal and carbon monoxide can take place, and then removing the condensed metal.

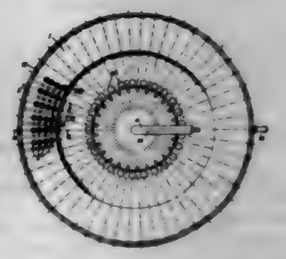
2,979,450
NUCLEAR REACTOR CONTROL DEVICE
Mark R. Dusbabek, Los Angeles, Calif., assignor to The Fluor Corporation, Ltd., Los Angeles, Calif., a corporation of California
Filed Feb. 25, 1957, Ser. No. 641,973
8 Claims. (Cl. 204—193.2)



1. The combination, comprising a nuclear chain reactor core wherein neutrons are produced, fluid core coolant within the core, sealed container means entirely within the core, and a neutron absorber within said container means including a body of unvaporized absorber concentrate and absorber vapor above said body in equilibrium contact with the body surface, a first portion of the container containing the unvaporized concentrate having a volume substantially less than a second portion of the container containing the vapor, said first portion of the container means being near the core boundary, said second portion of the container means having low neutron absorbing capacity in relation to said absorber, said body of absorber concentrate being in heat transfer relationship with the core coolant to control the absorber vapor density in response to changes in core power level and said vapor being adapted to absorb neutrons produced in the core, and said body of absorber concentrate and vapor comprising the same chemical substance.

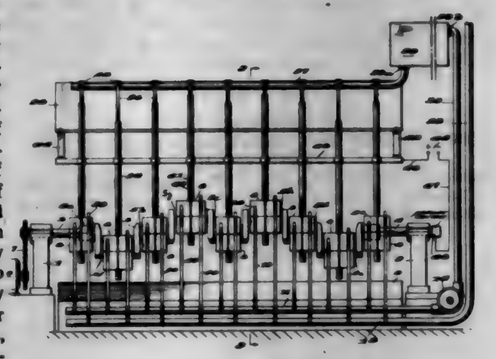
2,979,451
GAS SAMPLING APPARATUS
Donald Stanley Pettinger, Sale, England, assignor to A.E.I.-John Thompson Nuclear Energy Company Limited, London, England, a British company
Filed Sept. 25, 1957, Ser. No. 686,071
Claims priority, application Great Britain Sept. 26, 1956
3 Claims. (Cl. 204—193.2)

1. In a nuclear reactor having a plurality of gas channels, a gas tight selector valve comprising a valve body and a selector member rotatable relatively to the valve body, co-engaging annular faces on the valve body and selector member respectively, which faces engage together slidably with a substantially gas tight fit, a plurality of inlet gas ducts, ports terminating said ducts and uniformly spaced about a plurality of concentric pitch circles on the annular valve face, a plurality of scavenging ports on the selector member face located about the same pitch circles respectively as the inlet ports, a plurality of sampling ports on the selector member face also located about the same pitch circles respectively as the inlet ports and displaced circumferentially from the scav-



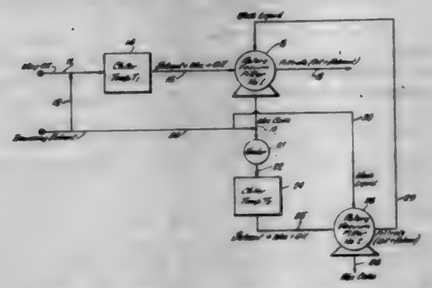
enging ports so that there is a scavenging port and a sampling port corresponding to each pitch circle whereby as the selector member rotates each inlet port registers first with a scavenging port and then with a sampling port, a gas tight casing enclosing said annular faces, scavenging apparatus connected to said scavenging ports and sampling apparatus connected to said sampling ports.

2,979,452
APPARATUS FOR ELECTROPLATING CRANKSHAFT JOURNALS
Ralph E. Ludwig, Brokenstraw Township, Warren County, and Donald D. Dalrymple, North Warren, Pa., assignors to National Forge Company, Irvine, Pa., a corporation of Delaware
Filed Aug. 23, 1954, Ser. No. 451,576
4 Claims. (Cl. 204—212)



1. Apparatus for electroplating a crankshaft journal comprising a housing surrounding only the journal portion of said crankshaft, said housing including aligned openings in the sidewalls thereof for receiving the journal, and said housing being sectionalized at said openings to permit installation and removal with respect to the journal, an arcuate anode within said housing maintained in concentric spaced relation to said journal, said anode being sectionalized to permit installation and removal with respect to the journal, an electrically conductive pipe passing through a wall of said housing, said pipe being connected to said anode and also constituting an inlet for electrolyte into said housing, an outlet on said housing for removing electrolyte therefrom, means for circulating electrolyte through said housing between said inlet and outlet; and means for rotating said journal.

2,979,453
SOLVENT TWO-STAGE FRACTIONAL CRYSTALLIZATION UTILIZING SECONDARY FILTRATE TO WASH PRIMARY FILTER CAKE
Wynkoop Kiersted, Jr., Scarsdale, and Howard H. Gross, Pleasantville, N.Y., assignors to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 23, 1959, Ser. No. 801,167
13 Claims. (Cl. 208—31)



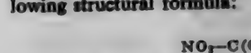
2. A method of dewaxing a waxy oil which comprises cooling said oil in admixture with a dewaxing solvent to a temperature T_1 sufficient to separate a substantial amount of solid wax from said oil, separating solid wax from the dewaxed oil by filtration thereby forming a wax filter cake containing occluded dewaxed oil, contacting said wax filter cake with a wash liquid produced as hereinafter described, separating wash liquid containing removed occluded dewaxed oil from washed wax filter cake, separating said washed wax filter cake, commingling said washed wax filter cake in a solvent therefor at a temperature T_2 to dissolve a portion of the wax, T_2 being greater than T_1, separating the undissolved wax from the resulting solution and employing said resulting solution at a temperature T_2 as the aforesaid wash liquid.

2,979,454
DRILLING MUD
Joseph E. Fields and John H. Johnson, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 20, 1957, Ser. No. 647,218
5 Claims. (Cl. 252—8.5)

1. A drilling fluid comprising an aqueous suspension of finely divided solid inorganic materials and a sufficient amount of a copolymer of ethylene and maleic anhydride having a specific viscosity below a value of about 0.70 to maintain the viscosity of the mud low enough so that it can be circulated.

2,979,455
PROCESS FOR THE CONTROL OF BACTERIA
Edward O. Bennett, Houston, Tex., and Edward B. Hodge, Terre Haute, Ind., assignors to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Oct. 3, 1958, Ser. No. 765,033
7 Claims. (Cl. 252—8.55)

1. In the process of secondary oil recovery characterized by the step of injecting flooding water into oil bearing subterranean formations to displace portions of the residual oil therein, the improvement which comprises having present in the said injected flooding water in excess of 10–25 p.p.m. of a nitropolyester having the following structural formula:



where R is selected from the group consisting of hydrogen and alkyl having up to 20 carbon atoms, to inhibit the growth of bacteria within said formations.

2,979,456
PROCESS FOR THE CONTROL OF BACTERIA
Edward O. Bennett, Houston, Tex., and Edward B. Hodge, Terre Haute, Ind., assignors to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Oct. 3, 1958, Ser. No. 765,036
2 Claims. (Cl. 252—8.55)

1. In the process of secondary oil recovery characterized by the step of injecting flooding water into oil-bearing subterranean formations to displace portions of the residual oil therein, the improvement comprising having present in said injected flooding water in excess of about 10–25 p.p.m. of bis(2-aminoisobutoxy)phenylmethane to inhibit the growth of bacteria within said formations.

2,979,457
POLYSULFIDE LUBRICANT AND SEALANT COMPOSITION
George F. Scherer, Oakland, and Otto T. Bierwagen, Alameda, Calif., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 1, 1957, Ser. No. 637,642
12 Claims. (Cl. 252—28)

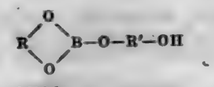
1. A lubricating and sealing composition comprising as its essential ingredients a major portion of a synthetic liquid organic polysulfide polymer, and substantially from two to seven parts by weight of microsilica, and substantially from 0.1 to 1.5 parts by weight of polytetrafluoroethylene to thicken said liquid polymer to a consistency that the composition will be suitable for use as a plug valve lubricant and sealant.

2,979,458
DRIPLESS OILS
Ernest T. Fronczak, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed July 29, 1957, Ser. No. 674,632
7 Claims. (Cl. 252—42)

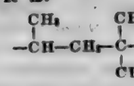
1. A dripless-oil consisting essentially of a homogenized mixture of a mineral oil base and 0.05–1.0% by weight of an alkali metal soap of mixed acids I, said mixed acids I comprising the volatile fraction from the vacuum distillation at 200°–270° C. and 4–20 mm. pressure of the by-product acids obtained in the preparation of sebacic acid from caster oil by treatment with alkali.

2,979,459
LUBRICATING OIL COMPOSITION CONTAINING MIXED 2:1α- AND β-GLYCOL BORATE COMPOUNDS
Samuel M. Darling, Lyndhurst, and Chien-wei Liao, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 30, 1957, Ser. No. 705,763
5 Claims. (Cl. 252—49.6)

1. Petroleum lubricating oil having dissolved therein a moisture-stable organic boron compound having the formula:



where one of R and R′ is:



and the other is an α-alkylene group having from six to twenty carbon atoms having the structure:



the free valences being attached to oxygen, and R_1, R_2,

R_3 and R_4 being alkyl, the amount of said compound based on the weight of the lubricating oil being equivalent to from 0.1 to 0.5% by weight of boron.

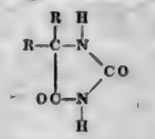
2,979,460

LUBRICATING OIL THICKENED TO A GREASE CONSISTENCY WITH A MIXTURE OF AN ORGANO HYDANTOIN AND A SILICEOUS THICKENING AGENT

Paul R. McCarthy, Allison Park, and Joseph J. McGrath, Monroeville, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 15, 1959, Ser. No. 820,104
9 Claims. (Cl. 252—49.7)

1. A lubricating composition comprising a dispersion in a lubricating oil of a sufficent amount to thicken the lubricating oil to a grease consistency of a mixture of an organo hydantoin having the following structural formula:



where R is selected from the group consisting of alkyl, aryl, alkaryl, aralkyl and cycloalkyl radicals, at least one R being a carbocyclic radical and the sum of the carbon atoms in the R groups is 7 to 18 and an organophilic siliceous oil thickening agent, the weight ratio of the organo hydantoin to the organophilic siliceous material in said mixture being about 1:1 to 20:1.

2,979,461

LUBRICATING OIL THICKENED TO A GREASE WITH A MIXTURE OF A BIPHENYLDICARBOXYLIC ACID AND AN ORGANOPHILIC SILICEOUS THICKENER

Joseph J. McGrath, Monroeville, and John P. Pellegrini, Jr., Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 26, 1959, Ser. No. 823,022
9 Claims. (Cl. 252—49.7)

1. A lubricating composition comprising a dispersion in a lubricating oil of a sufficient amount to thicken the lubricating oil to a grease consistency of a mixture of a biphenyldicarboxylic acid and an organophilic siliceous oil thickening agent, the weight ratio of the bipenyldicarboxylic acid to the organophilic siliceous material in said mixture being about 1:1 to 20:1.

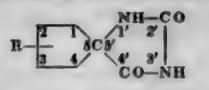
2,979,462

LUBRICATING OIL THICKENED TO A GREASE CONSISTENCY WITH A MIXTURE OF A SPIRO HYDANTOIN AND A SILICEOUS THICKENING AGENT

Joseph J. McGrath, Monroeville, and John P. Pellegrini, Jr., Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed July 29, 1959, Ser. No. 830,199
12 Claims. (Cl. 252—49.7)

1. A lubricating composition comprising a dispersion in a lubricating oil of a sufficient amount to thicken the lubricating oil to a grease consistency of a mixture of a spiro hydantoin having the following formula:



wherein R is selected from the group consisting of aryl radicals and butadienylene radicals imparting aromatic unsaturation to the compound and an organophilic siliceous oil thickening agent, the weight ratio of the spiro hydantoin to the organophilic siliceous material in said mixture being about 1 : 1 to 20 : 1.

2,979,463

REFRIGERANT COMPOSITION

Carl S. Ferguson, Stratham, N.H.

No Drawing. Filed Mar. 21, 1956, Ser. No. 572,787
4 Claims. (Cl. 252—70)

1. A composition in the form of a gel adapted to be frozen for use as a refrigerant, said composition consisting essentially of a quantity of water, temperature depressants and a heat insulating ingredient, said temperature depressants having a combined dry weight of from 1/25 to 1/2 of that of the water, said temperature depressants consisting of ammonium chloride, a quantity of urea from two to four times as much by weight as the ammonium chloride, and a quantity of potassium chloride from one-third to four times as much by weight as the combined weights of said ammonium chloride and urea, said heat insulating ingredient being selected from the group consisting of plaster of Paris and asbestos in an amount not greater than 1/6 of the dry weight of the temperature depressants, and from 2 ounces to 24 ounces of locust bean gum per gallon of water.

2,979,464

PERBORATE GRANULATION

Horst Pistor, Rheinfelden, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt, Germany

No Drawing. Filed Nov. 4, 1957, Ser. No. 694,168
Claims priority, application Germany Nov. 9, 1956
11 Claims. (Cl. 252—99)

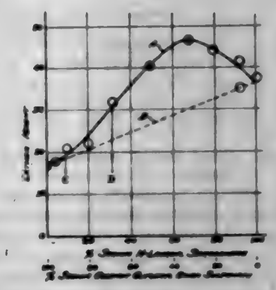
1. A process for the granulation of finely divided sodium perborate tetrahydrate containing material to produce granules of an average particle size between 0.3 and 1.5 mm. which comprises subjecting such material in moistened state to the vigorous action of a plurality of rotating stirring arms rotating at a speed of at least 200 r.p.m. until a moist granular product is obtained and drying the moist granular product in a rotary drum drier.

2,979,465

CREAM SHAMPOO

John J. Parran, Edward W. Lang, and David D. Whyte, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 23, 1958, Ser. No. 782,505
12 Claims. (Cl. 252—137)



1. A substantially soap-free opaque cream shampoo composition consisting essentially of:

100 parts of sodium alkyl glyceryl ether sulfonate wherein the alkyl radicals contain from 10 to 18 carbon atoms and the sodium alkyl diglyceryl ether sufonate content is less than 30% and more than about 5% of said sodium alkyl glyceryl ether sulfonate;

from 10 to 50 parts of a member of the group consisting of N-acyl secosinc, sodium N-acyl sarcosinate, and mixtures thereof, wherein the acyl radicals contain from 10 to 16 carbon atoms;

from 25 to 60 parts of inorganic sodium salt selected from the group consisting of NaCl, Na_2SO_4, $NaNO_3$, Na_3PO_4, Na_2HPO_4, and NaH_2PO_4, and mixtures thereof; and

water at from about 45% to about 70% of the total composition to achieve a plastic consistency.

2,979,466

LIQUID WASHING COMPOSITION

Waclav Silberman, 160 Alte Landstrasse, Kusnacht, Zurich, Switzerland

No Drawing. Filed July 28, 1958, Ser. No. 751,182
1 Claim. (Cl. 252—138)

A liquid washing composition comprising the following constituents:

4.5–6.0% by weight of sodium orthosilicate, containing about 42% Na_2O, 20% SiO_2 and 38% H_2O,

2.5–3.5% by weight of sodium metasilicate pentahydrate, containing about 29% Na_2O, 29% SiO_2 and 42% H_2O,

5.0–7.0% by weight of potassium tripolyphosphate, containing about 47% P_2O_5,

14–18% by weight of an alkalimetal salt of an aryl sulphonate selected from the group consisting of sodium- and potassium-salts of xylene sulphonic, toluene sulphonic, cymene sulphonic and tetrahydronaphthalene sulphonic acids,

70–80% by weight of water,

4.0–6.0% by weight of an organic wetting agent consisting of:

65–75% by weight of a condensation product of ethylene oxide and polyoxypropylene with an average molecular weight of the polyoxypropylene constituent of 1,500–1,800 and with an average polyoxyethylene content of 20%,

8–12% by weight of a condensation product of ethylene oxide and polyoxypropylene with an average molecular weight of the polyoxypropylene constituent of 1,500–1,800 and with an average polyoxyethylene content of 10%;

15–20% by weight of isooctyl phenyl polyethoxy ethanol.

2,979,467

INFRARED STIMULABLE PHOSPHORS

Seymour P. Keller, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 30, 1958, Ser. No. 745,720
6 Claims. (Cl. 252—301.4)

1. Infrared stimulable phosphors consisting essentially of an alkaline earth sulfide base and 0.005–0.5 mol percent of one pair of activators selected from the group consisting of Gd—Sm, Ho—Sm, Ce—Tm, Eu—Tm and Yb—Sm.

3. A memory storage phosphor which exhibits a high degree of stimulability in the infrared, consisting essentially of SrS doubly activated with 0.02 mole percent Gd and 0.02 mole percent Sm.

2,979,468

TEST COMPOSITION FOR DETERMINING THE CONCENTRATION OF QUATERNARY AMMONIUM COMPOUNDS IN AQUEOUS SOLUTION

Morris E. Auerbach, Albany, and Robert S. Browning, Schodack, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 19, 1960, Ser. No. 23,146
8 Claims. (Cl. 252—408)

1. A chemical composition for testing the concentration of dilute aqueous solutions of quaternary ammonium compounds which comprises a reagent mixture homogeneously distributed in said composition and consisting essentially of methyl orange and bromophenol blue, in approximate weight ratio to each other of three to one respectively, and an anionic detergent of the group consisting of water-soluble synthetic organic sulfate and sulfonate anionic detergents, the combined percentage by weight of the methyl orange and the bromophenol blue in said reagent mixture being in the approximate range 8–35 and the percentage by weight of the said anionic detergent in the reagent mixture being in the approximate range 92–65.

2,979,469

PRODUCTION OF PHENOLIC FOAMS

Richard F. Shannon, Lancaster, Charles A. Matuszak, Columbus, Leo G. Adams, Newark, and George W. Gilliam, Granville, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,744
3 Claims. (Cl. 260—2.5)

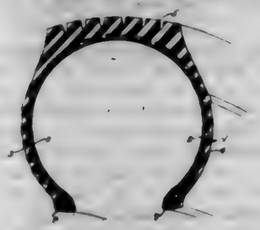
1. A method for producing a foamed, thermoset phenolic material which comprises mixing the following reactants in the indicated proportions: a dispersion of a thermosettable phenol-formaldehyde partial condensation product having a mol ratio of formaldehyde to phenol of from 1.8 to 2.2 and from 0.1 percent to 10 percent of free formaldehyde, based upon total resin solids, said partial condensation product being miscible with water to the extent of at least 30 percent, and having a viscosity, in a 70 percent solids water dispersion, of at least 500 centipoises at 40° C., the resin solids constituting from 40 percent to 60 percent of the composition; a plurality of blowing agents effective to form a compressible fluid throughout at least three different temperature ranges between 50° C. and 105° C., and including from 1 percent to 10 percent of a diazo blowing agent, from 1 percent to 10 percent of a lower aliphatic alcohol having from 1 to 4 carbon atoms, and from 5 percent to 35 percent of water based upon the total of water and solids in the foamable composition; from 1 percent to 7 percent of a surface-active agent effective to lower the surface tension of the composition, said agent being selected from the group consisting of sorbitan monopalmitate, polyoxylated vegetable oils, polyoxyethylene sorbitan esters of fatty acids, polyethylene glycol esters of oleic acid, nonyl-phenol ethylene oxides, isooctyl phenoxy polyoxyethylene ethanols and alkylphenyl polyglycol ethers; from 2 percent to 7 percent of an acid having a dissociation constant of at least 10^{-3} as a condensing agent for the phenol-formaldehyde condensation product; and from 2 percent to 7 percent of urea, whereby a foamable composition is effected and spontaneous foaming and curing thereof proceed.

2,979,470

TUBELESS TIRE INNERLINER

Alvin W. Warren, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Aug. 10, 1955, Ser. No. 527,449
3 Claims. (Cl. 260—5)



1. An air impervious flexible liner for a pneumatic tubeless tire comprised of a mixture of 100 parts by

weight of rubbery polymeric materials of which at least 50 parts by weight is natural rubber and the balance of said rubbery polymeric materials is selected from the group consisting of rubbery copolymers of a major proportion of butadiene with a minor proportion of styrene, copolymers of butadiene with acrylonitrile and rubbery polymers of chlorobutadiene, with at least 30 parts by weight of soft thermal type carbon black and at least 40 parts by weight of clay.

2,979,471

SHAPED ARTICLES OF VINYL CHLORIDE RESIN AND ETHYL CELLULOSE

John J. Sweeney, Saddle Brook, N.J., assignor to The Okonite Company, Passaic, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 12, 1958, Ser. No. 779,856
2 Claims. (Cl. 260—17)

1. A shaped, dull-surfaced, plastic article of manufacture the base material of which consists of ethyl cellulose and a polymer selected from the group consisting of a homopolymer of vinyl chloride and a copolymer of vinyl chloride and vinyl acetate, the ethyl cellulose ranging in amount from three to twenty-five parts by weight to each one hundred parts by weight of polymer.

2,979,472

ALKYD RESINS MODIFIED WITH 2,4-DICHLOROBENZOIC ACIDS

Raymond L. Heinrich, Baytown, Tex., and David A. Berry and Richard J. Dick, Columbus, Ohio, assignors, by direct and mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Aug. 28, 1958, Ser. No. 757,663
3 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalents of a modifier component consisting of about 50 to 60 mol percent of an unsaturated glyceride oil fatty acids portion and, correspondingly, about 50 to 40 mol percent of 2,4-dichlorobenzoic acid.

2,979,473

MODIFIED ALKYD RESINS WITH 2,4-DIMETHYL BENZOIC ACID

Raymond L. Heinrich, Baytown, Tex., and David A. Berry, Columbus, and Robert L. Christian, Gahanna, Ohio, assignors, by direct and mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Aug. 28, 1958, Ser. No. 757,691
7 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalents of a modifier component consisting of about 30 to 70 mol percent of an unsaturated glyceride oil fatty acids portion and, correspondingly, about 70 to 30 mol percent of an aromatic monocarboxylic acid portion containing from about 40 to 100 mol percent of 2,4-dimethyl benzoic acid.

2,979,474

MODIFICATION OF ALKYD RESINS WITH PARA-BROMO BENZOIC ACIDS

Raymond L. Heinrich, Baytown, Tex., and David A. Berry and Richard J. Dick, Columbus, Ohio, assignors, by direct and mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Aug. 28, 1958, Ser. No. 757,693
3 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalents of a modifier portion consisting of about 50 to 60 mol percent of an unsaturated glyceride oil fatty acids portion and, correspondingly, about 50 to 40 mol percent of p-bromobenzoic acid.

2,979,475

POTTING COMPOUND CONSISTING OF BUTYL METHACRYLATE POLYMER, PETROLATUM, AND HYDROGENATED CASTOR OIL

Richard L. Hudson, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Oct. 18, 1949, Ser. No. 122,127
3 Claims. (Cl. 260—23)

1. A composition consisting of butyl methacrylate polymer, and petrolatum, these two ingredients being mixed with a quantity of hydrogenated castor oil approximately equal to the sum of the first two ingredients.

2,979,476

METHOD OF BLENDING POLYSTYRENE AND WAX

Richard B. Bishop, Leominster, and James S. Pavlin, Fitchburg, Mass., assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

No Drawing. Filed Mar. 19, 1958, Ser. No. 722,386
3 Claims. (Cl. 260—28.5)

1. A process for providing a stable uniform composition of polystyrene with up to 15% of a wax, comprising heating styrene and polymerization catalyst in bulk to a polymerization conversion of 15% to 60%, dispersing the wax in the polymerizing mix, and then completing the polymerization in the substantial absence of agitation.

2,979,477

COMPOSITION COMPRISING A VINYLPYRIDINE POLYMER AND A HYDANTOIN FORMALDEHYDE CONDENSATION POLYMER

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed May 8, 1958, Ser. No. 733,845
17 Claims. (Cl. 260—29.4)

1. As a new composition of matter, a mixture of a vinylpyridine polymer and a hydantoin formaldehyde condensation polymer.

2,979,478

COMPOSITION CONTAINING POLYVINYL ALCOHOL AND A NEUTRAL ESTER OF PHOSPHORIC ACID

Thomas Mason Melton, Richmond, Va., and Richard A. Matthews, Chagrin Falls, and Harry F. O'Connor, South Euclid, Ohio, assignors to Virginia-Carolina Chemical Corporation, Richmond, Va., a corporation of Virginia

No Drawing. Original application Apr. 1, 1958, Ser. No. 725,502. Divided and this application June 19, 1959, Ser. No. 825,630
6 Claims. (Cl. 260—30.6)

1. A composition of matter comprising a polyvinyl alcohol and from 5% to 75% by weight, based upon the weight of the polyvinyl alcohol, of a neutral ester of the formula

$$(RO)_a\overset{O}{\overset{\|}{P}}(O(CH_2CH_2O)_cH)_b$$

in which R represents an alkyl group containing from 1 to 5 carbon atoms, *a* and *b* are integers whose sum is 3 and *c* is an integer from 1 to 4.

2,979,479

SILICONE RUBBER OF IMPROVED TEAR STRENGTH

Frank J. Modic, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 15, 1957, Ser. No. 671,730
12 Claims. (Cl. 260—37)

1. A composition of matter comprising (1) an organopolysiloxane convertible by heat to the cured, solid, elastic state, there being present in said organopolysiloxane from 1.95 to 2.25 silicon-bonded organo groups selected from the class consisting of monovalent hydrocarbon radicals and chlorinated phenyl radicals per silicon atom, (2) from 10 to 300% by weight, based on the weight of (1), of a finely divided silica filler and (3) from 1 to 20 percent, by weight, based on the weight of (1) of a methylpolysiloxane copolymer composed essentially of trimethylsiloxy groups and SiO_2 groups, there being present from 1.0 to 1.5 methyl groups per silicon atom in the aforesaid methylpolysiloxane copolymer.

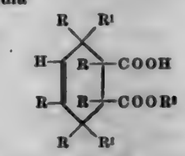
2,979,480

VINYL CHLORIDE RESINS

Robert A. Piloni and George P. Rowland, Jr., Pottstown, Pa., assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 4, 1957, Ser. No. 632,423
10 Claims. (Cl. 260—41)

1. A resin characterized by good adhesion to metallic and other surfaces, and by tolerance of alkaline pigments, comprising a copolymer of (A) 55–80% of vinyl chloride, (B) 14–45% of a dihydrocarbon ester of maleic acid in which the esterifying hydrocarbon groups contain 1–30 carbon atoms and (C) 1–10% of an acid ester having the formula



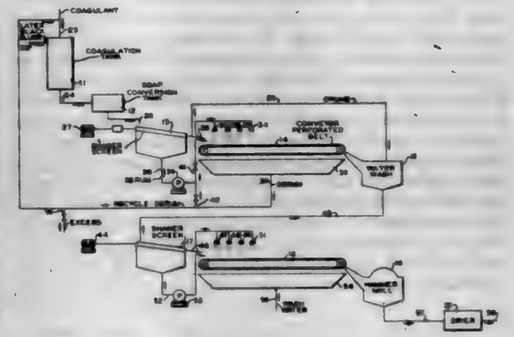
wherein R, independently in each occurrence, represents a radical selected from the group consisting of hydrogen, a halogen, hydrocarbon groups containing 1–3 carbon atoms and halohydrocarbon groups containing 1–3 carbon atoms, R^1, independently in each occurrence, represents a radical selected from the group consisting of hydrogen, a halogen, hydrocarbon groups containing 1–3 carbon atoms, halohydrocarbon groups containing 1–3 carbon atoms, and, together with the other R^1, alkylene groups of 1–2 carbon atoms bridging the carbon atoms in the formula to which the radicals R and R^1 are attached, the sum of all the carbon atoms in the R and R^1 radicals being not in excess of 20, and R^2, independently in each occurrence, represents a radical selected from the group consisting of hydrocarbon and halohydrocarbon groups containing 1–30 carbon atoms, and (D) up to 35% of a different ethylenically unsaturated monomer copolymerizable with vinyl chloride, said percentages being on the basis of the weight of the monomeric units copolymerized in the copolymer, and said copolymer having a relative viscosity, in 1% cyclohexanone solution, of 1.1 to 1.7.

2,979,481

CARBON BLACK-RUBBER MASTERBATCH PRODUCTION

Robert S. Hanmer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 26, 1956, Ser. No. 630,551
5 Claims. (Cl. 260—41.5)



1. In the process of producing carbon black-rubber masterbatch wherein a latex-carbon black slurry is coagulated to form a crumb, the improvement comprising passing liquid separated from the crumb and containing fines through a mass of the crumb thereby removing said fines from said liquid.

2,979,482

ORGANOPOLYSILOXANES STABILIZED WITH FERROCENE AND FERROCENE DERIVATIVES

William A. Piccoli, Pittsburgh, Pa., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

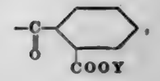
No Drawing. Filed Oct. 15, 1956, Ser. No. 615,764
4 Claims. (Cl. 260—45.75)

1. A stabilized organopolysiloxane composition comprising an organopolysiloxane comprised of units of the formula

$$R_xSiO_{\frac{4-x}{2}}$$

where R is selected from the group consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals and *x* is an integer of from 0 to 3 inclusive, the average value of *x* in said organopolysiloxane being from 0.5 to 3 inclusive, and from 0.01 to 3.0 percent by weight, based upon the weight of the organopolysiloxane, of a stabilizing agent selected from the group consisting of (1) ferrocene and (2) a substituted ferrocene containing not more than one substituent on either cyclopentadienyl ring therein, said substituent being selected from the group consisting of

$$-CH_3,\ -C_6H_5,\ -\overset{O}{\overset{\|}{C}}CH_3,\ -COOH,\ -\overset{O}{\overset{\|}{C}}CHClCH_3$$



, and $-\overset{O}{\overset{\|}{C}}R'CH_3$

radicals where R' is a divalent alkylene radical of from 1 to 3 inclusive carbon atoms and Y is selected from the group consisting of H atoms and alkyl radicals of from 1 to 18 inclusive carbon atoms.

2,979,483
MANUFACTURE OF HIGH LINEAR POLYESTERS WITH TIN PHOSPHIDE CATALYST

Ernest Jan Kowolik and James Lincoln, both of Putteridge Bury, near Luton, England, assignors to British Celanese Limited, a corporation of Great Britain

No Drawing. Filed Feb. 26, 1957, Ser. No. 642,349
Claims priority, application Great Britain Mar. 7, 1956
12 Claims. (Cl. 260—47)

1. Process for the manufacture of a high linear polyester, which comprises poly-condensing, by heating to a temperature of 200°–300° C., a substance selected from the group consisting of (*a*) monomeric ω-hydroxy-C_3 to C_{10}-n-alkyl esters of straight chain alkylene α,ω-dicarboxylic acids wherein the alkylene radical contains from 4 to 8 carbon atoms, (*b*) monomeric ω-hydroxy-C_3 to C_{10}-n-alkyl esters of aromatic dicarboxylic acids selected from the group consisting of terephthalic acid, diphenyl-4:4′-dicarboxylic acid, α,β-diphenylethane-4:4′-dicarboxylic acid, α,δ-diphenylbutane-4:4′-dicarboxylic acid, α,β-diphenoxyethane-4:4′-dicarboxylic acid, α,δ-diphenoxybutane-4:4′-dicarboxylic acid, 1:5-naphthalene-dicarboxylic acid, 2:6-naphthalene-dicarboxylic acid, and 2:7-naphthalene-dicarboxylic acid, and (*c*) polymeric polyesters of intrinsic viscosity up to 0.4 obtained by heating at about 200 to 300° C. the dicarboxylic esters specified under (*a*) and (*b*), the said polycondensation being effected in the presence of a phosphide of tin as catalyst, and continued until the polyester produced has an intrinsic viscosity of at least 0.5.

2,979,484
MANUFACTURE OF PHENOLIC RESINS

Cyril Aubrey Redfarn, London, England, assignor to Walker Extract and Chemical Company Limited, Bolton, England, a British company

No Drawing. Filed Apr. 28, 1955, Ser. No. 504,680
9 Claims. (Cl. 260—51)

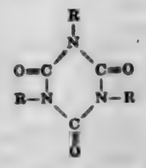
1. A curable thermosettable composition comprising (A) a polyester resin of (*a*) an inorganic esterifying agent selected from the group consisting of boric acid, orthophosphoric acid, meta-phosphoric acid, polyphosphoric acid, poly-functional chlorine derivatives of said phosphoric acids and phosphorus trichloride with (*b*) a substantial proportion of a polyhydric phenol having an unsubstituted position in the nucleus reactive with formaldehyde, said polyester resin containing a substantial proportion of unesterified phenolic hydroxy groups, and (B) a member selected from the group consisting of formaldehyde and a compound yielding formaldehyde under curing conditions, said member being present in a proportion sufficient to cure the composition.

2,979,485
PROCESS OF TRIMERIZING ISOCYANATES

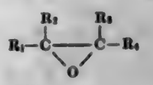
John Burkus, Pompton Plains, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 26, 1957, Ser. No. 648,748
5 Claims. (Cl. 260—75)

1. A method for the trimerization of an aromatic mono-isocyanate RNCO to form an isocyanurate having the formula



which comprises mixing with said isocyanate as a catalyst at least 0.1 mole per 100 moles of said isocyanate of each of (A) an epoxy compound having the formula



and (B) a tertiary amine, and maintaining the mixture at a temperature of from 0° C. to 50° C. until the trimerization reaction is completed, wherein R is an aryl radical having no substituent which is reactive with the isocyanate group, the epoxy compound, or the amine under the conditions of the trimerization reaction, and R_1, R_2, R_3 and R_4 are each selected from the group consisting of hydrogen atom and alkyl radicals, the compounds (A) and (B) containing no groups reactive with the isocyanate under the conditions of the trimerization reaction.

2,979,486
LINEAR POLYESTERS AND PROCESS OF PREPARING THE SAME

John C. Petropoulos, Norwalk, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 4, 1958, Ser. No. 753,127
8 Claims. (Cl. 260—75)

1. A polyester resin resulting from the reaction of from about 1 to 6 mols of ethylene glycol and an unsubstituted butylidene bis benzoic acid to an acid number of less than 0.5 and having an intrinsic viscosity between 0.32 and 0.55 in benzene.

2,979,487
SUSPENSION POLYMERIZATION PROCESS

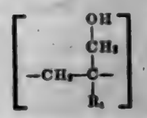
Richard H. Martin, Jr., Springfield, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 25, 1960, Ser. No. 10,848
9 Claims. (Cl. 260—78.5)

1. In a process for the suspension polymerization of a vinyl halide of the group consisting of vinyl fluoride, vinyl chloride and vinyl bromide in which the vinyl halide is suspended and polymerized in water containing a water-soluble interpolymer of a maleic compound of the group consisting of maleic anhydride, maleic acid and maleinimide and an interpolymerizable vinylidene monomer as a suspending agent for the vinyl halide polymer; the improvement which comprises incorporating in the polymerization system from 0.005 to 2.0 weight percent based upon the monomers of a hydroxyl group containing interpolymer as an auxiliary suspending agent; said hydroxyl group containing interpolymer having a number average molecular weight of from 500 to 20,000 and being comprised, in combination, of a plurality of polymerized monomer units (*a*) of the formula:

$$[-CH_2-CH_2-]$$

and polymerized monomer units (*b*) of the formula:

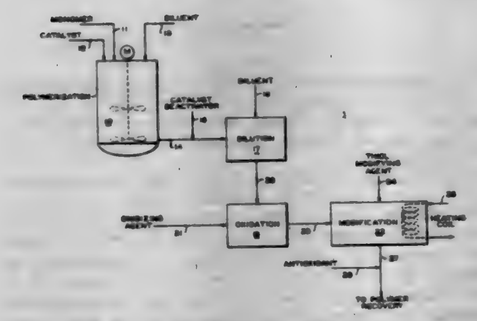


wherein R_1 is selected from the group consisting of hydrogen and methyl radicals; said polymerized monomer units (*a*) and (*b*) being present in such proportions that the interpolymer contains from 1.5 to 12.0 weight percent hydroxyl groups.

2,979,488
MODIFICATION OF LINEAR RUBBERY POLYMERS

Paul G. Carpenter, Baton Rouge, La., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 30, 1957, Ser. No. 687,134
13 Claims. (Cl. 260—79)



2. A method of modifying an improved rubbery polymer which has been prepared by polymerizing in solution a monomer system comprising a major amount of conjugated diene containing from 4 to 8, inclusive, carbon atoms per molecule in the presence of a catalyst system comprising (*a*) a compound of a metal selected from the group consisting of aluminum, gallium, indium, thallium and beryllium having the valence linkages thereof individually bound to members selected from the group consisting of hydrogen, saturated acyclic hydrocarbon radicals, saturated cyclic hydrocarbon radicals, and aromatic hydrocarbon radicals and alkali metal hydride, alkali metal alkyl and alkali metal aryl complexes of said compound of a metal and (*b*) a halide of a group IV metal, at a temperature in the range of —100° C. 100° C. to form a rubbery, linear polymer, which comprises deactivating the catalyst, diluting the solution to a polymer concentration of about 0.5 to 10 weight percent, subjecting said polymer to the action of an oxidizing agent selected from the group consisting of peroxides, hydroperoxides, oxygen containing gases and mixtures thereof in a ratio equivalent to from 0.002 to 0.33 gram mols of peroxide per 100 grams of polymer, immediately contacting the oxidized polymer with a compound having the general formula R—S—H wherein R is selected from the group consisting of alkyl, aryl, alkaryl, and halogen-substituted alkyl, aryl, alkaryl and aralkyl radicals containing from 1 to 16 carbon atoms, in a ratio of 0.0015 to 0.15 gram mols of said R—S—H compound per 100 grams of polymer, said contacting being conducted within a temperature range of 25 to 100° F. for from 0.25 to 150 hours and precipitating the thus modified polymer.

2,979,489
COPOLYMERS OF 2-TRIFLUOROMETHYL-1,3-BUTADIENE

Elizabeth S. Lo, Elizabeth, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed June 20, 1956, Ser. No. 592,512
7 Claims. (Cl. 260—87.5)

1. A process which comprises polymerizing a monomeric mixture of 2-chloropentafluoropropene and 2-trifluoromethyl-1,3-butadiene, said mixture containing between about 30 mole percent and about 85 mole percent 2-chloropentafluoropropene and the remaining major constituent being the 2-trifluoromethyl-1,3-butadiene in the presence of a polymerization promoter comprising a peroxy compound at a temperature between about —20° C. and about 120° C.

2,979,490
CROSS-LINKING OF POLYMERS

Fred W. West, Paterson, N.J., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 26, 1956, Ser. No. 618,453
6 Claims. (Cl. 260—87.5)

1. The process which comprises uniformly admixing a polymer containing as substituents only fluorine and hydrogen of a polyfluorinated hydrogen-containing olefin containing only fluorine and hydrogen and from 2 to 4 carbon atoms wherein at least half of the carbon atoms are bonded to fluorine atoms, with an alkylene polyamine crosslinking agent selected from the group consisting of polyamines containing at least two amino groups selected from the group consisting of primary amino groups and secondary amino groups in an amount of between 0.1 to 15 parts by weight of polyamine per 100 parts by weight of polymer at a temperature not exceeding 100° C. to form a mixture of said polymer and said polyamine and subsequently heating said mixture at a temperature of from above 100 to 250° C., for a period of from 10 minutes to 15 hours, and under a pressure of 100 to 2000 pounds per square inch gauge whereby said polymer is crosslinked by said polyamine.

2,979,491
SUSPENSION POLYMERIZATION PROCESS

Robert A. Piloni, Pottstown, Pa., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

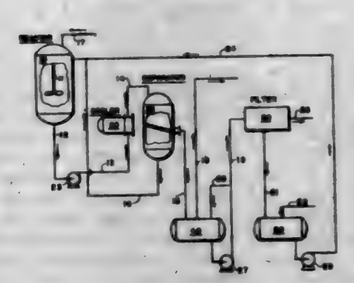
No Drawing. Filed May 10, 1957, Ser. No. 658,224
2 Claims. (Cl. 260—92.8)

1. Process of polymerizing vinyl chloride which comprises agitating and suspending, as pearls, the vinyl chloride in an aqueous medium, a free radical generating catalyst soluble in the vinyl chloride being present in the reaction mass, the suspension being stabilized by the presence, in the aqueous medium, of a phosphate of a polymer of 2-(diethylamino)ethyl methacrylate, said aqueous medium constituting at least half of the entire weight of the polymerization mass, the polymer of 2-(diethylamino)ethyl methacrylate being present in aqueous medium to the extent of .04–1.0% based on the weight of the aqueous medium, the temperature of the reaction mass being in the range 30°–100° C. the pH of the aqueous medium in the range 1–7 and the agitation being of an intensity of 3–15 on the Pfaudler scale.

2,979,492
CONTINUOUS POLYMERIZATION PROCESS

Luke J. Governale and Thomas A. Leeper, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Delaware

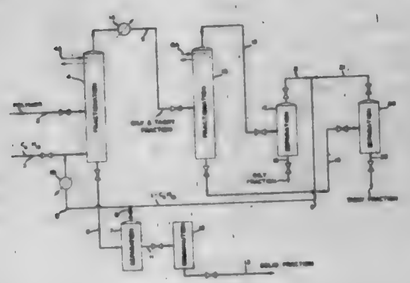
Filed June 3, 1957, Ser. No. 663,138
5 Claims. (Cl. 260—92.8)



2. An aqueous suspension process for the polymerization of vinyl chloride into granular polyvinyl chloride

comprising continuously feeding vinyl chloride monomer into a reaction zone wherein is maintained throughout the polymerization a polymerization mixture including (*a*) vinyl chloride monomer and polyvinyl chloride in the weight proportions of polymer:monomer of from about 3:1 to about 5:1, (*b*) from about 0.1 to 3 percent of an oil-soluble polymerization catalyst, (*c*) at least about 150 parts to 400 parts of water per 100 parts of the polyvinyl chloride plus the vinyl chloride monomer, and (*d*) at least one water-soluble suspension agent; maintaining the polymerization mixture at a temperature of from about 0° C. to about 70° C.; continuously withdrawing from said reaction zone a portion of the polymerization mixture and subjecting it to a two-stage separation, the first stage consisting in dividing the said polymerization mixture into two portions, a first portion comprising a predominantly aqueous liquid, having minor amounts of vinyl chloride monomer and finely divided polyvinyl chloride suspended therein, and a second portion comprising a slurry of larger polyvinyl chloride particles and minor amounts of vinyl chloride monomer and aqueous solution, recycling at least part of the said first portion to the reaction zone, and separating the larger polyvinyl chloride particles from said second portion, and recycling at least part of the remaining liquid portion to the reaction zone.

2,979,493
FRACTIONATION OF POLYMERS
William N. Axe and Albert N. De Vault, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 10, 1958, Ser. No. 720,207
8 Claims. (Cl. 260—93.7)



1. A process for fractionating a polymer which is the total polymer prepared by polymerizing an aliphatic 1-olefin having a maximum chain length of 8 carbon atoms and no branching nearer the double bond than the 4-position in the presence of a catalyst containing hexavalent chromium as chormium oxide and at least one oxide selected from the group consisting of silica, alumina, zirconia, and thoria, said total polymer being resolvable into a low molecular weight viscous oily fraction, a higher molecular weight tacky fraction, and a still higher molecular weight normally solid fraction which comprises dissolving said total polymer in a solvent hydrocarbon having from 3 to 4 carbon atoms per molecule, heating the solution of polymer and solvent to a first temperature until there is formed a lighter liquid first phase and a heavier liquid second phase in a first separation zone while maintaining a temperature differential in said zone, separately accumulating said first and second phases in different sections of said first separation zone, heating said lighter liquid first phase to a second temperature higher than said first temperature until there is formed a still lighter liquid third phase and a fourth liquid phase of intermediate density in a second separation zone while maintaining a temperature differential in said second zone, separately accumulating said third and fourth phases in different sections of said second separation zone, recovering normally solid polymer from said second phase, recovering tacky polymer from said fourth phase, and recovering oily polymer from said third phase.

2,979,494
METHOD OF PRODUCING ESSENTIALLY CIS RUBBERY POLYISOPRENE
Richard S. Stearns, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 1, 1955, Ser. No. 532,695
2 Claims. (Cl. 260—94.2)

1. Method which comprises subjecting in vacuo a mixture consisting essentially of isoprene and metallic lithium to a temperature sufficient to initiate polymerization of said isoprene in the range of about 0° C. to about 30° C. and completing said polymerization at an appreciably reduced temperature but substantially no lower than about −20° C.

2,979,495
ETHYLENE POLYMERIZATION PROCESS IN WHICH THE KEROSENE SUSPENDING MEDIUM IS RECOVERED
James V. Cavender, Jr., Texas City, Tex., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 14, 1956, Ser. No. 584,874
2 Claims. (Cl. 260—94.9)

1. In a process for the production of polyethylene wherein ethylene is polymerized by contacting with a catalyst prepared by the interaction of triisobutylaluminum with titanium tetrachloride in the presence of a kerosene solvent as the catalyst suspending medium, said catalyst is quenched after polymerization is complete with an alcohol, and polyethylene is recovered from the reaction mixture, the improvement which comprises recovering the used kerosene for re-use by subjecting said used kerosene to washing with sulfuric acid having a concentration from about 70% to about 100%, separating said kerosene from said acid, withdrawing said acid-treated kerosene and scrubbing it with a dilute aqueous alkali metal hydroxide to neutralize any residual acid therein, separating said kerosene and said alkali, subjecting said kerosense to fractionation, and recovering purified kerosene.

2,979,496
LOW TEMPERATURE POLYMERIZATION OF ETHYLENE
Paul Ehrlich, Hampden, Mass., and Robert N. Pittilo, Texas City, Tex., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 26, 1958, Ser. No. 717,701
3 Claims. (Cl. 260—94.9)

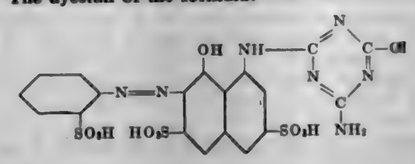
1. A process for the polymerization of ethylene to solid polymers which comprises (1) preparing an ethylene polymerization catalyst by contacting oxygen with ethylene in a proportion of from 50 to 10,000 parts by weight of oxygen per million parts by weight of ethylene at a pressure below the critical polymerization pressure of said ethylene and at a temperature of from 130 to 190° C. until from 30 to 90% of the oxygen becomes chemically combined, the remaining 70 to 10% of the oxygen remaining uncombined as an active component of said ethylene polymerization catalyst, (2) combining said ethylene polymerization catalyst with further ethylene in such proportion that the total concentration of free plus chemically combined oxygen is from 10 to 4,000 parts by weight per million parts by weight of ethylene, and (3) polymerizing the ethylene at a pressure above the critical polymerization pressure of said ethylene at a temperature of from 100 to 180° C.

2,979,497
CYCLIC ALUMINUM OXIDE ACYLATES, ALKOXIDES, AND PHENOXIDES
Jacobus Rinse, Bernardsville, N.J., assignor to J. W. Ayers & Co., Easton, Pa., a corporation of Delaware
No Drawing. Filed Feb. 12, 1957, Ser. No. 639,638
10 Claims. (Cl. 260—97.5)

1. A process for the production of cyclic aluminum oxide polymers which comprises reacting an aluminum alkoxide the alkyl group of which contains up to 10 carbon atoms with a compound selected from the group consisting of unsubstituted monocarboxylic acids of 1–22 carbon atoms and unsubstituted dicarboxylic acid anhydrides and with water, in the molar ratio of approximately 3:2–3:3 respectively, by heating to a final temperature above 80° C. at which and until 8–9 mols of alcohol, respectively, per 3 mols of aluminum compound used are liberated.

2,979,498
NEW MONOAZO DYESTUFFS
Herbert Francis Andrew, William Elliot Stephen, and Frederick Andrew Waite, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Apr. 18, 1958, Ser. No. 729,239
Claims priority, application Great Britain Apr. 23, 1957
2 Claims. (Cl. 260—153)

1. The dyestuff of the formula:



2,979,499
DERIVATIVES OF WATER-SOLUBLE GUMS
William H. McNeely, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware
No Drawing. Filed Mar. 11, 1954, Ser. No. 415,707
4 Claims. (Cl. 260—209.6)

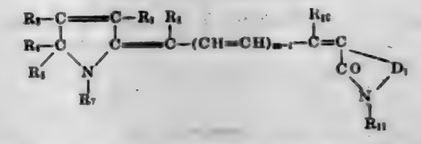
1. An alcohol-soluble and glycol-soluble dry gum, said gum being the salt of a radical R^a with a radical R^b, in which R^a is the anion of alginic acid and R^b is the cation of a quaternary ammonium hydroxide containing not more than ten carbon atoms said cations being present in not less than 5% below or more than 5% above the stoichiometric amount of said anion.

2,979,500
METHOD OF PRODUCING VISCOSE
Fritz Opderbeck, Okriftel (Main), Bommersuhle, Germany; and Günther Trapp and Günter Wörner, both of Okriftel (Main), Germany, assignors to Phrix-Werke Aktiengesellschaft, Hamburg, Germany
No Drawing. Filed May 13, 1958, Ser. No. 734,824
9 Claims. (Cl. 260—217)

1. In a method of producing viscose, the improvement which comprises converting enzymatically digested cellulose of substantially equimolecular chain length having a degree of polymerization of between about 400 and 690 to viscose.

2,979,501
METHIN DYES CONTAINING PYRROLINE NUCLEI
Douglas James Fry, Bernard Alan Lea, and John David Kendall, all of Ilford, England, assignors to Ilford Limited, Ilford, England, a British company
No Drawing. Filed May 18, 1959, Ser. No. 813,665
6 Claims. (Cl. 260—240.4)

1. A dyestuff of the formula:



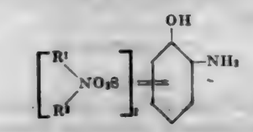
wherein R_1, R_2, R_{10} are each selected from the class consisting of hydrogen and lower alkyl groups, R_8 is selected from the class consisting of hydrogen, lower alkyl and phenyl groups, R_4, R_5 are each lower alkyl groups, R_7 is selected from the class consisting of lower alkyl and benzyl groups, R_{11} is selected from the class consisting of lower alkyl, phenyl, benzyl, hydroxy carbonyl lower alkyl and lower alkoxy carbonyl lower alkyl groups, *m* is an integer selected from the group consisting of 1, 2 and 3, and D_1 represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the group consisting of a thia-thiazolidone nucleus, a barbituric acid nucleus, a hydantoin nucleus and a pyrazole-5-one nucleus.

2,979,502
PHENTHIAZINE DERIVATIVES
Paul Gailliot, Paris, and Jean Baget, Ermont, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a corporation of France
No Drawing. Filed May 19, 1958, Ser. No. 735,944
Claims priority, application France May 31, 1957
4 Claims. (Cl. 260—243)

1. 3 - cyano - 10 - [3-(4-dimethylcarbamoyloxyethyl-1-piperazinyl)propyl]phenthiazine.

2,979,503
PROCESS FOR PRODUCING CERTAIN 2-AMINOPHENOLDISULFONAMIDES
William H. Armento, Albany, and William E. Wallace, Rensselaer, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 23, 1957, Ser. No. 704,241
6 Claims. (Cl. 260—247.1)

1. A process for producing a compound having the formula



wherein R^1 and R^2 are selected from the group consisting of H, alkyl, aralkyl, cycloalkyl, and aryl, and when taken together, the atoms necessary to form a heterocycle, comprising heating one mole of benzoxazolone with at least about 4 up to about 12 moles of chlorosulfonic acid at a temperature of about 90 to 120° C. for about 3 to 10 hours, treating the resulting benzoxazolone disulfonylchloride with at least 4 moles of an amine compound of the formula R^1R^2NH wherein R^1 and R^2 are selected from the group consisting of H, alkyl, aralkyl, cycloalkyl, and aryl, and when taken together, the atoms necessary to complete a heterocycle, and then subjecting the resulting benzoxazolone disulfonamide to aqueous alkaline hydrolysis conditions.

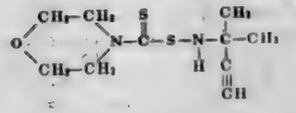
2,979,504

THIOCARBAMYLSULFENAMIDE CONTAINING ACETYLENIC GROUP

George E. P. Smith, Jr., Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed June 5, 1958, Ser. No. 739,980
1 Claim. (Cl. 260—247.1)

A compound of the following structure:



2,979,505

PROCESS FOR HYDROGENATION OF NITROSAMINES

William B. Tuemmler, Catonsville, and Hans J. S. Winkler, College Park, Md., assignors to Food Machinery and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 6, 1957, Ser. No. 676,504
13 Claims. (Cl. 260—247.5)

1. In the process of preparing a substituted hydrazine selected from the group consisting of N-aminomorpholine, N-aminopyrrolidine, N-aminopiperidine, N-aminopiperazine, and N,N-dialkylhydrazines by hydrogenating the corresponding nitrosamine in liquid phase in the presence of a palladium catalyst, the improvement which comprises adding to the reaction mixture a soluble iron salt in sufficient amount to provide 0.0005 to 225 millimoles of iron per gram of catalyst.

2,979,506

PURIFICATION OF TRIETHYLENE DIAMINE

Merwin D. Oakes, Green Ridge, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 14, 1958, Ser. No. 767,087
7 Claims. (Cl. 260—268)

1. The method of restoring white color to 1,4 diazabicyclo [2.2.2] octane solids which have become discolored on storage which comprises treating such discolored product with a solvent liquor comprising at least one organic nitrogen base selected from the group consisting of alkyl and alkylol amines, pyrazine, piperazine and lower alkyl homologues of pyrazine and piperazine, said liquid nitrogen base boiling in the range of about 115 to 195° C.; and separating the thus purified crystals from the liquor.

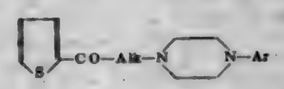
2,979,507

1-(2-THENOYL)ALKYL-4-ARYLPIPERAZINES

Paul Adriaan J Janssen, Antwerpse Steenweg 16, Vosselaar, near Turnhout, Belgium

No Drawing. Filed Mar. 26, 1959, Ser. No. 801,989
8 Claims. (Cl. 260—268)

1. A compound of the structural formula



wherein Ar is a member of the class consisting of halophenyl radicals, lower alkyloxyphenyl radicals, and monocyclic aryl hydrocarbon radicals of less than nine carbon atoms and wherein Alk is a lower alkylene radical.

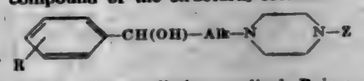
2,979,508

HETEROCYCLIC DERIVATIVES OF 1-PHENYL-ω-(PIPERAZINE)ALKANOLS

Paul A. J. Janssen, Antwerpse Steenweg 16, Vosselaar, near Turnhout, Belgium

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,628
8 Claims. (Cl. 260—268)

1. A compound of the structural formula



wherein Alk is a lower alkylene radical; R is a member of the class consisting of hydrogen, methyl, methoxy and fluoro radicals; and Z is a member of the class consisting of pyridyl, methylpyridyl, pyrimidyl, and methylpyrimidyl radicals.

2,979,509

TREATMENT OF POLYMERS PRODUCED BY ALKALI METAL CATALYZED POLYMERIZATION

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 6, 1957, Ser. No. 657,493
10 Claims. (Cl. 260—298)

1. In the separation of alkali metal impurities from a polymer of a conjugated diene prepared by alkali metal catalyzed polymerization, a process comprising washing a solution of said polymer in the polymerization solvent with vigorous agitation with water to which acid has been added, the amount of water being sufficient to provide a water to organic ratio of at least 3, at atmospheric pressure and a temperature in the range of 90° F. to the temperature at which the mixture boils; removing a portion of the mixed aqueous/organic phase; separating said phases; passing the organic phase to a second aqueous washing step wherein the amount of water is sufficient to provide a water to organic ratio of at least 3 at atmospheric pressure and a temperature in the range of 90° F. to the boiling point of the mixture; removing a portion of the mixed aqueous/organic phase from the second washing operation; separating said phases; passing the organic phase to a separation zone; and recovering the purified polymer.

5. The process of claim 1 wherein the polymer is a copolymer of 1,3-butadiene and 2-methyl-5-vinylpyridine.

2,979,510

PREPARATION OF PYRIDINE

William I. Denton, Cheshire, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Nov. 13, 1958, Ser. No. 773,576
3 Claims. (Cl. 260—290)

1. The process for the preparation of pyridine in which ammonia and tetrahydrofurfuryl alcohol are reacted in the molar ratio of from 2 to 1 to 10 to 1 at a temperature of from about 450° C. to 600° C., a pressure of from about 0.1 to about 20 atmospheres, and a space velocity from about 0.1 to about 10 in the presence of from about 1 to 25% of a catalyst consisting essentially of a complex of a molybdenum oxide with a vanadium oxide on a support selected from the group consisting of neutral and basic oxides capable of producing at least a 5% yield of pyridine from said reaction.

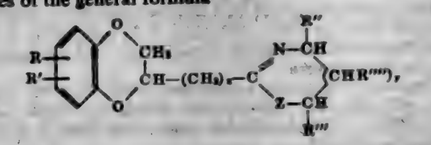
2,979,511

CERTAIN 1,4-BENZODIOXANYL IMIDAZOLINES AND CORRESPONDING PYRIMIDINES AND PROCESS

John Krapcho, New Brunswick, and William A. Lott, Maplewood, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 25, 1959, Ser. No. 801,725
6 Claims. (Cl. 260—309.6)

1. A compound selected from the group consisting of bases of the general formula



and the non-toxic acid addition salts thereof, wherein R and R′ are each selected from the group consisting of hydrogen, hydroxy, halogen, trifluoromethyl, nitro, lower alkyl, lower alkenyl and lower alkoxy, R″, R‴ and R⁗ are each selected from the group consisting of hydrogen and lower alkyl, x is an integer from zero to one, y is an integer from zero to one, and Z is selected from the group consisting of —NH— and —N(lower alkyl)—.

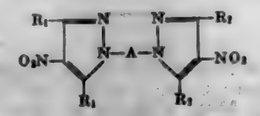
2,979,512

PYRAZOLE DERIVATIVES

Derek Ernest Wright, Seven Kings, Ilford, England, assignor to May & Baker Limited, Dagenham, England, a company of Great Britain

No Drawing. Filed Nov. 27, 1959, Ser. No. 855,518
Claims priority, application Great Britain Dec. 3, 1958
4 Claims. (Cl. 260—310)

1. As new compounds, nitropyrazole derivatives of the formula:



wherein R_1 and R_2 are members of the class consisting of hydrogen atoms and alkyl containing up to 4 carbon atoms, and A is a member of the class consisting of the straight chain saturated aliphatic hydrocarbon groups containing 1 to 12 carbon atoms, the but-2-ene chain, the 3-methyl-n-pentane chain, the hydroxy propane chain, the diethyl ether linkage, the succinyl linkage and the cyclohexane linkage.

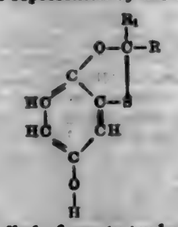
2,979,513

2-MERCAPTOHYDROQUINONE CONDENSATION PRODUCTS

George E. P. Smith, Jr., Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed June 10, 1957, Ser. No. 664,466
4 Claims. (Cl. 260—327)

1. A compound represented by the following formula:



in which R is an alkyl of one to twelve carbon atoms and R_1 is selected from the class consisting of hydrogen and alkyl of one to twelve carbon atoms.

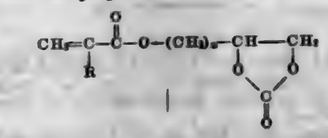
2,979,514

PROCESS FOR PREPARING CARBONATOALKYL ACRYLATES AND METHACRYLATES

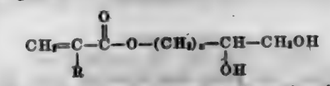
Joseph L. O'Brien and Ellington M. Beavers, Elkins Park, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 16, 1957, Ser. No. 672,128
1 Claim. (Cl. 260—340.2)

A process for preparing a compound of the formula



wherein R is a member of the class consisting of a hydrogen atom and a methyl group and n is an integer having a value of one to four, inclusive, which comprises reacting, while removing heat generated by the reaction and in the presence of a basic hydrogen chloride acceptor, a compound of the formula



wherein R and n are as above indicated, with a compound from the group consisting of phosgene and an alkyl ester of chloroformic acid wherein the alkyl group contains one to four carbon atoms.

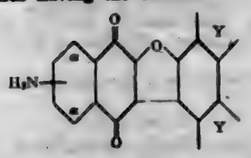
2,979,515

HETEROCYCLIC DYESTUFF INTERMEDIATES

David I. Randall, Mount Vernon, N.Y., and Wilhelm Schmidt-Nickels, Little York, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

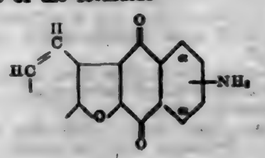
No Drawing. Filed Nov. 17, 1958, Ser. No. 774,142
7 Claims. (Cl. 260—346.2)

1. Compounds having the formula



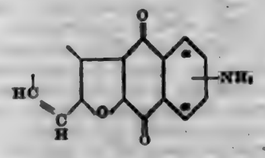
wherein one adjacent pair of Y valences are attached to hydrogen atoms, the other adjacent pair of Y valences are bonded to a radical selected from the group consisting of those of the formulae

(a)



and

(b)



and wherein the —NH_2 group is bonded in one of the α positions.

2,979,516

Δ^1-ALLOPREGNEN-3,11,20-TRIONE AND INTERMEDIATES TO THE PRODUCTION THEREOF

Carl Djerassi, Birmingham, Mich., and George Rosenkranz, Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico

No Drawing. Filed Mar. 21, 1957, Ser. No. 647,502
Claims priority, application Mexico Mar. 7, 1952
8 Claims. (Cl. 260—397.3)

8. Δ^1-allopregnen-3,11,20-trione.

2,979,517

12α-FLUORO-16α-HYDROXY PREGNENES

Hershel L. Herzog, Mountain View, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 21, 1957, Ser. No. 641,464
5 Claims. (Cl. 260—397.45)

3. Compounds of the group consisting of 12α-fluoro-4-pregnene-11β,16α,17α,21-tetrol - 3,20 - dione and 12α-fluoro-16α-hydroxyprednisolone and their lower alkanoic acid 21-esters.

2,979,518

NEW STEROID ALANINATES

David Adriaan van Dorp and Hendrik Paul de Jongh, Oss, Netherlands, assignors to Organon Inc., Orange, N.J., a corporation of New Jersey

No Drawing. Filed July 30, 1957, Ser. No. 675,041
Claims priority, application Netherlands Aug. 14, 1956
10 Claims. (Cl. 260—397.45)

1. A compound selected from the group consisting of oestradiol-3,17-di-alaninate and the acid addition salts thereof.

3. A compound selected from the group consisting of cortisone-21-alaninate and the acid addition salts thereof.

2,979,519

NEW CYCLOTRISILOXANES

Ogden R. Pierce and George W. Holbrook, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 27, 1956, Ser. No. 594,108
5 Claims. (Cl. 260—448.2)

1. A cyclic trisiloxane of the unit formula



where Me represents a methyl radical and R is a perfluoroalkyl radical of from 1 to 10 inclusive carbon atoms.

2,979,520

SOLVENT EXTRACTION OF WATER-IMMISCIBLE, OIL-SOLUBLE ALCOHOLS WITH LIQUID HEXANETRIOL

Joseph R. Kenton, Texas City, Tex., assignor, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 23, 1957, Ser. No. 704,310
9 Claims. (Cl. 260—450)

9. A process for the liquid-liquid selective extraction of oil-soluble water-immiscible alcohols from a 158° C. to 187° C. fraction of a product resulting from the hydrogenation of carbon monoxide and containing normally liquid hydocarbons, oil-soluble water-immiscible carbonyl compounds, and said oil-soluble alcohols, which process comprises extracting said fraction with about one volume of 1,2,6-hexanetriol per volume of said fraction at a temperature of about 50° C. whereby said oil-soluble water-immiscible alcohols are selectively obtained in preference to said oil-soluble carbonyl compounds in a liquid 1,2,6-hexanetriol extract phase, separating the resulting liquid extract phase from the resulting liquid raffinate phase, distilling the extract phase to a temperature up to and above 300° C. and recovering oil-soluble water immiscible alcohols from the extract phase in an overhead fraction from said distilling while leaving said 1,2,6-hexanetriol in a bottoms fraction from said distilling.

2,979,521

PREPARATION OF GLYCEROL SULFURIC ACIDS

Frederick William Gray, Belleville, N.J., assignor to Colgate-Palmolive Company, Jersey City, N.J., a corporation of Delaware

No Drawing. Original application Feb. 9, 1955, Ser. No. 487,209, now Patent No. 2,868,812, dated Jan. 13, 1959. Divided and this application May 7, 1958, Ser. No. 733,480
7 Claims. (Cl. 260—458)

1. A process for the production of glycerol trisulfuric acid free of sulfur trioxide which comprises reacting, at a temperature between 15° C. and 45° C., one molecular proportion of substantially anhydrous glycerol with between 2.5 and 3.5 molecular proportions of non-gaseous sulfur trioxide, in a sulfuric acid medium, which medium contains between 2.2 and 3.5 molecular proportions of sulfuric acid monohydrate, the number of molecular proportions of sulfuric acid monohydrate being approximately determined by the equation $X=2.2+2(3-Y)$, where X is the number of molecular proportions of sulfuric acid monohydrate, and Y is the number of molecular proportions of sulfur trioxide, the term $2(3-Y)$ being considered no less than zero in determining X, and, when Y is over 3.0, blowing the resulting product with an unreactive gas until all unreacted sulfur trioxide is removed.

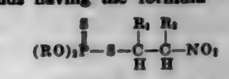
2,979,522

DIALKYL NITROALKYL DITHIOPHOSPHATES

James D. Johnston, Baton Rouge, La., and Lloyd E. Goddard, Detroit, Mich., assignors, by mesne assignments, to Pittsburgh Coke and Chemical Company, a corporation of Pennsylvania

No Drawing. Filed Dec. 30, 1954, Ser. No. 478,984
11 Claims. (Cl. 260—461)

1. Compounds having the formula



wherein R is a saturated lower alkyl group, R_1 is selected from the group consisting of hydrogen, phenyl, 3,4-dimethoxy phenyl and trichloromethyl and R_2 is selected from the group consisting of hydrogen and lower alkyl.

6. An insecticidal composition comprising a surface active agent and a compound of claim 1.

2,979,523

ADDITION PRODUCTS OF DIALKYL ACID ORTHOPHOSPHATE AND OLEFIN OXIDES

Troy L. Cantrell, Drexel Hill, Pa., and John G. Peters, Audubon, N.J., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 6, 1956, Ser. No. 569,684
4 Claims. (Cl. 260—461)

1. A substantially neutral addition product of (*a*) an olefin oxide that contains 2 to 4 carbon atoms, and (*b*) a dialkyl acid orthophosphate prepared by esterifying phosphorus pentoxide with a monohydric alcohol that contains 5 to 8 carbon atoms in the respective mole proportion of about 1:4.

2,979,524

MODIFIED ORGANIC FLUIDS OF THE GLYCOL TYPE AND METHODS OF PRODUCING THE SAME

John H. Wright, Berkley, Mich., and Lowell L. Petterson, Whittier, and Howard Steinberg, Fullerton, Calif., assignors, by direct and mesne assignments, to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Mar. 5, 1957, Ser. No. 643,923
5 Claims. (Cl. 260—462)

2. As a buffering additive composition for organic fluids, a condensation product of an organic compound and a borate compound, said organic compound being selected from the class consisting of glycols containing from two to six carbon atoms and mixtures of such glycols and monoethers of such glycols with an alkyl group containing from one to four carbon atoms, said borate compound being selected from the group consisting of the alkali metal tetraborates and metaborates and the alkaline earth metal tetraborates and metaborates, the molar ratio of organic compound to borate compound in said condensation product having a value between about three to one and about twelve to one, the water content of said condensation product being that amount of water which is present after removing from said condensation product an amount of water which is at least in the order of the total water of hydration of the borate compound and is less than the sum of said water of hydration and about half of the condensation water corresponding to complete condensation of the said compounds, and said condensation product being a substantially homogeneous and readily pourable liquid at a temperature less than about 100° C., said liquid being readily miscible in concentrations up to at least 25% in glycol hydraulic and coolant fluids.

2,979,525

NEW CRYSTALLINE PANTOTHENIC ACID ESTER AND PROCESS FOR THE PRODUCTION THEREOF

Ernst Felder and Davide Pitrè, Milan, Italy, assignors to Bracco Industria Chimica S.p.A., Milan, Italy

No Drawing. Filed Mar. 31, 1959, Ser. No. 803,075
Claims priority, application Switzerland Apr. 9, 1958
9 Claims. (Cl. 260—482)

1. Crystalline pantothenic acid menthyl ester, the pantothenic acid part being selected from the group consisting of the biologically active D-form and the racemic D,L-form, the menthol part being selected from the group consisting of the biologically active L-form and the racemic D,L-form.

2,979,526

PRODUCTION OF AMMONIUM SALTS OF AROMATIC ACIDS BY HYDROLYSIS OF AROMATIC NITRILES

Edward James Gasson and David James Hadley, Epsom Downs, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Sept. 12, 1956, Ser. No. 609,352
Claims priority, application Great Britain Sept. 27, 1955
5 Claims. (Cl. 260—515)

1. The process for the production of ammonium salts of aromatic carboxylic acids which comprises reacting under superatmospheric pressure in a closed system for more than about three hours, a starting material selected from the group consisting of terephthalonitrile, isophthalonitrile, benzonitrile, phthalimide, tolunitrile, and naphthonitrile with up to 20 parts by weight of water per part of starting material at a temperature of between about 100° C. and 300° C. in the presence of a catalyst selected from the group consisting of ammonia, magnesium oxide, sodium hydroxide and calcium carbonate in an amount less than that which will cause formation of large amounts of salts of the acid corresponding to the starting material, the amount of catalyst in the case of magnesium oxide, sodium hydroxide and calcium carbonate being 0.01 to 0.10 mole per mole of starting material and the amount of catalyst in the case of ammonia being 0.10 to about 6 moles per mole of starting material.

2,979,527

PREPARATION OF UREA FROM CARBONYL SULFIDE AND AMMONIUM ACID SULFIDE

Fred Applegath and Raymond A. Franz, El Dorado, Ark., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 21, 1958, Ser. No. 736,692
2 Claims. (Cl. 260—555)

1. A process for preparing urea which comprises reacting one molecular proportion of carbonyl sulfide with at least two molecular proportions of ammonium acid sulfide at an elevated temperature in the range of from about 60° C. to about 300° C. in a liquid hydrocarbon medium selected from a group consisting of benzene, toluene, xylene, petroleum ether, cyclo-hexane, and decalin.

2,979,528

NITROGEN-CONTAINING POLYOXYALKYLENE DETERGENT COMPOSITIONS

Lester G. Lundsted, Grosse Ile, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Dec. 30, 1957, Ser. No. 705,730
10 Claims. (Cl. 260—584)

1. A surface active mixture of conjugated polyoxyalkylene compounds consisting of oxypropylene groups, oxyethylene groups and the nucleus of a nitrogen-containing reactive hydrogen compound having not more than 6 carbon atoms per molecule and being selected from the group consisting of ammonia, primary alkyl amines, alkylene polyamines, alkanolamines, piperazine and carbon-substituted alkylpiperazines, hydroxylamine and aminophenol, the structure of the compounds being such that all of the oxypropylene groups are present in oxypropylene chains that are attached to the reactive hydrogen compound at the sites of the reactive hydrogen atoms, and all of the oxyethylene groups are present in oxyethylene chains that are attached to the ends of the oxypropylene chains, the average molecular weight of the oxypropylene chains being at least about 900 and to about 25,000, and the oxyethylene groups being present in an amount so as to constitute from 20 to 90 weight percent of the mixture of compounds.

4. A surface active mixture of conjugated polyoxyalkylene compounds according to claim 1 wherein said reactive hydrogen compound is an alkylene polyamine.

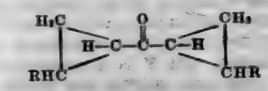
2,979,529

PRODUCTION OF DICYCLOPROPYL KETONES AND 1,7-DIHALO-4-HEPTANONES

Harold Hart, Auburndale, Mass., assignor to Research Corporation, New York, N.Y., a corporation of New York

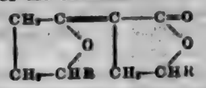
No Drawing. Filed Dec. 12, 1955, Ser. No. 552,253
4 Claims. (Cl. 260—586)

3. The method of making dicyclopropyl ketones of the formula



wherein R is a member of the group consisting of hydro-

gen and lower alkyl radicals which comprises heating a γ-butyrolactone of the formula



with a hydrohalic acid of the group consisting of hydrochloric and hydrobromic acids and thereafter heating the reaction product with an aqueous alkali metal hydroxide solution.

2,979,530
PREPARATION OF ALKYL SUBSTITUTED BORON HYDRIDES
Myrl Lichtenwalter and Kenneth E. Harwell, Austin, Tex., assignors to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 6, 1956, Ser. No. 569,945
3 Claims. (Cl. 260—606.5)

1. A method of preparing a liquid high energy fuel mixture comprising lower alkyl substituted higher boron hydrides containing 25 to 55% boron by weight which comprises contacting a lower alkyl diborane with pentaborane-9 at reaction conditions of temperature and pressure and recovering the liquid product thus formed.

2,979,531
p-LOWER ALKYL SUBSTITUTED CUMYL DISULFIDES
Ellis K. Fields, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Sept. 2, 1954, Ser. No. 453,947
4 Claims. (Cl. 260—608)

1. p-Lower-alkyl-substituted cumene disulfides.

2,979,532
PREPARATION OF DIALKYL DISULFIDES
Warren S. MacGregor, Camas, Wash., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
No Drawing. Filed Feb. 9, 1959, Ser. No. 791,836
20 Claims. (Cl. 260—608)

1. A process for the preparation of dialkyl disulfides which comprises heating and reacting a lower alkyl mercaptan having from 1 to 3 carbon atoms with a free oxygen-containing gas in the presence of a catalyst composed of activated carbon containing an oxide of a metal selected from the group consisting of copper and iron for a period of time sufficient to effect a substantially complete conversion of the mercaptan to the corresponding disulfide, and recovering the disulfide from the reaction mixture, said catalyst having been prepared by treating activated carbon with a solution of a salt of said metal and thereafter converting said salt to the oxide of said metal, said oxide being intimately combined with the activated carbon.

2,979,533
POLYOXYALKYLENE ETHER SURFACE-ACTIVE COMPOSITIONS
Herman A. Bruson, North Haven, and Thomas P. O'Day, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation
No Drawing. Filed July 31, 1958, Ser. No. 752,190
3 Claims. (Cl. 260—613)

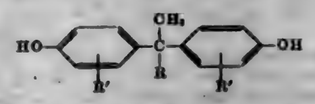
1. A water-dispersible product having the formula

$$[R\text{-}(OCH_2CH_2)_nO]_2CH\text{—}Y$$

wherein R is an hydrophobic organic radical selected from the group consisting of an aliphatic saturated hydrocarbon radical containing 13 carbon atoms and a phenyl radical having an alkyl substituent containing 4 to 9 carbon atoms, and Y is a member of the group consisting of hydrogen, methyl and ethyl, and *n* is a number from about 5 to 10.

2,979,534
NOVEL PROCESS FOR PREPARING SUBSTITUTED DIHYDRIC INDANE DERIVATIVES
John C. Petropoulos, Norwalk, and Frank A. V. Sullivan, Glenbrook, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Apr. 18, 1957, Ser. No. 653,656
8 Claims. (Cl. 260—619)

1. A method of producing a 1-(hydroxyphenyl)-indanol which comprises simultaneously cracking and dimerizing in the presence of an acidic condensing agent and at temperatures of from about 130° C. to 160° C. an alkylidenebisphenol represented by the structure:



in which R is a radical selected from the group consisting of methyl and ethyl and R' is a radical selected from the group consisting of hydrogen and alkyl of from 1 to 4 carbon atoms, and recovering resultant 1-(hydroxyphenyl)-indanol.

2,979,535
PROCESS FOR THE MANUFACTURE OF ALKINOLS AND ALKINE DIOLS
Kurt Sennewald and Armin Gotz, Knapsack, near Koln, and Heinrich Rehberg, Hermulheim, near Koln, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Koln, Germany, a corporation of Germany
No Drawing. Filed Oct. 21, 1958, Ser. No. 768,573
Claims priority, application Germany Oct. 29, 1957
13 Claims. (Cl. 260—635)

1. A process for the manufacture of at least one substance selected from the group consisting of alkinols and alkine diols, which consists of reacting in a first stage at least one substance selected from the group consisting of acetylene and acetylene derivatives containing at least one hydrogen atom at the acetylene group, with potassium hydroxide suspended in a hydrocarbon as a chemically inert solvent which hydrocarbon boils between 100° to 180° C., said suspension having been substantially freed from water by distilling off the water together with a part of said solvent, adding an acyclic aliphatic ketone having 3 to 6 carbon atoms to the reaction mixture in a second stage, said ketone being added dropwise over a period of at least four hours, hydrolyzing the mixture in a third stage, separating the organic layer, and processing said layer by distillation.

2,979,536
PROCESS FOR THE PREPARATION OF 2,3-, 2,4-, AND 2,5-DICHLOROSTYRENE
Frederick J. Soderquist, Emeryville, and James L. Amos, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 26, 1957, Ser. No. 668,026
6 Claims. (Cl. 260—650)

1. A method for preparing a dichlorostyrene having one chloro substituent ortho to the vinyl group, which method comprises passing at least one member of the group consisting of 2,3-, 2,4-, and 2,5-dichlorocumene through a demethanating zone maintained at a temperature between 525° and 750° C. at a space velocity between 5 and 100 grams of said dichlorocumene per 80 milliliters of cracking zone per hour, whereby demethanation of the isopropyl group predominates to the substantial exclusion of dehydrogenation, and recovering a dichlorostyrene product therefrom.

2,979,537
SELECTIVE BROMINATION OF BENZENE
Arthur A. Asadorian, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 4, 1959, Ser. No. 791,024
5 Claims. (Cl. 260—650)

1. A process for the preparation of 1,2,4,5-tetrabromobenzene which comprises reacting benzene with bromide in the liquid phase in the presence of a ferric bromination catalyst and in the presence of an inert organic solvent consisting essentially of one selected from the group consisting of carbon tetrachloride and chloroform.

2,979,538
PROPYNYL ESTERS OF DICARBOXYLIC ACIDS FOR STABILIZING HALOGENATED HYDROCARBON
John H. Wotiz, Mentor, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed July 21, 1958, Ser. No. 749,659
8 Claims. (Cl. 260—651)

1. A stabilized side chain-halogenated aromatic hydrocarbon comprising essentially a side chain-halogenated aromatic hydrocarbon contaminated with metal ions and a stabilizing amount of a compound having the structure:



wherein R^9, R^{10} and R^{11} are alkylene radicals.

2,979,539
DIFLUOROCARBENE FREE RADICALS IN THE SYNTHESIS OF FLUORINATED OLEFINIC COMPOUNDS
Louis A. Errede, St. Paul, and Wesley R. Peterson, North Oaks, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 6, 1959, Ser. No. 785,246
7 Claims. (Cl. 260—653.3)

1. A process which comprises producing difluorocarbene free radical and reacting said difluorocarbene free radical with an ethylenically unsaturated compound having from 2 to 4 carbon atoms at a temperature above about 100° C., and under conditions at which substantially no pyrolysis of the ethylenically unsaturated compound occurs.

2,979,540
PROCESS FOR THE PREPARATION OF ALIPHATIC BROMIDES
Arthur A. Asadorian, Midland, and George A. Burk, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 7, 1958, Ser. No. 726,629
4 Claims. (Cl. 260—654)

2. A process for preparing bromo-olefinic compounds from chloro olefins which comprises reacting by contacting said chloro olefin containing no functional groups reactive with HBr, other than halogen with hydrogen bromide in the presence of aqueous hydrobromic acid at a temperature of from 40° to 140° C.

3. A process for hydrobrominating an olefinic hydrocarbon for the preparation of a paraffinic bromide which comprises reacting by contacting said olefinic hydrocarbon with hydrogen bromide in the presence of aqueous hydrobromic acid and at a temperature from —10° to 140° C.

4. A process for making chlorobromoaliphatic compounds which comprises contacting a chloro olefinic compound containing no functional groups reactive with HBr, other than halogen with hydrogen bromide and aqueous hydrobromic acid at a temperature of from —10° to 40° C.

2,979,541
REACTION OF METHANE AND CARBON TETRACHLORIDE
Harold M. Pitt, Lafayette, and Harry Bender, El Cerrito, Calif., assignors to Stauffer Chemical Company, a corporation of Delaware
No Drawing. Filed Mar. 23, 1960, Ser. No. 16,944
2 Claims. (Cl. 260—654)

1. A process for the production of chloroform, vinylidene chloride and methyl chloride comprising reacting carbon tetrachloride and methane at a temperature of between about 400° C. and 650° C. for a period of between about 0.1 and 20 seconds, said reaction taking place in a smooth walled reaction zone in the absence of an added surface material.

2,979,542
PRODUCTION OF DICHLORBUTENES
Frederick James Bellringer, Leatherhead, Clifford William Capp, Ewell, Frank Christopher Newman, Great Bookham, and Karl Heinrich Walter Turck, Banstead, England, assignors to The Distillers Company Limited, Edinburgh, Scotland
Filed July 9, 1959, Ser. No. 826,875
Claims priority, application Great Britain July 25, 1958
5 Claims. (Cl. 260—654)

1. A process which comprises the steps of pyrolysing a starting material selected from the group consisting of monochlorbutenes and dichlorbutanes to produce butadiene, hydrogen chloride, higher boiling compounds and unpyrolysed starting material, removing butadiene and hydrogen chloride, separating by fractional distillation the unreacted starting material from the higher boiling compounds, and recycling the unreected starting material to the pyrolysis step.

4. In the process for the production of dichlorbutenes by chlorinating a mixture of butene and butadiene-1,3 in the vapour phase at an elevated temperature to produce a chlorination reaction product containing monochlorbutenes and dichlorbutenes, pyrolysing the monochlorbutenes to produce a pyrolysis product containing butadiene, hydrogen chloride, higher boiling compounds and unreacted monochlorbutenes, introducing the butadiene to the chlorination stage and recovering dichlorbutenes from the chlorination reaction product, the steps of fractionally distilling the pyrolysis product together with the chlorination reaction product to separate butadiene in a first overhead fraction for introduction to the chlorination stage and monochlorbutenes free from higher boiling compounds as a second overhead fraction for introduction to the pyrolysis stage.

2,979,543
PROCESS FOR THE PRODUCTION OF CYCLODODECATRI(1,5,9)-ENES CONCURRENTLY WITH OTHER CYCLIC HYDROCARBONS
Günther Wilke, Mulheim (Ruhr), and Herbert Müller, Ludwigshafen (Rhine), Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany, a corporation
No Drawing. Filed Jan. 22, 1958, Ser. No. 710,426
Claims priority, application Germany Jan. 31, 1957
12 Claims. (Cl. 260—666)

1. Process for the production of cyclododecatri-(1,5,9)-enes which comprises contacting a member selected from the group consisting of butadiene, isoprene, and piperylene with a catalyst comprising a chromium halide and an organo-aluminum compound selected from the group consisting of aluminum trialkyls, aluminum alkyl hydrides and aluminum dialkyl monohalides to thereby produce cyclododecatri-(1,5,9)-ene with other cyclohydrocarbons having at least 8 carbon atoms and at least two double bonds in the ring.

2,979,544

PROCESS FOR THE PRODUCTION OF CYCLODODECATRI-(1,5,9)-ENES CONCURRENTLY WITH OTHER CYCLIC HYDROCARBONS

Günther Wilke, Mulheim (Ruhr), Germany, assignor to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany

No Drawing. Filed Apr. 15, 1958, Ser. No. 728,541
Claims priority, application Germany Apr. 17, 1957
11 Claims. (Cl. 260—666)

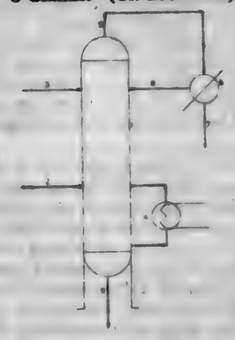
1. Process for the production of cyclododecatri-(1,5,9)-enes which comprises contacting a member selected from the group consisting of butadiene, isoprene, and piperylene with a catalyst comprising a titanium halide and an aluminum compound selected from the group consisting of aluminum trialkyls and dialkyl aluminium hydrides with the molar ratio of Ti to Al in said catalyst being between 1:0.5 and 1:2.0, to thereby form cyclododecatri-(1,5,9)-enes with other cyclic hydrocarbons containing at least 8 carbon atoms and at least 2 double bonds in the ring.

2,979,545

EXTRACTIVE DISTILLATION

Earle C. Makin, Jr., El Dorado, Ark., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 31, 1958, Ser. No. 770,974
8 Claims. (Cl. 260—666)



1. A continuous process for the separation of cyclic hydrocarbons from a hydrocarbon feed mixture consisting essentially of acyclic and cyclic hydrocarbons all containing six carbon atoms which comprises continuously introducing said feed mixture into an intermediate section of a fractioning column, introducing an alkyl ether of aniline into said fractionating column at a point above the point of introduction of said feed mixture so that said alkyl ether of aniline flows countercurrent to and intimately contacts the ascending vapors of said feed mixture, withdrawing overhead a mixture of acyclic hydrocarbons substantially free of cyclic hydrocarbons and removing from the bottom section of said column a solution of cyclic hydrocarbons contained in the alkyl ether of aniline.

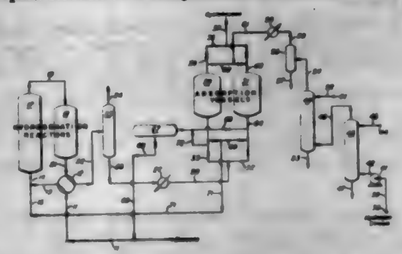
2,979,546

MANUFACTURE OF CYCLOPARAFFIN HYDROCARBONS

Philip Grandio, Jr., Texas City, and Louis W. Hamilton, Jr., La Marque, Tex., assignors, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed July 16, 1958, Ser. No. 749,012
7 Claims. (Cl. 260—667)

1. A process for the manufacture of a cyclohexane by the hydrogenation of a benzene hydrocarbon selected from the class consisting of benzene, toluene, ethylbenzene, and xylene, which process comprises (*a*) contacting said benzene hydrocarbon with hydrogen, in the presence of a hydrogenation catalyst, at a temperature between about 150° and 700° F. and a pressure from about 50 to 1500 p.s.i.g., said hydrogen being present in an amount from 3 to 50 mols per mol of benzene hydrocarbon charged, and continuing the hydrogenation reaction until only a minor amount of said benzene hydrocarbon remains unconverted, (*b*) removing the hydrogenation products from said hydrogenation reaction zone, (*c*) separating said hydrogenation products into a gaseous stream which contains hydrogen and hydrocarbons boiling below the boiling point of the feed benzene hydrocarbon, and a liquid stream consisting of on the order of least 90% of cycloparaffins produced by said hydrogenation reaction and a minor amount of unconverted benzene hydrocarbon, (*d*) passing said liquid stream into an adsorption vessel containing silica gel as the sole adsorbent, wherein benzene hydrocarbon is selectively adsorbed from said liquid stream at a temperature on the order of 50° to



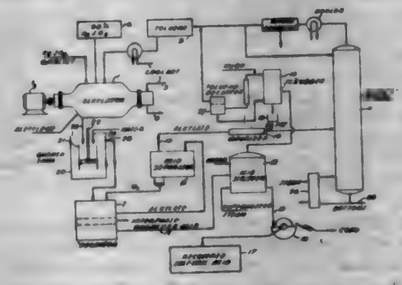
200° F. and continuing introduction of said liquid stream into and withdrawal of a substantially pure cycloparaffin stream from said adsorption vessel until said silica gel adsorbent has become substantially spent for the adsorption of benzene hydrocarbon, at which time the introduction of the liquid stream into said adsorption vessel is stopped, (*e*) regenerating said silica gel adsorbent by passing through said adsorbent a hydrogen stream, at a temperature on the order of the temperature utilized in said hydrogenation zone, and continuing passage of said hydrogen stream until essentially all of said adsorbed benzene hydrocarbon has been desorbed and has been removed from said adsorption vessel by the exiting hydrogen gas stream, (*f*) cycling said desorbed benzene hydrocarbon and said desorbing hydrogen gas to said hydrogenation zone, and (*g*) utilizing said regenerated silica gel adsorbent for removal of further amounts of benzene hydrocarbon from said liquid stream.

2,979,547

PRODUCTION OF DITOLYLETHANE

Edmund Paul Wozniak, Rivervale, N.J., and Ken Matsuda, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed Sept. 22, 1958, Ser. No. 762,429
4 Claims. (Cl. 260—668)



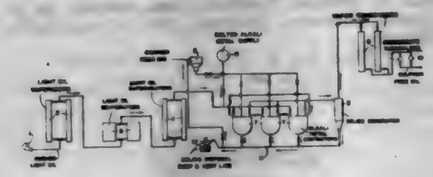
1. In the production of ditolylethane by the reaction of acetylene with excess toluene in the presence of a dispersion of a mercury salt in strong sulfuric acid and settling the resulting alkylate mixture into a top layer containing ditolylethane and unreacted toluene and a bottom layer containing toluene sulfonic acid and sulfuric acid, the method of reducing toluene sulfonic acid formation which comprises quenching said alkylate mixture by mixing therewith a small amount of water up to 12% by weight of water based on the weight of said sulfuric acid.

2,979,548

PURIFICATION OF AN AROMATIC-CONTAINING FEED BY SOLID ADSORPTION FOLLOWED BY CONTACT WITH MOLTEN ALKALI METAL

Clifford W. Clarke, Berkeley Heights, N.J., assignor to Otto Construction Corporation, New York, N.Y.

Filed Apr. 24, 1957, Ser. No. 654,825
2 Claims. (Cl. 260—674)



1. The process of purifying a hydrocarbon oil which contains a major proportion of vaporizable aromatic hydrocarbons and minor proportions of other vaporizable components including olefinic hydrocarbons, paraffinic hydrocarbons, moisture, phenolic compounds, and sulfur compounds, comprising the steps of vaporizing the impure oil, removing the moisture, paraffinic hydrocarbons, and olefinic hydrocarbons by passing the vapor through a body of an inorganic molecular sieve adsorbent which selectively adsorbs said moisture, paraffinic hydrocarbons, and olefinic hydrocarbons, then removing the remaining sulfur compounds and phenolic compounds by contacting the hot vapor with molten alkali metal deposited upon a particulate support material, recovering the purified aromatic hydrocarbons, and periodically regenerating the selective adsorbent by passing a portion of the recovered, purified aromatic hydrocarbon vapors, at a temperature between about 200° C. and 300° C. through said body of adsorbent.

2,979,549

PROCESS AND CATALYST FOR POLYMERIZATION

Telfer L. Thomas, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 29, 1958, Ser. No. 783,898
6 Claims. (Cl. 260—683.15)

1. An improved process for producting C_{13} to C_{18} olefin polymer which comprises intimately contacting C_6 to C_9 olefins in a reaction zone with 5 to 20 liquid volume percent of an acid catalyst consisting essentially of equal volumes of 85 to 100 weight percent sulfuric acid and about 100 to 110 weight percent phosphoric acid at a temperature in the range of 100° to 160° F. for a period of time in the range of ⅛ to 5 hours.

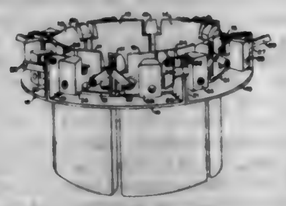
ELECTRICAL

2,979,550

ELECTRODE SEAL

Delmar C. Sherman, Sr., Chattanooga, Tenn., assignor to Tennessee Products and Chemical Corporation, Nashville, Tenn., a corporation of Tennessee

Filed Mar. 13, 1959, Ser. No. 799,248
11 Claims. (Cl. 13—17)



2. In an electrode seal, a stationary horizontal rim, a plurality of elongate cylindrical segments defining a generally vertical aperture therethrough, means on said rim pivotally supporting each of said segments at a point above its center of gravity tending to cause each segment to pivot about said support point in one direction, and a pair of spaced counterweights secured to each segment above said support point tending to cause each segment to pivot about said support point oppositely to said one direction.

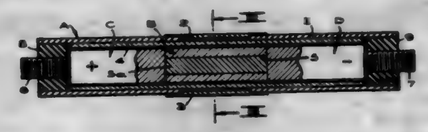
2,979,551

THERMOELECTRIC GENERATOR

Herschel G. Pack, 4388 Modoc Road, Santa Barbara, Calif.

Filed Mar. 2, 1959, Ser. No. 796,403
8 Claims. (Cl. 136—4)

1. In a device of the type described: a unit thermocouple comprising a metal cylinder; a heat transfer element at the center of the cylinder; a positive current-producing element in the cylinder and contacting with the heat transfer element; a negative current-producing element in the cylinder and contacting with the heat transfer element; a current insulating sleeve separating the central heat transfer element and the positive and negative current-producing elements from the metal cylinder; rubber plugs mounted in the ends of the cylinder and adjacent to the positive and negative current-producing elements; and screws mounted in the plugs and being adjustable for contacting with the positive and negative current-producing elements for holding them in contact with the heat transfer element; said plugs sealing the cylinder ends to prevent the entrance of air into the cylinder and thereby prevent any damage to the contacting surfaces among the elements due to oxidation caused by air.



2,979,552

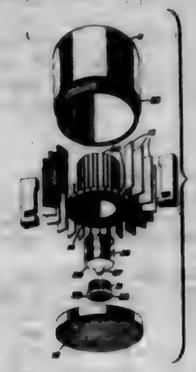
DEFERRED ACTION BATTERY

John H. Kuck, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 29, 1951, Ser. No. 258,914
7 Claims. (Cl. 136—90)

6. A deferred-action battery comprising a container having a cylindrical side wall, an integral end wall at one end thereof, a removable closure at the other end, a generally cylindrical cell block positioned concentrically

within the container and having a diameter substantially less than that of the container, said block having a frusto-conical cavity formed axially in the end thereof which is normally adjacent the closure of the container, said cavity extending into the block for most of its length, tapering inwardly and terminating in a base wall, said base having a restricted axial orifice passing therethrough, said block being formed with a radial flange at the end ad-



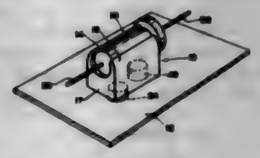
jacent the closure of the container, said flange terminating in close spaced relation to the container side wall, slots formed in said block longitudinally thereof, and a plurality of cell plates of generally rectangular configuration fastened in said slots and extending radially and longitudinally of said block to contact thet side wall, end wall and closure of the container outwardly of the axial projection of the block on the said end wall and closure.

2,979,553
CURRENT GENERATOR CELL
John McCallum, Worthington, Ohio, Theodore B. Johnson, Stratford, Conn., and Walter E. Ditmars, Jr., and Leslie D. McGraw, Columbus, Ohio, assignors, by direct and mesne assignments, to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
No Drawing. Filed Jan. 3, 1958, Ser. No. 706,890
10 Claims. (Cl. 136—100)

1. A primary cell comprising a cathode, an alkaline electrolyte, and an anode that is an alloy consisting essentially of at least 50 atomic percent titanium with at least about 13 weight percent of a titanium passivating element of the group consisting of molybdenum, vanadium, chromium, cobalt, nickel, niobium, tantalum, and tungsten, the surface of said anode being free from any substantial current blocking film and in direct contact with said electrolyte, the alloy of said anode being consumed in the discharge of said cell by the flow ions therefrom to said electrolyte.

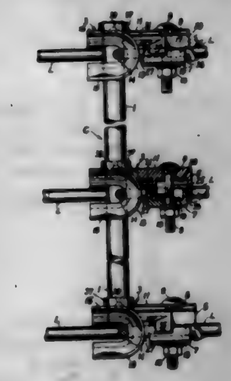
2,979,554
INSULATED MOUNTING CLAMP FOR ELECTRICAL COMPONENTS
Robert T. Maitland, Franklin Lakes, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 17, 1959, Ser. No. 820,969
6 Claims. (Cl. 174—138)

6. A mounting clamp of a resilient plastic material, comprising a base portion, resilient means formed integral with said base portion for receiving a device to be held thereby, a resilient stud formed integral with said base portion and extending therefrom, said stud being adapted for locking engagement in a hole provided in a mounting plate so as to enable the base portion to be secured thereby to said plate, and said base portion having an annular channel therein around said resilient stud so as to clear a ramp portion on the plate around said hole and



permit the base portion to rest along an adjacent surface of the mounting plate with a close fit.

2,979,555
ELECTRICAL MID-SPAN SPACER CONNECTOR
Ronald P. Bridges, Centralia, Mo., assignor to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
Filed July 3, 1958, Ser. No. 746,400
20 Claims. (Cl. 174—145)

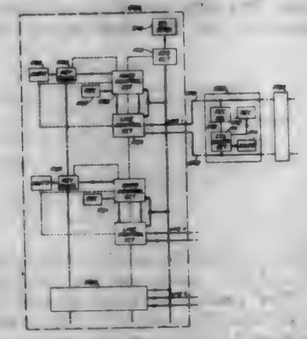


1. An electrical connector for interconnecting a plurality of electrical tap conductors to a continuous span of electrical line conductors, comprising an elongate insulating member, and a plurality of spaced connector clamping units affixed to said elongate insulating member, each of said units comprising jaws adapted to directly engage and electrically contact a bare portion of one continuous line conductor intermediate the ends of said span and the end of at least one tap conductor, each of said units including a curved guide for said tap conductor adapted partially to surround said tap conductor, support to hold said connector in operative mounted position being entirely supplied by its direct engagement with said ocntinuous span of electrical line conductors, whereby said continuous span of electrical conductors may be tapped midspan by said electrical connector.

2,979,556
SEMIAUTOMATIC TELETYPEWRITER TAPE RELAY SYSTEM
Russell J. Anspach and Robert C. Clark, Kansas City, Mo., James T. Nelswinter, Garden City, N.Y., and Prospero A. Tamasi, Overland Park, Kans., assignors to American Telephone and Telegraph Company, a corporation of New York
Filed Oct. 2, 1956, Ser. No. 613,585
19 Claims. (Cl. 178—3)

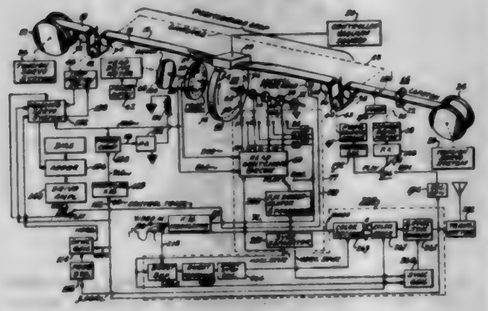
1. In a telegraph message relaying system, a central station, a plurality of lines each connected to said central station and having a plurality of outlying stations equipped to transmit messages to and receive messages from said central station, signal responsive selector means at each

of said outlying stations for controlling the transmission and reception of messages thereat in response to transmission and reception controlling signals, means at said central station transmissively associable with said plu-



rality of lines for generating and transmitting said transmission and reception controlling signals, and means for controlling seizure of said generating and transmitting means by each of said transmissively associable lines.

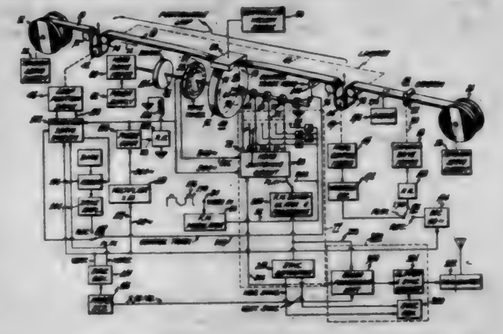
2,979,557
RECORDING AND REPRODUCING SYSTEM
Alfred Christian Schroeder, Huntingdon Valley, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 1, 1957, Ser. No. 687,544
30 Claims. (Cl. 178—5.2)



1. In a system for reproducing from a movable medium recorded signals, said signals including a carrier frequency signal phase modulated by information and a periodic reference frequency signal, said system including means for reproducing said recorded signals, the combination comprising means responsive to said reproduced periodic reference signal for correcting the reproduced information signals to be independent of frequency variations of said carrier signal due to variances of said movable medium or said reproducing means to obtain said original information, a stable source of carrier frequency oscillations, and means responsive to said stable source and to said correcting means for encoding said stable carrier frequency oscillations with corrected information signals.

2,979,558
RECORDING AND REPRODUCING SYSTEM
Eric M. Leyton, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 2, 1957, Ser. No. 687,827
17 Claims. (Cl. 178—5.2)

1. A system for recording and reproducing composite signals by means of a movable storage medium, said composite signal including a carrier wave phase modulated with information and reference frequency signals phase locked to said carrier wave, said reference frequency signals including a first and second pilot tones, said pilot tones being multiples of said carrier wave and having a difference frequency that is a submultiple of said carrier wave, said system comprising means for recording said composite signal on said movable storage medium, means for reproducing said composite signal from said movable storage medium, said recovered composite signal subject to being phase modulated by irregularities in the relative movement of said medium with respect to said recording and reproducing means, means coupled to said reproducing means for combining the reproduced pilot tones to derive a beat-frequency signal

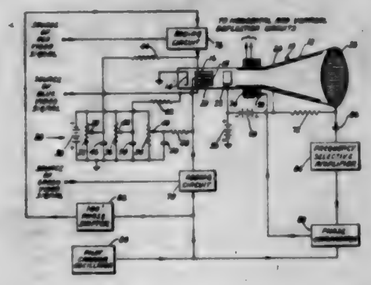


therefrom, means coupled to said beat frequency signal deriving means to multiply the beat frequency signal by said submultiple to derive a reproduced reference signal having the same frequency and being phase locked to said reproduced carrier wave and being phase modulated with said irregularities in the relative movement of said medium, a source of an oscillatory wave, means coupled to said source and to said reference signal deriving means for producing a wave having the sum frequency of said oscillatory wave and said derived reference signal, and means coupled to said sum frequency wave producing means and to said reproducing means for producing the difference frequencies between said sum frequency and said reproduced carrier wave, said difference frequencies correseponding to the original said phase modulated carrier wave.

2,979,559
INDEX-SIGNAL GENERATING SYSTEM FOR MULTI-BEAM CATHODE-RAY TUBES
Monte I. Burgett, Jr., Philadelphia, Pa., and William G. Ehrich, Haddonfield, N.J., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 474,372, Dec. 10, 1954. This application Aug. 2, 1957, Ser. No. 676,468
8 Claims. (Cl. 178—5.4)

1. A television system comprising a cathode-ray tube having means for producing two spaced electron beams, means for individually controlling the intensity of each of said beams and a beam-intercepting screen member, said screen member comprising a plurality of parallel stripe-groups, each of said stripe-groups comprising first and second stripe-members responsive to electron impingement to emit light of respectively first and second colors and a third stripe-member arranged intermediate said first and second stripe-members, said third stripe-member having a response to electron impingement different from that of said first and second stripe-members, means for supplying a first intelligence wave indicative of the content of a televised scene of said first color and consisting of components having frequencies within a first frequency range, means

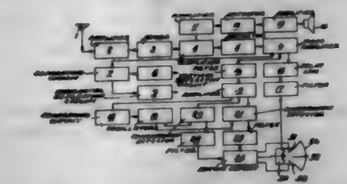
for generating a first pilot wave having a given phase and a given periodicity falling outside of said given frequency range, means for combining said first intelligence wave with said first pilot wave to form a first composite signal, means for supplying said first composite signal to the intensity-varying means for said first beam, means for supplying a second intelligence wave indicative of the content in a televised scene of said second color and consisting of components within a second given frequency range excluding said given periodicity, means for generating a second pilot wave having a phase differing from said given phase by a preassigned amount and having said given periodicity, means for combining said second intelligence wave with said second pilot wave to form a second composite signal, means for supplying said second composite signal to the intensity-varying means for said second beam, means for maintaining the intensities of said first and second beams respectively at preassigned finite values



when said first and second composite signals each have zero amplitudes, means for establishing the amplitudes of said first and second pilot waves at respective values such that the variations in the intensities of said first and second beams in response thereto occur over a range consisting of finite, non-zero beam intensities, means for deflecting said two electron beams over said beam-intercepting screen member in a manner such that said beams trace, in predetermined stripe-groups of said beam-intercepting member, scanning paths parallel to said stripe-members thereof, means coupled to said beam-intercepting screen member for deriving a third wave whose components have frequencies in a range including said given periodicity and substantially excluding said first and second frequency ranges, means coupled to the output of said deriving means for producing a control signal indicative of the phase of said third wave, and means responsive to said control signal for deflecting said two beams in a direction transverse to the orientation of said stripe groups.

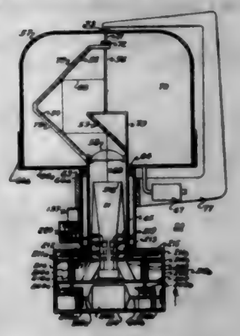
2,979,560
RECEIVER FOR COLOR TELEVISION SIGNALS WITH SLOPE-RELATED SYNCHRONOUS DETECTORS
Hendrik Bretner, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 10, 1959, Ser. No. 852,122
Claims priority, application Netherlands Nov. 28, 1958
3 Claims. (Cl. 178—5.4)

2. A receiver for receiving color television signals of the type comprising a luminance signal component and a chrominance signal component comprising an auxiliary carrier wave modulated in quadrature with first and second signals of different bandwidth, said first signal having a larger bandwidth than said second signal, said receiver comprising first demodulator means connected to demodulate said first signal, second demodulator means connected to demodulate said second signal, first low-pass filter means connected to the output of said first demodulator means, and second low-pass filter means connected to the output of said second demodulator means, the ratio of the slope of said second filter means in the region of the cutoff frequency of said second filter to the slope of said first filter means in the region of the cutoff frequency of said first filter means being approxi-



mately equal to the ratio between the cutoff frequency of said second filter means and the cutoff frequency of said first filter means, the slope of said second filter means in the immediate neighborhood of the respective cutoff frequency being steeper than the slope of said second filter means in the frequency range between the two said cutoff frequencies.

2,979,561
THREE DIMENSIONAL DISPLAY APPARATUS
Max Hirsch, 4810 N. 11th St., Philadelphia 41, Pa.
Filed Nov. 12, 1958, Ser. No. 773,400
29 Claims. (Cl. 178—6.5)

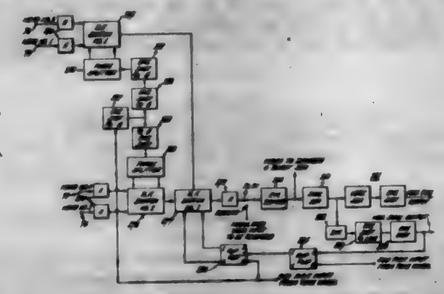


1. An apparatus for the exhibition of three dimensional images in a volume comprising a rotatable viewing screen for sweeping out said volume, an image producing means responsive to signals for producing two dimensional images, said image producing means being fixed in position, a rotatable projection apparatus interposed between said image producing means and said screen for projecting said images from said image producing means onto said screen, and said projection apparatus being adapted to rotate in unison with said screen.

2,979,562
SWITCHING SYSTEM FOR TRANSVERSE SCANNING TAPE REPRODUCER
Eric M. Leyten, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 11, 1957, Ser. No. 689,678
16 Claims. (Cl. 178—6.6)

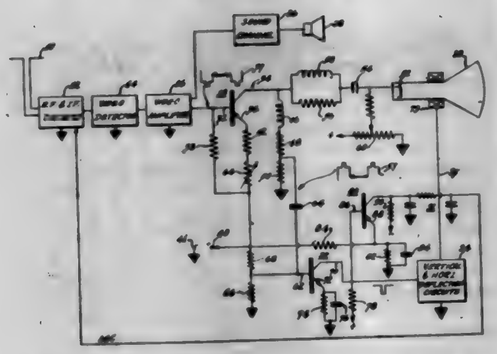
1. Apparatus for switching successively between two sources of input signals, each said input signal including recurring signals, said apparatus operating in response to a source of switching signals, said apparatus comprising switching means coupled to each of said input signal sources, means coupled to the output of said switching means for deriving said recurring signals from said input signals, a bistable circuit having a first and a second stable operating condition, means including a first input

of said bistable circuit coupled solely to said recurring signal deriving means for placing said bistable circuit in said first stable condition, means including a second input



of said bistable circuit coupled solely to the source of said switching signal for placing said circuit in said second stable condition, means to couple the output of said bistable circuit to the inputs of said switching means.

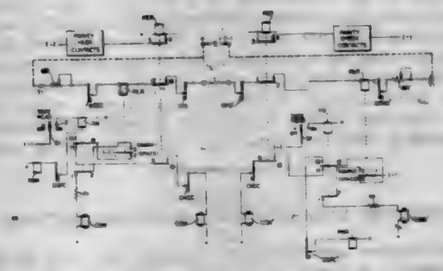
2,979,563
TRANSISTOR-SYNC SEPARATOR AND AUTOMATIC GAIN CONTROL CIRCUIT
Marshall C. Kidd, Haddon Heights, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 5, 1957, Ser. No. 694,577
6 Claims. (Cl. 178—7.3)



6. In a television receiver a synchronizing signal separator comprising a transistor having a base, emitter and collector electrodes, an input circuit connected between said base and emitter electrodes, an output circuit including a load impedance element connected between said collector and emitter electrodes, a biasing network common to said input circuit and output circuit, an automatic gain control stage comprising a transistor having a base, emitter and collector electrodes, and means including a circuit connecting the base and emitter of said automatic gain control transistor across a portion of said load impedance element for preventing collector current saturation in said synchronizing signal separator transistor.

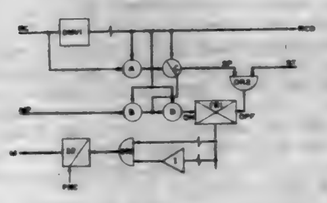
2,979,564
CODE-FORM CONVERTER AND COMMUNICATION SYSTEM
Edwin O. Blodgett, Rochester, N.Y., assignor to Commercial Controls Corporation, Rochester, N.Y., a corporation of Delaware
Filed Sept. 5, 1956, Ser. No. 608,110
71 Claims. (Cl. 178—26)

1. A code-form converter comprising: a plurality of information-storage elements each movable to either of two positions of which one is a latch-retainable position denoting storage of a first form of code bit and the other is an unlatched position denoting storage of a second form of code bit included in a binary-form multiple-bit-group representation of coded information; a plurality of latch elements arranged to latch individual ones of said storage elements in said one position thereof; means having an operating cycle corresponding to the period of presentation of successive code-bit groups for initially positioning each said storage element in said one position thereof and including electromagnetic means energized in response to the forms of the code bits included in each code-bit group of information presented thereto for select-



ably controlling said latch elements to latch said storage elements in and unlatch said storage elements to said one and said other positions thereof to store each said code-bit group; means controllable by said storage elements for effecting translation of the code-bit group stored by said storage elements as an electrical signal; and means operative during said operating cycle and cooperating with one of said positioning and translating means to cause, by further movement of one type of said elements subsequent to the initial positioning of said storage elements in said one position, said code-bit group translation to be one with the code bits of a group arranged as a selected one of a series-bit and a parallel-bit code-form presentation.

2,979,565
MULTIPLEXING SYNCHRONIZER
Carl J. Zarcone, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Apr. 15, 1959, Ser. No. 806,520
6 Claims. (Cl. 178—50)



1. Synchronism means for use with a source of successively transmitted codes including a first group of codes, wherein each and every code is composed of the same predetermined number of individual bits, each bit having either a first or second given state, wherein the first bit of all codes of said first group are characterized by the first bit thereof having said first given state, and wherein said bits are serially transmitted at a uniform rate at given time intervals; said synchronizing means including first means responsive to said serially transmitted bits applied thereto for generating clock pulses occurring

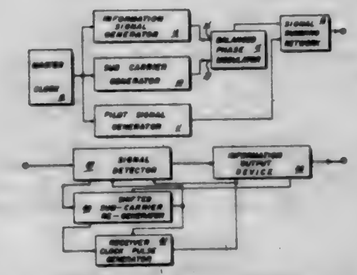
at said uniform rate, a pulse-operated counter having a counting capacity greater than said predetermined number, said counter including priming means responsive to a priming signal applied thereto for priming said counter to a first preselected count, second means for applying said clock pulses as an input to said counter to effect the count thereof, third means coupled to said counter for producing a reference signal in response to said counter registering a second preselected count, said second preselected count occurring in response to the application of one less than said predetermined number of clock pulses to said counter after a priming thereof, and fourth means coupled to said first, third and priming means for applying a priming signal to said priming means in response to the termination of a reference signal unless the bit occurring in time coincidence with the immediately preceding reference signal had said second given state and for applying a priming signal to said priming means in response to the clock pulse occurring next following the termination of a reference signal only when the bit occurring in time coincidence with the immediately preceding reference signal had said second given state.

2,979,566

METHOD AND SYSTEM FOR TRANSMITTING DATA

Emil Hopner and Harold G. Markey, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Feb. 18, 1958, Ser. No. 715,976
9 Claims. (Cl. 178—67)



1. A system for transmitting binary data from a data transmitter to a data receiver through a communication channel to provide an output signal from said receiver corresponding to the data transmitted, said system comprising in combination means for simultaneously transmitting a subcarrier signal phase modulated in accordance with a binary signal corresponding to the data to be transmitted and a pilot signal, means for regenerating a reference signal from said transmitted phase modulated subcarrier signal and the output signal of said receiver, means for generating a clock signal from said transmitted pilot signal and said reference signal, and means under the control of said clock signal and said reference signal for generating said output signal from said transmitted phase modulated subcarrier signal.

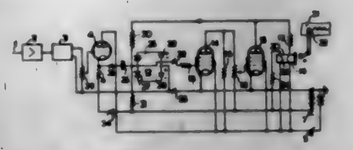
2,979,567

FREQUENCY-SHIFT TELEGRAPHY RECEIVER

Willy Petrus De Kleter and Stephanus Jean Gustave De Vleminck, both of Brussels, Belgium, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 16, 1957, Ser. No. 684,293
Claims priority, application Netherlands Sept. 27, 1956
7 Claims. (Cl. 178—88)

1. A receiver for telegraph signals, comprising a detector for detecting said signals, means applying said signals to said detector, and a direct-voltage restorer comprising an input terminal connected to the output of said detector, two diodes connected together with the anode of one diode being connected to the cathode of the other diode to form a series combination, means connecting said input terminal to the junction of said two diodes, a



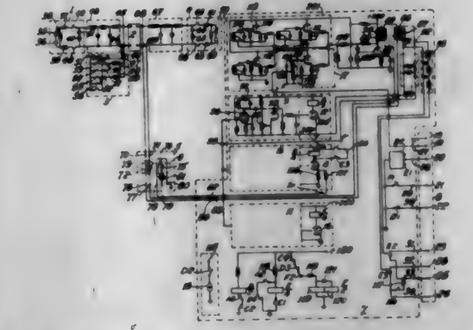
source of fixed bias voltage connected across said series combination and having a polarity to render said two diodes normally in a non-conductive condition, an output terminal connected to said junction of the two diodes, and a common terminal connected to a point on said source of bias voltage.

2,979,568

REMOTE IMPEDANCE SYSTEM APPARATUS FOR CONTROLLING DICTATING MACHINES

David Gerald Logan, Southchurch, Southend-on-Sea, England, assignor to Unilever Limited, Port Sunlight, England, a company of Great Britain

Filed Oct. 27, 1954, Ser. No. 465,061
Claims priority, application Great Britain Nov. 10, 1953
5 Claims. (Cl. 179—6)



1. Apparatus for remote control of a dictating machine comprising a pair of telephone lines, a dictating machine connected to receive speech signals from the telephone lines, oscillator means connected to the telephone lines including a plurality of alternating current signal generators each providing a signal having a frequency greater than about 3.5 kilocycles per second and corresponding to at least one operating condition of the machine, impedance control means connected to the telephone lines at a point remote from the dictating machine to vary the impedance of the lines to each of the alternating current signals selectively to change its level on the lines, a transducer also at the remote point connected to apply speech signals to the telephone lines, a low pass filter interposed between the transducer and the telephone lines to prevent passage of signals having a frequency greater than about 3.5 kilocycles per second, control apparatus associated with the said dictating machine including a high pass filter preventing passage of signals having a frequency below about 3.5 kilocycles per second, a plurality of frequency selective networks connected to receive signals passed by said high pass filter, a plurality of detector means, each of said detector means being connected to a corresponding one of said frequency selective networks, each detector means being responsive

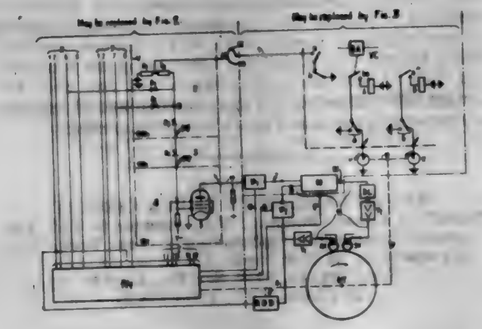
to a change in the signal level of one of the alternating current signals, and switching means operatively associated with the detector means and the dictating machine and separately responsive to operation of each of said detector means to set the dictating machine to the corresponding condition at any time during the operation of the system.

2,979,569

TELECOMMUNICATION SYSTEM

Leendert Kosten, The Hague, Netherlands, assignor to Staatsbedrijf der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands

Filed June 8, 1953, Ser. No. 360,304
Claims priority, application Netherlands June 9, 1952
2 Claims. (Cl. 179—7)



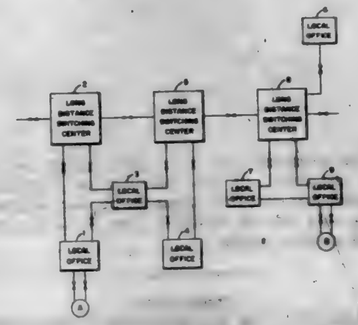
1. In a telecommunication system having a plurality of subscribers, each subscriber having: a metering wire, connecting circuits for connecting any two of said subscribers in said system, an exchange to which at least a group of subscribers are connected, and a metering circuit in said exchange for valuing calls between two subscribers according to their duration and tariff zone, said metering circuit comprising: a tariff circuit connected to each connecting circuit of a calling subscriber of said exchange including means for producing time metered impulses on the metering wire of said calling subscriber, a zone marking means connected to said traffic circuit and controlled by the called subscriber for indicating the zone corresponding to said call, a reduction circuit connected to said metering wires, an impulse generator connected to said reduction circuit to successively scan said metering wires for metered impulses, a distributor connected to and controlled by said impulse generator for controlling said metered impulses from said traffic circuit in different time intervals controlled by said zone marking means, a rotating magnetic drum divided into sections corresponding to each subscriber of said exchange for recording cumulative totals of said metered impulses, said drum being connected to and synchronized with said impulse generator and said distributor, each section of said drum being divided into equal parts corresponding to the different zone related time intervals produced by said distributor; a gating means connected to and controlled by said impulse generator, said distributor, and said reduction circuit for passing metered impulses for recordation on said drum in said zone related parts selected by said distributor in said sections corresponding to each subscriber, a recorder for recording said metered impulses on said drum, a reader spaced in advance of said recorder for reading the impulses already recorded on said drum, an adder connected between said reader and said recorder and to said gating means for adding the gated metered impulses to those read from the corresponding zone related part of each section on said drum, and a delay device connected between said adder and said recorder for compensating for the time the drum takes to rotate through said space from said reader to said recorder to insure recordation of said cumulative metered impulses in the corresponding subscriber's zone related section part.

2,979,570

TIME DIVISION MULTIPLEX COMMUNICATION SYSTEM

Barrie Brightman, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed Aug. 31, 1959, Ser. No. 837,061
15 Claims. (Cl. 179—15)



5. In a communication system, a plurality of groups of lines, each of said groups of lines divided into a plurality of subgroups of lines, a transmission network of the time position channel type, a master gate, a group gate for each group of lines, a subgroup gate for each subgroup of lines, a low-pass filter for each subgroup of lines, means for interposing in an individual connection between each subgroup of lines and said transmission network the filter for that subgroup of lines, the subgroup gate for that subgroup of lines, the group gate for that group of lines, and said master gate, each of said gates being operable to complete a connection therethrough, means for operating said master gate during each of said time position channels, means for operating said group gates at a submultiple of the frequency of operation of said master gate, means for operating said subgroup gates at a submultiple of the frequency of operation of said group gates, and means for connecting in turn each of the lines in each subgroup of lines to the filter for that subgroup of lines for the period of time between successive operations of the subgroup gate for that subgroup of lines.

2,979,571

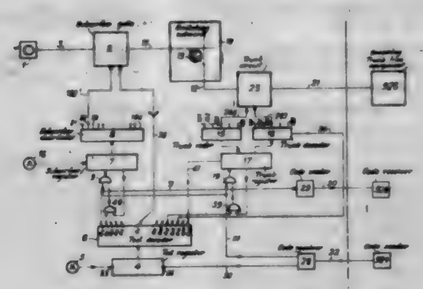
TELEPHONIC CONCENTRATOR

Louis J. Libois, 5 Rue Georges Sand, Paris, France, and Pierre M. Lucas, 11 Rue Abbe Derry, Issy-les-Moulineaux, France

Filed June 26, 1959, Ser. No. 823,078
Claims priority, application France July 26, 1958
5 Claims. (Cl. 179—18)

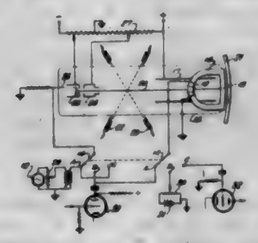
1. In a telephone system, a central office; a plurality of lines; a plurality of trunks less in number than said plurality of lines and connected to said central office; and an independent connection line concentrator for establishing connections from any one of said lines to a random selected idle one of said trunks and comprising first and second auxiliary lines, subscriber gates responsive to the service condition of the subscriber lines, trunk circuits responsive to the connection condition of the trunks, a crosspoint matrix having lines and columns respectively connected to said subscriber gates and trunk circuits, a subscriber register means adapted both to free run for scanning said subscriber gates and to store a given

subscriber identification number, a trunk register means adapted to store a given trunk identification number and a control and test register means adapted both to free run for serially applying the digits stored in said subscriber and trunk register means to said auxiliary line



and to be controlled by said central office for serially applying the digits of the identification number of a called subscriber and of a trunk to be disconnected conveyed by said second auxiliary line to said subscriber and trunk register means.

2,979,572
APPARATUS FOR RECORDING AND REPRODUCING MAGNETIC INFORMATION
Simon Levin, 123 W. 44th St., New York 36, N.Y.
Filed July 3, 1953, Ser. No. 365,943
18 Claims. (Cl. 179—100.2)



1. An apparatus for recording and reproducing magnetic signals which comprises a magnetically susceptible medium, means for producing a change in the magnetic state of predetermined regions of said magnetically susceptible medium, means for subjecting a recording medium to said predetermined regions, means for subjecting said magnetically susceptible medium to signals whereby magnetism escaping at said predetermined regions is impressed in said recording medium during a recording operation and means for deriving signals during a reproducing operation from the magnetism induced in said magnetically susceptible medium by signals in said recording medium.

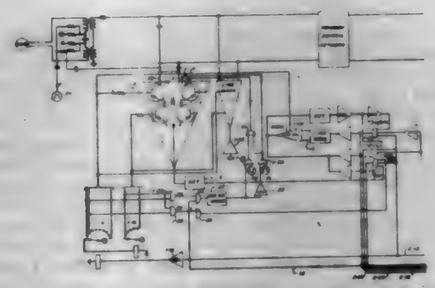
2,979,573
TRANSDUCER DEVICES FOR STEREOPHONIC GROOVED SOUND RECORDS
Hans-Robert Kühn, Kiel-Gaarden, Germany, assignor to Electroacustic Gesellschaft mit beschränkter Haftung, Kiel, Germany, a corporation of Germany
Filed Oct. 29, 1958, Ser. No. 770,412
Claims priority, application Germany Nov. 13, 1957
21 Claims. (Cl. 179—100.41)

1. Stylus device for grooved sound records with stereophonic sound tracks whose respective undulatory amplitudes have directions substantially perpendicular to each other, comprising a supporting structure, a single stylus member for simultaneous engagement with both sound tracks mounted on said structure and having a stylus tip deflectable in said two directions relative to said structure, a transducer assembly of elongated shape having one end attached to said structure and having the other end mechanically connected with said stylus,



said assembly comprising two piezoelectric transducer elements to provide for two electric channels correlated to said respective sound tracks, said transducer elements being located one behind the other along the longitudinal axis of said assembly between said two ends and having different respective main orientations of response corresponding to said two directions respectively.

2,979,574
SYNCHRONIZATION CHECK CIRCUIT
Terrell N. Lowry, Boonton, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 26, 1959, Ser. No. 848,729
28 Claims. (Cl. 179—175.2)

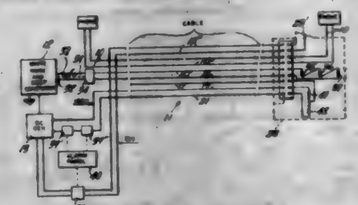


10. In a remote line concentrator system in combination, a plurality of subscriber lines, a lesser plurality of trunks connected to a central office, concentrators under control of said central office for connecting said lines to said trunks, cyclically operated counters at said remote concentrator and at said central office, means for advancing said counters in a discrete fashion in response to interrogation signals from said central office, means at said central office for delivering a synchronization check signal to said remote counter, and means at said remote counter responsive to the reception of said synchronization signal for initiating a spurious service request indication if said remote counter is at a predetermined position when said synchronization signal is received.

2,979,575
COMMUNICATION SYSTEM
Philip N. Lehr, Huntington, George O'Brien, Merrick, and Adolf Reitlinger, Woodhaven, N.Y., assignors to Dictograph Products, Inc., a corporation of Delaware
Filed Oct. 10, 1956, Ser. No. 615,106
13 Claims. (Cl. 179—175.25)

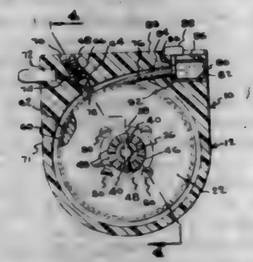
1. In a communication system, electrical conductor means for transmitting intelligence, first electrically conducting wall means surrounding the conductor means, second electrically conducting wall means surrounding

the conductor means and separated electrically from the first wall means, said first and second electrically conducting wall means enveloping the conductor means in



an imperforate continuous sheath white noise generating means connected to at least one of said conducting wall means and conductivity sensing means connected across said first and second wall means.

2,979,576
CORD REEL FOR ELECTRICAL APPLIANCES
John A. Huber, R.D. 2, Conestoga, Pa.
Filed Dec. 20, 1957, Ser. No. 704,198
1 Claim. (Cl. 191—12.4)



An appliance cord reel comprising a flat hollow casing having first and second end walls and a sidewall, an insulated drum journalled on and positioned between said end walls, said drum having a hub and spaced flanges on the hub having peripheral edges, circumferential contact strips secured to and extending around said peripheral edges, spring-biased brushes on the casing sidewall severally engaged with the contact strips, current outlet engaging means severally connected to the brushes, an appliance cord wound on the drum core between the drum flanges and having a first end secured to the drum, and wires at said first end severally connected to the strips, said cord having a second end, and opening means in the casing sidewall through which the second end of the cord emerges, said second end of the cord having an electrical connector thereon larger in cross-section than the cord, said opening means comprising a bore in the casing sidewall having an inner end, said connector being within said bore in the spring-retracted position of the cord, said sidewall having a closed slot opening to said bore, a slide working in said slot having an eye through which the cord extends freely, said eye being behind said connector, and normally engaged with the inner end of the bore, and an operating button fixed to said slide and exposed externally of the casing for moving the connector out of said bore.

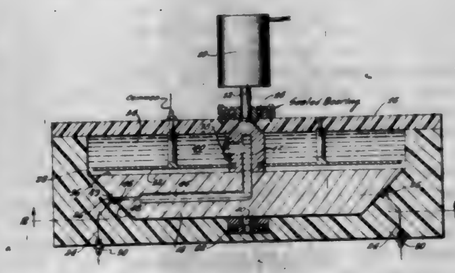
2,979,577
IGNITION POINT SET AND CAM LUBRICATOR ASSEMBLY
Fred Adler, Westbury, N.Y., assignor to Standard Motor Products, Inc., New York, N.Y., a corporation of New York
Filed Mar. 26, 1958, Ser. No. 724,175
4 Claims. (Cl. 200—30)

1. A pre-assembled ignition point set for internal combustion engine distributors provided with a rotary polygonal cam, said set comprising a bracket for removably mounting said set on said device and having a flanged portion at one end thereof, a stationary electrical contact affixed to said flanged portion, a rocker arm pivotally mounted on the other end of said bracket, a follower block secured to said arm approximately centrally between the ends thereof and engageable with said cam whereby said rocker arm is caused to oscillate as said



cam rotates, a movable contact mounted on said arm in cooperative relation with said stationary contact whereby as said arm oscillates said movable contact intermittently engages said stationary contact on said flange, and a flexible absorbent pad impregnated with lubricant secured to said flange and continuously engaging the periphery of said cam to deposit and uniformly distribute lubricant on the surface thereof.

2,979,578
OMNIPOSITIONAL ROTARY SWITCH
Daniel L. Curtis, Manhattan Beach, Calif., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Oct. 30, 1958, Ser. No. 770,724
12 Claims. (Cl. 200—32)

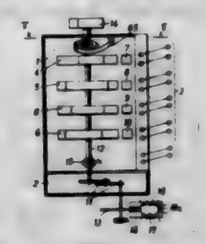


1. In an omnipositional rotary jet switch for sequentially directing a conductive fluid jet at a plurality of contacts for electrically connecting a corresponding plurality of circuits, a combination for positively controlling the flow of conductive liquid throughout the switch, said combination comprising: a rotor member having a peripheral surface including a jet orifice; a housing having said contacts circumferentially disposed in an inner surface surrounding said rotor, said housing including a reservoir portion; and centrifugal pumping means operable in the region immediately adjacent said jet orifice in response to rotation of said rotor for pumping fluid from said jet orifice to said reservoir portion.

2,979,579
TIME SEQUENCE SWITCH
Walter Holzer, Schnetzenrain, Meersburg (Bodensee), Germany
Filed Feb. 14, 1956, Ser. No. 565,476
Claims priority, application Germany Feb. 18, 1955
7 Claims. (Cl. 200—37)

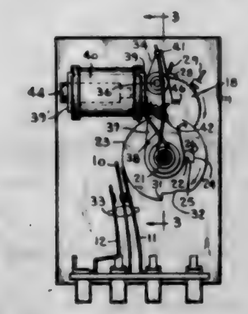
1. In a timing apparatus, in combination, a rotatable member; switch means capable of being operated by said

rotatable member; resilient means movable between a tensioned and an untensioned position and connected to said rotatable member for rotating the same at a uniform rotational speed when said resilient means moves between its tensioned and untensioned positions; eddy current braking means cooperating with said rotatable member and producing a preselected braking force to decrease the



rotational speed of said rotatable member; and control means including selector switch means and a plurality of selectively controllable resistance means connected in circuit with said eddy current braking means for arbitrarily varying said preselected braking force and thereby varying the timing of the operation of said switch means whenever desired.

2,979,580
ELECTRIC SWITCHES
Paul W. Tinus, Manitowoc, and Roger D. Raisch, Two Rivers, Wis., assignors, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed June 4, 1959, Ser. No. 818,142
2 Claims. (Cl. 200—38)



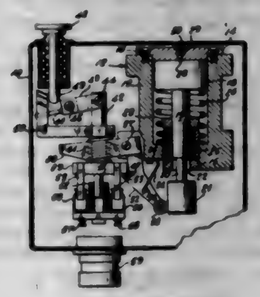
1. A timer switch comprising a cam, power means for driving said cam at a uniform rate, lost motion mechanism between said power means and said cam for allowing motion of said cam without moving said power means, means for simultaneously moving said power means and said cam for setting said timer switch, switch means comprising a first contact arm and a second contact arm, connecting means mechanically connecting said arms together, and a main contact arm between said first and second contact arms and biased towards engagement with said first contact arm and normally held out of engagement with said second contact arm by said cam, said cam having a notch to allow said first contact arm to move away from said main contact arm while said cam holds said main contact arm in contact with said second contact arm, and means independent of said power means for advancing said cam to release said main contact arm and allow said main contact arm to move away from said second contact arm into engagement with said first contact arm, said arms being of spring material and having their contacting portions adjacent the outer ends and having the inner ends of said arms held in a rigid position, whereby the flexing of said arms produces a wiping action at their contacting portions.

2,979,581
PUSH BUTTON STATIONS
Richard P. Ballou, Hartford, Conn., assignor to Federal Pacific Electric Company, a corporation of Delaware
Original applications Aug. 5, 1948, Ser. No. 42,718, now Patent No. 2,680,794, dated June 8, 1954, and July 31, 1953, Ser. No. 371,526, now Patent No. 2,843,686, dated July 15, 1958. Divided and this application Feb. 14, 1958, Ser. No. 731,560
5 Claims. (Cl. 200—42)



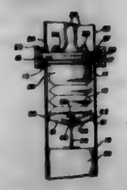
1. In a push-button station, a push-button switch having an axially movable stem for moving one switch contact in relation to another switch contact, said stem having a manually operable part, a cover having an opening in which said part is axially movable, a ring in said opening secured to said cover and surrounding said manually operable part, said ring having a slot, a member fixed to said cover and provided with a slot disposed laterally of said ring, and a locking member movably positioned in said slots for releasable engagement with said manually operable part for releasably holding the latter against axial movement in one direction, said locking member having an offset portion coacting with said fixed member to define a padlock-receiving opening therebetween when said locking member is in position to hold said key stem against axial movement as aforesaid.

2,979,582
ACCELERATION RESPONSIVE SWITCH
Preston R. Weaver, Nyack, N.Y., assignor to The W. L. Maxson Corporation, New York, N.Y., a corporation of New York
Filed May 12, 1955, Ser. No. 813,638
10 Claims. (Cl. 200—61.45)



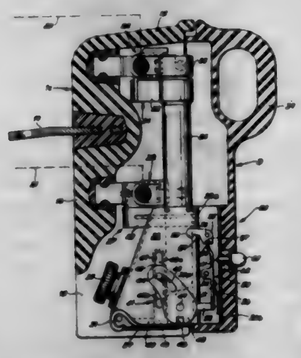
1. An acceleration responsive switch comprising a substantially air-tight cylinder, a piston in said cylinder, said cylinder having an opening at one end and said piston having a shaft extending axially from said piston through said opening and having a substantially gas tight sliding fit therewith, said piston and said shaft having a relatively large mass, spring means resiliently urging said piston in one direction for retracting said shaft into said cylinder, said shaft having portions of different diameters outside said cylinder, a spring pressed lever having one end in engagement with said shaft, a switch having a fixed contact and a cooperating movable switch contact member positioned to be engaged by the other end of said lever, whereby said piston and said shaft move in said cylinder oppositely to said one direction in response to an acceleration of a given magnitude and duration.

2,979,583
FLOAT OPERATED SWITCH
Thaddeus C. Johnson, Sr., P.O. Box 525, Clinton, S.C.
Filed May 14, 1959, Ser. No. 813,209
7 Claims. (Cl. 200—84)



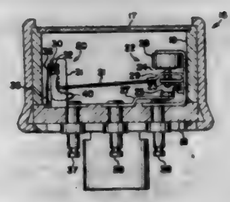
5. A float operated switch comprising, a generally vertical guide device, means forming a chamber mounted upon the guide device, a bellows mounted within the guide device and having its interior in communication with said chamber, a body of conducting fluid mounted within the bellows, a float mounted within the guide device below the bellows and adapted to bear against the bellows to compress it when the float rises, a snap action device connected with the float to move it in either direction when the snap action device is shifted past dead center, contact elements extending into said chamber, and conductors connected with the contact elements.

2,979,584
LOAD INTERRUPTER HOUSED FUSE CUTOUTS
George R. McCloud, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Feb. 3, 1959, Ser. No. 790,853
3 Claims. (Cl. 200—114)



1. In a fuse cutout, in combination, a fuse tube including a pair of relatively spaced terminal contacts exteriorly thereof, a fuse link in said tube interconnecting said contacts and link break mechanism carried by said tube, said mechanism comprising a rack slidable in parallelism with the axis of said tube, a rotatable segmental pinion engaging said rack and having an arcuate portion terminating in a slot, a lever movable about the axis of said pinion in a plane substantially paralleling the axis of said tube, a pinion latch carried by said lever and normally engaging said arcuate portion of said pinion when said lever is in one position in said plane and engageable in said slot when said lever is in a second position in said plane, a second latch carried by said lever and engageable with said tube, and normally disengaged therefrom when said lever is in said one position, a biasing control lever carried by the first mentioned lever and interconnecting said pinion latch and second latch, a biasing spring engaging said control lever for actuation of said pinion latch and second latch to latching position simultaneously, and a manually engageable re-cocking button engageable with said lever and operative, when engaged, to overcome the biasing spring to return the parts to normal position.

2,979,585
CONDITION SENSOR
John F. Werr, St. Louis Park, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 1, 1958, Ser. No. 752,636
2 Claims. (Cl. 200—138)

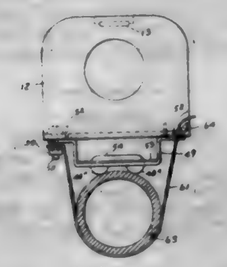


1. A condition sensor comprising; a support member having a pair of extending arms, each of which is provided with an open notch, a bimetal condition sensing member having a movable switch member mounted at one end thereof and having a shaft rigidly mounted at the other end thereof, a spring member mounted in fixed relation to said support member and having a free end extending in the vicinity of the axis defined by the notches in said pair of extending arms such that upon said shaft being positioned in said notches, said spring member engages said shaft and exerts a force to both mount said shaft in relation to said support member and to also provide a slip friction force which must be overcome before said shaft rotates in said notches, and a stationary switch member fixed in relation to said support member and placed in alignment with said movable switch member such that upon said bimetal experiencing a change in temperature, said movable switch member moves into engagement with said stationary switch member and exerts a contact force determined by the slip friction force exerted by said spring member.

2,979,586
CLAMP-ON TEMPERATURE RESPONSIVE DEVICE
Louis J. Siri, South Bend, Ind., assignor to Penn Controls, Inc., Goshen, Ind.
Filed July 6, 1959, Ser. No. 825,623
5 Claims. (Cl. 200—140)

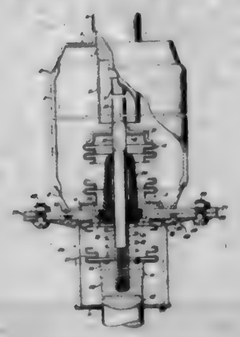
1. A clamp-on thermostat adapted to react to the temperature of a pipe or tube through which a fluid flows, said thermostat comprising a generally rectangular case, a housing supported within said case, a switch mounted within said housing and disposed adjacent the transverse center-line of said case, a fluid filled power element mounted within said housing, motion transmission means including a pivotally supported lever engaged by said power element and said switch for operation of the switch in response to expansion and contraction of said power element, a generally rectangular base plate having parallel, longitudinal ribs formed therein, the upper faces of said ribs being concave and the lower surface thereof

being convex, integral flanges extending from opposite sides of said base plate and rigidly secured to said case, said flanges extending normal to the plane of said base plate and adjacent its transverse centerline to thereby support said case in spaced relation to said base plate, an upper plate sealed in overlying relation to said base plate and overlying the concave face of said base plate ribs, said upper plate having transverse grooves therein providing communication between said base plate ribs



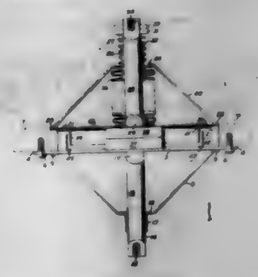
to thereby provide a fluid cavity, a capillary bore tube providing communication between said cavity and said power element, a thermally expansive fluid filling said cavity, tube and power element, and a strap secured at opposite ends to said base plate flanges for clamping the convex surface of said base plate ribs in heat transfer relation to a pipe or the like, whereby said switch is operated in response to changes in temperature of the thermally expansive fluid in said cavity.

2,979,587
VACUUM ELECTRIC SWITCH
Jo Emmett Jennings, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of California
Filed Oct. 28, 1958, Ser. No. 770,157
12 Claims. (Cl. 200—144)



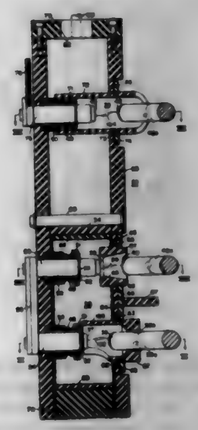
1. A vacuum switch comprising a generally cylindrical dielectric shell, an upper and a lower metal end cap closing the ends of the shell to form a vacuumized envelope, a metal actuator stem slidably journaled in the lower end cap and extending outside of the envelope, a metal bellows inside the envelope interposed between said lower end cap and the actuator stem to hermetically seal the envelope and electrically connect the stem and lower end cap, a coil spring surrounding the stem and interposed between the stem and the lower end cap, a metal bellows outside the envelope and surrounding the coil spring and electrically connected to both the stem and lower end cap, and means for varying the tension of the spring.

2,979,588
VACUUM SWITCH
Jo Emmett Jennings, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of California
Filed Dec. 9, 1958, Ser. No. 779,173
5 Claims. (Cl. 200—144)



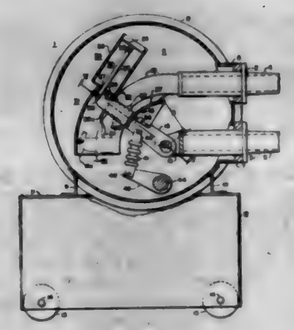
1. A vacuum switch comprising an evacuated envelope symmetrical about a longitudinal axis and including a dielectric shell hermetically sealed at opposite ends by metallic end cap structures constituting terminal electrodes, at least one of said metallic end structures including a conical shell having its base hermetically united integrally to said dielectric shell, a first contact within the envelope fixed on one of the end cap structures, a second contact within the envelope axially aligned with said first contact and movably supported on the other end cap structure for movement along the axis of said shell into and out of engagement with said first contact, and actuator means operatively connected to said movable contact to effect movement thereof to selectively engage or disengage said contacts.

2,979,589
CIRCUIT INTERRUPTERS
Benjamin P. Baker, Turtle Creek, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 9, 1956, Ser. No. 576,876
22 Claims. (Cl. 200—145)



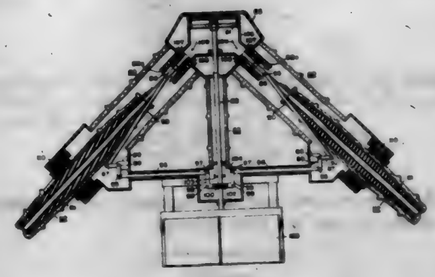
1. The combination in a fluid-blast circuit interrupter of an elongated insulating cylindrical casing, an elongated insulating support member removably positioned longitudinally within said elongated casing for defining a substantially enclosed pressure-generating chamber immersed in an arc-extinguishing fluid, only a pair of spaced openings being provided in one wall of said substantially enclosed pressure-generating chamber, a pair of spaced relatively stationary contacts supported within said pressure-generating chamber on a side wall thereof which is opposite said one wall of the pressure-generating chamber, an elongated rotatable contact assemblage disposed interiorly within said elongated casing and having an axis of rotation substantially parallel to said elongated insulating removable support member, the elongated rotatable contact assemblage carrying a pair of spaced elongated movable contacts movable within said pair of openings and interiorly across the pressure-generating chamber to engage said pair of spaced relatively stationary contacts in the closed position of the interrupter, connecting means for electrically connecting the two pairs of separable contacts in series so that two serially related arcs are established during the opening operation within the interior of said pressure-generating chamber to establish fluid pressure therein, one of said elongated movable contacts blocking its respective opening in the wall of the pressure-generating chamber during opening whereas the other elongated movable contact clears its respective opening so that the stored-up generated fluid pressure within the pressure-generating chamber is released out through the cleared opening to extinguish the arc extended therethrough.

2,979,590
CIRCUIT INTERRUPTER
Jerome Sandin, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1958, Ser. No. 731,902
11 Claims. (Cl. 200—148)



1. A circuit interrupter including a pair of relatively stationary contacts, a movable contact blade having a movable contact portion intermediate the ends thereof pivotally mounted upon one relatively stationary contact and adapted for swinging movement of the movable contact portion into and out of contacting engagement with the other relatively stationary contact, a piston structure associated with said other relatively stationary contact and including an operating cylinder, a piston movable within said operating cylinder, an orifice disposed at one end of said operating cylinder for directing a blast of fluid substantially transversely of the contact blade, connecting means interconnecting said piston with said movable contact blade so that during the opening operation compressed fluid may be ejected out of said operating cylinder through said orifice and substantially longitudinally of the arc established between said movable contact portion and said other relatively stationary contact, and said connecting means being connected to the outer free extremity of the movable contact blade for maximum movement of the piston.

2,979,591
CIRCUIT INTERRUPTERS
Robert E. Friedrich, Baldwin Borough, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1958, Ser. No. 762,027
17 Claims. (Cl. 200—148)

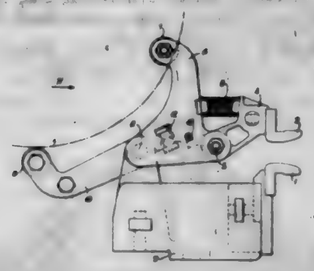


1. A fluid-blast circuit interrupter including an elongated arc-extinguishing assemblage, the arc-extinguishing assemblage including a plurality of serially related modular pump-type arc-extinguishing units, each of the plurality of arc-extinguishing units including a rod-shaped relatively stationary contact and a movable pumping structure carrying a movable contact, the movable contact of each arc-extinguishing unit separating from its respective rod-shaped relatively stationary contact to establish an arc longitudinally of the assemblage, the movable pumping structure including a relatively movable operating cylinder and a piston positioned therein, a movable insulating orifice movable with the movable contact for directing a fluid-blast longitudinally of said established arc, operating rod means extending longitudinally of the elongated assemblage and connected to the plurality of pumping structures for simultaneous movement, elongated casing means surrounding said elongated arc-extinguishing assemblage and including an insulating cylindrical casing for each arc-extinguishing unit, one or more metallic support couplings for coupling at least a pair of contiguously disposed insulating casings together, means supporting at least one rod-shaped relatively stationary contact for one arc-extinguishing unit from adjacent one end of a metallic support coupling, means supporting a portion of the movable pumping structure for the next serially-related arc-extinguishing unit from adjacent the opposite end of said metallic support coupling, means for effecting longitudinal motion of said operating rod means, and the longitudinal motion of the operating rod means effecting arc drawal and pumping action of fluid through the orifices in the plurality of modular arc-extinguishing units.

2,979,592
CAM OPERATED CONTACTORS
John Ansley Watson, Rugby, England, assignor to The British Thomson-Houston Company Limited, London, England, a British company
Filed Feb. 6, 1959, Ser. No. 791,769
Claims priority, application Great Britain Feb. 7, 1958
4 Claims. (Cl. 200—153)

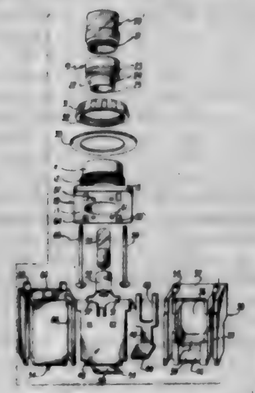
1. A cam operated electric contact arrangement having a fixed contact and a movable contact, a rocker carrying said movable contact, lever means carrying a first cam follower adapted for effecting contact-closing, and a second cam follower adapted for effecting contact-opening, said lever means also carrying a pivot, said rocker being arranged to rotate about said pivot, and a compression spring disposed between confronting surfaces of said lever means and said rocker and arranged to bias

said rocker away from said lever means to cause wiping between the two contact surfaces after said movable con-



tact has been pressed onto said stationary contact through the action of said first cam follower.

2,979,593
PUSH TO TEST PILOT LIGHT
Paul F. White, Glen Ellyn, Ill., assignor to Furnas Electric Company, Batavia, Ill., a corporation of Delaware
Filed Oct. 14, 1958, Ser. No. 767,193
4 Claims. (Cl. 200—159)



1. Electrical switch structure of the character described, the combination with a base member having a base flange and a central longitudinal bore, a hollow cylindrical push button located within the bore and adapted to reciprocate with respect to the base member, a housing secured to the base flange, said housing mounting a pusher plate and which normally projects above the connection of the housing with the base flange to extend within the central bore for contact with the push button, resilient means for yieldingly forcing the pusher plate into a projected position, a cover plate for the housing adapted to have a snap-on attachment to the housing, said cover plate when in attached relation on the housing functioning to retain the pusher plate in operative supported relation on the housing, and an electric light bulb supported by the cover plate and positioned within the push button.

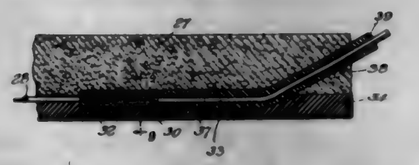
2,979,594
RESISTANCE HEATED FUNNEL
Charles M. De Woody and Roscoe L. Pearce, Vineland, N.J., assignors to Ace Glass Incorporated, Vineland, N.J., a corporation of New Jersey
Filed Feb. 2, 1960, Ser. No. 6,382
11 Claims. (Cl. 219—19)

1. A unit of glassware or the like, having a helical coating band of electrical resistance material applied to its periphery, the convolutions of said band being spaced by a helical non-conducting gap, a pair of separate terminal strips applied to the surface of the upper end of said unit, one of said terminal strips being in electrical contact with the adjacent extremity of said coating band,



a connecting band applied to the surface of the lower end of said unit in electrical contact with said coating band, and a helical circuit completing band lying within said non-conducting gap, its lower end contacting said connecting band and its upper end contacting the other of said pair of terminal strips.

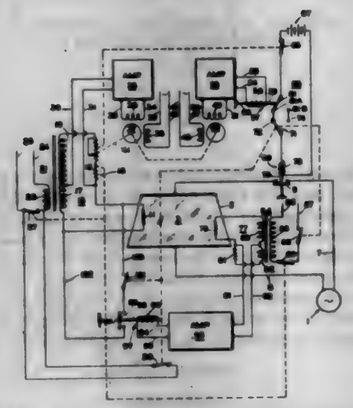
2,979,595
ELECTRICAL RADIANT HEATING SYSTEM
George P. Deacon, Haslett Court, Wheeling, W. Va.
Filed Mar. 12, 1958, Ser. No. 720,914
1 Claim. (Cl. 219—19)



An electrical heating panel comprising a flat sheet of plaster board, an electrical resistance heating wire extending along and connected to one face of said sheet, said sheet having a pair of recesses in said face thereof and a pair of slanting openings each placing one of said recesses in communication with the other face of said sheet, a pair of wire connectors each positioned in one of said sheet recesses and connected to an end of said heating wire, a pair of non-heating leads for connection to a source of electrical current each extending through one of said sheet slanting openings from said sheets other face to one of said recesses being connected to the wire connector therein and a covering of a heat transferring material over said wire, connectors and the first mentioned face of said sheet adhering to said sheets first mentioned face.

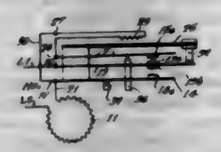
2,979,596
WINDSHIELD TEMPERATURE CONTROLLER
Harry R. Karp, Newark, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 27, 1949, Ser. No. 107,023
2 Claims. (Cl. 219—20)

1. In a control system for regulating the temperature of a transparent panel having a heater element energized from a source of electrical energy, a bridge circuit energized from a source of electrical energy, and a resistor element having a high temperature coefficient of resistance connected in one leg of said bridge circuit and disposed to partake of the temperature of said panel; the improvement comprising a variable resistance connected in another leg of said bridge circuit, motor means responsive to the output of said bridge circuit to vary said variable resistance to balance said bridge, generator means driven by said motor means at a rate proportional to the rate of variation, means operatively connected to said generator means for altering the supply of electrical energy to said heater element from said first mentioned source when said rate exceeds a predetermined maximum, first switch means actuated by said



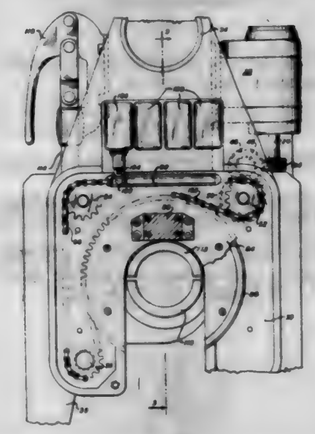
motor means for disconnecting said first mentioned source of electrical energy from said heater element when said variable resistance reaches a predetermined maximum value, and second switch means actuated by said motor means for disconnecting said second mentioned source of electrical energy from said bridge circuit when said variable resistance reaches a predetermined minimum value, and other manually operable switch means to shunt said second switch means.

2,979,597
VARIABLE CONTROL SWITCH
Harvey R. Karlen, Chicago, Ill., assignor to Cory Corporation, a corporation of Delaware
Filed June 26, 1957, Ser. No. 668,149
8 Claims. (Cl. 219—20)



7. A beverage brewing and maintaining device comprising: an electrically operable heating means; a manually operable handle rotatable 360° from a first position to a final position; an operating rod associated with said handle to be longitudinally translated as an incident of the rotation of the handle; first switch means biased toward a closed condition, held open by said operating rod when said handle is in the first position and allowed to close when said operating rod is translated by more than 5° rotation of said handle from said first position; second switch means closed at all times when said handle is in the final position and caused to be held open by said operating rod when said handle is rotated more than 5° from the final position; means connecting said first switch in series electrical relationship with said heating means; thermostatic means operably associated with said first switch means to effect repeated opening and closing thereof when the element is rotated more than said several degrees away from said first and final positions respectively; and means connecting said second switch in parallel electrical relationship with said thermostatic means.

2,979,598
PIPE WELDING
John Lasle, South Plainfield, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 14, 1959, Ser. No. 853,853
8 Claims. (Cl. 219—60)

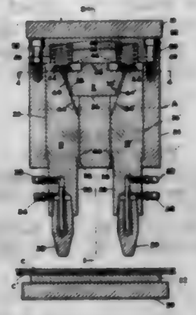


1. Apparatus comprising a C-shaped frame adapted to fit over a workpiece a C-shaped sprocket segment supported by and rotatable with respect to said frame, tool supporting means attached to said sprocket segment, a power driven double width endless drive chain operatively mounted upon said frame without encircling the workpiece, one width of said chain having its periphery in driving engagement with said sprocket segment over a portion of the periphery of said segment, which is greater in extent than the open portion thereof, and means operative when the chain is opposite the open portion of the sprocket segment for supporting the periphery of the other width of said chain in a circular arc configuration concentric with and at an equal radius with said C-shaped sprocket segment, whereby the chain as a whole is supported by said chain supporting means whenever the driving width of the chain is opposite the open portion of the sprocket segment.

2,979,599
MULTIPLE ELECTRODE HOLDER
Robert B. Width, Rochester, Mich., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 12, 1959, Ser. No. 812,689
12 Claims. (Cl. 219—87)

1. A multiple electrode holder for simultaneously spot welding a plurality of spaced areas at substantially equal welding pressure, said multiple holder comprising a body having a plurality of spaced, parallel bores extending therethrough in a direction parallel to the direction of pressure application when welding, a resiliently mounted, piston-like electrode holder disposed in each of said bores and extending beyond the body at the work-en-

gaging ends thereof, a transversely extending slot in said body in communication with said bores, and a pressure-equalizing cam in said slot for movement between and engagement by said holders.



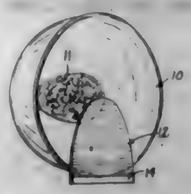
2,979,600
ELECTRODE SYSTEMS FOR ELECTRONIC VALVES
Alexander Rizo Rangabe, Denmead, England, assignor to The Plessey Company Limited, Ilford, England, a British company
Filed Aug. 23, 1957, Ser. No. 679,998
Claims priority, application Great Britain Aug. 31, 1956
4 Claims. (Cl. 219—127)



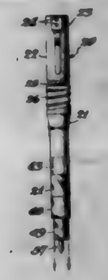
1. A method of securing on a holding wire a sintered ceramic electrode support member for electronic tubes, said support member having a through perforation of a diameter substantially fitting on said holding wire, which comprises the steps of providing a holding wire having a flange in the vicinity of one end of the wire and spaced from said end by a distance exceeding the thickness of the ceramic support member adjacent to the perforation, feeding said end of the wire through the ceramic support member along said perforation to produce abutment of said shoulder with the surface of said ceramic member at one end of the perforation, applying, without mechanical contact, to the portion of the wire end projecting beyond the surface of the ceramic member at the other end of the perforation heat localised to said projecting portion to melt the projecting portion, and allowing surface tension to form the melted portion into a head which is integral with the wire and which is supported on and projects from said surface of the ceramic body at the said other end of the perforation.

2,979,601
PHOTOGRAPHIC FLASH ATTACHMENT
John V. McClees, New Haven, Conn. (135 Treadwell St., Hamden, Conn.)
Filed Nov. 20, 1957, Ser. No. 697,628
2 Claims. (Cl. 240—1.3)

1. A flash attachment comprising a photographic light reflector provided with a concave light-reflective surface, having an outer opening and having a light bulb centrally located therein with respect to said surface, and a shading filter supported from the reflector extending over a portion of the reflective surface in spaced relation thereto and outwardly of the bulb, the area of the filter being substantially less than the opening in the reflector so that a substantial portion of the reflective surface is uncovered, the filter having a broad base portion extending circumferentially over a portion of the rim of said light-reflective surface and having a portion tapered radially inwardly toward the bulb and covering at least a portion of said bulb, and the filter being of graduated density, the density increasing in a direction radially outwardly from the bulb so that light rays from the bulb may pass through the filter less readily in the region near the margin of the reflector, whereby light from the bulb may be reflected past the periphery of the filter in some areas and light may be filtered in the area of the filter to gradually lessen the illumination of a portion of the foreground of the subject.

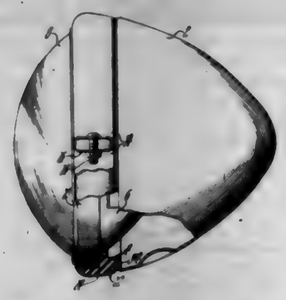


2,979,602
COMBINATION ILLUMINATED WRITING INSTRUMENT AND FLASHLIGHT
Harry E. Barnett, 6858 S. Chappel Ave., Chicago, Ill.
Filed Dec. 26, 1957, Ser. No. 705,323
4 Claims. (Cl. 240—6.46)



1. In a combination flashlight and writing instrument device, a cylindrical barrel having a screw-threaded top portion, a tubular cap having a pocket clip attached to its wall and having complementary screw threads formed in the lower portion of said wall, the upper portion of said barrel forming an enlarged cavity which tapers downwardly to a narrower cavity, said narrower cavity communicating with a lower enlarged cavity opening to the bottom of the barrel, an electric light bulb having an upwardly protruding contact member removably positioned with the bulb portion wedged in said narrower cavity, a battery having a depending contact terminal member positioned in said cap, spring means positioned to normally urge said contact members apart, means for bringing the battery and bulb into electrical contact, a centrally-apertured light-transmitting cylindrical plastic cartridge removably and reversibly positioned in said lower enlarged cavity, said plastic cartridge having flat ends and having a ball-point pen cartridge positioned in the central aperture thereof with the ball-point protruding from one end thereof, said plastic cartridge having reduced diameter end portions, said reduced diameter end portions being of complementary configuration with the internal configuration of said lower enlarged cavity whereby the device may be used as a writing instrument or illuminated writing instrument when the plastic cartridge is positioned in the barrel with the ball-point protruding therefrom and functions as a narrow-beam flashlight when the plastic cartridge is positioned with the ball-point sheathed in the barrel.

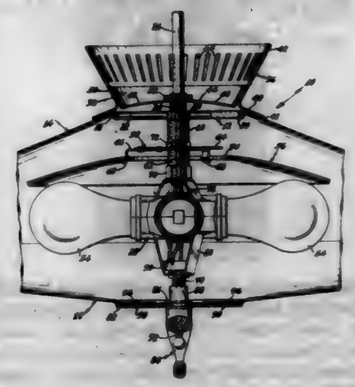
2,979,603
SHOCK ABSORBING LAMP MOUNTING
Robert N. Falge, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 25, 1957, Ser. No. 641,895
4 Claims. (Cl. 240—41.5)



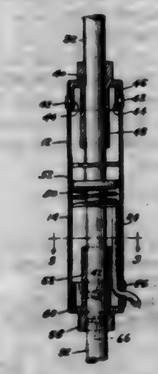
1. In a lamp assembly, a housing generally open in an axial direction at one end, and annular gasket seat at the open end of the housing, including a flange, a retainer ring on the housing mounted for clamping adjustment therewith and extending opposite the flange to define the annular gasket seat, a resilient gasket having a base portion releasably clamped between the flange and the retainer ring in the gasket seat, an otherwise flexibly free short neck portion integral with and extending axially from the base portion of the resilient gasket, a peripheral lip portion on the resilient gasket integral with and extending axially beyond the neck portion and formed on its inner surface into an annular lamp seat, a lamp resiliently supported by the gasket and having an annular outstanding flange extending into the lamp seat, the lamp being otherwise free from attachment to the gasket and the housing, and a clamping ring around the lip portion of the gasket applying releasable clamping pressure between the lamp seat of the lip portion and the flange on the lamp.

2,979,604
ELECTRIC LIGHT FIXTURE
Isidor Rosenblatt, New York, N.Y., assignor to Globe Lighting Products, Inc., Brooklyn, N.Y., a corporation of New York
Filed Mar. 28, 1958, Ser. No. 724,575
3 Claims. (Cl. 240—78)

1. In an electric light fixture, a central tube, a socket member adapted to receive a lamp carried by said tube, a translucent light shade supported by said tube above said socket, heat shielding means for protecting the shade against impairment by heat generated by the lamp supported by said tube above said lamp receiving socket and between the latter and said shade, said shielding means comprising a horizontally disposed transparent glass plate which defines a heat barrier between the lamp adapted to be received by the socket and the shade without casting shadows on the latter, said glass plate having a central opening through which said tube extends, said central opening being larger in diameter than the outside diameter of said tube, said shade having an opening above and substantially in registry with said glass plate opening, said openings collectively defining a passage for the flow of heated air upwardly through and out of the fixture, said passage being disposed centrally of the fixture and substantially spaced from the major portion of said shade.

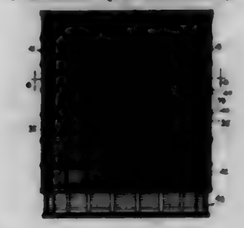


2,979,605
ROOM DIVIDER LAMP CONSTRUCTION
Nathan Meyerowitz, Chicago, Ill., assignor to D & W Manufacturing Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 18, 1960, Ser. No. 3,014
4 Claims. (Cl. 240—81)



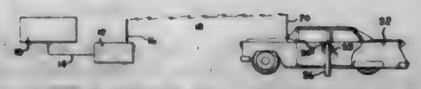
1. The combination with a room divider lamp of the type having an elongated tubular housing, electric lights and reflectors connected to said housing at several points throughout its length and a pair of foot rods, one extending from each end of said housing, of a cap at each end of said housing, each of said caps having a segmental shoulder extending into said housing and connected to said housing by a bayonet slot connection, an elongated bearing hub formed integral with each cap and extending axially therethrough, each of said hubs having an axial bore therein, said foot rods extending through said bores, the segmental shoulders on said caps each having a circular transverse flange bearing against the end of said housing, a plurality of radial walls thereon between said hub and said shoulder, two of said walls diagonal to each other and forming the ends of said shoulder and defining a sector-shaped space between said housing and said hub, said housing having a longitudinal slot extending from its end, a rubber grommet engaged in said slot, an electrical conduit extending therethrough, said conduit entering said housing adjacent said shoulder and in the sector-shaped space formed thereby and extending to said lights.

2,979,606
LAMP SHADE
Charles H. Koehler, Chicago, Ill.
(6938 Crocus Court, Greendale, Wis.)
Filed Nov. 2, 1956, Ser. No. 620,127
6 Claims. (Cl. 240—108)



6. An illumination device comprising in combination an artificial light source for emitting substantially radial light rays, a composite tubular double screen comprising a first and a second screen for both passing and deflecting portions of said light rays, and means for supporting both light source and composite screen, said means fixedly positioning said light source on the axis of said composite, double screen, said first screen comprising a single piece of thin sheet material with a great multiplicity of uniform, integrally pierced, fixed, narrow, longitudinal louvres, said louvres being spaced from each other and arranged parallel with each other longitudinally in a plurality of parallel panels, said louvres being integral with and at right angles to narrow supporting ribs between adjacent panels, said panels extending throughout the screen and having their louvres twisted at their ends and their faces sloped with openings to pass and faces to deflect light rays outwards from said light source, said first screen being bent along the axes of its narrow ribs to form a polygonal tube, and said second screen being of a single piece of thin sheet material similar to said first screen, except being curved along its narrow ribs to circumscribe said first screen, and mounted in proximity to said first screen, and with its louvres non-parallel with those of said first screen.

2,979,607
OUTDOOR THEATER SOUND SYSTEM
Richard P. Herzfeld, 3541 North Lake Drive, Milwaukee, Wis.
Filed May 6, 1957, Ser. No. 657,285
2 Claims. (Cl. 250—6)



1. A sound system for an outdoor theater wherein the patrons sit in automobiles having battery powered radios, means including a movie projector to produce an audio signal, a transmitter for converting and broadcasting said signal on a frequency within the standard broadcast range for reception by the automobile radios of the theater patrons, and means for charging the several automobile batteries while the signal is being received by said automobile radio.

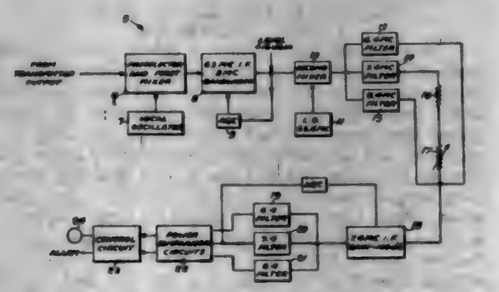
2,979,608
LIGHT WEIGHT CRASH LOCATOR BEACON
Janis Alfreds Sirons, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 7, 1960, Ser. No. 13,402
8 Claims. (Cl. 250—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A light weight crash locator beacon, comprising: a battery; a container for said battery; a transmitter; a container for said transmitter; a foldable antenna attached to said transmitter container; said foldable antenna having a plurality of sections; a fusible release for holding said antenna in its folded condition; means for extending said antenna to its extended position when said fusible release is operated; means for locking said antenna in its extended position; a plurality of legs attached to said transmitter container for supporting said beacon during operation; said legs each having a metal portion and a metal coated wood portion; a mechanical leg release mechanism for holding said legs in their folded condition; a leg retaining element on each of said legs; means on said mechanical leg release mechanism for holding said leg retaining members until said mechanical leg release mechanism is operated; a fusible release connected to said mechanical leg release mechanism for keeping said mechanical leg release mechanism



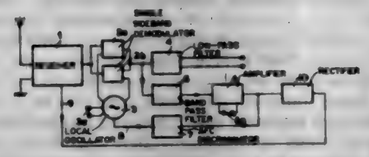
from operating until said fusible release mechanism has been severed; a crushable housing attached to said battery housing; means within said crushable housing for closing the circuit through said leg fusible release mechanism and for opening the circuit through said antenna fusible release mechanism when the crushable housing is crushed; said means for opening the circuit through said antenna fusible release mechanism being responsive to current flow through said leg fusible release mechanism to keep the circuit through said antenna fusible release open until the circuit is broken through said leg fusible release; said leg fusible release being connected in the leg fusible release circuit whereby the circuit is broken when the leg fusible release operates; said leg fusible release having a delay time period sufficient to permit the legs of said crash locator beacon to become fully extended before the antenna release mechanism operates.

2,979,609
TRANSMITTER SPECTRUM MONITOR
Alvaro D. Biagi, River Edge, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 18, 1959, Ser. No. 813,713
8 Claims. (Cl. 250—17)



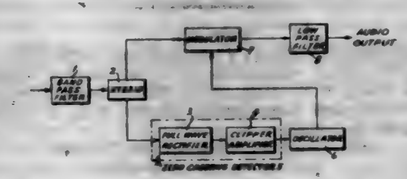
1. A monitor for a given transmitter transmitting radio frequency waves containing a desired band of frequencies and bands of frequencies adjacent said desired band, wherein said adjacent bands of frequencies may correspond to the desired band of frequencies of other transmitters, comprising for said given transmitter means to separate the frequency bands transmitted by said given transmitter, comparison means to compare the power of the transmitted radio frequency waves of said desired frequency band of said given transmitter with the power of the transmitted radio frequency waves of an adjacent frequency band of said given transmitter, means responsive to said comparison means to indicate when the ratio of said power of said desired frequency band to the power of an adjacent frequency band deviates from a given power ratio, means to discontinue operation of said given transmitter when the ratio of said power of said desired frequency band to the power of an adjacent frequency band falls below said given power ratio and when said ratio is greater than said given ratio by a predetermined amount, said means to separate said frequency bands comprising a filter for each frequency band tuned to the center frequency of said frequency band and having a band width substantially equal to said band, and means to attenuate the power of the signals of said desired frequency band to a desired quantity indicative of said given power ratio between the signal of said desired frequency band and said adjacent bands, said comparison means including first and second thermistor bridges, means coupling the attenuated signals of said desired band to said bridges so that the power of said signals of said desired frequency band is equally divided between said bridges, means coupling the filtered signals of an adjacent band to said first bridge, means coupling the filtered signals of said other adjacent signal band to said second bridge whereby balance in each of said bridges will occur when the half power of said filtered desired signals equals the power of the filtered signals of each of said adjacent signal bands.

2,979,610
SINGLE SIDE-BAND RECEIVER FOR RECEPTION OF SINGLE SIDE-BAND SIGNALS BY MEANS OF A CARRIER-WAVE FREQUENCY
Charles Beucher, St. Brieuc, France, assignor to Telecommunications Radioelectriques et Telephoniques T.R.T. (Société Anonyme), Paris, France
Filed Sept. 24, 1957, Ser. No. 685,945
4 Claims. (Cl. 250—20)



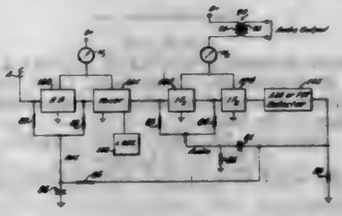
1. A single-sideband receiver for receiving frequency-inverted single-sideband signals, comprising a single-sideband demodulator connected to receive the single-sideband signals, a local oscillator connected to said demodulator and having a frequency of oscillation which differs from the carrier wave frequency of said single-sideband signals by an amount equal to the inversion frequency of said single-sideband signals, means for shifting the frequency of said local oscillator from one side to the other of said carrier wave frequency, a bandpass filter connected to the output of said demodulator and having a bandpass frequency equal to said inversion frequency, an automatic frequency control voltage generator connected to the output of said bandpass filter, and means connected to apply said automatic frequency control voltage to said local oscillator to control the frequency thereof.

2,979,611
SYNCHRONOUS DEMODULATION SYSTEM
Joseph W. Halina, Burlingame, Calif., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 16, 1957, Ser. No. 702,987
6 Claims. (Cl. 250—20)



1. A synchronous demodulaton system for double sideband suppressed carrier communication systems comprising a source of input radio frequency signals containing upper and lower sidebands symmetrically disposed with reference to a suppressed carrier frequency, means to filter from said input signals all signals except said upper and lower sideband signals, a zero crossing detector, means to apply said upper and lower sideband signals to said zero crossing detector to derive rectified signals with null voltage points corresponding to the zero crossovers of said upper and lower sideband signals, said rectified signals containing a given signal having a frequency equal to a multiple of the frequency of said suppressed carrier, an oscillator circuit coupled to the output of said zero crossing detector, said oscillator circuit comprising means to filter out from said rectified signals all other signals except said given signal, gating means responsive to said given signals, and means to cause said gating means to conduct during a predetermined angle of conduction whereby the frequency of said oscillator circuit is synchronized to a frequency equal to the frequency of said given signal multiplied by the reciprocal of said given multiple to obtain as the output of said oscillator circuit a signal having a frequency equal to the frequency of said suppressed carrier and in phase coincidence therewith, and means to combine said oscillator output signal with said upper and lower sideband signals to synchronously detect thereby the modulation signal of said input signals.

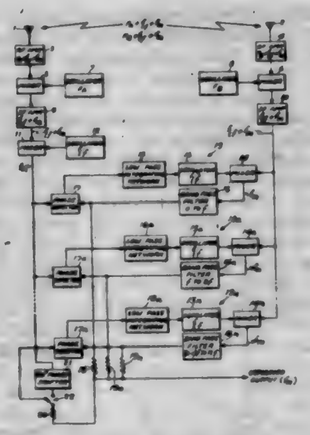
2,979,612
ELECTRONIC AMPLIFIER CIRCUITS
Sidney P. Held, Manhattan Beach, Calif., assignor to Nova-Tech, Inc., a corporation of California
Filed July 7, 1958, Ser. No. 746,937
6 Claims. (Cl. 250—20)



1. A radio receiver system comprising a plurality of operating stages adapted to sequentially accept the received signal, a detector circuit to which the received signal is subsequently applied and operable for producing an intelligence signal therefrom, means associated with said detector circuit for applying to at least one of said operating stages an automatic volume control voltage signal whose amplitude varies with the strength of the received signal, a feedback circuit associated with said detector circuit and operable for applying said intelligence

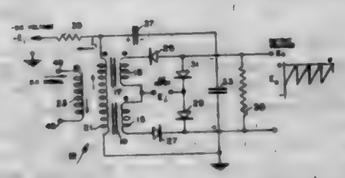
signal simultaneously and in the same phase to two adjacent ones of said operating stages to which said automatic volume control voltage signal is not applied, and means including a common load circuit associated with said two operating stages and enabling them to operate as parallel amplifiers for amplifying said intelligence signal.

2,979,613
RADIO DIVERSITY RECEIVING SYSTEM
Robert T. Adams, Short Hills, N.J., and Barry M. Minden, New York, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 26, 1958, Ser No. 757,264
14 Claims. (Cl. 250—20)



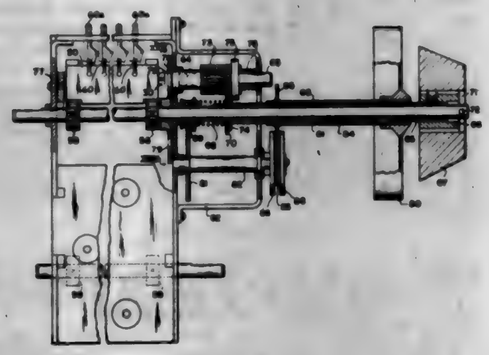
1. A diversity receiving system comprising a plurality of receiving channels to receive the same intelligence signals, said signals having unknown and varying phase relationship relative to each other, means to add the output intelligence signals of said channels, and means to modify the phase versus frequency characteristic of that portion of the intelligence signal occurring in each of a plurality of bandwidth segments of the intelligence bandwidth of at least one of said channels with respect to the corresponding frequency portion of the intelligence signal of the other of said channels prior to addition in said adder means to substantially eliminate phase opposition of the added signals in the intelligence pass band and thereby substantially eliminate nulls in the combined intelligence signal at the output of said adder means.

2,979,614
SWEEP-MEMORY VOLTAGE GENERATOR
William H. Woodworth, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 10, 1959, Ser. No. 858,829
4 Claims. (Cl. 250—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)



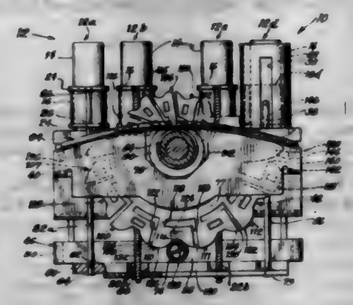
1. A linear time-variant saw-tooth voltage generator comprising a magnetic amplifier having an input, output means including a diode bridge rectifier network and a control winding, a filter capacitor connected across said output means, a capacitor operatively interconnecting one side of said filter capacitor and one end of said control winding, the other end of said control winding operatively connected to the other side of said filter capacitor and to ground, negative potential means, a resistor interconnecting said negative potential means and said one end of said control winding and said capacitor whereby current linearily flows from said capacitor to said negative potential means until said capacitor is fully discharged at which time current then flows through said control winding to said negative potential means thereby providing a linear time-variant saw-tooth voltage across said output means.

2,979,615
APPARATUS FOR TUNING A RADIO FREQUENCY
Mogens W. Bang, Hubbard, Ohio, assignor to Liberty Manufacturing Corporation, Youngstown, Ohio, a corporation of Ohio
Filed Nov. 6, 1956, Ser. No. 620,741
5 Claims. (Cl. 250—40)



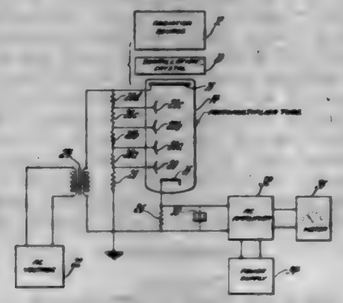
1. In a tuner for a receiver of radio frequencies, said tuner having movable sets of components which are adapted to be connected one set at a time into the main tuner circuitry to adjust the tuner, the main tuner circuitry having fixed contacts adapted to receive contacts on each movable set of components, the sets of components being mounted at spaced intervals on a support movable on a rotatable axis, improved mechanism for adjusting the tuner comprising a shaft operatively connectable to said axis to bring the contacts of successive sets of components into electrical engagement with said fixed contacts, and a second shaft operatively connectable to at least one of the components of a set of components to adjust said component when said set is connected to the main tuner circuitry, a concentric sleeve slidably mounted on said first shaft, a pinion mounted on said sleeve, a second pinion meshing with the first pinon and operatively connected to said second shaft, a turning knob mounted on the concentric sleeve, means for operatively connecting and disconnecting said knob and said first shaft, said second shaft being axially movable to engage and disengage it from one of said adjustable components, means resiliently urging said second shaft out of engagement with said component, and means resiliently urging said second shaft into engagement with said component when the concentric sleeve is moved along said first shaft in the direction of the component.

2,979,616
RADIO FREQUENCY TUNERS
Francis G. Mason, Weston, Conn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Aug. 20, 1957, Ser. No. 679,172
13 Claims. (Cl. 250—40)



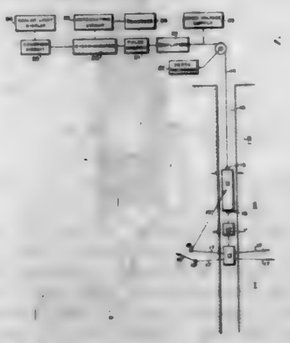
1. In a tuner, the combination comprising a movable tuning element, a cam follower connected to said element, a rotatable tuning shaft, a tuning cam secured to said shaft, and means resiliently biasing said follower against said cam, said cam comprising a substantially flat plate having a body portion secured to said shaft, a plurality of distinct lobes engageable with said cam follower, said plate being substantially perpendicular to the axis of said shaft, each of said lobes being integral and co-planar with said body portion but spaced outwardly therefrom with a slot therebetween and a plurality of narrow arm portions extending between said lobes and said body portion and being bendable for adjusting the radial extent of said lobes, each of said arm portions being integral with and connected between said body portion and one side edge of the corresponding lobe, said arm portions thereby being in offset relation to said lobes, said lobes having peripheral portions defining detent notches for receiving said cam follower and detaining said cam with said cam follower engaging each of said lobes.

2,979,617
SCINTILLATION DETECTOR CIRCUIT
Alexander Somerville, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1957, Ser. No. 699,780
1 Claim. (Cl. 250—71.5)



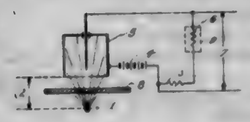
A scintillation detector circuit comprising a scintillation transducer responsive to a radiation source for emitting light pulses at a rate corresponding to the intensity of the radiation source, a photomultiplier tube having anode and plural dynode electrodes and having a cathode electrode optically coupled to said transducer, an alternating voltage source connected across said anode and cathode electrodes, a voltage divider connected across the voltage source and having intermediate voltage taps connected with respective dynode electrodes, an output impedance in circuit with said anode and cathode electrodes whereby voltage pulses corresponding to the light pulses are developed across the output impedance during alternate half-cycles of the alternating voltage source, the amplitude of said voltage pulses varying with the amplitude of the alternate half-cycles of the alternating voltage source, an alternating current amplifier having a midband frequency corresponding to the frequency of said voltage source and having its input circuit connected with said output impedance, the aforesaid input circuit being characterized by a time constant which is long relative to the interval between emission of said light pulses but which is short relative to the interval of said alternate half-cycles of the alternating voltage source whereby the voltage applied to the input terminals of said amplifier corresponds to the time average value of said voltage pulses over the interval between the voltage pulses and has a frequency corresponding to the frequency of said source, the frequency of said voltage source being low relative to the rate of said pulses so that a plurality of pulses occur during each half-cycle of said source, and indicating means connected with the output terminals of said amplifier and having a time constant which is long relative to the interval of the half-cycles of said voltage source whereby the time average value of the amplified voltage is indicated thereby.

2,979,618
HELIUM 3 LOGGING METHOD
James A. Rickard, Houston, Tex., assignor, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware
Filed Dec. 7, 1956, Ser. No. 626,881
1 Claim. (Cl. 250—83.1)



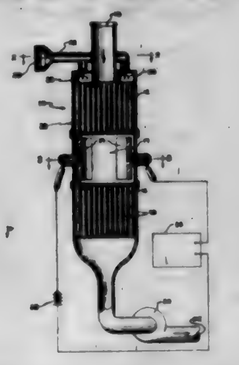
A method of logging a borehole to ascertain the presence and amounts of chemical isotopes contained in subsurface formations by neutron spectroscopy comprising the steps of bombarding the subsurface formations with primary radiation, producing induced neutrons in said subsurface formations by said bombardment, the energies of said induced neutrons being indicative of chemical isotopes present in said subsurface formations, reacting fast induced neutrons resulting from said bombardment returned to the borehole with helium 3 to produce elastic scattered helium 3 recoil particles and (n,p) reaction products of protons and tritons, selectively detecting only the combined energies of said protons and tritons resulting from said (n,p) reactions in a selected energy range, and recording the intensities of said detected energies to indicate amounts of said chemical isotopes.

2,979,619
IONIZATION CHAMBER CIRCUITRY WITH TEMPERATURE COMPENSATION
Julius Bosch, Erlangen-Bruck, Germany, assignor to Frieseke and Hoepfner, G.m.b.H., a corporation of Germany
Filed Dec. 6, 1955, Ser. No. 551,403
Claims priority, application Germany Dec. 7, 1954
10 Claims. (Cl. 250—83.6)



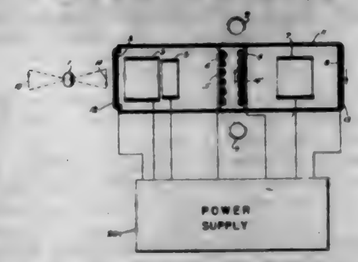
1. Apparatus for measuring the thickness or density of continuously produced strip material comprising a single source of radiant energy and a single radiation detector, said source being disposed so that the material to be measured is subjected to penetrative radiation therefrom and said detector being disposed in operative relation to said material and said source for receiving radiation unabsorbed by said material, and means responsive to variation in an ambient atmospheric condition for automatically compensating variation in gap medium absorption due to change in mass of the gap medium between said source and said detector.

2,979,620
AIR RADIOACTIVITY MONITOR
R. Louis Bradshaw, Knoxville, Tenn., and Jess W. Thomas, St. Joseph, Mich., assignors to the United States of America as represented by the Secretary of the Army
Filed June 20, 1958, Ser. No. 743,463
2 Claims. (Cl. 250—83.6)



1. An air radioactivity monitor comprising an elongated housing; an axial contaminated air inlet at a first end of the housing, an annular clean air inlet surrounding said contaminated air inlet, means for purifying air and supplying the purified air to said clean air inlet, a first bank of collimating tubes having axes parallel to the axis of said housing and filling the first end of said housing adjacent said inlets, said contaminated air inlet communicating only with a first group of tubes adjacent the axis of said housing and said clean air inlet communicating only with a second group of tubes, said second group of tubes surrounding said first group of tubes and being bounded by the wall of said housing, said first bank of tubes extending only a portion of the length of said housing, a pair of electrodes positioned diametrically opposite to each other in said housing, adjacent said first bank of tubes, the interior of said housing being unobstructed between said electrodes, a second bank of collimating tubes in said housing on the other side of said electrodes from said first set, said last named set of tubes having axes parallel to the axis of said housing and terminating adjacent the second end of said housing, air outlet means in said second end of said housing, means for producing a continuous flow of air through said housing from said inlets to said outlet and circuit means attached to said electrodes adapted to indicate the presence of radioactivity in said air.

2,979,621
IMAGE CONVERTER
Walter Heimann, Am Kohlhock, Wiesbaden-Dotzheim, Germany, assignor to Physikalisch-Technische Werkstätten, Wiesbaden-Dotzheim, Germany, a corporation of Germany
Filed Nov. 18, 1957, Ser. No. 697,104
Claims priority, application Germany Nov. 17, 1956
8 Claims. (Cl. 250—213)

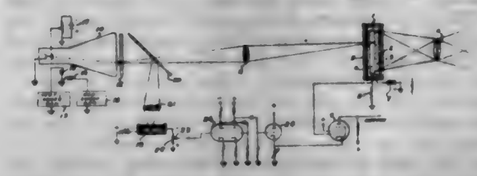


1. In an apparatus for producing a bright image of an object in combination, a first member spaced from the object having a surface responsive to light rays emitted from the object and for producing charged particles with an intensity related to the intensity of the light rays impinging on said surface; an image forming member spaced from said first member and having an image forming surface responsive to any charged particles impinging thereon; a coarse grid spaced from said image forming surface and having a photo-responsive surface thereon for emitting charged particles when light rays in a preselected energy range impinge thereon; a light source for generating light rays in said preselected energy range and for causing the same to impinge on said photo-responsive surface to produce charged particles; accelerating means arranged between said photo-responsive surface and said image forming surface for producing a flow of charged particles along a path between said photo-responsive surface and said image forming surface; a fine grid member arranged in said path between said photo-responsive surface and said accelerating means for controlling the flow of charged particles between said photo-responsive surface and said image forming surface in accordance with the potential distribution along said grid member; and means for focusing on said fine grid member the charged particles emitted from said light responsive surface of said first member to produce thereby a potential distribution pattern along said fine grid member corresponding to any pattern formed by the light rays impinging on said light responsive surface, whereby the potential distribution pattern formed along said grid member produces a corresponding pattern on said image forming surface.

2,979,622
THERMAL IMAGE CONVERTER
Max Garbuny, Pittsburgh, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 29, 1956, Ser. No. 619,093
3 Claims. (Cl. 250—217)

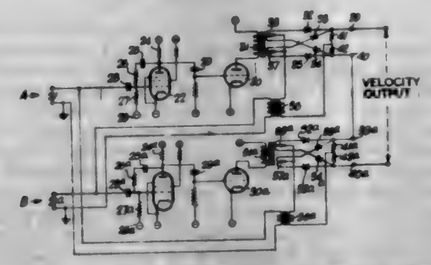
1. A thermal image converter comprising a thermally sensitive photoemissive cathode the photoemissivity of

which is a function of temperature, means for forming in infrared image on said cathode, a cathode-ray tube having a fluorescent screen, means associated with said cathode-ray tube for scanning its beam over said screen to form a scanning spot of light, means for forming an image of said screen on said photoemissive cathode, means for collecting the photoelectrons emitted by said cathode to produce an output signal, said output



signal containing a spurious component due to nonuniformities in the fluorescent screen of said cathode-ray tube, an output circuit, means for applying said output signal containing said spurious component to said output circuit, means for producing a compensating signal varying in amplitude in accordance with variations in the brightness of said scanning spot, and means for applying said compensating signal to said output circuit in proper amplitude and phase to cancel said spurious component.

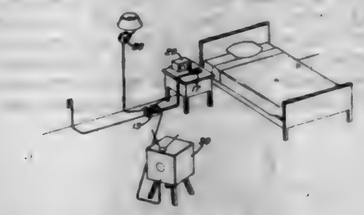
2,979,623
VELOCITY INDICATOR
Edward J. C. Fowell, Manchester, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed June 26, 1959, Ser. No. 823,149
Claims priority, application Great Britain June 26, 1958
5 Claims. (Cl. 250—220)



1. Apparatus for indicating the velocity and direction of motion of a body relative to another body comprising a signal generator actuated by relative motion of the said bodies to generate a first signal and a second signal each of sine wave form and in substantially quadrature phase relationship with one another and a differentiator, means for feeding the said first signal to the differentiator, means for combining the output of the differentiator with the said second signal in a manner such as to produce a resultant signal having an instantaneous amplitude equal to that of the differentiated first signal and having an instantaneous polarity corresponding to the polarity of the product of the differentiated first signal and the second signal whereby the amplitude of the said resultant signal is a measure of the velocity and the polarity of the said resultant signal is an indication of the direction of the said relative motion.

2,979,624
REMOTE CONTROL EXTENSION
Wilby Askerneese, 1340 Stambaugh Ave., Sharon, Pa.
Filed June 10, 1959, Ser. No. 819,325
1 Claim. (Cl. 307—38)

An electrical extension cord having a plug with connection prongs on one end thereof and a switch box on the other end thereof and an outlet box intermediate said plug and switch box, said outlet box including a plurality of plug-in sockets including spaced terminal members, said switch box including a plurality of single circuit make and break switches and push button means for actuating the same, said extension cord including a first pair of conductors one of which is electrically con-



nected with one of each of the terminal members of each of said outlet sockets and the other one of which is connected with one side of each of said switches and secondary electrical conductors extending between and individually connected to each of the other of said pairs of terminal members in said outlet box with the other side of each of said switches in said switch box.

2,979,625
SEMI-CONDUCTOR GATING CIRCUIT
Theodore P. Bothwell, Delaware Township, Camden County, and Walter A. Helbig, Westville, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Sept. 4, 1956, Ser. No. 607,866
13 Claims. (Cl. 307—88.5)

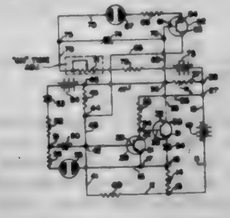


12. In combination, first and second normally cut-off transistors, each having a base, emitter and collector; a direct connection between the base of said first transistor and an electrode other than the base of said second transistor; a source of direct voltage; a load connected between said source and said connection, said source applying an operating voltage to said second transistor and a bias voltage to said first transistor, both through said load; a resistor in series with the emitter of said second transistor; means for applying a forward bias pulse to the base of said second transistor; and means for concurrently applying a current pulse to the emitter path of said first transistor in a polarity to enable current flow in the emitter-to-collector path of the first transistor.

2,979,626
PULSE GENERATOR HAVING CONDITION-RESPONSIVE TIMING MEANS
Balthasar H. Pinckaers, Edina, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,840
10 Claims. (Cl. 307—88.5)

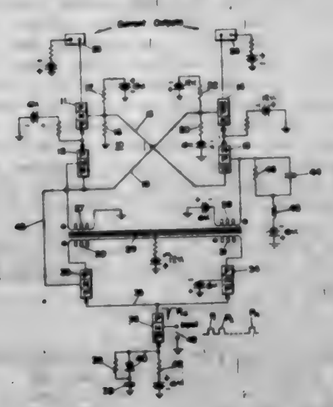
1. Pulse width modulation semiconductor control apparatus for providing controllable pulse energization to a load in response to a condition, comprising: electric

current valve means including a semiconductor amplifying device, said means having a first non-conductive condition of operation and a second current conductive condition of operation, said current valve means comprising output terminals and a control circuit, said current valve means being operable from one to the other of said conditions upon a signal being applied to said control circuit; a source of power; load means; circuit means connecting said current valve means and said load means in a series circuit to said source such that said current valve means controls the current flow to said load means; and double timing means having a first portion responsive to said electric current valve means switching to said sec-



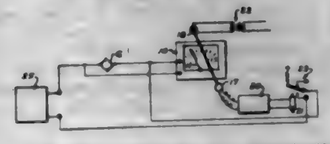
ond conductive operating condition, and second timing portion being thereupon activated to provide a timing function thereafter for controlling the power on time to said load means, said first portion including a condition responsive impedance element for adjusting said timing means, said timing means also including means connected to said current valve means for producing a signal upon a predetermined time having elapsed to cause said current valve means to switch to said first non-conductive condition, said timing means having a further signal producing timing portion connected to said valve means control circuit for rendering said valve means conductive upon said switching means having operated for a predetermined time in said first condition.

2,979,627
TRANSISTOR SWITCHING CIRCUITS
Peter H. Halpern, Falls Church, Va., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 31, 1958, Ser. No. 752,271
10 Claims. (Cl. 307—88.5)



4. A transiently operating trigger circuit comprising two pairs of switching devices, each switching device of each pair having a cross-connection to a switching device of the opposite pair for changing the conductive states of said pairs, a transformer having a pair of primary windings and a pair of secondary windings, means connecting each secondary winding to an input circuit of a switching device of one of said pairs, a gating element connected in circuit with each said primary winding, a feedback circuit from a switching device of one of said pairs to a first of said gating elements, said first gating element being normally non-conductive, the second of said gating elements connected to said other of said primary windings being normally conductive, an input switching device connected to input circuits of said gating elements, a differentiating circuit connected to the input circuit of said input switching device for shortening the duration of applied control pulses, each wave-front of a control pulse of a given polarity transiently rendering said first gating element conductive and said second gating element non-conductive, for transiently changing the conductive states of said pairs of switching devices, and means for minimizing the recovery time for said transformer after application of a pulse thereto including a damping circuit connected to at least one of its windings for introducing a damping action which shortens the duration of the applied pulse.

2,979,628
PHOTO-ELECTRIC MONITOR FOR POINTER INDICATING INSTRUMENTS
Joseph Gaon, New York, N.Y., assignor to Heat Timer Corporation, New York, N.Y.
Filed Feb. 9, 1959, Ser. No. 792,027
7 Claims. (Cl. 307—96)

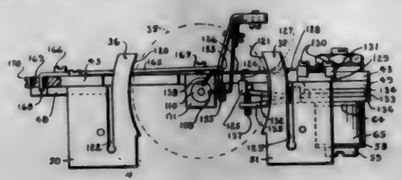


1. A monitoring circuit for an electrically operated device, which includes a pivotally operated pointer of an instrument, said pointer provided with a blade mounted parallel to and along said pointer, a pivotally supported arm carrying a lamp at one end and a photo-electric cell at the opposite end, the light beam from said lamp being directed to said photo-electric cell to maintain it energized, said pivotally supported arm being mounted on a pivot that is eccentric to said instrument pointer pivot but within the span of said pointer, said arm settable to remain in any position within the sweep of said instrument pointer, said lamp connected to a source of energy to maintain it illuminated, said photo-electric cell connected to a circuit that includes a relay and a battery, said photo-electric cell and said relay energized as long as the light beam from said lamp impinges on said photo cell, a switch that is closed by said relay, said switch connected to a source of energy and the device that is being monitored, said relay when energized closing said switch to in turn close said circuit to said device, said device being connected to said pointer indicating instrument, said pointer and blade movable in response to said device, means to interrupt the energy to drive said device when the pointer instrument indicates the device is exceeding a predetermined setting, and means to renew the energy to said device when the pointer instrument indicates the device has been reduced below the predetermined setting.

2,979,629
ELECTRIC CLOCK
Theodore J. Sumbski, Munster, Ind., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana
Filed Nov. 29, 1955, Ser. No. 549,769
14 Claims. (Cl. 310—39)

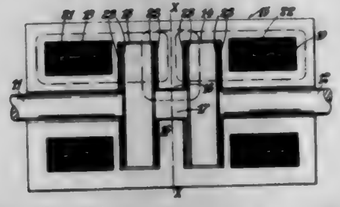
10. In a timing apparatus, an oscillatably mounted armature element, electrically energizable pulsing means

for oscillating said element including pole pieces between which said element is mounted, an electric circuit for energizing said pole pieces and including a pair of relatively movable contacts normally urged to a closed position at which said means is energized, first cam means carried by said oscillatable element to open said contacts



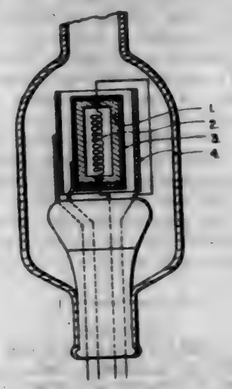
and to release said contacts for closing movement, friction means preventing closing movement of said contacts even though released for movement by said first cam means, and second cam means also carried by said element and operable only after operation of the first cam means for overruling said friction means to allow said contacts to close.

2,979,630
TRANSMISSION MECHANISMS AND THE LIKE
Dudley Oswald Bishop, 12 Austyn Gardens, Tolworth, Surbiton, and George Stephen Brosan, 25 Holly Lane W., Banstead, England
Filed Apr. 12, 1957, Ser. No. 652,384
Claims priority, application Great Britain Apr. 16, 1956
7 Claims. (Cl. 310—102)



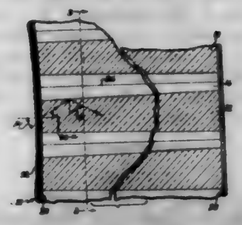
1. A transmission mechanism or like device comprising in combination, a first member to be driven by the input to the device when in use, a second member to provide the output from the device, said first and second members having closely adjacent parallel surfaces, a housing containing said two members and formed of a material having a high permeability, means for producing a magnetic flux through at least parts of the said first member and the housing so that when that member is driven an electric current is induced therein, a first conducting element embedded in the housing in alignment with said first member, means for making an electrical connection between said first member and said first element, a second conducting element embedded in the housing in alignment with said second member, a plurality of conductors embedded in the housing and interconnecting the first and second conducting elements, means for making an electrical connection between said second conducting element and said second member, means for making an electrical connection between said first and second members, insulating means for preventing current flow between the conductors and the first and second members through the housing, said insulating means comprising an uninterrupted layer of insulating material covering the inner surface of the housing extending continuously between the said first and second conducting elements and surrounding a portion of each of the said first and second members immediately adjacent said parallel surfaces of said members, and means for producing a second magnetic flux through at least parts of the said second member and the housing.

2,979,631
PROCESS FOR THE PRODUCTION OF ION-EMITTING SURFACES, PARTICULARLY FOR HALOGEN LEAK DETECTORS
Hasso Meesta, Koln-Weidenpesch, Germany, assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed May 14, 1958, Ser. No. 735,327
1 Claim. (Cl. 313—63)



A detector for a finely divided atmospheric substance capable of inducing the formation of positive ions at a conductive surface comprising an electrical discharge device including a pair of electrodes, means for causing a quantity of an atmosphere containing said substance to pass between said electrodes, means for imposing an electric potential difference between said electrodes, and means for detecting changes in the current between said electrodes caused by the formation of positive ions at one of said electrodes due to the presence of said substance, the electrode at which said ions are formed comprising a platinum sheet-like anode having adjacent thereto a ceramic container for activated material, said anode having carbon embedded therein so that said activated material may penetrate said anode through interstices present in said platinum carbon material.

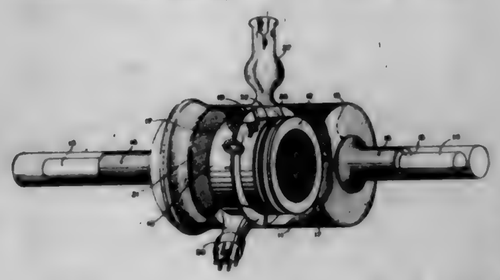
2,979,632
FIBER OPTICAL COMPONENTS AND METHOD OF MANUFACTURE
Stephen M. MacNeille, Thompson, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Nov. 6, 1958, Ser. No. 772,198
18 Claims. (Cl. 313—89)



1. A cathode ray tube envelope or the like having a face plate integrally forming a wall portion thereof, said face plate being formed of a very large number of relatively long thin tapered fibers of small diameter and substantially circular cross-section, said fibers being formed of a transparent material of a relatively high refractive index and disposed in side-by-side contacting relation to each other so as to constitute a compactly

arranged bundle having a very large number of elongated air spaces each enclosed by a plurality of adjacent fibers, the larger ends of all of said tapered fibers facing in an outward direction so that said bundle will have in each and every section in parallel relation to said fibers a keystone shape, whereby only a very small part of the total peripheral side wall area of each fiber will have contact with adjacent fibers while the remaining side wall area thereof will be air-spaced from adjacent fibers, means surrounding said bundle of fibers and securing all of said fibers in tightly clamped relation to each other, and a relatively thin membrane of transparent material disposed in overlying relation to the ends of all of the fibers of said bundle at one face thereof and bonded to said fiber ends and to said envelope in such a manner as to render the face plate and said envelope impervious to the passage of air therethrough, the thickness and taper of said bundle of fibers in comparison to the external face plate forming area thereof being such as to enable said face plate to withstand the inward pressure of the atmosphere which will be normally exerted thereon.

2,979,633
STORAGE ELECTRODE
Franklin H. Harris, Accokeek, Md., assignor to the United States of America as represented by the Secretary of the Navy
Original application May 26, 1958, Ser. No. 737,986 now Patent No. 2,926,419, dated Mar. 1, 1960. Divided and application May 1, 1957, Ser. No. 656,471, now Patent No. 2,957,140, dated Oct. 18, 1960. Again divided and this application Sept. 30, 1959, Ser. No. 843,601
3 Claims. (Cl. 313—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An electron beam target for a cathode ray device comprising a conductive grid-like structure having a plurality of interstices, a dielectric film distributed on a single surface of said grid-like structure, said film extending into and across said interstices in a plane midway between the outer surfaces of said grid-like structure, said film extending into and across said interstices having a thickness greater than the thickness of said film over said grid-like structure and a second dielectric film distributed over the surface of said first dielectric film.

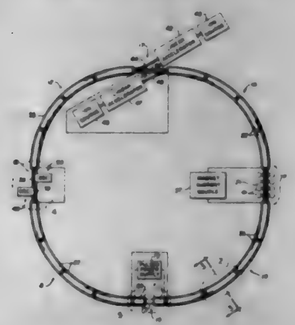
2,979,634
PROJECTION LAMP
Sandford C. Peek, Jr., Hamilton, Mass., and Jan A. Van Den Broek, Ann Arbor, Mich., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 9, 1957, Ser. No. 701,414
9 Claims. (Cl. 313—113)

1. An electric incandescent lamp comprising a sealed bulb of light-transmitting material, two lead-in wires sealed therethrough, a concentrated coiled filament inside said bulb and connected to said lead-in wires, and a curved metallic reflector inside said bulb and spaced therefrom and having its axis perpendicular to the axis of the bulb, said reflector being in position to reflect light



from said filament, said metallic reflector being supported at least partly from said lead-in wires but insulated therefrom.

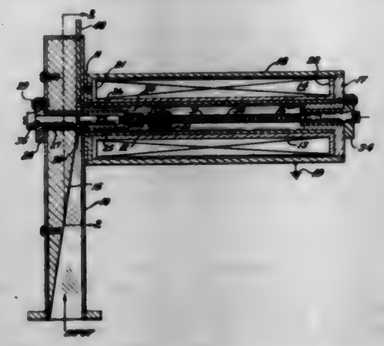
2,979,635
CLASHING BEAM PARTICLE ACCELERATOR
Richard J. Burleigh, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 15, 1959, Ser. No. 827,489
14 Claims. (Cl. 315—5.18)



5. A clashing beam charged particle accelerator comprising, in combination, an annular electromagnet characterized by two annular flux gaps for the containment of contra-rotating charged particle beams which gaps are concentric and a first of which is of greater diameter than the second, means for directing charged particles into each of said flux gaps for rotation therearound in opposed angular directions to establish said contra-rotating beams, means for applying an alternating electrical field along a portion of each said flux gap for accelerating said particles therein, and a magnetic deflector having at least three field regions traversed by each of said contra-rotating charged particle beams, two spaced apart ones of said field regions having a polarity similar to that of said first flux gap of said electromagnet and an intermediate one of said field regions having a polarity similar to that of said second flux gap of said electromagnet whereby said contra-rotating beams are caused to converge at one portion of the orbits of said beams and to subsequently diverge for recirculation in said orbits.

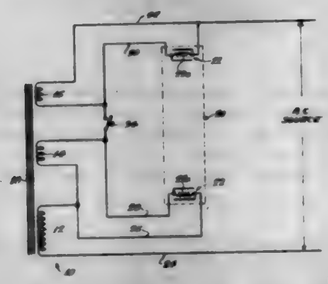
2,979,636
WAVE GUIDE-TO-COAXIAL LINE COUPLING FOR TRAVELING WAVE AMPLIFIERS
Max Magid, Passaic, N.J., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 5, 1959, Ser. No. 785,101
2 Claims. (Cl. 315—39.3)

1. In combination with a wave amplifying device having a helix delay line axially disposed therein, and also having a cavity resonator adjacent one end of said helix delay line, a coaxial line including a metallic tube defining the peripheral limits of said cavity resonator, means mounted within said metallic tube for delivering electron flow-producing current to said wave amplifying device, and wave-guiding means surrounding said metallic tube for supplying impedance matching wave energy



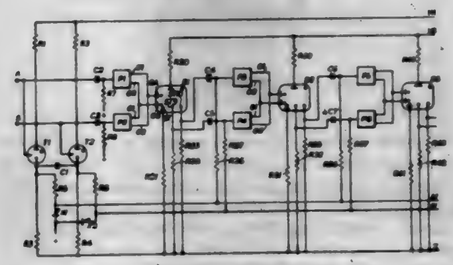
to said cavity resonator, said wave guiding means including a ramp-like structure positioned adjacent the input end of said cavity resonator, with the outlet end of the wave guiding means having communication with said cavity resonator by way of the annular space encompassed by said coaxial line.

2,979,637
FLUORESCENT LIGHTING CIRCUIT
George E. Weina, Chicago, Ill., assignor to Nathan Bromberg and Esther Bromberg, Chicago, Ill., co-partners
Filed Aug. 17, 1959, Ser. No. 834,286
3 Claims. (Cl. 315—84)



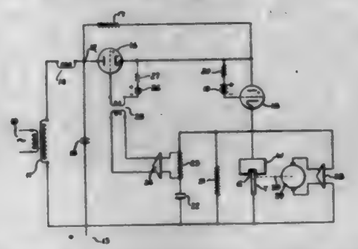
1. In an enclosure having a door, a circuit for effecting operation from an A.C. source of a fluorescent lamp of the type incorporating spaced electrodes, said circuit comprising, in combination, a reactor including a magnetic core, a primary winding and a pair of secondary windings upon said core, said reactor having one end of said primary winding and one end of one of said secondary windings connected together, a switch operated by said door having opened and closed positions interposed between said secondary windings, conductors for connecting continuously the free end of said primary winding and the free end of the other of said secondary windings being continuously connected to said A.C. source, and means for connecting each of the said secondary windings respectively across the lamp electrodes, said switch in open position placing said primary winding in series circuit relation with the lamp across the A.C. source for ballasting the same for normal lighting operation, and said switch in closed position placing all of said windings in series circuit relation and across the source in which relation the lamp electrodes are maintained in preheated condition, ready to effect instant lighting of the lamp upon operation of said switch into open position.

2,979,638
ELECTRIC PULSE COUNTING ARRANGEMENT
Lionel C. Burnett, Nottingham, England, assignor to Ericsson Telephones Limited, Nottingham, England
Filed June 29, 1959, Ser. No. 823,657
Claims priority, application Great Britain June 30, 1958
10 Claims. (Cl. 315—84.6)



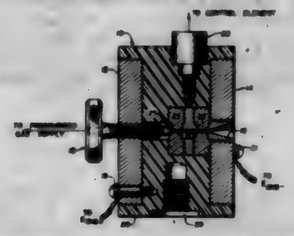
1. An electric pulse counting arrangement comprising first and second multi-electrode discharge devices, first and second connecting pulse modifying networks connecting said devices in cascade, and first and second input pulse modifying networks connected to the first device and adapted to step a discharge in the first device in one direction and the other direction respectively in response to input pulses, the first connecting network including means to step a discharge in the second device in one direction in response to the movement of the discharge in the first device in a corresponding direction to a first predetermined electrode and said second connecting network including means to step the discharge in the second device in the opposite direction in response to movement of the discharge in the first device in a corresponding opposite direction to another predetermined electrode.

2,979,639
PILOT PULSE SPARK MACHINING METHODS AND APPARATUS
Everard M. Williams and Cecil Paul Porterfield, Pittsburgh, Pa., assignors to Firth Sterling Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 9, 1958, Ser. No. 740,763
19 Claims. (Cl. 315—127)



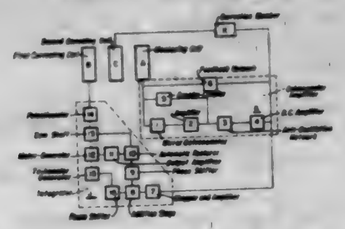
1. The method of spark machining by a series of short, high-current, time-spaced material dislodging electrical discharges through an ionizable spark gap defined between a conductive workpiece and an electrode tool which comprises repetitively applying a series of relatively low power pulses to the spark gap, detecting the ionization of the spark gap when the gap is neither short circuited nor too widely spaced for sparkover to occur upon application of said low power pulses, and switching a high voltage power source across the gap instantaneously upon detection of ionization of the gap resulting from sparkover.

2,979,640
SPARK GAP
Robert B. Edmonson, Upland, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed July 28, 1958, Ser. No. 751,289
13 Claims. (Cl. 315—208)



1. A spark discharge system comprising, a storage capacitor connected to be charged from a high voltage current source, a spark gap having a first, second, and third electrode and having a confined spark channel, a unilateral current conducting device, said capacitor being also connected in parallel with the first and second gap electrodes, and said device being arranged in parallel with the second and third electrodes, whereby the third electrode assumes the electrical potential of the second electrode thereby inducing a voltage breakdown through the entire channel when said device is made conductive.

2,979,641
MAGNETIC FIELD STABILIZER
Hans Heinrich Günthard and Johann Jaroslav Primas, Zurich, Switzerland, assignors to Trüb, Täuber & Co., A.G., Zurich, Switzerland
Filed Feb. 5, 1958, Ser. No. 713,324
Claims priority, application Switzerland June 12, 1957
7 Claims. (Cl. 317—123)



1. A magnetic field stabilizer comprising in combination: a measuring coil ascertaining the fluctuations in the magnetic field, and amplifier having an input connected to said measuring coil and an output, an integrator connected to the output of the said amplifier, a first correcting coil connected to the said integrator directly, a second correcting coil, and a correcting member interposed between the said integrator and the said second correcting coil, the said amplifier having an amplification factor of

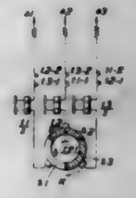
$$V_0 \frac{1}{1+i\omega\tau}$$

the said integrator having a current amplification of

$$W_1 \cdot \frac{1}{i\omega}$$

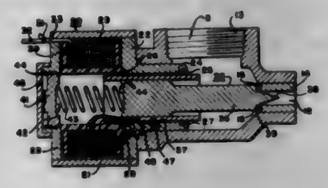
and the said correcting member having a current amplification of W_K, the said V_0, W_1 and W_K being constants, i being the imaginary unit, ω the cyclic frequency and τ a suitably selected time constant, and the said two correcting coils both magnetically influencing the said magnetic field.

2,979,642
TELEPHONE SYSTEMS
Fernand Pierre Gohorel, Antony, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 4, 1952, Ser. No. 323,992
Claims priority, application France Jan. 17, 1952
5 Claims. (Cl. 317—139)



1. A circuit arrangement comprising a plurality of relays, separate independent circuits for operating said relays, means controlled by the operation of each of said relays for breaking the circuits of the other relays, and means for altering the relative speeds of the pull-up time of said relays in a predetermined cyclic manner.

2,979,643
SOLENOID VALVE ASSEMBLY
Andries C. de Wilde, Warren, and William K. Steinhagen, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 29, 1957, Ser. No. 662,469
9 Claims. (Cl. 317—199)

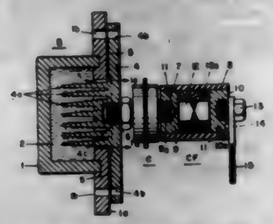


1. A positioning type solenoid assembly including, a solenoid housing of magnetic material having an annular extension at one end, a reciprocable plunger assembly disposed within said solenoid housing, said plunger assembly including a body portion of nonmagnetic material and a sleeve of magnetic material attached thereto, said sleeve being radially spaced from the annular extension of said housing to form a fixed annular air gap therebetween irrespective of the position of the plunger assembly, a solenoid coil disposed within said housing having a guide within which a portion of said sleeve is disposed whereby the plunger assembly is positioned by the magnetic force of leakage flux from said coil passing through said fixed air gap in proportion to the voltage applied to said coil, and resilient means engaging said plunger assembly and balancing said magnetic force at predetermined positions.

2,979,644
PROTECTION FOR SEMICONDUCTOR POWER DIODES
Erwin Salzer, Waban, Mass., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed May 13, 1960, Ser. No. 29,000
7 Claims. (Cl. 317—234)

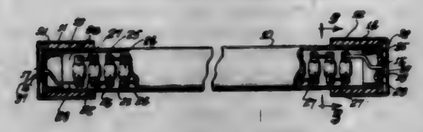
1. A rectifier assembly comprising a semiconductor rectifier cell having a pair of terminal elements, a current-limiting cell fuse having a pair of terminal elements and being arranged in coaxial relation to said cell, one of said pair of terminal elements of said cell and one of said pair of terminal elements of said cell fuse being

directly joined by screw-thread means of relatively large diameter forming integral parts of said one of said pair of terminal elements of said cell and of said one of



said pair of terminal elements of said cell fuse, said screw-thread means being adapted to promote heat exchange between said cell and said cell fuse and to integrate said cell and said cell fuse into a thermal unit.

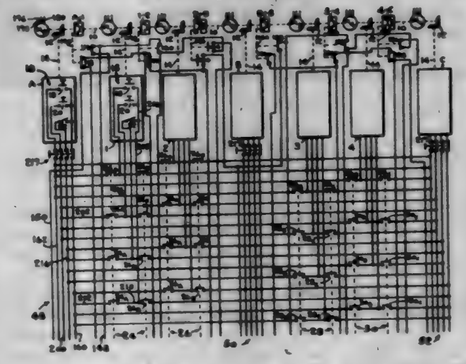
2,979,645
HIGH VOLTAGE SEMICONDUCTOR RECTIFIER
Clinton R. Maiden, Canoga Park, Calif., assignor to Pacific Semiconductors, Inc., Culver City, Calif., a corporation of Delaware
Filed Dec. 8, 1958, Ser. No. 779,271
5 Claims. (Cl. 317—234)



1. A high voltage semiconductor rectifier comprising: a plurality of semiconductor diodes, each of said diodes being individually hermetically sealed within a cylindrical package having a cathode terminal at one end thereof and an anode terminal at the other and thereof, said diodes being arranged in side-by-side relationship and oriented so that contiguous terminals of adjacent diodes are oppositely polarized, said diodes being so held in a compact assemblage by conductors welded to predetermined continuous diode terminals to thereby electrically connect said diodes in series, means for hermetically sealing said assemblage; and means for providing at least two electrical connections to said assemblage.

2,979,646
CONTROL SYSTEMS FOR MOTOR DRIVEN MACHINES OF MULTI-UNIT TYPES
William H. Rouse, Brookfield, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 6, 1957, Ser. No. 676,550
6 Claims. (Cl. 318—5)

1. A control system for a printing press having printing units and folders and driving means for said units and folders to drive each folder and its associated units as separate groups comprising, a control station for each folder and printing unit, control means including a drive controller for each of said folders and printing units, a control bus connected between each folder control station and folder drive controller and a selector switch for each printing unit control station for transferring said printing unit control stations between adjacent control busses to thereby control the driving means of each of said separate groups from any of the control stations of the same group and to permit selective isolation of the control circuitry of any printing unit in a group without affecting the operation and control of the remaining units and folder in that group, and switch means for bypassing one of said adjacent control busses to permit transferring the printing unit control stations intermediate said adja-



cent control busses between the other of said adjacent control busses and a remote control bus connected to the folder adjacent said bypassed control bus.

2,979,647
SWITCH CIRCUIT AND ACTUATING MECHANISM
Edward J. Martin, Pleasant Ridge, and John M. Farrell, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1957, Ser. No. 699,695
5 Claims. (Cl. 318—134)

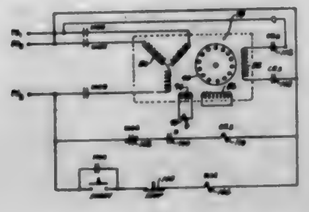


1. An energizing circuit for a clock comprising a voltage source, an oscillatory member having an electromagnetic drive including an energizing coil, a switch having a fixed contact and a movable contact, a reciprocable actuator connected with the movable contact, a driving member connected with the oscillatory member and being movable transversely of the actuator and magnetically coupled therewith for alternate opening and closing of the contacts in synchronism with the oscillations of the oscillatory member, an electromagnet mounted adjacent said movable contact; said energizing coil, electromagnet, and switch contacts being serially connected across the voltage source whereby closing of said contacts causes a current impulse to energize said energizing coil to maintain oscillation of the balance wheel, and a condenser connected across said electromagnet and said switch contacts whereby closing of said contacts causes a current impulse from the condenser through the electromagnet to increase the engaging pressure of the contacts.

2,979,648
MOTOR CONTROL ASSEMBLY
Edwin R. Martin, Ann Arbor, Mich., assignor to Standard Dayton Corporation, Dayton, Ohio, a corporation of Ohio
Original application July 2, 1956, Ser. No. 595,538, now Patent No. 2,906,935, dated Sept. 29, 1959. Divided and this application May 7, 1959, Ser. No. 811,690
9 Claims. (Cl. 318—211)

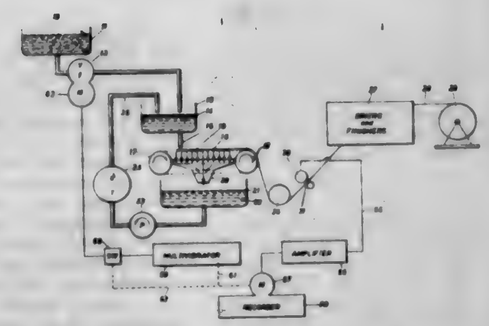
1. In a control assembly for an electric motor of the type having a stator, a rotor, the stator being provided

with a main winding arranged to establish a given number of poles, the stator also having a two-phase brake winding arranged to establish a different number of poles, a source of electrical energy, separate control winding means in the stator inductively coupled with respect to the main stator winding and with respect to the brake winding, the control winding being energized during energiza-



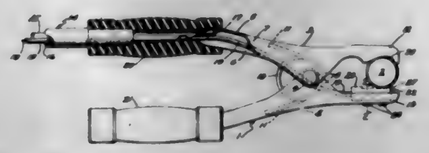
tion of the main stator winding and during energization of the brake winding during rotation of the rotor, control means connected to the control winding means for connection of a portion of the brake winding to a source of electrical energy, energization of said portion of the brake winding causing stopping of the motor, said control means automatically deenergizing said portion of the brake winding when the motor is stopped.

2,979,645
SERVOSYSTEM FOR CONTROLLING THE MASS CONTENT OF A PRODUCT
Geoffrey James Leighton, Oakville, Ontario, Canada, assignor to Canadian Curtiss-Wright, Limited, a corporation of Canada
Continuation of application Ser. No. 463,458, Oct. 20, 1954. This application Sept. 9, 1958, Ser. No. 760,044
6 Claims. (Cl. 318—480)



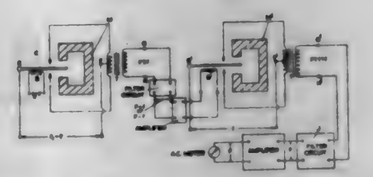
2. In a servo system, the combination of electro-mechanical motive means normally at standstill, means for continuously providing a continuously variable error signal, switching means normally in a first significant circuit state and switchable therefrom to alternate second and third significant circuit states in accordance with the polarity of said error signal, means for energizing said motive means for movement in one direction or the other responsive to assumption by said switching means of said second and third states respectively, circuit means for generating a timing signal having a duration period that is continuously variable in accordance with the instant magnitude of the error signal in a sense increasing from zero on up with the magnitude of the error signal increasing substantially from zero on up, said duration being independent of the polarity of said error signal, and means for deenergizing said motive means at the end of said period.

2,979,650
TEMPERATURE RESPONSIVE BATTERY SERVICING APPARATUS
James B. Godshalk, West Pikeland Township, Chester County, and Lewis A. Medlar, Oreland, Pa., assignors to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 25, 1960, Ser. No. 51,856
4 Claims. (Cl. 320—35)



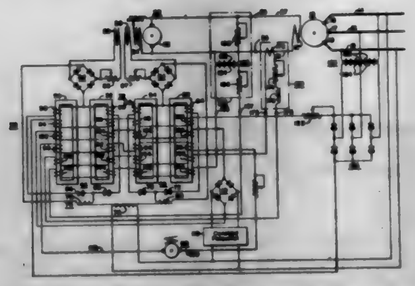
1. In a connector for a storage battery servicing apparatus, the combination of a metal connector body structure dimensioned and arranged for attachment to a terminal post of the battery to be serviced; a highly heat conductive metal member mounted on and thermally insulated from said body structure and so disposed as to engage a battery terminal post when said connector body structure is attached thereto; a thermally responsive impedance carried by said metal member and disposed in good heat transfer relation therewith, means including a first conductor connected electrically to said body structure for connecting the connector to the battery servicing apparatus and for establishing heavy current flow through at least a portion of said body structure during servicing of the battery, said metal member being electrically isolated from that portion of said body structure carrying such heavy current flow; and means including a second conductor connected to said impedance for connecting the same to the battery servicing apparatus.

2,979,651
ALTERNATING CURRENT FREQUENCY CHANGING APPARATUS
Albert E. Martin, Newcastle-upon-Tyne, England, assignor to Sir Howard Grubb Parsons & Company Limited, Newcastle-upon-Tyne, England
Filed Jan. 29, 1957, Ser. No. 636,998
Claims priority, application Great Britain Jan. 30, 1956
7 Claims. (Cl. 321—70)



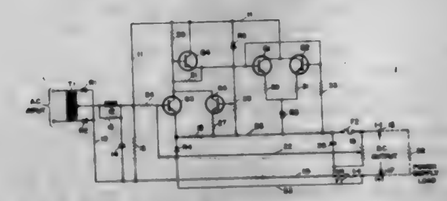
1. Means for raising the frequency (f) of an electrical signal to a higher frequency ($F \pm f$) which means comprise an arm fixed at one end and free to vibrate at the other between poles of a magnet, said arm being caused to vibrate by an energising coil supplied with alternating current at frequency (F) and constant amplitude, movement of said arm closing alternately two sets of contacts in a circuit which includes the primary winding of a transformer, said signal of frequency (f) being applied between a terminal on the vibrating arm and a terminal connected to a tapping point on the primary winding of said transformer, the output from the secondary winding of said transformer being applied to selection means for selecting a signal of frequency $F \pm f$.

2,979,652
ANTIHUNTING GENERATOR SYSTEMS
David B. Breedon, Forest Hills, Pa., James T. Carleton, Severna Park, Md., and Raymond W. Ferguson, Penn Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 30, 1957, Ser. No. 681,214
7 Claims. (Cl. 322—19)



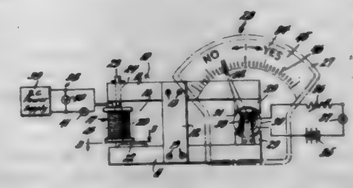
7. In a regulating system for a dynamoelectric machine having an excitation field winding and output terminals, the combination comprising a sensing circuit for obtaining a measure of the output voltage of said dynamoelectric machine, first means for providing a reference voltage, a magnetic amplifier connected to said sensing circuit and said first means and responsive to the difference between said measure of said output voltage and said reference voltage for controlling the excitation current applied to said excitation winding to maintain the output voltage of said dynamoelectric machine at substantially a predetermined value, first and second damping windings for said magnetic amplifier, a first damping circuit connected in circuit relation with said field winding for obtaining a first damping signal which varies with the derivative of the excitation current applied to said excitation winding, said first damping circuit comprising a current transformer, a resistor and an inductive reactor, said first damping circuit being connected in circuit relationship with said first damping winding of said magnetic amplifier, and a second damping circuit connected in circuit relation with said field winding for obtaining a damping signal which varies with the derivative of the voltage across said excitation field winding, said second damping circuit being connected in circuit relation with said second damping winding of said magnetic amplifier.

2,979,653
REGULATED TRANSISTOR POWER SUPPLY
Clinton S. Wilcox, Rochester, and John P. La Forest, Macedon, N.Y., assignors to General Railway Signal Company, Rochester, N.Y.
Filed Dec. 16, 1957, Ser. No. 702,871
1 Claim. (Cl. 323—22)



In an electronic power supply for providing a regulated direct-current voltage to a pair of output terminals, a source of unregulated direct-current voltage, a voltage regulating transistor, circuit means connecting said source to said output terminals through the emitter-collector circuit of said transistor, control circuit means for said voltage regulating transistor responsive to the level of voltage applied to said output terminals for varying the emitter-base current of said voltage regulating transistor to thereby vary its internal resistance and thus control the level of voltage applied to said output terminals, a series circuit comprising a Zener-type rectifier and a potentiometer connected in parallel with the emitter-collector circuit of said voltage regulating transistor, an overload detecting transistor having its emitter connected to one of said terminals and having its emitter-base bias voltage varied in accordance with the voltage across said potentiometer, said control circuit means being also responsive to the collector current of said overload detection transistor, whereby a considerable overload of current drawn from said output terminals causes the emitter-collector voltage of said voltage regulating transistor to increase substantially above the breakdown voltage of said Zener rectifier thereby producing a considerable increase in emitter bias of said overload detecting transistor thus causing said control circuit means to cut off said voltage regulating transistor and reduce the output voltage to substantially zero.

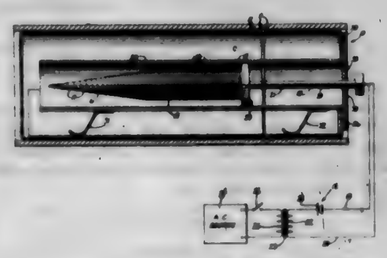
2,979,654
APPARATUS FOR TESTING MAGNETIC PROPERTIES OF MATERIALS
George L. Storm and Frank K. Vance, Winston-Salem, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 26, 1957, Ser. No. 686,384
2 Claims. (Cl. 324—34)



1. An apparatus for testing the magnetic properties of a coil assembly having a core of magnetic material and a coil winding surrounding the core coaxially, which apparatus comprises a magnetic structure having first and second gaps provided therein, means for mounting a coil assembly removably within the first gap with the core thereof bridging said last-mentioned gap, said mounting means including a substantially cylindrical locating pin slidably mounted in the magnetic structure and having a portion of one end thereof tapered for insertion into a bore provided in one end of the core of the coil assembly so as to align the core within the first gap and a stop having a complementary recess therein for positioning the opposite end of the core, a D.C. source connected to the coil winding for energizing the same, means for adjusting the energizing current to establish a predetermined current value in the coil winding whereby a magnetic flux is set up within the core, the magnetic structure, and across the second gap, a sensing coil mounted rotatably in the second gap, resilient means cooperating with the rotatable coil for resisting rotational displacement of the coil with a predetermined controlling force, a second D.C. source connected to the rotatable coil for energizing the same, means for adjusting the second energizing current to establish a second predetermined current value in the rotatable coil, and means for indicating the magnitude of rotational displacement of the rotatable coil resulting from an interaction between the current in said rotatable coil and the magnetic flux across the second gap, said last-mentioned means including an indicating needle attached to the sensing coil for

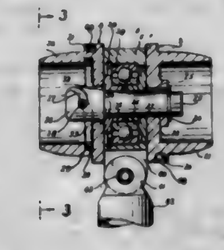
angular rotation therewith, and a scale mounted adjacent to the indicating needle from which the angular displacement of the rotatable coil can be used.

2,979,655
METHOD AND APPARATUS FOR DETECTING FLAWS
Taber de Forest, Northbrook, Ill., assignor to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 19, 1957, Ser. No. 684,881
10 Claims. (Cl. 324—38)



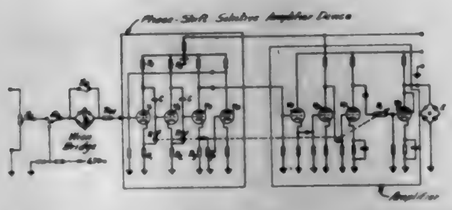
7. In apparatus for testing an article for defects, a member arranged to be disposed against a surface portion of the article and having uniformly distributed magnetizable material therein, and field-producing means for inducing in the article a field having a large uni-directional component for inducing in said member a field which is uniform except as distorted by defects in the article and a multiplicity of high frequency components of smaller magnitude for increasing magnetization of the material in said member in response to defects in the article, said field-producing means comprising alternating current source means, and rectifier means connected to said source means for developing a pulsating current having a large uni-directional component and a multiplicity of alternating current components.

2,979,656
HOLIDAY DETECTOR
Dick E. Stearns, P.O. Box 1234, Shreveport, La.
Filed Aug. 28, 1957, Ser. No. 680,883
10 Claims. (Cl. 324—54)



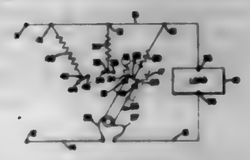
10. As a subcombination, a joint means adapted to be secured to the respective ends of a rolling exploring electrode to secure said ends together, said means having a diameter not greater than that of the electrode to which it is adapted to be secured, a collar of slightly less outer diameter than such electrode, surrounding and rotatably carried on said means, and a wand connection carried on and exposed to the outer surface of said collar.

2,979,657
APPARATUS FOR THE CONTINUOUS RECORDING OF INDUSTRIAL HARMONICS
Louis Marie Jules Clement Richard, 32 Rue Capitaine Crespel, Brussels, Belgium
Filed Aug. 6, 1956, Ser. No. 602,135
Claims priority, application Belgium Aug. 10, 1955
4 Claims. (Cl. 324—77)



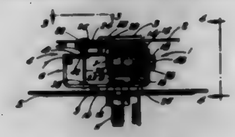
1. A harmonic recording device comprising a phase-shift selective amplifier for receiving an input signal and selecting a frequency component thereof, a low frequency amplifier coupled to said selective amplifier for amplifying said component, and a recorder coupled to said low frequency amplifier for recording the amplifier component, said selective amplifier comprising circuit means for selecting the frequency component of the input signal and shifting the phase of the component by 180 degrees, and feedback means operatively associated with said circuit means for shifting the phase of the resultant signal including the shifted component by 180 degrees and combining the shifted resultant signal with the input signal to cancel effectively all but the selected component.

2,979,658
SWITCHING CIRCUIT
James F. Marshall, Hopkins, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 26, 1957, Ser. No. 705,321
3 Claims. (Cl. 324—115)



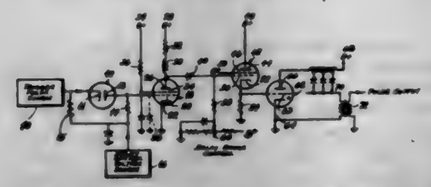
2. A multi-range current meter comprising; first and second input terminals for connection to a source of current; current responsive indicating means having first and second terminals, said indicating means having a relatively high impedance; means interconnecting said first input terminal and said first indicating means terminal; a plurality of impedance devices of substantially low impedance with respect to said indicating means, each of said impedance devices having a first terminal connected to said first input terminal and having a second terminal; switching means having first and second movable contacts, said first and second movable contacts being electrically insulated from each other and being mechanically mounted for movement as a unit; means connecting said first movable contact to said second input terminal, means connecting said second movable contact to said second indicating means terminal; and means associated with said switching means for selectively and simultaneously connecting both of said movable contacts to the second terminal on a selected one of said impedance means, so that the effect of contact resistance of said switching means is substantially reduced.

2,979,659
ELECTRICAL INDICATING INSTRUMENT
Peter Warga, Maywood, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Sept. 6, 1957, Ser. No. 682,474
8 Claims. (Cl. 324—140)



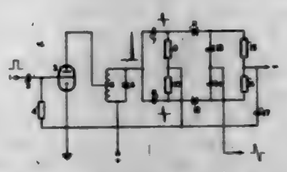
1. An electric meter mechanism comprising: a generally U-shaped magnetic frame including a common arcuate pole piece on one side thereof; a nonmagnetic bracket including a base section attached to the base of the frame, a midsection disposed at a right angle to the base section and generally parallel to the sides of the frame, and a third section generally parallel to the base section extending from the end of the midsection opposite the end to which the base is connected in the direction toward the one side of the frame; a pair of individual arcuate pole pieces rigidly secured to the midsection of the bracket in circumferential alignment with the common pole piece to define a generally circular air gap therebetween; a magnetic armature pivoted between the base of the frame and the third bracket section for movement in the air gap; a pair of core elements supported by the midsection of the bracket, each connected in substantially low reluctance magnetic relation with a respective individual pole piece; a pair of electromagnetic coils supported by the core elements and the other side of the frame between said other frame side and the midsection of the bracket; and a second pair of core elements extending within the coils and connected in substantially low reluctance magnetic relation with the other side of the frame, one of the core element pairs being disposed for individual adjustment toward and away from the other pair of core elements to define a desired gap therebetween for calibration purposes.

2,979,660
PROVISION OF A PREDETERMINED PULSE RESPONSIVE TO A TRIGGER PULSE WITH PROVISION FOR ADJUSTABLE DELAY
Roger D. Williams, Northport, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1955, Ser. No. 550,231
3 Claims. (Cl. 328—67)



3. A circuit for providing a predetermined pulse in response to a trigger pulse and at a selected instant following the beginning of a trigger pulse comprising; a trigger pulse source for providing said trigger pulse; pulse stretching means coupled to said trigger pulse source; variable voltage means coupled to said pulse stretching means for selectively controlling the amplitude of stretched pulses from said pulse stretching means; a gaseous electrical discharge tube having a cathode, plate and control electrode; a voltage source for feeding current from plate to cathode of said tube; a pulse forming network connected to said voltage source and said plate; said tube permitting current to flow from plate to cathode when the voltage between said control electrode and said cathode is raised above a predetermined level in the positive direction and for a continuous interval sufficient for plate to cathode breakdown; adjustable bias means coupling said pulse stretching means and said control electrode for normally biasing said control electrode so that said gaseous tube is nonconducting and for delivering stretched trigger pulses from said pulse stretching means to said control electrode whereby said pulse forming network provides a delayed output pulse following each trigger pulse; and whereby the range of delay in plate to cathode breakdown in said gaseous tube is determined by the selected adjustment of said bias means and the particular delay within the adjusted range is determined by the voltage output of said variable voltage means.

2,979,661
CIRCUIT ARRANGEMENT FOR COMPARING A PULSE WAVE WITH A PILOT WAVE
Robert Suhrmann, Hamburg-Rahlstedt, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 12, 1957, Ser. No. 695,876
Claims priority, application Germany Dec. 15, 1956
3 Claims. (Cl. 328—133)

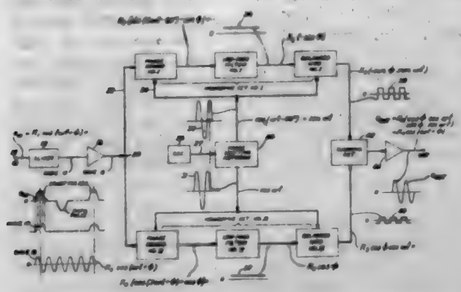


3. A phase-comparison circuit for comparing the phase of a first pulse with that of a control pulse having a linear slope, comprising two capacitors connected in a first series combination, means for applying said first pulse to the junction of said two capacitors, two resistors connected in a second series combination, said second series combination being connected in parallel with said first series combination, a first rectifier connected with its anode to a first end of the parallel combination of said first and second series combination, a second rectifier connected with its cathode to the other end of said parallel combination, means for applying the said control pulse to both rectifiers, a smoothing network connecting the remaining ends of both rectifiers together and means connected to derive an output voltage from said smoothing network, the capacitors and resistors of said first and second series combination having values to cause differentiation of said first pulse.

2,979,663
ELECTRICAL WAVE SYNCHRONIZING CIRCUIT
Cecil W. Farrow, Coytesville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 28, 1958, Ser. No. 777,135
9 Claims. (Cl. 328—139)

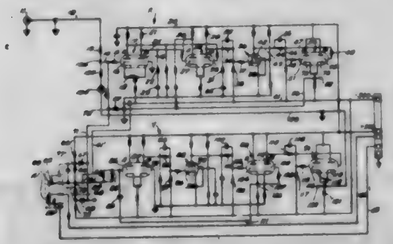
9. A phase synchronizing circuit having an input and an output, said input being supplied by waves of a prescribed fundamental frequency or data bit rate, comprising: means for generating a carrier wave of substantially said fundamental frequency; a pair of parallel-connected homodyne circuits; means, including a slicer circuit and a tuned amplifier tuned to the fundamental frequency or pulse repetition rate of said input wave, for supplying said input wave to each of said homodyne circuits; means for supplying said carrier wave also to each of said homodyne circuits and including phase-shifting means for shifting

the phase of said carrier waves supplied to said homodyne circuits by 90 degrees with respect to each other; and



means for summing the output waves of said homodyne circuits.

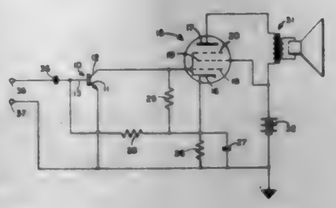
2,979,663
MEASURING EQUIPMENT
Joseph Gill, Pittsburgh, and Frederick W. Sippach, Crafton, Pa., assignors to Hagan Chemicals & Controls, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 10, 1959, Ser. No. 798,490
11 Claims. (Cl. 328—150)



1. Equipment for determining the peak value of one of the polarity peaks of an A.C. signal which is symmetrical above and below a zero axis, comprising an amplifier, means to feed the signal to the input of the amplifier, said amplifier having an output, means connected to the input of said amplifier and fed by the output of said amplifier to limit the gain of the amplifier for either polarity peak of the input signal, the gain being limited to a lesser extent for the peak whose value is to be determined, thereby to rectify the output of said amplifier, means to filter the rectified output of the amplifier, a second amplifier fed by the output of said filter and having a D.C. output whose polarity is opposite to the polarity of the peak signal whose value is being determined, and means to feed the D.C. output of the second amplifier to the first amplifier to mix with the input signal thereto, whereby the algebraic sum of the value of the D.C output and the value of the input peak whose value is being determined approach a minimum, so that the value of the D.C. output of said second amplifier will become substantially equal to said one of the peaks of the A.C. signal.

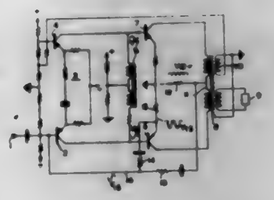
2,979,664
AMPLIFIER CIRCUIT
William F. Palmer, Carlisle, and George Schloss, Watertown, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Sept. 2, 1958, Ser. No. 758,339
4 Claims. (Cl. 330—3)

2. An amplifier circuit including in combination a transistor having an emitter, a collector, and a base, said transistor being of the type requiring a positive reverse bias on the collector with respect to the emittes in order to provide amplification at the collector of signals applied to the base, a vacuum tube having an anode, a cathode and a control grid, direct current coupling means connecting said collector to said control grid, said anode being connected to ground through a load impedance means and a D.C. potential source, cathode biasing means



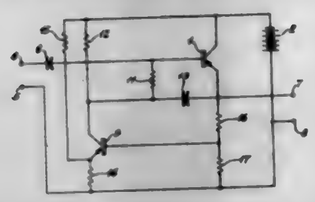
connecting said cathode to ground, coupling means connecting said emitter to ground, resistance means connecting said cathode to said collector, said collector being reverse biased by the voltage across said resistance means and said cathode biasing means, direct current coupling means connecting said base to said cathode for establishing biasing potential on said base, and input terminals for applying input signals to said base.

2,979,665
PUSH-PULL AMPLIFIER
Raymond Georges Schayes, Brussels, Belgium, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 11, 1956, Ser. No. 590,772
Claims priority, application Netherlands June 10, 1955
3 Claims. (Cl. 330—14)



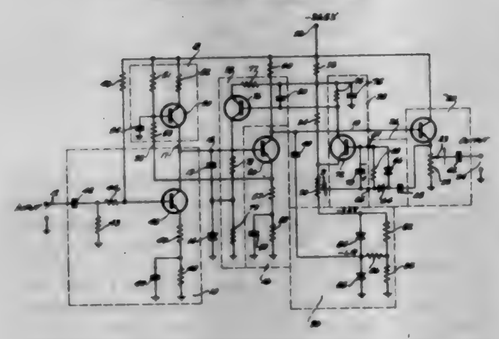
1. A push pull amplifier of the type having a pair of alternately conducting amplifier stages connected in push pull with a common output circuit and having an input circuit connected to supply a push-pull signal to said amplifier stages, said amplifier comprising first impedance means connected in common to signal paths of both of said stages to provide a cophasal voltage, second impedance means connected in the signal path of only one of said stages to provide a half wave signal voltage in accordance with the signal current in said one stage, means connected to combine only said cophasal and half wave voltages with opposite polarities, said combining means including means to determine the relative amplitudes of the signals combined in said combining means thereby to provide a full wave signal voltage in accordance with the current in said common output circuit, and means connected to feed back said full wave signal voltage to said input circuit in a degenerative relationship with respect to said push-pull signal.

2,979,666
STABILIZED TRANSISTOR AMPLIFIER
Louis W. Erath, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 14, 1958, Ser. No. 767,108
10 Claims. (Cl. 330—17)



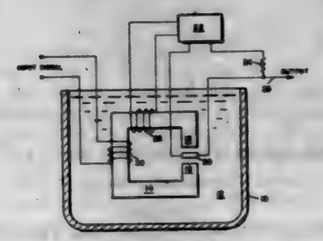
6. A stabilized amplifier including a first transistor having an input circuit for conducting signal current to its base, a voltage source having one of its sides connected to the collector of said first transistor, a pair of resistors connected in series between the emitter of said first transistor and the other side of said source, the output voltage of said amplifier being available across said pair of resistors, a second transistor having its base connected to the junction between said pair of resistors, a resistive voltage divided connected across said source, the junction between the resistors of said voltage divider being connected to the emitter of said second transistor, the collector of said second transistor being resistively connected to the base of said first transistor, and a capacitor for bypassing signal current connected between the emitter of said first transistor and the collector of said second transistor.

2,979,667
AUTOMATIC VOLUME CONTROL AMPLIFIER
Edwin A. Paschal, Anaheim, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 1, 1958, Ser. No. 734,380
4 Claims. (Cl. 330—19)



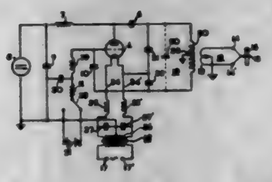
3. An automatic volume control amplifier comprising a first amplifier stage adapted to receive a signal to be amplified and having a Zener-type diode for a load, the dynamic impedance of said Zener-type diode being progressively less for an increasing flow of reverse direct-current therethrough, the gain of said first amplifier stage being dependent upon the impedance of said load; a second amplifier stage responsive to the signal developed across said load of said first amplifier stage for producing an output signal; means for providing a direct-current reference voltage of predetermined amplitude; means responsive to said output signal and said reference voltage for producing a direct-current signal of an amplitude proportional to the difference in amplitudes of said output signal and said reference voltage; and means for directing the flow of said direct-current signal through said Zener-type diode in a reverse direction thereby to automatically control the volume of said output signal.

2,979,668
AMPLIFIER
William Crawford Dunlap, Jr., Birmingham, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 16, 1957, Ser. No. 684,819
5 Claims. (Cl. 330—36)



1. An amplifying circuit, including, an output load in the circuit, a semiconductor in the circuit, the semiconductor having a graduated concentration of impurity atoms, means for maintaining the semiconductor at a sufficiently low temperature to make it non-conductive, a voltage source in the circuit for applying to the semiconductor a voltage of particular magnitude sufficient to produce complete impact ionization in the semiconductor and in a direction having a component transverse to the direction of impurity concentration graduation, means for subjecting the semiconductor to a biasing magnetic field of sufficient magnitude to prevent any impact ionization in the semiconductor at the voltage of particular magnitude, and means for varying the magnetic field in accordance with an input signal to be amplified to control the extent of impact ionization in the semiconductor.

2,979,669
CIRCUIT ARRANGEMENT FOR A HIGH FREQUENCY FURNACE
Laurens Blok, Jacob Willem De Ruiter, Sijtze Johannes Cornelis Sytsma, and Geoltzen Zwanenburg, all of Eindhoven, Netherlands, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 1, 1956, Ser. No. 588,899
Claims priority, application Netherlands June 3, 1955
8 Claims. (Cl. 331—62)



1. A circuit arrangement for a high frequency furnace, comprising an electron discharge tube having an anode, a cathode and at least one grid, an output circuit connected in the anode circuit of said tube, said output circuit comprising a resonant circuit having a resonant coil and a shunt circuit connected across said resonant coil, a capacitor, means connecting said anode through said capacitor to a first point in said output circuit, means connecting said cathode to a second point in said output circuit, means connecting said grid to a third point in said output circuit thereby to control the

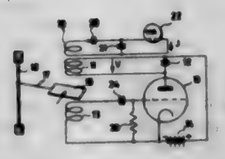
grid excitation voltage, a tapping point in said output circuit interposed between said first and second points, said tapping point being connected to a point at ground potential and being connected substantially symmetrically with respect to the ends of said resonant coil and being so positioned that the voltage between each of said first and second points and said tapping point is substantially half the voltage produced by said circuit arrangement, a load circuit including a coupling coil inductively coupled to said resonant coil whereby a substantially reduced voltage appears between said resonant coil and said coupling coil, a source of voltage supply having a pair of terminals, one of the terminals of said supply source being connected to a point at ground potential, a first high frequency choke coil, means connecting said anode to one terminal of said supply source through said first high frequency choke coil, a second high frequency choke coil, and means connecting said cathode to the other terminal of said supply source through said second high frequency choke coil.

2,979,670

APPARATUS FOR SCANNING POINTER POSITIONS

Erich Unger, Nuremberg, Germany, assignor to Metrawatt Aktiengesellschaft, Nuremberg, Germany

Filed Oct. 1, 1957, Ser. No. 687,630
Claims priority, application Germany Oct. 4, 1956
1 Claim. (Cl. 331—64)



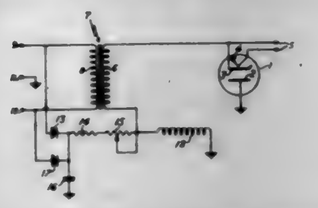
An arrangement for the inductive scanning of a pointer with a vacuum tube oscillator having a cathode, anode and at least one control grid, said oscillator having a non-linearly extending amplifier characteristic line comprising first and second inductively coupled coils, said first coil being connected in circuit with said grid, anode, and cathode of said oscillator and said second coil connected in circuit with said anode and cathode of said oscillator whereby an output voltage of said oscillator of constant frequency is fed back to said control grid of said oscillator to which said first coil is connected, the amplitude of said oscillator output voltage corresponding to the inductive coupling between said first and second coils; a metal tongue attached to said pointer the position of which is to be scanned, and arranged so that actuation of said pointer moves said metal tongue to a greater or lesser extent into a common air gap formed between said first and second coils thereby varying the coupling between said first and second coils and the amplitude of said oscillator output voltage, the amplitude of which corresponds to the positioning of said pointer; a resistance-condenser combination in said grid circuit of said oscillator, the time constant of which is so selected as to cause intermittent oscillations of said oscillator; a third coil inductively coupled with one of said first and second coils; and an electrical indicating instrument responsive to a voltage induced in said third coil by the oscillator output voltage in energizing said second coil for continuously indicating the amplitude of said oscillator output voltage throughout a range extending between zero and a preselected value whereby said indicating instrument indicates the position of said metal tongue attached to said pointer with respect to said first and second coils in passing therebetween.

2,979,671

MAGNETRON CURRENT CONTROL SYSTEMS

Louis H. Schall, Dedham, Mass., assignor to Raytheon Company, a corporation of Delaware

Filed Feb. 27, 1959, Ser. No. 796,925
5 Claims. (Cl. 331—87)



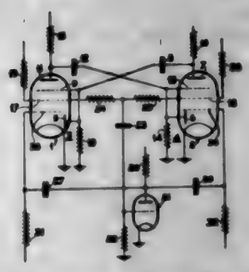
1. A magnetron anode current control system comprising a magnetron tube having an electromagnet for establishing a magnetic field in said tube, a transformer, means connecting the field coil of said electromagnet and the secondary winding of said transformer in series with cathode and anode of said tube, a rectifier having its output coupled into said field coil, and means for impressing a voltage on said rectifier and the primary winding of said transformer.

2,979,672

TRIGGER CIRCUIT ARRANGEMENT

Willem D. Meewezen, Torrens Park, South Australia, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 20, 1957, Ser. No. 679,233
Claims priority, application Australia May 21, 1957
4 Claims. (Cl. 331—145)



1. A circuit arrangement comprising first and second electron discharge tubes each having a cathode, an anode and an auxiliary anode positioned in operative proximity to said cathode and forming a diode therewith, means interconnecting said first and second tubes in feedback relationship to produce a first trigger circuit, a third electron discharge tube for producing switching pulses, means coupling said first and third tubes to produce a second trigger circuit, means coupling said second and third tubes to produce a third trigger circuit, means for applying a control voltage to one of said first and second tubes, means for applying a reference voltage to the other of said first and second tubes whereby upon the occurrence of the trailing edge of a switching pulse produced by said third tube said one tube becomes conductive when said control voltage exceeds said reference voltage in magnitude and said other tube becomes conductive when said reference voltage exceeds said control voltage in magnitude and both said first and second tubes are simultaneously made non-conductive by a switching pulse produced by said third tube, and means connecting said diodes with their associated tubes in a manner whereby when said first and second tubes are non-conductive the said diodes draw current.

2,979,673

TUNING FORK OSCILLATOR HAVING SEPARATE MAGNETOSTRICTIVE AND MAGNETOMOTIVE CONTROLS

John R. Shoonard, Montclair, N.J., assignor, by mesne assignments, to Westrex Corporation, New York, N.Y., a corporation of Delaware

Filed July 26, 1957, Ser. No. 674,478
13 Claims. (Cl. 331—157)



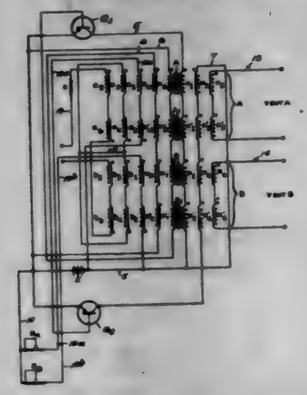
1. A frequency stabilized oscillator for self-generation of sustained oscillations comprising a vibratory member having a vibratory deflectable portion and constructed at least in part of magnetostrictive material, a first winding inductively coupled to said magnetostrictive part to drive said member by magnetostrictive action, a second winding magnetomotively coupled to said deflectable portion, and circuit connections for causing one of said windings to act as a voltage pickup while the other of said windings acts as a driving winding for maintaining said member in vibration at its natural resonant frequency, said circuit connections including feed back means for feeding back a portion of the oscillating voltage from the pick-up winding to the driving winding to maintain said member in continuous oscillation.

2,979,674

TRANSISTOR-MAGNETIC CORE PULSE WIDTH MODULATING AND AMPLIFYING DEVICE

Stanley Scheinberman, Forest Hills, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware

Filed July 27, 1959, Ser. No. 829,808
6 Claims. (Cl. 332—12)



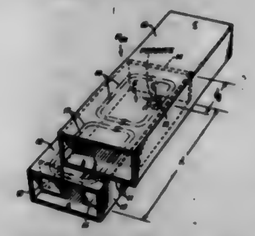
1. A transistor-magnetic core pulse width modulating and amplifying device comprising a transistor having a base, emitter and collector electrodes, two pairs of saturable cores, an anode or power circuit connected across said emitter and collector electrodes, said anode circuit comprising a pair of similarly poled windings separately arranged on one pair of cores, a second pair of similarly poled windings arranged on the other pair of cores and a direct current voltage source, a regenerative circuit connected across the base and emitter electrodes of said transistor, said regenerative circuit comprising a pair of similarly poled windings on one pair of saturable cores and a second pair of similarly poled windings arranged on the second pair of saturable cores, a control circuit coupled to each pair of the saturable cores, a second transistor having base, emitter and collector electrodes, a second anode or power circuit having windings arranged on said two pairs of saturable cores similarly to the arrangement of the windings of said first-mentioned anode circuit, said second anode circuit including said direct current voltage source and connected across the emitter electrodes of said second transistor, a second regenerative circuit connected across the base and emitter electrodes of said second transistor, said second regenerative circuit having two pairs of windings arranged on the two pairs of saturable cores in a manner similar to the windings in said first-mentioned regenerative circuit, a bias circuit coupled by means of bias windings to each pair of the saturable cores, the bias windings on one pair of saturable cores having the same polarity as the control windings on those cores and the bias windings on the other pair of saturable cores having a polarity opposite to the control windings on said second pair of saturable cores and an output circuit coupled to said saturable cores.

2,979,675

NON-RECIPROCAL WAVE TRANSMISSION

Edward H. Turner, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

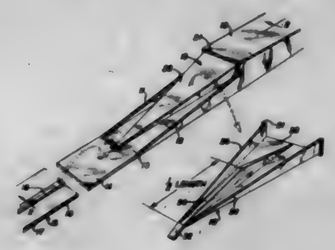
Filed Aug. 22, 1957, Ser. No. 679,666
3 Claims. (Cl. 333—10)



1. A three port circulator for electromagnetic wave energy comprising a pair of conductively bounded structures supportive of electromagnetic wave energy at a given operating frequency having electric and magnetic field components, the first of said structures being capable of propagating said wave energy in respectively opposite longitudinal directions, the second of said structures comprising a resonant cavity tuned to said given operating frequency and supportive of a standing wave pattern wherein said electric and said magnetic field components are fixed in space with respect to said second structure, said structures sharing a common conductive wall and being oriented with respect to each other to establish a region along said wall where the magnetic field component in said region in said first structure is predominantly of a single polarization having a direction substantially perpendicular to the direction of the magnetic field component in said region in said second structure that is also predominantly of a single polarization, and where simultaneously the electric fields in said structures extend in respectively parallel directions, means for coupling electromagnetic wave energy from said electric field and from said magnetic field component in said second structure to said first structure including an aperture located in said region of said common wall and an element of magnetically polarizable material exhibiting gyromagnetic effects at said operating frequency physically associated and electrically cooperating with said aperture, and means for applying a magnetizing field to said element having an intensity and direction to make said electromagnetic

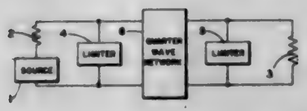
wave energy coupled into said first structure by said electric field in said second structure, and said electromagnetic wave energy coupled into said first structure by said magnetic field component in said second structure equal in amplitude and opposite in phase for one direction of propagation in said first structure.

2,979,676
WAVEGUIDE TO MICROSTRIP TRANSITION STRUCTURE
Lauren J. Rueger, Silver Spring, Md., assignor to Research Corporation, New York, N.Y., a corporation of New York
Filed Oct. 30, 1957, Ser. No. 693,358
3 Claims. (Cl. 333—34)



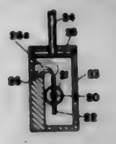
1. In apparatus for conducting electrical energy between a waveguide and a conductor strip, a waveguide section having an open end and top, bottom and side walls, said bottom wall being projected to define an extension and the side walls having extended portions inclined from said side walls to the surface of the extension, a matching fin mounted between the extended portions, said matching fin including a forward section extending between the side walls and a rear section mounted within the waveguide section, said conductor strip having a conductor member overlying the extension, a dielectric member overlying the conductor member, and a conductor element on the dielectric member and electrically coupled to the fin, said fin reducing the phase velocity of waves moving from the waveguide section to the strip for providing a coupling between the waveguide and the conductor strip and the extended portions of said walls cooperating with the fin for confining and attenuating any spurious modes set up by the transition.

2,979,677
QUARTER WAVE LIMITER CIRCUIT
Jean H. Clark, Covina, Calif.
(P.O. Box 326, Fallbrook, Calif.)
Filed Mar. 14, 1957, Ser. No. 646,070
15 Claims. (Cl. 333—35)



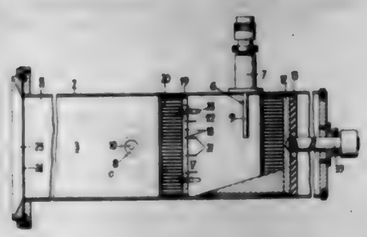
9. A limiter circuit for limiting variations in alternating current electrical energy conveyed between a source thereof of signals having frequencies within a preselected band width and a load comprising two quarter wave networks having design frequencies within said preselected band width connected in tandem; and a limiter element connected at the junction of said two quarter wave networks.

2,979,678
MICROWAVE ATTENUATORS
Bernard M. Dwork, Bedford, Mass., assignor to Merrimac Research and Development Corporation, Flushing, N.Y., a corporation of New York
Filed Oct. 20, 1955, Ser. No. 541,654
11 Claims. (Cl. 333—81)



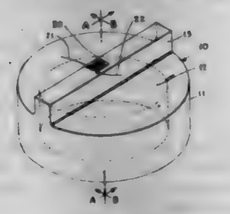
1. A microwave attenuator comprising an outer conductor and an inner conductor forming together a coaxial line, said outer conductor being generally cylindrical but having a portion of its inner surface at a greater distance from the inner conductor than the remainder thereof, the two portions of the inner surface being connected by a surface extending toward the inner conductor, said extending surface tending to concentrate the electromagnetic field in the region of the extending surface to a degree greater than that normally present in the remainder of the coaxial line, and a lossy member within said outer conductor extending in the direction of the lines of force fringed by said connecting surface.

2,979,679
APPARATUS OF THE KIND INCLUDING A WAVEGUIDE
Lester Beresford Derek Ellis, Newport, Wales, assignor to The General Electric Company Limited, London, England
Filed Aug. 31, 1956, Ser. No. 607,389
Claims priority, application Great Britain Sept. 2, 1955
5 Claims. (Cl. 333—98)



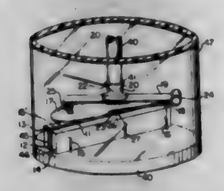
1. An aerial system comprising a launching device formed by a waveguide of rectangular cross-section which is terminated at one end, a filter which is disposed within the waveguide and which is formed by a plurality of parallel elongated members which lie across the waveguide, and a coupling which is adapted to transfer energy between a transmission line and the portion of the waveguide bounded by the termination and said filter when that portion of the waveguide is excited in the H_{10} mode with a plane of polarization such that said energy may pass through said filter, said termination being formed of electrically-conducting material and comprising a planar part which lies perpendicular to the length of the waveguide and another planar part which is inclined to the length of the waveguide so that over a length of the waveguide at least one dimension of its cross-section tapers away from said filter, the two said planar parts of the termination intersecting at a line which is parallel to a wall of the waveguide, said line forming a portion of the interior surface of said waveguide termination.

2,979,680
PRESSURE RESPONSIVE DEVICES
William T. Bean, Jr., 19556 Bretton Drive, Detroit, Mich.
Filed Nov. 19, 1959, Ser. No. 854,063
5 Claims. (Cl. 338—5)



1. A differential fluid pressure responsive device comprising a lateral diaphragm, an elongated longitudinal beam formed integrally with said diaphragm with its longitudinal neutral axis parallel with said diaphragm, and rigid supporting means to which the ends of said beam are affixed and to which the periphery of said diaphragm is affixed, whereby a bending load with respect to said axis is transmitted to said beam by said diaphragm in response to differential application of fluid pressures upon opposite surfaces of said diaphragm.

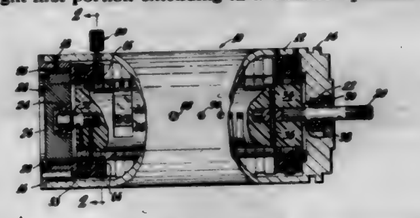
2,979,681
SINE/COSINE POTENTIOMETER
William C. Brown, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada, a corporation of Canada
Filed Sept. 1, 1959, Ser. No. 837,523
5 Claims. (Cl. 338—89)



1. A sine/cosine variable resistance comprising a resistance element having a straight line contacting surface, the resistance between any two points on the surface being a linear function of the separation of the points, a plane circular wiper for making electrical connection with the surface, a shaft for rotating said wiper for rotation substantially in its plane about an axis through a point on its circumference, said axis being perpendicular to the line surface, means for permitting limited inclination of the diameter of the wiper through the point with respect to a right angle to said perpendicular axis, and spring means for urging said wiper with respect to said shaft towards said surface, whereby to permit connection between said wiper and said surface at only one place when said wiper is moved to any angular position by said shaft, and to obtain a value of resistance between said wiper and the point of intersection of said perpendicular and said surface which varies as the sine/cosine of the angular position of said wiper.

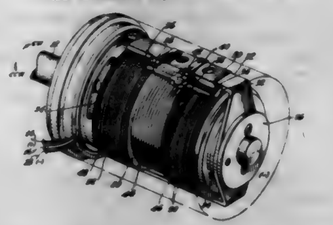
2,979,682
MULTI-ELEMENT PRECISION POTENTIOMETER
Arnold S. Louis, Hastings on Hudson, N.Y., assignor to Myron A. Coler, Scarsdale, N.Y.
Filed Mar. 8, 1960, Ser. No. 13,624
10 Claims. (Cl. 338—143)

1. In a potentiometer, the combination comprising: a central shaft rotatable about a longitudinal axis; an annular resistance element mounted concentric about said axis; a resilient wiper arm mounted on said central shaft for forced rotation about said longitudinal axis in the plane of said resistance element, in cooperation with said shaft upon rotation thereof; said wiper arm including a straight first portion extending in a direction parallel to a



line normal to the axis and a radially flexed second portion concentric to said resistance element; a pair of rigid supporting plates positioned on either side of said resilient member first portion and substantially co-extensive therewith; and wiper means mounted on said wiper arm and radially outwardly biased into frictional engagement with said resistance element.

2,979,683
CONTINUOUSLY ROTATABLE MULTITURN POTENTIOMETER
Joseph R. Altieri, Yonkers, N.Y., assignor, by mesne assignments, to USECO, Inc., a corporation of Colorado
Filed Apr. 7, 1960, Ser. No. 20,781
13 Claims. (Cl. 338—143)

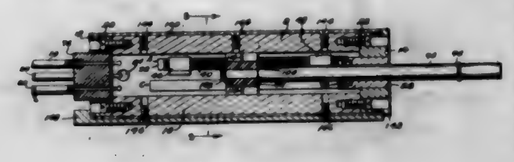


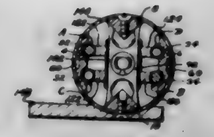
1. A continuously rotatable multiturn potentiometer comprising: a resistive helix having an axis; support means for said helix; a wiper assembly concentrically rotatable about the axis of said resistive helix, said wiper assembly including a wiper element axially movable with respect to said resistive helix and selectively engageable with said helix to provide a movable electrical tap point to said resistive helix; wiper reciprocating means including means for rotating said wiper assembly, a pair of counter wound driving helices and means for alternately engaging said driving helices to drive said wiper assembly in respectively opposite axial directions; and wiper control means connected to said wiper reciprocating means for engaging said wiper element in electrical contact with said resistive helix when said wiper assembly is being driven in one of said axial directions and for disengaging said wiper element from electrical contact with said resistive helix when said wiper assembly is being driven in the other of said axial directions.

2,979,684
RECTILINEAR POTENTIOMETERS
Joseph M. Looney, Jr., Tarzana, and Alton Fraser and Robert M. Martin, Van Nuys, Calif., assignors to Technology Instrument Corporation of Acton, a corporation of Massachusetts
Filed July 15, 1957, Ser. No. 671,861
3 Claims. (Cl. 338—183)

1. In a potentiometer having a housing, a shaft extending longitudinally of said housing, and means at-

tached to said housing supporting said shaft for rectilinear motion relative to said housing, the combination comprising a brush carriage attached to said shaft having an H-shaped cross-section, and comprising a body, a first pair of legs, and a second pair of legs; the ends of said legs being beveled, and a pair of guides having sloping





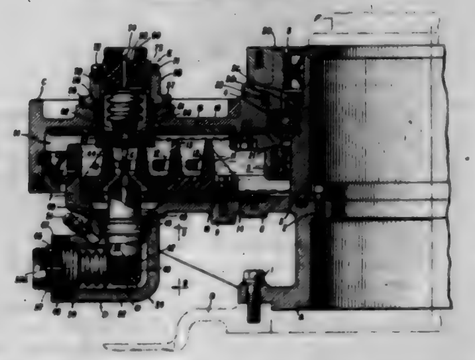
sides fixedly positioned within said housing and supporting said carriage, said first and second pairs of legs each having their ends in engagement with the sides of a guide and being flexed apart by said sides, whereby said carriage is movable back and forth along said guides and is held by said guides against lateral movement within said housing.

2,979,685

SLIP RING ASSEMBLY FOR HIGH VOLTAGES

Peter A. Filipczak, Paramus, N.J., assignor to Electro Tec Corp., South Hackensack, N.J., a corporation of New Jersey

Filed May 29, 1959, Ser. No. 816,775
2 Claims. (Cl. 339—5)



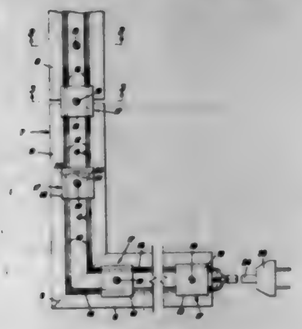
1. A slip ring assembly including a base member and a brush-carrying member associated for relative rotation about a common axis and providing a chamber therebetween, at least one slip ring mounted in said chamber, on said base member, and at least one brush, a connector unit including a casing on one end of which said brush is mounted and having a conductor in insulated relation thereto having one end connected to said brush while the other end is for connection to a wire, said casing including a plurality of separably connected sections and said conductor comprising at least two separate parts each in one of said casing sections and telescopically separably connected to the other part, said brush-carrying member having an opening and there being means for separably connecting said casing to said brush-carrying member exteriorly thereof with a portion thereof extending through said opening and with said brush in sliding contact with said slip ring, and a second connector unit including a casing having a conductor in insulated relation thereto for connection at one end to a wire, the other end of said conductor and said slip ring having telescopically separably connected portions, said casing of the second connector unit including a plurality of sections and said conductor comprising at least two separate parts each in one of said casing sections and telescopically separably connected to the other part, said base member having an opening and there being means for separably connecting said casing of the second connector unit to said base member with a portion thereof extending through said opening in the base member and with the second-mentioned end of the conductor separably connected to said slip ring.

2,979,686

CONTINUOUS ELECTRICAL OUTLET

Marion A. Longmire, 511 Capitol Ave., Frankfort, Ky.

Filed May 1, 1959, Ser. No. 810,315
2 Claims. (Cl. 339—21)



1. A continuous electrical outlet comprising: a bar of insulating material for mounting on a support, said bar including separable sections each having spaced, parallel channels therein, conductor strips mounted in the channels, metallic rods electrically connecting the conductor strips in the adjacent end portions of the sections, and substantially U-shaped retainers of insulating material securing the rods in engagement with the conductor strips, said retainers including plates bridging the adjacent end portions of the sections and secured to the support therebetween, said retainers further including legs on the plates extending into the channels and engaged with the rods.

2,979,687

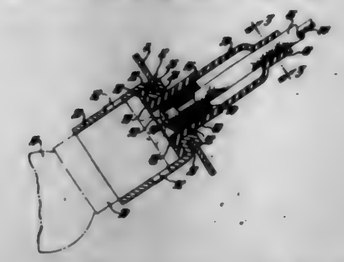
LAMP SOCKET

David P. Clayton, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 2, 1959, Ser. No. 790,577
1 Claim. (Cl. 339—101)

A lamp socket assembly comprising a metal socket body including a substantially continuous cylindrical side wall open at one end and integrally joined at the other end thereof to a base wall including a cylindrical axially extending neck forming an opening in said base wall, the juncture of said side and base walls defining an interior annular radial shoulder surrounding the opening in said base wall, a flexible thin-walled insulating sleeve extending through said neck and opening in said base wall into the interior of said socket body, an annular radial flange defining an opening in said insulating sleeve within said socket body and seated against said shoulder, an annular recess in the face of said flange, a rigid metal sleeve including a substantially cylindrical side wall disposed

snugly within said insulating sleeve substantially contiguously with the latter and radially aligned with said neck to confine said flexible sleeve between said neck and said side wall of said rigid sleeve, said rigid sleeve having an open end communicating with said socket body surrounded by an annular radial flange seated in said recess, an apertured base wall on said rigid sleeve opposite the open end thereof and axially beyond said neck, said base wall of said rigid sleeve forming with said side wall



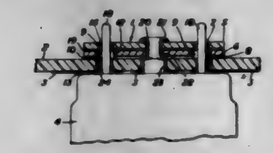
thereof a spring seat, a conductor extending into and through said insulating sleeve and through said rigid sleeve base wall into the interior of said rigid sleeve radially spaced from the side wall of the latter, a contact secured to said conductor within said rigid sleeve and including a radial shoulder forming a spring seat, an axially coiled spring disposed between said spring seats and surrounding said conductor within said rigid sleeve, and the other end of said insulating sleeve being sealed to said conductor exteriorly of said socket body.

2,979,688

TUBE SOCKET FOR PRINTED CIRCUIT PANEL

Antony Brasher Clewes, Wollaton Park, England, assignor to United-Carr Fastener Corporation, Wilmington, Del., a corporation of Delaware

Filed Feb. 9, 1959, Ser. No. 792,053
1 Claim. (Cl. 339—194)



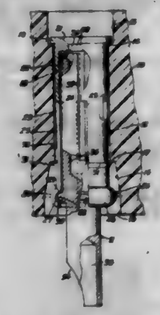
A tube holder comprising upper and lower insualting plates, said lower plate having an annular series of apertures, said upper plate having an annular series of apertures in registry with said apertures of said upper plate, each of said apertures of said lower plate being of larger diameter than its registering aperture of said upper plate whereby the walls surrounding said apertures of said upper plate project inwardly of said walls of said apertures of said lower plate, and a prong-receiving contact disposed in each pair of registering apertures of said plates, each of said contacts having a flat strip portion, a terminal portion at one end of said strip portion, wing portions at an opposite end of said strip portion from said terminal extending in parallel normal relation thereto, blade portions of shorter length than said wing portions extending from an edge of said wing portions remote from said terminal portion, said blade portions being disposed within said apertures of said upper plate and bent inwardly toward each other to define a prong-engaging portion, said wing portions being disposed within said apertures of said lower plate and abutting said upper plate adjacent said apertures thereof, and each contact having a lug element extending from said strip portion in an opposite direction to said wing portions, said lug elements being disposed between said plates and cooperating with said wing portions to maintain said contacts in firm assembly with said plates.

2,979,689

ELEMENT FOR DETACHABLY COUPLING ELECTRICAL CONTACTS WITH A CONNECTOR BODY

Anton Jackson, Truesdale Lake Drive, South Salem, N.Y., and Boris A. Jackson, 30 La Fargo Lane, Manhasset, N.Y.

Filed Jan. 13, 1959, Ser. No. 786,492
9 Claims. (Cl. 339—217)



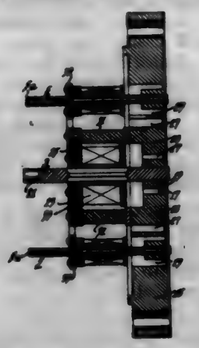
1. In connectors of the character described, employing a one-piece connector body of insulating material, said body having a contact receiving bore, a contact coupling element mounted in the bore, said element having means including an elongated spring member for retaining the same against displacement from the bore, a contact for insertion into and removal from said element, one end portion of the contact protruding from said element and said connector body, the other end portion having circumferentially spaced long spring fingers for tensional engagement with the contact of a companion connector, said contact having outwardly projecting key means intermediate said end portions, and the spring member of said element having spring socket means receiving and operatively engaging the key means of said contact in retaining the contact against displacement from said element.

2,979,690

DUAL MAGNETOSTRICTIVE HYDROPHONE

Reginald A. Hackley, Bala-Cynwyd, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 29, 1946, Ser. No. 657,969
3 Claims. (Cl. 340—8)



1. A device of the character described comprising a sectionalized diaphragm having a central vibratory section and a plurality of outer vibratory sections spaced in a

circle about said central section, each of said sections being defined by a separate annular groove in said diaphragm of such depth as to reduce substantially the thickness of said diaphragm, a second annular groove in said diaphragm between said central section and said outer sections and concentric with and spaced from the groove defining said central section, said concentric grooves together with the mass of said diaphragm therebetween constituting an acoustic filter effective to suppress the transfer of vibrations between said central section and the outer sections.

2,979,691

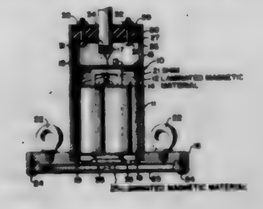
MICROPHONE FOR THE MEASUREMENT OF TRANSIENT PRESSURES IN A BODY OF WATER

Joseph F. Keithley, 418 Rittenhouse St. NW., and Matthew L. Sands, 2107 Fort Davis St. SE., both of Washington, D.C.

Original application Mar. 25, 1943, Ser. No. 480,576, now Patent No. 2,715,717, dated Aug. 16, 1955. Divided and this application Aug. 18, 1954, Ser. No. 454,647

1 Claim. (Cl. 340—12)

(Granted under Title 35, U.S. Code (1952), sec. 266)



A microphone for use under water for measuring pressure at various depths as an alternating current is applied thereto, in combination, an annular member having a plurality of eye bolts secured thereto for supporting the member at a depth of submergence within the water, a circular diaphragm secured to said member in coaxial and watertight relation therewith and having a lobe at a central portion of the inner face thereof and formed integrally therewith, a laminated armature attached to said lobe and movable therewith, a laminated U-shaped core having a pair of coplanar pole faces thereon, a pair of coils carried by said U-shaped core on the legs thereof, an electric cable having a pair of conductors therein connected to said coils for establishing an external electrical connection thereto, means including a casing carried by said annular member for establishing a watertight seal with said cable, a hollow rigid cylindrical member disposed within said casing and secured to said annular member, said cylindrical member enclosing but not in contact with said coils, a circular plate having a diameter equal to the outside diameter of said cylindrical member to which said U-shaped core is secured at a medial portion thereof for supporting said U-shaped core such that the armature is continuously aligned with said pole faces and in closely spaced equidistant relation therewith, said circular plate having a plurality of apertures therein, a plurality of screws disposed respectively within said apertures and threaded into said cylindrical member for clamping the plate to the cylindrical member, and an annular shim clamped between the adjacent clamping surfaces of said plate and cylinder for setting at will the initial spaced relation of the armature with respect to said pole faces without changing the aligned relation of the armature therewith in accordance with the thickness of said shim.

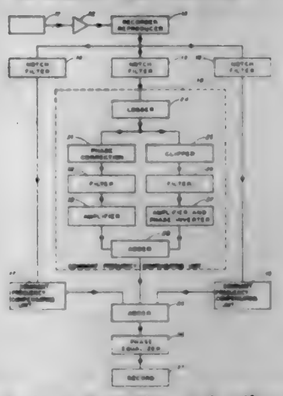
2,979,692

ELIMINATION OF MULTIPLE FREQUENCY COMPONENTS IN SEISMIC RECORDS

Wayne W. Granneman, Albuquerque, N. Mex., and George A. W. Trorey, Whittier, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed Dec. 16, 1955, Ser. No. 553,625

11 Claims. (Cl. 340—15)



7. The method of eliminating a plurality of different frequency components from a seismic detector trace comprising the steps of filtering said trace by multiply passing said trace through at least one filter having a narrow pass band so that each of said passes includes one of said plurality of different frequencies to produce a plurality of filtered signals of different frequency ranges, passing each of said filtered signals through a network adjusted substantially to equalize the amplitudes of one of said filtered signals except for portions of relatively abruptly increasing amplitude, producing a plurality of auxiliary signals corresponding to said signals from said network, each of said auxiliary signals having a substantially constant amplitude and having a frequency determined by the frequency of the corresponding one of said signals from said network, combining each of said auxiliary signals with its corresponding signal from said network to cancel the portion of each of said network signals corresponding to said auxiliary signals, whereby only said portions of said network signals of relatively abruptly increasing amplitude remain, and adding together all of said remaining portions to produce a seismic trace from which said plurality of different frequency components have been eliminated.

2,979,693

COURSE DIRECTIONAL LIGHT BEACON

Toivo Uno Leopold Barmeister, Drumso, Finland, and Frans Joel Fransson, Lidingo, Sweden, assignors to Svenska Aktiebolaget Gasaccumulator, Lidingo, Sweden, a corporation of Sweden

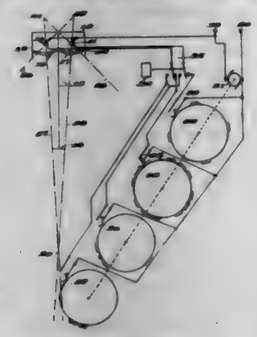
Filed Aug. 30, 1956, Ser. No. 607,113

Claims priority, application Sweden Sept. 28, 1955

4 Claims. (Cl. 340—26)

1. A light beacon to indicate a course angle comprising a pair of lights, said lights being laterally displaced in a horizontal level perpendicular to the course angle, a first screen extending in a vertical plane and disposed between the sources of light and extending forwardly of the lights whereby the edge rays of the lights cross forwardly of the screen to form the course angle, a course angle screen including a fixed screen and a movable screen attached thereto, said course angle screen extending in a vertical plane perpendicularly to the course angle and disposed at the forward end of said first screen, a second screen disposed on that side of the lights opposite to said course angle screen, said second screen screening the light

emanating from the lights in a direction away from the range of the course angle, and means connecting said



lights with a code mechanism, said code mechanism adapted to transmit light pulses of a constant length.

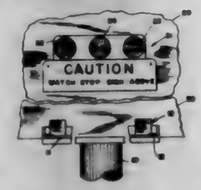
2,979,694

SAFETY SIGNALLING DEVICES FOR VEHICLE LIFTS

Martin J. Lamberti, 116—02 232nd St., Cambria Heights, N.Y.

Filed June 22, 1960, Ser. No. 37,999

8 Claims. (Cl. 340—61)



1. In a vehicle lift including a rigid frame having spaced parallel horizontal rails upon which a vehicle is adapted to be driven to be lifted and means for lifting the frame, the improvement consisting in the provision of elongated normally open circuit-closing means on and extending along each of said rails adapted to be closed upon contact therewith of a front wheel of the vehicle, two spaced signal lamps adapted to be positioned above and spaced rearward from the rear ends of said rails in a position of visibility to the driver of the vehicle, an electric circuit including leads connecting the circuit-closing means of the right-hand rail of said rails with one of said lamps for energization of said one of said lamps upon closing of the right-hand circuit-closing means; and additional leads connecting the circuit-closing means of the left-hand rail of said rails with the other of said lamps for energization of said other of the lamps upon closing of the left-hand circuit closing means, the circuit being adapted to be connected to an electric supply source, said one of said lamps bearing a legend directing the driver to steer the vehicle to the left, said other of said lamps bearing a legend directing the driver to steer the vehicle to the right.

2,979,695

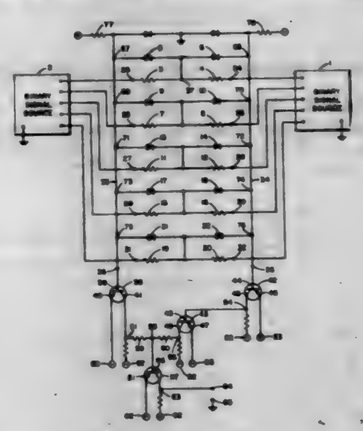
COMPARATOR DEVICE

William V. Tyrlick, Rochester, and Charles R. Fisher, Jr., Pittsford, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed July 16, 1959, Ser. No. 827,650

3 Claims. (Cl. 340—149)

1. A comparator device of the type which produces an output signal only upon the simultaneous application of two binary code group signals having the same polarity bits occupying the same respective positions within the groups comprising individual gating circuit means corresponding to each bit position within the binary code group signals to be compared, each of the type having first and second input terminals, first and second output terminals and which produces, with the coincident application to both terminals thereof either "mark" or "space" binary signals, a ground potential signal upon both output terminals, with the coincident application to the first and second input terminals thereof a "mark" and a "space" binary signal, respectively, a positive or negative polarity potential signal as selected upon either output terminal and with the coincident application to the first and second input terminals thereof a "space" and a "mark" binary signal, respectively, an opposite polarity potential signal upon the other output terminal; first bus means for



interconnecting all of said first output terminals; second bus means for interconnecting all of said second output terminals; a first transistor device connected to said first bus means for producing a first reference potential signal having a selected polarity and magnitude in response to the presence of a ground potential signal upon said first bus means; second and third transistor devices connected to said second bus means for producing a second reference potential signal having the same polarity and magnitude as said first reference potential signal in response to the presence of a ground potential signal upon said second bus means; a fourth transistor device for producing an output signal in response to the simultaneous application thereto of said first and second reference potential signals and output circuit means connected to said fourth transistor device from which said output signal may be removed.

2,979,696

DEVICE FOR REGISTERING CODED INFORMATION

Simon Duinker, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

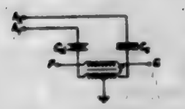
Filed June 16, 1954, Ser. No. 437,220

Claims priority, application Netherlands July 3, 1953

1 Claim. (Cl. 340—173.2)

A device for registering coded information, comprising a first capacitor having a dielectric of high remanence and having two possible conditions of remanence, a second capacitor, a difference-signal impedance member coupled to an electrode of each of said capacitors, means for applying electrical pulses simultaneously in parallel to the remaining electrodes of said capacitors whereby a

difference signal produced in said impedance member in response to said pulses has a value of zero if said first capacitor is in one of said conditions of remanence and has a finite value if said first capacitor is in the other of said conditions of remanence, and means connected to



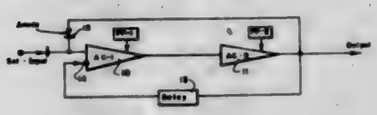
said impedance member to derive said difference signal therefrom, said impedance member comprising a transformer winding, the ends of said winding being connected respectively to the first-named electrodes of said capacitors.

2,979,697

DELAY ELEMENT AND CIRCUITS EMBODYING THE SAME

William F. Steagall, Merchantville, N.J., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed Nov. 17, 1954, Ser. No. 469,377
27 Claims. (Cl. 340—174)



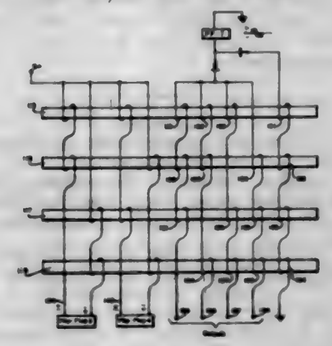
1. In combination, a first magnetic amplifier having an input and an output, a second magnetic amplifier having an input connected to the output of said first amplifier, a feedback circuit connecting the output of said second amplifier to the input of said first amplifier, a second circuit connected to the output of said second amplifier for the supply of pulses to said first amplifier, said second circuit comprising delay means which will supply a delayed pulse to the input of the first amplifier which will cancel the effect of a pulse fed through said feedback circuit.

2,979,698

MAGNETIC CORES FOR GATES, BUFFERS AND FUNCTION TABLES

Theodore H. Bean and Joseph D. Lawrence, Jr., Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 15, 1955, Ser. No. 528,419
31 Claims. (Cl. 340—174)



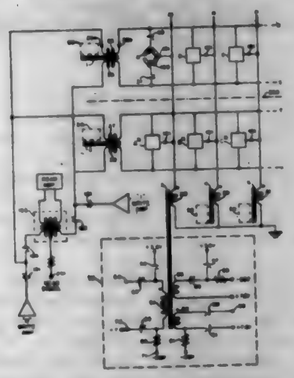
1. In a control circuit, a core of magnetic material, first and second winding means on said core, a source of regularly occurring energization pulses coupled to one end of said first winding means, load means coupled to the other end of said first winding means, each of said regularly occurring energization pulses normally being of magnitude to substantially limit the operation of said core in response to said energization pulses alone to an unsaturated portion of its hysteresis loop whereby said first coil normally exhibits a relatively high impedance to each of said regularly occurring pulses and control means for selectively effecting a pulse of current flow through said second winding means substantially simultaneously with the occurrence of a selected one of said regularly occurring energization pulses from said source and of magnitude and direction to substantially nullify the magnetizing force of said first winding means in response to said energization pulses whereby said first winding means exhibits a relatively low impedance in response to occurrence of said simultaneous pulses thereby to effect a relatively large pulse of current flow from said source to said load via said first winding means.

2,979,699

ELECTRONIC SWITCHING NETWORK

David P. Goodwin and Richard W. Spencer, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 4, 1956, Ser. No. 607,916
17 Claims. (Cl. 340—174)



1. The combination comprising a signal generator, a magnetic member having a signal winding coupled thereto and to said signal generator, said member having a first and second magnetic state, a load circuit, a unidirectional current element connecting said signal winding to said load circuit, saturating means for applying a constant bias force tending to maintain said member in said first state, first selectively operable saturating means for driving said member from said first state to said second state, and second selectively operable saturating means for driving said magnetic member to said second state at a slower rate than said first selectively operable saturating means and for controlling the conduction of current through said unidirectional current element to said load circuit.

2,979,700

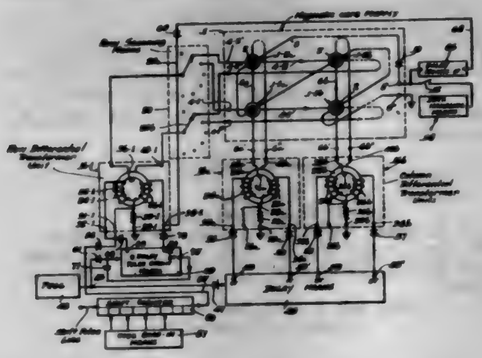
DIFFERENTIAL MATRIX DRIVER

Harold E. Tellefsen, Chicago, and Richard L. White, Skokie, Ill., assignors, by mesne assignments, to Information Systems, Inc., Skokie, Ill., a corporation of Illinois

Filed Nov. 15, 1957, Ser. No. 696,804
8 Claims. (Cl. 340—174)

1. In a magnetic core memory matrix system of the type including a series of column magnetic core units each having column input windings which are adapted to drive the associated core to a first state of magnetic

saturation when driven by set pulses of a given amplitude and polarity and to the opposite state of magnetic saturation when driven by reset pulses of a given amplitude and opposite polarity, the improvement comprising: a column transformer unit for each column of core units, each of said transformer units comprising a core of magnetic material and set, reset, and output winding means on said cofe, the output winding means of each column transformer unit being connected to the column input windings of the associated column of core units, said set and reset winding means of each transformer unit respectively producing said set and reset pulses in the



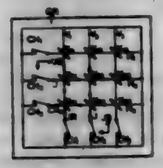
associated output winding means when respectively separately energized by activating control pulses of a given polarity and amplitude, delay means associated respectively with said column transformer units, said delay means having a number of output terminals at which activating control pulses appear in time sequence upon the feeding of a signal input pulse to the delay means, and means connecting said set and reset winding means to successive output terminals of said delay means, so that activating control pulses are fed in time sequence to the set and reset winding means of the column transformer units.

2,979,701

MATRIX MEMORY SYSTEM

Jean François Marchand, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 9, 1958, Ser. No. 766,311
Claims priority, application Netherlands Oct. 17, 1957
6 Claims. (Cl. 340—174)



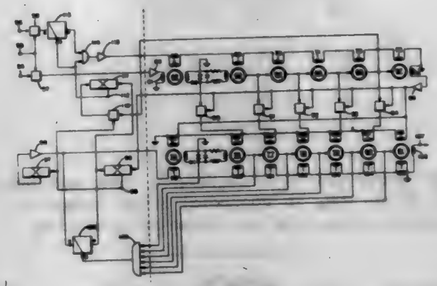
1. A matrix memory system comprising a plurality of memory elements composed of magnetic material having a substantially rectangular hysteresis loop, first and second groups of conductors, each element being magnetically coupled to one conductor of the first group and one conductor of the second group, means for varying the electric state of the conductor of each group coupled to a desired element, and means for short-circuiting each of the remainder of the conductors of the matrix, whereby undesirable remanences in the remaining elements of the matrix are eliminated.

2,979,702

BINARY DATA TRANSLATING DEVICE

Carl J. Zarcone and Ben A. Harris, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware

Filed June 29, 1959, Ser. No. 823,473
3 Claims. (Cl. 340—174)



1. A binary data translating device for successively storing respective groups of a given plurality of serially received information bits at one rate and from which the stored bits may be removed at another rate, wherein the first bit of each group manifests the same given binary value, said device comprising a multistage first shift register having a capacity for storing a group of said bits applied thereto, first means for applying each of said serially received bits at said one rate to an initial stage of said first shift register to effect the storage therein of the information manifested thereby and immediately following the application of each bit applying a shift pulse to said first shift register to effect the transfer of the information stored in each stage thereof to the next following stage thereof, whereby in response to the application of an entire group of bits the first bit thereof manifesting said given binary value is stored in a certain stage of said first shift register, a multistage second shift register including a separate stage thereof corresponding to each respective stage of said first shift register, second means coupled to said first and second shift registers responsive to the occurrence of a shift pulse applied to said first shift register when the information stored in said certain stage thereof manifests said given binary value for transferring the information stored in each stage of said first shift register to its corresponding stage of said second shift register and clearing said first shift register, third means coupled to said second shift register intermittently operative to serially read out the information stored in said second shift register at said other rate, and fourth means coupled between said first and third means for delaying the application of a shift pulse to said first shift register when said second shift register is being read out and the information stored in the certain stage manifests said given binary value until said second shift register is completely read out.

2,979,703

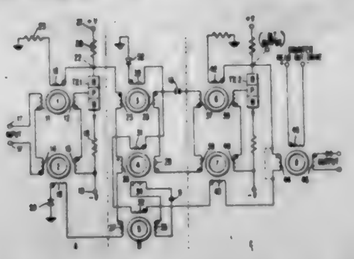
PULSE COUNTER

Hermann P. Weiß, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 17, 1959, Ser. No. 840,752
8 Claims. (Cl. 340—174)

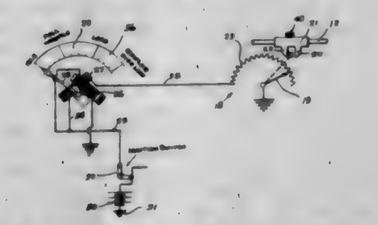
2. A pulse counting arrangement comprising first and second bistable magnetic memory cores respectively provided with output means in series relation within an output circuit, means responsive to an applied pulse for concurrently switching said cores from their first states to their second states to develop opposing and mutually cancelling output voltages in their respective output

means rendering the output circuit ineffective, and means including a third bistable magnetic memory core responsive to succeeding applied pulses for alternating the state



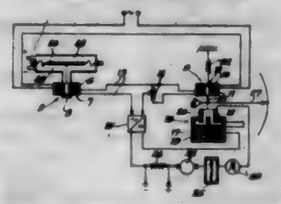
of the second core alone to develop upon each return to its second state an unopposed output voltage in its output means rendering the output circuit effective.

2,979,704
OVERLOAD DETECTOR
Hollis L. Bickford, 595 D St., Box 1205, Morro Bay, Calif.
Filed July 12, 1957, Ser. No. 671,505
1 Claim. (Cl. 340—177)



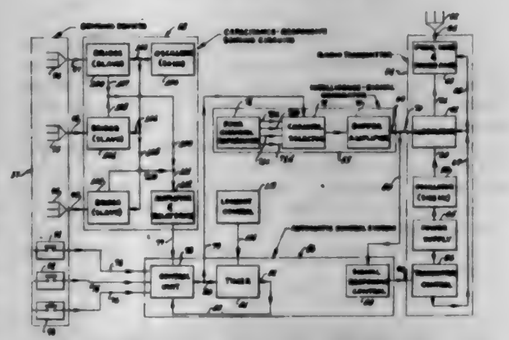
In a fuel system for an engine, the combination of a rectilinearly movable throttle control rod controlling the rate of supply of fuel to the engine, a stationary rheostat mounted on the engine adjacent said throttle control rod, said rheostat having a rotatable contact arm, a crank arm rigidly connected to said contact arm, a yoke member adjustably secured to said throttle control rod and slidably and rotatably receiving the end of said crank arm in driving engagement therewith, mechanically coupling said contact arm to a selected portion of said throttle control rod, a remotely located meter, a source of current, and means connecting said meter, rheostat and source of current in circuit, whereby said meter provides a fuel supply rate indication in accordance with the position of said throttle control rod, and whereby said meter will indicate excess fuel consumption corresponding to overloading of the engine.

2,979,705
INDICATING CIRCUIT
Adolf Kritzmann, Sallerstrasse 3, Minden, Westphalia, Germany
Filed Feb. 19, 1957, Ser. No. 641,083
3 Claims. (Cl. 340—178)



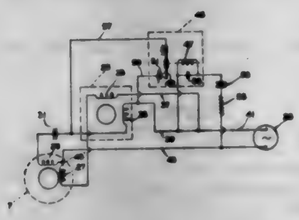
1. An electrical indicating system comprising: an inductive transmitter having a control member movable in accordance with a magnitude to be indicated to provide a corresponding output voltage; an inductive receiver electrically coupled with the transmitter and having a control member movable to provide an output voltage opposing the output voltage of said transmitter; a spring biasing said receiver control member in one direction and arranged to provide a biasing force at each position of the control member of the receiver corresponding to the magnitude being indicated; current producing means electrically coupled to each of said transmitter and receiver to produce at all times a current proportional to the difference between the output voltages of said transmitter and receiver; dynamometric moving coil means connected with said current producing means and responsive to said current to move the control member of said receiver to a position related to the square of said current wherein the output voltage of the receiver is a function of the square of said current; and means indicating a function of said current corresponding to said magnitude being indicated.

2,979,706
RADIO WARNING SYSTEM
Avery H. Simon, 709 Bank of America Bldg., and Richard H. Tracy, 6364 50th St., both of San Diego, Calif., and Fern A. Yarbrough, 370 S. Fair Oaks, Pasadena, Calif.
Filed July 2, 1956, Ser. No. 595,445
2 Claims. (Cl. 340—224)



1 In a central station apparatus for receiving emergency warning radio signals and indicating the identity of the one of a plurality of transmitters from which the received signals emanate and indicating the nature of the emergency condition to which the warning relates, and wherein said signals comprise radio frequency signals modulated by intelligence signals the frequencies of which represent according to a predetermined code the identity of the transmitter and the emergency condition, and wherein said radio frequency signals are also modulated by speech signals constituting a verbal statement of said identity, the combination of: a radio frequency receiver for receiving said warning signals and including a demodulator providing said intelligence and speech signals at the output of said receiver; a plurality of frequency-responsive load circuits connected across said output, there being as many such circuits as there are separate frequencies in said predetermined code, each circuit being responsive to a different one of said separate frequencies and comprising in series relation an actuating coil of a relay and a narrow band filter presenting minimum impedance to alternating current of the frequency to which said circuit is responsive; a source of electric power; a secondary relay for each of said primary relays, said secondary relays being connected for energization from said source in response to actuation of the associated primary relay, said frequency-responsive load circuits and said secondary relays acting as signal separators to provide signals identifying the operating transmitter and the emergency condition causing its operation; visual indicating means connected to said secondary relay for actuation thereby, there being a plurality of said indicating means for each of said transmitters, whereby the nature of said emergency condition existing at an identified transmitter is indicated; and a loudspeaker connected to said signal separator for operation by said speech signals to reproduce said verbal statements of said identity.

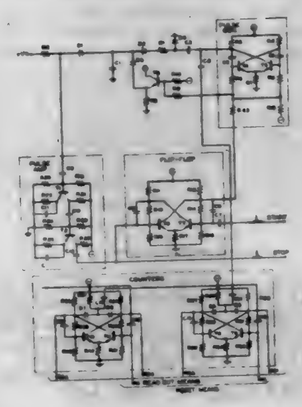
2,979,707
ELECTRICAL FAULT WARNING DEVICE
Paul E. Selfried, New City, N.Y., and Fred W. Meyer, Jr., Clifton, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,614
2 Claims. (Cl. 340—253)



2. In a device for indicating a fault in an electrical system of a type including apparatus having input connections adapted to be energized by an alternating current source, torque motor having phase windings connected in series with at least two of the input connections of the apparatus, a warning indicator driven from one position to another position by said motor when current flows normally in the system, and means to bias the warning device in an opposite sense upon the current supplied the system decreasing below a predetermined minimum value; the improvement comprising relay means sensitive to voltage applied across input connections to the apparatus, said relay means including control means effective in one sense to render the torque motor inoperative upon the voltage sensed by the relay means decreasing below a predetermined value, and said control means effective in another sense to render the torque motor operative upon the voltage sensed by the relay means exceeding a predetermined value.

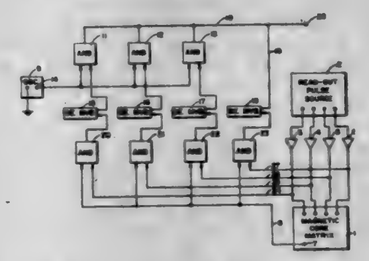
2,979,708
ANALOG TO DIGITAL CONVERTER
Adam A. Jorgensen, Victor, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Oct. 20, 1958, Ser. No. 768,430
3 Claims. (Cl. 340—347)

1. A means for establishing a count corresponding to the magnitude of a given explicit value of a continuous variable expressed by electrical potential, consisting of a storage condenser, means consisting of a free running multivibrator for producing and transmitting a series of pulses for raising the potential of said condenser through a series of incremental charges applied thereto, means for producing a start pulse, a pulse amplifier for producing a stop pulse, means consisting of a diode connected to said storage condenser for transmitting the first of said incremental charges from said multivibrator after said storage condenser has been charged to equality between the potential of said storage condenser and said explicit potential value of said pulse amplifier, a pulse counter, means responsive to said start pulse to enable said multivibrator to feed into said storage condenser circuit and simultaneously into said pulse counter and means responsive to said stop pulse to disable said



multivibrator whereby the count attained by said counter will correspond to the potential reached by said storage condenser.

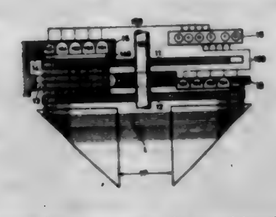
2,979,709
REAL TIME BINARY CODED DECIMAL-TO-DECIMAL CONVERTER
Freddy David, Henrietta, and Arthur R. Phipps, West Webster, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,452
4 Claims. (Cl. 340—347)



1. A translator device for converting serial binary code signals into a train of pulses equal in number to that manifested by the binary code signals, said device comprising in combination with a source of binary code signals, a pulse source operating at a frequency equal to 2^n times the bit rate of the binary code signals to converted, wherein n is a first integer at least equal to 1, a group of k first means respectively associated with each bit position, wherein k is a second integer having a value $(n+1) \geq k > 1$, a first of said first means associated with the least significant bit position producing an output pulse having a duration substantially equal to the duration of a pulse from said pulse source in response to said least significant binary code signal having a given polarity, a second of said first means associated with the next to the least significant bit position producing an output pulse having a duration sufficient for said pulse source to produce only two successive pulses in response to said next to the least significant binary code signal having said given polarity, each of the other first means, if any, producing an output pulse having a duration sufficient for said pulse source to produce double the number of successive pulses as that produced during the

duration of the output pulse of the next preceding one of said first means in response to the binary code signal corresponding to that first means having said given polarity, an output conductor, means for applying the output pulse of the first of said first means directly to said output conductor, second means associated with each of said first means except said first of said first means for producing an output in response to both first and second inputs being applied thereto, means for applying pulses from said pulse source as said first input to each of said second means, means for individually applying the respective output pulses of each of said first means as said second input to the corresponding one of said second means, and means for applying the output of each of said second means to said output conductor.

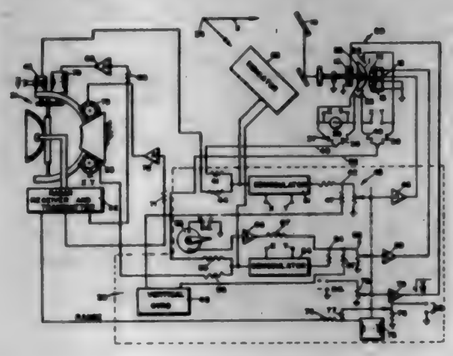
2,979,710
AUTOMATIC MEASURING APPARATUS
Peter Toth, Ruschlikon, Switzerland, assignor to Contraves A.G., Zurich, Switzerland
Filed Sept. 25, 1959, Ser. No. 842,245
Claims priority, application Switzerland Sept. 25, 1958
20 Claims. (Cl. 340—347)



1. In a measuring apparatus, in combination, encoding means comprising a first element and a second element, one of said elements being movable in one direction relative to the other element; a code member supported on said first element, said code member having a set of graduation sections of uniform length extending in said direction, each section having a light-permeable area and an opaque area, said light-permeable areas and opaque areas of said set of sections alternating in said direction; optical means supported on said second element on one side of said code member and optically connecting at least two spaced sections of said set of sections for projecting rays of light passing through the light-permeable area of each of said two sections onto the other of said two sections; a source of light supported on said second element on the other side of said code member in a position for projecting light on one of said two sections so that light passes through the light-permeable area of said one section and an image of the light-permeable area of said one section is formed by said optical means on the other of said two sections; and photo-detector means supported on said second element on said other side of said code member spaced in said one direction from said source of light and located in the region of said other section to receive the light of the image only where the same is superimposed on the light-permeable area of said other section so that the received light is a measure of the relative displacement of said first and second elements.

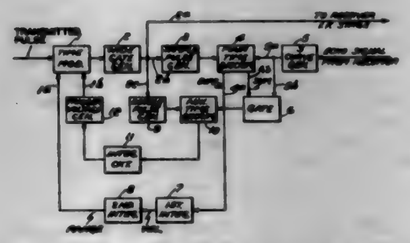
2,979,711
FIRE CONTROL SYSTEM
Rulon G. Shelley, Downey, Calif., assignor to North American Aviation, Inc.
Filed June 29, 1956, Ser. No. 595,571
23 Claims. (Cl. 343—7)

1. In combination, a gyroscopic sighthead, a self-tracking radar system comprising a cooperatively associated radar antenna, a radar transmitter, and a radar receiver, means for controlling the deflection of said gyroscopic sighthead in response to the difference between



the deflection of said sighthead and the aim of said antenna.

2,979,712
AUTOMATIC ECHO PULSE RECAPTURE CIRCUIT
Julien J. B. Lair, Glen Ridge, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Nov. 12, 1954, Ser. No. 468,429
4 Claims. (Cl. 343—7.3)

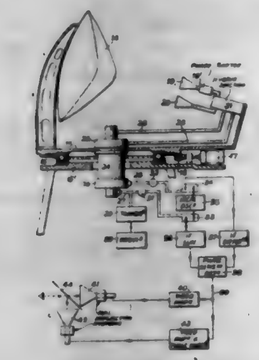


1. In a tracking radar system including a receiver and a range tracking circuit having in combination with said receiver a range gate generator, means coupling said range gate to said receiver to disable said receiver during intervals between range gates, means to produce a first error voltage responsive to the coincidence of received signals with a given portion of said range gate and means for coupling said first error signal to vary the time of occurrence of said range gate; an automatic recapture circuit comprising means coupled to said range gate generator to generate a pair of recapture pulses, means to produce a second error voltage responsive to the coincidence of received signals with one of said recapture pulses and means responsive to said second error voltage for varying the time of occurrence of said range gate to coincide with said received signals.

2,979,713
RADAR INDICATING ARRANGEMENTS
Brian Clifford Fleming-Williams, London, England, assignor to A. C. Cossor Limited, London, England
Filed Aug. 9, 1954, Ser. No. 448,667
Claims priority, application Great Britain Aug. 21, 1953
7 Claims. (Cl. 343—7.9)

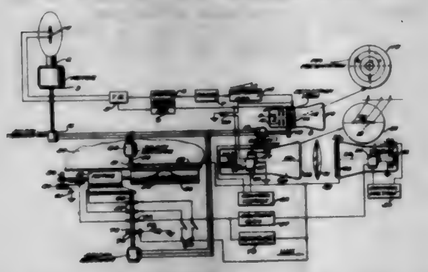
1. Radar equipment comprising at least two radar echo receiving means having directive radiation patterns set at different angles in a vertical plane and receiving respectively first and second sets of echoes at different angles of elevation, driving means effecting angular movement

of said receiving means about a vertical axis, indicating means including a viewing screen to be viewed from a viewing point, said indicating means comprising means generating a light spot visible from said viewing point within a given area of said screen, color selecting means for causing said spot to assume selectively one of at least two different colors, deflecting means including a time-base generator for periodically deflecting said spot along a radius from a common point within said area, means



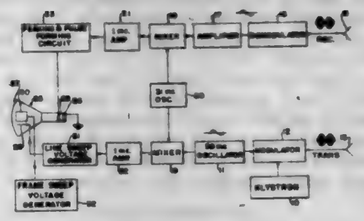
for moving the radial deflection of said spot angularly about said common point in timed relation with the angular movement of said receiving means, means for modulating the brightness of said spot, means coupling said echo receiving means to said modulating means to vary the brightness of said spot in response to signals produced by received echoes and including means responsive to said sets of echoes and controlling said color selecting means for selecting the colour of said spot in dependence upon the elevation from which the echoes are received.

2,979,714
RADAR RECORDERS
Marcel Wallace, East Portchester, Conn., assignor, by direct and mesne assignments, to Panoramic Radio Products, Inc., Mount Vernon, N.Y., a corporation of New York
Filed Feb. 19, 1948, Ser. No. 9,370
4 Claims. (Cl. 343—11)



1. A radar recording system comprising a pulse transmitter for transmitting pulse energy to remote targets, a receiver for receiving that portion of said energy which is returned from said targets, said transmitter and receiver comprising an antenna system for varying continuously over 360° of azimuth the direction of transmittal of said pulse energy, a cathode ray tube indicator having a cathode ray beam and a screen fluorescent in response to impact by said beam, a beam deflecting system for said beam consisting operatively entirely of means responsive to transmission of pulse energy by said pulse transmitter operative to deflect said beam only in the same single and invariable path for all directions of transmittal of said pulse energy, means responsive to reception of energy by said receiver for modulating said beam to create range representative illuminated images on said screen, a further cathode ray tube means comprising a photo-electric mosaic, means for impressing on said mosaic said illuminated images, means for electronically scanning on said mosaic a locus of points, said locus comprising only possible positions of said illuminated images, and for deriving signals spaced in time in accordance with the geometrical spacings of said illuminated images, and a recorder responsive to each of said signals for creating a permanent record of the ranges and bearings of objects giving rise to said images.

2,979,715
RADAR METHOD AND APPARATUS FOR HEIGHT AND SEA SURFACE CONTOUR MEASUREMENT
Wardlaw M. Hammond, Jr., Philadelphia, Pa., assignor to The Martin Company, a corporation of Maryland
Filed May 31, 1957, Ser. No. 662,887
10 Claims. (Cl. 343—12)

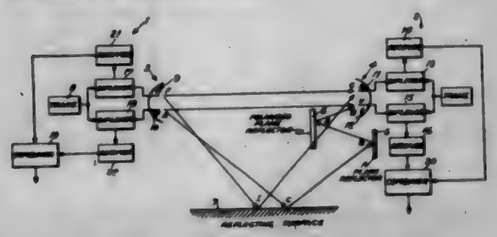


1. A height-measuring radar system for use over a turbulent ocean to produce a display representative of the contour of an undulating sea surface and which discriminates against spurious reflected signals, which comprises a generator circuit for producing an amplitude modulated continuous wave signal, transmitting means associated with said generator circuit and adapted to radiate said signal toward the surface of the sea, receiving means adapted to receive said signal after reflection from the sea surface, phase comparing means responsive to said generator circuit and to said receiving means, respectively, for periodically measuring the modulation phase difference between the signal radiated from said transmitting means and the signal received at said receiving means, said phase comparing means including a graph display device having abscissa and ordinate axes and adapted to display time on one of said axes and modulation phase difference on the other of said axes, said phase comparing means also including means for producing a plot on said graph display of the said modulation phase difference measurements versus time, a substantially continuous plot being representative of the contour of the sea surface and discriminative against spurious reflected signals which appear as random signals on said graph display.

2,979,716
DIVERSITY COMMUNICATION SYSTEM
Robert W. Hughes, Mountain Lakes, and William Sichak, Nutley, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 25, 1958, Ser. No. 756,993
18 Claims. (Cl. 343—100)

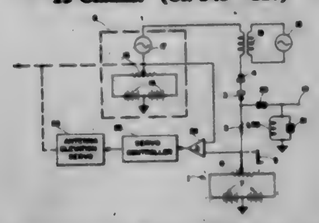
1. A diversity communication system comprising a first antenna disposed at one end of said system, a second antenna disposed at the other end of said system, a radio wave reflecting surface disposed relative to said first and second antennas to provide primary radio wave paths

between said first and second antennas including said first and second antennas and said reflecting surface, and reflecting means disposed adjacent one of said antennas to provide secondary radio wave paths between said first and second antennas including said first and second antennas, said reflecting surface and said reflecting means to achieve diversity advantage.



17. A diversity communication system comprising a first parabolic antenna disposed at one end of said system, a second parabolic antenna disposed at the other end of said system, a first means disposed in each of said antennas to provide radio wave propagation in a first polarization to define primary radio wave paths between said first and second antennas, a pair of plane reflectors disposed adjacent one of said antennas, and second means disposed in each of said antennas to provide radio wave propagation in a second polarization orthogonally related to said first polarization to define secondary radio wave paths between said first and second antennas to achieve diversity advantage, one of said secondary paths including said reflectors.

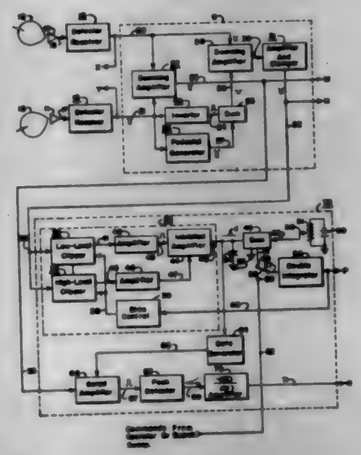
2,979,717
VOLTAGE COMPARISON CIRCUIT
Hubert R. Shaw, Downey, Calif., assignor to North American Aviation, Inc.
Filed Aug. 28, 1953, Ser. No. 375,525
15 Claims. (Cl. 343—117)



7. In an antenna positioning device, in series connection an adjustable reference voltage source, a load impedance, at least two oppositely directed diodes, a carrier frequency source, a second voltage source varying in accordance with the elevation drive of a radar antenna relative to its mount, and a third voltage source varying in accordance with the oscillatory motion of said antenna, whereby the output of said carrier frequency source across said impedance is controlled by the difference between said reference voltage and the sum of said second and third voltages.

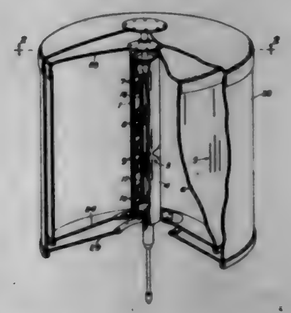
2,979,718
AUTOMATIC TARGET TRACKING PASSIVE RADAR APPARATUS
Paul D. Newhouse, Linthicum Heights, and Charles M. Allen, Jessups, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1957, Ser. No. 698,890
19 Claims. (Cl. 343—119)

1. In passive radar apparatus, in combination, fixed directional antenna means having a plurality of preselected patterns of response which overlap to a predetermined degree in a predetermined manner, and energy utilization means operatively connected to said antenna means for selecting a moving source of radio-frequency energy in said patterns and utilizing the received radio-frequency energy therefrom to automatically continue the selection of energy from the same source as it moves in said patterns, said energy utilization means including means for obtaining a plurality of signals hav-



ing amplitudes proportion to the instant position of the source in said plurality of patterns of response respectively, a plurality of amplitude responsive signal selector means for said plurality of signals respectively, and integrator means operatively connected to said plurality of signal selector means and supplying a varying control signal thereto in accordance with movement of the source within the patterns of response to thereby vary the amplitude ranges of selected signals.

2,979,719
OMNIDIRECTIONAL BEACON ANTENNA
Howard Avery, Paramus, and Daniel H. Kingsland, Jr., and Ernest G. Parker, Morristown, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Oct. 10, 1957, Ser. No. 690,181
6 Claims. (Cl. 343—761)



1. An antenna system comprising the combination of a central array having a plurality of radiating elements disposed in vertical alignment coupled to a source of input energy feeding a greater amount of energy at different phases to the middle ones of said radiating elements than is coupled to the upper and lower ones of

said radiating elements, the vertical height of said array being substantially greater than a wavelength and a plurality of parasitic elements disposed around said array at a given radial distance therefrom, each parasitic element being located within the radiation field of each radiation element, the majority of said parasitic elements being located radially of said middle radiating elements with at least some of said parasitic elements being approximately a half wavelength long, said parasitic elements being distributed in vertically disposed arrangements along the length of said central array, the distance between any two adjacent parasitic elements in each of said arrangements not exceeding one wavelength.

2,979,720
TELEVISION RECEIVING ANTENNA
Ralph N. Leonard, Crystal Lake, Ill., assignor to The Radion Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 13, 1957, Ser. No. 639,975
4 Claims. (Cl. 343—805)

1. A television antenna unit comprising a base formed by a casing made of two juxtaposed complementary casing parts and having ball socket forming means at opposite sides of said casing parts and having ball-receiving sockets opening onto the casing interior, a pair of antenna rods outside of said casing and having conductive ball elements on the ends thereof pivotally fitting inside the sockets of said ball socket forming means which pivotally support said antenna rods for universal movement relative to the base, a pair of insulated antenna leads, contact discs in said casing connected respectively to said



antenna leads and contacting the inner surfaces of said conductive ball elements, insulating spacer means in said casing extending between said contact discs, and means forcing said conductive ball elements, discs and insulating spacer together including bolt and nut means drawing said casing parts together, said ball elements thereby being frictionally but adjustably held in said ball sockets.

DESIGNS

APRIL 11, 1961

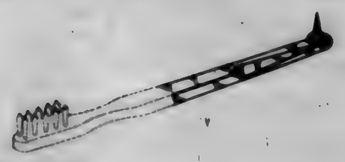
190,071
NECKTIE
Siegfried F. Scheib, 2701 N. Mozart St., Chicago, Ill.
Filed Dec. 11, 1959, Ser. No. 58,636
Term of patent 3½ years
(Cl. D3—16)



190,072
INSTRUMENT CARRIER
Albert R. Casavant, Falling Water Road, Hixson, Tenn.
Filed Sept. 12, 1960, Ser. No. 62,100
Term of patent 14 years
(Cl. D3—4)



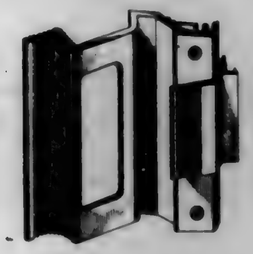
190,073
TOOTHBRUSH OR SIMILAR ARTICLE
Allen Schwartz, Brooklyn, N.Y., assignor to Pycope, Inc., Jersey City, N.J., a corporation of Missouri
Filed Dec. 21, 1959, Ser. No. 58,751
Term of patent 14 years
(Cl. D9—2)



190,074
CLEANING UNIT FOR AUTOMOBILES
Oren B. Harmon, Algona, John H. Threlkeld, Britt, and Donald A. Deal, Algona, Iowa
Filed July 18, 1960, Ser. No. 61,498
Term of patent 14 years
(Cl. D9—2)



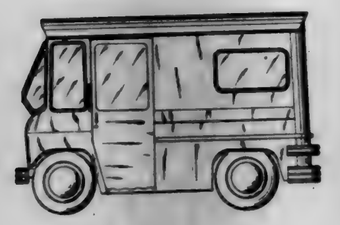
190,075
HANDLE AND LATCH UNIT FOR SLIDING DOOR
Harry M. Riegelman, Rolling Hills, and Oscar Altman, Hollywood, Calif., assignors to Holiday Door Corporation, Gardena, Calif., a corporation of California
Filed June 1, 1959, Ser. No. 56,152
Term of patent 3½ years
(Cl. D10—8)



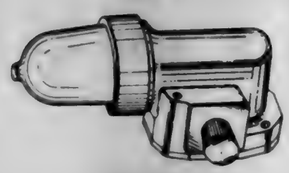
190,076
PULL
La Verne E. Clayton, 4000 Auburn St., Rockford, Ill.
Filed Aug. 29, 1960, Ser. No. 61,918
Term of patent 14 years
(Cl. D10—8)



190,077
TRUCK
Joseph T. Myers, 183 N. Prospect St., Kent, Ohio
Filed June 17, 1960, Ser. No. 61,017
Term of patent 14 years
(Cl. D14—3)



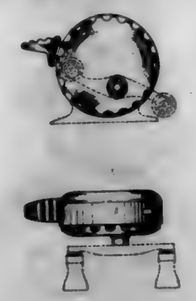
190,078
COMBINED PNEUMATIC SUSPENSION SPRING AND SHOCK ABSORBER FOR A VEHICLE
William Armstrong, Eastgate, Beverley, Yorkshire, England, assignor to Armstrong Patents Co. Limited, Yorkshire, England, a company of Great Britain
Filed Aug. 25, 1959, Ser. No. 57,297
Claims priority, application Great Britain Mar. 5, 1959
Term of patent 14 years
(Cl. D14—25)



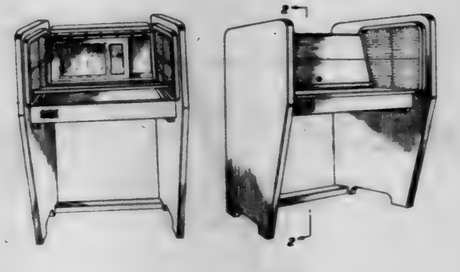
190,079
BUCKLE SLIDE
William H. Phillips, Jr., Southington, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Nov. 4, 1959, Ser. No. 58,205
Term of patent 14 years
(Cl. D17—1)



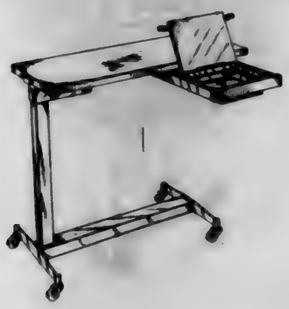
190,080
FISHING REEL
Joseph C. Clark, 4843 Rockacher Lane, Orlando, Fla.
Filed May 11, 1960, Ser. No. 60,583
Term of patent 14 years
(Cl. D31—4)



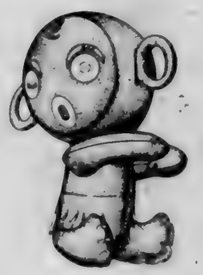
190,081
LANGUAGE LISTENING BOOTH
Robert N. Tharp, Woodlawn Ave., and Raymond Mazzarella, both of Branford, Conn.; said Mazzarella assignor to said Tharp
Filed Jan. 15, 1960, Ser. No. 59,049
Term of patent 7 years
(Cl. D33—11)



190,082
OVERBED TABLE
George R. Chervenka, 6245 Kinsey Place, St. Louis, Mo.
Filed Aug. 8, 1960, Ser. No. 61,662
Term of patent 14 years
(Cl. D33—14)



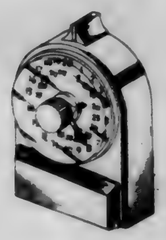
190,083
DOLL OR SIMILAR ARTICLE
Yoshihiro Suda, Tokyo, Japan, assignor to Tsukudaya Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Sept. 21, 1960, Ser. No. 62,223
Term of patent 14 years
(Cl. D34—4)



190,084
HOOP ROLLING PADDLE
Richard J. Kewell, 281 Shepherd Ave. E., Willowdale, Ontario, Canada
Filed Dec. 2, 1959, Ser. No. 58,530
Term of patent 7 years
(Cl. D34—5)



190,085
SAVINGS BANK
Frederick N. Balch, North Hollywood, Calif., assignor of one-half to Emanuel E. Kotkin, Los Angeles, Calif.
Filed May 31, 1960, Ser. No. 60,782
Term of patent 14 years
(Cl. D34—5)



190,086
GAME SCORING CARD
Rebecca Y. Card, 2923 Fairfax St., and David C. Card, Jr., 4137 Irving St., both of Denver, Colo.
Filed Oct. 10, 1960, Ser. No. 62,430
Term of patent 7 years
(Cl. D34—15)

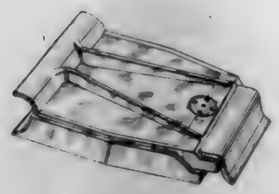


190,087
ACTIVITY TOY
Timothy J. McHugh, Eastchester, N.Y.
Filed May 6, 1960, Ser. No. 60,481
Term of patent 14 years
(Cl. D34—15)

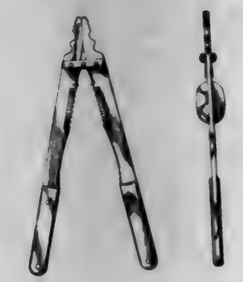
190,088
COMBINED TOY TRACKWAY AND SUPPORT SECTION
John R. Tilli, 4423 Meridian St., Philadelphia, Pa.
Filed June 2, 1958, Ser. No. 51,163
Term of patent 3½ years
(Cl. D34—15)



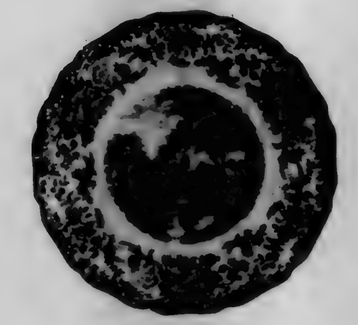
190,089
PATTY FORMING DEVICE OR SIMILAR ARTICLE
Edward Bania, 8933 Ohio, Detroit, Mich.
Filed June 23, 1960, Ser. No. 61,084
Term of patent 14 years
(Cl. D44—1)



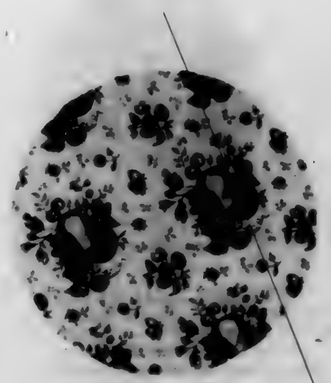
190,090
COMBINED TONGS, NUTCRACKER, AND CONTAINER OPENER
Henry Diaz, Sr., 731 NW. 20th Ave., Miami, Fla.
Filed Sept. 30, 1960, Ser. No. 62,318
Term of patent 7 years
(Cl. D44—4)



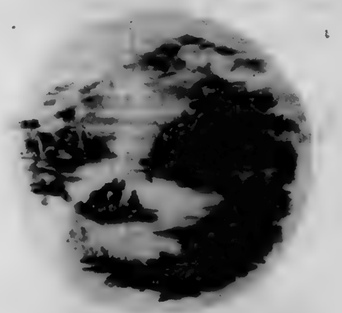
190,091
PLATE OR SIMILAR ARTICLE
Gerald S. Stone, Scarsdale, N.Y., assignor to Johnson Bros. (Hanley) Limited, Hanley, Stone-on-Trent, Great Britain, a company of Great Britain
Filed Jan. 6, 1961, Ser. No. 63,464
Term of patent 14 years
(Cl. D44—15)



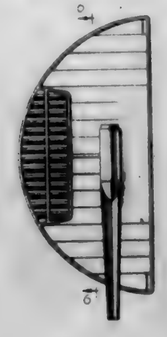
190,092
PLATE OR SIMILAR ARTICLE
Gerald S. Stone, Scarsdale, N.Y., assignor to Johnson Bros. (Hanley) Limited, Hanley, Stone-on-Trent, Great Britain, a company of Great Britain
Filed Jan. 6, 1961, Ser. No. 63,465
Term of patent 14 years
(Cl. D44—15)



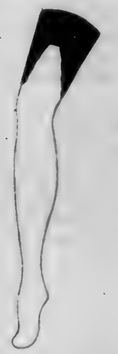
190,093
PLATE OR SIMILAR ARTICLE
Gerald S. Stone, Scarsdale, N.Y., assignor to Johnson Bros. (Hanley) Limited, Hanley, Stone-on-Trent, Great Britain, a company of Great Britain
Filed Jan. 6, 1961, Ser. No. 63,466
Term of patent 14 years
(Cl. D44—15)



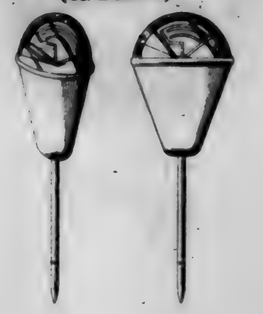
190,094
POT STRAINER
William Marcus, Cleveland, Ohio, assignor to Merrymaid Plastics Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 3, 1960, Ser. No. 62,727
Term of patent 14 years
(Cl. D44—29)



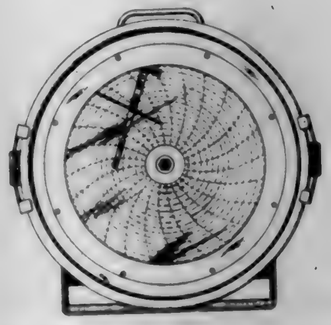
190,095
LADY'S STOCKING
William G. Bley, Richboro, Pa., assignor of one-half to Richard M. Spurgeon, Philadelphia, Pa.
Filed Apr. 15, 1960, Ser. No. 60,210
Term of patent 14 years
(Cl. D47—7)



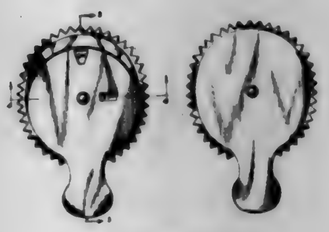
190,096
SOIL MOISTURE METER
Harry A. Wayne, 4120 W. Greenwood, Skokie, Ill.
Filed Nov. 27, 1959, Ser. No. 58,473
Term of patent 14 years
(Cl. D52—6)



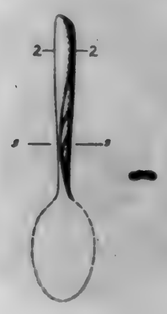
190,097
TRAVELING RECORDER
Paul F. K. Erbguth, 120 Station Road, Great Neck, N.Y., and George F. Hagemann, 390 Lum Ave., Union, N.J.
Filed Mar. 18, 1958, Ser. No. 58,080
Term of patent 14 years
(Cl. D52—6)



190,098
INTEREST COMPUTER
Ettore Iorio, 1570 74th St., Brooklyn, N.Y.
Filed Dec. 21, 1959, Ser. No. 58,728
Term of patent 14 years
(Cl. D52—6)



190,099
SPOON OR SIMILAR ARTICLE OF FLATWARE
Siro R. Toffolon, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut
Filed Oct. 7, 1959, Ser. No. 57,848
Term of patent 14 years
(Cl. D54—12)



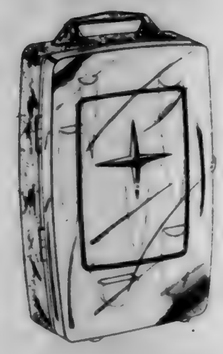
190,100
SPOON OR SIMILAR ARTICLE
Ellen Manderfield, Syracuse, N.Y., assignor to General Mills, Inc., a corporation of Delaware
Filed Jan. 18, 1961, Ser. No. 63,615
Term of patent 14 years
(Cl. D54—12)



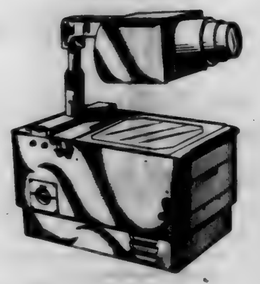
190,101
DUAL COMPARTMENT BOTTLE
John Mangini, Whitestone, N.Y., assignor to Clairol Incorporated, New York, N.Y., a corporation of Delaware
Filed June 15, 1960, Ser. No. 60,998
Term of patent 14 years
(Cl. D58—8)



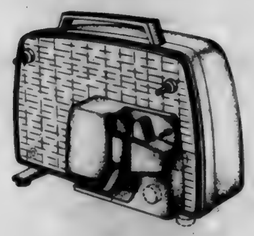
190,102
TOOL KIT
Jerome L. Murray, New York, and Donald P. Pollard, Bayside, N.Y., assignors to William Thomas & Sons, Inc., Ridgefield, N.J., a corporation of New York
Filed May 13, 1960, Ser. No. 60,561
Term of patent 14 years
(Cl. D58—13)



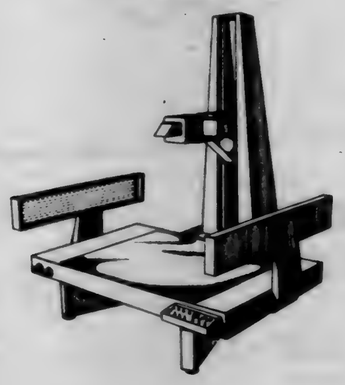
190,103
PROJECTOR
Irving S. Stapay, 1009 Beech Ave., Pittsburgh, Pa.
Filed Nov. 14, 1960, Ser. No. 62,838
Term of patent 14 years
(Cl. D61—1)



190,104
MOTION PICTURE PROJECTOR
Otto R. Nemeth, Santa Monica, Calif., assignor to International Projectors, Inc., a corporation of California
Filed July 3, 1958, Ser. No. 51,644
Term of patent 14 years
(Cl. D61—1)



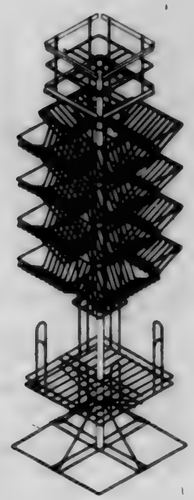
190,105
PHOTOGRAPHIC COPYING APPARATUS OR THE LIKE
Joseph H. Wally, Jr., Mission Hills, Kans., assignor to Western Blue Print Company, Kansas City, Mo., a corporation of Missouri
Filed Mar. 31, 1960, Ser. No. 59,979
Term of patent 14 years
(Cl. D61—1)



190,106
HANDLE FOR AUTOGRAPHIC REGISTER
Dana W. Mox, Glenview, Ill., assignor to Uarco Incorporated, Chicago, Ill., a corporation of Illinois
Filed Sept. 20, 1960, Ser. No. 62,213
Term of patent 14 years
(Cl. D64—11)



190,107
COMBINED MERCHANDISE DISPLAY STAND AND ADVERTISING CARD HOLDER
Marcus Glaser, San Francisco, Calif., assignor to Glaser Bros., San Francisco, Calif., a corporation of California
Filed Feb. 8, 1960, Ser. No. 59,296
Term of patent 14 years
(Cl. D80—10)



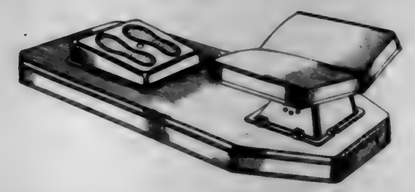
190,108
HANDBAG CLOSURE CLASP
Etienne Aigner, 217 Haven Ave., New York, N.Y.
Filed Sept. 23, 1960, Ser. No. 62,249
Term of patent 14 years
(Cl. D82—2)



190,109
ELECTRICAL MEDICINAL VAPORIZER OR THE LIKE
Donald B. Lowe, Jr., Batavia, Ill., assignor to Northern Electric Company, Chicago, Ill., a corporation of Delaware
Filed June 23, 1960, Ser. No. 61,695
Term of patent 14 years
(Cl. D83—1)



190,110
ELECTRIC FOOT VIBRATOR AND VIBRATORY SEAT COMBINATION
Willis L. Breshears, 1505 Ave. H, Levelland, Tex.
Filed Dec. 29, 1959, Ser. No. 58,846
Term of patent 3½ years
(Cl. D83—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 11TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Alkirk, Inc.: *See*—
Kirkpatrick, Max B. Re. 24,965.
Eames, Charles, to Herman Miller, Inc. Furniture frame construction. Re. 24,964, 4–11–61, Cl. 155—187.
Kirkpatrick, Max B., to Alkirk, Inc. Mining machine. Re. 24,965, 4–11–61, Cl. 262—7.
Miller, Herman, Inc.: *See*—
Eames, Charles. Re. 24,964.

LIST OF PLANT PATENTEES

Amling-Devor Nurseries, Inc.: *See*—
Lammerts, Walter E. 2,045.
Lammerts, Walter E., to Amling-Devor Nurseries, Inc. Rose plant. 2,045, 4–11–61, Cl. 47—61.

LIST OF DESIGN PATENTEES

Aigner, Etienne. Handbag closure clasp. 190,108, 4–11–61, Cl. D82—2.
Altman, Oscar: *See*—
Riegelman, Harry M., and Altman. 190,075.
Armstrong Patents Co. Ltd.: *See*—
Armstrong, William. 190,078.
Armstrong, William, to Armstrong Patents Co. Ltd. Combined pneumatic suspension spring and shock absorber for a vehicle. 190,078, 4–11–61, Cl. D14—25.
Balch, Frederick N., ½ to Emanuel E. Kotkin. Savings bank. 190,085, 4–11–61, Cl. D34—5.
Bania, Edward. Patty forming device or similar article. 190,089, 4–11–61, Cl. D44—1.
Bley, William G., ½ to Richard M. Spurgeon. Lady's stocking. 190,095, 4–11–61, Cl. D47—7.
Breshears, Willis L. Electric foot vibrator and vibratory seat combination. 190,110, 4–11–61, Cl. D83—1.
Card, David C., Jr.: *See*—
Card, Rebecca Y., and D. C. Card, Jr. 190,086.
Card, Rebecca Y., and D. C. Card, Jr. Game scoring card. 190,086, 4–11–61, Cl. D34—15.
Casavant, Albert H. Instrument carrier. 190,072, 4–11–61, Cl. D3—4.
Chervenka, George R. Overbed table. 190,082, 4–11–61, Cl. D33—14.
Clairol Inc.: *See*—
Mangini, John. 190,101.
Clark, Joseph C. Fishing reel. 190,080, 4–11–61, Cl. D31—4.
Clayton, La Verne E. Pull. 190,076, 4–11–61, Cl. D—8.
Deal, Donald A.: *See*—
Harmes, Oren B., Threlkeld, and Deal. 190,074.
Diaz, Henry, Sr. Combined tongs, nutcracker and container opener. 190,090, 4–11–61, Cl. D44—4.
Erbguth, Paul F. K., and G. F. Hageman. Traveling recorder. 190,097, 4–11–61, Cl. D52—6.
General Mills, Inc.: *See*—
Manderfield, Ellen. 190,100.
Glaser Bros.: *See*—
Glaser, Marcus. 190,107.
Glaser, Marcus, to Glaser Bros. Combined merchandise display stand and advertising card holder. 190,107, 4–11–61, Cl. D80—10.
Hageman, George F.: *See*—
Erbguth, Paul F. K., and Hageman. 190,097.
Harmes, Oren B., Threlkeld, and Deal. Cleaning unit for automobiles. 190,074, 4–11–61, Cl. D9—2.
Holiday Door Corp.: *See*—
Riegelman, Harry M., and Altman. 190,075.
International Projectors, Inc.: *See*—
Nemeth, Otto R. 190,104.
International Silver Co., The: *See*—
Toffolon, Siro R. 190,099.
Iorio, Ettore. Interest computer. 190,098, 4–11–61, Cl. D52—6.
Johnson Bros. (Hanley) Ltd.: *See*—
Stone, Gerald S. 190,091.
Stone, Gerald S. 190,092.
Stone, Gerald S. 190,093.
Kewell, Richard J. Hoop rolling paddle. 190,084, 4–11–61, Cl. D34—5.
Kotkin, Emanuel E.: *See*—
Balch, Frederick N. 190,085.
Lowe, Donald B., Jr., to Northern Electric Co. Electrical medicinal vaporizer or the like. 190,109, 4–11–61, Cl. D83—1.
Manderfield, Ellen, to General Mills, Inc. Spoon or similar article. 190,100, 4–11–61, Cl. D54—12.
Mangini, John, to Clairol Inc. Dual compartment bottle. 190,101, 4–11–61, Cl. D58—8.
Marcus, William, to Merrymaid Plastics Corp. Pot strainer. 190,094, 4–11–61, Cl. D44—29.
Mazzarella, Raymond: *See*—
Tharp, Robert N., and Mazzarella. 190,081.
McHugh, Timothy J. Activity toy. 190,087, 4–11–61, Cl. D34—15.
Merrymaid Plastics Corp.: *See*—
Marcus, William. 190,094.
Mox, Dana W., to Uarco Inc. Handle for autographic register. 190,106, 4–11–61, Cl. D64—11.
Murray, Jerome L., and D. P. Pollard, to William Thomas & Sons, Inc. Tool kit. 190,102, 4–11–61, Cl. D58—13.
Myers, Joseph T. Truck. 190,077, 4–11–61, Cl. D14—3.
Nemeth, Otto R., to International Projectors, Inc. Motion picture projector. 190,104, 4–11–61, Cl. D61—1.
Northern Electric Co.: *See*—
Lowe, Donald B., Jr. 190,109.
Phillips, William H., Jr., to Scoville Mfg. Co. Buckle slide. 190,079, 4–11–61, Cl. D17—1.
Pollard, Donald P.: *See*—
Murray, Jerome L., and Pollard. 190,102.
Pycope, Inc.: *See*—
Schwartz, Allen. 190,073.
Riegelman, Harry M., and O. Altman, to Holiday Door Corp. Handle and latch unit for sliding door. 190,075, 4–11–61, Cl. D10—6.
Schwartz, Allen, to Pycope, Inc. Toothbrush or similar article. 190,073, 4–11–61, Cl. D9—2.
Scheib, Siegfried F. Necktie. 190,071, 4–11–61, Cl. D3—16.
Scoville Mfg. Co.: *See*—
Phillips, William H., Jr. 190,079.
Spurgeon, Richard M.: *See*—
Bley, William G. 190,095.
Stapay, Irving S.: Projector. 190,103, 4–11–61, Cl. D61—1.
Stone, Gerald S., to Johnson Bros. (Hanley) Ltd. Plate or similar article. 190,091, 4–11–61, Cl. D44—15.
Stone, Gerald S., to Johnson Bros. (Hanley) Ltd. Plate or similar article. 190,092, 4–11–61, Cl. D44—15.
Stone, Gerald S., to Johnson Bros. (Hanley) Ltd. Plate or similar article. 190,093, 4–11–61, Cl. D44—15.
Suda, Yoshihiro, to Tsukudaya Co., Ltd. Doll or similar article. 190,083, 4–11–61, Cl. D34—4.
Tharp, Robert N., and R. Mazzarella, said Mazzarella assor. to said Tharp. Language listening booth. 190,081, 4–11–61, Cl. D33—11.
Thomas, William, & Sons, Inc.: *See*—
Murray, Jerome L., and Pollard. 190,102.
Threlkeld, John H.: *See*—
Harmes, Oren B., Threlkeld, and Deal. 190,074.
Tilli, John R. Combined toy trackway and support section. 190,088, 4–11–61, D34—15.
Toffolon, Siro R., to The International Silver Co. Spoon or similar article of flatware. 190,099, 4–11–61, Cl. D54—12.
Tsukudaya Co., Ltd.: *See*—
Suda, Yoshihiro. 190,083.
Uarco Inc.: *See*—
Mox, Dana W. 190,106.
Wally, Joseph H., Jr., to Western Blue Print Co. Photographic copying apparatus or the like. 190,105, 4–11–61, Cl. D61—1.
Wayne, Harry A. Soil moisture meter. 190,096, 4–11–61, Cl. D52—6.
Western Blue Print Co.: *See*—
Wally, Joseph H., Jr. 190,105.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 11TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries Inc.: *See*—
Clar, Milton. 2,978,797.
Rapplean, Eugene L., Highley, and Fuchs. 2,979,047.

A.E.I.-John Thompson Nuclear Energy Co. Ltd.: *See*—
Pettinger, Donald S. 2,979,451.

Abbey, Harold G. Electrical power connectors and braking devices for free-wheeled carriers in conveyor systems. 2,979,181, 4–11–61, Cl. 198—19.

Abzug, Malcolm J., to Sperry Rand Corp. Automatic pilot for aircraft. 2,979,289, 4–11–61, Cl. 244—77.

Ace Glass Inc.: *See*—
De Woody, Charles M., and Pearce. 2,979,594.

Acme Highway Products Corp.: *See*—
Crone, Alfred F. 2,979,307.

Acterman, Joseph S.: *See*—
Freebairn, Darwin L., Jr., and Acterman. 2,978,913.

Adams, George L., to The Salem Tool Co. Tiltable deep mining auger machine. 2,979,320, 4–11–61, Cl. 262—26.

Adams, Leo G.: *See*—
Shannon, Richard F., Matuszak, Adams, and Gillaum. 2,979,469.

Adams, Robert T., and B. M. Mindes, to International Telephone and Telegraph Corp. Radio diversity receiving system. 2,979,613, 4–11–61, Cl. 250—20.

Adel, Alf F., to Admiral Corp. Sonic sender. 2,979,022, 4–11–61, Cl. 116—137.

Adler, Fred, to Standard Motor Products, Inc. Ignition point set and cam lubricator assembly. 2,979,577, 4–11–61, Cl. 200—30.

Admiral Corp.: *See*—
Adel, Alf F. 2,979,022.
Carlson, Reuben C. 2,978,923.

Advance Machine Co.: *See*—
Arones, Daniel A. 2,978,719.

Aerojet-General Corp.: *See*—
Edmondson, Robert B. 2,979,640.

Ager, Douglas C.: *See*—
McCanse, James E., and Ager. 2,979,081.

Aircraft Steel Structures Ltd.: *See*—
Danilewics, Ludomir. 2,979,048.

Airequipt Mfg. Co., Inc.: *See*—
Wiklund, Carl H. 2,978,823.

Air Reduction Co., Inc.: *See*—
Lasio, John. 2,979,598.
Width, Robert B. 2,979,599.

Ajem Laboratories: *See*—
Umbricht, Emil, and Evans. 2,979,062.

Aktiebolaget Bahco: *See*—
Engquist, Arne, and Svanell. 2,979,032.

Aktiebolaget Electrolux: *See*—
Wahlborg, Karl J. 2,978,733.

Aktiebolaget Gotaverken: *See*—
Sörman, Rolf M. J. 2,979,009.

Aktiebolaget Svenska Metallverken Vasteras: *See*—
Ekelund, Anders E. 2,978,797.

Aladdin Industries, Inc.: *See*—
Bramming, Carl. 2,979,238.
Mason, Francis G. 2,979,616.

Albrecht, Alexander J., and F. E. Riedl, to The Brunswick Automatic Pinsetter Corp. Bowling ball return mechanism. 2,979,333, 4–11–61, Cl. 273—49.

Allen, Charles M.: *See*—
Newhouse, Paul D., and Allen. 2,979,718.

Allen, Charles R. Envelopes. 2,979,180, 4–11–61, Cl. 206—15.1.

Alliance Mfg. Co., Division of The Consolidated Electronics Industries Corp.: *See*—
Reeder, Richard D., and Longobardi. 2,979,229.

Allin, George S., Sr., to International Harvester Co. Hydraulic tank and radiator guard. 2,979,205, 4–11–61, Cl. 210—167.

Allis-Chalmers Mfg. Co.: *See*—
Voth, James W. 2,979,176.

Alsing, Carl F., to Westinghouse Electric Corp. Air conditioning apparatus. 2,978,881, 4–11–61, Cl. 62—324.

Altherr, Russell G., to American Steel Foundries. Rotor brake arrangement. 2,979,164, 4–11–61, Cl. 188—59.

Altieri, Joseph B., to USECO, Inc. Continuously rotatable multiturn potentiometer. 2,979,683, 4–11–61, Cl. 338—143.

Alvey-Ferguson Co., The: *See*—
Sullivan, Norman M. 2,979,177.

Alwood, Inc.: *See*—
Burkner, Wolfgang. 2,979,105.

Amburn, Duane W. Detachable book rack for folding chairs. 2,979,120, 4–11–61, Cl. 155—168.

Amchem Products, Inc.: *See*—
Beatty, Robert H. 2,978,838.

American Air Filter Co., Inc.: *See*—
Kirk, Harold L. 2,979,124.
Robson, Aubrey H. 2,979,264.
Stock, Charles S. 2,979,265.

American Can Co.: *See*—
Fredette, Joseph H. 2,979,193.

American Cyanamid Co.: *See*—
Petropoulos, John C. 2,979,486.
Petropoulos, John C., and Sullivan. 2,979,534.
Wozniak, Edmund P., and Matsuda. 2,979,547.

American Hoist & Derrick Co.: *See*—
Johnson, Algot F. 2,978,820.

American Machine & Foundry Co.: *See*—
Carder, Frank B., and Strauss. 2,978,986.
Timm, Paul W., and Rulseh. 2,979,580.

American Meat Institute Foundation: *See*—
Pircon, Ladislav J. 2,979,411.

American Optical Co.: *See*—
MacNeille, Stephen M. 2,979,632.

American Seating Co.: *See*—
Barecki, Chester J. 2,979,282.
Barecki, Chester J., Hoven, Nordmark, and Oom. 2,979,117.
Bradley, George C., Hoven, and Nordmark. 2,979,370.

American Steel Foundries: *See*—
Altherr, Russell G. 2,979,164.

American Telephone and Telegraph Co.: *See*—
Anspach, Russell J., Clark, Nelswinter, and Tamasi. 2,979,536.

American Viscose Corp.: *See*—
Clark, James A. 2,979,157.
Lytton, Marion R. 2,979,376.
MacHenry, Richard. 2,979,433.
Milne, David T. 2,979,114.

Ammerman, John M., to Spickelmier Industries, Inc. Lock. 2,978,757, 4–11–61, Cl. 20—52.

Amos, James L.: *See*—
Soderquist, Frederick J., and Amos. 2,979,536.

Ampco Metal Inc.: *See*—
Klement, John P. 2,979,397.

Amphenol-Borg Electronics Corp.: *See*—
Van Alen, De Witt T. 2,979,258.

Anchor Boat & Steel Co.: *See*—
Leavitt, Lyman O., and Pitt. 2,979,019.

Anchor Hocking Glass Corp.: *See*—
Stover, Harry E. 2,979,218.

Anderson Co., The: *See*—
Anderson, John W. 2,979,352.
Krohm, Fred A. 2,979,425.
Krohm, Fred A. 2,979,426.
Smulski, Theodore J. 2,978,861.
Smulski, Theodore J. 2,979,629.

Anderson, Edward L., to Goodman Mfg. Co. Mechanical miner having offset rotary heads. 2,979,319, 4–11–61, Cl. 262—19.

Anderson, Herbert R., Jr., to Phillips Petroleum Co. Polymerization process. 2,979,446, 4–11–61, Cl. 204—154.

Anderson, John W. Windshield wiper blade assembly. 2,978,730, 4–11–61, Cl. 15—250.42.

Anderson, John W., to The Anderson Co. Arm connector. 2,979,352, 4–11–61, Cl. 287—53.

Andren, William. Dispenser package. 2,979,194, 4–11–61, Cl. 206—57.

Andrew, Herbert F., W. E. Stephen, and F. A. Waite, to Imperial Chemical Industries Ltd. New monoazo dyestuffs. 2,979,498, 4–11–61, Cl. 260—153.

Andrews, James B.: *See*—
Kvassay, Emanuel, and Andrews. 2,979,191.

Angier, Roswell P., to United States of America, Atomic Energy Commission. Preparation of compacts made from uranium and beryllium by sintering. 2,979,390, 4–11–61, Cl. 75—214.

Anglim, Charles E., and W. M. Bell, to Dymo Industries, Inc. Tape embossing and label making machine. 2,979,179, 4–11–61, Cl. 197—6.7.

Anspach, Russell J., R. C. Clark, J. T. Nelswinter, and P. A. Tamasi, to American Telephone and Telegraph Co. Semiautomatic teletypewriter tape relay system. 2,979,556, 4–11–61, Cl. 178—3.

Anthony, John W.: *See*—
Blount, Floyd E., and Anthony. 2,979,389.

Applegath, Fred, and R. A. Frans, to Monsanto Chemical Co. Preparation of urea from carbonyl sulfide and ammonium acid sulfide. 2,979,527, 4–11–61, Cl. 260—555.

Archbold, Stanley. Cargo batten hanger for ships. 2,979,302, 4–11–61, Cl. 248—247.

Armento, William H., and W. E. Wallace, to General Aniline & Film Corp. Process for producing certain 2-aminophenoldisulfonamides. 2,979,503, 4–11–61, Cl. 260—247.1.

Armitage, Joseph B., and J. N. Flannery, to Kearny & Trecker Corp. Torque limiting control. 2,978,965, 4–11–61, Cl. 90—21.

Armour and Co.: *See*—
Raine, Raymond A. 2,978,848.

Arnett, Charles L. Safety hook. 2,978,766, 4–11–61, Cl. 24—116.

Arones, Daniel A., to Advance Machine Co. Mobile floor treating machine. 2,978,719, 4–11–61, Cl. 15—49.

Arutunoff, Armais, to Reda Pump Co. Centrifugal pressure seal for rotary shafts. 2,979,347, 4–11–61, Cl. 286—7.

Asadorian, Arthur A., to The Dow Chemical Co. Selective bromination of benzene. 2,979,537, 4–11–61, Cl. 260—650.

Asadorian, Arthur A., and G. A. Burk, to The Dow Chemical Co. Process for the preparation of aliphatic bromides. 2,979,540, 4–11–61, Cl. 260—654.

Ashworth, Winthrop F., to United-Carr Fastener Corp. Locking fastener. 2,979,356, 4–11–61, Cl. 292—317.

Askania-Werke A.G.: *See*—
Haalck, Fritz. 2,978,906.

Aske, Vernon H., to Minneapolis-Honeywell Regulator Co. Inertial instruments. 2,978,910, 4–11–61, Cl. 73—515.

Askerneese, Wiley. Remote control extension. 2,979,624, 4–11–61, Cl. 307—38.

Atchley, Frank W. Lighter structure. 2,978,889, 4–11–61, Cl. 87—7.1.

Ateliers et Chantiers de Bretagne (Anciens ets. de la Brosse et Fouche): *See*—
Kummerman, Henri. 2,979,007.

Atha, Floyd L. Face shield. 2,978,709, 4–11–61, Cl. 2—9.

Atlas Powder Co.: *See*—
Jeffries, John M. 2,978,947.

Auerbach, Morris E., and R. S. Browning, to Sterling Drug Inc. Test composition for determining the concentration of quaternary ammonium compounds in aqueous solution. 2,979,468, 4–11–61, Cl. 252—408.

Automatic Poultry Feeder Co., The: *See*—
Van Huis, Robert L., Linnabary, and Clark. 2,979,242.

Automotive Products Co. Ltd.: *See*—
Bland, Albert N., and Davies. 2,979,171.

Avery, Howard, D. H. Kingsland, Jr., and E. G. Parker, to International Telephone and Telegraph Corp. Omnidirectional beacon antenna. 2,979,719, 4–11–61, Cl. 343—761.

Axe, William N., and A. N. De Vault, to Phillips Petroleum Co. Fractionation of polymers. 2,979,493, 4–11–61, Cl. 260—93.7.

Ayers, J. W., & Co.: *See*—
Rinse, Jacobus. 2,979,497.

Ayres, Richard H.: *See*—
Hopkins, Frank L., and Ayres. 2,978,852.

B.X. Plastics Ltd.: *See*—
Nicholas, Donald C. 2,978,903.

Babcock & Wilcox Co., The.: *See*—
Brzeski, Jerzy. 2,979,363.
Durham, Edwin. 2,979,039.
Sifrin, Andreas, and Hennecke. 2,979,000.
Young, Norman W. 2,979,041.

Backhouse, Headley T. Sheet feeding machines. 2,979,331, 4–11–61, Cl. 271—46.

Badger, Walter L., to United States of America, Interior. Process for the prevention of scale in sea water evaporators. 2,979,442, 4–11–61, Cl. 202—57.

Baget, Jean: *See*—
Gailliot, Paul, and Baget. 2,979,502.

Baggs, Burton D., Jr.: *See*—
Smith, Alexander, and Baggs. 2,978,857.

Bailey, Luther, to Parks-Cramer Co. Modulating system for humidification of enclosures. 2,979,266, 4–11–61, Cl. 236—44.

Baittinger, Jack R. ½ to J. J. Dougherty. Splicer clip unit for H-beam bearing piles. 2,978,874, 4–11–61, Cl. 61—53.

Baker, Benjamin P., to Westinghouse Electric Corp. Circuit interrupters. 2,979,589, 4–11–61, Cl. 200—145.

Baker, Jesse G.: *See*—
Netherton, Lyman R., and Baker. 2,978,829.

Baldwin, Alan W. Coded message error indicating device. 2,978,905, 4–11–61, Cl. 73—156.

Baldwin-Lima-Hamilton Corp.: *See*—
Lee, Donald E. 2,978,900.

Baliguet, Michel P., G. Ernst, and J. Jardinier, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Mixed correspondence control device for the control members of an aircraft. 2,979,290, 4–11–61, Cl. 244—77.

Balint, John E., to Controls & Communications Co., Inc. Photoelectric control circuit in combination with a toggle actuated cutter device. 2,978,943, 4–11–61, Cl. 83—362.

Baliman, Albert A., A. J. Caporaso, and R. A. Laudise, to Bell Telephone Laboratories, Inc. Method of growing corundum crystals. 2,979,413, 4–11–61, Cl. 106—42.

Ballou, Richard P., to Federal Pacific Electric Co. Push button stations. 2,979,581, 4–11–61, Cl. 200—42.

Bals, Edward J., to Micron Sprayers Ltd. Spraying apparatus for treating crops and pests. 2,979,269, 4–11–61, Cl. 239—77.

Bang, Mogens W., to Liberty Mfg. Corp. Apparatus for tuning a radio frequency. 2,979,615, 4–11–61, Cl. 250—40.

Barden Corp., The: *See*—
Mims, Bruce L., and Konet. 2,979,367.

Barecki, Chester J., A. C. Hoven, W. R. Nordmark, and B. J. Oom, to American Seating Co. Combination chair-desk structure. 2,979,117, 4–11–61, Cl. 155—124.

Barecki, Chester J., to American Seating Co. Automatic reel. 2,979,282, 4–11–61, Cl. 242—107.4.

Barnett, Harry E. Combination illuminated writing instrument and flashlight. 2,979,602, 4–11–61, Cl. 240—6.46.

Barrallon, Georges, to Compagnie des Ateliers et Forges de la Loire. Core making machine. 2,978,760, 4–11–61, Cl. 22—10.

Barravecchia, Domenick P. Liquid dispensing closure cap. 2,979,219, 4–11–61, Cl. 215—65.

Barron, Lee H. Drill and countersink tool. 2,978,846, 4–11–61, Cl. 51—206.

Bartmann & Bixer, Inc.: *See*—
Petzal, Henry. 2,978,735.

Bassinger, Ross, to Bassinger Tool Co. Fluid actuated impact tool. 2,979,033, 4–11–61, Cl. 121—16.

Bassinger Tool Co.: *See*—
Bassinger, Ross. 2,979,033.

Bauer, Eugen, G.m.b.H.: *See*—
Heuchemer, Willy, and Reinach. 2,979,115.

Baumann, William, to Firma Bama-Werk Curt Baumann. Metatarsal foot supports. 2,978,818, 4–11–61, Cl. 36—71.

Bayha, Jack E.: *See*—
Faulkner, Willard J., and Bayha. 2,979,337.

Bays, Carl A., to Food Machinery and Chemical Corp. Solution mining of trona. 2,979,317, 4–11–61, Cl. 262—3.

Beach, Lennox F.: *See*—
Braddon, Frederick D., Beach, and Chadwick. 2,979,010.

Bean, William T., Jr. Pressure responsive devices. 2,979,680, 4–11–61, Cl. 338—5.

Beatty, Robert H., to Amchem Products, Inc. Method for changing the bearing years of fruit trees. 2,978,838, 4–11–61, Cl. 47—58.

Beaver Precision Products, Inc.: *See*—
Sears, Richard E., and Morris. 2,978,920.

Beavers, Ellington M.: *See*—
O'Brien, Joseph L., and Beavers. 2,979,514.

Bechik, Michael, to Bechik Products Inc. Innerspring mattress construction and reinforcing means for the side walls thereof. 2,978,714, 4–11–61, Cl. 5—351.

Bechik Products Inc.: *See*—
Bechik, Michael. 2,978,714.

Becker, Johannes, and H. W. Bulthuis, to N.V. Optische Industrie de Oude Delft. Optical lens system having a relative aperture larger than f/1. 2,978,957, 4–11–61, Cl. 88—57.

Becker, Wilhelm, F. Schmelzsmeier, K. Feja, and W. Schuster. Conveyor trains. 2,979,184, 4–11–61, Cl. 198—109.

Behrens, Curtis E., and R. D. Shapter, to Borg-Warner Corp. Suspension system for an automatic washer. 2,978,892, 4–11–61, Cl. 68—24.

Bell Telephone Laboratories, Inc.: *See*—
Baliman, Albert A., Caporaso, and Laudise. 2,979,413.
Farrow, Cecil W. 2,979,662.
Lowry, Terrell N. 2,979,574.
Turner, Edward H. 2,979,675.
Wick, Ronald F. 2,979,006.

Bell, Thomas A. Portable metal fire escape ladder. 2,979,154, 4–11–61, Cl. 182—73.

Bell, William M.: *See*—
Anglim, Charles E., and Bell. 2,979,179.

Bellringer, Frederick J., C. W. Capp, F. C. Newman, and K. H. W. Turck, to The Distillers Co., Ltd. Production of dichlorbutenes. 2,979,542, 4–11–61, Cl. 260—654.

Belluomini, Fred V. Leaf and trash gatherer. 2,978,781, 4–11–61, Cl. 15—257.4.

Bemis Bro. Bag Co.: *See*—
Hopkins, Frank L., and Ayres. 2,978,852.
Stageberg, Wilfred E. 2,979,113.

Bender, Harry: *See*—
Pitt, Harold M., and Bender. 2,979,541.

Bendix Corp., The: *See*—
Dunlap, William C., Jr. 2,979,668.
Karp, Harry R. 2,979,596.
Maitland, Robert T. 2,979,554.
Seifried, Paul E., and Meyer. 2,979,707.
Sundberg, Alfred A. 2,978,901.

Bendix-Westinghouse Automotive Air Brake Co.: *See*—
Valentine, Harry M. 2,979,069.

Benedict, Ullman H., to James Lees and Sons Co. Automatic adhesive applicator for large wrapping paper rolls. 2,979,023, 4–11–61, Cl. 118—43.

Benner-Nawman, Inc.: *See*—
Nawman, Rollie B., and R. L. 2,978,831.

Bennett, Edward O., and E. B. Hodge, to Commercial Solvents Corp. Process for the control of bacteria. 2,979,455, 4–11–61, Cl. 252—8.55.

Bennett, Edward O., and E. B. Hodge, to Commercial Solvents Corp. Process for the control of bacteria. 2,979,456, 4–11–61, Cl. 252—8.55.

Bentele, Max, to Curtiss-Wright Corp. Seal vent arrangement for rotating combustion engines. 2,979,042, 4–11–61, Cl. 123—8.

Benteler, Helmut, to Benteler-Werke Aktiengesellschaft Werk Neuhaus. Internally and externally copper-coated steel tubes and their manufacture. 2,978,799, 4–11–61, Cl. 29—183.5.

Benteler-Werke Aktiengesellschaft Werk Neuhaus: *See*—
Benteler, Helmut. 2,978,799.

Bentov, Itzhak, to W. R. Grace & Co. Method and apparatus for treating paper. 2,979,131, 4–11–61, Cl. 162—361.

Berberich, Otto W. Swimming duck toy. 2,978,832, 4–11–61, Cl. 46—107.

Beresnai, Oszkar, to "Licencia" Találmányokat Értékesitö Vállalat. Track inspection car. 2,978,904, 4–11–61, Cl. 73—146.

Bergen Pipesupport Corp.: *See*—
Sacosso, Leonard S. 2,979,297.

Berger Bros. Co., The: *See*—
Fischer, William H. 2,979,064.

Bergstein Packaging Trust: *See*—
Bergstein, Robert M. 2,979,252.

Bergstein, Robert M., to Bergstein Packaging Trust. Cover lock box. 2,979,252, 4–11–61, Cl. 229—47.

Berkeley, Frederick D., III, to Graham Mfg. Co., Inc. Steam vacuum refrigeration unit. 2,978,880, 4–11–61, Cl. 62—268.

Berry, David A.: *See*—
Heinrich, Raymond L., Berry, and Christian. 2,979,473.
Heinrich, Raymond L., Berry, and Dick. 2,979,472.
Heinrich, Raymond L., Berry, and Dick. 2,979,474.

Bersin, Theodor, and A. Müller. Coating process. 2,979,422, 4–11–61, Cl. 117—106.

Bessiere, Pierre E. Fuel injection pumps. 2,978,987, 4–11–61, Cl. 103—41.

Bettendorf Bakery Equipment Co.: *See*—
Visnaw, Kenneth. 2,978,849.

Beucher, Charles, to Telecommunications Radioelectriques et Telephoniques T.R.T. (Societe Anonyme). Single side-band receiver for reception of single side-band signals by means of a carrier-wave frequency. 2,979,610, 4-11-61, Cl. 250—20.

Biagi, Alvaro D., to International Telephone and Telegraph Corp. Transmitter spectrum monitor. 2,979,609, 4-11-61, Cl. 250—17.

Bianchi, Renato: *See*—
Ruehlemann, Herbert E., Burke, Bianchi, Smith, and Tower. 2,978,981.

Bianchi, Renato, to United States of America, Navy. Magnetically delayed arming device for a fuse. 2,978,982, 4-11-61, Cl. 102—79.

Bickford, Hollis L. Overload detector. 2,979,704, 4-11-61, Cl. 340—177.

Bider, Gianni. Sliver delivery unit for stationary balling head. 2,979,276, 4-11-61, Cl. 242—54.4.

Bidwell, Joseph B., to General Motors Corp. Vehicle steering system with oscillation damping. 2,979,148, 4-11-61, Cl. 180—79.2.

Bierwagen, Otto T.: *See*—
Scherer, George F., and Bierwagen. 2,979,457.

Bigland, Bernard K., and R. F. Garner, to General Engineering Co. (Radcliffe) Ltd. Automatic coiling machines. 2,979,275, 4-11-61, Cl. 242—25.

Bingham-Herbrand Corp., The: *See*—
Hinsey, Robert S. 2,978,925.
Hinsey, Robert S. 2,978,926.

Birdsall, Clarence E. Propelling and steering device for watercraft. 2,979,018, 4-11-61, Cl. 115—29.

Birkenbach, Eugene J., and J. J. Frelichowski, to International Harvester Co. Locking device for adjusting arm of harrow shock absorbing device. 2,979,139, 4-11-61, Cl. 172—635.

Birtch, Fred E., and B. H. Johnson, to Michigan Tool Co. Apparatus for grinding double-enveloping worm elements. 2,978,843, 4-11-61, Cl. 51—33.

Blachoff, Leopold, to Fa. Maschinenfabrik Zuckermann Komm. Ges. Wien. Duplicating milling machine for wood. 2,979,088, 4-11-61, Cl. 142—7.

Bishop, Dudley O., and G. S. Brosan. Transmission mechanisms and the like. 2,979,630, 4-11-61, Cl. 310—102.

Bishop, Richard B., and J. S. Pavlin, to Foster Grant Co., Inc. Method of blending polystyrene and wax. 2,979,476, 4-11-61, Cl. 260—28.5.

Bishop, Ronald F., and S. Little, to Whessoe Ltd. Load supporting means. 2,979,221, 4-11-61, Cl. 220—15.

Bixby, Leon C. Heat treating basket. 2,979,323, 4-11-61, Cl. 263—47.

Bjorksten, Johan: *See*—
Fiedler, Stuart O., Bjorksten, and W. S. Fiedler. 2,979,392.

Black, Frank D., Jr.: *See*—
Moser, Frank T. 2,978,996.

Blackhawk Mfg. Co.: *See*—
Ferguson, Harry C., and Brussock. 2,979,102.

Blackwell, Basil D., G. C. Chick, and R. P. Cane, to Bristol Siddeley Engines Ltd. Silencers. 2,979,151, 4-11-61, Cl. 181—51.

Blain, Albert, to Sperry Rand Corp. Memory plane wiring techniques. 2,978,800, 4-11-61, Cl. 29—203.

Blake, Minden V. Grading articles by weight. 2,979,201, 4-11-61, Cl. 209—121.

Bland, Albert N., and D. A. Davies, to Automotive Products Co. Ltd. Clutch operating mechanism for motor vehicles. 2,979,171, 4-11-61, Cl. 192—52.

Blanke, Nathan E. Adjustable furniture leg. 2,978,712, 4-11-61, Cl. 5—310.

Blanton, Charles H., to Ford Motor Co. Handle assembly. 2,978,927, 4-11-61, Cl. 74—545.

Blecker, Raymond H., to Simmons Co. Mattress construction. 2,978,715, 4-11-61, Cl. 5—351.

Bliemeister, Louis W. Process and apparatus for producing spherical metal pellets. 2,978,742, 4-11-61, Cl. 18—2.4.

Bliss, E. W., Co.: *See*—
Cruger, Robert W. 2,979,292.

Block Drug Co., Inc.: *See*—
Rosenthal, Murray W., and Cohen. 2,978,812.

Blodgett, Edwin O., to Commercial Controls Corp. Code-form converter and communication system. 2,979,564, 4-11-61, Cl. 178—26.

Block, Lourens, J. W. De Ruiter, S. J. C. Sytsma, and G. Zwanenburg, to North American Philips Co., Inc. Circuit arrangement for a high frequency furnace. 2,979,669, 4-11-61, Cl. 331—62.

Blonder, Howard, to Jaybee Mfg. Corp. Display package. 2,979,192, 4-11-61, Cl. 206—46.

Blount, Floyd E., and J. W. Anthony, to Socony Mobil Oil Co., Inc. Apparatus for treating high pressure gas systems. 2,979,389, 4-11-61, Cl. 48—105.

Boeing Airplane Co.: *See*—
Keister, Glenn L. 2,979,263.

Bolkow-Entwicklungen Kommanditgesellschaft: *See*—
Planitzer, Erich. 2,979,285.

Bollefer, Dwight L. Ice cube making machine. 2,978,882, 4-11-61, Cl. 62—347.

Bonn, Theodore H., and J. D. Lawrence, Jr., to Sperry Rand Corp. Magnetic cores for gates, buffers and function tables. 2,979,698, 4-11-61, Cl. 340—174.

Borenstein, Martin. Furniture. 2,978,710, 4-11-61, Cl. 5—37.

Borg-Warner Corp.: *See*—
Behrens, Curtis E., and Shapter. 2,978,892.

Bosch, Julius, to Friesike and Hoepfner, G.m.b.H. Ionization chamber circuitry with temperature compensation. 2,979,619, 4-11-61, Cl. 250—83.6.

Bothwell, Theodore P., and W. A. Helbig, to Radio Corp. of America. Semi-conductor gating circuit. 2,979,625, 4-11-61, Cl. 307—88.5.

Bourquin, Hans: *See*—
Krüger, Gustav, Schütz, and Bourquin. 2,979,417.

Bowman, Henry V. Method and apparatus for bending tubes. 2,979,103, 4-11-61, Cl. 153—40.

Boyden, Robert E. Water sprinkling device. 2,979,271, 4-11-61, Cl. 239—236.

Bracco Industria Chimica S.p.A.: *See*—
Felder, Ernst, and Pitré. 2,979,525.

Braddon, Frederick D., L. F. Beach, and J. H. Chadwick, Jr., to Sperry Rand Corp. Ship stabilization system. 2,979,010, 4-11-61, Cl. 114—126.

Bradford, Robert J. Automatically positioning nail set. 2,979,092, 4-11-61, Cl. 145—46.

Bradley, George C., A. C. Hoven, and W. E. Nordmark, to American Seating Co. Desk top construction. 2,979,370, 4-11-61, Cl. 312—316.

Bradley, Marion W. Wire stripping device. 2,978,934, 4-11-61, Cl. 81—9.5.

Bradshaw, R. Louis, and J. W. Thomas, to United States of America, Army. Air radioactivity monitor. 2,979,620, 4-11-61, Cl. 250—83.6.

Bramming, Carl, to Aladdin Industries, Inc. Sip-through and pour-through closure for vacuum bottles or the like. 2,979,238, 4-11-61, Cl. 222—484.

Brandt, Carl T.: *See*—
Reed, Edwin E., and Brandt. 2,979,134.

Brandt, James W. *See*—
Miller, Raymond G., and Brandt. 2,978,894.

Bratton, Roy R. Tool for sharpening ice skates. 2,978,930, 4-11-61, Cl. 76—83.

Breedon, David B., J. T. Carleton, and R. W. Ferguson, to Westinghouse Electric Corp. Antihunting generator systems. 2,979,652, 4-11-61, Cl. 322—19.

Breimer, Hendrik, to North American Philips Co., Inc. Receiver for color television signals with slope-related synchronous detectors. 2,979,560, 4-11-61, Cl. 178—5.4.

Brenner, Murry J. Sandals and slippers. 2,978,817, 4-11-61, Cl. 36—2.5.

Brey, Wilhelm, to The Firestone Tire & Rubber Co. Preparation of coated fabric material. 2,979,106, 4-11-61, Cl. 154—1.8.

Brickman, A. W.: *See*—
Pircon, Ladislav J. 2,979,411.

Bridges, Ronald P., to A. B. Chance Co. Electrical mid-span spacer connector. 2,979,555, 4-11-61, Cl. 174—145.

Bright, Roy A., to Du Bois Plastic Products, Inc. Method of making composite molded plastic wheels. 2,978,751, 4-11-61, Cl. 18—59.

Brightman, Barrie, to General Dynamics Corp. Time division multiplex communication system. 2,979,570, 4-11-61, Cl. 179—15.

Brisson, John R., to Lodal Inc. Loader bucket and grapple apparatus. 2,979,215, 4-11-61, Cl. 214—78.

Bristol Siddeley Engines Ltd.: *See*—
Blackwell, Basil D., Chick, and Cane. 2,979,151.
Hiscock, George H., and Vivian. 2,978,869.

British Celanese Ltd.: *See*—
Kowolik, Ernest J., and Lincoln. 2,979,483.

British Plaster Board (Holdings) Ltd., The: *See*—
Taylor, John B. 2,979,415.

British Ropes Ltd.: *See*—
Campbell, Robert E. 2,978,860.

British Thomson-Houston Co. Ltd., The: *See*—
Watson, John A. 2,979,592.

Broden, Albert W. Drill stop. 2,978,931, 4-11-61, Cl. 77—7.

Brodt, Rudolf: *See*—
Keller, Heinz, Brodt, and Lampatzer. 2,979,430.

Bromberg, Esther: *See*—
Welna, George E. 2,979,637.

Bromberg, Nathan: *See*—
Welna, George E. 2,979,637.

Brooks, E. J., Co.: *See*—
Moberg, Sigurd M. 2,978,705.
Moberg, Sigurd M. 2,978,706.

Brooks, Raymond A.: *See*—
Haven, Edward S., and Brooks. 2,978,845.

Brosan, George S.: *See*—
Bishop, Dudley O., and Brosan. 2,979,630.

Brown, Alexander M., to Talon, Inc. Automatic lock slider for slide fasteners. 2,978,772, 4-11-61, Cl. 24—205.14.

Brown, James W., and E. A. Destremps, to Esso Research and Engineering Co. Method of heat hardening of fluid coke briquettes. 2,979,388, 4-11-61, Cl. 44—16.

Brown-Line Corp.: *See*—
Looker, Robert. 2,978,946.

Brown, Robert G., to Cleveland Electro Metals Co. Method and means for alloying molten metals. 2,978,765, 4-11-61, Cl. 22—215.

Brown, Vergil K., Jr. Door brake. 2,979,355, 4-11-61, Cl. 292—76.

Brown, William. Venetian blind. 2,979,127, 4-11-61, Cl. 160—115.

Brown, William C., to National Research Council. Sine/cosine potentiometer. 2,979,681, 4-11-61, Cl. 338—89.

Browning, Robert S.: *See*—
Auerbach, Morris E., and Browning. 2,979,468.

Brun, Pierre C. E., to Societe Poitevine de Conditionnement (Societe Anonyme). Combination package and diffusion device. 2,979,268, 4-11-61, Cl. 239—55.

Brunskill, Robert T.: *See*—
Hartley, Gilbert S., Brunskill, and Pfeiffer. 2,979,075.

Brunswick Automatic Pinsetter Corp., The: *See*—
Albrecht, Alexander J., and Riedl. 2,979,333.

Bruson, Herman A., and T. P. O'Day, to Olin Mathieson Chemical Corp. Polyoxynikylene ether surface-active compositions. 2,979,533, 4-11-61, Cl. 260—613.

Brussock, John E.: *See*—
Ferguson, Harry C., and Brussock. 2,979,102.

Brzeski, Jerzy, to the Babcock & Wilcox Co. Shot mixing device. 2,979,363, 4-11-61, Cl. 302—53.

Buchi, Alfred J., deceased; H. Walder, executor. Inlet and outlet elements for piston engines. 2,979,046, 4-11-61, Cl. 123—79.

Budd Co., The: *See*—
Dean, Albert G. 2,978,995.

Budzich, Tadeusz. Constant speed drive. 2,979,037, 4-11-61, Cl. 121—119.

Bulthuis, Henricus W.: *See*—
Becker, Johannes, and Bulthuis. 2,978,957.

Bungas, George. Portable air circulating heat exchange unit. 2,979,311, 4-11-61, Cl. 257—303.

Burgett, Monte L., Jr., and W. G. Ehrich, to Philco Corp. Index-signal generating system for multi-beam cathode-ray tubes. 2,979,559, 4-11-61, Cl. 178—5.4.

Burhans, Walter L. Precision hole centering and marking device. 2,978,814, 4-11-61, Cl. 33—189.

Burk, George A.: *See*—
Asadorian, Arthur A., and Burk. 2,979,540.

Burke, Richard J.: *See*—
Ruehlemann, Herbert E., Burke, Bianchi, Smith, and Tower. 2,978,981.

Bürkner, Wolfgang, ½ to Carl Schenck Maschinenfabrik G.m.b.H., and ½ to Alwood Inc. Method and apparatus for producing particle composition products. 2,979,105, 4-11-61, Cl. 154—1.

Burkus, John, to United States Rubber Co. Process of trimerizing isocyanates. 2,979,485, 4-11-61, Cl. 260—75.

Burleigh, Richard J., to United States of America, Atomic Energy Commission. Clashing beam particle accelerator. 2,979,635, 4-11-61, Cl. 315—5.18.

Burmeister, Toivo U. L., and F. J. Fransson, to Svenska Aktiebolaget Gasaccumulator. Course directional light beacon. 2,979,693, 4-11-61, Cl. 340—26.

Burnett, Elmer B.: *See*—
Vaughn, Jack S., and Burnett. 2,979,354.

Burnett, Lionel C., to Ericsson Telephones Ltd. Electric pulse counting arrangement. 2,979,638, 4-11-61, Cl. 315—84.6.

Burroughs Corp.: *See*—
Lang, Andrew R. 2,978,978.

Burroughs Wellcome & Co. (U.S.A.) Inc.: *See*—
De Beer, Edwin J., Ellis, and Ide. 2,979,055.

Busch, Frank R. Blade baffled two-cycle engine. 2,979,045, 4-11-61, Cl. 123—65.

Buss, Wilhelm, ½ to P. O. Tobeler, d.b.a. Trans-Oceanic. Parachute combination and ejection device. 2,979,294, 4-11-61, Cl. 244—148.

California Research Corp.: *See*—
Grannemann, Wayne W., and Trorey. 2,979,692.
Lavigne, Joe B., and Levine. 2,979,445.
Ospenson, Joseph N. 2,979,383.

Callery Chemical Co.: *See*—
Lichtenwalter, Myrl, and Harwell. 2,979,530.

Calverley, George H., to Whitman Publishing Co. Tablet dispenser. 2,979,230, 4-11-61, Cl. 221—186.

Camp, John M.: *See*—
Eckel, John E., and Camp. 2,979,144.

Campbell, David S., to Cardwell Westinghouse Co. Combination journal stop, oil seal, dust guard. 2,979,346, 4-11-61, Cl. 286—6.

Campbell, Robert E., to British Ropes Ltd. Wire ropes. 2,978,860, 4-11-61, Cl. 57—148.

Canadian Curtiss-Wright, Ltd.: *See*—
Leighton, Geoffrey J. 2,979,649.

Canadian Ingersoll-Rand Co., Ltd.: *See*—
McClay, Gordon F. 2,979,090.

Cane, Raymond P.: *See*—
Blackwell, Basil D., Chick, and Cane. 2,979,151.

Cantrell, Troy L., and J. G. Peters, to Gulf Oil Corp. Addition products of dialkyl acid orthophosphate and olefin oxides. 2,979,523, 4-11-61, Cl. 260—461.

Capanna, Adolfo A., to Pitney-Bowes, Inc. Code element shifting device. 2,979,183, 4-11-61, Cl. 198—38.

Capitani, Elio. Key holder. 2,978,897, 4-11-61, Cl. 70—456.

Caporaso, Anthony J.: *See*—
Ballman, Albert A., Caporaso, and Laudise. 2,979,413.

Capp, Clifford W.: *See*—
Bellringer, Frederick J., Capp, Newman, and Turck. 2,979,542.

Carborundum Co., The: *See*—
McMullen, John C. 2,978,750.

Carder, Frank B., and L. Strauss, to American Machine & Foundry Co. Free piston engine. 2,978,986, 4-11-61, Cl. 103—27.

Cardwell Westinghouse Co.: *See*—
Campbell, David S. 2,979,346.

Carlberg, Robert E., to United States of America, Navy. Self-aligning guide for loading in missile launching systems. 2,978,959, 4-11-61, Cl. 89—1.7.

Carleton, James T.: *See*—
Breedon, David B., Carleton, and Ferguson. 2,979,652.

Carlson, Reuben C., to Admiral Corp. Bi-directional transmission and motor system. 2,978,923, 4-11-61, Cl. 74—472.

Carlson, Wyman I.: *See*—
Karge, Max R., and Carlson. 2,979,096.

Carlsson, Bengt O., and K. Eklund, to Durox International Societe Anonyme. Apparatus for making a plurality of vertical cuts through light-weight concrete. 2,978,777, 4-11-61, Cl. 25—108.

Carlsson, Stig. Loudspeaker apparatus. 2,979,149, 4-11-61, Cl. 181—31.

Carpenter, Paul G., to Phillips Petroleum Co. Modification of linear rubbery polymers. 2,979,488, 4-11-61, Cl. 260—79.

Cary Corp.: *See*—
Karlen, Harvey R. 2,979,597.

Casas-Robert, Ramon, J. Court, and R. Gianinazzi, to Mefina S.A. Sewing machines. 2,979,002, 4-11-61, Cl. 112—158.

Catalyst Research Corp.: *See*—
Klein, Irvin I. 2,979,198.

Cavender, James V., Jr., to Monsanto Chemical Co. Ethylene polymerization process in which the kerosene suspending medium is recovered. 2,979,495, 4-11-61, Cl. 260—94.9.

Celanese Corp. of America: *See*—
Cloutier, Eugene F., and Petersen. 2,978,752.
Wenzell, Louis P., Jr., and Lovin. 2,978,785.

Chadwick, Joseph H., Jr.: *See*—
Braddon, Frederick D., Beach, and Chadwick. 2,979,010.

Challender, Ronald S., and H. C. Knights, to United Kingdom Atomic Energy Authority. Apparatus for handling nuclear reactor fuel elements. 2,978,790, 4-11-61, Cl. 29—33.

Chance, A. B., Co.: *See*—
Bridges, Ronald P. 2,979,555.

Chapin, Edward O.: *See*—
Lazar, Melvin E., Smith, and Chapin. 2,979,412.

Chase-Shawmut Co., The: *See*—
Salzer, Erwin. 2,979,644.

Chick, George C.: *See*—
Blackwell, Basil D., Chick, and Cane. 2,979,151.

Chiola, Vincent, and W. C. Fink, to Sylvania Electric Products Inc. Coated photoflash lamp. 2,978,890, 4-11-61, Cl. 67—31.

Chisholm-Ryder Co., Inc.: *See*—
Karge, Max R., and Carlson. 2,979,096.

Chittick, C. Yardley: *See*—
Hilton, Stanley C. 2,979,063.

Christian, Robert L.: *See*—
Heinrich, Raymond L., Berry, and Christian. 2,979,473.

Christie, John S., to The Proctor-Sliex Corp. Method and system of color monitoring. 2,978,951, 4-11-61, Cl. 88—14.

Christie, John S., to The Proctor-Sliex Corp. Color control of liquids. 2,979,066, 4-11-61, Cl. 137—3.

Cincinnati Shaper Co., The: *See*—
Haselton, Merrill W., Griesheimer, and Ostendorf. 2,978,976.

Clar, Milton, to ACF Industries Inc. Assembling and finishing method and apparatus. 2,978,791, 4-11-61, Cl. 20—34.

Clark Equipment Co.: *See*—
Felder, Howard B. 2,978,902.

Clark, James A., to American Viscose Corp. Process for producing gas-proof and gas-adsorbent materials and the articles so produced. 2,979,157, 4-11-61, Cl. 183—4.

Clark, Jean H. Quarter wave limiter circuit. 2,979,677, 4-11-61, Cl. 333—35.

Clark, Kendall, to Curtiss-Wright Corp. Adjustable nozzle for rocket. 2,978,866, 4-11-61, Cl. 60—35.6.

Clark, Kenneth G.: *See*—
Van Huis, Robert L., Linnabary, and Clark. 2,979,242.

Clark, Robert C.: *See*—
Anspach, Russell J., Clark, Neiswinter, and Tamasi. 2,979,556.

Clarke, Clifford W., to Otto Construction Corp. Purification of an aromatic-containing feed by solid adsorption followed by contact with molten alkali metal. 2,979,548, 4-11-61, Cl. 260—674.

Clarkson, Stanley. Mold. 2,978,780, 4-11-61, Cl. 25—118.

Clayton, David P., to General Motors Corp. Lamp socket. 2,979,687, 4-11-61, Cl. 339—101.

Clemons, Maurice M.: *See*—
Sehn, Francis J., and Clemons. 2,979,186.

Clendening, Francis J., Jr., to E. I. du Pont de Nemours and Co. Singeing apparatus. 2,978,783, 4-11-61, Cl. 26—6.

Cleveland Electro Metals Co.: *See*—
Brown, Robert G. 2,978,765.

Cleveland Trust Co., The: *See*—
Frohlich, Adolf, and Harris. 2,979,123.

Clevite Harris Products, Inc.: *See*—
Sellers, John P., Jr. 2,979,353.

Clewes, Antony B., to United-Carr Fastener Corp. Tube socket for printed circuit panel. 2,979,688, 4-11-61, Cl. 339—194.

Cline, Robert C., R. G. Rose, and C. L. Wiands, to F. L. Russell Corp. Easel forming binder. 2,979,343, 4-11-61, Cl. 281—33.

Cloutier, Eugene F., and S. A. Petersen, to Celanese Corp. of America. Processing tow. 2,978,752, 4-11-61, Cl. 19—63.

Coast Pro-Seal & Mfg. Co.: *See*—
Snow, Floyd E., and York. 2,979,237.

Coffee Equipment, Inc.: *See*—
Rockriver, Clyde R. 2,978,974.

Cohen, Alfred G.: *See*—
Small, Samuel N. 2,979,065.

Cohen, Herbert A.: *See*—
Rosenthal, Murray W., and Cohen. 2,978,812.

Cohen, Paul: *See*—
Greenman, Joseph, Shalita, Taverna, and Cohen. 2,979,061.

Cole, Leo V., to The Peelle Co. Hand rails for moving stairs. 2,979,180, 4-11-61, Cl. 198—16.

Coler, Myron A.: *See*—
Louis, Arnold S. 2,979,682.

Colgate-Palmolive Co.: *See*—
Fox, Arthur L., and Krems. 2,979,436.
Gray, Frederick W. 2,979,521.

Collier, Theodore J.: *See*—
Whitehurst, Harry B., Morrison, and Collier. 2,979,424.

Collins, Arthur J. Spout with sealing cover therefor. 2,979,239, 4-11-61, Cl. 222—530.

Comfort Lines, Inc.: *See*—
Gelman, Harry A. 2,979,118.

Commercial Controls Corp.: *See*—
Blodgett, Edwin O. 2,979,564.

Commercial Solvents Corp.: *See*—
Bennett, Edward O., and Hodge. 2,979,455.
Bennett, Edward O., and Hodge. 2,979,456.
Stengel, Leonard A. 2,978,864.

Compagnie des Ateliers et Forges de la Loire: *See*—
Barrallon, Georges. 2,978,760.

Compur-Werk Friedrich Deckel O.H.G.: *See*—
Fahlenberg, Paul. 2,978,970.

Conch International Methane Ltd.: *See*—
Pastuhov, Alexis. 2,978,876.

Cone Automatic Machine Co. Inc.: *See*—
Davies, Lester F. 2,978,803.

Congoleum-Nairn Inc.: *See*—
Re Casino, Frank P. 2,978,942.

Conquest, Victor: *See*—
Pircon, Ladislav J. 2,979,411.

Consolidation Coal Co.: *See*—
Friedrich, Robert J. 2,979,441.

Constant, Irving: *See*—
Crystal, Philip E. 2,979,003.
Diehm, Kenneth F., and Leonard. 2,976,771.

Continental Aviation & Engineering Corp.: *See*—
Genden, Seymour A., and Paget. 2,979,284.

Continental Can Co., Inc.: *See*—
Henchert, John. 2,979,224.

Continental Motors Corp.: *See*—
Haas, Herbert H. 2,979,160.

Contraves A.G.: *See*—
Toth, Peter. 2,979,710.

Controls & Communications Co., Inc.: *See*—
Balint, John E. 2,978,943.

Cook, Curtiss L., to Deere & Co. Mower with sandblast cutting means. 2,978,856, 4–11–61, Cl. 56—25.

Cook Electric Co.: *See*—
McDonald, Donald C., and Reich. 2,979,135.

Cornelison, Boyd, and E. A. Wolff, Jr., to Texas Instruments Inc. Diffused transistor and method of making. 2,979,429, 4–11–61, Cl. 148—1.5.

Corning Glass Works: *See*—
Randels, Robert B. 2,978,789.

Corwin, Thomas E., and C. Knipple, to J. E. Harder. Portable animal stall. 2,979,027, 4–11–61, Cl. 119—15.

Cossor, A. C., Ltd.: *See*—
Fleming-Williams, Brian C. 2,979,713.

Costello, George T., to National Heater Co., Inc. Header assembly for space heater. 2,979,050, 4–11–61, Cl. 126—104.

Cotton, William, Ltd.: *See*—
Ladbrooke, Neville C. 2,978,888.

Couch, Glenn F., to Symington Wayne Corp. Package spring group. 2,979,324, 4–11–61, Cl. 267—9.

Court, Jean: *See*—
Casas-Robert, R., Court, and Ghaninassi. 2,979,002.

Creed, S. H., and S. Csimma, to Food Machinery and Chemical Corp. Pear peeling machine. 2,979,093, 4–11–61, Cl. 146—43.

Crispell, Roger L., and C. I. Vellner, to General Motors Corp. Domestic appliance. 2,979,053, 4–11–61, Cl. 126—194.

Crompton & Knowles Corp.: *See*—
Turner, Richard G. 2,978,786.

Crone, Alfred F., to Acme Highway Products Corp. Highway guard rail and post therefor. 2,979,307, 4–11–61, Cl. 256—13.1.

Crown Zellerbach Corp.: *See*—
MacGregor, Warren S. 2,979,532.

Crucible Steel Co. of America: *See*—
Langenberg, Frederick C. 2,979,396.

Cruger, Robert W., to E. W. Bliss Co. Aircraft arresting hook head. 2,979,292, 4–11–61, Cl. 244—110.

Crystal, Philip E., to Irving Constant. Method for sewing concealed slide fasteners. 2,979,003, 4–11–61, Cl. 112—265.

Csimma, Sandor: *See*—
Creed, Sherman H., and Csimma. 2,979,093.

Cunningham, James M., to International Business Machines Corp. Paper feeding mechanism. 2,979,329, 4–11–61, Cl. 271—29.

Curran, Charles F., Jr., H. Kazarian, and W. Tingle, to The Holdsworth Mfg. Co. Inc. Power feed apparatus. 2,978,872, 4–11–61, Cl. 60—97.

Curtis, Aaron L., and W. J. Larsen, to Minneapolis-Honeywell Regulator Co. Control apparatus for liquid cooler. 2,978,878, 4–11–61, Cl. 62—162.

Curtis, Daniel L., to Litton Systems, Inc. Omnipositional rotary switch. 2,979,578, 4–11–61, Cl. 200—32.

Curtiss-Wright Corp.: *See*—
Bentele, Max. 2,979,042.
Clark, Kendall. 2,978,866.
Pierce, Eroid F. 2,978,865.

Cushman, Walton W. Cargo balance computer for aircraft. 2,979,256, 4–11–61, Cl. 235—61.

Cutler-Hammer, Inc.: *See*—
Rouse, William H. 2,978,979.
Rouse, William H. 2,979,646.

Cyber Societe Anonyme: *See*—
Petit, Marceau R. 2,978,919.

Czajkowski, Norman, to United States of America, Navy. Inertia time delay mechanism. 2,978,984, 4–11–61, Cl. 102—80.

D C A Food Industries Inc.: *See*—
Markakis, Pericles, Freeman, and Harte. 2,979,400.

D & W Mfg. Co., Inc.: *See*—
Meyerowitz, Nathan. 2,979,605.

Daigle, Andrew. Working cover and tool holder. 2,979,190, 4–11–61, Cl. 206—19.5.

Dailey, William H., Jr., to Midland-Ross Corp. Furnace pressure control. 2,979,322, 4–11–61, Cl. 263—40.

Daimler-Benz Aktiengesellschaft: *See*—
Naumann, Willy E. 2,979,147.
Wilfert, Karl. 2,978,734.

D'Alessandro, Nicholas J., W. G. Mccoy, and E. W. Zearfoss, Jr., to Philco Corp. Refrigeration apparatus. 2,978,884, 4–11–61, Cl. 62—213.

Dalrymple, Donald D.: *See*—
Ludwig, Ralph E., and Dalrymple. 2,979,452.

Daniels, Neale J. Grass guard for trees. 2,978,837, 4–11–61, Cl. 47—25.

Danilewicz, Ludomir, to Aircraft Steel Structures Ltd. Starters for internal combustion engines. 2,979,048, 4–11–61, Cl. 123—179.

Darling, Samuel M., and C. Lise, to The Standard Oil Co. Lubricating oil composition containing mixed 2:1 α- and β-glycol borate compounds. 2,979,450, 4–11–61, Cl. 252—49.6.

David, Freddy, Henriette, and A. R. Phippa, to General Dynamics Corp. Real time binary coded decimal-to-decimal converter. 2,979,709, 4–11–61, Cl. 340—347.

Davies, David A.: *See*—
Bland, Albert N., and Davies. 2,979,171.

Davies, Lester F., to Cone Automatic Machine Co. Inc. Hand press for installing bushings in excavator booms and the like. 2,978,803, 4–11–61, Cl. 29—282.

Davis, Frank L. Air operated valve grinder. 2,978,842, 4–11–61, Cl. 51—29.

Davison, Roger A., to Orenda Engines Ltd. Rotary output assemblies. 2,978,885, 4–11–61, Cl. 64—1.

Dawson, Dennis J.: *See*—
Jerkins, Ernest E. and Dawson. 2,979,358.

Deacon, George P. Electrical radiant heating system. 2,979,595, 4–11–61, Cl. 219—19.

Dean, Albert G., to The Budd Co. Wall structure, particularly for railway cars. 2,978,995, 4–11–61, Cl. 105—401.

De Beer, Edwin J., C. H. Ellis, and W. Ide, to Burroughs Wellcome & Co. (U.S.A.) Inc. Method for the administration of muscle relaxant drugs. 2,979,065, 4–11–61, Cl. 128—214.

De Cat, Arthur H., and B. H. Tavernier, to Gevaert Photo-Producten N.V. Light-sensitive photographic element containing a 1-hydroxy-2-naphthoic acid anilide color coupler. 2,979,405, 4–11–61, Cl. 96—55.

Deere & Co.: *See*—
Cook, Curtiss L. 2,978,856.
Hess, Christian H. 2,979,137.
McCanse, James E., and Ager. 2,979,081.
Oehler, William P., and Hansen. 2,979,136.
Oehler, William P., and Immesoete. 2,979,342.

De Forest, Taber, to Magnaflux Corp. Method and apparatus for detecting flaws. 2,979,655, 4–11–61, Cl. 324—38.

De Hart, John H. Foot-operated vise having bevel gear drive. 2,978,935, 4–11–61, Cl. 81—17.

De Jongh, Hendrik P.: *See*—
Van Dorp, David A., and De Jongh. 2,979,518.

De Koker, Willy P. and S. J. G. De Vleminck, to North American Philips Co., Inc. Frequency-shift telegraphy receiver. 2,979,567, 4–11–61, Cl. 178—88.

Delmar, Roger A., to The Firestone Tire & Rubber Co. Tire manufacture. 2,978,749, 4–11–61, Cl. 18—17.

Denis, Albert P., and M. D. Sullivan, administratrix of the estate of A. P. Denis, deceased. Hydraulically operated, mechanically powered safety brake system. 2,979,167, 4–11–61, Cl. 188—141.

Denton, William I., to Olin Mathieson Chemical Corp. Preparation of pyridine. 2,979,510, 4–11–61, Cl. 260—290.

Denza, John: *See*—
Smith, James T., and Denza. 2,979,233.

De Ruiter, Jacob W.: *See*—
Blok, Lourens, De Ruiter, Sytsma, and Zwanenburg. 2,979,869.

Despres, Urban H.: *See*—
Randall, Walter H., and Despres. 2,979,245.

Destremps, Edward A.: *See*—
Brown, James W., and Destremps. 2,979,388.

Detrex Chemical Industries, Inc.: *See*—
Kircher, Charles E., Jr., and Jones. 2,979,375.

De Troije, Nicolaas C., to North American Philips Co., Inc. Device for adding two numbers. 2,979,261, 4–11–61, Cl. 235—176.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Pistor, Horst. 2,979,464.

De Vault, Albert N.: *See*—
Axe, William N., and De Vault. 2,979,493.

Devine, Martin J.: *See*—
Lamson, Edward R., and Devine. 2,978,793.
Lamson, Edward R., and Devine. 2,978,794.
Lamson, Edward R., and Devine. 2,978,795.

De Vleminck, Stephane J. G.: *See*—
De Koker, Willy P., and De Vleminck. 2,979,567.

De Wilde, Andries C., and W. K. Steinhagen, to General Motors Corp. Solenoid valve assembly. 2,979,643, 4–11–61, Cl. 317—199.

De Woody, Charles M., and R. L. Pearce, to Ace Glass Inc. Resistance heated funnel. 2,979,594, 4–11–61, Cl. 219—19.

Diamond Alkali Co.: *See*—
Miller, George A. 2,979,448.
Wotiz, John H. 2,979,536.

Dick, Richard J.: *See*—
Heinrich, Raymond L., Berry, and Dick. 2,979,472.
Heinrich, Raymond L., Berry, and Dick. 2,979,474.

Dickson, Lawrence E.: *See*—
Hoagland, Earl J., and Dickson. 2,979,153.

Dictograph Products, Inc.: *See*—
Lebr, Philip N., O'Brien, and Reitlinger. 2,979,575.

Dieckmann, James R., to The Firestone Tire & Rubber Co. Method and apparatus for forming tire bead grommets. 2,979,109, 4–11–61, Cl. 154—9.

Diehm, Kenneth F., and W. T. Leonard, to Irving Constant. Cloth article. 2,978,771, 4–11–61, Cl. 24—205.1.

Digney, Charles J., to Westrex Corp. Record clamping and stripping mechanisms for facsimile machines and the like. 2,979,272, 4–11–61, Cl. 346—138.

Dipner, Charles D., to Minnesota Mining and Mfg. Co. Chemically resistant coatings and method for preparation thereof. 2,979,418, 4–11–61, Cl. 117—72.

Distillers Co. Ltd., The: *See*—
Bellringer, Frederick J., Capp, Newman, and Truck. 2,979,542.
Gasson, Edward J., and Hadley. 2,979,526.

Ditmars, Walter E., Jr.: *See*—
McCallum, John, Johnson, Ditmars, and McGraw. 2,979,553.

Dixon Sintaloy Inc.: *See*—
Glesser, Kenneth M. 2,978,850.

Djerassi, Carl, and G. Rosenkranz, to Syntex S.A. Δ⁴-allopregnen-3,11,20-trione and intermediates to the production thereof. 2,979,516, 4–11–61, Cl. 260—397.3.

Donohoe, Martin A., to The Gleason Works. Ring gear and differential case assembly. 2,978,921, 4–11–61, Cl. 74—447.

Dopera, Edward E.: *See*—
Dopera, Rudolph and E. E. 2,978,945.

Dopera, Rudolph and E. E. Magnetic pick ups. 2,978,945, 4–11–61, Cl. 84—1.15.

Dougherty, John J.: *See*—
Baittinger, Jack R. 2,978,874.

Dover, Samuel M. Reflector mounting element, 2,978,958, 4–11–61, Cl. 88—96.

Dow Chemical Co., The: *See*—
Asadorian, Arthur A. 2,979,537.
Asadorian, Arthur A., and Burk. 2,979,540.
Easley, John A., and Hopkins. 2,979,387.
Foerster, George S. 2,979,398.
Hill, Richard L., and Park. 2,979,419.
Levine, Charles A. 2,979,447.
Soderquist, Frederick J., and Amos. 2,979,536.

Dow Corning Corp.: *See*—
Harper, Jack R. 2,979,420.
Piccoli, William A. 2,979,482.
Pierce, Ogden, R., and Holbrook. 2,979,519.

Dragonuk, Leo, to United States of America, Navy. Material handling apparatus. 2,979,212, 4–11–61, Cl. 214—1.

Drake, George L., Jr., W. A. Reeves, and J. D. Guthrie, to United States of America, Agriculture. Fibrous textile cellulosic phosphonomethyl ethers and process of preparation. 2,979,374, 4–11–61, Cl. 8—120.

Dresser Industries, Inc.: *See*—
Erath, Louis W. 2,979,666.

Du Bois Plastic Products, Inc.: *See*—
Bright, Roy A. 2,978,751.

Duck, William N. Bloom inhibited chocolate and method of producing same. 2,979,407, 4–11–61, Cl. 99—23.

Duffield, Albert J., to Olin Mathieson Chemical Corp. Stripper mechanism. 2,979,188, 4–11–61, Cl. 205—4.

Duinker, Simon, to North American Philips Co., Inc. Device for registering coded information. 2,979,696, 4–11–61, Cl. 340—173.2.

Dunlap, William C., Jr., to The Bendix Corp. Amplifier. 2,979,668, 4–11–61, Cl. 330—36.

Dunn, Harold S. Water-beam canopy. 2,978,758, 4–11–61, Cl. 20—57.5.

Dunnet, Charles W. Butter pat slicer. 2,978,809, 4–11–61, Cl. 31—21.

Dunnet, Charles W. Butter pat slicer. 2,978,810, 4–11–61, Cl. 31—21.

Dunnet, Charles W. Butter pat slicer. 2,978,811, 4–11–61, Cl. 31—21.

Du Pont de Nemours, E. I., and Co.: *See*—
Clendening, Francis J., Jr. 2,978,783.
Keefe, Robert L., Jr. 2,978,788.
Rausch, Maynard S. 2,979,435.

Durham, Edwin, to The Babcock & Wilcox Co. Fluid heating unit. 2,979,039, 4–11–61, Cl. 122—6.

Durox International Societe Anonyme: *See*—
Carlsson, Bengt O., and Eklund. 2,978,777.

Dusbabek, Mark R., to The Fluor Corp., Ltd. Nuclear reactor control device. 2,979,450, 4–11–61, Cl. 204—193.2.

Dwork, Bernard M., to Merrimac Research and Development Corp. Microwave attenuators. 2,979,678, 4–11–61, Cl. 333—81.

Dwyer, Arthur J. Game cart. 2,979,338, 4–11–61, Cl. 280—47.3.

Dymo Industries, Inc.: *See*—
Anglim, Charles E., and Bell. 2,979,179.

Easley, John A., and C. W. Hopkins, to The Dow Chemical Co. Etching. 2,979,387, 4–11–61, Cl. 41—42.

Eastus, Harold L., and E. Hiatt, to Kimble Glass Co. Apparatus for finishing apertured glass articles. 2,978,839, 4–11–61, Cl. 49—28.

Eburn, William H., Jr., to Polaroid Corp. Photographic product. 2,978,971, 4–11–61, Cl. 95—13.

Eckel, John E., and J. M. Camp, to Jersey Production Research Co. Retractable drill. 2,979,144, 4–11–61, Cl. 175—232.

Eckert, John P., Jr., and E. E. Masterson, to Sperry Rand Corp. High speed printer. 2,978,977, 4–11–61, Cl. 101—93.

Eckert, John S., to The United States Stoneware Co. Hold-down plate. 2,979,313, 4–11–61, Cl. 261—94.

Eckert, John S., to The United States Stoneware Co. Packing tower with hold-down plate. 2,979,314, 4–11–61, Cl. 261—94.

Eckert, John S., to The United States Stoneware Co. Hold-down plates. 2,979,315, 4–11–61, Cl. 261—94.

Edison, John S. Control mechanism for fluid under high pressures. 2,979,073, 4–11–61, Cl. 137—331.

Edmondson, Robert B., to Aerojet-General Corp. Spark gap. 2,979,640, 4–11–61, Cl. 315—208.

Edwards, Lewis A. Bale lifter. 2,979,216, 4–11–61, Cl. 214—147.

Ehrich, William G.: *See*—
Burgett, Monte I., Jr., and Ehrich. 2,979,559.

Ehrlich, Paul, and R. N. Pittlio, to Monsanto Chemical Co. Low temperature polymerization of ethylene. 2,979,496, 4–11–61, Cl. 260—94.9.

Eitel, Jay M. Safety apparatus for mobile lifting equipment. 2,979,152, 4–11–61, Cl. 182—2.

Ekelund, Anders E., to Aktiebolaget Svenska Metallverken Vasteras. Tubular finned metal sections and manufacture thereof. 2,978,797, 4–11–61, Cl. 29—157.3.

Eklund, Kurth: *See*—
Carlsson, Bengt O., and Eklund. 2,978,777.

Elastic Fabric Co., Inc.: *See*—
Jones, Edward W. 2,979,278.

Electroacustic Gesellschaft mit beschrankter: *See*—
Kühn, Hans-Robert. 2,979,578.

Electro Tec Corp.: *See*—
Filipczak, Peter A. 2,979,085.

Ellis, Charles H.: *See*—
De Beer, Edwin J., Ellis, and Ide. 2,979,055.

Ellis, Lester B. D., to The General Electric Co. Ltd. Apparatus of the kind including a waveguide. 2,979,670, 4–11–61, Cl. 333—98.

Ellsworth, Ivan W., and K. S. Johnson. Method for simultaneous photographic printing and developing. 2,979,404, 4–11–61, Cl. 96—41.

Eltic, Inc.: *See*—
Strobel, Arthur J. 2,978,863.

Englert, Ralph A., to Sylvania Electric Products, Inc. Lead wire feed. 2,979,228, 4–11–61, Cl. 221—9.

Engquist, Arne, and E. O. Svanell, to Aktiebolaget Bahco. Hydraulically operable hand tools. 2,979,032, 4–11–61, Cl. 121—3.

Epperlein, Helmut, to Hamilton Watch Co. Electric watch. 2,978,862, 4–11–61, Cl. 58—23.

Eppinger, Charles E., and E. G. Flanagin. Truck box covers. 2,979,361, 4–11–61, Cl. 296—100.

Erath, Louis W., to Dresser Industries, Inc. Stabilized transistor amplifier. 2,979,666, 4–11–61, Cl. 330—17.

Erdmann, Hans, to Waldes Kohinoor, Inc. Slide fasteners. 2,978,773, 4–11–61, Cl. 24—205.14.

Erdmann, Hans, to Waldes Kohinoor, Inc. Means for assembling "open" spring-retaining rings. 2,978,801, 4–11–61, Cl. 29—212.

Erdmann, Hans, to Waldes Kohinoor, Inc. Combination retaining ring dispensing and applying tools. 2,978,802, 4–11–61, Cl. 29—229.

Erickson, Lester E., to The B. F. Goodrich Co. Apparatus for conveying material. 2,979,187, 4–11–61, Cl. 198—184.

Ericsson Telephones Ltd.: *See*—
Burnett, Lionel C. 2,979,638.

Ernst, Günther: *See*—
Baliguet, Michel P., Ernst, and Jardinier. 2,979,290.

Errede, Louis A., and W. R. Peterson, to Minnesota Mining and Mfg. Co. Difluorocarbene free radicals in the synthesis of fluorinated olefinic compounds. 2,979,539, 4–11–61, Cl. 260—653.3.

Eshbaugh, Jesse E., and J. A. McDougal, to General Motors Corp. Throttle control mechanism. 2,979,172, 4–11–61, Cl. 192—3.

Esso Research and Engineering Co.: *See*—
Brown, James W., and Destremps. 2,979,388.
Heinrich, Raymond L., Berry, and Christian. 2,979,473.
Heinrich, Raymond L., Berry, and Dick. 2,979,472.
Heinrich, Raymond L., Berry, and Dick. 2,979,474.
Thomas, Telfer L. 2,979,549.

Estes, Nelson N. Anti-torpedo system. 2,979,015, 4–11–61, Cl. 114—240.

Estrems, Eugeni, to International Business Machines Corp. Data transfer system. 2,979,260, 4–11–61, Cl. 235—159.

Ethyl Corp.: *See*—
Governale, Luke J., and Leeper. 2,979,492.

Evans, Dewey: *See*—
Umbricht, Emil, and Evans. 2,979,062.

Fa. Maschinenfabrik Zuckermann Komm. Ges. Wien: *See*—
Bischoff, Leopold. 2,979,088.

Fa. VDO Tachometerwerke Adolf Schindling G.m.b.H.: *See*—
Förster, Johann. 2,978,727.

Fafnir Bearing Co., The: *See*—
Potter, Howell L. 2,979,345.

Fahlenberg, Paul, to Compur-Werk Friedrich Deckel O.H.G. Photographic shutter construction. 2,978,970, 4–11–61, Cl. 95—11.5.

Fahr, Morris. Dispenser caps for fluid containers. 2,979,236, 4–11–61, Cl. 222—207.

Fairest, Barry M., to Morgan Fairest Ltd. Bottle-crating machines. 2,978,854, 4–11–61, Cl. 53—246.

Fairley, Inc.: *See*—
Paulson, Everett L. 2,978,819.

Falge, Robert N., to General Motors Corp. Shock absorbing lamp mounting. 2,979,603, 4–11–61, Cl. 240—41.5.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Rodenacker, Wolf. 2,978,746.

Farrell, John M.: *See*—
Martin, Edward J., and Farrell. 2,979,647.

Farrow, Cecil W., to Bell Telephone Laboratories, Inc. Electrical wave synchronizing circuit. 2,979,662, 4–11–61, Cl. 328—139.

Faulkner, Willard J., and J. E. Bayha, to V-M Corp. Phonograph. 2,979,337, 4–11–61, Cl. 274—10.

Federal Pacific Electric Co.: *See*—
Ballou, Richard P. 2,979,581.

Feja, Karl: *See*—
Becker, Wilhelm, Schmeissmeir, Feja, and Schuster. 2,979,184.

Felder, Ernst, and D. Pitré, to Bracco Industria Chimica S.p.A. New crystalline pantothenic acid ester and process for the production thereof. 2,979,525, 4–11–61, Cl. 260—482.

Felder, Howard B., to Clark Equipment Co. Torque measurement apparatus. 2,978,902, 4–11–61, Cl. 73—136.

Ferguson, Carl S. Refrigerant composition. 2,979,463, 4–11–61, Cl. 252—70.

Ferguson, Harry C., and J. E. Brussock, to Blackhawk Mfg. Co. Straightening tool. 2,979,102, 4–11–61, Cl. 153—39.

Ferguson, Raymond W.: *See*—
Breedon, David B., Carleton, and Ferguson.

Fibreboard Paper Products Corp.: *See*—
Pellaton, Ernest C., and Klapperich. 2,979,247.

Fickert, Hanns: *See*—
Plesker, Richard. 2,979,089.

Fiedler, Stuart O., J. Bjorksten, and W. S. Fiedler, to Lor Corp. Foaming of granulated metal. 2,979,392, 4–11–61, Cl. 75—20.

Fiedler, William S.: *See*—
Fiedler, Stuart O., Bjorksten, and Fiedler. 2,979,392.

Fields, Ellis K., to Standard Oil Co. P-lower alkyl substituted cumyl disulfides. 2,979,551, 4–11–61, Cl. 260—608.

Fields, Joseph E., and J. H. Johnson, to Monsanto Chemical Co. Drilling mud. 2,979,454, 4–11–61, Cl. 252—8.5.

Filbey, Emery T.: *See*—
Pircon, Ladislav J. 2,979,411.

Filipczak, Peter A., to Electro Tec Corp. Slip ring assembly for high voltages. 2,979,685, 4–11–61, Cl. 339—5.

Fink, William C.: *See*—
Chiola, Vincent, and Fink. 2,978,800.

Finn, Sidney J., to United Shoe Machinery Corp. Fuse-setting mechanism. 2,978,960, 4–11–61, Cl. 89—6.

Firestone Tire & Rubber Co., The: *See*—
Brey, Wilhelm. 2,979,106.
Delmar, Roger A. 2,978,749.
Dieckmann, James R. 2,979,109.
Kochm, Robert C. 2,978,784.
Kolbe, Henry H. 2,979,344.
Noall, John. 2,979,091.
Piloni, Robert A. 2,979,491.
Piloni, Robert A., and Rowland. 2,979,480.
Rowe, Walter C. 2,979,099.
Schutz, Joseph M. 2,979,111.
Smith, George E. P., Jr. 2,979,504.
Smith, George E. P., Jr. 2,979,513.
Stearns, Richard S. 2,979,494.
Stevens, Horace D. 2,979,104.
Warren, Alvin W. 2,979,470.
Willis, James M. 2,979,101.
Woodall, William R. 2,979,100.

Firma Bama-Werk Curt Baumann: *See*—
Baumann, William. 2,978,818.

Firma SKF Kugellagerfabriken G.m.b.H.: *See*—
Steichele, Joseph. 2,979,308.

Firth Sterling Inc.: *See*—
Williams, Everard M., and Porterfield. 2,979,639.

Fischer, Georg, Aktiengesellschaft: *See*—
Von Zelewsky, Ottomar. 2,978,939.

Fischer, William H., to The Berger Bros. Co. Inflatable building construction. 2,979,064, 4–11–61, Cl. 135—1.

Fisher, Charles R., Jr.: *See*—
Tyrlick, William V., and Fisher. 2,979,695.

Fisher, Mark E.: *See*—
Tuck, Robert M., and Fisher. 2,978,928.

Fisons Pest Control Ltd.: *See*—
Hartley, Gilbert S., Brunskill, and Pfeiffer. 2,979,075.

Fiterman, M. M.: *See*—
Moser, Frank T. 2,978,906.

Fitzgerald, Charles F., and A. J. Murphy, to United Shoe Machinery Corp. Lockstitch shoe sewing machines. 2,979,001, 4–11–61, Cl. 112—36.

Flanagin, Edwin G.: *See*—
Eppinger, Charles E., and Flanagin. 2,979,361.

Flannery, James N.: *See*—
Armitage, Joseph B., and Flannery. 2,978,965.

Fleming-Williams, Brian C., to A. C. Cossor, Ltd. Radar indicating arrangements. 2,979,713, 4–11–61, Cl. 343—7.9.

Flick, Francis S., and W. J. Kudlaty, to Flick-Reedy Corp. Removable trunnion for piston and cylinder devices. 2,979,369, 4–11–61, Cl. 309—2.

Flick-Reedy Corp.: *See*—
Flick, Francis S., and Kudlaty. 2,979,369.

Fluor Corp., Ltd., The: *See*—
Dusbabek, Mark R. 2,979,450.
Rissman, James E., and Kohl. 2,979,421.

Foerster, George S., to The Dow Chemical Co. Magnesium-base alloy. 2,979,398, 4–11–61, Cl. 75—168.

Fogle, Arnold R. Storage battery box clamps. 2,979,146, 4–11–61, Cl. 180—68.5.

Food Machinery and Chemical Corp.: *See*—
Bays, Carl A. 2,979,317.
Creed, Sherman H., and Csimma. 2,979,093.
Tuemmler, William B., and Winkler. 2,979,505.

Ford Motor Co.: *See*—
Blanton, Charles H. 2,978,927.
Hrabovsky, Joseph V. 2,978,764.

Förster, Johann, to Fa. VDO Tachometerwerke Adolf Schindling G.m.b.H. Apparatus for operation of windshield clearing devices on automotive vehicles. 2,978,727, 4–11–61, Cl. 15—250.2.

Foster Grant Co., Inc.: *See*—
Bishop, Richard B., and Pavlin. 2,979,476.

Fowell, Edward J. C., to National Research Development Corp. Velocity indicator. 2,979,623, 4–11–61, Cl. 250—220.

Fox, Arthur L., and I. J. Krems, to Colgate-Palmolive Co. Treatment of tomato plants to prevent early blight disease. 2,979,436, 4–11–61, Cl. 167—30.

Fox Products Co.: *See*—
Godshalk, James B., and Medlar. 2,979,650.

Foye, John J., and W. O. Stauffer, to Kaiser Aluminum & Chemical Corp. Continuous casting apparatus. 2,978,761, 4–11–61, Cl. 22—57.2.

Fram Corp.: *See*—
Pritchard, Hugh E., and Shaltz. 2,979,159.

Frankel, Adolf, to Richardsons, Westgarth & Co. Ltd. Multi-stage flash evaporator. 2,979,443, 4–11–61, Cl. 202—173.

Frankland, Samuel D., ½ to M. E. Hill. Incinerator. 2,978,998, 4–11–61, Cl. 110—18.

Fransson, Frans J.: *See*—
Burmeister, Toivo U. L. and Fransson. 2,979,693.

Frans, Raymond A.: *See*—
Applegath, Fred, and Frans. 2,979,527.

Fraser, Alton: *See*—
Looney, Joseph M., Jr., Fraser, and Martin. 2,979,684.

Fredette, Joseph H., to American Can Co. Merchandising package. 2,979,193, 4–11–61, Cl. 206—47.

Freebairn, Darwin L., Jr., and J. S. Acterman, to North American Aviation, Inc. Internal gimbal gyroscope. 2,978,913, 4–11–61, Cl. 74—5.7.

Freeman, Lewis G. Adjustable lamp. 2,979,303, 4–11–61, Cl. 248—287.

Freeman, Thomas M.: *See*—
Markakis, Pericles, Freeman, and Harte. 2,979,409.

Frelichowski, John J.: *See*—
Birkenbach, Eugene J., and Frelichowski. 2,979,139.

Frerichs, Rudolf, to Research Corp. Method for preparing infrared transmittable arsenic trisulfide. 2,979,382, 4–11–61, Cl. 23—126.

Friedrich, Robert E., to Westinghouse Electric Corp. Circuit interrupters. 2,979,591, 4–11–61, Cl. 200—148.

Friedrich, Robert J., to Consolidation Coal Co. Method for preparing coke oven feed from coal-char blends. 2,979,441, 4–11–61, Cl. 202—33.

Frieseke and Hoepfner, G.m.b.H.: *See*—
Bosch, Julius. 2,979,619.

Frisosky, Robert F., and D. S. Wall, to The Procter & Gamble Co. Folding boxes of the tray type. 2,979,251, 4–11–61, Cl. 229—34.

Fritzel, Henry J. Tray. 2,979,211, 4–11–61, Cl. 211—88.

Frohlich, Adolf, and E. J. Harris, to The Cleveland Trust Co. Tire buffing machine. 2,979,123, 4–11–61, Cl. 157—13.

Frommer, Moses. Detachable mount for optical devices on spectacle frames. 2,978,955, 4–11–61, Cl. 88—41.

Fronczak, Ernest T., to The Pure Oil Co. Dripless oils. 2,979,458, 4–11–61, Cl. 252—42.

Fruecauff, Harry D., Jr. Forming press. 2,978,932, 4–11–61, Cl. 78—9.

Fry, Douglas J., B. A. Lea, and J. D. Kendall, to Ilford Ltd. Methin dyes containing pyrroline nuclei. 2,979,501, 4–11–61, Cl. 260—240.4.

Fuchs, Martin E.: *See*—
Rappiean, Eugene L., Highley, and Fuchs. 2,979,047.

Fuller Brush Co., The: *See*—
Park, Richard B. 2,978,726.
Whitman, Henry B. 2,978,725.

Furnas Electric Co.: *See*—
White, Paul F. 2,979,593.

Fyr-Fyter Co., The: *See*—
Haessler, Walter M. 2,978,911.

GPE Controls, Inc.: *See*—
Patterson, Ralph E. 2,979,035.

Gagne, Anthony F., Jr.: *See*—
Reynolds, Harold C., Lees, and Gagne. 2,978,937.

Gailliot, Paul, and J. Baget, to Societe des Usines Chimiques Rhone-Poulenc. Phenthiazine derivatives. 2,979,502, 4–11–61, Cl. 260—243.

Gaon, Joseph, to Heat Timer Corp. Photo-electric monitor for pointer indicating instruments. 2,979,628, 4–11–61, Cl. 307—96.

Garbo, Paul W., to Hydrocarbon Research, Inc. Process for carrying out endothermic reactions. 2,979,390, 4–11–61, Cl. 48—202.

Garbuny, Max, to United States of America, Air Force. Thermal image converter. 2,979,622, 4–11–61, Cl. 250—217.

Gardel, Robert, and A. Rogovin. Doll crawling mechanism. 2,978,834, 4–11–61, Cl. 46—140.

Gardel, Robert, and A. Rogovin. Doll crawling mechanism. 2,978,835, 4–11–61, Cl. 46—149.

Garner, Ronald F.: *See*—
Bigland, Bernard K., and Garner. 2,979,275.

Garrett, H. U.: *See*—
Taylor, Francis A., and Thomas. 2,979,132.

Gasson, Edward J., and D. J. Hadley, to The Distillers Co. Ltd. Production of ammonium salts of aromatic acids by hydrolysis of aromatic nitriles. 2,979,526, 4–11–61, Cl. 260—515.

Gates, Ruth E., to Tie-Chair, Inc. Foldable chair attachment for infants. 2,979,121, 4–11–61, Cl. 155—180.

Gebr. Battenfeld: *See*—
Langecker, Erhard. 2,978,745.

Geissler, Albert R., and W. P. Tolbert, to The Wean Engineering Co., Inc. Sheet classifier. 2,978,041, 4–11–61, Cl. 83—106.

Geiman, Harry A., to Comfort Lines, Inc. High chair construction. 2,979,118, 4–11–61, Cl. 155—127.

Gemex Precision Metals, Inc.: *See*—
Saccone, John V. 2,978,896.

Genden, Seymour A., and H. D. Paget, to Continetal Aviation & Engineering Corp. Missile guidance system. 2,979,284, 4–11–61, Cl. 244—14.

General Aniline & Film Corp.: *See*—
Armento, William H. and Wallace. 2,979,503.
Randall, David L., and Schmidt-Nickels. 2,979,515.
Taylor, John B., and Krinka. 8,979,406.

General Dynamics Corp.: *See*—
Brightman, Barrie. 2,979,570.
David, Freddy, and Phipps. 2,979,709.
Jorgensen, Adam A. 2,979,708.
Tyrlick, William V., and Fisher. 2,979,695.
Zarcone, Carl J. 2,979,565.
Zarcone, Carl J. and Harris. 2,979,702.

General Electric Co.: *See*—
Howell, Edward D., and Green. 2,979,300.
Modic, Frank J. 2,979,479.
Puffer, Samuel R. 2,978,868.
Vdovlak, John W. 2,978,870.

General Electric Co. Ltd., The: *See*—
Ellis, Lester B. D. 2,979,679.
Runciman, Robert D. 2,978,707.

General Engineering Co. (Radcliffe) Ltd.: *See*—
Bigland, Bernard K., and Garner. 2,979,275.

General Motors Corp.: *See*—
Bidwell, Joseph B. 2,979,148.
Clayton, David P. 2,979,667.
Crispell, Roger L., and Vellner. 2,979,053.
De Wilde, Andries C., and Steinhagen. 2,979,643.
Eshbaugh, Jesse E., and McDougal. 2,979,172.
Paige, Robert N. 2,979,603.
Geyer, Howard M. 2,979,034.
Hara, Raymond H. 2,979,126.
Heidorn, John H. 2,978,879.
Leach, Clayton B., and Ostrander. 2,979,357.
Marquis, Donald P. 2,978,886.
Martin, Edward J., and Farrell. 2,979,647.
Smith, Robert P. 2,978,999.
Somerville, Alexander. 2,979,617.
Swanson, Gordon R., and Wosens. 2,979,327.
Thiessen, Elmer E. 2,979,432.
Tuck, Robert M., and Fisher. 2,978,928.

General Precision, Inc.: *See*—
Gut, Stanley J. 2,978,914.

General Railway Signal Co.: *See*—
Hewes, Ralph W. 2,979,295.
Wilcox, Clinton S., and La Forest. 2,979,653.

General Tire & Rubber Co., The: *See*—
Henley, Virgil E. 2,979,110.

Genge, Gordon M., & Co., Inc.: *See*—
Vlier, Blaine H., Jr. 2,979,158.

Georges, Felix, to Societe Auxiliaire d'Industrie (Sadi) S.P.R.L. Movement control means. 2,978,924, 4–11–61, Cl. 74—526.

Gevaert Photo-Producten N.V.: *See*—
De Cat, Arthur H., and Tavernier. 2,979,405.

Geyer, Howard M., to General Motors Corp. Hydraulic actuator with load proportional locking means. 2,979,034, 4–11–61, Cl. 121—40.

Ginimo, Edward C., Jr., to Radio Corp. of America. Electrostatic printing. 2,979,403, 4–11–61, Cl. 96—1.

Gianinazzi, Rolando: *See*—
Casas-Robert, Ramon, Court, and Gianinazzi. 2,979,002.

Gill, James B. Sketch board. 2,978,813, 4–11–61, Cl. 33—80.

Gill, Joseph, and F. W. Sippach, to Hagan Chemicals & Controls, Inc. Measuring equipment. 2,979,663, 4–11–61, Cl. 328—150.

Gill, Lester D. Box with self locking tab. 2,979,249, 4–11–61, Cl. 229—17.

Gilliaum, George W.: *See*—
Shannon, Richard F., Matuszak, Adams, and Gilliaum. 2,979,469.

Gleason, Glen L.: *See*—
Sweedyk, James M., and Gleason. 2,978,973.

Gleason Works, The: *See*—
Donohoe, Martin A. 2,978,921.
Pedersen, Harry. 2,978,963.
Slayton, Ensign T. 2,978,792.

Glesner, Kenneth M., to Dixon Sintaloy Inc. Tumble finishing process. 2,978,850, 4–11–61, Cl. 51—282.

Globe Lighting Products, Inc.: *See*—
Rosenblatt, Isidor. 2,979,604.

Goddard, Lloyd E.: *See*—
Johnston, James D., and Goddard. 2,979,522.

Godshalk, James B., and L. A. Medlar, to Fox Products Co. Temperature responsive battery servicing apparatus. 2,979,650, 4–11–61, Cl. 320—35.

Gohorel, Fernand P., to International Standard Electric Corp. Telephone systems. 2,979,042, 4–11–61, Cl. 317—139.

Goldberg, Joseph E.: *See*—
Goldberg, Mark L. 2,978,739.

Goldberg, Mark L., ¼ to J. E. Goldberg and ¼ to L. S. Kahn. Method of deboning cooked poultry. 2,978,739, 4–11–61, Cl. 17—45.

Goodman Mfg. Co.: *See*—
Anderson, Edward L. 2,979,319.

Goodrich, B. F., Co., The: *See*—
Erickson, Lester E. 2,979,187.

Goodwin, David P., and R. W. Spencer, to Sperry Rand Corp. Electronic switching network. 2,979,699, 4–11–61, Cl. 340—174.

Goodyear Aircraft Corp.: *See*—
Ross, Robert S. 2,979,287.

Goss, Herbert A. Chain hook. 2,978,767, 4–11–61, Cl. 24—116.

Gottstine, Joseph G., and E. H. Westerland, to Union Carbide Corp. Process for producing zeolite X. 2,979,381, 4–11–61, Cl. 23—113.

Gotz, Armin: *See*—
Sennewald, Kurt, Gotz, and Rehberg. 2,979,535.

Govermale, Luke J., and T. A. Leeper, to Ethyl Corp. Continuous polymerisation process. 2,979,492, 4–11–61, Cl. 260—92.8.

Grace, W. R., & Co.: *See*—
Bentov, Itzhak. 2,979,131.

Gracian, Carlos C. Toothbrush. 2,978,724, 4–11–61, Cl. 15—167.

Graham Mfg. Co., Inc.: *See*—
Berkeley, Frederick D., III. 2,978,880.

Grandio, Philip, Jr., and L. W. Hamilton, Jr., to Standard Oil Co. Manufacture of cycloparaffin hydrocarbons. 2,979,546, 4–11–61, Cl. 260—667.

Grannemann, Wayne W., and G. A. W. Trorey, to California Research Corp. Elimination of multiple frequency components in seismic records. 2,979,692, 4–11–61, Cl. 340—15.

Gray, Frederick W., to Colgate-Palmolive Co. Preparation of glycerol sulfuric acids. 2,979,521, 4–11–61, Cl. 260—458.

Graydon, Sterling, Jr., to Veeder-Root Inc. Counter. 2,979,259, 4–11–61, Cl. 235—117.

Greaves, Melvin J., to Arthur G. McKee & Co. Hopper having means causing atmospheric inflow. 2,979,235, 4–11–61, Cl. 222—185.

Greaves, Ruth K. Saddle bag for automobiles. 2,979,098, 4–11–61, Cl. 150—1.

Green, Jack R.: *See*—
Williams, Kenneth G., and Green. 2,978,708.

Green, James, Jr.: *See*—
Howell, Edward D., and Green. 2,979,300.

Greenberger, Joseph I., to United Engineering and Foundry Co. Method of and apparatus for handling and joining strip material. 2,978,805, 4–11–61, Cl. 29—430.

Greenfield, Charles. Dehydration of fluid fatty mixtures. 2,979,408, 4–11–61, Cl. 99—56.

Greenman, Joseph, P. Shalita, T. Taverna, and P. Cohen, to Technical Tape Corp. Nail coverings and methods of making same. 2,979,061, 4–11–61, Cl. 132—73.

Greig, Harold G., to Radio Corp. of America. Electrostatic printing. 2,979,402, 4–11–61, Cl. 96—1.

Griesheimer, Richard E.: *See*—
Haselton, Merrill W., Griesheimer, and Ostendorf. 2,978,976.

Grinnell Corp.: *See*—
Loepsinger, Albert J. 2,978,763.

Griswold, Augustus W., and H. A. Klumb, to Taylor Instrument Companies. Step-type control system and relay therefor. 2,979,068, 4–11–61, Cl. 137—82.

Groocock, Edith. Electric cord support for an ironing board. 2,979,296, 4–11–61, Cl. 248—51.

Gross, Howard H.: *See*—
Kiersted, Wynkoop, Jr., and Gross. 2,979,453.

Gulf Oil Corp.: *See*—
Cantrell, Troy L., and Peters. 2,979,523.

Gulf Research & Development Co.: *See*—
McCarthy, Paul R., and McGrath. 2,979,460.
McGrath, Joseph J., and Pellegrini. 2,979,461.
McGrath, Joseph J., and Pellegrini. 2,979,462.

Gunthard, Hans H., and J. J. Primas, to Trüb, Taüber & Co., A.G. Magnetic field stabilizer. 2,979,641, 4–11–61, Cl. 317—123.

Gut, Stanley J., to General Precision, Inc. Ball bearing sealed rotation transmission device. 2,978,914, 4–11–61, Cl. 74—12.1.

Guthrie, John D.: *See*—
Drake, George L., Jr., Reeves, and Guthrie. 2,979,374.

Guyennon, André. Shaft packing device. 2,979,349, 4–11–61, Cl. 286—11.15.

Haab, Gordon W. Stop assembly. 2,979,182, 4–11–61, Cl. 194—94.

Haalck, Fritz, to Askania-Werke A.G. Gravimeters. 2,978,906, 4–11–61, Cl. 73—382.

Haas, Herbert H., to Continental Motors Corp. Lubrication system. 2,979,160, 4–11–61, Cl. 184—6.

Hackley, Reginald A., to United States of America, Navy. Dual magnetostrictive hydrophone. 2,979,690, 4–11–61, 340—8.

Hadley, David J.: *See*—
Gasson, Edward J., and Hadley. 2,979,526.

Haessler, Walter M., to The Fyr-Fyter Co. Pressure relaying device. 2,978,911.

Hagan Chemicals & Controls, Inc.: *See*—
Gill, Joseph, and Sippach. 2,979,663.

Hailes, Myles B., to Unilever Ltd. Containers. 2,979,220, 4–11–61, Cl. 215—100.

Hake, Wesley F. Ventilating and cooling system for automobile seats. 2,978,972, 4–11–61, Cl. 98—2.

Halina, Joseph W., to International Telephone and Telegraph Corp. Synchronous demodulation system. 2,979,611, 4–11–61, Cl. 250—20.

Hall, James L. Attachment for railroad flat car. 2,978,995, 4–11–61, Cl. 105—374.

Hall, William O.: *See*—
Phillips, Wallace G., Hall, and Overstreet. 2,979,253.

Haloid Xerox Inc.: *See*—
Schwertz, Frederick A. 2,978,968.

Halpern, Peter H., to International Business Machines Corp. Transistor switching circuits. 2,979,627, 4–11–61, Cl. 307—88.5.

Hamilton, Lonie W., Jr.: *See*—
Grandio, Philip, Jr., and Hamilton. 2,979,546.

Hamilton Watch Co.: *See*—
Epperlein, Helmut. 2,978,862.

Hammond, Wardlaw M., Jr., to The Martin Co. Radar method and apparatus for height and sea surface contour measurement. 2,979,715, 4–11–61, Cl. 343—12.

Hamre, Hiram O., ½ to Mayme R. Hamre. Roller assembly transfer ramp. 2,979,178, 4–11–61, Cl. 193—35.

Hamre, Mayme R.: *See*—
Hamre, Hiram O. 2,979,178.

Hanlon and Goodman Co.: *See*—
Hovorka, Jiri. 2,979,362.

Hanmer, Robert S., to Phillips Petroleum Co. Carbon black-rubber masterbatch production. 2,979,481, 4–11–61, Cl. 260—41.5.

Hansberg, Fritz. Machine for forming foundry cores and charging core boxes with molding sand. 2,978,750, 4–11–61, Cl. 22—10.

Hansen, Clarence E., to Whirlpool Corp. Vacuum cleaner. 2,978,732, 4–11–61, Cl. 15—323.

Hansen, Harold V.: *See*—
Oehler, William P., and Hansen. 2,979,136.

Hars, Raymond H., to General Motors Corp. Flame pulsation suppressor for inshot gas burners. 2,979,126, 4–11–61, Cl. 158—116.

Harder, Joseph B.: *See*—
Corwin, Thomas E., and Knipple. 2,979,027.

Harmon, William C., to Republic Steel Corp. Automatic pipe coupling inspector. 2,979,196, 4–11–61, Cl. 209—8.

Harper, Jack E., to Dow Corning Corp. Silicone primers for room temperature vulcanizing silicone rubber. 2,979,420, 4–11–61, Cl. 117—72.

Harrah, Ralph E., to Talon, Inc. Plastic bag or container. 2,978,769, 4–11–61, Cl. 24—201.

Harrington, William J., to The Parker Pen Co. Writing instruments. 2,979,030, 4–11–61, Cl. 120—42.03.

Harris, Ben A.: *See*—
Zarcone, Carl J., and Harris. 2,979,702.

Harris, Edward J.: *See*—
Frohlich, Adolf, and Harris. 2,979,123.

Harris, Franklin H., to United States of America, Navy. Storage electrode. 2,979,633, 4–11–61, Cl. 313—89.

Harris, Walter. Diaper rinser. 2,978,893, 4–11–61, Cl. 68—213.

Hart, Harold, to Research Corp. Production of dicyclopropyl ketones and 1,7-dihalo-4-heptanones. 2,979,529, 4–11–61, Cl. 260—586.

Harte, Walter H.: *See*—
Markakis, Pericles, Freeman, and Harte. 2,979,409.

Hartley, Gilbert S., R. T. Brunskill, and R. K. Pfeifer, to Fisons Pest Control Ltd. Spraying device. 2,979,075, 4–11–61, Cl. 137—351.

Harwell, Kenneth E.: *See*—
Lichtenwalter, Myrl, and Harwell. 2,979,530.

Haspert, John C., and T. N. Williamson, to Hughes Tool Co. Tunneling by core-forming and removal. 2,979,318, 4–11–61, Cl. 262—7.

Haven, Edward S., and R. A. Brooks, to Norton Co. Abrasive devices. 2,978,845, 4–11–61, Cl. 51—193.5.

Hawkins, Thane E., and S. E. Weikal, to Talon, Inc. Shoe fastening device. 2,978,774, 4–11–61, Cl. 24—207.

Hays, Ralph T.: *See*—
Perrault, Lewis. 2,979,431.

Haselton, Merrill W., R. E. Griesheimer, and C. J. Ostendorf, to The Cincinnati Shaper Co. Level control for press brakes and the like. 2,978,976, 4–11–61, Cl. 100—46.

Heapy, Marvin O. Cord clamp. 2,978,768, 4–11–61, Cl. 24—134.

Hearn, Benjamin F., 49% to Harry J. Valentine. Ore separating apparatus. 2,979,197, 4–11–61, Cl. 209—39.

Heat Timer Corp.: *See*—
Gaon, Joseph. 2,979,628.

Hegman, Robert L., and R. W. Hess, to The Safegard Corp. Filling machine. 2,979,086, 4–11–61, Cl. 141—67.

Heidorn, John H., to General Motors Corp. Refrigerating apparatus. 2,978,879, 4–11–61, Cl. 62—209.

Heilmann, Walter, to Physikalisch-Technische Werkstatten. Image converter. 2,979,621, 4–11–61, Cl. 250—213.

Heine, Hugo. Photographic type-composing apparatus. 2,978,969, 4–11–61, Cl. 95—4.5.

Heinrich, Raymond L., D. A. Berry, and R. J. Dick, to Esso Research and Engineering Co. Alkyd resins modified with 2,4-dichlorobenzoic acids. 2,979,472, 4–11–61, Cl. 260—22.

Heinrich, Raymond L., D. A. Berry, and R. L. Christian, to Esso Research and Engineering Co. Modified alkyd resins with 2,4-dimethyl benzoic acids. 2,979,473, 4–11–61, Cl. 260—22.

Heinrich, Raymond L., D. A. Berry, and R. J. Dick, to Esso Research and Engineering Co. Modifications of alkyd resins with para-bromo benzoic acids. 2,979,474, 4–11–61, Cl. 260—22.

Heisler, Harold, to Midwest Folding Products Mfg. Corp. Locking latch assembly. 2,978,895, 4–11–61, Cl. 70—57.

Helbig, Walter A.: *See*—
Bothwell, Theodore P., and Helbig. 2,979,625.

Held, Sidney P., to Nova-Tech, Inc. Electronic amplifier circuits. 2,979,612, 4–11–61, Cl. 250—20.

Henchert, John, to Continental Can Co., Inc. Package closure and method of forming same. 2,979,224, 4–11–61, Cl. 220—67.

Henley, Virgil E., to The General Tire & Rubber Co. Expansible tire building drum. 2,979,110, 4–11–61, Cl. 154—10.

Hennecke, Hermann: *See*—
Sifrin, Andreas, and Hennecke. 2,979,000.

Henrikson, David E. Electrically operated window. 2,979,328, 4–11–61, Cl. 268—128.

Henry, Howarth P. Brake mechanism for trailer vehicles. 2,979,166, 4–11–61, Cl. 188—112.

Hensoldt, M., & Sohne Optische Werke A.G.: *See*—
Raatsch, Kurt. 2,978,953.

Herbert, Thomas A., Jr., to Rohr Aircraft Corp. Apparatus and method for making sandwich panels. 2,978,806, 4–11–61, Cl. 29—471.1.

Herbert, Thomas A., Jr., to Rohr Aircraft Corp. Apparatus for making curved sandwich panels. 2,979,005, 4–11–61, Cl. 113—99.

Herring, Robert H., and L. L. Newbauer, to Rockwell Mfg. Co. Lubricated ball valve. 2,979,071, 4–11–61, Cl. 137—246.13.

Herzfeld, Richard P. Outdoor theater sound system. 2,979,607, 4–11–61, Cl. 250—6.

Herzog, Hershel L., to Schering Corp. 12a-fluoro-16a-hydroxy pregnenes. 2,979,517, 4–11–61, Cl. 260—397.45.

Hess, Christian H., to Deere & Co. Tractor-pick up hitch. 2,979,137, 4–11–61, Cl. 172—272.

Hess, Robert W.: *See*—
Hegman, Robert L., and Hess. 2,979,086.

Heuchemer, Willy, and H. Reinsch, to Eugen Bauer, G.m.b.H. Film splicer. 2,979,115, 4–11–61, Cl. 154—42.1

Heuer, Russell F. Jr. Process of desulfurizing pig iron. 2,979,393, 4–11–61, Cl. 75—61.

Hewes, Ralph W., to General Railway Signal Co. Roller bearing supports for railway switch points. 2,979,295, 4–11–61, Cl. 246—435.

Hewitt, Ellis E., to Westinghouse Air Brake Co. Valve device with annular resilient valving elements. 2,979,080, 4–11–61, Cl. 137—620.

Hiatt, Earl: *See*—
Rastus, Harold L., and Hiatt. 1,978,830.

Hieronymus, John W., to The Johnson Corp. Journal-inserted syphon pipe. 2,978,816, 4–11–61, Cl. 34—125.

Higgins, Milford P., Sr. Potato separator. 2,979,199, 4–11–61, Cl. 209—114.

Highberger, John H., to United Shoe Machinery Corp. Extraction of collagen. 2,979,435, 4–11–61, Cl. 195—4.

Highley, Wenford E.: *See*
Rappisan, Eugene L., Highley, and Fuchs. 2,979,047.

Hill, Maynard E.: *See*—
Frankland, Samuel D. 2,978,906.

Hill, Richard L., and W. R. R. Park, to The Dow Chemical Co. Process for upgrading articles prepared from monoalkenyl aromatic polymers. 2,979,419, 4–11–61, Cl. 117—72.

Hiller Aircraft Corp.: *See*—
Stuart, Joseph, III. 2,979,266.

Hilton, Stanley C., to C. Yardley Chittick. Washing machine. 2,979,063, 4–11–61, Cl. 134—77

Hinsey, Robert S., to The Bingham-Herbrand Corp. Mechanism control. 2,978,925, 4–11–61, Cl. 74—529.

Hinsey, Robert S., to The Bingham-Herbrand Corp. Mechanism control. 2,978,928, 4–11–61, Cl. 74—534.

Hirsch, Max. Three dimensional display apparatus. 2,979,561, 4–11–61, Cl. 178—6.5.

Hiscock, George H., and W. R. D. Vivian, to Bristol Siddeley Engines Ltd. Engine accessory mounting arrangements. 2,978,869, 4–11–61, Cl. 60—39.33.

Hitzman, Donald O., and R. P. Schneider, to Phillips Petroleum Co. Microbiological corrosion protection by germicidal zone and protective coating. 2,979,337, 4–11–61, Cl. 21—2.5.

Hoagland, Earl J., and L. E. Dickson, to Standard Safety Equipment Co. Safety suit. 2,979,153, 4–11–61, Cl. 182—3.

Hobbs, Harry C. Cartons. 2,979,250, 4–11–61, Cl. 229—32.

Hoboura-F.N.F. Ltd.: *See*—
Porter, Allan W. H. 2,978,887.

Hodge, Edward B.: *See*—
Bennett, Edward O., and Hodge. 2,979,456.
Bennett, Edward O., and Hodge. 2,979,466.

Holbrook, George W.: *See*—
Pierce, Orden R., and Holbrook. 2,979,519.

Holdsworth Mfg. Co. Inc., The: *See*—
Curran, Charles F., Jr., Kazarian, and Tingle. 2,978,872.

Holser, Walter. Time sequence switch. 2,979,579, 4–11–61, Cl. 200—37.

Hopkins, Cecil L. Magnetically controlled applicator. 2,978,723, 4–11–61, Cl. 15—139.

Hopkins, Charles W.: *See*—
Easley, John A., and Hopkins. 2,979,387.

Hopkins, Frank L., and R. H. Ayres, to Bemis Bro. Bag Co. Bag top closing and sealing machine. 2,978,852, 4–11–61, Cl. 53—137.

Hopner, Emil, and H. G. Markey, to International Business Machines Corp. Method and system for transmitting data. 2,979,560, 4–11–61, Cl. 178—67.

Horst, Ralph W. Attachment for saddle stirrups. 2,978,855, 4–11–61, Cl. 54—47.

Houdry Process Corp.: *See*—
Oakes, Merwin D. 2,979,506.

Houston, William L., Jr., to Phillips Petroleum Co. Liquid and gas contacting apparatus. 2,979,316, 4–11–61, Cl. 261—114.

Hoven, Alfred C.: *See*—
Bareckl, Chester J., Hoven, Nordmark, and Oom. 2,979,117.
Bradley, George C., Hoven, and Nordmark. 2,979,370.

Hovorka, Jiri, to Hanlon and Goodman Co. Bristle sieving machine. 2,979,362, 4–11–61, Cl. 300—18.

Howell, Edward D., and J. Green, Jr., to General Electric Co. Can opener mounting structure. 2,979,300, 4–11–61, Cl. 248—146.

Howell, Sabert N., to Servo Corp. of America. Visible and infrared transmitting lens combination. 2,978,956, 4–11–61, Cl. 88—57.

Hrabovsky, Joseph V., to Ford Motor Co. Casting of cored machine parts. 2,978,764, 4–11–61, Cl. 22—203.

Huber, J. M., Corp.: *See*—
Winegar, Robert L. 2,979,133.

Huber, John A. Cord reel for electrical appliances. 2,979,576, 4–11–61, Cl. 191—12.4.

Hubinger, Werner: *See*—
Wassermann, Gunter, Weber, and Hubinger. 2,978,798.

Hübl, Franz, to Kienzle Apparate G.m.b.H. Fluid operated automatic business machine. 2,979,255, 4–11–61, Cl. 235—60.47.

Hudson, Richard L., to United States of America, Navy. Potting compound consisting of butyl methacrylate polymer, petrolatum and hydrogenated castor oil. 2,979,475, 4–11–61, Cl. 260—23.

Huggins, Owen R., to Malleable Iron Fittings Co. Aerial cable clamp. 2,979,299, 4–11–61, Cl. 248—67.5.

Hughes Aircraft Co.: *See*—
Paschal, Edwin A. 2,979,667.

Hughes, Alvin W. Apparatus for gassing animals and fowl preliminary to slaughter. 2,978,737, 4–11–61, Cl. 17—1.

Hughes, Robert W., and W. Bichak, to International Telephone and Telegraph Corp. Diversity communication system. 2,979,716, 4–11–61, Cl. 343—100.

Hughes Tool Co.: *See*—
Haspert, John C., and Williamson. 2,979,318.

Humbert, Kingsley E., Jr., to Wix Corp. Fluid line supported filter and filter mounting. 2,979,208, 4–11–61, Cl. 210—232.

Hupp Corp.: *See*—
Sweedyk, James M., and Gleason. 2,978,973.

Hutton, Leland H. Oxygen lances for open-hearth furnaces and the like. 2,979,270, 4–11–61, Cl. 239—132.

Hydrocarbon Research, Inc.: *See*—
Garbo, Paul W. 2,979,390.

Hyman, Martin. Bedframe structure. 2,978,711, 4–11–61, Cl. 5—279.

Ide, Walter: *See*—
De Beer, Edwin J., Ellis, and Ide. 2,979,055.

Ideal Pleating Co.: *See*—
Liebeskind, Mack. 2,979,240.

Ilford Ltd.: *See*—
Fry, Douglas J., Lea, and Kendall. 2,979,501.

Immesoete, Arthur J.: *See*—
Oehler, William P., and Immesoete. 2,979,342.

Imperial Chemical Industries Ltd.: *See*—
Andrew, Herbert P., Stephen, and Waite. 2,979,498.

Information Systems, Inc.: *See*—
Tellefsen, Harold E., and White. 2,979,700.

Ingersoll-Rand Co.: *See*—
Reynolds, Harold C., Lees, and Cagne. 2,978,937.
Vaughn, Jack S., and Burnett. 2,979,354.

Institut Dr. Ing. Reinhard Straumann A. G.: *See*—
Krüger, Gustav, Schütz, and Bourquin. 2,979,417.

Intercontinental Mfg. Co., Inc.: *See*—
Nicholson, Ralph A. 2,979,310.

International Business Machines Corp.: *See*—
Cunningham, James M. 2,979,329.
Estreems, Eugene. 2,979,260.
Halpern, Peter H. 2,979,627.
Hopner, Emil, and Markey. 2,979,566.
Jancin, Julius, Jr. 2,979,257.
Keller, Seymour P. 2,979,467.
Wolff, Hermann P. 2,979,703.

International Harvester Co.: *See*—
Allin, George S., Sr. 2,979,205.
Birkenbach, Eugene J., and Frellichowski. 2,979,139.
Marquardt, Julius F. 2,979,325.
Martensen, Uwe H. 2,979,138.
Witt, Robert H. 2,979,173.

International MacGregor Organization (I.M.G.O.): *See*—
Kummerman, Henri. 2,979,012.

International Standard Electric Corp.: *See*—
Gohorel, Fernand P. 2,979,642.
Poullart, Willy H. P., and Jacobin. 2,979,244.

International Telephone and Telegraph Corp.: *See*—
Adams, Robert T., and Mindes. 2,979,613.
Avery, Howard, Kingsland, and Parker. 2,979,719.
Biagi, Alvaro D. 2,979,609.
Halina, Joseph W. 2,979,611.
Hughes, Robert W., and Sichak. 2,979,716.
Lair, Julien J. B. 2,979,712.
Silverschotz, Stanford R., and Jorow. 2,978,909.

Irby, Jesse C., Jr. High fidelity loud speaker cabinet. 2,979,150, 4–11–61, Cl. 181—31.

Ivy, Jessie T. Trigger safety latch for firearms. 2,978,826, 4–11–61, Cl. 42—70.

Ivy, Jessie T. Selective automatic fire converter for bolt action rifle. 2,978,962, 4–11–61, Cl. 89—140.

Jackson, Anton, and B. A. Jackson. Element for detachably coupling electrical contacts with a connector body. 2,979,689, 4–11–61, Cl. 339—217.

Jackson, Boris A.: *See*—
Jackson, Anton, and Jackson. 2,979,689.

Jackson, Leonard D. Smoke float. 2,978,716, 4–11–61, Cl. 9—8.

Jackson, Martin A.: *See*—
Van Zelm, Willem D., Knochel, and Jackson. 2,979,163.

Jacobin, Leo: *See*—
Poullart, Willy H. P., and Jacobin. 2,979,244.

Jancin, Julius, Jr., to International Business Machines Corp. Data comparator. 2,979,257, 4–11–61, Cl. 235—61.7.

Janssen, Paul A. J. Heterocyclic derivatives of 1-phenyl-ω-(piperazine) alkanols. 2,979,506, 4–11–61, Cl. 260—268.

Janssen, Paul A. J. 1-(2-thenoyl)alkyl-4-arylpiperazines. 2,979,507, 4–11–61, Cl. 260—268.

Jardinier, Jean: *See*—
Balliguet, Michel P., Ernst, and Jardinier. 2,979,290.

Jaybee Mfg. Corp.: *See*—
Blonder, Howard. 2,979,192.

Jeanneret, Jules L. Arrangement for accurately positioning a worm-controlled slide in a machine tool. 2,978,940, 4–11–61, Cl. 82—24.

Jeffries, John M., to Atlas Powder Co. Bore hole loading device. 2,978,947, 4–11–61, Cl. 86—20.

Jenkins, Elmer T. Door controlled sliding racks. 2,979,054, 4–11–61, Cl. 126—340.

Jennings, Jo E., to Jennings Radio Mfg. Corp. Vacuum electric switch. 2,979,587, 4–11–61, Cl. 200—144.

Jennings, Jo E., to Jennings Radio Mfg. Corp. Vacuum switch. 2,979,588, 4–11–61, Cl. 200—144.

Jennings Radio Mfg. Corp.: *See*—
Jennings, Jo E. 2,979,587.
Jennings, Jo E. 2,979,588.

Jenny, Dietrich A., and J. J. Wysocki, to Radio Corp. of America. Semiconductor devices and methods of making them. 2,979,428, 4–11–61, Cl. 148—1.5.

Jerkins, Ernest E., and D. J. Dawson, to United Kingdom Atomic Energy Authority. Lifting devices. 2,979,358, 4–11–61, Cl. 294—106.

Jersey Production Research Co.: *See*—
Eckel, John E., and Camp. 2,979,144.
Rickard, James A. 2,979,618.

Jessee, Jan E., to Lever Bros. Co. Apparatus for conveying products over a frozen surface. 2,978,883, 4–11–61, Cl. 62—381.

Johnson, Algot F., to American Hoist & Derrick Co. Drag line crane. 2,978,820, 4–11–61, Cl. 37—116.

Johnson, Bernard H.: *See*—
Birtch, Fred E., and Johnson. 2,978,843.

Johnson Corp., The: *See*—
Hieronymus, John W. 2,978,815.

Johnson, John H.: *See*—
Fields, Joseph E., and Johnson. 2,979,454.

Johnson & Johnson: *See*—
Weinberg, Marvin A. 2,979,423.

Johnson, Kenneth S.: *See*—
Ellsworth, Ivan W., and Johnson. 2,979,404.

Johnson, Thaddeus C., Sr. Float operated switch. 2,979,583, 4–11–61, Cl. 200—84.

Johnson, Theodore B.: *See*—
McCallum, John, Johnson, Ditmars, and McGraw. 2,979,553.

Johnston, James D., and L. E. Goddard, to Pittsburgh Coke and Chemical Co. Dialkyl nitroalkyl dithiophosphates. 2,979,522, 4–11–61, Cl. 260—461.

Jones, Coy V., to Trailer Safety Valve, Inc. Safety valve for braking system. 2,979,365, 4–11–61, Cl. 303—84.

Jones, Edward W., to Elastic Fabric Co., Inc. Textile machines. 2,979,278, 4–11–61, Cl. 242—56.4.

Jones, Maldwyn E. Archery bow. 2,979,049, 4–11–61, Cl. 124—24.

Jones, Richard V.: *See*—
Shockley, William, and Jones. 2,979,386.

Jones, Robert J.: *See*—
Kircher, Charles E., Jr., and Jones. 2,979,375.

Jonsson, Olle S. Method of treating animal carcasses. 2,978,738, 4–11–61, Cl. 17—45.

Jorgensen, Adam A., to General Dynamics Corp. Analog to digital converter. 2,979,708, 4–11–61, Cl. 340—347.

Jorow, Eleazar: *See*—
Silverschotz, Stanford B., and Jorow. 2,978,909.

Jovis, Arthur. Machine for tearing muffins. 2,979,095, 4–11–61, Cl. 146—72.

Justin, Walter: *See*—
Moser, Frank T. 2,978,906.

Kahn, Louis S.: *See*—
Goldberg, Mark L. 2,978,739.

Kaiser Aluminum & Chemical Corp.: *See*—
Foye, John J., and Stauffer. 2,978,761.

Kamborian, Jacob S. Apparatus for lasting shoes and covering panels. 2,978,717, 4–11–61, Cl. 12—8.3.

Kamborian, Jacob S. Gun-type adhesive applicator. 2,979,234, 4–11–61, Cl. 222—146.

Kandle, Charles W. Earth boring apparatus. 2,979,141, 4–11–61, Cl. 175—19.

Kandle, Charles W. Vertical drill system for installing pipe. 2,979,143, 4–11–61, Cl. 175—130.

Karasek, Francis W., and J. G. Skinner, to Phillips Petroleum Co. Analyzer and method of control. 2,979,385, 4–11–61, Cl. 23—253.

Karassik, Igor J., to Worthington Corp. Control of spray water to reheater attemperators. 2,979,040, 4–11–61, Cl. 122—459.

Karge, Max R., and W. I. Carlson, to Chisholm-Ryder Co., Inc. Pockets for bean snipper. 2,979,096, 4–11–61, Cl. 146—86.

Karlen, Harvey R., to Cary Corp. Variable control switch. 2,979,397, 4–11–61, Cl. 219—20.

Karp, Harry R., to The Bendix Corp. Windshield temperature controller. 2,979,596, 4–11–61, Cl. 219—20.

Kato, Masao. Movable toys provided with phonograph. 2,978,836, 4–11–61, Cl. 46—232.

Katorsky, Oskar. Flame supervision instrumentation. 2,979,125, 4–11–61, Cl. 158—28.

Kaufmann, Julian E., Jr. Rotating outdoor sign construction. 2,978,821, 4–11–61, Cl. 40—33.

Kay, James A., and A. G. Rose, to Rose Bros. (Gainsborough) Ltd. Apparatus for the feeding of powder and like fluent materials. 2,979,145, 4–11–61, Cl. 177—103.

Kazarian, Harold: *See*—
Curran, Charles F., Jr., Kazarian, and Tingle. 2,978,872.

Kearny & Trecker Corp.: *See*—
Armitage, Joseph B., and Flannery. 2,978,965.

Keefe, Robert L., Jr., to E. I. du Pont de Nemours and Co. Process for treating synthetic yarn. 2,978,788, 4–11–61, Cl. 28—75.

Keister, Glenn L., to Boeing Airplane Co. Multiplier circuit. 2,979,263, 4–11–61, Cl. 235—194.

Keithley, Joseph F., and M. L. Sands. Microphone for the measurement of transient pressures in a body of water. 2,979,601, 4–11–61, Cl. 340—12.

Kelco Co.: *See*—
McNeely, William H. 2,979,499.

Keller, Heinz, R. Brodt, and K. Lampatzer, to Parker Rust Proof Co. Heat resistant phosphate coatings, methods and articles produced therefrom. 2,979,430, 4–11–61, Cl. 148—6.15.

Keller, Seymour P., to International Business Machines Corp. Infrared stimulable phosphors. 2,979,467, 4–11–61, Cl. 252—301.4.

Kemeny, George A., to Westinghouse Electric Corp. Method of securing using an explosive charge. 2,978,796, 4–11–61, Cl. 29—156.8.

Kendall, John D.: *See*—
Fry, Douglas J., Lea, and Kendall. 2,979,500.

Kenton, Joseph R., to Standard Oil Co. Solvent extraction of water-immiscible, oil-soluble alcohols with liquid hexanetriol. 2,979,520, 4–11–61, Cl. 260—450.

Kenville, Max K.: *See*—
Kenville, Roy H. and M. K. 2,979,004.

Kenville, Roy H. and M. K. Stock lifter for use with dies. 2,979,004, 4–11–61, Cl. 113—42.

Kenyon, Paul A. Hanger assembly. 2,979,298, 4–11–61, Cl. 248—62.

Kern, Frank, Jr., and C. Stang, Jr., to Maxitrol Co. Pressure regulator. 2,979,067, 4–11–61, Cl. 137—15.

Kessler, Jack J., to Uarco, Inc. Imprinting plate cylinder. 2,978,980, 4–11–61, Cl. 101—378.

Ketchum, Calvin E. Windshield cover. 2,979,129, 4-11-61, Cl. 160—368.

Keyes Fibre Co.: *See*—
Randall, Walter H., and Despres. 2,979,245.

Kidd, Marshall C., to Radio Corp. of America. Transistor-sync separator and automatic gain control circuit. 2,979,563, 4-11-61, Cl. 178—7.3.

Kienzle Apparate G.m.b.H.: *See*—
Hübl, Frans. 2,979,255.

Kierstead, Wynkoop, Jr., and H. H. Gross, to Texaco Development Corp. Solvent two-stage fractional crystallization utilising secondary filtrate to wash primary filter cake. 2,979,453, 4-11-61, Cl. 208—31.

Killian, Gaddis W. Fish lure holder. 2,978,830, 4-11-61, Cl. 43—57.5.

Kimber, Raymond A., to The Mullard Radio Valve Co. Ltd. Optical scanning device. 2,978,948, 4-11-61, Cl. 88—1.

Kimble Glass Co.: *See*—
Eastus, Harold L., and Hiatt. 2,978,839.

Kingely Rescue Harness Inc.: *See*—
Zakely, Rudolph F. 2,979,028.

Kingsland, Daniel H., Jr.: *See*—
Avery, Howard, Kingsland, and Parker. 2,979,719.

Kinney, S. P., Engineers, Inc.: *See*—
Osborne, Fred. 2,978,743.

Kinoshita, Shukuo, K. Nakayama, and S. Kitada, to Kyowa Hakko Kogyo Kabushiki Kaisha. Method of producing L-lysine by fermentation. 2,979,439, 4-11-61, Cl. 195—47.

Kircher, Charles E., Jr., and R. J. Jones, to Detrex Chemical Industries, Inc. Dry-cleaning apparatus and methods of operation. 2,979,375, 4-11-61, Cl. 8—142.

Kirk, Harold L., to American Air Filter Co., Inc. Air heater fuel control system. 2,979,124, 4-11-61, Cl. 158—28.

Kish, Nicholas W., to Rockwell Mfg. Co. Combined wrench, lock, hood and indicator for valves. 2,979,076, 4-11-61, Cl. 137—382.

Kitada, Sohei: *See*—
Kinoshita, Shukuo, Nakayama, and Kitada. 2,979,439.

Klapperich, Wilfred A.: *See*—
Pellaton, Ernest C., and Klapperich. 2,979,247.

Klein, Albert. Aircraft propeller arrangement and means for elongating same. 2,979,288, 4-11-61, Cl. 244—55.

Klein, Irvin I., to Catalyst Research Corp. Apparatus for classifying light-weight objects. 2,979,198, 4-11-61, Cl. 209—74.

Klement, John F., to Ampco Metal Inc. Aluminum bronze alloy having improved wear resistance by the addition of cobalt and manganese. 2,979,307, 4-11-61, Cl. 75—161.

Klumb, Harvey A.: *See*—
Griswold, Augustus W., and Klumb. 2,979,068.

Knapsack-Griesheim Aktiengesellschaft: *See*—
Sennewald, Kurt, Gots, and Rehberg. 2,979,535.

Knights, Herbert C.: *See*—
Challender, Ronald S., and Knights. 2,978,790.

Knipple, Chester: *See*—
Corwin, Thomas E., and Knipple. 2,979,027.

Knochel, Edward S.: *See*—
Van Zelm, Willem D., Knochel, and Jackson. 2,979,163.

Knoll Associates, Inc.: *See*—
Knoll, Florence S. 2,979,122.

Knoll, Florence S., to Knoll Associates, Inc. Chair frame and supporting structure. 2,979,122, 4-11-61, Cl. 155—191.

Koble, Robert A., to Phillips Petroleum Co. Processing of uranium ores. 2,979,378, 4-11-61, Cl. 23—14.5.

Kochm, Robert C., to The Firestone Tire & Rubber Co. Method of making an air impervious sheet of rubberized cotton fabric. 2,978,784, 4-11-61, Cl. 28—72.

Koehler, Charles H. Lamp shade. 2,979,606, 4-11-61, Cl. 240—108.

Kohl, Arthur L.: *See*—
Ridsman, James E., and Kohl. 2,979,421.

Kolbe, Henry H., to The Firestone Tire & Rubber Co. Expulsion bag fitting. 2,979,344, 4-11-61, Cl. 285—200.

Konet, Henry: *See*—
Mims, Bruce L., and Konet. 2,979,367.

Konopka, Alfred Z., and R. O. Lightfoot, to Paddock Pool Equipment Co. Swimming pool filter. 2,979,206, 4-11-61, Cl. 210—169.

Koppers Co., Inc.: *See*—
McCauley, Thomas M., and Svoboda. 2,978,748.

Korman, Samuel: *See*—
Sheer, Charles, and Korman. 2,979,449.

Kosmider, Johannes, and H. Neuhaus. Method of preparing preliminary metal or steel pig iron containing phosphorus. 2,979,395, 4-11-61, Cl. 75—60.

Kosten, Leendert, to Staatsbedrijf der Posterijen, Telegrafie en Telefonie. Telecommunication system. 2,979,569, 4-11-61, Cl. 179—7.

Kowolik, Ernest J., and J. Lincoln, to British Celanese Ltd. Manufacture of high linear polyesters with tin phosphide catalyst. 2,979,483, 4-11-61, Cl. 260—47.

Kramer, Hyman. Web-to-tube fastenings. 2,978,775, 4-11-61, Cl. 24—265.

Kramer, Hyman. Web-to-tube fastenings. 2,979,119, 4-11-61, Cl. 155—187.

Krapcho, John, and W. A. Lott, to Olin Mathieson Chemical Corp. Certain 1,4-benzodioxanyl imidazolines and corresponding pyrimidines and process. 2,979,511, 4-11-61, Cl. 260—309.6.

Krems, Irving J.: *See*—
Fox, Arthur L., and Krems. 2,979,436.

Krestan, Miles F., and R. E. White, to Triangle Publications, Inc. Web control device. 2,979,279, 4-11-61, Cl. 242—58.3.

Kritz, Jack. Ultrasonic system for measuring the physical characteristics of a gas. 2,978,899, 4-11-61, Cl. 73—24.

Kriska, Jerry S.: *See*—
Taylor, John B., and Kriska. 2,979,406.

Krohm, Fred A., to The Anderson Co. Method for wiping a curved windshield. 2,979,425, 4-11-61, Cl. 134—6.

Krohm, Fred A., to The Anderson Co. Windshield wiper arm assembly. 2,979,426, 4-11-61, Cl. 134—6.

Krüger, Gustav, E. Schütz, and H. Bourquin, to Institut Dr. Ing. Reinhard Straumann A.G. Method of preparing self-lubricating watch and clock parts and the coated article. 2,979,417, 4-11-61, Cl. 117—65.2.

Krüssmann, Adolf. Indicating circuit. 2,979,705, 4-11-61, Cl. 340—178.

Kuck, John H., to United States of America, Navy. Deferred action battery. 2,979,552, 4-11-61, Cl. 136—90.

Kudlaty, Walter J.: *See*—
Filek, Francis S., and Kudlaty. 2,979,369.

Kühn, Hans-Robert, to Electroacustic Gesellschaft mit beschrankter Haftung. Transducer devices for stereophonic grooved sound records. 2,979,573, 4-11-61, Cl. 129—100.41.

Kummerman, Henri, to Ateliers et Chantiers de Bretagne (Anciens ets. de la Brosse et Fouche), and MacGregor-Comarain. Retractable ramps for interconnecting spaces situated at different levels. 2,979,007, 4-11-61, Cl. 114—72.

Kummerman, Henri, to International MacGregor Organisation (I.M.G.O.). Method of and device for controlling the closing panels of shipholds, railway cars and the like. 2,979,012, 4-11-61, Cl. 114—202.

Kusakabe, Hisao. Tube container. 2,978,722, 4-11-61, Cl. 15—137.

Kvassay, Emanuel, and J. B. Andrews, to W. D. Sellers. Container. 2,979,191, 4-11-61, Cl. 206—45.33.

Kwiatek, Stanislaw. Turbine with funnel drive vanes. 2,979,305, 4-11-61, Cl. 253—48.

Kyowa Hakko Kogyo Kabushiki Kaisha: *See*—
Kinoshita, Shukuo, Nakayama, and Kitada. 2,979,439.

Lackey, Robert S., W. L. Wright, and J. D. Mees, to Westinghouse Electric Corp. Plural-stage thermoelectric heat pump. 2,978,875, 4-11-61, Cl. 62—3.

Ladbrooke, Neville C., to William Cotton, Ltd. Production of garments on straight bar knitting machines. 2,978,888, 4-11-61, Cl. 66—58.

La Forest, John P.: *See*—
Wilcox, Clinton S., and La Forest. 2,979,653.

Lair, Julien J. B., to International Telephone and Telegraph Corp. Automatic echo pulse recapture circuit. 2,979,712, 4-11-61, Cl. 343—7.3.

Lambert, Harry L.: *See*—
Page, Paul F., Lambert, and Snyder. 2,979,277.

Lamberti, Martin J. Safety signalling devices for vehicle lifts. 2,979,694, 4-11-61, Cl. 340—61.

Lampatzer, Karl: *See*—
Keller, Heins, Brodt, and Lampatzer. 2,979,430.

Lamson, Edward R., and M. J. Devine. Method of lubricating anti-friction bearings. 2,978,793, 4-11-61, Cl. 29—148.4.

Lamson, Edward R., and M. J. Devine. Method of lubricating anti-friction bearings with bonded lubricant films. 2,978,794, 4-11-61, Cl. 29—148.4.

Lamson, Edward R., and M. J. Devine. Method of lubricating anti-friction bearings with bonded film lubricants. 2,978,795, 4-11-61, Cl. 29—148.4.

Land, Edwin H., to Polaroid Corp. Composition comprising a vinylpyridine polymer and a hydantoin formaldehyde condensation polymer. 2,979,477, 4-11-61, Cl. 260—29.4.

Lang, Andrew R., to Burroughs Corp. Spring construction for a type rack. 2,978,978, 4-11-61, Cl. 100—109.

Lang, Edward W.: *See*—
Parran, John J., Lang, and Whyte. 2,979,465.

Langecker, Erhard, to Gebr. Battenfeld. Process and a machine for the production of hollow bodies. 2,978,745, 4-11-61, Cl. 18—5.

Langenberg, Frederick C., to Crucible Steel Co. of America. Method to catalyze the reduction of ores. 2,979,396, 4-11-61, Cl. 75—34.

Lansky, Zdenek J., to Parker-Hannifin Corp. Seals for rods and shafts. 2,979,350, 4-11-61, Cl. 286—26.

Larsen, William J.: *See*—
Curtis, Aaron I., and Larsen. 2,978,878.

Laslo, John, to Air Reduction Co., Inc. Pipe welding. 2,979,598, 4-11-61, Cl. 219—60.

Laubach, Gerald D.: *See*—
McLamore, William M., and Laubach. 2,979,437.

Laudise, Robert A.: *See*—
Ballman, Albert A., Caporaso, and Laudise. 2,979,413.

Lavigne, Joe B., and I. E. Levine, to California Research Corp. Process for converting cis-ethylenic compounds to their trans-isomers. 2,979,455, 4-11-61, Cl. 204—154.

Lawrence Bros., Inc.: *See*—
Welker, Adam E. 2,978,736.

Lawrence, Joseph D., Jr.: *See*—
Bonn, Theodore H., and Lawrence. 2,979,698.

Lazar, Melvin E., G. S. Smith, and E. O. Chapin, to United States of America, Agriculture. Preparation of dehydrated fruit having the characteristics of sun-dried fruit. 2,979,412, 4-11-61, Cl. 99—204.

Lea, Bernard A.: *See*—
Fry, Douglas J., Lea, and Kendall. 2,979,501.

Leach, Clayton B., and L. V. Ostrander, to General Motors Corp. Bumper-conduit exhaust assembly. 2,979,357, 4-11-61, Cl. 293—69.

Leavitt, Lyman O., and D. Pitt, to Anchor Boat & Steel Co. Outboard marine drive. 2,979,019, 4-11-61, Cl. 115—34.

Lee, Donald E., to Baldwin-Lima-Hamilton Corp. Materials testing machine. 2,978,900, 4-11-61, Cl. 73—93.

Leeper, Thomas A.: *See*—
Governale, Luke J., and Leeper. 2,979,492.

Lees, James, and Sons Co.: *See*—
Benedict, Ullman H. 2,979,023.

Lees, Richard W.: *See*—
Reynolds, Harold C., Lees, and Gagne. 2,978,937.

Leggett, Charles W.: *See*—
Weiner, Joseph G., and Leggett. 2,979,384.

Lehr, Philip N., G. O'Brien, A. Reitlinger, to Dictograph Products, Inc. Communication system. 2,979,575, 4-11-61, Cl. 179—175.25.

Leighton, Geoffrey J., to Canadian Curtiss-Wright, Ltd. Servosystem for controlling the mass content of a product. 2,979,649, 4-11-61, Cl. 318—480.

Leitz, Ernst, G.m.b.H.: *See*—
Mandler, Walter. 2,978,950.

Leonard, Ralph N., to The Radion Corp. Television receiving antenna. 2,979,720, 4-11-61, Cl. 343—805.

Leonard, William T.: *See*—
Diehm, Kenneth F., and Leonard. 2,978,771.

Letsch, Raymond O. Filament holding and tensioning device. 2,979,283, 4-11-61, Cl. 242—129.8.

Lever Bros. Co.: *See*—
Jessee, Jan E. 2,978,883.

Levin, Simon. Apparatus for recording and reproducing magnetic information. 2,979,572, 4-11-61, Cl. 179—100.2.

Levine, Charles A., to The Dow Chemical Co. Process for the preparation of graft copolymers. 2,979,447, 4-11-61, Cl. 204—154.

Levine, Irving E.: *See*—
Lavigne, Joe B., and Levine. 2,979,445.

Levine, Morton. Case for cartons. 2,979,222, 4-11-61, Cl. 220—21.

Lewis, George W. Fluid pumps. 2,978,990, 4-11-61, Cl. 103—150.

Leyton, Eric M., to Radio Corp. of America. Recording and reproducing system. 2,979,536, 4-11-61, Cl. 178—5.2.

Leyton, Eric M., to Radio Corp. of America. Switching system for transverse scanning tape reproducer. 2,979,562, 4-11-61, Cl. 178—6.6.

Liao, Chien-wei: *See*—
Darling, Samuel M., and Liao. 2,979,459.

Liberty Mfg. Corp.: *See*—
Bang, Mogens W. 2,979,615.

Libois, Louis J., and P. M. Lucas. Telephonic concentrator. 2,979,571, 4-11-61, Cl. 179—18.

Librairie Hachette: *See*—
Mercier, Robert E. 2,979,174.

"Licencia" Találmányokat Értékesítő Vállalat: *See*—
Berenzi, Oszkar. 2,978,904.

Lichtenwalter, Myrl, and K. E. Harwell, to Callery Chemical Co. Preparation of alkyl substituted boron hydrides. 2,979,530, 4-11-61, Cl. 260—606.5.

Liebeskind, Arthur S., to The Lord Baltimore Press, Inc. Foam plastic coated carton. 2,979,246, 4-11-61, Cl. 229—14.

Liebeskind, Mack, to Ideal Pleating Co. Pleating apparatus and method. 2,979,240, 4-11-61, Cl. 223—30.

Liebhart, Dorsey M. Spray boom for aircraft. 2,979,273, 4-11-61, Cl. 239—550.

Liebig, William J., to Meadox Medicals, Inc. Synthetic vascular implants and the manufacture thereof. 2,978,787, 4-11-61, Cl. 28—73.

Lightfoot, Richard O.: *See*—
Konopka, Alfred Z., and Lightfoot. 2,979,206.

Lincoln, James: *See*—
Kowolik, Ernest J., and Lincoln. 2,979,483.

Lindenblad, Nils E., to Radio Corp. of America. Electromagnetic pumps. 2,978,985, 4-11-61, Cl. 103—1.

Linnabary, Vernon G.: *See*—
Van Huis, Robert L., Linnabary, and Clark. 2,979,242.

Lipton, Thomas J., Inc.: *See*—
Price, Robert G. 2,978,853.

Lirio Chemical Co., Inc.: *See*—
Lirio, Philip A. 2,979,291.

Lirio, Philip A., to Lirio Chemical Co., Inc. Inflatable pontoon for aircraft. 2,979,291, 4-11-61, Cl. 244—102.

Little, Arthur D., Inc.: *See*—
Sperry, Charles R., and Marden. 2,978,770.

Little, Stanley: *See*—
Bishop, Ronald F., and Little. 2,979,221.

Litton Systems, Inc.: *See*—
Curtis, Daniel L. 2,979,578.

Lo, Elizabeth S., to Minnesota Mining and Mfg. Co. Copolymers of 2-trifluoromethyl-1, 3-butadiene. 2,979,489, 4-11-61, Cl. 260—87.5.

Lodal Inc.: *See*—
Brimson, John R. 2,979,215.

Loepsinger, Albert J., to Grinnell Corp. Method of making diaphragm valve compressors. 2,978,763, 4-11-61, Cl. 22—195.

Logan, David G., to Unilever Ltd. Remote impedance system apparatus for controlling dictating machines. 2,979,568, 4-11-61, Cl. 179—6.

Long, Joseph N., to The Vilter Mfg. Co. Hot gas defrosting system with gravity liquid return for refrigeration systems. 2,978,877, 4-11-61, Cl. 62—155.

Longmire, Marion A. Continuous electrical outlet. 2,979,686, 4-11-61, Cl. 339—21.

Longobardi, Joseph W.: *See*—
Reeder, Richard D., and Longobardi. 2,979,229.

Looker, Robert, to Brown-Line Corp. Grooved pin with reformable collar to accommodate various thicknesses. 2,978,946, 4-11-61, Cl. 85—5.

Looney, Joseph M., Jr., A. Fraser, and R. M. Martin, to Technology Instrument Corp. Rectilinear potentiometers. 2,979,684, 4-11-61, Cl. 338—183.

Lor Corp.: *See*—
Fiedler, Stuart O., Bjorksten, and Fiedler. 2,979,392.

Lord Baltimore Press, Inc., The: *See*—
Liebeskind, Arthur S. 2,979,246.

Lorenz, Anton: *See*—
Schliephacke, Fridtjof F. 2,979,116.

Lott, William A.: *See*—
Krapcho, John, and Lott. 2,979,511.

Lotz, Harry E. Combined travelling case and head protector. 2,979,170, 4-11-61, Cl. 190—42.

Louis, Arnold S., to Myron A. Coler. Multi-element precision potentiometer. 2,979,682, 4-11-61, Cl. 338—143.

Lovell Mfg. Co.: *See*—
Miller, Raymond G., and Brandt. 2,978,894.

Lovin, Leak G., Jr.: *See*—
Wensell, Louis P., Jr., and Lovin. 2,978,785.

Lowry, Terrell N., to Bell Telephone Laboratories, Inc. Synchronisation check circuit. 2,979,574, 4-11-61, Cl. 179—175.2.

Lucas, Pierre M.: *See*—
Libois, Louis J., and Lucas. 2,979,571.

Lucas, Samuel W. Apparatus for throwing discrete substances. 2,979,185, 4-11-61, Cl. 198—128.

Ludwig, Ralph E., and D. D. Dalrymple, to National Forge Co. Apparatus for electroplating crankshaft journals. 2,979,452, 4-11-61, Cl. 204—212.

Lull, Le Grand H. Rotary sweeper or broom. 2,978,720, 4-11-61, Cl. 15—82.

Lundsted, Lester G., to Wyandotte Chemicals Corp. Nitrogen-containing polyoxyalkylene detergent compositions. 2,979,528, 4-11-61, Cl. 260—584.

Lung, Kenneth R., to The Taft Mfg. Co. Pumps. 2,978,989, 4-11-61, Cl. 103—102.

Lurie, August J. Carton opening device. 2,978,807, 4-11-61, Cl. 30—2.

Lyden, Frank J. Constant level oilers. 2,979,161, 4-11-61, 184—103.

Lyon, George A. Brake drum cooling ring structure. 2,979,168, 4-11-61, Cl. 188—264.

Lytton, Marion R., to American Viscose Corp. Production of rayon. 2,979,376, 4-11-61, Cl. 18—54.

MacDonald, Raymore D., to Harry J. Seaman. Road roller. 2,978,967, 4-11-61, Cl. 94—50.

MacGregor-Comarain: *See*—
Kummerman, Henri. 2,979,007.

MacGregor, Warren S., to Crown Zellerbach Corp. Preparation of dialkyl disulfides. 2,979,532, 4-11-61, Cl. 260—608.

MacHenry, Richard, to American Viscose Corp. Method of reshaping fibrous filter rods. 2,979,433, 4-11-61, Cl. 154—91.

Mackie, James, & Sons Ltd.: *See*—
Mackie, John K. P. 2,978,753.

Mackie, John K. P., to James Mackie & Sons Ltd. Textile drafting apparatus. 2,978,753, 4-11-61, Cl. 19—70.

MacNeille, Stephen M., to American Optical Co. Fiber optical components and method of manufacture. 2,979,632, 4-11-61, Cl. 313—89.

Madden, Frank J.: *See*—
Pircon, Ladislav J. 2,979,411.

Magid, Max, to United States of America, Air Force. Wave guide-to-coaxial line coupling for traveling wave amplifiers. 2,979,636, 4-11-61, Cl. 315—39.3.

Magna-Bond, Inc.: *See*—
Urexler, Stanley. 2,979,416.

Magnaflux Corp.: *See*—
De Forest, Taber. 2,979,655.

Malden, Clinton E., to Pacific Semiconductors, Inc. High voltage semiconductor rectifier. 2,979,645, 4-11-61, Cl. 317—234.

Maier, Karl W., to Olin Mathieson Chemical Corp. Web stretching method and apparatus. 2,978,740, 4-11-61, Cl. 18—1.

Maitland, Robert T., to The Bendix Corp. Insulated mounting clamp for electrical components. 2,979,554, 4-11-61, Cl. 174—138.

Makin, Earle C. Jr., to Monsanto Chemical Co. Extraction distillation. 2,979,545, 4-11-61, Cl. 260—666.

Malek, Louis L. Adjustable garment hanger. 2,979,241, 4-11-61, Cl. 223—94.

Malleable Iron Fittings Co.: *See*—
Huggins, Owen R. 2,979,290.

Malpede, Albert J.: *See*—
Vani, James, and Malpede. 2,978,718.

Mandler, Walter, to Ernst Leitz, G.m.b.H. Universal alignment instrument. 2,978,950, 4-11-61, Cl. 88—14.

Marchand, Jean F., to North American Philips Co., Inc. Matrix memory system. 2,979,701, 4-11-61, Cl. 340—174.

Marden, Carleton S.: *See*—
Sperry, Charles R., and Marden. 2,978,770.

Markakis, Pericles, T. M. Freeman, and W. H. Harte, to D C A Food Industries Inc. Chip-type food product. 2,979,409, 4-11-61, Cl. 99—100.

Markey, Harold G.: *See*—
Hopner, Emil, and Markey. 2,979,566.

Markey, Francis X., to Pittsburgh Coke & Chemical Co. Defoliation. 2,979,391, 4-11-61, Cl. 71—2.7.

Markovich, George. Cigar tip end attachment. 2,979,059, 4-11-61, Cl. 131—13.

Marquardt, Julius F., to International Harvester Co. Mounting structure for spring and axle assembly. 2,979,325, 4-11-61, Cl. 267—30.

Marquis, Donald P., to General Motors Corp. Universal joint. 2,978,886, 4-11-61, Cl. 64—21.

Marshall, James F., to Minneapolis-Honeywell Regulator Co. Switching circuit. 2,979,658, 4-11-61, Cl. 324—115.

Martensen, Uwe H., to International Harvester Co. Flexible disk tiller. 2,979,138, 4-11-61, Cl. 172—579.

Martin, Albert E., to Parsons, Sir Howard Grubb, & Co. Ltd. Alternating current frequency changing apparatus. 2,979,651, 4-11-61, Cl. 321—70.

Martin Co., The: *See*—
Hammond, Wardlaw M., Jr. 2,979,715.

Martin, Edward J., and J. M. Farrell, to General Motors Corp. Switch circuit and actuating mechanism. 2,979,647, 4-11-61, Cl. 318—134.

Martin, Edwin R., to Standard Dayton Corp. Motor control assembly. 2,979,648, 4-11-61, Cl. 318—211.

Martin, Joseph D., to The Procter & Gamble Co. Method of and apparatus for extruding metal collapsible tubes. 2,979,195, 4-11-61, Cl. 207—8.

Martin, Richard H., Jr., to Monsanto Chemical Co. Suspension polymerisation process. 2,979,487, 4-11-61, Cl. 260—78.5.

Martin, Robert M.: *See*—
Looney, Joseph M., Jr., Fraser, and Martin. 2,979,684.

Maschinenfabrik Augsburg-Nurnberg A.G.: *See*—
Meurer, Siegfried, and Mühlberg. 2,979,043.

Mason, Francis G., to Aladdin Industries, Inc. Radio frequency tuners. 2,979,616, 4-11-61, Cl. 250—40.

Masterson, Earl E.: *See*—
Eckert, John P., Jr., and Masterson. 2,978,977.

Mathewson, Wilfred F., Jr.: *See*—
Sugalski, Alfred A., Williams, and Mathewson. 2,979,207.

Mattson, Leslie N. Boat bailer. 2,979,011, 4-11-61, Cl. 114—183.

Matsuda, Ken: *See*—
Wozniak, Edmund P., and Matsuda. 2,979,847.

Matthews, Richard A.: *See*—
Melton, Thomas M., Matthews, and O'Connor. 2,979,478.

Matuszak, Charles A.: *See*—
Shannon, Richard F., Matuszak, Adams, and Gillaum. 2,979,469.

Maxitrol Co.: *See*—
Kern, Frank, Jr., and Stang. 2,979,067.

Maxson, W. L., Corp., The: *See*—
Weaver, Preston R. 2,979,562.

May & Baker Ltd.: *See*—
Wright, Derek E. 2,979,512.

Maye, Edward. Fluid drive mechanism. 2,979,306, 4-11-61, Cl. 253—105.

McAlpine, Charles H. Burn caster. 2,978,762, 4-11-61, Cl. 22—58.

McAlpine, Thomas, to G. & J. Weir Ltd. Centrifugal pump. 2,978,988 4-11-61, Cl. 103—87.

McBride, William E. Egg grader. 2,979,200, 4-11-61, Cl. 209—121.

McCallum, John T. B. Johnson, W. E. Ditmars, Jr., and L. D. McGraw, to Remington Arms Co. Current generator cell. 2,979,553, 4-11-61, Cl. 136—100.

McCambridge, Joseph. Fluid-dynamic emergency brakes. 2,979,165, 4-11-61, Cl. 188—87.

McCanse, James E., and D. C. Ager, to Deere & Co. Control mechanism. 2,979,081, 4-11-61, Cl. 137—620.

McCarthy, Paul R., and J. J. McGrath, to Gulf Research & Development Co. Lubricating oil thickened to a grease consistency with a mixture of an organo hydantoin and a siliceous thickening agent. 2,979,460, 4-11-61, Cl. 252—49.7.

McCauley, Thomas M., and G. Svoboda, to Koppers Co., Inc. Die for extruding tubular plastic film. 2,978,748, 4-11-61, Cl. 18—14.

McClay, Gordon F., to Canadian Ingersoll-Rand Co., Ltd. Log debarking drum. 2,979,090, 4-11-61, Cl. 144—208.

McClees, John V. Photographic flash attachment. 2,979,601, 4-11-61, Cl. 240—1.3.

McCloud George R., to McGraw-Edison Co. Load interrupter housed fuse cutouts. 2,979,584, 4-11-61, Cl. 200—114.

McDonald, Donald C., and E. A. Reich, to Cook Electric Co. Phase synchronising system. 2,979,135, 4-11-61, Cl. 170—160.17.

McDougal, John A.: *See*—
Eshbaugh, Jesse E., and McDougal. 2,979,172.

McGrath, Joseph J.: *See*—
McCarthy, Paul R., and McGrath. 2,979,460.

McGrath, Joseph J., and J. P. Pellegrini, Jr. to Gulf Research & Development Co. Lubricating oil thickened to a grease with a mixture of a biphenyldicarboxylic acid and an organophilic siliceous thickener. 2,979,461, 4-11-61, Cl. 252—49.7.

McGrath, Joseph J., and J. P. Pellegrini, Jr., to Gulf Research & Development Co. Lubricating oil thickened to a grease consistency with a mixture of a spiro hydantoin and a siliceous thickening agent. 2,979,462, 4-11-61, Cl. 252—49.7.

McGraw-Edison Co.: *See*—
McCloud, George R. 2,979,584.

McGraw, Leslie D.: *See*—
McCallum, John, Johnson, Ditmars, and McGraw. 2,979,553.

McKee, Arthur G., & Co.: *See*—
Greaves, Melvin J. 2,979,235.

McKenzie, Ross B. Moldboard plow frame construction. 2,979,140, 4-11-61, Cl. 172—676.

McLamore, William M., and G. D. Laubach, to Chas. Pfizer & Co., Inc. Substituted styryl, and thienylethenyl, pyridylethenyl sulfonylureas and method of treating diabetes. 2,979,437, 4-11-61, Cl. 167—65.

McMullen, John C., to The Carborundum Co. Method and apparatus for fiberizing refractory materials. 2,978,750, 4-11-61, Cl. 18—47.3.

McNeely, William H., to Kelco Co. Derivatives of water-soluble gums. 2,979,489, 4-11-61, Cl. 260—209.6.

McNeil Machine & Engineering Co., The: *See*—
Soderquist, Leslie E. 2,978,741.

McQuiston, Horace L., deceased (Horace Leman McQuiston, executor), and F. E. Taylor. Signalling device. 2,978,828, 4-11-61, Cl. 43—17.

McQuiston, Horace L.: *See*—
McQuiston, Horace L., and Taylor. 2,978,828.

Meadox Medicals, Inc.: *See*—
Liebig, William J. 2,978,787.

Mechanical Equipment Co., Inc.: *See*—
Wason, Wallace E. 2,978,992.

Medlar, Lewis A.: *See*—
Godshalk, James B., and Medlar. 2,979,650.

Meehan, James H.: *See*—
Moser, Frank T. 2,978,996.

Meese, Jack D.: *See*—
Lackey, Robert S., Wright, and Meese. 2,978,875.

Meerwesen, Willem D., to North American Philips Co., Inc. Trigger circuit arrangement. 2,979,572, 4-11-61, Cl. 331—145.

Mellon, S.A.: *See*—
Casas-Robert, Ramon, Court, and Gianinazzi. 2,979,002.

Melnikoff, Zachary. Eyebrow pencil and sharpener therefor. 2,979,029, 4-11-61, Cl. 120—1.

Melton, Thomas M., R. A. Matthews, and H. F. O'Connor, to Virginia-Carolina Chemical Corp. Composition containing polyvinyl alcohol and a neutral ester of phosphoric acid. 2,979,478, 4-11-61, Cl. 260—30.6

Mercier, Robert E., to Librairie Hachette. Change speed gear for toys and reduced scale models. 2,979,174, 4-11-61, Cl. 192—4.

Merrimac Research and Development Corp.: *See*—
Dwork, Bernard M. 2,979,678.

Metallgesellschaft Aktiengesellschaft: *See*—
Wassermann, Gunter, Weber, and Hubinger. 2,978,798.

Metcalf, Carol R.: *See*—
Metcalf, Herbert E. 2,978,915.
Metcalf, Herbert E. 2,978,916.

Metcalf, Herbert E., deceased; C. R. Metcalf, administratrix. Rotary actuator. 2,978,915, 4-11-61, Cl. 74—89.

Metcalf, Herbert E., deceased; C. R. Metcalf, administratrix. Motion converter. 2,978,916, 4-11-61, Cl. 74—99.

Metrawatt Aktiengesellschaft: *See*—
Unger, Erich. 2,979,670.

Meurer, Siegfried, and E. Mühlberg, to Maschinenfabrik Augsburg-Nurnberg A.G. Internal combustion engine and method of operating same. 2,979,043, 4-11-61, Cl. 123—25.

Meyer, Fred W., Jr.: *See*—
Seifried, Paul R., and Meyer. 2,979,707.

Meyerowitz, Nathan, to D & W Mfg. Co., Inc. Room divider lamp construction. 2,979,605, 4-11-61, Cl. 240—81.

Michigan Tool Co.: *See*—
Birtch, Fred E., and Johnson. 2,978,843.

Micron Sprayers Ltd.: *See*—
Bals, Edward J. 2,979,269.

Midland-Ross Corp.: *See*—
Dailey, William H., Jr. 2,979,322.

Midwest Folding Products Mfg. Corp.: *See*—
Heisler, Harold. 2,978,895.

Miller, Alberta L. Brassiere. 2,979,057, 4-11-61, Cl. 128—484.

Miller, Frederick W. Drinking tube. 2, 979,267, 4-11-61, Cl. 239—33.

Miller, George A., to Diamond Alkali Co. Process for chlorinating aliphatic chain substituted aromatic hydrocarbons. 2,979,448, 4-11-61, Cl. 204—163.

Miller, Orin E. Bulkhead cargo bracing. 2,978,994, 4-11-61, Cl. 105—376.

Miller, Raymond G., and J. W. Brandt, to Lovell Mfg. Co. Wringer. 2,978,894, 4-11-61, Cl. 68—203.

Miller, Roy W., to Stanray Corp. Interlocking stacking spacer and guide pin assembly. 2,978,841, 4-11-61, Cl. 50—103.

Miller, Thomas C. Carbonate manufacture. 2,979,380, 4-11-61, Cl. 23—66.

Milne, David T., to American Viscose Corp. Manufacturing of flexible sheets into casings. 2,979,114, 4-11-61, Cl. 154—42.

Mims, Bruce L., and H. Konet, to The Barden Corp. Dynamic bearing. 2,979,367, 4-11-61, Cl. 308—183.

Mindes, Barry M.: *See*—
Adams, Robert T., and Mindes. 2,979,613.

Minneapolis-Honeywell Regulator Co.: *See*—
Aske, Vernon H. 2,978,910.
Curtis, Aaron L., and Larsen. 2,978,878.
Marshall, James F. 2,979,658.
Pinckaers, Balthasar H. 2,979,626.
Werr, John F. 2,979,595.

Minnesota Mining and Mfg. Co.: *See*—
Dipner, Charles D. 2,979,418.
Errede, Louis A., and Peterson. 2,979,539.
Lo, Elizabeth S. 2,979,489.
West, Fred W. 2,979,490.

Mitchell, Charles F. Smooth surfaced bowling ball with apertures therein. 2,979,334, 4-11-61, Cl. 273—63.

Mitchell, Edwin L.: *See*—
Rogers, Grant H., and Mitchell. 2,979,097.

Moberg, Sigurd M., to E. J. Brooks Co. Machine for applying tags. 2,978,705, 4-11-61, Cl. 1—2.

Moberg, Sigurd M., to E. J. Brooks Co. Tag applying apparatus. 2,978,700, 4-11-61, Cl. 1—2.

Mocey, Walter G.: *See*—
D'Aleandro, Nicholas J., Mocey, and Zearfoss. 2,978,884.

Modic, Frank J., to General Electric Co. Silicone rubber of improved tear strength. 2,979,479, 4-11-61, Cl. 260—37.

Moeckel, Max O. Rivet removal device for aircraft brakes. 2,979,243, 4-11-61, Cl. 225—97.

Moen, Alfred M. Handle and valve stem connection for mixing faucet. 2,978,917, 4-11-61, Cl. 74—104.

Moesta, Hasso, to National Research Corp. Process for the production of ion-emitting surfaces, particularly for halogen leak detectors. 2,979,631, 4-11-61, Cl. 313—63.

Monsanto Chemical Co.: *See*—
Applegath, Fred, and Frans. 2,978,527.
Cavender, James V., Jr. 2,979,495.
Ehrlich, Paul, and Pittilo. 2,979,496.
Fields, Joseph E., and Johnson. 2,979,454.
Makin, Earle C., Jr. 2,979,545.
Martin, Richard H., Jr. 2,979,487.
Santmyer, Philip H. 2,979,434.

Moody, Warren R. Yieldable drive connection for a rotary lawn mower. 2,978,858, 4-11-61, Cl. 56—295.

Moore, James H. Mineral jig. 2,979,203, 4-11-61, Cl. 209—455.

Morgan Fairest Ltd.: *See*—
Fairest, Barry M. 2,978,854.

Morris, Walter H.: *See*—
Sears, Richard E., and Morris. 2,978,920.

Morrison, Albert R.: *See*—
Whitehurst, Harry B., Morrison, and Collier. 2,979,424.

Morrissey, Carl H. Automobile shoe scraper and brush assembly. 2,979,340, 4-11-61, Cl. 280—164.

Moser, Frank T., to F. D. Black, Jr., W. Justin, J. H. Meehan, C. Slade, M. M. Fiterman, and H. Pratt. Variegator attachment for soft frozen confection freezer. 2,978,996, 4-11-61, Cl. 107—1.

Moss, Robert G., to Preway, Inc. Door structure. 2,979,052, 4-11-61, Cl. 126—194.

Mount, Jay A. Cooling for supersonic aircraft. 2,979,293, 4-11-61, Cl. 244—117.

Mouwen, Herman C., to Purolator Products, Inc. Porous media. 2,979,400, 4-11-61, Cl. 75—222.

Mühlberg, Erhard: *See*—
Meurer, Siegfried, and Mühlberg. 2,979,043.

Mullard Radio Valve Co. Ltd., The: *See*—
Kimber, Raymond A. 2,978,948.

Müller, Arthur: *See*—
Bersin, Theodor, and Müller. 2,979,422.

Müller, Herbert: *See*—
Wilke, Günther, and Müller. 2,979,543.

Mund, Morris, ½o to K. L. Spivak, and ½ to P. J. O'Brien. Self adjusting window masking device. 2,979,025, 4-11-61, Cl. 118—505.

Murgolo, Nicholas. Pleat pin and tape. 2,979,128, 4-11-61, Cl. 160—348.

Murphy, Arthur J.: *See*—
Fitzgerald, Charles F., and Murphy. 2,979,001.

N.V. Optische Industrie de Oude Delft: *See*—
Becker, Johannes, and Bulthuis. 2,978,957.

Nakayama, Kiyoshi: *See*—
Kinoshita, Shukuo, Nakayama, and Kitada. 2,979,439.

Nalley, William C. Wrench having an angularly adjustable handle. 2,978,938, 4-11-61, Cl. 81—177.5.

National Distillers and Chemical Corp.: *See*—
Smith, Roy S. 2,978,851.

National Forge Co.: *See*—
Ludwig, Ralph E., and Dalrymple. 2,979,452.

National Heater Co., Inc.: *See*—
Costello, George T. 2,979,050.

National Research Corp.: *See*—
Moesta, Hasso. 2,979,631.
Reich, Gunter. 2,979,254.

National Research Council: *See*—
Brown, William C. 2,979,681.

National Research Development Corp.: *See*—
Fowell, Edward J. C. 2,979,623.

Naumann, Willy E., to Daimler-Benz Aktiengesellschaft. Coupling for vehicle half axle drive assembly. 2,979,147, 4-11-61, Cl. 180—73.

Nawman, Robert L.: *See*—
Nawman, Rollie B., and R. L. 2,978,831.

Nawman, Rollie B., and R. L., to Benner-Nawman, Inc. Rack for telephone directories. 2,978,831, 4-11-61, Cl. 45—85.

Neiswinter, James T.: *See*—
Anspach, Russell J., Clark, Neiswinter, and Tamasi. 2,978,558.

Netherton, Lyman R., and J. G. Baker. Trolling spoon. 2,978,829, 4-11-61, Cl. 43—42.22.

Neuhaus, Herbert: *See*—
Kosmider, Johannes, and Neuhaus. 2,979,395.

Neves, Frank T. Irrigation water distributing device. 2,979,062, 4-11-61, Cl. 137—625.11.

Newbauer, Louis L.: *See*—
Herring, Robert H., and Newbauer. 2,979,071.

Newhouse, Paul D., and C. M. Allen, to Westinghouse Electric Corp. Automatic target tracking passive radar apparatus. 2,979,718, 4-11-61, Cl. 343—119.

Newman, Frank C.: *See*—
Bellringer, Frederick J., Capp, Newman, and Turck. 2,979,542.

Nicholas, Donald C., to B.X. Plastics Ltd. Torque transmission coupling. 2,978,903, 4-11-61, Cl. 72—136.

Nichols, Nathaniel B., to United States of America, Navy. Gyroscope anti-tumbling apparatus. 2,978,912, 4-11-61, Cl. 74—5.

Nicholson, Ralph A., to Intercontinental Mfg. Co., Inc. Heat exchangers. 2,979,310, 4-11-61, Cl. 257—247.

Niederrheinische Hutte Aktiengesellschaft: *See*—
Werz, Wilhelm. 2,979,394.

Noall, John, to The Firestone Tire & Rubber Co. Quick acting tire mounting chuck. 2,979,091, 4-11-61, Cl. 144—288.

Noffsinger, Harold E. Holder for milk cartons. 2,979,225, 4-11-61, Cl. 220—85.

Nojima, Takeo. Car wheels. 2,979,360, 4-11-61, Cl. 295—44.

Nolden, William. Strainers. 2,979,209, 4-11-61, Cl. 210—435.

Nordmark, Walter E.: *See*—
Barecki, Chester J., Hoven, Nordmark, and Oom. 2,979,117.
Bradley, George C., Hoven, and Nordmark. 2,979,370.

Norea, Sven A. Hydraulic rotary engine. 2,979,038, 4-11-61, Cl. 121—83.

Norgren, C. A., Co.: *See*—
Wilson, Jesse A., Jr. 2,979,226.

North American Aviation, Inc.: *See*—
Freebairn, Darwin L., Jr., and Acterman. 2,978,913.
Shaw, Hubert E. 2,979,717.
Shelley, Rulon G. 2,979,711.

North American Philips Co., Inc.: *See*—
Blok, Lourens, De Ruiter, Sytsma, and Zwanenburg. 2,979,606.
Breimer, Hendrik. 2,979,560.
De Koker, Willy P., and De Vleminck. 2,979,567.
De Trotje, Nicolaas C. 2,979,261.
Duinker, Simon. 2,979,696.
Marchand, Jean F. 2,979,701.
Meerwesen, Willem D. 2,979,672.

North American Philips Co., Inc.: *See*—Continued
Pellekean, Leendert. 2,979,024.
Schayes, Raymond G. 2,979,665.
Schoenmakers, Hendrikus. 2,978,847.
Suhrmann, Robert. 2,979,661.

Northwest Power Industries Ltd.: *See*—
Wardle, James M. 2,978,873.

Norton Co.: *See*—
Haven, Edward S., and Brooks. 2,978,845.

Norton, Jerome H., and R. E. Taber. Container for maintaining temperature of bottled beverages. 2,979,227, 4-11-61, Cl. 220—105.

Nova-Tech, Inc.: *See*—
Held, Sidney P. 2,979,612.

Nowicki, Witold. Advertisement screens. 2,978,822, 4-11-61, Cl. 40—55.

Nursmatic Corp.: *See*—
Witz, Henry W. 2,979,078.

Oakes, Merwin D., to Houdry Process Corp. Purification of triethylene diamine. 2,979,500, 4-11-61, Cl. 260—268.

O'Brien, George: *See*—
Lehr, Philip N., O'Brien, and Reitlinger. 2,979,575.

O'Brien, Joseph L., and E. M. Beavers, to Rohm & Haas Co. Process for preparing carbonatoalkyl acrylates and methacrylates. 2,979,514, 4-11-61, Cl. 260—340.2.

O'Brien, Paul J.: *See*—
Mund, Morris. 2,979,025.

O'Connor, Harry F.: *See*—
Melton, Thomas M., Matthews, and O'Connor. 2,979,478.

O'Day, Thomas P.: *See*—
Bruson, Herman A., and O'Day. 2,979,533.

Oehler, William P., and H. V. Hansen to Deere and Co. Planters. 2,979,136, 4-11-61, Cl. 172—126.

Oehler, William P., and A. J. Immesoete, to Deere & Co. Planters. 2,979,342, 4-11-61, Cl. 280—474.

Okonite Co., The: *See*—
Sweeney, John J. 2,979,471.

Okstein, Paul, and P. A. Studer, to United States of America, Navy. Mechanical timing device. 2,978,983, 4-11-61, Cl. 102—79.

Oleson, Wrisley B.: *See*—
Fircon, Ladislav J. 2,979,411.

Olin Mathieson Chemical Corp.: *See*—
Bruson, Herman A., and O'Day. 2,979,533.
Denton, William I. 2,979,510.
Duffield, Albert J. 2,979,188.
Krapcho, John, and Lott. 2,979,511.
Maier, Karl W. 2,978,740.
Schur, Milton O. 2,979,058.

Oom, Benjamin J.: *See*—
Barecki, Chester J., Hoven, Nordmark, and Oom. 2,979,117.

Opderbeck, Fritz, G. Trapp, and G. Wörner, to Phrix-Werke Aktiengesellschaft. Method of producing viscose. 2,979,500, 4-11-61, Cl. 260—217.

Orbeliani, Andre. Magnetic baffle separator. 2,979,202, 4-11-61. Cl. 209—223.

Orenda Engines Ltd.: *See*—
Davison, Roger A. 2,978,885.

Organon Inc.: *See*—
Van Dorp, David A., and de Jongh. 2,979,518.

Orner, Harry. Multi-stage power operated torque wrench. 2,978,936, 4-11-61, Cl. 81—52.4.

Osborne, Fred, to S. P. Kinney Engineers, Inc. Apparatus for making light weight aggregate. 2,978,743, 4-11-61, Cl. 18—2.5.

Ospenson, Joseph N., to California Research Corp. Preparation of inorganic sulfur bromides. 2,979,383, 4-11-61, Cl. 23—203.

Ostendorf, Carl J.: *See*—
Haselton, Merrill W., Griesheimer, and Ostendorf. 2,978,976.

Ostrander, Lester V.: *See*—
Leach, Clayton B., and Ostrander. 2,979,357.

Oswald, Robert A. Cable retainer on suspended film carrier. 2,978,991, 4-11-61, Cl. 105—151.

Otto Construction Corp.: *See*—
Clarke, Clifford W. 2,979,548.

Overly, Elmer G. Adjustable work support usable with die cutting press. 2,978,944, 4-11-61, Cl. 83—539.

Overstreet, Henry H.: *See*—
Phillips, Wallace G., Hall, and Overstreet. 2,979,253.

Owens-Corning Fiberglas Corp.: *See*—
Schroeder, Charles F. 2,978,744.
Shannon, Richard F., Matuszak, Adams, and Gillaum. 2,979,469.
Shuman, Everett C. 2,978,781.
Whitehurst, Harry B., Morrison, and Collier. 2,979 424.

Oxalloy Co.: *See*—
Thompson, John S. 2,979,108.

Pacific Semiconductors, Inc.: *See*—
Malden, Clinton E. 2,979,645.

Pack, Herschel G. Thermoelectric generator. 2,979,551, 4-11-61, Cl. 136—4.

Paddock Pool Equipment Co.: *See*—
Konopka, Alfred Z., and Lightfoot. 2,979,206.

Page, Paul F., H. L. Lambert, and A. G. Snyder, to Royal McBee Corp. Record tape transports. 2,979,277, 4-11-61, Cl. 242—55.12.

Page, Raymond D.: *See*—
Biegler, William C., and Page. 2,978,728.

Paget, Harold D.: *See*—
Genden, Seymour A., and Paget. 2 979,284.

Palmer, William F., and G. Schiess, to Sylvania Electric Products Inc. Amplifier circuit. 2,979,664, 4-11-61, Cl. 330—3.

Panoramic Radio Products, Inc.: *See*—
Wallace, Marcel. 2,979,714.

Park, Richard B., to The Fuller Brush Co. Rotary cylindrical brush. 2,978,726, 4-11-61, Cl. 15—183.

Park, William R. R.: *See*—
Hill, Richard L., and Park. 2,979,419.

Parker, Ernest G.: *See*—
Avery, Howard, Kingsland, and Parker. 2,979,719.

Parker-Hannifin Corp.: *See*—
Lansky, Zdenek J. 2,979,350.

Parker Pen Co., The: *See*—
Harrington, William J. 2,979,030.

Parker Rust Proof Co.: *See*—
Keller, Heinz, Brodt, and Lampatzer. 2,979,430.

Parks-Cramer Co.: *See*—
Bailey, Luther. 2,979,266.

Parlour, A. Kenneth, to Tee-Pak, Inc. Food package and packaging film therefor. 2,979,410, 4–11–61, Cl. 99—171.

Parran, John J., E. W. Lang, and D. D. Whyte, to The Procter & Gamble Co. Cream shampoo. 2,979,465, 4–11–61, Cl. 252—137.

Parsons, Ralph M., Co., The: *See*—
Weimer, Joseph G., and Leggett. 2,979,384.

Parsons, Sir Howard Grubb, & Co. Ltd.: *See*—
Martin, Albert E. 2,979,651.

Paschal, Don F. Display mounts. 2,978,824, 4–11–61, Cl. 40—120.

Paschal, Edwin A., to Hughes Aircraft Co. Automatic volume control amplifier. 2,979,667, 4–11–61, Cl. 330—19.

Pastuhov, Alexis, to Conch International Methane Ltd. Reliquefaction system for liquefied gases. 2,978,876, 4–11–61, Cl. 62—54.

Patterson, Edward B., to Arthur H. Thomas Co. Test tube rack. 2,979,210, 4–11–61, Cl. 211—74.

Patterson, Ralph E., to GPE Controls, Inc. Auxiliary relay power unit control. 2,979,035, 4–11–61, Cl. 121—41.

Paulson, Everett L., to Fairley, Inc. Shell dredger. 2,978,819, 4–11–61, Cl. 37—57.

Pavlin, James E.: *See*—
Bishop, Richard B., and Pavlin. 2,979,476.

Payne, Vivian H. Energy storage or accumulator device. 2,979,070, 4–11–61, Cl. 137—192.

Pearce, Roscoe L.: *See*—
De Woody, Charles M., and Pearce. 2,979,594.

Pedersen, Harry, to The Gleason Works. Machine for producing gears. 2,978,963, 4–11–61, Cl. 90—3.

Pedersen, Richard A. Hide-a-way door stop. 2,978,750, 4–11–61, Cl. 20—16.

Peek, Sandford C., Jr., and J. A. Van Den Broek, to Sylvania Electric Products Inc. Projection lamp. 2,979,634, 4–11–61, Cl. 313—113.

Peelle Co., The: *See*—
Cole, Leo V. 2,979,180.

Pellaton, Ernest C., and W. A. Klapperich, to Fibreboard Paper Products Corp. Heat sealable carton and method of sealing same. 2,979,247, 4–11–61, Cl. 229—14.

Pellegrini, John P., Jr.: *See*—
McGrath, Joseph J., and Pellegrini. 2,979,461.
McGrath, Joseph J., and Pellegrini. 2,979,462.

Pelleknaan, Leendert, to North American Philips Co., Inc. Apparatus for fusing contacts onto semiconductive bodies. 2,979,024, 4–11–61, Cl. 118—500.

Penley, William H., and C. J. Wayman. Interception computers for aircraft or the like. 2,979,262, 4–11–61, Cl. 235—187.

Penn Controls, Inc.: *See*—
Siri, Louis J. 2,979,586.

Perrault, Lewis, to Ralph T. Hays. Method and apparatus of producing re-enforced thermoplastic bodies. 2,979,431, 4–11–61, Cl. 154—2.24.

Peters, John G.: *See*—
Cantrell, Troy L., and Peters. 2,979,523.

Petersen, Svend A.: *See*—
Cloutier, Eugene F., and Petersen. 2,978,752.

Peterson, Charles L., to Western Electric Co., Inc. Strand annealing apparatus. 2,979,321, 4–11–61, Cl. 262—3.

Peterson, Robert H., to United States of America, Navy. Resolver mechanisms. 2,978,922, 4–11–61, Cl. 74—471.

Peterson, Wesley R.: *See*—
Erredo, Louis A., and Peterson. 2,979,539.

Petit, Marceau R., to Cyber Societe Anonyme. Mechanical system for the construction of cybernetical mechanisms. 2,978,919, 4–11–61, Cl. 74—435.

Petropoulos, John C., to American Cyanamid Co. Linear polyesters and process of preparing the same. 2,979,486, 4–11–61, Cl. 260—75.

Petropoulos, John C., and F. A. V. Sullivan, to American Cyanamid Co. Novel process for preparing substituted dihydric indane derivatives. 2,979,534, 4–11–61, Cl. 260—619.

Petterson, Lowell L.: *See*—
Wright, John H., Petterson, and Steinberg. 2,979,524.

Pettinger, Donald S., to A.E.I.-John Thompson Nuclear Energy Co. Ltd. Gas sampling apparatus. 2,979,451, 4–11–61, Cl. 204—193.2.

Petzal, Henry, to Bartmann & Bizer, Inc. Hook bracket for a curtain heading. 2,978,735, 4–11–61, Cl. 16—87.2.

Pfeiffer, Rudolf K.: *See*—
Hartley, Gilbert S., Brunskill, and Pfeiffer. 2,979,075.

Pfizer, Chas., & Co., Inc.: *See*—
McLamore, William M., and Laubach. 2,979,487.

Philco Corp.: *See*—
Burgett, Monte I., Jr., and Ehrich. 2,979,559.
D'Alessandro, Nicholas J., Mocey, and Zearfoss. 2,978,884.
Tiley, John W. 2,979,444.

Phillips, Bernard C., to The Tillotson Mfg. Co. Fuel feed and charge forming apparatus. 2,979,312.

Phillips Petroleum Co.: *See*—
Anderson, Herbert R., Jr. 2,979,446.
Axe, William N., and De Vault. 2,979,493.
Carpenter, Paul G. 2,979,488.
Harmer, Robert S. 2,979,481.
Hiltzman, Donald O., and Schneider. 2,979,377.
Houston, William L., Jr. 2,979,316.

Phillips Petroleum Co.: *See*—Continued
Karnaek, Francis W., and Skinner. 2,979,885.
Koble, Robert A. 2,979,378.
Reed, Edwin E., and Brandt. 2,979,184.
Reid, James A. 2,979,142.
Warner, Paul F. 2,979,509.
Wilkins, Paul E. 2,979,351.

Phillips, Wallace G., W. O. Hall, and H. H. Overstreet. Container handle construction. 2,979,258, 4–11–61, Cl. 229—54.

Phipps, Arthur R.: *See*—
David, Freddy, and Phipps. 2,979,709.

Philbotte, Gaston. Pencil sharpener. 2,979,031, 4–11–61, Cl. 120—96.

Phrix-Werke Aktiengesellschaft: *See*—
Opderbeck, Fritz, Trapp, and Wörner. 2,979,500.

Physikalisch-Technische Werkstatten: *See*—
Heimann, Walter. 2,979,621.

Piccoli, William A., to Dow Corning Corp. Organopolysiloxanes stabilized with ferrocene and ferrocene derivatives. 2,979,482, 4–11–61, Cl. 260—45.75.

Pierce, Edgar M. Method and apparatus for the continuous combustion of refuse and the like. 2,978,997, 4–11–61, Cl. 110—18.

Pierce, Edgar M. Rotary feeder for refuse and the like. 2,979,213, 4–11–61, Cl. 214—18.

Pierce, Erold F., to Curtiss-Wright Corp. Turbo fan exhaust mixing device. 2,978,865, 4–11–61, Cl. 60—35.6.

Pierce, Ogden R., and G. W. Holbrook, to Dow Corning Corp. New cyclotrisiloxanes. 2,979,519, 4–11–61, Cl. 260—448.2.

Piesker, Richard, to H. Fickert, and R. Wenninger. Portable battery-energised screw driver. 2,979,089, 4–11–61, Cl. 144—32.

Piloni, Robert A., and G. P. Rowland, Jr., to The Firestone Tire & Rubber Co. Vinyl chloride resins. 2,979,480, 4–11–61, Cl. 260—41.

Piloni, Robert A., to The Firestone Tire & Rubber Co. Suspension polymerization process. 2,979,491, 4–11–61, Cl. 260—92.8.

Pinckaers, Balthasar H., to Minneapolis-Honeywell Regulator Co. Pulse generator having condition responsive timing means. 2,979,626, 4–11–61, Cl. 307—88.5.

Pircon, Ladislav J., to A. W. Brickman, V. Conquest, F. J. Madden, W. B. Oleson, and E. T. Pilbey, as trustees for the benefit of American Meat Institute Foundation. Method for processing meat. 2,979,411, 4–11–61, Cl. 99—187.

Pistor, Horst, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Perborate granulation. 2,979,464, 4–11–61, Cl. 252—99.

Pitney-Bowes, Inc.: *See*—
Capanna, Adolfo A. 2,979,183.

Pitré, Davide: *See*—
Felder, Ernst, and Pitré. 2,979,525.

Pitt, Donald: *See*—
Leavitt, Lyman O., and Pitt. 2,979,019.

Pitt, Harold M., and H. Bender, to Stauffer Chemical Co. Reaction of methane and carbon tetrachloride. 2,979,541, 4–11–61, Cl. 260—6[illegible].

Pittilo, Robert N.: *See*—
Ehrlich, Paul, and Pittilo. 2,979,496.

Pittsburgh Coke and Chemical Co.: *See*—
Johnston, James D., and Goddard. 2,979,522.
Markley, Francis X. 2,979,391.

Planitzer, Erich, to Bolkow-Entwicklungen Kommanditgesellschaft. Missile structures. 2,979,285, 4–11–61, Cl. 244—14.

Plessey Co. Ltd., The: *See*—
Rangabe, Alexander R. 2,979,600.

Polaroid Corp.: *See*—
Eburn, William H., Jr. 2,978,971.
Land, Edwin H. 2,979,477.

Pollitt, Erwin P. Transmission. 2,978,918, 4–11–61, Cl. 74—124.

Porter, Allan W. H., to Hobourn-F.N.F. Ltd. Warp knitting machinery. 2,978,887, 4–11–61, Cl. 66—86.

Porter, Robert D. Floor furnace. 2,979,051, 4–11–61, Cl. 126—110.

Porterfield, Cecil P.: *See*—
Williams, Everard M., and Porterfield. 2,979,639.

Potter, Howell L., to The Fafnir Bearing Co. Bearing seal. 2,979,345, 4–11–61, Cl. 286—3.

Pouliart, Willy H. P., and L. Jacobin, to International Standard Electric Corp. Record tape assembly and magazine therefor. 2,979,244, 4–11–61, Cl. 226—118.

Power Brake Parts Mfg. Co.: *See*—
Putnam, Donald M. 2,979,364.

Pratt, Harold: *See*—
Moser, Frank T. 2,978,996.

Preway, Inc.: *See*—
Moss, Robert G. 2,979,052.

Price, Robert G., to Thomas J. Lipton, Inc. Apparatus for producing multipocket packages. 2,978,853, 4–11–61, Cl. 53—178.

Primas, Johann J.: *See*—
Gunthard, Hans H., and Primas. 2,979,641.

Pritchard, Hugh E., and G. P. Shultz, to Fram Corp. Air filters. 2,979,130, 4–11–61, Cl. 184—70.

Procter & Gamble Co., The: *See*—
Friscoky, Robert F., and Wall. 2,979,201.
Martin, Joseph D. 2,979,195.
Parran, John J., Lang, and Whyte. 2,979,465.

Proctor-Silex Corp., The: *See*—
Christie, John S. 2,978,951.
Christie, John S. 2,979,086.

Pruitt, Mark W. Combination golf club and magnetically held marker. 2,979,335, 4–11–61, Cl. 273—162.

Pschibul, Frans. Revolving windshield wiper. 2,978,729, 4–11–61, Cl. 15—250.16.

Puffer, Samuel R., to General Electric Co. Concentric combustion system with cooled dividing partition. 2,978,868, 4–11–61, Cl. 60—35.6.

Pure Oil Co., The: *See*—
Fronczak, Ernest T. 2,979,458.

Purolator Products, Inc.: *See*—
Mouwen, Herman C. 2,979,400.
Scavuzzo, William J. 2,979,021.

Putnam, Donald M., to Power Brake Parts Mfg. Co. Pneumatic signalling system for tractor-trailer combinations. 2,979,364, 4–11–61, Cl. 303—1.

Putney, David H., to Stratford Engineering Corp. Apparatus for controlling temperature change of blends of fluids or fluids and finely divided solids. 2,979,308, 4–11–61, Cl. 257—73.

Quayle, George F., to The Yale & Towne Mfg. Co. Upright assembly for industrial trucks. 2,979,162, 4–11–61, Cl. 187—9.

Raasch Maynard S., to E. I. du Pont de Nemours and Co. Ethylene-sulfonyl fungicides. 2,979,435, 4–11–61, Cl. 167—22.

Radio Corp. of America: *See*—
Bothwell, Theodore P., and Helbig. 2,979,625.
Glaimo, Edward C., Jr. 2,979,403.
Greig, Harold G. 2,979,402.
Jenny, Dietrich A., and Wysocki. 2,979,428.
Kidd, Marshall C. 2,979,563.
Leyton, Eric M. 2,979,538.
Leyton, Eric M. 2,979,562.
Lindenblad, Nils E. 2,978,985.
Reuter, Henry G., Jr. 2,979,026.
Schroeder, Alfred C. 2,979,557.
Spalding, Richard L. 2,979,371.

Radion Corp., The: *See*—
Leonard, Ralph N. 2,979,720.

Ragon, Eleanor: *See*—
Scalzitti, Edward, and Ragon. 2,978,713.

Raine, Raymond A., to Armour and Co. Grinder for involute bacon knife. 2,978,848, 4–11–61, Cl. 51—247.

Ralph, Frederick W., to Witton-James Ltd. Web tension control. 2,979,280, 4–11–61, Cl. 242—75.42.

Randall, David I., and W. Schmidt-Nickels, to General Aniline & Film Corp. Heterocyclic dyestuff intermediates. 2,979,515, 4–11–61, Cl. 260—346.2.

Randall, Walter H., and U. H. Despres, to Keyes Fibre Co. Molded pulp carton. 2,979,245, 4–11–61, Cl. 229—2.5.

Randels, Robert B., to Corning Glass Works. Electrical condensers and their manufacture. 2,978,789, 4–11–61, Cl. 29—25.42.

Rangabe, Alexander R., to The Plessey Co., Ltd. Electrode systems for electronic valves. 2,979,600, 4–11–61, Cl. 219—127.

Rantsch, Kurt, to M. Hensoldt & Sohne Optische Werke A.G. Reading device for measuring scales. 2,978,953, 4–11–61, Cl. 88—24.

Rapplean, Eugene L., W. E. Highley, and M. E. Fuchs, to ACF Industries, Inc. Automatic choke for small carburetors. 2,979,047, 4–11–61, Cl. 123—119.

Rasmussen, Christian O. Washing and drying machine. 2,978,891, 4–11–61, Cl. 68—23.

Raytheon Co.: *See*—
Schall, Louis H. 2,979,671.

Re Casino, Frank P., to Congoleum-Nairn Inc. Dicing machine having spaced transverse cutters associated with rotary slitters. 2,978,942, 4–11–61, Cl. 83—355.

Reda Pump Co.: *See*—
Arutunoff, Armais. 2,979,347.

Redfarn, Cyril A., to Walker Extract and Chemical Co. Ltd. Manufacture of phenolic resins. 2,979,484, 4–11–61, Cl. 260—51.

Reed, Denny L. Thong cutting device. 2,978,808, 4–11–61, Cl. 30—293.

Reed, Edwin E., and C. T. Brandt, to Phillips Petroleum Co. Core hole testing apparatus. 2,979,134, 4–11–61, Cl. 85—2.

Reeder, Richard D., and J. W. Longobardi, to Alliance Mfg. Co., The Division of Consolidated Electronics Industries Corp. Object dispenser having receiver-actuated object release means. 2,979,229, 4–11–61, Cl. 221—22.

Reeves, Wilson A.: *See*—
Drake, George L., Jr., Reeves, and Guthrie. 2,979,374.

Rehberg, Heinrich: *See*—
Sennewald, Kurt, Gots, and Rehberg. 2,979,535.

Reich, Eugene A.: *See*—
McDonald, Donald C., and Reich. 2,979,135.

Reich, Gunter, to National Research Corp. Vacuum device. 2,979,254, 4–11–61, Cl. 230—69.

Reid, James A., to Phillips Petroleum Co. Apparatus for drilling wells. 2,979,142, 4–11–61, Cl. 175—105.

Reiner, Kenneth. Clamp biased closed by spring means. 2,979,060, 4–11–61, Cl. 132—48.

Reinsch, Herbert: *See*—
Heuchemer, Willy, and Reinsch. 2,979,115.

Reiter, Daniel I. Attachment device for handbag handle or the like. 2,978,776, 4–11–61, Cl. 24—265.

Reitlinger, Adolf: *See*—
Lehr, Philip N., O'Brien, and Reitlinger. 2,979,575.

Remington Arms Co.: *See*—
McCallum, John, Johnson, Ditmars, and McGraw. 2,979,553.

Republic Steel Corp.: *See*—
Harmon, William C. 2,979,196.

Research Corp.: *See*—
Frerichs, Rudolf. 2,979,382.
Hart, Harold. 2,979,529.
Rueger, Lauren J. 2,979,676.

Reuter, Henry G., Jr., to Radio Corp. of America. Film viewer and reproducer. 2,979,026, 4–11–61, Cl. 118—637.

Reveal, Gordon. Cup holder. 2,979,301, 4–11–61, Cl. 248—214.

Reynolds, Harold C., R. W. Less, and A. F. Gagne, Jr., to Ingersoll-Rand Co. Feeding and retaining mechanism. 2,978,937, 4–11–61, Cl. 81—63.

Rhodes, Thomas J., to United States Rubber Co. Rubber shaping and vulcanizing apparatus. 2,978,747, 4–11–61, Cl. 18—12.

Richard, Louis M. J. C. Apparatus for the continuous recording of industrial harmonics. 2,979,657, 4–11–61, Cl. 324—77.

Richardsons, Westgarth & Co. Ltd.: *See*—
Frankel, Adolf. 2,979,443.

Richmond-Chase Co.: *See*—
Rogers, Grant H., and Mitchell. 2,979,097.

Rickard, James A., to Jersey Production Research Co. Helium 3 logging method. 2,979,018, 4–11–61, Cl. 250—83.1.

Rideout, Richard G. Ash tray and silent butler. 2,979,223, 4–11–61, Cl. 220—38.

Riedl, Frank E.: *See*—
Albrecht, Alexander J., and Riedl. 2,979,333.

Riester, William C., to Trico Products Corp. Windshield wiper system. 2,978,728, 4–11–61, Cl. 15—250.02.

Rinse, Jacobus, to J. W. Ayers & Co. Cyclic aluminum oxide acylates, alkoxides and phenoxides. 2,979,497, 4–11–61, Cl. 260—97.5.

Rissman, James E., and A. L. Kohl, to The Fluor Corp., Ltd. Urea granulation process. 2,979,421, 4–11–61, Cl. 117—100.

Ristau, Alfred G., and A. E. Turntables for automatic record-changing phonographs and driving mechanism therefor. 2,979,336, 4–11–61, Cl. 274—10.

Ristau, Arnold E.: *See*—
Ristau, Alfred G. and A. E. 2,979,336.

Roberts, Albert O., 40% to Arthur M. Smith. Locking differential. 2,978,929, 4–11–61, Cl. 74—711.

Robertshaw-Fulton Controls Co.: *See*—
Witherspoon, Jack, Jr. 2,979,231.

Robson, Aubrey H., to American Air Filter Co., Inc. Air heater fuel control system. 2,979,264, 4–11–61, Cl. 236—10.

Rockriver, Clyde R., to Coffee Equipment, Inc. Reciprocating coffee brewer. 2,978,974, 4–11–61, Cl. 99—283.

Rockwell, Edward A. Emergency slack take-up and compound booster system for brakes. 2,978,871, 4–11–61, Cl. 60—54.5.

Rockwell Mfg. Co.: *See*—
Herring, Robert H., and Newbauer. 2,979,071.
Kish, Nicholas W. 2,979,076.
Scherer, George F., and Bierwagen. 2,979,457.

Rodenacker, Wolf, to Farbenfabriken Bayer Aktiengesellschaft. Method of and apparatus for melting organic thermoplastic plastics. 2,978,746, 4–11–61, Cl. 18—8.

Roeber, Henry W., to Sylvania Electric Products Inc. Wire spreading machine. 2,979,084, 4–11–61, Cl. 140—71.6.

Rogers, Grant H., and E. L. Mitchell, to Richmond-Chase Co. Apparatus for peeling tomatoes. 2,979,097, 4–11–61, Cl. 146—227.

Rogge, Bernhard, to United States of America, Army. Crimping device. 2,979,085, 4–11–61, Cl. 140—105.

Rogovin, Arthur: *See*—
Gardel, Robert, and Rogovin. 2,978,834.
Gardel, Robert, and Rogovin. 2,978,835.

Rohm & Haas Co.: *See*—
O'Brien, Joseph L., and Beavers. 2,979,514.
Smythe, Carl V. 2,979,440.

Rohr Aircraft Corp.: *See*—
Herbert, Thomas A., Jr. 2,978,806.
Herbert, Thomas A., Jr. 2,979,005.

Rose, Alfred G.: *See*—
Kay, James A., and Rose. 2,979,145.

Rose Brothers (Gainsborough) Ltd.: *See*—
Kay, James A., and Rose. 2,979,145.

Rose, Robert G.: *See*—
Cline, Robert C., Rose, and Wiands. 2,979,343.

Rosenblatt, Isidor, to Globe Lighting Products, Inc. Electric light fixture. 2,979,604, 4–11–61, Cl. 240—78.

Rosenkrans, George: *See*—
Djerassi, Carl, and Rosenkrans. 2,979,516.

Rosenthal, Murray W., and H. A. Cohen, to Block Drug Co., Inc. Denture fixatives. 2,978,812, 4–11–61, Cl. 32—2.

Rosnianusky, Georges, to Worthington Corp. Seal. 2,979,348, 4–11–61, Cl. 286—11.14.

Ross, Robert S., to Goodyear Aircraft Corp. Inflatable wing with variable camber. 2,979,287, 4–11–61, Cl. 244—44.

Rossi, Peter. Apparatus for cooking farinaceous materials. 2,978,975, 4–11–61, Cl. 99—330.

Rossi, Sidney J. Amphibious conversion attachments for automobiles and like vehicles. 2,979,016, 4–11–61, Cl. 115—1.

Rouby, Charles, to Societe Moderne de Fabrications Mecaniques. Means for electrically firing fire-arms. 2,978,827, 4–11–61, Cl. 42—84.

Rouse, William H., to Cutler-Hammer, Inc. Control system for printing press. 2,978,979, 4–11–61, Cl. 101—219.

Rouse, William H., to Cutler-Hammer, Inc. Control systems for motor driven machines of multi-unit types. 2,979,646, 4–11–61, Cl. 318—8.

Rowe, Walter C., to The Firestone Tire & Rubber Co. Stain resistant white sidewall tire. 2,979,090, 4–11–61, Cl. 152—330.

Rowland, George P., Jr.: *See*—
Piloni, Robert A., and Rowland. 2,979,480.

Royal McBee Corp.: *See*—
Page, Paul F., Lambert, and Snyder. 2,979,277.

Rueger, Lauren J., to Research Corp. Waveguide to microstrip transition structure. 2,979,676, 4–11–61, Cl. 333—34.

Ruehle, Archie E.: *See*—
Schmieding, Karl G., and Ruehle. 2,979,379.

Ruehlemann, Herbert F., R. J. Burke, R. Bianchi, T. C. Smith, and D. K. Tower, to United States of America, Navy. Bomb fuse. 2,978,981, 4–11–61, Cl. 102—70.2.

Ruhrchemie Aktiengesellschaft: *See*—
Vogt, Ludwig. 2,979,087.

Ruisch, Roger D.: *See*—
Timm, Paul W., and Ruisch. 2,979,580.

Runciman, Robert D., to The General Electric Co. Ltd. Automatic machines for mounting electrical components on base members. 2,978,707, 4–11–61, Cl. 1—323.

Russell, F. L., Corp.: *See*—
Cline, Robert C., Rose, and Wiands. 2,979,343.

Ryshkewitch, Eugene L., and H. Taylor, to United States Ceramic Tile Co. Ceramic tool material. 2,979,414, 4–11–61, Cl. 106—44.

Saccone, John V., to Gemex Precision Metals, Inc. Combination hub cap and air valve lock. 2,978,896, 4–11–61, Cl. 70—231.

Sadler, John W. Fluid cooling apparatus. 2,979,309, 4–11–61, Cl. 257—195.

Safeguard Corp., The: *See*—
Hegman, Robert L., and Hess. 2,979,086.

Salem Tool Co., The: *See*—
Adams, George L. 2,979,320.

Salser, Erwin, to The Chase-Shawmut Co. Protection for semiconductor power diodes. 2,979,644, 4–11–61, Cl. 317—234.

Sandin, Jerome, to Westinghouse Electric Corp. Circuit interrupter. 2,979,590, 4–11–61, Cl. 200—148.

Sands, Matthew L.: *See*—
Keithley, Joseph F., and Sands. 2,979,691.

Sandy Hill Iron and Brass Works, The: *See*—
Smith, Robert E. 2,979,130.

Santmyer, Philip H., to Monsanto Chemical Co. Polyamine nematocides. 2,979,434, 4–11–61, Cl. 167—22.

Scalzitti, Edward, and E. Ragon. Leg supporting apparatus. 2,978,713, 4–11–61, Cl. 5—327.

Scavuzzo, William J., to Purolator Products, Inc. Filter unit. 2,979,021, 4–11–61, Cl. 116—117.

Schalk, Robert F., to Western Electric Co., Inc. Control apparatus. 2,979,175, 4–11–61, Cl. 192—12.

Schall, Louis H., to Raytheon Co. Magnetron current control systems. 2,979,671, 4–11–61, Cl. 331—87.

Scharfenberger, Irvin T. Workman's supporting device. 2,979,155, 4–11–61, Cl. 182—222.

Schayes, Raymond G., to North American Philips Co., Inc. Push-pull amplifier. 2,979,665, 4–11–61, Cl. 330—14.

Schenck, Carl, Maschinenfabrik G.m.b.H.: *See*—
Bürkner, Wolfgang. 2,979,105.

Schenkerman, Stanley, to Sperry Rand Corp., Ford Instrument Co. Division. Transistor-magnetic core pulse width modulating and amplifying device. 2,979,674, 4–11–61, Cl. 332—12.

Scherer, George F., and O. T. Bierwagen, to Rockwell Mfg. Co. Polysulfide lubricant and sealant composition. 2,979,457, 4–11–61, Cl. 252—28.

Schering Corp.: *See*—
Herzog, Hershel L. 2,979,517.

Schiess, George: *See*—
Palmer, William F., and Schiess. 2,979,664.

Schliephacke, Fridtjof F., to A. Lorenz. Reclining chairs. 2,979,116, 4–11–61, Cl. 155—106.

Schmeissmeier, Fritz: *See*—
Becker, Wilhelm, Schmeissmeier, Feja, and Schuster. 2,979,184.

Schmidt-Nickels, Wilhelm: *See*—
Randall, David L., and Schmidt-Nickels. 2,979,515.

Schmieding, Earl G., and A. E. Ruehle, to United States of America, Atomic Energy Commission. Extraction of uranium. 2,979,379, 4–11–61, Cl. 23—14.5.

Schneider, Ralph P.: *See*—
Hitzman, Donald O., and Schneider. 2,979,377.

Schoenmakers, Hendrikus, to North American Philips Co., Inc. Abrasive cutting wheel. 2,978,847, 4–11–61, Cl. 51—206.

Schroeder, Alfred C., to Radio Corp. of America. Recording and reproducing system. 2,979,557, 4–11–61, Cl. 178—5.2.

Schroeder, Charles F., to Owens-Corning Fiberglas Corp. Method and apparatus for forming fibers. 2,978,744, 4–11–61, Cl. 18—2.5.

Schur, Milton O., to Olin Mathieson Chemical Corp. Manufacture of laminated filter tip. 2,979,058, 4–11–61, Cl. 131—10.

Schuster, Wilhelm: *See*—
Becker, Wilhelm, Schmeissmeir, Feja, and Schuster. 1,979,184.

Schütz, Eric: *See*—
Krüger, Gustav, Schütz, and Bourquin. 2,979,417.

Schutz, Joseph M., to The Firestone Tire & Rubber Co. Tire construction. 2,979,111, 4–11–61, Cl. 154—14.

Schwerts, Frederick A., to Haloid Xerox Inc. Recording apparatus and method. 2,978,968, 4–11–61, Cl. 95—1.1.

Seaman, Harry J.: *See*—
MacDonald, Raymore D. 2,978,967.

Sears, Richard E., and W. H. Morris, to Beaver Precision Products, Inc. Means for preloading ball-type screw and nut assemblies. 2,978,920, 4–11–61, Cl. 74—441.

Sears, Roebuck and Co.: *See*—
Seeger, Homer L. 2,978,949.

Sebald, Joseph F., to Worthington Corp. Vacuum degasifier. 2,979,150, 4–11–61, Cl. 183—2.5.

Seeger, Homer L., to Sears, Roebuck and Co. Photographic flash meter. 2,978,949, 4–11–61, Cl. 88—2.4.

Seegrist, Theodore A. Laundry aids. 2,979,373, 4–11–61, Cl. 8—77.

Sehn, Francis J., and M. M. Clemons: said M. M. Clemons assignor, to said F. J. Sehn. Sheet material handling apparatus for use with a power shear or the like. 2,979,186, 4–11–61, Cl. 198—160.

Seifried, Paul E., and F. W. Meyer, Jr., to The Bendix Corp. Electrical fault warning device. 2,979,707, 4–11–61, Cl. 340—253.

Sellers, Jean W.: *See*—
Sellers, John P., Jr. 2,979,353.

Sellers, John P., Jr., deceased, by J. W. Sellers, administratrix, to Clevite Harris Products, Inc. Elastomer ball joint and method of assembling same. 2,979,353, 4–11–61, Cl. 287—85.

Sellers, William D.: *See*—
Evassay, Emanuel, and Andrews. 2,979,191.

Selser, John. Power actuated end gate elevator for motor vehicles. 2,979,214, 4–11–61, Cl. 214—77.

Sendzimir, Tadeusz. Beambacked planetary rolling mill. 2,978,933, 4–11–61, Cl. 80—38.

Sennewald, Kurt, A. Gotz, and H. Rehberg, to Knapsack-Griesheim Aktiengesellschaft. Process for the manufacture of alkinols and alkine diols. 2,979,535, 4–11–61, Cl. 260—635.

Service Metal Fabricators, Inc.: *See*—
Vani, James, and Maipede. 2,978,718.

Servo Corp. of America: *See*—
Howell, Robert N. 2,978,956.

Shafer, Alvin O. Apparatus for untwisting lines. 2,979,261, 4–11–61, Cl. 242—84.1.

Shalita, Paul: *See*—
Greenman, Joseph, Shalita, Taverna, and Cohen. 2,979,061.

Shaltz, Gregory P.: *See*—
Pritchard, Hugh E., and Shaltz. 2,979,159.

Shannon, Richard P., C. A. Matussak, L. G. Adams, and G. W. Gillaum, to Owens-Corning Fiberglas Corp. Production of phenolic foams. 2,979,409, 4–11–61, Cl. 260—2.5.

Shapter, Robert D.: *See*—
Behrens, Curtis E., and Shapter. 2,978,892.

Shaw, Hubert R., to North American Aviation, Inc. Voltage comparison circuit. 2,979,717, 4–11–61, Cl. 343—117.

Sheer, Charles, and S. Korman, to Sheer-Korman Associates Inc. Carbothermic reduction of metal oxides. 2,979,449, 4–11–61, Cl. 204—164.

Sheer-Korman Associates Inc.: *See*—
Sheer, Charles, and Korman. 2,979,449.

Shelley, Rulon G., to North American Aviation, Inc. Fire control system. 2,979,711, 4–11–61, Cl. 343—7.

Sherman, Delmar C., Sr., to Tennessee Products and Chemical Corp. Electrode seal. 2,979,550, 4–11–61, Cl. 13—17.

Sherman, Kenneth C. Conveyor system for the pit floor of bowling alleys. 2,979,332, 4–11–61, Cl. 273—43.

Shockley, William: *See*—
Shockley, William, and Jones. 2,979,586.

Shockley, William, and R. V. Jones, to William Shockley. Crystal growing apparatus. 2,979,386, 4–11–61, Cl. 23—273.

Shockley, William. Semiconductor device and method of making the same. 2,979,427, 4–11–61, Cl. 148—1.5.

Shonnard, John R., to Westrex Corp. Tuning fork oscillator having separate magnetostrictive and magnetomotive controls. 2,979,673, 4–11–61, Cl. 331—157.

Shriver, T., & Co., Inc.: *See*—
Yeiser, Frank M. 2,979,204.

Shuman, Everett C., to Owens-Corning Fiberglas Corp. Mold expansion and contraction compensating device. 2,978,781, 4–11–61, Cl. 25—121.

Sichak, William: *See*—
Hughes, Robert W., and Sichak. 2,979,716.

Sifrin, Andreas, and H. Hennecke, to The Babcock & Wilcox Co. Cyclone furnaces unit and method of operating the same. 2,979,000, 4–11–61, Cl. 110—28.

Silberman, Waclav. Liquid washing composition. 2,979,466, 4–11–61, Cl. 252—138.

Silex Corp., The: *See*—
Christie, John S. 2,979,066.

Silverschotz, Stanford B., and E. Jorow, to International Telephone and Telegraph Corp. Density sensing device. 2,978,909, 4–11–61, Cl. 73—438.

Simmons Co.: *See*—
Biecker, Raymond H. 2,978,715.

Simmons, James F. Bowling alley sander and waxer. 2,978,721, 4–11–61, Cl. 15—98.

Simon, Avery H., R. H. Tracy, and F. A. Yarbrough. Radio warning system. 2,979,706, 4–11–61, Cl. 340—224.

Sippach, Frederick W.: *See*—
Gill, Joseph, and Sippach. 2,979,663.

Sirl, Louis J., to Penn Controls, Inc. Clamp-on temperature responsive device. 2,979,586, 4–11–61, Cl. 200—140.

Sirons, Janis A., to United States of America, Air Force. Light weight crash locator beacon. 2,979,606, 4–11–61, Cl. 250—17.

Skidmore, Richard H., to J. W. Wilhelm. Wrench calibrator and bolt tester. 2,978,898, 4–11–61, Cl. 73—1.

Skinner, John G.: *See*—
Karasek, Francis W., and Skinner. 2,979,385.

Slade, Charles: *See*—
Moser, Frank T. 2,978,996.

Slayton, Ensign T., to The Gleason Works. Roughing cutter for spiral bevel and hypoid gears. 2,978,792, 4–11–61, Cl. 29—105.

Small, Samuel N., to A. G. Cohen and P. Weiss. Mechanism for tilting and supporting umbrella tops. 2,979,065, 4–11–61, Cl. 135—46.

Smith, Alexander, and B. D. Bagga, Jr. Lawn mower and propelling vehicle. 2,978,857, 4–11–61, Cl. 56—25.4.

Smith, Arthur M.: *See*—
Roberts, Albert O. 2,978,929.

Smith, George E. P., Jr., to The Firestone Tire & Rubber Co. Thiocarbamylsulfenamide containing acetylenic group. 2,979,504, 4–11–61, Cl. 260—247.1.

Smith, George E. P., Jr., to The Firestone Tire & Rubber Co. 2-mercaptohydroquinone condensation products. 2,979,513, 4–11–61, Cl. 260—327.

Smith, George S.: *See*—
Lasar, Melvin E., Smith, and Chapin. 2,979,412.

Smith, James T., and J. Denza. Paint color dispensing machine. 2,979,233, 4–11–61, Cl. 222—135.

Smith, Robert E., to The Sandy Hill Iron and Brass Works. Paper making apparatus. 2,979,130, 4–11–61, Cl. 162—340.

Smith, Robert F., to General Motors Corp. Incinerator with compacter. 2,978,999, 4–11–61, Cl. 110—18.

Smith, Roy S., to National Distillers and Chemical Corp. Process and apparatus for packaging meats and other articles. 2,978,851, 4–11–61, Cl. 53—33.

Smith, Thomas C.: *See*—
Ruehlemann, Herbert E., Burke, Bianchi, Smith, and Tower. 2,978,981.

Smulski, Theodore J., to The Anderson Co. Time-measuring method and apparatus. 2,978,861, 4–11–61, Cl. 58—23.

Smulski, Theodore J., to The Anderson Co. Electric clock. 2,979,029, 4–11–61, Cl. 310—39.

Smythe, Carl V., to Rohm & Haas Co. Stabilized diastatic enzyme compositions. 2,979,440, 4–11–61, Cl. 195—64.

Snow, Floyd E., and J. O. York, to Coast Pro-Seal & Mfg. Co. Applicator and mixer for viscous materials. 2,979,237, 4–11–61, Cl. 222—413.

Snyder, Alton G.: *See*—
Page, Paul F., Lambert, and Snyder. 2,979,277.

Societe Anonyme dite: Compagnie des Freins et Signaux Westinghouse: *See*—
Usselmann, Fernand, and Verbelle. 2,979,063.

Societe Auxiliaire d'Industrie (Sadi) S.P.R.L.: *See*—
Georges, Felix. 2,978,924.

Societe des Usines Chimiques Rhone-Poulenc: *See*—
Gailliot, Paul, and Eeget. 2,979,502.

Societe Moderne de Fabrications Mecaniques: *See*—
Rouby, Charles. 2,978,827.

Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See*—
Baliguet, Michel P., Ernst, and Jardinier. 2,979,290.

Societe Poitevine de Conditionnement (Societe Anonyme) *See*—
Brun, Pierre C. E. 2,979,268.

Socony Mobil Oil Co., Inc.: *See*—
Blount, Floyd E., and Anthony. 2,979,389.

Soderquist, Frederick J., and J. L. Amos, to The Dow Chemical Co. Process for the preparation of 2,3-, 2,4-, and 2,5-dichlorostyrene. 2,979,536, 4–11–61, Cl. 260—650.

Soderquist, Leslie E., to The McNeil Machine & Engineering Co. Mechanism for holding and inflating tires after vulcanization. 2,978,741, 4–11–61, Cl. 18—2.

Somerville, Alexander, to General Motors Corp. Scintillation detector circuit. 2,979,617, 4–11–61, Cl. 250—71.5.

Somville, Charles A. Powder reactor for self-propelled projectiles. 2,978,867, 4–11–61, Cl. 60—35.6.

Soper, Donald E. Outboard motor tilting device. 2,979,017, 4–11–61, Cl. 115—17.

Soper, Ralph B., and R. C. Tonner, to Sylvania Electric Products Inc. Method of classifying non-magnetic elements. 2,978,804, 4–11–61, Cl. 29—413.

Sörman, Rolf M. J., to Aktiebolaget Gotaverken. Tankers or like ships. 2,979,009, 4–11–61, Cl. 114—74.

Spalding, Richard L., to Radio Corp. of America. Art of making and testing gettered electron tubes. 2,979,371, 4–11–61, Cl. 316—30.

Spencer, Richard W.: *See*—
Goodwin, David P., and Spencer. 2,979,699.

Sperry, Charles E., and C. S. Marden, to Arthur D. Little, Inc. Fluid-tight fastener and closure. 2,978,770, 4–11–61, Cl. 24—203.

Sperry Rand Corp.: *See*—
Absug, Malcolm J. 2,979,289.
Blain, Albert. 2,978,800.
Bonn, Theodore H., and Lawrence. 2,979,698.
Braddon, Frederick D., Beach, and Chadwick. 2,979,010.
Eckert, John P., Jr., and Masterson. 2,978,977.
Goodwin, David P., and Spencer. 2,979,699.
Steagall, William F. 2,979,697.

Sperry Rand Corp., Ford Instrument Co. Division: *See*—
Schenkerman, Stanley. 2,979,674.

Spickelmier Industries, Inc.: *See*—
Ammerman, John M. 2,978,787.

Spivak, Karl L.: *See*—
Mund, Morris. 2,979,025.

Staatsbedrijf der Posterijen, Telegrafie en Telefonie: *See*—
Kosten, Leendert. 2,979,599.

Stageberg, Wilfred E., to Bemis Bro. Bag Co. Heat sealing apparatus. 2,979,113, 4–11–61, Cl. 154—42.

Standard Dayton Corp.: *See*—
Martin, Edwin R. 2,979,648.

Standard Motor Products, Inc.: *See*—
Adler, Fred. 2,979,577.

Standard Oil Co. (Indiana): *See*—
Fields, Ellis K. 2,979,531.
Grande, Philip, Jr., and Hamilton. 2,979,546.
Kenton, Joseph R. 2,979,520.

Standard Oil Co. (Ohio), The: *See*—
Darling, Samuel M., and Liao. 2,979,459.

Standard Safety Equipment Co.: *See*—
Hoagland, Karl J., and Dickson. 2,979,153.

Stang, Charles, Jr.: *See*—
Kern, Frank, Jr., and Stang. 2,979,067.

Stanray Corp.: *See*—
Miller, Roy W. 2,978,841.

Star Parts, Inc.: *See*—
Swenson, Carl F. 2,979,077.

Stauffer Chemical Co.: *See*—
Pitt, Harold M., and Bender. 2,979,541.

Stauffer, William O.: *See*—
Foye, John J., and Stauffer. 2,978,761.

Steagall, William F., to Sperry Rand Corp. Delay element and circuits embodying the same. 2,979,697, 4–11–61, Cl. 340—174.

Stearns, Dick E. Holiday detector. 2,979,656, 4–11–61, Cl. 324—54.

Stearns, Richard S., to The Firestone Tire & Rubber Co. Method of producing essentially cis rubbery polyisoprene. 2,979,494, 4–11–61, Cl. 260—94.2.

Steichele, Joseph, to Firma SKF Kugellagerfabriken G.m.b.H. Idler pulleys for belt drives. 2,979,366, 4–11–61, Cl. 308—190.

Steinberg, Howard: *See*—
Wright, John H., Petterson, and Steinberg. 2,979,524.

Steinhagen, William K.: *See*—
De Wilde, Andries C., and Steinhagen. 2,979,043.

Stelber Cycle Corp.: *See*—
Steller, Philip. 2,979,366.

Steller, Philip, to Stelber Cycle Corp. Bicycle sprocket wheel assembly. 2,979,366, 4–11–61, Cl. 308—179.5.

Stengel, Leonard A., to Commercial Solvents Corp. Ammonium nitrate explosives. 2,978,864, 4–11–61, Cl. 60—35.4.

Stephen, William E.: *See*—
Andrew, Herbert F., Stephen, and Waite. 2,979,408.

Sterling Drug Inc.: *See*—
Auerbach, Morris E., and Browning. 2,979,468.

Stevens, Horace D., to The Firestone Tire & Rubber Co. Apparatus for making pneumatic air springs. 2,979,104, 4–11–61, Cl. 154—1.

Stewart-Warner Corp.: *See*—
Wargo, Peter. 2,979,659.

Stock, Charles S., to American Air Filter Co., Inc. Room ventilating method and apparatus. 2,979,205, 4–11–61, Cl. 236—44.

Storm, George L., and F. K. Vance, to Western Electric Co., Inc. Apparatus for testing magnetic properties of materials. 2,979,654, 4–11–61, Cl. 324—34.

Stover, Emory F. Pneumatic measuring apparatus. 2,978,907, 4–11–61, Cl. 73—407.

Stover, Emory F. Pneumatic measuring apparatus. 2,978,908, 4–11–61, Cl. 73—407.

Stover, Harry E., to Anchor Hocking Glass Corp. Closure cap and sealed package. 2,979,218, 4–11–61, Cl. 215—40.

Strasser, Hans. Machines for trimming appendages or articles. 2,978,778, 4–11–61, Cl. 25—108.

Stratford Engineering Corp.: *See*—
Putney, David H. 2,979,308.

Strauss, Leopold: *See*—
Carder, Frank B., and Strauss. 2,978,986.

Streckfus, John G. Apparatus for covering steel covered rollers with bonded ply rubber. 2,979,101, 4–11–61, Cl. 154—1.8.

Strobel, Arthur J., to Eltic, Inc. Elapsed time speed check arrangement. 2,978,863, 4–11–61, Cl. 58—145.

Stuart, Joseph, III, to Hiller Aircraft Corp. Horizontal tail plane for helicopters. 2,979,286, 4–11–61, Cl. 244—17.19.

Stucky, Jonas L. Egg candler. 2,978,952, 4–11–61, Cl. 88—14.5.

Studer, Philip A.: *See*—
Okstein, Paul, and Studer. 2,978,983.

Studiengesellschaft Kohle m.b.H.: *See*—
Wilke, Günther. 2,979,544.
Wilke, Günther, and Müller. 2,979,543.

Sugalski, Alfred A., S. L. Williams, and W. F. Mathewson, Jr., to United States of America, Navy. High temperature analytical filter. 2,979,207, 4–11–61, Cl. 210—198.

Suhrmann, Robert, to North American Philips Co., Inc. Circuit arrangement for comparing a pulse wave with a pilot wave. 2,979,661, 4–11–61, Cl. 328—133.

Sullivan, Frank A. V.: *See*—
Petropoulos, John C., and Sullivan. 2,979,534.

Sullivan, Marguerite D.: *See*—
Denis, Albert P. 2,979,167.

Sullivan, Norman M., to The Alvey-Ferguson Co. Brake system for a roller type conveyor. 2,979,177, 4–11–61, Cl. 193—35.

Sundberg, Alfred A., to The Bendix Corp. Direct reading dynamometer. 2,978,901, 4–11–61, Cl. 73—136.

Suozzo, Leonard S., to Bergen Pipesupport Corp. Combined support and shock absorber for piping and the like. 2,979,297, 4–11–61, Cl. 248—54.

Svanell, Eber O.: *See*—
Engquist, Arne, and Svanell. 2,979,032.

Svenska Aktiebolaget Gasaccumulator: *See*—
Burmeister, Toivo U. L., and Fransson. 2,979,693.

Svoboda, George: *See*—
McCauley, Thomas M., and Svoboda. 2,978,743.

Swanson, Gordon R., and P. W. Wozena, to General Motors Corp. Flush type vehicle window. 2,979,827, 4–11–61, Cl. 268—124.

Sweedyk, James M., and G. L. Gleason, to Hupp Corp. Window air conditioner mounting assemblies. 2,978,973, 4–11–61, Cl. 98—94.

Sweeney, John J., to The Okonite Co. Shaped articles of vinyl chloride resin and ethyl cellulose. 2,979,471, 4–11–61, Cl. 260—17.

Swenson, Carl F., to Star Parts, Inc. Hydraulic system. 2,979,077, 4–11–61, Cl. 137—493.3.

Swenson, Henry F. Milling machine device. 2,978,966, 4–11–61, Cl. 90—60.

Sylvania Electric Products Inc.: *See*—
Chiola, Vincent, and Fink. 2,978,890.
Englert, Ralph A. 2,979,228.
Palmer, William F., and Schiess. 2,979,664.
Peek, Sandford C., Jr., and Van Den Broek. 2,979,634.
Roeber, Henry W. 2,979,084.
Soper, Ralph B., and Tonner. 2,978,804.

Symington Wayne Corp.: *See*—
Couch, Glenn F. 2,979,324.

Syntex S. A.: *See*—
Djerassi, Carl, and Rosenkrans. 2,979,516.

Sytsma, Siltze J. C.: *See*—
Blok, Lourens, De Ruiter, Sytsma, and Ewanenburg. 2,979,669.

Szymaszek, Jan W., to Union Carbide Corp. Slip casting. 2,979,401, 4–11–61, Cl. 75—228.

Taber, Russell E.: *See*—
Norton, Jerome H., and Taber. 2,979,227.

Tait Mfg. Co., The: *See*—
Lung, Kenneth R. 2,978,989.

Talon, Inc.: *See*—
Brown, Alexander M. 2,978,772.
Harrah, Ralph E. 2,978,769.
Hawkins, Thane E., and Weikal. 2,978,774.

Tamasi, Prospero A.: *See*—
Anspach, Russell J., Clark, Nelswinter, and Tamasi. 2,979,558.

Tancredi, Charles C. Drinking, wetting and crying doll. 2,978,833, 4–11–61, Cl. 46—138.

Tatsch, Richard. Construction and installation of heating conduits of buildings. 2,978,779, 4–11–61, Cl. 25—118.

Tatsch, Richard. Building construction and air conduit structure therefor. 2,978,840, 4–11–61, Cl. 50—100.

Taverna, Thomas: *See*—
Greenman, Joseph, Shalita, Taverna, and Cohen. 2,979,061.

Tavernier, Bernard H.: *See*—
De Cat, Arthur H., and Tavernier. 2,979,405.

Taylor, Francis A., and T. M. Thomas, Jr. to H. U. Garrett. Well packer. 2,979,132, 4–11–61, Cl. 166—138.

Taylor, Frank E.: *See*—
McQuiston, Horace L., and Taylor. 2,978,828.

Taylor, Hiram: *See*—
Ryshkewitch, Eugene L., and Taylor. 2,979,414.

Taylor Instrument Companies: *See*—
Griswold, Augustus W., and Klumb. 2,979,068.

Taylor, John B., and J. S. Kriska, to General Aniline & Film Corp. Single powder photographic developers. 2,979,406, 4–11–61, Cl. 96—66.

Taylor, John B., to The British Plaster Board (Holdings) Ltd. Cementitious material. 2,979,415, 4–11–61, Cl. 106—88.

Technical Tape Corp.: *See*—
Greenman, Joseph, Shalita, Taverna, and Cohen. 2,979,061.

Technology Instrument Corp.: *See*—
Looney, Joseph M., Jr., Fraser, and Martin. 2,979,684.

Teel, William A. Mobile home support. 2,979,304, 4–11–61, Cl. 248—354.

Tee-Pak, Inc.: *See*—
Parlour, A. Kenneth. 2,979,410.

Telecommunication Radioelectriques et Telephoniques T.R.T. (Societe Anonyme): *See*—
Beucher, Charles. 2,979,610.

Tellefsen, Harold E., and R. L. White, to Information Systems, Inc. Differential matrix driver. 2,979,700, 4–11–61, Cl. 340—174.

Tennessee Products and Chemical Corp.: *See*—
Sherman, Delmar C., Sr. 2,979,550.

Texaco Development Corp.: *See*—
Kiersted, Wynkoop, Jr., and Gross. 2,979,453.

Texas Instruments Inc.: *See*—
Cornelison, Boyd, and Wolff. 2,979,429.

Thiessen, Elmer E., to General Motors Corp. Insulating method. 2,979,432, 4–11–61, Cl. 154—80.

Thomas, Arthur B., Co.: *See*—
Patterson, Edward B. 2,979,210.

Thomas, Jess W.: *See*—
Bradshaw, R Louis, and Thomas. 2,979,620.

Thomas, John E. Fifth wheel assembly. 2,979,341, 4–11–61, Cl. 280—423.

Thomas, Telfer L., to Esso Research and Engineering Co. Process and catalyst for polymerization. 2,979,540, 4–11–61, Cl. 260—683.15.

Thomas, Thomas M., Jr.: *See*—
Taylor, Francis A., and Thomas. 2,979,132.

Thompson, John S., to Oxalloy Co. Solution and method for treating mica products and articles produced therefrom. 2,979,108, 4–11–61, Cl. 154—2.6.

Thorres, Camiel. Nylon sprinkler head. 2,979,272, 4–11–61, Cl. 239—250.

Tichenor, George H., IV. Toggle firing mechanism for firearms. 2,978,823, 4–11–61, Cl. 42—69.

Tie-Chair, Inc.: *See*—
Gates, Ruth E. 2,979,121.

Tile Council of America, Inc.: *See*—
Wagner, Herman B. 2,978,782.

Tiley, John W., to Philco Corp. Electrochemical method and apparatus therefor. 2,979,444, 4–11–61, Cl. 204—143.

Tillotson Mfg. Co., The: *See*—
Phillips, Bernard C. 2,979,312.

Timm, Paul W., and R. D. Ruisch, to American Machine & Foundry Co. Electric switches. 2,979,580, 4–11–61, Cl. 200—38.

Tingle, William: *See*—
Curran, Charles F., Jr., Kazarian, and Tingle. 2,978,872.

Tobeler, Paul O.: *See*—
Buss, Wilhelm. 2,979,294.

Tokimoto, Hideo J. Cucumber puncturing machine. 2,979,094, 4–11–61, Cl. 146—56.

Tolbert, Willard P.: *See*—
Geissler, Albert R., and Tolbert. 2,978,941.

Tomasovich, Martin. Load rotating device. 2,979,217, 4–11–61, Cl. 214—701.

Tonner, Richard C.: *See*—
Soper, Ralph B., and Tonner. 2,978,804.

Toth, Peter, to Contraves A.G. Automatic measuring apparatus. 2,979,710, 4–11–61, Cl. 340—347.

Tower, Dell K.: *See*—
Ruehlemann, Herbert E., Burke, Bianchi, Smith, and Tower. 2,978,961.

Toyo-Kogyo Co. Ltd.: *See*—
Umeda, Misao. 2,978,844.

Tracy, Richard H.: *See*—
Simon, Avery R., Tracy, and Yarbrough. 2,979,706.

Trailer Safety Valve, Inc.: *See*—
Jones, Coy V. 2,979,365.

Trans-Oceanic: *See*—
Buss, Wilhelm. 2,979,294.

Trapp, Günther: *See*—
Opderbeck, Fritz, Trapp, and Wörner. 2,979,500.

Triangle Publications, Inc.: *See*—
Krestan, Miles F., and White. 2,979,279.

Trico Products Corp.: *See*—
Riester, William C., and Page. 2,978,728.

Tripp, Guy T. Flanged wheels. 2,979,359, 4–11–61, Cl. 293—8.5.

Trorey, George A. W.: *See*—
Grannemann, Wayne W., and Trorey. 2,979,092.

Trüb, Täuber & Co., A.G.: *See*—
Gunthard, Hans H., and Primas. 2,979,641.

Tubbs, Elton H. Nut gathering and bagging machine. 2,978,859, 4–11–61, Cl. 56—328.

Tuck, Robert M., and M. E. Fisher, to General Motors Corp. Transmission. 2,978,928, 4–11–61, Cl. 74—645.

Tuemmler, William B., and H. J. S. Winkler, to Food Machinery and Chemical Corp. Process for hydrogenation of nitrosamines. 2,979,505, 4–11–61, Cl. 260—247.5.

Tull, Robert H., to Westinghouse Electric Corp. Food waste disposer. 2,979,274, 4–11–61, Cl. 241—32.5.

Turak, Anthony. Plural dispensing valve. 2,979,079, 4–11–61, Cl. 137—599.

Turck, Karl H. W.: *See*—
Bellringer, Frederick J., Capp, Newman, and Turck. 2,979,542.

Turner, Edward H., to Bell Telephone Laboratories, Inc. Non-reciprocal wave transmission. 2,979,675, 4–11–61, Cl. 333—10.

Turner, Richard G., to Crompton & Knowles Corp. Process for making non-woven fabric. 2,978,786, 4–11–61, Cl. 28—72.2.

Tyrlick, William V., and C. R. Fisher, Jr., to General Dynamics Corp. Comparator device. 2,979,695, 4–11–61, Cl. 340—149.

USECO, Inc.: *See*—
Altieri, Joseph R. 2,979,683.

Uarco, Inc.: *See*—
Kessler, Jack J. 2,978,980.

Umbricht, Emil, and D. Evans, to Ajem Laboratories. Power washing apparatus. 2,979,062, 4–11–61, Cl. 134—66.

Umeda, Misao, to Toyo-Kogyo Co. Ltd. Vibrating internal grinding machine. 2,978,844, 4–11–61, Cl. 51—34.

Unger, Erich, to Metrawatt Aktiengesellschaft. Apparatus for scanning pointer positions. 2,979,670, 4–11–61, Cl. 331—64.

Unilever Ltd.: *See*—
Hailes, Myles B. 2,979,220.
Logan, David G. 2,979,568.

Union Carbide Corp.: *See*—
Gottstine, Joseph G., and Westerland. 2,979,381.
Szymaszek, Jan W. 2,979,401.

Unipak Cartons Ltd.: *See*—
Vesak, Joseph. 2,979,226.

United-Carr Fastener Corp.: *See*—
Ashworth, Winthrop F. 2,979,356.
Clewes, Antony B. 2,979,688.

United Engineering and Foundry Co.: *See*—
Greenberger, Joseph I. 2,978,805.

United Kingdom Atomic Energy Authority: *See*—
Challender, Ronald S., and Knights. 2,978,790.
Jerkins, Ernest E., and Dawson. 2,979,358.

United Shoe Machinery Corp.: *See*—
Finn, Sidney J. 2,978,960.
Fitzgerald, Charles F., and Murphy. 2,979,001.
Highberger, John H. 2,979,438.

United States Borax & Chemical Corp.: *See*—
Wright, John H., Petterson, and Steinberg. 2,979,524.

United States Ceramic Tile Co.: *See*—
Ryshkewitch, Eugene L., and Taylor. 2,979,414.

United States of America
Agriculture: *See*—
Drake, George L., Jr., Reeves, and Guthrie. 2,979,374.
Lazar, Melvin E., Smith, and Chapin. 2,979,412.
Air Force: *See*—
Garbuny, Max. 2,979,622.
Magid, Max. 2,979,636.
Sirons, Janis A. 2,979,606.
Army: *See*—
Bradshaw, R Louis, and Thomas. 2,979,620.
Rogge, Bernhard. 2,979,085.
Atomic Energy Commission: *See*—
Angier, Roswell P. 2,979,399.
Burleigh, Richard J. 2,979,635.
Schmieding, Earl G., and Ruehle. 2,979,379.
Interior: *See*—
Badger, Walter L. 2,979,442.
Navy: *See*—
Bianchi, Renato. 2,978,982.
Carlberg, Robert E. 2,978,950.
Czajkowski, Norman. 2,978,984.
Dragonuk, Leo. 2,979,212.
Hackley, Reginald A. 2,979,690.
Harris, Franklin H. 2,979,633.
Hudson, Richard L. 2,979,475.
Kuck, John H. 2,979,552.
Nichols, Nathaniel B. 2,978,912.
Okstein, Paul, and Studer. 2,978,983.
Peterson, Robert H. 2,978,922.
Ruehlemann, Herbert E., Burke, Bianchi, Smith, and Tower. 2,978,981.
Sugalski, Alfred A., Williams, and Mathewson. 2,979,207.
Warren, Raymond W. 2,978,961.
Williams, Roger D. 2,979,660.
Woodworth, William H. 2,979,614.

United States Rubber Co.: *See*—
Burkus, John. 2,979,485.
Rhodes, Thomas J. 2,978,747.

United States Stoneware Co., The: *See*—
Eckert, John S. 2,979,313.
Eckert, John S. 2,979,314.
Eckert, John S. 2,979,315.

Uno, Motohiko: *See*—
Yamada, Tadashi, and Uno. 2,979,044.

Urexler, Stanley, to Magna-Bond, Inc. Method for sealing eroded articles and thixotropic composition therefor. 2,979,416, 4–11–61, Cl. 117—2.

Usselmann, Fernand, and A. Verhelle, to societe anonyme dite: Compagnie des Freins et Signaux Westinghouse. Valve arrangement. 2,979,083, 4–11–61, 137—637.2.

V-M Corp.: *See*—
Faulkner, Willard J., and Bayha. 2,979,337.

Valentine, Harry J.: *See*—
Hearn, Benjamin F. 2,979,197.

Valentine, Harry M., to Bendix-Westinghouse Automotive Air Brake Co. Tractor protection valve. 2,979,069, 4–11–61, Cl. 137—102.

Van Alen, De Witt T., to Amphenol-Borg Electronics Corp. Indicating device. 2,979,258, 4–11–61, Cl. 235—103.

Vance, Frank K.: *See*—
Storm, George L., and Vance. 2,979,654.

Van Den Broek, Jan A.: *See*—
Peek, Sandford C., Jr., and Van Den Broek. 2,979,634.

Van Dorp, David A., and H. P. de Jongh, to Organon Inc. New steroid alaninates. 2,979,518, 4–11–61, Cl. 260—397.45.

Van Huis, Robert L., V. G. Linnabary, and K. G. Clark, to The Automatic Poultry Feeder Co. Egg crate. 2,979,242, 4–11–61, Cl. 224—45.

Vani, James, and A. J. Malpede, to Service Metal Fabricators, Inc. Vehicle wheel washing device. 2,978,718, 4–11–61, Cl. 15—21.

Van Zelm Associates, Inc.: *See*—
van Zelm, Willem D., Knochel and Jackson. 2,979,163.

Van Zelm, Willem D., E. S. Knochel, and M. A. Jackson; said Knochel and said Jackson assors. to van Zelm Associates, Inc. Low inertia energy absorption unit. 2,979,163, 4–11–61, Cl. 188—1.

Vaughn, Jack S., and E. B. Burnett, to Ingersoll-Rand Co. Socket retainer. 2,979,354, 4–11–61, Cl. 287—126.

Vdoviak, John W., to General Electric Co. Fuel injector for a combustion chamber. 2,978,870, 4–11–61, Cl. 60—39.74.

Veeder-Root Inc.: *See*—
Graydon, Sterling, Jr. 2,979,259.

Vellner, Clarence I.: *See*—
Crispell, Roger L., and Vellner. 2,979,053.

Verhelle, Alfred: *See*—
Usselmann, Fernand, and Verhelle. 2,979,083.

Vesak, Joseph, to Unipak Cartons Ltd. Container carrier. 2,979,226, 4–11–61, Cl. 220—105.

Vickers Ltd.: *See*—
Williams, Kenneth G., and Green. 2,978,708.

Viltor Mfg. Co., The: *See*—
Long, Joseph N. 2,978,877.

Virginia-Carolina Chemical Corp.: *See*—
Melton, Thomas M., Matthews, and O'Connor. 2,979,478.

Visnaw, Kenneth, to Bettendorf Bakery Equipment Co. Sharpener for endless band blade bread slicing machine. 2,978,849, 4–11–61, Cl. 51—247.

Vivian, William E. D.: *See*—
Hiscock, George H., and Vivian. 2,978,869.

Viler, Blaine H., Jr., 60% to Gordon M. Genge & Co., Inc. Electrostatic particle separating apparatus. 2,979,158, 4–11–61, Cl. 183—7.

Vogt, Ludwig, to Ruhrchemie Aktiengesellschaft. Device for the fluid flow connecting of stationary conduits and portable fluid containers such as tank cars. 2,979,087, 4–11–61, Cl. 141—113.

Von Radics, Max. Transmission driven backup alarm. 2,979,020, 4–11–61, Cl. 116—57.

Von Zelewsky, Ottomar, to Georg Fischer Aktiengesellschaft. Methods of and apparatus for machining of workpieces by means of copying machine tools. 2,978,939, 4–11–61, Cl. 82—14.

Voth, James W., to Allis-Chalmers Mfg. Co. Double acting clutch. 2,979,176, 4–11–61, Cl. 192—87.

Wagner, Herman B., to Tile Council of America, Inc. Molding and extrusion. 2,978,782, 4–11–61, Cl. 25—155.

Wahlborg, Karl J., to Aktiebolaget Electrolux. Vacuum cleaner suction regulator. 2,978,733, 4–11–61, Cl. 15—421.

Waite, Frederick A.: *See*—
Andrew, Herbert F., Stephen, and Waite. 2,979,498.

Walder, Hermann: *See*—
Buchi, Alfred J., and Walder. 2,979,046.

Waldes Kohinoor, Inc.: *See*—
Erdmann, Hans. 2,978,773.
Erdmann, Hans. 2,978,801.
Erdmann, Hans. 2,978,802.

Walker Extract and Chemical Co. Ltd.: *See*—
Redfarn, Cyril A. 2,979,484.

Walker Mfg. Co.: *See*—
Zubro, Walter. 2,979,038.

Walker, Robert L. Vapor proof cover or freezer door assembly. 2,978,755, 4–11–61, Cl. 20—16.

Wall, Donald S.: *See*—
Friscosky, Robert F., and Wall. 2,979,251.

Wallace, Marcel, to Panoramic Radio Products, Inc. Radar recorders. 2,979,714, 4–11–61, Cl. 343—11.

Wallace, William E.: *See*—
Armento, William H., and Wallace. 2,979,503.

Wardle, James M., to Northwest Power Industries Ltd. Flashway structure. 2,978,873, 4–11–61, Cl. 61—21.

Wargo, Peter, to Stewart-Warner Corp. Electrical indicating instrument. 2,979,659, 4–11–61, Cl. 324—140.

Warner, Paul F., to Phillips Petroleum Co. Treatment of polymers produced by alkali metal catalyzed polymerization. 2,979,509, 4–11–61, Cl. 260—290.

Warren, Alvin W., to The Firestone Tire & Rubber Co. Tubeless tire innerliner. 2,979,470, 4–11–61, Cl. 260—5.

Warren, Raymond W., to United States of America, Navy. Overhead coverage gun mount. 2,978,961, 4–11–61, Cl. 89—37.

Washington Box Ltd.: *See*—
Washington, Harold. 2,979,248.

Washington, Harold, to Washington Box Ltd. Packaging of fragile articles. 2,979,248, 4–11–61, Cl. 229—14.

Wason, Wallace E., to Mechanical Equipment Co., Inc. Track for underhung type overhead crane. 2,978,992, 4–11–61, Cl. 105—154.

Wassermann, Gunter, R. Weber, and W. Hubinger, to Metallgesellschaft Atiengesellschaft. Aluminum and silicon containing metal powder and method of producing workpieces therefrom. 2,978,798, 4–11–61, Cl. 29—185.5.

Watson Electronics & Engineering Co., Inc.: *See*—
Watson, Joseph H. 2,978,954.

Watson, John A., to The British Thomson-Houston Co., Ltd. Cam operated contactors. 2,979,592, 4–11–61, Cl. 200—153.

Watson, Joseph H., to Watson Electronics & Engineering Co., Inc. Automatic projector control apparatus for photogrammetric instruments. 2,978,954, 4–11–61, Cl. 88—24.

Wayman, Cecil J.: *See*—
Penley, William H., and Wayman. 2,979,262.

Wean Engineering Co., Inc., The: *See*—
Geissler, Albert R., and Tolbert. 2,978,941.

Weaver, Preston R., to The W. L. Maxson Corp. Acceleration responsive switch. 2,979,582, 4–11–61, Cl. 200—61.45.

Weber, Carl. Sheet separating device. 2,979,330, 4–11–61, Cl. 271—36.

Weber, Richard: *See*—
Wassermann, Gunter, Weber, and Hubinger. 2,978,798.

Webster Corp.: *See*—
Webster, Henry N. 2,979,072.

Webster, Henry N., to Webster Corp. Valves. 2,979,072, 4–11–61, Cl. 137—322.

Weikal, Stanley E.: *See*—
Hawkins, Thane E., and Weikal. 2,978,774.

Weinberg, Marvin A., to Johnson & Johnson. Isocyanate modified vinyl chloride copolymer film backed adhesive tape. 2,979,423, 4–11–61, Cl. 117—122.

Weiner, Joseph G., and C. W. Leggett, to The Ralph M. Parsons Co. Process for production of hydrogen and sulfur. 2,979,384, 4–11–61, Cl. 23—212.

Weir, G. & J., Ltd.: *See*—
McAlpine, Thomas. 2,978,988.

Weiss, Paul: *See*—
Small, Samuel N. 2,979,065.

Welker, Adam E., to Lawrence Brothers, Inc. Hinge with nonrising hinge pin. 2,978,736, 4–11–61, Cl. 16—169.

Weina, George E., to N. and E. Bromberg. Fluorescent lighting circuit. 2,979,637, 4–11–61, Cl. 315—84.

Werninger, Richard: *See*—
Pieske, Richard. 2,979,089.

Wenzell, Louis P., Jr., and L. G. Lovin, Jr., to Celanese Corp. of America. Bonded batting, or non-woven fabric. 2,978,785, 4–11–61, Cl. 28—72.2.

Werr, John F., to Minneapolis-Honeywell Regulator Co. Condition sensor. 2,979,585, 4–11–61, Cl. 200—138.

Werz, Wilhelm, to Niederrheinische Hutte Aktiengesellschaft. Method for preparing high grade rimmed steel with wide ferritic peripheral zone. 2,979,394, 4–11–61, Cl. 75—57.

West, Fred W., to Minnesota Mining and Mfg. Co. Cross-linking of polymers. 2,979,490, 4–11–61, Cl. 260—87.5.

Westerland, Emery H.: *See*—
Gottstine, Joseph G., and Westerland. 2,979,381.

Western Electric Co., Inc.: *See*—
Peterson, Charles L. 2,979,321.
Schalk, Robert F. 2,979,175.
Storm, George L., and Vance. 2,979,654.

Westinghouse Air Brake Co.: *See*—
Hewitt, Ellis E. 2,979,080.

Westinghouse Electric Corp.: *See*—
Alsing, Carl F. 2,978,881.
Baker, Benjamin P. 2,979,589.
Breedon, David B., Carleton, and Ferguson. 2,979,652.
Friedrich, Robert E. 2,979,591.
Kemeny, George A. 2,978,796.
Lackey, Robert S., Wright, and Meese. 2,978,875.
Newhouse, Paul D., and Allen. 2,979,718.
Sandin, Jerome. 2,979,590.
Tull, Robert H. 2,979,274.

Westrex Corp.: *See*—
Digney, Charles J. 2,979,372.
Shonnard, John R. 2,979,673.

Whessoe Ltd.: *See*—
Bishop, Ronald F., and Little. 2,979,221.

Whipple, William. Bulk liquid carrier. 2,979,008, 4–11–61, Cl. 114—74.

Whirlpool Corp.: *See*—
Hansen, Clarence E. 2,978,732.

White, Paul F., to Furnas Electric Co. Push to test pilot light. 2,979,593, 4–11–61, Cl. 200—159.

White, Richard L.: *See*—
Tellefsen, Harold E., and White. 2,979,700.

White, Robert E.: *See*—
Krestan, Miles F., and White. 2,979,279.

Whitehurst, Harry B., A. R. Morrison, and T. J. Collier, to Owens-Corning Fiberglas Corp. Metal coated glass fibers and method of making them. 2,979,424, 4–11–61, Cl. 117—227.

Whitman, Henry B., to The Fuller Brush Co. Cylindrical brush. 2,978,725, 4–11–61, Cl. 15—183.

Whitman Publishing Co.: *See*—
Calverley, George H. 2,979,230.

Whittall, James P. Remote actuated snap-on attachment. 2,979,013, 4–11–61, Cl. 114—221.

Whyte, David D.: *See*—
Parras, John J., Lang, and Whyte. 2,979,465.

Wiands, Clarence L.: *See*—
Cline, Robert C., Rose, and Wiands. 2,979,343.

Wick, Ronald F., to Bell Telephone Laboratories, Inc. Signal translating system. 2,979,006, 4–11–61, Cl. 114—28.

Width, Robert B., to Air Reduction Co., Inc. Multiple electrode holder. 2,979,599, 4–11–61, Cl. 219—87.

Wiklund, Carl H., to Airequipt Mfg. Co., Inc. Slide changer. 2,978,823, 4–11–61, Cl. 40—79.

Wilcox, Clinton S., and J. P. La Forest, to General Railway Signal Co. Regulated transistor power supply. 2,979,653, 4–11–61, Cl. 323—22.

Wildhaber, Ernest. Method and apparatus for cutting gears. 2,978,964, 4–11–61, Cl. 90—5.

Wilfert, Karl, to Daimler-Benz Aktiengesellschaft. Door locating device for vehicles. 2,978,734, 4–11–61, Cl. 16—82.

Wilhelm, John W.: *See*—
Skidmore, Richard H. 2,978,898.

Wilke, Gunther, and H. Müller, to Studiengesellschaft Kohle m.b.H. Process for the production of cyclododecatri (1,5,9)-enes concurrently with other cyclic hydrocarbons. 2,979,343, 4–11–61, Cl. 260—666.

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Wilkins, Paul E., to Phillips Petroleum Co. Distributed pressure packing gland. 2,979,351, 4–11–61, Cl. 286—37.

Williams, Everard M., and C. P. Porterfield, to Firth Sterling Inc. Pilot pulse spark machining methods and apparatus. 2,979,639, 4–11–61, Cl. 315—127.

Williams, Kenneth G., and J. R. Green, to Vickers Ltd. Head-pieces for pressurized clothing. 2,978,708, 4–11–61, Cl. 2—3.

Williams, Roger D., to United States of America, Navy. Provision of a predetermined pulse responsive to a trigger pulse with provision for adjustable delay. 2,979,660, 4–11–61, Cl. 328—67.

Williams, Sherman L.: *See*—
Sugalski, Alfred A., Williams, and Mathewson. 2,979,207.

Williamson, Thomas N.: *See*—
Haspert, John C., and Williamson. 2,979,318.

Willis, James M., to The Firestone Tire & Rubber Co. Chafer for tire bead area protection. 2,979,101, 4–11–61, Cl. 152—362.

Wilson, Harry W. Corrugating single facer. 2,979,112, 4–11–61, Cl. 154—31.

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Wilson, Kermit H. Portable stage. 2,978,754, 4–11–61, Cl. 20—1.123.

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Winkler, Hans J. S.: *See*—
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Witherspoon, Jack, Jr., to Robertshaw-Fulton Controls Co. Solenoid valve and dispenser. 2,979,231, 4–11–61, Cl. 222—83.5.

Witt, Robert H., to International Harvester Co. Chopper rotor mounting and drive therefor. 2,979,173, 4–11–61, Cl. 192—3.5.

Witton-James Ltd.: *See*—
Ralph, Frederick W. 2,979,280.

Witz, Henry W., to Nursmatic Corp. Valve for nursing bottle nipples. 2,979,078, 4–11–61, Cl. 137—533.29.

Wix Corp.: *See*—
Humbert, Kingsley E., Jr. 2,979,208.

Wolff, Elmer A., Jr.: *See*—
Cornelison, Boyd, and Wolff. 2,979,429.

Wolff, Hermann P., to International Business Machines Corp. Pulse counter. 2,979,708, 4–11–61, Cl. 340—174.

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Woodworth, William H., to United States of America, Navy. Sweep-memory voltage generator. 2,979,614, 4–11–61, Cl. 250—20.

Wörner, Gunter: *See*—
Opderbeck, Fritz, Trapp, and Wörner. 2,979,500.

Worthington Corp.: *See*—
Karassik, Igor J. 2,979,040.
Rosniansky, Georges. 2,979,348.
Sebald, Joseph F. 2,979,156.

Wotiz, John H., to Diamond Alkali Co. Propynyl esters of dicarboxylic acids for stabilizing halogenated hydrocarbon. 2,979,538, 4–11–61, Cl. 260—651.

Wozena, Peter W.: *See*—
Swanson, Gordon R., and Wozena. 2,979,327.

Wozniak, Edmund P., and K. Matsuda, to American Cyanamid Co. Production of ditolylethane. 2,979,547, 4–11–61, Cl. 260—668.

Wright, Derek E., to May & Baker Ltd. Pyrazole derivatives. 2,979,512, 4–11–61, Cl. 260—310.

Wright, John H., L. L. Petterson, and H. Steinberg, to United States Borax & Chemical Corp. Modified organic fluids of the glycol type and methods of producing the same. 2,979,524, 4–11–61, Cl. 260—462.

Wright, William L.: *See*—
Lackey, Robert S., Wright, and Meess. 2,978,875.

Wyandotte Chemicals Corp.: *See*—
Lundsted, Lester G. 2,979,528.

Wysocki, Joseph J.: *See*—
Jenny, Dietrich A., and Wysocki. 2,979,428.

Yale & Towne Mfg. Co., The: *See*—
Quayle, George F. 2,979,162.

Yamada, Tadashi, and M. Uno, to Yasuhito Yamaoka. Swirl combustion chamber for diesel engines. 2,979,044, 4–11–61, Cl. 123—32.

Yamaoka, Yasuhito: *See*—
Yamada, Tadashi, and Uno. 2,979,044.

Yanda, John D. Pouch safety valve heater. 2,979,074, 4–11–61, Cl. 137—340.

Yarbrough, Fern A.: *See*—
Simon, Avery H., Tracy, and Yarbrough. 2,979,706.

Yeiser, Frank M., to T. Shriver & Co., Inc. Horizontal leaf filter and method of operating the same. 2,979,204, 4–11–61, Cl. 210—65.

Yolles, Morden S. Building structure. 2,979,169, 4–11–61, Cl. 189—34.

Yordi, Arthur H. Boat mooring device. 2,979,014, 4–11–61, Cl. 114—230.

York, Jones O.: *See*—
Snow, Floyd E., and York. 2,979,237.

Young, Norman W., to The Babcock & Wilcox Co. Vapor generator. 2,979,041, 4–11–61, Cl. 122—510.

Zakelv, Rudolph F., to Kingsly Rescue Harness Inc. Body harness. 2,979,028, 4–11–61, Cl. 119—96.

Zarcone, Carl J., to General Dynamics Corp. Multiplexing synchroniser. 2,979,565, 4–11–61, Cl. 178—50.

Zarcone, Carl J., and B. A. Harris, to General Dynamics Corp. Binary data translating device. 2,979,702, 4–11–61, Cl. 340—174.

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Zearfoss, Elmer W., Jr.: *See*—
D'Aleandro, Nicholas J., Mocery, and Zearfoss. 2,978,884.

Zubro, Walter, to Walker Mfg. Co. Crankcase ventilator. 2,979,038, 4–11–61, Cl. 121—194.

Zwanenburg, Gooitzen: *See*—
Blok, Lourens, De Ruiter, Sytsma, and Zwanenburg. 2,979,669.

CLASSIFICATION OF PATENTS

ISSUED APRIL 11, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 2: 2,978,705
2,978,706
223: 2,978,707
2— 3: 2,978,708
9: 2,978,709
5— 57: 2,978,710
279: 2,978,711
310: 2,978,712
327: 2,978,713
351: 2,978,714
120: 2,978,715
8— 77: 2,979,373
120: 2,978,716
142: 2,979,375
9— 8: 2,978,716
12— 8.3: 2,978,717
13— 17: 2,979,550
15— 21: 2,978,718
49: 2,978,719
52: 2,978,720
57.2: 2,978,721
58: 2,978,722
167: 2,978,724
183: 2,978,725
2,978,726
250.02: 2,978,727
2,978,728
250.16: 2,978,729
250.42: 2,978,730
257.4: 2,978,731
323: 2,978,732
421: 2,978,733
537: 2,978,721
545: 2,978,722
16— 82: 2,978,734
87.2: 2,978,735
109: 2,978,736
17— 1: 2,978,737
45: 2,978,738
2,978,739
18— 1: 2,978,740
2: 2,978,741
2.4: 2,978,742
2.5: 2,978,743
2,978,744
5: 2,978,745
8: 2,978,746
12: 2,978,747
14: 2,978,748
17: 2,978,749
47.3: 2,978,750
54: 2,979,376
59: 2,978,751
19— 65: 2,978,752
70: 2,978,753
20— 1.123: 2,978,754
16: 2,978,755
2,978,756
52: 2,978,757
57.5: 2,978,758
21— 2.5: 2,979,377
22— 10: 2,978,759
2,978,760
57.2: 2,978,761
58: 2,978,762
195: 2,978,763
203: 2,978,764
215: 2,978,765
23— 14.5: 2,979,378
2,979,379
66: 2,979,380
113: 2,979,381
136: 2,979,382
203: 2,979,383
212: 2,979,384
223: 2,979,385
273: 2,979,386
24— 116: 2,978,766
2,978,767
134: 2,978,768
201: 2,978,769
203: 2,978,770
205.1: 2,978,771
205.14: 2,978,772
2,978,773
207: 2,978,774
265: 2,978,775
2,978,776
25— 108: 2,978,777
2,978,778
118: 2,978,779
2,978,780
121: 2,978,781
156: 2,978,782
26— 6: 2,978,783
28— 72: 2,978,784
72.2: 2,978,785
2,978,786
28— 73: 2,978,787
75: 2,978,788
29— 28.42: 2,978,789
33: 2,978,790
34: 2,978,791
105: 2,978,792
148.4: 2,978,793
2,978,794
2,978,795
155.8: 2,978,796
157.3: 2,978,797
182.5: 2,978,798
183.5: 2,978,799
203: 2,978,800
212: 2,978,801
229: 2,978,802
282: 2,978,803
413: 2,978,804
430: 2,978,805
471.1: 2,978,806
30— 2: 2,978,807
293: 2,978,808
31— 21: 2,978,809
2,978,810
2,978,811
32— 2: 2,978,812
33— 80: 2,978,813
189: 2,978,814
34— 125: 3,978,815
35— 11: 2,978,816
36— 2.5: 2,978,817
71: 2,978,818
37— 57: 2,978,819
116: 2,978,820
40— 33: 2,978,821
65: 2,978,822
79: 2,978,823
120: 2,978,824
41— 42: 2,979,387
42— 69: 2,978,825
70: 2,978,826
84: 2,978,827
43— 17: 2,978,828
42.22: 2,978,829
57.5: 2,978,830
44— 16: 2,979,388
45— 85: 2,978,831
46— 107: 2,978,832
135: 2,978,833
149: 2,978,834
2,978,835
232: 2,978,836
47— 25: 2,978,837
38: 2,978,838
51: P.P. 2,045
48— 195: 2,979,389
202: 2,979,390
49— 28: 2,978,839
50— 100: 2,978,840
103: 2,978,841
51— 29: 2,978,842
33: 2,978,843
34: 2,978,844
193.5: 2,978,845
206: 2,978,846
209: 2,978,847
247: 2,978,848
2,978,849
282: 2,978,850
53— 33: 2,978,851
137: 2,978,852
178: 2,978,853
246: 2,978,854
54— 47: 2,978,855
56— 25: 2,978,856
25.4: 2,978,857
295: 2,978,858
328: 2,978,859
57— 148: 2,978,860
58— 23: 2,978,861
2,978,862
145: 2,978,863
60— 35.4: 2,978,864
35.6: 2,978,865
2,978,866
2,978,867
2,978,868
89.33: 2,978,869
89.74: 2,978,870
54.5: 2,978,871
97: 2,978,872
61— 21: 2,978,873
53: 2,978,874
62— 3: 2,978,875
54: 2,978,876
135: 2,978,877
162: 2,978,878
62— 209: 2,978,879
268: 2,978,880
324: 2,978,881
347: 2,978,882
351: 2,978,883
413: 2,978,884
64— 1: 2,978,885
21: 2,978,886
66— 86: 2,978,887
88: 2,978,888
67— 7.1: 2,978,889
31: 2,978,890
68— 23: 2,978,891
24: 2,978,892
213: 2,978,893
263: 2,978,894
70— 57: 2,978,895
231: 2,978,896
456: 2,978,897
71— 2.7: 2,979,391
73— 1: 2,978,898
24: 2,978,899
93: 2,978,900
136: 2,978,901
2,978,902
2,978,903
146: 2,978,904
156: 2,978,905
382: 2,978,906
407: 2,978,907
2,978,908
438: 2,978,909
515: 2,978,910
74— 2: 2,978,911
5.2: 2,978,912
5.7: 2,978,913
18.1: 2,978,914
80: 2,978,915
90: 2,978,916
104: 2,978,917
124: 2,978,918
435: 2,978,919
441: 2,978,920
447: 2,978,921
471: 2,978,922
472: 2,978,923
525: 2,978,924
529: 2,978,925
534: 2,978,926
545: 2,978,927
645: 2,978,928
711: 2,978,929
75— 20: 2,979,392
51: 2,979,393
57: 2,979,394
60: 2,979,395
91: 2,979,396
161: 2,979,397
168: 2,979,398
214: 2,979,399
222: 2,979,400
223: 2,979,401
76— 53: 2,978,930
77— 7: 2,978,931
78— 9: 2,978,932
80— 38: 2,978,933
81— 9.5: 2,978,934
17: 2,978,935
52.4: 2,978,936
53: 2,978,937
177.8: 2,978,938
82— 14: 2,978,939
24: 2,978,940
83— 108: 2,978,941
355: 2,978,942
362: 2,978,943
539: 2,978,944
84— 1.15: 2,978,945
85— 5: 2,978,946
86— 20: 2,978,947
88— 1: 2,978,948
2.4: 2,978,949
14: 2,978,950
2,978,951
14.5: 2,978,952
24: 2,978,953
2,978,954
41: 2,978,955
57: 2,978,956
2,978,957
95: 2,978,958
89— 1.7: 2,978,959
6: 2,978,960
37: 2,978,961
140: 2,978,962
90— 2: 2,978,963
5: 2,978,964
90— 21: 2,978,965
60: 2,978,966
94— 50: 2,978,967
95— 1.1: 2,978,968
4.5: 2,978,969
11.5: 2,978,970
13: 2,978,971
96— 1: 2,979,402
2,979,403
49: 2,979,404
55: 2,979,405
66: 2,979,406
98— 2: 2,978,972
94: 2,978,973
99— 23: 2,979,407
56: 2,979,408
100: 2,979,409
171: 2,979,410
187: 2,979,411
204: 2,979,412
263: 2,978,974
330: 2,978,975
100— 46: 2,978,976
101— 93: 2,978,977
109: 2,978,978
219: 2,978,979
378: 2,978,980
102— 70.2: 2,978,981
79: 2,978,982
2,978,983
90: 2,978,984
103— 1: 2,978,985
27: 2,978,986
41: 2,978,987
87: 2,978,988
102: 2,978,989
150: 2,978,990
151: 2,978,991
154: 2,978,992
374: 2,978,993
376: 2,978,994
401: 2,978,995
106— 42: 2,979,413
44: 2,979,414
88: 2,979,415
107— 1: 2,978,996
110— 18: 2,978,997
2,978,998
2,978,999
28: 2,979,000
112— 36: 2,979,001
158: 2,979,002
265: 2,979,003
113— 42: 2,979,004
99: 2,979,005
114— 33: 2,979,006
72: 2,979,007
74: 2,979,008
2,979,009
126: 2,979,010
183: 2,979,011
202: 2,979,012
221: 2,979,013
230: 2,979,014
240: 2,979,015
115— 1: 2,979,016
17: 2,979,017
29: 2,979,018
34: 2,979,019
116— 57: 2,979,020
117: 2,979,021
137: 2,979,022
117— 2: 2,979,416
65.2: 2,979,417
72: 2,979,418
2,979,419
2,979,420
100: 2,979,421
106: 2,979,422
122: 2,979,423
227: 2,979,424
118— 43: 2,979,023
500: 2,979,024
505: 2,979,025
637: 2,979,026
119— 15: 2,979,027
96: 2,979,028
120— 1: 2,979,029
42.03: 2,979,030
96: 2,979,031
121— 3: 2,979,032
16: 2,979,033
80: 2,979,034
41: 2,979,035
53: 2,979,036
119: 2,979,037
121— 194: 2,979,038
122— 9: 2,979,039
459: 2,979,040
510: 2,979,041
123— 8: 2,979,042
25: 2,979,043
82: 2,979,044
65: 2,979,045
79: 2,979,046
119: 2,979,047
179: 2,979,048
124— 24: 2,979,049
126— 104: 2,979,050
110: 2,979,051
194: 2,979,052
2,979,053
340: 2,979,054
128— 214: 2,979,055
278: 2,979,056
484: 2,979,057
131— 10: 2,979,058
13: 2,979,059
132— 48: 2,979,060
73: 2,979,061
134— 6: 2,979,425
2,979,426
66: 2,979,062
77: 2,979,063
135— 1: 2,979,064
46: 2,979,065
136— 4: 2,979,551
90: 2,979,582
100: 2,979,553
137— 3: 2,979,066
15: 2,979,067
82: 2,979,068
102: 2,979,069
192: 2,979,070
246.13: 2,979,071
322: 2,979,072
331: 2,979,073
340: 2,979,074
351: 2,979,075
382: 2,979,076
493.3: 2,979,077
533.29: 2,979,078
599: 2,979,079
620: 2,979,080
2,979,081
635.11: 2,979,082
637.2: 2,979,083
155— 191: 2,979,122
157— 13: 2,979,123
158— 28: 2,979,124
2,979,125
116: 2,979,126
160— 115: 2,979,127
348: 2,979,128
368: 2,979,129
162— 340: 2,979,130
361: 2,979,131
166— 138: 2,979,132
176: 2,979,133
187: 2,979,134
167— 32: 2,979,434
2,979,435
30: 2,979,436
65: 2,979,437
170—160.17: 2,979,135
172— 126: 2,979,136
272: 2,979,137
379: 2,979,138
635: 2,979,139
676: 2,979,140
174— 128: 2,979,554
145: 2,979,555
19: 2,979,141
175— 106: 2,979,142
130: 2,979,143
232: 2,979,144
177— 103: 2,979,145
178— 2: 2,979,556
5.2: 2,979,557
2,979,558
5.4: 2,979,559
2,979,560
6.5: 2,979,561
6.6: 2,979,562
7.3: 2,979,563
26: 2,979,564
50: 2,979,565
67: 2,979,566
88: 2,979,567
179— 6: 2,979,568
7: 2,979,569
15: 2,979,570
18: 2,979,571
100.2: 2,979,572
100.41: 2,979,573
175.2: 2,979,574
175.25: 2,979,575
180— 68.5: 2,979,146
73: 2,979,147
79.2: 2,979,148
181— 31: 2,979,149
2,979,150
51: 2,979,151
182— 2: 2,979,152
3: 2,979,153
73: 2,979,154
222: 2,979,155
183— 2.5: 2,979,156
4: 2,979,157
7: 2,979,158
70: 2,979,159
184— 6: 2,979,160
103: 2,979,161
187— 9: 2,979,162
188— 1: 2,979,163
59: 2,979,164
87: 2,979,165
112: 2,979,166
141: 2,979,167
204: 2,979,168
189— 34: 2,979,169
190— 42: 2,979,170
191— 12.4: 2,979,578
192— .052: 2,979,171
3: 2,979,172
3.5: 2,979,173
4: 2,979,174
12: 2,979,175
87: 2,979,176
193— 35: 2,979,177
2,979,178
195— 4: 2,979,438
47: 2,979,439
64: 2,979,440
197— 6.7: 2,979,179
198— 16: 2,979,180
19: 2,979,181
94: 2,979,182
38: 2,979,183
109: 2,979,184
128: 2,979,185
160: 2,979,186
184: 2,979,187
200— 30: 2,979,577

200— 32: 2,979,578
37: 2,979,579
38: 2,979,580
42: 2,979,581
61.45: 2,979,582
84: 2,979,583
114: 2,979,584
135: 2,979,585
140: 2,979,586
144: 2,979,587
2,979,588
145: 2,979,589
148: 2,979,590
2,979,591
153: 2,979,592
179: 2,979,593
202— 33: 2,979,441
57: 2,979,442
173: 2,979,443
204— 143: 2,979,444
154: 2,979,445
2,979,446
2,979,447
163: 2,979,448
164: 2,979,449
183.2: 2,979,450
2,979,451
212: 2,979,452
205— 4: 2,979,188
206— 15.1: 2,979,189
19.5: 2,979,190
48.33: 2,979,191
46: 2,979,192
47: 2,979,193
57: 2,979,194
207— 6: 2,979,195
208— 31: 2,979,453
209— 3: 2,979,196
30: 2,979,197
74: 2,979,198
114: 2,979,199
121: 2,979,200
2,979,201
223: 2,979,202
455: 2,979,203
210— 65: 2,979,204
167: 2,979,205
169: 2,979,206
198: 2,979,207
232: 2,979,208
435: 2,979,209
211— 74: 2,979,210
88: 2,979,211
214— 1: 2,979,212
18: 2,979,213
77: 2,979,214
78: 2,979,215
147: 2,979,216
701: 2,979,217
215— 40: 2,979,218
68: 2,979,219
100: 2,979,220
219— 19: 2,979,594
2,979,595
20: 2,979,596
2,979,597
60: 2,979,598
87: 2,979,599
127: 2,979,600
220— 15: 2,979,221
21: 2,979,222
38: 2,979,223
67: 2,979,224
220— 85: 2,979,225
105: 2,979,226
2,979,227
221— 9: 2,979,228
22: 2,979,229
166: 2,979,230
222— 83.5: 2,979,231
129.1: 2,979,232
135: 2,979,233
140: 2,979,234
185: 2,979,235
207: 2,979,236
413: 2,979,237
484: 2,979,238
530: 2,979,239
223— 30: 2,979,240
94: 2,979,241
224— 45: 2,979,242
225— 97: 2,979,243
226— 118: 2,979,244
229— 2.5: 2,979,245
14: 2,979,246
2,979,247
2,979,248
17: 2,979,249
32: 2,979,250
34: 2,979,251
47: 2,979,252
54: 2,979,253
230— 69: 2,979,254
235—00.47: 2,979,255
61: 2,979,256
61.7: 2,979,257
103: 2,979,258
117: 2,979,259
159: 2,979,260
176: 2,979,261
187: 2,979,262
194: 2,979,263
236— 10: 2,979,264
44: 2,979,265
2,979,266
239— 53: 2,979,267
55: 2,979,268
77: 2,979,269
132: 2,979,270
295: 2,979,271
259: 2,979,272
550: 2,979,273
240— 1.3: 2,979,601
6.46: 2,979,602
41.5: 2,979,603
78: 2,979,604
81: 2,979,605
108: 2,979,606
241— 32.5: 2,979,274
242— 25: 2,979,275
54.4: 2,979,276
56.12: 2,979,277
56.4: 2,979,278
56.3: 2,979,279
75.42: 2,979,280
84.1: 2,979,281
107.4: 2,979,282
129.8: 2,979,283
244— 14: 2,979,284
2,979,285
17.19: 2,979,286
44: 2,979,287
55: 2,979,288
77: 2,979,289
2,979,290
102: 2,979,291
244— 110: 2,979,292
117: 2,979,293
148: 2,979,294
246— 435: 2,979,295
248— 51: 2,979,296
54: 2,979,297
60: 2,979,298
62: 2,979,299
67.5: 2,979,299
146: 2,979,300
214: 2,979,301
247: 2,979,302
287: 2,979,303
354: 2,979,304
250— 6: 2,979,607
17: 2,979,608
2,979,609
20: 2,979,610
2,979,611
2,979,612
2,979,613
2,979,614
40: 2,979,615
2,979,616
71.5: 2,979,617
83.1: 2,979,618
83.6: 2,979,619
2,979,620
212: 2,979,621
217: 2,979,622
220: 2,979,623
252— 8.5: 2,979,454
8.55: 2,979,455
2,979,456
28: 2,979,457
42: 2,979,458
49.6: 2,979,459
49.7: 2,979,460
2,979,461
2,979,462
70: 2,979,463
99: 2,979,464
137: 2,979,465
139: 2,979,466
301.4: 2,979,467
409: 2,979,468
253— 48: 2,979,305
105: 2,979,306
256— 13.1: 2,979,307
257— 73: 2,979,308
195: 2,979,309
247: 2,979,310
303: 2,979,311
260— 2.5: 2,979,469
5: 2,979,470
17: 2,979,471
22: 2,979,472
2,979,473
2,979,474
23: 2,979,475
28.5: 2,979,476
29.4: 2,979,477
30.6: 2,979,478
37: 2,979,479
41: 2,979,480
41.5: 2,979,481
45.75: 2,979,482
47: 2,979,483
51: 2,979,484
75: 2,979,485
2,979,486
78.5: 2,979,487
79: 2,979,488
87.5: 2,979,489
260— 97.5: 2,979,490
98.8: 2,979,491
2,979,492
98.7: 2,979,493
94.2: 2,979,494
94.9: 2,979,495
2,979,496
97.5: 2,979,497
153: 2,979,498
209.6: 2,979,499
217: 2,979,500
240.4: 2,979,501
243: 2,979,502
247.1: 2,979,503
2,979,504
247.5: 2,979,505
208: 2,979,506
2,979,507
2,979,508
290: 2,979,509
2,979,510
309.6: 2,979,511
310: 2,979,512
327: 2,979,513
340.2: 2,979,514
346.2: 2,979,515
367.3: 2,979,516
367.45: 2,979,517
2,979,518
448.2: 2,979,519
450: 2,979,520
456: 2,979,521
461: 2,979,522
2,979,523
462: 2,979,524
482: 2,979,525
515: 2,979,526
555: 2,979,527
584: 2,979,528
586: 2,979,529
606.5: 2,979,530
609: 2,979,531
2,979,532
613: 2,979,533
619: 2,979,534
635: 2,979,535
650: 2,979,536
2,979,537
651: 2,979,538
653.2: 2,979,539
654: 2,979,540
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2,979,542
666: 2,979,543
2,979,544
2,979,545
667: 2,979,546
668: 2,979,547
674: 2,979,548
683.15: 2,979,549
261— 5: 2,979,312
94: 2,979,313
2,979,314
2,979,315
114: 2,979,316
262— 3: 2,979,317
7: Re.24,965
2,979,318
19: 2,979,319
26: 2,979,320
263— 3: 2,979,321
40: 2,979,322
47: 2,979,323
267— 9: 2,979,324
30: 2,979,325
55: 2,979,326
268— 124: 2,979,327
128: 2,979,328
271— 29: 2,979,329
36: 2,979,330
46: 2,979,331
273— 43: 2,979,332
49: 2,979,333
53: 2,979,334
182: 2,979,335
274— 10: 2,979,336
2,979,337
280— 47.3: 2,979,338
164: 2,979,340
423: 2,979,341
474: 2,979,342
281— 33: 2,979,343
285— 200: 2,979,344
286— 5: 2,979,345
6: 2,979,346
7: 2,979,347
11.14: 2,979,348
11.15: 2,979,349
26: 2,979,350
37: 2,979,351
287— 53: 2,979,352
85: 2,979,353
126: 2,979,354
292— 76: 2,979,355
317: 2,979,356
293— 69: 2,979,357
294— 106: 2,979,358
295— 8.5: 2,979,359
44: 2,979,360
296— 100: 2,979,361
300— 18: 2,979,362
302— 53: 2,979,363
303— 1: 2,979,364
84: 2,979,365
307— 38: 2,979,624
85.5: 2,979,625
2,979,626
2,979,627
96: 2,979,628
308—179.5: 2,979,366
183: 2,979,367
190: 2,979,368
309— 2: 2,979,369
310— 39: 2,979,629
102: 2,979,630
312— 316: 2,979,370
313— 63: 2,979,631
89: 2,979,632
2,979,633
113: 2,979,634
315— 5.18: 2,979,635
39.3: 2,979,636
84: 2,979,637
84.6: 2,979,638
127: 2,979,639
208: 2,979,640
316— 30: 2,979,371
317— 123: 2,979,641
139: 2,979,642
199: 2,979,643
234: 2,979,644
2,979,645
318— 5: 2,979,646
134: 2,979,647
211: 2,979,648
318— 480: 2,979,649
320— 35: 2,979,650
321— 70: 2,979,651
322— 19: 2,979,652
323— 22: 2,979,653
324— 34: 2,979,654
38: 2,979,655
54: 2,979,656
77: 2,979,657
115: 2,979,658
140: 2,979,659
328— 67: 2,979,660
133: 2,979,661
139: 2,979,662
150: 2,979,663
330— 3: 2,979,664
14: 2,979,665
17: 2,979,666
19: 2,979,667
36: 2,979,668
331— 62: 2,979,669
64: 2,979,670
87: 2,979,671
145: 2,979,672
157: 2,979,673
332— 12: 2,979,674
333— 10: 2,979,675
34: 2,979,676
35: 2,979,677
81: 2,979,678
98: 2,979,679
338— 5: 2,979,680
89: 2,979,681
143: 2,979,682
2,979,683
183: 2,979,684
330— 5: 2,979,685
21: 2,979,686
101: 2,979,687
194: 2,979,688
217: 2,979,689
340— 8: 2,979,690
12: 2,979,691
15: 2,979,692
20: 2,979,693
61: 2,979,694
149: 2,979,695
173.2: 2,979,696
174: 2,979,697
2,979,698
2,979,699
2,979,700
2,979,701
2,979,702
2,979,703
177: 2,979,704
178: 2,979,705
224: 2,979,706
253: 2,979,707
347: 2,979,708
2,979,709
2,979,710
343— 7: 2,979,711
7.3: 2,979,712
7.9: 2,979,713
11: 2,979,714
12: 2,979,715
100: 2,979,716
117: 2,979,717
119: 2,979,718
761: 2,979,719
805: 2,979,720
346— 138: 2,979,372

Classification of Designs

D 3— 4: 190,072
16: 190,071
D 9— 2: 190,073
190,074
D10— 8: 190,075
190,076
D14— 3: 190,077
D14— 25: 190,078
D17— 1: 190,079
D31— 4: 190,080
D33— 11: 190,081
14: 190,082
D34— 4: 190,083
5: 190,084
D34— 5: 190,085
15: 190,086
190,087
190,088
D44— 1: 190,089
4: 190,090
15: 190,091
D44— 15: 190,092
190,093
29: 190,094
D47— 7: 190,095
D52— 6: 190,096
190,097
190,098
D54— 12: 190,099
190,100
D58— 8: 190,101
13: 190,102
D61— 1: 190,103
190,104
D61— 1: 190,105
D64— 11: 190,106
D80— 10: 190,107
D82 2: 190,108
D83— 1: 190,109
190,110

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

April 11, 1961 Volume 765 Number 2

TRADEMARKS

NOTICES

First Assistant Commissioner of Patents

DELEGATION OF AUTHORITY TO SERVE AS ACTING COMMISSIONER OF PATENTS

Acting under the provisions of section 3 of Title 35 United States Code and of section 2 of Reorganization Plan No. 5 of 1950, I hereby authorize Mr. Arthur W. Crocker, First Assistant Commissioner of Patents, to be and serve as Acting Commissioner of Patents, beginning with the opening of business of the United States Patent Office on March 2, 1961. This authorization shall remain in force until a new Commissioner of Patents to fill the vacancy that will exist in that office as of March 2, 1961, is appointed and takes office.

(R.S. 161; 5 U.S.C. 22; 35 U.S.C. 3; Reorganization Plan No. 5 of 1950, 15 F.R. 3174).

LUTHER H. HODGES,
Secretary of Commerce.

Mar. 1, 1961.

[F.R. Doc. 61-2091; Filed, Mar. 7, 1961; 8:54 a.m.]

Published in 26 F.R. 2089, March 8, 1961

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Lee Manufacturing Co., Los Angeles, Calif., Reg. No. 396,505, Canc. No. 7622.

Saranco Inc., assignee of Franz Koenigsberger, New York, N.Y., Reg. No. 387,554, Canc. No. 7624.

Marjanne Enterprises, Rockford, Ill., Reg. No. 706,267, Canc. No. 7636.

Nardan, Ltd., New York, N.Y., Reg. No. 426,897, Canc. No. 7644.

Shurebite Inc., Bronson, Mich., Reg. No. 425,668, Canc. No. 7650.

China Overseas, New York, N.Y., Reg. No. 423,999, Canc. No. 7657.

ARTHUR W. CROCKER,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 86,340 (HOYO DE MONTERREY), L. G. y Seycher, Cigars; **Reg. No. 111,366** (BELINDA AND DESIGN), M. L. Fernandez, same; **Reg. No. 236,618** (BELINDA HABANA AND DESIGN), Fernandez, Palicio y Cia. S. en C., same; **Reg. No. 261,894** ("PUNCH" ETC. AND DESIGN), same; **Reg. No. 267,765** (BELINDA), same, filed Feb. 15, 1961, D.C., S.D.N.Y., Doc. 61/584, *H. Policio y Companie, S.E.* v. *Faber, Coe & Gregg, Inc.*

Reg. No. 111,366. (See Reg. No. 86,340.)

Reg. No. 176,317 (PHILLIPS), The Charles H. Phillips Chemical Co., Preparations of magnesia, codliver oil and tonic medicines; **Reg. No. 239,188** (BAYER), The Bayer Co., Inc., Preparations or medicines for pains and aches of nervous or organic origin, etc.; **Reg. No. 252,296** (CREAMALIN),

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,477
Date of oldest new application	August 22, 1960
Date of oldest amended application	September 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	8-23-60	10-10-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	9-13-60	9-1-60
Renewals (All Classes)	2-1-61	-------
Sec. 12 (c) Publications (All Classes)	2-5-61	-------

Applications filed during the month of February 1961—1799

Registrations Issued	310—No. 713,702 to No. 714,011
Renewals Issued	75

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Cleveland Chemical Associates, Incorporated, Colloidal cream of aluminum hydroxide for the treatment of peptic ulcer to be taken internally; Reg. No. 496,720 (NEO SYNEPHRINE), Frederick Sterns & Co., Preparation used as a vasoconstrictor; Reg. No. 496,558 (PHISODERM), Fairchild Bros. et al., Lathering, emollient and detergent preparation; Reg. No. 508,127 (PHISOHEX), Winthrop-Stearns, Inc., An emollient, sudsing, antibacterial detergent, filed Nov. 22, 1960, D.C., N.D. Calif. (San Francisco), Doc. 39/550, *Sterling Drug, Inc.* v. *James M. Middleton et al.* Consent decree; injunction granted (notice Feb. 24, 1961).

Reg. No. 226,518. (See Reg. No. 86,340.)

Reg. No. 229,183. (See Reg. No. 176,217.)

Reg. No. 246,988 (TIME THE WEEKLY NEWS MAGAZINE), Time, Incorporated; Reg. No. 565,961 (TIME), same, Weekly magazine, filed Feb. 10, 1961, D.C., S.D.N.Y., Doc. 61/518, *Time, Incorporated* v. *Time Records, Incorporated.*

Reg. No. 261,594. (See Reg. No. 86,340.)

Reg. No. 267,755. (See Reg. No. 86,340.)

Reg. No. 323,416 (DEBBYS), Farr Bros. Co., Shoes of leather, fabric, rubber or combinations thereof for women, misses, girls and children, filed Feb. 14, 1961, D.C., S.D.N.Y., Doc. 61/536 (originally filed Jan. 28, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 27/616), *Farr's Inc.* v. *National Shoes Inc.*

Reg. No. 353,586. (See Reg. No. 176,217.)

Reg. No. 466,720. (See Reg. No. 176,217.)

Reg. No. 466,558. (See Reg. No. 176,217.)

Reg. No. 542,473 (GLOBETROTTERS), A. M. Saperstein, Athletic entertainment services; Reg. No. 542,474 (HARLEM GLOBETROTTERS), same; Reg. No. 570,888 (TROTTERS), same, Entertainment services in the nature of basketball exhibitions; Reg. No. 662,572 (MAGICIANS OF BASKETBALL), same, filed Sept. 24, 1958, (D.C., N.D. Calif. (San Francisco), Doc. 37/687, *A. M. Saperstein* v. *Western Promotions, Inc. et al.* Defendants enjoined Feb. 17, 1961.

Reg. No. 542,474. (See Reg. No. 542,473.)

Reg. No. 562,187. (See Reg. No. 176,217.)

Reg. No. 565,961. (See Reg. No. 246,988.)

Reg. No. 566,236 (MOONBEAM), General Time Corporation, Clocks and watches, filed Feb. 28, 1961, D.C. Conn. (New Haven), Doc. 8707, *General Time Corporation* v. *The Sessions Clock Company.*

Reg. No. 570,888. (See Reg. No. 542,473.)

Reg. No. 615,231 (HYDROAIR AND DESIGN), C. B. Pletcher, doing business as Hydro-Silica Manufacturers, Air guns; Reg. No. 625,230, same; 2,751,716, C. B. Pletcher, Blast gun, filed July 15, 1958, D.C., E.D. Mo. (St. Louis), Doc. 58-C-285(1), *Clarence B. Pletcher, doing business as Hydro-Silica Manufacturers et al.* v. *The Vilbert Building Cleaning Company et al.* Dismissed by stipulation with prejudice Feb. 7, 1961.

Reg. No. 625,230. (See Reg. No. 615,231.)

Reg. No. 656,251 (AUTO SHOW), Automotive Periodicals, Inc., Publication issued annually or from time to time, filed Feb. 17, 1961, D.C., S.D.N.Y., Doc. 61/608, *Glacier Publishing Corporation* v. *Petersen Publishing Company.*

Reg. No. 662,572. (See Reg. No. 542,473.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials Class 2—Receptacles

SN 78,448. The Glidden Company, Cleveland, Ohio. Filed July 27, 1959.

GLIDFOAM

For Synthetic Resin.
First use July 26, 1956.

SN 95,584. General American Industries, Inc., New York, N.Y. Filed Apr. 22, 1960.

YOAKUM

For Leather Piece Goods.
First use 1933.

SN 104,083. James Fraser Rae, d.b.a. Industrial Plastics & Chemicals, Oakland, Calif. Filed Sept. 8, 1960.

ASTROLITE

Owner of Reg. No. 706,805.
For Epoxy and Polyester Resins.
First use June 21, 1948.

SN 104,156. Fiberfil, Inc., Warsaw, Ind. Filed Sept. 9, 1960.

STYRAFIL

For Reinforced Synthetic Injection-Molding Compounds in Pellet or Granular Form.
First use Aug. 26, 1959.

SN 105,574. Stamford Rubber Supply Company, Stamford, Conn. Filed Sept. 30, 1960.

HYPAFAX

For Vulcanized Vegetable Oils, Vulcanized Fish Oils, and Vulcanized Animal Oils.
First use January 1960.

SN 106,307. Armour and Company, Chicago, Ill. Filed Oct. 13, 1960.

GEMSKIN

For Upper Leather.
First use July 30, 1960.

SN 106,577. The Armstrong Rubber Company, West Haven, Conn. Filed Oct. 18, 1960.

Froth Foam

For Sponge and Foam Rubber.
First use on or about Sept. 12, 1960.

SN 106,787. Beckwith-Arden Inc., Watertown, Mass. Filed Oct. 20, 1960.

THERMOFIBE

Owner of Reg. No. 571,313.
For Shoe Lining Material of Flocked Fibre Sheet.
First use Jan. 10, 1960.

SN 75,901. Westinghouse Electric Corporation, Pittsburgh, Pa., assignee of The Bryant Electric Company, Bridgeport, Conn. Filed June 17, 1959.

CALAIS

For Plastic Dinnerware.
First use on or about Oct. 13, 1958.

SN 80,350. Oneida Ltd., Oneida, N.Y. Filed Aug. 27, 1959.

ENCHANTED GARDEN

For Hollow Tableware—Namely, Plates, Cups, Saucers, and Special Pieces for Services of So-Called Plastic or Synthetic Resin Material.
First use May 29, 1959.

SN 80,351. Oneida Ltd., Oneida, N.Y. Filed Aug. 27, 1959.

CORONATION

Owner of Reg. No. 345,631.
For Hollow Tableware—Namely, Plates, Cups, Saucers, and Special Pieces for Services of So-Called Plastic or Synthetic Resin Material.
First use May 29, 1959.

SN 80,352. Oneida Ltd., Oneida, N.Y. Filed Aug. 27, 1959.

BRIGHT MORNING

For Hollow Tableware—Namely, Plates, Cups, Saucers, and Special Pieces for Services of So-Called Plastic or Synthetic Resin Material.
First use May 29, 1959.

SN 80,353. Oneida Ltd., Oneida, N.Y. Filed Aug. 27, 1959.

AUTUMN MEMORY

For Hollow Tableware—Namely, Plates, Cups, Saucers, and Special Pieces for Services of So-Called Plastic or Synthetic Resin Material.
First use May 29, 1959.

SN 87,911. Reliance Products Sales Corp., Woonsocket, R.I. Filed Dec. 23, 1959.



The drawing is lined to indicate red and yellow.
For Plastic Baby Products—Namely, Training Cups and Feeding Dishes.
First use Apr. 4, 1958.

SN 94,381. Advance Linen Services Limited, London, England. Filed Apr. 5, 1960.

ADVANCE
Towelmaster

Owner of British Reg. No. 741,916, dated May 3, 1955.
For Cabinets (Not Being Furniture) Containing Roller Towels and Incorporating a Device for Dispensing Predetermined Lengths of the Towel.

SN 95,672. Aladdin Industries, Incorporated, Nashville, Tenn. Filed Apr. 25, 1960.

Beverage Butler

For Heat Insulated Receptacles—Namely, Portable Heat Insulated Food and Beverage Containers, and Vacuum Pitchers.
First use on or about Jan. 8, 1960.

SN 97,491. Jackes-Evans Manufacturing Company, St. Louis, Mo. Filed May 19, 1960.

JE

The mark is lined to indicate the color red but the applicant does not intend to be limited to any particular color.
Owner of Reg. Nos. 506,852 and 604,778.
For Receptacles—Namely, Pails, Tubs, Refuse Cans and Pails, Trash Burners, Utility Buckets and Mail Boxes.
First use Apr. 14, 1960.

SN 101,923. Atlas Hardware Company, New York, N.Y. Filed Aug. 3, 1960.

PORTER

For Metal Tool Boxes.
First use July 11, 1960.

SN 102,440. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Aug. 11, 1960.

PIGGY-BACK

For Collapsible Cardboard Merchandising Display Cartons.
First use June 2, 1960.

SN 105,627. Continental Can Company, Inc., New York, N.Y. Filed Oct. 3, 1960.

BULK-O-TAINER

For Bags Composed Mainly of Paper Having a Plastic Lining.
First use Aug. 2, 1960.

SN 105,912. Novo Industrial Corporation, Chicago, Ill. Filed Oct. 6, 1960.

SHO-CASE

For Carrying Cases for Pop Bottles and the Like.
First use June 6, 1960.

SN 106,093. Gotham Industries, Inc., Chicago, Ill. Filed Oct. 10, 1960.

GOTHAM

Owner of Reg. No. 614,977.
For Plastic Housewares—Namely, Pitchers, Trays, Tumblers, Ice Chests, Pails, Dishes, Storage Boxes, Storage Bins, Hampers, Baskets, Drain Racks; and Salad Sets Comprising Bowls, Forks and Spoons.
First use January 1946.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 95,585. General American Industries, Inc., New York, N.Y. Filed Apr. 22, 1960.

YOAKUM

For Saddles and Riding Equipment—Namely, Bridles, Head Stalls, Halters, Stirrup Leathers, Whips, Breast Collars, Bridle Reins, Saddle Pockets, Saddle Trees, Saddle Pads, and Saddle Girths.
First use 1933.

Class 4—Abrasives and Polishing Materials

SN 94,558. The Beacon Company, Cambridge, Mass. Filed Apr. 7, 1960.

VINYL-PLUS

For Vinyl Polymer Containing Fluoro Chemicals Which Produces a Brilliant and Lasting Shine, Used as a Component of Floor Wax.
First use Mar. 21, 1960.

SN 95,974. Burnishine Products Co., Skokie, Ill. Filed Apr. 18, 1960.

STOCK-GLAZE

Owner of Reg. No. 650,287.
For Cleaning and Polishing Compound for Wood Surfaces.
First use Mar. 29, 1955.

SN 96,819. Standard Abrasive Company, Ann Arbor, Mich. Filed May 10, 1960.

SUPERSTEEL

For Cast Steel Shot and Grit.
First use Feb. 23, 1954.

SN 99,977. The Western Petrochemical Corporation, New York, N.Y. Filed June 29, 1960.



For Polymer and Wax Compositions for Providing a Protective and/or Decorative Coating to Solid Substrates Such as Paper, Cardboard, Flooring and the Like.
First use Apr. 19, 1957.

SN 99,980. The Western Petrochemical Corporation, New York, N.Y. Filed June 29, 1960.



The mark can be considered to be WPC and design.
For Polymer and Wax Compositions for Providing a Protective and/or Decorative Coating to Solid Substrates Such as Paper, Cardboard, Flooring and the Like.
First use Nov. 27, 1959.

SN 104,948. The Procter & Gamble Company, Cincinnati, Ohio. Filed Sept. 21, 1960.

SPIC AND SPAN

Owner of Reg. Nos. 214,076 and 514,362.
For Polishing and Protective Compositions for Hard Surfaces.
First use Aug. 5, 1960.

SN 106,554. Simonis Company, Chicago, Ill. Filed Sept. 30, 1960.



Applicant disclaims exclusive use of the words "Professional Quality" and "Commercial Products" apart from the mark as shown. Owner of Reg. Nos. 127,701, 628,491, and others.
For Combination Cleaning and Polishing Preparation.
First use in June 1958.

Class 5—Adhesives

SN 98,274. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed June 2, 1960.

HOLD-IT

For Pliable Gum-Like Compound Used as an Adhesive.
First use May 20, 1960.

SN 103,885. Windsor-Lloyd Products, Inc., Philadelphia, Pa. Filed Sept. 2, 1960.

WSC

Owner of Reg. No. 437,493.
For Adhesive Liquid Cement.
First use Mar. 1, 1947.

SN 109,818. St. Regis Paper Company, New York, N.Y. Filed Dec. 7, 1960.

ZIPLOC

For Gummed Box Tape.
First use Oct. 20, 1960.

Class 6—Chemicals and Chemical Compositions

SN 56,810. Tempo Products Company, Cleveland, Ohio. Filed Aug. 7, 1958.

TEMPO

Owner of Reg. Nos. 621,666, 664,685, 626,792.
For Dry Powder Fire Extinguisher Spray, Room Deodorant Spray, Insecticide Spray, and Water Repellent Spray, All Packaged in Spray Type Containers.
First use Jan. 28, 1957, on dry powder fire extinguisher spray.

SN 74,964. Gold Seal Co., Bismarck, N. Dak., assignee of The Andre L. Richard Co., Inc., New York, N.Y. Filed June 2, 1959.

ISLAND SPICE MIST

For Sachet Spray and Room Freshener.
First use May 25, 1959.

SN 95,056. Certified Laboratories, Inc., Fort Worth, Tex. Filed Apr. 14, 1960.



The drawing is lined to indicate the color red, the said color being part of the mark.
For Chemical Compounds Used in Treating Dust Mops; Fabric Softener; Chemical Compounds Used in Controlling Dust; Coolants; Insecticides; Insect Spray; Disinfectants; Oil Soluble Insecticides; Water Emulsifiable Insecticides; Chemical Compounds for Use in Larvae Control in Sewage

Disposal Plants; Chemical Compounds for Use in Odor Control in Septic Tanks and Sewage Disposal Plants; Weed Killing Preparations; Chemical Compounds for Use in Odor Control in Connection With Land Fill Refuse Disposal, Sewage Treatment, Drainage Ditches, Market Area Streets and Refuse Cans and Trucks; Chemical Compounds for Use in Guarding Against Clogging and Stoppage of Municipal and Industrial Sewer Systems; Chemical Compounds for Use in Controlling Algae and Similar Aquatic Plants in Water Cooling Systems, Air Conditioning Systems, and Outdoor Swimming Pools; Chemical Compound Used as an Additive for Oil Heating Systems; Foam Inhibitor Used in Sewage Disposal Plants; and Air Sanitizer Deodorant Spray.
First use Nov. 13, 1956.

SN 99,976. The Western Petrochemical Corporation, New York, N.Y. Filed June 29, 1960.



For Polymers and Synthetic and Vegetable Waxes.
First use Apr. 19, 1957.

SN 104,546. Oxford Chemical Corporation, Atlanta, Ga. Filed Sept. 15, 1960.



No claim is made to the wording "Chemicals for Industry" apart from the mark.
For Chemical Compounds Used for Alkaline Cleaning of Metals and Phosphatizing Compounds for Coating Metals.
First use on or about June 15, 1960.

SN 104,666. Aerosol Corporation of America, Wellesley Hills, Mass. Filed Sept. 19, 1960.

Glisade

For Treatment Material Sold in Pressurized Containers for Spraying Upon Fabrics To Facilitate Ironing.
First use Sept. 2, 1960.

SN 104,922. Hercules Powder Company, Wilmington, Del. Filed Sept. 21, 1960.

IMPERIAL

For Chemical Colors and Pigments.
First use Mar. 30, 1945.

Class 7 — Cordage

SN 86,501. International Harvester Company, Chicago, Ill. Filed Dec. 2, 1959.

SHIPPERS

For Twine.
First use Dec. 15, 1956.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 101,347. W. J. Taylor, d.b.a. Taylor Fireworks Company, Kansas City, Kans. Filed July 22, 1960.

SEA-HORSE

For Fireworks.
First use May 25, 1960.

Class 10 — Fertilizers

SN 93,849. Paxton Processing Co., Inc., Paxton, Ill. Filed Mar. 28, 1960.

with GROLIUM

The drawing is lined for green and yellow, but color is not claimed as part of the mark, the linings being used only for shading.
For Mulch and Soil Conditioner Made of Ground Corncobs.
First use Nov. 3, 1959.

SN 95,192. Pearl Products, Inc., Glenside, Pa. Filed Apr. 15, 1960.

fertilium

For Organic Compost for Use on Lawns, Gardens and Farms, and Potting Soil.
First use Jan. 16, 1953.
Subj. to Intf. with SN 107,165.

SN 96,427. Robertson Chemical Corporation, Norfolk, Va. Filed May 4, 1960.

ROBERTSONS BLUE BANNER "PLUS" BRAND

The term "Brand" is disclaimed apart from the mark as shown.
For Fertilizer.
First use 1959.

SN 102,614. Brooker Chemical, Sherman Oaks, Calif. Filed Aug. 15, 1960.

HORMEX

For Agricultural Chemicals, Defined as Agricultural Plant Hormones.
First use Aug. 1, 1959.

SN 102,871. Re-Mark Chemical Co., Inc., Miami, Fla. Filed Aug. 17, 1960.

NEO-VITA

For Liquid Preparation for Mineralizing and Neutralizing the Soil, With Incidental Fungicidal and Bactericidal Properties.
First use May 1, 1950.

SN 107,165. Dr. William H. Eyster, d.b.a. Fertilium Company, Emmaus, Pa. Filed Oct. 7, 1960.

Fertilium

For Combination Fertilizer and Soil Conditioner.
First use January 1953.
Subj. to Intf. with SN 95,192.

Class 11 — Inks and Inking Materials

SN 90,819. Central Compounding Company, Chicago, Ill. Filed Feb. 12, 1960.

COBANOL

For Additive for Printing Inks.
First use Feb. 3, 1960.

SN 90,820. Central Compounding Company, Chicago, Ill. Filed Feb. 12, 1960.

COBAN-X

For Additive for Printing Inks.
First use Feb. 3, 1960.

Class 12 — Construction Materials

SN 79,042. Bangkok Industries, Inc., Philadelphia, Pa. Filed Aug. 5, 1959.



The portrait shown is that of Rampiapha Svasti, whose consent is of record.
For Flooring.
First use July 25, 1959.

SN 93,955. Sun Chemical Corporation, New York, N.Y. Filed Mar. 29, 1960.

THIOPOXY

For Patching Compounds and Compositions for Substructure Toppings, Including Highway Toppings, and Floor Topping.
First use Feb. 24, 1960.

SN 94,245. Berry Door Corporation, Birmingham, Mich. Filed Apr. 4, 1960.

CHILD-SAFE

For Sectional Garage Doors.
First use Jan. 25, 1960.

SN 96,655. American Lumber Company, Inc., New York, N.Y. Filed May 9, 1960.

WUNDA-PLY

For Plywood and Lumber.
First use Apr. 14, 1960.

SN 103,035. Monarch Tile Manufacturing Inc., San Angelo, Tex. Filed Aug. 19, 1960.

COLOR BLEND

For Ceramic Building Tile.
First use on or about Mar. 1, 1950.

SN 103,843. Diamond Alkali Company, Cleveland, Ohio. Filed Sept. 2, 1960.



Owner of Reg. No. 708,630.
For Portland Cement.
First use Aug. 10, 1960; May 1958 in conjunction with a diamond design.

SN 104,056. Timber Fasteners, Inc., San Francisco, Calif. Filed Sept. 7, 1960.



For Fastening Devices for Structural and Framing Timbers.
First use Aug. 4, 1958.

SN 104,058. Surn Industries, Inc., Erie, Pa. Filed Sept. 7, 1960.

INSPECDOR

For Inspection Doors for Access to Concealed Equipment.
First use Oct. 16, 1956.

SN 105,695. The Upson Company, Lockport, N.Y. Filed Oct. 3, 1960.



Owner of Reg. No. 536,493.
For Wallboard.
First use Aug. 17, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 59,885. Capitol Pipe & Steel Products, Inc., Philadelphia, Pa. Filed Oct. 1, 1958.



No claim is made to the word "Pipe" except in the association shown.
For Pipes, Flanges, Fittings.
First use May 29, 1957.

SN 77,926. Hugo Kern, Schramberg, Wurttemberg, Germany. Filed July 17, 1959.



Owner of German Reg. No. 724,821, dated Apr. 24, 1959.
For Springs for Spring Motors, Clocks, Watches, and Phonographs, and Ribbon Steel Springs.

SN 80,497. Clearwater Tank Company, Danville, Ill. Filed Aug. 31, 1959.



For Stock Watering Fountains.
First use May 7, 1959.

SN 93,660. Braun & Kemmler, Reutlingen-Betzingen, Baden-Wurttemberg, Germany. Filed Mar. 25, 1960.



Owner of U.S. Reg. No. 662,107.
For Pans, Pots, Trays, Sieves and Kitchen Utensils of Metal and Enameled Metal.
First use 1955; in commerce 1955.

SN 95,062. Hills-McCanna Company, Chicago, Ill. Filed Apr. 14, 1960.

MC CANNASEAL

For Ball Valves.
First use December 1959.

SN 95,063. Hills-McCanna Company, Chicago, Ill. Filed Apr. 14, 1960.

MC CANNAFLO

For Ball Valves.
First use December 1959.

SN 95,603. The Kellems Company, Inc., Stonington, Conn. Filed Apr. 22, 1960.



For Wire Grips.
First use on or about Oct. 1, 1950.

SN 99,896. United States Steel Corporation, Pittsburgh, Pa. Filed June 28, 1960.

HEXTRALINE

For Wire Netting.
First use Jan. 22, 1930.

SN 102,921. Delta Faucet Corporation, Greensburg, Ind. Filed Aug. 17, 1960.



The drawing is lined for the colors blue and purple. Owner of Reg. No. 668,880.
For Faucets.
First use July 7, 1960.

SN 105,698. Western Newell Mfg. Co., Freeport, Ill. Filed Oct. 3, 1960.

Premier

For Drapery Hardware Fixtures and Accessories—Namely, Curtain Rods, Traverse Rods, Cafe or Tier Rods, Venetian Blind Rods, Round Sash Rods, Spring Sash Rods, Curtain Rod Extenders, Shade Brackets, Curtain and Cafe Rod Brackets, Center Support Hooks, Double Support Hooks, Drapery Hooks, Heading Hooks, L-Hooks, Pleater Hooks, End Hooks, Pin-On and Slip-In Hooks, Shower Curtain Hooks, Plastic, Crystal, and Metal Shower Curtain Rings, Cafe Clip Rings, Nylon Carriers for Traverse Rods, Shade Pulls, Lead Weights and Weighted Tapes for Draperies, Pleater Tapes, and Curtain Rod Nails.
First use July 1959.

SN 105,719. Brass and Copper Supply Company, Inc., Baltimore, Md. Filed Oct. 4, 1960.

DIA-GRIP

For Nails.
First use Sept. 28, 1960.

SN 105,958. Commonwealth Brass Corporation, Detroit, Mich. Filed Oct. 7, 1960.

VISEAL

For Tube Fittings.
First use Apr. 29, 1960.

SN 105,972. Gardner-Denver Company, Quincy, Ill. Filed Oct. 7, 1960.

CARBO-CLAD

For Valve Assemblies and Valve Seats.
First use June 16, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 93,614. Langley Alloys Limited, Langley, Slough, England. Filed Mar. 24, 1960.

FERRALIUM

Owner of British Reg. No. 773,735, dated Jan. 29, 1958.
For Unwrought and Partly Wrought Alloys of Common Metals.

SN 93,922. Hamilton Watch Company, Lancaster, Pa. Filed Mar. 29, 1960.

HAVAR

For Metal Tape, Wire and Metal Alloys.
First use Feb. 1, 1960.

SN 99,506. The Fleming Company, Scranton, Pa. Filed June 22, 1960.

MACK

For Railroad Track Switch Paint Protector.
First use 1928.

SN 102,640. Eutectic Welding Alloys Corporation, Flushing, N.Y. Filed Aug. 15, 1960.

CUSHIONTRODE

Owner of Reg. No. 609,817.
For Metallic Welding Electrode.
First use prior to Aug. 10, 1960.

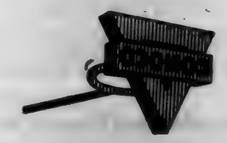
SN 102,785. National-Standard Company, Niles, Mich. Filed Aug. 16, 1960.

ADPLY

Owner of Reg. Nos. 604,115, 675,150, and others.
For Wire.
First use June 21, 1960.

Class 15—Oils and Greases

SN 95,144. Continental Oil Company, Ponca City, Okla. Filed Apr. 15, 1960.



Hottest Brand Going

The drawing is lined for red. Owner of Reg. Nos. 270,289, 680,742, and others.
For Petroleum Products—Namely, Internal Combustion Engine Fuels and Lubricating Oils.
First use on or about Jan. 1, 1960.

SN 96,157. Western Auto Supply Company, Kansas City, Mo. Filed Apr. 29, 1960.

VITA POWER

For Oils, Greases, Transmission Fluids and Lubricant Products.
First use Apr. 30, 1951 on oil.

SN 99,979. The Western Petrochemical Corporation, New York, N.Y. Filed June 29, 1960.



The mark can be considered to be WPC and design.
For Petroleum and Paraffin Waxes.
First use Nov. 27, 1959.

SN 102,055. Remaco, Inc., New York, N.Y. Filed Aug. 4, 1960.

REMA LUBE

Applicant disclaims the word "Lube" apart from the mark as shown. Owner of Reg. No. 590,296.
For Motor Oil Additive.
First use Nov. 23, 1959.

SN 105,470. Sun Oil Company, Philadelphia, Pa. Filed Sept. 29, 1960.



For purposes of registration, applicant disclaims the word "Oils" apart from the mark as shown. Owner of Reg. No. 384,759.
For Lubricating Oils, Petroleum Waxes, Greases and Naphtha.
First use on or about May 17, 1915.

SN 107,293. Stewart-Warner Corporation, Chicago, Ill. Filed Oct. 27, 1960.

TEMPRITE

For Lubricating Oils and Greases.
First use at least as early as Feb. 4, 1935.

Class 16—Protective and Decorative Coatings

SN 88,821. Surface Engineering Company, Inc., Wichita, Kans. Filed Jan. 11, 1960.

RHINO-KLAD

For Surfacing Compound.
First use Sept. 25, 1959.

SN 95,197. Red Hand Compositions Co., Inc., New York, N.Y. Filed Apr. 15, 1960.

AQUABOND

For Paints.
First use May 25, 1959.

SN 97,267. Tri-Chem, Inc., West Orange, N.J. Filed May 16, 1960.



The drawing is lined for red and blue, but these colors are not essential features of the mark.
For Permanent Marking Compound.
First use Oct. 8, 1959.

Class 17—Tobacco Products

SN 88,691. Sage Cigarettes, New York, N.Y. Filed Jan. 8, 1960.

SAGE

For Cigarettes.
First use Jan. 5, 1960.

SN 97,784. Rembrandt Tobacco Corporation (Overseas) Limited, Stellenbosch, Union of South Africa. Filed Dec. 14, 1960.

SILVERSTREAM

Owner of Union of South African Reg. No. 59/3107, dated Sept. 22, 1959.
For Cigarettes.

SN 98,965. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed June 14, 1960.

PHILLIES CHEROOT

Applicant claims no exclusive rights in "Cheroot" as the name of the goods identified herein. Owner of Reg. Nos. 301,341 and 545,999.
For Cigars.
First use Nov. 13, 1958.

Class 18—Medicines and Pharmaceutical Preparations

SN 105,773. This-Won-Products Company, Inc., Sullivans Island, S.C. Filed Oct. 4, 1960.

BANISH LINIMENT

The word "Liniment," being the name of the goods, is disclaimed.
For Liniment.
First use July 20, 1960.

SN 107,078. The Upjohn Company, Kalamazoo, Mich. Filed Oct. 24, 1960.

DEPO-PROVERA

Owner of Reg. Nos. 515,760 and 610,282.
For Medicinal Progestational Preparation.
First use Aug. 23, 1960.

SN 109,765. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Dec. 7, 1960.

FINOBERAL

Owner of German Reg. No. 690,618, dated May 12, 1956.
For Pharmaceutical Preparations for the Alleviation of Pains, Colds, and Spasms of All Forms.

SN 109,767. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Dec. 7, 1960.

MINSETAN

Owner of German Reg. No. 704,145, dated July 4, 1957.
For Heart and Circulatory Preparations.

SN 109,817. Smith, Miller & Patch, Inc., New York, N.Y. Filed Dec. 7, 1960.

LIPOFLAVONOID

For Lipotropic Flavonoid Preparation.
First use Nov. 17, 1960.

SN 110,302. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Dec. 16, 1960.

SENEZYME

For Nutritive Digestant Supplement.
First use Nov. 21, 1960.

SN 110,348. Merck & Co., Inc., Rahway, N.J. Filed Dec. 16, 1960.

HYDROZIDE

Owner of Reg. Nos. 636,358 and 665,948.
For Medicinal Compound for Use as a Diuretic and as an Agent in the Treatment of Hypertension.
First use Nov. 30, 1960.

SN 110,458. Nopco Chemical Company, Newark, N.J. Filed Dec. 19, 1960.

NOPGEL

Owner of Reg. Nos. 349,176, 652,308, and others.
For Stabilized Vitamin Products Employed in the Pharmaceutical and Food Industries.
First use May 6, 1960.

SN 110,460. Nopco Chemical Company, Newark, N.J. Filed Dec. 19, 1960.

CAPSTRESS

For Water Dispersible Vitamin Compositions Employed in Poultry Feeding.
First use July 29, 1960.

SN 110,500. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 19, 1960.

PROVERA

For Progestational Agent.
First use Apr. 2, 1958.

SN 110,567. Vitaminerals, Inc., Glendale, Calif. Filed Dec. 20, 1960.

NORMAGEST

For Digestive Preparation.
First use Dec. 8, 1960.

SN 110,633. Vitamin Council Incorporated, St. Paul, Minn. Filed Dec. 21, 1960.

CO-A-DEC

For Decongestant Analgesic Tablets.
First use Sept. 19, 1960.

SN 110,643. American Pharmaceutical Company, New York, N.Y. Filed Dec. 22, 1960.

ROMEX

For Cough and Cold Medicines in Capsule, Troche, Tablet and Liquid Form.
First use on or about June 1, 1960.

SN 110,644. American Pharmaceutical Company, New York, N.Y. Filed Dec. 22, 1960.

PERTINEX

For Preparation for the Treatment of Athlete's Foot in Cream or Other Form.
First use at least as early as Jan. 1, 1958.

SN 110,648. American Pharmaceutical Company, New York, N.Y. Filed Dec. 22, 1960.

APHCO

For Hemorrhoidal Suppositories.
First use at least as early as November 1941.

SN 110,787. Ralston Purina Company, St. Louis, Mo. Filed Dec. 23, 1960.

CHEK-R-FURAN

Owner of Reg. Nos. 256,658, 645,816, and others.
For Medicated Poultry and Animal Feed.
First use Nov. 16, 1960.

SN 110,960. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 28, 1960.

BON-DU

For Antiseptic Douche Preparation.
First use Nov. 29, 1938.

SN 110,961. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 28, 1960.

BROMO-FLORA

For Nerve Sedative.
First use December 1928.

SN 111,171. Dome Chemicals, Inc., New York, N.Y. Filed Jan. 3, 1961.

CARBO-DOME

Owner of Reg. Nos. 383,764, 674,493, and others.
For Preparation for the External Treatment of Skin Disorders.
First use on or before Aug. 30, 1960.

Class 19—Vehicles

SN 78,380. Silhouette Marine Ltd., New York, N.Y. Filed July 24, 1959.

SILHOUETTE

For Ships and Boats.
First use Feb. 4, 1959.

SN 95,360. Cambria Spring Company, Los Angeles, Calif. Filed Apr. 19, 1960.

TORSION-LOADER

For Auxiliary Springs for Torsion Bar Vehicle Spring Suspension Systems.
First use Apr. 6, 1960.

SN 97,935. Goodling Equipment Co., Inc., Meridian, Miss. Filed May 26, 1960.

SWAP BODY

No claim is made to the word "Body" as the name of the goods.
For Demountable Cargo Boxes for Vehicles.
First use Jan. 4, 1958.

SN 103,644. Herbert A. H. Behrens, Inc., New York, N.Y. Filed Aug. 30, 1960.

PINK LADY

For Bicycles.
First use Feb. 26, 1958.

SN 105,015. O-E, Inc., Houston, Tex. Filed Sept. 22, 1960.

O-E

For Brake Shoes for Use on Vehicles.
First use July 27, 1960.

SN 105,701. Herbert A. H. Behrens, Inc., New York, N.Y. Filed Aug. 30, 1960.

BLACK KNIGHT

For Bicycles.
First use July 20, 1956.

SN 106,738. Pacific Car and Foundry Company, Renton, Wash. Filed Oct. 19, 1960.

KENWORTH

Owner of Reg. No. 529,806.
For Motor Vehicles—Namely, Motor Trucks and Tractors, Motor Buses, Trolley Coaches, Single Axle and Dual Axle Semi-Trailers and Two and Three Axle Full Trailers for Use in Transporting Freight, Tank Trucks and Various Other On-Highway and Off-Highway Special Designs of Land Motor Vehicles Used in Sundry Fields Such, for Example, as Farming, Logging, and Oil Drilling.
First use in or about 1922.

SN 106,739. Pacific Car and Foundry Company, Renton, Wash. Filed Oct. 19, 1960.

KW

Owner of Reg. Nos. 606,954, 607,849, and 692,739.
For Motor Vehicles—Namely, Motor Trucks and Tractors, Motor Buses, Trolley Coaches, Single Axle and Dual Axle Semi-Trailers and Two and Three Axle Full Trailers for Use in Transporting Freight, Tank Trucks and Various Other On-Highway and Off-Highway Special Designs of Land Motor Vehicles Used in Sundry Fields Such, for Example, as Farming, Logging, and Oil Drilling.
First use in or about 1923.

SN 107,828. Checker Motors Corporation, Kalamazoo, Mich. Filed Nov. 4, 1960.

Marathon

For Automobiles.
First use Oct. 20, 1960.

SN 108,034. EDO Corporation, College Point, N.Y. Filed Nov. 8, 1960.

EDO

Owner of Reg. Nos. 226,219, 594,222, and others.
For Seaplane Floats.
First use May 9, 1928.

Class 20—Linoleum and Oiled Cloth

SN 98,294. Kentile, Inc., Brooklyn, N.Y. Filed June 2, 1960.

KENTILE

Antique Marble

Owner of Reg. Nos. 344,245, 686,522, and others.
For Vinyl Floor and Wall Tile.
First use May 9, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 88,890. Bel Fuse Inc., Jersey City, N.J. Filed Jan. 7, 1960.

SLO-BEL

For Fuses.
First use March 1954.

SN 93,022. Sterling Hi-Fidelity, Inc., Long Island City, N.Y. Filed Mar. 16, 1960.

PETITE

For Portable Radios.
First use July 16, 1958.

SN 93,880. Superior Staple Mfg. Co. Inc., Fitchburg, Mass. Filed Mar. 28, 1960.

Superior

For Insulated Staples.
First use June 14, 1955.

SN 94,673. Lake Shore Electric Corporation, Bedford, Ohio. Filed Apr. 8, 1960.

AUTOSTATIC

For Voltage Regulators for Electro-Dynamic Generating Machines.
First use June 24, 1957.

SN 95,140. Century Lighting, Inc., New York, N.Y. Filed Apr. 15, 1960.

C-CORE

For Silicon Controlled Rectifier Dimmer and Lighting Control Systems Including the Same.
First use August 1958.

SN 95,828. International Resistance Company, Philadelphia, Pa. Filed Apr. 26, 1960.

LAMOFLEX

For Insulated Electrical Wire Cables, Dielectric Plastic Laminates, Dielectric Plastic to Metal Laminates, and Etched Cables and Printed Circuits.
First use March 1960.

SN 96,405. The Filtron Company, Inc., Flushing, N.Y. Filed May 4, 1960.

ATTENU-DUCT

For Wave Guide Filters.
First use June 23, 1959.

SN 97,841. Tapeswitch Corporation of America, Cambria Heights, N.Y. Filed May 17, 1960.

CONTROFLEX

For Electric Switch Mats and Continuous Strip Switches.
First use Apr. 12, 1960.

SN 98,646. Fieldcrest Mills, Inc., Spray, N.C. Filed June 8, 1960.

AQUAMATIC

For Automatic Heated Blankets and Bed Covering.
First use Feb. 11, 1960.

SN 98,750. Thurow Electronics, Inc., Tampa, Fla. Filed June 9, 1960.



For Electrolytic Condensers, Tubular Condensers, Television Cathode Ray Tube Brighteners, Television Cathode Ray Tubes, Radio and TV Antennas, Auto and TV Antennas, Speakers, Transformers and Coils, Vibrators, and Rectifiers.
First use on or about May 15, 1950, on tubular condensers and vibrators.

SN 99,272. Appleton Electric Company, Chicago, Ill. Filed June 20, 1960.

ARC-LOC

For Explosionproof Electric Receptacles and Plugs.
First use June 8, 1960.

SN 99,514. The Grote Manufacturing Company, Madison, Ind. Filed June 22, 1960.



The words "Truk Line" are disclaimed apart from the mark as shown. Owner of Reg. No. 604,615.
For Directional Signals, Marker Lamps and Reflectors, Clearance Lamps and Reflectors, Stop-Lights, Tail-Lights, Warning Lamps for Automobiles, Trucks and Other Vehicles.
First use Dec. 15, 1950.

SN 100,306. Sel-Rex Corporation, Nutley, N.J. Filed July 5, 1960.

PLATANIUM ANODES

The term "Anodes" is disclaimed apart from the mark.
For Anodes for Use in Electrolytic Processes and Apparatuses.
First use Feb. 19, 1960.

SN 100,675. Wilmot Castle Company, Rochester, N.Y. Filed July 11, 1960.

ACUVISION

For Dental Light.
First use Feb. 2, 1960.

SN 100,930. Preservaline Manufacturing Company, Flemington, N.J. Filed July 15, 1960.

PRESCO LEKTRO-STUN

For Machine for Electrically Stunning Animals Prior to Slaughtering.
First use June 17, 1960.

SN 101,273. National Automotive Wholesalers Association, Atlanta, Ga. Filed July 21, 1960. COLLECTIVE MARK.

UDS

For Voltage Regulators.
First use May 6, 1960.

SN 101,390. Graybar Electric Company, Inc., New York, N.Y. Filed July 25, 1960.

REGULUS-1

For Power Groove Commercial Electric Lighting Fixture.
First use June 24, 1960.

SN 101,480. Dialaphone, San Mateo, Calif. Filed July 26, 1960.



For Automatic Telephone Dialers.
First use June 20, 1960.

SN 101,515. Striatron Electronics & Television Corporation, New York, N.Y. Filed July 26, 1960.

ALPHADYNE

For Electrical Symbol Generating Equipment.
First use on or about May 3, 1960.

SN 101,524. Union Carbide Corporation, New York, N.Y. Filed July 26, 1960.



For Electric Flashlights and Electric Lamps.
First use on or about Apr. 1, 1958, on electric lamps.

SN 101,732. The Art Metal Company, Cleveland, Ohio. Filed Aug. 1, 1960.

ROUNDALL

For Lighting Fixtures.
First use July 18, 1960.

SN 101,829. Walter Vallett Company, Detroit, Mich. Filed Aug. 1, 1960.

Hi Power

For Electric Hot Water Heaters.
First use July 1, 1960.

SN 102,562. Elton Johnson, d.b.a. Elton Electric Company, Sioux Falls, S. Dak. Filed Aug. 12, 1960.



Applicant disclaims the words "Electric Company" apart from the mark as shown. The drawing is lined for black, silver, and gold, but color is not claimed as a feature of the mark.
For Assembly of Mounting Masts for Television Antennas, Electrical Panels, and Arrangements and Wiring of Control Systems for Air Conditioning and Heating Equipment.
First use Jan. 3, 1956.

SN 103,381. AMP Incorporated, Harrisburg, Pa. Filed Aug. 25, 1960.



The mark is a fanciful display of the letters "AMP."
Owner of Reg. Nos. 405,714, 698,115, and others.
For Electrical Connectors.
First use July 15, 1960.

SN 104,588. Clairex Corporation, New York, N.Y. Filed Sept. 16, 1960.

CLAIREX
"THE light TOUCH IN AUTOMATION AND CONTROL"

Owner of Reg. No. 681,085.
For Photoelectric Devices—Namely, Photoelectric Cells, Components and Assemblies Thereof.
First use Mar. 2, 1960.

SN 104,714. General Radio Company, West Concord, Mass. Filed Sept. 19, 1960.

VARIAC

Owner of Reg. No. 311,091.
For Electric Motor Control Apparatus, Including Speed Controls for Series, Shunt and Compound Electric Motors, Embodying Adjustable Transformers, Rectifiers, Chokes, Switches, Braking and Other Resistors, and Lamps; Adjustable Autotransformers, Including Output Terminals for Connection to Electric Heaters, Ovens, Electric Lights and Lamps, Motors, Power Supplies, Rectifiers, Voltage-Aging Equipment for Lamps, Vacuum Tubes and Dry-Disk Rectifiers; Motor-Driven Autotransformers Including Motors of the Servo Type, Coupling Gears, Phase Shift and Other Capacitors, and Limit Switches; Voltage Regulators Including Automatic Voltage Regulators Embodying Adjustable Autotransformers and Servomechanism for Controlling the Setting Thereof; Multi-Phase Voltage Regulators, Including Single and Three-Phase Regulators; and Cabinets, Cases, Chassis, Electric Power Cords and Electric Lines, Dials, Control Knobs, Terminal Strips, Brushes and Connectors for the Above-Named Transformers, Regulators and Control Apparatus.
First use on or about Aug. 17, 1933.

SN 104,962. Triangle Conduit & Cable Co., Inc., New Brunswick, N.J. Filed Sept. 21, 1960.

THERMO-TRIEX

Owner of Reg. No. 514,842.
For Non-Metallic Sheathed Electric Cable.
First use July 1, 1960.

SN 105,508. Essex Wire Corporation, Fort Wayne, Ind. Filed Sept. 30, 1960.

ALL-X

For Electrical Wire and Insulation Therefor.
First use Sept. 16, 1960.

SN 105,509. Essex Wire Corporation, Fort Wayne, Ind. Filed Sept. 30, 1960.

ALLEX

For Electrical Wire and Insulation Therefor.
First use July 18, 1960.

SN 105,654. Motorola, Inc., Chicago, Ill. Filed Oct. 3, 1960.

CLASSROOM 21

For Television Receivers.
First use June 1958.

SN 105,655. Motorola, Inc., Chicago, Ill. Filed Oct. 3, 1960.

STAN-PAC

For Two-Way Radio Communications Transmitters and Receivers.
First use June 1956.

SN 105,657. Motorola, Inc., Chicago, Ill. Filed Oct. 3, 1960.

MOTOROLA

Owner of Reg. Nos. 275,837, 665,761, and others.
For Signal Generators; Earphones; Headsets; Digital Decoders; Digital Printers; Remote Alarm Indicating Systems; Remote Control Systems To Operate Garage Doors, Entrance Gates, Television Receivers, Etc.; Microwave Carrier Generating and Receiving Apparatus; Closed Circuit Television Systems Including Cameras and Transmitters, Control Equipment, Monitoring Equipment, Power Supply and Power Distribution Equipment, Video Transmission Line Apparatus and Receivers; Supervisory Control Equipment; Power Line Carrier Equipment; Voltage Regulators; Plated and Printed Circuit Boards or Panels; Traffic Light Control Equipment Including Programmers, Coders, Transmitters, Receivers and Decoders; Audio Frequency Amplifiers; Batteries; Semiconductor Material and Devices Including Transistors and Diodes; Crystal Oven Assemblies; and Phonograph Pick-Up Cartridges.
First use May 7, 1930.

SN 105,660. Motorola, Inc., Chicago, Ill. Filed Oct. 3, 1960.

HANDIE-TALKIE

Owner of Reg. Nos. 542,561 and 607,865.
For Radio Transmitters, Radio Receivers, and Wireless Paging Systems Including Personal Paging Receivers.
First use November 1942 on radio transmitters and radio receivers.

SN 105,667. Speer Carbon Company, St. Marys, Pa. Filed Oct. 3, 1960.

KOSTKUTTER

For Cutting Carbons.
First use Feb. 8, 1960.

SN 105,744. The Lelacheur Corporation, Boston, Mass. Filed Oct. 4, 1960.

INTRINSITROL

For Electrical Remote Control Device Designed for Providing the Intrinsically Safe Operation of General Purpose Type Switches in Explosive Atmospheres.
First use May 14, 1957.

SN 105,749. Marks Polarized Corporation, Whitestone, N.Y. Filed Oct. 4, 1960.

VADO

For Variable Density Light Controlling Apparatus.
First use Sept. 14, 1960.

SN 105,772. Maurice D. Teichner, d.b.a. Presin Company, Santa Monica, Calif. Filed Oct. 4, 1960.

OPTEL

For Photoelectric Relays, Photoelectric Amplifiers and Photoelectric Sensing and Control Devices.
First use July 7, 1960.

SN 106,106. Kay Electric Company, Pine Brook, N.J. Filed Oct. 10, 1960.

MEGA-SWITCH

Owner of Reg. Nos. 550,960 and 551,210.
For High Frequency Switches.
First use Sept. 30, 1960.

SN 107,198. International Rectifier Corporation, El Segundo, Calif. Filed Oct. 26, 1960.

QUAD-SEALED

For Silicon Rectifiers.
First use in June 1959.

SN 107,525. U.S. Electrical Motors, Inc., Los Angeles, Calif. Filed Oct. 31, 1960.

HYDRAMOUNT

For Electric Motors.
First use Sept. 23, 1960.

Class 22—Games, Toys, and Sporting Goods

SN 85,549. Margaret Ward Winfield, d.b.a. Margaret Ward, San Francisco, Calif. Filed Oct. 22, 1959.



The English translation of the words and characters forming a part of the trade-mark is as follows: The words "Gong Hee" mean in English "greeting," and the words "Fot Choy" mean in English "of riches" and the Chinese characters in the rectangular frame between the dragon representations are translated as "greetings of riches." The Chinese characters within the heart representation are translated as "long life." The Chinese character within the diamond representation are translated as "a nice family." The Chinese characters within the club representation are translated as "good luck." The Chinese characters within the spade representation are translated as "riches." The remaining Chinese characters are merely decorative and have no meaning.
For Equipment (or Apparatus) Sold as a Unit for Playing Card Fortune Telling Games.
First use Nov. 1, 1935.

SN 88,429. Roko, Inc., d.b.a. Columbia Toy Products, Kansas City, Mo. Filed Jan. 4, 1960.

"Peppy" Le Pooch

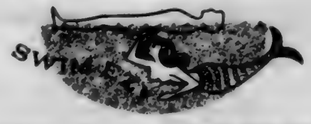
The words "Le Pooch" are disclaimed apart from the mark as shown.
For Stuffed Toy Dog.
First use April 1954.

SN 100,427. Claro Laboratories, South Bend, Ind. Filed July 7, 1960.



Owner of Reg. Nos. 433,402, 658,240, and 669,061.
For Skin Salve or Cream To Facilitate Gripping of Articles in the Hands of Sportsmen.
First use May 27, 1960.

SN 102,028. Heins W. Kirchner, d.b.a. Universe Company, Pasadena, Calif. Filed Aug. 4, 1960.



For Swimming Aids of the Inflatable-Belt Type.
First use June 21, 1960.

SN 102,029. Heins W. Kirchner, d.b.a. Universe Company, Pasadena, Calif. Filed Aug. 4, 1960.

SWIM-EZY

For Swimming Aids of the Inflatable-Belt Type.
First use May 28, 1960.

SN 102,615. Brunswick Corporation, Chicago, Ill. Filed Aug. 15, 1960.

CROWN JEWEL

For Bowling Balls.
First use June 17, 1960.

SN 103,427. Albin Enterprises, Inc., d.b.a. Jack Built Toy Manufacturing Co., Burbank, Calif. Filed Aug. 26, 1960.



No claim of exclusive right is made to "Train" as used on toy trains. The drawing is lined for red, yellow, and green, but color is not claimed as a feature of the mark.
For Toy Trains.
First use May 18, 1960.

SN 104,161. Northland Ski Manufacturing Co., St. Paul, Minn. Filed Sept. 9, 1960.

VIKING

For Skis and Binding Therefor, Ski Poles, Snow Shoes and Harnesses Therefor and Hockey Sticks.
First use August 1919 on skis.

SN 104,735. The Linen Thread Co., Inc., Blue Mountain, Ala. Filed Sept. 19, 1960.

TANGLEFIN

Owner of Reg. No. 209,258.
For Nylon Gill Netting for Fishing.
First use 1911.

SN 105,174. Joseph Kowalski, Elyria, Ohio. Filed Sept. 26, 1960.

FORCHEX

For Equipment Sold as a Unit for Playing a Checker Type Board Game.
First use Jan. 28, 1956.

SN 105,653. Monogram Models, Inc., Chicago, Ill. Filed Oct. 3, 1960.

GREEN HORNET

For Toy Plastic Hobby Kit for Assembling Model Automobiles.
First use Apr. 18, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 76,955. The Bowlathe Company, Westwood, Mass. Filed July 2, 1959.

BOWLATHE

For Lathes.
First use Dec. 6, 1956.

SN 78,752. Advanced Enterprises, Inc., Alameda, Calif. Filed July 31, 1959.

"TRAIL-R-LIFT"

For Vehicle Jacks, and Particularly for Such Equipment Adapted for Use With Trailing Vehicles.
First use May 15, 1959.

SN 82,135. John L. Nolden, d.b.a. Sav-T-Engineering Co., Inglewood, Calif. Filed Sept. 25, 1959.



For Pneumatic Jacks.
First use Sept. 10, 1958.

SN 86,353. Union Tank Car Company, Chicago, Ill., assignee of Smith & Loveless, Inc., Lenexa, Kans. Filed Nov. 30, 1959.

"UNIJECT"

For Sewage Treatment and Pumping Equipment and Parts Thereof.
First use Apr. 21, 1959.

SN 86,863. Athey Products Corporation, Chicago, Ill. Filed Dec. 8, 1959.

TRACTIONAIDER

For Weight Transfer Mechanism for Tractor-Trailer Load-Hauling Equipment.
First use in November 1958.

SN 95,676. The Barden Corporation, Danbury, Conn. Filed Apr. 25, 1960.

BARTEMP

For Ball Bearings.
First use Apr. 4, 1960.

SN 95,805. Hankison Corporation, Canonsburg, Pa. Filed Apr. 27, 1960.

REFRIGIFILTER

For Gas Cleaning and Drying Unit for Compressed Air or the Like.
First use on or about Nov. 19, 1959.

SN 96,996. Friedrich Stubbe, d.b.a. Albert Stubbe, Vlotho (Weser), Germany. Filed May 12, 1960.

SERPENTIX

For Conveyors, as for Instance Belt Conveyors, Chain Creepers, and Chain Conveyors, Elevators, and Parts Thereof.
First use Oct. 4, 1957; in commerce Aug. 5, 1958.

SN 97,490. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed May 19, 1960.

OLD TIMER

For Pocket Knives.
First use December 1958.

SN 98,281. Hamilton & Kiger, Memphis, Tenn. Filed June 2, 1960.

HYKE

For Ampul Filling and Sealing Machine.
First use Apr. 29, 1960.

SN 98,603. George W. Tenny, Jr., d.b.a. Tenny's Farm Supply, Scottsville, N.Y. Filed June 7, 1960.



The drawing is lined to indicate the color gold, but no claim is made to such color.
For Electrically Powered Air Compressors.
First use at least as early as Feb. 4, 1959.

SN 101,718. Woodland Transit Concrete, Woodland, Calif. Filed July 29, 1960.

FLEX-O-CHUTE

For Delivery Chutes for Attachment to Concrete Mixers.
First use May 20, 1960.

SN 101,832. The Vendo Company, Kansas City, Mo. Filed Aug. 1, 1960.



The drawing is lined for the colors red and blue. Owner of Reg. Nos. 406,001 and 618,988.
For Vending Machines and Parts Thereof.
First use June 1, 1960.

SN 101,836. Zoller-Kipper GmbH, Laubenheim (Rhine), Germany. Filed Aug. 1, 1960.

ZOLLER-KIPPER

Owner of German Reg. No. 610,234, dated Aug. 7, 1951.
For Tipping and Lifting Mechanisms—Namely, Pneumatic and Hydraulic Hoists for the Cargo-Carrying Bodies of Vehicles, and for Vehicle Work Attachments Such as Rakes, Brushes, Snowplows and the Like.

SN 101,937. Everlast Fuel Pump Corp., Corona, N.Y. Filed Aug. 3, 1960.



No claim is made to the descriptive representation of the goods and the words "Adjustable Pressure" apart from the mark as shown.
For Fuel Pumps for Automotive Internal Combustion Engines.
First use July 14, 1960.

SN 103,396. Cycledynamics Incorporated, Detroit, Mich. Filed Aug. 25, 1960.

CYCLEHUB

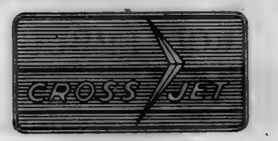
Owner of Reg. Nos. 661,020 and 685,103.
For Power Drive and Machine Control Devices.
First use July 23, 1959.

SN 103,416. S & S Machinery Co., Brooklyn, N.Y. Filed Aug. 25, 1960.

ELGIN

For Machine Tools—Namely, Universal Tool and Cutter Grinder, Centerless Grinder, Plain and Universal Cylindrical and Surface Grinders.
First use July 1956.

SN 103,758. The Bahnson Company, Winston-Salem, N.C. Filed Sept. 1, 1960.



The drawing is lined for blue.
For Industrial Type Traveling Blowers for Cleaning Of Textile Machinery and Overhead Surfaces.
First use Aug. 15, 1955.

SN 103,807. The Raymond Corporation, Greene, N.Y. Filed Sept. 1, 1960.

PAL-JAC

For Material Handling Apparatus—Namely, Hydraulic, Hand-Operated Pallet Lift Trucks.
First use June 28, 1960.

SN 104,400. Benjamin J. Parmele, Wilmington, N.C. Filed Sept. 13, 1960.

CYCLOMITRON

For Rotary Disk Pulveriser for Pulverizing Minerals and the Like Hard Materials.
First use Sept. 2, 1960.

SN 105,512. Gast Manufacturing Corporation, Benton Harbor, Mich. Filed Sept. 30, 1960.

GAST

For Air and Gas Transporting, Compressing, and Evacuating Equipment and Accessories; Lubricating Systems, Filters, Oil Traps, Pulleys, Drive Couplings, Mufflers, and Valves.
First use December 1926.

SN 105,048. Lamb-Grays Harbor Co., Inc., Hoquiam, Wash. Filed Oct. 3, 1960.

LAMB

Owner of Reg. Nos. 536,062 and 654,758.
For Machinery and Equipment Used in Paper Mills and in Paper Converting Industry, for Processing, Producing and Handling Pulp and Paper Bales, Rolls and Sheets.
First use June 30, 1937.

SN 105,801. Dresser Industries, Inc., Dallas, Tex. Filed Oct. 5, 1960.

HOLTITE

For Oil Well Bridging Plugs.
First use on or about Feb. 5, 1958.

SN 105,899. The Frank G. Hough Co., Libertyville, Ill. Filed Oct. 6, 1960.

PAYDOZER

Owner of Reg. Nos. 627,770, 627,771, and others.
For Tractors and Tractor Carrying Implements Such as Scraper and Pusher Blades and Parts Therefor.
First use on or before Aug. 3, 1960.

SN 105,971. Gardner-Denver Company, Quincy, Ill. Filed Oct. 7, 1960.

TRULINE

For Power Operated Drill Unit.
First use Aug. 8, 1960.

SN 105,973. Goldblatt Tool Company, Kansas City, Mo. Filed Oct. 7, 1960.

ROLLERBUG

Owner of Reg. No. 683,999.
For Concrete Finishing Machines.
First use Aug. 29, 1960.

Class 26—Measuring and Scientific Appliances

SN 45,037. Eugene Dietzgen Co., Chicago, Ill. Filed Jan. 31, 1958.

MICRO-FAX

For Light Sensitive Film and Paper, Cameras, Enlargers, Printers, Readers, Developers, Projectors and Film Processing Apparatus, and Parts for Such Apparatus.
First use on or about Nov. 27, 1957.

SN 56,779. Pyrometer Company of America, Inc., Penndel, Pa., assignee of Arnold Malkan, Penndel, Pa. Filed Aug. 7, 1958.

PYRODURE

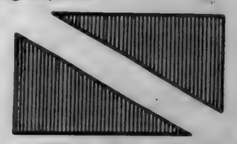
For Tubes or Casings To Protect Pyrometric Instruments.
First use May 21, 1958.

SN 56,781. Pyrometer Company of America, Inc., Penndel, Pa., assignee of Arnold Malkan, Penndel, Pa. Filed Aug. 7, 1958.

FERRODURE

For Tubes or Casings To Protect Pyrometric Instruments.
First use May 21, 1958.

SN 57,720. Seacraft Industries Incorporated, Wilmington, Mass. Filed Aug. 22, 1958.



The trademark consists of a rectangular field having a white stripe running obliquely from the upper left-hand corner to the lower right-hand corner with red triangular portions at each side of the white stripe and within the rectangular field.
For Underwater and Skindiving Equipment, Parts and Accessories—Namely, Supporting Harnesses and Supporting Back Boards for Air Tanks; Regulator Valves and Parts and Actuators Therefor; Weights and Belts Therefor; Skindiving Exposure Suits, Helmets, Socks and Gloves; and Camera Cases.
First use Dec. 16, 1957.

SN 58,595. Leonard W. Tall, d.b.a. Tall's Camera Supply, Seattle, Wash. Filed Sept. 8, 1958.

VARICON

For Photographic Apparatus Comprising Cameras and Photographic Accessories Such as Lenses, Camera Cases, Gadget Bags, Photographic Timers, Cable Releases, and Enlargers.
First use Sept. 2, 1958.

SN 74,346. Technical Operations, Incorporated, Burlington, Mass. Filed May 22, 1959.

techlops

Owner of Reg. No. 677,302.
For Radiography Apparatus, Components and Accessories—Namely, Carriers, Containers, Exchangers, Tubes and Control Cables and Boxes for Handling Radioactive Source Material, Panoramic and Directional Projectors, Encapsulated Radioactive Material, Radiation Survey Meters, Film Badges, Dosimeters, and Exposure Calculators, and Electronic Equipment—Namely, Tank Mine Simulators.
First use on or about Apr. 26, 1957.

SN 75,805. Twin City Testing Corp., Tonawanda, N.Y., assignee of Twin City Testing Company, Tonawanda, N.Y. Filed June 15, 1959.

CYCLOSCOPE

For Electronic Tachometer.
First use Feb. 18, 1959.

SN 75,806. Twin City Testing Corp., Tonawanda, N.Y., assignee of Twin City Testing Company, Tonawanda, N.Y. Filed June 15, 1959.

PERMASCOPE

For Electronic Thickness Tester Device.
First use Aug. 1, 1958.

SN 76,150. Beckman Instruments, Inc., Fullerton, Calif. Filed June 22, 1959.

BECKMAN

Owner of Reg. Nos. 614,387 and 618,592.
For Expanded Scale Voltmeters, Digital Voltmeters, Apparatus Utilizing Titration as an Analyzing or Control Operation, Linear Scale Ammeters and Voltmeters, Gas Chromatograph Apparatus and Parts Thereof, Gas Sampling Attachments for Chromatographic Apparatus, Frequency Meters and Measuring Apparatus, pH Meters, Digital Computers, Events per Unit Time Meters, Time Interval Meters, Tachometers, Random Pulse Counters, Electric Pulse Rate Generators, Electronic Counters, Turns Counting Dials, Data Processing Systems, Data Reduction Systems, Data Recording Systems, Computer Control Systems, Centrifuge Apparatus, Electrophoresis Apparatus, Combined Electrophoresis-Diffusion Apparatus, Medical Gas Analyzers and Monitors, Ultramicro Laboratory and Analytical Equipment, Amino Acid Chromatographs, Electrolytic Hygrometers, Leak Detectors, Infra Red Analyzers.
First use October 1935.

SN 76,591. Penn Controls, Inc., Goshen, Ind. Filed June 26, 1959.

CLIKDIAL

For Thermostats for Controlling Heating and Air Conditioning Apparatus.
First use June 15, 1959.

SN 76,592. Penn Controls, Inc., Goshen, Ind. Filed June 26, 1959.

CLIK-O-MATIC

For Thermostats for Controlling Heating and Air Conditioning Apparatus.
First use June 16, 1959.

SN 79,457. Beckman Instruments, Inc., Fullerton, Calif. Filed Aug. 13, 1959.

FITGO

For Electronic Amplifiers and Preamplifiers for Measuring Low-Level Signals.
First use June 1958.

SN 87,848. Fred H. Bitner, Scottsdale, Ariz. Filed Dec. 23, 1959.

Bitner's

For Lapidary Templates.
First use Aug. 19, 1948.

SN 88,398. Jason Optics Co., Inc., New York, N.Y. Filed Jan. 4, 1960.



For Eye Glasses, Spectacles, and Binoculars.
First use Jan. 2, 1958.

SN 89,677. Hamner Electronics Company, Inc., Princeton, N.J. Filed Jan. 26, 1960.

MINI-FLEX

For Electrical, Electronic, and Electromechanical Equipment for Nuclear and Medical Instrumentation of Flexible Design Having One of More Possible Functions of Indicating, Printing, Registering, Computing, Calculating, Perforating, Analyzing, Accounting, Scanning, and Data Classifying and Storing, and Parts and Components Which Are or May Be Usable in Said Equipment.
First use Feb. 7, 1958.

SN 90,242. Fluid & Electro Devices Corp., Long Island City, N.Y. Filed Feb. 3, 1960.

FEDCO

For Hydraulic, Pneumatic, Mechanical, Electro-Mechanical and Electronic Test Equipment, Control Components and Power Transmission Devices—Namely, Pumps, Motors, Valves, Control Systems and Servos, for Industrial and Military Use.
First use Jan. 21, 1960.

SN 90,256. Kono Manufacturing Co. Inc., Woodside, N.Y. Filed Feb. 3, 1960.



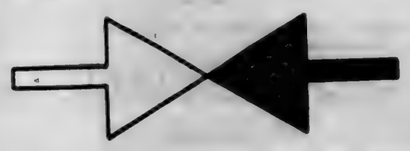
For Eyeglass and Spectacle Frames and Parts Therefor.
First use on or about Jan. 15, 1960.

SN 91,097. Low X-Ray Corporation, New York, N.Y. Filed Feb. 17, 1960.

UNIPAC

For X-Ray Film.
First use Jan. 20, 1960.

SN 91,158. Hills-McCanna Company, Chicago, Ill. Filed Feb. 18, 1960.



For Metering Pumps Used Primarily in the Chemical Industries.
First use in March 1959.

SN 92,603. Durst S.A., Bolsano, Bolsano, Italy. Filed Mar. 11, 1960.

Durst

Owner of U.S. Reg. No. 621,244.
For Photographic Enlargers, Copying Cameras and Lenses for Optical Instruments and Photographic Apparatus.
First use July 12, 1954; in commerce July 12, 1954.

SN 92,641. Protype, Inc., New York, N.Y. Filed Mar. 11, 1960.



For Photographic Fonts and Phototypographic Equipment and Supplies Such as Photographic Paper.
First use Nov. 3, 1959.

SN 93,558. Shigeru Ohmatsu, Meguro-ku, Tokyo, Japan. Filed Mar. 23, 1960.

LEADER
リーダー

The Japanese characters on the drawing mean the word "Leader." Owner of Japanese Reg. No. 511,466, dated Dec. 20, 1957.
For Signal Generators, Oscillators, Frequency Meters, Oscilloscopes, Vacuum Tube Voltmeters, Capacitor Checkers, Inductance Checkers, Tube Testers, and Circuit Testers.

SN 97,141. Tektronix, Inc., Portland, Oreg. Filed May 13, 1960.

ROTAN

For Apparatus for Converting Angular Motions to Electrical Signals and for Analyzing Said Electrical Signals, Electrical and Mechanical Connectors Therefor, and Components and Parts Thereof.
First use Mar. 1, 1958.

SN 96,002. Hygrodynamics, Inc., Silver Spring, Md. Filed May 27, 1960.

HYGRODYNAMICS

For Humidity Measuring and Control Apparatus.
First use Apr. 1, 1960.

SN 98,192. American Gage & Machine Company, Chicago, Ill. Filed June 1, 1960.

HANDI-START

For Auxiliary Ignition and Starter Switches for Automotive Testing.
First use on or about May 13, 1960.

SN 99,726. Drapery Devices Co. Inc., Hialeah, Fla. Filed June 27, 1960.

MEAS-R-SURE

For Multiple Drapery Measuring Machines.
First use Sept. 5, 1958.

SN 100,051. Robertshaw-Fulton Controls Company, Richmond, Va. Filed June 30, 1960.

FORMFLEX

For Convoluted Expansible and Collapsible Metal Vessels for Use in Apparatus and Instruments for Controlling, Measuring and Recording Temperature, Pressure, Flow and Fluid Level.
First use May 26, 1960.

SN 100,073. Subminiature Instruments Corporation, Riverside, Calif. Filed June 30, 1960.

TURNQUATE

For Potentiometers for General Utilization and More Particularly in Precision Applications.
First use Mar. 15, 1960.

SN 102,925. Incar, Inc., Cleveland, Ohio. Filed Aug. 18, 1960.

incar

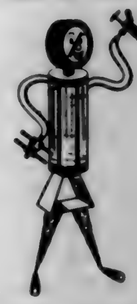
The drawing is lined for gold, silver, and black.
For Plating Test Equipment—Namely, Rectifiers, Agitators, Electroplating Cells, Nickel Plating Cells, Cadmium Plating Cells, and Zippit Strip Guns, and Accessories Therefor.
First use May 18, 1960.

SN 104,407. Watson Electronics and Engineering Company, Inc., Arlington, Va. Filed Sept. 13, 1960.

FLOUR-O-DODGE

For Photographic Contact Printers.
First use in February 1958.

SN 105,101. Robinair Manufacturing Corporation, Montpelier, Ohio. Filed Sept. 23, 1960.



No claim is made to the representation of the various articles of manufacture shown apart from their composite form.
For Measuring and Scientific Appliances for Servicing Refrigerating Units—Namely, Gas Metering Discharge Cylinders, Including Dials, Gauges, Cases Therefor and Wheeled Supports Therefor; Test Lamps; and Test Cords.
First use on or about Feb. 15, 1960.

SN 105,302. Pfaudler Permutit Inc., Rochester, N.Y. Filed Sept. 27, 1960.

PFAUDLERTRON

Owner of Reg. Nos. 202,381 and 432,268.
For Testers for Determining the Continuity of Coatings and Linings.
First use June 13, 1958.

SN 105,500. Curtis-Young Corporation, New York, N.Y. Filed Sept. 30, 1960.

tru-fax

For Photocopying Machines.
First use July 5, 1960.

SN 105,622. Freeland Gauge Company, Detroit, Mich. Filed Oct. 3, 1960.

FREELAND

For Gauge Blocks, Plug Gauges, Air Gauges, Dimension Measuring Instruments and Accessories Therefor.
First use July 1, 1952.

SN 105,671. Robertshaw-Fulton Controls Company, Richmond, Va. Filed Oct. 3, 1960.

SPEED SET

For Thermostatic Controls and Regulators Including Adjustable Components for Varying Inputs to Fuel Burners To Provide Variable Recovery Rates in Water Heaters and the Like.
First use Sept. 9, 1960.

SN 105,705. Auto-Ponents, Inc., Bellwood, Ill. Filed Sept. 20, 1960.



For Valves, Time Delay Switches, Control Panels, and Miscellaneous Parts, for the Installation of Automatic and Semi-Automatic Control Systems for Machinery and Machine Tools.
First use on or about Apr. 19, 1960.

SN 105,727. De Vlieg Machine Company, Royal Oak, Mich. Filed Oct. 4, 1960.

TAPAC

For Measuring and Positioning Control Apparatus for Machine Tools.
First use June 13, 1960.

SN 105,751. Minnesota Instrument Co., Minneapolis, Minn. Filed Oct. 4, 1960.

MINSCO

For Electrical Measuring Instruments—Namely, Balances.
First use June 1, 1960.

SN 106,805. Flo-Tronics, Inc., Minneapolis, Minn. Filed Oct. 21, 1960.

FLO-TRONICS

For Conveying, Controlling, Measuring, and Detecting Systems and Apparatus—Namely, Devices To Detect and/or Control the Level of Material in a Container; Valves for Entraining Discrete Solid Particles in an Air Stream; and Valves To Divert Flow in a Plurality of Pneumatic Lines.
First use May 23, 1960.

SN 107,151. Rotron Controls Corporation, Woodstock, N.Y. Filed Oct. 25, 1960.

WHIRL-PULSE

For Readout Devices Associated With Flowmeters and Parts Thereof.
First use on or about Sept. 16, 1960.

SN 107,198. The House of Vision, Inc., Chicago, Ill. Filed Oct. 26, 1960.

BONOCLE

For Eyeglass Frames.
First use Sept. 20, 1960.

SN 107,242. Edwin Busch, d.b.a. Busch Film and Equipment Company, Saginaw, Mich. Filed Oct. 27, 1960.

CINE-EDUCATOR

For Self-Contained Motion Picture Projection and Screen Apparatus.
First use Aug. 4, 1960.

SN 107,337. Harbil Manufacturing Co., Wheeling, Ill. Filed Oct. 28, 1960.

HARBIL

For Color Dispenser for Metering Precise Quantities of Pigment in Custom Blending of Paints.
First use Oct. 3, 1960.

SN 107,353. Magna Products, Incorporated, Santa Fe Springs, Calif. Filed Oct. 28, 1960.

CREST

For Electrical Instruments for Measuring the Progress of Corrosion on Tested Articles, Parts Thereof, and Accessories Therefor—Namely, Probing Instruments, Meters, Corrosion Flasher Alarms, and Sensitized Film for Indicating Corrosion.
First use May 1959.

SN 107,355. Magna Products, Incorporated, Santa Fe Springs, Calif. Filed Oct. 28, 1960.

MAGNAFILM

For Corrosion Indicators.
First use February 1960.

SN 107,388. Thompson Ramo Wooldridge Inc., Cleveland, Ohio. Filed Oct. 28, 1960.

DAGE

For Electronic Equipment—Namely, Television Cameras, Television Monitors and Controls, Television Switching and Remote Control Systems, Television Recorders; Automatic Machine Tool Control Systems.
First use Nov. 29, 1952.

SN 107,604. Tenso-Lab, Inc., Irvington-on-Hudson, N.Y. Filed Nov. 1, 1960.

CLINAC

For Clinical and Laboratory Glassware, Particularly Pipetting Devices and Pipettes (as Serological Pipettes, Mohr's Pipettes, Sahli Pipettes, and Blood Cell Counting Pipettes), and Glass Microscope Slides.
First use September 1954.

SN 108,040. The William Getz Corporation, Chicago, Ill. Filed Nov. 8, 1960.

INSTAFILM

For X-Ray Film.
First use on or about Oct. 26, 1960.

SN 108,058. Mansfield Industries, Inc., Chicago, Ill. Filed Nov. 8, 1960.



For Photographic Equipment for Amateur Use—Namely, Cameras, Projectors, Viewers, Editors, Splicers, Rewinds, Reels and Cans, Slide Files, Slide Mounts and Light Bars.
First use at least as early as 1949.

SN 108,136. Photo-Plastics, Inc., Richmond Hill, N.Y. Filed Nov. 9, 1960.

PRINT-TOTER

For Device for Holding a Photographic Print While a Chemical Coating Is Being Applied Thereto and for Storing It While Drying and After It Has Dried.
First use April 1960.

SN 108,298. Edcliff Instruments, Monrovia, Calif. Filed Nov. 14, 1960.

DE CEDUCER

For Measuring and Scientific Appliances—Namely, Pressure Transducers.
First use Sept. 9, 1959.

SN 108,319. Griswold Aeronautical Corporation, Groton, Conn. Filed Nov. 14, 1960.

LATERALIZER

For Automatic Stability Augmentation Devices for Aircraft.
First use July 1, 1958.

Class 27 — Horological Instruments

SN 100,920. Donald H. McNeill, Herrin, Ill. Filed July 15, 1960.

Da Mark'

For Watches.
First use Oct. 24, 1959.

SN 104,061. Baume & Mercier Societe Anonyme, Geneva, Switzerland. Filed Sept. 6, 1960.



Owner of Swiss Reg. No. 173,937, dated Jan. 11, 1960.
For Horological Products—Namely, Watches, Watch Movements, Watch Cases, Dials of Watches and Parts of Watches.

Class 28 — Jewelry and Precious-Metal Ware

SN 101,827. Manco Watch Strap Co., Inc., Jersey City, N.J., assignee of Topps Products Corporation, Jersey City, N.J. Filed Aug. 1, 1960.

TOPPS STAR-LINE

Owner of Reg. Nos. 380,817, 635,546, and others.
For Watch Bands Made of Silver, Gold, Gold Filled, Brass, Stainless Steel, Chrome, Nickel, Nickel-Silver, Leather, Fabric, Wood, Nylon, Plastic.
First use July 15, 1955.

Class 29 — Brooms, Brushes, and Dusters

SN 100,630. O-Cedar of Canada Limited, Stratford, Ontario, Canada. Filed July 11, 1960.

ZOOM-A-LON

Owner of Canadian Reg. No. 119,009, dated July 29, 1960.
For Dust Mops.

SN 101,600. Blackburn Products Company, Inc., Nashville, Tenn. Filed July 28, 1960.

MIGHTY MOP

No claim is made to the word "Mop" apart from the mark as shown, applicant reserving all of its rights at common law.
For Mops, Mop Clamps and Mop Heads.
First use June 21, 1960.

SN 103,069. The Wooster Brush Company, Wooster, Ohio. Filed Aug. 19, 1960.

MAGIKAGE

For Paint Roller Frames.
First use Sept. 28, 1959.

Class 30 — Crockery, Earthenware, and Porcelain

SN 86,602. Shenango China, Inc., New Castle, Pa. Filed Dec. 3, 1959.

MONACO

For Chinaware—Namely, Dinnerware.
First use Oct. 26, 1959.

Class 31 — Filters and Refrigerators

SN 100,842. Frimatic, Campe & Cie., Société à Responsabilité Limitée, Paris, France. Filed July 14, 1960.

FRIMACOLOR

Priority claimed under Sec. 44(d) on French Reg. No. 487,254, dated Apr. 1, 1960 (Seine); Natl. Inst. No. 142,116.
Owner of U.S. Reg. No. 700,519.
For Refrigerators and Refrigerating Apparatus.

SN 106,271. The F. E. Myers & Bro. Company, Ashland, Ohio. Filed Oct. 12, 1960.

Myers

Owner of Reg. Nos. 527,640, 614,761, and 623,001.
For Water Conditioning Equipment, Including Water Softener Units, Neutralising Units, Taste and Odor Removal Units, and Valves for Manual, Semi-Automatic and Fully Automatic Zeolite Regeneration; Parts for All the Foregoing Items.
First use Nov. 1, 1959.

Class 32 — Furniture and Upholstery

SN 94,575. Estey Corporation, Red Bank, N.J. Filed Apr. 7, 1960.

ESTEY

For Library Shelving, Book Trucks, Magazine Display Racks, Bookcases, Metal and Plastic Book Supports, Open Shelf Files, Study Carrels.
First use Mar. 1, 1957.

SN 100,294. Rol-Fol Table, Inc., Los Angeles, Calif. Filed July 5, 1960.

TWO-FOL

Owner of Reg. No. 586,686.
For Folding Table and Bench Sets for Multi-Purpose Rooms and Cafeterias.
First use Dec. 28, 1959.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 95,138. Boostair Corporation, Washington, D.C. Filed Apr. 15, 1960.

BOOSTAIR

For Thermostatically Controlled Fan and Attached Register.
First use Jan. 28, 1960.

SN 95,324. Silence, Inc., Farmingdale, N.Y. Filed Apr. 18, 1960.

SILENTFLOW

For Duct Silencers for Air Conditioning Systems.
First use May 5, 1959.

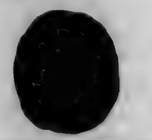
SN 103,393. Vito A. Cianciulli, Norristown, Pa. Filed Aug. 25, 1960.

NORSCO

For Oil Boilers, Steam Boilers and Hot Water Boilers.
First use June 21, 1948.

Class 35 — Bolting, Hose, Machinery Packing, and Nonmetallic Tires

SN 97,596. Westinghouse Air Brake Company, Wilmerding, Pa. Filed May 20, 1960.



The trademark consists of a round white blot, about one-eighth inch in diameter as shown on the drawing, and is used by impressing it in white on goods that form a dark background.
For Gaskets, Compression Rings and O Rings or Grommets.
First use Dec. 1, 1954, on O rings.

SN 101,784. Internationale Rubber Producten, N.V., Vlaardingen, Netherlands. Filed Aug. 1, 1960.

METAFLEX

For Tire Patch.
First use Sept. 5, 1958; in commerce Sept. 5, 1958.

Class 36 — Musical Instruments and Supplies

SN 65,648. Electro Music, Pasadena, Calif. Filed Jan. 12, 1959.

"PIPE VOICE OF THE ELECTRIC ORGAN"

For Electronic Organ Speakers.
First use Dec. 23, 1940.

SN 84,016. Alexander Apfelbaum, New York, N.Y., assignee of Hugo Rauner, Gross Gerau, Germany. Filed Oct. 26, 1959.

Hugo Rauner's

The mark consists of "Hugo Rauner's," which is the signature (possessive case) of Hugo Rauner, whose consent is of record.
For Musical Instruments—Namely, Harmonicas and Harmoniums.
First use 1929; in commerce 1929.

SN 101,629. Harry James Jenkins, d.b.a. Grand Staff Records, Pacoima, Calif. Filed July 28, 1960.

Grand Staff

For Grooved Phonograph Records, and Magnetic Tapes of Pre-Recorded Type.
First use June 17, 1960.

SN 103,963. Roberts Electronics, Inc., Los Angeles, Calif. Filed Sept. 6, 1960.

Roberts

For Tape Recorders, Tape Decks, and Accessories Therefor.
First use July 20, 1960.

SN 106,701. Dictaphone Corporation, Bridgeport, Conn. Filed Oct. 19, 1960.

DICTALAB

For Electrically Operated Recording and Reproducing Machines for Teaching and Instruction and Apparatus and Supplies Therefor.
First use on or before Sept. 16, 1960.

Class 37 — Paper and Stationery

SN 50,337. Banco Corporation, Ltd., San Francisco, Calif. Filed Apr. 25, 1958.

GUARDIAN

Owner of Reg. No. 243,669.
For Safety Paper.
First use on or about May 1, 1926.

SN 61,613. Blaisdell Pencil Company, Bethayres, Pa. Filed Oct. 30, 1958.

STED-D-POINT

For Paper Sheathed Pencils With the Rod or Core Firmly Anchored to the Pencil Casing.
First use in September 1956.

SN 61,614. Blaisdell Pencil Company, Bethayres, Pa. Filed Oct. 30, 1958.

SPEE-D-POINT

For Paper Sheathed Pencils Which May Be Sharpened by a Quick Pull on the Exposed Sheath Strip.
First use in September 1956.

SN 64,446. P. L. Andrews Corporation, Hicksville, N.Y. Filed Dec. 17, 1958.

NASSAU CLASP

Applicant disclaims exclusive right to the use of the word "Clasp."
For Envelopes.
First use May 1, 1958.

SN 88,401. The Kelly Printing Company, Inc., Seattle, Wash. Filed Jan. 4, 1960.

BASE-LINE

For Masking Sheets for Multilithograph or Photolithograph Printing.
First use January 1949.

SN 95,854. F. Schumacher & Co., New York, N.Y. Filed Apr. 26, 1960.

SCHUMACHER

For Wallpaper.
First use in 1939.

SN 100,664. United States Envelope Company, Springfield, Mass. Filed July 11, 1960.

Linweave Glengary

Owner of Reg. No. 154,170.
For Unprinted Announcement Cards, Folders, and Envelopes.
First use on or about Sept. 18, 1959.

SN 101,172. Hammermill Paper Company, Erie, Pa. Filed July 20, 1960.

HAMMERMILL FORE

Owner of Reg. Nos. 137,793 and 686,654.
For Paper for Writing, Printing, Duplicating, and Office Use.
First use Jan. 20, 1960.

SN 104,194. Science Research Associates, Inc., Chicago, Ill. Filed Sept. 9, 1960.

PRESSCORE

For Forms for Reporting Test Scores of Individuals to Whom Tests Are Administered.
First use Oct. 16, 1959.

Class 38 — Prints and Publications

SN 103,218. Sports Spotlight, Inc., Nashville, Tenn. Filed Aug. 22, 1960.



For Weekly Sports Publication.
First use June 11, 1960.

Class 39 — Clothing

SN 71,685. Palm Beach Company, Portland, Maine. Filed Apr. 16, 1959.

IRISHEEN

For Men's and Boys' Clothing Consisting of Coats and Trousers, Slacks, Sportcoats, Outercoats and Topcoats.
First use Dec. 29, 1958.

SN 72,116. Duofold Inc., Mohawk, N.Y. Filed Apr. 23, 1959.

SPORTS JOHNS

For Long Underwear.
First use Mar. 4, 1959.

SN 73,493. The Joseph & Feiss Company, Cleveland, Ohio. Filed May 12, 1959.

SHIRTWEIGHTS

For Men's and Boys' Wash and Wear Sportcoats.
First use Jan. 15, 1959.

SN 79,508. Overseas Shipments, Inc., New York, N.Y. Filed Aug. 13, 1959.

MERCANTIZED WING 'N' AIR

For Men's and Boys' Shoes.
First use June 16, 1959.

SN 82,073. Becton Dickinson and Company, Rutherford, N.J. Filed Sept. 25, 1959.

B-D

Owner of Reg. Nos. 120,240, 442,281, and 507,883.
For Rubber and Latex Industrial and Household Gloves.
First use in or about November 1958.

SN 95,583. General American Industries, Inc., New York, N.Y. Filed Apr. 22, 1960.

YOAKUM

For Belts and Riding Chaps.
First use 1933 on riding chaps.

SN 99,633. S. H. Kress and Company, New York, N.Y. Filed June 24, 1960.

KRESS KRAFT

Owner of Reg. No. 695,896.
For Work Shirts and Work Pants.
First use Feb. 2, 1960.

SN 100,903. Great American Knitting Mills, Inc., New York, N.Y. Filed July 15, 1960.

PRIME-RIB

For Men's Socks.
First use June 28, 1960.

SN 101,384. Educator Shoe Corporation, New York, N.Y. Filed July 25, 1960.

STUART HOLMES

For Men's Shoes.
First use July 1947.

SN 102,151. Trigere, Inc., New York, N.Y. Filed Aug. 5, 1960.

TRIGEEN

Owner of Reg. No. 650,943.
For Fabric Made Into Ladies' Dresses.
First use July 15, 1960.

SN 102,323. William Konecke, Elmhurst, N.Y. Filed Aug. 9, 1960.

PINGO

For Children's and Infants' Garments—Namely, Diapers.
First use July 18, 1960.

SN 102,328. Manufacture de Senones (Vosges), Paris, France. Filed Aug. 9, 1960.

TISSGAR

Owner of French Reg. No. 408,085, dated July 9, 1936.
For Handkerchiefs.

SN 104,127. A. Werman & Sons, Inc., Brooklyn, N.Y. Filed Sept. 8, 1960.

FOOT MAGIC

For Children's Shoes.
First use Jan. 28, 1960.

SN 104,519. Flair Lingerie, Inc., New York, N.Y. Filed Sept. 15, 1960.

Gossip

For All Types of Sleepwear for Ladies, Misses, and Children.
First use July 1, 1959.

SN 106,021. Rand Rubber Company, Inc., Brooklyn, N.Y. Filed Sept. 7, 1960.

HANDY CAP

No claim is made to the word "Cap" apart from the mark as shown.
For Caps Worn by Women for Sleeping or Hair Setting.
First use Aug. 15, 1960.

SN 106,490. Fortuna Foundations, Inc., New York, N.Y. Filed Oct. 17, 1960.

"HI THERE" FORTUNA

Owner of Reg. Nos. 827,687 and 893,029.
For Women's Silk and Rayon Panties, Girdles, and Combination Girdle-Step-Ins.
First use Feb. 2, 1938.

SN 107,184. Damon Creations, Inc., New York, N.Y. Filed Oct. 26, 1960.

DAMON

Owner of Reg. No. 684,827.
For Men's, Ladies', Boys', Girls', and Children's Sportswear, Suits, Coats, Sweaters, Jackets, Blouses, Dresses, Knit Shirts, Dress Shirts, Slacks, Pajamas, Underwear, Beachwear, Rainwear, Hats, Neckties, Belts, Handkerchiefs, Shoes, and Hosiery.
First use Mar. 14, 1946.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 100,561. Walter Spiegel, d.b.a. Waldor Products Co., Jersey City, N.J. Filed June 28, 1960.

POLY-FLEX

For Hair Combs.
First use June 22, 1960.

SN 106,512. Payson Marsh, d.b.a. Charles W. Marsh Company, Los Angeles, Calif. Filed Oct. 17, 1960.

MIRACLE

For Shoe Laces.
First use Sept. 19, 1960.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 51,880. Deering Milliken, Inc., Wilmington, Del., by merger and change of name from Deering, Milliken & Co. Inc., New York, N.Y. Filed May 19, 1958.

Windom

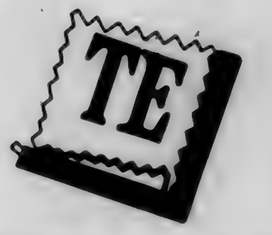
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers and Combinations Thereof.
First use on or about Feb. 28, 1957.

SN 80,860. Coleport Fabrics, Inc., New York, N.Y. Filed Sept. 4, 1959.

RAINBOW CELESTIAL

For 100% Cotton Printed Fabric for Making Dresses and Ladies' Dusters.
First use Mar. 2, 1959.

SN 85,420. Textile Exclusives, Inc., New York, N.Y. Filed Nov. 16, 1959.



For Fabrics of Cotton, Silk, Wool, and Synthetic Fibres.
First use in or about November 1954.

SN 95,855. F. Schumacher & Co., New York, N.Y. Filed Apr. 26, 1960.

SCHUMACHER

For Decorative Fabrics for Draperies, Slipcovers, Upholstery, and the Like, and Textile Rugs and Carpets.
First use in 1889.

SN 96,104. Dicey Mills, Inc., Shelby, N.C. Filed Apr. 29, 1960.

DICEY

For Textile Fabrics for Use in Making Products Such as Draperies and Furniture Covers, and for Upholstery.
First use January 1958.

SN 96,598. Lockport Felt Company, Inc., Newfane, N.Y. Filed May 6, 1960.



The drawing is lined for red, but color is not a feature of the mark. The words "Worsted Felt" are disclaimed apart from the mark as shown.
For Papermakers' Felt.
First use Jan. 23, 1960.

SN 96,599. Lockport Felt Company, Inc., Newfane, N.Y. Filed May 6, 1960.



The drawing is lined for red, but color is not a feature of the mark. The word "Felt" is disclaimed apart from the mark as shown. Owner of Reg. No. 664,813.
For Papermakers' Felt.
First use Jan. 22, 1960; Aug. 13, 1957, as to "Dura-Loft."

SN 96,600. Lockport Felt Company, Inc., Newfane, N.Y. Filed May 6, 1960.



The drawing is lined for red, but color is not a feature of the mark. The words "Quality Felts" are disclaimed apart from the mark as shown.
For Papermakers' Felt.
First use Jan. 12, 1960.

SN 106,405. The General Tire & Rubber Company, Akron, Ohio. Filed Oct. 14, 1960.

WESTCHESTER

For Rubber Rug Underlay.
First use July 13, 1960.

SN 109,190. William Lind Co., Inc., New York, N.Y. Filed Nov. 28, 1960.

SHEER DE SWA

For Cotton Batiste Piece Goods.
First use Nov. 29, 1954.

Class 44—Dental, Medical, and Surgical Appliances

SN 76,795. De Luxe Girdlecraft Co., Inc., New York, N.Y. Filed June 30, 1959.

TEENS

For Sanitary Panties.
First use September 1958.

SN 82,074. Becton Dickinson and Company, Rutherford, N.J. Filed Sept. 25, 1959.

B-D

Owner of Reg. Nos. 120,240, 442,281, and 507,883.
For Medical, Surgical and Beauticians' Gloves.
First use in or about January 1956.

SN 94,537. Whip-Mix Corporation, Louisville, Ky. Filed Apr. 6, 1960.



The lining in the drawing is for artistic effect only and does not indicate color.
For Dental Casting Machines, Radiant Heat Burnout Furnaces and Parts Thereof.
First use May 30, 1958.

SN 97,881. Simmons Company, New York, N.Y. Filed May 25, 1960.

ECONOMY

For Patient Handling Equipment—Namely, Wheel Stretchers, Accessories for Attachment Thereto and Parts Therefor, Litters and Accessories for Attachment Thereto.
First use in March 1955.

SN 104,492. Travenol Laboratories, Inc., Morton Grove, Ill. Filed Sept. 14, 1960.

PERFUSO-PAC

For Disposable Bubble Oxygenator for Regional Perfusion of Isolated Body Areas.
First use Aug. 23, 1960.

SN 104,673. The Aqua-Spa Corporation, New York, N.Y. Filed Sept. 19, 1960.

AQUA-SPA

For Agitator and Massage Head Connected With an Electric Motor.
First use Dec. 4, 1959.

SN 105,802. Etablissement Dentaire Ivoclar, Schaan, Liechtenstein. Filed Oct. 5, 1960.

VIVODENT

Owner of Liechtenstein Reg. No. 718.
For Artificial Teeth.
Subj. to Intf. with SN 83,299, SN 97,387, and SN 109,446.

SN 109,446. Vivadent Corporation, Woburn, Mass. Filed Dec. 1, 1960.

VIVADENT

For Reinforced Filling Material for Anterior Teeth.
First use October 1952.
Subj. to Intf. with SN 83,299, SN 97,387, and SN 105,802.

Class 45—Soft Drinks and Carbonated Waters

SN 100,285. The Perfection Company, Ltd., Waco, Tex. Filed July 5, 1960.

SPIZZ

Owner of Reg. Nos. 374,963, 524,704, and 524,705.
For Carbonated Soft Drinks and Syrups Used in Making the Same.
First use Sept. 1, 1939.

Class 46—Foods and Ingredients of Foods

SN 70,065. General Mills, Inc., Minneapolis, Minn. Filed Mar. 23, 1959.

GUARINA

Owner of Reg. No. 570,725.
For Vegetable Gum Used in Food Manufacture.
First use Feb. 26, 1959.

SN 76,460. Chickasha Cotton Oil Co., Fort Worth, Tex. Filed June 25, 1959.



The drawing is lined to indicate the colors yellow and blue.
For Fresh Eggs.
First use June 17, 1959.

SN 88,779. Marine Trading, Inc., Long Beach, Calif. Filed Jan. 11, 1960.



For Frozen Food Products—Namely, Shrimp, Octopus, Swordfish, Trout, Clams, and Mahi-Mahi.
First use Apr. 22, 1959.

SN 100,477. The Woolson Spice Company, Toledo, Ohio. Filed July 7, 1960.



Owner of Reg. No. 666,080.
For Black Pepper.
First use May 4, 1960.

SN 104,166. June Dairy Products Company, Inc., Jersey City, N.J. Filed Sept. 9, 1960.



Owner of Reg. No. 692,153.
For Butter.
First use in January 1944.

SN 104,167. June Dairy Products Company, Inc., Jersey City, N.J. Filed Sept. 9, 1960.



Owner of Reg. No. 692,153.
For Butter.
First use in January 1945.

SN 104,396. Charles Lipson Co., Atlantic City, N.J. Filed Sept. 13, 1960.

CHEROOT

For Chewing Gum.
First use Mar. 21, 1960.

SN 104,612. Holiday Delight Baking Company, d.b.a. Lemar, Chicago, Ill. Filed Sept. 16, 1960.

FUDGEMS

For Fudge Brownies.
First use February 1959.

SN 104,968. Continental Baking Company, Rye, N.Y. Filed Sept. 22, 1960.

TWIN ZEES

For Cake.
First use Dec. 19, 1959.

SN 106,722. California Packing Corporation, San Francisco, Calif. Filed Oct. 4, 1960.

SEACALL

Owner of Reg. No. 139,207.
For Canned Fish.
First use Aug. 1, 1918.

SN 107,125. General Mills, Inc., Minneapolis, Minn. Filed Oct. 25, 1960.

COTE-RITE

For Dusting Powder for Doughnuts and Similar Products.
First use Sept. 21, 1960.

Class 47 — Wines

SN 84,472. Sociedade Comercial Abel Pereira da Fonseca, (S.A.R.L.), Lisbon, Portugal. Filed Nov. 2, 1959.

ROSÉ BELA

"Rosé" is disclaimed apart from the mark as shown.
Owner of Reg. No. 650,661.
For Rosé Wine.
First use Nov. 5, 1957; in commerce Nov. 5, 1957.

Class 48 — Malt Beverages and Liquors

SN 84,518. The Cumberland Brewing Company of Allegany County, Maryland, d.b.a. The Cumberland Brewing Co., Cumberland, Md. Filed Nov. 3, 1959.

OLD EXPORT

Owner of Reg. No. 595,739.
For Beer and Ale.
First use in the year 1890.

Class 50 — Merchandise Not Otherwise Classified

SN 80,494. The Brothers Manufacturing Company, Memphis, Tenn. Filed Aug. 31, 1959.

PLASTI-SHIELD

For Cut-to-Size Clear Plastic Laminating Material for Sealing and Protecting Objects.
First use July 1, 1959.

SN 94,410. The Middletown Rubber Corporation, Middletown, Conn. Filed Apr. 5, 1960.

"MIRRAKAF"

Owner of Reg. No. 443,783.
For Vinyl Fabrics in the Piece Used as a Leather Substitute.
First use Jan. 7, 1958.

SN 97,081. Charles H. Meeks, d.b.a. Meeks Jewelry and as Jacqui Products, Corcoran, Calif. Filed May 13, 1960.

JACQUI

For Hand-Wrought, Metal, Three-Dimensional Works of Art Simulating Birds, Insects, and the Like.
First use Sept. 30, 1958.

SN 107,548. Boyertown Packaging Service Corp., Boyertown, Pa. Filed Nov. 1, 1960.

B P

For Cushioned Shipping Pads.
First use Sept. 15, 1960.

SN 108,293. Dover Molded Products Co., Dover, Ohio. Filed Nov. 14, 1960.

UN-A-TOP

For Plastic Sealing Caps for Closure of Bottles, Screw-Type Metal Cans, and the Like.
First use May 27, 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 64,018. Norsema Chemical Company, Baltimore, Md. Filed Dec. 10, 1958.

ONCE OVER

For Medicated Flesh-Tint Makeup.
First use Aug. 1, 1958.

SN 81,467. Wallace A. Justus, Dearborn Township, Mich. Filed Sept. 16, 1959.

STAINAWAY

For Skin Cleaner in Liquid Form for Removing Stains From the Skin.
First use July 8, 1959.

SN 82,918. The Rilling Dermetics Company, Bridgeport, Conn. Filed Oct. 8, 1959.

SOFT PAT

For Pressed Powder and Foundation.
First use July 28, 1959.

SN 82,919. The Rilling Dermetics Company, Bridgeport, Conn. Filed Oct. 8, 1959.

KEYBOARD

For Lipstick.
First use July 28, 1959.

SN 83,249. Shulton, Inc., Clifton, N.J. Filed Oct. 14, 1959.

NORDIK

For After Shaving Astringent.
First use Sept. 22, 1959.

SN 85,064. The Wella Corporation, Englewood, N.J. Filed Nov. 10, 1959.

firm n' gentle

For Lotion for Cold Wave Permanents.
First use Oct. 14, 1959.

SN 85,589. Richard Hudnut, Morris Plains, N.J. Filed Nov. 18, 1959.

NAIL-GUARD

For Clear Top Coat To Be Applied Over a Layer of Nail Lacquer on the Nails.
First use Oct. 14, 1959.

SN 86,200. Robert's Products Company, Los Angeles, Calif. Filed Nov. 27, 1959.

Uni-tans

For Suntan Cream.
First use Mar. 19, 1959.

SN 88,688. Peter Pan Foundations, Inc., New York, N.Y. Filed Jan. 8, 1960.

SNOW MIST

The word "Mist" is disclaimed apart from the mark as shown.
For Spray-On Body Powder.
First use Dec. 11, 1959.

SN 106,281. Sales Affiliates, Inc., New York, N.Y. Filed Oct. 12, 1960.

easyset

Owner of Reg. No. 636,209.
For Permanent Waving Lotion.
First use Feb. 21, 1955.

SN 107,020. Les Parfums de Dana, Inc., d.b.a. Dana, New York, N.Y. Filed Oct. 24, 1960.

IMPULSE

For Perfume, Cologne and Dusting Powder.
First use Sept. 30, 1960.

SN 107,153. Roux Laboratories, Inc., New York, N.Y. Filed Oct. 25, 1960.

NICE CHANGE

For Hair Coloring Preparations.
First use Oct. 17, 1960.

SN 107,273. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics, Bloomfield, N.J. Filed Oct. 27, 1960.

LIPSTACK

For Set of Varicolored Lipsticks.
First use Oct. 18, 1960.

Class 52 — Detergents and Soaps

SN 87,893. Milne Bros., Pasadena, Calif. Filed Dec. 22, 1959.

GON!

For Chemical Degreaser and Cleanser for Use on Automotive Parts and Engines, Appliances and Garage Floors.
First use Jan. 8, 1959.

SN 102,985. George H. Weyer, Inc., Kansas City, Mo. Filed Aug. 15, 1960.

RE-VITA

For Hair Shampoo.
First use 1942.

SN 103,624. Townsend Products Corp., Mendham, N.J. Filed Aug. 29, 1960.

PRISTEEN

For Germicidal Powder for Cleaning Brushes, Combs, Curl-Clips, Hair Pins and the Like.
First use May 27, 1960.

SN 104,966. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Sept. 21, 1960.

RANTIER

For Alkaline Cleaning Composition.
First use Feb. 3, 1958.

SERVICE MARKS

Class 101 — Advertising and Business

SN 62,212. Montreal Standard Publishing Co., (Limited), Montreal, Quebec, Canada. Filed Nov. 10, 1958.

WEEKEND

Owner of Canadian Reg. No. 105,100, dated Nov. 23, 1956; and U.S. Reg. No. 682,926.
For Service of Providing a Medium of Advertising by Means of a Periodic Publication.

Class 102 — Insurance and Financial

SN 69,463. Allstate Life Insurance Company, Skokie, Ill. Filed Mar. 13, 1959.

ALLSTATE

For Underwriting of the Following Types of Insurance: Life, Annuity, Accident, and Health.
First use in April 1957.

SN 104,383. Fundamental Life Insurance Company, New Orleans, La. Filed Sept. 13, 1960.



For Underwriting Life and Accident and Health Insurance.
First use Jan. 15, 1960.

SN 104,395. Life Insurance Company of North America, Philadelphia, Pa. Filed Sept. 13, 1960.

SIMPLEMATIC RE

For Reinsurance Services.
First use June 1960.

Class 105 — Transportation and Storage

SN 100,738. University Travel Company, Cambridge, Mass. Filed July 12, 1960.

CLUB HOLIDAY

For Travel Agency Services.
First use June 1, 1960.

SN 101,652. Swiss Air Transport Co., Ltd., d.b.a. Swissair, New York, N.Y. Filed July 28, 1960.

SWISSAIR

Owner of Reg. No. 614,124.
For Air Transportation of Passengers, Freight and Mail.
First use 1931.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

713,702. ITALIO. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 79,454. Pub. 1–24–61. Filed 8–13–59.

713,703. PITTCOR. Pittsburgh Plate Glass Company. SN 81,143. Pub. 1–24–61. Filed 9–10–59.

713,704. EMC. American-Marietta Company. SN 86,099. Pub. 1–24–61. Filed 11–27–59.

713,705. PARATROOP. Albert Trostel & Sons Company. SN 86,230. Pub. 1–24–61. Filed 11–27–59.

713,706. DIOFAN. Badische Anilin- & Soda-Fabrik Aktiengesellschaft. SN 88,453. Pub. 1–24–61. Filed 1–5–60.

713,707. SAF ETC. AND DESIGN. Society of American Florists and Ornamental Horticulturists, d.b.a. Society of American Florists. SN 92,317. COLLECTIVE MARK. Pub. 1–24–61. Filed 3–7–60.

713,708. PETROTONE. National Lead Company. SN 94,335. Pub. 1–24–61. Filed 4–4–60.

713,709. COROPLAST. Fritz Müller "Coroplast" K.G. SN 95,919. Pub. 10–4–60. Filed 4–27–60.

713,710. HYLOX. Union Carbide Corporation. SN 99,974. Pub. 1–24–61. Filed 6–29–60.

713,711. TERRINAP. William Greiner Company. SN 102,238. Pub. 1–24–61. Filed 8–8–60.

713,712. BORDEAUX. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 102,296. Pub. 1–17–61. Filed 8–9–60.

Class 2 — Receptacles

713,713. CONOLENE. Continental Can Company, Inc. SN 82,637. Pub. 1–24–61. Filed 10–5–59.

713,714. BINMASTER. Garner & Co., Inc. SN 95,071. Pub. 1–24–61. Filed 4–14–60.

713,715. BIN-CADDY. Garner & Co., Inc. SN 95,073. Pub. 1–24–61. Filed 4–14–60.

713,716. THRIFTLINE. Hollywood Plastics, Inc. SN 104,613. Pub. 1–24–61. Filed 9–16–60.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

713,717. KEYSTONE. Pittsburgh Garter Company. SN 88,491. Pub. 1–24–61. Filed 1–5–60.

Class 4 — Abrasives and Polishing Materials

713,718. NU COAT. E-Z Coat, Inc. SN 75,851. Pub. 1–24–61. Filed 6–16–59.

713,719. SPRAYEX. Louis Newman, d.b.a. Podiatry Laboratories. SN 101,971. Pub. 1–24–61. Filed 8–3–60.

713,720. FABRASIVE. The Lamports Company. SN 102,251. Pub. 1–24–61. Filed 8–8–60.

713,721. FOAM-BRITE. Eastern Research Corporation. SN 102,307. Pub. 1–24–61. Filed 8–9–60.

713,722. PINK PAY DIRT. Mrs. Luella W. McGuire, d.b.a. McGuire Enterprises. SN 102,405. Pub. 1–24–61. Filed 8–10–60.

713,723. NAVONIC. Navan Products, Inc. SN 102,578. Pub. 1–24–61. Filed 8–12–60.

713,724. SUPERFIX. Diametal AG. SN 102,624. Pub. 1–24–61. Filed 8–15–60.

713,725. CARBOND. Unimatic Manufacturing, Inc. SN 103,063. Pub. 1–24–61. Filed 8–19–60.

Class 5 — Adhesives

713,726. N—NATIONAL AND DESIGN. Union Carbide Corporation. SN 91,132. Pub. 1–24–61. Filed 2–17–60.

713,727. COROTHENE. Fritz Müller "Coroplast" K.G. (Kommandit Gesellschaft). SN 91,826. Pub. 1–24–61. Filed 2–29–60.

Class 6 — Chemicals and Chemical Compositions

713,728. SYKANOL. Dehydag Deutsche Hydrierwerke GmbH. SN 68,879. Pub. 1–24–61. Filed 3–4–59.

713,729. WALDHOF. Zellstoffabrik Waldhof. SN 69,862. Pub. 1–24–61. Filed 3–18–59.

713,730. SINCLAIR AND DINOSAUR CIRCLE DESIGN. Sinclair Refining Company. SN 73,279. Pub. 1–24–61. Filed 5–8–59.

713,731. SINCLAIR AND DINOSAUR PENTAGON DESIGN. Sinclair Refining Company. SN 73,280. Pub. 1–24–61. Filed 5–8–59.

713,732. D AND DESIGN. L. A. Dreyfus Company. SN 73,339. Pub. 1–24–61. Filed 5–11–59.

713,733. REPRESENTATION OF A TREE. Carnegies of Welwyn Limited. SN 77,262. Pub. 1–24–61. Filed 7–8–59.

713,734. EZ-TIME. Clinton Detergent Company. SN 85,211. Pub. 1–24–61. Filed 11–13–59.

713,735. B.O. THE HAPPY HOBO. Marlenn Products Company, Inc. SN 87,366. Pub. 1–24–61. Filed 12–15–59.

713,736. LOH. The Brush Beryllium Company. SN 89,498. Pub. 1–24–61. Filed 1–22–60.

713,737. TIMPREG. Chapman Chemical Company. SN 91,757. Pub. 1–24–61. Filed 2–29–60.

713,738. SEAMAG. Food Machinery and Chemical Corporation. SN 91,776. Pub. 1–24–61. Filed 2–29–60.

713,739. FENO. Moser Paper Company. SN 92,105. Pub. 1–24–61. Filed 3–3–60.

713,740. TELE-SEPTIC. American Teleseptic Co. Inc. SN 92,205. Pub. 1–24–61. Filed 3–7–60.

713,741. CARREX. Carrier Corporation. SN 96,827. Pub. 1–24–61. Filed 5–11–60.

713,742. RAINZ. De Mert & Dougherty, Inc. SN 97,463. Pub. 1–24–61. Filed 5–19–60.

713,743. FLOZAN. Diamond Alkali Company. SN 97,992. Pub. 1–24–61. Filed 5–27–60.

713,744. PANDRINOX. Morton Chemical Company. SN 98,672. Pub. 1–24–61. Filed 6–8–60.

713,745. PETROJET AND DESIGN. Arthur K. Peters, d.b.a. A. K. Peters Company. SN 99,449. Pub. 1–24–61. Filed 6–21–60.

713,746. NOPCOTE. Nopco Chemical Company. SN 101,506. Pub. 1–24–61. Filed 7–26–60.

Class 10 — Fertilizers

713,747. FSR AND ARROW DESIGN. F. S. Royster Guano Co. SN 93,607. Pub. 1–24–61. Filed 3–24–60.

713,748. GOLD NUGGET ETC. AND DESIGN. Robertson Chemical Corporation. SN 96,425. Pub. 1-24-61. Filed 5-4-60.

713,749. GOLD DOLLAR ETC. AND DESIGN. Robertson Chemical Corporation. SN 96,426. Pub. 1-24-61. Filed 5-4-60.

Class 12—Construction Materials

713,750. SHADOWALL AN EGSCO PRODUCT. Elwin G. Smith & Co., Inc., d.b.a. Egsco. SN 65,214. Pub. 1-24-61. Filed 7-5-56.

713,751. GROTESQUE OF OIL DROP. Humble Oil & Refining Company, by merger from Esso Standard Oil Company. SN 84,160. Pub. 1-24-61. Filed 12-12-58.

713,752. RIBBON DOPE. Johnson & Johnson. SN 85,368. Pub. 1-24-61. Filed 1-6-59.

713,753. LOK-FRAME. Inland Steel Products Company. SN 70,299. Pub. 1-24-61. Filed 3-28-59.

713,754. WATER-COTE. Johns-Manville Corporation. SN 71,849. Pub. 1-24-61. Filed 4-20-59.

713,755. DUBL CHEK. Louis Viscoloid, d.b.a. Visco. SN 83,019. Pub. 1-24-61. Filed 10-9-59.

713,756. CUSTOM CAMP. A. D. Lee, d.b.a. Custom Camp. SN 83,174. Pub. 1-24-61. Filed 10-13-59.

713,757. BASCULE. Allis-Chalmers Manufacturing Company. SN 86,712. Pub. 1-24-61. Filed 12-7-59.

713,758. ULTRAQUIET. Gustin-Bacon Manufacturing Company. SN 88,037. Pub. 1-24-61. Filed 12-28-59.

713,759. MITER. John Sunshine Chemical Co., Inc. SN 89,031. Pub. 1-24-61. Filed 1-14-60.

713,760. RAWHIDE. Savage Lumber & Manufacturing Co. SN 90,951. Pub. 1-24-61. Filed 2-15-60.

713,761. INCA. Vermiculite Manufacturing Co. SN 91,974. Pub. 1-24-61. Filed 3-1-60.

713,762. HARD-WEAR. Moocrip Inc. SN 94,061. Pub. 1-24-61. Filed 3-31-60.

713,763. TUFCON. Plastering Development Center, Inc. SN 95,617. Pub. 1-24-61. Filed 4-22-60.

713,764. STACCATO. The Mosaic Tile Company. SN 100,717. Pub. 1-24-61. Filed 7-12-60.

713,765. PYRESTOS. Hickson's Timber Impregnation Company (G.B.) Limited. SN 100,845. Pub. 1-24-61. Filed 7-14-60.

713,766. "SCHJELEVATOR." G. T. Schjeldahl Company. SN 101,062. Pub. 1-24-61. Filed 8-3-60.

713,767. PORTA-GREEN. John Edward Reynolds. SN 102,416. Pub. 1-24-61. Filed 8-10-60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

713,768. KLINCHER. Klincher Locknut Corporation. SN 81,908. Pub. 1-24-61. Filed 9-23-59.

713,769. KL. Klincher Locknut Corporation. SN 81,909. Pub. 1-24-61. Filed 9-23-59.

713,770. SLIMSERT AND DESIGN. Rosan Engineering Corp. SN 88,178. Pub. 1-24-61. Filed 12-29-59.

713,771. PUNCH-IT. M. B. Skinner Company. SN 95,773. Pub. 1-24-61. Filed 4-25-60.

713,772. NYLATCH. Hartwell Corporation. SN 100,451. Pub. 1-24-61. Filed 7-7-60.

713,773. TITE FLEX GRIP AND DESIGN. Flexigrip, Inc. SN 100,771. Pub. 1-24-61. Filed 7-12-60.

713,774. HYTRON. Imperial-Eastman Corporation, by merger and change of name from The Imperial Brass Manufacturing Company. SN 100,780. Pub. 1-17-61. Filed 7-13-60.

713,775. ARISTO-CRAFT. West Bend Aluminum Co. SN 100,969. Pub. 1-24-61. Filed 7-15-60.

713,776. NU-SPUN. Salem Pipe & Iron Mfg. Co. SN 101,127. Pub. 1-24-61. Filed 7-19-60.

713,777. ELE-GARD. "Automatic" Sprinkler Corporation of America. SN 101,228. Pub. 1-24-61. Filed 7-21-60.

Class 14—Metals and Metal Castings and Forgings

713,778. ONE-SHOT. Brico Products, Inc. SN 86,557. Pub. 1-24-61. Filed 12-3-59.

713,779. FLEXALUM. Bridgeport Brass Company. SN 100,221. Pub. 1-24-61. Filed 7-5-60.

Class 15—Oils and Greases

713,780. CORE LUBE AND DESIGN. Core-Lube, Inc. SN 78,473. Pub. 1-24-61. Filed 6-10-59.

Class 16—Protective and Decorative Coatings

713,781. BRONZELESS GOLD. Bee Chemical Company. SN 85,812. Pub. 1-24-61. Filed 11-23-59.

713,782. PLEX-I-GLOSS. National Chemsearch Corporation, by change of name from National Disinfectant Company of Texas. SN 87,132. Pub. 1-24-61. Filed 12-11-59.

713,783. BEAUTY BLEND. Cutler's Paint Stores, Inc. SN 94,264. Pub. 9-6-60. Filed 4-4-60.

713,784. AMERCRYL. American-Marietta Company. SN 100,063. Pub. 1-24-61. Filed 7-1-60.

Class 18—Medicines and Pharmaceutical Preparations

713,785. BISMAGEN. Biosante Chemical Specialties, Inc. SN 70,185. Pub. 1-24-61. Filed 3-24-59.

713,786. FANCIFUL "a" DESIGN. Abbott Laboratories. SN 74,497. Pub. 3-8-60. Filed 5-26-59.

713,787. SYL-LEN. Leonard G. Wolfson, d.b.a. Syl-Len. SN 76,135. Pub. 1-24-61. Filed 6-19-59.

713,788. PARATAC. Nicholas International Limited. SN 83,820. Pub. 10-4-60. Filed 10-22-59.

713,789. MICRIN. Johnson & Johnson. SN 90,761. Pub. 1-24-61. Filed 2-11-60.

713,790. CUTITONE. Potter Drug & Chemical Corporation, d.b.a. Cuticura Laboratories. SN 93,707. Pub. 11-22-60. Filed 3-25-60.

713,791. FREED. American Home Products Corporation, d.b.a. Fort Dodge Laboratories. SN 98,195. Pub. 1-24-61. Filed 6-1-60.

713,792. PYRIDATE. John E. O'Donnell, d.b.a. O'Donnell Research Laboratories. SN 99,956. Pub. 11-1-60. Filed 6-29-60.

713,793. LUBRASEPTIC. Guardian Chemical Corporation. SN 100,703. Pub. 1-24-61. Filed 7-12-60.

713,794. VIOSIL. Viobin Corporation. SN 100,923. Pub. 1-24-61. Filed 7-13-60.

713,795. NEGASUNT. Farbenfabriken Bayer Aktiengesellschaft. SN 102,014. Pub. 1-24-61. Filed 8-4-60.

713,796. NUMIX. The Upjohn Company. SN 102,072. Pub. 1-24-61. Filed 8-4-60.

713,797. NEO-DIHYDRO-DUST. Delaware Poultry Laboratories, Inc. SN 102,108. Pub. 1-24-61. Filed 8-5-60.

713,798. MOTRIN. The Upjohn Company. SN 103,992. Pub. 12-6-60. Filed 9-6-60.

713,799. KAVITAN. American Home Products Corporation, d.b.a. Ayerst Laboratories. SN 105,329. Pub. 1-24-61. Filed 9-26-60.

713,800. MATURON. American Home Products Corporation, d.b.a. Ayerst Laboratories. SN 105,330. Pub. 1-24-61. Filed 9-26-60.

713,801. DISOPHROL. White Laboratories, Inc. SN 105,402. Pub. 1-24-61. Filed 9-28-60.

713,802. LUSTIKA. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 105,593. Pub. 1-24-61. Filed 10-3-60.

713,803. HUNTARIA. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 105,594. Pub. 1-17-61. Filed 10-3-60.

713,804. LUKON. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 105,596. Pub. 1-24-61. Filed 10-3-60.

713,805. TOMPIAN. Armour and Company (Delaware corporation) assignee of Armour and Company (Illinois corporation). SN 105,613. Pub. 1-24-61. Filed 10-3-60.

713,806. SINACHEK. Creomulsion Company. SN 106,064. Pub. 1-24-61. Filed 10-10-60.

713,807. ELECTROGRO. Haver-Lockhart Laboratories, Inc. SN 106,095. Pub. 1-24-61. Filed 10-10-60.

713,808. DIROZIDE. Merck & Co., Inc. SN 106,116. Pub. 1-24-61. Filed 10-10-60.

713,809. FURAZETS. The Norwich Pharmacal Company. SN 106,216. Pub. 1-24-61. Filed 10-11-60.

713,810. ESTAFCILINA. Bristol-Myers Company. SN 106,473. Pub. 1-24-61. Filed 10-17-60.

713,811. 'TRANSIPAN'. M. R. Thompson, Inc. SN 106,948. Pub. 1-24-61. Filed 10-21-60.

713,812. 'TENSITRAN'. M. R. Thompson, Inc. SN 106,949. Pub. 1-24-61. Filed 10-21-60.

Class 19—Vehicles

713,813. RUE DE LA PAIX. Simca. SN 83,651. Pub. 1-24-61. Filed 10-20-59.

713,814. MONACO. Simca. SN 83,662. Pub. 1-24-61. Filed 10-20-59.

713,815. LAKEWOOD. General Motors Corporation. SN 89,577. Pub. 1-24-61. Filed 1-25-60.

713,816. SUPER-SERVICE. The Anderson Company. SN 93,123. Pub. 1-24-61. Filed 3-18-60.

713,817. DROP LEAF. Anthony Company. SN 97,439. Pub. 1-24-61. Filed 5-19-60.

Class 21—Electrical Apparatus, Machines, and Supplies

713,818. RESISTON. Bourns, Inc. SN 74,567. Pub. 1-24-61. Filed 5-27-59.

713,819. M & T. Metal & Thermit Corporation. SN 80,899. Pub. 1-24-61. Filed 9-4-59.

713,820. RAY-FIN. Donald K. Allison. SN 99,832. Pub. 1-24-61. Filed 6-28-60.

713,821. COOLFIN. Donald K. Allison. SN 99,833. Pub. 1-24-61. Filed 6-28-60.

Class 22—Games, Toys, and Sporting Goods

713,822. TACTICS II. The Avalon Hill Company. SN 65,289. Pub. 1-24-61. Filed 1-5-58.

713,823. HANK GOWDY'S WHIRL-E-BIRD. George H. Gowdy. SN 81,991. Pub. 1-24-61. Filed 9-24-59.

713,824. JOLLY CHOLLY. Peerless Playthings Co., Inc. SN 89,452. Pub. 1-24-61. Filed 1-21-60.

713,825. PLAYMATE GUIDANCE. Structo Manufacturing Company. SN 91,713. Pub. 1-24-61. Filed 2-26-60.

713,826. SKI FREE. Bernard E. Berlenbach, d.b.a. Ski Free Co. SN 92,212. Pub. 1-24-61. Filed 3-7-60.

713,827. MONOTAPE. Western Lace & Line Company, d.b.a. Western Fishing Line Company. SN 100,327. Pub. 1-24-61. Filed 7-5-60.

713,828. TWO-WAY. Wright & McGill Co. SN 100,334. Pub. 1-24-61. Filed 7-5-60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

713,829. ROTO-KLEEN. Roy E. Stabnau. SN 51,230. Pub. 2-17-59. Filed 5-7-58.

713,830. MIRANDA. Necchi Societh per Azioni. SN 79,314. Pub. 1-24-61. Filed 7-27-59.

713,831. FARM-EZE. Dubuque Stamping & Mfg. Co. SN 86,118. Pub. 1-24-61. Filed 11-27-59.

713,832. GRAF-TONE. Graphic Supply Co., Inc. SN 87,350. Pub. 1-24-61. Filed 12-15-59.

713,833. SAVEX. Haakon Sand. SN 94,352. Pub. 1-24-61. Filed 4-4-60.

713,834. WORLD'S FINEST MASTERBILT AND DESIGN. Henry W. Kissinger, d.b.a. Kissinger-Masterbilt Co. SN 100,129. Pub. 1-24-61. Filed 7-1-60.

713,835. REXALLOY. Crucible Steel Company of America. SN 101,160. Pub. 1-24-61. Filed 7-20-60.

713,836. XP-2. Draper Corporation. SN 101,669. Pub. 1-24-61. Filed 7-29-60.

713,837. XP. Draper Corporation. SN 101,670. Pub. 1-24-61. Filed 7-29-60.

713,838. XB. Draper Corporation. SN 101,750. Pub. 1-24-61. Filed 8-1-60.

713,839. AVEN. Hack Saws Limited. SN 101,779. Pub. 1-24-61. Filed 8-1-60.

713,840. VEN-PAR. The Vendo Company. SN 101,831. Pub. 1-24-61. Filed 8-1-60.

713,841. IRON SHARK. Richards Shear Company. SN 102,058. Pub. 1-24-61. Filed 8-4-60.

713,842. GROTESQUE REPRESENTATION OF A MAN. American Jenbach Corporation. SN 102,086. Pub. 1-24-61. Filed 8-5-60.

713,843. QUARTEX. Fabrique Nationale d'Armes de Guerre, Société Anonyme. SN 102,912. Pub. 1-24-61. Filed 8-18-60.

713,844. XL. Draper Corporation. SN 103,846. Pub. 1-24-61. Filed 9-2-60.

Class 24—Laundry Appliances and Machines

713,845. W AND DESIGN. Whirlpool Corporation. SN 100,328. Pub. 1-24-61. Filed 7-5-60.

Class 26—Measuring and Scientific Appliances

713,846. ZETFAX. Dr. Ing. Rudolf Hell. SN 82,826. Pub. 1-24-61. Filed 10-7-59.

713,847. FF 77 FILTER FACTOR. Foster Grant Co., Inc. SN 84,530. Pub. 1-24-61. Filed 11-3-59.

713,848. FILTER FACTOR. Foster Grant Co., Inc. SN 84,531. Pub. 1-24-61. Filed 11-3-59.

713,849. DISPENS-A-COLOR AND DESIGN. Rocket Jet Engineering Corp. SN 85,685. Pub. 1-24-61. Filed 11-19-59.

Class 29—Brooms, Brushes, and Dusters

713,850. WHISK-IT AND DESIGN. Herman Cohn, d.b.a. Herman Cohn Co. SN 77,883. Pub. 1-24-61. Filed 6-30-59.

Class 32 — Furniture and Upholstery

713,851. REST-O-QUILT. Restonic Corporation. SN 88,580. Pub. 1-24-61. Filed 1-5-60.

713,852. RESTONIC ETC. AND DESIGN. Restonic Corporation. SN 89,464. Pub. 1-24-61. Filed 1-21-60.

713,853. FARMINGTON. Consider H. Willett, Inc. SN 103,825. Pub. 1-24-61. Filed 9-1-60.

713,854. CIRCLE SEATING ETC. AND DESIGN. Brown-Saltman Furniture Co. SN 104,367. Pub. 1-24-61. Filed 9-13-60.

713,855. UCC AND DESIGN. Urethane Corporation of California. SN 104,964. Pub. 1-24-61. Filed 9-21-60.

713,856. E-Z-RECT. Archie Lewy. SN 105,125. Pub. 1-24-61. Filed 9-21-60.

Class 33 — Glassware

713,857. REDDY-PAK. Federal Paper Board Company, Inc. SN 94,976. Pub. 1-24-61. Filed 4-13-60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

713,858. GASLITE BY ARKLA. Arkla Air Conditioning Corporation. SN 70,572. Pub. 1-24-61. Filed 3-31-59.

713,859. HOTTER'N THE DEVIL ETC. AND DESIGN. Childers Manufacturing Company, Inc. SN 81,852. Pub. 1-24-61. Filed 8-17-59.

713,860. FEMETTE. Aktiebolaget Svenska Fläktfabriken. SN 91,659. Pub. 1-24-61. Filed 2-26-60.

713,861. AERONETT. Aktiebolaget Svenska Fläktfabriken. SN 91,660. Pub. 1-24-61. Filed 2-26-60.

713,862. COPPER QUEEN AND CROWN DESIGN. Allcraft Manufacturing Company, Inc. SN 100,565. Pub. 1-24-61. Filed 7-11-60.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

713,863. MONO-RIB. United States Rubber Company. SN 81,100. Pub. 1-24-61. Filed 9-9-59.

713,864. WING SEAL. Parker-Hannifin Corporation. SN 81,319. Pub. 1-24-61. Filed 9-14-59.

713,865. HYTRON. Imperial-Eastman Corporation, by merger and change of name from The Imperial Brass Manufacturing Company. SN 100,781. Pub. 1-17-61. Filed 7-13-60.

Class 36 — Musical Instruments and Supplies

713,866. GEOMETRICAL DESIGN. Durium S.p.A. SN 55,181. Pub. 8-25-59. Filed 6-13-58.

713,867. STEREO-WIPE. Fidelitone, Incorporated. SN 70,056. Pub. 1-24-61. Filed 3-23-59.

713,868. PERIPOLE. Peripole Products, Inc. SN 74,948. Pub. 1-24-61. Filed 6-2-59.

713,869. CC AND DESIGN. Alice Sirooni, d.b.a. Concert Classics Record Co. SN 77,233. Pub. 1-24-61. Filed 7-7-59.

713,870. ROBERT LAWRENCE. Silo, Inc. SN 87,290. Pub. 1-24-61. Filed 12-14-59.

713,871. TRIXON. Trixon Musikinstrumentenfabrik Karl-Heinz Weimer K.G. SN 102,959. Pub. 1-24-61. Filed 8-15-60.

713,872. GEMARK. General Magnetics & Electronics, Inc. SN 106,086. Pub. 1-24-61. Filed 10-10-60.

Class 37 — Paper and Stationery

713,873. FRA-O-TEXT. Fraser Paper, Limited. SN 96,706. Pub. 1-24-61. Filed 6-9-60.

713,874. PHILJO. Philjoe-Joanna Company. SN 99,085. Pub. 1-24-61. Filed 6-15-60.

713,875. FRANCISCAN GLOSS. Crown Zellerbach Corporation. SN 99,843. Pub. 11-29-60. Filed 6-28-60.

713,876. DIAMOND-GLO. Diamond National Corporation. SN 101,855. Pub. 1-24-61. Filed 8-2-60.

713,877. KIMTOWELS. Kimberly-Clark Corporation. SN 102,563. Pub. 1-24-61. Filed 8-12-60.

Class 38 — Prints and Publications

713,878. ABSTRACT. American Business Systems, Inc. SN 93,255. Pub. 1-24-61. Filed 3-21-60.

713,879. CHEMICAL BANK NEW YORK TRUST COMPANY AND DESIGN. Chemical Bank New York Trust Company. SN 96,667. Pub. 1-24-61. Filed 5-9-60.

Class 39 — Clothing

713,880. REPRESENTATION OF ESKIMO WITH IGLOO DESIGN. Murphy, Brill and Sahner, Incorporated. SN 75,432. Pub. 1-24-61. Filed 6-9-59.

713,881. REPRESENTATION OF THREE PENGUINS ON ICEBERG. Murphy, Brill and Sahner, Incorporated. SN 75,433. Pub. 1-24-61. Filed 6-9-59.

713,882. HUGTEX BAND. Portis Style Industries Co. SN 76,723. Pub. 1-24-61. Filed 6-29-59.

713,883. OVERSEER. The Joseph & Feiss Company. SN 77,018. Pub. 1-24-61. Filed 7-3-59.

713,884. DISTANCER. The Joseph & Feiss Company. SN 78,289. Pub. 1-24-61. Filed 7-23-59.

713,885. NON-STOP. The Joseph & Feiss Company. SN 79,487. Pub. 1-24-61. Filed 8-13-59.

713,886. CLOVER KNITS AND DESIGN. Clover Knitting Mills, Inc. SN 86,734. Pub. 1-24-61. Filed 12-7-59.

713,887. MODELLA. The Modella Manufacturing Company, Inc. SN 87,262. Pub. 1-24-61. Filed 12-14-59.

713,888. RAINCHECKER. Williamson-Dickie Manufacturing Company. SN 87,464. Pub. 1-24-61. Filed 12-16-59.

713,889. COURT KING. Stapleton Leather Co., d.b.a. MacPherson Bros. Leather Co. SN 90,116. Pub. 1-24-61. Filed 2-1-60.

713,890. FURAMA AND DESIGN. The Levenson Company. SN 91,395. Pub. 1-24-61. Filed 2-23-60.

713,891. MARGHAB. Emile Marghab, Incorporated. SN 91,963. Pub. 1-24-61. Filed 2-26-60.

713,892. CUDDLE KNIT. Cuddle Knit Knitting Mills, Inc. SN 92,871. Pub. 1-24-61. Filed 3-15-60.

713,893. SUN-LON. Bear Brand Hosiery Co. SN 95,045. Pub. 1-24-61. Filed 4-14-60.

713,894. JELLY BEAN. Joseph Guttman & Bros. SN 96,798. Pub. 1-24-61. Filed 5-10-60.

713,895. MINIATURES BY MR. GERRY. Town Talk Coat Co., Inc. SN 96,037. Pub. 1-24-61. Filed 5-27-60.

713,896. MARKET TIME. Salant & Salant, Inc. SN 100,055. Pub. 1-24-61. Filed 6-30-60.

713,897. AQUA-DEXTROUS. Joice Incorporated. SN 100,610. Pub. 1-24-61. Filed 7-11-60.

713,898. GIVE-N-TAKE. McCrary Hosiery Mills, Inc. SN 101,187. Pub. 1-24-61. Filed 7-20-60.

713,899. INSTANTIE. Frank & Meyer Neckwear Company. SN 102,226. Pub. 1-24-61. Filed 8-8-60.

713,900. PHARMA-KOTE. The Pharmaceutical Foundation of the University of Texas. SN 102,414. Pub. 1-24-61. Filed 8-10-60.

713,901. MONSIEUR BERNARD. Bernard Industries, Inc. SN 103,255. Pub. 1-24-61. Filed 8-23-60.

713,902. CAROLE JOANNE. G. C. Murphy Company. SN 103,585. Pub. 1-24-61. Filed 8-29-60.

Class 40 — Fancy Goods, Furnishings, and Notions

713,903. PINK CLOUD. Taylor-Bell Co., Inc. SN 92,662. Pub. 1-24-61. Filed 3-11-60.

713,904. PINK CLOUD. Taylor-Bell Co., Inc. SN 92,664. Pub. 1-24-61. Filed 3-11-60.

Class 41 — Canes, Parasols, and Umbrellas

713,905. SUN LINE AND DESIGN. Finkel Outdoor Products, Inc. SN 89,347. Pub. 1-24-61. Filed 1-20-60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

713,906. SIZESET. Chatham Manufacturing Company. SN 69,246. Pub. 1-24-61. Filed 3-10-59.

713,907. LORALON BEAUNIT AND DESIGN. Beaunit Mills, Inc. SN 72,476. Pub. 1-24-61. Filed 4-29-59.

713,908. DOMINIQUE BY LEBANDALE. Lebanon Woolen Mills, Inc. SN 73,389. Pub. 1-24-61. Filed 5-11-59.

713,909. STOFFEL'S TINY-DOT. Stoffel & Co., Inc. SN 89,878. Pub. 1-24-61. Filed 1-28-60.

713,910. GLENMONT. Crompton Company. SN 90,494. Pub. 1-24-61. Filed 2-8-60.

713,911. SCHOLAROY. Hockmeyer Bros. Inc. SN 90,513. Pub. 1-24-61. Filed 2-8-60.

713,912. MORANIT. Franz Morat G.m.b.H. SN 90,774. Pub. 1-24-61. Filed 2-11-60.

713,913. V-VONNEL. Mitsubishi Rayon Company Limited and Mitsubishi Vonnel Company Limited (joint owners). SN 94,601. Pub. 1-24-61. Filed 4-7-60.

713,914. MAN-SET. The Millville Manufacturing Company. SN 101,189. Pub. 12-6-60. Filed 7-20-60.

713,915. ASTELOT. Deering Milliken, Inc. SN 104,075. Pub. 1-24-61. Filed 9-8-60.

Class 44 — Dental, Medical, and Surgical Appliances

713,916. DERMA-MAGIC. Ziegler Electronics, Inc. SN 91,576. Pub. 1-24-61. Filed 2-24-60.

713,917. HAUSTED. Simmons Company. SN 97,882. Pub. 1-24-61. Filed 5-25-60.

Class 45 — Soft Drinks and Carbonated Waters

713,918. KORTESS. Felix Wilson. SN 99,898. Pub. 1-24-61. Filed 6-28-60.

Class 46 — Foods and Ingredients of Foods

713,919. EL MINO BRAND AND DESIGN. Abuin, Lopez y Compania. SN 70,836. Pub. 1-24-61. Filed 4-6-59.

713,920. COOK'S. Cook Chocolate Company. SN 72,794. Pub. 1-24-61. Filed 5-4-59.

713,921. MORNING STAR PAISLEY ETC. AND DESIGN. Morningstar-Paisley, Inc. SN 75,199. Pub. 1-24-61. Filed 6-5-59.

713,922. SUPER-TRIM. Guarantee Meat Market of Hackensack, Inc., d.b.a. Guarantee Super Markets. SN 75,736. Pub. 1-24-61. Filed 6-15-59.

713,923. SUPERSTRENGTH. International Milling Company, d.b.a. The Henkel Flour Mills. SN 79,857. Pub. 1-24-61. Filed 8-19-59.

713,924. CARACRISP. John Mackintosh & Sons Limited. SN 80,433. Pub. 1-24-61. Filed 8-28-59.

713,925. YILDIZ. Armour and Company (Delaware corporation), assignee of Armour and Company (Illinois corporation). SN 82,623. Pub. 1-17-61. Filed 10-5-59.

713,926. TOM THUMB. Tom Thumb Donut Corp. SN 86,213. Pub. 1-24-61. Filed 11-27-59.

713,927. FRY KRISP. Fry Krisp Food Products, Inc., d.b.a. The Fry Krisp Co. SN 87,486. Pub. 1-24-61. Filed 12-17-59.

713,928. CANAPE CAPERS. Manor Morsels, Inc. SN 88,242. Pub. 1-24-61. Filed 12-30-59.

713,929. PF IN DESIGN. Pepperidge Farm, Inc. SN 92,018. Pub. 1-24-61. Filed 3-15-60.

713,930. PRAIRIE GOLD. Corn Products Company. SN 95,253. Pub. 1-24-61. Filed 4-18-60.

713,931. OLLIE ORBIT. Five Guys From Boston, Inc., d.b.a. Ollie Orbit. SN 95,819. Pub. 1-24-61. Filed 4-26-60.

713,932. GALAXY. Food Manufacturers, Inc., d.b.a. M & M's Candies. SN 96,585. Pub. 1-24-61. Filed 5-6-60.

713,933. CELEBRITY BRAND. Atalanta Trading Corp. SN 96,658. Pub. 1-24-61. Filed 5-9-60.

713,934. GLESTER. Anderson, Clayton & Co. SN 96,917. Pub. 1-24-61. Filed 5-12-60.

713,935. KITTYS. K.I.T.T.Y.S. Vegetable Distributors, Inc., d.b.a. Kittys Vegetable Distributors Inc. SN 98,101. Pub. 1-24-61. Filed 5-31-60.

713,936. FLAV-O-CURE. Wm. J. Stange Co. SN 98,313. Pub. 1-24-61. Filed 6-2-60.

713,937. GREENWOOD'S. Greenwood Foods, Inc. SN 98,471. Pub. 1-24-61. Filed 6-6-60.

713,938. SPUNGE-O-PEP. Bak-Kraft Corporation, Ltd. SN 98,762. Pub. 1-24-61. Filed 6-10-60.

713,939. ALI BABA. Federal Sweets & Biscuit Co., Inc. SN 98,884. Pub. 1-24-61. Filed 6-13-60.

713,940. SIR WILLIAM AND DESIGN. William Lippman, d.b.a. Sir William Shrimp Packers. SN 100,711. Pub. 1-24-61. Filed 7-12-60.

713,941. SLENDER-CAL. Halco Research Corp. SN 101,548. Pub. 1-24-61. Filed 7-27-60.

713,942. WUNDERWURST. The Sugardale Provision Company. SN 102,804. Pub. 1-24-61. Filed 8-16-60.

Class 49 — Distilled Alcoholic Liquors

713,943. C AND DESIGN. Klosterbrennerei A.G. Erste Badische Wein- und Edelbranntweinbrennerei. SN 93,523. Pub. 1-24-61. Filed 3-23-60.

713,944. CANADIAN RIVER. Mr. Boston Distiller Inc. SN 99,073. Pub. 1-24-61. Filed 6-15-60.

713,945. RONRICO ETC. AND DESIGN. Ronrico Corporation. SN 99,245. Pub. 1-24-61. Filed 6-17-60.

Class 50 — Merchandise Not Otherwise Classified

713,946. CRISTALGLO. Copley Manufacturing Company. SN 89,410. Pub. 1-24-61. Filed 1-21-60.

713,947. DARLING BEAT. John Franklin Farr. SN 102,462. Pub. 1-24-61. Filed 8-11-60.

Class 51 — Cosmetics and Toilet Preparations

713,948. M.P. Evyan Perfumes, Inc., by change of name from Parfums Evyan Inc. SN 64,838. Pub. 1-24-61. Filed 12-23-58.

713,949. W.S. Evyan Perfumes, Inc., by change of name from Parfums Evyan Inc. SN 64,839. Pub. 1-24-61. Filed 12-23-58.

713,950. NOEL ADAIR. Adair Company. SN 87,504. Pub. 1-24-61. Filed 12-17-59.

713,951. LITTLE MISS PRETTY. The Realistic Company. SN 94,814. Pub. 1-24-61. Filed 4-11-60.

713,952. SHEER DELIGHT. Jon Pierre Cosmetics, Inc. SN 98,138. Pub. 1-24-61. Filed 5-31-60.

713,953. VITALIS. Bristol-Myers Company. SN 101,075. Pub. 1-24-61. Filed 7-19-60.

713,954. BATH DEW. Helena Rubinstein, Inc. SN 102,347. Pub. 1-24-61. Filed 8-9-60.

Class 52 — Detergents and Soaps

713,955. EVER-KLEEN. Ever-Kleen Products, Inc. SN 79,850. Pub. 1-24-61. Filed 8-19-59.

713,956. IOKEL. Diamond Alkali Company. SN 96,402. Pub. 1-24-61. Filed 5-5-60.

Service Marks

Class 100 — Miscellaneous

713,957. BP AA ETC. AND DESIGN. Bowling Proprietors' Association of America, Inc. SN 77,802. Pub. 4-19-60. Filed 7-16-59.

713,958. INTERNUCLEAR COMPANY IC AND DESIGN. Internuclear Company. SN 97,664. Pub. 1-24-61. Filed 5-23-60.

Class 101 — Advertising and Business

713,959. SIEH REGISTRY PLAN OF LICENSED CHILD CARE. Alberta Sieh, d.b.a. Sieh Registry Plan of Licensed Child Care. SN 70,955. Pub. 1-24-61. Filed 4-6-59.

713,960. COSMOPOLITAN HOTELS AND DESIGN. Dyckman Hotel Company. SN 75,711. Pub. 1-24-61. Filed 6-15-59.

713,961. REPRESENTATION OF MAN ETC. Smith Bros. of Port Washington, Inc. SN 85,252. Pub. 11-1-60. Filed 11-13-59.

Class 102 — Insurance and Financial

713,962. NATIONWIDE ETC. AND DESIGN. Nationwide Mutual Insurance Company. SN 87,447. Pub. 1-24-61. Filed 12-16-59.

713,963. STATE FARM INSURANCE ETC. AND DESIGN. State Farm Mutual Automobile Insurance Company. SN 96,370. Pub. 1-24-61. Filed 5-3-60.

713,964. CHEMICAL BANK NEW YORK TRUST COMPANY 1824 AND DESIGN. Chemical Bank New York Trust Company. SN 96,668. Pub. 1-24-61. Filed 5-9-60.

713,965. PLANNED BUSINESS BY STATE MUTUAL OF AMERICA AND DESIGN. State Mutual Life Assurance Company of America. SN 96,760. Pub. 1-24-61. Filed 5-9-60.

713,966. ECONOMIZER. Great American Insurance Company. SN 97,651. Pub. 1-24-61. Filed 5-23-60.

Class 103 — Construction and Repair

713,967. AACRONN. The AaCronn Company, Inc. SN 88,449. Pub. 1-24-61. Filed 1-5-60.

713,968. ADVANCE. Advance Muffler Service, Inc. SN 95,067. Pub. 1-24-61. Filed 4-29-60.

713,969. LIL' STINKER AND DESIGN. Richard J. Case, d.b.a. Lil' Stinker. SN 97,819. Pub. 1-24-61. Filed 5-25-60.

Class 105 — Transportation and Storage

713,970. AIRWAYS RENT-A-CAR SYSTEM AND DESIGN. Airways Rent-A-Car System. SN 95,133. Pub. 1-24-61. Filed 4-15-60.

Class 107 — Education and Entertainment

713,971. BP AA ETC. AND DESIGN. Bowling Proprietors' Association of America, Inc. SN 88,592. COLLECTIVE MARK. Pub. 12-27-60. Filed 1-7-60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

713,972. Claremont Flock Corporation, Claremont, N.H. SN 105,477. Filed 9-27-60.

QUALITY CLAREMONT FLOCK

For Flock.
First use Jan. 2, 1958.

Class 2 — Receptacles

713,973. National Steel Construction Co., Seattle, Wash. SN 106,522. Filed 10-17-60.

GLASTEEL

For Liquid Storage Tanks and Hydro-Pneumatic Tanks.
First use Aug. 5, 1958, on liquid storage tanks.

Class 21 — Electrical Apparatus, Machines, and Supplies

713,974. Atlantic Research Corporation, Alexandria, Va. SN 75,530. Filed P.R. 6-11-59; Am. S.R. 2-8-61.

Z BLADE

For Electrically Driven Mixer for Solids and Liquids for Laboratory and Industrial Use.
First use Sept. 12, 1957.

Class 26 — Measuring and Scientific Appliances

713,975. Max Braun, Frankfurt am Main, Germany. SN 44,512. Filed P.R. 1-21-58; Am. S.R. 11-16-59.

BRAUN

Owner of German Reg. No. 652,728, dated Feb. 2, 1954; and U.S. Reg. No. 613,913.
For Electronic Flash Guns; and Electrically Illuminated Photographic Projectors.

713,976. Charles Bruning Company, Inc., Mount Prospect, Ill., assignee of Paragon-Revolute Corporation, Rochester, N.Y. SN 65,859. Filed P.R. 1-14-59; Am. S.R. 10-3-60.

RETRIEVABLE MINIATURIZATION

For Machines for Making Photographic Reproductions on Both Reduced and Enlarged Scales.
First use Dec. 23, 1958.

713,977. Jensen-Hasting Products, Inc., Seattle, Wash. SN 66,451. Filed P.R. 1-26-59; Am. S.R. 2-14-61.

LITER-METER

For Manometer Type Fuel Gauges for Automobiles.
First use June 10, 1958.

713,978. Optical Development Corporation, Chicago, Ill. SN 73,256. Filed P.R. 5-8-59; Am. S.R. 8-29-60.

LOOK-OVER

For Eyeglass Frames.
First use Apr. 24, 1959.

713,979. Pennsylvania Optical Company, Reading, Pa. SN 88,615. Filed P.R. 1-7-60; Am. S.R. 2-14-61.

FITS-IN

For Sun Shield Attachments for Eyeglasses.
First use Dec. 28, 1955.

Class 31 — Filters and Refrigerators

713,980. A & W Root Beer Co., Santa Monica, Calif., assignee, by mesne assignments, of Frederick W. McDonald, Elmhurst, Ill. SN 42,509. Filed P.R. 12-16-57; Am. S.R. 1-23-61.

FROSTY-GLASS

For Refrigeration Apparatus Especially Adapted for Chilling Beverage Glasses and the Like.
First use Sept. 16, 1957.

Class 38 — Prints and Publications

713,981. Mississippi Chemical Corporation, Yazoo City, Miss. SN 82,348. Filed P.R. 9-29-59; Am. S.R. 1-30-61.

Chemical Farming

For Agricultural Magazine.
First use Feb. 10, 1959.

Class 44 — Dental, Medical, and Surgical Appliances

713,982. W. A. Baum Co., Inc., Copiague, N.Y. SN 69,237. Filed P.R. 3-10-59; Am. S.R. 11-29-60.

Rx-MANOMETER Rx

For Instruments Used To Measure Blood Pressure, and Parts of Such Instruments.
First use Feb. 17, 1959.

713,983. Richard Hudnut, Morris Plains, N.J. SN 76,566. Filed P.R. 6-26-59; Am. S.R. 10-28-60.

STYLE AND SET

For Home Permanent Kit Comprising Waving Lotion, Neutralizer, and End Papers.
First use 1953.

Class 46 — Foods and Ingredients of Foods

713,984. Challenge Cream & Butter Association, Los Angeles, Calif. SN 24,926. Filed P.R. 2-25-57; Am. S.R. 8-26-59.

Lo-Cal

For Cheese and Fluid Milk.
First use Mar. 1, 1954, on cheese.

713,985. Dannen Mills, Inc., St. Joseph, Mo. SN 74,841. Filed P.R. 6-1-59; Am. S.R. 2-1-61.

KALF KREME

For Milk Substitute Used as a Calf Food.
First use Apr. 7, 1955.

713,986. Hegglade-Margulese Co., San Francisco, Calif. SN 75,306. Filed P.R. 6-8-59; Am. S.R. 4-11-60.

TASTY FRUIT

For Fresh Deciduous Fruits.
First use Feb. 16, 1940.

713,987. Valleydale Packers, Inc., Bristol, Va. SN 75,516. Filed P.R. 6-10-59; Am. S.R. 2-9-61.

HONEE-WEENEE

For Packaged Frankfurter Containing Honey and Butter.
First use June 5, 1959.

713,988. Green Bay Food Company, Green Bay, Wis. SN 79,646. Filed P.R. 6-17-59; Am. S.R. 1-24-61.

CHOPINOWSKIE

For Pickles.
First use Aug. 4, 1959.

713,989. W. F. Straub & Company, Chicago, Ill. SN 81,152. Filed P.R. 9-10-59; Am. S.R. 1-16-61.

HONNY-POP

For Candy.
First use Aug. 25, 1959.

Class 51 — Cosmetics and Toilet Preparations

713,990. Richard Hudnut, Morris Plains, N.J. SN 69,653. Filed P.R. 3-16-59; Am. S.R. 2-6-61.

TIGER LILY

For Hair Coloring Preparation.
First use Mar. 3, 1959.

713,991. Richard Hudnut, Morris Plains, N.J. SN 69,654. Filed P.R. 3-16-59; Am. S.R. 2-6-61.

HONEY BEAR

For Hair Coloring Preparation.
First use Mar. 4, 1959.

713,992. Richard Hudnut, Morris Plains, N.J. SN 70,895. Filed P.R. 4-6-59; Am. S.R. 2-6-61.

WHITE SHIMMER

For Lipstick.
First use Mar. 19, 1959.

713,993. Richard Hudnut, Morris Plains, N.J. SN 73,094. Filed P.R. 5-7-59; Am. S.R. 2-6-61.

LILAC SHIMMER

For Lipstick.
First use Apr. 8, 1959.

713,994. Richard Hudnut, Morris Plains, N.J. SN 73,096. Filed P.R. 5-7-59; Am. S.R. 2-6-61.

APRICOT SHIMMER

For Lipstick.
First use Apr. 8, 1959.

713,995. Richard Hudnut, Morris Plains, N.J. SN 73,097. Filed P.R. 5-7-59; Am. S.R. 2-6-61.

PEACH SHIMMER

For Lipstick.
First use Apr. 8, 1959.

713,996. Richard Hudnut, Morris Plains, N.J. SN 73,099. Filed P.R. 5-7-59; Am. S.R. 2-6-61.

ROSE SHIMMER

For Lipstick.
First use Apr. 8, 1959.

713,997. Richard Hudnut, Morris Plains, N.J. SN 76,823. Filed P.R. 6-23-59; Am. S.R. 2-6-61.

GOLDEN SHIMMER

For Hair Coloring.
First use June 8, 1959.

713,998. Richard Hudnut, Morris Plains, N.J. SN 76,873. Filed P.R. 7-1-59; Am. S.R. 2-6-61.

GREEN SHIMMER

For Eye Shadow.
First use June 16, 1959.

713,999. Richard Hudnut, Morris Plains, N.J. SN 76,951. Filed P.R. 7-2-59; Am. S.R. 2-6-61.

BLUE SHIMMER

For Eye Shadow.
First use June 16, 1959.

714,000. Richard Hudnut, Morris Plains, N.J. SN 76,952. Filed P.R. 7-2-59; Am. S.R. 2-6-61.

VIOLET SHIMMER

For Eye Shadow.
First use June 16, 1959.

714,001. Richard Hudnut, Morris Plains, N.J. SN 78,557. Filed P.R. 7-28-59; Am. S.R. 2-6-61.

BLUE SHIMMER

For Mascara.
First use July 7, 1959.

714,002. Richard Hudnut, Morris Plains, N.J. SN 78,563. Filed P.R. 7-28-59; Am. S.R. 2-6-61.

VIOLET SHIMMER

For Mascara.
First use July 7, 1959.

714,003. Richard Hudnut, Morris Plains, N.J. SN 80,665. Filed P.R. 9-1-59; Am. S.R. 1-31-61.

PINK FLAME

For Lipstick.
First use Aug. 6, 1959.

714,004. Richard Hudnut, Morris Plains, N.J. SN 80,666. Filed P.R. 9-1-59; Am. S.R. 1-31-61.

PSYCHOLOGICAL PINK

For Lipstick.
First use Aug. 6, 1959.

714,005. Richard Hudnut, Morris Plains, N.J. SN 80,667. Filed P.R. 9-1-59; Am. S.R. 1-31-61.

FORTISSIMO RED

For Lipstick.
First use Aug. 6, 1959.

714,006. Richard Hudnut, Morris Plains, N.J. SN 80,668. Filed P.R. 9-1-59; Am. S.R. 1-31-61.

STARK RED

For Lipstick.
First use Aug. 6, 1959.

714,007. Richard Hudnut, Morris Plains, N.J. SN 80,678. Filed P.R. 9-4-59; Am. S.R. 1-31-61.

MOONLIGHT PINK

For Lipstick.
First use Aug. 13, 1959.

714,008. Richard Hudnut, Morris Plains, N.J. SN 81,821. Filed P.R. 9-22-59; Am. S.R. 1-31-61.

NORTHERN STAR

For Lipstick.
First use Sept. 1, 1959.

714,009. Richard Hudnut, Morris Plains, N.J. SN 81,822. Filed P.R. 9-22-59; Am. S.R. 1-31-61.

RISING STAR

For Lipstick.
First use Sept. 1, 1959.

714,010. Richard Hudnut, Morris Plains, N.J. SN 81,823. Filed P.R. 9-22-59; Am. S.R. 1-31-61.

STAR BURST

For Lipstick.
First use Sept. 1, 1959.

Service Marks

Class 101 — Advertising and Business

714,011. Toy Guidance Council, Inc., New York, N.Y. SN 70,119. Filed P.R. 3-23-59; Am. S.R. 12-29-60.

CHILD'S PLAY IS OUR LIFE'S WORK

For Promotion of Children's Toys Manufactured and Sold by Concerns Other Than the Applicant, by Professional Appraisal of the Safety and Educational Value of Toys, by Publishing Trade Catalogues Advertising Selected Toys, and by Conducting Exhibits of Selected Toys.
First use Mar. 8, 1959.

TRADEMARK REGISTRATIONS RENEWED

138,959. CROW AND DESIGN. Cl. 35. 1-18-21.
138,990. WATERBUK AND DESIGN. Cl. 35. 1-18-21.
139,006. SUPREMA. Cl. 46. 1-18-21.
139,306. ANTELOPE. Cl. 35. 2-1-21.
139,307. DIRUBCO. Cl. 35. 2-1-21.
139,308. ELK. Cl. 35. 2-1-21.
139,388. PORTCULLIS DESIGN. Cl. 49. 2-1-21.
139,429. CHOCOLATE CREAM. Cl. 46. 2-1-21.
139,581. MORRIS WHITELEAF AND DESIGN. Cl. 46. 2-8-21.
139,646. TIFFANY. Cl. 28. 2-8-21.
139,710. FAB. Cl. 52. 2-15-21.
140,434. MARY EARL. Cl. 38. 3-15-21.
140,945. AZUL MAGICO AND DESIGN. Cl. 6. 3-29-21.
141,182. 21-A. Cl. 21. 4-12-21.
142,405. ADLAKE. Cl. 21. 5-17-21.
142,760. SKRIP. Cl. 11. 5-17-21.
143,533. A-B AND DESIGN. Cl. 46. 6-7-21.
143,534. A-B AND DESIGN. Cl. 46. 6-7-21.
143,605. CORDINE. Cl. 42. 6-7-21.
143,608. MOUSSYNE. Cl. 42. 6-7-21.
143,609. DELPHINE. Cl. 42. 6-7-21.
143,611. VELMIRAGE. Cl. 42. 6-7-21.
143,949. MARVELAINE. Cl. 42. 6-21-21.
143,950. PIQUETWILL. Cl. 42. 6-21-21.
144,295. GAINSBOROUGH. Cl. 29. 6-28-21.
144,767. MOUSSETYNE. Cl. 42. 7-19-21.
144,960. POINSETTIA. Cl. 46. 7-19-21.
145,065. TONY. Cl. 1. 7-26-21.
145,068. DART. Cl. 13. 7-26-21.
145,127. KVP. Cl. 37. 7-26-21.
145,196. NOXON. Cl. 4. 7-26-21.
383,597. MF. Cl. 23. 12-24-40.
383,951. MOTEX. Cl. 25. 12-31-40.
384,132. MULTI-PLY. Cl. 39. 1-7-41.
384,239. SERA-VAC. Cl. 44. 1-7-41.
384,549. SHAWNEE AND DESIGN. Cl. 46. 1-21-41.
384,573. LANESE. Cl. 48. 1-21-41.
384,761. CITY CLUB. Cl. 46. 2-4-41.
384,785. GOR-RAY. Cl. 39. 2-4-41.
384,803. NATROGAS. Cl. 6. 2-4-41.
384,812. TOP HAT CHARM. Cl. 28. 2-4-41.
385,014. BOULEVARD. Cl. 42. 2-11-41.
385,015. MAGICVEL. Cl. 42. 2-11-41.
385,141. MF. Cl. 16. 2-18-41.
385,206. DETHDIET. Cl. 6. 2-18-41.
385,346. RX AND TREE DESIGN. Cl. 1. 2-25-41.
385,389. REPRESENTATION OF ICEBERG AND SUN. Cl. 15. 2-25-41.
385,495. IT'S A CINCH TO MAKE ETC. Cl. 48. 3-4-41.
385,546. PROTECTOGLOW. Cl. 26. 3-11-41.
385,829. TRY IT! ETC. AND DESIGN. Cl. 49. 3-18-41.
385,859. NEWSWEEK. Cl. 38. 3-18-41.
386,009. "EV-R-FLEX CUFF." Cl. 39. 3-25-41.
386,053. SETO AND DESIGN. Cl. 21. 3-25-41.
386,091. MILKMAID AND DESIGN. Cl. 51. 3-25-41.
386,131. SENTINEL. Cl. 18. 3-25-41.
386,152. HANDMAKER. Cl. 39. 3-25-41.
386,302. BOUNTY. Cl. 46. 4-1-41.
386,316. LENIA. Cl. 51. 4-1-41.
386,333. VALTIVA. Cl. 18. 4-1-41.
386,517. B.C.N. Cl. 18. 4-15-41.
386,686. CASH SAVERS. Cl. 39. 4-22-41.
387,002. BROMCALATE. Cl. 18. 4-29-41.
387,075. CHEMOPURE. Cl. 11. 4-29-41.
387,191. BLUECOLD. Cl. 46. 5-6-41.
387,532. CHENEY FABRICS. Cl. 42. 5-27-41.

387,937. SWEETY-PY. Cl. 46. 6-10-41.
388,363. LAND O'LAKES. Cl. 46. 6-24-41.
388,539. PEP BOYS AND DESIGN. Cl. 52. 7-1-41
388,556. PHI EPSILON PI FRATERNITY. Cl. 28. 7-1-41.
388,622. FLEXITE. Cl. 29. 7-1-41.
388,825. IMPERIAL CROWN. Cl. 49. 7-15-41.
388,900. CEDAR-SAN. Cl. 4. 7-15-41.
389,047. SOIR DE PARIS. Cl. 51. 7-22-41.
389,113. PLUCKS. Cl. 44. 7-22-41.
389,152. DYNAMO. Cl. 46. 7-29-41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

146,390. ZOON COCOA. Cl. 46. 9-6-21.
340,892. J. K. LYSLE MFG. CO. ETC. Cl. 46. 11-24-36.

Section 8

100,521. THE TAG MAKERS. Cl. 5. 10-20-14.
315,845. SILVER MIST. Cl. 13. 7-24-34.
317,351. WONDER-SIN ETC. AND DESIGN. Cl. 18. 9-25-34.
321,054. TETSULES. Cl. 18. 1-15-35.
421,154. PRIORITY BRAND. Cl. 46. 5-21-46.
602,152. VIVIPAN. Cl. 26. 2-15-55.

The following registrations issued Feb. 28, 1956

602,253. CAREER GIRL. Cl. 3.
602,267. SILVERLOOK. Cl. 13.
602,269. ROUND. Cl. 13.
602,289. KYNEX. Cl. 18.
602,293. PLUGSTRIP. Cl. 21.
602,296. ANTLEO AND DESIGN. Cl. 21.
602,302. COLORETTE. Cl. 21.
602,309. ROTOLINE. Cl. 21.
602,314. MY-TEE MIDGET. Cl. 21.
602,316. NOR-WEST AND DESIGN. Cl. 22.
602,322. POWER PACKER. Cl. 23.
602,323. SAXON. Cl. 23.
602,327. TERRATRAC ATC AND DESIGN. Cl. 23.
602,328. KROMOLLOY. Cl. 23.
602,330. JIFFY-JIG. Cl. 23.
602,339. ROTO-PULPER. Cl. 23.
602,340. "CLEARVIEW." Cl. 23.
602,344. LITTLE GIANT. Cl. 23.
602,345. MIX-MOR. Cl. 23.
602,350. LIQUI-BREEZ. Cl. 23.
602,355. TURBO JET. Cl. 23.
602,356. BEVEL-MATIC. Cl. 23.
602,358. COLE SPA. Cl. 23.
602,360. JAYFLO. Cl. 23.
602,365. BRADMILL. Cl. 23.
602,367. VIKING. Cl. 23.
602,368. LAWCO AND DESIGN. Cl. 23.
602,369. LINCOLN. Cl. 23.
602,372. SOLAR. Cl. 24.
602,380. GIFTICATE AND DESIGN. Cl. 37.
602,393. THE DOODLER AND DESIGN. Cl. 37.
602,395. CELLUSET. Cl. 37.
602,396. DURAMOIST. Cl. 37.
602,403. COUNTRY STYLE. Cl. 37.
602,404. CICO. Cl. 37.
602,411. NATIVES. Cl. 39.
602,413. PAPA GARENNE. Cl. 39.
602,414. MILES MIDDLERS. Cl. 39.
602,415. AJUST-A-DYPER. Cl. 39.
602,420. BEN-YORK. Cl. 39.
602,422. SHIELD DESIGN. Cl. 39.
602,423. LUSTRKOOK. Cl. 39.
602,425. SABLE. Cl. 39.
602,428. DEL RIO. Cl. 39.
602,431. LAMBKIN DESIGN. Cl. 39.
602,433. DONNKENNY. Cl. 39.
602,435. RACQUET WEAVE AND DESIGN. Cl. 39.
602,439. TORANI AND DESIGN. Cl. 39.
602,442. MAXINE-LEE. Cl. 39.
602,444. GAYARN. Cl. 39.
602,445. FREEDOM NECK. Cl. 39.
602,446. BALENCA. Cl. 39.
602,448. WHAT'S MY NAME MITTS. Cl. 39.
602,449. LITTLESMITH ORIGINAL. Cl. 39.
602,450. ABNAKI CHIEF. Cl. 39.
602,451. VYNI. Cl. 39.
602,452. REVERSAMAID. Cl. 39.
602,455. KASHEMA. Cl. 39.
602,457. BRIAR MATES. Cl. 39.
602,465. CHUMMIE-KOOL. Cl. 42.
602,469. ARTWEAVE FABRICS. Cl. 42.
602,471. PC ETC AND DESIGN. Cl. 42.
602,474. INVADER AND DESIGN. Cl. 42.
602,476. PERMA-POUF. Cl. 42.
602,479. PLEETALENE. Cl. 42.
602,488. VICKI. Cl. 43.
602,490. SWIRLY TOP. Cl. 46.
602,493. HEBREW NATIONAL AND DESIGN. Cl. 46.
602,494. HEBREW NATIONAL AND DESIGN. Cl. 46.
602,495. SUNI-CITRUS AND DESIGN. Cl. 46.
602,497. CHOCO-BONS. Cl. 46.
602,499. GW. Cl. 46.
602,503. WANDA'S HOT PUPPY ROLLS AND DESIGN. Cl. 46.
602,504. REACH. Cl. 46.
602,505. REACE. Cl. 46.
602,510. ALTA LOMA. Cl. 46.
602,511. JONI. Cl. 46.
602,516. OLD WEST. Cl. 46.
602,517. SUN BEAUTY. Cl. 46.
602,521. OCEAN WHITE. Cl. 46.
602,523. HAPPY TAPPY. Cl. 46.
602,526. BIG 5 IN A CIRCLE DESIGN. Cl. 46.
602,530. SUPER SOL-SPEEDI-DRI. Cl. 52.
602,532. LITH-MASTER AND DESIGN. Cl. 52.
602,535. CIDAL. Cl. 52.
602,540. ELONGATED SYMBOL. Cl. 26.
602,542. PANORAMIC. Cl. 26.
602,543. PLATER RATER AND DESIGN. Cl. 26.
602,545. MUSIC USA. Cl. 38.
602,546. WHAT'S NEW IN ROP COLOR. Cl. 38.
602,547. SLIPER SLEEPER. Cl. 39.
602,551. DREWRYS AND DESIGN. Cl. 46.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

522,496. THERMO KING. Cl. 31. 3-21-50. U.S. Thermo Control Company, Thermo King Corporation, Minneapolis, Minn. Amended: In the certificate, lines 4 and 15, in the heading, signature, and in the statement, column 1, line 1, after "Company", *now by change of name Thermo King Corporation* is inserted, line 4, after "South," *now doing business at 314 West 90th Street*, is inserted, line 19, after "tag" *or cast into goods* is inserted, and the drawing is amended to appear:

THERMO KING

562,516. CANTEEN. Cl. 2. 8-5-52. Automatic Canteen Company of America, Chicago, Ill. Amended: In the statement, column 1, line 7, "paper" is deleted.

575,272. FIRST NATIONAL CITY BANK. Cl. 102. 6-2-53. The National City Bank of New York. The First National City Bank of New York, New York, N.Y. Amended to appear:

FIRST NATIONAL CITY BANK

576,617. FIRST NATIONAL CITY BANK. Cl. 38. 6-30-53. The National City Bank of New York. The First National City Bank of New York, New York, N.Y. Amended to appear:

FIRST NATIONAL CITY BANK

602,383. CROWN. Cl. 37. 2-22-55. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

CROWN

629,213. GOLD-PACK AND DESIGN. Cl. 44. 6-19-56. L. E. Shunk Latex Products Inc., Akron, Ohio. Corrected: In the certificate lines 4 and 14 and in the statement, column 1, line 1, "Co." should be deleted and *Inc.* should be inserted.

647,861. HARDWARE/HOUSEWARES. Cl. 38. 7-2-57. The Irving-Cloud Publishing Company, Chicago, Ill. Amended to appear:

HARDWARE/HOUSEWARES

668,000. ROSS PORTA-PLANT. Cl. 23. 10-7-58. Ross & Son, Brownwood, Tex. Corrected: In the statement, column 2, line 2, "Jan. 1, 1957," first occurrence, should be deleted and *on or about Jan. 31, 1956* should be inserted.

671,967. FIRST NATIONAL CITY BANK NEW YORK AND DESIGN. Cl. 102. 12-30-58. The First National City Bank of New York, New York, N.Y. Amended to appear:

673,223. FIRST NATIONAL CITY BANK NEW YORK AND DESIGN. Cl. 38. 1-27-59. The First National City Bank of New York, New York, N.Y. Amended to appear:

699,087. FROM THE LAND OF PEANUTS. Cl. 46. 6-7-60. Gwaltney Incorporated, Smithfield, Va. Corrected: In the statement, column 1, line 1, "Gualtney" should be deleted and *Gwaltney* should be inserted.

701,181. ARMCO ETC. AND DESIGN. Cl. 7. 7-19-60. Armco Steel Corporation, Middletown, Ohio. Amended to appear:

UNION ROPE WIRE ARMCO

703,033. JETWAY. Cl. 50. 8-16-60. Pacific Iron & Steel Corporation of L.A., Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "Los Angeles" should be deleted and *L.A.* should be inserted.

707,816. DEARFOAMS. Cl. 39. 11-29-60. A. C. Richard Corporation. R. G. Barry Corporation, Columbus, Ohio. Amended to appear:

DEARFOAMS

708,660. IROPERON. Cl. 18. 12-20-60. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. Corrected: In the statement, column 1, line 1, "Kemiski" should be deleted and *Kemiske* should be inserted.

709,269. CLARK. Cl. 19. 1-3-61. Clark Equipment Company, Buchanan, Mich. Corrected:

CLARK

710,167. B.A.C. Cl. 18. 1-24-61. Hoffmann Laboratories, Inc., Paterson, N.J. Corrected: In the statement, column 1, line 1, "Hoffman" should be deleted and *Hoffmann* should be inserted.

710,300. WHISTLE STOPS. Cl. 39. 1-24-61. Simon Cohen, doing business as Whistle Stop Footwear, Pomona, Calif. Corrected: In the statement, column 1, line 2, "(California corporation)" should be deleted.

710,631. FANCIFUL V. Cl. 36. 1-31-61. Calculator Equipment Corporation, Orange, N.J. Corrected: In the statement, column 2, lines 6 and 7 should be deleted and *The mark comprises the design shown in the drawing, said design in one aspect being a fanciful representation of the letter V.* should be inserted.

710,853. BEE RITE. Cl. 22. 2-7-61. Blodge A. Bukovey, doing business as B. A. Bukovey Co., Akron, Ohio. Corrected: In the statement, column 1, line 1, after "as" *B.A.* should be inserted.

711,452. NUTRI-MATIC. Cl. 18. 2-21-61. National Remedy Products Company, Inc., Springfield, Mo. Corrected: In the statement, column 2, line 2, "cenerate" should be deleted and *cenirate* should be inserted.

711,888. KNOW YOUR NAVY. Cl. 38. 2-28-61. Stokes Walesby, Washington, D.C. Corrected: In the statement, column 1, line 2, "129" should be deleted and *1639* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

614,528. BLEN-WOOL. Cl. 42. Goodall-Sanford, Inc. 10-18-55. New Cert. Sec. 7(c) to Palm Beach Company, Portland, Maine.

653,791. BON APPETIT. Cl. 38. American Colortype Company. 10-29-57. New Cert. Sec. 7(c) to Home Publications, Inc., San Francisco, Calif.

660,985. CAPADYNE. Cl. 21. Electric Machinery Mfg. Company. 4-29-58. New Cert. Sec. 7(c) to Gulton Industries, Inc., Metuchen, N.J.

688,859. SPRING SCENT. Cl. 52. Texize Chemicals, Inc. 11-24-59. New Cert. Sec. 7(c) to Texize Chemicals, Inc., Greenville, S.C.

702,286. TICKER TOONS. Cl. 38. Jud Hurd. 8-2-60. New Cert. Sec. 7(c) to Field Enterprises, Inc., Chicago, Ill.

706,986. ICELON. Cl. 39. Lord Jeff Knitting Company, Incorporated. 11-8-60. New Cert. Sec. 7(c) to Celanese Corporation of America, New York, N.Y.

707,816. DEARFOAMS. Cl. 39. A. C. Richard Corporation. 11-29-60. New Cert. Sec. 7(c) to R. G. Barry Corporation, Columbus, Ohio.

INDEX OF REGISTRANTS

APRIL 11, 1961

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A & W Root Beer Co., Santa Monica, Calif., from Frederick W. McDonald, Elmhurst, Ill. 713,960. Cl. 31.
AaCronn Co., Inc., The, Philadelphia, Pa. 713,907, pub. 1-24-61. Cl. 103.
Abbott Laboratories, North Chicago, Ill. 713,786, pub. 3-8-60. Cl. 18.
Abuin, Lopez y Compania, Havana, Cuba. 713,919, pub. 1-24-61. Cl. 46.
Adair Co., Worcester, Mass. 713,950, pub. 1-24-61. Cl. 51.
Adams & Westlake Co., The, Chicago, Ill. 142,405, ren. 4-11-61. Cl. 21.
Advance Muffler Service, Inc., Gardena, Calif. 713,968, pub. 1-24-61. Cl. 103.
Airways Rent-A-Car System, Los Angeles, Calif. 713,970, pub. 1-24-61. Cl. 105.
Adjust-A-Dyner Co., Inc., Memphis, Tenn. 602,415, canc. Cl. 39.
Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. 708,680, cor. Cl. 18.
Aktiebolaget Svenska Flaktfabriken, Nacka, Sweden. 713,860-1, pub. 1-24-61. Cl. 34.
Allcraft Mfg. Co., Inc., Cambridge, Mass. 713,802, pub. 1-24-61. Cl. 34.
Allis-Chalmers Mfg. Co., Milwaukee, Wis. 713,757, pub. 1-24-61. Cl. 13.
Allison, Donald K., Albuquerque, N. Mex. 713,620-1, pub. 1-24-61. Cl. 21.
American Business Systems, Inc., Philadelphia, Pa. 713,878, pub. 1-24-61. Cl. 38.
American Colortype Co., to Home Publications, Inc., San Francisco, Calif. 653,791, new cert. Cl. 38.
American Cyanamid Co., New York, N.Y. 602,289, canc. Cl. 18.
American Home Products Corp., d.b.a. Averst Laboratories, New York, N.Y. 713,799-800, pub. 1-24-61. Cl. 18.
American Home Products Corp., d.b.a. Fort Dodge Laboratories, New York, N.Y. 713,791, pub. 1-24-61. Cl. 18.
American Jenbach Corp., Burlington, N.C. 713,842, pub. 1-24-61. Cl. 23.
American-Marietta Co., Chicago, Ill. 713,704, pub. 1-24-61. Cl. 1.
American-Marietta Co., Chicago, Ill. 713,784, pub. 1-24-61. Cl. 16.
American Optical Co., Southbridge, Mass. 602,356, canc. Cl. 23.
American Teleseptic Co, Inc., New York, N.Y. 713,740, pub. 1-24-61. Cl. 6.
American Tractor Corp., Churubusco, Ind. 602,327, canc. Cl. 23.
Anderson, Clayton & Co., Dallas, Tex. 713,934, pub. 1-24-61. Cl. 46.
Anderson Co., The, Gary, Ind. 713,816, pub. 1-24-61. Cl. 19.
Anheuser-Busch, Inc., St. Louis, Mo. 143,533-4, ren. 4-11-61. Cl. 46.
Animal Foods Co. and Amco Sales Co.: *See*—
Coan, N. C.
Anthony Co., Streator, Ill. 713,817, pub. 1-24-61. Cl. 19.
Arkla Air Conditioning Corp., Evansville, Ind. 713,858, pub. 1-24-61. Cl. 34.
Armco Steel Corp., Middletown, Ohio. 701,181. Am. 7(d). Cl. 7.
Armour and Co.: *See*—
Morris & Co.
Armour and Co., from Armour and Co., Chicago, Ill. 713,702, pub. 1-24-61. Cl. 1.
Armour and Co., from Armour and Co., Chicago, Ill. 713,712, pub. 1-17-61. Cl. 1.
Armour and Co., from Armour and Co., Chicago, Ill. 713,802, pub. 1-24-61. Cl. 18.
Armour and Co., from Armour and Co., Chicago, Ill. 713,803, pub. 1-17-61. Cl. 18.
Armour and Co., from Armour and Co., Chicago, Ill. 713,804-5, pub. 1-24-61. Cl. 18.
Armour and Co., from Armour and Co., Chicago, Ill. 713,925, pub. 1-17-61. Cl. 46.
Arrow-Hart & Hegeman Electric Co., Inc., The, Hartford, Conn. 602,302, canc. Cl. 21.
Artweave Fabrics, Inc., New York, N.Y. 602,469. canc. Cl. 42.
Associated Purchasing Corp., Chicago, Ill. 602,511, canc. Cl. 46.
Astoria Mfg. Co., Inc., Astoria, N.Y. 602,344, canc. Cl. 23.
Atalanta Trading Corp., New York, N.Y. 713,933, pub. 1-24-61. Cl. 46.
Atlantic Research Corp., Alexandria, Va. 713,974. Cl. 21.
Attapulgus Clay Co., to Minerals & Chemicals Corp. of America, Philadelphia, Pa. 602,530, canc. Cl. 52.
Automatic Canteen Co. of America, Chicago, Ill. 562,516. Am. 7(d). Cl. 2.
"Automatic" Sprinkler Corp. of America, Youngstown, Ohio. 713,777, pub. 1-24-61. Cl. 13.
Avalon Hill Co., The, Baltimore, Md. 713,822, pub. 1-24-61. Cl. 22.
Ayerst Laboratories: *See*—
American Home Products Corp.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. 713,706, pub. 1-24-61. Cl. 1.
Baitch & Castaldi, Inc., New York, N.Y. 602,455, canc. Cl. 39.
Bak-Kraft Corp., Ltd., Los Angeles, Calif. 713,938, pub. 1-24-61. Cl. 46.
Barbisio & C. S. A., Sagliano Micca, Vercelli, Italy. 602,413, canc. Cl. 39.
Barry, R. G., Corp.: *See*—
Richard, A. C., Corp.
Bath Iron Works Corp.: *See*—
Pennsylvania Crusher Co.
Baum, W. A., Co., Inc., Copiague, N.Y. 713,982. Cl. 44.
Baxter Laboratories, Inc., Morton Grove, Ill. 384,239, ren. 4-11-61. Cl. 44.
Bear Brand Hosiery Co., Chicago, Ill. 713,893, pub. 1-24-61. Cl. 39.
Beaunit Mills, Inc., New York, N. Y. 713,907, pub. 1-24-61. Cl. 42.
Bee Chemical Co., Chicago, Ill. 713,781, pub. 1-24-61. Cl. 16.
Belmar Mills, Inc., New York, N.Y. 602,547, canc. Cl. 39.
Bennett, Richard, Inc., New York, N.Y. 602,420, canc. Cl. 39.
Berlenbach, Bernard E., d. b. a. Ski Free Co., Mill Valley, Calif. 713,826, pub. 1-24-61. Cl. 22.
Bernard Industries, Inc., New York, N.Y. 713,901, pub. 1-24-61. Cl. 39.
Bibby, J., & Sons Ltd., Liverpool, England. 602,585, canc. Cl. 52.
Biosante Chemical Specialties, Inc., New York, N.Y. 713,785, pub. 1-24-61. Cl. 18.
Blum, Milton C., Inc., New York, N.Y. 602,479, canc. Cl. 42.
Boat, Lawanda I., d. b. a. The Chatterbox, Jackson, Fla. 602,503, canc. Cl. 46.
Bourjois, Inc., New York, N.Y. 389,047, ren. 4-11-61. Cl. 51.
Bourns, Inc., Riverside, Calif. 713,818, pub. 1-24-61. Cl. 21.
Bowling Proprietors' Assn. of America, Inc., Chicago, Ill. 713,967, pub. 4-19-60. Cl. 100.
Bowling Proprietors' Assn. of America, Inc., Chicago, Ill. 713,971, pub. 12-27-60. Cl. 107.
Boyle & Co., Los Angeles, to Boyle & Co., Bell Gardens, Calif. 386,333, ren. 4-11-61. Cl. 18.
Braun, Max, Frankfurt am Main, West Germany. 713,975. Cl. 26.
Bridgeport Brass Co., Bridgeport, Conn. 713,779, pub. 1-24-61. Cl. 14.
Bristol-Myers Co., New York, N.Y. 713,810, pub. 1-24-61. Cl. 18.
Bristol-Myers Co., New York, N.Y. 713,953, pub. 1-24-61. Cl. 51.
Brown-Saltman Furniture Co., South Gate, Calif. 713,854, pub. 1-24-61. Cl. 32.
Bruning, Charles, Co., Inc., Mount Prospect, Ill., from Paragon-Revolute Corp., Rochester, N.Y. 713,976. Cl. 26.
Brush Beryllium Co., The, Cleveland, Ohio. 713,736, pub. 1-24-61. Cl. 6.
Bukovey, B. A., Co.: *See*—
Bukovey, Blodge A.
Bukovey, Blodge A., d. b. a. B. A. Bukovey Co., Akron, Ohio. 710,853, cor. Cl. 22.
Calculator Equipment Corp., Orange, N.J. 710,631, cor. Cl. 36.
Calderon, Victor M., Co., New York, N.Y. 421,154, canc. Cl. 46.
Cape Shore Paper Products: *See*—
Williams, J. Parker.
Caporicci, A. & L., Buffalo, N.Y. 602,206, canc. Cl. 21.
Carnegies of Welwyn Ltd., Welwyn Garden City, England. 713,733, pub. 1-24-61. Cl. 6.
Carrier Corp., Syracuse, N.Y. 713,741, pub. 1-24-61. Cl. 6.
Case, Richard J., d. b. a. Lil' Stinker, Vista, Calif. 713,969, pub. 1-24-61. Cl. 103.
Catalano, Alex, Inc., Kansas City, Mo. 602,422, canc. Cl. 39.
Celanese Corp. of America: *See*—
Lord Jeff Knitting Co., Inc.
Celanese Corp. of America, New York, N.Y. 384,578, ren. 4-11-61. Cl. 43.
Challenge Cream & Butter Assn., Los Angeles, Calif. 713,984. Cl. 46.
Challenge Products, Inc., New York, N.Y. 602,446, canc. Cl. 39.
Champion-International Co., Lawrence, Mass. 602,404, canc. Cl. 37.
Chapman Chemical Co., Memphis, Tenn. 713,737, pub. 1-24-61. Cl. 6.
Chatham Mfg. Co., Elkin, N.C. 713,906, pub. 1-24-61. Cl. 42.
Chatterbox, The: *See*—
Boat, Lawanda I.
Chemical Bank New York Trust Co., New York, N.Y. 713,879, pub. 1-24-61. Cl. 38.
Chemical Bank New York Trust Co., New York, N.Y. 713,964, pub. 1-24-61. Cl. 102.
Cheney Bros., Inc.: *See*—
Cheney Bros.

Cheney Bros., Manchester, Conn., and New York, N.Y., to Cheney Bros., Inc., Manchester, Conn. 387,632, ren. 4–11–61. Cl. 42.

Childers Mfg. Co., Inc., Albuquerque, N. Mex. 713,859, pub. 1–24–61. Cl. 34.

Cinch Products, Inc.: *See*—
Red-ee Foods, Inc.

Claremont Flock Corp., Claremont, N.H. 713,972. Cl. 1.

Clark Equipment Co., Buchanan, Mich. 709,269, cor. Cl. 19.

Cleveland Chain & Mfg. Co., The, to Republic Steel Corp., Cleveland, Ohio. 602,269, canc. Cl. 13.

Clinton Detergent Co., Chicago, Ill. 713,734, pub. 1–24–61. Cl. 6.

Clover Knitting Mills, Inc., Philadelphia, Pa. 713,886, pub. 1–24–61. Cl. 39.

Coan, N. C., d. b. a. Animal Foods Co. and Amco Sales Co., San Jose, and Houston, Tex., to V. Coan Doudell, d. b. a. Animal Foods Co. and Amco Sales Co., Santa Clara, Calif. 386,302, ren. 4–11–61. Cl. 46.

Cohen, Simon, d. b. a. Whistle Stop Footwear, Pomona, Calif. 710,300, cor. Cl. 39.

Cohn, Herman, Co.: *See*—
Cohn, Herman.

Cohn, Herman, d. b. a. Herman Cohn Co., Baltimore, Md. 713,850, pub. 1–24–61. Cl. 29.

Cole Products Corp., Chicago, Ill. 602,358, canc. Cl. 23.

Colgate & Co., Jersey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 139,710, ren. 4–11–61. Cl. 52.

Colgate-Palmolive Co.: *See*—
Colgate & Co.

Concert Classics Record Co.: *See*—
Sirooni, Alice.

Consolidated Foods Corp.: *See*—
Western Grocer Co.

Continental Can Co., Inc., New York, N.Y. 713,713, pub. 1–24–61. Cl. 2.

Continental Silver Co. Inc., Brooklyn, N.Y. 602,267, canc. Cl. 13.

Cook Chocolate Co., Chicago, Ill. 713,920, pub. 1–24–61. Cl. 46.

Copley Mfg. Co., Boston, Mass. 713,946, pub. 1–24–61. Cl. 50.

Core-Lube, Inc., Danville, Ill. 713,780, pub. 1–24–61. Cl. 15.

Corn Products Co., New York, N.Y. 713,930, pub. 1–24–61. Cl. 46.

Creese & Cook Co., Danvers, Mass. 145,065, ren. 4–11–61. Cl. 1.

Creomulsion Co., Atlanta, Ga. 713,806, pub. 1–24–61. Cl. 18.

Crompton Co., New York, N.Y. 713,910, pub. 1–24–61. Cl. 42.

Crown Zellerbach Corp., San Francisco, Calif. 602,383. Am. 7(d). Cl. 37.

Crown Zellerbach Corp., San Francisco, Calif. 713,875, pub. 11–29–60. Cl. 37.

Crucible Steel Co. of America, Pittsburgh, Pa. 713,835, pub. 1–24–61. Cl. 23.

Cucamonga Mesa Growers, Upland, Calif. 602,510, canc. Cl. 46.

Cuddle Knit Knitting Mills, Inc., Queens Village, N.Y. 713,892, pub. 1–24–61. Cl. 39.

Custom Camp: *See*—
Lee, A. D.

Cuticura Laboratories: *See*—
Potter Drug & Chemical Corp.

Cutler's Paint Stores, Inc., Philadelphia, Pa. 713,783, pub. 9–6–60. Cl. 16.

Dan-Dee Girl Blouse Co., Inc., New York, N.Y. 602,452, canc. Cl. 39.

Dannen Mills, Inc., St. Joseph, Mo. 713,985. Cl. 46.

Dart, E. M., Mfg. Co., to Dart Union Co., Providence, R.I. 145,068, ren. 4–11–61. Cl. 13.

Dart Union Co.: *See*—
Dart, E. M., Mfg Co.

Deering Milliken, Inc., New York, N.Y. 713,915, pub. 1–24–61. Cl. 42.

Dehydag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany. 713,728, pub. 1–24–61. Cl. 6.

Delaware Poultry Laboratories, Inc., Millsboro, Del. 713,797, pub. 1–24–61. Cl. 18.

DeMert & Dougherty, Inc., Chicago, Ill. 713,742, pub. 1–24–61. Cl. 6.

Dennison Mfg. Co., Boston, Mass. 100,521, canc. Cl. 5.

Diametal Ag, Biel, Switzerland. 713,724, pub. 1–24–61. Cl. 4.

Diamond Alkali Co., Cleveland, Ohio. 713,743, pub. 1–24–61. Cl. 6.

Diamond Alkali Co., Cleveland, Ohio. 713,956, pub. 1–24–61. Cl. 52.

Diamond National Corp., New York, N.Y. 713,876, pub. 1–24–61. Cl. 37.

Doudell, V. Coan: *See*—
Coan, N. C.

Dr. Ing. Rudolf Hell, Kiel-Dietrichsdorf, Germany. 713,846, pub. 1–24–61. Cl. 26.

Draper Corp., Hopedale, Mass. 713,836–8, pub. 1–24–61. Cl. 23.

Draper Corp., Hopedale, Mass. 713,844, pub. 1–24–61. Cl. 23.

Drewrys Ltd. U.S.A. Inc., South Bend, Ind. 602,551, canc. Cl. 48.

Dreyfus, L. A., Co., South Plainfield, N.J. 713,732, pub. 1–24–61. Cl. 6.

Dubuque Stamping & Mfg. Co., Toledo, Ohio. 713,831, pub. 1–24–61. Cl. 23.

Durium S.p.A., Milan, Italy. 713,866, pub. 8–25–59. Cl. 36.

Dyckman Hotel Co., Minneapolis, Minn. 713,960, pub. 1–24–61. Cl. 101.

E-Z Coat, Inc., Clearwater, Fla. 713,718, pub. 1–24–61. Cl. 4.

Eastern Research Corp., Philadelphia, Pa. 713,721, pub. 1–24–61. Cl. 4.

Ebert, Earl H., d.b.a. Motex Mfg. Co., Kansas City, Mo. 383,951, ren. 4–11–61. Cl. 25.

Electric Machinery Mfg. Co., to Gulton Industries, Inc., Metuchen, N.J. 660,985, new certificate. Cl. 21.

Electrographic Corp., d.b.a. Reilly Electrotype Division and as Lake Shore Electrotype Div., New York, N.Y. 602,546, canc. Cl. 38.

Endo Laboratories Inc.: *See*—
Endo Products, Inc.

Endo Products, Inc., New York, N.Y., to Endo Laboratories Inc., Richmond Hill, N.Y. 387,002, ren. 4–11–61. Cl. 18.

Erico Products, Inc., Cleveland, Ohio. 713,778, pub. 1–24–61. Cl. 14.

Ever-Kleen Products, Inc., San Francisco, Calif. 713,955, pub. 1–24–61. Cl. 52.

Evyan Perfumes, Inc., by change of name from Parfums Evyan Inc., New York, N.Y. 713,948–9, pub. 1–24–61. Cl. 51.

Fabrique Nationale d'Armes de Guerre, Societe Anonyme, Herstal-near-Liege, Belgium. 713,843, pub. 1–24–61. Cl. 23.

Falco Products Co., Philadelphia, Pa. 602,372, canc. Cl. 24.

Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 713,795, pub. 1–24–61. Cl. 18.

Farr, John F., Anderson, S.C. 713,947, pub. 1–24–61. Cl. 50.

Federal Paper Board Co., Inc., Bogota, N.J. 713,857, pub. 1–24–61. Cl. 33.

Federal Sweets & Biscuit Co., Inc., Clifton, N.J. 713,939, pub. 1–24–61. Cl. 46.

Fidelitone, Inc., Chicago, Ill. 713,807, pub. 1–24–61. Cl. 36.

Field Enterprises, Inc.: *See*—
Hurd, Jud.

Finkel Outdoor Products, Inc., New York, N.Y. 713,905, pub. 1–24–61. Cl. 41.

First National City Bank of New York, The: *See*—
National City Bank of New York, The.

First National City Bank of New York, The, New York, N.Y. 671,967. Am. 7(d). Cl. 102.

First National City Bank of New York, The, New York, N.Y. 673,223. Am. 7(d). Cl. 38.

Five Guys from Boston, Inc., d. b. a. Ollie Orbit, Boston, Mass. 713,931, pub. 1–24–61. Cl. 46.

Flexigrip, Inc., New York, N.Y. 713,773, pub. 1–24–61. Cl. 13.

Food Machinery and Chemical Corp., New York, N.Y. 713,738, pub. 1–24–61. Cl. 6.

Food Manufacturers, Inc., d. b. a. M & M's Candies, Hackettstown, N.J. 713,932, pub. 1–24–61. Cl. 46.

Forest City Products, Inc.: *See*—
Forest City Rubber Co., The.

Forest City Rubber Co., The, to Forest City Products, Inc., Cleveland, Ohio. 386,131, ren. 4–11–61. Cl. 18.

Forest City Rubber Co., The, to Forest City Products, Inc., Cleveland, Ohio. 389,113, ren. 4–11–61. Cl. 44.

Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,605, ren. 4–11–61. Cl. 42.

Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,608–9, ren. 4–11–61. Cl. 42.

Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,611, ren. 4–11–61. Cl. 42.

Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,949–50, ren. 4–11–61. Cl. 42.

Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 144,767, ren. 4–11–61. Cl. 42.

Fort Dodge Laboratories: *See*—
American Home Products Corp.

Foster Grant Co., Inc., Leominster, Mass. 713,847–8, pub. 1–24–61. Cl. 26.

Frank & Meyer Neckwear Co., St. Louis, Mo. 713,899, pub. 1–24–61. Cl. 39.

Frankenthal Co.: *See*—
Frankenthal, H.

Frankenthal, H., d. b. a. Frankenthal Co., Weslaco, Tex., and Sanger, Calif., to C. S. Justman, Brawley, Calif. 389,152, ren. 4–11–61. Cl. 46.

Fraser Paper, Ltd., Madawaska, Maine. 713,873, pub. 1–24–61. Cl. 37.

Friden Calculating Machine Co., Inc., San Leandro, Calif. 602,540, canc. Cl. 26.

Fritz Muller "Coroplast" K. G., Wuppertal-Nachstebreck, Germany. 713,709, pub. 10–4–60. Cl. 1.

Fritz Muller "Coroplast" K. G. (Kommanditgesellschaft), Wuppertal-Nachstebreck, Germany. 713,727, pub. 1–24–61. Cl. 5.

Fry Krisp Co., The: *See*—
Fry Krisp Food Products, Inc.

Fry Krisp Food Products, Inc., d. b. a. The Fry Krisp Co., Jackson, Mich. 713,927, pub. 1–24–61. Cl. 46.

Garner & Co., Inc., New York, N.Y. 713,714–15, pub. 1–24–61. Cl. 2.

Gehring Textiles, Inc., New York, N.Y. 602,476, canc. Cl. 42.

Gem Hosiery Mills, Georgetown, Del. 602,428, canc. Cl. 39.

General Aniline & Film Corp., New York, N.Y. 602,152, canc. Cl. 26.

General Magnetics & Electronics, Inc., Flushing, N.Y. 713,872, pub. 1–24–61. Cl. 36.

General Motors Corp., Detroit, Mich. 713,815, pub. 1–24–61. Cl. 19.

Goodall-Sanford, Inc., to Palm Beach Co., Portland, Maine. 614,528, new cert. Cl. 42.

Goodrich, B. F., Co., The, Akron, Ohio. 130,306–8, ren. 4–11–61. Cl. 35.

Gowdy, George H., St. Petersburg, Fla. 713,823, pub. 1–24–61. Cl. 22.

Graphic Supply Co., Inc., New York, N.Y. 713,832, pub. 1–24–61. Cl. 23.

Great American Insurance Co., New York, N.Y. 713,966, pub. 1–24–61. Cl. 102.

Great Western Sugar Co., The, Denver, Colo. 602,499, canc. Cl. 46.

Green Bay Food Co., Green Bay, Wis. 713,988. Cl. 46.

Greenwood Foods, Inc., Waterloo, N.Y. 713,937, pub. 1–24–61. Cl. 46.

Greiner, William, Co., Chicago, Ill. 713,711, pub. 1–24–61. Cl. 1.

Guano, F. S. Royster, Co., Norfolk, Va. 713,747, pub. 1–24–61. Cl. 10.

Guarantee Meat Market of Hackensack, Inc., d. b. a. Guarantee Super Markets, Hackensack, N.J. 713,922, pub. 1–24–61. Cl. 46.

Guarantee Super Markets: *See*—
Guarantee Meat Market of Hackensack, Inc.

Guardian Chemical Corp., Long Island City, N.Y. 713,793, pub. 1–24–61. Cl. 18.

Gulton Industries, Inc.: *See*—
Electric Machinery Mfg. Co.

Gustin-Bacon Mfg. Co., Kansas City, Mo. 713,758, pub. 1–24–61. Cl. 12.

Guttmann, Joseph, & Bros., New York, N.Y. 713,804, pub. 1–24–61. Cl. 39.

Gwaltney, Inc., Smithfield, Va. 699,087, cor. Cl. 46.

H. P. Coffee Co., St. Louis, Mo. 384,761, ren. 4–11–61. Cl. 46.

Haack Bros. Mfg. Pharmacists, to Haack Laboratories, Inc., Portland, Oreg. 386,517, ren. 4–11–61. Cl. 18.

Haack Laboratories, Inc.: *See*—
Haack Bros. Mfg. Pharmacists.

Hack Saws Ltd., Sheffield, England. 713,839, pub. 1–24–61. Cl. 23.

Haico Research Corp., New York, N.Y. 713,941, pub. 1–24–61. Cl. 46.

Haloid Co., The, Rochester, N.Y. 602,532, canc. Cl. 52.

Harris, Robert E.: *See*—
Modern Floors Mfg. Co., Inc.

Hartwell Corp., Los Angeles, Calif. 713,772, pub. 1–24–61. Cl. 13.

Haver-Lockhart Laboratories, Inc., Kansas City, Mo. 713,807, pub. 1–24–61. Cl. 18.

Hebrew National Kosher Sausage Co., Inc., Brooklyn, N.Y. 602,493–4, canc. Cl. 46.

Heggblade-Marguleas Co., San Francisco, Calif. 713,986. Cl. 46.

Hemkel Flour Mills, The: *See*—
International Milling Co.

Heublein, G. F., & Bro., Inc., Hartford, Conn. 602,523, canc. Cl. 46.

Hickson's Timber Impregnation Co. (G.B.) Ltd., Castleford, England. 713,765, pub. 1–24–61. Cl. 12.

Hockmeyer Bros., Inc., New York, N.Y. 713,911, pub. 1–24–61. Cl. 42.

Hoffmann Laboratories, Inc., Paterson, N.J. 710,167, cor. Cl. 18.

Hollywood Plastics, Inc., Los Angeles, Calif. 713,716, pub. 1–24–61. Cl. 2.

Home Publications, Inc.: *See*—
American Colortype Co.

Hoover-Moore Products, Inc., Kent, Ohio. 602,345, canc. Cl. 23.

Hudnut, Richard, Morris Plains, N.J. 713,983. Cl. 44.

Hudnut, Richard, Morris Plains, N.J. 713,990–010. Cl. 51.

Humble Oil & Refining Co.: *See*—
Standard Oil Co. of New Jersey.

Humble Oil & Refining Co., Houston, Tex., by merger from Esso Standard Oil Co., New York, N.Y. 713,751, pub. 1–24–61. Cl. 12.

Huntington Laboratories, Inc., Huntington, Ind. 386,900, ren. 4–11–61. Cl. 4.

Hurd, Jud, to Field Enterprises, Inc., Chicago, Ill. 702,286, new cert. Cl. 38.

Imperial Brass Mfg. Co., The: *See*—
Imperial-Eastman Corp.

Imperial-Eastman Corp., by merger and change of name from The Imperial Brass Mfg. Co., Chicago, Ill. 713,774, pub. 1–17–61. Cl. 13.

Imperial-Eastman Corp., by merger and change of name from The Imperial Brass Mfg. Co., Chicago, Ill. 713,865, pub. 1–17–61. Cl. 35.

Inland Steel Products Co., Milwaukee, Wis. 713,753, pub. 1–24–61. Cl. 12.

International Milling Co., d.b.a. The Hemkel Flour Mills, Minneapolis, Minn. 713,923, pub. 1–24–61. Cl. 46.

Internuclear Co., Clayton, Mo. 713,968, pub. 1–24–61. Cl. 100.

Irving-Cloud Publishing Co., The, Chicago, Ill. 647,861. Am. 7(d). Cl. 38.

Jackson & Church Co., Saginaw, Mich. 602,339, canc. Cl. 23.

Janss, Edward F., d.b.a. Jiffy-Jig Mfg. Co., Omaha, Nebr. 602,330, canc. Cl. 23.

Jayflo Products Co., Minneapolis, Minn. 602,360, canc. Cl. 23.

Jensen-Hasting Products, Inc., Seattle, Wash. 713,977, pub. 6–23–59. Cl. 26.

Jiffy-Jig Mfg. Co.: *See*—
Janss, Edward F.

John Sunshine Chemical Co., Inc., Chicago, Ill. 713,750, pub. 1–24–61. Cl. 12.

Johns-Manville Corp., New York, N.Y. 713,754, pub. 1–24–61. Cl. 12.

Johnson & Johnson, New Brunswick, N.J. 713,752, pub. 1–24–61. Cl. 12.

Johnson & Johnson, New Brunswick, N.J. 713,789, pub. 1–24–61. Cl. 18.

Jolee Inc., New York, N.Y. 713,897, pub. 1–24–61. Cl. 39.

Joseph & Feiss Co., The, Cleevland, Ohio. 713,883–5, pub. 1–24–61. Cl. 30.

Justman, C. S.: *See*—
Frankenthal, H.

KVP Sutherland Paper Co.: *See*—
Kalamazoo Vegetable Parchment Co.

Kalamazoo Vegetable Parchment Co., to KVP Sutherland Paper Co., Kalamazoo, Mich. 145,127, ren. 4–11–61. Cl. 37.

Kayser-Roth Corp.: *See*—
Roth, Chester H., Co., Inc.

Kimberly-Clark Corp., Neenah, Wis. 713,877, pub. 1–24–61. Cl. 37.

Kissinger, Henry W., d.b.a. Kissinger-Masterbilt Co., Chicago, Ill. 713,834, pub. 1–24–61. Cl. 23.

Kissinger-Masterbilt Co.: *See*—
Kissinger, Henry W.

Kittys Vegetable Distributors Inc.: *See*—
K.I.T.T.Y.S. Vegetable Distributors, Inc.

K.I.T.T.Y.S. Vegetable Distributors, Inc., d.b.a. Kittys Vegetable Distributors Inc., Los Angeles, Calif. 713,935, pub. 1–24–61. Cl. 46.

Kleinschmidt, Ruth, New York, N.Y. 602,449, canc. Cl. 39.

Klincher Locknut Corp., Indianapolis, Ind. 713,768–9, pub. 1–24–61. Cl. 13.

Klosterbrennerei A.G. Erste Badische Wein-und Edelbranntweinbrennerei, Emmendingen, Germany. 713,943, pub. 1–24–61. Cl. 49.

Knipe Bros. Inc., Haverhill, Mass. 602,450, canc. Cl. 39.

Kraus Bros. & Co., Inc., to Hiram Walker & Sons, Inc., of Peoria, Ill., New York, N.Y., to Hiram Walker & Sons, Inc., Detroit, Mich. 388,825, ren. 4–11–61. Cl. 49.

Lake Shore Electrotype Div.: *See*—
Electrographic Corp.

Lamports Co., The, Cleveland, Ohio. 713,720, pub. 1–24–61. Cl. 4.

Laurence Belting Co., Inc., New York, N.Y. 138,980–90, ren. 4–11–61. Cl. 35.

Lawco, Inc., Hutchinson, Kans. 602,368, canc. Cl. 23.

Lebanon Woolen Mills, Inc., Lebanon, N.H. 713,908, pub. 1–24–61. Cl. 42.

Lee, A. D., d.b.a. Custom Camp, Houston, Tex. 713,756, pub. 1–24–61. Cl. 12.

Les Parfums de Dana, Inc., New York, N.Y. 386,316, ren. 4–11–61. Cl. 51.

Leslie Fay Corp., New York, N.Y. 602,457, canc. Cl. 39.

Levenson Co., The, Boston, Mass. 713,890, pub. 1–24–61. Cl. 39.

Lewy, Archie, Philadelphia, Pa. 713,836, pub. 1–24–61. Cl. 32.

Lil' Stinker: *See*—
Case, Richard J.

Lippman, William, d.b.a. Sir William Shrimp Packers, Miami, Fla. 713,940, pub. 1–24–61. Cl. 46.

Lipthrott, Ralph H., d. b. a. Reace Tea and Coffee Co., St. Petersburg, Fla. 602,504–5, canc. Cl. 46.

London & Co., Inc., Elizabeth, N.J. 385,829, ren. 4–11–61. Cl. 49.

Lord Jeff Knitting Co., Inc., to Celanese Corp. of America, New York, N.Y. 706,986, new cert. Cl. 38.

Lysle, J. C., Milling Co., The, Leavenworth, Kans. 340,892, canc. Cl. 46.

M & M's Candies: *See*—
Food Manufacturers, Inc.

Mackintosh, John, & Sons Ltd., Yorkshire, England. 713,924, pub. 1–24–61. Cl. 46.

MacPherson Bros. Leather Co.: *See*—
Stapleton Leather Co.

Magic City Candy Co., Birmingham, Ala. 602,526, canc. Cl. 46.

Manor Morsels, Inc., Briarcliff Manor, N.Y. 713,928, pub. 1–24–61. Cl. 46.

Marci Threads Corp., Long Island City, N.Y. 602,468, canc. Cl. 43.

Marghab, Emile, Inc., New York, N.Y. 713,891, pub. 1–24–61. Cl. 39.

Marlenn Products Co., Inc., Baltimore, Md. 713,735, pub. 1–24–61. Cl. 6.

Maryland Engineering Co., Pikesville, Baltimore, Md. 602,340, canc. Cl. 23.

Mayer, Max, & Co., Inc., New York, N.Y. 602,448, canc. Cl. 39.

McCrary Hosiery Mills, Inc., Asheboro, N.C. 713,898, pub. 1–24–61. Cl. 39.

McDonald, Frederick W.: *See*—
A & W Root Beer Co.

McGuire Enterprises: *See*—
McGuire, Luella W., Mrs.

McGuire, Luella W., Mrs., d. b. a. McGuire Enterprises, Gary, Ind. 713,722, pub. 1–24–61. Cl. 4.

Melville Shoe Corp., New York, N.Y. 602,414, canc. Cl. 39.

Merck & Co., Inc., Rahway, N.J. 713,808, pub. 1–24–61. Cl. 18.

Metal & Thermit Corp., Middlesex County, N.J. 713,810, pub. 1–24–61. Cl. 21.

Metronome Corp., New York, N.Y. 602,545, canc. Cl. 36.

Meyers, Louis, & Son, Inc., New York, N.Y. 386,152, ren. 4–11–61. Cl. 39.

Milkmaid, Inc., to Milkmaid, Inc., New York, N.Y. 386,091, ren. 4–11–61. Cl. 51.

Miller, S. J., Packing Co., Grand Junction, Colo. 602,516–17, canc. Cl. 46.

Millville Mfg. Co., The, Philadelphia, Pa. 713,914, pub. 12–6–60. Cl. 42.

Minerals & Chemicals Corp. of America: *See*—
Attapulgus Clay Co.

Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 385,548, ren. 4–11–61. Cl. 26.

Mississippi Chemical Corp., Yazoo City, Miss. 713,981. Cl. 38.
Mr. Boston Distiller Inc., Boston, Mass. 713,944, pub. 1-24-61. Cl. 49.
Mitsubishi Rayon Co. Ltd., and Mitsubishi Vonnel Co, Ltd., Chuo-ku, Tokyo, Japan. 713,913, pub. 1-24-61. Cl. 42.
Modella Mfg. Co., Inc., The, Port Chester, N.Y. 713,887, pub. 1-24-61. Cl. 39.
Modern Floors Mfg. Co., Inc., Washington, D.C., to Robert E. Harris, Morehead City, N.C. 385,897, ren. 4-11-61. Cl. 23.
Modern Floors Mfg. Co., Inc., Washington, D.C., to Robert E. Harris, Morehead City, N.C. 385,141, ren. Cl. 16.
Monadnock Paper Mills, Inc., Manchester, N.H. 602,396, canc. Cl. 37.
Moore, E. R., Co., Chicago, Ill. 602,423, canc. Cl. 39.
Morat, Frank, G.m.b.H., Stuttgart-Vaihingen, Germany. 713,912, pub. 1-24-61. Cl. 42.
Morningstar-Paisley, Inc., New York, N.Y. 713,921, pub. 1-24-61. Cl. 46.
Morris & Co., to Armour and Co., Chicago, Ill. 189,000, ren. 4-11-61. Cl. 46.
Morris & Co., to Armour and Co., Chicago, Ill. 139,591, ren. 4-11-61. Cl. 46.
Morton Chemical Co., Chicago, Ill. 713,744, pub. 1-24-61. Cl. 6.
Mosaic Tile Co., The, Zanesville, Ohio. 713,764, pub. 1-24-61. Cl. 12.
Moscrip Inc., Lima, Ohio. 713,762, pub. 1-24-61. Cl. 12.
Moser Paper Co., Chicago, Ill. 713,739, pub. 1-24-61. Cl. 6.
Motex Mfg. Co.: *See*— Ebert, Earl H.
Mueller Electric Co.: *See*— Mueller, Ralph S.
Mueller, Ralph S., to Mueller Electric Co., Cleveland, Ohio. 141,182, ren. 4-11-61. Cl. 21.
Murphy, Brill and Sahner, Inc., New York, N.Y. 713,680-1, pub. 1-24-61. Cl. 39.
Murphy, G. C., Co., McKeesport, Pa. 713,902, pub. 1-24-61. Cl. 39.
Nadler Sportswear Corp., New York, N.Y. 602,433, canc. Cl. 39.
National Chemsearch Corp., by change of name from National Disinfectant Co. of Texas, Dallas, Tex. 713,782, pub. 1-24-61. Cl. 16.
National City Bank of New York, The, The First National City Bank of New York, New York, N.Y. 575,272. Am. 7(d). Cl. 102.
National City Bank of New York, The, The First National City Bank of New York, New York, N.Y. 576,617. Am. 7(d). Cl. 38.
National Disinfectant Co. of Texas: *See*— National Chemsearch Corp.
National Lead Co., New York, N.Y. 713,708, pub. 1-24-61. Cl. 1.
National Remedy Products Co., Inc., Springfield, Mo. 711,452, cor. Cl. 18.
National Steel Construction Co., Seattle, Wash. 713,973. Cl. 2.
Nationwide Mutual Insurance Co., Columbus, Ohio. 713,962, pub. 1-24-61. Cl. 102.
Natrogas, Inc., Minneapolis, Minn. 384,803, ren. 4-11-61. Cl. 6.
Navan Products, Inc., El Segundo, Calif. 713,723, pub. 1-24-61. Cl. 4.
Necchi Sewing Machine Sales Corp., New York, N.Y. 602,369, canc. Cl. 23.
Necchi Societa per Azioni, Pavia, Italy. 713,830, pub. 1-24-61. Cl. 23.
Newman, Louis, d.b.a. Podiatry Laboratories, New York, N.Y. 713,719, pub. 1-24-61. Cl. 4.
Newsweek, Inc.: *See*— Weekly Publications, Inc.
Nicholas International Ltd., Toronto, Ontario, Canada. 713,788, pub. 10-4-60. Cl. 18.
Nopco Chemical Co., Newark, N.J. 713,746, pub. 1-24-61. Cl. 6.
Northwestern Mail Box Co., d.b.a. Northwestern Products Co., St. Louis, Mo. 602,310, canc. Cl. 22.
Northwestern Products Co.: *See*— Northwestern Mail Box Co.
Norwich Pharmacal Co., The, Norwich, N.Y. 713,809, pub. 1-24-61. Cl. 18.
Noxon Chemical Products Co., Newark, N.J., to Noxon, Inc., Jersey City, N.J. 145,166, ren. 4-11-61. Cl. 4.
Noxon, Inc.: *See*— Noxon Chemical Products Co.
Oconomowoc Canning Co., Oconomowoc, Wis. 388,363, ren. 4-11-61. Cl. 46.
O'Donnell, John E., d.b.a. O'Donnell Research Laboratories, Seattle, Wash. 713,792, pub. 11-1-60. Cl. 18.
O'Donnell Research Laboratories: *See*— O'Donnell, John E.
Ohio Brass Co., The, Mansfield, Ohio. 386,053, ren. 4-11-61. Cl. 21.
Ollie Orbit: *See*— Five Guys from Boston, Inc.
Optical Development Corp., Chicago, Ill. 713,978. Cl. 26.
Owens Staple-Tied Brush Co., The, Toledo, Ohio, to Weco Products Co., Chicago, Ill. 388,622, ren. 4-11-61. Cl. 29.
Pacific Iron & Steel Corp. of L. A., Los Angeles, Calif. 703,033, cor. Cl. 50.
Packard Motor Car Co., now by change of name Studebaker-Packard Corp., Detroit, Mich. 602,322, canc. Cl. 23.
Palm Beach Co.: *See*— Goodall-Sanford, Inc.
Paragon-Revolute Corp.: *See*— Bruning, Charles, Co., Inc.
Parfums Evyan Inc.: *See*— Evyan Perfumes, Inc.
Parker-Hannifin Corp., Cleveland, Ohio. 713,864, pub. 1-24-61. Cl. 35.
Peerless Playthings Co., Inc., Ridgefield Park, N.J. 713,824, pub. 1-24-61. Cl. 22.
Peerless Unis De Quebec, Montreal, Canada. 387,191, ren. 4-11-61. Cl. 46.
Peirce and Co., Los Angeles, Calif. 602,471, canc. Cl. 42.
Penick, S. B., & Co., New York, N.Y. 385,206, ren. 4-11-61. Cl. 6.
Pennsylvania Crusher Co., to Bath Iron Works Corp., Philadelphia, Pa. 602,365, canc. Cl. 23.
Pennsylvania Optical Co., Reading, Pa. 713,979. Cl. 26.
Pep Boys, Manny Moe & Jack, The, Philadelphia, Pa. 388,539, ren. 4-11-61. Cl. 52.
Pepperidge Farm, Inc., Norwalk, Conn. 713,929, pub. 1-24-61. Cl. 46.
Peridome, Ltd., New York, N.Y. 602,542, canc. Cl. 26.
Peripole Products, Inc., Brooklyn, N.Y. 713,868, pub. 1-24-61. Cl. 36.
Peters, A. K., Co.: *See*— Peters, Arthur K.
Peters, Arthur K., d.b.a. A. K. Peters Co., New York, N.Y. 713,745, pub. 1-24-61. Cl. 6.
Pharmaceutical Foundation of the University of Texas, The, Austin, Tex. 713,900, pub. 1-24-61. Cl. 39.
Phi Epsilon Pi Fraternity, Inc., Philadelphia, Pa. 388,558, ren. 4-11-61. Cl. 28.
Phillips-Joanna Co., Chicago, Ill. 713,874, pub. 1-24-61. Cl. 37.
Phoenix Hosiery Co., Milwaukee, Wis. 386,009, ren. 4-11-61. Cl. 39.
Pierre, Jon, Cosmetics, Inc., New York, N.Y. 713,952, pub. 1-24-61. Cl. 51.
Pittsburgh Garter Co., Pittsburgh, Pa. 713,717, pub. 1-24-61. Cl. 3.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 713,703, pub. 1-24-61. Cl. 1.
Plantation Chocolate Co., Philadelphia, Pa. 387,957, ren. 4-11-61. Cl. 46.
Plastering Development Center, Inc., Chicago, Ill. 713,763, pub. 1-24-61. Cl. 12.
Plater Rater, Hawthorne, Calif. 602,543, canc. Cl. 26.
Podiatry Laboratories: *See*— Newman, Louis.
Portis, Style Industries Co., Chicago, Ill. 713,882, pub. 1-24-61. Cl. 39.
Potter Drug & Chemical Corp., d.b.a. Cuticura Laboratories, Malden, Mass. 713,790, pub. 11-22-60. Cl. 18.
Price Candy Co., Kansas City, Mo. 602,497, canc. Cl. 46.
Radio Condenser Co., Camden, N.J. 602,399, canc. Cl. 21.
Ralston Purina Co., St. Louis, Mo. 321,054, canc. Cl. 18.
Reace Tea and Coffee Co.: *See*— Lipthrott, Ralph H.
Realistic Co., The, Cincinnati, Ohio. 713,951, pub. 1-24-61. Cl. 51.
Reckitt, Colman Chiswick (Overseas) Ltd.: *See*— Reckitts (U.S.A.), Ltd.
Reckitts (U.S.A.), Ltd., New York, N.Y., and New Brunswick, N.J., to Reckitt, Colman Chiswick (Overseas) Ltd., Hull, England. 140,945, ren. 4-11-61. Cl. 6.
Red-ee Foods, Inc., to Cinch Products, Inc., Los Angeles, Calif. 385,495, ren. 4-11-61. Cl. 46.
Reilly Electrotype Division: *See*— Electrographic Corp.
Republic Steel Corp.: *See*— Cleveland Chain & Mfg. Co., The.
Restonic Corp., Chicago, Ill. 713,851-2, pub. 1-24-61. Cl. 32.
Revertex Corp. of America, Brooklyn, N.Y., to Revertex Ltd., London, England. 385,346, ren. 4-11-61. Cl. 1.
Revertex Ltd.: *See*— Revertex Corp. of America.
Reynolds, John E., Leamington, Ontario, Canada. 713,767, pub. 1-24-61. Cl. 12.
Richard, A. C., Corp., to R. G. Barry Corp., Columbus, Ohio. 707,816, new cert. Cl. 39.
Richard, A. C., Corp., R. G. Barry Corp., Columbus, Ohio. 707,816. Am. 7(d). Cl. 39.
Richards Shear Co., Seattle, Wash. 713,841, pub. 1-24-61. Cl. 23.
Robertson Chemical Corp., Norfolk, Va. 713,748-9, pub. 1-24-61. Cl. 10.
Rocket Jet Engineering Corp., Glendale, Calif. 713,849, pub. 1-24-61. Cl. 26.
Roerico Corp., San Juan, Puerto Rico. 713,945, pub. 1-24-61. Cl. 49.
Rosan Engineering Corp., Newport Beach, Calif. 713,770, pub. 1-24-61. Cl. 13.
Ross & Son, Brownwood, Tex. 668,000, cor. Cl. 23.
Roth, Chester H., Co., Inc., to Kayser-Roth Corp., New York, N.Y. 384,182, ren. 4-11-61. Cl. 39.
Rubinstein, Helena, Inc., New York, N.Y. 713,954, pub. 1-24-61. Cl. 51.
Russell Mfg. Co., Alexander City, Ala. 602,431, canc. Cl. 39.
Russell, Niles E., d. b. a. Tri-State Culvert Co., Pittsburgh, Pa. 315,343, canc. Cl. 19.
St. Regis Paper Co., New York, N.Y. 602,396, canc. Cl. 37.
Salant & Salant, Inc., New York, N.Y. 713,896, pub. 1-24-61. Cl. 39.
Salem Pipe & Iron Mfg. Co., Bridgeton, N.J. 713,776, pub. 1-24-61. Cl. 13.
Sand, Haakon, South Gate, Calif. 713,833, pub. 1-24-61. Cl. 23.
Sandhurst Mills, Inc., Rockingham, N.C. 602,435, canc. Cl. 39.
Savage Lumber & Mfg. Co., Seattle, Wash. 713,760, pub. 1-24-61. Cl. 12.

Schjeldahl, G. T., Co., Northfield, Minn. 713,766, pub. 1-24-61. Cl. 12.
Schwartz, Max, Lingerie, Inc., New York, N.Y. 602,442, canc. Cl. 39.
Seager, Evans & Co., Ltd., London, England. 139,388, ren. 4-11-61. Cl. 49.
Seapak Corp., St. Simons Island, Ga. 602,521, canc. Cl. 46.
Seiden Bros. Mfg. Co., Brooklyn, N.Y. 602,393, canc. Cl. 37.
Seirig Mfg. Co., Chicago, Ill. 602,490, canc. Cl. 46.
Selby Shoe Co., The, Portsmouth, Ohio. 602,411, canc. Cl. 39.
Shapiro, Bernstein & Co., Inc., New York, N.Y. 140,434, ren. 4-11-61. Cl. 38.
Shawnee Milling Co., Shawnee, Okla. 384,549, ren. 4-11-61. Cl. 46.
Sheaffer, W. A., Pen Co., Fort Madison, Iowa. 142,760, ren. 4-11-61. Cl. 11.
Sheaffer, W. A., Pen Co., Fort Madison, Iowa. 387,075, ren. 4-11-61. Cl. 11.
Shepherd Knitwear Co., Inc., New York, N.Y. 602,451, canc. Cl. 39.
Shunk, L. E., Latex Products Inc., Akron, Ohio. 629,213, cor. Cl. 44.
Sieh, Alberta, d.b.a. Sieh Registry Plan of Licensed Child Care, Topeka, Kans. 713,950, pub. 1-24-61. Cl. 101.
Sieh Registry Plan of Licensed Child Care: *See*— Sieh, Alberta.
Silo, Inc., Philadelphia, Pa. 713,870, pub. 1-24-61. Cl. 36.
Simca, Paris, France. 713,813-14, pub. 1-24-61. Cl. 19.
Simmons Co., New York, N.Y. 713,917, pub. 1-24-61. Cl. 44.
Sinclair Refining Co., New York, N.Y. 713,730-1, pub. 1-24-61. Cl. 6.
Sir William Shrimp Packers: *See*— Lippman, William.
Sirocal, Alice, d. b. a. Concert Classics Record Co., New York, N.Y. 713,869, pub. 1-24-61. Cl. 36.
Ski Free Co.: *See*— Berlenbach, Bernard E.
Skinner, M. B., Co., South Bend, Ind. 713,771, pub. 1-24-61. Cl. 13.
Slocum Hat Corp., Milwaukee, Wis. 602,444, canc. Cl. 39.
Smith Bros. of Port Washington, Inc., Port Washington, Wis. 713,961, pub. 11-1-60. Cl. 101.
Smith, Elwin G., & Co., Inc., d. b. a. Egeco, Pittsburgh, Pa. 713,750, pub. 1-24-61. Cl. 12.
Smith, Marie E., New York, N.Y. 602,439, canc. Cl. 39.
Society of American Florists: *See*— Society of American Florists and Ornamental Horticulturists.
Society of American Florists and Ornamental Horticulturists, d. b. a. Society of American Florists, Washington, D.C. 713,707, pub. 1-24-61. Cl. 1.
Stahnau, Roy E., Belleville, Mich. 713,629, pub. 2-17-59. Cl. 23.
Standard Oil Co. of New Jersey, Wilmington, Del., to Humble Oil & Refining Co., Houston, Tex. 385,389, ren. 4-11-61. Cl. 15.
Stange, Wm. J., Co., Chicago, Ill. 713,936, pub. 1-24-61. Cl. 46.
Stapleton Leather Co., d. b. a. MacPherson Bros. Leather Co., San Francisco, Calif. 713,889, pub. 1-24-61. Cl. 39.
State Farm Mutual Automobile Insurance Co., Bloomington, Ill. 713,963, pub. 1-24-61. Cl. 102.
State Mutual Life Assurance Co. of America, Worcester, Mass. 713,965, pub. 1-24-61. Cl. 102.
Stevens, J. P., & Co., Inc.: *See*— Forstmann & Huffmann Co.
Stillits, C. to Gor-Ray Ltd., London, England. 384,783, ren. 4-11-61. Cl. 39.
Stoffel & Co., Inc., New York, N.Y. 713,909, pub. 1-24-61. Cl. 42.
Stokes Walesby, Washington, D.C. 711,886, cor. Cl. 38.
Straub, W. F., & Co., Chicago, Ill. 713,989. Cl. 46.
Structo Mfg. Co., Freeport, Ill. 713,825, pub. 1-24-61. Cl. 21.
Studebaker-Packard Corp.: *See*— Packard Motor Car Co.
Sugardale Provision Co., The, Canton, Ohio. 713,942, pub. 1-24-61. Cl. 46.
Sunl-Citrus Products Co., Haines City, Fla. 602,495, canc. Cl. 46.
Super Speed Printing Machinery, Inc., Cleveland, Ohio. 602,367, canc. Cl. 23.
Syl-Len: *See*— Wolfson, Leonard G.
Taylor-Bell Co., Inc., New York, N.Y. 713,903-4, pub. 1-24-61. Cl. 40.
Tempest Shirt Mfg. Co., Inc., Jesup, Ga. 602,446, canc. Cl. 39.
Texize Chemicals Inc.: *See*— Texize Chemicals, Inc.
Texize Chemicals, Inc., to Texize Chemicals Inc., Greenville, S.C. 688,859, new certificate. Cl. 52.
Thermo King Corp.: *See*— U.S. Thermo Control Co.
Thompson, M. R., Inc., New York, N.Y. 713,811-12, pub. 1-24-61. Cl. 18.
Thomson Co., New York, N.Y. 386,666, ren. 4-11-61. Cl. 39.
Tiarco Corp., Newark, N.J. 602,328, canc. Cl. 23.
Tiffany & Co., New York, N.Y. 139,646, ren. 4-11-61. Cl. 28.
Tobin-Arp Mfg. Co., Minneapolis, Minn. 602,350, canc. Cl. 23.
Tom Thumb Donut Corp., Minneapolis, Minn. 713,926, pub. 1-24-61. Cl. 46.
Town Talk Coat Co., Inc., New York, N.Y. 713,895, pub. 1-24-61. Cl. 39.
Toy Guidance Council, Inc., New York, N.Y. 714,011. Cl. 101.
Tri-State Culvert Co.: *See*— Russell, Niles E.
Trixon Musikinstrumentenfabrik Karl-Heinz Weimer K.G., Hamburg, Germany. 713,871, pub. 1-24-61. Cl. 36.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 713,705, pub. 1-24-61. Cl. 1.
Turbo Jet Mfg. Co., The, Cincinnati, Ohio. 602,355, canc. Cl. 23.
Unimatic Mfg., Inc., Bay City, Mich. 713,725, pub. 1-25-61. Cl. 4.
Union Carbide Corp., New York, N.Y. 713,710, pub. 1-24-61. Cl. 1.
Union Carbide Corp., New York, N.Y. 713,726, pub. 1-24-61. Cl. 5.
United Merchants and Manufacturers, Inc., New York, N.Y. 602,474, canc. Cl. 42.
United States Rubber Co., New York, N.Y. 713,863, pub. 1-24-61. Cl. 35.
U.S. Thermo Control Co., Thermo King Corp., Minneapolis, Minn. 522,496. Am. 7(d). Cl. 31.
Universal My-Tee Midget Corp., High Point, N.C. 602,314, canc. Cl. 21.
Upjohn Co., The, Kalamazoo, Mich. 713,796, pub. 1-24-61. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 713,798, pub. 12-6-60. Cl. 18.
Urethane Corp. of California, San Francisco, Calif. 713,855, pub. 1-24-61. Cl. 32.
Urick & Hollis: *See*— Urick, Willis E.
Urick, Willis E., to Urick & Hollis, Los Angeles, Calif. 144,960, ren. 4-11-61. Cl. 46.
Vacuum Cleaner Conservation Co., Inc., Brooklyn, N.Y. 602,323, canc. Cl. 23.
Valleydale Packers Inc., Bristol, Va. 713,987. Cl. 46.
Van Houten, C. J., & Zoon, Weesp, Netherlands and Chicago, Ill. 146,390, canc. Cl. 46.
Varbely, Teofil J., d.b.a. Wonder-Lin Mfg. Co., Wilkes-Barre and Hanover Township, Pa. 317,351, canc. Cl. 18.
Vendo Co., The, Kansas City, Mo. 713,840, pub. 1-24-61. Cl. 23.
Vermiculite Mfg. Co., Seattle, Wash. 713,761, pub. 1-24-61. Cl. 12.
Viobin Corp., Monticello, Ill. 713,794, pub. 1-24-61. Cl. 18.
Visco: *See*— Viscolosi, Louis.
Viscolosi, Louis, d.b.a. Visco, Providence, R.I. 713,755, pub. 1-24-61. Cl. 12.
Walker, Hiram, & Sons, Inc.: *See*— Kraus Bros. & Co. Inc.
Walker, Hiram, & Sons, Inc., of Peoria, Ill.: *See*— Kraus Bros. & Co. Inc.
Wallach's, Inc., New York, N.Y. 602,435, canc. Cl. 39.
Weco Products Co.: *See*— Owens Staple-Tied Brush Co., The. Western Bottle Mfg. Co.
Weekly Publications, Inc., to Newsweek, Inc., New York, N.Y. 385,859, ren. 4-11-61. Cl. 38.
Wellis Mfg. Co. of Rhode Island, Inc.: *See*— Wells Mfg. Co.
Wells Mfg. Co., to Wells Mfg. Co. of Rhode Island, Inc., Attleboro, Mass. 384,812, ren. 4-11-61. Cl. 28.
West Bend Aluminum Co., West Bend, Wis. 713,775, pub. 1-24-61. Cl. 13.
Western Bottle Mfg. Co., to Weco Products Co., Chicago, Ill. 144,295, ren. 4-11-61. Cl. 29.
Western Fishing Line Co.: *See*— Western Lace & Line Co.
Western Grocer Co., Marshalltown, Iowa, to Consolidated Foods Corp., Chicago, Ill. 139,429, ren. 4-11-61. Cl. 46.
Western Lace & Line Co., d.b.a. Western Fishing Line Co., Glendale, Calif. 713,827, pub. 1-24-61. Cl. 22.
Wheary, Inc., Racine, Wis. 602,253, canc. Cl. 3.
Whirlpool Corp., St. Joseph, Mich. 713,845, pub. 1-24-61. Cl. 24.
Whistle Stop Footwear: *See*— Cohen, Simon.
White Laboratories, Inc., Kenilworth, N.J. 713,801, pub. 1-24-61. Cl. 18.
Wiets, Donald A., New York, N.Y. 602,380, canc. Cl. 37.
Willett, Consider H., Inc., Louisville, Ky. 713,853, pub. 1-24-61. Cl. 32.
Williams, J. Parker, d.b.a. Cape Shore Paper Products, South Portland, Maine. 602,403, canc. Cl. 37.
Williamson-Dickie Mfg. Co., Ft. Worth, Tex. 713,838, pub. 1-24-61. Cl. 39.
Wilson, Felix, New York, N.Y. 713,918, pub. 1-24-61. Cl. 45.
Wimpfheimer, A., & Bro, Inc., Stonington, Conn. 385,014-15, ren. 4-11-61. Cl. 42.
Wiremold Co., The, West Hartford, Conn. 602,293, canc. Cl. 21.
Wolfson, Leonard G., d.b.a. Syl-Len, Boston, Mass. 713,787, pub. 1-24-61. Cl. 18.
Wonder-Lin Mfg. Co.: *See*— Varbely, Teofil J.
Wright & McGill Co., Aurora, Colo. 713,828, pub. 1-24-61. Cl. 22.
Wyner, I. A., & Co. Inc., New York, N.Y. 602,465, canc. Cl. 42.
Zeiss-Ikon Aktiengesellschaft Waldhof, Mannheim-Waldhof, Germany. 713,729, pub. 1-24-61. Cl. 6.
Ziegler Electronics, Inc., Gardena, Calif. 713,916, pub. 1-24-61. Cl. 44.

U.S. GOVERNMENT PRINTING OFFICE: 0—1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

April 18, 1961 Volume 765 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1961

Examiner affirmed	198
Examiner affirmed in part	39
Examiner reversed	57
Total	294

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from May 1, 1961, through October 28, 1961.

Disclaimer

2,900,402.—*William K. Johnson*, Dayton, Ohio. PREPARATION OF ALUMINUM ALKYLS. Patent dated Aug. 18, 1959. Disclaimer filed Mar. 1, 1961, by the assignee, *Monsanto Chemical Company*.

Hereby enters this disclaimer to claim 1 of said patent.

Adjudicated Patents

(C.A. Ohio) Steckel Patent No. 1,744,016 (80—35), for metal rolling. *Held* valid but not infringed. *Cold Metal Process Co.* v. *E. W. Bliss Co.*, 285 F.2d 231; 128 USPQ 49.

(C.A. Ohio) Steckel Patent No. 1,779,195 (80—35), for method and apparatus for rolling thin sheetlike material. *Held* valid. *Id.*

(C.A. Mo.) Consolazio Patent No. 2,478,182 (167—82), for sodium chloride tablet. *Held* not infringed. *Parmelee Pharmaceutical Co.* v. *Zink*, 285 F.2d 465; 128 USPQ 271.

(C.A. Ohio) Lockwood Patent No. 2,706,422 (80—60), for metal rolling. *Held* invalid. *Cold Metal Products Company* v. *E. W. Bliss*, 285 F.2d 244; 128 USPQ 59.

(C.A.N.Y.) Norman Patent No. 2,763,990 (63—14), for earring pads with expansible opening for attaching to earring. Claim 1 *Held* valid and infringed. *Norman* v. *Laurence* 285 F.2d 505; 128 USPQ 28.

(C.A. Ill.) Goldsmith Patent No. 2,777,573 (206—59), for coiled product. Claim 1 *Held* valid and infringed. *Elgin Mfg. Corp.* v. *Grant Wilson Inc.*, 285 F.2d 476; 128 USPQ 168.

(C.A. Ill.) Goldsmith Patent No. 2,854,384 (195—54), for method and apparatus for securing metal strips to fabric. Claims 7, 8, 14, 15, 17 to 19 *Held* valid and infringed. *Id.*

(C.A.N.Y.) Reiner and Braga Reissue Patent No. 23,163 (132—46), for clamp. Claim 3 *Held* valid and infringed. *Reiner* v. *I. Leon Co. Inc.*, 285 F.2d 501; 128 USPQ 25.

(C.D.N.Y.) Dickens Patent No. 2,238,040 (317—146), for power control system. *Held* invalid. *Sensytrol Corp.* v. *Radio Corp. of America*, 190 F. Supp. 121; 128 USPQ 150.

(D.C.N.J.) Ellis Patent No. 2,255,313 (260—17.4), for ethylenic-alpha-beta synthetic resins and process of making same. *Held* invalid. *American Cyanamid Co.* v. *Ellis Foster Co.*, 190 F. Supp. 277; 128 USPQ 34.

(D.C.N.Y.) Correl Patent No. 2,465,857 (106—122), for therapeutic sponge and method of making. Claim 6 *Held* valid and infringed. *Upjohn Co.* v. *Italian Drugs Importing Co. Inc.*, 190 F. Supp. 361; 128 USPQ 236.

(D.C. Okla.) Faulkner Patent No. 2,498,333 (274—10), for phonograph record holding spindle. *Held* valid and uninfringed. *Zenith Radio Corp.* v. *Admiral Corp.*, 190 F. Supp. 41; — USPQ —.

(D.C.N.Y.) Rostau Patent No. 2,625,456 (312—270), for display and storage structure. *Held* invalid. *Atlantic Plastics Co. Inc.* v. *Henry Hanger & Display Fixture Corp. of America*, 190 F. Supp. 225; 127 USPQ 278.

(D.C.N.Y.) Camras Patent No. 2,094,656 (117—144), for magnetic impulse record member, magnetic material and method of making magnetic material. *Held* invalid. *Audio Devices, Inc.* v. *Minnesota Mining & Mfg. Co.*, 190 F. Supp. 189; 128 USPQ 145.

(D.C. Okla.) Adler et al. Patent No. 2,814,671 (178—7.3), for noise pulse interruption of synchronizing signal separator. *Held* valid and infringed. *Zenith Radio Corp.* v. *Admiral Corp.*, 190 F. Supp. —; — USPQ —.

(D.C. Okla.) Adler Patent No. 2,817,025 (307—140), for control system. *Held* valid and infringed. *Id.*

(D.C. Okla.) Adler Patent No. 2,821,954 (116—137), for ultrasonic transmitter. *Held* valid and infringed. *Id.*

(D.C. Okla.) Ehers and Waudrey Patent No. 2,821,955 (116—137), for ultrasonic transmitter. *Held* valid and infringed. *Id.*

(D.C. Okla.) Wold Patent No. 2,821,956 (116—169), for ultrasonic generator. *Held* valid and infringed. *Id.*

(D. C. Okla.) Walker Patent No. 2,914,583 (260—674), for process for noise gated synchronizing-signal separator circuit for television receivers. *Held* valid and infringed. *Id.*

Classification Order No. 316

Classification Order No. 316, dated March 27, 1961, incorporates changes in the following classes:

138
177 WEIGHING SCALES (New Class—Bulletin No. 441)
240
249 Abolished (Bulletin No. 332)
265 Abolished (Bulletin No. 340)

The above changes will be incorporated in the Manual of Classification replacement pages dated July 1961.

M. C. ROSA,
Director, Patent Examining Operation.

New Applications Received During February 1961

Patents	5,913
Designs	327
Plant Patents	1
Reissues	18
Total	6,259

Issue

Patents	1192—No.	2,979,721 to No.	2,980,912, incl.
Designs	46—No.	190,111 to No.	190,156, incl.
Plant Pats	5—No.	2,046 to No.	2,050, incl.
Reissues	6—No.	24,966 to No.	24,971, incl.
Total	1249		

Patents Available for Licensing or Sale

2,961,006. Ash Tray. Harvey Paul Forton, 3405 Newport Blvd., Newport Beach, Calif.

2,962,732. Boat. Metzeler Gummiwerke A.G., Munchen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,963,031. Hydraulic Control Apparatus (for Controlling Machines With Plurality of Working Cylinders). Milan Vitavsky, Bratislava, Czechoslovakia; and CKD Ceska Lipa, narodni podnik, Ceska Lipa, Czechoslovakia. Correspondence to: Richard Low, 1060 Broad St., Newark 2, N.J.

2,967,701. Method of Continuous Low Seam Short Wall Mining Using Rotary Auger Cutters. Wilcox Manufacturing Company, Raleigh, W. Va. Available for non-exclusive licensing.

General Electric Company is prepared to grant non-exclusive licenses upon reasonable terms under the following 15 patents.

Applications for license under the following 10 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville 1, Ky.

2,900,480. Electric Range.

2,951,349. Variable Capacity Refrigeration System.

2,951,350. Variable Capacity Refrigeration.

2,951,552. Gas Separator.

2,961,848. Refrigerating System Including Hot Gas Defrost Means.

2,962,337. Drain System for Auto-Defrost Refrigerator.

2,963,779. Method of Making Heat Exchange Structures.

2,963,885. Automatic Ice Maker.

2,967,407. Freezing Tray and Ice Storage Arrangement for Refrigerators.

2,967,410. Motor Cooling Arrangement for Hermetically Sealed Refrigerant Compressor Unit.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Heavy Military Electronics Department, General Electric Company, Legal Section, Bldg. 1, Room 36, Court Street Plant, Syracuse, N.Y.

2,961,859. Signal Processing Arrangement Having Septum Divided Horn.

2,967,251. Electronic Power Supply Regulator.

Applications for license under the following patent may be addressed to: General Electric Company, Patent Counsel, Chemical and Metallurgical Division, 1 River Road, Schenectady 5, N.Y.

2,966,722. Irregular Surface Diamond Burnishing Tool.

CONDITION OF PATENT APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of pending applications (excluding Designs)	191,475
Total number of pending Design applications	5,539
Total number of applications awaiting action (excluding Designs)	80,577
Total number of Design applications awaiting action	1,618
Date of oldest new application	October 2, 1959
Date of oldest amended application	October 2, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 32, 48, 49, 50, 55, 59, 60, 62, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 20, 37, 41, 42, 44, 49, 51, 54, 66.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 13, 15, 14, 21, 34, 37, 38, 61, 81, 82.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 65, 69.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 9, 20, 29, 33, 36, 46, 52, 65.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 28, 44, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 43, 45, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 93, 98, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	8-5-60	7-25-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	8-15-60	7-29-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	7-11-60	8-3-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	5-16-60	5-19-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	1-25-60	1-25-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	5-17-60	5-24-60
7. (IV) ANDERSON, E. G., Optics	5-16-60	6-7-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	8-4-60	8-8-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	7-5-60	7-26-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	6-24-60	6-17-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	5-3-60	5-4-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	5-16-60	5-3-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	5-4-60	5-5-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	5-20-60	9-11-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	9-16-60	9-2-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	1-25-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	5-11-60	5-12-60
18. (VI) BLUM, A. (LEVINE, S. acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	9-6-60	8-2-60
19. (VII) PATRICK, F. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-20-60	5-17-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	9-6-60	9-6-60
21. (III) MADER, R. C., Textiles	6-30-60	6-2-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	6-6-60	5-2-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	10-3-59	10-3-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	5-23-60	7-15-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	5-10-60	5-6-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	5-3-60	4-15-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	7-5-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Clutches or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-23-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	6-6-60	5-7-60
30. (VII) O'LEARY, R. A., Comminuting; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	5-15-60	5-1-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	6-15-60	6-9-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	7-5-60	6-23-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-11-60	4-14-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	5-4-60	5-3-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	7-5-60	7-1-60
36. (V) EVANS, R. L., Measuring and Testing (part)	5-6-60	4-25-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	4-6-60	4-13-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	4-4-60	4-6-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	8-10-60	8-17-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	8-1-60	8-1-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	8-1-60	4-20-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	5-25-60	5-25-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	5-2-60	1-25-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-23-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	5-2-60	5-1-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Plutonium) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-5-60	5-27-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	5-12-60	5-2-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	4-12-60	4-13-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-25-60	5-10-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	5-26-60	5-25-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-20-60	4-11-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	8-29-60	8-10-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	5-4-60	5-5-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-25-60	5-1-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	5-5-60	5-27-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-17-60	5-10-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	5-2-60	4-15-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; SelectiveCutting	7-1-60	7-12-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	3-24-60	2-4-60
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	6-2-60	6-6-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Hemology; Railway Mail Delivery; Feeding of Indefinite Lengths	7-20-60	7-13-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	8-9-60	8-3-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	5-9-60	4-8-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	6-7-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	6-6-60	6-9-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	3-1-60	1-5-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	6-1-60	5-19-60
81. (III) MONCURE, J. A., Industrial Arts	12-2-60	12-12-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	12-12-60	12-16-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	7-8-60	7-5-60
96. GAUSS, H., Radio Transmitters, Receivers and Tuners	9-7-60	10-11-60
98. WAHL, R. A., Wire Working	9-7-60	10-5-60
94. BERLOWITZ, W., Gas Separation	8-26-60	8-15-60
96. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-1-60	6-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes—Butadiene	5-23-60	5-10-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during April 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953*.

Patents ..... Numbers 2,946,550 to 2,947,690, inclusive
Plant Patents ..... Numbers 622 to 626, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

FREDRIC RUSCHE *v.* WALTER H. COBI

Special Patent Docket No. 91. Decided November 3, 1960

[48 CCPA —; 283 F.2d 529; 127 USPQ 540]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—TIME FOR DOCKETING APPEAL—EXTENSION BY THE COMMISSIONER OF PATENTS.

Where the notice of appeal by Rusche from a decision of the Board of Patent Interferences awarding priority of invention to Cobi was filed in the Patent Office on May 23, 1960, and, under Rule 25 of the Court of Customs and Patent Appeals, the last day for filing the transcript was July 11, 1960; where no motion for an extension of time was made by Rusche until August 5, 1960; where on July 14, 1960, Cobi moved to dismiss the notice of appeal, for failure to complete the appeal within the allowed time; and where the First Assistant Commissioner denied Cobi's motion to dismiss on the ground that he lacked jurisdiction to consider it, and denied Rusche's request for an extension of time because it was filed after the expiration of the time sought to be extended, indicating that the inability of the Patent Office to complete a transcript in time would normally be considered a "special and sufficient cause" justifying an extension under Rule 25 if the applicant had made a timely request therefor, but stating that "it has always been considered the duty of appellant and his counsel, not that of the Office, to initiate a request for the extension," *Held* that "As we understand his decision, the First Assistant Commissioner held that he could not extend the time for docketing an appeal in this court unless a request for such extension was made by the appellant prior to the date when the docketing was due"; that "We are unable to find that Rule 25(1) of this court, which empowers the Commissioner to extend the time for docketing appeals, is limited expressly or by implication to cases in which an extension is requested by the appellant"; and that "The rule merely provides that there shall be 'special and sufficient cause' for the extension and does not require that the cause be shown in any particular way or by any particular party."

2. SAME—SAME—SAME—REMAND.

Where under Rule 25 of the Court of Customs and Patent Appeals the last day for filing the transcript was July 11, 1960, and where "On that day the assistant head of the Manuscript Branch of the Patent Office, in a memorandum to the Commissioner, requested that the time * * * be extended to August 11, 1960, in order that his branch might have the necessary time to prepare the transcript," *Held* that both the letter and spirit of Rule 25 "contemplate that if, prior to the time for docketing an appeal, the Commissioner's attention is called to circumstances justifying an extension, the extension should be granted"; that "It follows that the Commissioner should consider on the merits whether the circumstances called to his attention on July 11, 1960, warranted an extension of the time for docketing the appeal and, if he finds that they did, he should grant a reasonable extension"; and that "In such consideration no weight should be given to appellant's failure to request an extension on or before July 11, 1960" and *Held* that the case would be returned to the Commissioner for the action indicated.

MOTION AND PETITION DENIED.

Whittemore, Hulbert & Belknap and *Clarence B. Zewadski* for appellant.

Fish, Richardson & Neave and *E. Cummings Sanborn* for appellee.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, and SMITH, *Associate Judges*

PER CURIAM:

This case, which involves a notice of appeal filed by Fredric Rusche from a decision of the Board of Patent Interferences awarding priority of invention in Interference No. 89,826 to Walter H. Cobi, comes up for consideration of a motion by Cobi to dismiss the appeal and a petition by Rusche for a writ of mandamus requiring the Commissioner to stay proceedings until this court has passed on the issues here involved and to grant an extension of Rusche's time for perfecting the appeal. The pertinent facts of the case are as follows:

[1][2] Rusche's notice of appeal was filed in the Patent Office on May 23, 1960. On June 9, 1960, the Patent Office acknowledged receipt of this notice and requested that Rusche promptly file a praecipe for the necessary papers and an order for the transcript.

On June 14, 1960, Rusche mailed to the Patent Office a praecipe and order for the transcript. He did not make a remittance to cover the cost, since he had not been advised as to what it would be.

Under Rule 25 of this court the last day for filing the transcript was July 11, 1960. On that day the assistant head of the Manuscript Branch of the Patent Office, in a memorandum to the Commissioner, requested that the time for filing the praecipe be extended to August 11, 1960, in order that his branch might have the necessary time to prepare the transcript.

No motion for an extension of time was made by Rusche until August 5, 1960—three weeks after the original expiration date.

On July 14, 1960, the opposing party, Cobi, moved to dismiss the notice of appeal, for failure to complete the appeal within the allowed time.

On August 25, 1960, the First Assistant Commissioner denied Cobi's motion to dismiss on the ground that he lacked jurisdiction to consider it, and denied Rusche's request for an extension because it was filed after the expiration of the time sought to be extended. He indicated that the inability of the Patent Office to complete a transcript in time would normally be considered a "special and sufficient cause" justifying an extension under Rule 25 of this court if the applicant had made a timely request therefor, but stated that "it has always been considered the duty of appellant and his counsel, not that of the Office, to initiate a request for the extension." Accordingly, he refused to extend the time.

As we understand his decision, the First Assistant Commissioner held that he could not extend the time for docketing an appeal in this court unless a request for such extension was made by the appellant prior to the date when the docketing was due. We are unable to find that Rule 25(1) of this court, which empowers the Commissioner to extend the time for docketing appeals, is limited expressly or by implication to cases in which an extension is requested by the appellant. The rule merely provides that there shall be "special and sufficient cause" for the extension and does not require that the cause be shown in any particular way or by any particular party.

In the instant case the circumstances alleged to justify the extension arose within the Patent Office

and were called to the attention of the Commissioner prior to the expiration of the time for docketing the appeal, with a request by the responsible Patent Office official that an extension be granted. We are unable to see that a similar request by the appellant at the same time would have served any useful purpose. Appellant could have added nothing material to the statement of facts already before the Commissioner.

In our opinion Rule 25(1) of this court was not properly interpreted by the First Assistant Commissioner. Both the letter and spirit of that rule contemplate that if, prior to the time for docketing an appeal, the Commissioner's attention is called to circumstances justifying an extension, the extension should be granted. It follows that the Commissioner should consider on the merits whether the circumstances called to his attention on July 11, 1960, warranted an extension of the time for docketing the appeal and, if he finds that they did, he should grant a reasonable extension. In such consideration no weight should be given to appellant's failure to request an extension on or before July 11, 1960.

The case is returned to the Commissioner for the action above indicated.

For the reasons given, neither the dismissal of the appeal nor a mandamus directing the Commissioner to act, as requested by Rusche, is in order and, accordingly, both the motion to dismiss and the petition for mandamus are denied.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,138,510, C. F. Rauen, Muffler; 2,239,672, same; 2,274,459, same; 2,274,460, same; 2,274,461, same, filed Mar. 21, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c428, *Carl F. Rauen* v. *Marmont Automotive Products, Inc.* Patents held valid and infringed Feb. 10, 1961.

2,239,672. (See 2,138,510.)

2,274,459. (See 2,138,510.)

2,274,460. (See 2,138,510.)

2,274,461. (See 2,138,510.)

2,328,897, G. H. Gill, Airplane flap operating means; 2,596,491, Chapman and De Haas, Motor having an electromagnetic brake, filed Aug. 4, 1959, D.C.N.J. (Newark), Doc. 665/59, *The Garrett Corporation* v. *Airborne Accessories Corporation*. Stipulation and order dismissing complaint and counterclaim as to Patent 2,328,897 Feb. 10, 1961.

2,345,650, C. W. Attwood, Skeletonized structure; 2,606,139, same, Nut for locking engagement with Unistrut; Reg. No. 501,779 (UNISTRUT), Deceleco, Inc., Sectional metallic building units adapted to serve as framing and supporting members for temporary and permanent construction of buildings and other structures, etc., filed July 13, 1959, C.C.A., 1st Cir., Cross-Appeals, Docs. 5441 and 5442, *Unistrut Corporation et al.* v. *James F. Power et al.* Patent 2,345,650 held not infringed by defendants; Patent 2,606,139 held invalid; complaint dismissed as to plaintiff Attwood. Registered Trademark Unistrut held not infringed; complaint dismissed as to plaintiff Unistrut Corporation Feb. 13, 1961.

2,348,706, R. Ferwerda et al., Material moving device; 2,541,065, same, Material moving apparatus, filed Feb. 14, 1961, D.C., W.D. Mich. (Grand Rapids), Doc. 4035, *Warner & Swasey Co., Inc. et al.* v. *Davis Engineering, Inc. et al.*

2,473,182, W. V. Consolazio, Sodium chloride tablet, filed May 13, 1960, C.C.A., 8th Cir., Doc. 16/493, *Parmelee Pharmaceutical Company et al.* v. *Sink Safety Equipment Company*. Judgment of District Court affirmed Jan. 26, 1961.

2,534,054, R. C. Parkes, Conveyor; 2,817,514, same, Constant tension roll dryer, filed Feb. 13, 1961, D.C., E.D. Pa. (Philadelphia), Doc. 29/233, *The National Drying Machinery Company* v. *Augustus M. Zeller, Jr. et al.*

2,536,491. (See 2,328,897.)

2,541,065. (See 2,348,706.)

2,552,687, B. P. Solomon, Pleating device, filed Feb. 7, 1961, D.C., E.D. Mich. (Detroit), Doc. 20/202, *Pleatmaster, Inc.* v. *Kirsch Company*.

2,602,794, Rickes and Wood, Vitamin B12; 2,702,302, same, Vitamin B12-active composition and process of preparing same, filed Feb. 9, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 146/61-HW, *Merck & Co., Inc.* v. *Martin Billins*.

2,606,427, C. A. Helland, Recording system, filed Feb. 10, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c236, *Minneapolis-Honeywell Regulator Company* v. *Consolidated Electrodynamics Corporation et al.*

2,804,737, S. J. Popell, Food slicer, filed Mar. 17, 1959, D.C.N.J. (Trenton), Doc. 235/59, *Popell Brothers, Inc.* v. *Nathan K. Morris Mfg. Co.* Consent judgment; injunction granted Feb. 24, 1961.

2,868,708, H. Allen, Valve, filed Feb. 14, 1961, D.C., W.D. Okla. (Oklahoma City), Doc. 9177, *Cameron Iron Works, Inc.* v. *Drilling Equipment Manufacturing Co.*

2,910,910, A. F. Thomson, Neoprene-phenolic adhesive cement, filed Feb. 17, 1961, D.C.N.J. (Newark), Doc. 112/61, *Rubber and Asbestos Corporation* v. *Minnesota Mining and Manufacturing Company*.

2,971,230, Grieve and Hendry, Drying oven, filed Feb. 23, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c304, *George P. Grieve et al.* v. *Quincy Oven Co. et al.*

2,606,139. (See 2,345,650.)

2,702,302. (See 2,563,794.)

2,727,996, Haupt and Hay, X-ray apparatus, filed Feb. 17, 1961, D.C., N.D. Ill. (Chicago), Doc. 61c280, *Keleket X-Ray Corporation* v. *Professray, Inc.*

2,905,453, Petronello and France, Jalousie louver weatherstripping, filed Feb. 27, 1961, D.C., S.D. Fla. (Miami), Doc. 10/586-M, *AMCA, Inc.* v. *Miami Screen Co., Inc. et al.*

2,906,124, R. M. Gage, Arc torch and process, filed Feb. 16, 1961, D.C., S.D.N.Y., Doc. 61/603, *Thermal Dynamics Corporation* v. *Union Carbide Corporation*.

2,811,920, W. E. Rupp, Diaphragm pump, filed Feb. 14, 1961, D.C., M.D.N.C. (Greensboro), Doc. C-33-G-61, *The Gorman-Rupp Company* v. *Arrow Construction Equipment Company*.

2,817,514. (See 2,534,054.)

2,846,634, H. H. Hilton, Electrolytic capacitor; 2,868,811, Ruscetta and Jenny, Method of etching capacitor electrodes; 2,871,436, Hilton and Torrisi, Electrolytic capacitors with increased available capacitance, filed Sept. 25, 1959, D.C. Vt. (Burlington), Doc. 2844, *General Electric Company* v. *Alfred F. Torrisi et al.* Claims and counterclaims dismissed in accordance with agreement of Jan. 1, 1961, between the parties (notice Feb. 20, 1961).

2,868,811. (See 2,846,634.)

2,871,436. (See 2,846,634.)

2,948,964, W. W. Thom, Expansion joint cover, filed Feb. 20, 1961, D.C., W.D. Okla. (Oklahoma City), Doc. 9184, *Wensel W. Thom et al.* v. *Metalines, Inc.*

2,949,865, F. O. Worden, Chemical applicator for live stock, filed Feb. 21, 1961, D.C. Nebr. (Omaha), Doc. 411-L, *Worden Manufacturing Company* v. *Plains Manufacturing Company*.

Re. 24,126 (of 2,725,986), H. E. Marvel, Water-fuel separator, filed Feb. 7, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39/722, *Bowser, Inc.* v. *Filters, Inc.*

Des. 176,789, K. D. Olsen, Article dispenser or similar article, filed Mar. 1, 1961, D.C.N.J. (Newark), Doc. 148/61, *Kenneth D. Olsen* v. *Abbott Laboratories*.

Des. 180,861, E. Rodrigues, Expansible link chain for a bracelet or the like, filed Feb. 8, 1961, D.C., S.D.N.Y., Doc. 61/479, *Jacoby-Bender, Inc.* v. *Baldwin Bracelet Corporation*.

REISSUES

APRIL 18, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

24,966
BALLOON SYSTEM

Paul E. Yost, Sioux Falls, S. Dak., assignor to Raven Industries, Inc., Sioux Falls, S. Dak., a corporation of South Dakota

Original No. 2,932,469, dated Apr. 12, 1960, Ser. No. 628,914, Dec. 17, 1956. Application for reissue Sept. 19, 1960, Ser. No. 57,090

8 Claims. (Cl. 244—24)



1. A balloon comprising a gas inflated bag having a closed end, and an openable end, means for closing a portion of said openable end whereby the remaining portion of said openable end will provide a valve, said closing means including a flexible loop surrounding said portion to be closed, means for pulling said loop tightly including a releasable load attached at the lower terminal of said loop, a dissipating counter-weight co-acting with said releasable load to release said releasable load at a pre-determined interval, whereby said loop will be opened, a pivotal arm attached to said dissipating member, the lower terminal of said loop being attached to said pivotal arm, an attaching member attached to said pivotal arm and to said load, a releasing member normally attached to said attaching member and to said load, whereby pivoting of said arm will cause said releasing member to release said load.

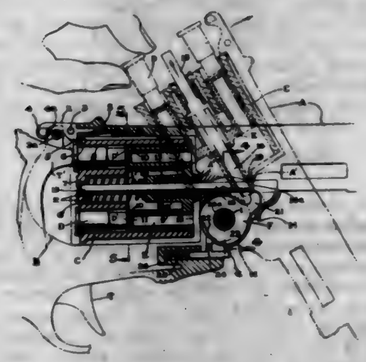
24,967
TOY CAP REVOLVER WITH EJECTOR

John H. Wehner, Manheim, Pa., assignor to The Hubley Manufacturing Company, Lancaster, Pa., a corporation of Pennsylvania

Original No. 2,855,715, dated Oct. 14, 1958, Ser. No. 620,373, Nov. 5, 1956. Application for reissue Oct. 2, 1959, Ser. No. 844,151

5 Claims. (Cl. 42—58)

1. In a toy revolver, the combination, comprising, a stock, a barrel, [pivoted to the stock,] a drum unit mounted *between the barrel and the stock* [in the barrel] and including, a cylinder provided with shell receiving chambers and having a rear end wall provided with a plurality of shell receiving openings in communication with said shell receiving chambers, and an ejector slidable within and masked by the cylinder and having [elongated tubular] anvil elements slidably telescoping within the



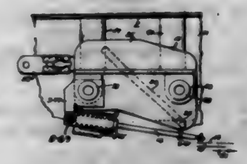
chambers of the cylinder to remove shells from said chambers.

24,968
PHONOGRAPH PICKUPS

Harry F. Klingsner, Valley Stream, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York

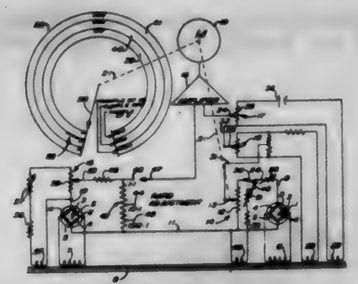
Original No. 2,717,929, dated Sept. 13, 1955, Ser. No. 281,622, Apr. 10, 1952. Application for reissue Sept. 29, 1960, Ser. No. 60,249

9 Claims. (Cl. 179—100.41)



1. A stylus-drive structure for driving a mechano electric transducer structure of a phonograph pickup which comprises an elongated drive member arranged to be drivingly connected to said transducer structure and an elongated rotatable seating region arranged to be rotatably supported adjacent said transducer structure for rotation about an axis of rotation while said transducer structure is maintained in a relatively fixed position, said drive member having a flexible elongated drive portion coaxial with said elongated seating region and carrying at its free end two styli joined with their inward ends to a common mounting element of said flexible drive portion, said two styli extending outwardly from said mounting element in a plane substantially perpendicular to said axis so that by rotating said drive member about said axis either one of said styli may be brought into a record engaging operative stylus position.

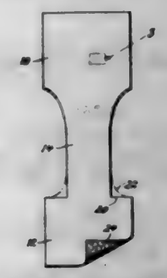
24,969
WEIGHING SCALE
Frank E. Golding, Toledo, Ohio, assignor, by mesne assignments, to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Original No. 2,918,270, dated Dec. 22, 1959, Ser. No. 611,078, Sept. 20, 1956. Application for reissue May 12, 1960, Ser. No. 30,044
4 Claims. (Cl. 177—200)



3. An electrical parts counting scale comprising, in combination, a pair of transducer means, a first one of the transducer means functioning to weigh a known number of sample articles and a second one of the transducer means functioning to weigh an unknown number of like articles to be counted and each having circuit means generating an output voltage which is a function of the loading of the individual transducer means, said output voltages opposing each other, operating means responsive to differences between said voltages for adjusting one of the output voltages to a level balancing the other one of the output voltages, the operating means being positioned according to the ratio between said voltages, indicating means coupled to the operating means for indicating the ratio between said voltages in terms of the number of articles upon the second transducer means, and means for selectively changing the output voltage of one of the transducer means by a ratio factor to change the capacity of the scale, whereby the number of articles upon the second transducer means is determined by multiplying the indication by the factor.

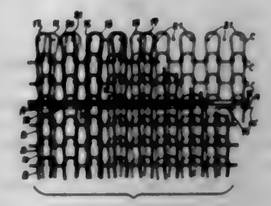
24,970
METHOD OF KNITTING COMBINATION PANTIE GIRDLE
John E. Halliday, Jr., Reading, Pa., and Martin H. Faust, Hopatcong, N.J. (both % Penn Dale Knitting Mills, Sinking Springs, Pa.)
Original No. 2,952,149, dated Sept. 13, 1960, Ser. No. 687,534, Oct. 1, 1957. Application for reissue Oct. 17, 1960, Ser. No. 63,233
3 Claims. (Cl. 66—177)

1. The method of making a pantie-girdle which method consists in knitting the front panel forming portion of the garment of non-run stitches from the waist line to a point near the body bifurcation, simultaneously dropping a large number of stitches at either side of the panel abruptly to narrow the fabric to produce a narrow, substantially



rectilinear crotch portion, gradually widening the fabric, knitting the back panel forming portion, folding the blank thus formed along its transverse median line, and sewing the superimposed edges to form the waist and leg openings, said blank being knit of covered rubber yarn.

24,971
METHOD OF CLOSING TOE OF CIRCULAR KNIT HOSE
James L. Getaz, New York, N.Y., assignor of seventy-five percent to United States Trust Co. of New York, and twenty-five percent to Adams-Millis Corporation, High Point, N.C., a corporation of North Carolina
Original No. 2,787,899, dated Apr. 9, 1957, Ser. No. 372,750, Aug. 6, 1953. Application for reissue Oct. 14, 1959, Ser. No. 30,697
16 Claims. (Cl. 66—172)



16. A method of closing the toe of circular knit hose, having a looper course extending through the end of the foot portion and the end of the toe portion, in the fabric of said hose, which comprises, aligning the loops of said course wale-wise by bringing the portions of said course in said portions of said fabric opposite each other, aligning the loops of said course course-wise by contracting said fabric, seaming together the loops in such opposed portions with a seam of stitches so closely spaced that at least two of said stitches pass through each of said loops.

PLANT PATENTS

GRANTED APRIL 18, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,846
ROSE PLANT
Herman R. Schenkel, Sr., Lynchburg, Va., assignor to H. R. Schenkel, Inc., Lynchburg, Va., a corporation of Virginia
Filed June 28, 1960, Ser. No. 39,428
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by its general similarity to its parent variety "Rosemary" (Plant Patent No. 1,398), but being distinguished therefrom by the unique combination of somewhat narrower foliage and distinctive color of the young foliage, a longer and more tapered form of the buds, fewer flower petals, an unusual cleanliness and clarity of the flower color and complete absence of green guard petals, and a distinctive Rose Pink, lightly overcast with Deep Rose Pink general color tonality of the open flowers.

2,847
ROSE PLANT
Peter J. Booy, San Jacinto, Calif., assignor to Peter J. Booy Rose Nursery, San Jacinto, Calif., a partnership
Filed May 11, 1960, Ser. No. 28,506
1 Claim. (Cl. 47—61)

A new and distinct variety of pillar rose plant, substantially as herein shown and described, characterized particularly by its more freely blooming flowers of pale yellow color tinged with pale pink on the inner surface margins of some of the outer petals, and having a pink stripe on the back side of some of the outer petals, by its strong and vigorous growth, and by its habit of blooming continuously from early spring to the end of the fall season.

2,848
PEACH TREE
Lewis E. Shisrill, Bakersfield, Calif., assignor of seventy-five percent to Patterson & Hale, Bakersfield, Calif., a partnership
Filed July 12, 1960, Ser. No. 42,455
1 Claim. (Cl. 47—62)

A new and distinct variety of peach tree, as illustrated and described, which bears exteriorly red colored, substantially white fleshed, clingstone fruit of relatively large size; said variety, in comparison to the Springtime peach, being characterized by fruit which is in harvest approximately six days later, larger with higher red exterior color and firmer more acid flavored flesh, and less split pits, and, in comparison to the Robin peach, being characterized by fruit which is similarly globose and very uniform throughout the entire growing season but larger, and in harvest approximately seven days earlier.

2,849
PLUM TREE
Frederic W. Anderson, Merced, Calif., assignor to Kim Bros., doing business as Reedley Nursery, Reedley, Calif., a copartnership
Filed July 18, 1960, Ser. No. 43,698
1 Claim. (Cl. 47—62)

A new and distinct variety of plum tree, as illustrated and described, which bears large, globose to oblate semi-freestone fruit having yellow flesh and a deep blue exterior color with a slight grey bloom; said fruit—in comparison with the El Dorado—being similar in color, firmness, eating quality, and a slightly rough skin texture, but distinctively characterized by at least half again larger size, and by coloring and ripening at least one week earlier; and—in comparison with the Santa Rosa—by fruit which is larger, firmer, blue instead of dark red exterior color, better withstands long distance shipping, keeps for a longer time, and—although coloring at the same time—is harvested somewhat later.

2,850
MUSHROOM PLANT
Wayne A. Robbins, St. Charles, Ill., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
Filed Feb. 5, 1959, Ser. No. 791,508
1 Claim. (Cl. 47—59)

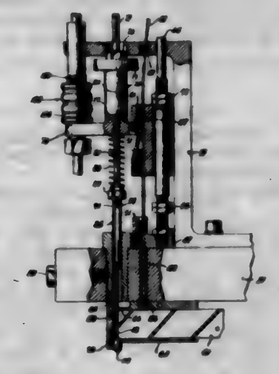
A new and distinct variety of mushroom plant substantially as shown and described characterized particularly as to novelty by its greater productivity and firmer consistency and stronger flavor when cooked, and by the color of the scales, varying from a light yellowish-pink when grown under moist conditions to a brownish-orange when grown under drought or relatively high air movement conditions.

PATENTS

GRANTED APRIL 18, 1961

GENERAL AND MECHANICAL

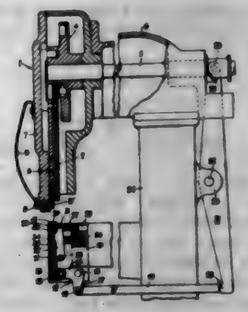
2,979,721
TERMINAL INSERTER
Robert W. Hekin, Williamsville, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Sept. 2, 1958, Ser. No. 758,452
4 Claims. (Cl. 1—1)



1. In a machine for forming and inserting terminals in a workpiece comprising the combination of means for holding a supply of terminal stock material means for forming terminals; means for feeding the terminal stock material from the supply means to the terminal forming means; means for receiving the formed terminals from said terminal forming means and inserting said terminal in a workpiece comprising a reciprocable operator, means for reciprocating said operator, a push rod adjustably fixed at one end to said operator and terminating in an insertion member at the free end, a pin passing transversely through said shaft and extending there beyond, a collet member slidably mounted on said push rod about said free end and concentric therewith, a slot in the side of said collet member for cooperation with said pin through the push rod for preventing relative rotation therebetween, a spring compressibly mounted about said push rod between the operator and said collet member, a further slot in said collet member to facilitate loading of a terminal in the collet; and means for supporting the workpiece during the terminal insertion.

2,979,722
WIRE STITCHING OR STAPLING MACHINES AND THE FORMATION OF WIRE STAPLES
John Irving Nasmith, Sussex, and Wilfred Kirby, London, England, assignors to Vickers-Armstrongs (Engineers) Limited, London, England, a British company
Filed Mar. 27, 1959, Ser. No. 802,531
Claims priority, application Great Britain Apr. 2, 1958
7 Claims. (Cl. 1—3)

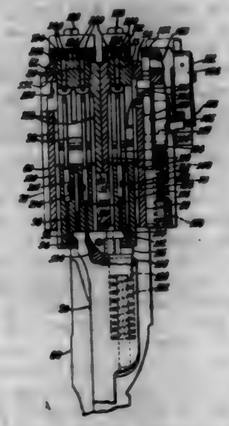
1. A wire stapling machine, comprising a stitching head having elements located in a staple-forming and driving plane for forming a generally U-shaped wire staple having one side leg longer than the other and for driving the staple into the upper face of the work to be stapled so that the shorter leg remains embedded in the work and the longer leg passes completely therethrough and part of such longer leg emerges from the opposite face of the work, the machine further comprising clinching mechanism operable in timed relationship with said forming and driving elements, said clinching mechanism including positively actuated shaping means for engaging and forming the emergent part of the longer leg with a pre-shaped laterally directed end portion disposed in the plane of the staple, said shaping means comprising a clinch-forming element, a forming part on said clinch-forming element, mechanism for sliding said clinch-forming element in a direction normal to the staple-forming and driving plane to displace said clinch-forming element into and from an operative position in which said forming part is located in said staple-forming and driving



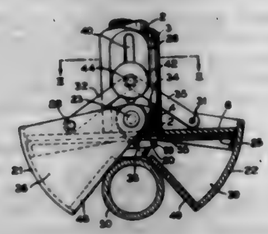
plane, and clinch-driving mechanism operatively associated with said shaping means for driving said pre-shaped end portion of said emergent staple leg into and against said opposite face of the work, to complete a stitch lying in a single plane, said clinch driving mechanism comprising a clinching element, means for moving said clinching element along a path substantially perpendicular to the work and to the path of movement of said clinch-forming element, and means operatively connecting said clinching element to said clinch-forming element for displacing said clinching element after the pre-shaping of the emergent part of the staple leg by said clinch-forming element, to drive said pre-shaped emergent part positively against the underside of the work and to move said clinch-forming element away from the plane of the staple.

2,979,723
FASTENER INSERTING MECHANISMS
Frank Coleman Choice, Leicester, England, assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Nov. 13, 1959, Ser. No. 852,905
13 Claims. (Cl. 1—5)

1. In a machine for shaping uppers over lasts, a fastener inserting mechanism comprising a tack block provided with a tack passage, a tack driver, a pair of tack fingers for retaining a tack in said passage and for guiding the tack as it is driven by said driver, said tack fingers being mounted for separation by the tack and tack driver as the tack is being driven, and means for positively holding the fingers against separation until the driver is operated to drive the tacks.



2,979,724
TOOL SHIELD
Elmer F. Pfaff, Manton, and Robert W. Henning, Rocky River, Ohio, assignors, by mesne assignments, to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application Nov. 12, 1954, Ser. No. 468,358, now Patent No. 2,925,600, dated Feb. 23, 1960. Divided and this application Mar. 24, 1959, Ser. No. 804,560
4 Claims. (Cl. 1—44.5)



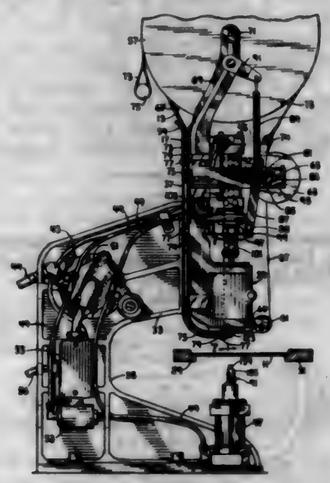
1. A self-aligning shield structure for an explosively actuated stud driving tool comprising a rectangular rear plate apertured for passage of a tool barrel squarely therethrough, a pair of oppositely disposed yoke-shaped sectors pivotally mounted on a said plate so as to pivot about a line normal to the axis of the tool barrel, said sectors having lateral arcuate sections, said arcuate sections of one sector forming with the arcuate sections of the other sector oppositely disposed V-notches of substantially identical angles defining a dihedral angle the plane of bisection of which includes the axis of said tool barrel, and means for varying said V-notch angles in unison so as to preserve at any setting of the V-notch angles the geometrical relationship whereby the axis of the barrel of said tool is presented substantially squarely to the surface in centered relationship at the point of the surface at which a stud is to be explosively driven into the surface.

2,979,725
FASTENER DRIVING APPARATUS
Oscar A. Wandel, Mundelein, and Richard H. Doyle, Mount Prospect, Ill., assignors to Fastener Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 10, 1957, Ser. No. 683,170
36 Claims. (Cl. 1—106)



1. A fastener driving apparatus comprising a first housing, fastener driving means including a fastener driving element carried on said first housing and movable between a normal position enclosed by said housing and a displaced position projecting outwardly from said first housing, a second housing including structure defining a drive track for slidably receiving said element in said displaced position, means in said second housing for feeding fasteners into said drive track for engagement by said element, means connecting said first and second housings for movement relative to each other, said first and second housings being movable to a position in which said drive track is aligned with said element, means for operating said fastener driving means so that said element enters said drive track to engage and drive a fastener, and control means for preventing operation of said operating means when said drive track is not aligned with said element.

2,979,726
ELECTRONIC COMPONENT ASSEMBLY APPARATUS
Carl F. Carlson, Buffalo, and William L. Lehner, Snyder, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed May 1, 1956, Ser. No. 581,907
5 Claims. (Cl. 1—323)



1. An apparatus having elements positioned at a workstation for operating on electrical components having a body portion with lead wires extending therefrom and

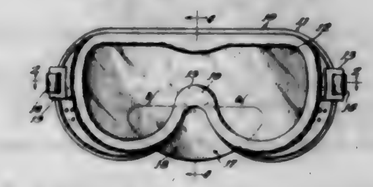
for mounting the components upon a panel having lead wire receiving portions, said components being mounted on component transferring means and being fed on said said transferring means to the workstation from a supply position, the apparatus comprising component handling means located at the workstation for receiving and supporting the components; means for bending the component lead wires; means for removing said components from said component transferring means, moving said components adjacent said panel and the lead wires into engagement with the panel lead wire receiving portions; and means for moving said component transferring means to feed said components to said component handling means.

2,979,727
SHIPPING CONTAINER ASSEMBLY APPARATUS
John P. Kubes, 5825 Flower Drive, Parma Heights, Ohio
Filed Nov. 1, 1956, Ser. No. 619,779
1 Claim. (Cl. 1—146)



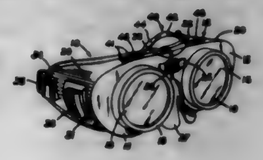
In apparatus of the class described, in combination, means for moving container mat parts in a horizontal plane, said means comprising a pair of horizontally spaced endless feed belts, a plurality of stapling heads disposed above the horizontal plane of movement of a container mat carried by said belts for operation in a direction perpendicular to said plane of movement, said stapling heads being transversely spaced relative to the direction of movement of said belts, said stapling heads being operative to staple binding wires, transversely spaced relative to and disposed longitudinally of the path of movement of said feed belts, to the side members of said container mat, certain of said stapling heads being disposed above the respective feed belts for stapling certain of said binding wires to said side members with staples passing through such side members and through underpositioned hinge portions of respective end members into an underpositioned respective cleat member, other of said stapling heads being disposed for operation intermediate said belts, a pair of guide means disposed below the plane of movement of said side members and extending in the direction of movement of said belts and transversely spaced intermediate the same for supporting the free edges of such end members during travel movement, and clincher anvil means disposed below the plane of movement of said side members and between said plane and the plane of said guide means for cooperation only with the last mentioned stapling heads.

2,979,728
GOGGLES
Paul Amundson, Evanston, Ill., assignor to Fendall Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 18, 1957, Ser. No. 690,967
1 Claim. (Cl. 2—14)



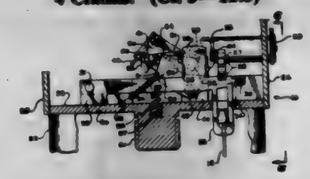
In a device for protecting the eyes having a frame portion which includes a lens section and a nose bridge section, the combination therewith comprising a substantially flat resilient nose piece having a substantially straight upper edge, curved ends and a curved lower edge, the upper edge including a locking tab extending in the same plane as the nose piece and having a neck portion and an enlarged head portion, the nose bridge section having a slot at the apex thereof extending into the interior of the device, the tab inserted in the slot and held therein by its enlarged head portion, the slot having a length substantially equal to the width of the neck portion, the nose bridge of the device including downwardly and outwardly curved portions, the nose piece overlapping said downwardly and outwardly curved portions inward of said lens section and as the device is positioned over the wearer's head slidably engaging along the curved lower edge the downwardly and outwardly curved portions of the nose bridge, the nose piece, during positioning, being pushed through the nose bridge opening outward of said frame porton of the device such that when seated in wearing position the nose piece will automatically conform to the curvature of the nose of the wearer and at the same time conform to the downwardly and outwardly curved portions of the device thereby preventing the entrance of small particles within the device along the nose bridge thereof.

2,979,729
GOGGLE
Jack B. Hirschmann, Jr., Fairhaven, Mass.
(% The H. L. Bouton Co., Buzzards Bay, Mass.)
Filed Feb. 12, 1958, Ser. No. 714,875
2 Claims. (Cl. 2—14)



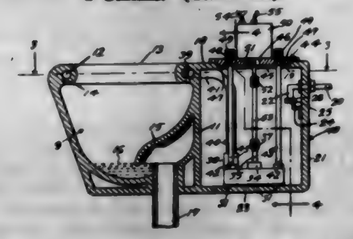
1. A protective goggle comprising a pair of separate complementary eye cups each having a front portion, a lens mounted on said front portion of each said eye cup, side wall portions on each said cup extending rearwardly of said front portions and contoured to conform generally to the facial areas surrounding the eyes of the wearer, each of said cups including a top portion extending rearwardly of said front portion above the level of the associated said lens, a separate bridge member for connecting said eye cups including end portions engaging said top portions of said cups and secured thereto, said bridge member including a central section of substantial length and of greater width than thickness with the width thereof extending in a plane generally parallel to the plane of said lenses and located substantially equidistant from said lenses, said bridge member including an additional pair of sections of substantial length and of greater width than thickness intermediate said central section and said end portions respectively, said additional sections having the respective widths thereof extending in planes generally normal to the surfaces of said lenses, said central and additional sections providing focal points for bending of said bridge member about respectively perpendicular axes to adjust the relative positions of said cups to the particular facial contours of the wearer, said bridge member also including sections connecting said central and additional sections which are of substantially greater minimum thickness than said central and additional sections to resist bending of said bridge member about axes neither parallel with nor perpendicular to said lenses, said bridge member being formed of a material which is initially ductile but which work-hardens in response to said bending thereof to retain said eye cups in adjusted position, and means for holding said goggle in operative position on the head of the wearer.

2,979,730
LOCKING MECHANISM FOR AN ARTIFICIAL LIMB
Aaron Bloom, Pasadena, Calif., assignor to Sierra Engineering Company, Sierra Madre, Calif., a corporation
Filed Oct. 1, 1959, Ser. No. 843,687
4 Claims. (Cl. 3—12.3)



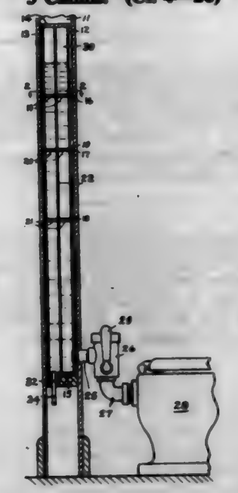
1. In a prosthetic joint comprising a first member, a second member pivotally attached to the first member, and an arcuate rack on said second member, the combination of a rack bar having a pivotal mounting on the first member for movement into and out of engagement with said rack, a projection on the bar, a blocker element having a rocker pin pivotally mounting said blocker element on said first member, a blocking shoulder on the blocker element, said blocker element having a first position with said shoulder in blocking position relative to said projection and a second position with said shoulder in unblocking position, and a resilient toggle element acting against said blocker element operative to urge said blocker element alternatively into said positions, a lock operating lever element pivotally mounted on the first member, a first dogging means mounted on one of said elements and a second dogging means on the other of said elements having an operating engagement with said first dogging means during movement of said lever element to a position wherein said blocking shoulder is in unblocking position, said blocker element having a portion receptive of said projection when said bar is out of engagement with said rack whereby said blocker element is tilted away from said unblocking position.

2,979,731
WATER CLOSET
James E. Reetz, 1130 E. Pacific Coast Highway, Wilmington, Calif.
Filed Aug. 26, 1959, Ser. No. 836,122
5 Claims. (Cl. 4—13)



1. A water closet comprising a flush bowl, a storage tank, a transverse partition wall separating the storage tank from the flush bowl, means for supplying water to said storage tank, means automatically operated by the water level within the storage tank for controlling the supply of water through said first mentioned means to the tank, a pump disposed within the bottom portion of the tank having an inlet opening into the tank substantially below the normal water level thereof as maintained by said last mentioned means, said pump having an outlet, said partition wall having an opening connecting the bowl and tank and disposed above the water level of the tank as maintained by said last mentioned means, a conduit leading from the pump outlet and having a discharge end disposed in said partition opening, a manually controlled electric motor, means supporting said motor above the tank, and means contained within the tank forming a driving connection between said motor and the pump for acuating the pump to supply water under pressure to the bowl from said tank.

2,979,732
AIR COMPRESSION TYPE FLUSH TANKS
Edward L. Harrow, 5134 48th Ave. S., Seattle 18, Wash.
Filed Apr. 14, 1958, Ser. No. 728,198
3 Claims. (Cl. 4—36)

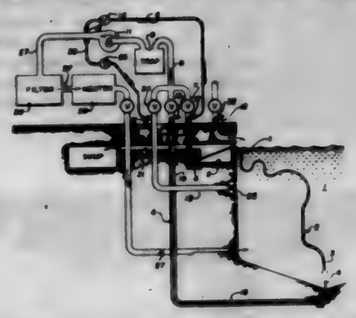


1. In flushing apparatus, a long upright tank of relatively small cross sectional area capable of being concealed in a wall of a building, said tank being closed at both ends providing an air tight air pressure chamber in the upper end and a water receptacle below said air pressure chamber; a plurality of vertically spaced apart transverse discharge control plates within said tank, each discharge control plate having slightly less water obstructing area than the plate next above it, each discharge control plate retarding downward movement of the water in the tank and the water retarding action of each successive plate being less than the water retarding action of the plate next above it providing for a reduction of the water retarding action of the plates as the air pressure on the water in the tank decreases and for an approximately uniform discharge of the water from the tank at a pressure substantially below the initial pressure at which the water is maintained in the tank; water inlet means connected with said tank; and flush valve controlled water outlet means connected with the lower end portion of said tank.

2,979,733
SWIMMING POOL CLEANING METHOD AND APPARATUS
Maurice W. Saint Clair, 425 Encinal Ave., Apt. B, Menlo Park, and Robert S. Spencer, 169 Arbuelo Way, Los Altos, Calif.
Filed Jan. 18, 1960, Ser. No. 2,896
13 Claims. (Cl. 4—172)

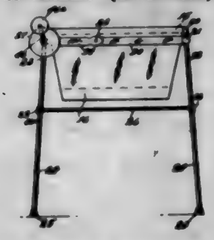
1. Method of supplying water under pressure to a water utilization device within a swimming pool through

existing submerged plumbing without disturbing the pool sides or bank comprising the steps of, tapping into an existing pressure water line on the pressure side and downstream of the pool water circulating pump and drawing water therefrom, tapping into an existing submerged wa-



ter pipe which connects into the pool at a point removed from the pool bank, and running water under pressure drawn from the pressure side of the pump back to the poolside through the existing tapped submerged water pipe thereby supplying water under pressure to the water utilization device within the pool.

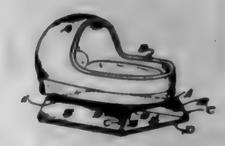
2,979,734
MOTOR DRIVEN CRADLES AND THE LIKE
David Saint, Rockledge, and Calvin L. Read, Jenkintown, Pa., assignors to Graco Metal Products, Inc., Huntingdon Valley, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1957, Ser. No. 692,871
13 Claims. (Cl. 5—109)



1. A cradle or the like for infants comprising a frame, a receptacle for an infant pendantly supported by said frame, side frame members extending along opposite sides of said frame, hinge connections between said side frame members and said frame, spaced pairs of supporting legs secured to said side frame members and extending downwardly therefrom, the legs of each pair being in non-parallel relation and having lower free supporting ends providing fulcrums, the legs of each pair having a resilient connector therebetween providing a restoring force and urging said legs to an intermediate position, one of said side frame members having a drive arm connected thereto, the other of said side frame members having a manually windable power source therein, a power arm pivotally connected to said drive arm in driving relation thereto, and an escapement mechanism interposed between said power source and said power arm.

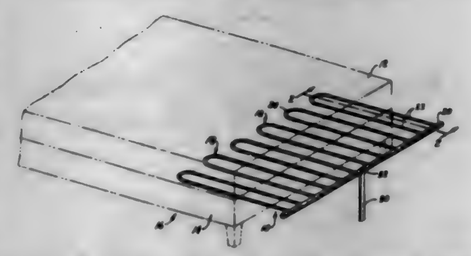
2,979,735
POWER-OPERATED DEVICE FOR RECIPROCATING A BASSINET
Norman Donald Heizer, 6291 E. Ocean Blvd., Long Beach, Calif.
Filed Mar. 2, 1959, Ser. No. 796,469
1 Claim. (Cl. 5—109)

A power operated device for reciprocating a bassinet having a flat supporting body, said device comprising: a generally rectangular base member having substantially parallel side edges and a predetermined length approximately equal to the length of said bassinet, said base member being horizontally disposed; a planar rectangular platform adapted to have said bassinet rest thereon, said platform being substantially rectangular in configuration and having a length approximately equal to the length of said base, said platform having substantially horizontal side edges and being of substantially lesser width than said base, said platform being horizontally disposed above said base parallel thereto; side members pivotally connected to one side edge of said platform and the respective first side edge of said base and between the opposite side edge of said platform and the respective second side edge of said base, said base, platform and side members



being symmetrically disposed and forming an equilateral trapezoid at the at-rest position of said device; a rigid driven member affixed to said platform; a rigid driving member that engages said driven member; an arm that rotates in a circular path in a vertical plane and supports said driving member on the outermost end thereof; a prime mover mounted on said base; and power transmission means having a driven shaft and a driving shaft, said driving shaft being connected to the innermost end portion of said arm, with said driven shaft being connected to said prime mover, which transmission means offers sufficient resistance to rotation when a rotational force is applied to said driving shaft to hold said platform in a fixed position when said prime mover is not operating and a bassinet and infant are supported on said platform.

2,979,736
SPREAD HOLDER
Roger A. Kemmsies, 1318 Eden Court, Beloit, Wis.
Filed Sept. 9, 1958, Ser. No. 759,916
6 Claims. (Cl. 5—328)



1. In a spread holder for footless beds, such as Hollywood-type beds and the like, a frame adapted to be inserted and to slide back and forth between the mattress and springs of such a bed, the frame including a plurality of laterally spaced, generally parallel, independent fingers adapted to project forwardly between the mattress and springs, and a cross bar across and joining the rear ends of the fingers adapted to be disposed at the end of the bed when the holder is fully inserted and to be spaced therefrom when the holder is partially withdrawn so that the projected portion may support a spread, each finger being spaced from the adjacent fingers and being otherwise free as to flexibility and being unsupported except by its connection to the cross bar so that the outer end of each finger is free to flex freely in either direction.

2,979,737
SHEET HOLDER
Gerald John Pierre, 31707 S. River Road, Mount Clemens, Mich.
Filed Nov. 14, 1958, Ser. No. 773,984
32 Claims. (Cl. 5—328)



1. The combination with a bed having an article of bedclothing thereon, of means for holding said article in position on said bed, comprising a hem along at least one edge of the article of bedclothing, said hem having buttonholes in the longitudinal fold line thereof, a batten removably inserted within said hem for maintaining said hem in a desired position, members attached to said batten and protruding through said buttonholes, and means engaging said members for releasably holding said batten stationary relative to the bed.

2,979,738
BED RAIL
Harold D. Goldberg, 50 Johns Road, Cheltenham, Pa.
Filed July 2, 1958, Ser. No. 746,239
7 Claims. (Cl. 5—331)



1. A bed rail comprising the combination of a tubular guide post having means for attaching it in a vertical position to a side rail of a bed adjacent the foot of the bed, a second tubular guide post having a longitudinally extending rib adapted to be juxtaposed to a head of a bed, said rib having means for securing it in a vertical position to the head and the side rail of the bed, each of said guide posts having a longitudinal slot therein facing the other of said posts, a substantially rectangular side frame supported vertically between said guide posts, projections extending from the ends of said frames and fitting into the slots in said guide posts to slidably guide the frame along said posts between a lowered position and a raised position and means releasably securing said frame in each of said position, said first mentioned guide post being approximately one-half the length of said second guide post so that the projection on said frame is adjacent the uppermost end of said first mentioned guide post when said frame is in its raised position.

2,979,739
MATTRESS, CUSHION OR THE LIKE
Daniel Krakauer, Great Neck, N.Y., assignor to Kay Manufacturing Corp., Brooklyn, N.Y., a corporation of New York
Filed Dec. 26, 1957, Ser. No. 705,218
13 Claims. (Cl. 5—345)

1. In a mattress, a one piece top of synthetic flexible and resilient non-cellular and non-textile lightweight plastic resinous material and of the length and width of the mattress constituting an incompressible but yieldable support for the body of a user, a similar bottom arranged below the top and movable toward and from the top to provide an unobstructed space therebetween at the sides and ends of the mattress, means on and integral with the inner surfaces of said top and bottom and constituting the sole means for holding in place and arranging in rows cushioning elements arranged therebetween and urging said top and bottom apart, and cushioning elements each independent of the other elements and unconnected thereto except by said top and bottom bridging the space between the top and bottom



and engaged by said means, the material being thermoplastic, and said means comprising lugs on the inner faces of the top and bottom adapted to engage, encase and embrace the material at the respective end portions of the elements, there being a groove in each lug between the inner and outer sides of the lug receiving the end portion of an element.

2,979,740
MINIATURE LIFE PRESERVER
Dale R. Walker, Rte. 1, Box 1325, Vancouver, Wash., and Warren A. Atkins, 923 20th Ave., Longview, Wash.
Filed Aug. 14, 1957, Ser. No. 678,105
12 Claims. (Cl. 9—316)

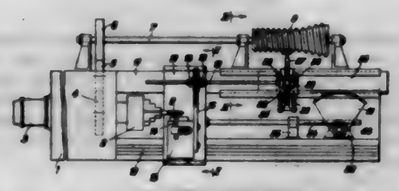


4. As an article of manufacture a miniature life preserver consisting of a semi-rigid base element having a recess in one side thereof formed to provide a peripheral ridge and fastening means embedded in the base within the margins of said peripheral ridge and having in the opposite side two endless grooves, one groove being positioned within the periphery of the other; an inner carrier integral with the base and within the margins of said grooves; a compressed gas cartridge, having integral gas release means, positioned and retained by said inner carrier; an expandable, inflatable, impervious envelope secured to the base at the inner base groove, enveloping said inner carrier, compressed gas cartridge and gas release means, and adapted to be inflated by gas released from said gas cartridge; a semi-rigid, impervious case enclosing the inflatable envelope and having a tongued opening in one side thereof adapted to engage with the outer groove of the base and to be eruptible from said base as the inflatable envelope therewithin expands, said case being adapted to accommodate and enable the operation of the gas release means of the gas cartridge positioned within said inflatable envelope; an inert, dry gas within said case, surrounding said inflatable envelope; and a leak-reacting dye on the inner surface of said impervious case.

2,979,741
APPARATUS FOR CUTTING UNIFORM PITCH THREADS ON A BLANK OF CYLINDRICAL AND CONICAL CONFIGURATION
Alfred Beck, Hompeschstr. 6, Duesseldorf, Germany
Filed June 27, 1956, Ser. No. 594,158
1 Claim. (Cl. 10—105)

In a lathe for making threading tools from blanks, each blank comprising a conical portion adjoining a cylindrical portion, in combination: rotatable clamping

means adapted to receive said blank; a profiled tool; a support for said tool, said support being shiftably mounted in directions parallel and at right angles to the axis of rotation of said clamping means; drive means for rotating said clamping means; a rotatably mounted template in driving connection with said rotatable clamping means, the transmission ratio of said drive connection equalling unity, said template comprising a body consisting of a frustoconical portion of increasing diameter adjoining a cylindrical portion and having a transi-



tion zone therebetween, both said portions being formed with substantially full depth threads defined by forward and rear flanks, the flanks of the threads in both the cylindrical and conical sections respectively being parallel, the pitch of the flanks in said transition zone only being of an increased increment to compensate for the inherent decreased increment of pitch in the transition zone of the workpiece incident to the displacement of the tool towards the workpiece corresponding to the taper of the workpiece section.

2,979,742

THREADING TOOL HOLDER WITH SLIDABLE COVER ON HOLLOW HANDLE

William E. Cowley, Louisville, Ky., assignor to American Saw and Tool Company, Louisville, Ky., a corporation of Kentucky

Filed Dec. 8, 1958, Ser. No. 778,911
2 Claims. (Cl. 10—148)



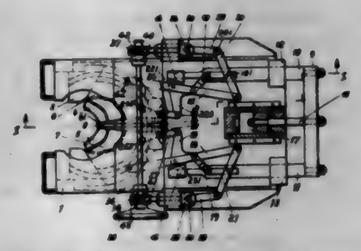
1. A tool for storing and manipulating thread forming members and the like comprising an elongate unitary body member having a jaw-receiving transversely-apertured frame centrally between the ends thereof and a pair of handles extending outwardly in opposite directions from said apertured frame, said handles each being relatively short, having two oppositely disposed convex sides and having a laterally open storage recess therein occupying substantially the full area thereof, each recess opening solely to one face of the respective handle between said convex sides and both recesses opening to one face of said body to which said apertured frame opens, each of said recesses being relatively wide and deep and adapted for reception therein of a plurality of thread forming members, and a cover for each of said recesses comprising a member having a generally U-shaped cross sectional configuration including a flat wide bight portion to overlie the recess opening and a pair of outwardly convex-inwardly concave leg portions adapted to mate with and frictionally engage the convexed sides of the respective handles, said covers having a length greater than the length of the recess in the respective handle and normally closing the recess, said cover being slidable outwardly on the respective handle to open the recess and expose the contents thereof to view, each cover when slid outwardly on the respective handle constituting a longitudinal extension thereof and together with the handle providing a long wrench arm for the tool.

2,979,743

SHOE-END LASTING MACHINE WITH COMMON DRIVE FOR THE FEEDING AND CLOSING MOTION OF PIVOTED WIPERS

Karl Günschel, Weissenfels, Saale, Germany, assignor to VEB Ketten- und Nagelwerke, Weissenfels, Saale, Germany

Filed Jan. 2, 1958, Ser. No. 706,868
6 Claims. (Cl. 12—12.3)



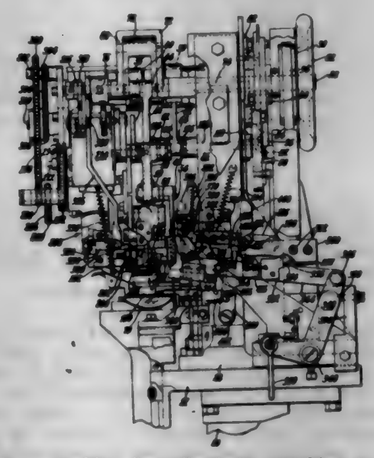
1. A shoe lasting machine comprising a frame, a wiper slide reciprocably mounted on said frame, a pair of complementary wipers slidably mounted on said wiper slide and confined thereon for arcuate sliding movement, a pair of members reciprocably mounted on said frame, driving means connecting each of said members for reciprocating them simultaneously, a double armed lever pivotally connected to each of said members, means connecting one arm of each of said levers to a respective one of said wipers to move the latter along an arcuate path, setting means connected to the other arm of each of said levers to adjust the relative position thereof in respect to the associated member, and means connecting said wiper slide with each of said members to reciprocate said slide with said members.

2,979,744

MACHINES FOR FABRICATING RIBBED INSOLES FOR WELT SHOES

Alfred S. Clark, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Feb. 9, 1959, Ser. No. 791,874
12 Claims. (Cl. 12—20)



1. In a machine for adhesively attaching to an uncoated insole an uncoated strip having an upstanding rib

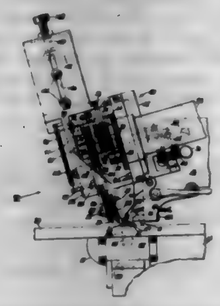
portion and oppositely extending attaching flanges, the combination of a unitary member operated to press the flanges of the strip against the insole and feed the combined insole and strip, power means for imparting to said member alternating and intermittent pressing and feeding movements, a chamber for a supply of adhesive, and means operated by said power means in timed relation to the operation of the unitary member to extrude adhesive from said chamber between the strip flanges and the insole in advance of the point of operation of said unitary member.

2,979,745

WORK FEEDING AND GUIDING MEANS

Hans F. Schaefer, Jr., Rockport, and Robert K. Jenner, Jr., Hamilton, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed July 17, 1959, Ser. No. 827,970
28 Claims. (Cl. 12—55)



1. A machine for progressively operating on or near the irregularly curved margin of a work piece comprising a work support, a tool, and means cooperative with the work support and engageable with the work piece for causing the margin of the latter progressively to be presented to the tool, said means including an abutment adjacent to the tool, a pair of movable work control members differently spaced inwardly of the edge of the work piece for feeding it against the abutment and relatively to the tool, and means for driving one of the members in either of two directions with variable speed according to the curvature of the margin while driving the other member in a corresponding direction with a speed fixedly proportionate thereto to steer the work piece about a common turning point.

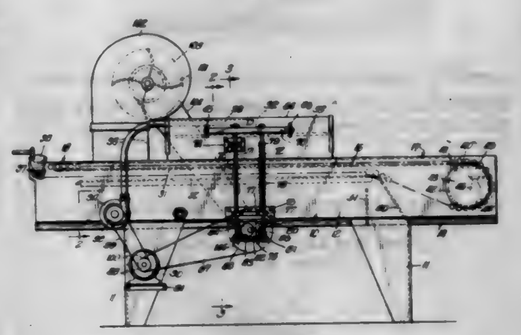
2,979,746

EGG WASHING MACHINE

Charles H. Willsey, Topeka, Kans., assignor to Seymour Foods, Inc., Topeka, Kans., a corporation of Kansas

Filed May 3, 1957, Ser. No. 656,881
4 Claims. (Cl. 15—3.13)

3. An egg washing machine comprising an upright elongate housing forming an open top tank, means to supply a washing fluid to said tank, an endless traveling conveyor mounted on end supports fixed in spaced relation in said tank with the upper run thereof extending horizontally above the washing fluid, said conveyor comprising side members and a plurality of longitudinally spaced cross shafts rotatably mounted at their opposite ends thereon, a traction roller on each cross shaft, means mounted in said tank in position for engagement by said traction rollers to rotate said cross shafts, roller assemblies fixed on said cross shafts, the roller assemblies on each cross shaft being aligned in the longitudinal direction with roller assemblies on the adjoining cross shafts and cooperating therewith to form pockets between said shafts for supporting eggs in rotatable relation therein, each roller assembly comprising roller sections with cylindrical base portions and adjoining tapered portions of truncated cone shape and with the tapered portions in paired relation and axially spaced on the respective supporting cross shaft and the tapered portions of each pair thereof facing so that the tapered surfaces converge inwardly toward each other and support the eggs at their ends only with the central portions of the shells exposed, a vertically reciprocable brush holding frame positioned to extend transversely above the upper run of said conveyor, a series of elongate bristle brushes mounted in transversely extending, longitudinally spaced relation on



said frame with the bristles of the brushes extending downwardly toward said conveyor a sufficient distance to engage the lower ends of the bristles with the surfaces of eggs carried in the pockets of said conveyor when said brush holding frame is in its lowermost position, means for vertically reciprocating said brush holding frame to intermittently engage the bristles with the eggs, a fluid discharge member mounted above said brush holding frame, means for delivering washing fluid to said discharge member from said tank, and means for blowing air onto the conveyor adjacent said brush holding frame for drying the eggs as they are advanced and rotated in the pockets of the conveyor.

2,979,747

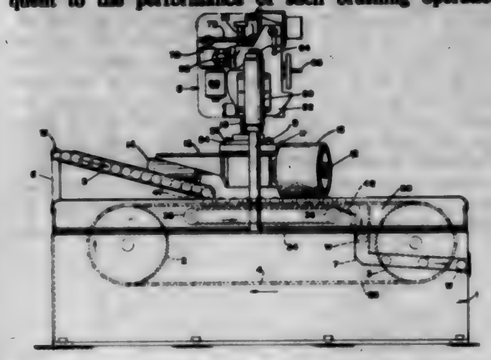
WORK CONVEYING AND BRUSHING MACHINE

Edwin H. Brauer, Jr., Cleveland, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 8, 1957, Ser. No. 677,111
1 Claim. (Cl. 15—21)

Apparatus for brushing a plurality of generally circular work-pieces such as gears and the like including a generally horizontal conveyor having openings vertically therethrough adapted to receive such work-pieces therein, a traveling belt disposed directly beneath said conveyor adapted to support such work-pieces in such openings, means operative actively to move said belt along a path generally parallel to the path of travel of said conveyor and at a lineal speed sufficient to rotate such work-pieces in such openings at a speed substantially faster than that obtainable by rolling such work-pieces along a stationary supporting surface through travel of said conveyor, a power driven rotary brush arranged and disposed to engage and actively brush such work-pieces as they are thus advanced by said conveyor and rotated by said traveling belt, means operative to deposit work-pieces to be brushed into such openings of said conveyor and upon said belt in advance of such brushing station, the course of said belt supporting such work-pieces terminating prior to the termination of the corresponding course of said conveyor to permit gravity discharge of such

work-pieces from such openings of said conveyor subsequent to the performance of such brushing operation



thereon, and work-piece collection means disposed below said conveyor beyond the termination of said belt.

2,979,748
SOAP BAR WITH SCRUBBING BRISTLES
Guy M. Beatty, P.O. Box 1364, Bakersfield, Calif.
Filed June 22, 1959, Ser. No. 822,110
1 Claim. (Cl. 15—605)



A cleansing agent comprising a bar of soap, bristles embedded in the soap having ends exposed at the surface of the bar, said bristles being creased at intervals so as to break off as the soap wears away whereby to maintain stiff, exposed bristle ends at the bar surface.

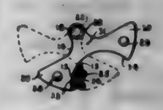
2,979,749
ROTARY BRUSH
John B. Benyak, Parma, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed July 11, 1958, Ser. No. 748,832
4 Claims. (Cl. 15—179)

1. A rotary brush comprising a disc-shaped hub having a large number of generally radially inwardly extending notches in its outer peripheral edge, such notches being wider in their radially inner end portions than adjacent such edge to afford relatively narrow necks thereto, a brush material retaining tube inserted in each such notch in a radial direction closely fitting such necks and having their inner end portions compressed and flared generally in the plane of such disc to provide a dovetail key securing them against radially outward withdrawal from said notches, brush material secured in each said tube and extending outwardly therefrom in a thin layer generally in the plane of said disc to form a thin circular brush face, said tubes being compressed and flared in



their outer end portions to spread said brush material into thin fan-shaped layers thus to form such brush face, and elastomeric material intruded between said bristles slightly to space them apart, said elastomeric material being molded to form with said bristles a thin laterally flexible blade-like outer peripheral portion adapted to be inserted into slots in work-pieces, wherein said elastomeric material extends radially inwardly to enclose said notches and tubes.

2,979,750
DEVICE FOR A WINDSHIELD WIPER BLADE AND ARM ASSEMBLY
John W. Anderson, 578 Broadway, Gary, Ind.
Filed July 11, 1956, Ser. No. 597,125
14 Claims. (Cl. 15—250)



3. Means for automatically removing snow or other extraneous matter from a windshield wiper arm-and-blade assembly comprising an impact member connected to and propelled by said assembly to transmit the force of its momentum into inertial shock to said wiper blade upon occurrence of irregularities in travel of said assembly.

2,979,751
WINDSHIELD CLEANING SYSTEM
Eugene R. Ziegler, Spencerport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 26, 1957, Ser. No. 705,198
15 Claims. (Cl. 15—250.02)

2. A windshield cleaning system including, an intermittent squirt type washer unit, a wiper unit, first manually controlled means for activating said wiper unit independent of said washer unit, and second manually controlled means including a control for setting both units in operation for conjoint operation and controlling the period of conjoint operation.

2,979,752
WINDSHIELD WIPER ARM ASSEMBLY
Fred A. Krehm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Continuation of abandoned application Ser. No. 418,932, Mar. 26, 1954. This application Feb. 20, 1959, Ser. No. 794,768
24 Claims. (Cl. 15—250.21)



17. A windshield wiper arm assembly mounted on a vehicle for cyclic oscillatory movement across a windshield, said assembly including means for biasing the arm toward the windshield, a blade supporting connector mounted on the arm, and means connected between

the arm and the vehicle for causing movement of the connector lengthwise of the arm responsive to the cyclic movement and for causing pivotal movement of the connector during at least a portion of the lengthwise movement.

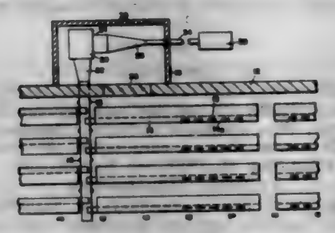
2,979,753
CLOTHESLINE CLEANER
Robert C. Gunston, 1023 57th St., Brooklyn 19, N.Y.
Filed June 1, 1959, Ser. No. 817,112
5 Claims. (Cl. 15—256.6)



1. A clothesline cleaner comprising: a rigid, U-shaped body portion; a wiper held within said body portion and substantially filling the space therein, said wiper being placed within said body portion in a U-shaped configuration congruent with said body portion to leave an accessible but restricted channel from the open ends of said U-shaped body portion and said wiper to the bight portions thereof; and a pair of hooks extending from one side of said body portion at the open end thereof, said hooks being spaced apart by a distance greater than the thickness of the clothesline, and said hooks being curved in opposite directions.

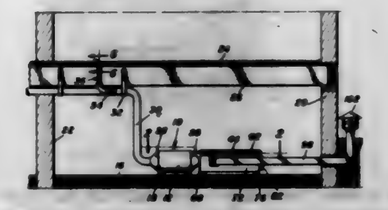
2,979,754
PNEUMATIC WASTE COLLECTION APPARATUS FOR TEXTILE FRAMES
Charles R. Harris, Charlotte, N.C., assignor to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed Dec. 9, 1953, Ser. No. 397,998
4 Claims. (Cl. 15—301)

1. For use in a textile mill having a plurality of spinning frames, a waste-removal system including pneumatic waste-collecting means individual to the respective spinning frames, a main trunk fed by said waste-collecting means, a waste separator connected to said main trunk, and a waste concentrator in said main trunk in advance of said waste separator for increasing the waste-to-air ratio in said main trunk and releasing a limited volume of air for reuse, said waste concentrator including an inlet end, an outlet end of reduced cross section



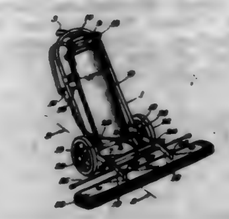
as compared to said inlet end, and a foraminous wall interconnecting said inlet and outlet ends and defining a frusto-conical duct section.

2,979,755
CENTRAL VACUUM SYSTEM FOR HOMES
Louis M. McCaskill, North Charleston, S.C.
(1909 Calvert St., Charleston Heights, S.C.)
Filed Sept. 7, 1956, Ser. No. 608,533
1 Claim. (Cl. 15—314)



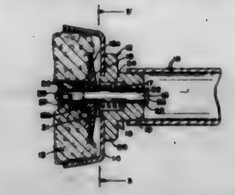
A vacuum cleaning apparatus comprising a hollow casing constructed with an air inlet and air discharge means, a suction fan forcing air through said casing with the fan discharging air into the air inlet disposed in said casing, a removable receptacle disposed in said casing, baffle means overlying the receptacle and including discharge louvers for reversing the flow of air in the casing for separating dirt particles from the air and deflecting the air above the receptacle, said suction fan having an intake, a normally closed floor receptacle communicated with the intake of said suction fan, a rigid suction tube telescoped into the floor receptacle, an electric motor for driving said fan, an electric circuit connected with said motor, an electric switch in said circuit, said electric switch having an actuating plunger extending laterally through the floor receptacle into the path of movement of said suction tube when telescoped into the floor receptacle thereby closing the circuit and energizing the motor and opening the circuit when the suction tube is withdrawn from the receptacle, said casing having a screened closure above the baffle means for additionally separating dirt particles in the air.

2,979,756
WAX SPREADER
George H. Wallis, P.O. Box 177, Barrington, Ill.
Filed Oct. 8, 1959, Ser. No. 845,180
3 Claims. (Cl. 15—546)



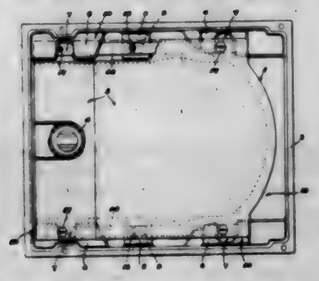
1. A wax spreader comprising a frame, an axle mounted on said frame near its base, a wheel on each end of said axle, a cradle on said frame for holding a pressure tank, a bracket pivotally mounted on said frame near the axle and extending to one side of the axle, a straight spray tube mounted horizontally on said bracket and generally parallel to the axle, downwardly directed openings through the wall of said tube for its entire length, an intake port into said tube, a valve mounted on said frame, a flexible tube connecting the delivery port of the valve to the port on the spray tube, a spreading pad mounted on said bracket substantially parallel to said spray tube and coextensive in length, and means for holding the pivoted bracket in fixed relationship to the frame at one of a plurality of angles with respect to the frame.

2,979,757
WEED-KILLER APPLICATOR
Norman Smith, 134 Wales Drive, Fort Myers, Fla.
Filed Nov. 16, 1959, Ser. No. 853,063
1 Claim. (Cl. 15—569)



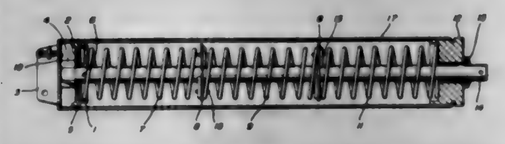
In a liquid weed-killer applicator of the type having work-operated valve means for releasing liquid weed-killer from a reservoir, the combination, with a tubular reservoir, of a valve body adapted for close-fitting plug-engagement with the lower end of said reservoir, and having a vertically extending passage therethrough, a valve plunger loosely slidable in said passage, valve means on said plunger at its upper end adapted to close said passage, a sponge of sufficient size to contact the major portion of the foliage of any common broad-leaf lawn weed, means for securing the central portion of said sponge to the lower end of said plunger, an annular distributor member secured to said plunger above said sponge, having a convex upper surface inclined toward said sponge and extending in all directions at least half the distance from said plunger toward the periphery of said sponge, spring means between said valve body and said distributor member adapted to bias said plunger to passage-closed position, and a cup-shaped sponge cover joined to said valve body for closely housing the top and upper side portions of said sponge, said sponge cover having downwardly divergent sides, whereby, when said applicator is pressed down on a weed, said valve is opened, the weed-killer flows down said passage over said distributor member to the outer portions of the sponge and said sponge is squeezed against said sponge cover to apply the weed-killer evenly over the foliage of the weed.

2,979,758
FLOOR SPRING ASSEMBLIES
Herbert Charles Shead, Birmingham, England, assignor of one-half to William Newman and Sons Limited, Birmingham, England, a British company
Filed Jan. 20, 1959, Ser. No. 787,986
1 Claim. (Cl. 16—55)



In a floor spring assembly, a floor spring casing, exterior flanges on said casing, said flanges having apertures therein, an outer frame receiving said casing, supports carried by and disposed within said outer frame, said supports having apertures therein, the aforesaid apertured exterior flanges on the floor spring casing resting on the apertured supports and a clearance being left between the said casing and the outer frame to permit of movement of the casing in its own plane in all directions, a pair of bars which are each formed with a plurality of threaded holes spaced from each other in the direction of the length of the bar, and which are disposed within and loosely anchored to the aforesaid outer frame and are disposed beneath the said apertured supports carried by the latter, one bar at each side of the outer frame, and screws passing through the apertures in the flanges on the casing and through the apertures in the aforesaid supports, said screws engaging the longitudinally-spaced threaded holes in the said bars and being operable to move the said bars upwards against the undersides of the said supports carried by the outer frame to draw the flanges on the floor spring casing down onto the said supports, said bars and screws constituting releasable clamping means for clamping the floor spring casing in an adjusted position within the outer frame, the casing being movable in all directions in its own plane when released by slackening the screws, and the aforesaid apertures in the supports being of enlarged size relatively to the cross-sectional size of the corresponding screws passing through said apertures, to leave sufficient clearance between the screws and the supports to permit of the screws moving with the casing when the latter is being adjusted in its own plane.

2,979,759
DOOR CLOSER
Avrum S. Katz, Cleveland, Ohio, assignor to Sterling Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 29, 1958, Ser. No. 783,302
2 Claims. (Cl. 16—66)



1. A compression spring door closer comprising a housing having a first closed end and a second end, a plunger disposed within said housing and adapted to shift between said ends and defining a fluid chamber adjacent said first end, fluid metering means communicating with said chamber for venting fluid therefrom when the plunger approaches said first end, spring means extending between said plunger and said second end to bias said plunger toward said first end, said spring means having a ratio of overall free length to mean spring diameter of from 12 to 20 and having a spring rate of 2 to 5 pounds per inch of deflection and having a load of from 10 to 25 pounds at a compressed length of from 6 to 10 inches, a rod extending from said plunger through said spring means and out said second end, said spring means being divided into three sections, and means mounted on said rod between each adjacent pair of said sections for holding the associated ends of said pairs in centered relationship around said rod.

2,979,760
UTENSIL HANDLE CONSTRUCTION
Alexander C. Sladky, Ellison Bay, and Rudolph F. Gehm, Kewaunee, Wis., assignors to Leyse Aluminum Company, Kewaunee, Wis., a corporation of Wisconsin
Filed May 31, 1957, Ser. No. 662,739
2 Claims. (Cl. 16—110)

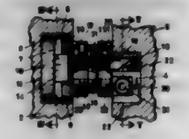
1. In a utensil handle mounting, a mounting plate adapted to be rigidly secured to a utensil and having an embossment having a flat portion provided with a pair of laterally spaced parallel slots therethrough communicating with a flat-bottomed recess behind the embossment, each of said slots opening forwardly and having parallel sides, a loop-shaped anchor strap of bendable

sheet metal having a continuous intermediate portion in said recess abutting flatwise against the inner face of said embossment between said slots and further having a pair of bendable arms passing outwardly through said slots, said recess being slightly deeper than the thickness of



said strap, and each slot being slightly wider than the thickness of said strap, said arms being inwardly convergent and having substantially aligned transverse openings in their outer end portions, and a strap-tensioning handle-retaining rod having a terminal hook engaged in said strap openings.

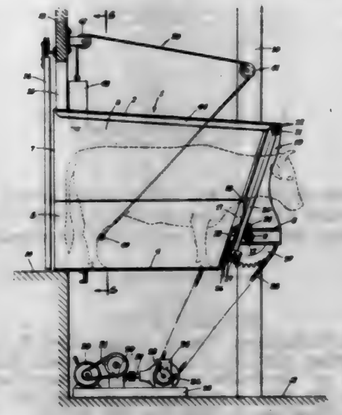
2,979,761
BEARING, ESPECIALLY FOR PERSPECTIVE WINDOWS
Stig Axel Rune Flodell, Bildradlogatan 16, Jarnbrott, Sweden
Filed Feb. 16, 1959, Ser. No. 793,453
Claims priority, application Sweden Aug. 5, 1958
4 Claims. (Cl. 16—140)



1. A bearing comprising a bearing house attached to a stationary part and a bearing portion with a pin, and journalled with friction in said bearing house, said pin with its free end engaging a fitting in a movable part, said bearing house provided with a bore extending axially through said house and widening with two conical surfaces towards its two ends, said turnable bearing portion with its head, which tapers conically in a corresponding way, being turnable in contact with one of the conical surfaces of the bore which is passed through by said pin, the latter near its head portion having a non-circular cross section and carrying a disk which is non-turnable relative said pin and which has a conical mantle surface fitting in the other one of the conical surfaces of the bore, said pin provided with a turnbuckle nut adapted to move said disk towards said head portion so as to create a desired friction between on one hand the bearing house and on the other hand the head portion of the turnable bearing portion and said disk.

2,979,762
CATTLE SLAUGHTERING CHUTE UNIT
Frank J. H. Schatz, Rte. 1, Box 1395, Elk Grove, Calif.
Filed May 11, 1959, Ser. No. 812,485
2 Claims. (Cl. 17—1)

1. A cattle retaining device for a slaughterhouse comprising a chute having opposed top, bottom, and side walls and freely open at one end for the entry of an animal into the chute, a stanchion unit at the other end of the chute for embracing the neck of such animal in confining relation and so that the head of the animal projects ahead of the chute, means mounting the chute a predetermined distance above the floor of the slaughterhouse for controlled rotation about a transverse axis so that the chute may be turned in one direction from an initial substantially horizontal position with the bottom wall lowermost to a substantially inverted position with the top wall of the chute lowermost and disposed



adjacent and at an upward slope to the floor from the open end of the chute, and means applied to the chute to thus rotate the chute and maintain the same in any rotated position.

2,979,763
FISH HANDLING AND SCALING CLAMPS
Leon Stabryla, 2064 N. Western Ave., Chicago, Ill.
Filed Sept. 22, 1958, Ser. No. 762,608
7 Claims. (Cl. 17—8)

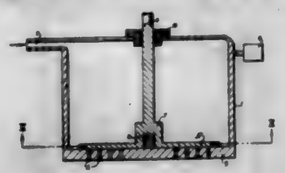


1. A fish scaling clamp cabale of engaging a fish tail for supporting the fish body during scaling operation, comprising a stationary jaw, a movable jaw hingedly connected to said stationary jaw intermediately of the ends of the latter, said movable jaw being capable of angular swinging motions to its operative, substantially parallel, contactual relation with said stationary jaw or to its inoperative angular relation with said stationary jaw, and a pair of latches pivotally supported along the outer face of said stationary jaw, said latches including substantially U-shaped members adapted to engage the opposed edges of both of said jaws when said movable jaw has been swung to its operative position with relation to said stationary jaw for firmly clamping a fish tail interposed between the two jaws.

2,979,764
PELLETING APPARATUS
Eugene A. Andrew, Berkeley, Mo., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed June 26, 1958, Ser. No. 744,763
6 Claims. (Cl. 18—2.7)

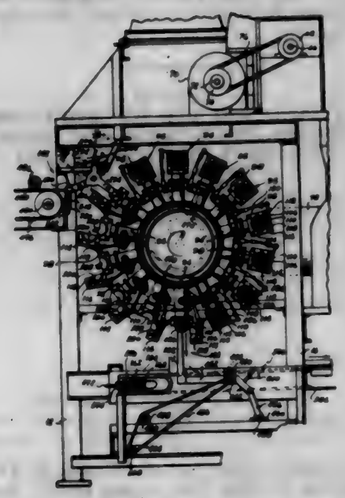
1. An apparatus for forming liquid spherical particles of uniform predetermined particle size comprising, a

chamber having a liquid inlet port and a flat wall having a plurality of perforations therethrough, means for flowing liquid into the chamber through said inlet port and out through the perforations, a flat rotor within



the chamber parallel to and riding on the interior of the flat perforated wall, at least one open area in the rotor, a drive shaft for the rotor, and means for vibrating the chamber.

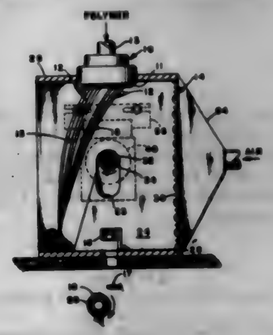
2,979,765
ROTARY OVEN
Frederick N. Stephens, Prairie Village, Carl C. Perkins, Jr., Mission, and Tom J. Love, Jr., Shawnee, Kans., assignors to Curtis-Bacon Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Mar. 1, 1955, Ser. No. 491,312
17 Claims. (Cl. 18—4)



14. A rotary oven for curing a length of resin-impregnated fibrous material wrapped about a perforated mandrel including in combination a manifold, a perforated mold adapted to receive said mandrel, said mold being formed with means for permitting curing fluid to pass from the mold to said mandrel, means for mounting said mold on said mandrel, said mounting means including a conduit for conducting curing fluid from said manifold to said mold and means for supplying curing fluid to said manifold.

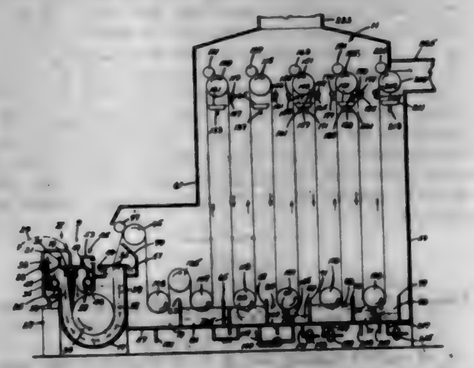
2,979,766
MELT-SPINNING APPARATUS
Joseph A. Briggs, Jr., and Robert L. Gardner, Pensacola, Fla., assignors to The Chemstrand Corporation, Decatur, Ala., a corporation of Delaware
Filed Feb. 23, 1960, Ser. No. 10,293
7 Claims. (Cl. 18—8)

1. A melt-spinning apparatus for use in the production of filaments from a thermoplastic filament-forming polymer comprising a spinneret for extruding said polymer in a molten condition into streams in a path extending downwardly along a vertical extrusion line at a predetermined extrusion rate, means for collecting the resulting filaments in package form at a predetermined collection rate positioned below said spinneret, a spinning chamber having a top panel through which said spinneret projects and adapted to receive the streams of polymer immediately upon extrusion thereof, means for directing a cooling gas laterally against said streams of polymer so as to cool same and with sufficient force to cause same to assume an arcuate path curving from said extrusion line, a rotatably mounted brush having bristles projecting therefrom



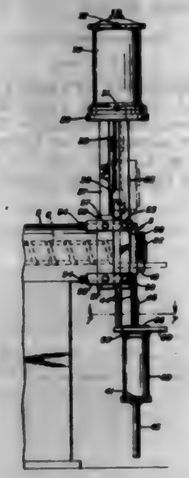
and adapted to take and retain filaments coming in contact therewith, said brush being positioned in the area defined by said extrusion line and said arcuate path and being adapted to collect said filaments at a rate less than the extrusion rate and at a rate less than the collection rate when denier reduction occurs in the production thereof, whereby the filaments become broken between said brush and said collecting means and collect in a heap interjacent to said spinneret and brush when denier reduction occurs.

2,979,767
FILAMENT FILM SPINNING AND PROCESSING MACHINE
Horace P. Fry, Jr., West Chester, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 12, 1956, Ser. No. 590,958
10 Claims. (Cl. 18—8)



1. A method for producing artificial filaments having uniform characteristics including the steps of extruding along side of each other and into a coagulating bath a plurality of individual and substantially parallel streams of filament-forming material to form a continuous flat web of individual partially formed filaments, continuously delivering coagulating medium into the bath adjacent to opposite sides of the web of filaments as it enters the bath, removing the web of filaments from the bath and passing the same through a series of fluid-treating stages, and continuously removing coagulating medium from the bath at opposite sides of the web of filaments as it leaves the bath whereby opposite sides of the web of filaments are equally and uniformly treated with coagulating medium which travels concurrently therewith.

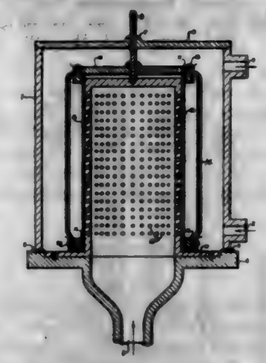
2,979,768
APPARATUS FOR EXTRUSION OF PLASTICS
George B. Nichols, 139 Homewood, Barberton, Ohio, assignor of one-half to Robert F. Schnee, Barberton, Ohio
Filed Feb. 21, 1957, Ser. No. 641,691
15 Claims. (Cl. 18—12)



1. A device for the extrusion of plastic which comprises an extrusion screw rotatably mounted in a barrel, an extruder head slidably mounted over the front of the barrel with flat surfaces of each in contact with one another and adapted to slide in a plane perpendicular to the axis of the screw and substantially immediately in front of the forward end of the screw for a distance sufficient to sever a thread of plastic passing therethrough, with guide means to hold the extruder head in shearing contact with the front of the barrel as it is slid over it.

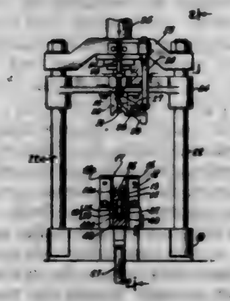
2,979,769
LACQUER TREATMENT APPARATUS
Eugene A. Andrew, Berkeley, Mo., assignor to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Feb. 10, 1959, Ser. No. 792,329
3 Claims. (Cl. 18—12)

1. An apparatus for simultaneously extruding and slicing lacquer and the like and suspending the same in liquor comprising an enclosing vessel having a liquor intake port and a liquor outlet port, a cylindrical extrusion chamber mounted within said vessel, said chamber having a circular closed end, an inlet, and a perforated cylindrical wall, the perforations within the cylindrical wall being substantially uniform and having a diameter between about 0.020 inch and about 0.015 inch, means for forcing lacquer into the chamber through said inlet end and out through said perforated cylindrical wall into the space between said cylinder and said vessel, a plurality of taut wires in spaced relationship external to the cylindrical wall, the diameter of each of the wires being substantially equal and between about 0.005 inch and about 0.045 inch, means for maintaining the wires a fixed distance of between about 0.004 inch and about



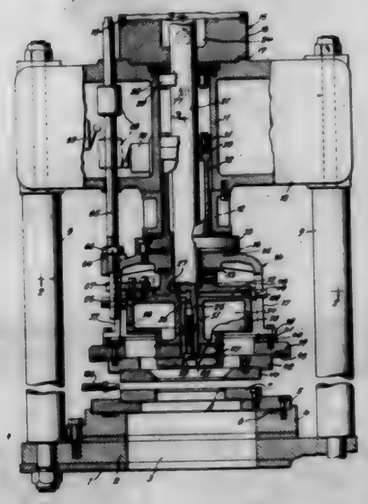
0.075 inch from the cylindrical wall and means for driving said wires in relative rotation about the axis of the said cylindrical wall.

2,979,770
MOLDING PRESS AND METHOD OF MOLDING
Kenneth F. Greene, Somerville, and William L. Stafford, Martinsville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed May 6, 1952, Ser. No. 286,362
11 Claims. (Cl. 18—16.7)



1. A molding press comprising, first and second opposed dies, means for holding said first die positively in a predetermined molding position opposite said second die, said second die comprising first and second compression members, resilient means reacting between said compression members to bias said first compression member yieldingly away from said second compression member and toward said first die, first stop means limiting the relative movement of said first compression member away from said second compression member under the action of said resilient means, means for acting on said second compression member and urging both said compression members simultaneously toward said first die in a molding operation, second stop means for positively stopping the motion of said first compression member toward said first die at a predetermined molding position spaced therefrom, third stop means for thereafter positively stopping the motion of said second compression member toward said first die after said second compression member has continued its travel to a predetermined molding position against the force of said resilient means, so as to provide for a predetermined greater densification of the portion of the molded product compressed between said second compression member and said first die than between said first compression member and said first die.

2,979,771
PLASTIC DRAW PRESS
Ralph F. Taber, 111 Goundry St., North Tonawanda, N.Y.
Filed Sept. 30, 1957, Ser. No. 687,261
10 Claims. (Cl. 18—19)



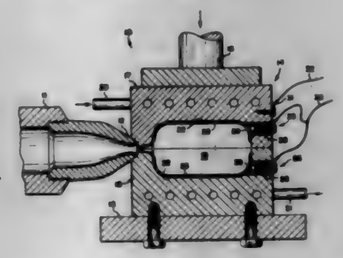
1. A press of the class described comprising a support, a stationary forming die mounted on said support, a movable die cylinder mounted on said support having a piston therein carrying a movable die on one end mounted for reciprocating movement toward and from said stationary forming die, a punch cylinder mounted on said support having a piston therein carrying a punch on one end mounted for reciprocating movement toward and from said stationary forming die, fluid pressure containing means communicating with said movable die cylinder for normally moving the piston therein and said movable die toward said stationary die to hold a piece to be formed engaged with said stationary die, a source of fluid under pressure, means connecting said source with said fluid pressure containing means for maintaining a substantially constant pressure therein less than the pressure of said source, manually operable means for controlling supply of fluid pressure from said source to said punch cylinder for moving said piston and punch toward said stationary die and also moving said piston and punch away from said die, and means operated in the movement of said punch away from said stationary die for operating the piston for said movable die to move said movable die and piston away from said stationary die against the fluid pressure in said movable die cylinder.

2,979,772
PLASTICIZING HEAD
Ernest P. Moslo, 11720 Edgewater Drive, Lakewood, Ohio
Filed Sept. 11, 1958, Ser. No. 760,428
1 Claim. (Cl. 18—30)



In a plasticizing head for heating plastic molding material for a plastic molding machine having a heating chamber element having an axial bore circular in cross-section with an inlet end and a discharge end, and there being a spreader element mounted in said bore in good thermal contact with said bore, and heating means connected to at least one of said elements; the combination therewith of said spreader element having a plurality of longitudinally extending passageways generally V-shape in section and opening radially outwardly at the periphery of said spreader element, a first set of said passageways extending radially deeply into said spreader element and being equally spaced circumferentially about the same, a second set of said passageways extending radially less deeply than the first set into said spreader element and spaced evenly between the passageways of the first set, all of said passageways extending from said inlet end to said discharge end and having the sections thereof converging toward the discharge end, whereby a large passageway area is provided without weakening said spreader element near its axis.

2,979,773
MOLDING APPARATUS
Luther L. Bolstad, St. Louis Park, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 26, 1959, Ser. No. 836,270
1 Claim. (Cl. 18—34)

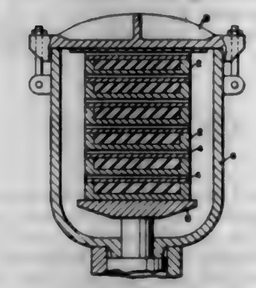


Plastic molding apparatus including a plurality of cooperating mold members with means for maintaining said mold members at a first predetermined temperature, said mold members having a plurality of molding surfaces defining a mold chamber, said molding chamber being arranged to receive a molten plastic charge therein at a second predetermined temperature, said second predetermined temperature being above the flow temperature of said plastic and higher than said first predetermined temperature, said molding surfaces being characterized in that a relatively thin semiconductive film is arranged adjacent to and in good heat transfer relationship therewith, a relatively thin metallic electrode arranged along substantially the entire surface of said semiconductive film, and means for passing an electrical current through said semiconductive film thereby temporarily heating said molding surface above said second predetermined temperature.

2,979,774
METHOD FOR OBTAINING SHAPED THERMOPLASTIC ARTICLES HAVING IMPROVED MECHANICAL PROPERTIES
Vincenzo Rastgnolo, Terni, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed Oct. 22, 1957, Ser. No. 691,528
Claims priority, application Italy Oct. 24, 1956
9 Claims. (Cl. 18—48)

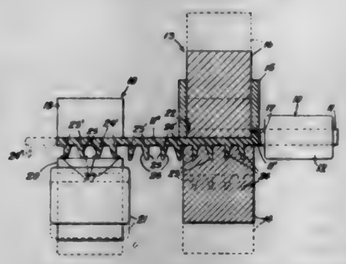
1. A process for improving the mechanical properties of shaped articles comprising, prevailingly, isotactic, crystallizable polypropylene, which comprises stretching the articles in the presence of a hydrocarbon which, in and of itself, inhibits crystallization of the polypropylene.

2,979,775
METHOD OF MANUFACTURING CELLULAR PRODUCTS
Benjamin D. White, Wadsworth, Ohio, assignor to The Bearfoot Sole Company, Inc., Wadsworth, Ohio, a corporation of Ohio
Filed May 11, 1953, Ser. No. 354,891
3 Claims. (Cl. 18—53)



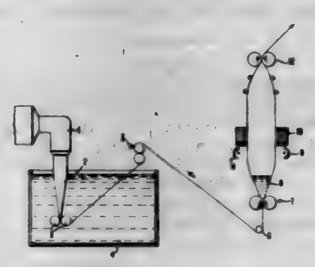
1. The method of manufacturing an article of a cellular plastic material, wherein said material is compounded with a gas generating agent therein and is charged into a separable mold in a volume substantially less than the volume of the mold cavity, comprising the steps of holding the mold tightly closed, applying heat to the mold to decompose the gas generating agent and expand the material to fill the mold cavity, and continuing the application of heat to the closed mold until the material is set, surrounding the mold during the heating thereof with fluid under pressure sufficient to prevent the material from seeping out of the separable mold during heating thereof, cooling the article in the mold while maintaining the mold closed to a degree of temperature such that the article will not expand from the pressure of said gas generating agent when the mold is opened, and opening the mold and removing the finished article.

2,979,776
METHOD OF MAKING BURR ELEMENTS OF SEPARABLE FASTENERS
Louis H. Morin, Bronx, N.Y.
(125 Beechwood Ave., New Rochelle, N.Y.)
Filed Sept. 4, 1959, Ser. No. 838,314
4 Claims. (Cl. 18—56)



1. The method of producing burr-type fasteners from thin strip-like plastic workpieces, which consists in first heating the workpiece, then feeding the same into a forming station employing a die having cavities to form burr elements and a punch for fashioning the workpiece to extend into the cavities in forming burr elements protruding from one surface of the workpiece, reducing the thickness of the workpiece in said forming operation, then feeding the formed workpiece into position between an anvil and heated curling tool at a burr forming station, actuating the curling tool to curl contracted ends of the burr elements to form substantially hook ends on the resulting burrs, then delivering the burred product from the last named station while simultaneously delivering the workpiece to the first named station, supporting the punch in a sleeve at the first named station, and utilizing said sleeve as a means for controlling feed delivery of the workpiece into the first named station.

2,979,777
TUBULAR FILM STRETCHING PROCESS
Max Goldman, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 6, 1958, Ser. No. 772,281
20 Claims. (Cl. 18—57)

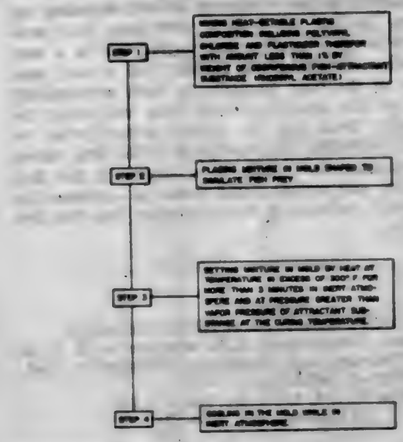


1. In the process wherein continuous tubular film of thermoplastic, organic, polymeric material continuously traveling in a substantially vertical path is stretched between spaced lower and upper sets of positively driven pinch rolls, the improvement which comprises confining a pool of volatile liquid chemically inert with respect to said polymeric material in the continuous tubing between said sets of pinch rolls at the nip formed between the rolls of the lower set of pinch rolls, said volatile liquid being liquid at 20° C., and being capable of exerting at an elevated temperature below the stretching temperature at which molecular orientation of said film is effected a vapor pressure effective to stretch the tubular film at the stretching temperature, and maintaining said tubular film in a stretching zone above the liquid level of the liquid pool at said stretching temperature.

2,979,778
METHOD OF MAKING A FISHING LURE
Ogden FitzSimons, Chester Springs Road, Kimberton, Pa., assignor of seventy-five percent to Drift-A-Lure, Inc., Rochester, N.Y., a corporation of New York
Filed Sept. 27, 1956, Ser. No. 612,564
3 Claims. (Cl. 18—58)

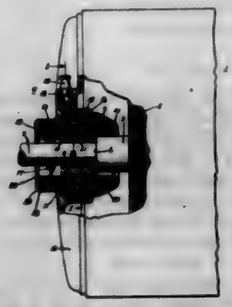
1. The method of making a fishing lure which comprises providing a heat-settable plastic composition including at least a synthetic resin and a plasticizer therefor, mixing with said composition an amount less than 1% by weight of an odoriferous fish-attractant substance to distribute said substance thoroughly throughout the mixture, placing said mixture in a mold shaped to simulate a natural fish prey, and setting said mixture in the mold by heat in an inert atmosphere and at a pressure greater than the

vapor pressure of the attractant substance at the curing temperature to prevent volatilization of the fish-attractant



substance during curing, thereby to produce a fishing lure having an odor and texture simulating natural fish prey.

2,979,779
IMPROVED METHOD OF PROVIDING A BEARING LUBRICATING STRUCTURE
Louis E. Staak, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Apr. 18, 1955, Ser. No. 501,963
5 Claims. (Cl. 18—59)



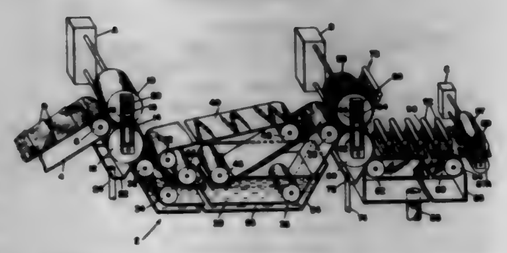
1. The method of forming a reservoir for retaining lubricant and for supplying a bearing with the lubricant, comprising mounting said bearing within a housing open on at least one end, positioning mold means in engagement with said housing with dummy shaft means on said mold means extending into said bearing, introducing into said housing a relatively small amount of material capable of being foamed, causing said material to foam and fill completely the space within said housing with a unitary lubricant absorbent body of foam, with said dummy shaft means preventing the interior of said bearing from being filled with foam, and removing said mold means including said dummy shaft means after said body of foam is formed.

2,979,780
PLASTIC FACED BUILDING UNITS AND PROCESS FOR MANUFACTURING SAME
William G. Gittins, Ladue, Mo. (8301 Page Ave., St. Louis, Mo.)
Filed Apr. 5, 1957, Ser. No. 650,882
1 Claim. (Cl. 18—61)

That method of bonding an externally smooth transparent plastic facing to a promiscuously irregular face of a precast concrete building unit with a sheet of permeable decorative material interposed between said facing and said face which comprises the following steps: applying a film coating of wax to the highly polished upper surface of the bottom wall of a shallow stainless mold pan having slightly tapered side and end walls; cutting a sheet of permeable material to a size that perimeterwise slightly exceeds the size of said promiscuously irregular face of the precast concrete building unit; notching the four corner portions of said sheet; stretching the sheet across said face and securing its marginal edges to the adjacent side and end faces of the building unit; gently introducing into said mold pan a sufficient quantity of clear polyester resin to provide the facing thickness contemplated, said resin being in liquid form and heated to a temperature of approximately 120 degrees Fahrenheit; gently depositing said building unit with the sheet covered face thereof downward onto the resin in the mold pan, subjecting the mold pan and its contents to a constant temperature of approximately 80 degrees Fahrenheit for a period of four hours to allow the resin to harden; inverting the mold pan and its contents and depositing same onto a flat surface; and lifting the mold pan from the building unit.

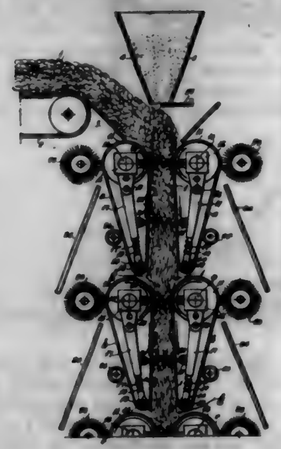


2,979,781
APPARATUS FOR PROVIDING LONG, SOFT VEGETABLE FIBERS
Malcolm J. Ridder, Reading, Pa., assignor to Geo. W. Bollman & Co., Inc., Adamstown, Pa., a corporation of Pennsylvania
Original application Apr. 28, 1954, Ser. No. 426,255, now Patent No. 2,925,626, dated Feb. 23, 1960. Divided and this application July 27, 1959, Ser. No. 829,640
6 Claims. (Cl. 19—7)



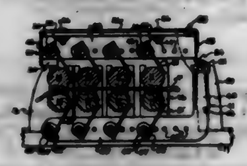
1. Apparatus for treating ribbons of bark containing soft vegetable fibers to separate out the soft vegetable fibers comprising an upwardly extending conveyor adapted to carry successive parallel ribbons in an overlapped relationship, a pair of lapping rollers, a retting tank between said upwardly extending conveyor and said lapping rollers, conveyor means to carry the ribbons from said first mentioned conveyor through said retting tank and to said pair of lapping rollers, means to drive said lapping rollers at a linear speed substantially in excess of the linear speed of the second mentioned conveyor means to substantially eliminate the overlapping of the retted ribbons and to drive one of said lapping rollers at a linear speed substantially greater than the linear speed of the other lapping roller to scutch said retted ribbons, and means to wash the fibers discharged from said lapping rollers.

2,979,782
MACHINE AND PROCESS FOR CLEANING WOOL AND OTHER TEXTILE FIBRES
Arpad Boer, Buenos Aires, Argentina, assignor, by mesne assignments, to Bancroft-Brillotex International S.A., Montevideo, Uruguay, a corporation of Uruguay
Filed Dec. 22, 1954, Ser. No. 476,967
4 Claims. (Cl. 19—67)



1. A machine for cleaning, drafting and parallelizing wool and other fibers comprising a series of pairs of spaced endless belts, a set of rolls on which each endless belt is mounted and by which it is driven, each such set of rolls including a pressure roll and a smaller secondary roll, bearings in which said rolls are mounted, a spring connecting each pair of pressure roll bearings and urging them toward one another, a second and weaker spring urging each pair of secondary roll bearings toward one another, resilient means extending between each pressure and secondary roll bearing for maintaining each belt under tension, the said pairs of spaced endless belts being arranged linearly to provide a continuous passage therebetween for fibers to be processed, each successive pair of belts being rotated at successively increasing speeds to provide a speed gradient along the machine from one end to the other, the space between succeeding pairs of endless belts becoming progressively less, means for introducing an absorbent powdered detergent between the first pair of the series of spaced belts for admixture with the fibers, and means for removing the detergent particles with their absorbate from the fibers after the fibers have passed through all said pairs of endless belts.

2,979,783
CLEARER ASSEMBLY FOR DRAFTING ROLLS
Marcus G. Whitehurst, Rensumer City, N.C., assignor to Ideal Industries, Inc., Rensumer City, N.C., a corporation of North Carolina
Filed Jan. 2, 1959, Ser. No. 784,562
13 Claims. (Cl. 19—139)



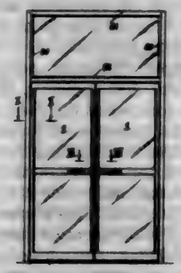
1. The combination with a drawing frame having top and bottom drafting rolls, of a clearer assembly comprising a separate resilient wiper blade engaging and extending outwardly from each roll, an elongated support bar extending substantially parallel to each roll and to which the outer portion of each wiper blade is attached, an upper pair of spaced brackets overlying the top rolls, a lower pair of spaced brackets underlying the bottom rolls, means adjustably securing opposed ends of the support bars to the respective upper and lower pairs of brackets, and means supporting said brackets for pivotal movement adjacent the rear portions thereof.

2,979,784
TOP ROLLS FOR SPINNING FRAMES
Louis M. Cotchett, Whitman, Mass., assignor, by mesne assignments, to Machinecraft, Inc., Whitman, Mass., a corporation of Massachusetts
Filed Apr. 15, 1957, Ser. No. 652,766
10 Claims. (Cl. 19—142)



1. A top roll having in combination an axle, a sleeve around the axle, bosses operatively fixed but axially slidable with respect to the axle, two sets of ball bearings spaced apart from each other lengthwise of each boss and located between each boss and the sleeve supporting the bosses rotatably and holding them in coaxial relation to each other, and means urging the bosses inwardly of the axle.

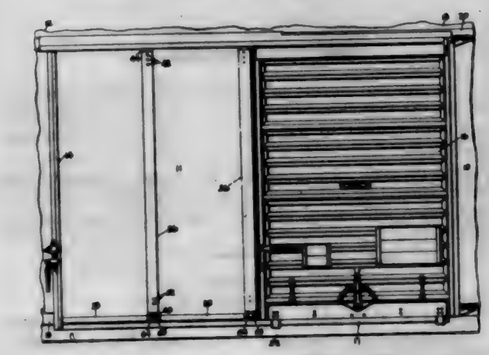
2,979,785
DOOR CONSTRUCTION
Clarence R. Critchfield, Latrobe, Pa., assignor to Overly Manufacturing Company, Greensburg, Pa., a corporation of Pennsylvania
Filed Dec. 10, 1956, Ser. No. 627,365
1 Claim. (Cl. 20—16)



A pivotally mounted public entrance door comprising vertically disposed laterally spaced door stiles with top and bottom rails connecting the ends of said stiles providing a door frame, pivotal supports for said door mounted in said rails and spaced inwardly thereof from one of said stiles for mounting the door stile in substantial spaced relation to an adjacent door jamb, said latter stile having a longitudinally disposed face portion extending in parallel spaced relation to said jamb and short outwardly extending side portions thereon forming a shallow channel-shaped opening, a resilient hollow collapsible and laterally deflectable member extending longitudinally of the channel-shaped opening of said latter stile and outwardly of said pivotal mounting for the door, said hollow member comprising an outer arcuate shaped face portion terminating in inwardly extending transversely spaced arm portions whose free ends are disposed within said channel-shaped stile opening, said arm portions terminating in laterally extending flanges abutting said stile longitudinally disposed portion, the major portion of said

hollow collapsible member extending outwardly beyond the channel-shaped stile opening into substantially uncollapsed engagement with said adjacent door jamb when the door is in normal closed position providing a weather seal closure between the adjacent jamb and said stile, each said hollow collapsible member arms being capable of lateral deflection about the adjacent side portion of said stile channel-shaped opening to enlarge the space between the adjacent jamb and stile faces as the opened door moves into closed position upon engaging an obstruction disposed between the jamb and stile faces.

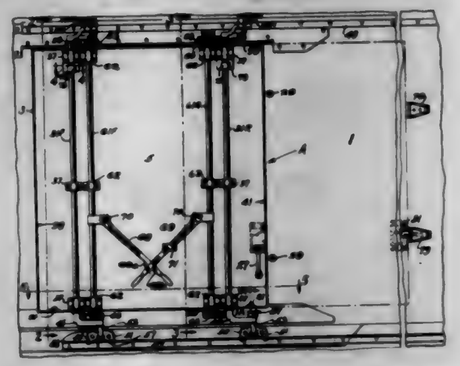
2,979,786
RAILWAY BOX CARS
Wilfred A. Beauchamp, Chicago, Ill., assignor to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 13, 1958, Ser. No. 754,823
7 Claims. (Cl. 20—22)



1. In a railway box car having a door opening, a longitudinally slidable door for closing the door opening, a side plate and a side sill extending across the door opening, a track secured to said side plate in the door opening, a member secured to said side sill and having opposed, longitudinally spaced undercut portions, and a post extending across the door opening in proximity to the inner face of said door when the door is closed to protect said door from the pressure of lading in the car, said post having a hanger, said hanger having spaced rollers supporting said post for anti-frictional longitudinal movement upon said track independently of said door, the lower part of said post including a member and releasable locking means, said latter member having a stem depending therefrom and flanges extending oppositely from said stem, said stem lying between said undercut portions and said flanges lying beneath said undercut portions when said members are in cooperative engagement, said locking means having locking engagement with said first member, said post being swingable transversely and outwardly of said car about said hanger independently of said door to disengage said members, whereby said post can be moved along said track upon said rollers.

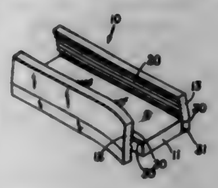
2,979,787
RAILWAY CAR FLUSH DOOR STRUCTURE
Thomas C. Soddy, Downers Grove, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 24, 1958, Ser. No. 730,624
15 Claims. (Cl. 20—23)

15. In combination, a railway car wall having a door opening and a track alongside and below said opening and a downwardly opening channel-section guide above and alongside said opening, carriages with grooved wheels on said track, and a door having a vertical mounting shaft with crank arms at its lower end, the lower crank arm being pivoted at its outer end on said carriage, a crank arm at the upper end of said mounting shaft with its terminal received in said guide and limiting movement of the door outwardly from the car side, keepers on said wall above and below said opening, and a locking shaft



journaled on said door adjacent to said mounting shaft with offset locking lugs at top and bottom, movable by rotation of the locking shaft into engagement with said keepers, said mounting shaft upper crank arm being movable over said locking shaft top lug and the keeper therefor.

2,979,788
WINDOW BLOCKS
Leonard E. Richardson, Kettering, Ohio, assignor to DAP, Inc., a corporation of Ohio
Filed June 10, 1959, Ser. No. 819,348
3 Claims. (Cl. 20—56.4)

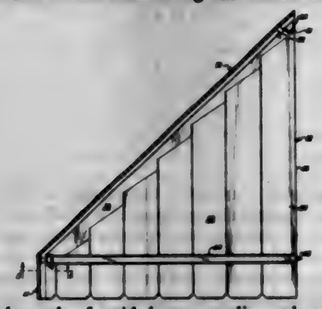


1. An extruded elastomeric block, for fitting between a window glass and a window sash having spaced apart glass retaining stops for supporting said glass in cushioned spaced relation within said sash between said stops providing for the expansion of said glass and irregularities of said sash, said block comprising an elongated base for positioning between the edge of said glass and said sash, a pair of spaced apart upstanding integral legs extending longitudinally of said base and arranged for positioning between the side of said glass adjacent said edge and said stops, and means in said block defining a cut partially severing one of said legs from said base forming a tear strip for the removal of said one leg from said base to provide for the insertion of a retaining stop within said sash.

2,979,789
ADJUSTABLE METALLIC AWNING
Edward J. Laperouse, 1206 Lafayette St., Houma, La.
Filed Dec. 19, 1957, Ser. No. 703,816
4 Claims. (Cl. 20—57.5)

1. An adjustable metallic awning comprising a sloping roof portion terminating at the lower edge in a substantially vertical downwardly extending skirt and sidewalls adjustably attached to said roof portion, said roof

portion comprising an upper transversely disposed purlin adjacent the upper edge, a lower transversely disposed purlin adjacent the lower edge, said upper purlin having a flange for attachment to the wall of a building, said lower purlin being of channel cross section, a plurality of alternately disposed upwardly opening and downwardly opening channel shaped roof members secured to said purlins and a roof flange projecting outwardly from each side edge of said roof portion, each sidewall comprising a generally triangular panel, a horizontal reinforcing channel bar secured to said panel and extending from the front edge to the read edge in alignment with said lower purlin, an inwardly extending hollow rectangular bar secured to the front end of said reinforcing bar and slidably received



in the channel of said lower purlin, releasable clamp means disposed around said lower purlin and said hollow bar to clamp said hollow bar in adjustable position and a flashing member connecting the upper edge of said panel and the side edge of said roof portion, said flashing member comprising a downwardly extending side flange secured to said panel, an intermediate inclined portion and an inwardly extending top flange, said top flange terminating at the inner edge in an outwardly extending portion underlying said top flange, said last named portion being bent inwardly at the outer edge to provide with said last named portion an inwardly opening groove slidably receiving said roof flange and means on said sidewalls for facilitating attachment to the wall of a building.

2,979,790
MOLDS
Irwin J. Labelle, Rockville Centre, N.Y., assignor to Shaw Process Development Corporation, Port Washington, N.Y., a corporation of New York
Filed Aug. 9, 1957, Ser. No. 677,262
3 Claims. (Cl. 22—129)

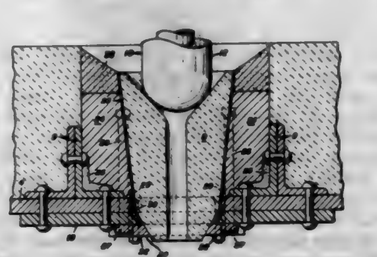


1. A mold form comprising an uncompacted gelled slurry comprising comminuted refractory and an alkyl silicate binder containing a volatile material, the entire external surface of the said mold form having thereon a film of wax, whereby the evaporation of volatile materials contained within the mold form is retarded prior to the ignition thereof.

2,979,791
MOLDS AND METHODS OF FORMING
John W. North, Decatur, Ga., assignor, by mesne assignments, to Glenrock Products, Inc., Atlanta, Ga., a corporation of Georgia
No Drawing. Filed May 25, 1955, Ser. No. 511,129
3 Claims. (Cl. 22—193)

1. The method of forming a casting mold which includes the step of forming a casting cavity in a block of foamed siliceous material by pressure thereagainst of a prototype of the article to be formed.

2,979,792
POURING LADLE NOZZLE SEAT AND METHOD OF MAKING IT
Walter Arthur Knuppi, Duluth, Minn., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 3, 1958, Ser. No. 771,345
2 Claims. (Cl. 22—200)



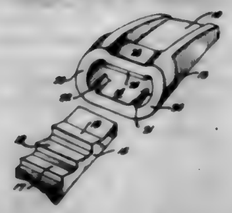
1. The method of forming a nozzle seat in the bottom of a pouring ladle having a nozzle port extending therethrough including the steps of forming a mold on the upper surface of said bottom around said nozzle port, inserting a nozzle into said nozzle port, and then initially prior to filling the ladle casting metal in said mold to thereby form a seat around said nozzle.

2,979,793
CAST IRON
Rosser L. Wilson, Mahwah, Francis B. Herlihy, Hillsdale, and Thomas J. Wood, Ramsey, N.J., assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed May 8, 1958, Ser. No. 733,959
1 Claim. (Cl. 22—215)



A method of casting a cast iron railroad brake shoe of arcuate form to have sections of selectively different hardness characterized by white cast iron and gray cast iron and each of its own uniform hardness throughout and comprising, positioning elongated metal reinforcement of arcuate shape in spaced relation inward of the walls of the mold for casting the shoe, said reinforcement having in contact therewith a flexible strip of cellulose acetate thermoplastic material conforming to the arcuate shape of the reinforcement, said strip being non-graphitizing with respect to and thermally destructible by the molten cast iron to be poured and without effect on the metallurgy of the cast shoe, said strip being sized to be of the length and width of the section of the shoe to be hardened to white iron and by its position in the mold determining the area of the cast shoe to be hardened selectively to white iron, said strip having on one face thereof powdered tellurium bonded thereto by a thermoplastic binder in a dry state adhered directly to said strip, said binder being selected from the group consisting of vinyl compounds, cellulose acetate, and cellulose nitrate, said tellurium being dispersed uniformly throughout said binder and present in a concentration of about 0.00013 to 0.008 weight percent on the weight of the cast shoe, and thereafter pouring in the mold, having said reinforcement and strip, cast iron capable of forming gray iron as aforesaid.

2,979,794
WIRE OR CABLE BUNDLE TIE
Francis De Bartolo, 11943 Braddock Drive, Culver City, Calif.
Filed Sept. 24, 1956, Ser. No. 611,676
2 Claims. (Cl. 24—17)



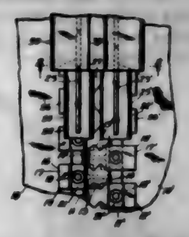
1. A wire or cable bundle tie in the form of a noose slidable one way and selectively clampable against movement the opposite way comprising: a flexible strap having transverse serrations on one face and at one end thereof; and a clamping guide loop with outwardly bowed flexible side walls on the other end thereof, said clamping guide loop being on the same face as said transverse serrations and having a transverse sawtooth tongue depending from the upper inside surface thereof, the vertical portion of said saw-tooth tongue facing the vertical portions of said transverse serrations so that when said one end of said strap is inserted through said guide loop, said vertical portion of said tongue engages the vertical portion of one of said transverse serrations, said flexible side walls of said flexible clamping guide loop being deformable on inward lateral pressure to raise said tongue, thereby releasing said tongue from said serrations to permit removal of said strap from said guide.

2,979,795
ADAPTABLE MOLDING FASTENER
Charles D. West, 2710 N. Orange Ave., Orlando, Fla.
Filed Sept. 22, 1958, Ser. No. 762,569
7 Claims. (Cl. 24—73)



1. A fastener for securing a finishing trim-type molding to a support having an opening, comprising an elongated anchor-plate having rounded diagonal portions whereby such plate can be applied between the inturned molding edges and rotated until it is engaged behind said edges, a molding engaging bowed spring having diverging legs, a central pivot slidably and pivotally connecting the central portion of said bowed spring with said elongated anchor-plate in a manner to be slidable lengthwise of said anchor-plate in order that said bowed spring may be adjusted to engage a molding at any longitudinal position relative to said anchor plate, and an attaching clip independent of said bowed spring and adjustably engaging said anchor-plate on the opposite side of the latter from said spring, said attaching clip having an enlarged tapered portion larger than the opening in the support into which the clip is to be inserted but of a structure to be readily forced through such opening and to engage the remote side of the support in which the opening is located, and with the clip of a material to compensate for the opening in the support being axially off-center of the clip and of varying dimensions relative to such clip.

2,979,796
WEAR RESISTANT SURFACE COVERED SEPARABLE FASTENERS
Louis H. Morin, Bronx, N.Y., assignor to Conte & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 21, 1958, Ser. No. 729,679
11 Claims. (Cl. 24—205.1)



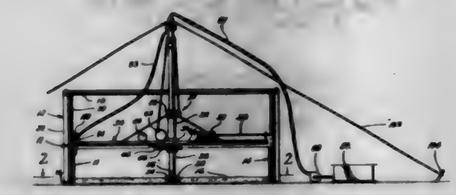
1. In separable fasteners employing stringers with plastic scoops spaced along adjacent beaded edges of the stringers and a slider movable along the scoops of the stringers to couple and uncouple the same, a cover cord arranged along one side surface of the scoops of each stringer, stitchings for securing the cords to the scoops and stringers, opposed sides of the mounting end portions of each of the scoops having outwardly flared apertures exposed to the beaded edges of the stringer tapes, the sides of the scoops to which the cords are attached including transverse recesses aligned with said beaded edges forming seats for said cords, the other sides of the scoops having transverse grooves opening into the apertures of said sides, said stitchings compressing the cords firmly in the recesses, and the opposed thread of the stitchings seating in the grooves in a second named sides of the scoops.

2,979,797
FASTENER FOR SECURING ANCHORAGE IN A HOLE
Howard J. Murphy, North Wilmington, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Nov. 25, 1957, Ser. No. 698,706
1 Claim. (Cl. 24—221)



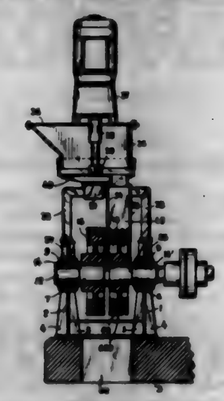
A device for securing anchorage to a supporting member by cooperation with the margins of a hole in the member comprising two elements in the form of telescoping sleeves in the form of right circular cylinders relatively rotatable one within the other and forming a shank to be received in the hole, the sleeves having cooperating portions at their nearer ends holding them from disassembly in one axial direction, including at least one flange projecting radially to overlie the nearer margin of the hole, the further ends of the sleeves having extensions of limited circumferential extent projecting radially, the rotatable relationship of the sleeves permitting the two portions to be positioned adjacent one another and inserted through the hole and beneath a margin thereof preparatory to the introduction of both sleeves into the hole from the nearer side, the said portions after subsequent relative rotation of the sleeves lying beneath said margin at opposite sides of the hole the extensions being outwardly extending recurved resilient hooks having points adapted to bear on the further margin of the hole.

2,979,798
CYLINDER GENERATING MACHINE AND METHOD OF GENERATION
James H. Price, 6711 Sylvan Road, Houston, Tex.
Filed Sept. 16, 1957, Ser. No. 684,187
6 Claims. (Cl. 25—1)



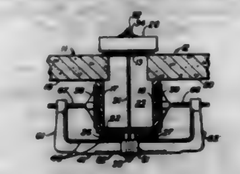
5. A cylinder generating machine comprising a machine support positioned at the base center of the cylinder to be generated, a vertical axle upstanding from said support as the vertical axis of the cylinder defining form, a bridge mounted to rotate within said form upon said axle and slidable axially therealong, a swivel mounted coaxially upon said axle and mounting a pulley rotatable upon an axis perpendicular to said axle, a cable connected at one end to lift said bridge and extending over said pulley and connected at the other end to a driven winch drum carried by said bridge, a first hose connection non-rotatably mounted on said swivel, a flow passage extending from said first hose connection through said swivel to an outlet provided therefrom, a second hose connection extending from said outlet to an end of said bridge and in adjacency to said form, means to force a hardenable, flowable construction material through said first hose connection, said flow passage and said second hose connection, motor means positioned on said bridge to rotate therewith including means adapting said motor means to drive said winch and to rotate said bridge about said axle whereby as said bridge is lifted as it rotates a spiral of said material is delivered from said second hose connection upon said form to generate a cylinder to harden within said form.

2,979,799
ROLLER PRESS FOR THE BRIQUETTING OF ORE, COAL OR SIMILAR MATERIAL
Johannes Bernhard Decker, Kein-Roth, Germany, assignor to Klockner-Humboldt-Deutz Aktiengesellschaft, Koln-Deutz, Germany, a corporation of Germany
Filed Feb. 20, 1957, Ser. No. 641,369
Claims priority, application Germany Feb. 23, 1956
15 Claims. (Cl. 25—77)



1. In a press for briquetting ore, coal, and similar materials, pressing means comprising two press rollers, briquette-forming depressions on said pressing means, the rollers turning about their axes in opposite directions, the roller surfaces moving downwardly in the region where they come together, a distributor box to distribute material to be briquetted between the rollers above the place where they come together, the distributor box having an upper part and also having a bottom plate on which the material is supported, the bottom plate being vibratable to and from the upper part, means to vibrate said plate upwardly and downwardly, the distributor box having an outlet for the material leading to said region, a rotary stirrer above the plate, effective to force the material to the outlet, the upper part of the box having a number of substantially vertical fastening plates attached thereto, substantially vertical fastening plates carrying the bottom plate, resilient compressible means between and connecting respective fastening plates of the upper part with respective fastening plates of the bottom plate, whereby the bottom plate is resiliently suspended from the upper part.

2,979,800
PILASTER-FORM AND CLAMP
Warren D. Wilbur, Colma, Calif. (13379 Pastel Lane, Mountain View, Calif.), and Richard N. Tone, 1803 Mezes Ave., Belmont, Calif.
Filed June 8, 1959, Ser. No. 818,652
3 Claims. (Cl. 25—131)

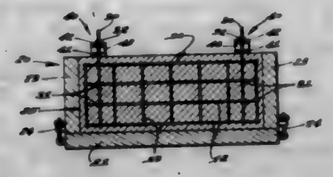


1. In a tilt-up concrete-wall building construction, a pilaster form comprising, two adjacent spaced-apart upright concrete wall slabs; a first form-panel covering coextensive main vertical faces of said slabs and the space therebetween; second and third form-panels disposed flanking said space and extending from the opposite main vertical faces of said slabs and the space therebetween; a fourth form-panel covering the extended sides of the second and third panels, the four panels and the intervening two slabs defining the pilaster-form enclosure; a clamp having an elongated body and a pair of jaws carried thereby with at least one of said jaws being laterally adjustable on said body, said body and jaws providing a C-shape and being clamped against said second and third panels with an intermediate portion of said body bearing against and supporting said fourth panel; said intermediate portion being formed with an opening therethrough; and a tie rod connected to said first panel and extending therefrom through said enclosure and said fourth panel and through said opening and being secured to the outer side of said intermediate portion for clamping said first and fourth panels against said slabs and second and third panels thereby cooperating with said jaws to simultaneously support said enclosure and to clamp said panels to said slabs.

2,979,801
METHOD OF MAKING REINFORCED CAST SHAPES
Richard C. Gaunbre, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Sept. 11, 1958, Ser. No. 760,381
1 Claim. (Cl. 25—154)

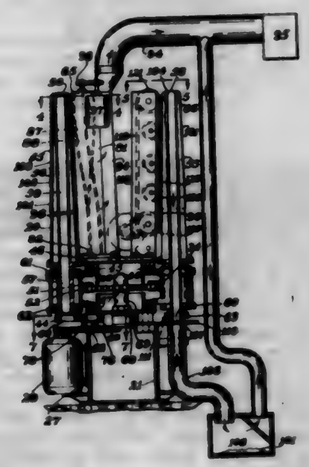
The method of locating a reinforcing wire mesh grid within a cast calcium silicate slab comprising the steps

of casting a curable cellular concrete slurry into a mold, tack welding a plurality of smooth elongate cylindrical suspension rods to a wire mesh grid to project vertically from said mold when said grid is at the desired location within said slurry, immersing said grid into the slurry and supporting the projecting portions of said suspension



rods to support said grid at the desired location within said slurry, partially curing the slurry to an extent sufficient to support said grid, rotating each suspension rod relative to the grid about its vertical axis to rupture the tack welds, and withdrawing each suspension rod from the slurry in a direction along its vertical axis.

2,979,802
HOSIERY TRIMMER
John W. L. Funchion, Montreal, Quebec, Canada, and Clarence M. Glun, Portland, Maine
Filed Nov. 16, 1956, Ser. No. 622,660
9 Claims. (Cl. 26—7)



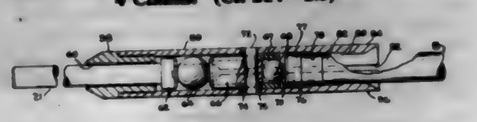
1. A thread cutting machine for stockings and the like comprising a horizontal endless conveyor extending along a path through a filling station, a cutting station and a discharge station; a plurality of upstanding, hollow, tubular, tapered stocking forms spaced around said conveyor, each form having a top air opening and a bottom air opening and each form being mounted to rotate around its vertical axis; intermittent drive means advancing said conveyor uni-directionally between stations and halting said conveyor temporarily with one of said forms at each of said stations; friction means for rotating each successive hollow tapered form around its vertical axis at said cutting station; cutting means fixed at said cutting station for cutting the laterally projecting threads on a stocking being rotated on a form halted at said station and discharge means fixed at said discharge station including pneumatic mechanism adapted to connect with the bottom air opening of each form halted at said station to pneumatically discharge a stocking from said form.

2,979,803
FUR-EFFECT FABRICS AND METHOD OF MAKING SAME
William Rollin Keen, Media, Pa., assignor to Collins & Aikman Corporation, New York, N.Y., a corporation of Delaware
Filed June 5, 1956, Ser. No. 589,550
9 Claims. (Cl. 28—72)



1. A method of making a fur-effect fabric comprising forming a woven cut pile fabric in which the pile yarns are composite yarns having a core yarn with a second yarn wrapped around said core yarn, shearing the pile surface of said fabric to form a substantially level surface removing the twist in said second yarns to form two substantially uniform pile surface levels in said fabric by tigering the surface of the pile fabric and finishing the pile surface to produce a fur effect fabric by passing the pile surface over a heated grooved roller running at high speed to remove substantially all twist and kink from said yarns, thereby producing a substantially uniform level of beard hair simulating fibers and a lower level of furry undercoat simulating fibers.

2,979,804
STOCK PUSHER
Franklin D. Lakins and Gerald B. Lanphere, Syracuse, N.Y., assignors to Lipe-Rollway Corporation, Syracuse, N.Y., a corporation of New York
Filed July 15, 1959, Ser. No. 827,361
4 Claims. (Cl. 214—1.5)



2. A collet type stock pusher for receiving and gripping the end portion of bar stock for advancement and retraction with said pusher, said collet including a sleeve having a pair of radially spaced apart yieldable spring fingers having internal bar engaging surfaces for receiving and gripping the bar stock end portion therebetween, a stock stop positioned in said sleeve a spaced distance rearwardly from said bar engaging surfaces and the portions of said fingers intermediate said bar engaging surfaces and said stock stop being undercut to form an internal annular shoulder and means for journalling said collet on a pusher rod.

2,979,805
CUT-OFF TOOL
George B. Johnson, 2776 Clearwater St., Los Angeles, Calif.
Filed July 1, 1957, Ser. No. 669,151
8 Claims. (Cl. 29—95)

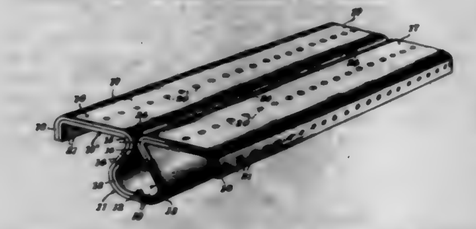
1. An article of manufacture comprising a cut-off tool adapted to be rigidly clamped in the tool holder of a machine tool for cutting off a workpiece and simultaneously performing a finish cutting operation on the end of the stock as the tool completes the cut-off operation, said tool being of the type having a long straight blade of uniform cross-section from end to end thereof and having a beveled cut-off edge formed along its lateral edge, said blade being relieved along its opposite faces to provide clearance with the side walls of a cut as the tool is fed into the stock undergoing cutting, said blade being characterized by the provision of a reinforcing rib extending

longitudinally thereof parallel to said lateral cut-off edge of the blade by a distance generally corresponding to the radius of the stock to be cut into individual pieces, the lateral edge of said rib adjacent said cut-off edge being



a finish cutting edge adapted to engage and finish cut the end rim edge of the stock as said cut-off edge of the blade approaches and completes a workpiece cut-off operation.

2,979,806
METHOD OF MAKING LAMINATED TUBULAR SECTION STRUCTURAL MEMBERS
Stanley Macomber, Canton, Ohio, assignor to Macomber, Incorporated, Canton, Ohio, a corporation of Ohio
Original application Feb. 7, 1958, Ser. No. 713,810. Divided and this application Nov. 25, 1958, Ser. No. 776,287
6 Claims. (Cl. 29—155)



1. The method of making a laminated tubular section structural member which comprises moving two strips of hot-rolled sheet steel longitudinally in superposed relationship with the edges of the lower strip spaced inwardly from the edges of the upper strip, connecting the leading ends of the two strips together, connecting the moving strips together at the longitudinal center line so that they are free to move relatively only from the longitudinal center outward, then roll forming the longitudinal central portion intermediate the longitudinal edges of the moving composite strip downwardly into U-shape, then roll forming the U-shape central portion intermediate the longitudinal edges of the moving composite strip into tubular form with a longitudinal groove in the top side thereof, then bending the moving composite strip oppositely on each side of the groove forming flat flanges with downturned terminal portions with the edges of both strips flush, then connecting the flanges and downturned terminal portions of the two strips together longitudinally throughout the length of said structural member, and deposit welding at spaced points in the entrance to the groove for rigidly holding the walls thereof to a predetermined spacing.

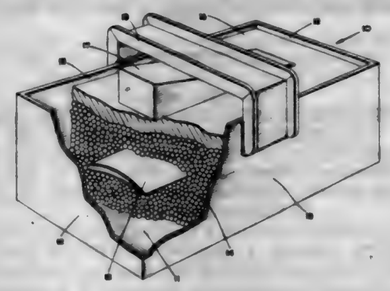
2,979,807
METHOD OF MAKING A STRAIN GAGE
George W. Harrison, Cumberland, Md., assignor to The Allegany Instrument Company, Inc., Cumberland, Md., a corporation of Maryland
Filed Mar. 4, 1958, Ser. No. 719,168
2 Claims. (Cl. 29—155.62)

1. A method of making a strain gage comprising the steps of providing a non-metallic strain gage patch, perforating two columns of holes in the strain gage patch, passing a separate thread through each hole and extending the threads across the surface of the strain gage patch, placing a strain gage wire over the threads, suspending a weight by said strain gage wire, drawing the wire to the respective holes with the threads by looping the threads to



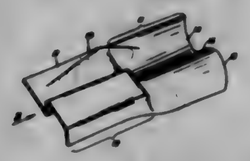
retain a small section of the wire at each hole, and bonding the wire to the patch while it is retained by the threads, the drawing and retaining operation being performed on each thread in succession starting with the thread in the top perforation of one of the columns and then taking the rows in order while alternating between the columns.

2,979,808
METHOD AND APPARATUS FOR SECURING SKIN TO A CORE
Peter H. Booth, Toronto, Ontario, Canada, assignor to Orenda Engines Limited, Malton, Peel County, Ontario, Canada, a corporation
Filed Jan. 31, 1957, Ser. No. 637,547
6 Claims. (Cl. 29—156.8)



1. A method of securing a skin member of sheet metal to the entire peripheral surface of a core member, comprising the steps of; applying a layer of heat-fusible bonding material to a surface of at least one of said members, wrapping said skin member about the peripheral surface of said core member with said bonding material therebetween to form an assembly, submerging said assembly in a mass of small substantially spherical metal bodies so that a multiplicity of said bodies bear against the outer surface of said skin member over substantially the entire area of said peripheral surface, confining said bodies to a predetermined space, applying pressure to said mass of bodies whereby to transmit substantially uniform radial pressure to said skin throughout the entire area of said peripheral surface, and maintaining said pressure on said bodies and heating said bodies and assembly to fuse said bonding material.

2,979,809
METHOD OF MAKING HOLLOW TURBINE BLADES
Leonard James Dennis, Carpenders Park, England, assignor to D. Napier & Son Limited, London, England, a company of Great Britain
Filed Mar. 11, 1957, Ser. No. 645,273
Claims priority, application Great Britain Mar. 14, 1956
7 Claims. (Cl. 29—156.8)



1. The method of making a hollow turbine blade which comprises the steps of pressing a blank of sheet metal to corrugate a part of said blank with a ridge and a depression adjoining along a transition line and to form a further part of said blank as a trough having a base and two sides with a flap extending from one edge of one of said sides, said edge being aligned with said transition line, folding said pressed blank along said edge and said transition line to close said flap over said trough to make a boxlike portion to constitute a platform zone and a root zone of said blade and to bring said ridge into said depression to constitute respectively concave and convex flanks of a hollow airfoil zone of said blade, joining adjacent edges of said flap and said trough to constitute a corner of said boxlike portion, removing portions from the two opposite sides of said box-like portion constituted by the two sides of the said trough to leave a projecting tongue constituted by an end portion of said flap and a parallel projecting tongue constituted by an end portion of said base of said trough, shortening and thickening said tongues, and further manipulating said thickened tongues to form said blade root.

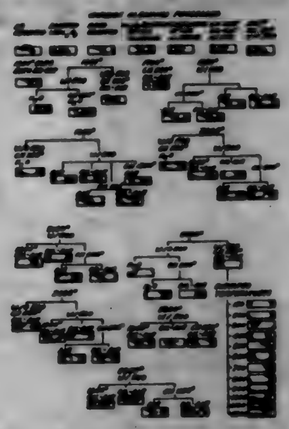
2,979,810
ROTATING BANDS FOR PROJECTILES AND METHODS FOR MAKING THE SAME
Friedrich Hansen, 17 Rue Carteret, Geneva, Switzerland
No Drawing. Filed Apr. 15, 1957, Ser. No. 652,686
Claims priority, application Switzerland Apr. 15, 1956
2 Claims. (Cl. 29—182)

1. A process of making a rotating band for a projectile comprising forming a mass of substantially pure iron powder of suitable character for sintering, contacting the mass of powder with gaseous ammonia at a temperature of about 300–400° C. to soft nitride the powder, and compacting and sintering the soft nitrided iron powder to the shape of said rotating band.

2. A rotating band for a projectile made by the process of claim 1.

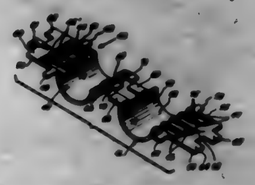
2,979,811
CEMENTED CARBIDE BODY HAVING WETTABLE SURFACE AND METHOD OF PRODUCING SAME
Lawrence B. Tenny, Rochester, Mich., assignor to National Twist Drill & Tool Company, Rochester, Mich., a corporation of Michigan
Filed Oct. 24, 1958, Ser. No. 769,384
8 Claims. (Cl. 29—182.7)

6. A cobalt cemented carbide body composed essentially of one or more metallic carbides selected from the group consisting of tungsten carbide, titanium carbide and tantalum carbide, and a cobalt binder for said carbides, in which some of its binder material has migrated to the surface portion to provide a surface



film or layer to a depth of not more than 1000 microinches.

2,979,812
METHOD OF FORMING CYLINDER LOCK HOUSING OF STRIP MATERIAL
Fred J. Russell, 3000 Don Felipe Drive, Los Angeles, Calif.
Filed June 23, 1958, Ser. No. 743,686
5 Claims. (Cl. 29—463)



1. A method of forming a cylinder lock housing having a cylinder plug recess and pin tumbler bores in communication therewith comprising dividing a strip of metal stock on opposite sides of a longitudinal dividing line into an inner section on each side adjoining the center line and an outer section on each side adjoining the respective inner section, impressing into one face of one of said sections on each side of the dividing line complementary impressions of opposite sides of said cylinder plug recess, impressing into corresponding faces of the other of said sections on each side of the dividing line a plurality of parallel inwardly open and outwardly closed pin tubular depressions, spacing said depressions laterally with respect to each other, making the depressions on opposite sides complementary to each other and extending transversely of the axes of said first identified impressions, folding said opposite sides along the dividing line thereby to form the cylinder plug recess and the outwardly closed pin tubular bores and fastening said opposite sides together.

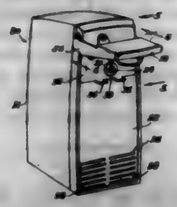
2,979,813
JOINING OF GRAPHITE MEMBERS
Morris A. Steinberg, University Heights, Ohio, assignor to Horizons Incorporated, Princeton, N.J., a corporation of New Jersey
No Drawing. Filed Sept. 28, 1956, Ser. No. 612,599
9 Claims. (Cl. 29—478)

1. A method of forming a graphite bond between graphite members which comprises: assembling at least two graphite members having a common surface about a carbide-forming metal selected from the group consisting of titanium, zirconium, halfnium, vanadium, niobium, tantalum, chromium, molybdenum, and tungsten; subjecting the region adjacent said carbide-forming material to a temperature between 1750° C. and 2500° C. and sufficient to form a carbide of said metal; maintaining said region at said temperature for a time sufficient to permit the volatilization of a portion of said carbide-forming metal, and cooling said region, whereby graphite precipitates perpendicular to said common surface and forms a substantial portion of the resulting material joining said members.

2,979,814
JOINING OF GRAPHITE MEMBERS
Morris A. Steinberg, University Heights, Ohio, assignor to Horizons Incorporated, Cleveland, Ohio, a corporation of New Jersey
No Drawing. Filed Dec. 4, 1957, Ser. No. 700,557
6 Claims. (Cl. 29—470)

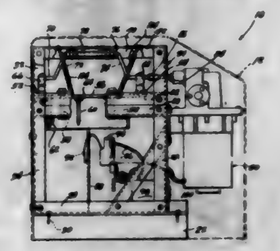
1. A method of bonding graphite to graphite by means of a metal-free bond consisting essentially of carbon which comprises: bringing at least two pieces of graphite to be joined into abutting relationship with a finely divided bonding material selected from the group consisting of aluminum, beryllium, magnesium, and zirconium disposed at the interface constituting the joint, heating the region adjacent the joint to a temperature sufficient to form a carbide by reaction between said finely divided solid and the graphite pieces being joined, further heating the region adjacent the joint to a temperature sufficient to decompose the carbide and to boil away the resulting elemental metal released by decomposition of the carbide, thereby producing a joint formed entirely of carbonaceous material.

2,979,815
ELECTRIC CAN OPENER
Robert L. Rohde, Fort Atkinson, and John A. Benkovich, Beloit, Wis., assignors to Burgess Vibrocrafters, Inc., Grayslake, Ill., a corporation of Delaware
Filed May 8, 1959, Ser. No. 811,933
16 Claims. (Cl. 30—4)



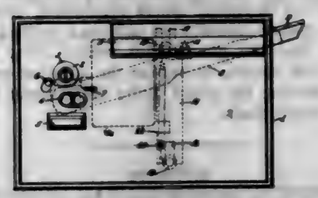
1. In a can opener including an electric motor and a switch therefor and a can turning wheel mounted and connected for rotation by said motor; a cutter blade pivotally mounted with a retracted position removed from said can drive wheel and a cutting position and an intermediate precutting position in operative adjacency with said wheel; a mechanism for moving said cutter blade from said retracted position to said precutting position; said mechanism including a handle adapted from manual operation, a follower plate connected at one extremity with said handle and operatively associated with said switch at an opposite extremity thereof, and a stud fixedly associated with said blade and connected with said follower plate intermediate the above-mentioned extremities thereof; the arrangement being such that the resistance force applied to said cutter blade by the lid of a can is transmitted to said follower plate by said stud and acts to rotatably shift said follower plate to close said switch and actuate said motor to turn said wheel and cause said cutter to pierce the lid of the can and move to the cutting position wherefrom a generally sidewise force applied to said blade is transmitted to said follower plate to keep said switch closed so long as the sidewise force is maintained.

2,979,816
CAN PUNCTURING APPARATUS
Clyde R. Hopper, Norman, Okla.
(15639 S. Harris Ave., Compton, Calif.)
Filed July 10, 1959, Ser. No. 826,195
5 Claims. (Cl. 30—4)



1. In a can puncturing apparatus, a platform adapted to support an upstanding can to be punctured, an overhead floating plate, at least two puncturing elements arranged in spaced relation and dependingly carried by said floating plate, a drive shaft, a member embodying a crank adjacent said shaft and connected to said drive shaft for rotation with the latter, and means embodying a roller on said crank connecting said floating plate to said member so that said floating plate moves upwardly and downwardly with respect to said platform responsive to rotary movement of said crank.

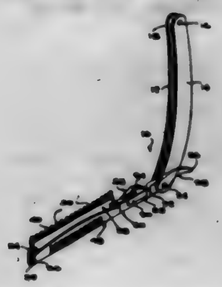
2,979,817
ELECTRIC CAN OPENER WITH CONTROL INTERLOCK
Otto F. Gerry, Clarkson, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 24, 1959, Ser. No. 836,741
5 Claims. (Cl. 30—4)



1. A can opener comprising a casing, a cutter mounted at the front of said casing for movement between an upper inoperative position and a lower cutting position, a lever pivotally mounted on said casing and connected to said cutter, said lever having a manually operable handle and being movable between a first position in which said cutter is in its upper position and a second position in which said cutter is in its lower position, electrically powered means mounted on said casing for supporting and rotating a can with its lid in contact with said cutter, a switch within said casing arranged to control the supply of power to said electrically powered means, manually operable pushbutton means for actuating said switch to its "on" position, an interlock plate movable between a first position in interfering engagement with said pushbutton means in which actuation of said switch to its "on" position is prevented and a second position out of engagement with said pushbutton

means, spring means biasing said interlock plate to its first position, and connecting means on said interlock plate engageable with said lever for shifting said interlock plate to its second position when said lever is moved to its second position.

2,979,818
HAIR SHAPER ATTACHMENT
Michael Bakarich, 637 Dudley Drive, Shreveport, La.
Filed Aug. 21, 1959, Ser. No. 835,351
3 Claims. (Cl. 30—30)



1. A hair shaper comprising an elongated upwardly opening channel having first and second ends, a solid end portion fixed to and extending longitudinally from said second end, a handle pivoted at one end on said end portion, said channel having a bight portion and upstanding sidewalls, an upwardly opening U-shaped razor blade holder engaged in said channel holder and having a bight portion secured to the bight portion of the channel, a single razor blade having a first edge securably engaged in said holder and a second cutting edge reaching above the channel sidewalls, a channel guard having a bight portion and first and second sidewalls, said guard being slidably mounted on said channel with its bight portion and sidewalls externally engaged with the bight portion and side walls of the channel, said first guard sidewall being narrower than the razor blade and spaced from the cutting edge thereof, said second guard sidewall having longitudinally spaced vertical guard fingers thereon extending above the cutting edge of the blade, and means mounted on said end portion between the handle and the guard, said means being movable along said end portion to engage the adjacent end of the guard for moving the guard along the channel and relative to the razor blade.

2,979,819
CUSHIONING SHAVING HEAD UNITS FOR SHAVING IMPLEMENTS
Jacob L. Kleinman, % A. Lackenbach, 40 Exchange Place, New York, N.Y.
Filed Dec. 8, 1959, Ser. No. 858,863
7 Claims. (Cl. 30—43)



1. An assembled shaving unit for a dry shaver, said shaving unit comprising an outer cutter member and a co-operating movable cutter member and a base section, said base section having a floor provided with two spaced shoulder portions and with flap-sections, spring sections, said spring sections carried loosely by the said shoulder portions, a carrier, said base section positionable upon the said carrier having the said flap-sections guiding the location of such base section upon the said carrier, the said spring sections adapted to snap into engagement with portions of the said carrier to lock the said base section in its position upon such carrier.

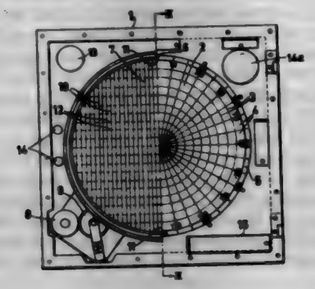
2,979,820
SKINNING KNIFE
John A. Thompson, Fort Worth, Tex., assignor to Russell Harrington Cutlery Company, Southbridge, Mass., a corporation of Massachusetts
Filed Sept. 21, 1959, Ser. No. 841,204
2 Claims. (Cl. 30—215)



1. In a skinning knife including a head portion and a handle portion, said head portion and handle portion being longitudinally divided to provide coinciding head portion halves and handle portion halves, the opposing sides of said head portion halves having continuous uninterrupted outer surfaces and the inner faces of said head portion halves having aligned bearing receiving recesses therein and blade receiving recesses therearound, both of which are confined within said outer surfaces of said head portion halves, the ends of said head portion halves opposite their respective handle portion halves being arcuate about the axial center of said aligned bearing receiving recesses, the outer surfaces of said head portion halves being inwardly tapered at the arcuate ends thereof, a cylindrical bearing, the ends of which are received in said bearing receiving recesses and confined within the outer side surfaces of said head portion halves, circular knife blades rotatably mounted adjacent each other on said cylindrical bearing and receiving within said bearing receiving recesses, the peripheries of said circular knife blades extending beyond said arcuate edges of said head portion halves, means located to one side of and outwardly of the contour of said bearing receiving recesses for securing said head portion halves together without penetration of said continuous uninterrupted outer surfaces of said head portion halves at locations within the contour of said bearing receiving recesses, and means extending through said handle portion halves and operably connected with said circular knife blades for oscillating the same relative to each other.

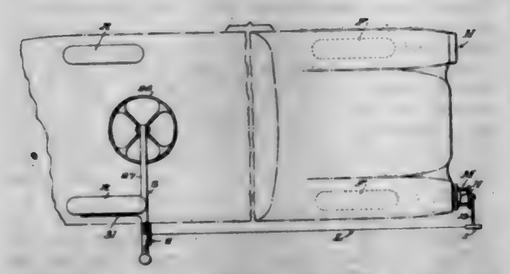
2,979,831
PLOTTING DEVICE INTENDED FOR CONTINUOUS ANALYSIS OF RADAR INDICATIONS ABOARD SHIPS
Göran A. Tengwall, Riksredsvägen 60, Johanneshov, Sweden
Filed July 26, 1957, Ser. No. 674,499
Claims priority, application Sweden Aug. 7, 1956
3 Claims. (Cl. 33—1)

1. A plotting device for continuous analysis of radar indications aboard ships comprising, in a frame, an uppermost plotting disc, a web diagram having a referential diameter line and applied on a disc, a bearing ring and an operating disc in mutual coaxial relation, the two upper ones of said three discs being transparent, said operating disc being rotatable relative to the plotting disc and diagram and its face being divided into a plurality of parallel alignment fields of equal width, the web diagram disc being mounted in movable relationship to said plotting disc and comprising a large number of sectorial alignment fields and ten concentric circles equally spaced and designated 1 to 10 from the origin and out to the periphery of said web diagram in order to define on one hand in tenths, the speed ratio factor, i.e. the quotient between the speed of the ship and a sighted object or vice versa, and on the other hand, nautical units from the origin, said parallel alignment



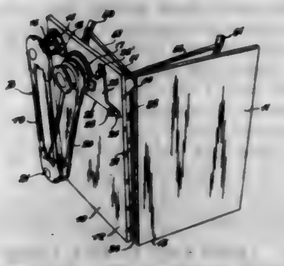
fields and said sectorial alignment fields being cooperable with said speed ratio factor circles for obtaining a tangential or intersectional point therewith as base for determining the change of speed and/or heading required to obtain a new orientation relative to said object at a desired moment.

2,979,823
HEADLIGHT TESTING METHOD AND APPARATUS
Edward D. Wilkerson, 240 E. Northfield Road, Livingston, N.J.
Filed Aug. 15, 1956, Ser. No. 604,131
13 Claims. (Cl. 33—46)



13. A method of testing the alignment of a headlight at one side of an automobile comprising the steps of mounting a front testing unit of the sighting type on the headlight in alignment therewith, accurately locating a rear testing unit of the target type with respect to the longitudinal center of the automobile chassis by placing the rear testing unit against the automobile front wheel at the one side of the automobile, visually sighting the rear testing unit through the front testing unit and relatively adjusting the front and rear testing units positionally into predetermined visual cooperating relation with each other, then moving the rear testing unit rearwardly without otherwise disturbing the setting of the rear testing unit and again accurately locating the rear testing unit with respect to the longitudinal center of the automobile chassis by placing the rear testing unit against the automobile rear wheel at the one side of the automobile, and again visually sighting the rear testing unit through the front testing unit to see whether the front and rear testing units have remained in the predetermined visual cooperating relation or a reaiming of the headlight is necessary.

2,979,823
DRAFTING BOARD
Charles Hubbard Little, Chagrin Falls, Ohio (3031 Edgewood Road, Pepper Pike Village, Cleveland, Ohio)
Filed Mar. 29, 1955, Ser. No. 497,763
7 Claims. (Cl. 33—79)



1. A drafting device comprising a plurality of members each having at least one planar side, means connecting said members for movement selectively between a juxtaposed or side by side position and an edge to edge position with their planar surfaces in the same plane, a parallel motion arm type drafting machine having an anchor member adjacent to one end and a ruler supporting member adjacent to the other end, means attaching said anchor member to one of said members adjacent to an edge of its said planar surface removed from the other of said members when said members are edge to edge, and means for detachably connecting said ruler supporting member to said member having the anchor member attached thereto adjacent to the edge of said planar surface adjoining said other member when said members are edge to edge, said last-named means comprising an internally threaded bushing slidably supported in a bore opening into said planar side of said member and biased to a position below said planar side.

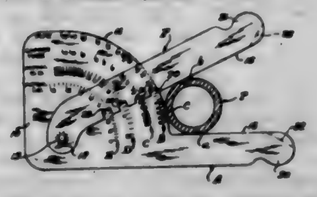
2,979,824
GAUGE FOR MEASURING THE OUTLET DIAMETER OF INTERNALLY TAPERED ELEMENTS
Donald L. Hymer, 1706 Bierne Ave., Huntsville, Ala.
Filed Dec. 31, 1959, Ser. No. 863,368
1 Claim. (Cl. 33—143)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A gauge for measurement of the outlet diameter of an internally tapered element, comprising: a micrometer-type, measurement-indicating element, having a stationary portion and a movable portion; a substantially T-shaped element, comprising a vertical base portion and a horizontal portion integral with said vertical portion, said base portion having a central bore adapted to receive a part of said stationary portion, an enlarged part having a slot perpendicular to said bore, a pair of flat outer sides, and an axial bore connecting said first-named bore and said slot, said horizontal portion being provided with a slot in alignment with said first-named slot and a pair of flat outer sides joining, and in the same planes as, said first-named sides; a measuring plug adapted to slidably fit in

said slots, the lower part of said plug having two flat sides that fit in said slots and two other sides that form an angle that is greater than the angle between two sides of said internally tapered element, each of said two other sides having an arcuate surface with a radius that is smaller than the radius of the outlet of said tapered element, the upper part of said plug being wider than said slot in said vertical base portion and narrower than said slot in said horizontal portion; a cylindrical stem centrally connected to said plug, said stem being of a size adapted to fit said axial bore and of a predetermined length to extend thru said T-shaped element and into said measurement-indicating element and engagement with said movable portion, whereby movement of said movable portion will move said plug into measuring position with the outlet of said tapering element.

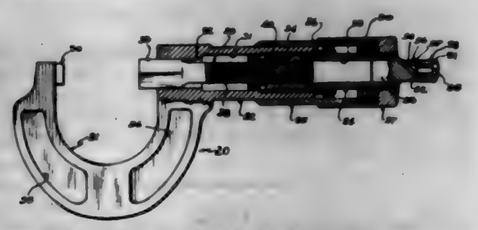
2,979,825
PIPE AND TUBE GAUGE
William E. Westbrook, 7714 Whittington Drive, Parma, Ohio
Filed Oct. 28, 1958, Ser. No. 768,109
2 Claims. (Cl. 33—148)



1. A measuring device of the character described for measuring the size and diameters of round hollow articles such as pipe and tubing, said device comprising a first straight-edge-like member having a quadrant adjacent to one end projecting from one edge, said quadrant having four scales thereon indicating standard pipe sizes, standard tube sizes, and actual outside and inside pipe and tube dimensions, respectively, and a second straight-edge-like member pivotally connected to said first member concentric with the center of said quadrant, the facing edges of said members being adapted to receive a pipe or tube therebetween, said second member having indicator means cooperating with said scales and apertures adjacent to said indicator means, the sides of said apertures adjacent to said indicating means being substantially straight and extending generally lengthwise of the scale with which the adjacent indicator means cooperate, said apertures adjacent to the indicator means cooperating with the first two mentioned scales having dimensions lengthwise of the scales with which they cooperate less than the distance between the smallest graduations thereof and said apertures adjacent to the indicator means cooperating with the last two mentioned scales having dimensions lengthwise of the scales with which they cooperate at least as great as the maximum distance between the graduations thereof, and the oppositely facing edges of the free ends of said members being semicircular and cooperating with one of said scales on said first member to measure the inside diameters of pipes and tubes.

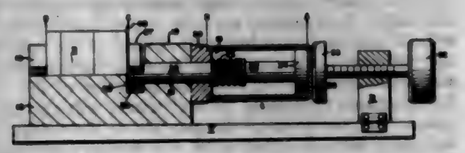
2,979,826
MICROMETER GAUGE
Erwin E. Zabler, 645 S. Lombard Ave., Oak Park, Ill., and Jerome C. Magid, 4151 W. 78th Place, Chicago, Ill.
Filed June 4, 1958, Ser. No. 739,846
1 Claim. (Cl. 33—164)

A micrometer gauge including a U-shaped frame and a barrel-shaped housing having a bore therein formed at its inner terminal portion to define a guide bore, said guide bore being particularly characterized by having a plurality of flat sides, said bore having at its outer terminal portion an enlarged circular bore adapted to receive a sleeve liner, an internally threaded sleeve liner having an external periphery complementary to said enlarged bore and received in non-rotatable relationship therein, a second sleeve formed with an external thread complementary to the internal thread of said first named sleeve and received in threadable relationship therewith, said second named sleeve having an internally threaded bore, means defining a work measuring spindle received in said bore, said spindle defining means being particularly characterized by the inclusion of a plurality of flat side portions complementary to said flat sides of said guide bore defining means, said flat sides functioning to prevent rotation of said spindle throughout its travel into and out of work engagement, said spindle having an outwardly extending threaded portion complementary to the internal threads of said second sleeve and received



in threadable relationship therewith, said arrangement being further particularly characterized by thimble defining means including a sleeve complementary in internal bore to the periphery of said housing and received thereabout, closure means for said thimble sleeve embracing the same in threaded relationship thereto, said closure means being formed with a bore complementary in size to the external diameter of said second named sleeve and received in driving relationship therein for turning simultaneously said closure member, thimble and second named sleeve, means for driving said closure member and said second named sleeve, said last named means including a cylindrical member having an external diameter complementary to the internal bore of said second named sleeve and adapted to be press fitted therein, a second cylindrical knob carried by said first named cylindrical member in relatively rotatable relationship thereto, and turning force controlling means including ratcheting mechanism interposed between said first named cylindrical member and said cylindrical finger engaging knob.

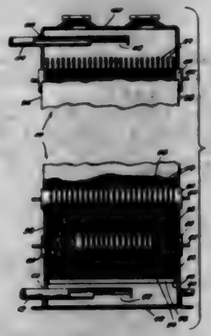
2,979,827
CAPSULE ASSEMBLY GAGE
Wilbert L. Frank, Springfield, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 16, 1957, Ser. No. 703,229
4 Claims. (Cl. 33—174)



4. A gage for measuring the depth of a casing and simultaneously indicating whether an assembly to be encased therein is of the proper size comprising; a body

portion, casing stop means fixed to said body portion for abutting one end of the casing to be measured, elongated casing measuring means having a first end portion slidably carried by said body portion and having a second end portion extending outwardly of said body portion through said casing stop means for engaging the other end of the casing to be measured, said casing stop means and said elongated casing measuring means together defining a casing measuring portion of the gage, casing measuring abutment means formed in said body portion for abutting said first end portion of said elongated casing measuring means, said casing measuring abutment means being spaced from said second end portion of said elongated casing measuring means by a selected distance such that a casing of insufficient depth cannot be brought into abutment with said casing stop means, first assembly stop means fixed to said casing measuring means and movable therewith, second assembly stop means fixed to said body portion at a selected distance from said first assembly stop means and together therewith defining an assembly measuring portion of the gage for simultaneous use with said casing measuring portion of the gage.

2,979,828
ATMOSPHERE DRYING CHAMBER
Herbert W. Westerm, Barrington, R.I., assignor to C. L. Hayes, Inc., a corporation of Rhode Island
Filed May 3, 1957, Ser. No. 656,840
4 Claims. (Cl. 34—68)



1. In atmosphere drying apparatus having a desiccant bed, a vessel defining a chamber for housing and supporting the desiccant bed, inlet and outlet openings at opposite ends of said vessel, a plurality of open-ended pipes adapted to be covered by the desiccant bed extending across said vessel and through opposite walls thereof to communicate with the ambient atmosphere, a plurality of outwardly extending radiation fins mounted on each of said pipes interiorly of the vessel, and heating means passing through the inside of each of said pipes, whereby when said heating means are operative, the desiccant bed may be uniformly heated whereas when said heating means are not operative said open-ended pipes enable relatively rapid cooling of the bed to be accomplished.

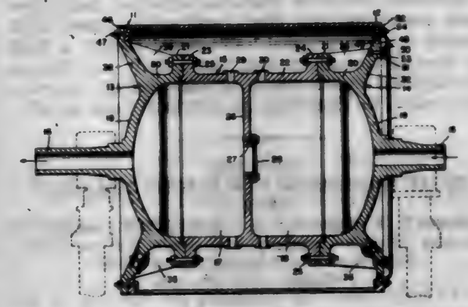
2,979,829
ROLLER AND APPARATUS FOR TRANSPORTING STRIP MATERIAL
Arthur E. Uhlein, Allentown, Pa., assignor to National Steel Corporation, a corporation of Delaware
Continuation of application Ser. No. 338,798, Feb. 25, 1953. This application July 15, 1958, Ser. No. 752,154
10 Claims. (Cl. 34—90)

1. A roller comprising a tubular body, a shaft coaxially mounted within the tubular body, a first flange on one end of the tubular body, a second flange adjustably carried on the tubular body, an adjustable member mounted within the tubular body, a sleeve mounted on the shaft, at least a portion of the sleeve being positioned within the tubular body and having means operatable in response to movement of the sleeve for adjusting the adjustable member longitudinally, means for releasably attaching the sleeve to the shaft to prevent relative movement therebetween, the adjustable member being in operatable relationship with the sleeve adjusting means, a slot in the tubular body extending longitudinally thereof,



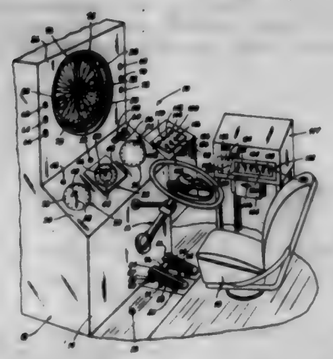
the adjustable member being connected with the second flange through the slot, the sleeve being movable on the shaft upon releasing the sleeve attaching means, the adjustable member being movable longitudinally upon movement of the sleeve to actuate the sleeve adjusting means, the adjustable member as it moves longitudinally also moving the second flange longitudinally along the tubular member thereby varying the distance between the first flange and the second flange.

2,979,830
ROTARY PRESSURE VESSELS
Robert M. Donaldson, Hampton, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Jan. 31, 1956, Ser. No. 562,468
12 Claims. (Cl. 34—124)



11. A Yankee drier or the like comprising a cylindrical outer shell, a hollow flue disposed concentrically within the shell, means for introducing steam under pressure into the space defined between the flue and the shell, and a pair of heads closing the opposite ends of the shell and rigid with said flue, one of said heads being rigidly secured to the shell, bearing means interposed between said shell and the other head such that said other head is slidably engaged with the shell, and sealing means secured across the parting faces between said other head and the shell, the flue diameter being from 60 percent to 75 percent the diameter of said shell and the shell thickness being in the order of 1½ inches.

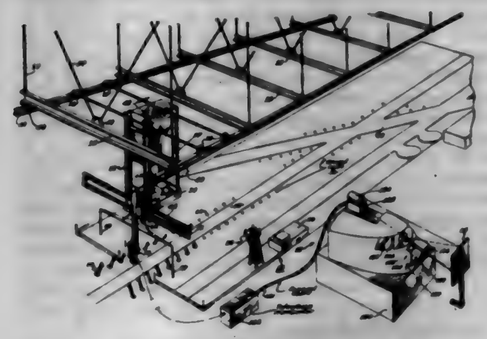
2,979,831
DEVICE FOR PORTRAYING SPEED, TIME, DISTANCE, AND REACTION MEASUREMENTS AS RELATED TO VEHICLE DRIVING
Melvin G. Bullock, 7475 Rupert Ave., Richmond Heights, Mo.
Filed Jan. 24, 1955, Ser. No. 483,526
4 Claims. (Cl. 35—11)



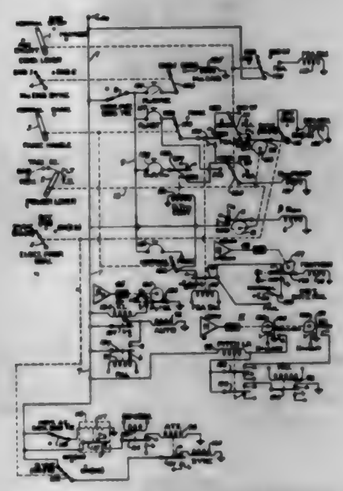
3. In an apparatus for demonstrating factors affecting traffic safety, in combination, means simulating a driver's station including a seat, a steering wheel, an accelerator pedal, and a brake pedal all disposed in conventional relation, means including rotatable means confronting the driver's station for producing both sound and motion for indicating simulated movement of an automotive vehicle, additional means confronting the driver's station for indicating various simulated traffic conditions and changes therein at will, control means operatively connected with said accelerator pedal and said brake pedal for controlling said means for producing sound and motion, and additional control means for selectively controlling said additional means for indicating selected individual simulated traffic conditions at will, said additional control means being located out of the normal visual range of one occupying said seat, the additional means for indicating simulated traffic conditions comprising red, green, and amber signal lights arranged in a conventional traffic signal pattern, a flood light directed toward the seat, and a horn, and wherein said additional control means includes manually operable switch means for operating the individual items at will.

2,979,832
VISUAL SIMULATOR FOR FLIGHT TRAINING DEVICE
Wolfgang B. Klemperer, Los Angeles, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Sept. 19, 1956, Ser. No. 610,834
7 Claims. (Cl. 35—12)

1. In combination for simulating the flights of an airplane over terrain as represented by a model of the terrain and for simulating such flights in accordance with controls exerted by an operator such as a pilot, including a windowed cockpit having simulated means therein over which the pilot exerts control of the flight, a screen external of the cockpit and viewable from therewithin, means including a camera for viewing the model to provide a visual image on the screen, first motor means for moving the camera linearly in three substantially perpendicular directions corresponding to longitudinal, lateral and altitudinal changes in the position of the airplane, second motor means for moving the camera angularly in a first direction corresponding to angular movements in roll of the airplane, a reflector disposed between the camera and the model, third motor means for angularly moving the camera and the reflector in a second direction corresponding to the said first direction thereby effectively rotating the optical axis of the camera in accordance with angular changes in heading of the aircraft and corresponding to angular changes in heading of the airplane, fourth motor means for angularly moving only the reflector in a third direction transverse to the first and second angular directions and corresponding to angular movements in pitch of the airplane, and means including computer and servomechanism operating means for energizing the first, second, third and fourth motor means in accordance with the controls exerted by the pilot to vary the visual image presented to the camera.

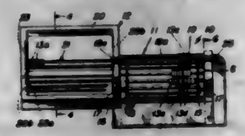


2,979,833
AIRCRAFT TRAINING APPARATUS FOR SIMULATING THE PROPELLER SYSTEM OF TURBO-PROPELLER AIRCRAFT
Roscoe H. Goodwin, Allendale, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Dec. 5, 1957, Ser. No. 700,830
18 Claims. (Cl. 35—12)



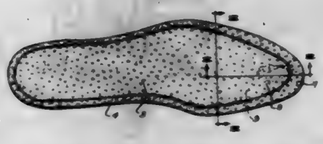
1. Flight training apparatus for simulating the propeller system of turbo-propeller aircraft having a simulated power lever movable through control ranges representing "ground" and "flight" conditions, respectively, and turbine torque computing means, comprising simulated propeller load computing means, an electrical computing system representing turbine r.p.m. responsive to a torque signal that is produced by said torque computing means jointly with a propeller load signal that is produced by said propeller load computing means, a second electrical computing system representing automatic governing control jointly responsive to a signal representing turbine r.p.m. from the r.p.m. system and a signal representing a reference r.p.m. for in turn producing a simulated r.p.m. overspeed or underspeed error signal, a third electrical computing system representing propeller blade angle responsive to said error signal for adjusting simulated blade angle, the aforesaid propeller load computing means being responsive to a signal representing propeller blade angle from the blade angle computing system for computing the simulated propeller load, and means controlled by the power lever for alternative control of said third system so that said system is controlled by manual operation of said power lever in the "ground" range thereof, and is controlled by said error signal when the power level is in the "flight" range.

2,979,834
INDEXING DEVICES
Walter W. Giles, 2631 Locksley Place, Los Angeles, Calif.
Filed May 19, 1959, Ser. No. 814,223
1 Claim. (Cl. 35—73)



In an indexing device the combination of: a rotatable magazine consisting of two circular, parallel and trunnioned end members positioned perpendicularly to an axis line traversing their centers, a plurality of symmetrically spaced T-rails affixed at their ends to the circumferential peripheries of the said circular end members and parallel to the centerline axis thereof, a plurality of symbol blocks, printable on their upper faces, slidably mounted on said T-rails, said blocks having T-shaped channels excised therethrough for locking said blocks to said T-rails, a divider ring segment embracing transversely all but one of the said plurality of T-rails, said ring segment comprising means for segregating upon the T-rails said symbol blocks, a trunnion support frame consisting of a horizontal base and two uprights with bearing means for supporting the trunnions of the rotatable magazine; a rectangular panel frame, grooved on the inner edges of two parallel sides, and joined externally to one upright of the trunnion support frame, with the two grooved sides of the panel frame parallel to the circular end members of the magazine; a rectangular panel structure consisting of a flat base having its edges slidable in the grooved inner edges of the panel frame and slidably positioned therein, said panel base having affixed to its upper surface a plurality of T-rails identtical in cross-section with the T-rails of the magazine spring means for retaining the panel structure in the frame, the upper surface of the said panel base T-rails being positioned in the same plane as the upper surface of a bridge T-rail; longitudinally parallel to the centerline axis of the magazine and positioned in a recess in a side of the panel frame adjacent to an end of the magazine, so that the magazine T-rails can by rotation of the magazine be brought into joinable alignment with the T-rails mounted on the panel base, said bridge T-rail providing means for transferring symbol blocks, from T-rails of the magazine to T-rails of the panel base; a sidetrack T-rail, curved at one end and fixed on the upright of the trunnion support frame at the end of the frame remote from the panel frame, the curved end of said sidetrack T-rail being positioned adjacent to an end of the magazine, providing means for temporary reception of symbol blocks as they may be selected and removed by sliding from the T-rails of the magazine; the T-rail mounted on the circular end members of the magazine and traversing the interruption of the divider ring segment, providing means for transferring symbol blocks from the sidetrack T-rail to the bridge T-rail.

2,979,835
FOOT CUSHIONING DEVICE
William M. Scholl, 211–213 W. Schiller St., Chicago, Ill.
Filed Apr. 28, 1958, Ser. No. 731,541
1 Claim. (Cl. 36—44)



A heat sealed flat cushion insole for free disposition in an article of footwear, comprising a relatively thin flat vinyl cover sheet for disposal against the foot of the wearer and a relatively thick flat vinyl foam pad coextensive with said sheet and secured thereto by a heat seal seam along the bounding edges only of said sheet and pad, said pad having a curvate margin along the lower surface only thereof compressed to the same thickness as the cover sheet with the marginal edges of said sheet and pad being relatively flat, the heat seal seam substantially in the vicinity of the metatarsal heads being substantially wider and the curvate margin of the pad being of greater density and lesser thickness along the outer forward edge and decreasing in density and increasing in thickness a controlled distance rearwardly from said forward edge.

2,979,836
FOOT CUSHIONING DEVICES FOR USE IN ARTICLES OF FOOTWEAR
William M. Scholl, Chicago, Ill., assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Original application Jan. 7, 1959, Ser. No. 785,512. Divided and this application Aug. 18, 1959, Ser. No. 834,515
6 Claims. (Cl. 36—71)

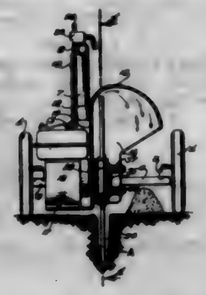


1. A foot cushioning appliance comprising a vinyl film forming a cover layer for disposal against the foot of the wearer, a polyurethane foam layer coextensive with said cover layer, and a fused joint at the edges of said layers composed solely of the material of the layers of said cushioning appliance whereby the layers are unattached throughout their foot supporting surfaces.

2,979,837
DITCH DIGGING MACHINE
Edwin James Hunter, % Moist O'Matic Inc., P.O. Box 489, Riverside, Calif.
Filed Sept. 9, 1957, Ser. No. 682,740
9 Claims. (Cl. 37—94)

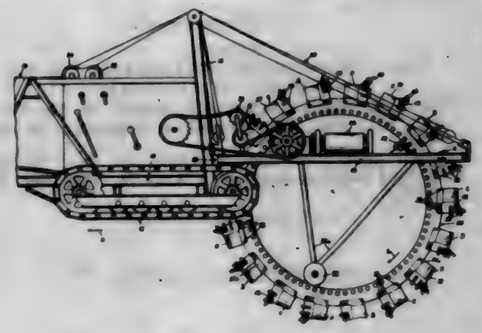
1. A ditch digging machine, comprising: a frame including vertical posts and a cross bar connecting the upper ends of said vertical posts; wheels supporting the lower ends of said posts; a body structure including sleeves slidable on said posts, a partition wall connecting said sleeves, end walls extending laterally of said sleeves, a deflector hood at the upper end of said partition wall between said end walls, and a motor supporting platform at

the side of said partition wall opposite from said deflector hood; means for raising and lowering said body structure relative to said posts; a motor mounted on said platform and having a shaft extending through said partition wall; a digging unit rotatably mounted on said shaft parallel to



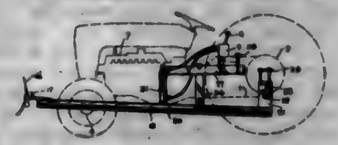
said partition wall within the boundaries of said deflector hood and end walls; said digging unit adapted to be lowered with said body structure for ground engagement to cut a slit trench therein, said digging unit tending to throw material against said deflector hood for deflection into a windrow alongside said slit trench.

2,979,838
EXCAVATING MACHINE
David L. Raymond, Dayton, and Harold H. Hoover, Cleveland, Ohio, assignors to The Cleveland Trencher Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 23, 1959, Ser. No. 801,984
12 Claims. (Cl. 37—97)



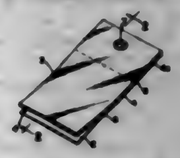
1. In a mobile trench excavating machine, having a movable continuous digging unit including a plurality of excavating buckets with rooter teeth mounted on the leading edges of said buckets, the rooter teeth on said buckets being so arranged that the rooter teeth on one bucket are spaced laterally of the rooter teeth on the next following bucket so that substantially the entire transverse width of the trench to be excavated will be engaged by rooter teeth on a predetermined series of buckets, the combination therewith of scarifier blade means mounted on said unit and projecting outwardly therefrom, each of said buckets having a predetermined number of said blade means associated therewith, the blade means associated with a respective bucket being offset laterally with respect to one another and with respect to the rooter teeth on the respective bucket and being generally aligned in a direction longitudinally of said digging unit with the rooter teeth on the next following bucket, said blade means being adapted to score material to be excavated and facilitate its removal from the trench by said digging unit.

2,979,839
TOOL SUPPORT FOR TRACTOR
Norbert J. Hugger, 129 S. Homer, Lansing, Mich.
Filed Aug. 17, 1959, Ser. No. 834,133
3 Claims. (Cl. 37—144)



1. A device for attaching a blade to a tractor comprising the combination: an elongated frame structure of such length that it can extend from a point under the rear axle of the tractor with which it is to be used to a point forwardly of the front axle thereof, and means supporting said blade on the forward end of said frame structure; means attachable to the rear axle of said tractor for pivotally supporting the rear ends of said frame structure on and with respect to said rear axle; a saddle secured to said frame structure and adapted for fastening said frame structure to the frame of the tractor, said saddle including upstanding elements on opposite sides of said frame structure and a plurality of transverse elements extending between said upstanding elements and encircling the central portion of the frame of said tractor, selected ones of said transverse elements being detachable from said upstanding elements so that said frame structure may be disposed around the tractor frame by a vertical movement with respect thereto; and pressure fluid responsive means supported on said saddle and connected to said frame structure at a point intermediate the forward and rearward ends thereof; means connecting said pressure fluid responsive means to a controllable source of fluid pressure.

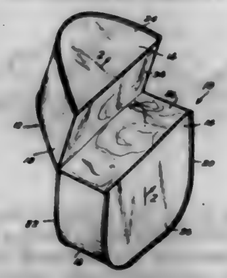
2,979,840
TAGS
Howard W. Eastman, Richmond, Calif., assignor to Eastman Tag & Label Co., Richmond, Calif., a corporation of California
Filed May 19, 1959, Ser. No. 814,196
2 Claims. (Cl. 40—2)



1. An identification tag comprising a tag body portion formed of tag board and a superposed flexible transparent sheet of clear plastic film hingedly fixed to said tag body portion adjacent one end thereof, a backing sheet disposed between said clear plastic sheet and said tag body, said backing sheet provided with a cut transversely thereof adjacent said first end of said tag, a pressure-sensitive adhesive coating provided on nearly all of the underside of said clear plastic sheet and in temporary contact with said backing sheet, and a narrow transverse strip of said transparent plastic sheet being free of adhesive at a point substantially coincident with the cut line provided in said backing strip so that the backing strip is free of adhesive contact with the plastic sheet along the said cut line.

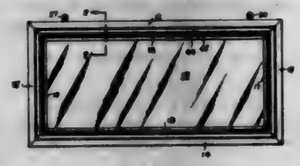
2,979,841
FOOD CONTAINER DISPLAY DEVICE
Paul Bellis, Needham, Mass., assignor to The Landmark Corporation, Hoboken, N.J.
Filed July 22, 1959, Ser. No. 828,872
5 Claims. (Cl. 40—126)

1. A display device for simulating a sealed food container split open to reveal its contents, said device comprising a metal container cut transversely adjacent its center to form two separate sections having open ends at said cut, opaque members respectively extending across the open ends of the respective sections to cover the same



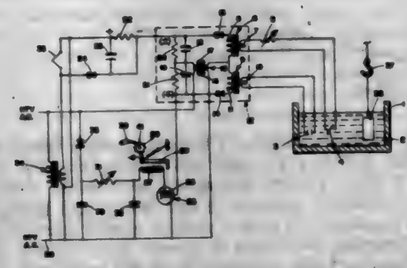
with opaque members each bearing a pictorial likeness of a cut section of the food normally contained in said container, and hinge means joining the rear ends of said container sections adjacent said cut with the open ends thereof facing each other.

2,979,843
STRUCTURE FOR DETACHABLY MOUNTING ARTICLES TO BE EXHIBITED
Ernst J. De Ridder, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 29, 1959, Ser. No. 849,517
5 Claims. (Cl. 40—156)



1. A structure for detachably holding an article to be exhibited and comprising in combination, a flat mounting board, a plurality of elongated frame members each having a uniform cross section lengthwise of the same and including a central web section generally parallel to the plane of said board, a plate portion extending transversely of said web and having a reentrant skirt portion extending from the edge of said plate portion and spaced from said web section to form a clamp-manipulating space, and a foot portion; means attaching the foot portion of said frame members to said board; a plurality of independently movable elongated clamps each being movable between a first article-engaging position and a second article releasing position, each of said clamps having a uniform cross section lengthwise of the same and including a detent-engaging portion along a first edge, an article-engaging portion along a second edge, and a central fulcrum portion pivotally engageable with said skirt portion of said frame member, and a resilient detent mounted on said frame member and engaging said clamp within said space whereby upon moving said clamp to said second position against the action of said detent the article-engaging portion of said clamp may be released from said article and upon moving said clamp to said first position under action of said detent said article-engaging portion of said clamp is effective to hold said article against said board with a substantially uniform clamping action along the entire length of said clamp.

2,979,843
ETCH RATE COMPENSATED PROCESS TIMER
Eugene L. Trimm, Whittier, Calif., assignor to North American Aviation, Inc.
Filed Nov. 25, 1955, Ser. No. 548,914
3 Claims. (Cl. 41—9)



1. For use with an etchant solution having a finite etching rate on a metal workpiece, a compensated process timer comprising a counter adapted to indicate a prescribed number of time intervals corresponding to a desired etch depth on said workpiece based on said finite etching rate, means to sense changes in etching rate, a balanced detector, and a thyratron tube adapted to operate a relaxation-type circuit for moving said counter through each time interval, changes in etching rate being adapted to unbalance said detector, the unbalanced output of said detector being connected in series to the bias grid of said thyratron whereby the time duration of each time interval is adjusted proportionately to said changes in etching rate.

2,979,844
PLASTIC PARTY FAVOR BASKET CONSTRUCTION
Sam T. Lattuca, Hempstead, N.Y., assignor to Best Plastics Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 5, 1958, Ser. No. 759,304
9 Claims. (Cl. 41—10)



1. A plastic party favor comprising a basket having a bottom, a side wall extending upwardly from the bottom and diverging outwardly toward a top edge of the side wall, handle portions located on opposite sides of the basket and diverging from one another as they extend from the top edge of the side wall when said handle portions are undistorted, the bottom, side wall and handle portions being one piece of stiffly flexible plastic, the side wall and handle portions having ornamental surface contours on their outside surfaces, and means for connecting the free ends of the handle portions when said handle portions are flexed inwardly from the top edge of the side wall and upwardly with their free ends in contact with one another over the bottom of the basket and at a substantially higher level than the top edge of the side wall, the handle portions being of such length as to pull the sides of the basket toward one another where the handle portions contact with the side wall, the plastic material of the side wall being stiff enough to distort outwardly the part of the basket between the handle portions and to elongate the portion of the basket above the bottom.

2,979,845
ELECTROMAGNETIC SAFETY SYSTEM FOR FIREARMS
William Christiansen, Jr., 115 N. Division, Lowell, Mich.
Filed Dec. 31, 1958, Ser. No. 784,105
4 Claims. (Cl. 42—70)



1. In a safety system for a firearm having a frame and an action including a trigger and a firing pin, and also having a stock, a safety mechanism comprising: a safety member movably mounted in said frame, and having a portion disposed, in a certain position of said safety member, to intercept said action to prevent firing thereof, said safety member being movable out of said position to permit firing of said action; biasing means urging said safety member to said certain position; electromagnetic actuating means mounted on said frame and adapted, when energized, to move said safety member from said certain position against the effect of said biasing means; spaced contact means exposed on the butt of said stock; electrically conductive wires connecting said spaced contact means to said electromagnetic actuating means, respectively, to establish a closed circuit between said spaced contact means including said electromagnetic actuating means; and a garment having spaced contact means normally in closed-circuit relationship and disposed to engage respectively said spaced contact means on the butt of said stock when said firearm is in normal shooting position; battery means disposed in said garment connected to establish a voltage between said spaced contact means on said garment; and visual indicating means for registering the position of said safety member, including prism means rendering a portion of said safety member visible to the eye through an aperture in said firearm from normal shooting eye position.

2,979,846
PROTECTING GUIDE FOR REPEATING SPORTING GUNS
Jean Fontvieille, Saint-Etienne, France, assignor to Manufacture Francaise d'Armes & Cycles de Saint-Etienne, Saint-Etienne, France, a joint-stock company of France
Filed Nov. 25, 1958, Ser. No. 776,289
Claims priority, application France June 19, 1958
7 Claims. (Cl. 42—71)



1. In combination with a repeating sporting gun, including a barrel, a receiver and a magazine extending underneath said barrel and into said receiver, the combination of a fore-end surrounding the magazine leaving a gap between the sides of said fore-end and the barrel, a plug for the front end of said magazine and a protecting guide coupling the barrel to said magazine to cover said gap, said protecting guide including a front lug fitted between said plug and the front end of the magazine and at least one extension directed rearwardly of said lug, said one extension covering the upper edges of the sides of said fore-end and closing the gap between the sides of said upper edges and the barrel, and means for securing said extension to the receiver and the barrel.

2,979,847
RELEASING DEVICE FOR SNAGGED FISHING LINES
William E. McKinney, 1123 Grand Ave., St. Joseph, Mo.
Filed Mar. 18, 1959, Ser. No. 800,280
4 Claims. (Cl. 43—17.2)



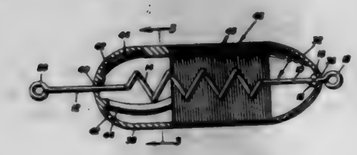
1. A releasing device for a snagged fishing line comprising a heavy metal body having flat end faces and having a pair of transverse flat bottomed grooves therein spaced from the ends thereof and opening through opposite sides thereof to divide said body into a central portion and a pair of end portions, each of said portions having a slot therein extending longitudinally of said body, said slots being longitudinally aligned and opening into said grooves, and a hook mounted in each of said grooves having a retaining portion aligning with said slots.

2,979,848
BARBLESS FISH HOOK
Charles L. McConnell, 12 S. Bacon St., Port Norris, N.J.
Filed Jan. 2, 1959, Ser. No. 784,805
2 Claims. (Cl. 43—37)



1. A fish hook comprising a bracket having an elongated flat plate portion and an integral laterally projecting flange at one end thereof and an elongated slot extending along the plate portion and into said flange, a member mounted for sliding movement on said bracket between a retracted inoperative position and an extended operative position, said member comprising a wire coiled and doubled to provide spring interconnected hook and guard portions extending longitudinally of and through said slot outwardly endwise of the said one end of the bracket and provided at their free ends respectively with a hook having a curved bill and a lock portion constructed for interengagement with said bill of said hook when in operative position, at least one spring coil of the member having a projected portion extending slidably within and through the slot in the plate portion of said bracket, means engaged through the projected portion of said spring coil to secure the same against displacement from said slot while permitting sliding movement of the same and said member longitudinally therein, the flange of the bracket being disposed so that in the retracted inoperative position of the member the flange will engage the guard portion and retain the lock portion thereof remote from the bill of the hook and the shank of the guard portion having a recess formed therein extending in a direction opposite the flange and disposed so that in the extended operative position of the member the flange is received within said recess thereby releasing the guard portion to engage the lock portion thereof with the bill of the hook.

2,979,849
ANIMATED ARTIFICIAL BAIT
Hiram D. Anderson, Jr., Box 255, Stevens Point, Wis.
Filed Mar. 21, 1958, Ser. No. 722,925
2 Claims. (Cl. 43—42.02)



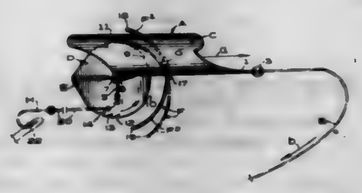
1. An artificial bait comprising an elongated flexibly resilient member having an eye at one end inwardly of which lugs are provided constituting stop shoulders, a rearwardly opening and facing cup-like member mounted on said resilient member between the eye and shoulders and constructed to provide an imitation head, a forwardly opening centrally apertured cup-like tail section, the central aperture therein providing a bearing, and an adjacent portion of said resilient member extending rearwardly through and outwardly beyond said bearing and having a hook attaching eye, said tail section being provided with water discharge holes, and a highly sensitive helical coil spring interposed between the adjacent ends of the head and tail sections and having cooperating coils attached respectively to said sections.

2,979,850
ARTIFICIAL FISH LURE
Trygve C. Lund, Dowagiac, Mich., assignor to James Heddon's Sons, Dowagiac, Mich., a corporation of Michigan
Filed Jan. 4, 1960, Ser. No. 414
1 Claim. (Cl. 43—42.24)



An artificial fish lure, comprising:
an elongated, flexible, compressible, longitudinally stretchable, resilient body member having substantially the shape of a worm, said body member being tapered from a point near one end thereof to a point near the other end thereof and having a portion of enlarged, substantially circular cross section located between said points and spaced from both ends of said body member, said enlarged portion having a smooth periphery and the remainder of the body member having closely spaced, annular ribs extending therearound;
a thin-walled cylindrical sleeve encircling and located between the ends of said enlarged portion of said body member, said sleeve having a light-reflective external surface, the axial length of said sleeve being slightly less than the axial length of said enlarged portion, the internal diameter of said sleeve being greater than the diameter of the tapered portion so that the sleeve is freely slidable axially with respect to said body member along said tapered portion up to said enlarged portion, the internal diameter of said sleeve being less than the diameter of said enlarged portion when same is not compressed, said sleeve holding said enlarged portion under compression and said enlarged portion having radially outwardly extending bulges at the ends thereof which engage the respective axial ends of said sleeve and hold the sleeve against axial movement with respect to said body member whereby said sleeve may be mounted on or removed from said body member by longitudinally stretching said body member; and
a hook mounted on said body member.

2,979,851
CONTROLLED DEPTH TROLLING DEVICE
Carlyle O. Telford, 24867 Joanne St., Hayward, Calif.
Filed Apr. 4, 1960, Ser. No. 19,829
3 Claims. (Cl. 43—43.13)



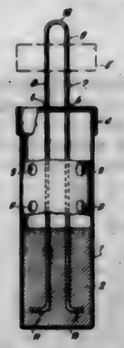
1. A controlled depth trolling device comprising a body member having two laterally extending and upwardly curved wings; a combined rocker disc and rudder carried by the body and rotatable about an axis that extends at right angles to the longitudinal axis of the body; said body having a slot for receiving the forward portion of the disc; laterally extending flaps carried by the disc and projecting from both sides thereof; the disc being rotatable for swinging the flaps from a plane substantially coinciding with the plane of the longitudinal central portion of the body into angular positions where the flaps will be inclined downwardly or upwardly with respect to the said central body portion; stops carried by the disc and engageable with the body for limiting the extreme angular positions of the flaps; said disc having a tooth in the portion of the periphery disposed above the upper surface of the body and having a set of teeth in the periphery portion disposed below the lower surface of the body; a lock wire pivotally carried by the body and having an upper and a lower cross piece; the lock wire being swingable in one direction for causing the upper cross wire to engage with the first-mentioned tooth for holding the flaps in a certain upwardly and rearwardly inclined position with respect to the central body portion and being swingable in the opposite direction for causing the lower cross wire to engage with a desired tooth in the lower set of teeth for holding the flaps in a certain downwardly and rearwardly inclined position with respect to the central body portion; the front of the central body portion having a fish line attached thereto, and the lower portion of the disc having a hook-carrying line attached thereto.

2,979,852
FISH HOOK STRUCTURE
James W. Schinke, 1404 2nd St. SE., and Albert Felske, both of Rochester, Minn.; said Felske assignor to said Schinke
Filed Nov. 10, 1958, Ser. No. 773,039
2 Claims. (Cl. 43—43.16)



1. A fish hooking device comprising a hook having a barb at one end and a looped portion at its other end, a pair of spaced shoulders formed on said hook adjacent said looped portion, a staff having an intermediate integral looped portion and having its lower end adapted to be looped about said hook between said shoulders, and a pin disposable through said looped portion of said staff and having its lower end adapted to be threaded into said looped portion of said hook to hold said hook and staff together in a rigid fishing position and to be removable from said hook to permit said hook to rotate about the axis of the lower looped portion of said staff for easy removal of said hook from the mouth of a fish.

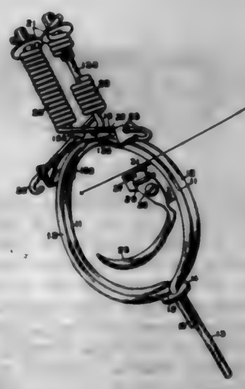
2,979,853
CHUM POT
George Erving Erickson, 584 Morgan Ave., Brooklyn, N.Y.
Filed July 1, 1959, Ser. No. 824,422
5 Claims. (Cl. 43—44.99)



1. A chum pot comprising a vessel open at its upper end, and partially filled with solid ballast, the walls of the vessel above the level of said ballast being perforated, a removable lid covering the upper end of the vessel, and an inverted U shaped wire member, the neck of which member extends above said lid and the arms of which member extend downwardly slidably thru said lid, the ends of said arms being embedded in said ballast.

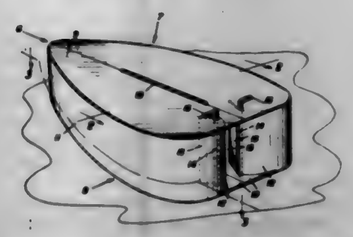
2,979,854
ANIMAL TRAPS
Merle E. Bigelow, 305 W. 3rd St., Marysville, Ohio; Bertha Bigelow, administratrix of said Merle E. Bigelow, deceased
Filed Sept. 30, 1958, Ser. No. 764,304
9 Claims. (Cl. 43—90)

1. An animal trap comprising first and second interfitting split rings of resilient material mounted for rotation about a pivot axis with the split side portion and closed side portion of said first ring being diametrically opposed to the split and closed side portions respectively of said second ring, the split side portion of the first ring being provided with pivot extensions, a first pivot support rigidly secured to the closed side portion of the second ring having openings receiving said pivot extensions, the split side portion of the second ring being provided with pivot extensions, a second pivot support rigidly secured to the closed side portion of the first ring having openings receiving said second-named pivot extensions, means for holding the rings in trap-set position to which



they may be relatively rotated about said pivot extensions, said rings in trap-set position being under tension in flat contact with the two halves of each ring which are at opposite sides of the pivot axis contacting with the corresponding halves of the adjacent ring but at opposite faces thereof, and trigger mechanism for releasing said last-named means so that the rings will return by relative rotation about said pivot extensions into trap-sprung position where the two halves of each ring are in flat contact with corresponding halves of the adjacent ring but their positions are reversed 180° about said pivot axis relative to said trap-set position.

2,979,855
MINNOW TRAP
Lewis Bowsher, Buffalo, Ind.
Filed July 7, 1958, Ser. No. 746,750
3 Claims. (Cl. 43—100)

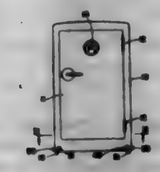


1. A minnow trap including: a substantially heart-shaped receptacle having a centrally located entrance in its forward end, said receptacle being longitudinally split from end to end and including a pair of complemental, separable half-sections, and means for connecting said half sections for longitudinal sliding movement relative to each other whereby access openings to said half-sections may be provided at the opposite ends of the receptacle for removing minnows from said half-sections, said means including longitudinal beads on one of the half sections, and guides of substantially C-shaped transverse section on the other of said half sections slidable on said beads.

2,979,856
ATTRACTANTS FOR FRUIT FLIES
James D. Ponting, El Cerrito, Calif., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Sept. 25, 1959, Ser. No. 842,539
3 Claims. (Cl. 43—132)
(Granted under Title 35, U.S. Code (1952), sec. 266)

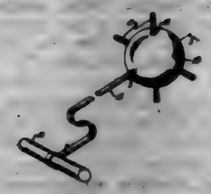
1. In the method of controlling fruit flies of the genus Drosophila, the improvement which comprises using as an attractant fermented fruit material prepared by mashing fruit to a liquid consistency, adding water, where necessary, to reduce the solids content of the mash to about 5 to 15%, inoculating the mash with about 0.1 to 1% of bakers' yeast and fermenting the inoculated mash at ordinary temperatures for a period of about 24 hours.

2,979,857
BASE LEVELING DEVICE
Thomas Longbotham, 1721 NE. 38th Ave., Portland, Oreg.
Filed Mar. 18, 1959, Ser. No. 798,586
6 Claims. (Cl. 45—139)



1. In a cabinet having a vertically hinged door, a pair of horizontal beams pivotally mounted on opposite sides of said cabinet for independent rocking movements relative to said cabinet, feet on the ends of said beams for supporting the cabinet, adjustable means for raising and lowering the pivotal connection between one of said beams and said cabinet, means for securing said beams in adjusted position, and a spirit level mounted in horizontal position in said door, said spirit level being movable with said door to a position parallel with said beams and to a position parallel with the pivotal axis of said beams.

2,979,858
TOY
Edward W. Holman, Jr., 1310 Sewanee Ave., Florence, S.C.
Filed Mar. 2, 1959, Ser. No. 796,328
5 Claims. (Cl. 46—52)



1. An educational instructive satellite simulating toy comprising a generally spherical weight forming ball having a resilient surface so that it will not cause injury upon impact, an elastic band having one end attached to said ball, said band being of a size to support said ball and to stretch by the action of centrifugal force when the end of the band opposite that attached to the ball is engaged and the ball centrifugally swung, said elastic band being of a width and thickness to vibrate by movement through the air during the swinging of the ball and produce a whirring or whistling sound, said ball having relatively soft tipped tubular projections in excess of two and arranged in spaced relationship to each other and extending from different portions of its surface and perpendicular to the length of the stretched band whereby sound is produced by contact with the air during the swinging of the ball.

2,979,859
EYE ACTUATING DEVICE FOR TOYS WITH MOVABLE EYES
Maria Lossev, 47 N. Fullerton Ave., Montclair, N.J.
Filed Mar. 26, 1958, Ser. No. 724,022
1 Claim. (Cl. 46—135)



In a doll having movable eyes operated by means of a balance weight, a shaft mounting said eyes, means for actuating said eyes counterpoising the action of said weight, said means comprising a crank rigidly connected to the shaft upon which the eyes are mounted, a pendulous arm hinged to said crank for turning the shaft, two projections upon said arm jutting in opposite directions, a resilient ring disposed within the doll and having two opposed slots through which said arm extends so that deformation of said ring alternately engages the portion of said ring adjacent said slots with one of said projections and imparts motion to said arm.

2,979,860
HOOP ROLLING DEVICE
Joseph A. Berta, Anawalt, W. Va.
Filed Feb. 24, 1959, Ser. No. 794,946
1 Claim. (Cl. 46—220)



A device for rolling, guiding and restraining a rolling hoop, comprising an elongated shank having a handle grip at one end and a pusher element at the other end of said shank, an integral arcuate laterally offset portion in said shank between said grip and pusher elements adapted partially to encircle the rim of hoop when the pusher element is juxtaposed to a portion of the rim, and a perpendicular offset portion in said pusher element, said offset terminating in a transverse part, a freely rotatable sleeve loosely surrounding said transverse part, and a tip extending parallel to said perpendicular offset, said offset, transverse part and tip forming a hook.

2,979,861
MAGNETIC TOY DEVICE
Harry R. Staaf, 2701 W. 4th St., Duluth, Minn.
Filed Mar. 16, 1959, Ser. No. 799,693
3 Claims. (Cl. 46—239)



1. In a magnetic toy device having an outer casing and a liquid containing receptacle therein and having buoyant objects freely movable in the receptacle in response to a movable magnetic field, the improvement for varying the vertical movement of the buoyant objects in the liquid in the receptacle, said improvement comprising a support member hingedly connected at one end to said casing beneath said receptacle and adapted to rotate upwardly from a horizontal position, an arm rotatably mounted parallel to and on said support member, magnetic means on said arm, means for rotating said arm, and means for adjusting the free end of said support member in an angular position whereby the distance between said magnetic means and said buoyant objects may be altered to cause vertical displacement of said buoyant objects when said arm rotates beneath said receptacle.

2,979,862
GIRDLING TOOL
Santiago C. Tacderan, Rte. 1, Box 122, Earlimart, Calif.
Filed Aug. 19, 1959, Ser. No. 834,735
5 Claims. (Cl. 47—1)

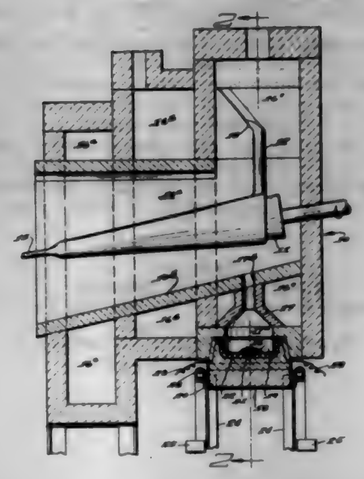


1. A girdling tool comprising: a pair of handles crossed at one end, an element pivotally connecting the crossed end portions of the handles, a generally U-shaped knife mounted on the pivot element astraddle one of the handles and affixed to the other of said handles and swingable in unison therewith, and a generally U-shaped knife mounted astraddle said one handle and swingable in unison therewith toward the first-named knife, said knives comprising legs including spaced, parallel cutting edges for receiving the work therebetween.

2,979,863
SOIL CONDITIONING WITH QUATERNARY NITROGEN SALT
George R. Benwin, Collinsville, Ill., and Frank X. Groesl, St. Louis, Mo., assignors to Union Starch and Refining Company, Inc., a corporation of Indiana
No Drawing. Filed Mar. 12, 1956, Ser. No. 570,703
1 Claim. (Cl. 47—58)

The method of improving the physical structure of soils comprising incorporating in at least one of the surface layer and the subsurface layer, a powdered composition containing a cation active quaternary nitrogen salt having two substituent groups directly attached to the quaternary nitrogen, which groups contain 6–22 carbon atoms in a straight chain, the other two covalent nitrogen bonds being part of a heterocyclic ring, said powdered composition being added in sufficient quantity to provide about 0.01% to about 0.1% by weight of said soil layer of said cation active salt.

2,979,864
APPARATUS AND METHOD FOR PRODUCING GLASS TUBING
Alfred D. Pinotti, Toledo, Ohio, assignor to Kimble Glass Company, a corporation of Ohio
Filed May 21, 1957, Ser. No. 660,607
10 Claims. (Cl. 49—17.1)

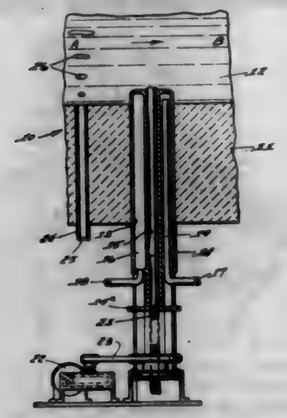


1. In glass tube drawing apparatus, a hollow chamber, means for heating said chamber, a downwardly-inclined rotary forming mandrel therein from which tube or rod is drawn, means for continuously flowing a stream of molten glass onto the mandrel, and means including an independently-heated receptacle and hollow passage joining said chamber and receptacle for introducing vaporized glass-forming material into said hollow chamber to control the atmosphere immediately surrounding said rotary mandrel and flowing stream of glass.

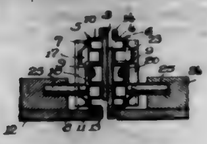
6. The method of producing drawn glass tubing or rod of borosilicate glass comprising the steps of rotating a downwardly-inclined forming mandrel in a heated chamber, delivering a stream of molten borosilicate glass onto said forming mandrel, drawing said glass from said forming mandrel having a prescribed cylindrical shape, and surrounding said molten glass and said forming mandrel with a boron and alkali-metal-containing atmosphere.

2,979,865
METHOD OF PRODUCING COLOR-CONTROLLED VITREOUS MATERIALS
Robert R. Rough, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Feb. 27, 1958, Ser. No. 718,000
2 Claims. (Cl. 49—77)

1. The method of continuously producing a molten glass product having precisely controlled coloration including the steps of making a mass of molten glass from glass batch constituents, conveying the said molten glass to a point of use, arranging at least one essentially solid rod-like element in movable arrangement with one end portion thereof submerged below and projecting into said conveyed molten glass, said rod-like element being essentially fully dissolvable in said molten glass and containing selenium in color-controlling concentrated form, introducing the said rod-like element into said molten glass at a controlled rate to facilitate its dissolution therein depending essentially upon the composition and temperature of said molten glass contacting the submerged portion and the desired colorizing effect to be obtained by the said selenium, and effecting agitation of said molten glass into a homogeneous color-controlled glass product.



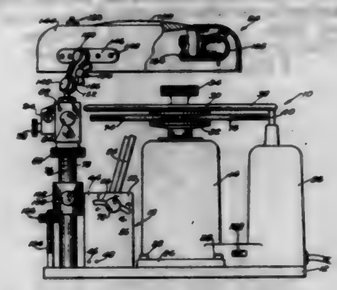
2,979,866
DETACHABLE HANGER FOR SUPPORTING PANELS
James McLean, Evanston, Ill., assignor to Garden City Plating & Manufacturing Co.
Filed June 14, 1956, Ser. No. 591,426
3 Claims. (Cl. 50—495)



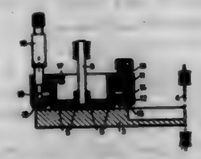
3. A structure comprising a pair of laterally spaced supports, each of said supports having a longitudinal rib spaced rearwardly of its front edge, a second longitudinal rib provided with a pair of vertically spaced apertures, a pair of hangers secured to each of said supports, each of said hangers having a lip in engagement with one of said apertures, a channel shaped portion in engagement with said second rib, a flanged portion depending from said channel, and a notch extending downwardly from the upper end of said flanged portion, and a panel having its opposite lateral edges abutting one edge of said first mentioned rib of each support and flush with the forward edges of said supports, a longitudinal strip secured to the rear surface of said panel adjacent each of said lateral edges, and a pair of pins projecting from each of said strips, each of said pins being seated in one of said notches to hold said panel in fixed relationship to said supports.

2,979,867
GRINDER AND ATTACHMENT THEREFOR
Edward J. Beaver, 229 New Meadow Road, Barrington, R.I.
Filed July 24, 1957, Ser. No. 673,876
1 Claim. (Cl. 51—125)

In a grinding machine having a horizontally disposed grinding wheel connected to a motor for rotation thereby, said grinding wheel being slotted so as to provide visibility through the wheel during rotation thereof, and a supporting means for holding a tool in preselected relationship with respect to the grinding wheel, said supporting means comprising a post, a base providing a common support for said motor and grinding wheel and said post, a connector sleeve vertically adjustably carried by said post, an attachment rod laterally carried by said sleeve and rotatably adjustable about its own axis relative to said sleeve, and a tool clamping member carried at the free end portion of said attachment rod, said tool clamping member including a block having a groove at one side for receiving a drill to be sharpened, means carried by said block for holding a drill in the groove, and said block having a pivot pin extending from the side opposite from the groove, said attachment rod having a cylindrical recessed portion, a disk rotatably carried in said recessed portion, said pivot pin being operably connected with said disk, and means adjusting said pivot pin from a position coaxial with said disk to an eccentric position.



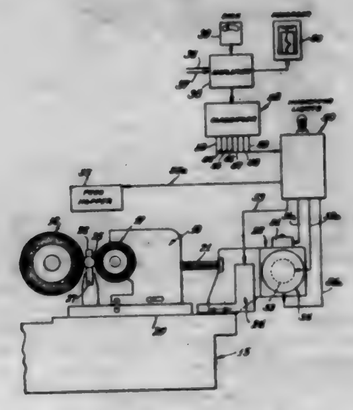
2,979,868
LAPPING DEVICE FOR SEMICONDUCTOR WAFERS
Reimar Emeis, Pretzfeld, Upper Franconia, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Nov. 14, 1958, Ser. No. 773,902
Claims priority, application Germany Nov. 29, 1957
2 Claims. (Cl. 51—131)



1. Single-disc lapping machine for producing semiconductor wafers of predetermined slight thickness, comprising a lapping disc having a lapping surface and mounted for rotation about a vertical axis, guide ring means disposed eccentrically to said lapping disc surface, means for supporting said guide ring means spaced from and laterally fixed relative to said vertical axis for rotation about other respective vertical axes in moving relation to said surface, said guide ring means being adapted for retaining workpieces of semiconductor material therewithin during the lapping operation, means within said guide ring means for pressing said workpieces against said lapping disc surface, said guide ring means comprising a guide body having a planar surface on the underside thereof for receiving said workpieces to be removably fastened thereto, and a plurality of spacer pieces carried by said guide body for spacing said guide body from said lapping disc surface to determine the final lapping thickness of said workpieces, said guide body comprising an inner portion for carrying the workpieces to be lapped and an outer portion for carrying said spacer pieces, biasing means resiliently pressing said inner portion and said

outer portion toward each other, and screw means for displacing said outer portion in height relative to said inner portion and relative to said lapping disc surface.

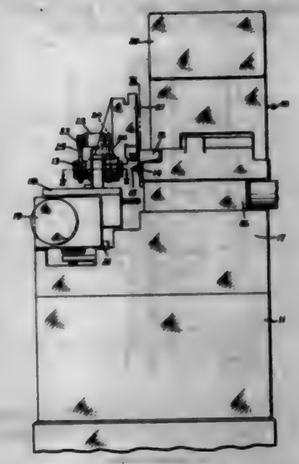
2,979,869
CONTROL SYSTEM FOR GRINDING MACHINES
Stanley R. Birleson, Muskegon, Hugh H. Campbell, Muskegon Heights, and Harold R. Dobb, Muskegon, Mich., assignors to The Keyden Engineering Corp., Muskegon, Mich., a corporation of Michigan
Filed Oct. 30, 1957, Ser. No. 693,426
6 Claims. (Cl. 51—165)



1. A control system in combination with a centerless grinding machine to maintain product diameters within predetermined limits, the machine having a grinding wheel and a regulating wheel movable relative thereto and means for so moving the regulating wheel, comprising, gauge means for measuring the diameter of parts emerging from between the grinding and regulating wheels, signal generating means operated by said gauge means for generating electrical signals of magnitudes proportional to changes in part diameters from a preselected standard size, means coupled to said signal generating means for classifying said generated signals according to their magnitudes, plural circuit means controlled by said classifying means and each individually operated by said generated signals of preselected classification, feed means operated by certain of said circuit means to operate the means for moving the regulating wheel to adjust the spacing between the grinding and regulating wheels and correctively alter the diameter of parts ground therebetween as indicated by the classification of the generated signals, and additional means operable in conjunction with said feed means for releasing static resistance to movement of said regulating wheel relative to said grinding wheel.

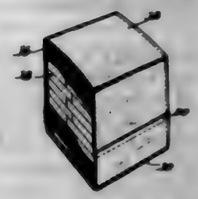
2,979,870
GRINDING MACHINE
Harry Pollard, Holden, and Cyrus S. Yingst, Boylston, Mass., assignors to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed Apr. 22, 1958, Ser. No. 730,213
8 Claims. (Cl. 51—215)

1. A grinding machine, comprising a loading mechanism bracket, a finger slidably mounted on the bracket for movement in a line of action lying in a first plane, a chute formed to carry workpieces serially in a line of action lying in a second plane parallel to and spaced from the first plane and at a right angle to the axes of the workpieces, the chute being mounted on the bracket so that the projection of its line of action on the first plane intersects the line of action of the finger, a passage joining the two lines of action in the area of the said intersection and extending at a right angle to the two planes, a transfer pin slidable in line with the passage for transferring workpieces axially through the passage from



the chute to the line of action of the fingers, and resilient fingers moveable into the path of the finger to support each workpiece until the finger arrives opposite the passage to engage the workpiece.

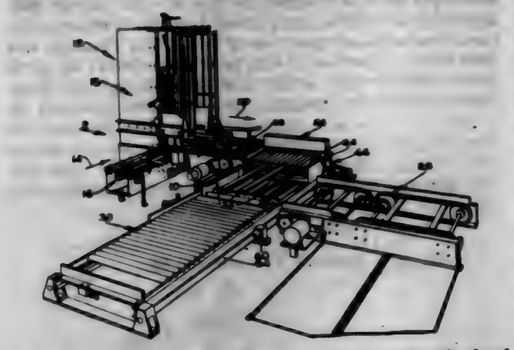
2,979,871
METHOD OF BANDING CARDBOARD CARTONS
Herbert M. Klechefer, Moorestown, N.J., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Jan. 7, 1957, Ser. No. 632,817
1 Claim. (Cl. 53—3)



The method of protectively wrapping a bale of flattened inherently resilient corrugated shipping containers which consists of stacking said containers in a bale of the desired size; wrapping a paper band around said bale; compressing the wrapped bale substantially but less than that necessary to crush the containers; slitting the band on the side which is continuous; overlapping the ends of the band; gluing the overlapped ends of the band on each side; allowing the glue to set; releasing the bale from compression; and permitting the stacked bale to expand within the limits of the band and tension the latter.

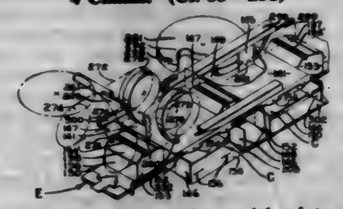
2,979,871
METHOD OF AND APPARATUS FOR LOADING PALLETS
Ernest A. Verrinder, Riverside, Calif., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 28, 1956, Ser. No. 612,668
16 Claims. (Cl. 53—26)

8. The method of loading articles onto a pallet comprising the steps of, moving a pallet edgewise into predetermined article receiving position in superposed relation below an article support, positioning articles in predetermined location adjacent one edge of said article support, and moving the articles so positioned from adjacent said support and onto said support to form a load



of articles thereon and at the same time moving the load of articles and the pallet in the same direction and at the same rate until both the load and the pallet are moved beyond the support and the load is on the pallet.

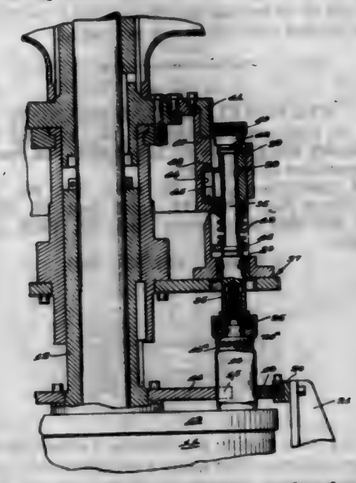
2,979,873
MACHINE FOR INSERTING ARTICLES INTO CARTONS
Robert K. Galloway, Hoopeston, Ill., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Original application Apr. 30, 1956, Ser. No. 581,402, now Patent No. 2,906,392, dated Sept. 29, 1959. Divided and this application Mar. 11, 1959, Ser. No. 798,680
4 Claims. (Cl. 53—251)



1. In a machine for inserting articles into cartons, a conveyor for carrying the articles in regular single file sequence, a second conveyor parallel to said first conveyor for carrying erected cartons in opposition to the articles on said first conveyor, said cartons being arranged on said second conveyor with their open ends and the flaps projecting therefrom extending laterally of said conveyor, a longitudinally extending vertical plate adjacent the side of said second conveyor remote from said first conveyor and received between the upper and lower flaps of said cartons, means for bending the upper flap of each of said cartons on the end remote from the article conveyor downwardly over the upper edge of said plate whereby the upper panel of said carton will be bowed upwardly adjacent the end facing said articles to facilitate the insertion of said articles therein, and means for moving said articles laterally from said first conveyor into said cartons.

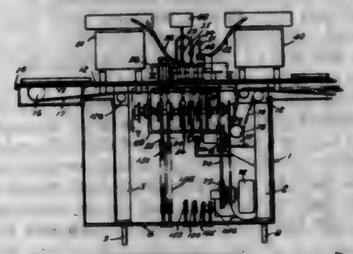
2,979,874
CONTAINER CLOSING APPARATUS
Walter J. Ringel and Jack M. Wheaton, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 2, 1959, Ser. No. 824,588
5 Claims. (Cl. 53—317)

1. In combination a horizontal turntable positioned with its axis disposed vertically and rotatable thereabout to advance jars while supported in normal upright positions thereon through a jar closing zone in which screw-type closure caps are applied to the jars, a vertically movable closure cap supporting and rotating chuck positioned above and advancing with each jar on the turntable, means for rotating the chuck, cam means for moving the chuck vertically toward and away from the jars comprising a cam roll for each chuck, a box cam extending about said axis and in which each cam roll is guided and by which the latter and a chuck are moved



vertically, the cam having a sloping section for lowering the advancing roll and corresponding cap chuck, said sloping section being wider vertically than adjacent portions of the cam to permit limited free vertical movement of the cam roll therein and corresponding movement of the chuck and a cap carried thereby relative to a jar being capped and means for positively bodily rotating the jars about their axes in a direction opposite that in which the closure caps are rotated during at least a part of the time a cam roll is moving downwardly along the sloping section of the box cam.

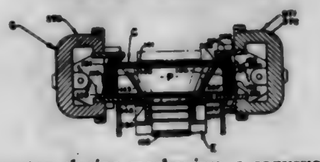
2,979,875
BOTTLE STOPPERING APPARATUS
Walter G. Kletke, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
Filed July 21, 1958, Ser. No. 749,714
10 Claims. (Cl. 53—320)



1. In apparatus for performing multiple filling and stoppering actions with respect to a plurality of successively presented containers, the combination comprising: a frame; means conveying a plurality of said containers successively into and through a plurality of stations; a plurality of vertically slidable rods supported on and by said frame and adjacent each of said respective stations, and filling means and stoppering means mounted, respectively, on said rods for filling and stoppering said

containers occupying respectively said stations; means resiliently and constantly urging said rods in a direction to move said filling means and stoppering means in one direction with respect to said containers; mechanically positive means for urging said rods in the other direction with respect to said containers at timed intervals; stop means for each of said rods for normally preventing movement of said rods in said one direction, said stop means each including an arm movably mounted on said frame adjacent each station and movable by a container thereat out of its normal position so that it permits movement of the rod with which it is associated.

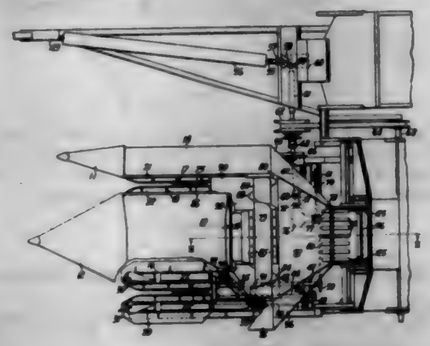
2,979,876
CARTON CLOSING MECHANISM
Robert K. Galloway, Hoopeston, Ill., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Original application Apr. 30, 1956, Ser. No. 581,402, now Patent No. 2,906,392, dated Sept. 29, 1959. Divided and this application Aug. 27, 1958, Ser. No. 757,596
2 Claims. (Cl. 53—374)



1. In a carton closing mechanism, a conveyor for conveying an erected carton along a predetermined path with the carton disposed transversely of the conveyor, said carton including flaps hingedly connected to the lower and upper panels of the carton, the flap of the lower panel having a horizontal slit therein and the flap of the upper panel having a tab adapted to enter the slit, folding means disposed adjacent said path for folding the end flaps, said folding means comprising an elongate vertical plate uniformly thin throughout its length and having upper and lower creasing edges, a lower cam plate having an upturned wing adjacent its rearmost edge adapted to fold the flap of said lower panel upward about the lower creasing edge of said plate to a position substantially normal to said lower panel, an upper cam having a downwardly turned wing at a point forwardly of said upwardly turned wing on said lower cam and adapted to fold the flap of said upper panel downward about the upper creasing edge of said plate to a position overlapping said flap of the lower panel and substantially normal to said upper panel, means on said upper cam forwardly of the downwardly turned wing thereon for retaining the upper portions of said flaps in said positions, cam means on said plate and projecting outward therefrom in position to engage said flap of the lower panel adjacent said slit for bowing the lower portions of said flaps outward to cause the slit on said lower flap to move downward beyond the lower end of said tab whereby said slit is caused to pop open as it passes the lower end of said tab, and means on said lower cam forwardly of said projecting cam means on said plate to move the lower portions of said flaps back to their positions normal to the upper and lower panels with said tab projecting through said slit.

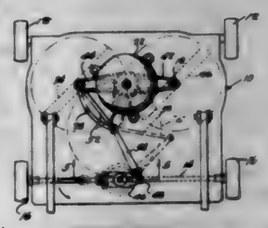
2,979,877
CORN HARVESTER AND THRESHING UNIT THEREFOR
Charles J. Scranton, La Porte, Ind., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 26, 1958, Ser. No. 757,414
4 Claims. (Cl. 56—18)

1. A corn head for mounting on a harvester thresher in lieu of its grain head, said corn head comprising a frame structure having attaching means for connection with the body structure of said harvester thresher; a housing structure mounted on said frame structure and defining a pair of transversely spaced fore and aft passageways; ear picking and conveying means mounted on transversely spaced portions of said frame structure and associated, respectively, with said passageways so as to deliver picked ears at the rear ends thereof; an auger conveyer rotatably mounted on said frame structure on a transverse axis with opposed helical vane portions disposed respectively rearward of said passageways in picked ear receiving relation thereto; a coaxial radial vane portion disposed between said helical vane portions for rota-



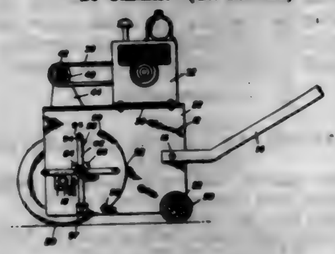
tion in unison therewith; an endless conveyer element operatively mounted on said frame structure and having a lower end portion underlying said radial vane portion and a riser section extending upwardly and rearwardly for positioning in material delivering relation to the threshing mechanism of said harvester-thresher; power transmitting means operable to rotate said auger conveyer and to move said conveying element in such directions that the vanes of said radial vane section will pass over the underlying portion of said conveying element in the direction of movement of the latter; and a shield disposed in upwardly and rearwardly extending relation above said conveying element and having a lower edge in stripping relation to said radial vane section.

2,979,878
ROTARY MOWER FOR PRODUCING SCALLOPED CUTTING EFFECT
Louis J. Kaposta, W2936 Litchfield St., Spokane, Wash.
Filed May 20, 1960, Ser. No. 30,505
5 Claims. (Cl. 56—25.4)



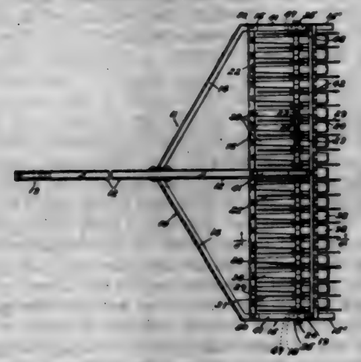
1. In a rotary mower, a frame, a wheel driven axle carried by said frame, a vertically disposed drive shaft supported in said frame, a first vertically disposed driven shaft positioned on one side of and spaced from said drive shaft and journalled in said frame, a second vertically disposed driven shaft positioned on the opposite side of and spaced from said drive shaft, means mounting said second driven shaft in said frame for back and forth movement relative to said first driven shaft, a first horizontally disposed blade connected to said first driven shaft for rotation therewith, a second horizontally disposed blade connected to said second driven shaft for rotation therewith, one of said blades being at a higher level than the other of said blades, means drivingly connecting said drive shaft to said first and second driven shafts, and means drivingly connecting said axle to said second shaft mounting means so that said second driven shaft executes its back and forth movement responsive to driven movement of said axle.

2,979,879
REEL MOWER WITH MULCHING MEANS
Joe C. Reynolds, 207 Stratford, and William M. Reynolds, 1605 Hewitt, both of Houston, Tex.
Filed June 25, 1958, Ser. No. 744,367
10 Claims. (Cl. 56—26)



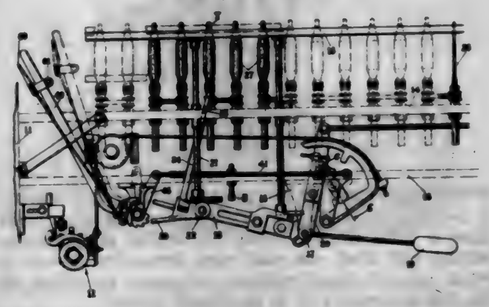
1. A lawn mower to selectively cut and mulch, said mower comprising a frame, an engine carried by said frame, a jack shaft, bearings attached to said frame and supporting said jack shaft for rotation, means drivingly connecting said engine to said jack shaft, a pair of wheels, means mounting said wheels on said frame for rotation and at least partially supporting said frame for movement over a surface that is to be moved, a reel having a reel shaft, means mounting said reel shaft for rotation on said frame, mulching means mounted on said frame, means drivingly connected with said drive shaft and said reel shaft for rotating said reel in a selected clockwise direction for cutting and in a counterclockwise direction for mulching by cooperation with said mulching means, said reel having straight blades extending lengthwise and spaced from said reel shaft, and means supporting said reel blades radially spaced from said reel shaft and parallel thereto.

2,979,880
TEDDER AND WINDROW ATTACHMENT
Arthur Raymond Cunningham, Chicago, Ill., assignor to Cunningham & Sons, Chicago, Ill., a partnership
Filed Oct. 25, 1957, Ser. No. 692,346
10 Claims. (Cl. 56—372)



1. Tedding apparatus comprising a longitudinally movable draft frame and a tedder assembly mounted on said frame, said tedder assembly having a shaft disposed transversely of the central longitudinal axis of said frame and having a plurality of tines distributed along the length of said shaft, said tines being rotatable about the axis of said shaft in an upward and rearward arc during forward movement of the apparatus, each tine having a shank projecting radially outwardly from said shaft and having at the outer end of said shank a terminal portion extending from said shank in a direction opposite the direction of intended rotation in an arc of approximately 90°.

2,979,881
BUNCH BUILDING MECHANISM
Harrison N. Thibault and Waldo H. Banks, Hopedale, Mass., assignors to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed July 13, 1959, Ser. No. 826,711
9 Claims. (Cl. 57—54)

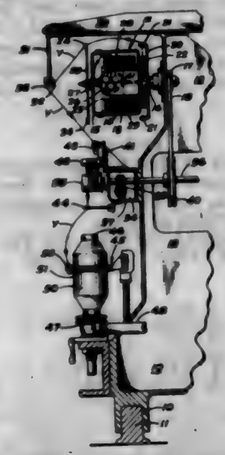


1. In a spinning frame the combination of a spindle rail, spindles and means for rotating said spindles, a second rail and means carried thereby for imparting twist to yarn and for traversing it to form a package on a bobbin carried and rotated by each of said spindles, which includes a builder motion and connections from said motion to one of said rails, and means independent of said builder motion for raising said second rail after a normal package has been formed to move that rail to a position in which it will direct the yarn into a tip bunch beyond the limits of the package and adjacent the end of the bobbin.

2,979,882
METHOD AND APPARATUS FOR STRETCHING AND TWISTING CONTINUOUS FILAMENT YARN
James E. Bromley, Pensacola, and Douglas J. Lamb, Gulf Breeze, Fla., assignors to The Chemstrand Corporation, Decatur, Ala., a corporation of Delaware
Filed July 15, 1959, Ser. No. 827,275
13 Claims. (Cl. 57—55.5)

1. Apparatus adapted for processing orientable continuous filament yarn comprising, in combination, a rotatably supported shaft having an axial passage and a radial passage therein for reception of said yarn, support means associated with said shaft and constructed to carry a package of yarn having an axial passage, means within said support means to withdraw the yarn over an end of said package and to feed said yarn axially therethrough, a rotor secured to said shaft for rotation therewith about the axis thereof, guide means associated with said rotor for defining a path of said yarn enclosing said package of yarn, means for rotating said shaft, linkage means connecting said withdrawing means and said shaft so that they are driven in timed relation, means for controlling said package of yarn, support means and withdrawing means against rotation about said shaft when said shaft is rotated, rotatably mounted yarn forwarding means

adapted to receive said yarn and to advance same at a predetermined increased rate as compared to the rate at which said yarn is withdrawn from the package whereby the yarn normally advancing between said withdrawal means and said yarn forwarding means is stretched and



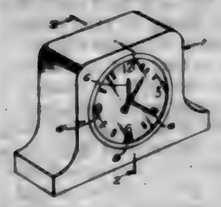
twisted simultaneously to a predetermined extent thereby to increase the molecular orientation of the yarn while same is being twisted, means for driving and interconnecting said shaft and said yarn forwarding means to rotate same in timed relation, and means for taking up the thus-processed yarn in an orderly manner.

2,979,883
COMPOSITE YARN AND PROCESS OF PRODUCING BULKED FABRIC THEREFROM
Joseph E. Waltz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 12, 1957, Ser. No. 677,590
13 Claims. (Cl. 57—140)



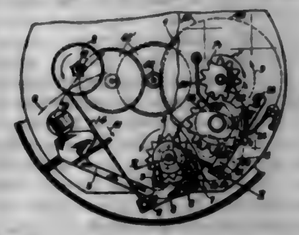
1. A composite yarn comprising a plurality of strands of at least two different species, at least one species of strand in said yarn having the property of being spontaneously and irreversibly extensible and being extensible relative to a second species of strand in said yarn.

2,979,884
MENSTRUAL CYCLE INDICATING MECHANISM
Maurice Gordon, 4523 Sunsola Ave., North Hollywood, Calif.
Filed July 14, 1958, Ser. No. 748,261
19 Claims. (Cl. 58—5)



1. In indicating mechanism of the character described: a main signalling member having signal characters thereon; means rotatably mounting said member; means providing a window through which said characters are visible; signal means; means mounting said signal means for rotation adjacent said main member; said signal means having a transparent portion through which are visible at said window during each revolution of said main member a predetermined number of said characters less than the total number on said main member; said transparent portion having an appearance such that those of the characters visible therethrough are distinguished in appearance from the other of said characters; a frictional drive connection between said main member and said signal means providing for rotation of said signal means with said main member upon rotating the latter; said drive connection permitting said main member to be rotated relative to said signal means when said signal means is held against rotation; stop means movable into and from a position for engaging said signal means and stopping movement thereof relative to said signalling member; and means for so moving said stop means.

2,979,885
AUTOMATICALLY VARIABLE ALARM FOR TIMEPIECE
René Philippe Jaccard, Geneva, Switzerland, assignor to Samuel Jack Kaufman, New York, N.Y.
Filed Dec. 26, 1956, Ser. No. 630,565
Claims priority, application Switzerland Jan. 21, 1956
4 Claims. (Cl. 58—21.12)



1. An alarm time-keeper comprising an alarm system including a train of wheels, an escape wheel extending in parallelism with the wheels of said train and controlled by the latter, a rocking hammer driven by said escape wheel and a pivot for said hammer parallel with the axis of said escape wheel, a barrel driving the train of wheels of the alarm system, a fork including a shank and tines and adapted to rock round the same pivot as the hammer to occupy selectively a first or second angular position, a locking rod pivotally secured to the shank of the fork and adapted to rock with reference thereto, a guiding member rigid with the hammer and provided with a perforation in which the locking rod is slidingly carried, a clockwork gearing controlled by the barrel and including a number of wheels, a star-shaped pinion coaxially rigid with one of the wheels of said clockwork gearing and adapted to be engaged by the outer end of the locking rod at one end of the rocking path thereof when said fork is in the first angular position, the engagement of said locking rod with said star-shaped pinion preventing further operation of the hammer, the locking rod being out of engagement with said pinion when said fork is in the second angular position, a cam system rotating in unison with the escape wheel of the alarm system and including a boss adapted to urge the tines of the fork out of the position corresponding to the second position of the fork and to make the latter enter its first position in which it urges the locking rod into the path in which the outer end of said locking rod is adapted to impinge against the star-shaped pinion, the rotation of the star-shaped pinion away from the locking rod in the direction of the torque produced by the latter releases said locking rod and consequently the hammer to allow continuation of the operation of the alarm system and of the rotation of the cam system returning the fork into its first mentioned position.

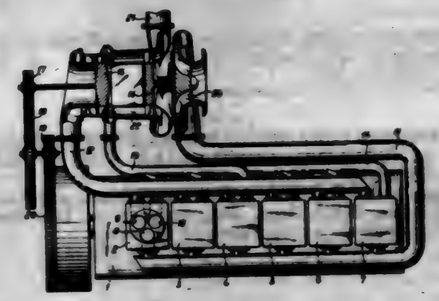
2,979,886
CHAIN LINK HAVING TWO-PIECE SPACING STUD
William E. Robbins, 13453 Moorpark St., Sherman Oaks, Calif.
Filed Jan. 27, 1958, Ser. No. 711,419
9 Claims. (Cl. 59—85)



1. In a chain link or the like providing limbs having opposed transverse bearing seats having enlargements at each end, a two section limb-sustaining abutment member, each abutment section providing load-sustaining inner and outer ends and being of a length less than the distance between said link limb-provided seats but greater than one half of said distance, a limb seat-engaging bearing at the outer end of each abutment section and providing laterally enlarged heads at each end engaging in said seat end enlargements, whereby to support said sections for independent swinging movement in the plane of said link, each abutment section providing a transversely apertured depth-reducing step portion coextensive in width therewith and extending inwardly from its inner end and terminating in a transverse load-sustaining shoulder; the step portions of said abutment sections overlapping one another with their apertures aligned and the inner ends of the respective sections in bearing engagement with the shoulder of the other section, stop means provided by the respective engaged inner ends and shoulders of said sections to limit the respective sections to swinging movement in opposite directions longitudinally of and in the plane of the link about the respective link limb-provided seats as axes, and a removable and substantially load free pin means insertable through said aligned step apertures to retain the sections assembled, whereby a functionally integral-in-service abutment structure is provided to sustain the link limbs against approach to one another when the link is subjected to extreme longitudinal loads.

2,979,887
TURBOCHARGED FOUR STROKE CYCLE FUEL INJECTION ENGINE
Friedrich Hemsle, Köln-Deilbruck, Georg Oberländer, Köln-Riehl, and Otto Elwert, Köln-Lindenthal, Germany, assignors to Klöckner-Humboldt-Deutz, Aktiengesellschaft, Köln, Germany
Filed Nov. 4, 1957, Ser. No. 694,410
Claims priority, application Germany Nov. 9, 1956
1 Claim. (Cl. 60—13)

In combination in a four stroke cycle internal combustion engine with fuel injection having a cylinder and a piston reciprocably mounted therein: a supercharging compressor, an inlet valve connected to said engine cylinder and with the compressor for receiving air under charging pressure from the compressor, a main outlet valve connected to said cylinder for releasing exhaust gas from the cylinder, a plurality of exhaust gas turbines mechanically independent of each other but arranged for the serial flow of gas therethrough and connected with said outlet valve so that the exhaust gas from the engine will flow through the turbines in series, the turbine through which the exhaust gas first passes being drivingly connected to said engine to convey energy thereto and having the flow passages therethrough for gas sufficiently small in cross section so that the pressure at the inlet side of the said turbine at full load, at which the charging pressure is highest, will be at least as high as the charging pressure, the turbine which the said exhaust gas passes through last being drivingly connected to said compressor for driving the compressor, said compressor and the said driving turbine therefore being so selected that the charg-

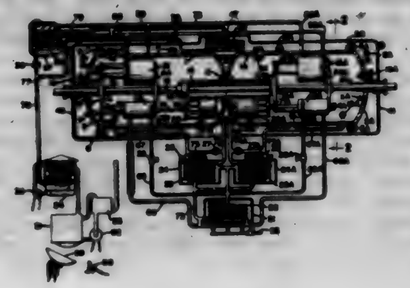


ing pressure developed by the compressor at least at full load is higher than the pressure at the inlet of the compressor driving turbine, an auxiliary outlet valve connected to the engine cylinder, said auxiliary outlet valve opening shortly after the working piston has commenced its suction stroke so that the pressure which prevails in the cylinder at the start of said suction stroke will be reduced by the movement of the working piston and by the opening of said auxiliary outlet valve, the said pressure prevailing in the cylinder being thus reduced substantially to atmospheric pressure or substantially to the pressure prevailing at the inlet of said compressor driving turbine, said pressure reduction occurring before said inlet valve commences to open, said outlet valve connecting said cylinder with the inlet side of the compressor driving turbine, and said auxiliary outlet valve closing shortly after the inlet valve of the cylinder has opened.

2,979,888
POWER GENERATING DEVICE
Herbert J. Maloney, 3020 Oak Knoll Drive, Redwood City, Calif.
Filed Jan. 9, 1956, Ser. No. 708,812
10 Claims. (Cl. 60—23)

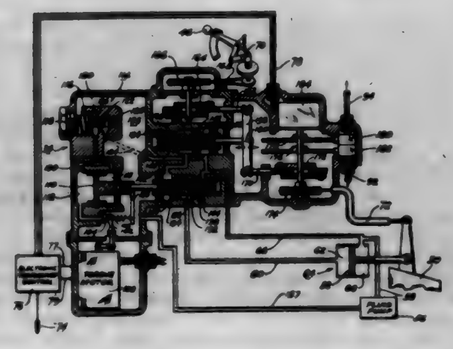
1. A power generating device comprising: a body forming two adjacent chambers; a cylindrical member intercommunicating with said chambers; a piston slidably mounted within said cylindrical member; a shaft connected to said piston and extending exteriorly of said body; fluid sealing means forming a completely liquid tight seal for said chambers; and heat exchanger means in each said chamber operably connected to said shaft to operate alternately inversely of each other; said heat exchanger means having a cooling member to reduce the temperature within said chambers to a point substantially below 0° C. and heat means to raise the temperature within said chambers to a point below 0° C. and above the temperature effected by said cooling member for actuating said piston; said heat exchanger means relatively synchronized so as to always create fluid force

in each chamber against the cylindrical member of sufficient intensity to prevent the expansion of the area



within the opposite chamber to the area sufficient to allow freezing of water therein.

2,979,889
TEMPERATURE-MODIFIED EXHAUST NOZZLE SCHEDULING CONTROLLER FOR A GAS TURBINE ENGINE
James E. Hurtle, James Middleton Eastman, and Asa N. Kitchen, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 18, 1956, Ser. No. 610,611
4 Claims. (Cl. 60—35.6)

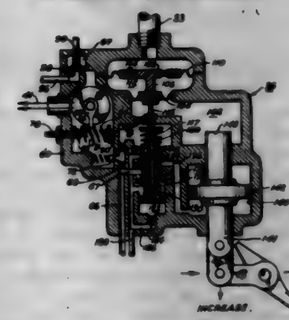


1. In a control system for an engine having a variable area exhaust nozzle and a source of control fluid, the combination of an engine control member having a variable position, a nozzle control device responsive in position to a fluid pressure for varying said exhaust nozzle area, conduit means connected between said source of control fluid and said nozzle control device for supplying a fluid pressure to said nozzle control device, a temperature responsive device responsive to an operating temperature of said engine, and first and second control valve members in said conduit means and operative to vary the presure of fluid transmitted to said nozzle control device, one of said first and second control valve members having a first fluid controlling port in parallel and a second fluid controlling port in series with the other of said first and second control valve members, said first control valve member being operably connected to said temperature responsive device for controlling the pressure of the fluid to said control device as a function of said operating temperature, said second control valve member being operatively connected to said engine control member for controlling the pressure of fluid to said control device as a function of the position of said engine control member.

2,979,890
RESIDUAL FUELS
Albert G. Bocchini, Springdale, and Charles E. Trautman, Cheswick, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 10, 1957, Ser. No. 701,847
5 Claims. (Cl. 60—35.6)

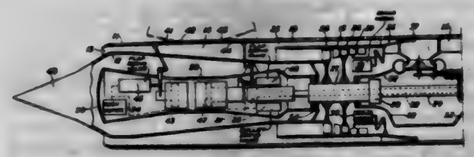
5. In a gas turbine plant in which a fuel oil containing vanadium is burned and which includes heat resistant metallic parts exposed to hot combustion gases and liable to be corroded by the corrosive vanadium-containing ash resulting from the combustion of said oil, the method of reducing said corrosion which comprises introducing into said plant upstream of said parts an amount of an alkali metal tungstate sufficient to yield from about 3 to about 6 atom weights of tungsten per atom weight of vanadium in said fuel oil.

2,979,891
THRUST CONTROL APPARATUS FOR LIQUID PROPELLANT ROCKET ENGINES
George M. Widell, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 31, 1958, Ser. No. 725,394
10 Claims. (Cl. 60—35.6)



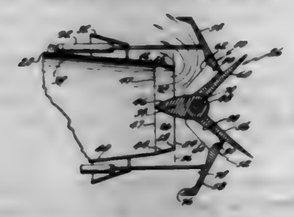
1. In a control apparatus for a liquid propellant rocket engine having a thrust chamber, said apparatus including a metering valve for controlling the supply of liquid propellant to said rocket engine, piston means operatively connected to said valve means to control propellant flow as a function of the position of said piston means, servo valve means operatively connected to said piston means to control the movement of said piston means, first diaphragm means operatively connected to said servo valve means to control the position of said servo valve means as a function of the position of said first diaphragm means, thrust chamber pressure request means operatively connected to said first diaphragm means, engine pressure responsive means responsive to actual engine thrust chamber pressure operatively connected to said first diaphragm means, said thrust request and said engine pressure responsive means acting in opposition on said first diaphragm means to position said first diaphragm means as a function of error between actual and desired engine thrust chamber pressure, second diaphragm means operatively connected to said engine pressure responsive means, said second diaphragm means containing a restrictive orifice operable to establish a pressure differential across said second diaphragm that is a function of the rate of change of actual engine thrust chamber pressure, said second diaphragm means being operatively connected to said first diaphragm means to bias said first diaphragm means to tend to prevent thrust chamber pressure overshoot during engine acceleration and deceleration, and rate feedback means operatively connected to said piston means and said first diaphragm means to limit the rate of said piston movement as a function of said thrust chamber pressure error.

2,979,892
ROCKET-TURBO ENGINE CONVERTIBLE TO A RAMJET ENGINE
Reginald H. D. Chamberlin, Ronald E. Morris, Alan L. Davies, and Alan L. R. Fletcher, all of London, England, assignors to D. Napier & Son Limited, London, England, a British company
Filed June 13, 1958, Ser. No. 741,937
Claims priority, application Great Britain July 3, 1957
3 Claims. (Cl. 60—35.6)



1. A jet propulsion engine of the compounded ram jet turbo rocket type including a main combustion chamber, an unimpeded exhaust duct communicating therewith and with a propulsive exhaust nozzle, a compressor arranged to supply air to said chamber and means for supplying to be burnt with the air in the chamber, said compression including rings of stator blades, a rocket engine, and a turbine driven by the rocket exhaust, the turbine being coupled to the compressor through a unidirectional clutch constituting the sole driving connection between the turbine and the compressor and arranged to allow the compressor rotor to freewheel or windmill when the turbine is stationary and the unit is functioning as a ram jet engine.

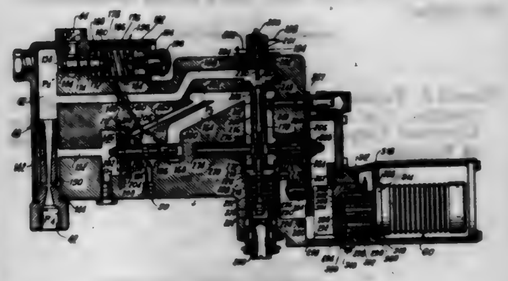
2,979,893
THRUST REVERSER
Robert E. Meyer, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 2, 1958, Ser. No. 725,932
9 Claims. (Cl. 60—35.54)



1. An exhaust gas discharge duct terminating in an exhaust outlet defining the exit opening thereof and having two opposed straight sides, a thrust reverser unit comprising substantially Z-shaped plate structures extending across said outlet and parallel to said straight sides and positioned to pivot about a line substantially midway between said straight sides and being pivotable and so shaped to form an airfoil shaped structure in said outlet and also being pivotable and so shaped to form a solid, flow blocking structure of W-shaped cross-section adjacent said outlet and shaped to block and reverse all exhaust gas passing through said outlet.

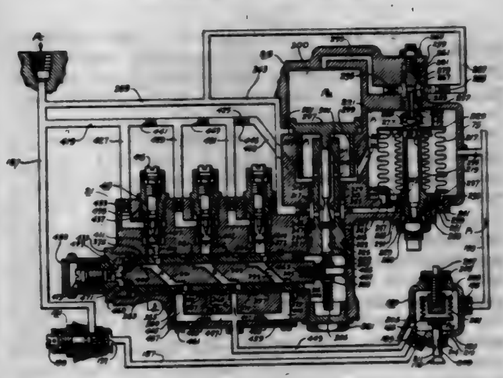
2,979,894
FUEL FEED AND POWER CONTROL SYSTEM FOR GAS TURBINE ENGINES HAVING A PROPORTIONAL BY-PASS FLUID CONTROL
Harry C. Zeisloft, Rochester, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 15, 1954, Ser. No. 410,121
13 Claims. (Cl. 60—39.28)

1. In a fuel feed and power control system for a gas turbine engine, a fuel conduit for delivering fuel under pressure to the engine, means associated with said conduit including valve means for withdrawing a substantially constant percentage of the fuel from said conduit at any given position of said valve means irrespective of the quantity of fuel flowing through said conduit, and means operatively connected to said valve means for controlling the position thereof including turbine temperature responsive means, a pilot's power control lever,



turbine temperature reference means operatively connected to said control lever, and electrical means operatively connected to said valve means, to said turbine temperature reference means and to said turbine temperature responsive means for controlling the position of said valve means in such a manner that actual turbine temperature is maintained substantially equal to the scheduled turbine temperature reference during operation of the engine.

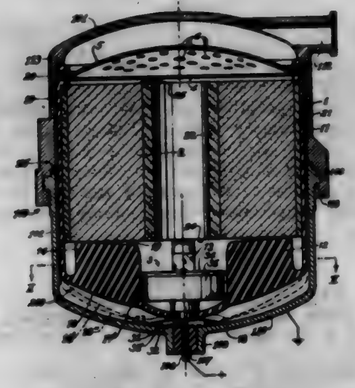
2,979,895
PRESSURE RATIO COMPUTER
Elmer A. Haase and Wayne E. Wertz, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Mar. 29, 1956, Ser. No. 574,691
14 Claims. (Cl. 60—39.28)



1. In a fuel control for gas turbine engines having a burner and a compressor, means for metering fuel to the burner comprising a fuel valve for controlling fuel to the burner, a chamber, means for continuously supplying a modulated fluid pressure to said chamber which varies as a predetermined function of engine power output over the operating range of the engine, means responsive to the fluid pressure in said chamber operably connected to said fuel valve for controlling the operation thereof, means for measuring the compressor pressure ratio, a plurality of passages connecting a source of fluid pressure with said chamber, and valve means disposed

in said passages for controlling flow therethrough, said valve means being operably connected to said compressor pressure ratio measuring means and actuated as a function of compressor pressure ratio, said valve means having a different position for each compressor pressure ratio and being operative to vary the effective flow area of each of said passages over a different range of compressor pressure ratios to thereby provide a controlled modification of said modulated fluid pressure at predetermined compressor pressure ratios during acceleration of the engine.

2,979,896
POWER UNIT
Harold E. Perkins, Jr., Herndon, Conn., and Donald W. Hankins, East Alton, Ill., assignors to Olin Mathieson Chemical Corporation, East Alton, Ill., a corporation of Virginia
Filed Feb. 4, 1958, Ser. No. 713,268
7 Claims. (Cl. 60—39.47)



1. For a gas generating reaction in a rigid cylindrical breech mechanism having a discharge port and at least one fixed contact electrode passing through an end wall thereof and having a joint at which said mechanism may be opened and closed circumferentially intermediate the ends of the cylindrical wall; an electrically ignitable gas generating assembly comprising a cylindrical cartridge case closed at one end by a dome-shaped wall integral with the case, said case being formed of heat resistant elastomeric material pliant over a temperature range from about —75° F. to about 500° F. with a hardness corresponding to a Shore Durometer number from about A45 to about A70, and containing a slow burning propellent composition, said case carrying ignition means and being provided at the dome-shaped end with an external contact passing through said end for connection with said breech mechanism electrode, said case being receivable in said breech mechanism with clearance space, the other end of the case being spanned and closed by a refractory foraminous port means for discharging at high pressure the gases evolved on reaction of said ignited composition and by port closure means rupturable at a predetermined minimal pressure at and above which the burning of the propellent composition is self-sustaining and the cylindrical wall of said case is distended to span said clearance space thereby placing the case firmly into sealing contact with respect to said joint and electrode during said gas evolution, and the contact bearing end of said case normally protruding the most at said contact and a sufficient distance to place said contact in connection resiliently with said fixed electrode.

2,979,897
ULLAGE COMPENSATORS FOR PRESSURIZING SYSTEMS
Walter R. Stoffhaller, Anaheim, Lowell M. Miller, Lakewood, and Weldon O. Bergren, Altadena, Calif., assignors to North American Aviation, Inc.
Filed Apr. 26, 1954, Ser. No. 425,598
7 Claims. (Cl. 60—39.48)



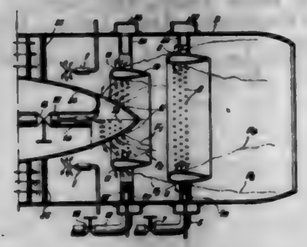
1. In combination, a liquid propellent rocket having a normally sealed, propellent tank, a combustion chamber and injector means to inject propellant from said tank to said chamber; and means for effecting the rapid pressurization of propellant within said tank comprising a sealed, expansible flexible wall ullage container contiguous to said tank, the exterior of said expansible container being in communication with the interior of said tank, a confined compressible gas medium having a vapor pressure greater than the pressure of the propellant in said tank within said container, means including constant bleed flow restricting means between the interior of said tank and the exterior of said ullage container allowing for expansion and contraction of the propellant within the tank with simultaneous compensating contraction and expansion of said ullage container before actuation of said rocket, and pressurizing means adapted to act directly on the propellant to expel the propellant from the tank through said injector means to said combustion chamber.

2,979,898
HOODED CROSSOVER TUBE
Leslie A. Ward, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 25, 1958, Ser. No. 730,914
1 Claim. (Cl. 60—39.66)



In a burner unit, a combustion zone enveloping sheet metal shell, means to pass cooling fluid over the outer periphery of said shell to establish a direction of cooling fluid flow, a substantially cylindrical hollow tube having a downstream surface and projecting externally from the outer periphery of said shell and communicating with said combustion zone, at least one aperture extending through said shell and located a relatively short distance downstream of said tube in alignment therewith in said direction of cooling fluid flow therefrom, and a solid sheet metal hood having a periphery including a forward end which has a width substantially greater than said distance between said tube and said aperture and which also has a centrally located, substantially semi-circular recess therein and with the remainder of said forward end extending symmetrically beyond said recess and the remainder of said periphery including an after end which is narrower than said forward end and two sides converging from said forward to said after end, means to attach said remainder of said hood periphery to the exterior of said shell and with said hood spaced in relation thereto a distance substantially less than said distance between said tube and said aperture symmetrically so that said recess encircles the downstream surface of said cylindrical tube while said remainder of said hood forward end extends symmetrically and laterally on opposite sides of said tube to define a continuous inlet slot with said shell and so that the remainder of said hood periphery is in sealing engagement with said shell exterior with said hood after end extending immediately beyond said aperture so that said hood defines a shallow cooling air passage with said said shell exterior having a continuous slot inlet symmetric about and extending laterally on each side of said tube and which then converges symmetrically from said inlet to said aperture so that the cooling air intercepted by said inlet is caused to pass at high velocity over the downstream surface of said hollow tube and said shell outer periphery immediately adjacent said hollow tube and then through said aperture into said shell.

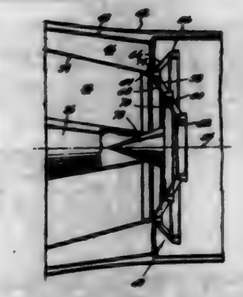
2,979,899
FLAME SPREADING DEVICE FOR COMBUSTION EQUIPMENTS
Benjamin Salmon, Suresnes, and Jean H. Berlin, Neuilly-sur-Seine, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a French company
Filed May 3, 1954, Ser. No. 427,114
Claims priority, application France June 27, 1953
5 Claims. (Cl. 60—39.72)



1. In the combustion equipment of a jet population unit, a combustion chamber traversed by a flow of gas, means for injecting fuel into said flow, a flame-holder for stabilizing a flame produced by the combustion of said fuel in said flow, said flame originating at said flame-holder and extending downstream thereof in said flow, and a flame spreading device comprising a multiplicity of elemental nozzles at a distance downstream of said flame-holder, circumferentially spaced from each other and opening within said stabilized flame in a direction pointing towards the exterior of said flame and making a substantial upstream angle with the direction of said flow, each said nozzle having a dimension transverse to said flow which is not larger than its dimension parallel to the flow to produce, when supplied with pressure fluid, transverse jets issuing therefrom with such a cross-sectional outline as to minimize wake formation in and resistance to said flow, said jets originating in the inside of said stabilized flame and projecting outside the same, whereby said stabilized flame is urged transversely of the direction of said flow and therefore spreads out in said combustion chamber.

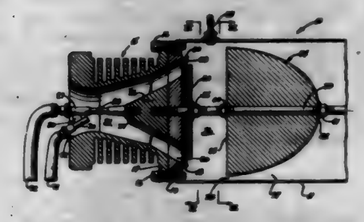
2,979,900
DUCTED FAN FLAMEHOLDER
Philip S. Hopper, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 12, 1957, Ser. No. 695,579
6 Claims. (Cl. 60—39.72)

1. Combustion supporting mechanism comprising two coaxial ducts of circular cross-section defining two gas passages, means to pass heated gas through the gas passage defined by the inner of said ducts, means to pass cold gas through the gas passage formed between said ducts, a flameholder unit of generally circular form having a ring flange attached directly to the downstream end of said inner duct so that said flameholder unit is supported solely by said inner duct, said flameholder unit having a first flameholder ring of trough shaped cross section and opening in a downstream direction positioned directly and immediately downstream of said inner duct to intercept both said heated gas and said cold gas and form a relatively stagnant combustion zone downstream thereof and further having a flameholder ring of trough shaped cross section and opening



in a downstream direction positioned one in each of said gas passages and each being spaced axially from said first flameholder ring and further having a radially extending and axially inclined flamespreader of trough shaped cross section and opening in a downstream direction joining said first flameholder ring to the others of said flameholder rings, and means to permit relative expansion between said inner duct and said flameholder unit.

2,979,901
PULSE JET ENGINE
Russell R. Curtis, Indianapolis, Ind., assignor to Curtis Automotive Devices, Inc., Westfield, Ind., a corporation of Ohio
Filed Sept. 2, 1958, Ser. No. 758,246
5 Claims. (Cl. 60—39.77)

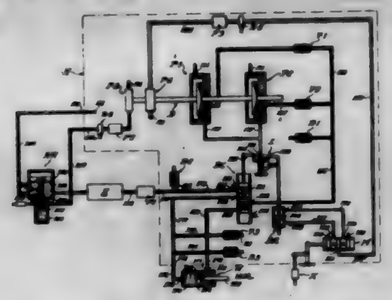


1. A pulse jet engine comprising, a combustion chamber and a valve assembly carried at one end defining a plurality of inlet ports, a valve member provided with a backstop and having portions overlying said ports, baffle means axially spaced from the valve member and backstop and spaced radially inwardly of the combustion chamber walls to prevent overheating of the valve member, and ignition means in said combustion chamber between said backstop and said baffle means for initially igniting an engine starting mixture, said baffle means promoting starting by providing a collection zone for said mixture.

2,979,902
JET ENGINE NOZZLE AREA CONTROL SYSTEM
Fred C. Haberland, Cleveland, and Eugene A. Moore, Bedford Heights, Ohio, assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 19, 1957, Ser. No. 641,196
3 Claims. (Cl. 60—52)

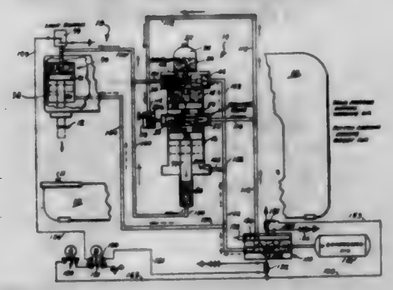
1. In a fluid control system, the combination of fluid pressure means including at least a first and a second

pumping means, said second pumping means having a variable displacement, an actuator means including a movable piston means, first valve means for allowing a flow of fluid from said first fluid pumping means to said actuator means so as to act on said piston means and cause movement thereof, a movable control piston means, second valve means operatively connected to said actuator



means for allowing a flow of fluid from said second pumping means to said control piston means, and means to vary the displacement of said second pumping means, said last-named means including means operated by said actuator means and being so constructed and arranged as to allow said second pumping means to pass through a preselected low displacement condition upon said actuator means being moved to its opposite extremes.

2,979,983
AIR-HYDRAULIC APPARATUS
Leonard R. Beck, Villa Park, Ill., assignor to Studebaker Hydraulic Products Company, Melrose Park, Ill., a corporation of Illinois
Filed June 21, 1957, Ser. No. 667,212
8 Claims. (Cl. 60—54.5)



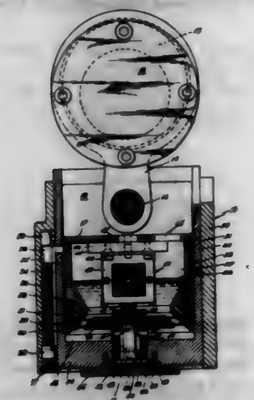
1. Air-hydraulic pressure booster apparatus for use with an hydraulic utilization line to be pressurized comprising: piston means including at least a low-pressure piston and a high-pressure piston and cylinder means in which the same work under air pressure acting in corresponding air chambers on one side of each piston, low-pressure working liquid being displaced into said line from the opposite side of said low-pressure piston, the chamber on the opposite side of the high-pressure piston being a return-air chamber; force-multiplying piston means situated on the opposite side of the high-pressure piston and actuated thereby for displacing working liquid into said line at substantially higher pressure than said low-pressure liquid; normally closed pilot valve means interposed in the working liquid-displacement path between said low-pressure piston and said line and acting responsive to displacement of the low-pressure piston means to admit said liquid into said line until a predetermined working back pressure is reached therein and thereupon to close against said back pressure; and sequence valve means connected with said air pressure and having two operating conditions in the first of which said air pressure is connected thereby with the air chamber of the low-pressure piston, and in the second of which said air pressure is connected thereby to the air chamber of the high-pressure piston, said sequence valve means including means responsive to back pressure of a predetermined degree and sensed thereby in said air pressure reflected by said low-pressure piston for actuating the valve from the first to the second condition automatically to admit said air pressure to said high-pressure piston to pressurize said line further when said degree of back pressure is reached, together with selective control valve means connected for operation to start and stop application of air pressure to the sequence valve means, or to selectively admit said air pressure to said return chamber and said pilot valve means to restore the piston means and working liquid to a predetermined, substantially zero-pressure starting condition.

2,979,984
BOOSTER DEVICE FOR OPERATING WELL TOOLS
Thurber W. Reyer, Arcadia, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Apr. 27, 1959, Ser. No. 809,256
16 Claims. (Cl. 60—54.5)



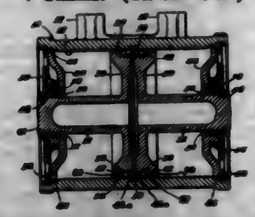
1. An operating device for tools functioning under hydrostatic pressure, comprising: a cylinder open at one end to the hydrostatic pressure; a free piston working in said cylinder; a wall closing the opposite end of said cylinder, the space between said wall and free piston constituting a reservoir for fluid pressurized by said hydrostatic pressure; said wall having a passage leading fluid out of said reservoir; valve means effective to initially close said passage; means for moving said valve to open said passage; a compound diameter cylinder having a plurality of sections each of progressively less diameter than the preceding section, the compound cylinder having a maximum diameter less than that of the free piston; a piston displaced by fluid from said reservoir and having a piston rod permanently secured thereto and extending into said compound diameter cylinder; a composite piston mounted on said piston rod and working in said compound diameter cylinder, said composite piston having coaxially nested elements the outermost of which works in the section of greatest diameter, and the innermost of which works in the section of least diameter of said compound diameter cylinder; automatically releasable means initially holding said composite piston elements in alignment; and conduit means adapted to connect the tool to be operated to the cylinder of least diameter of said compound diameter cylinder.

2,979,985
PRESS CLUTCH
Arthur K. Schott, Kenmore, and Charles E. Wilson, Tonawanda, N.Y., assignors to Housaille Industries Inc., Buffalo, N.Y., a corporation of Michigan
Filed July 6, 1959, Ser. No. 825,824
14 Claims. (Cl. 60—54.5)



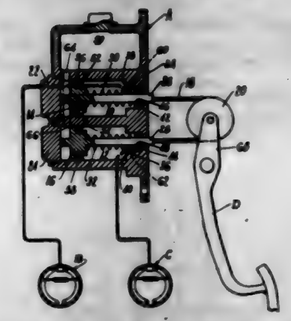
5. A clutch comprising a reciprocable cylinder and a piston reciprocable therein, said piston being hollow and having a chamber therein confronting and communicating with the interior of said cylinder, said piston having a valve seat at its inner end, a valve adapted to seat on said valve seat thereby to seal off said chamber from the interior of said cylinder and to entrap liquid between said piston and cylinder whereby said piston will drive said cylinder through the entrapped liquid, said valve being mounted on said cylinder for movement coaxially thereof toward and away from its seat, means carried by said piston for moving said valve from its seat to open position, said valve being constantly urged away from said seat, and means carried by said cylinder for limiting the movement of the valve in both directions whereby the outer limit of movement of the valve is spaced inward of the outer limit of movement of the piston, and whereby the inner limit of movement of the valve is spaced inward of the inner limit of movement of the piston so that when said valve is in open position said piston may reciprocate in said cylinder without transmitting motion to said cylinder.

2,979,986
BRAKE CYLINDER
George A. Lindstrom, Griffith, Ind., assignor to American Steel Foundries, Chicago, Ill., a corporation of New Jersey
Filed Apr. 25, 1958, Ser. No. 730,833
7 Claims. (Cl. 60—54.6)



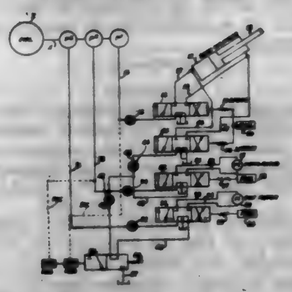
1. In a fluid actuated duplex power cylinder device, the combination of: a cylinder open at opposite ends; a pair of opposed pistons disposed for reciprocating movement within the cylinder and having piston rods extending outwardly in opposite directions from each other; a removable stop member releasably disposed entirely within the cylinder between the pistons for limiting movement of the pistons toward each other; a pair of removable end closure members releasably disposed within the cylinder at opposite ends thereof for closing their related ends of the cylinder and for receiving and guiding the rods of their related pistons through their entire stroke to maintain them in axial alignment with each other at all times; and means for introducing pressure fluid into said cylinder between said pistons.

2,979,987
DOUBLE BARREL MASTER CYLINDER AND ACTUATING MECHANISM
Earl R. Price, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 26, 1959, Ser. No. 848,668
5 Claims. (Cl. 60—54.6)



1. A double barrel master cylinder and actuating mechanism comprising: a pair of horizontally extending master cylinders positioned vertically with respect to each other, a pair of pistons, each of which are positioned in a respective one of said cylinders and are arranged to be pulled forwardly to displace fluid from their respective chambers, a vertical lever positioned forwardly of said cylinders and pinned intermediate its ends at a point generally below the lower one of said cylinders, a pulley rotatably mounted on the upper end of said lever, a cable stretched over said pulley with its ends attached to respective ones of said pistons, and stop means for respective pistons limiting their forward movement, and whereby rearwardly directed force applied to the bottom of said lever moves both pistons with equal force until one bottoms out after which continued movement of the lever continues to actuate the other of said pistons.

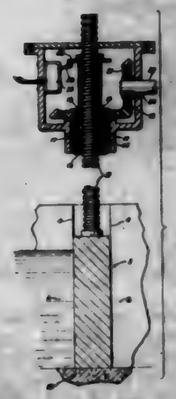
2,979,988
HYDRAULIC CONTROL SYSTEMS
William M. Skook, New Philadelphia, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 4, 1960, Ser. No. 133
11 Claims. (Cl. 60—97)



1. In a hydraulic system, a plurality of sources of pressure fluid, a plurality of fluid actuated devices each so-

tuated from a seperate one of said sources, first means actuatable automatically to direct fluid to one of said devices from a source other than the source for said one of said devices when the pressure of the source for said one of said devices decreases to a preselected value, and second means effective to prevent the direction of fluid from said first means to said one of said devices when said other source is supplying fluid to its fluid actuated device.

2,979,909
SLUICE GATE
Stanley Broadbent, Metchosin, British Columbia, Canada, assignor to Yarrows Limited, Victoria, British Columbia, Canada
Filed Jan. 2, 1959, Ser. No. 784,909
1 Claim. (Cl. 61—28)



A sluice gate and control therefor comprising: a sluice gate; at least one shank having a threaded portion attached to and extending upwardly from a sluice gate; a body threaded to said shank adapted to support the weight of the shank and sluice gate; first means for limiting downward movement of said body at a predetermined level, said means being adapted to support said body, shank, and sluice gate; said body being arranged to rest on said support when supporting the weight of said shank and sluice gate; second means, keyed to and vertically slidable relative to said body for rotating said body in either direction, whereby said body rotating in one direction will raise said sluice gate while supported by said first means and said body rotating in the other direction will, while supporting said sluice gate, lower said sluice gate under gravity, said body being movable upwardly relative to said level and support, whereby interference with the downward motion of said sluice gate while said body is being rotated in said other direction will cause said body to move upwardly on said shank relative to said level, third means for stopping the operation of said second means on a predetermined amount of such upward movement.

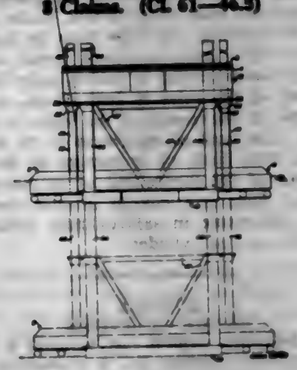
2,979,910
OFFSHORE PLATFORM STRUCTURE AND METHOD OF ERECTING SAME
Wilfred S. Crake, Houston, Tex., assignor to Shell Oil Company, a corporation of Delaware
Filed June 6, 1955, Ser. No. 513,213
2 Claims. (Cl. 61—46)

1. The method of erecting an offshore platform structure for drilling oil and gas wells on the ocean floor at offshore locations, said method comprising transporting to an offshore location a complete platform substructure having a plurality of vertical tubular members connected together by cross-bracing members secured to and buoyantly supported by detachable barge means, lowering said substructure from said barge means to the ocean floor, anchoring the sub-structure to the ocean floor by driving open-ended tubular piles coaxially through the tubular members of said substructure, sealing the piles in a fluid-tight manner intermediate the ends thereof to form a piston chamber near the top thereof to contain a piston of a



hydraulic lift means, installing hydraulic lift means in said chamber of said piles, floating a complete shallow water drilling barge through the open portion of the top of said substructure to a position wherein a portion of said barge projects above said lift means, transferring the barge from buoyant support in said water to direct support on said lift means and substructure, and raising the barge above the wave action at said offshore location.

2,979,911
OFFSHORE EQUIPMENT SUPPORTS AND METHODS OF OPERATING SAME
John R. Sutton, 1133–1189 Calder Ave., Beaumont, Tex.
Filed Apr. 13, 1956, Ser. No. 578,021
8 Claims. (Cl. 61—46.5)



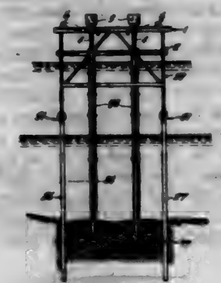
1. A structure for supporting equipment at an offshore location in a body of water comprising an upper barge unit having a buoyancy which is controllable over a sufficient range to cause said upper barge unit to float or sink as desired, lower barge means below said upper barge unit and having a buoyancy which is controllable over a sufficient range to cause said lower barge means to float or sink as desired, an equipment platform above the level of the waves to be expected at said location and above said upper barge unit, a first group of substantially vertical support columns fixed to said upper barge unit and connected to said platform for vertical movement relative thereto, a second group of substantially vertical support columns fixed to said lower barge means and connected to said platform for vertical movement relative thereto, the columns of said second group being spaced laterally away from the columns of said first group, means fixed on certain of said columns of each of said groups for receiving the weight of said platform whereby said platform may be supported in part by each of said groups of columns or completely by either one of said groups of columns, and means for releasably fixing each of said columns against movement relative to said platform so that after vertical movement of a column said platform may be supported thereby.

2,979,912
PILE AND PILE DRIVING APPARATUS
Howard F. Cantell, Arlington Heights, Ill. (Rte. 2, Box 222, Lutz, Fla.)
Filed Dec. 24, 1956, Ser. No. 630,302
7 Claims. (Cl. 61—53.72)



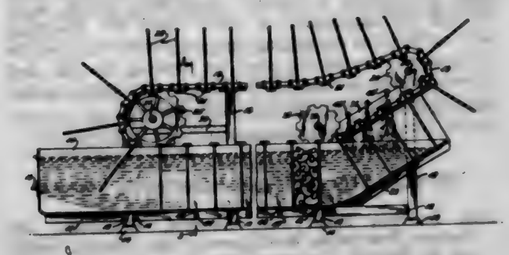
1. In pile apparatus of the class described, the combination of a relatively thin wall cylindrical pile shell of substantially uniform diameter for the major portion of its length, a substantially cylindrical driving core freely reciprocable throughout the length of said cylindrical pile shell, said driving core having an outside diameter almost equal to the inside diameter of said pile shell, a driving head carried at the lower end of said driving core having a downwardly and inwardly tapered wedging surface and formed with a downwardly facing driving surface below said wedging surface, a driving point at the lower end of said pile shell including an end head formed with an upwardly facing driven surface adapted to receive driving blows from the downwardly facing driving surface of said core in the pile driving operation, said end head also establishing a lower end closure closing off the bottom end of said pile shell, said driving point being of thicker metal than said pile shell and comprising a circularly arranged series of upwardly projecting expansible fingers each having an inwardly extending pressure bead at its upper end, said expansible fingers extending upwardly within the lower end of the pile shell, said lower end of the pile shell and said expansible fingers being expanded outwardly into a corresponding conical formation by the swaging action of the tapered wedging surface on said driving head being forced downwardly against the ring of pressure beads in a swaging operation so as to rigidly join said driving point to the lower end of said pile shell before starting to drive the shell into the ground, said tapered wedging surface having an upper maximum diameter which is substantially larger than the internal diameter of said ring of pressure beads, said upper maximum diameter having a vertical spacing above said downwardly facing driving surface on said core which is substantially equal to or slightly less than the vertical spacing of said ring of pressure beads above said upwardly facing driven surface within said point, whereby said tapered wedging surface will complete the outward swaging of said expansion fingers before said driving surface engages said driven surface to start the downward driving of the pile shell, the conical formation assumed by said expansible fingers constituting a tension transmitting driving taper and the conical formation assumed by said shell constituting a tension transmitting driven taper, through the engagement of which tapers the downward driving blows on the driving core are transmitted from the driving head to the pile shell for drawing the pile shell down into the ground under downwardly acting tension applied to the lower end of the pile shell.

2,979,913
DEVICES FOR CASTING CONCRETE UNDER WATER
Jean Bouvier, Paris, Paul Bouffet, Wimereux, and Jacques Bourgoin, Boulogne-sur-Mer, France, assignors to Société Anonyme dite: Entreprise Fougerolle pour Travaux Publics, Paris, France
Filed Dec. 7, 1954, Ser. No. 473,574
Claims priority, application France Dec. 14, 1953
6 Claims. (Cl. 61—63)



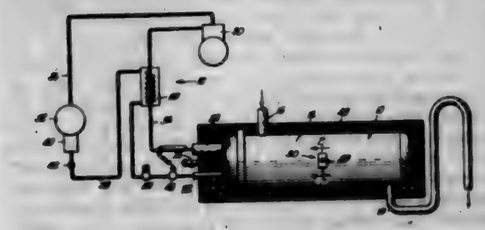
1. Apparatus for casting concrete under water in a continuous manner, comprising a stationary filling hopper to receive said concrete, a stationary spout fixed to and extending downwardly from said hopper, a pipe extending downwardly from said spout and comprising a plurality of sections removably secured together in end-to-end relation, each of said sections being split along a diametral plane and comprising a pair of shells removably secured together in a fluidtight manner, the uppermost of said sections being telescopically slidable on said spout, means for raising and lowering said sections to slide them upwardly and downwardly on said spout, the length of said sections being less than the length of said spout so that when the uppermost of said sections has been slid all the way up on said spout the next adjacent section slidably engages said spout in like manner so that said uppermost section is removable by separating the shells comprising it without interrupting the flow of concrete, a plug slidably mounted in said pipe in substantially fluidtight relation, means for gradually lowering said plug, the lower edge of the lowermost section of said pipe having a notch formed therein, said plug being lowered relative to said pipe to uncover a selected and variable area of said notch to control the flow of concrete through said notch, means for sensing the level of concrete in said pipe and means responsive to said sensing means and controlling said pipe section raising and lowering means to regulate flow of concrete from said pipe as the casting proceeds and thereby maintain the concrete in said pipe at a level sufficiently higher than that of the concrete already cast to substantially balance the water pressure exerted on the cast concrete.

2,979,914
PRODUCT CHILLER
Milton W. Garland, Waynesboro, Pa., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1959, Ser. No. 863,359
10 Claims. (Cl. 62—64)



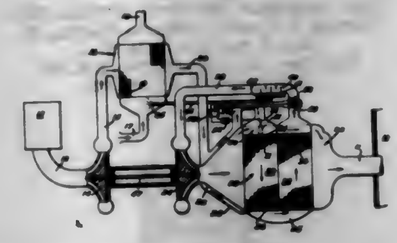
4. A product chiller comprising a relatively long narrow flume for the passage of water at a desired level therewithin and, an endless conveyor mounted with its lower run adjacent to the top of the flume and above the water level and an upper run above the lower run, said conveyor having a plurality of spaced rakes mounted transversely of the flume and of a size and configuration corresponding substantially to the cross section of the flume in order that the rakes carried on the lower run may extend into the water in the flume and thereby form a series of compartments therewithin for the reception and movement of the product to be chilled, means for introducing water into the product discharge end of the flume, and means for producing localized agitation of water within the flume, said means comprising passages providing communication with the lower portion of the flume.

2,979,915
OFF SEASON LIQUID CHILLER CONTROL DEVICE
Donald B. Gardner, Mount Prospect, Ill., assignor to Bell & Gossett Company, Morton Grove, Ill., a corporation of Illinois
Filed Jan. 9, 1957, Ser. No. 633,328
4 Claims. (Cl. 62—133)



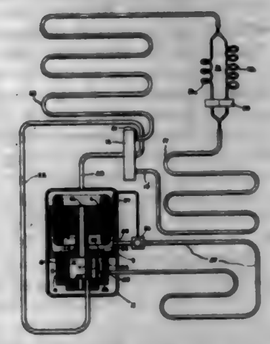
1. In apparatus of the class described, the combination of a chiller tank through which a liquid is adapted to be circulated, a refrigerating system adapted to cool said liquid including a compressor, a condenser, and an evaporator connected in series in a closed loop with a vaporizable refrigerant therein and with the evaporator being located in said chiller tank, and heating means for maintaining the temperature of the evaporator sufficiently above that of the condenser when the system is shut down and the apparatus is completely out of use for long periods of time whereby condensation of refrigerant does not take place in the evaporator while the system is shut down.

2,979,916
HUMIDITY CONTROL SYSTEM
John L. Mason, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 392,536, Nov. 17, 1953. This application Apr. 30, 1956, Ser. No. 581,997
29 Claims. (Cl. 62—172)



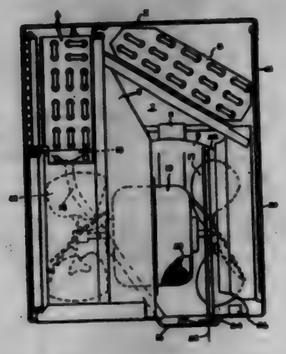
19. In an air conditioning system in combination: conditioning means for conditioning air including means for varying the temperature thereof, means for conveying air from the conditioning means to an enclosure, and means responsive to the pressure and temperature of air passing to the enclosure controlling the temperature varying means of said conditioning means prior to the cooling expansion of said air whereby to maintain a constant humidity.

2,979,917
COOLING ARRANGEMENT FOR HERMETICALLY SEALED REFRIGERANT COMPRESSOR
George L. Maugher, Anchorage, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 7, 1959, Ser. No. 857,948
2 Claims. (Cl. 62—196)



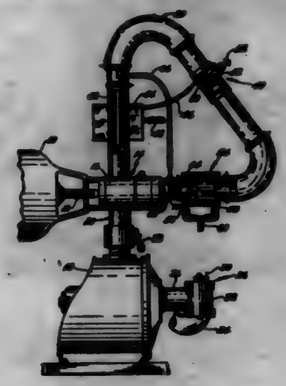
1. In a reversible refrigeration system, the combination comprising a hermetically sealed casing for containing a high pressure refrigerant gas, a compressor and a compressor motor mounted in said casing, a reversing valve, a suction line for delivering low pressure refrigerant gas from said reversing valve to said compressor, a high pressure line for delivering high pressure refrigerant gas from said casing to said reversing valve, a discharge chamber directly connected to the outlet of said compressor, a superheat removal coil having its inlet communicating with said discharge chamber and its outlet connecting with said casing thereby to cool the high pressure refrigerant gas from said compressor and to discharge said partially cooled gas into said casing to cool said compressor motor, a bypass passage connecting said discharge chamber directly with said case, valve means in said bypass passage for admitting refrigerant from said discharge chamber into said case upon a predetermined pressure differential between said discharge chamber and said case, valve means in said superheat removal coil for closing said superheat removal coil, and means in said case responsive to the temperature within said case for actuating said valve means to close said superheat removal coil when said temperature within said case falls below a predetermined temperature thereby to cause discharge gas to flow directly through said bypass passage into said case without precooling when said temperature within said case drops below said predetermined temperature.

2,979,918
ROOM AIR CONDITIONER CONDENSATE DISPOSAL ARRANGEMENT
Leonard W. Atchison, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 28, 1959, Ser. No. 862,135
3 Claims. (Cl. 62—275)



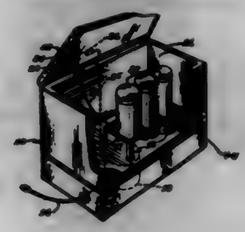
1. In an air conditioner of the type adapted to be utilized throughout the year for conditioning the air within an enclosure, the combination comprising a heat exchange apparatus including at least one fan mounted in said air conditioner for circulating a stream of outside air through said apparatus, a sump for collecting condensate water from said apparatus, said sump being positioned beneath said fan wherein said sump is exposed to outdoor temperatures which in the winter are likely to cause condensate water to freeze within said sump, an annular slinger ring attached to the periphery of said fan and rotatable therewith, said slinger ring dipping into said condensate sump for slinging water therefrom, a longitudinal heating element disposed in said condensate sump directly below said slinger ring, said heating element being arranged coextensive with that portion of said slinger ring dipping into said sump, and temperature responsive means for energizing said heater element when said temperature of said air stream flowing through said apparatus drops below 32° F. so that heat is supplied to melt ice in said condensate sump in the area immediately surrounding said slinger ring.

2,979,919
VAPOR COOLING SYSTEMS
Clyde E. Jones, 350 Lamb Drive; Henry J. Stockslager, 239 Sequoia Drive; George E. Priest, Jr., 2155 Drexel Ave.; Melvin A. Schoening, 2442 Waverly Ave.; Norman Ohlenburger, 659 W. Theo; and Ted Gieringer, 222 Drake Ave., all of San Antonio, Tex.
Filed Nov. 13, 1957, Ser. No. 696,299
2 Claims. (Cl. 62—314)
(Granted under Title 35, U.S. Code (1952), sec. 266)
1. In combination an electrical apparatus having a casing and an electrical current carrying, heat developing member and a cooling means therefor, said cooling means comprising an air filter, a blower having its inlet connected with said filter, conduit means from the outlet of said blower to said casing, valve means at the outlet of said blower, means within said conduit and downstream of said valve means for supplying water vapor



to the air traveling through said conduit from said blower, and means within said conduit and downstream of said means for supplying water vapor for trapping and removing water condensed from the air prior to the entrance of the air into said casing.

2,979,920
APPARATUS FOR SEMIFREEZING BEVERAGES
William O. Peake, 9146 Cave Creek Road, Phoenix, Ariz.
Filed May 28, 1959, Ser. No. 816,410
4 Claims. (Cl. 62—343)

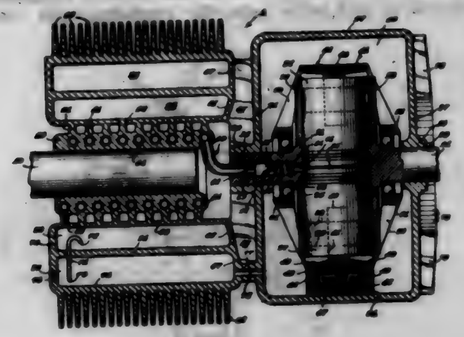


1. A portable vibratory unit for deposit in a commercial refrigerator compartment, said unit including a platform for supporting a liquid in a container above the floor of said compartment, a vibrator mounted on said unit to vibrate said platform to agitate said container and liquid, means for circulating the air within said compartment, said platform having apertures for the passage of air about said container during the semifreezing of said liquid.

2,979,921
VAPOR COMPRESSION APPARATUS
Achilles C. Sampietro, Detroit, Mich., assignor to Thompson Ramo Woolridge Inc., a corporation of Ohio
Filed Aug. 4, 1958, Ser. No. 752,901
15 Claims. (Cl. 62—428)

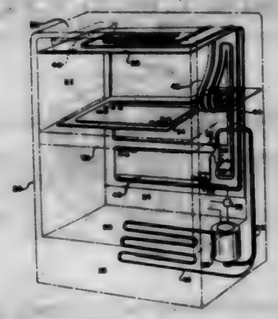
15. A heat pump unit hermetically sealed as a whole and rotatable as a whole about an axis for actuation thereof comprising, a generally cylindrical compressor housing having compressor means therein and being concentric with, and rotatable about, said axis, and a generally cylindrical condensing and evaporating, second housing concentric with, and rotatable about, said axis, said second housing being axially spaced from said compressor housing and interconnected therewith for refriger-

ant fluid recirculation, a concentric centrifugal air fan between said housings having radially extending blades



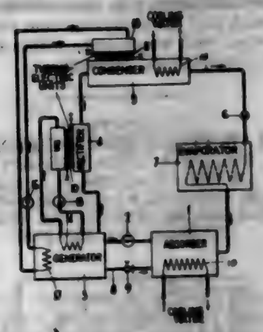
structurally interconnecting said two housings, and means to supply air to the central portion of said centrifugal fan.

2,979,922
REFRIGERATING APPARATUS
John T. De Witte and Clifford H. Wurtz, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1958, Ser. No. 745,597
6 Claims. (Cl. 62—447)



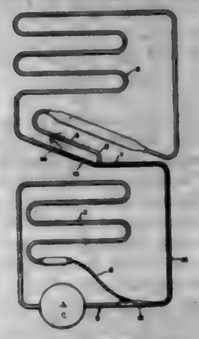
1. A household refrigerator having insulating walls enclosing two separate compartments to be cooled with an insulating wall separating the compartments, a single one-piece plate type evaporator for cooling both compartments, said evaporator having a first generally plane and generally rectangular plate section constituting the central portion and a second generally plane and generally rectangular plate section spaced from and parallel to said first section constituting one end portion and a third generally plane and generally rectangular plate section constituting the opposite end portion arranged perpendicularly to the first and second sections, said first and second sections being located in one of said compartments and said third section being located in the other compartment, said evaporator having narrow integral plate connections extending between said sections and refrigerant passages extending from said third section through said connections to and through said first and second sections and back through said connections to and through said third section, and means for supplying liquid refrigerant to and withdrawing evaporated refrigerant from said third section of said evaporator.

2,979,923
REFRIGERATING SYSTEMS
Harry Bury, Ickenham, England, assignor to The General Electric Company Limited, Kingsway, London, England
Filed Nov. 23, 1959, Ser. No. 854,899
Claims priority, application Great Britain Nov. 25, 1958
4 Claims. (Cl. 62—476)



1. In combination with a refrigerating system of the absorption type including a generator in which heat is imparted to a working refrigerant, a thermocouple assembly connected to provide hot junctions and cold junctions, and means for supplying electric current to the thermocouples of said assembly, said hot junctions being in heat exchange relation with said generator and said cold junctions being in heat exchange relation with a part of said system to which heat is rejected by the refrigerant.

2,979,924
REFRIGERATING SYSTEM COMPOSED OF DISSIMILAR METALS
Stephen Balogh, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Mar. 17, 1958, Ser. No. 722,013
2 Claims. (Cl. 62—511)



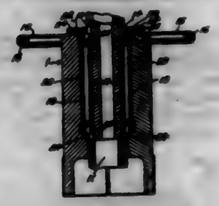
1. Refrigerant flow control means for use in a refrigerating system to connect an aluminum evaporator having tubular inlet and outlet ends to a condensing unit; said refrigerant flow conduit means comprising a copper capillary tube for conducting liquid refrigerant from said condensing unit to said evaporator and an aluminum suction conduit for returning vaporized refrigerant to said condensing unit, said suction conduit comprising a main aluminum tube having a reduced end portion adapted to extend into the inlet end of said evaporator and an aluminum side arm extending from said main tube for connection to the outlet end of said evaporator, said copper capillary extending through said main tube and having an outlet end extending through said reduced end portion for insertion into the evaporator inlet end, said reduced end portion being in close mechanical engagement with said capillary tube.

2,979,925
FLEXIBLE SHAFT COUPLINGS
Philip C. Hungerford, Jr., Cleveland Heights, Ohio, assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Apr. 30, 1959, Ser. No. 810,123
4 Claims. (Cl. 64—15)



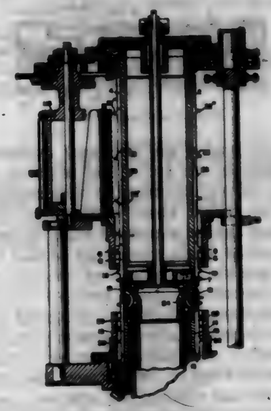
3. A universal joint coupling enabling angular flexibility between rotatable shafts having axially spaced apart drum surface portions of circular cross section and of approximately equal diameters, a coil assembly comprising at least three interwound elastic metal helical coil members bridging and preloaded against the drum surface portions of both shafts and operating strongly to hold their adjacent end portions substantially in alignment while inflexibly transmitting high torque from one to the other in one direction, the preloaded coil members being secured to one of the shafts solely by such preloading whereby to enable overrun on the drum surface of one shaft in the opposite direction, while effecting transmission of substantial torque to or through that shaft in said opposite direction and means positively securing the coil members to each other against angular relative movement of the members about the axes of the shafts.

2,979,926
SPLIT KELLY DRIVER
Leonard D. Snyder, Dallas, and Robert E. Throne, Irving, Tex., assignors to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 23, 1957, Ser. No. 704,526
6 Claims. (Cl. 64—23.6)



1. The combination with a drill rotating mechanism including a rotating member and a kelly of non-circular cross section passing through a central opening in said rotating member, of a split drive bushing adapted to fit in the opening in the rotating member for rotation with the latter, said bushing comprising cooperating hingedly connected parts which when closed together surround the kelly, means for hingedly connecting said bushing parts whereby they may be swung from open position to closed position, means for securing said bushing parts together, kelly driving elements carried by said bushing parts, said parts being shaped to receive said driving elements whereby the latter may engage and drive the kelly, and means for loosely retaining said driving elements in said bushing parts so that when said parts are swung open, upon removal from the kelly and the rotating member, said driving elements are securely retained therein to prevent dropping out of the same when the bushing is removed from the kelly and said retaining means constructed and arranged to permit limited free lateral movement of said driving elements relative to said bushing parts during rotation of the kelly, said driving elements engaging the non-circular portions of the kelly whereby said bushing may rotate the kelly as the latter moves axially through the opening in the rotating member, said free lateral movement of said driving elements adapted to compensate for any misalignment of the kelly and rotating member.

2,979,927
KNITTING MACHINE
Frank W. Wakefield, Valley Stream, N.Y., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts
Filed Oct. 2, 1956, Ser. No. 613,548
11 Claims. (Cl. 66—14)



1. A knitting machine comprising superposed cylinders, needles, sliders in both cylinders for control of needles, pattern jacks in one of said cylinders, pattern devices controlling said jacks, means for feeding yarns at two feeding stations, and cams controlling the formation of stitches at said feeding stations by needles in both cylinders, said pattern devices and cams providing means effecting movements of needles operating in the cylinder containing the pattern jacks, during the formation of one portion of fabric, to take and knit yarns at both of said feeding stations, said pattern devices and cams additionally providing means effecting movements of certain needles operating in the other cylinder, during the formation of the same portion of fabric, to take and knit yarn at one of said feeding stations but miss yarn at the other of said feeding stations, and said pattern devices and cams additionally providing means effecting movements of other needles operating in the last mentioned cylinder, during formation of the same portion of fabric, to take and knit yarn at the second mentioned feeding station but miss yarn at the first mentioned feeding station, said pattern devices effecting through said jacks selection of the needles in the last mentioned cylinder so respectively taking and knitting the yarns at the two feeding stations during the formation of said portion of fabric.

2,979,928
HIGH-STRETCH KNITTED FABRIC
Hans Segbezni, Lienenhofen, Kreis Nurtingen, Germany
Filed Sept. 6, 1957, Ser. No. 682,378
5 Claims. (Cl. 66—196)

1. A high stretch composite knitted fabric, comprising a rib fabric consisting of a bulky yarn and a fabric con-

sisting of a fine highly stretchable yarn, the two fabrics being interknit so that the second-mentioned fabric forms



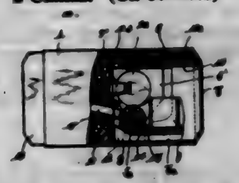
an intermediate layer between the two sides of the first-mentioned fabric.

2,979,929
LIGHTER
Kaname Ichikawa, 5 Akasaka Hinoki-cho, Minato-ku, Tokyo, Japan
Filed Mar. 3, 1959, Ser. No. 796,901
Claims priority, application Japan Mar. 24, 1958
1 Claim. (Cl. 67—7.1)



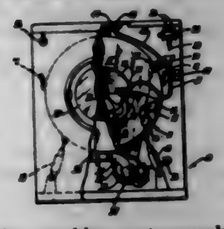
A lighter comprising an elongated cylindrical casing forming adjacent its one end a fuel reservoir and receiving at its other end a guide member of substantially square cross-section, an upper cover closing one end of said casing, a channel shaped member having an end plate, the latter being secured to the inner face of said upper cover and including legs slidably extending into said guide member, said legs having elongated parts of reduced height, rack teeth formed on each of said elongated parts of said channel shaped member, a shaft rotatably mounted across said guide member, said casing defining a window opening opposite said shaft, a wick cover mounted to turn about said shaft and closing said window opening in its inoperative position and exposing said window opening in its operative position, gear wheels secured to said shaft and engaging said rack teeth of said elongated parts and turning about said shaft, said guide member including a partition wall, a coil spring disposed between said end plate of said channel shaped member and said partition wall, an ignition file wheel turnable on said shaft, an ignition flint projecting from said casing and engaging said ignition file wheel, and a wick disposed in said casing adjacent said ignition file wheel, and means whereby upon pressing down said upper cover, said wick cover is turned to open said window opening and to expose said wick and said ignition file wheel is actuated to project sparks onto said wick.

2,979,930
LIGHTER
Kaname Ichikawa, 5 Akasaka Hinokicho, Minato-ku, Tokyo, Japan
Filed May 26, 1959, Ser. No. 815,851
Claims priority, application Japan Dec. 5, 1958
2 Claims. (Cl. 67—7.1)



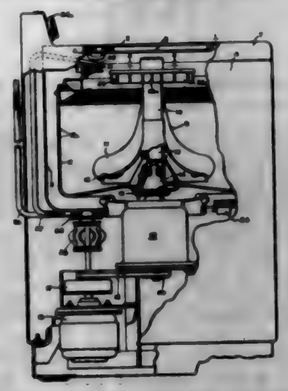
1. A lighter comprising an outer casing having side walls and an inner casing having side walls closely fitted therein, said outer and inner casings each having openings in their opposed side walls, the openings in corresponding closely fitted side walls being arranged to register with each other, a wick, means mounting said wick adjacent said openings, a wick cover having side walls, said openings adapted to be closed normally by the side walls of said wick cover, a spark producing mechanism including a rotary file wheel in said inner casing, means adapted to mount said wick cover and said rotary file wheel turnably in the inner casing, a pressure cover slidably fitted in one end of the outer casing, means operatively associated with said pressure cover, file wheel and wick cover when the pressure cover is pressed inwardly adapted to turn said file wheel and said wick cover for igniting said wick by the automatic rotation of said rotary file wheel and concurrently opening the normally closed openings, means adapted to return said pressure cover to its original position when the pressure thereon is released.

2,979,931
WASHING MACHINE WITH WASHING-AID DISPENSER
James R. Hubbard and Stanley V. Horecky, Moorestown, N.J., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 5, 1959, Ser. No. 791,365
9 Claims. (Cl. 68—12)



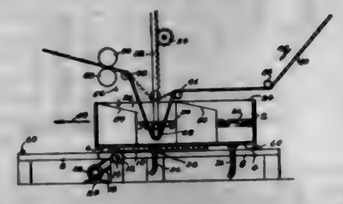
1. In a washing machine, water-supplying means including a conduit through which water flows to the machine, washing-aid storage means having a passageway terminating with an outlet end which is connected to an intermediate portion of said conduit and through which washing-aid is discharged into said conduit, and a flow interference member interposed in said conduit at said intermediate portion and adjacent said outlet to divert water from said conduit into said passageway through said outlet.

2,979,932
CLOTHES WASHER HAVING MEANS FOR PRETREATING THE CLOTHES
Philip G. Hughes, Anchorage, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 18, 1959, Ser. No. 853,819
9 Claims. (Cl. 68—18)



1. A washing machine comprising a clothes receiving receptacle having a top opening, a movable clothes washing agitator extending upwardly through said receptacle and terminating thereabove, driving means connected to said agitator and moving said agitator in a substantially horizontal plane, means secured to said agitator above said receptacle and having an exposed surface formed with washing corrugations therein, recirculating means for recirculating liquid from said receptacle onto said member, said means secured to said agitator being formed to guide the liquid flow back into said receptacle.

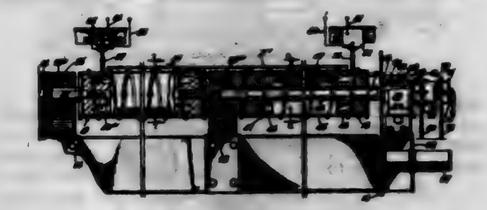
2,979,933
SYSTEM FOR TREATING A CONTINUOUSLY MOVING FLEXIBLE WEB
Joseph Gaino, Box 537, Dublin, Va.
Filed June 16, 1959, Ser. No. 820,780
2 Claims. (Cl. 68—22)



1. A system for treating a continuously moving flexible web comprising immersion roll means mounted for movement in a substantially vertical direction between a lower web treating position and a raised non-treating position, spaced rolls as the sole essential means for supporting and continuously moving a web of flexible material below said immersion means for engagement therewith whereby said web may be raised and lowered between non-treating and web-treating positions; an elongated fixed frame and a treating pan including at least two web treating compartments movable on said frame lengthwise of said webs and in an essentially horizontal plane beneath said immersion means when said means is in its raised non-treating position, each of said compartments being adapted to receive said immersion means when the latter is lowered into web treating position, said compartments being so spaced that, when one of said compartments is moved into treating position and receives said immersion means, the other compartment is free from said immersion means in non-treating position directly beneath an adjoining section of said webs, a pair of squeeze rolls disposed above said compartments between which said web passes after leaving one of said compartments to remove excess treating solution, and means on said pan and between said compartments cooperatively disposed relative to said squeeze rolls to return excess treating solution to its respective compartment, said last mentioned means comprising an inclined plate positioned along the upper edge of a transverse wall of each compartment, said plate being positioned directly below said squeeze rolls when said immersion roll means is in the respective compartment to drain excess treating fluid falling from said squeeze rolls back into the compartment.

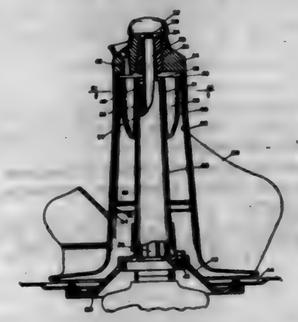
2,979,934
ALL PURPOSE CARPET DYE KETTLE
William K. Cutten, Allentown, and John McNutt, Blue Bell, Pa., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed Oct. 20, 1958, Ser. No. 768,270
5 Claims. (Cl. 68—177)

2. In liquid treating apparatus for textile fabrics, a kettle in which a pair of webs of textile fabric is adapted to be emersed, a lid for said kettle, two pairs of roller means journaled inside the kettle for moving each of said webs, a first roller of each of said pairs having a surface formed of spiral convolutions of one hand, a second roller of each pair having a surface formed of spiral convolutions of the opposite hand, a driving connection for the inner one of each of said pairs of rollers extending through the center of the outer one of each pairs of rollers, externally mounted drive means con-



nected to each of said driving connections, four edge contact members inside the kettle positioned in alignment with the edges of the webs, and electrical connections responsive to movement of the edge contact members for varying the relative speed of the external drive means to thereby control the lateral position of each web on its associated pair of rollers.

2,979,935
CENTERPOST DISPENSER
Joseph F. Olex, Cincinnati, Ohio, assignor to The Murray Corporation of America, Syracuse, N.Y., a corporation of Delaware
Filed Apr. 23, 1959, Ser. No. 808,413
5 Claims. (Cl. 68—207)

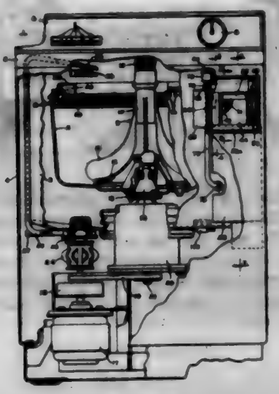


1. In a vertical axis oscillatory agitator and centrifugal extraction type washing machine, a hollow centerpost, a centrifugal extraction tub secured thereto, an angularly oscillatory agitator having a large diameter center column disposed coaxially around the centerpost, a drive shaft for said agitator extending up through said centerpost and secured to the agitator column at its upper end, an annular cup mounted on said centerpost within said agitator, and independent thereof, an inwardly extending flange secured to the inside wall of said agitator column below said cup, and port means in the upper end of said agitator disposed above said cup for filling said cup.

2,979,936
TREATING AGENT DISPENSER SYSTEM FOR WASHING MACHINES
Philip H. Houser, Louisville, and Winston L. Shelton, Jeffersontown County, Ky., assignors to General Electric Company, a corporation of New York
Filed July 27, 1959, Ser. No. 829,684
5 Claims. (Cl. 68—207)

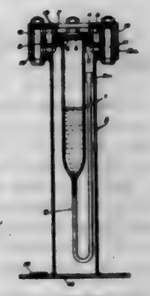
1. In a washing machine, a washing liquid receptacle having an opening formed in a wall thereof, a

storage container for a liquid clothes treating agent, a dispensing container for the agent positioned higher than both said storage container and said opening, pumping means in said storage container, first conduit means extending up from the outlet of said pumping means to said dispensing container, second conduit means arranged to permit flow of the treating agent from said dispensing



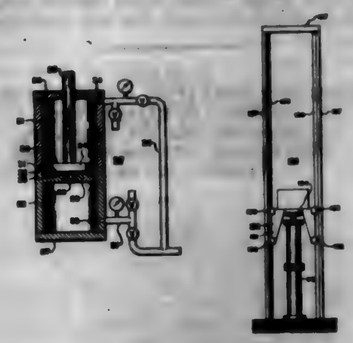
container to said liquid receptacle, said second conduit means extending down from said dispensing container and being connected to said opening, and means controlling flow down through said second conduit means from said dispensing container to said liquid receptacle, said flow control means upon operation causing said dispensing container to be substantially emptied.

2,979,937
DEVICE PARTICULARLY FOR CALIBRATING EQUIPMENT FOR DETECTING LEAKS AND SIMILAR PURPOSES
André Chasseon, Asnieres, France, assignor to Societe Anonyme des Usines Chasseon, Asnieres, France, a French company
Filed Jan. 2, 1957, Ser. No. 632,120
Claims priority, application France Jan. 3, 1956
5 Claims. (Cl. 73—1)



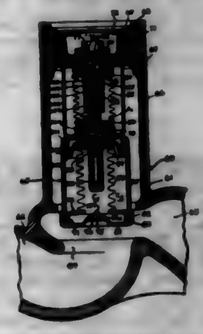
1. A calibrating device for leak detector apparatus comprising a container of completely impervious material, said container having at least one opening, a volatile agent partially filling said container, and a closing member for said opening, said closing member being made of a substantially impervious material but which permits a slight diffusion therethrough of said volatile agent contained in said container.

2,979,938
ACTUATOR
Jack B. Ottestad, Claremont, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Oct. 19, 1956, Ser. No. 617,014
29 Claims. (Cl. 73—12)



17. In combination with a rail system having a pair of spaced apart rails, a specimen carriage movably mounted on said rails and adapted to support said specimen, and guide members carried by said carriage and slidably engaging said rails, said guide members including friction linings engaging said rails to develop a drag load as said carriage is displaced along said rails; an actuator for applying acceleration forces to said carriage whereby said carriage is displaced along said rail system, said actuator comprising a cylinder having a wall member with an orifice therein, a movable piston member positioned within said cylinder and having an undersurface facing said wall member, means for applying a fluid pressure force on said piston member to cover said orifice and expose a portion of said undersurface, means for effecting a pressure seal between said piston and said wall member, means for applying fluid pressure on the exposed portion of said undersurface to overbalance said force and allow the pressure to act over an increased area of said undersurface, and a thrust element coupled with said piston member and arranged to transmit energy developed by said piston member to said specimen carriage.

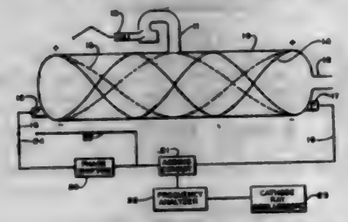
2,979,939
LEAK DETECTION DEVICE
Lewis M. Shaik, Davenport, Iowa, assignor to Rod Jacket Manufacturing Co., Davenport, Iowa, a corporation of Iowa
Filed Nov. 3, 1958, Ser. No. 771,661
15 Claims. (Cl. 73—40)



3. A device for detecting leaks in a line between an intermittently operated pump and a remote outlet com-

prising a casing having an inlet and an outlet and a port between said inlet and outlet, a pressure responsive valve means removable from a closed position to an open position when the pressure in said casing is above a preselected pressure, an expansible chamber communicating with said casing to receive liquid therefrom when the pump is operated, means for maintaining the liquid in the chamber under a pressure exceeding said preselected pressure to force the liquid out of the chamber into the line when the pump is stopped, means for restricting the flow of liquid out of said chamber to a relatively low rate sufficient to maintain said preselected pressure in the casing over a time interval when the volume of the liquid in the line decreases at a slow rate as an incident to thermal contraction and insufficient to maintain the preselected pressure over that time interval when the volume of the liquid in the line decreases at a more rapid rate as occurs when liquid leaks from the line, and means controlled by said expansible chamber and operative at the end of said time interval to lock said valve means in its open position when the volume of liquid decreases at said slow rate and to lock said valve means in its closed position when the volume of liquid decreases at said more rapid rate.

2,979,940
METHOD FOR MEASURING FORCES WITHIN A SYSTEM
Glenn Dameswood and Miles T. Hanchett, San Antonio, Tex., assignors to Southern Gas Association, Dallas, Tex., a corporation of Georgia
Filed July 12, 1956, Ser. No. 597,372
5 Claims. (Cl. 73—71.4)



1. A method for measuring forces resulting from acoustic pressure waves acting on a vessel containing a gaseous fluid stream flowing through the vessel, said stream having a pulsating flow created by a fluid pumping device generating in said stream acoustic pressure waves of complex harmonic structure, comprising the steps of sensing the effect of said waves on said vessel at spaced apart opposing points where the acoustic energy of said stream tends to be converted to mechanical energy in said vessel, generating at least two signals having an amplitude and phase angle which are a function of the amplitude and phase angle of said pressure waves as they exist at said points, adding said signals to obtain an output representing the effect of said pressure waves on said vessel at said points and recording said output.

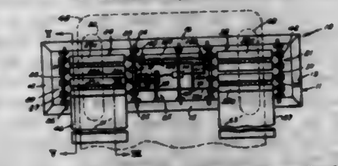
2,979,941
APPARATUS FOR TESTING OR STRETCHING ROTOR DISCS OR THE LIKE
Joseph Albert Pope, Nottingham, and Frank Nixon, Duffield England; said Nixon assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 3, 1958, Ser. No. 718,679
Claims priority, application Great Britain Mar. 4, 1957
6 Claims. (Cl. 73—92)

1. Testing apparatus wherein rotor discs may be subjected to loads simulating loads experienced in use, comprising an annular frame, support means for engaging the rotor disc at its center and to support the disc coaxially within the frame, a plurality of fluid-pressure-operated rams mounted on the frame at angularly spaced positions, connector elements which extend inwards from the frame towards the rotor disc, said connector elements being connected to the rams to be moved radially with



respect to the annular frame and being operable for connection to the rotor disc periphery at selected angularly-spaced points thereon, and means supplying pressure fluid to the rams to apply through the connector elements predetermined loads at said selected points on the disc.

2,979,942
ACCELERATION TESTER
Gerald H. Allen, Kalamazoo Township, Kalamazoo County, Mich., assignor to Allen Electric & Equipment Company, Kalamazoo, Mich., a corporation of Michigan
Filed Mar. 18, 1958, Ser. No. 722,337
7 Claims. (Cl. 73—117)

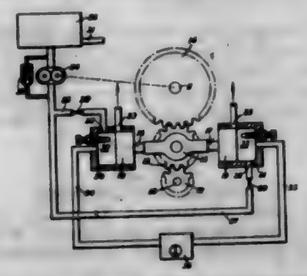


1. An automotive acceleration testing device adapted particularly for garage and service station use, comprising the combination: means including roller means for supporting the drive wheels of an automotive vehicle with respect to a floor, said roller means being rotatable with said wheels; rotation-resisting means operatively associated with said roller means, said rotation-resisting means comprising brake-shoe means movable toward and away from said roller means in response to a pressure imposed thereon for frictionally resisting rotation of said roller means with a force proportional to said pressure; control means controlling the pressure imposed on said brake-shoe means and thereby controlling the magnitude of resistance to rotation applied by said rotation-resisting means; an acceleration-responsive means operatively connected to said roller means so as to be driven at a speed proportional to the speed of said roller means, said acceleration-responsive means including means for operating said control means when said roller means are accelerating to modify said pressure in response to the magnitude of acceleration appearing in said roller means whereby rotation of the roller means is resisted in proportion to the acceleration appearing in said roller means, and the resistance so developed on said roller means is applied to said drive wheels and whereby acceleration of the engine of said automotive vehicle is resisted in a manner to simulate the resistance effected by the inertia of the vehicle developed in actual road acceleration of said vehicle.

2,979,943
TRANSMISSION GEARING INCLUDING MEANS FOR MEASURING TORQUE
Angelo Gualtieri, Washington, D.C., assignor to D. Napier & Son Limited, London, England, a British company
Filed Mar. 11, 1958, Ser. No. 720,662
Claims priority, application Great Britain Mar. 15, 1957
1 Claim. (Cl. 73—136)

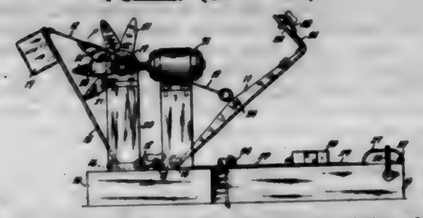
Transmission gearing including means for measuring the torque transmitted, comprising an intermediate idler

gear unit through which the torque is transmitted, in which the idler gear unit and the gears with which it meshes are arranged in line with their three axes approximately in the same plane and the idler gear axis lying between the other two axes, and in which the idler gear unit is mounted to be capable of limited bodily movement perpendicular to this plane throughout its range of movement under the reactions between this gear unit and the gears with which it meshes, and in which the torque measuring means comprises means for measuring



the reaction load on the axis of the idler gear unit, comprising a hydraulic double-acting piston and cylinder, one of which is connected to the idler gear unit to move bodily therewith while the other is relatively fixed, and means for obtaining a measure dependent upon the pressure developed in the cylinder, including means for simultaneously varying in opposite senses the pressure on the two sides of the piston in response to the bodily movement of the idler gear unit, and means for measuring the pressure difference developed between the two sides.

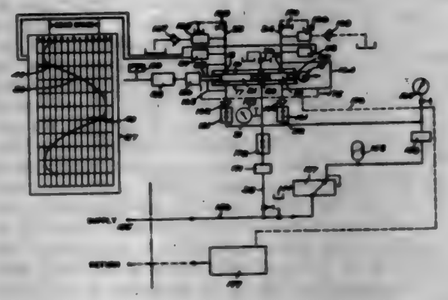
2,979,944
CARTON BOARD ADHESION TESTER
Horace Porter Abbott, Old Greenwich, Conn., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Aug. 21, 1956, Ser. No. 605,374
4 Claims. (Cl. 73—158)



1. An apparatus for testing the characteristics of adhesives and of sheet materials to which the adhesives are applied, comprising a base member, a plurality of counterbalanced weight clamps, each weight clamp being pivotally mounted on said base, means for maintaining one test strip in place on said base, means on each of said clamps for maintainng a second test strip against the lower surface of said weight clamp and means responsive to the placing of said weight clamps on said base for automatically elevating each weight clamp in succession after an indicated time interval.

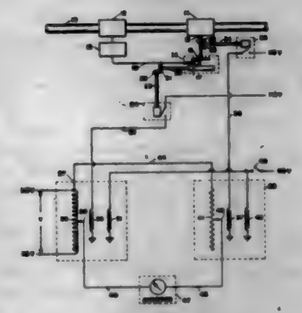
2,979,945
APPARATUS FOR MEASURING THE DEAD SPACE TRAVEL IN SERVO VALVES
Willis F. Tibbetts, Reading, Mass., assignor to Flightex Fabrics, Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 16, 1957, Ser. No. 678,491
16 Claims. (Cl. 73—168)

1. Apparatus for measuring the minimum travel of an axially movable valve piston relative to a sleeve body that is required to effect communication between outlet and inlet ports, said apparatus comprising a holder for said body, clamping mechanism to clamp said body to said holder, reciprocating means to move said piston relative to said body to place said ports in communication, a hydraulic system in communication with said ports and



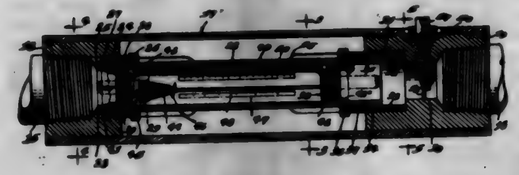
providing an inlet port pressure greater than the outlet port pressure and including back pressure sections, means in communication with the back section of the outlet port responsive to the inlet pressure, and separate mechanisms, each operated by a respective one of said pressure responsive and said reciprocating means and together being effective to measure and record said travel.

2,979,946
VARIABLE AVERAGING METER
Douglas C. Meyers, Metairie, La., assignor to Shell Oil Company, a corporation of Delaware
Filed Mar. 17, 1958, Ser. No. 721,751
5 Claims. (Cl. 73—194)



1. Apparatus for obtaining the average value of a variable characteristic of a fluid stream passing through a pipe line, said apparatus comprising a pipe line, means responsive to the flow of fluid through said pipe line, said means having a rotatable shaft, measuring means in communication with the fluid in said pipe line for measuring the characteristic of the fluid to be averaged, means for integrating the signal from said measuring means with the rotation of said shaft, and electrical circuit means including current controlling elements, said integrating means and said shaft being operably coupled to said current controlling elements to adjust the current flow in said circuit means in response to the average value of the characteristic of the fluid being measured, and means in said circuit means for indicating the current flow therein.

2,979,947
FLOW METER WITH CYLINDRICAL SPRING RESTRICTION
Leo E. Main, Chicago, Jack R. Piper, Mount Prospect, and Lawrence J. Smith, Oak Park, Ill., assignors to Bell & Gossett Company, Oak Park, Ill., a corporation of Illinois
Filed Jan. 14, 1958, Ser. No. 708,933
10 Claims. (Cl. 73—207)



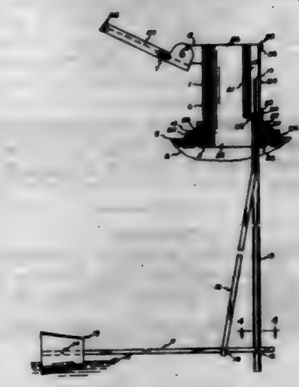
1. In a fluid flow meter including a conduit arranged for interposition in a pipe line and having an inlet end, an outlet end, and a transparent section therebetween, a unit assembly for indicating the flow rate of fluid in said conduit and comprising a skeleton carrier positioned in the conduit and held against movement therealong and including spaced apart centering structures each having surfaces extending to and engageable with the inner periphery of said conduit at a plurality of points spaced thereabout for locating said structures against transverse movement in said conduit, an elongated guide element having its opposite ends supported in said structures to locate said element substantially medially in said conduit, a cylindrical helical spring in telescoping relation with said guide element and extending endwise thereof for exposure to fluid flow in said conduit, one end of the spring being anchored to one of said structures and the other end being confined against transverse movement in the conduit by engagement with said guide element, said engagement accommodating free-sliding movement between said other end and said guide element in a direction endwise of the conduit such that said other end is an indicator relative to visible indicia associated with the transparent section.

2,979,948
FLUID FLOW METER
Edward S. Gwathmey, Earlysville, Va., assignor to Specialties, Incorporated, Syosset, N.Y., a corporation of New York
Filed Dec. 24, 1958, Ser. No. 782,831
4 Claims. (Cl. 73—228)



1. In an instrument, a casing having a cylindrical inner surface, a magnet having a curved surface adjacent to said cylindrical inner surface and coaxial therewith, said magnet having two curved opposed pole pieces coaxial with said curved surface and a shorter radii than said surface, opposite curved faces of said pole pieces being separated by an air gap of gradually varied width, a magnetizable element movable in said air gap between said pole faces, means responsive to fluid flow in said casing and including a shaft rotatable through an angle, a vane attached to said shaft and rotated about the axis of said shaft by flow of said fluid, said shaft being coaxial with said cylindrical inner surface, means fastening said magnetizable element to said shaft, and indicator means attached to said shaft for measuring fluid flow relative to said vane.

2,979,949
COMBINATION LIQUID LEVEL GAUGE AND FILLING DEVICE
Leslie Counts, 1940 Chaseville Road, Jacksonville 11, Fla.
Filed May 7, 1959, Ser. No. 811,711
2 Claims. (Cl. 73—317)

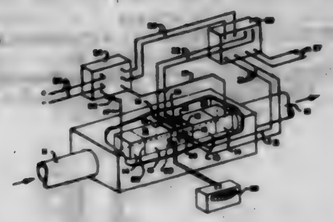


1. A combined device for receiving and passing liquid into and for venting a tank and for indicating the liquid level in said tank comprising a body member of generally vertical hollow cylindrical form, said member including a hollow cylindrical lower portion and an aligned upper portion of segmented cylindrical shape, said upper portion including a vertical chordal planar wall portion and a cylindrical wall portion extending circularly for more than 180 degrees joined to said chordal planar wall portion and completing therewith a tank filling conduit continuous throughout said body member, a horizontal plate having a straight edge joined to the lower edge of said planar wall portion extending outwardly therefrom and having an arcuate edge joined to said cylindrical wall of the lower portion of the body member, said plate having a vertical opening therethrough opening downwardly into the interior of said lower portion of said body member and opening upwardly outwardly of said planar wall portion, a transparent hollow open ended vent tube disposed externally of and attached to said plate portion in vertical alignment with said opening, float means pivotally supportedly attached to said body member for sensing the rise and fall of liquid in said vessel, and an elongated index element having an upper end portion extending upwardly through said opening into said tube and loosely disposed therein and having a lower end portion connected to said float means, said upper end portion of said index element comprising movable means viewably disposed with respect to said planar wall portion, and removable cap means closing the upper ends of said tube and fill conduit.

2,979,950
DEW POINT INDICATOR
Otto J. Lecuna, P.O. Box 24, West Newton, Pa.
Filed June 18, 1959, Ser. No. 820,320
7 Claims. (Cl. 73—336.5)

2. A dew point indicator comprising, in combination, a thermoelectric pack having a cold junction and a dew spot member thermally responsive to the temperature of said cold junction, means for presetting the temperature of said cold junction to provide a standard moisture spot on said member as a single standard, supplemental

means for directly heating said member as a partial offset to the temperature of said cold junction, means for directly detecting variations from said standard because of a variation in the vapor content of a gas sweeping said



member, means responsive to said last-mentioned means to actuate said supplemental means to restore said standard, and meter means to indicate temperature variations in said member.

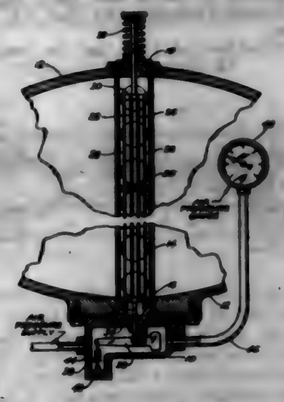
2,979,951
TEMPERATURE SENSING APPARATUS
Ladislav J. Pircon, Stickney, Ill., assignor to Central Farmers Fertilizer Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 30, 1958, Ser. No. 783,856
10 Claims. (Cl. 73—351)



1. For sensing temperatures in a moving bed of semi-fluid consistency, the combination comprising: a flexible tube disposed right angularly to the direction of movement of said bed and having one end immersed in said bed; a weighting member secured to said end to dislocate the center of gravity of said tube to a position adjacent said end; thermocouple means mounted on said tube to be exposed to said bed; and electrical conductor means extending through at least a portion of said tube to connect said thermocouple means externally.

2,979,952
PNEUMATIC TEMPERATURE INDICATOR
James M. Eastman, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 28, 1956, Ser. No. 605,106
6 Claims. (Cl. 73—363.3)

1. In a device for indicating the temperature of fluid in a conduit having a housing containing a fluid pressure chamber, a fluid pressure source and an inlet conduit connecting said source with said chamber, a fluid outlet port in said chamber, a valve operable to control the effective area of said outlet port and vary the pressure of fluid contained in said chamber, and means connected to said chamber responsive to the variations of pressure therein: the combination of a perforated elongated chamber exposed to the temperature to be sensed, a spring loaded member extending through one end of said perforated chamber, a pair of flexible wires connected to said member and to the opposite end of said perforated chamber in such manner as to be always in tension, a second member slidably positioned in said housing and extending from said fluid pressure chamber to said perforated chamber, a second pair of flexible wires having a temperature coefficient of expansion different from that of said first named pair of wires con-



nected between said members, said second member operably connected to said valve to vary the pressure of fluid in said chamber as a function of variations in sensed temperature.

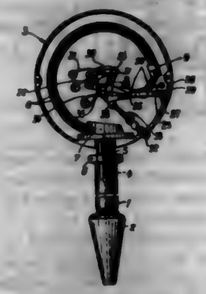
2,979,953
AMBIENT TEMPERATURE COMPENSATING MEANS FOR CAPILLARY TUBING
Justin O. Johnson, Jr., Philadelphia, and Konrad H. Stokes, Ambler, Pa., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 26, 1956, Ser. No. 618,461
8 Claims. (Cl. 73—368.4)



1. An ambient temperature compensating means for retaining the volume expansion of the space between the inside wall of a metallic capillary tube having one coefficient of expansion and the outside wall of an elongated tensioned wire of a lower coefficient of expansion within said tube equal to the cubical expansion of a fluid fill within said space between said two walls comprising, a clamping means at each end of said tube to retain said tensioned wire in a taut condition.

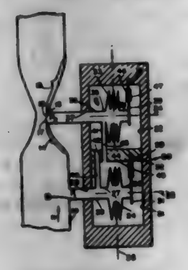
2,979,954
RECORDING COMPRESSION GAUGE
Erwin Heuschen, Stuttgart, and Paul Friedrich Lauklauf, Ehningen, Germany, assignors to Walter Ziehr, Stuttgart, Germany
Filed Oct. 17, 1956, Ser. No. 616,416
Claims priority, application Germany Mar. 21, 1956
3 Claims. (Cl. 73—391)

1. A gauge for recording the compression of a motor cylinder and the like, comprising, in combination, a support; a disc mounted on said support for rotation about an axis, said disc being adapted to carry a recording chart; a pressure sensitive elongated arcuate tubular spring member formed with a cavity therein and responsive to a change of pressure of a fluid in said cavity for relative movement of two portions thereof relative to each other, one of said portions being secured to said support, and the other one of said portions being free to move relative to said support responsive to said change in pressure toward and away from a predetermined position thereof; means connecting said free portion to said disc for rotation of the latter jointly with the movement of said free portion; a conduit for releasably connecting said cavity with said motor cylinder; pivot pin means on said support; a stylus holder on said pivot pin means; stylus means mounted on said holder for recording a line on said chart during rotation of said disc, said stylus holder being pivoted to said support for movement of said stylus between a plurality of fixed positions radially spaced from each other relative to said axis; and pivoting means mounted on said support and operatively connected to said free portion and to said stylus holder for moving said stylus means from one to another of said radial positions thereof when said free portion moves in a direction to-



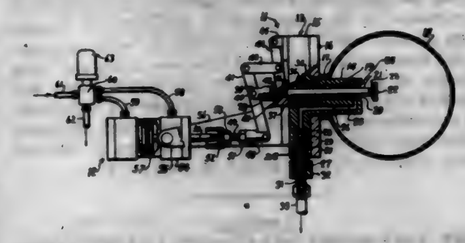
ward said predetermined position, said pivot pin means being radially spaced from said axis and arranged for pivoting movement of said support about an axis substantially parallel to said first-mentioned axis, said pivoting means including a first angle lever having one end swingingly attached to said free portion of said spring member, a spring loaded pawl rigidly connected to the other end of said first lever, and a second angle lever having one arm mounted on said pivot pin means and rigidly connected with said stylus support, and another arm shaped to form a toothed segment and engageable by said pawl for advance of said segment by one tooth when said free portion of said spring member moves toward said predetermined position thereof.

2,979,955
PRESSURE RESPONSIVE SYSTEMS
Paul R. Shepler, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 12, 1957, Ser. No. 652,585
4 Claims. (Cl. 73—398)



1. A pressure responsive system comprising: a housing having a pair of fluid-tight compartments; a pair of pressure-sensitive bellows having substantially identical pressure versus displacement characteristics supported in individual ones of said compartments with their axes of expansion parallel to one another so as to be substantially identically influenced in one sense by effects of gravity and other extraneous forces; means for applying a first fluid pressure to the interior of one of said bellows and to the exterior of the other of said bellows and for applying a second fluid pressure to the interior of said other bellows and to the exterior of said one bellows to effect displacement of said bellows in another sense relative to each other in response to the differential between said first and said second fluid pressures; a pair of thin, flat deformable members suspended in individual ones of said compartments with their principal surfaces parallel to one another and perpendicular to said bellows axes, a suspended portion of each member being coupled to a movable portion of the corresponding bellows; a pair of electrical elements located in individual ones of said compartments and coupled to the corresponding deformable member so that deformation of such member will alter the electrical characteristics of the corresponding electrical element; and circuit means coupled to said electrical elements for deriving indications responsive to displacement of said pressure-sensitive bellows in said other sense substantially to the exclusion of displacement in said one sense.

2,979,956
FLUID SAMPLER
Fred H. Warren, 327 Glendale Ave., Findlay, Ohio
Filed Aug. 6, 1958, Ser. No. 753,558
5 Claims. (Cl. 73—422)

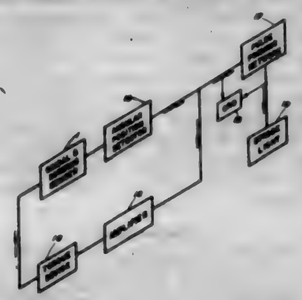


1. A sampler for taking successive samples from a stream of moving fluid, said sampler comprising a hollow member extending into a stream of fluid to be sampled, a plunger slidably carried in said member, a valve at the end of said member extending into the stream for opening the hollow member to the stream and for closing off the hollow member from the stream, means forming a passage outside the hollow member, an end of which passage communicates with the hollow member near the valve for connecting the hollow member with a sample container or the like, and means for closing the valve and retracting the plunger to draw fluid into the member until the valve is closed and for extending the plunger toward said valve while the valve remains closed to expel at least part of said fluid through said passage.

2,979,957
DYNAMIC BALANCING TECHNIQUE
Ralph Irving Hauser, Greenbelt, and Edmund Tyler Bridge, Glen Burnie, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 23, 1956, Ser. No. 617,898
5 Claims. (Cl. 73—466)

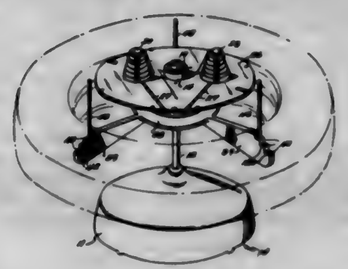
1. A system for determining the location and magnitude of dynamic couples acting on a gyroscope rotor or the like rotatably supported in a gimbal journalled for rotation about a fixed axis of precession comprising detection means associated with said gimbal for producing a signal in response to sinusoidal angular movement of said gimbal about said axis of precession upon the application of a disturbing torque thereto by said dynamic couples acting on said rotor, the amplitude of said sinu-

oidal movement of said gimbal being determined by the magnitude of said dynamic couples and the frequency thereof being determined by the frequency of rotation of said rotor, a feedback network including means to amplify said signal produced by said detection means, torque means in said feedback network associated with said gimbal for applying a stabilizing torque to said gimbal in opposition to said disturbing torque applied thereto to stabilize said rotor and said gimbal and thereby prevent the sinusoidal angular movement of said gimbal, said



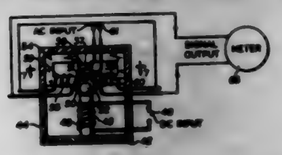
amplified signal being fed to said torque means for controlling the operation thereof and having a magnitude proportional to the magnitude of said dynamic couples acting on said rotor, a pulse forming network energized by said signal produced by said detection means and being operable to produce a pulse at the instant when said amplified signal fed to said torque means is a maximum, and a stroboscopic light fired by said pulse and positioned to illuminate said rotor to thereby determine the location of said dynamic couples acting on said rotor.

2,979,938
TIRE AND WHEEL IMBALANCE CALCULATOR
Raymond A. Kennedy, 3516 Stone Park Blvd., Sioux City, Iowa
Filed Sept. 16, 1958, Ser. No. 761,432
3 Claims. (Cl. 73—483)



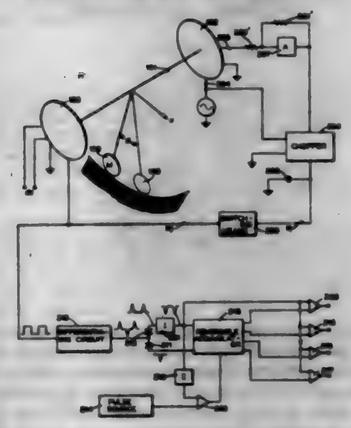
1. A calculator for indicating the required overbalanced weights to be added to a stationary wheel to compensate for imbalance at high speeds comprising a wheel support, means mounting said wheel support so that it may be readily tilted, a circular spirit level mounted on said wheel support, a disk positioned on said wheel support, said disk having a pair of radially outwardly converging slots formed in the upper face thereof with calibrated weight indicating scales extending along each of said slots, a pair of weights slidably mounted on said disk, a rib integrally formed on each of said weights engaging in one of said slots for guiding said weights along said slots and a scale pointer fixed to each of said weights for selective cooperative relation with the calibrated scales along said slots, the indicia of said scales being so positioned that when the balancing weights are located so as to effect the balance of the wheel support and the test article supported thereon, the said scale pointers will indicate the size of the overbalance weight necessary to be added to the wheel to compensate for imbalance at high speeds.

2,979,959
MAGNETIC ACCELEROMETER
Stanley P. Clarman, 258 Matilda Ave., New Brunswick, N.J.
Filed June 3, 1959, Ser. No. 817,839
12 Claims. (Cl. 73—516)



1. An accelerometer, comprising a generally rectangular magnetic core structure, said structure having a gap between pole portions thereof, a movable magnetic ball, concave means supporting said ball in said gap, guide means permitting movement of the ball in only one plane upon application of an accelerating force toward one of said pole portions and away from another of said portions in said pole gap, magnet means exerting a restoring force on said ball and maintaining a magnetic field through said gap, said field being divided in said core, and coils connected in series and wound upon the respective pole portions, whereby oscillatory displacement of said ball on the support means produces a voltage at terminals of the coils which voltage is the sum of the voltages induced in the respective coils during the oscillatory displacement of said ball, said core structure having a further pole portion at said gap, another coil wound on said further pole portion, means for applying alternating current to said other coil to induce voltages in the first named coils, and means for measuring said voltages to determine the magnitude of said force.

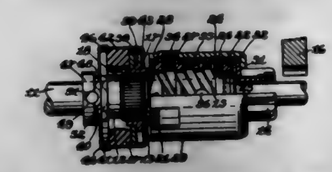
2,979,960
ACCELERATION MEASURING MEANS
George W. Johnson, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 16, 1958, Ser. No. 742,256
6 Claims. (Cl. 73—517)



1. An oscillating pendulous accelerometer comprising a rotatable shaft mounted on a pivot axis, a pendulum

mounted on said shaft for angular displacement about said pivot axis in accordance with a function of a linear acceleration to be measured, a rotatable voltage generating means connected to said shaft to be rotated commensurate with the angular displacement of said pendulum and responsive to two boundaries of angular displacement, an electrical torquer means connected to angularly displace said pendulum, and switching means responsive to said voltage generating means for successively energizing said electrical torquing means with fixed voltages of opposite polarity for applying a reproducible torque to said pendulum so that it is reversibly displaced, the polarity of said fixed voltage and reproducible torque reversing in direction at each boundary of angular displacement, said average torque being commensurate with a function of the linear acceleration to be measured.

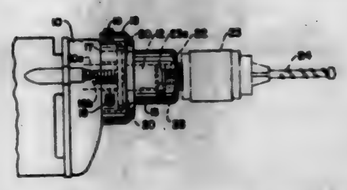
2,979,961
ENGINE STARTER DRIVES
Glenn S. Spencer, Horseheads, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 16, 1959, Ser. No. 859,999
8 Claims. (Cl. 74—7)



1. In a starter drive, a power shaft having a transverse passage extending diametrically therethrough, a sleeve journalled on the shaft having aligned apertures formed in one end thereof adapted to register with the shaft passage, a pinion journalled on the shaft for movement into and out of mesh with a gear of an engine to be started, means transmitting actuation from the sleeve to the pinion, resilient yielding means including a slidable and rotatable thrust plate mounted on the sleeve for resisting axial movement of the actuation transmitting means in the demeshing direction, means inserted in the shaft passage and registering sleeve apertures for rotatably and axially securing the sleeve to the shaft, and retaining means on the thrust plate preventing the radial displacement of said securing means from the passages and apertures; wherein said sleeve includes an annular flange formed thereon providing shoulder means adjacent said thrust plate, said flange containing portions of said aligned apertures, one of said apertures opening radially outward to the flange peripheral area and opening axially to said shoulders, said registering apertures and shaft passage being positioned to form a radial blind passage in the drive to receive said securing means, said thrust plate normally yieldingly abutting the flange shoulder, and said retaining means comprising a detent axially extending from the thrust plate yieldably abutting the flange shoulder prior to insertion of said securing means into said blind passage and upon rotation of the thrust plate to its normal flange abutting position extending into the radial and axial opening of said blind passage to engage portions of said securing means.

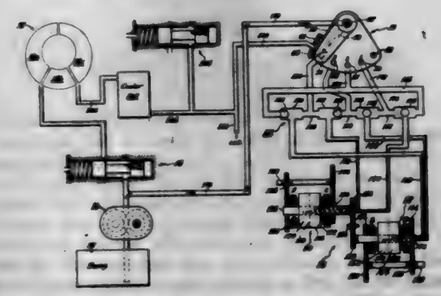
2,979,963
PERCUSSION ATTACHMENTS FOR ROTARY DRILLS
John E. Nindel, Latrobe, Pa.
Filed Aug. 15, 1958, Ser. No. 755,316
5 Claims. (Cl. 74—22)

1. A percussion attachment for rotary drills having a housing and a rotatable drive shaft journaled therein comprising a cylindrical drive element removably attached to the driving shaft and rotatable therewith, a sleeve element slidable axially on said drive element for limited axial movement and connected for rotation therewith, means between the drive element and the sleeve limiting the relative axial movement therebetween, means



on one end of the sleeve removably receiving a drill chuck, projection cam means on the opposite end of said sleeve, shoulder means fixed non-rotatably to the housing of the drill and having projection cam means in the path of the cam means on the sleeve, and means adjustably spacing the projection cam means on the sleeve with respect to the cam means on the shoulder.

2,979,963
HYDRAULIC CLUTCH CONTROL
Joseph B. Sacy, Rockford, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 17, 1957, Ser. No. 703,361
5 Claims. (Cl. 74—364)

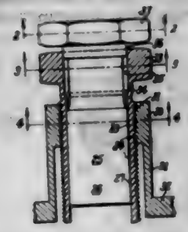


1. In a control apparatus for a change-speed gear train having a plurality of clutch assemblies each of which includes a pair of clutches and a pump for supplying pressure fluid to said clutch assemblies, the improvement comprising selector means for directing the pressure fluid simultaneously to a clutch operator of one clutch of each assembly to effect a plurality of speed ratios, said means including a selector valve having an inlet and a plurality of outlets, a selector arm selectively movable into register with said outlets and a distribution assembly operable in response to fluid pressure to direct the fluid to certain of said clutch operators for engagement of certain of said clutches.

2,979,964
MICROLINEAR ACTUATOR
C Walton Musser, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed May 13, 1960, Ser. No. 29,982
7 Claims. (Cl. 74—424.8)

1. In a linear actuator, a nut element having an inside thread, a screw element having an outside thread within the nut, one of the nut and the screw elements being relatively rigid radially and the other being relatively flexible radially, the threads on the nut and the screw being of the same hand, of the same thread form and the same pitch, the threads of the nut and the screw

engaging at circumferentially spaced locations with intermediate locations of non-engagement, and means for deflecting said flexible element into engagement with said



other element at said plurality of locations and for progressing the locations of engagement of the threads around the circumference.

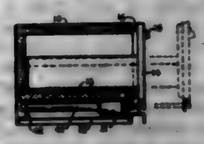
2,979,965
MOTION-TRANSMITTING DEVICE
Alfred J. Diebold, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Aug. 18, 1958, Ser. No. 755,711
2 Claims. (Cl. 74—424.8)



1. A motion-transmitting device comprising a screw having at least three helical grooves in the peripheral surface thereof, a nut having a bore therein receiving said screw, said nut having a plurality of axially spaced circumferential annular raceways formed in the bore thereof, bearing members, each having at least two spaced-apart bearing surfaces simultaneously seating in certain of said grooves of said screw and engaging one of said raceways of the nut, a tubular cage between said screw and nut and having openings therein receiving and maintaining said bearing members in predetermined relation with respect to each other, said cage having integral with an end thereof a number of abutment elements equal to the number of grooves in said screw, said abutment elements being equally spaced and of generally saw-tooth configuration and extending axially of the cage, and a collar sleeved upon and fixed to said screw, said collar having formed thereon a like number of stop means facing said abutment elements of said cage, said stop means being disposed in reverse arrangement to and being of a shape and spacing corresponding to said abutment elements on said cage for simultaneous mating engagement therewith.

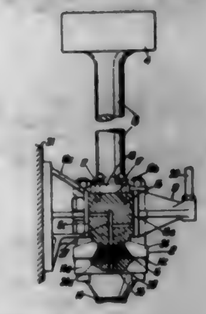
2,979,966
EMERGENCY RELEASE OF POWER-DRIVE DRAWER
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Oct. 20, 1958, Ser. No. 768,329
9 Claims. (Cl. 74—424.8)

1. Power mechanism for operating a reciprocably mounted carriage comprising driving and driven units, one of said units being a threaded shaft, the other unit being a motion-transmitting nut assembly cooperating with said shaft, one of said units being operatively connected with the carriage to move therewith and to move the carriage axially of said units, the other unit being fixed against axial movement, power means for driving one of said units, and manually operable readily releas-



able means normally preventing rotation of the other unit with respect to said carriage.

2,979,967
PISTON ENGINES
Percy Jackson, Sunderland, England, assignor to William Doxford & Sons (Engineers) Limited, Sunderland, England, a British company
Filed May 6, 1959, Ser. No. 811,387
Claims priority, application Great Britain June 4, 1958
2 Claims. (Cl. 74—579)

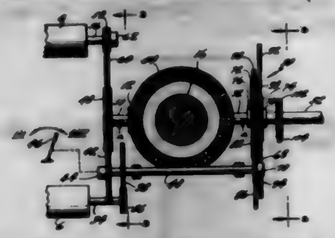


1. In a piston engine having a piston rod, a connecting rod, a cross-head pin transverse to the axes of the piston rod and connecting rods and to which one end of the piston rod is secured and one end of the connecting rod is articulated, a shoe attached to the cross-head pin and a guide constraining the shoe for rectilinear motion parallel to the piston rod axis, a construction in which the cross-head pin has at its center portion, which is in line with the axis of the piston rod, the cross-sectional shape of a cylinder cut away to form at least two flat faces at right angles, one of said flat faces being perpendicular to the piston rod and seating on the end thereof and the other of said flat faces seating on the shoe, and in which the ends of the cross-head pin are circular in section and the connecting rod has annular bearings which engage over the said end of the cross-head pin to form said articulation thereto and between these bearings an arcuate bearing surface which works on the remaining cylindrical part of the center portion of the cross-head pin opposite to the flat face which is secured to the piston rod.

2,979,968
POWER TRANSMISSION SYSTEM
Frederick C. Bourer, Hamden, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 28, 1958, Ser. No. 757,881
15 Claims. (Cl. 74—665)

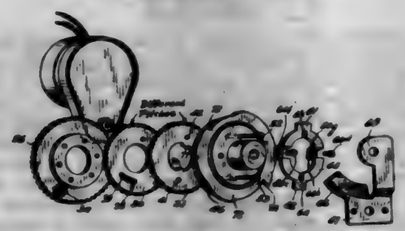
1. In an operative combination, a rotor, a power plant, said power plant having a drive shaft, an accessory drive means, first means connecting said power plant drive shaft to said accessory drive means so that said power plant drive shaft can drive said accessory drive means, a rotor drive shaft, second means connecting said rotor drive shaft to said accessory drive means so that said

rotor drive shaft can drive said accessory drive means, third means connecting said power plant drive shaft to said rotor drive shaft so that said power plant drive



shaft can drive said rotor drive shaft, and means for selectively driving said accessory drive means by said first means or said second and third means.

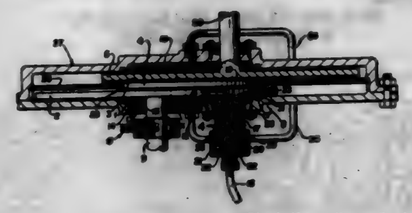
2,979,969
CHANGE SPEED GEARING
Ludwig J. Fichter, Chicago, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Jan. 27, 1960, Ser. No. 5,046
8 Claims. (Cl. 74—750)



1. A timer comprising a housing, a driving gear mounted for rotation in said housing and adapted to be driven by a timing motor, a planet gear carried by said driving gear near the edge of the driving gear with the two gear axes being laterally offset from and parallel to each other, a pair of sun gears coaxial with said driving gear at one side thereof, one sun gear being disposed between said driving gear and the other sun gear, said two sun gears meshing with said planet gear and being otherwise uncoupled, the two sun gears having their respective pitches somewhat different so that as the planet gear rotates around the sun gears, some relative rotation occurs between the two sun gears, a load to be controlled by said timer, said load including a member rotatively coupled to said other sun gear, said load providing sufficient friction so that said other sun gear remains substantially stationary with most of the relative movement between the two sun gears occurring in the one sun gear, means operative at a predetermined oriented position of said one sun gear with respect to the other sun gear for directly coupling said driving gear and two sun gears to rotate as a unit through a predetermined angle, means responsive to the rotation of said other sun gear through said predetermined angle for uncoupling the one sun gear from the drive gear and from the other sun gear to restore the drive gear and two sun gears to their normal uncoupled relationship, and means responsive to said member for actuating said load.

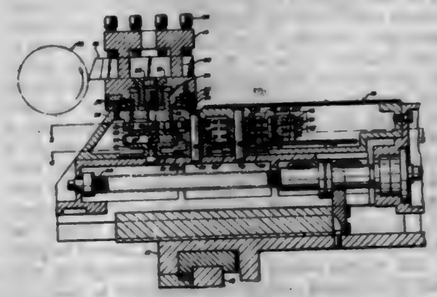
2,979,970
VARIABLE SPEED TRANSMISSION
William S. Rouverol, 1014 Shattuck Ave., Berkeley, Calif.
Filed Dec. 9, 1957, Ser. No. 701,525
17 Claims. (Cl. 74—796)

1. In a transmission of the type having a torque transmitting disk engaged at one side thereof by a plurality of balls housed in a rotatable cage, means on the opposite side of said disk for applying a substantially uniform pressure to said opposite side over an area substantially



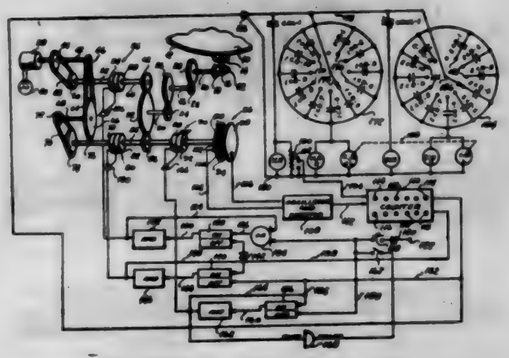
coextensive with the projected area of the portion of said cage containing said balls whereby substantially uniform loading is applied to said balls.

2,979,971
POWER INDEXED MACHINE TOOL TURRET
Nicholas P. Darash, Euclid, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed May 27, 1960, Ser. No. 32,389
12 Claims. (Cl. 74—820)



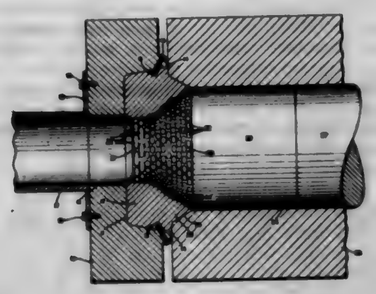
1. In a machine tool turret assembly of the character described, a base; a turret mounted on said base for rotative movement about an axis into a number of angular positions with respect to said base; said turret being movable axially toward and away from said base; a rotatable drive member mounted on said base; a drive motor operatively connected to said drive member for rotation thereof; intermittent motion drive means interconnecting said drive member and said turret to rotate said turret to its next angular position for each revolution of said drive member; clamping means connecting said turret and said base and adapted to releasably clamp said turret against axial movement thereof away from said base; means interconnecting said clamping means and said drive member to release and clamp said turret upon each revolution of said drive member; rotatable turret position indicating means; drive means connecting said drive member to drive said indicating means an angular increment for each revolution of said drive member; the number of said increments required for a full revolution of said indicating means being equal to a multiple of said number of angular positions of said turret; circuit means responsive to the rotation of said indicating means to be uniquely conditioned thereby for each of said number of angular positions of said turret; said circuit means including position control means for selecting any one of said number of angular positions and energizing said drive motor for effecting rotation of said turret toward a selected position until said circuit is uniquely conditioned by said indicator means for said selected position.

2,979,972
READILY ADJUSTABLE ELECTRIC INDEXING APPARATUS
James C. Danly, River Forest, Ill., assignor to Danly Machine Specialties, Inc., Chicago, Ill., a corporation of Illinois
Filed May 31, 1957, Ser. No. 662,725
9 Claims. (Cl. 74—821)



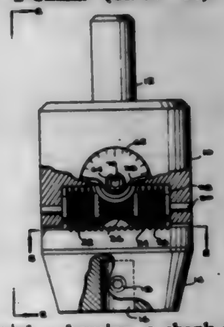
1. Electrical indexing apparatus for indexing a machine member including in combination high-speed drive means adapted to be energized to drive said member, low-speed drive means adapted to be energized to drive said member, means for energizing said high-speed drive means to cause said member to move, means responsive to movement of said member for producing a certain number of electrical impulses proportional to movement of said member, means for counting said impulses to produce a first output signal when the counted impulses reach a first predetermined number and to produce a second output signal when the counted impulses reach a second predetermined number, means responsive to said first output signal for de-energizing said high-speed drive means and for energizing said low-speed drive means, means responsive to said second output signal for de-energizing said low-speed drive means and means responsive to said second output signal for re-energizing said high-speed drive means.

2,979,973
METHOD OF MAKING HARD-FACED EXTRUSION DIES
Chandis H. Brunchler and Frank J. Welchser, Canton, Ohio, assignors to The Canton Drop Forging & Manufacturing Company, Canton, Ohio, a corporation of Ohio
Original application Aug. 25, 1958, Ser. No. 756,792. Divided and this application Jan. 21, 1959, Ser. No. 788,111
6 Claims. (Cl. 76—107)



1. The method of making a hard-faced extrusion die which consists in providing a body of die steel having a tapered opening therethrough terminating in an extrusion opening of the size and shape desired in the extruded article, then welding spaced knobs of hard-facing alloy upon the walls of said opening, and then heat treating the composite structure.

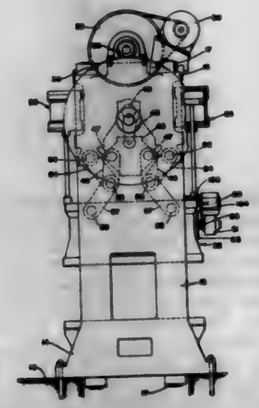
2,979,974
BORING TOOL
Donald Craig, 113 E. 26th St., Paterson, N.J.
Filed Aug. 19, 1958, Ser. No. 755,979
1 Claim. (Cl. 77—58)



In a boring tool, a housing, a shank projecting from said housing for engagement by a rotating member for rotating said housing, a driven shaft rotatable in opposite directions in said housing, a pair of spaced worms on said driven shaft, a tool carrier on said housing and connected to said worms for reciprocating movement responsive to rotary movement of said shaft in opposite directions, a pinion on said driven shaft between said worms, a drive shaft rotatable in opposite directions in said housing, a worm on said drive shaft in meshing engagement with said pinion, a first dial having calibrations for indicating fractional parts of individual revolutions of said driven shaft positioned exteriorly of said housing and mounted on said drive shaft for rotation therewith, hand actuable means on said first dial for effecting the rotation of the latter, a second dial having calibrations for indicating the multiple parts of a single revolution of said driven shaft positioned exteriorly of said housing and spaced from said first dial, and means connecting said pinion to said second dial for operation of said second dial responsive to rotational movement of said pinion.

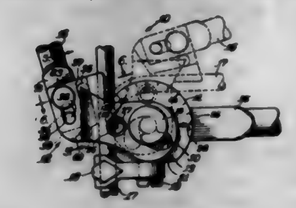
2,979,975
KNUCKLE JOINT PRESS
Arthur H. Schloz, Toledo, and Norman O. Steele, Massillon, Ohio, assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Oct. 28, 1958, Ser. No. 768,215
3 Claims. (Cl. 78—41)

1. In a press, a frame including a crown, a bed and a slide with a die supporting face mounted in said frame between said bed and crown, and eccentric shaft carried by said crown, power means to rotate said eccentric, a pair of journals carried on the underside of said crown with their axes parallel to the axis of said eccentric shaft and on opposite sides thereof, toggle links positioned to engage respective crown journals, two sub-frames carried in said slide and adapted to provide journals for the lower ends of said toggles respectively, each of said toggles comprising two elements pivotally connected adjacent their mid-points, a sub-slide interposed between said toggles, a link pivotally connecting said sub-slide with the pivotal connection of each of said toggles, a pitman member connecting said sub-slide with said eccentric such that rotation of said eccentric opens and closes said toggles to raise and lower said slide, a wedge interposed between each of said sub-frames and said slide, and serving as the connecting link to secure each of said sub-frames to said slide, a threaded member secured to one of said sub-frames and rotatably mounted in said slide, a second threaded member engaging said other sub-frame and rotatably mounted in said slide and



threaded opposite to the threading of said first threaded member, and power means to rotate said threaded members in unison and adjust the position of said wedge elements to vary the position of said die supporting face with respect to said bed.

2,979,976
FLIER-TYPE TUBE BENDING TOOL
George E. Franck, Riverside, Ill., assignor to Imperial-Eastman Corporation, a corporation of Illinois
Filed Apr. 6, 1959, Ser. No. 804,256
12 Claims. (Cl. 81—15)



12. In a tube bender having a mandrel with a peripheral bending groove concentric of an axis, bending means comprising a block movable about said axis and confronting the bending groove of the mandrel to press a tube into said bending groove, an elongated handle, and means movably connecting the handle to the block including means positioning the handle in either of two preselected angularly related positions relative to said block.

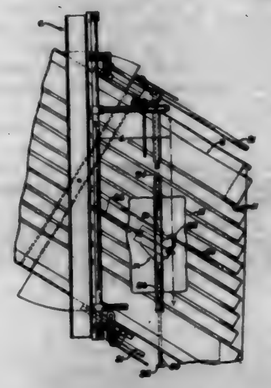
2,979,977
ADJUSTABLE WRENCHES
Herman Bachli and Harry S. Shapiro, Chicago, Ill., assignors to Chicago Specialty Manufacturing Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 12, 1959, Ser. No. 786,288
4 Claims. (Cl. 81—129)

1. A slidable side jaw wrench comprising a stationary jaw member and a movable jaw member, said movable jaw member having a continuous slot at a right angle to said movable jaw member, said stationary jaw member supporting a threaded member extending into said slot, a non-rotatable locking member supported on said threaded member, said locking member having a convex shaped inner surface aligned with said slot and adapted



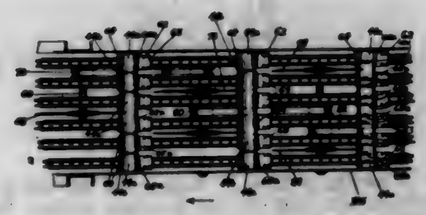
when in locking position to engage said movable jaw member adjacent said slot and to extend partially into said slot and partially out of said slot.

2,979,978
BIAS CUTTER CONVEYOR CONTROL COMPRISING LINKAGE MEANS TO MAINTAIN DISTANCE BETWEEN CUTTER AND STOP
Victor H. Hasselquist, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Aug. 5, 1958, Ser. No. 753,274
4 Claims. (Cl. 83—209)



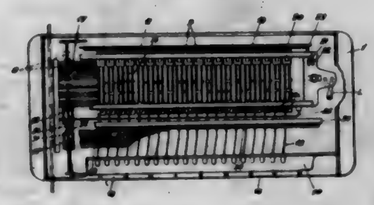
1. In a bias cutting apparatus for sheet material which includes a multi-belt conveyor for the material, guide means for mounting a travelling knife and extending across said conveyor and means for adjusting the angle of said guide means relative to the direction of conveyor travel; the improvement comprising a table under said conveyor with a slot therein extending parallel to the direction of conveyor travel between a pair of belts of the conveyor, means for mounting conveyor drive control means on said table comprising a track at the under side of said table parallel to said slot, a swivel plate guided on said track, a base plate pivoted to said swivel plate about an axis that extends through said slot, base plate supporting means extending underneath said table, means slidably mounting said base plate supporting means, and means extending from said adjustable knife guide means and connected to the latter means slidably mounting said base plate supporting means for moving said base plate supporting means in parallelism with said adjustable knife guide means, and a stock engaging finger mounted on said swivel plate at said pivot axis and extending upwardly through said slot in the table.

2,979,979
ROLL CUTTING DEVICE AND THE LIKE
Lester C. Hearden, Eau Claire, Wis., and Ely Meyer, Tampa, Fla., assignors to Sterling Pulp & Paper Company, Eau Claire, Wis., a corporation of Florida
Filed Jan. 16, 1956, Ser. No. 559,439
5 Claims. (Cl. 83—407)



5. A cutting device adapted to segment elongated paper rolls and the like comprising a plurality of driven endless conveyors spaced in parallel relationship to provide elongated conveyor rows; rotatably driven cutters disposed symmetrically on opposite sides of the longitudinal mid-line of the device and arranged between the conveyor rows; a plurality of roll holders disposed generally transversely and spaced from each other longitudinally of the paths of advancing rolls, each roll holder connected to said conveyors respectively, each roll holder comprising front rests disposed on the downstream side and extending upwardly from the conveyors, and back rests on the upstream side disposed normal to the direction of roll travel, the outer end portions of said back rests turned upstream at an acute angle to the longitudinal axis of the roll held thereby, whereby upon cutting the severed segment will swerve to preclude frictional scorching.

2,979,980
MOVABLE CONVERTOR FOR THE BASS MECHANISM OF AN ACCORDION
Emil Baldoni, Brooklyn, N.Y., assignor to Traficante, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 23, 1957, Ser. No. 654,515
11 Claims. (Cl. 84—376)



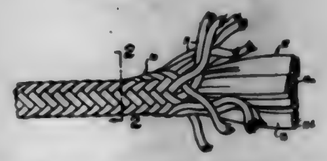
1. In a bass section for an accordion a carriage mounted for back and forth shifting movement relative to the bass section, a plurality of reciprocable members mounted on said carriage for movement thereon in a direction generally normal to the direction of movement of said carriage but held against rotation, a plurality of valve actuating arms mounted in said bass section and operatively associated with the respective reed control valves of said bass section, a plurality of lugs carried by each of said reciprocable members and operatively engaging said arms when said carriage is in normal position, at least certain of said lugs being moved out of operative engagement with said arms when said carriage is shifted out of normal position, and means for controllably shifting said carriage from one position to the other.

2,979,981
DRUMHEAD CONSTRUCTION
William Frederick Ludwig, Chicago, Ill., assignor to Ludwig Drum Co., a corporation of Illinois
Filed July 25, 1960, Ser. No. 44,929
13 Claims. (Cl. 84—411)



1. A drumhead construction comprising a first ring of generally channel-shaped cross-sectional configuration defining a mounting slot having a full length access opening through said ring along a side thereof that faces in a direction generally normal to the plane of the ring, a plastic drumhead sheet spanning said ring and having a marginal edge extending through said access opening and lining said slot to substantially follow the outline configuration thereof, and a second ring nested in force fit relation in said slot of said first ring to establish said rings in tight fit compressional engagement for exerting clamping pressure against the said marginal edge that lines said slot to grip the same against slippage even when said drumhead is subjected to high tension shock loading, said rings having cooperating portions thereon for defining a mechanical interlock that holds the rings in said tight fit compressional engagement for maintaining said clamping pressure against the said marginal edge.

2,979,982
BUOYANT CORDAGE
Edward W. Weltzel, Hickory, N.C., assignor to Stanford Mills, Inc., Hickory, N.C., a corporation of North Carolina
Filed Feb. 29, 1956, Ser. No. 568,490
6 Claims. (Cl. 87—6)

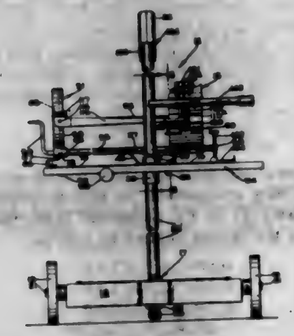


2. A highly flexible and buoyant cordage product comprising a jacket formed of a low water absorbent textile material and a core formed of polyethylene material surrounded by said jacket, said core having a plurality of randomly spaced air pockets entrapped therein, all of said entrapped randomly spaced air pockets being formed by said polyethylene material, the proportion of the amount of textile material forming said jacket to the amount of polyethylene forming said core being such that the specific gravity of the combined materials is less than one.

2,979,983
HEADLAMP TESTING APPARATUS
Tracy Carrigan, Lansing, Mich., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 25, 1957, Ser. No. 648,143
17 Claims. (Cl. 88—14)

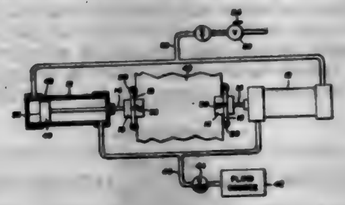
1. In an apparatus for testing the adjustment of a vehicle headlamp, a platform, a light intensity indicating unit mounted on said platform for movement in a vertical plane, a scale member carried by said unit, means

mounting said scale member for movement in a vertical plane relative to said unit, a scale arm adjustably mounted on said unit adjacent said scale member for movement in a vertical plane relative to said scale member and for disposition at a predetermined angular setting relative to



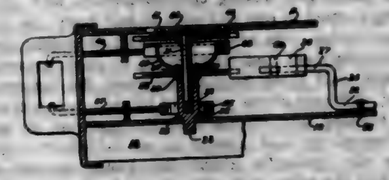
the horizontal, and a level mounted on said scale arm whereby, when said scale arm is disposed to said unit at said predetermined angular setting, movement of said unit to position said scale arm in a horizontal plane places said unit in a desired aiming position.

2,979,984
SHUTTER FOR PINHOLE DETECTORS
Edgar R. Rosen, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Sept. 6, 1957, Ser. No. 682,418
2 Claims. (Cl. 88—14)



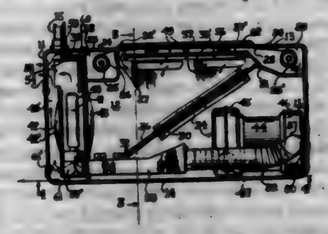
1. In a photoelectric device for inspecting sheet material, the combination of a light source, a chamber having an elongated opening provided therein and containing light responsive means spaced therefrom, shutters movably supported at each end of the chamber and having portions overlying said opening therein, said shutters being provided with respective notches located in interior edges thereof and shaped to permit substantially only vertically impinging light energy to pass therethrough, a set of guide rollers carried by each of said shutters, said guide rollers being positioned relative to their respective shutters to maintain the outer edges of said material slightly exterior of and beyond the most exterior portion of said notches whereby light from said source impinges on substantially all of said material, and means for urging said sets of rollers toward each other and against said material being inspected with a predetermined force comprising a fluid motor including a cylinder, a reciprocating piston in said cylinder having a diameter less than the interior diameter of said cylinder for providing a passage for fluid from one side of said piston to the other side thereof, conduit means at one end of said cylinder for connection to a fluid source, and valve means connected to other end of said cylinder for exhausting the fluid therefrom.

2,979,985
FILM COUNTER AND SPRING TENSION INDICATORS
Jacques Bolsey, New York, N.Y., assignor, by mesne assignments, to Am-Bel Corp., Long Island City, N.Y., a corporation of New York
Filed Oct. 20, 1955, Ser. No. 541,761
7 Claims. (Cl. 88—16)



1. In a cinematographic apparatus, in combination, support means; drive means carried by said support means; indicating means for indicating the length of unexposed film remaining in the camera, said indicating means being carried by said support means and operatively connected to said drive means to be driven thereby from a given starting position, when all of the film in the camera is unexposed, toward an end position indicating that all of the film in the camera has been exposed; and means operatively connected to said indicating means for automatically returning the same to said starting position thereof when film is removed from the camera, said means including a pin member movably mounted on said support means for movement between an extended position in which the free end of said pin member extends into the chamber of the camera where a film container is adapted to be located and in which said pin member disconnects said drive means from said indicating means and a retracted position in which said indicating means is connected to the drive means by means of said pin member, first spring means operatively connected to said pin member and tending to move said pin member to said extended position, and second spring means operatively connected to said indicating means and tending to move said indicating means to said starting position, whereby when a film container is placed in the camera said pin member is moved against the force of said first spring means to said retracted position so that said indicating means is connected to said drive means to be driven thereby and whereby when the film container is removed from the camera said pin member is automatically moved by said first spring means to said extended position so that the indicating means is disconnected from the drive means and said indicating means is moved by said second spring means to said starting position.

2,979,986
PICTURE PROJECTING DEVICE
Jack M. Miller, Chicago, Ill., assignor to Paramel Electronics Corp., Chicago, Ill.
Filed Mar. 28, 1957, Ser. No. 649,107
1 Claim. (Cl. 88—24)



An improvement in a picture projector in which the projector includes a box-like body having a partial open

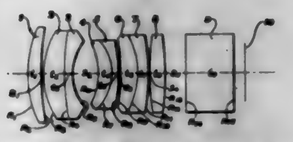
top, the improvement comprising a partition adjacent one end of the body for dividing the body into a lamp housing and an open top lens and reflector compartment, said compartment being normally closed by a hinged work plate and a hinged lens carried by said projector and arranged in parallel spaced relation with respect to each other, an exhaust fan within said compartment and having open communication therewith, a blower within said compartment and having communication with an inlet opening formed in one end wall of said body, an air duct communicating with said blower and extending through said compartment and terminating in open communication with said lamp housing adjacent the bottom wall thereof, deflector plates provided by said duct within said lamp housing and disposed in the path of air moved therethrough by said blower so as to deflect a portion of the air upwardly about the lamp, an air outlet formed in the other end wall of said body for said lamp housing adjacent the top thereof, and an air inlet formed in said one end wall of said body having communication with said compartment through the space between said spaced apart plate and lens for circulating outside air therebetween and through said compartment by said exhaust fan.

2,979,987
PROJECTION APPARATUS
Corwin H. Bromley, Penfield, and James A. Clark, Brighton, N.Y., assignors to Bausch & Lomb Optical Company, Rochester, N.Y., a corporation of New York
Filed Oct. 12, 1959, Ser. No. 845,670
4 Claims. (Cl. 88—28)



1. In a slide projector, the combination including a projection lens system and lamp for projecting an image from a transparent slide onto a screen, a slide tray holder, a slide tray movable through said holder in a step-by-step manner to successively bring transparent slides disposed in the tray into a loading position, stop means including a bar having a tab projecting through an opening in said tray holder for stopping said slide tray in a position wherein the first slide in said tray is disposed in said loading position, said tab having a rearwardly facing abutment surface perpendicular to the slide tray holder and a forwardly facing angularly arranged cam surface for engagement by a slide tray inserted rearwardly into the holder, an electric driving motor, manual means for completing an energizing circuit for actuating said driving motor, means effective upon the actuation of said motor for simultaneously moving said first slide into projection position relative to said lens system and withdrawing said tab from said opening in said tray holder, a control switch actuated into circuit closing condition by said bar upon the withdrawal of the tab from the opening in said tray holder, whereby said motor is thereby rendered automatically effective to actuate said last-named means in time sequence in order to successively advance said tray in said step-by-step manner, to move each slide as it reaches loading position into said projection position and after a predetermined time interval to return said slide to loading position, and said stop means being effective to sense the position of said slide tray after the last slide has been returned to loading position and to actuate said control switch to a circuit open condition so as to prevent the further automatic operation of said driving motor.

2,979,988
FIVE COMPONENT PHOTOGRAPHIC OBJECTIVE OF THE MODIFIED GAUSS TYPE
George H. Aklin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 10, 1957, Ser. No. 701,881
7 Claims. (Cl. 88—57)



1. An optical objective for photographic purposes comprising five lens components in optical alignment, their dioptric powers P_1 to P_5, numbered from front to rear, being within the ranges defined as follows:

$$0.5P<+P_1<1.1P$$
$$0.5P<-P_2<1.1P$$
$$0.3P<-P_3<0.9P$$
$$-0.1P<P_4<+0.6P$$
$$0.7P<+P_5<1.4P$$

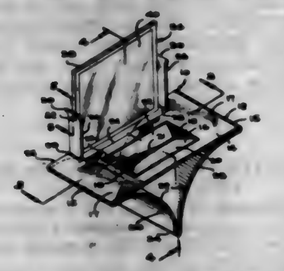
where P is the dioptric power of the objective as a whole, in which the first and fifth components are convex to the outside, the first component has its more strongly curved surface to the outside, the second and third components are meniscus in shape and concave toward the diaphragm space therebetween, the fourth component is numerically the weakest component of the five and consists of a front positive element and a rear negative element cemented together, the refractive index of the positive element being greater than that of the negative element by bewteen 0.1 and 0.4 and the radius of curvature of the cemented surface being between —0.25 F and —F, where F is the focal length of the objective as a whole and where the minus sign indicates that the surface is concave to the front, and in which at least one component in front of the diaphragm space and at least one component behind the diaphragm space in addition to said fourth component are compound for achromatizing the image.

2,979,989
ADJUSTABLE PANORAMIC AUTO REAR VIEW MIRROR
Walter L. Calder, Jr., 99 Maple St., Milton 87, Mass.
Filed Jan. 29, 1960, Ser. No. 5,523
1 Claim. (Cl. 88—87)



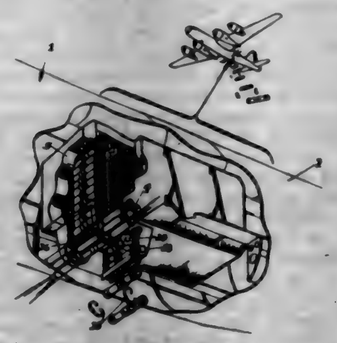
A motor vehicle rear view mirror assembly comprising a horizontally elongated vertical housing adapted to be mounted on a motor vehicle, said housing having a rear wall, an intermediate vertical mirror element movably mounted in said housing and exposed at the front of the housing, respective additional vertical mirror elements hinged at their inner vertical edges to the side edges of said intermediate mirror element and also exposed at the front of the housing, means pivotally and slidably connecting the outer vertical edge portions of said additional mirror elements to the respective opposite side portions of the housing, respective coiled springs connecting the side portions of said intermediate vertical mirror element to said rear wall and biasing the intermediate mirror element rearwardly in the housing, a transversely extending threaded member secured to the rear wall of the housing and projecting toward the intermediate mirror element between said coiled springs, an annular seat in the intermediate mirror element between said coiled springs, an abutment nut member engaged on said threaded member and engaging in said annular seat to at times hold said intermediate mirror element in a transversely adjusted position in the housing against the force of said coiled springs, and a flange on said nut member for manually adjusting the nut member on said threaded member.

2,979,990
KNEE VANITY
Jack E. Alexander, Falls Church, Va., assignor to Xela Corporation, Annandale, Va., a corporation of Virginia
Filed Mar. 31, 1959, Ser. No. 803,277
3 Claims. (Cl. 88—101)



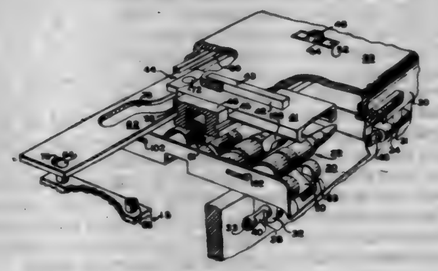
1. A knee vanity comprising a base including a top plate and side plate secured thereto, said side plates converging downwardly so as to be adapted to be clamped between one's knees, said top plate being formed with an upwardly-opening article-receiving depression, and a mirror assembly mounted upon said top plate, said depression including vertical side walls and a bottom wall having sloped portions converging downwardly.

2,979,991
RAPID FIRING RECOILLESS BOMB PROJECTING DEVICE
Herbert H. Buschers, Towson, and Pedro C. Medina and Roger W. Wilson, Baltimore, Md., assignors to The Martin Company, Middle River, Md., a corporation of Maryland
Filed Oct. 10, 1951, Ser. No. 250,758
2 Claims. (Cl. 89—1.5)



1. In a rapid firing recoilless bomb projecting device having opposed rotating barrels, an uninterrupted firing sequence and utilizing belted ammunition of the type wherein each round of ammunition consists of a firing chamber and individual bombs disposed on each side of an explosive charge centrally located in each chamber; said device comprising a gun cradle, a rotary barrel assembly rotatably supported by said gun cradle, said barrel assembly comprising two parallel discs interconnected so as to have a common axis, upon each of which discs are mounted a plurality of aligned gun barrels pointed in opposite directions, the gun barrels on each disc being spaced in a circular array and with the barrels of one disc in alignment with the barrels of the other disc, said discs being axially removed so as to define a space therebetween, means to bring rounds of belted ammunition to said barrel assembly, said rounds being received upon said barrel assembly with each round located in said space and in firing relation with a pair of aligned barrels, driving means to feed said belted ammunition uninterruptedly through said device, thereby to rotate the barrel assembly at constant speed, and means to fire said explosive charges while the rounds are located on said barrel assembly whereby the respective bombs are fired simultaneously in opposite directions through a pair of barrels.

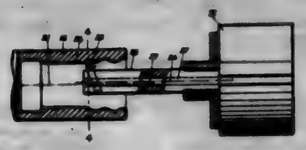
2,979,992
REVERSIBLE FEEDING MECHANISM
Richard H. Colley, South Hadley, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed June 14, 1954, Ser. No. 436,748
5 Claims. (Cl. 89—33)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a firearm having a receiver, a barrel slidably disposed in the receiver for recoil and counterrecoil, and a cover associated with the receiver to form a feedway for the transverse passage therethrough of a belt of linked cartridges, a reversible feed mechanism comprising a substantially rectangular reversible housing releasably secured to the underside of the cover in coaxial relation with the feedway, a longitudinal bar releasably secured to the underside of the cover adjacent the front and rear ends thereof to lock said housing thereto, a feed slide slidably mounted in said housing, said slide having a cam follower depending from one end thereof and a resiliently mounted feed pawl depending from the opposite end thereof, said locking bar having a groove extending along each of opposite longitudinal sides thereof, the cover having depending opposite sides and a groove extending longitudinally along the interior surfaces of each of said sides respectively opposite and parallel to said grooves in said locking bar to form right and left hand sets of grooves, a cam plate slidably disposed in said set of grooves furthest from said feed pawl, said cam plate having a longitudinally extending cam track therein engageable with the lower end of said cam follower on said slide, means for releasably securing said cam plate to the barrel for reciprocation therewith, said cam track having an angular central camming portion for moving said cam follower in a plane normal to the longitudinal axis of the receiver whereby said slide and said feed pawl thereon are actuated to feed the cartridge belt along the feedway during each firing cycle of the

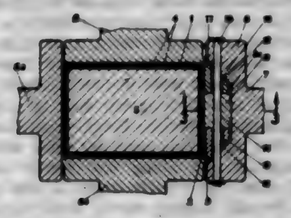
gun, means releasably secured in the feedway in the path of the cartridge belt to stop the leading cartridge thereof in position to be chambered in the barrel, and means for releasably securing both sides of the cover to the receiver whereby the release of either side permits the cover to be pivoted about the opposite side thereof and thereby provide ready access to the feed mechanism for reversing the direction of operation thereof.

2,979,993
ROCK DRILL BIT AND METHOD OF MANUFACTURING SAME
Fritz Uno Hedström, Sandviken, Sweden, assignor to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden
Filed Apr. 8, 1957, Ser. No. 651,424
Claims priority, application Sweden Apr. 17, 1956
1 Claim. (Cl. 90—11.42)



In the method of forming a continuous rounded thread upon the inner surface of a rearwardly directed open sleeve portion of a rock drill bit, the steps comprising mounting and rotating said sleeve portion on its longitudinal axis, mounting and rotating a chisel in a circular path about an axis eccentric to the longitudinal axis of the sleeve portion at a higher speed of rotation than said sleeve portion, maintaining the rotational axes of said sleeve portion and chisel parallel with and at a constant distance from each other, presenting said chisel in continuous cutting relationship to the interior surface of said sleeve portion throughout the entire circular path of said chisel and effecting an axial feed of said chisel relative to said sleeve portion such that the pitch of the grooves cut by said chisel is but a small fractional part of the pitch of the rounded thread developed upon the interior surface of said sleeve portion as a result of the cutting action.

2,979,994
ASSEMBLY FOR PRESSING THE UPPER END OR LOWER MARGINS OF A CONTAINER
Hans Welsch, Duesseldorf, Germany, assignor to Jagenberg-Werke Akt. Ges., Duesseldorf, Germany
Filed Oct. 8, 1956, Ser. No. 614,693
Claims priority, application Germany Nov. 11, 1955
8 Claims. (Cl. 93—36)



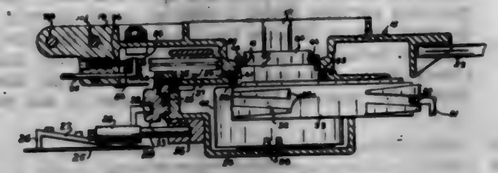
1. An assembly for pressing the upper and/or lower margins of a container body having a side wall including portions which overlap to provide a longitudinal seam for the body, whereby the side wall is thicker on one side of the seam than on the other, such assembly including an impact receiving element and a pressure jaw assembly movable toward the impact receiving element and having a single recess therein facing said impact receiving element, with the impact receiving element and jaw assembly being associated with the inner and outer faces of the container side wall portion having the overlapped longitudinal seam, said pressure jaw assembly including a first member within said recess and fixed as regards the direction of movement of the assembly and having an exposed face that defines a pressing plane and at least two other pressure applying members within said recess, one on each side of said first member, each of said last-mentioned pressure applying members also having an exposed pressing face, means mounting said other pressure-applying members for displacement relative to one another and relative to said first member in the direction toward and away from said impact receiving element and further means operatively associated with said two other pressure-applying members for transmitting movement of one pressure-applying member to the other pressure-applying member responsive to engagement of said one of said other two pressure-applying members with the thicker container side wall portion at the location of the overlapped seam so that said one pressure-applying member moves away from the impact receiving element and the other pressure-applying member moves toward the impact receiving element while said first member remains fixed as regards the direction of movement of the assembly.

2,979,998
APPARATUS FOR CLOSING AND SEALING LINED CONTAINERS
Frank D. Bergstein, Wyoming, and Leonard Buck, Hamilton, Ohio, assignors to Bergstein Packaging Trust (a trust composed of Robert M. Bergstein and Frank D. Bergstein, trustees)
Filed Jan. 28, 1960, Ser. No. 5,290
27 Claims. (Cl. 93—44)



1. In apparatus for closing and sealing lined containers wherein conveyor means are provided for advancing the containers in a path of travel, said conveyor having a first straight-line section, an intermediate arcuate section, and a second straight-line section, and wherein means are provided along said first straight-line conveyor section to outfold the closure flaps at the upper-end of each container and flatten and seal the mouth of the liner projecting therefrom, the improvement which comprises providing folding means positioned to engage and infold the leading and trailing closure flaps of each container as it is advanced in an arcuate path along said intermediate arcuate conveyor section, said folding means comprising a folding arm mounted adjacent the path of travel of the containers, said arm having a leading part which is downwardly inclined in the direction of travel of the containers, an intermediate part which is generally horizontally disposed, and a trailing part which is upwardly inclined in the direction of travel of the containers, said folding arm being positioned so that the leading and trailing end closure flaps of the containers will pass inwardly of the leading part thereof and will overlie and contact the intermediate and trailing parts thereof, whereby the said leading and trailing closure flaps will be folded upwardly as they are moved along the trailing part of said arm, the leading part of said arm being positioned so that its undersurface will be contacted by a third closure flap of each container so as to cause such flap to be folded downwardly thereby, sweep means for contacting the upwardly folded leading and trailing closure flaps and infolding them to overlie the container bodies, and means along the second straight-line section of the conveyor for infolding and sealing the remaining closure flaps.

2,979,996
TROWELING MACHINE
Clem H. Spitler, Dayton, and John D. Gayer, Alliance, Ohio, assignors to Master Vibrator Company, Dayton, Ohio, a corporation of Ohio
Filed Apr. 24, 1957, Ser. No. 654,836
8 Claims. (Cl. 94—45)



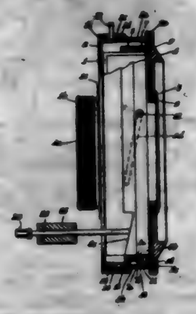
1. A power operated troweling machine, including drive means having a relatively stationary mount which in use occupies a position in vertically spaced approximately parallel relation to a work surface, a housing secured in immediately dependent relation to said mount, a gear train unit within said housing operatively connected for drive by said drive means, a blade mount surrounding the periphery of said housing and operatively connected to said gear train unit means for rotation thereby, troweling blades, means tiltably mounting said blades to peripheral portions of said blade mount in a substantially co-planar relationship therewith for rotational movement therewith and tilting movement thereon and a ring frictionally engaging said blade mount and a cam surface on said ring, means on said blades engaging said cam surface and means for retarding the rotation of said ring on said blade mount to cause tilting of said blades.

2,979,997
RETRACTOR LENS
Marguerite Bertsch, 3501-03 Hudson Blvd., Union City, N.J.
Filed Sept. 9, 1955, Ser. No. 533,299
1 Claim. (Cl. 95—1)



A corrected lens combination consisting of two paired off-center sections of a wide-diameter spherical lens, the paired sections being taken along the same diameter of the wide-diameter lens, at equal and opposite distances from the center, the two sections being superposed upon each other, in reverse, with the thinner outer edge of one section lying over the thicker inner edge of the other section, whereby the refraction of the one off-center lens-section, practically unidirectionally to one side, is completely reversed and corrected by the identical degree of practically unidirectional refraction of the other lens-section in the opposite direction, the resulting image being sent straight rearward from the lens-combination, at half the focal length of the wide-diameter lens used centrally, the lens-combination being substantially no thicker at its center than the wide-diameter lens.

2,979,998
PHOTOGRAPHIC CAMERA WITH COUPLED EXPOSURE METER
Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Dec. 30, 1957, Ser. No. 706,023
Claims priority, application Germany Feb. 5, 1957
15 Claims. (Cl. 95—10)



1. In a photographic camera, in combination, a diaphragm setting member; a speed setting member; a turnable and axially-movable diaphragm control ring turning in response to shifting movement of the diaphragm setting member; a turnable and axially-movable speed control ring turning in response to shifting movement of the speed setting member, said control rings being freely turnable with respect to each other and being coaxially arranged; a fixed bearing cylinder; means effecting axial movement of one of said rings in response to turning movement of the other ring, said means including a cam control device connected with said other ring and said bearing cylinder, and including means coupling the said control rings for concurrent and equal axial movement; an exposure meter having a tracing member; and means coupling said one control ring to said tracing member to actuate the latter in response to axial movement of said one control ring, including means comprising a control cam on and extending circumferentially of said one control ring and acting axially thereof, for actuating said tracing member in response to turning movement of said one control ring while the ring does not shift axially, said cam turning with said ring.

2,979,999
PHOTOGRAPHIC INTRA-LENS SHUTTER WITH A DELAYED ACTION DEVICE AND CONTACT ARRANGEMENT FOR FLASH RELEASE
Waldemar Traugott Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Apr. 6, 1955, Ser. No. 499,735
Claims priority, application Germany May 3, 1954
14 Claims. (Cl. 95—11.5)

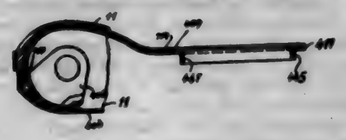
1. A photographic intra-lens shutter having a delayed action device; a contact arrangement for a flash release; a synchronizer mechanism constituting a part of said delayed action device for self-exposures; a shutter drive means; means connected with said mechanism and shutter drive means and including one manually operable part for cocking said mechanism simultaneously with the cocking of the shutter drive means in response to manual actuation of solely said one operable part; a shutter housing; a delayed-action setting ring controlling said delayed action device and arranged on said housing, said ring being movable for effecting "V," and "X" exposures; a control device arranged on said housing, said device being operable to return said ring from its "V" position into its "X" position; a yieldable lock for holding the ring in said "V" position, said lock being yieldable for releasing the ring

independently of cocked or released positions of the shutter; manually operable means for actuating the setting ring between "V" and "X" positions, said means being adapted to overcome said yieldable lock, said control device being separate from said manually operable means;



and actuator means separate from the manually operable means, for automatically rendering said control device operative after the delay movement of the delayed-action device has taken place, thereby to cause said device to shift the said ring to its "X" position.

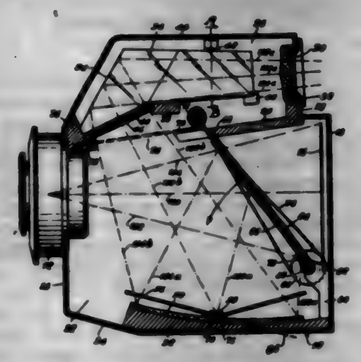
2,980,000
CAMERAS
Wilhelm Kopp, Wiesbaden-Bieberich, and Hermann Pfau, Frankfurt am Main, Germany, assignors to Adox Kamerawerk G.m.b.H., Wiesbaden-Bieberich, Germany
Filed Mar. 25, 1957, Ser. No. 648,189
Claims priority, application Germany June 21, 1954
13 Claims. (Cl. 95—31)



1. For use in a camera, in combination, a magazine housing adapted to be inserted into and removed from the camera, said housing having a front wall formed with an opening through which film in the magazine housing is exposed when the magazine housing is in the camera and said opening is uncovered; a cover slide located in said housing adjacent said front wall thereof; guide means carried by said housing and guiding said slide for movement between a closed position closing said opening and an open position uncovering said opening; a drum segment turnably supported by said housing in the interior thereof, said slide being fixed at one end to said drum segment so that when the latter turns in one direction said slide becomes wound at least in part on said drum segment to be moved from said closed to said open position thereof and when said drum segment turns in an opposite direction said slide moves from said open to said closed position; and turning means carried by said housing and operatively connected with said drum segment for turning the same.

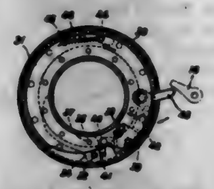
2,980,001
SINGLE OBJECTIVE MIRROR REFLEX CAMERAS
Edgar Sauer and Helmut Eberle, Stuttgart, Germany, assignors to Zeiss Ikon A.G., Stuttgart, Germany
Filed Aug. 4, 1954, Ser. No. 447,728
5 Claims. (Cl. 95—42)

1. In a single objective mirror reflex camera, the combination with a camera casing having a front wall, a rear wall and a bottom wall, of a photographic objective mounted in said front wall, a sensitized film arranged closely adjacent and parallel to said rear wall, a totally reflecting mirror mounted for pivotal movement within said camera casing and spaced rearwardly of said photographic objective and in front of said film, means for pivotally supporting said totally reflecting mirror at its lower end about a horizontal axis beneath the optical axis of the camera and at the lower portion of said rear wall, means for holding said mirror in its operative position which is inclined to said bottom wall so that the image projected by said objective into the camera is deflected downwardly towards the bottom of said camera casing, a substantially horizontal partition in said camera casing for dividing the latter into upper and lower chambers, said partition having a relatively small aperture at its front portion adjacent the front wall of the camera casing, a horizontal rotatable shaft with a flexible shade wound thereon mounted on said partition, said shade when being unwound closing said aperture in said partition, a view finder device arranged in the upper one of said chambers, a viewing aperture for the view finder device arranged in said rear wall, a substantially horizontally positioned light reflecting member mounted fixedly on the bottom wall of said camera casing and arranged at such an angle to the bottom wall to reflect the image projected by said photographic objective onto said pivotally mounted totally reflecting mirror upwardly and rearwardly past said mirror and through the aperture in said partition into said view finder device, said view finder device including a prism for receiving the image from said light reflecting member and for reflecting it substantially horizontally into said viewing aperture, and means for rotating first said rotatable shaft with the shade thereon for causing said shade to unwind and close said aperture in said horizontal partition and then for rotating said totally reflecting mirror about its pivot axis in a direction in which said mirror is moved downwardly to cover said light reflecting member and to expose the film to the image projected by said objective.



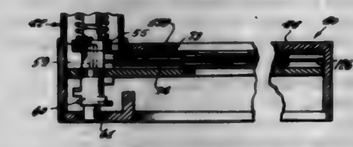
2,980,003
MECHANISM OF IRIS STOP FOR CAMERA
Shoji Anzai, 638 Shimizu-cho, Saimura, Itabashi-ku, Tokyo, Japan
Filed June 18, 1957, Ser. No. 664,921
Claims priority, application Japan June 9, 1956
6 Claims. (Cl. 95—42)

1. Diaphragm control mechanism for a camera equipped with a normally closed shutter, said control mechanism, comprising in combination a shutter; an iris diaphragm closable to various selected degrees of openings by angular movement of an operating ring; a spring constantly urging said operating ring in an angular direction tending to open said diaphragm; an angularly adjustable cam ring; an iris operating lever arm for moving said iris operating ring in an angular direction opposed to the urging of said spring through an angle determined by the angular position of said cam ring; an iris diaphragm control member operatively connected with said lever arm whereby application of force to said control member actuates said lever arm to move said iris operating ring and thereby close said iris diaphragm to an extent depending upon the angular position of said cam ring while said shutter remains in its normally closed position, said spring



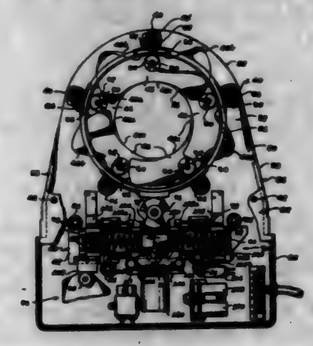
causing said diaphragm to return to the opened position upon release of said force; and shutter actuating mechanism operatively connected to said iris operating lever arm whereby activation of said shutter actuating mechanism causes said lever arm to move said operating ring and close said diaphragm to an extent dependent upon the angular setting of said cam ring prior to the opening of said shutter also in response to the operation of said shutter actuating mechanism, said spring returning said diaphragm to the opened position following operation of said shutter actuating mechanism.

2,980,803
CAMERA SHUTTER
Robert A. Draghi, 37 Fern St., Floral Park, N.Y., and Carl Mayblom, Woodside, N.Y.; said Mayblom assignor to said Draghi
Filed Dec. 3, 1956, Ser. No. 625,723
3 Claims. (Cl. 95—63)



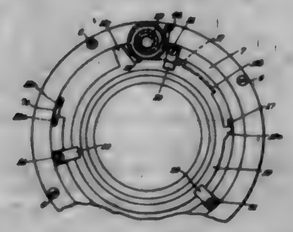
1. A two ring action camera shutter comprising two concentrically supported independently rotatable rings, one ring being within the other, a first shutter leaf pivoted on one of said rings and having a portion engageable by the other of said rings and being movable to an opened and a closed position by relative movement of said rings, means to bias said first leaf to an opened position, a second shutter leaf pivoted on one of said rings and having a portion engageable with the other of said rings and being movable between an opened and closed position by movement of said rings, second means to bias said second shutter leaf to a closed position, a rotatable power cam having a plurality of eccentrics for actuating said ring operation in a predetermined sequence, said eccentrics comprising a lower cam stop portion, a shock-absorbing radially-extending portion above said cam stop portion, a latch stop portion protruding from the lower face of said cam stop portion, and radially offset first and second shutter leaf actuating cam portions, means for energizing said power cam for rotation, said energizing means including a latch member engageable with said latch stop portion for latching said cam while energizing same and means for releasing said latch member from said cam for initiation of rotation of said cam, first lever means connected to said first leaves and engageable with said first shutter leaf actuating cam portions to close said first shutter leaves, and movable out of contact therewith to permit opening of said first shutter leaves by said biasing means upon rotation therepast, second lever means connected to said second leaves and engageable with said second shutter leaf actuating cam portion to open said second shutter leaves and movable out of contact therewith to permit closing of said second shutter leaves by said biasing means and means engageable with said shock absorbing eccentric portion of said cam for retarding said cam in preparation to cam actuation of said levers whereby to suppress destructive acceleration impacts to said leaves.

2,980,004
CAMERA SHUTTER MECHANISM
Russell E. Prentice, Smithtown, N.Y., assignor to Hycon Mfg. Company, Pasadena, Calif., a corporation of Delaware
Filed Aug. 27, 1957, Ser. No. 680,566
13 Claims. (Cl. 95—63)



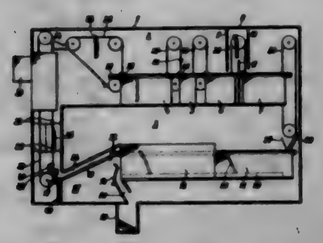
4. In a camera shutter, the combination of a frame having an aperture, a plurality of shutter members each having a pair of spaced shutter elements, means mounting said shutter members around said aperture on said frame for movement in opposite directions between first closed positions wherein a corresponding one of said elements of each said shutter members conjointly overlie said aperture and second closed positions wherein the other element of each said shutter members conjointly overlie and close said aperture, and through an intermediate open position wherein said elements uncover said aperture, shutter drive means for moving said shutter members between said closed positions including a carriage mounted on said frame for movement in given opposite directions, a shutter operating member of comparatively high inertia mounted on said carriage for movement relative to the latter in said given directions, said operating member being movable in said given directions between limiting positions with respect to said frame, releasable latch means for latching said operating member in said limiting positions upon movement of the latter member to said limiting positions, means coupling said operating member and shutter members for causing movement of the latter members to one closed position upon movement of said operating member to one limiting position and to the other closed position upon movement of said operating member to the other limiting position, yieldable means acting between said carriage and operating member for biasing the latter member to a central position on the carriage, and means for moving said carriage when said operating member is latched in each of said limiting positions toward the opposite limiting position of the operating member whereby to tense said yieldable means in a direction to urge said operating member toward said opposite limiting position.

2,980,005
PHOTOGRAPHIC CAMERA
Waldemar T. Bentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Jan. 21, 1958, Ser. No. 710,288
Claims priority, application Germany Jan. 24, 1957
13 Claims. (Cl. 95—64)



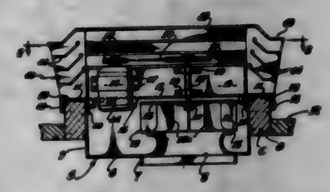
1. In a photographic camera, a shutter housing at the front of the camera; an interchangeable lens assembly having a diaphragm; means detachably mounting said lens assembly on the front of the shutter housing; a diaphragm operator on said lens assembly, having solely one coupling portion constituted as a unitary member disposed at the rear of the lens assembly and having spring means urging said operator to a position which effects the smallest diaphragm aperture; a setting ring separate from the lens assembly and disposed on the shutter housing, said ring having a stop which is cooperable when the lens assembly is mounted on the said housing with said single coupling portion for driving the latter; and an actuation member separate from the lens assembly and disposed on the shutter housing, said member having means which are engageable, when the lens assembly is mounted on the said housing, with said single coupling portion to drive the same and open the diaphragm independently of said setting ring.

2,980,006
AUTOMATIC PROCESSING DEVICE FOR CUT PHOTOGRAPHIC FILMS
Hendricus Jacobus Cornelis Nieuwenhoven, Rijswijk, George Leendert Adriaan Meute, Tilburg, and Hubertus Johannes Mariaus Christian Broch, Breda, Netherlands, assignors to N.V. Optische Industrie "De Oude Delft," Delft, Netherlands
Filed July 1, 1957, Ser. No. 669,287
Claims priority, application Netherlands July 7, 1956
1 Claim. (Cl. 95—90)



An automatic processing machine for cut photographic films comprising in combination a housing, a first compartment in said housing which in operation is light-tight, a first series of tanks in said light-tight compartment containing processing liquids adapted to completely develop and substantially desensitize said films, a second compartment in said housing which in operation is accessible, a second series of tanks in said accessible compartment containing processing liquids, including fixing and washing liquids, adapted to finish said desensitized films, a plurality of film frames each adapted to receive one cut film, conveying means forming a closed circuit traversing said first and second compartments for automatically advancing said film frames in timed sequence through said first and second series of tanks successively, light-locks between said light-tight and said accessible compartments giving passage to said conveying means carrying said film frames, a magazine for a stack of exposed cut films in said light-tight compartment, automatically operated means in said light-tight compartment for discharging said cut films individually from said film magazine and inserting said discharged films in said film frames, said film frames being loosely suspended on said conveying means whereby said film frames carrying a cut film in the course of processing are removable for preliminary inspection of the developed and desensitized films upon their passage from said light-tight compartment to said accessible compartment.

2,980,007
ROOF VENTILATOR
George M. Bruidert, Granada Hills, Calif., assignor to The G. C. Bruidert Co., San Fernando, Calif., a corporation of California
Filed Jan. 27, 1959, Ser. No. 789,415
1 Claim. (Cl. 98—43)

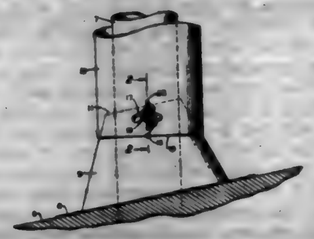


In a building roof having a rectangular curb defining an air outlet through said roof, a ventilator having a base portion comprising four upright side walls and a bottom wall defining a lower chamber of rectangular cross section, a flange extending laterally outwardly from the top edge portion of each of said side walls and being engageable with the top end of said curb to suspend said base portion within said curb, said bottom wall having an air inlet opening therethrough laterally offset from the longitudinal axis of said base portion, an upright plate having a flanged bottom edge portion resiliently supported from side walls of said base portion and having its top edge disposed above the plane of said flanges, an air impeller rotatably suspended from said plate coaxial with said opening, a motor carried by said plate at a point laterally offset from said impeller, means operatively connecting said motor to said impeller, an upper portion having four louvered side walls and a flat top wall, said walls defining an upper air outlet chamber of rectangular cross section, said last-mentioned side walls having at their bottom edges laterally outwardly disposed flange portions resting upon said first-mentioned flanges, and hinge means hingedly connecting one of said flange portions of one of said louvered side walls to one of said first-mentioned flanges, whereby said upper portion may be swung about said hinge means into position providing access to said motor and impeller.

2,980,008
CAP ASSEMBLY
Kenneth S. Akehurst, Castro Valley, Calif., assignor to Neil Manufacturing Company, Berkeley, Calif., a corporation of California
Filed July 14, 1959, Ser. No. 827,166
2 Claims. (Cl. 98—46)

1. A cap assembly comprising a sheet metal frusto conical base member, a circular cylindrical tube member

telescoped over said base member, a pair of bolt fasteners in substantial alignment on a diameter of said frusto conical base member and passing through said members, one of said members having apertures therein of just sufficient size to pass the bolt shank of said fasteners and the other



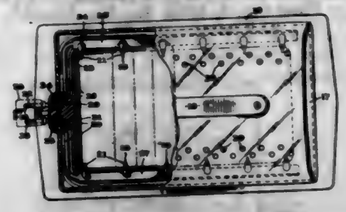
of said members having arcuate slots therein of a size to pass the bolt shank of said fasteners, and nuts engaged with said bolts and when tightened being effective to deform said tube member and said conical member into abutment.

2,980,009
MATERIAL SPREADER FOR CONFINED AREAS
Harlan J. Donelson, Jr., West Highway 330, Marshalltown, Iowa
Filed Dec. 3, 1959, Ser. No. 857,853
7 Claims. (Cl. 98—55)



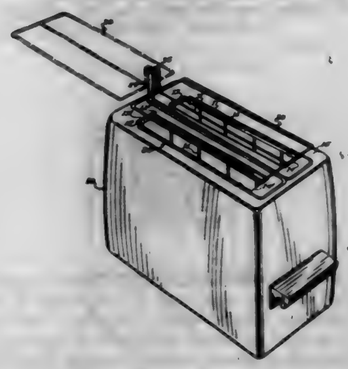
1. A drying and storage apparatus for particulate material comprising in combination a storage housing having a base end and an opening in the other end thereof vertically spaced from said base end; means for introducing gas under pressure into said housing whereby it passes through said housing and out of said opening; an auxiliary tubular housing having a smaller periphery than said opening; means for supporting said auxiliary housing in said opening and within said storage housing whereby an air outlet exists between said auxiliary housing and the side wall of said opening; said auxiliary housing having a length which is a small fraction of the distance between said base end and said other end; means for rotatably supporting a shaft within said auxiliary housing; a rotatable spoked support carried by said shaft adjacent the end of said auxiliary housing nearest said base end; means within said storage housing for rotating said spoked support; and a plurality of vanes carried by different of the spokes of said spoked support whereby particulate material entering said auxiliary housing passes through said spoked support, and onto and off said vanes, for even distribution within said storage housing and simultaneously gas passes through said storage housing countercurrent to particulate material entering said storage housing via said auxiliary housing and passing within said storage housing under the action of gravity.

2,980,010
ELECTRIC COOKING DEVICE
Beverly E. Williams, La Grange Park, Ill., assignor to Hodges Research and Development Company, New York, N.Y., a corporation of California
Filed Jan. 29, 1959, Ser. No. 789,874
9 Claims. (Cl. 99—337)



6. In an electrical cooking device for frankfurters, a dish-shaped base having spaced ends and having a substantially rectangular depression therein, two spaced parallel rows of spaced electric contacts mounted in said depression forming opposed pairs of contacts with each pair of contacts adapted to receive a frankfurter, a bus bar electrically connecting one of said rows of contacts, a second bus bar electrically connecting the other of said rows of electrical contacts, an upstanding switch element mounted in said base adjacent an end thereof for each of said bus bars, a cover having spaced ends, removably mounted on said base enclosing and substantially preventing access to said electric contacts when in closed position and electrically conducting means carried by said cover adjacent an end thereof engaging said switch elements only when said cover is in closed position for completing the electric circuit to said bus bars, said cover when in closed position extending completely around and downwardly below the top of said rectangular depression and in engagement with said base to prevent access to said rectangular depression around the edges of said cover.

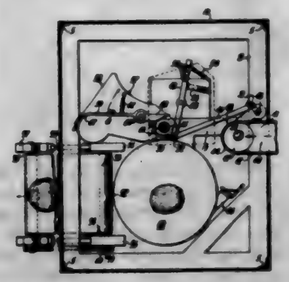
2,980,011
WARMING RACK FOR TOASTERS
James E. Delk, Sr., 2126 Ponce de Leon Ave. NE., Atlanta, Ga.
Filed Oct. 25, 1956, Ser. No. 618,329
13 Claims. (Cl. 99—339)



1. The combination with an electric toaster of a warming rack to said electric toaster for supporting toast in horizontal position over said toaster comprising a spacer member engaging the upper surface of said toaster, resilient arms connected to said spacer member, said arms being of such configuration as to be extending along the bread receiving slots of said toaster, engaging

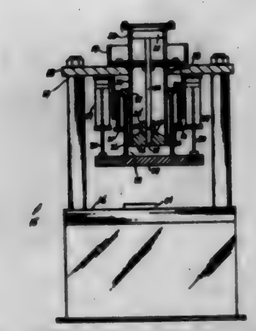
means extending from said arms and resiliently engaging the outer edges of said slots, and means pivotally carried by said spacer member for supporting said toast as aforesaid.

2,980,812
MACHINE FOR PROCESSING DOUGH PRODUCTS
Miguel A. Ramirez, Sr., 1307 Wyoming St., El Paso, Tex.
Filed Oct. 9, 1958, Ser. No. 766,285
11 Claims. (Cl. 99—353)



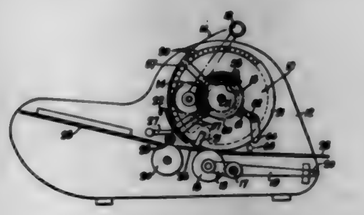
1. A dough product processing machine comprising, a frame, means to compress and partially cook the products mounted on the frame, means to deliver dough products to the compressing and cooking means, and means to convey processed products from the compressing and cooking means, the delivery means including a receiving platform, means to bring dough products to the receiving platform, a transfer arm movable alternately beneath the receiving platform and to the compressing and cooking means, means operable in timed relation with the transfer arm to move the receiving platform to dump dough products from the receiving platform to the transfer arm, and means to remove dough products from the transfer arm to the compressing and cooking means operable by movement of the transfer arm to the compressing and cooking means.

2,980,813
HYDRAULIC PRESS APPARATUS
Joseph S. Swick and Stanley Rosen, New York, N.Y., assignors to Tromomatic Machine Mfg. Corp., New York, N.Y., a corporation of New York
Filed Apr. 29, 1959, Ser. No. 809,858
10 Claims. (Cl. 100—257)



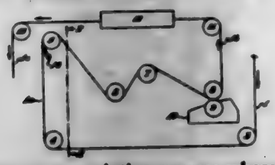
1. In an hydraulic press apparatus of the character described, a frame having a work-supporting member, two containers, one within the other in liquid-tight sliding relation forming a telescopic structure; one of said containers being fixed to the frame; said telescopic structure being so positioned that upon extension thereof by movement of the movable container, said movable container moves towards the work-supporting member; the movable container being movable towards said work-supporting member a distance more than sufficient to contact work on said work-supporting member and then in the opposite direction to leave such work respectively; the inner container having an opening connecting the interiors of said containers, a rod positioned in the inner container, mounted for movement to close said opening and continue such movement whereby said rod slides in said opening in liquid-tight relation therewith and means to move said rod to close said opening and slide therein after it has closed said opening and to move said rod back to open said opening; the cross-sectional area of the interior of the outer container being comparatively large and the cross-sectional area of the portion of said rod which operates in said opening being comparatively small whereby the movable container serves as the pressing piston to act on work set on the work-supporting member and said rod serves as the intensifying piston of the press; the inner container being a storage for liquid which is the working fluid.

2,980,814
HECTOGRAPHIC DUPLICATING MACHINES
Francois Rodolphe Bousch, Paris, France, assignor to Block & Anderson Limited, London, England, a British company
Filed Dec. 19, 1957, Ser. No. 703,973
Claims priority, application Great Britain Dec. 28, 1956
14 Claims. (Cl. 101—91)



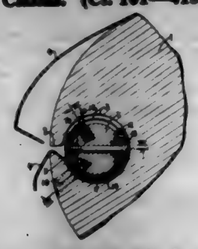
1. A hectographic duplicating machine including a printing and copy-sheet feeding couple comprising a rotatable printing drum and a counterpressure roller mounted for rotation on an axis parallel to but spaced from the axis of said drum, said drum including means for securing an image-bearing member thereto and wrapped at least partially therearound with its respective lines of image text directed parallel to the axis of said drum, a plurality of similar printing segments disposed parallel with said drum axis and forming that part of the peripheral surface of said drum which underlies the image-bearing portion of said image-bearing member, said segments each having a circumferential width equal to and positioned to underlie and support one text line area of said image-bearing member, means for supporting each segment in a first position in which said segments conjointly form a part-cylindrical supporting surface for said image-bearing member and of a radius less than that necessary to provide printing and copy-sheet feeding pressure at the printing bight between said drum and said counterpressure roller and means for effecting individual displacement of any chosen one of said segments in a radially outward direction to a second position where the peripheral surface thereof provides a part-cylindrical surface having a radius from the drum axis sufficient to effect both printing and copy-sheet feeding movement in conjunction with said counterpressure roller at the printing bight of said printing couple.

2,980,815
ROTOGRAVURE PRINTING OF PAPERBOARD
Thomas G. Zentner, Woodlawn, and Richard L. Beggs, Middletown, Ohio, assignors, by mesne assignments, to Diamond National Corporation, a corporation of Delaware
Filed June 6, 1956, Ser. No. 589,818
3 Claims. (Cl. 101—170)



1. In a rotogravure printing process wherein a continuous paperboard web is advanced at high speed into printing contact with an inked rotogravure cylinder along a printing line, the improvement comprising the steps of applying a thin, uniform superficial layer of hot moisture to the surface to be printed of the advancing web at a position ahead of and so spaced from the printing line that only a fraction of one second elapses between the application of the moisture and the subsequent contact with the rotogravure cylinder, said layer of moisture being limited to said surface of the web and having the effect of momentarily increasing the surface absorptivity and compressibility of the web for said fraction of one second, and controlling the application of said moisture in relation to the speed of the advancing web to maintain said momentary effect.

2,980,816
BLANKET CLAMPING ASSEMBLIES FOR WEB OFFSET ROTARY PRINTING PRESSES, OR LETTER PRESSES
Hans J. Lauhrs, Westerly, R.I., assignor to The Cottrell Company, Westerly, R.I., a corporation of Delaware
Filed July 16, 1959, Ser. No. 827,633
7 Claims. (Cl. 101—415.1)



1. A blanket clamping assembly for web rotary printing presses comprising the combination with a rotary cylinder having a narrow slot located along its peripheral surface and opening into a longitudinal bore located in the cylinder near its peripheral surface of a blanket, said slot and bore being adapted to receive the blanket ends, a manually rotatable shaft mounted in said bore, a split tube partly surrounding and spaced from said shaft and secured thereto, and coacting devices carried by said shaft, split tube and cylinder for pinning clamping and tensioning the blanket to the cylinder as the shaft is turned in one direction.

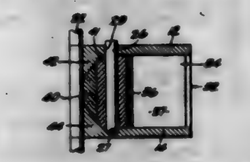
2,980,817
PERFORATING DEVICES
Jacques H. Castel, Houston, Tex., assignor, by mesne assignments, to PGAC Development Company, Houston, Tex., a corporation of Texas
Filed July 28, 1953, Ser. No. 370,833
12 Claims. (Cl. 102—20)

1. An expendable and substantially disintegratable perforating device for well walls comprising an elongated cylindrical carrier of frangible material of sufficiently small diameter to pass through approximately two inch inside diameter well tubing; a plurality of recesses formed transversely in said carrier and extending at least substantially therethrough; a plurality of shaped, cavitied explosive charges confined in said recesses and unsealed against well pressure; a frangible cover for each of said recesses; a groove formed in said carrier at least substantially intersecting the ends of said recesses opposite the cavities of said charges; a detonating cord in said groove for detonating said charges; a thin-walled frangible



tube supported by and enclosing said carrier, said covers and said cord, the interior of said tube being sealed against the entry of well fluids; cable means for supporting said device opposite the well wall to be perforated; a retrievable subassembly connecting said carrier with said cable means; an electrical circuit extending from the earth's surface through said cable means to said subassembly; and means carried by said subassembly to detonate said cord in response to completion of said circuit at the earth's surface, whereby said charges are detonated substantially simultaneously.

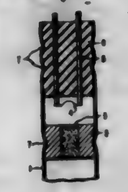
2,980,818
WELL PERFORATOR SHAPED CHARGE
George F. Turechek, Los Angeles, Calif., assignor, by mesne assignments, to Borg-Warner Corporation, Vernon, Calif., a corporation of Illinois
Filed Jan. 3, 1956, Ser. No. 556,966
5 Claims. (Cl. 102—20)



1. A shaped charge perforator unit comprising in combination: a container of frangible material having an open end and a vertically grooved end opposite thereto adapted to receive elongated initiating means; an elongated initiating means in said groove; a booster charge disposed within said housing adjacent said initiating means; a main charge disposed within said housing; a recess symmetrically formed within said main charge having a pair of substantially planar walls diverging outwardly toward said open end of said housing, the line of intersection of the planes of said walls being parallel to said initiating means, a metallic liner for said recess; a solid, linear barrier disposed in said explosive charge

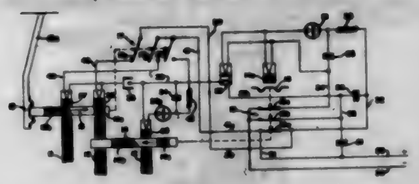
parallel to said line of intersection and located between said booster and said liner, the ends of said barrier being supported by said container; said booster charge being of lesser extent in the portion thereof adjacent and parallel to said initiating means than the vertical extent of said main charge, and expanding symmetrically away from said initiating means to intersect with said main charge; said container being arranged to form barriers between said initiating means and said expanding portion of said booster charge.

2,988,019
ELECTRIC INITIATOR
George Adelbert Noddin, Sewell, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 9, 1957, Ser. No. 682,768
5 Claims. (Cl. 102—28)



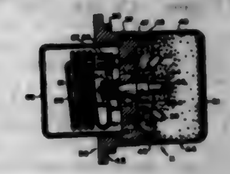
1. An electric initiator of high-temperature stability which comprises a tube open at both ends, a thick-walled rigid cylinder ⅛ inch to about ¼ inch in length with an outer-to-inner diameter ratio of at least about 2.0 and having a central bore containing from 0.03 to 0.6 grain of lead azide at a distribution of from 2.5 to 60 grains per foot and positioned axially in said tube, and an electrical ignition assembly sealed within one end of said tube in igniting relationship to said lead azide, said initiator being of low brisance and resulting in substantially no offensive noise upon initiation.

2,988,020
CONDITION RESPONSIVE FUZING SYSTEM
Thomas C. Smith, Poughkeepsie, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 27, 1952, Ser. No. 290,285
4 Claims. (Cl. 102—70.2)



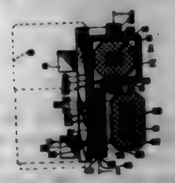
1. In a fuze for detonating the explosive charge of a missile, a first means for detonating the charge comprising a primer, a detonator, and an explosive train, a plunger carrying said detonator, a circuit comprising an impact switch and said primer whereby the primer may be detonated by actuation of said impact switch, means for moving said plunger into said position in which said detonator is out of alignment with said train, a second means for detonating said explosive charge, comprising a second train and a primer, a second detonator carried by said plunger and moved into alignment with said second primer and said second train by said plunger, means to ignite said second primer, and a third means for detonating the charge a predetermined time after movement of said second plunger.

2,988,021
IGNITION OF SOLID ROCKET PROPELLANTS
Barnet R. Adelman, Los Angeles, Calif., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 14, 1956, Ser. No. 591,349
2 Claims. (Cl. 102—70.2)



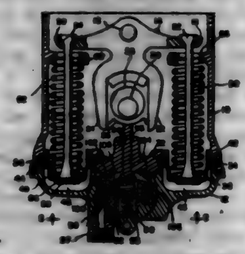
1. An igniter assembly for a rocket motor comprising, in combination, an igniter plug having a countersunk inner face, thereby forming a cavity in the inner end of said plug; ignition sustainer material disposed within said cavity; a perforated container attached to the inner end of said plug; igniter material disposed within said container and in contact with said ignition sustainer material; an electrical conductor member extending through a central portion of said plug and said ignition sustaining material, one end thereof terminating exteriorly of the outer end of said plug and the other end thereof terminating within said container; insulating material surrounding the portion of said conductor member within said plug; electrical ignition means disposed within said perforated container in contact with said igniter material; first electrical conducting means connecting the inner end of said conductor member to said ignition means; second electrical conducting means connecting said ignition means to said plug; and third electrical conducting means connected to the outer end of said conductors member.

2,988,022
CONDUCTIVE FLUID PUMP
Joseph F. McCarthy, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 23, 1956, Ser. No. 617,874
4 Claims. (Cl. 103—1)



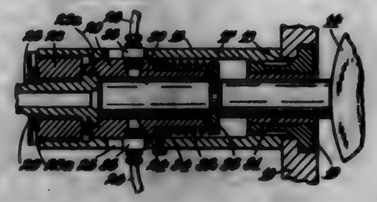
1. In a device of the class described: a fluid flow device having a conductive fluid filled channel; two electrodes forming first opposite walls of said channel; two magnetic poles covered with an insulative type of bonding material; a thin covering of high electrical resistance metal impervious to said conductive fluid attached to said bonding material to conform to the contour of said magnetic poles; said poles covered with said electrical resistance metal forming second opposite walls of said channel; said bonding material acting to electrically insulate said poles from said high electrical resistance metal as well as hold the high electrical resistance metal in place; and an electrical insulating material located between said magnetic poles and said electrodes; said walls of said channel further being sealed fluid tight with said electrical insulating material.

2,988,023
FLUID PUMPS
John E. Smith, St. Clair Shores, and Raymond L. Essinger, Detroit, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Oct. 7, 1957, Ser. No. 688,713
12 Claims. (Cl. 103—6)



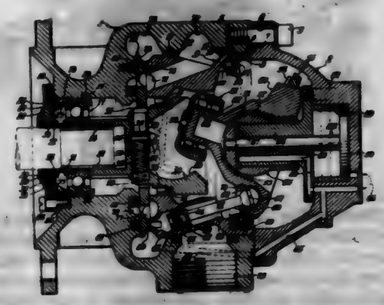
1. A pump comprising an oscillating driver, a pair of pumping means each comprising a piston and cylinder, a fluid inlet manifold, a fluid outlet chamber, a pair of fluid passages extending from said manifold to said fluid outlet chamber, a pair of check valves in each of said passages, a passage connecting each of said fluid passages to one of said cylinders, pull rods connecting each of said pistons to said driver, said rods having a one-way connection with said driver, springs connected to said pistons and urging said pistons in pumping direction, and means connected to said driver for actuating the pull rods alternately to produce suction strokes of said pistons.

2,988,024
VARIABLE-DELIVERY POSITIVE DISPLACEMENT PUMP
Joseph Albert Pope, 5 Wortley Hall Close, Derby Road, Nottingham, England, assignor of one-half to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Mar. 3, 1958, Ser. No. 718,715
Claims priority, application Great Britain Mar. 4, 1957
4 Claims. (Cl. 103—37)



1. A variable-delivery positive-displacement liquid pump comprising a pump body having an axial bore, a pump cylinder slidable axially within the bore of the body, said pump cylinder having an internal cylinder bore open at one end, an inlet to the cylinder bore intermediate its ends and an outlet at its opposite end, and said pump cylinder also having an abutment surface at said opposite end facing axially away from said one end, an abutment member mounted in said pump body axially in line with the cylinder and beyond the outlet end thereof, said abutment member having an abutment face facing towards and co-operating in axial abutment with the abutment surface of the pump cylinder to limit sliding of the pump cylinder in one direction, said abutment member being adjustable in the pump body axially of the bore to vary the position of the pump cylinder, said abutment member having a portion projecting externally of the pump body and engageable by a tool to permit its adjustment axially of the pump body during operation of the pump, a pump piston extending axially into said pump cylinder through the open end thereof, and drive means imparting to the piston a stroke to cover and uncover the inlet.

2,988,025
WOBBLE PLATE PUMP
Gunnar A. Wahlmark, Rockford, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 22, 1958, Ser. No. 761,636
4 Claims. (Cl. 103—38)

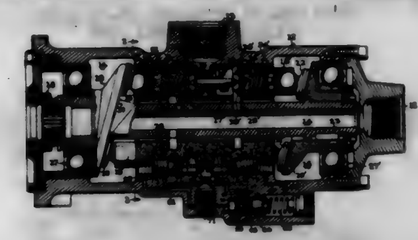


1. A pumping unit comprising, in combination, a casing including means defining a plurality of cylinders therein, a plurality of pistons reciprocable in the respective cylinders, a pivotal wobbler operatively engaging the respective pistons for imparting reciprocation thereto for causing the pistons to respectively suck fluid into the cylinders and to discharge fluid under pressure from the cylinders, a drive shaft concentrically mounted with respect to said casing and formed with a diagonal wobbler actuating slot in the end thereof, said wobbler including an actuator adapted to be disposed within said diagonal slot of said drive shaft so that upon rotation of the drive shaft reciprocation is imparted to said pistons, means responsive to the pressure of the fluid discharged from said cylinders and normally biasing said actuator wobbler into said diagonal actuating slot and thereby decreasing the throw of said pistons and, in turn, the fluid output of the pump, said drive shaft including means defining a transverse opening therein, and a biasing member projecting from said transverse opening whereby to cooperate with said actuator so as to move the wobbler away from the position corresponding to a position of zero piston throw for enabling the pumping unit to commence pumping fluid even though the output fluid pressure may have previously dropped off to zero with the wobbler in a position corresponding to zero piston throw.

2,988,026
VARIABLE DISPLACEMENT PUMP
Ralph J. Pachmayer, Moorestown, N.J., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Sept. 18, 1959, Ser. No. 840,958
18 Claims. (Cl. 103—42)

1. In a pump of the type including a housing containing inlet and outlet ports, a cylinder bore, a piston reciprocable in the cylinder bore and defining therewith a pump working chamber, and inlet and discharge passages leading from the working chamber to the inlet and discharge ports, respectively, the improvement which comprises a spill-back port formed in the surface of the cylinder bore and connected with the inlet port; a spill-back passage formed in the piston and leading from the working chamber through the surface of the piston, the opening through the surface of the piston being so located that the spill-back passage and spill-

back port communicate at least for a portion of each discharge stroke; a control port formed in the surface of the cylinder bore; a control chamber in the piston; a control passage communicating with the control chamber and opening through the surface of the piston, the opening in the surface of the piston being so located that the control passage and port communicate at some time during each pumping cycle; a spill-back valve located within the piston and controlling flow through the spill-



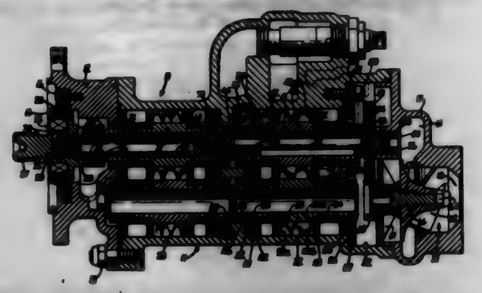
back passage, the valve being shiftable between passage-opening and passage-closing positions; a spring reacting between the piston and the spill-back valve for urging the valve in the passage-closing direction; means connected with the spill-back valve and subject to the pressure in the control chamber for shifting the spill-back valve in the opposite direction against the bias of the spring; and means connected with the control port and serving to transmit to that port a variable control pressure.

2,980,027
FLUID PRESSURE OIL WELL PUMP
Richard O. Dulaney, 1403 Continental National Bank Bldg., Fort Worth, Tex.
Filed Aug. 21, 1959, Ser. No. 835,348
3 Claims. (Cl. 103—46)



1. In a pump of the character described, a vertical main casing, an auxiliary casing mounted concentrically in said main casing and defining a pressure fluid space therebetween, means sealing the lower portion of said space, an apertured liquid inlet chamber depending from and communicating with said auxiliary casing, an annular guide bushing secured in the intermediate portion of said auxiliary casing, said bushing being formed with an exhaust passage extending vertically therethrough, a tubular sleeve member extending slidably and sealingly through said guide bushing and being provided at its lower end with an upwardly opening check valve, a valve sleeve slidably and sealingly mounted in said auxiliary casing above said guide bushing, a first annular valve element on the lower end of said valve sleeve sealingly engageable over said exhaust passage, said valve element being spaced from the tubular sleeve member to define a clearance space, said auxiliary casing and valve element being formed with horizontal registrable apertures arranged to establish communication between said pressure fluid space and said clearance space when the valve sleeve is in a lowered position in said auxiliary casing, an annular piston secured to said tubular sleeve member above said clearance space and slidably and sealingly engaged in said valve sleeve, a vertical liquid outlet conduit secured to the top end of said auxiliary casing, an annular wall at the bottom end of said liquid outlet conduit, a depending inner sleeve centrally secured in said annular wall and extending slidably and sealingly through said piston into said tubular sleeve member, said annular wall being formed with an exhaust passage extending vertically therethrough, a second annular valve element secured on the top end of said valve sleeve sealingly engageable beneath said last named exhaust passage responsive to elevation of said valve sleeve, said second annular valve element being spaced from said inner sleeve to define a second clearance space, said auxiliary casing and second annular valve element being formed with horizontal passages registrable when the valve sleeve is elevated to sealingly engage under said last named exhaust passage and being constructed and arranged to establish communication between said pressure fluid space and said second clearance space, force-transmitting resilient means between the annular piston and said second annular valve element, and force-transmitting resilient means between said annular piston and the first annular valve element.

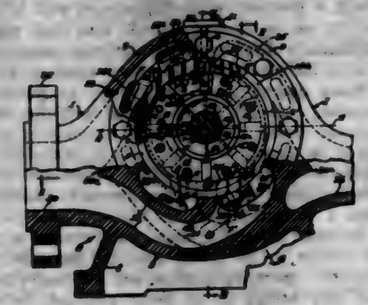
2,980,028
GEAR PUMP JOURNAL AND FACE LUBRICATION
William V. Edwards, Willowick, and Donald L. Lorenz, Euclid, Ohio, assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Aug. 19, 1957, Ser. No. 678,812
5 Claims. (Cl. 103—126)



1. In combination, a pump having an inlet region and an outlet region and having gear-type impeller means for moving fluid along a working path from said inlet region to said outlet region during which the pressure of the fluid is progressively increased from an inlet pressure at said inlet region to an outlet pressure at said outlet region, said impeller means comprising a gear having a series of teeth defining spaces therebetween for receiving and transporting fluid along said working path and said spaces extending inwardly to the root diameter of said gear, the teeth moving progressively from the inlet region to the outlet region along the working path and then moving from the outlet region to the inlet region along a non-working path, shaft means for mounting said gear, a bearing member having an internal bore receiving said shaft means and having a lateral face engaging a side of said gear, said lateral face having means defining a passage communicating with said working path

at a position intermediate said inlet and outlet regions and extending from a point slightly radially outwardly of the root diameter of said gear to a point communicating with the bore of said bearing member, said passage being substantially unobstructed to effectively communicate substantially the full pressure at said intermediate position of said working path to said bore of said bearing member, and being substantially isolated from said inlet region and said outlet region to provide a pressure intermediate inlet and outlet pressures.

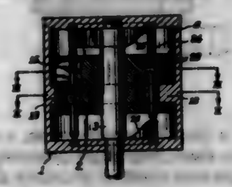
2,980,029
ROTARY VANE TYPE PUMP
Lloyd Jackson Moulton, Munsor, and Robert L. Dangler, Shaker Heights, Ohio, assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Oct. 5, 1956, Ser. No. 614,189
4 Claims. (Cl. 103—136)



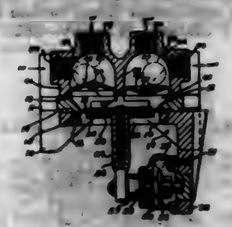
1. A vane type rotary pump comprising a housing having a cylindrical bore, a rigid metal sleeve lining said bore, a cylindrical rotor for the vanes arranged to operate in a cavity in the sleeve providing with the rotor diametrically opposite arcuate pumping chambers and diametrically opposite sealing surfaces in a diametrical plane at right angles to that of the pumping chambers, each chamber having inlet ports formed by a plurality of cylindrical holes in the sleeve having mutually parallel axes which are also parallel to said diametrical plane, a substantial portion of the holes lying tangentially of said portions of associated arcuate pumping chambers, each chamber having outlet ports, the housing having main inlet and outlet passages on opposite sides of said diametrical plane and respective long and short branches extending circumferentially of the sleeve radially outwardly therefrom and communicating the main passages with respectively associated ports, the main inlet passage having a longitudinal axis perpendicular to said diametrical plane and intersecting it in offset relation to the rotor axis in a direction toward the long inlet branch.

2,980,030
ROTARY VANE-TYPE HYDRAULIC MACHINE
Marcel Pierre Henri Couturier, 40 Ave. Allgre, Chartres, France
Filed Sept. 5, 1956, Ser. No. 608,053
Claims priority, application France Sept. 6, 1955
3 Claims. (Cl. 103—139)

1. A rotary vane-type hydraulic machine comprising a stator having a cylindrical bore, a rotor rotatably mounted in sealing relation within said bore of said stator and having an annular groove defining with a complementary portion of said stator bore an annular chamber, the outer cylindrical wall of said chamber, formed by said complementary portion of said stator bore, having a diameter slightly smaller than the diameter of said cylindrical bore, thus forming an annular ridge engaging said rotor in said annular groove, said rotor having a recess opening into said annular groove, a vane disposed in said recess for movement in substantially axial direction either out of said recess for protrusion in sealing relation into said annular chamber or retraction into said recess, the lateral outer edge of said vane sliding along said surfaces of the outer wall of said rotor recess and said cylindrical surface of said stator ridge, said surfaces being accurately machined, said stator having an abutment in the path of movement of said protruding vane and extending radially with sealing engagement into said annular groove of said rotor, said stator defining a fluid inlet port and a fluid outlet port on either side of said abutment and said ports communicating with said chamber, cam follower means movably carried by said rotor and operatively connected with said vane, said cam follower protruding out of said rotor, and said stator having cam means engaging said cam follower means for moving said vane into said recess as said vane is passing said abutment in the course of the rotational movement of said rotor and for moving and maintaining said vane out of said recess in said chamber during the remaining cycle of said rotor movement.

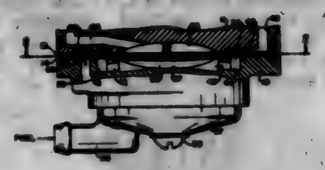


2,980,031
PUMP
Lloyd E. Russell, Springfield, Ohio, assignor to Peters & Russell, Inc., Springfield, Ohio, a corporation of Ohio
Filed June 25, 1958, Ser. No. 744,515
8 Claims. (Cl. 103—150)



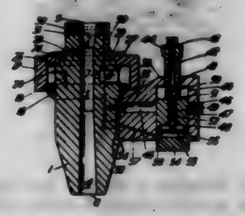
1. A pump, including a base, a wall rising vertically from said base, a body mounted on one side of said wall and formed with vacuum and discharge chambers, said wall and said body defining between them a pumping chamber in common communication with said vacuum and discharge chambers, said body including vertically rising outer walls and an intermediate wall common to said vacuum and discharge chambers, a removable closure cap for the upper end of said body providing domes to act as continuations of said vacuum and discharge chambers and having wall portions to rest on the said outer and intermediate walls of said body, diaphragm means clamped between said closure cap and said body comprising a one-piece flexible part having an initial configuration providing reversely cupped formations respectively received in said vacuum and discharge chambers, other diaphragm means mounted in said wall to form a part of said pumping chamber, means connected to said other diaphragm means to reciprocate said other diaphragm means, and valves in said body controlling a transfer of fluid from said vacuum chamber to said discharge chamber in response to reciprocation of said other diaphragm means.

2,980,632
FUEL PUMP
Kenneth C. Schneider, Bethel, Conn., assignor to Brown Engine Products, Inc., a corporation of Connecticut
Filed Feb. 27, 1959, Ser. No. 796,122
6 Claims. (Cl. 103—150)



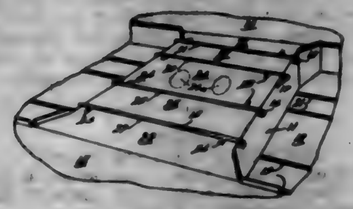
1. For use in a diaphragm-type pump, a unitary flexible substantially flat sheet diaphragm comprising a displaceable pumping portion adapted to partly define a pumping chamber, at least one check valve portion adapted to control flow of fluid through said pump, said check valve portion comprising a flat valve flap having a base integral with said diaphragm and an end portion essentially separated by cut-out sections from the main body of said diaphragm, the end portion of said valve flap being displaceable out of the plane of said diaphragm, and at least one flexible web finger bridging said cut-out sections and joining the end portion of said valve flap to said diaphragm, said web finger limiting without preventing displacement of said end portion of the valve flap out of the plane of the diaphragm.

2,980,633
FLUID HANDLING DEVICES
Roger Strange Waddington, 6 Magdalene House, Manor Fields, Epsom, England, and Bruce Duval, 39 Chasen Road, Ewell, England
Filed Feb. 26, 1957, Ser. No. 642,502
Claims priority, application Great Britain Feb. 27, 1956
11 Claims. (Cl. 103—262)



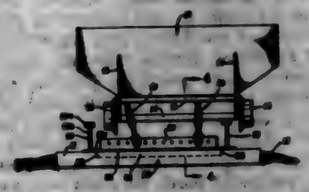
1. Apparatus for mixing liquids which apparatus comprises a hollow body part the surfaces of which are shaped to define a venturi passageway for the passage of primary liquid through said body part, said venturi passageway having an elongated throat section leading from a convergent inlet section to a divergent outlet section which has an included angle of divergence of from 2½° to 7½° and which is terminated by a mixture outlet from said hollow body part and to exhibit, when viewed from the direction of approach to said throat section, an annular surface portion which surrounds said throat section and has an overall cross-sectional area greater than the cross-sectional area of the mixture outlet and which annular surface portion consists at least in part of that portion of the surface of the body part which defines the convergent inlet section, said body part being formed with a secondary liquid inlet passage communicating with said throat section at an intermediate position thereon.

2,980,634
OPERATING MECHANISM FOR COVER DEVICE
Ralph Vincent Harty, 1433 Stanton Ave., Detroit 11, Mich.
Filed Sept. 27, 1956, Ser. No. 612,483
15 Claims. (Cl. 104—31)



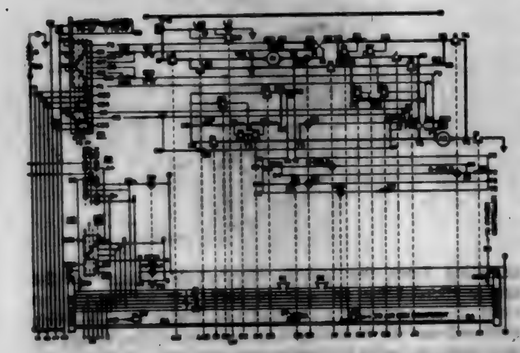
1. In a vertically movable bridge for use in conjunction with a depressed railroad siding having platforms thereabong, a plurality of deck plates on said bridge positioned for use as part of a deck, said deck plates being substantially flush with the platforms alongside said siding when the bridge is in its raised position, said deck plates being spaced apart horizontally to provide gaps therebetween, said gap being aligned with the tracks of said railroad siding, rails disposed within said gaps and adapted to be aligned with the rails of said siding when said bridge is in its lower position, covers for said gaps movable between an operative position covering said gaps and a retracted position exposing said rails, and means mounted on said bridge responsive to movement of said bridge to its raised position for moving said covers to their operative position and responsive to movement of said bridge to its lower position for moving said covers to their retracted position.

2,980,635
CAR RE-RAILER
George W. Cole, Jensen, and Ernest Falagrady, Sopris, Colo.; said Cole assignor to said Falagrady, Joe Pompin, and Tom Naglich, Las Animas, Colo.
Filed June 18, 1959, Ser. No. 821,166
8 Claims. (Cl. 104—173)



1. A car re-railer comprising an angle iron base having a vertical flange and a horizontal flange for disposition on a railroad tie between the rails of a track, with said flanges abutting against vertical and horizontal faces of said tie respectively at an upper corner of the tie, said horizontal flange being proportioned for reception with clearance at its ends between the rails, and said vertical flange having extensions at its opposite ends for projection beneath said rails to prevent upward tilting of said base, a bracket carried by said base and generally coextensive in length with said horizontal flange, said bracket being formed with a series of perforations extending throughout its length, a pair of universal joints mounted for lengthwise adjustment along said bracket transversely to said rails, and pins selectively insertible through said joints and through said perforations, rigid extensible struts having their lower ends respectively operatively connected to said universal joints for swinging movement relative to said base, each said strut comprising threaded upper and lower shanks interconnected by a threaded turnbuckle sleeve, the upper extremity of each said strut being enlarged for operative engagement with a portion of a car to be re-railed.

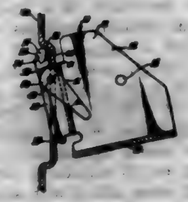
2,980,636
TRACTION-MOTOR ACCELERATION AND DYNAMIC-BRAKING CONTROL
George R. Purifoy, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 2, 1957, Ser. No. 669,611
11 Claims. (Cl. 105—61)



7. A control system for a plurality of direct-current series motors, said system including line switch means for connecting said motors to a direct-current power source for operation of the motors, control means for controlling acceleration of the motors, motor switch means for establishing a dynamic braking circuit for the motors, said braking circuit including a braking resistor, means for effecting progressive shunting of the braking resistor in a predetermined sequence of steps, means for holding said motor switch means in closed position until the shunting of the braking resistor has reached a predetermined point in said sequence, and means responsive to the current in the braking circuit for thereafter holding the motor switch means in closed position until said current falls below a predetermined value.

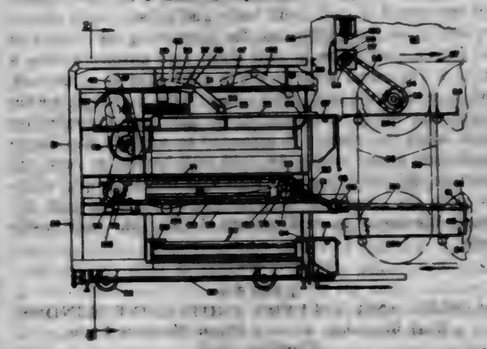
11. A control system for a plurality of direct-current series motors, said system including series connection motor switches and parallel connection motor switches for selectively connecting the motors in power circuits, line switch means for connecting the motors to a direct-current power source for operation of the motors, said motor switches having operating means for effecting operation of the motor switches to closed position and for holding them closed as long as the operating means are energized, control means for effecting operation of the line switches to closed position, the operating means of the motor switches being energized in response to operation of the line switches to closed position and under control of the control means to cause the motor switches to operate in a predetermined sequence to establish said power circuits, a brake switch, means responsive to operation of the line switches to open position for effecting energization of said parallel connection switches and of said brake switch to establish a dynamic braking circuit for the motors, said braking circuit including a braking resistor, control means for effecting progressive shunting of the braking resistor in a predetermined sequence of steps, means for effecting deenergization of the operating means of the parallel connection motor switches at a predetermined point in said sequence, and holding means for said motor switches energized in response to the current in the braking circuit for holding the switches in closed position until said current falls to a predetermined value.

2,980,637
SELF-LOCKING BAR ATTACHMENT
Edwin C. Elmer, Pasadena, Calif., assignor to Aerojet Corporation, Jackson, Mich., a corporation of Michigan
Filed Jan. 12, 1960, Ser. No. 1,926
6 Claims. (Cl. 105—369)



1. An attachment fitting for releasably securing a bar to an anchor member which comprises: a U-shaped body structure having parallel side members, a bottom cross member and inwardly-directed, converging rear cross members; outwardly protruding flanges formed at the converging edges of said rear cross members, said flanges being parallel to and spaced apart from each other, and having upper and lower edges; parallel upper and lower ears formed at and protruding from the upper and lower ends of said flanges, respectively, and having outer edges; a locking lever pivotally mounted intermediate its ends between said flanges, having an upper arm extending beyond the upper ends of said flanges, and having a lower arm; an anchor member having an inner surface and having an elongate slot of a long dimension slightly greater than the distance between the end of the upper arm of said locking lever and the lower edges of said flanges but less than the distance between the outer edges of said ears, said ears protruding beyond said slot, closely adjacent to the inner surface of said anchor member, and said upper arm of the locking lever and said upper and lower edges of the flanges being disposed in said anchor member slot when the body structure is mounted on the anchor member.

2,980,638
LEVEL LOADER AND UNLOADER FOR BAKING OVEN
Wayne H. Royer, York, Pa., assignor to Capitol Products Corporation, Mechanicsburg, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1957, Ser. No. 705,666
6 Claims. (Cl. 107—57)



6. In a baking oven provided with an opening in the front wall thereof; an endless tray conveyor in said oven including a series of equidistantly spaced pan supporting trays, said conveyor having a section movable in a vertical path to bring a pair of successive trays in close proximity to said opening; a horizontal loading and a

horizontal unloading pan supporting shelf adjacent said vertical conveyor section, said pan supporting shelves being spaced a vertical distance apart equal to the vertical spacing between said pair of trays, actuating means for said endless tray conveyor to aline a pair of trays with said pair of shelves, a sweep member and a rake member disposed in vertical spaced relation, said sweep member being disposed for movement in a horizontal plane between retracted and extended positions over said loading pan supporting shelf to engage on its extending stroke pans thereon and slidingly move them therefrom onto the tray of said pair of trays alined with said loading pan supporting shelf, said rake member being disposed for movement in a horizontal plane between retracted and extended positions across the vertical path of the tray conveyor to engage on its retracting stroke pans on the tray of said pair of trays alined with said unloading pan supporting shelf and slidingly move them onto said unloading pan supporting shelf, and actuating means simultaneously moving said sweep member to extended position across said loading shelf and said rake member to retracted position across the tray of said pair of trays alined with said unloading shelf to concurrently load and unload said pair of trays when alined with said shelves.

2,980,039
FROZEN CONFECTION
Ross T. Jolly, 161 W. Los Angeles Drive, Vista, Calif.
Filed July 10, 1959, Ser. No. 826,253
6 Claims. (Cl. 107—19)



1. A holder for a frozen confection, said holder comprising a receptacle body having a cavity and adapted to function as a mold for liquid confection substance during freezing, said mold having an open end, a closure separably connected to said mold body and substantially covering said open end, and means for connecting the closure to the frozen confection in said body, said closure having a skirt, a transverse wall to which said skirt is connected, and a portion of said skirt constituting a trough within which the liquid substance from the frozen confection drips when the closure is arranged to support the frozen confection above said body, said wall having at least one aperture therein in registry with said trough and in registry with the cavity of said receptacle body so that the liquid substance in said trough drains into said cavity body.

2,980,040
CASHIER AND TELLER'S PROTECTIVE WINDOW
Karl Brenning, 47—14 Fresh Meadow Lane, Flushing, N.Y.
Filed Feb. 16, 1959, Ser. No. 793,555
3 Claims. (Cl. 109—19)

1. In a cashier's window of the type comprising a front partition separating a customer from the cashier with a rectangular opening containing a shelf therein, the improved construction comprising a front partition having a substantially rectangular opening therein with a substantially horizontal lower edge, shelf means mounted along the lower horizontal edge of said rectangular opening, said shelf means including a rectangular shelf positioned so that the two ends extend approximately equally in front and in back of the partition and having a width such that the side edges thereof extend along a line slightly inside of the sides of said opening, a protective closure comprising a continuous semi-cylindrical outer portion open along the axial side, end portions of substantially semicircular shape closing the end portions of said semicylindrical outer portion, said end portions



deviating from the strictly semicircular shape at the center thereof by an amount sufficient to provide an axial opening with a rugged circumferential portion centered on the radius of the semicircle, the length of said rectangular shelf being approximately equal to the inside diameter of the semicylindrical closure and the outside radius of said semicylindrical closure being approximately equal to the height of said rectangular opening, and means for pivotally mounting the said closure through the axial openings in the end portions in the spaces between the shelf and the two sides of the rectangular opening.

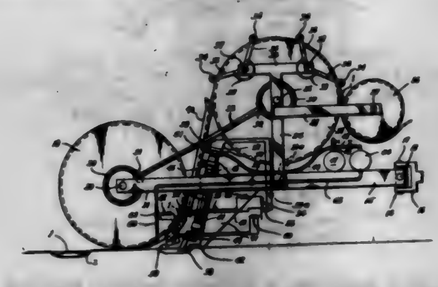
2,980,041
APPARATUS FOR PLANTING SEEDLINGS
Robert Nielsen, Sellerstrasse 73, Seiten, Hannover, Germany
Filed Jan. 30, 1957, Ser. No. 637,171
Claims priority, application Germany Feb. 9, 1956
1 Claim. (Cl. 111—3)



An apparatus for planting seedlings, comprising a forwardly wheelable frame; supply means on said frame for dispensing a tape having said seedlings projectingly secured to it in spaced-part relationship; furrow-opening blade means depending from a forward portion of said frame; a pair of forwardly and downwardly converging rotatable discs on said frame behind said blade means, said discs being resiliently urged against each other over a lower forward portion of their periphery for gripping said tape on its passage from said supply means to a furrow made by said blade means whereby the exposed ends of said seedlings project partly between said discs and partly beyond their peripheries; said supply means comprising a shaft positioned above said discs, said shaft extending substantially horizontally and parallel to the planes of said discs in close proximity to one of said planes, and a dispensing reel rotatable on said shaft in a plane substantially tangent to a forward edge portion of said discs and in a position such that said tape is gripped between the peripheries of said discs above

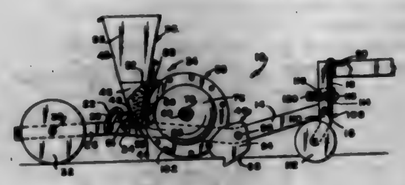
their point of convergence whereby the tape remains in a plane transverse to a line interconnecting the centers of said discs upon being deposited in a furrow of said discs; and furrow-closing means attached to a rear portion of said frame behind said discs.

2,980,042
METHOD FOR PLANTING SEISMIC DETECTORS
Burton McCollum, 950 Kirby Drive, Houston 19, Tex.
Filed Feb. 21, 1957, Ser. No. 641,572
6 Claims. (Cl. 111—6)



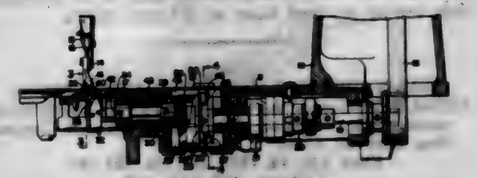
1. In geophysical exploration, the method of planting a plurality of seismic wave detectors comprising the steps of securing said detectors at fixed intervals along a cable to form a longitudinal series thereof, digging a series of trenches in the surface of the ground at intervals slightly shorter than the detector intervals on said cable, laying said cable with each of said detectors in one of said trenches, covering each of said detectors with soil, and compacting said soil around each detector.

2,980,043
PRECISION SEED PLANTER
John Melvin Beck, 214 N. Main St., Nyssa, Oreg.
Filed Feb. 12, 1958, Ser. No. 714,889
8 Claims. (Cl. 111—77)



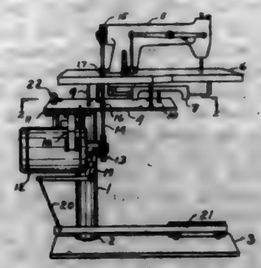
1. In a seed depositing mechanism for a seed planter comprising a hopper assembly for receiving a supply of seeds, a movable gate dividing said hopper assembly into a supply chamber and a feed chamber communicating with the lower portion of said supply chamber, a seeder disk assembly communicating with one end of said feed chamber, and a planter sword, the improvement comprising said seeder disk assembly including a rigid seeder disk having a plurality of teeth formed on the outer periphery thereof, said disk being rotatable about its axis and positioned with respect to said feed chamber so that said teeth pass upwardly through said feed chamber, each of said teeth being formed by a pair of angularly related intersecting planar surfaces having a pocket bridging the teeth adjacent the intersection of the teeth at their roots, said pocket being of a width less than the width of said disk, said planter sword having a groove formed therein disposed in a position to communicate with the pockets of said seeder disk during the rotation of the latter to receive the seeds discharging from said pockets and guide the same into proper position in the ground.

2,980,044
LOOSE STITCHING MECHANISMS FOR SINGLE NEEDLE LOCK STITCH MACHINES
Frank Parry, Trumbull, Conn., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Apr. 17, 1958, Ser. No. 729,112
6 Claims. (Cl. 112—154)



1. In a lock stitch sewing machine having a frame, a work supporting throat plate carried on said frame and formed with a needle aperture and feed dog slots, a needle journaled in said frame for endwise reciprocation through said needle aperture, and a feed dog operable through said slots to feed a work fabric in a predetermined direction, mechanism for producing loose stitches comprising, a lengthwise elongate finger having a free extremity contained within the thickness of said throat plate, means supporting said finger lengthwise substantially perpendicular to said direction of feed and widthwise beyond said needle aperture considered in the direction of feed, and means for shifting said finger lengthwise to move the free extremity of said finger into and out of a position across a line extending through said needle aperture and in the direction of feed.

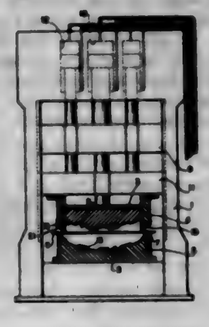
2,980,045
SEWING MACHINE STAND
Hayden R. George, 181 Carnation, and Norman B. Fisher, 14 Orchard Lane, both of Uniontown, Pa.
Filed July 17, 1958, Ser. No. 749,201
1 Claim. (Cl. 112—258)



A sewing machine structure comprising, in combination, a base member, a supporting column, an adaptor plate having a plurality of bolt holes therein and a sewing machine having a driven pulley and a column mounted on a base secured to said adaptor plate by mounting bolts inserted in selected bolt holes according to the shape of the sewing machine, and locking nuts, said supporting column being offset from the center of the base member and adaptor plate to cause the adaptor plate to overhang a substantial portion of the area of the base member, a power unit having a drive pulley mounted beneath said adaptor plate on the side opposite the overhanging portion of said adaptor plate and the sewing machine being mounted on said adaptor plate on the overhanging side of said plate and with the sewing machine column offset on the same side with said adaptor plate with respect to said supporting column to cause a counterbalancing effect on the machine and its supporting stand, said drive

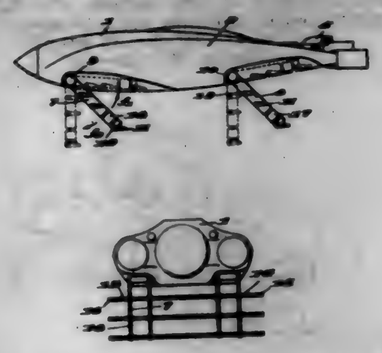
pulley extending into alignment with the driven pulley of the sewing machine on the same side of said supporting column as the sewing machine column, said mounting bolts for securing said machine base to said adaptor plate being relatively long to space the sewing machine above said adaptor plate, said locking nuts permitting relative adjustment of the spaces between said adaptor plate and the base of said sewing machine to accommodate sewing machine bases of different depths.

2,980,046
DRAW DIES FOR MULTIPLE ACTION PRESS
Clifton P. McGregor and William H. Ryan, North Hollywood, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 14, 1955, Ser. No. 501,286
1 Claim. (Cl. 113—49)



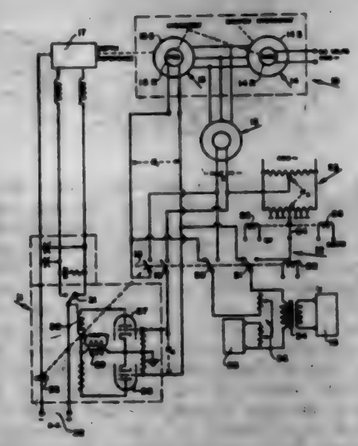
A multiple action press for forming parts from sheet metal comprising, a frame, a die member carried by said frame and having a cavity formed therein, said die member having a generally flat draw ring seating surface bordering said cavity, a punch movably carried by said frame, means carried by said frame and engaging said punch for controlling the movement thereof relative to said die cavity for forming a sheet of metal by drawing the sheet into the cavity, said punch having a liner of resilient material on the face and side thereof providing relative cross sectional dimensions between the punch and die which establishes a clearance between the sides of the die cavity and the punch which is less than the thickness of the sheet of metal for squeezing said sheet of metal between the punch and die member as it is drawn into the cavity, a draw ring surrounding said punch and movably carried by said frame, means carried by said frame and engaging said draw ring for controlling the movement thereof relative to the draw ring seating surface on said die member for applying a holding pressure on the sheet of metal being drawn into the cavity by said punch, a resilient pad of substantially uniform thickness between approximately one-quarter and one-half inch secured to said draw ring and arranged to transmit the draw ring pressure to the sheet of metal, said pad completely covering the face of said draw ring and extending to the edge of the die cavity, said pad having a hardness sufficient to exert the desired holding pressure on said sheet of metal without completely collapsing whereby the pad may exert a positive pressure all around the punch even though the thickness of the metal may vary during forming, the maximum deflection of said resilient pad being no greater than twice the normal thickness of said sheet of metal for suppressing wrinkles, and a thin, non-segmented flat metal wear plate secured only to said pad for engaging the sheet metal, said wear plate generally mating with the face on the draw ring pad and being continuous whereby to resist being drawn into said cavity by said sheet metal and to present a smooth bearing surface for the resilient pad.

2,980,047
SUBMARINE VESSEL EQUIPPED WITH HYDROFOIL ASSEMBLY
Alexandre Kerguenec, 6 Rue Castellane, Paris, France, and Hans Hermann Schlang, Koenigsbergerstrasse 104, Wedel, near Hamburg, Germany
Filed Aug. 2, 1957, Ser. No. 676,048
2 Claims. (Cl. 114—16)



1. In a submarine, a hydrofoil assembly including a pair of supports retractably mounted on the submarine, a plurality of hydrofoils mounted in spaced relation between said supports, hydrons mounted on said supports adjacent the ends of said hydrofoils, and means for moving said hydrofoil assembly between an extended position wherein both said hydrofoils and said hydrons are operative and a retracted position wherein said hydrofoils are inoperative and said hydrons are operative.

2,980,048
TORPEDO DEPTH STEERING CONTROL
Leonard S. Jones and Stephen Kowalyshyn, Sharon, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 28, 1954, Ser. No. 439,949
10 Claims. (Cl. 114—25)



1. In an acoustic torpedo depth steering system, means for generating electrical signals which are, respectively, a function of rate of change of torpedo depth and a combined function of rate of change of torpedo depth and depth error between torpedo position and set depth, means responsive to an electrical control signal for actuating the torpedo depth steering surfaces, means responsive to an electrical control signal for resetting set depth, and switch means operable in one position for applying said combined function signal to the steering surface control means whereby to maintain the torpedo at set depth and in another position for applying said rate signal to the steering surface control means and for effecting electrical subtraction of the rate signal from the combined function signal whereby to obtain the depth error signal, the latter in said one position of the switch means, being applied to said resetting means whereby to cause set depth to be continuously reset to correspond to instantaneous torpedo depth.

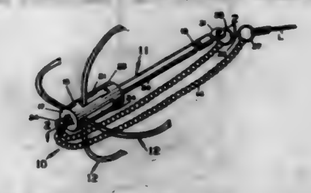
2,980,049
BOAT HULL KEEL CONSTRUCTION
William W. Ward, 806 N. Hyatt St., and Milton H. Ward, 401 Union Ave., both of Monticello, Ark.
Filed Aug. 12, 1958, Ser. No. 754,593
1 Claim. (Cl. 114—140)



In combination with a boat hull construction of the type including a pair of adjacent transversely spaced and longitudinally extending sheet metal bottom sections, a keel construction comprising a pair of generally parallel and depending flanges formed on the adjacent edges of said sections, a longitudinally extending keel and stiffening member disposed intermediate said flanges and extending the entire depth thereof with the lower edge of said stiffening member being substantially coplanar with the lower edges of said flanges, means clampingly securing said stiffening member between said flanges with the opposing surfaces of said flanges in surface to surface abutting relation with the opposite sides of said stiffening member, sealing means sealingly securing the lower edges of said stiffening member and said flanges together whereby to form a fluid-tight seal between said bottom sections, and a longitudinally extending keel protective member generally U-shaped in cross-section including a pair of upstanding longitudinally extending sides interconnected at their lower edges by means of a bight portion, means securing the upper edges of said sides to said bottom sections at points spaced longitudinally therealong and laterally and outwardly of said flanges with said sides and bight portion enclosing and spaced from said flanges, said stiffening member being generally T-shaped in cross-section and including an upper cross portion whose lower surfaces overlie the upper surfaces of said bottom sections adjacent said flanges in surface to surface contacting relation therewith, said clamping securing means comprising fasteners secured through said flanges and stiffening member at points spaced longitudinally along said keel construction, said sealing securing means comprising welding securing the lower edges of said flanges and stiffening member together.

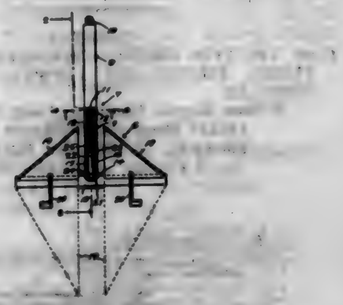
2,980,050
BOAT ANCHOR
William Murray, 212 N.E. 23rd St., Miami, Fla.
Filed Feb. 2, 1959, Ser. No. 790,475
7 Claims. (Cl. 114—208)

1. In a collapsible boat anchor, the combination comprising, a body member having a hollow housing portion and a tubular shank portion extending from one end of said housing portion, a pair of curved flukes, slot means in said housing adapted for crossed passage therethrough of said flukes, a pair of openings in the ends of said housing portion and coaxial with the central longitudinal axis of said tubular shank portion, said flukes each having collar portions disposed within said hollow housing portion



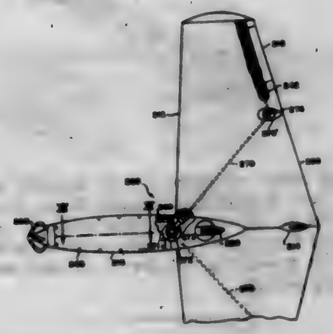
and having central openings, a shaft normally extending with one end through said tubular shank portion and the openings in said housing portion and said collar portions of said flukes, and releasable means at said one end of shaft for preventing withdrawal of said shaft from said housing portion.

2,980,051
BOAT ANCHOR WITH RELEASABLE FLUKES
Timothy H. Wheeler, 804 Saratoga Blvd., Jacksonville, Fla.
Filed Mar. 28, 1959, Ser. No. 802,836
1 Claim. (Cl. 114—208)



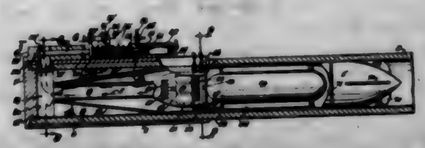
A boat anchor comprising an elongated shank having a tubular crosshead at one end thereof and a rode attaching eye at the other end of said shank, a shaft having a portion journaled in said crosshead and disposed approximately crosswise of the shank, flukes fixed to and extending laterally from said shaft, said shank having a hollow portion, one end of said hollow portion opening into the crosshead and the other end thereof terminating intermediate of the ends of said shank, a latch pin having a close fitting sliding engagement in a part of said hollow portion, a compression spring contained in another part of said hollow portion and bearing against and urging the latch pin toward said crosshead and to a projected position with one end of the latch pin extending into the crosshead, said shaft having a socket disposed to receive said end of the latch pin in one position only of rotation of the shaft, said end of the latch pin being shaped to conformably fit in the socket for latching the shaft with the flukes in an operative position at an exact predetermined angle relative to said shank, and said latch pin end and socket having coacting cam portions for camming the latch pin out of engagement with the socket to release the shaft for swinging movement of the flukes to an inoperative position solely in response to a torsional force exerted on said shaft.

2,980,052
PARAVANE
Leo F. Fuhimer, 4308 Chestnut St., Bethesda 14, Md.
Original application July 27, 1954, Ser. No. 446,185, now Patent No. 2,960,960, dated Nov. 22, 1960. Divided and this application Oct. 22, 1959, Ser. No. 854,991
8 Claims. (Cl. 114—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)



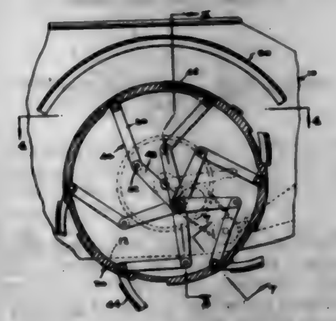
4. A paravane for towing a cable substantially abeam of the vessel's towing point, comprising a cambered hydrofoil having aileron means along its trailing edge, stabilizing means for said paravane, a streamlined body secured to said hydrofoil and extending forwardly therefrom, control means in said body for controlling said aileron means.

2,980,053
GAS VENTED FIRING CHAMBER FOR FIRING TUBES, FIRING JET PROPELLED TORPEDO, MISSILES
William Eugene Endreuze, Long Beach, Calif. (10225 Monterey, Bellflower, Calif.)
Filed Aug. 15, 1956, Ser. No. 604,201
6 Claims. (Cl. 114—238)



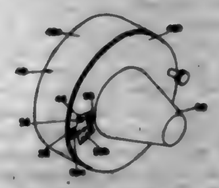
1. A missile firing system for firing a turbo-gas-jet propelled torpedo missile that is driven by high pressure gases discharging therefrom, said missile firing system comprising an elongate thin wall cylindrical tube with a bore of constant diameter that terminates on one end in a muzzle discharge opening with the opposite end thereby having a high pressure thick wall portion that terminates in a breech end opening through which said torpedo missile is inserted within said bore, a turbo-gas-jet propelled torpedo missile with a tapered portion forming the stern section of the missile case positioned within the breech end portion of said bore, a breech block door means rigidly engaging the breech end of the firing tube to complete the housing provided for firing of the torpedo missile through said bore, said tapered stern portion of the missile case longitudinally spaced from said breech block door providing a firing chamber with a head space within which the contained propellent gases surround the tapered portion of said missile case, a gas passage providing means by which the propellent gases discharging from said torpedo missile into the firing chamber may communicate to the exterior while the missile is stayed within the bore of said firing tube, said gas passage means characterized by a bore opening passing through the breech block door into the firing chamber of said firing tube, a valve block member mounting the exterior portion of said breech door and having a gas vent orifice extending through the surface thereof that is aligned with said bore passing through the breech block door, a recess housed within the confines of said valve block providing means within which a member slidable across the vent bore may operate to control the flow of gases therethrough, bore closing means operable within said recess providing the means operable closable across the vent bore and coupled to mechanism exterior of said recess by which the bore closing means is actuated specifically for the purpose as specified.

2,980,054
AMPHIBIOUS VEHICLE
Desmond Joel Sanders, Rte. 1, Irwinton, Ga.
Filed Dec. 18, 1959, Ser. No. 860,427
6 Claims. (Cl. 115—1)



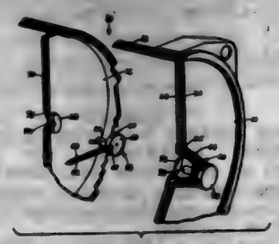
1. In an amphibious vehicle, a propulsion means comprising a rotatable wheel, a plurality of paddles arranged in spaced relation about said wheel so as to straddle the periphery thereof, a driven shaft, a crank arm carried by said shaft, a crank pin on said crank arm, and a linkage connecting each of said paddles to said crank pin, said paddles being operable to be successively projected outwardly of the periphery of said wheel and retracted to a position nested within the periphery of said wheel.

2,980,055
REVOLUTION INDICATING DIAL
Jerome G. Burns, Upper Darby, Pa., assignor to International Resistance Company, Philadelphia, Pa.
Filed Apr. 4, 1958, Ser. No. 726,583
9 Claims. (Cl. 116—115)



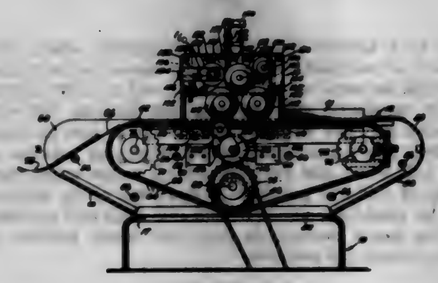
1. An indicating dial comprising the combination of an annular base, a spindle rotatably mounted on the center of said base, a ten tooth gear mounted on said base adjacent said spindle for rotation about an axis parallel to the axis of rotation of said spindle, a revolution indicating disk mounted on and rotatable with said gear, a single tooth extending radially outwardly from said spindle and adapted to intermesh with the teeth on said gear, said single tooth being a width less than the width of the spaces between the teeth of said gear, a fraction of a revolution indicating disk mounted on and rotatable with said spindle, said fractions of a revolution indicating disk extending over and overlapping a portion of said revolutions indicating disk, and means mounted on said base and resiliently urged between the teeth of said gear.

2,980,056
INSTRUMENT LIGHTING DEVICE
John H. Achilich, Bethpage, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 8, 1954, Ser. No. 414,989
5 Claims. (Cl. 116—129)
(Granted under Title 35, U.S. Code (1952), sec. 266)



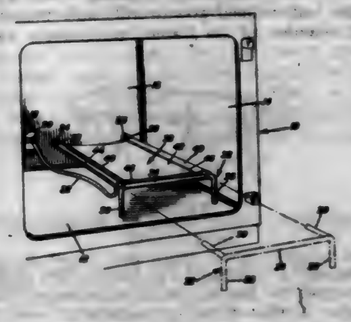
1. An instrument lighting device comprising, a casing, a window in said casing, a dial member secured in spaced relation to said window, a pointer of light transmitting material secured between said dial and window, and a lamp, a housing enclosing said lamp and secured to said window, said dial member having a coating on its back face, said pointer having a beveled edge in close proximity to said lamp to bend the light rays whereby the entire pointer is illuminated.

2,980,057
COATING APPARATUS
Carl F. Brown, Jr., and Robert G. Corbin, Huntingdon, Pa., assignors to John R. Wald Company, Incorporated, Huntingdon, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1957, Ser. No. 642,976
14 Claims. (Cl. 118—223)



1. In a device for coating flat ferrous metal articles, means for conveying said metal articles to a coating station, magnet means underlying said conveying means and being adapted to draw said metal articles into firm contact with said conveying means during the coating operation, said magnet means including a pair of pole faces that extend substantially the length of said conveying means and means for coating said metal articles, said coating means including coating rollers disposed above said conveying means and contacting said metal articles as they are conveyed thereunder, said coating rollers transferring coating material onto said metal articles at said coating station.

2,980,058
ANIMAL COT WITH ELECTRICALLY HEATED PAD
Roy D. Hoffman, 325 S. Richard St., Bedford, Pa.
Filed Mar. 3, 1959, Ser. No. 796,820
6 Claims. (Cl. 119—1)



1. A cot for animal pets comprising a pair of spaced substantially parallel rail members having sockets at their respective outer ends, a readily applicable and removable flexible cover having lengthwise hems providing rail receiving pockets along two opposite edges and embracing said rail members, said cover also having a single central pocket, a thermostatically controlled heating element mounted for operation in said central pocket, support means for the rails having cooperating components engaged movably in their respective sockets, said support means serving to elevate the rails and consequently said cover above a supporting surface, and a suitable electric cord having one end connected to said heating element through the bottom of said central pocket.

2,980,059
EGG INCUBATOR
Walter W. Bradley, La Crescenta, Calif., assignor to John W. Knox, Los Angeles, Calif.
Filed Feb. 24, 1959, Ser. No. 794,989
8 Claims. (Cl. 119—37)



1. An egg incubator comprising a base housing having legs, a humidifier provided by a hollow in at least one of said legs opening at its upper end into said base housing and containing water, a cover for said housing provided with a vent opening the humidifier to atmosphere, localized heating means adjustably mounted within and on the wall of the base housing in adjacency to both the humidifier and the vent, and egg-supporting means in said housing, said egg-supporting means resting freely on the center area of the bottom of the base housing.

2,980,060
DEVICE FOR HOLDING SHEEP
Clifford J. Marsh, Orari, Canterbury, New Zealand
Filed Mar. 24, 1959, Ser. No. 801,644
Claims priority, application New Zealand Mar. 27, 1958
6 Claims. (Cl. 119—103)

1. A sheep holder consisting of an elongated frame including two parallel side members, supporting members secured to said parallel side members on which the frame can stand on the ground, a plurality of cross

members extending between and secured to said side members of the frame, a narrowed extension of the frame at one end of the frame, and a head rest secured to and extending between the sides of the said extension and adapted to support the head of a sheep placed within said head rest, said cross members being secured to said frame and inclined downwardly and inwardly from each side member of the frame for distances which are



less at the end portions of the frame than at the central portion of the frame, and wherein the arrangement and relative depths of the cross members and the disposition of the head rest in relation to the cross members are proportioned so that a sheep placed on its back within the frame is supported by the cross members and by the head rest in an arched or hunched position which inhibits the ability of the sheep to kick.

2,980,061

PILE EXTRACTORS

Arthur Brander, Ipswich, England, assignor to The British Steel Piling Company Limited, London, England, a company of Great Britain and Northern Ireland

Filed July 23, 1957, Ser. No. 673,592
Claims priority, application Great Britain July 27, 1956
2 Claims. (Cl. 121—26)



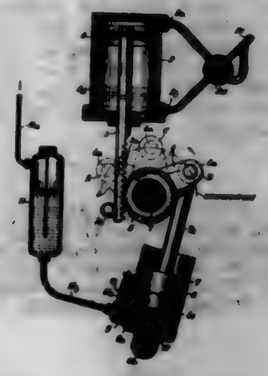
1. A pile extractor comprising a cylinder, a top head and a bottom head on the cylinder, a saddle seated in the top head, means connecting the top and bottom heads to the cylinder, a pile gripping means suspended from the saddle and disposed below the bottom head, a piston within the cylinder having a constant length of stroke, the cylinder having an open exhaust port adjacent the top head to exhaust the pressure operating on the piston at the end of its stroke, a valve chamber in the bottom head, the cylinder wall having a plurality of manually controlled ports intermediate the top and bottom heads and also a by-pass therein connecting the manually controlled ports with the valve chamber, an inlet port in the cylinder from the valve chamber, a pressure fluid means connected to the bottom head and passage means connecting the valve chamber with the pressure fluid means, valve means in the valve chamber comprising a ported valve sleeve and a valve member reciprocable therein, the valve member having means providing on its opposite sides a larger surface area and a smaller surface area, the former being positioned in the valve sleeve adjacent the bypass port and the latter positioned adjacent the inlet port thus forming a differential pressure operated valve member, the manually controlled ports being openable by selection to allow by-passing of the pressure fluid from the cylinder thus relieving the pressure upon the piston to vary the amount of impact upon the saddle, the pressure fluid so by-passed acting on the larger surface area of the valve member to cause the valve member to move to close off the inlet of pressure fluid into the cylinder, the lowermost manually controlled port when opened allowing less amount of impact and the uppermost manually controlled port when opened allowing the highest amount of impact, the valve member being operated to open the inlet port to the cylinder by the pressure produced on the smaller surface area by the return of the piston to the non-working end of its stroke.

2,980,062

CONTROL DEVICE FOR INFLUENCING THE ROCKING MOVEMENT OF MACHINE PARTS IN FOUNDRY MACHINES

Norbert Otde, Ratingen, Germany, assignor to Firma Gustav Zimmermann Maschinenfabrik G.m.b.H., Duesseldorf-Rath, Germany

Filed Dec. 2, 1957, Ser. No. 700,156
Claims priority, application Germany Nov. 30, 1956
10 Claims. (Cl. 121—38)



1. In a control device, the combination which comprises: an oscillatable axle; driving means for oscillating said axle between two end positions; and auxiliary driving means associated with said axle and movable therewith between said two end positions as well as past an intermediate dead center position for producing rotation of said axle while said auxiliary driving means move from either of said end positions to said dead center position and for retarding rotation of said axle while said auxiliary driving means move from said dead center position to either of said end positions.

2,980,063

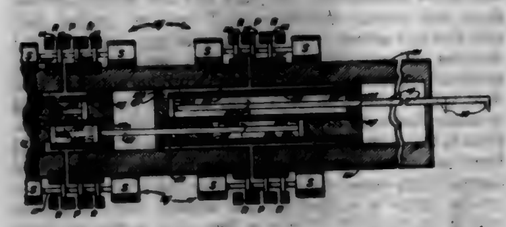
CYLINDER ADDER

Frank A. Litz, Santa Clara County, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 30, 1958, Ser. No. 745,978
4 Claims. (Cl. 121—38)

1. A positioning device comprising an elongated guide member having a bore extending longitudinally therein, a cylinder block within said bore movable with respect thereto, said block having two cylinders formed longitudinally therein side by side, a displaceable piston within each of said cylinders, said pistons being connected to piston rods extending through opposite ends of said block,

said rods being mechanically coupled to a stationary member and a movable output member respectively, means for positively driving each piston with respect to its cylinder in both a forward and a reverse direction to displace said output member by selectively displacing said pistons, said driving means including a port at each end of both said cylinders for passing fluid thereto and therefrom, a pair of elongated grooves associated with each cylinder and communicating therewith via said ports,



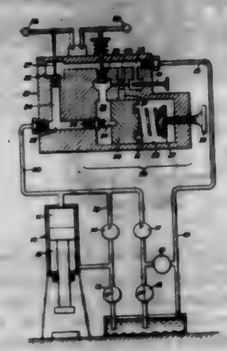
said pairs being disposed opposite each other in the exterior surface of said block, and means for passing fluid simultaneously into each cylinder via a selected one of the grooves of the pair associated therewith while exhausting fluid from each cylinder via the other groove of each pair whereby the fluid forces acting upon said block normal to the longitudinal axis of said bore are maintained in a balanced condition during displacement of said output member.

2,980,064

CONTROL UNITS FOR HYDRAULIC RAMS

Henry Norton, Hubert Vesey Norton, Leslie Buckingham Norton, and Douglas Edwin Norton, all of Horley, England, assignors to Norton Tool Company Limited, Horley, England, a company of Great Britain

Filed Sept. 28, 1959, Ser. No. 842,311
Claims priority, application Great Britain Oct. 1, 1958
5 Claims. (Cl. 121—38)



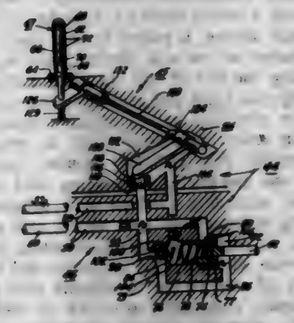
1. A control unit for a hydraulic ram having a pressure chamber, said control unit compriaing an unloader valve, a release valve, said unloader valve comprising a cylinder having a side wall provided with a port and end walls, a piston of relatively large area slidable in said cylinder and controlling said port, an inlet connection to said cylinder in one of said end walls thereof, a seating adjacent said inlet connection of relatively small area, an inlet closure member carried by said piston and seatable on said seating, passage means connecting said inlet connection to said pressure chamber of said ram, a spring acting on said piston and urging said piston towards a closed position in which said closure member engages said seating and said ports is closed, said piston having also an open position in which said closure member is off its seating and said port is exposed, said piston being movable from said closed position by the attainment of a predetermined high pressure at said inlet connection and being maintainable in said open position by a pressure substantially below said predetermined high pressure, said piston also having an intermediate position in which said port is closed but said closure member is off its seating, said release valve communicating with said cylinder and having an open condition in which it releases fluid from said cylinder to permit said piston to move from its intermediate condition to its closed condition.

2,980,065

SERVO MOTOR AND CONTROL APPARATUS THEREFOR

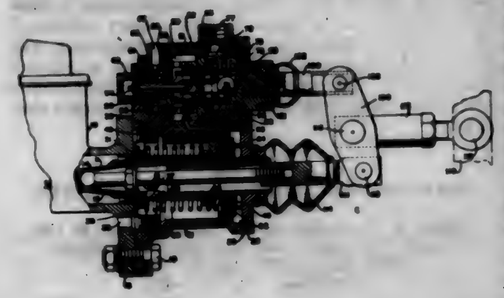
Wayne E. Werts, Oak Ridge, Tenn., assignor to The Bendix Corporation, a corporation of Delaware

Filed May 1, 1957, Ser. No. 656,340
6 Claims. (Cl. 121—41)



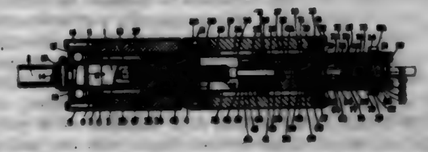
1. Fluid operated control apparatus operative with a control system having an input member responsive to a variable input signal and a movable member for controlling a condition of operation as a function of the variable input signal, comprising a housing, a chamber in said housing, pressure responsive means slidably disposed in said chamber, and operatively connected to said movable member, a source of fluid pressure, a first fluid connection comunicating said source with one side of said pressure responsive means, a second fluid connection communicating said source with the opposite side of said pressure responsive means, a branch fluid connection communicating said second fluid connection with a source of drain pressure, two-way yieldable valve means operably connected to said second fluid connection and to said branch fluid connection, said yieldable valve means being actuable in a first direction to increase the effective flow area of said second fluid connection and to decrease the effective flow area of said branch fluid connection and in a second direction to act in the opposite manner, and resilient means operably connected to said yieldable valve means and said pressure responsive means, said resilient means acting to bias said yieldable valve means in said second direction in accordance with the position of said pressure responsive means, and means operatively connected to said source for controlling said fluid pressure as a function of said variable input signal, said pressure responsive means and said yieldable valve means being responsive to an increase in said fluid pressure, said yieldable valve means being unbalanced in said first direction whereupon the fluid pressure to said opposite side of said pressure responsive means is increased in proportion to the increase in said fluid pressure to effect a stabilization of said pressure responsive means.

2,980,066
BOOSTER MECHANISM
William Steiner, Bloomfield Hills, and David T. Ayers, Jr., Birmingham, Mich., assignors to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed June 6, 1957, Ser. No. 664,133
9 Claims. (Cl. 121—41)



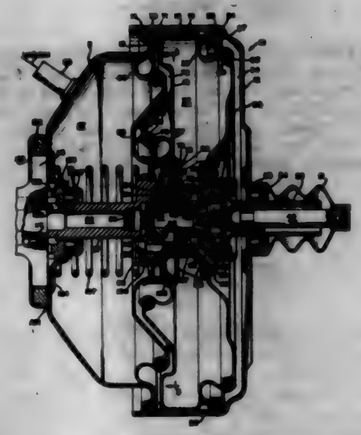
1. A booster mechanism comprising a single device to be operated, a motor having a cylinder in axial alinement with said device, a piston in said motor having a pressure chamber at one side thereof, said motor having a head defining one end of said chamber, a tubular member carried by said head and projecting therethrough into said motor in relatively axially slidable relation to said piston and in sealed relation thereto, an operating rod projecting axially through said tubular member, said rod having one end directly engaging said device and its other end extending through said tubular member and projecting externally of said motor, said piston having a portion in force transmitting abutting relationship with said device whereby said operating rod is movable independently of said piston to operate said plunger, a valve mechanism controlling pressure in said chamber and normally relieving pressure therefrom, and pedal operable means comprising a lever connected at spaced points to said valve mechanism and to said other end of said operating rod to simultaneously transmit forces thereto including a force to said valve mechanism to operate it to connect said chamber to a source of high pressure to operate said piston.

2,980,067
HYDRAULIC ACTUATOR SYSTEM WITH FEEDBACK
Dennis John Millard, Wolverhampton, England, assignor to Boulton Paul Aircraft Limited, Wolverhampton, England
Filed July 25, 1958, Ser. No. 751,078
Claims priority, application Great Britain Aug. 12, 1957
2 Claims. (Cl. 121—41)



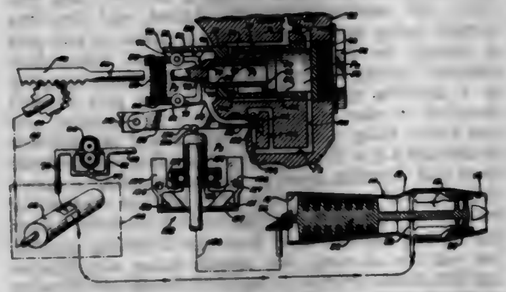
1. A hydraulic servo system energized from a fluid source having output and return terminals and adapted to actuate a controlled member from an input member comprising a servo valve coupled to said input member and responsive thereto, an actuator within which said servo valve is housed, said actuator being coupled to said controlled member for actuating the same, a hydraulic duct system including a high pressure passageway in said actuator connected to said output terminal of said fluid source, a low pressure passageway in said valve coupled to the return terminal of said fluid source, said duct system also including a first control passageway communicating with one side of said actuator, with one side of said valve and with a first control port, said duct system also including a second control passageway communicating with the other side of said actuator, with the other side of said valve and with a second control port, a plurality of lands included in said servo valve, said lands being operatively associated respectively with said first and second control ports and having effective cut-off surfaces smaller than said first and second control ports whereby, with said input member and servo valve in a reference position, the output terminal communicates with the return terminal of said fluid source and with both sides of said valve and said actuator, but with the input member and servo valve displaced, the output terminal of said source is disconnected from one of said control passageways and the associated control port, valve side and actuator side such that a hydraulic force is applied to said actuator which tends to restore the actuator relative to the valve, to the reference position, and concurrently, a feedback force is applied to said input member via said valve.

2,980,068
MOTOR MECHANISM
William Steiner, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Sept. 18, 1958, Ser. No. 760,164
19 Claims. (Cl. 121—41)



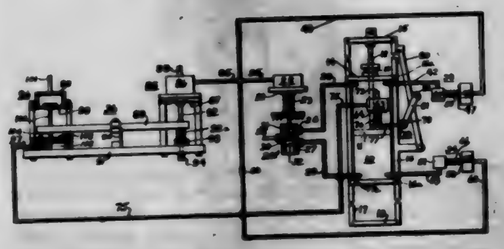
1. A fluid pressure motor mechanism comprising a casing, a pair of pressure responsive units therein each having a variable pressure chamber at one side thereof and a constant pressure chamber at the other side thereof, a member to be operated connected for positive operation by one of said pressure responsive units, the other pressure responsive unit being movable axially relative to said one pressure responsive unit, a valve mechanism normally balancing pressures in said motor chambers and movable to connect said variable pressure chambers to a source of pressure to operate both pressure responsive units, said valve mechanism comprising a manually operable control member, and means connected between said other pressure responsive unit and said control member for transmitting reaction forces to the latter when movement of said member to be operated encounters predetermined resistance to movement and said other pressure responsive unit is moved relative to said one pressure responsive unit incident to the building up of pressure in the variable pressure chamber of said other pressure responsive unit.

2,980,069
MECHANICAL COMPUTING DEVICE
Eugene B. Hillier and Warren H. Cowles, Detroit, George B. Stroh, Grosse Pointe Woods, and Robert S. Fleming, Detroit, Mich., assignors to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Nov. 24, 1958, Ser. No. 776,085
8 Claims. (Cl. 121—41)



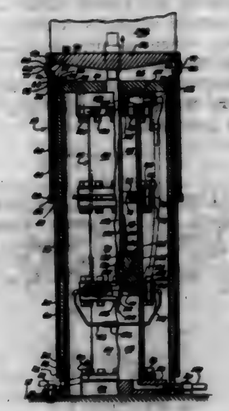
1. In a mechanical computing device for creating an output movement of a magnitude proportional to the square root of the magnitude of the force input, a piston responsive to changes in pressure, lever members secured to said piston, spring means normally urging said members outwardly away from each other, a restraining member positively limiting the outward movement of one of said lever members, a pivotally-mounted second restraining member having an inclined restraining surface of uniform slope yieldingly limiting the outward movement of the other of said lever members, a servo valve connected to said second restraining member for varying the magnitude of the various pressures influencing the said piston, and means for directing a force input to said second restraining member at a distance away from the pivotal mounting thereof.

2,980,070
HIGH-SPEED PNEUMATIC POWER CYLINDERS
Michael Mrvosh, Jr., Whitehall, Pa., assignor to Hagan Chemicals & Controls, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 13, 1959, Ser. No. 812,968
6 Claims. (Cl. 121—41)



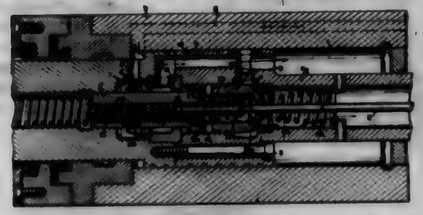
1. In combination, a pneumatically actuated power cylinder having a piston therein and a piston rod extending outwardly of the cylinder through an end thereof, a pilot valve arranged to supply motive pressure to either end of the cylinder while exhausting pressure from the other, pressure responsive means for actuating the pilot valve, means for supplying a set point signal to the pilot valve actuating means whereby to position the piston in a predetermined position, said piston moving in one direction as the signal to the pilot valve actuating means increases above and in the other direction as the signal decreases below said set point signal, unloading vents at each end of the cylinder and normally closed exhaust valves connected to the respective vents of said cylinder and being provided with actuating means responsive to the signal pressure for said pilot valve actuating means, one of said valves being spring-biased to closed position and actuated to open position when the pilot valve actuating means signal rises above the set point signal by a predetermined amount, the other of said valves being spring-biased to open position but held in closed position by the actuating means therefor until the signal pressure falls below the set point signal by a predetermined amount.

2,980,071
DECELERATION CARRIAGE APPARATUS
Jack B. Ottestad, Claremont, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed July 28, 1958, Ser. No. 751,446
11 Claims. (Cl. 121—46)



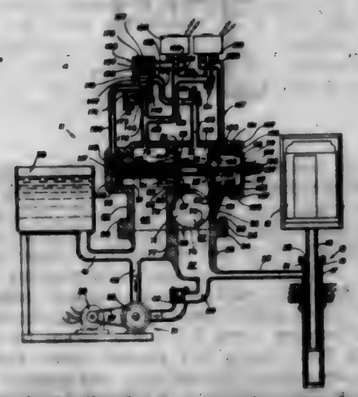
10. An actuating apparatus comprising a first stage member, a second stage member in telescoping relation with said first stage, cylinder means, an actuator piston in said cylinder means, a thrust column connected with said actuator piston and positioned to move said first stage, a plate confronting said actuator piston and defining an orifice, sealing means disposed between the actuator piston and the plate for effecting pressure sealing therebetween about the orifice, means for exerting a setting force urging said actuator piston toward the plate to cover the orifice and effect said pressure sealing, and means for establishing an actuating pressure to act upon a portion of the actuator piston within the sealing means to overbalance the setting force and expose an increased area of the actuator piston to said actuating pressure, thereby accelerating said thrust column and said first stage, a pair of spacers disposed between said stage members to cooperate therewith to define a coaxial pressure chamber therebetween, one of said spacers being attached to each of the stage members, and means cooperating with the stage members to define an expansible pressure chamber, said chamber being enlarged by relative movement of the stage members, whereby decelerating forces are exerted on said first stage by pressure in said coaxial pressure chamber and by production of a partial vacuum in said expansible chamber.

2,988,872
HYDRAULIC VALVING DEVICE
Heinrich Thomas, 91 Altenaer Strasse, Hemer-Westig, Germany
Filed Sept. 6, 1956, Ser. No. 608,381
Claims priority, application Germany Sept. 6, 1955
9 Claims. (Cl. 121—46.4)



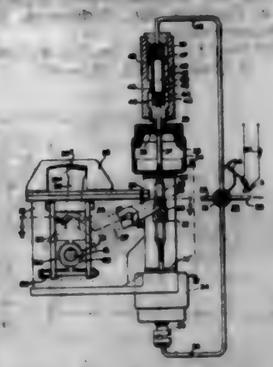
1. A valve for the controlled feeding of hydraulic fluid comprising a valved inlet, a valved outlet, a control chamber formed in said valve, said chamber being in communication with the valved inlet and outlet, a relatively restricted passageway formed in said valve for the passage of hydraulic fluid to the control chamber for the building up of pressure in the control chamber sufficient for closing the valved outlet and opening the valved inlet, a control valve for releasing fluid from the control chamber when a predetermined pressure is reached therein thereby effecting the opening of the valved outlet and the closure of the valved inlet, and means for closing the control valve after the inlet valve has been closed as aforesaid.

2,988,873
FLUID CONTROL MEANS
Duane J. Arbogast, Shelby County, Tenn., assignor to Dover Corporation, Washington, D.C.
Filed Nov. 9, 1959, Ser. No. 851,888
15 Claims. (Cl. 121—46.4)



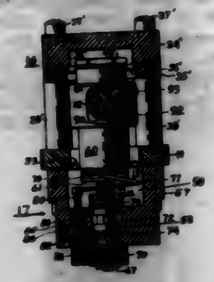
2. In a hydraulic elevator control system having a jack cylinder and an elevator car supporting plunger reciprocable therein, means providing an inlet chamber and an intermediate chamber, a passage communicating said jack cylinder with said inlet chamber whereby said inlet chamber receives hydraulic fluid under pressure from said jack cylinder, means providing a restricted orifice communicating said inlet chamber with said intermediate chamber whereby said orifice permits flow of fluid from said inlet chamber into said intermediate chamber and cause a drop in fluid pressure therethrough so that the pressure in said intermediate chamber is lower than that in said inlet chamber by an amount depending upon the fluid flow through said orifice; a piston assembly including a throttling member, a first piston and a second piston; said throttling member being interconnected between said first piston and said second piston so that said first piston is positioned adjacent one end of said piston assembly and said second piston is positioned adjacent the opposite end thereof with said throttling member being between said first and second pistons, means providing a discharge port for said intermediate chamber, said throttling member being slidably received in said port, said throttling member being provided with notches in one end thereof, said throttling member being movable to various positions in said port to control the fluid discharge from said intermediate chamber, biasing means for urging said piston assembly in a direction towards opening of said port by said throttling member, means providing a first cylinder, said first piston being slidably received in said first cylinder to establish a first chamber behind said first piston remote from said throttling member, means providing a second cylinder, said second piston being slidably received in said second cylinder to establish a second chamber behind said second piston remote from said throttling member and said first chamber, first conduit means communicating fluid under pressure from said intermediate chamber to said first chamber for urging said piston assembly towards opening of said port by said throttling member, and second conduit means communicating fluid under pressure from said inlet chamber to said second chamber for urging said piston assembly towards closing of said port by said throttling member, the position of said piston assembly and the amount of opening of said port by said throttling member being determined by the difference in pressure between said inlet chamber and said intermediate chamber.

2,988,874
FLUID DRIVE MEANS FOR INDEXING APPARATUS AND THE LIKE
Melvin M. Seeloff and Donald M. Campbell, Warren, Ohio, assignors to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio
Original application Nov. 30, 1951, Ser. No. 259,168, now Patent No. 2,850,909, dated Sept. 9, 1958. Divided and this application July 15, 1958, Ser. No. 748,633
13 Claims. (Cl. 121—48)



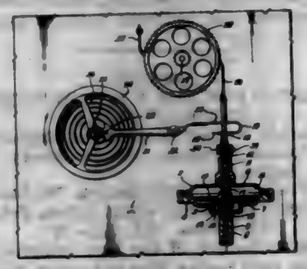
12. A double-acting reciprocating fluid pressure motor comprising a fluid housing having a pair of fluid chambers and a movable piston, driving means connected with said movable piston, means to supply fluid under pressure to said fluid chambers to cause reciprocation of said piston and said driving means, said fluid chambers having movable end walls, and adjustable linkage means interconnecting said movable end walls for adjusting the position of the same to enlarge or decrease said fluid chambers to adjust the stroke of said movable piston and said driving means.

2,988,875
DIAPHRAGM EQUALIZING MEANS AND VALVE ASSEMBLIES FOR TOTALIZERS
Edwin A. Cunningham, Jr., Whitehall, Pa., assignor to Hagan Chemicals & Controls, Incorporated, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1959, Ser. No. 796,637
4 Claims. (Cl. 121—43)



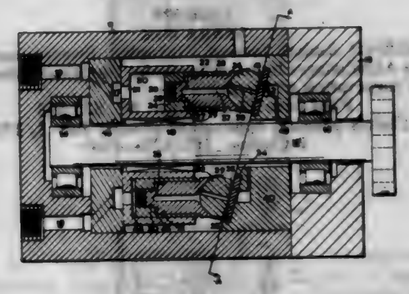
1. Means for equalizing the effective areas of diaphragm assemblies disposed to actuate a common member in accordance with the difference between the pressures in said assemblies, each of said assemblies comprising a housing having a diaphragm subjected to pressure on one side, the diaphragms facing each other and being connected by a rigid member, an actuated member having a loose connection with said rigid member, and means for equalizing the effective areas of the diaphragms, said means comprising means for moving said diaphragms simultaneously, one towards and the other away from the actuated member, said means including means for causing said moving means to clamp the rigid member to said actuated member.

2,988,876
PNEUMATIC STROKE MOTOR
Hamilton Arthur Machlan, El Campo, and Ben David Terral, Houston, Tex., assignors to Cameo, Incorporated, Houston, Tex., a corporation of Texas
Filed Mar. 13, 1959, Ser. No. 799,356
16 Claims. (Cl. 121—48)



1. In a pressure fluid drive motor, a variable volume chamber having a pressure fluid inlet containing a flow metering orifice, a movable chamber member yieldably biased against fluid pressure thereon within said chamber and movable under fluid pressure in one direction to a given limit, an abutment seat movable with said member and containing a chamber vent passage opening to atmosphere at said abutment seat and vent control means responsive to member movement and comprising a flexible strip engageable and movable in one direction with said abutment seat and covering and restricting said vent passage opening when engaged with the abutment seat and a weighted element connected for movement with the strip to provide inertia for continued strip movement beyond said given limit thereby to unseat the flexible strip and open said vent for chamber pressure reduction and return movement of said member and provided with spring means acting in opposition to said inertia and to effect strip re-engagement with the abutment seat.

2,988,877
HYDRAULIC DEVICES
George Maurice Martin Magill, Bradford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Mar. 3, 1960, Ser. No. 12,566
Claims priority, application Great Britain Mar. 17, 1959
1 Claim. (Cl. 121—62)



A hydraulic swashplate device including, in combination, a swashplate, a cylinder block having a plurality of pistons slidable therein, each piston having a co-axial cylinder, closed at the inner end thereof, in which is slidably mounted a plunger, a self-aligning pressure pad being mounted at the outer end of the plunger, spring means for maintaining a clearance space between the closed end of the auxiliary cylinder and the plunger, duct means passing from said clearance space to the bearing face of the pressure pad, and supply duct means in the face of the swashplate for supplying hydraulic fluid to the clearance spaces through said duct means during the period of low pressure engagement of the pressure pads on the swashplate, whereby pressurized hydraulic fluid is supplied through said duct means to the bearing faces of the pressure pads during the period of high pressure engagement of the pressure pads on the swashplate.

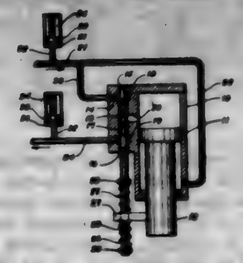
2,988,878
REVERSING PNEUMATIC MOTOR
Ernest R. Conover, Jr., Aurora, Ohio, assignor, by mesne assignments, to Master Power Corporation, Bedford, Ohio, a corporation of Maryland
Filed Apr. 1, 1957, Ser. No. 649,838
8 Claims. (Cl. 121—87)



8. A pneumatic motor comprising a cylindrical housing, a stator in said housing having a cylindrical bore with its axis parallel to and offset from the axis of said housing, a reversing sleeve co-axial with said bore rotatably mounted therein, an operating collar slidably fitting about the exterior of said housing, said collar being co-axial with said housing and eccentric with respect to said

stator bore, said stator having an arcuate slot therethrough, and a block connected to said sleeve projecting radially outward through said slot, said block being arcuately movable from one end to the other of said slot to shift said sleeve with respect to said stator, said block having sufficient radial extent to project beyond said housing in all arcuate positions of said block within said slot, said collar having an axial groove on its inner surface receiving the outer end of said block for radial sliding movement therein, said groove having sufficient depth to engage said block in all arcuate positions of said block within said slot.

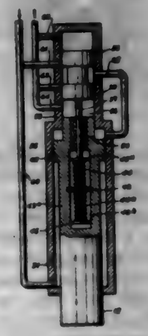
2,980,079
VIBRATOR
Karl-Evert Anders Jonkeen, Nyköping, Sweden, assignor to Aktiebolaget Industrikompanist, Stockholm, Sweden, a corporation of Sweden
Filed June 29, 1959, Ser. No. 823,515
Claims priority, application Sweden July 1, 1958
2 Claims. (Cl. 121—164)



1. A vibrator device comprising in combination a working cylinder, a piston reciprocating in said cylinder, and a power transmitting piston rod fixed on one side of said piston, a pressure fluid conduit for supplying fluid under pressure from a pressure fluid source to said cylinder, reciprocating valve means in operative relationship with respect to said cylinder for connecting said cylinder on the side of said piston opposite to said piston rod alternately with said pressure fluid conduit and with an outlet pressure lower than the pressure of said pressure fluid source, said pressure fluid conduit having one branch connected with said valve means and another branch directly connected with the piston rod side of the cylinder, whereby movement of said piston in a first working direction and a reverse working direction, respectively, is provided, and a hydraulic accumulator in said pressure fluid conduit in advance of the branch point of said two branches for accumulating at least part of the liquid quantity, as against average delivery of the pressure fluid, by which the consumption of the vibrator varies within a cycle, the effective surface on said one side of said piston being decreased by the presence of said piston rod so as to maintain in said conduit a pressure differential allowing accumulation of liquid by said accumulator also during the reversing movement as well as to feed, during the working movement, of pressure fluid from the piston rod side of the cylinder to the opposite side thereof through said conduit branches and said branch point, contributing to the equalization effect of the accumulator.

2,980,080
VIBRATOR
Karl-Evert Anders Jonkeen, Nyköping, Sweden, assignor to Aktiebolaget Industrikompanist, Stockholm, Sweden, a corporation of Sweden
Filed June 29, 1959, Ser. No. 823,517
Claims priority, application Sweden July 1, 1958
3 Claims. (Cl. 121—164)

1. A vibrator device comprising, in combination, a working cylinder, a piston body movable in said cylinder and including a piston and a piston rod connected with said piston on one side of the latter, means for maintaining constant communication between the space in said cylinder on said one side of the piston and a source of hydraulic pressure, a valve casing fixedly connected to said cylinder, and a valve body mounted for reciprocation in said casing, said valve body serving to alternately connect the space in said cylinder opposite to said piston rod side to said hydraulic pressure source and to an outlet pressure lower than the pressure of said source so as to cause reciprocating movement of said piston, motion transmitting means connecting said piston body and said valve body to cause substantially the same displacement of the valve body and of the piston, said



motion transmitting means comprising rigid connection means connected with said valve body, spring means connected with said rigid means and influenced by the piston movement for transmitting the piston displacement to the valve body with delay resulting from the elastic deformation of said spring means to enable a restarting action of said valve after the ceasing of the piston movement, a chamber in said piston body, means confining said spring means therein so as to displace the latter upon displacement of the piston body, and conduit means between said chamber and a source of constant pressure independent from the pressure of the hydraulic pressure source, for protecting said motion transmitting means from the effect of pressure from said hydraulic pressure source.

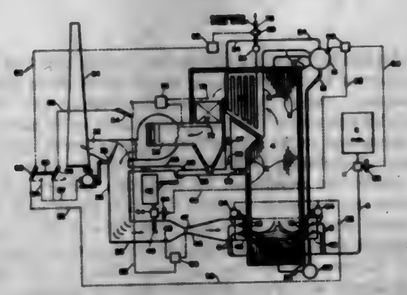
2,980,081
APPARATUS FOR THE EXCHANGE OF HEAT BETWEEN FLUIDS
Michael Gordon Bennett, Rotherham, England, assignor to the United Kingdom Atomic Energy Authority, London, England
Filed Feb. 9, 1959, Ser. No. 792,846
Claims priority, application Great Britain Feb. 11, 1958
2 Claims. (Cl. 122—7)

1. A heat exchanger of the type comprising a pressure resisting shell having inlet and outlet branches providing a flow path for a pressurised primary heat carrying fluid and containing a bank of tubes in the path between said inlet and outlet branches for the passage of a secondary fluid suitable for vapour generation using heat from said pressurised primary heat carrying fluid, said bank of the tubes being arranged in two groups to form evaporator and superheater sections in the shell, said evaporator section occupying the end of the shell nearest to the outlet branch and said superheater section occupying the end of the shell nearest to the inlet branch, inlet and outlet pipes to the group of tubes forming the evaporator section, inlet and outlet pipes to the group of tubes forming the superheater section, water jacket cooling means for the inside wall of the shell in a region extending from said inlet branch over a zone including the group of tubes forming said superheater

section, an outlet flow connection from said water jacket cooling means at its extremity nearest the outlet pipe from the shell and an inlet connection to said water jacket cooling means annularly about said inlet branch, said shell being vertically orientated and closed at its ends by upper and lower end caps, said group of tubes forming the evaporator section extending across the upper region of the shell and being connected between the inlet and outlet pipes to the evaporator section, said inlet and outlet pipes to the evaporator section penetrating the upper end cap and extending longitudinally into the shell.

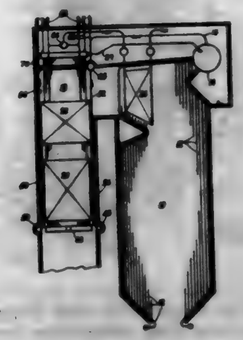


2,980,082
METHOD OF OPERATING A STEAM GENERATOR
Arthur C. Firl, Ridgefield Park, N.J., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1955, Ser. No. 488,682
2 Claims. (Cl. 122—459)



1. A method of operating a steam generator throughout a steam generating load range extending from zero load to maximum load, said generator being fired by fuel suspended in oxygen-enriched combustion gases comprising the steps of forming a mixture solely of recirculated combustion gases, oxygen substantially free of nitrogen and fuel and burning said mixture in a combustion zone thereby producing hot combustion gases for the generation and heating of steam at a lower than maximum steaming load; and maintaining the quantity of said combustion gases constant over a major portion of said steam generating load range by respectively decreasing or increasing the amount of recirculated gases admixed with said fuel and oxygen, while simultaneously increasing or decreasing the input of said fuel and said oxygen in relation to the load demand.

2,980,083
HEAT EXCHANGE ORGANIZATION
Ernest C. Witzke, Bayside, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,383
6 Claims. (Cl. 122—477)

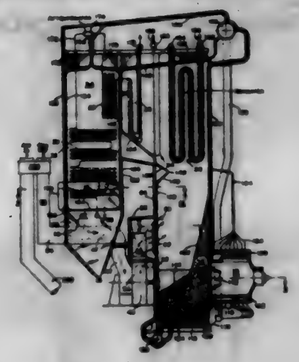


1. In a vapor generator an upright gas passageway of rectangular transverse section and adapted to have a stream of hot combustion gases pass downwardly therethrough, a superheater heat exchanger in said passageway as well as an economizer heat exchanger below said superheater, longitudinally extending tube means carrying steam for superheating lining a pair of opposed walls of the passageway and extending from the upper end thereof to a location below the economizer heat exchanger, means effectively connecting these tube means to the superheater heat exchanger, longitudinally extending economizer tube means in side-by-side relation lining the inner surface of the other two opposed walls of the passageway throughout this same length, alternate of these tubes from at least one wall of this latter pair of opposed walls being bent from the plane of the wall and formed in serpentine configuration to extend back and forth across the passageway thereby forming a tube bundle with these tubes returning to the place of one of the walls and extending therealong, fin means secured to the remaining tubes lining the wall from which the tubes are bent to form the bundle and at the location of the bundle to fill the space left by the bundle forming tubes, means supporting the tubes extending along the walls of the passageway from their upper ends, and outer wall structure supported from these tubes.

2,980,084
SYSTEM FOR BURNING LOW VOLATILE FUELS
Paul H. Koch, East Orange, and Judson J. Fink, Union, N.J., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 18, 1958, Ser. No. 722,322
3 Claims. (Cl. 122—480)

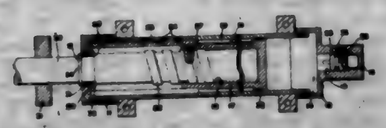
1. In a vapor generating and heating unit having a radiant heating zone and a convection heating zone connected for serial flow of heating gases therethrough, vapor generating and heating elements positioned in said zones, means for producing said heating gases by fuel combustion, heat exchange elements including liquid heating elements positioned in said convection heating zone, baffle means for dividing the gas flow over said liquid heating elements into a plurality of separate parallel flow passages, a recirculated gas fan, means connecting said fan with a first only of said separate parallel gas flow passages and with said radiant heating zone for flow of recirculated gases in an upper range of fuel firing rates to temper the heating gases in said heating zone, means for regulating the flow of recirculated gases to

said radiant heating zone, an air heater, means connecting the other of said gas flow passages only with said air heater for flow of the remainder of said gases to heat



combustion air to a relatively high temperature, and means for discharging high temperature combustion air from said air heater to said fuel combustion means.

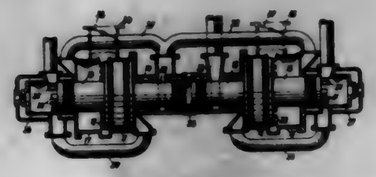
2,988,085
ROTARY THRUSTER
John A. Schneider, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 1, 1960, Ser. No. 19,433
1 Claim. (Cl. 123—24)
(Granted under Title 35, U.S. Code (1952), sec. 266)



In a mechanism for producing rotary motion, the combination of a cylinder having at one end a cap with a central opening and at the other end a cap formed to anchor a cartridge in said cylinder and to provide a passageway having an inlet, a hollow piston movable in said cylinder, said piston having an internal thread and an external longitudinal key, a piston rod extending through said central opening and having at its inner end an external thread meshing with said internal thread, said piston having a shoulder bearing against the inner surface of the cap through which it extends, means fixed to the inner periphery of said cylinder to form a guideway for said key, a firing pin movable in said passageway, and a shear pin coupling said firing pin to the wall of said passageway, said firing pin being movable to fire said cartridge upon the shearing of said shear pin.

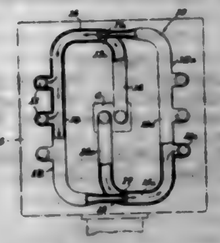
2,988,086
FREE-PISTON-TYPE ENGINE
Alfred H. Müller, Waiblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart, Germany
Filed June 11, 1959, Ser. No. 819,694
Claims priority, application Germany June 11, 1958
6 Claims. (Cl. 123—46)

1. In a free-piston-type engine having at least two coaxial, double-acting air-compressor pistons disposed in the longitudinal direction of the engine and a combustion piston on each side of each compressor piston and integrally connected thereto so as to form a unit, each of said units being adapted to operate in the opposite direction to the other unit, said combustion pistons of both units facing inwardly toward each other being disposed within a common central combustion chamber and being adapted to operate according to the uniflow-scavenging method, each of said combustion pistons of both units facing outwardly being disposed within an outer combustion chamber and adapted to operate according to the reverse-scavenging



method, the sides of said compressor pistons facing toward said outer combustion pistons being adapted to supply compressed air to said common central combustion chamber, the sides of said compressor pistons facing toward said inner combustion pistons being adapted to supply compressed air to said two outer combustion chambers.

2,988,087
INTAKE MANIFOLD
Guy M. Ball, 42561 N. 100th St. E., Lancaster, Calif.
Filed Feb. 1, 1960, Ser. No. 5,746
6 Claims. (Cl. 123—52)

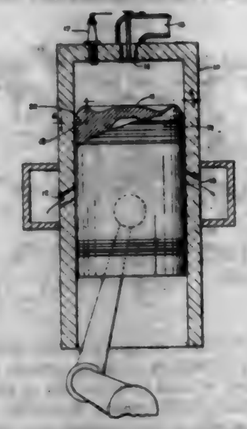


6. An intake manifold system for conducting fuel from a carburetor to two groups of intake ports of an internal combustion engine, said system comprising two intake manifolds extending from said carburetor to an outlet end and connected to the respective groups of ports, each outlet end constituting a velocity-inducing pressure nozzle that enters the manifolds of the other outlet end in a direction to discharge surplus fuel that flows past all of the intake ports into the other intake manifold to induce accelerated flow in said manifolds, said nozzles being disposed in assisting relation to each other to establish a single accelerated flow through both manifolds.

2,988,088
INTERNAL COMBUSTION ENGINE
John D. Hiam, Mount Vernon, Ohio, assignor to The Cooper-Bessemer Corporation, Mount Vernon, Ohio, a corporation of Ohio
Filed Nov. 16, 1959, Ser. No. 853,207
3 Claims. (Cl. 123—65)

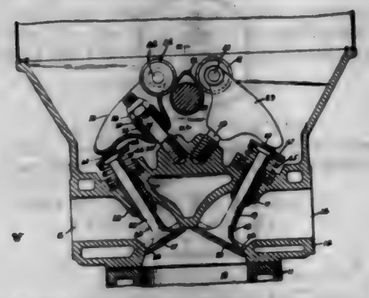
1. In a two-cycle internal combustion engine having a piston which controls inlet and exhaust ports, said piston having a plurality of axially spaced piston rings carried thereby, the improvement comprising an upper piston ring having its end surfaces recessed at the inner side of the ring to form a groove, and a locating means fixed with relation to the adjacent body of the piston and having a projecting end received in said ring groove to prevent any

rotational movement of said piston ring about the axis of said piston, said locating means being disposed on the



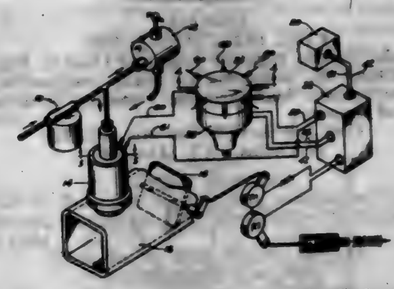
side of said piston which overruns said inlet ports during engine operation.

2,988,089
VALVE OPERATING MEANS AND CONTROL
Achilles C. Sampietro, Birmingham, Mich., assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 26, 1959, Ser. No. 836,238
11 Claims. (Cl. 123—90)



1. A valve operating mechanism for an engine having intake and exhaust poppet valves with valve stems mounted at an angle in an operating plane comprising a rotary cam shaft having a cam thereon differing in profile along its axial length, means rotatably supporting said cam shaft for axial shifting movement, a first pivotally supported rocker arm extending outwardly and downwardly from the cam shaft in said operating plane with the inner end in engagement with the cam for operating the intake valve of the engine, a second pivotally supported rocker arm extending outwardly and downwardly from the cam shaft opposite to said first rocker arm and in said operating plane with the inner end in engagement with the cam for operating the exhaust valve of the engine, shifting means connected to said cam shaft to axially position the cam with respect to said rocker arms, and speed responsive means driven by the engine connected to said shifting means for controlling the axial operating position of the cam with respect to the followers for different valve operating characteristics.

2,988,090
FUEL INJECTION SYSTEM
Robert Winfield Sutton, Stephen G. Woodward, and Curtis A. Hartman, Elmira, N.Y., assignors to The Bendix Corporation, a corporation of Delaware
Filed Feb. 4, 1957, Ser. No. 637,852
39 Claims. (Cl. 123—119)



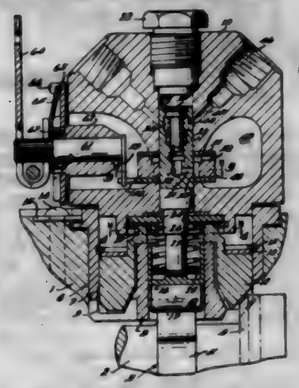
1. In a fuel supply system for a multi-cylinder internal combustion engine having an induction passage, a nozzle for each of said cylinders, a valve for each of said nozzles, means for actuating each of said valves, a control device adapted to energize said means to open said valves, means operatively connected to said device and responsive to engine speed to periodically activate said device, and means operatively connected to said device for varying the time that said device remains activated independently of engine speed.

2,988,091
GASEOUS FUEL ECONOMIZING AND IMPROVING DEVICE FOR INTERNAL COMBUSTION ENGINES
Harry A. Johansson, 2952 W. Altgeld St., Chicago, Ill.
Filed June 25, 1959, Ser. No. 822,869
4 Claims. (Cl. 123—124)

1. A device for proportioning and delivering an augmenting air supply to a gaseous fuel provided by a carburetor, comprising in combination with an internal combustion engine and the intake manifold thereof, a plate having a plurality of intercommunicating ports therein positioned between and communicating with the carburetor and intake manifold, an air intaking chambered body one wall of which has a plurality of ports therein, certain of the ports being located to one side of the transverse axis of the body and graduated in size, and another located to the opposite side of said transverse axis, a piston valve slidable in the body chamber having size graduated ducts therein communicating with said chamber and selectively communicable with the size graduated ports in said body wall, the number of said size graduated ducts being greater than the number of size graduated ports, means in the body chamber engaging one end of the piston valve urging movement thereof in one direction whereby to register certain of the ducts with certain of the size graduated ports, conduits con-

nected to and communicating with the size graduated ports in said body side wall and certain of the ports in said plate, and another conduit connected to and communicating with another of the ports in the plate and said port located to said opposite side of the transverse axis of the body whereby to transmit suction to the body chamber and piston valve.

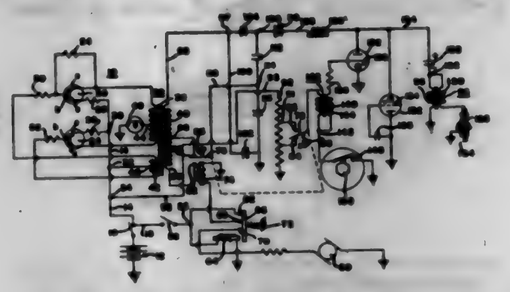
2,980,092
FUEL INJECTION PUMP
Alexander Dreisin, Highland Park, and Louis G. Kaplan, Evanston, Ill., assignors, by mesne assignments, to Allis-Chalmers Manufacturing Company, a corporation of Delaware
Filed July 1, 1957, Ser. No. 668,971
17 Claims. (Cl. 123—139)



1. An injection pump comprising a casing having a bore therein, a plunger in said bore freely movable longitudinally and rotatably of the casing, a pump chamber in said bore at the interior end of said plunger into which the plunger is moved in its working stroke, means on said pump for reciprocating and rotating said plunger to effect delivery of fluid from said chamber, said plunger having an inlet passage communicating with said pump chamber and having an inlet opening at the periphery of the plunger, a sleeve surrounding said plunger and in which the plunger is freely movable both longitudinally and rotatably, said sleeve having an inlet opening and a plurality of passages therein communicating with said sleeve inlet opening and disposed adjacent to said plunger inlet opening so as to be cyclically connected and disconnected therewith during rotational and longitudinal movements of the plunger, said plunger having a discharge passage communicating with a discharge opening at the periphery thereof, valve means carried by said pump connecting said pump chamber with said discharge opening upon buildup of pressure within the chamber during the working stroke of the plunger, said casing having discharge passages leading from said bore to the casing exterior, said casing passages being spaced circumferentially about said plunger and successively indexed with said plunger discharge opening as the plunger rotates, and means on said casing for adjusting said sleeve angularly and axially of said plunger to effect the connection and disconnection of the inlet opening independently of each other.

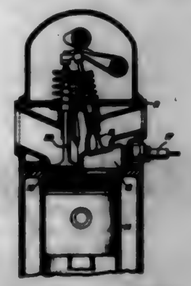
2,980,093
ELECTRONIC IGNITION
Brooks H. Sherr, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,713
4 Claims. (Cl. 123—148)

1. An ignition circuit for an internal combustion engine, comprising: a source of direct current voltage, an oscillator circuit including at least one transistor, means connecting said oscillator circuit with said voltage source to be energized thereby, a p-n junction semi-conductor rectifier, means connecting the output terminals of said oscillator circuit with an ignition coil energizing circuit



through said rectifier, an ignition coil having a primary winding and a secondary winding, means connecting the primary winding of said ignition coil in circuit with said energizing circuit, and means including an electronic switch for controlling the energization of the primary winding of said ignition coil from said energizing circuit.

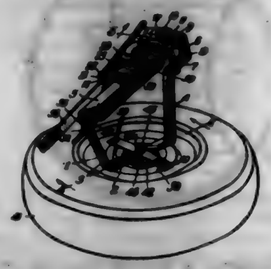
2,980,094
COMBUSTION CHAMBER FOR PISTON-TYPE INTERNAL COMBUSTION ENGINES
Alfred H. Müller, Waiblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed May 11, 1959, Ser. No. 812,402
Claims priority, application Germany May 14, 1958
9 Claims. (Cl. 123—191)



4. A combustion chamber arrangement for an internal combustion engine comprising cylinder means, a piston slidably mounted in said cylinder means, a cylinder head including a lower cylinder-head wall portion closing off a portion of the cylinder space formed by said cylinder means, combustion chamber means located in said cylinder head and subdivided into at least two sectional combustion chambers, one part of the top of said piston in the upper dead center position thereof effectively substantially closing off said sectional combustion chambers from each other and another part of said piston together with said cylinder-head wall portion simultaneously forming a squish chamber therebetween for producing a vortex in said combustion chambers, exhaust means for each of said sectional combustion chambers, and inlet means provided in said cylinder head terminating in the region of said cylinder-head wall portion, wherein inlet valve means includes a valve-disk, wherein the circumferential boundary of said inlet valve-disk lies essentially within one half of the circular area formed by said cylinder means, said exhaust means including exhaust

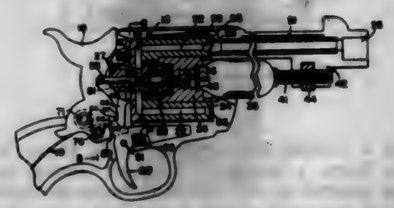
valves, and wherein said sectional combustion chambers and said exhaust valves are arranged to a large extent within the other half of the circular area formed by said cylinder means.

2,980,095
TARGET TRAP
Charles R. Hoag, 420 N. Branch Road, Glenview, Ill.
Filed Apr. 17, 1959, Ser. No. 807,062
6 Claims. (Cl. 124—8)



1. In combination, a spare vehicle wheel having a hub provided with a pneumatic tire, clamp means comprising upper and lower clamp members provided with a bolt for drawing said clamp members together to grip said wheel hub therebetween, said upper clamp member having upstanding sides extending upwardly therefrom from position within the inner periphery of said tire to position above said tire, an inclined arm integral with the upper ends of said upstanding sides and positioned above the wheel when said clamp members are clamped to said hub, and target throwing mechanism on said inclined arm for positioning above one side of said wheel when the opposite side of said wheel is placed on the ground, the relatively large diameter of the tire with respect to the horizontal extent of the inclined arm which supports said target throwing mechanism providing sufficient support for the target throwing mechanism without attaching the wheel to a supporting foundation.

2,980,096
GAS POWERED REVOLVER
Rudolf Merz, Rochester, N.Y., assignor to Crosman Arms Company, Inc., Fairport, N.Y., a corporation of New York
Filed Jan. 12, 1959, Ser. No. 786,332
6 Claims. (Cl. 124—11)



1. A gas powered revolver comprising a frame, a barrel projecting from said frame, a chamber in said frame adapted to contain high pressure gas, a cylinder rotatably mounted in said frame, said cylinder having a plurality of chambers therein, one end of each of the last-named chambers having an enlarged portion adapted to hold a projectile, a plurality of ducts extending radially of the first-named chamber and communicating, respectively, with the other end of each of said last-named chambers, a valve normally closing off said first-named chamber from said radial ducts, said valve when opened permitting flow of gas from said first-named chamber into that second-named chamber which is aligned with said barrel, spring means constantly urging said valve to a closed position, a hammer pivotally mounted on said frame and operable to be moved to a cocked position for causing said hammer to open said valve means momentarily for propelling a projectile from said aligned chamber through said barrel, and a magazine mounted on said frame to be aligned with a chamber adjacent that chamber which is aligned with the barrel, and means in said magazine for urging a projectile into the enlarged portion of said chamber which is aligned with said magazine, and means connected to said hammer for rotating said cylinder a predetermined distance to bring one of second-named chambers into alignment with said barrel upon the cocking of said hammer.

2,980,097
ARROW SUPPORT
Harold F. Rothgery, Elyria, Ohio, assignor to Mohawk Sporting Equipment Co., Elyria, Ohio, a corporation of Ohio
Filed Jan. 28, 1959, Ser. No. 789,570
1 Claim. (Cl. 124—41)

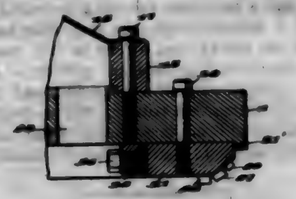


An arrow support for a bow having an arrow supporting shelf comprising a support member of spring wire-like material, said member having an arrow supporting arm, a counterweight arm and a hinge portion substantially normal to the axes of said arms and interconnecting corresponding ends of said arms, the axis of one of said arms being laterally related to the axis of the other of said arms, a clamping member for rotatably supporting said hinge portion comprising a substantially quarter-circular, flat, plate-like, clamping member having a straight lower edge and a straight rear edge normal to the lower edge, the lower rear corner formed by said lower and rear edges being cut away to provide a square-sided notch so that the rear part of said member overhangs said notch and is spaced above said lower edge, a groove on the inner face of the overhanging rear part substantially normal to said lower edge, said groove being of a size to rotatably receive the hinge portion of said support member, the lower edge of said clamping member being engageable with the horizontal surface of said bow shelf with said groove being thereby vertically positioned with respect to said shelf, means for connecting said clamping member to the vertical side wall of said shelf with the hinge portion of said support member being confined between said vertical wall and said groove, said hinge portion being arranged so that said arrow supporting arm is adjacent the upper end of said groove and the counterweight arm is adjacent the lower end of said groove, said arrow supporting member being swingable from a position wherein said counterweight arm extends rearwardly in engagement with the side of said bow and said arrow supporting arm projects laterally from said bow to a position wherein said arrow supporting arm extends forwardly in engagement with the side of said bow and the counterweight arm projects laterally from said bow.

2,980,098
GRINDING WHEELS
Hubert E. Weyland, Knoxville, Tenn., assignor to Ty-So-Man Machine Company, Knoxville, Tenn., a corporation of Tennessee
Filed July 11, 1958, Ser. No. 748,846
7 Claims. (Cl. 125—3)

1. A grinding wheel comprising a circular plate, a plurality of metal mounting members secured to said cir-

cular plate adjacent the periphery thereof, a circular clamping ring member providing radial support for said metal mounting members, and a plurality of cutter elements mounted on each of said metal mounting members around a peripheral corner thereof, said cutter elements being of different thicknesses and being disposed at different angles and elevations with respect to each other and to the said circular plate.



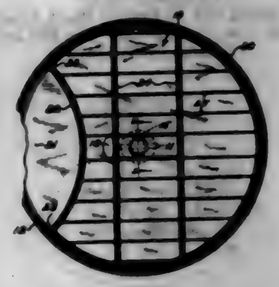
2,988,099
MOISTENING AND HEATING DEVICE
William F. Klemm, 17570 Prairie Ave., Detroit 4, Mich.
Filed May 24, 1954, Ser. No. 431,637
2 Claims. (Cl. 126—20)



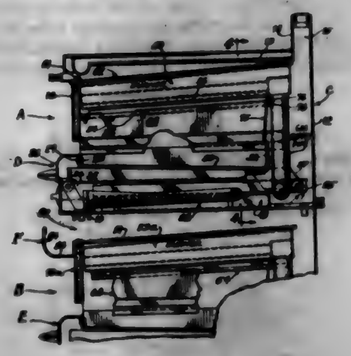
2. A device having an article-receiving compartment, a cover for enclosing said compartment, said device having a steam-forming compartment and a steam-superheating compartment adjacent to each other and to said article-receiving compartment, a heater supported by said device for heating said compartments, a water-delivering nozzle secured to said device and communicating with the steam-forming compartment, said steam-forming and steam-superheating compartments being joined by passageways for steam, said steam-superheating compartment and article-receiving compartments being joined by passageways for steam, means connected to said device for delivering a predetermined amount of water through said nozzle to said steam-forming compartment, and a collapsible wall of thin material containing perforations secured within the steam-forming compartment over substantially all of the wall area thereof in a manner to be removable therefrom.

2,988,100
BARBECUE GRILLS
Julius G. Bamberger, Milwaukee, Wis., assignor to Manco Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 18, 1957, Ser. No. 640,736
1 Claim. (Cl. 126—25)

A barbecue grill comprising an upright standard having a tubular upper end with external supporting means spaced below said upper end, a relatively shallow circular bowl-like firepot having sides and having a top opening and having a central bearing hole through which the upper end of said standard detachably extends with the firepot rotatably supported on said external supporting means of the standard, a circular grid having a depending central post detachably supported in the tubular upper end of said standard so that the grid is maintained over said firepot, said grid having a circumferential rim with circumferentially spaced portions and having an inwardly extending servicing recess between said portions, the inner boundary of said recess being defined by a grid portion which extends part way to the center of the grid and which connects said circumferentially spaced portions of the rim, rotation of the firepot around its central axis being adapted to bring selected portions of the firepot into registration with said servicing recess to facilitate servicing, the diameter of said grid being such with respect to the diameter of the top opening of the firepot as to provide for access to the firepot through said servicing recess when the grid is in place and said recess being of sufficient size to permit the insertion of servicing tools for servicing selected portions of the firepot by effecting relative horizontal rotation between the firepot and grid.

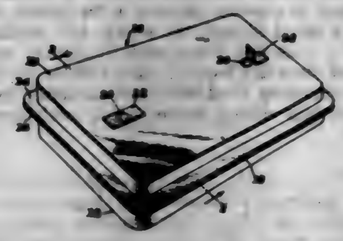


2,988,101
COOKING DEVICE
Frank A. Anetsberger and Richard J. Anetsberger, Northbrook, Ill., assignors to Anetsberger Brothers, Inc., Northbrook, Ill., a corporation of Illinois
Filed Aug. 2, 1956, Ser. No. 601,797
2 Claims. (Cl. 126—41)



1. In a cooking device having a heat source, a supporting frame, a rectangularly shaped cooking drawer slidably mounted on said supporting frame for horizontal reciprocal movement relative to said heat source between a cooking and a non-cooking position, and a spatter shield extending downwardly from said frame toward said cooking drawer, the lower end of said shield being located inwardly of the periphery of said cooking drawer when said cooking drawer is in said cooking position, said cooking drawer comprising a substantially rectangular member for supporting food in cooking relationship to said heat source, an end wall extending upwardly from the rear end of said member, a side wall extending upwardly from one side of said member, a slot extending downwardly into said end wall, and said spatter shield extending downwardly into said slot to effect clearance for reciprocal movement of said cooking drawer.

2,988,102
FOOD FLAVORING CARTRIDGE
Charles O. Vaughn, Dayton, Tenn., assignor to Hunt Heater Corporation, Nashville, Tenn., a corporation of Tennessee
Filed Aug. 4, 1954, Ser. No. 447,772
1 Claim. (Cl. 126—59.5)



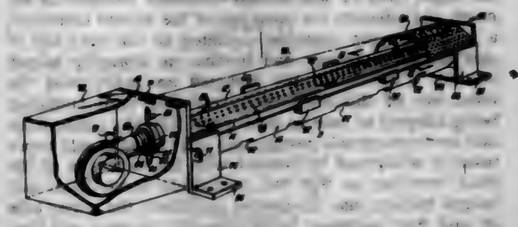
A unitary self-contained article for producing food pervading and flavoring smoke entirely within a cooking chamber comprising a hermetically sealed metallic enclosure containing a material capable of distilling to produce an aromatic food flavoring smoke at cooking temperature, said material comprising hickory wood, said enclosure defining an aperture therein, the aperture being sufficiently small relative to the bulk of said smoke producing material to so limit the entry of oxygen into the enclosure that said material will, at cooking temperature, oxidize at a low speed and at such an air fuel combustion ratio as to produce a large amount of food pervading and flavoring smoke for a protracted period of time, a moisture-proof closure for sealing said aperture, the material of said closure being heat disintegrable at a temperature lower than cooking temperature, but at a temperature above room temperature.

2,988,103
APPARATUS FOR VAPORIZATION OF LIQUIDS
Kenneth R. Scribner and Martin C. Sebath, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 30, 1958, Ser. No. 752,017
4 Claims. (Cl. 126—263)



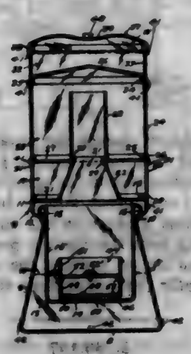
1. Apparatus for vaporizing a liquid which comprises, in combination, an outer container and an inner container forming therebetween a space for liquid to be vaporized, the top of said inner container being rupturable and below the top of said outer container, said inner container having disposed therein an expendable third container enclosing a gas-forming combustible substance which upon ignition forms sufficient gas to expand said third container and sufficient heat to vaporize said liquid as said liquid contacts said third container, means for igniting said gas-forming combustible substance and means responsive to the expansion of said third container for rupturing the top of said inner container.

2,988,104
RADIANT HEATERS
Malcolm W. Patrick, Bedford Heights, Ohio, and William M. Day, Indianapolis, Ind., assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Jan. 22, 1958, Ser. No. 710,528
3 Claims. (Cl. 126—271.2)



1. A radiant heater comprising a chassis having sides defining an elongated trough closed at opposite ends by end plates extending above said trough; a perforated mantle bridging said trough between said end plates and mounted on said chassis to permit expansion and contraction thereof, said mantle being arcuate in transverse section and forming a substantially enclosed combustion chamber with said trough and said end plates; an elongated tubular burner tube in said trough spaced from the sides thereof and from said mantle; means slidably mounting one end of said burner tube on one of said end plates; means rigidly mounting the opposite end of said burner tube on the opposite end plate; the portion of said burner tube facing the interior of said mantle having a plurality of ports therein adapted to project a flame toward said mantle; said mantle and ports being substantially uniformly spaced from each other a distance such that when the burner is in operation, the mantle will be in the hottest zone above the flames projected from said ports; and means for supplying a combustible fuel-air mixture under pressure to said burner tube.

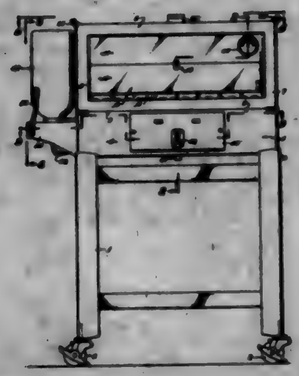
2,988,105
CONDENSATE COLLECTING APPARATUS
Earl S. Washam, Evanston, Ill.
(247 5th Ave., Viroqua, Wis.)
Filed Oct. 30, 1957, Ser. No. 693,458
2 Claims. (Cl. 126—382)



1. A condensate collecting apparatus comprising a lower receptacle adapted to contain water to be boiled and having an open top, a first open top container detachably mounted on the open top of said lower receptacle, a second open top container detachably mounted on the open top of said first container, said first and second containers each having an annular bottom and an

upwardly extending centrally disposed vapor tube formed integral with and rising from the inner edge of said bottom, said vapor tubes having open ends, said bottoms and the vapor tube walls being imperforate, the vapor tube of the lower container having an upper end extending into the vapor tube of the second container, the vapor tube of said second container terminating beneath and adjacent the open top of the second container, a third open top container mounted on the open top of said second container and having an upwardly bulged bottom, a lid detachably mounted on and closing the open top of the third container, said third container being adapted to contain cold water whereby steam from said lower receptacle passing upwardly through said vapor tubes is condensed by contact with the underside of the third container so that the condensate drains from said bulged bottom into the second container, the vapor tube of said first container being upwardly tapered and having an upper portion, spaced from its upper end, loosely contacting the open bottom of the vapor tube of the second container to provide an annular upwardly opening trough therebetween in which the condensate from the vapor tube of the second container is adapted to collect for drainage back into the first container, and said first container having vent openings beneath and adjacent the open top thereof and below the level of the bottom of the second container.

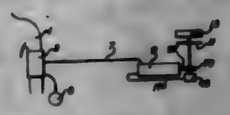
2,980,106
INCUBATOR
Bernard E. Carlson, North Hollywood, Calif., assignor, by mesne assignments, to The Colson Corporation, Chicago, Ill., a corporation of Ohio
Filed Nov. 16, 1955, Ser. No. 546,249
14 Claims. (Cl. 128—1)



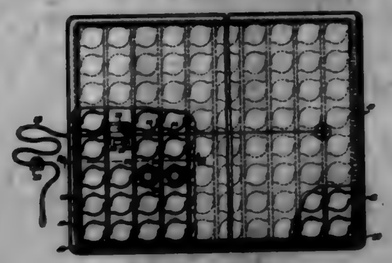
4. In an incubator, means for producing a basic air flow through said incubator, means for controlling the heat in the incubator, means for controlling the humidity in the incubator, an oxygen supply tube leading to the incubator, a venturi passage in the supply tube, and an air port associated with the venturi passage and adapted to admit sufficient air to prevent the oxygen concentration in the incubator from exceeding 40 percent.

2,980,107
RECORDING SPHYGMOMANOMETER
Charles Warren Burley, Cleveland, Ohio (Quince Orchard Road, Rte. 3, Gaithersburg, Md.), and William L. Howell, 3562 Macomb St., Washington, D.C.
Filed Jan. 26, 1960, Ser. No. 709,238
19 Claims. (Cl. 128—2.05)

1. A recording sphygmomanometer, including in combination, a compression means and cuff adapted to embrace a limb of the patient, means for inflating said compression means to a pressure preventing flow of blood through the artery in the limb, a system for exhausting air from said compression means to permit passage of blood through said artery in spurts, said system including means for causing the exhaust of air therefrom at a constant rate, mechanism interposed in said system the normal operation of which is sensitive to and is changed by pressure changes in the system caused by spurts of blood through the artery, said mechanism including a recording drum; and an electric network, a source of electric power therefor, a stylus for inscribing on said recording drum and stylus actuating means connected in said electric network, said mechanism including a rotary electrical distributor member connected in said mechanism and having conductive and non-conductive surfaces, a brush connected in said network and engageable with said conductive and non-conductive surfaces, said electric network including two electric circuits each including a resistance and a capacitor, a relay for operating said stylus actuating means, an element operable at a predetermined voltage for operating said relay and a second relay connected to said circuits, the time constant of one of said circuits being such that the capacitor thereof becomes fully charged to close said second relay when the brush is on a non-conductive segment of said member while the time constant of said second circuit is such that the capacitor is discharging when the mechanism is operating normally.

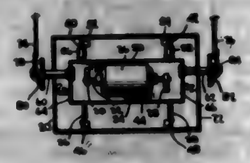


2,980,108
PULSATING MATTRESS
David J. Scott, St. Petersburg, Fla., assignor to Pulsation Enterprises, Inc., St. Petersburg, Fla.
Filed Dec. 23, 1957, Ser. No. 704,502
4 Claims. (Cl. 128—33)



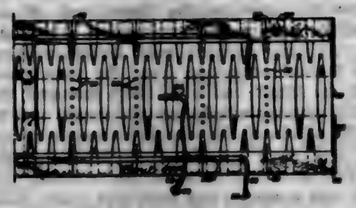
1. A mattress for producing therapeutic pulsations comprising; a plurality of coil springs for supporting a weight on the mattress, said coil springs positioned with their opposite end faces defining substantially parallel planes and in spaced, aligned rows; a plurality of cross helical coils extending across said mattress along said planes, said cross helical coils lying between said spaced rows of coil springs and attached thereto, vibration producing means supported within said mattress; and means connecting the vibration producing means only with the cross helical coils whereby pulsations are transmitted from said vibration producing means first to said cross helical coils and then to said coil springs.

2,980,109
VIBRATORY PASSIVE EXERCISER
Henry Schein, West Orange, N.J., assignor to Imperial Electronics, Inc., Newark, N.J., a corporation of New Jersey
Filed Jan. 18, 1960, Ser. No. 3,002
7 Claims. (Cl. 128—63)



1. An energizer for a vibratory passive exerciser having an active element, said energizer comprising a motor having a casing and an output shaft, said output shaft projecting from opposite ends of the motor, two differently oriented eccentric weights each connected to a different end of the output shaft, a mounting member operationally integral with the motor casing, a housing having two openings on opposite sides thereof, resilient means connecting the mounting member to the housing and biasing the mounting member to an equilibrium position when the motor is idle, and two vibrating output driving members operationally integral with the mounting member, each said output member extending through a different one of the openings in the housing, said output members being constructed for detachable securement to the active element.

2,980,110
SURGICAL SPLINT AND BANDAGE
Richard S. Brumfield, Edgewood, and William R. Ferguson, 600 W. Belvedere Ave., Baltimore 10, Md.
Filed Feb. 28, 1955, Ser. No. 491,012
4 Claims. (Cl. 128—87)



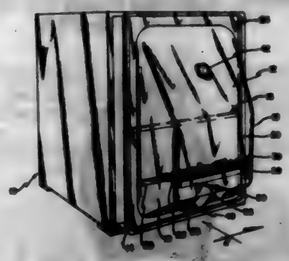
1. A surgical supporting device adapted to be fitted to the patient including a splint portion of sufficient length to encircle the largest of an expected group of body members and of greater width than is required by at least some of the members to be fitted, said splint including a plurality of slots extending on each side of a centerline running the length of the splint, said slots having rounded ends and being of substantial width, at least some of said slots being wider in the center portion than at the ends thereof, additional slots extending inwardly from the edges of the splint and generally parallel to said first mentioned slots, said splint being adapted to be cut in length to fit the patient and being adapted to be trimmed along its edges to suit the patient's needs, a tape adapted to compress the device about the body member, means for holding the tape against vertical movement while permitting it to be drawn tight, textile means for enclosing the edges of the splint and drawing the same about the patient's body member including a pair of strips, one for each edge of the splint, each said strip including a relatively non-extensible strip folded lengthwise and secured, as by stitching, at its ends to form an elongated pocket to enclose the ends of the splint, the two plies of the pocket being stitched together to form subdivisions of the principal pocket, the lines of stitching coinciding with the edgewise slots, cooperating means on the textile strip and the splint for holding the splint within the pockets of the strip and means secured to the strip for holding the same firmly about the body member.

2,980,111
LEG BANDAGE
David Langman, 4929 NE. Alberta St., Portland 18, Ore.
Filed Jan. 30, 1959, Ser. No. 790,237
2 Claims. (Cl. 128—165)



1. A surgical bandage adapted circumferentially to encircle the upper or lower leg or arm portions of a wearer, and supporting means for the bandage, said supporting means comprising an adjustable belt adapted to be worn about the waistline of a wearer and hose supporters secured to and depending from the belt, said bandage being of cylindrical form made of woven elastic material and provided with fastening elements adapted for attachment to said hose supporters, two elongated pieces of webbing material secured in mutually spaced relation to said bandage, each folded over on itself along a longitudinal fold line along one side and secured as by stitching along its opposite side to the outer wall of the bandage, a row of eyelets extending through the webbing substantially along the longitudinal center thereof to thereby provide a pocket in the webbing between said eyelets and said fold line, a stay disposed within each of said pockets, and lacing threaded through said eyelets for varying the spacing between the pieces of webbing material and thereby increasing the centripetal forces of the bandage and whereby the pull of the lacing will be distributed throughout the length of the said webbing material.

2,980,112
OXYGEN DOOR
Charles E. Snyder, 1823 S. Ivy, Denver, Colo.
Filed Jan. 12, 1959, Ser. No. 786,308
6 Claims. (Cl. 128—191)



1. An oxygen door for a hermetically sealed enclosure for animals and the like comprising a panel, an outwardly disposed wall section defining with said panel a compartment, an open support dividing said compartment into upper and lower chambers, said upper chamber communicating with the upper air space in said enclosure and including coolant means disposed on said support for condensation of CO_2 from the exhaled air with said open support being so constructed as to allow the condensed

CO_2 to collect in said lower chamber, an air inlet line extending through said compartment for introduction of an exterior source of oxygen into said enclosure including a spaced coaxial pressure reduction tube in said compartment for reducing the pressure in said lower chamber to an extent sufficient to induce the downward flow of exhaled air through said compartment, and a liquid outlet for withdrawal of condensed vapor from said lower chamber.

2,980,113
NURSING NIPPLES
Harold Soppey and Mary Soppey, 45 Kew Gardens Road, Kew Gardens, N.Y.; Lawrence E. Brinn, executor of said Harold Soppey, assignor to said Mary Soppey
Filed June 22, 1955, Ser. No. 517,158
11 Claims. (Cl. 128—252)



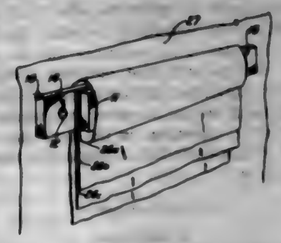
1. A nursing nipple comprising a tubular wall structure terminating at one end in a perforated head to pass a liquid therethrough from a bottle reservoir, and terminating at its other end in a portion to fit over the mouth of such bottle, to thereby leave the tubular strucure in free communication with such bottle, and means constituting part of the tubular wall structure and shaped to define an exposed channel on the outer surface of the tubular wall structure, one end of the channel starting at a region adjacent the perforated head, which region would be within an infant's mouth during use, with the channel extending to a region that would be outside the infant's mouth during use, and additional means also constituting part of said wall structure, and shaped to define an air reservoir, both the channel and the air reservoir being ready and available for separately suplying air from outside the nipple to a nursing infant's mouth and also to the bottle, to prevent excessive accumulation of a vacuum either in the infant's mouth or in the bottle.

2,980,114
WOMAN'S UNDERGARMENT OF THE GIRDLE TYPE
Joseph Pierre Montoya, 70 Rue Blanche, Paris, France
Filed July 3, 1958, Ser. No. 746,397
Claims priority, application France July 30, 1957
8 Claims. (Cl. 128—523)



1. A woman's undergarment of the girdle type comprising a conventionally shaped front portion made of soft, relatively easily stretchable elastic fabric, a back portion having an upper part made of the same soft elastic fabric as said front portion and a single lower back panel extending horizontally along the lower edge of said upper part and made of an elastic fabric more resistant to stretching than said soft elastic fabric, side edges of said upper part and end edges of said lower panel being joined to side edges of said front portion, said lower edge of said upper part having the shape of two successive, downwardly convex lines adapted to coincide with the folds connecting the buttocks and the upper thighs of the wearer while said lower back panel is in simultaneous contacting engagement with the rear parts of both of the wearer's thighs, and a sewed seam of the open work type joining said lower horizontal back panel to said lower edge of said upper part, whereby a weakened zone is defined by said open work seam between said upper part and lower horizontal panel for ensuring a good anchorage for the convex lines of said lower edge within such folds in order to prevent any riding up of the girdle.

2,980,115
CHART HOLDER
Elbert H. Eberule, 2925 E. California, Pasadena, Calif.
Filed Jan. 19, 1959, Ser. No. 787,582
3 Claims. (Cl. 129—4)



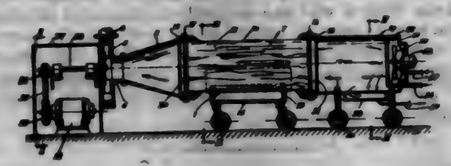
1. A chart holder comprising: a rear strip member for mounting an upper end of a chart thereon; resilient wire clamp means pivotally mounted adjacent each end of the rear strip member, each having a pointed wire portion thereof penetrating the rear strip member and projecting therefrom for piercing the upper end of the chart mounted thereon; pin means mounted in spaced relation on the rear strip member, each having a pointed wire portion thereof projecting from the strip member for piercing the upper end of a chart mounted thereon; a front strip member adapted to be clamped over the upper end of the chart and the rear strip member by said clamp means, said front strip member being provided with spaced apertures, each arranged for receiving one of said pointed wire portions, and each said clamp means containing a portion for pivoting in resilient detachable clamping relationship over the front strip member.

2,980,116
CIGARETTE
Milton O. Schur, Asheville, N.C., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Nov. 17, 1958, Ser. No. 774,361
1 Claim. (Cl. 131—9)



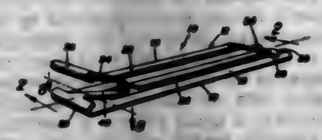
A cigarette comprising a column of tobacco, an abutting filter plug, a wrapper encircling the column of tobacco, a band of tipping material encircling the wrapper and the plug, said wrapper being formed with at least one macroscopic air opening in a margin thereof adjacent said plug, said tipping material being fixed to the wrapper and being formed with a plurality of microscopic air openings, said microscopic openings being circumferentially disposed about said tipping material, the tipping material overlaying the wrapper and being so positioned with respect to the wrapper that a least some of the microscopic openings fall in register with the wrapper opening to provide communication from the atmosphere to the interior of the cigarette through the tipping material and through the wrapper, said tipping openings being scarcely perceptible to normal vision.

2,980,117
EQUIPMENT FOR MOISTENING PLANTS, ESPECIALLY TOBACCO
Albert Leopold de Sandeleur, 144 Bouwelsteenweg, Niklen, Belgium
Filed Apr. 29, 1957, Ser. No. 655,801
Claims priority, application Belgium May 8, 1956
11 Claims. (Cl. 131—134)



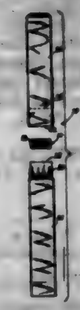
1. An installation for applying moisture to plants, such as tobacco, characterized by the fact that it consists essentially of a readily movable carrier, a flexible treatment chamber disposed on said carrier, said treatment chamber being adapted to contain a mass of tobacco, a second chamber, next to and in communication with said first mentioned chamber, wherein steam is adapted to be cooled and oversaturated, a first grid means disposed between said first and second chamber, means located at the other side of said first chamber adapted to draw said cooled and saturated steam through said first chamber, and a second grid means disposed between said first chamber and said means being located at the other side of said chamber.

2,980,118
CURL CLIP
George Noel Bollinger, Shelbyville, Ill., assignor to Sta-Rite Gimmie Lox, Inc., Shelbyville, Ill., a corporation of Illinois
Filed July 15, 1957, Ser. No. 671,840
4 Claims. (Cl. 132—48)



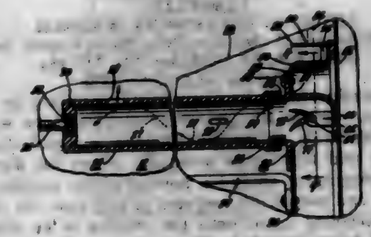
1. A curl clip of resilient sheet material comprising upper and lower arms, one end of said upper arm being offset adjacent its extremity away from the other arms to provide a lever portion, and a leaf spring connected at one end to said extremity of said lever portion and at its other end to the extremity of the corresponding portion of said lower arm and constituting the sole positive connection between said arms, said leaf spring extending inwardly from said extremities between said arms and being bent intermediate its ends, said arms and said leaf spring being integral, said lower arm being provided with a longitudinal slot opening through the end of said lower arm opposite said spring, the end of said upper arm opposite said spring converging downwardly toward the corresponding end of said lower arm and having a curved end engaging said lower arm within said slot to act as a closure for the space between said arms and to tend to prevent relative lateral movement of the ends of said arms opposite said spring.

2,980,119
TOOTHBRUSH VIAL
Fred R. Relstock, Babylon, N.Y., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Apr. 25, 1958, Ser. No. 730,919
2 Claims. (Cl. 132—84)



1. A container for enclosing a toothbrush and a separate shorter article in a predetermined relation comprising; elongated upper and lower tubular members, each member including inner and outer surfaces, a closed end portion, and an open end portion having free edges, said upper member having a peripheral recess in its inner surface at its open end portion to permit said upper member to telescope over said lower member to form a closed container, and an inner peripheral shoulder formed by said recess; and a readily removable separator comprising a web-portion formed to extend only partially across the open end of said lower member for dividing said containers into two communicating compartments, a substantially U-shaped frame having a base and arms encompassing said web-portion and having portions extending beyond the web-portion, said frame comprising downwardly extending flange portions on its arms and base telescopically and frictionally engaging with the inner surface of said lower member adjacent the open end thereof, said frame further comprising peripheral portions extending outwardly from its base and arms and formed to seat on the free edges of said lower member and adapted to be clamped between the free edges of said lower member and the peripheral shoulder of said upper member.

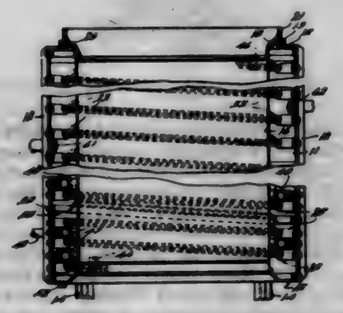
2,980,120
VARIABLE SPRAY DEVICE FOR DISHWASHER
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 30, 1959, Ser. No. 802,947
14 Claims. (Cl. 134—57)



1. A dishwashing appliance having a washing chamber and utensil containers in said chamber comprising, means

for admitting water to said chamber, means for collecting said water in one portion of said chamber, means for distributing water in said chamber, conduit means connecting said collecting portion and said distributing means, means for circulating water from said collecting portion through said conduit means to said distributing means, said conduit means having means for imparting a swirl to said circulating water to rotate said distributing means in one direction, and means for moving said swirl imparting means for changing the rotation of said distributing means.

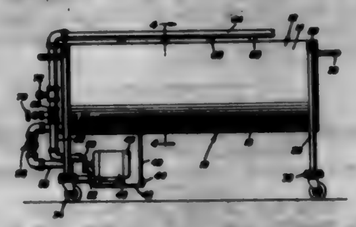
2,980,121
DEVICE FOR STORING, TREATING AND TRANSFERRING PARTS
Henry A. Schuricht, Pontiac, Harry F. Lake, Dearborn, and Lawrence H. Smith, Birmingham, Mich., assignors of one-half to Whitmer Industries, Inc., and one-half to Leading Engineering and Manufacturing Company, both of Pontiac, Mich., corporations of Michigan
Filed Mar. 4, 1957, Ser. No. 643,694
14 Claims. (Cl. 134—83)



1. In a device for transferring and storing a plurality of identical parts of a predetermined shape, size and weight, at least a portion of each part being circular, an upstanding stationary support of annular shape, a drum in concentric spaced relation with said support and having a smooth-textured and hardened surface, means for rotating said drum, a helical track disposed in the annular space between said support and drum, means mounting said track on said support, the track and support being of such construction that parts having their circular portions resting on said track and inclined toward said drum will be unrestrained, and means on said track for guiding and supporting said parts at an inclination preselected in accordance with said shape, size and weight, whereby the forces exerted by the parts leaning on said drum will be of a magnitude higher than that necessary to cause rolling of the circular portions of said parts on said track when said drum is rotated, and lower than that which would cause a wearing action of said parts on said drum surface during such rotation.

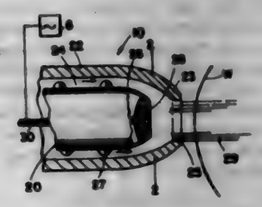
2,980,122
MILKING EQUIPMENT WASHER
Fred Zylstra, 631 3rd Ave. NE., Sioux Center, Iowa
Filed Feb. 27, 1958, Ser. No. 717,952
7 Claims. (Cl. 134—169)

3. A washer for dairy equipment comprising an elongated tank, means for supporting articles to be washed within said tank, means for supplying a liquid cleaning agent to said tank under pressure, means for directing the cleaning agent around a portion of the periphery of the tank and means incorporated in said tank for directing the cleaning agent onto the articles to be cleaned, said tank being provided with a substantially semi-cylindrical bottom and vertical side walls, one of the side walls having an inturned flange on the upper edge thereof, a depending flange on the inner edge of said inturned flange whereby said flanges form the means for directing the cleaning agent downwardly and inwardly onto the articles when the cleaning agent impinges against the flanges in a vertical manner along the inner surface of the vertical wall, said means for directing the cleaning



agent along a portion of the tank including a series of horizontally flattened jet orifices disposed adjacent the opposite vertical wall and generally in tangential relation to the semi-cylindrical bottom of the tank whereby cleaning agent discharged from the jet orifices will sweep around the bottom of the tank and up the opposite vertical wall and deflected downwardly onto articles within the tank by the flanges.

2,980,123
ULTRASONIC APPARATUS
Jerome H. Lemelson, 289 High St., Perth Amboy, N.J.
Filed Nov. 14, 1955, Ser. No. 546,682
5 Claims. (Cl. 134—184)

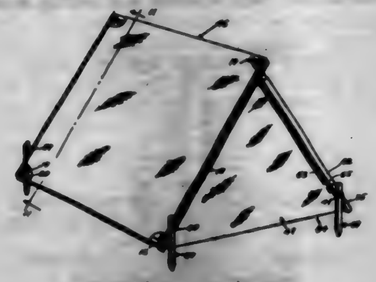


1. An ultrasonic apparatus comprising a housing with an aperture applicable substantially directly proximate to a work-piece positioned generally adjacent the aperture, an ultrasonic vibration means supported within the housing and disposed in spaced relation away from the aperture for concavely focusing all the energy generated thereby to pass through the aperture, the center portion of the concavely focused energy generated by said ultrasonic vibration means being directed substantially perpendicular to the surface of said work-piece, means for coupling energy to the ultrasonic vibration means, a duct communicating with the interior of the housing, and means establishing a liquid column in contact with the ultrasonic vibration means and the duct, said liquid column extending from the vibration means through the housing to the work-piece positioned generally adjacent the aperture.

2,980,124
PORTABLE SHELTER
Byron L. Atchison, Box 155, Kanopolis, Kans.
Filed Jan. 6, 1960, Ser. No. 778
3 Claims. (Cl. 135—1)

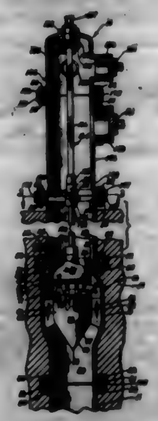
1. A portable lean-to-type shelter frame comprising a rectangular frame composed of rigid side members and rigid end members, means adapted to anchor side edge portions of a fabric piece to said side frame members, said end members being adapted to extend detachably through sleeve portions constituting the ends of said

fabric piece, means detachably connecting said end members to the side members at the corners of the frame for stretching the fabric piece within the assembled frame, a pair of rigid brace members, means swingably connecting upper ends of said brace members to said side members adjacent an end of the frame constituting an upper end thereof, a pair of frame anchoring stakes, means adjustably clamping said frame anchoring stakes to the



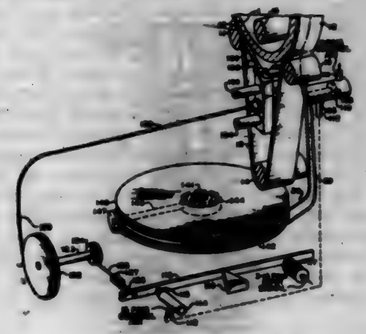
outer sides of said side members adjacent the other lower end of the frame, a pair of brace anchoring stakes, and means adjustably clamping said brace anchoring stakes to the other lower ends of said braces, said frame anchoring stakes and brace anchoring stakes being adapted to be driven into the ground in substantially upright positions for positioning the frame and braces in upwardly converging relation to one another.

2,980,125
FIRE HYDRANT AND VALVE THEREFOR
Allen F. Grant, 831 N St., Fresno, Calif., and John P. Fullmer, Box 1102, Mariposa, Calif.
Filed July 18, 1958, Ser. No. 749,413
8 Claims. (Cl. 137—68)



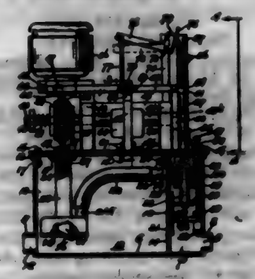
1. In a fluid valve, an elongated housing providing an inlet adapted for connection to a source of fluid under pressure and an outlet in longitudinally spaced relation to the inlet for controlled release of fluid; an elongated valve control rod within the housing having a mounted end, an opposite frusto-conical valve head seating and disposed within said outlet and divergently endwardly extended toward said outlet, and a threaded section intermediate said ends; means connected to the housing journaling the mounted end of the rod for rotatable movement within the housing; an annular valve head screw-threadably mounted on the threaded section of the rod and including an internal frusto-conical wall complementary to the frusto-conical end of the rod, circumscribing the rod, and divergently extended toward said outlet; and means non-rotatably, axially, slidably mounting the valve head within the housing for movement incident to rotation of the rod between a position seated in the outlet of the housing wherein the frusto-conical wall of the valve head is in fluid-tight sealing engagement with the frusto-conical end of the rod and a retracted position in spaced relation to the outlet of the housing.

2,980,126
PROCESS DEAD TIME SIMULATOR
Arthur B. Broerman, St. Petersburg, Fla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 6, 1958, Ser. No. 772,288
20 Claims. (Cl. 137—85)



17. In a dead time simulator apparatus for storing signals for a time interval comprising a drum; a belt engaging a portion of the circumference of said drum; a flexible member; means for placing said member between said belt and said drum; means responsive to input signals for moving said means for placing in a path parallel to the axis of said drum and immediately adjacent to the circumference of said drum, whereby said member is placed between said belt and said drum at a position that is representative of the instantaneous value of such input signals; means adjacent said drum disposed circumferentially away from said means for placing, for following the position of said member where the latter is disposed between said belt and said drum; and means responsive to said means for following, for producing a signal representative of the instantaneous axial position of said member on the circumference of said drum.

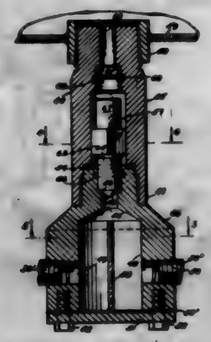
2,980,127
VALVE DRIVE SYSTEM
Ernest R. Workman, 3334 W. 63rd St., Chicago, Ill.
Filed July 1, 1957, Ser. No. 669,160
2 Claims. (Cl. 137—115)



1. A valve drive system associated with a pipe, which includes: main valve means; pawl and ratchet means

for positively closing and opening said main valve means; a by-pass passageway communicating with opposite sides of said main valve means; pump means for forcing material through said passageway; and a source of power connected to the pump and by speed reducing means and clutch means to the valve actuating means.

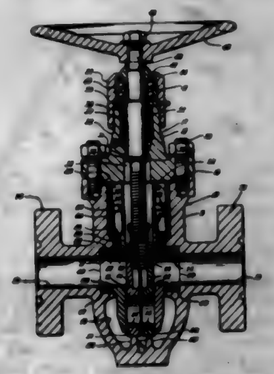
2,980,128
HYDRAULIC FLUID SYSTEM
Ancil C. Stover, Louisville, Ky., assignor to William A. Eisenhauer, William P. Ellwood, and Leigh E. Eisenhauer, copartners, doing business as The Eisenhauer Manufacturing Company, Van Wert, Ohio
Original application Dec. 22, 1952, Ser. No. 327,231, now Patent No. 2,761,693, dated Sept. 4, 1956. Divided and this application May 28, 1956, Ser. No. 587,795
13 Claims. (Cl. 137—198)



1. A closed hydraulic displacement system including a fluid conductor adapted to be filled with hydraulic fluid, a reservoir containing a supply of hydraulic fluid, a valve having a receiving chamber in open communication with said conductor, an air transfer chamber in said valve connecting the receiving chamber to the reservoir at a point in the reservoir below the level of said hydraulic fluid supply, a valve member and seating structure therefor in said valve operable to close communication between said chambers and to open communication between the transfer chamber and said reservoir, thereby to displace air in said transfer chamber into said reservoir by hydraulic fluid from the latter, and means associated with said valve including said valve member operable in response to a predetermined increase of pressure in the fluid in said conductor to close communication between said transfer chamber and said reservoir and thereafter to open communication between said chambers for displacing air in said receiving chamber into said transfer chamber by hydraulic fluid from the latter.

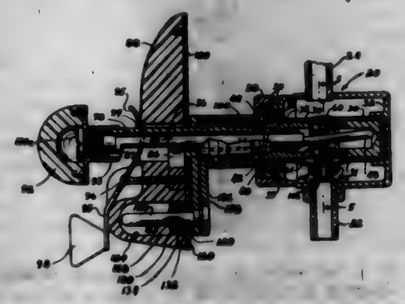
2,980,129
SEALING GROOVE
William E. Sherman, Houston, Tex., assignor, by mesne assignments, to McEvoy Company, Houston, Tex., a corporation of Texas
Filed Sept. 26, 1957, Ser. No. 686,461
4 Claims. (Cl. 137—238)

1. An automatic self-sealing lubricated valve comprising, a valve body having a chamber therein, a flow passage through said body intersecting said chamber, closure means within said chamber for controlling fluid flow through said flow passage between open and closed positions thereof, means for operating said closure means from the exterior of the valve, reservoir means in the valve for containing a supply of flowable sealing and lubricating material, a seal comprising a first surface having a sealing groove of generally triangular cross sectional form therein spaced from an edge thereof, a second surface abutting said first surface at the side of said groove away from said edge and overlying said groove and edge, said first surface being slightly relieved between said groove and edge to be closely spaced from said second surface but not in abutment therewith, said relieved portion of said first surface between said groove and edge exposing said sealing material in said groove to fluid pressures at said edge whereby said sealing material is



pressured to form a seal at said groove, means and ports for causing said material to flow from said reservoir means to said seal surfaces and said groove to form a seal across the groove between said surfaces when the valve is closed, said surface having said groove being relatively moved to a non-engaged position when the valve is not closed and there being exposed to the line fluid in said flow passage, and said triangular form of said groove having angular sides preventing the adherence therein of detritus and permitting the line fluid to wash the groove clean each time the valve is opened.

2,980,130
MIXING VALVE
Otto Harke, 50—26 64th St., Woodside, N.Y.
Filed Oct. 6, 1958, Ser. No. 765,385
15 Claims. (Cl. 137—315)



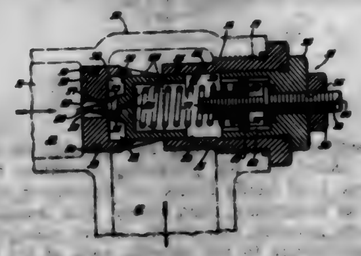
1. A mixing valve having two different valve elements for controllnig the entrance of liquid from inlet passages into a mixing chamber, the inlet passages being at different angular positions around an axis passing through the mixing chamber with the axis of each of said inlet passages lying in a plane transverse to the said axis passing through the mixing chamber and disposed substantially radially thereof, guides in which the valve elements are confined to reciprocating movement toward and from their respective inlet passages, a common actuator connected to both valve elements for moving them in said guides, the actuator having free sliding movement with respect to each valve element in the direction of movement of the other valve element, a reciprocating operating element connected to the actuator and movable substantially along the aforesaid axis passing through the mixing chamber and extending through the actuator and having a sloping surface that displaces the actuator as the operating element is moved back and forth in the actuator to vary the actuator displacement, and means for turning the operating element about an axis to bring the sloping surface into different angular positions around the mixing chamber to change the direction of displacement of the actuator with respect to the directions of movement of the different valve elements.

2,980,131
TANK TEMPERATURE EQUALIZER
Charles E. Williams, 523 Santa Rosa Road, Arcadia, Calif.
Filed July 20, 1959, Ser. No. 828,277
4 Claims. (Cl. 137—334)



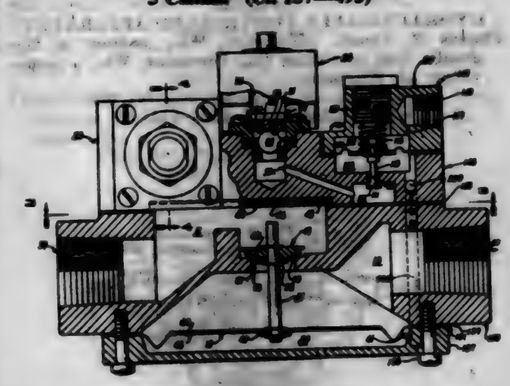
4. A portable tank for use in the conveyance of hot liquids comprising an elongated tank divided by transversely extending baffles into voids which communicate with each other through the baffles adjacent the bottom thereof, means for introducing a hot liquid to be conveyed into one of the voids from which it may flow into the other voids, means defining an upwardly directed passage in each of said other voids into which hot liquid initially entering the tank may flow, and a valve-controlled conduit leading to each passage in each of said other voids for discharging a compressed gas therein to throw hot liquid entering the passage upwardly for the purpose of promoting uniform heating of the tank.

2,980,132
SAFETY RELIEF VALVE
Edward A. Prijatel, Lyndhurst, and Henry H. Campbell, East Cleveland, Ohio, assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 25, 1957, Ser. No. 698,719
1 Claim. (Cl. 137—469)



A safety relief valve assembly for a hydraulic system having pressure inlet means, comprising: means defining an inlet and outlet and a chamber interconnecting said inlet and outlet; a hollow valve body disposed in said chamber and having a cylindrical interior with an end wall sealingly separating said inlet from said outlet, said end wall having a central circular aperture therethrough communicating said inlet with the body interior, said body having a valve seat surrounding said aperture and having at least one opening communicating the body interior with the outlet; a cylindrical valve slidable in said body over a generally long stroke between an open position in which said opening is exposed to the body interior and a closed position in which said valve fully closes said aperture and only partially closes said opening, said opening having a configuration which gradually exposes a greater proportion thereof to the body interior upon movement of the valve to open position; biasing means urging said valve into closed position, said valve having a nose engageable with said valve seat to close said aperture, one end of said nose being conically shaped and extending through said aperture in the closed valve position to graually expose a greater proportion of said aperture to the body interior upon movement of said valve to open position and which is substantially elongated to provide a long stroke for said valve in fully exposing the aperture, the conical end of said nose providing a first surface subject to the system pressure when the valve is closed and is acted upon to provide initial valve movement in overcoming said biasing means, said valve having a generally flat surface adjacent the base of said nose and disposed normally to the movable path of the valve, said second surface forming a variable intermediate chamber with the valve body through which the system pressure must pass to reach the body opening, said second surface being substantially larger in area than said aperture in order to continue to provide an effective load to overcome said biasing means even though a pressure drop occurs locally about said first surface when the valve is moved from closed position by system pressure.

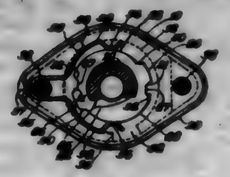
2,980,133
MULTI-PURPOSE DIAPHRAGM GAS VALVE
Leonel Browning Cooper, San Carlos, Calif., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1956, Ser. No. 577,767
5 Claims. (Cl. 137—495)



1. The combination comprising a main gas valve including a housing structure and a pressure responsive member therein; a unitary control valve structure carried entirely by said housing structure for directing a fraction of the main valve inlet gas onto the pressure responsive member to control the main valve outlet pressure; said unitary control valve structure comprising a pilot flame-responsive valve means acting to hold the control circuit open, a manual reset means operative to move the flame-responsive valve means to an open position, a thermostatistically-operated valve means in series with the pilot flame-responsive valve means for opening and closing the control valve structure in response to sensed temperature

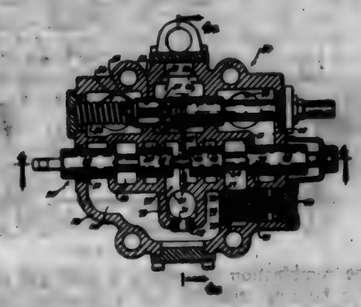
variations, and automatic pressure regulating valve means in series with the thermostatically-operated valve means for controlling the pressure of the control valve gas directed onto the pressure responsive member.

2,980,134
INDICATING MEANS FOR GAS VALVES
Philip S. Harper, Chicago, Ill., assignor to Harper-Wyman Company, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 162,446, May 17, 1950. This application Nov. 2, 1955, Ser. No. 544,484
14 Claims. (Cl. 137—556)



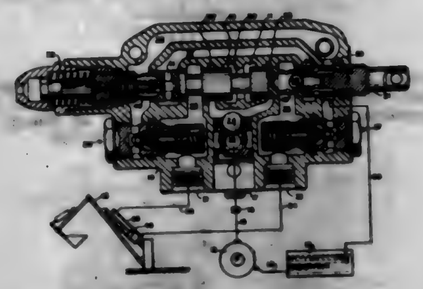
1. In a valve structure including a stem rotatable about an axis between positions corresponding to a plurality of flow controlling positions, the combination of a position indicating and determining mechanism comprising, a disc-like detent member mounted for rotation about the stem axis by said stem, a unitary follower member having a central portion disposed to one side of the stem axis and opposed arm portions resiliently engaging opposed peripheral portions of said detent member, one of said members having relieved portions therein disposed for engagement by the other of said members to provide position indication during rotation of said stem, and means including stationary structure in proximity to and engageable with said central portion of said follower member defining an axis parallel to the axis of the stem relative to which the follower member has limited movement, thereby to provide a floating mounting for said follower member.

2,980,135
HYDRAULICALLY CONTROLLED APPARATUS
Francis H. Tennis, Milwaukee, Wis., assignor to Hydraulic Unit Specialties Co., Pewaukee, Wis., a corporation of Wisconsin
Filed Sept. 18, 1958, Ser. No. 761,799
6 Claims. (Cl. 137—621)



1. A hydraulic control valve unit, comprising: a body having a bore, inlet and outlet means, a through passage connecting the inlet and outlet means and having an intermediate portion intersecting the bore, a pair of motor ports, a high pressure passage for each motor port, said high pressure passages communicating the motor ports with the bore at zones spaced from one another and from the junction of the through passage with the bore, and exhaust passage means which is separate from the through passage but communicated with said outlet means and communicable with each high pressure motor port passage through the bore; a valve element shiftable back and forth in the bore from a neutral position to either of two operating positions, said valve element being adapted to clear the through passage in said neutral position thereof and thereby provide for free flow of fluid from the inlet to the outlet means, but being adapted to block the through passage at its junction with the bore in either operating position thereof; said body having feeder passage means therein communicated with the inlet and having a terminal portion joining with the bore, and into which feeder passage means fluid entering the inlet is diverted by the valve element in either operating position thereof for travel to the bore, the junctions of the through passage and said terminal portion of the feeder passage means with the bore being independent and spaced apart axially of the bore; the valve element being adapted to selectively communicate either high pressure motor port passage with said terminal portion of the feeder passage means and the other high pressure motor port passage with the exhaust passage means upon shifting of the valve element to said operating positions thereof; said body having means providing a feed back passage therein which is entirely independent of the through passage and which is adapted to connect the high pressure motor port passages with one another; and a pressure sensitive valve in said feed back passage normally closing the same, said valve being adapted to open in an operating position of the valve element to communicate the high pressure motor port passage then in communication with the feeder passage means with that high pressure motor port passage which is then in communication with the exhaust passage means, in response to a drop in fluid pressure at said first designated high pressure motor port passage to a valve below that obtaining at said second designated high pressure motor port passage.

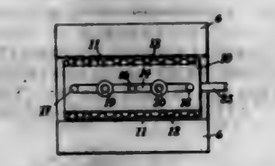
2,980,136
HYDRAULIC FLOW CONTROL SYSTEM AND VALVE WITH ANTI-CAVITATION FEATURE
Robert D. Krabbiel, Hutchinson, Kans., assignor to Cessna Aircraft Company, Wichita, Kans., a corporation of Kansas
Filed June 25, 1959, Ser. No. 822,858
6 Claims. (Cl. 137—622)



1. A system for controlling the operation of a fluid actuated motor and for preventing cavitation therein when large load inertia forces are transmitted thereto, said system comprising: fluid supply, fluid transfer and fluid return passages; two circuit control passages connected respectively to the opposite ends of the motor and selectively connectible to the fluid supply and fluid transfer passages; shiftable valve means including spaced land portions and adjacent grooves, certain of said land portions being effective in a neutral position to block the flow of supply fluid to and from both circuit control passages, the shiftable valve means being movable to positions in which said grooves selectively connect either

circuit control passage with the supply passage while directly connecting the other circuit control passage with the transfer passage; first independent valve means affording flow of fluid from the transfer passage into a first of said circuit control passages when the pressure therein drops below the pressure in the transfer passage and when the shiftable valve means is in a position to connect said first circuit control passage with the supply passage and the second circuit control passage with the transfer passage; and second independent valve means openable in response to a pressure differential greater than that required to open the last above mentioned valve means to afford flow of fluid from said transfer passage into said return passage when the shiftable valve means is in the last above designated position.

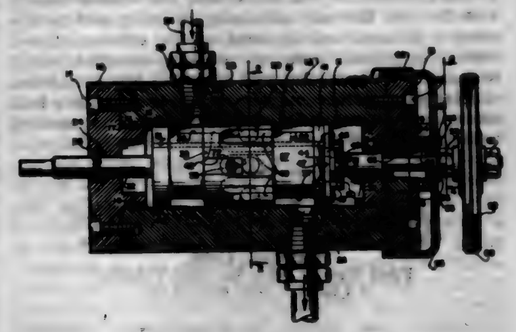
2,980,137
FLUID CONTROL VALVES HAVING RECTILINEARLY SLIDABLE PARTS WITHIN PORTED HOLLOW BODIES
George Selwood, Taunton, Somerset, England, assignor to Wilmot-Breeden Limited, Bridgwater, England
Filed Nov. 23, 1959, Ser. No. 854,913
Claims priority, application Great Britain Nov. 27, 1958
1 Claim. (Cl. 137—622)



A fluid control valve of the kind specified, comprising in combination a hollow body provided with inlet and outlet ports, and with a pair of parallel internal surfaces in spaced relationship, a rectilinear member which has formed therein at least one passage, and which is mounted within the hollow body between the said parallel internal surfaces thereof so as to be rectilinearly slidable for controlling fluid flow through the inlet and outlet ports, an actuating member united with the rectilinear member and extending from one end thereof through the corresponding part of the hollow body, the rectilinear member having a pair of parallel faces separated from the said parallel internal surfaces of the hollow body by small predetermined clearances, and two pairs of straight rows of anti-friction bearing members situated within the hollow body between, and in contact with, the rectilinear member and the said parallel internal surfaces of the hollow body to support the rectilinear member and maintain the small predetermined clearances between the parallel faces of the rectilinear member and the said parallel internal surfaces of the hollow body.

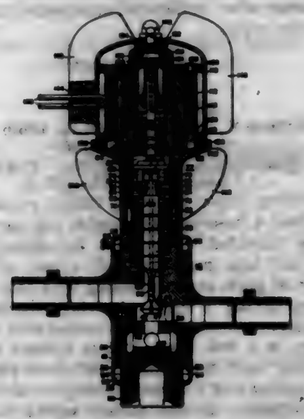
2,980,138
CONTROLLABLE RATE VALVE
James I. Detweiler, Burbank, and Forest O. Rick, Jr., and Douglas G. Thompson, Los Angeles, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 10, 1956, Ser. No. 627,410
1 Claim. (Cl. 137—624.13)

A valve for causing pressure cycling of incompressible fluid contained in test lines comprising a body member having an elongated sealed cylindrical chamber therein, a fluid input port and a fluid return port communicating said chamber with the exterior of said body member for conducting incompressible fluid to and from the valve, at least two test line ports communicating the interior of said member with the exterior and disposed between said input and said return ports, a cylindrical fluid control means rotatably and axially movable within said sealed chamber of said member, a driven spindle for rotatably mounting one end of said control means, a driving spindle for rotatably mounting one end of said control means and for supplying rotation to said control means, a first and a second annular recess formed in the periphery of said control means for cooperating respectfully with said input and said return ports, at least one input channel axially aligned with said driving spindle upon said control means between said first recess and a plane containing at least one of said test line ports, at least one return channel axially aligned with said driving spindle upon said control means between said second recess and a plane containing at least an-



other of said test line ports, a rotatable adjustment cap threadably engaged with said body member coaxially with said driving spindle, said driving spindle rotatably mounted coaxially within said rotatable cap for axial movement therewith, said adjustment cap operative to axially reciprocate said control means for varying the contact area of said input channel with said one test line port, whereby the frequency of said pressure cycling may be controlled by rotation of said driving spindle and the magnitude of the pressure of said incompressible fluid may be varied by rotation of said adjustment cap which in turn axially moves said driving spindle and said control means to vary said contact area.

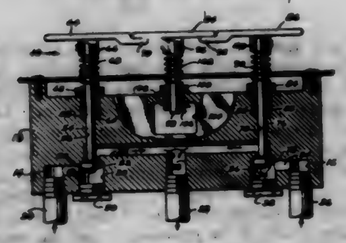
2,980,139
TWO-WAY VALVE
Lawrence B. Lynn, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 10, 1956, Ser. No. 615,965
7 Claims. (Cl. 137—625.5)



1. A solenoid-operated valve comprising a valve body having internally connected inlet, first outlet, and second

outlet openings and having a bore therein communicating with said openings and with a static fluid chamber spatially removed from said openings; individual valve seats formed in said body adjacent each of said outlet openings; a valve mechanism including an elongated piston closely conforming to said bore and mounted for reciprocation therein, and a valve seat-engaging member connected to one end of said piston for engaging alternately said valve seats, said mechanism having a static pressure-equalizing and motion-damping passage extending longitudinally through said piston and said member and communicating with said chamber and with at least one of said openings; a casing secured to said valve body and communicating with the bore thereof, said casing enclosing said mechanism; a solenoid coil mounted on the exterior of said casing; a solenoid armature movably mounted within said casing and adjacent said coil, said armature being coupled to the other end of said piston through a lost-motion connection; and electrical circuitry for connecting said solenoid coil to a source of electric potential.

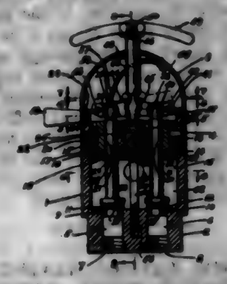
2,980,140
LIQUID MIXING VALVE STRUCTURE
Charles D. McMillan, 9547 California Ave., Arlington, Calif.
Filed May 6, 1958, Ser. No. 733,354
2 Claims. (Cl. 137—637)



1. Control means for selectively controlling the linear movement in one direction of two or more reciprocable elements, said control means comprising a plurality of control plates, said plurality consisting of an inner plate and a pair of outer plates, said plates each being mounted for reciprocating movement with said reciprocable elements and being constantly biased against a stop means so that they will tend to remain in a common plane, the outer plates each having a stepped shoulder formed at their respective proximal ends, and said inner plate being adapted to overlap said shoulders whereby depression of said inner plate results in corresponding depression of said outer plates.

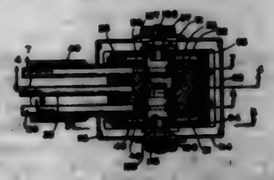
2,980,141
MIXING VALVE
William C. Brinkmann, 448 W. 106th St., Los Angeles, Calif.
Filed Jan. 5, 1959, Ser. No. 785,934
2 Claims. (Cl. 137—637.2)

1. A mixing valve having a casing provided with a side wall and a base and a rotatable cap carried by said casing and provided with means for effecting said cap rotation, said base provided with a pair of valve seats and a pair of ports communicating with said valve seats, said casing having a liquid receiving chamber, a valve for each valve seat, each valve provided with a valve stem terminating in a ball head, a plate formed with sockets for receiving said ball heads, said plate provided with a central socket and a central stem provided with a ball portion positioned in said central socket for mounting the plate on the central stem, said central stem extending through the cap and provided with a handle exterior the cap and the opposite end of said central stem provided with a threaded plug, a nut within said casing and fixedly mounted thereto against movement, for engagement with said threaded plug, the valve stems being passed through openings provided in said nut, and said cap being in-



ternally provided with a spring arm engaging the plate for tipping the plate on its mounting when the rotatable cap is rotated, and the central stem is rotated to move the threaded plug relative to the fixed nut to raise the valve stems and the valves carried thereby from their seats.

2,980,142
PLURAL DISPENSING VALVE
Anthony Turak, 11288 Lorain Ave., Cleveland, Ohio
Filed Sept. 8, 1958, Ser. No. 759,539
13 Claims. (Cl. 137—637.3)

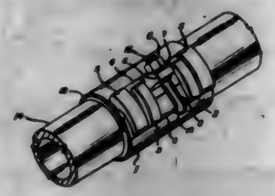


1. A four-way dispensing valve comprising, in combination, a body, surface means in said body defining a valve chamber, first and second axially aligned abutting cylindrical valve plugs contained within said valve chamber, a discharge opening in said dispensing valve, a plurality of entrance conduits in said body leading to said valve chamber, a plurality of exit conduits in said body leading from said valve chamber and passing to said discharge opening, a plurality of bore means at different angular positions in each of said valve plugs and arranged for selective registration with said conduits in first and second positions of each said valve plug, first and second handles engaging said first and second valve plugs, respectively, for arcuate movement, access apertures in each said handle, set screws engaging said body and coaxially aligned with said valve plugs and extending through said access apertures to hold said handles transversely in place, to maintain said valve plugs in abutting engagement, and to adjust the axial position of said bore means relative to said conduits, cover means for said dispensing valve and having apertures receivable on said set screws, and knurled nuts engaging said set screws to retain said cover means on said dispensing valve.

2,980,143
PIPE CLAMP
Frederick F. Hurrle, Houston, Tex. (2837 NW. 32nd St., Oklahoma City, Okla.)
Filed May 28, 1959, Ser. No. 816,484
4 Claims. (Cl. 138—89)

1. In a pipe clamp, a steel band bent to conform with the shape of a tube, a yieldable insert loosely mounted

in said band, a bar mounted on the outside surface of one longitudinal margin of said band and guide fingers mounted on said bar and extending longitudinally beyond said longitudinal margin of said band, a bar mounted adjacent the other longitudinal margin of said band,



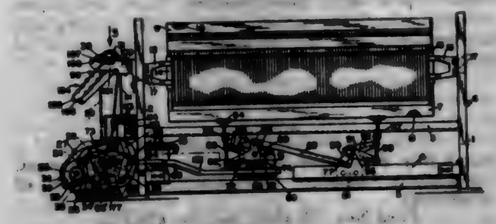
guide fingers on said last mentioned bar extending longitudinally beyond said longitudinal margin of said band, said fingers on said bars maintaining the ends of said band in longitudinal alignment and a locking arm on said last mentioned bar having a hook at one end positioned to engage the outer margin of the first mentioned bar.

2,980,144
FLEXIBLE HOSE CONSTRUCTION
Cyril J. Edwards, Jr., Grosse Pointe Farms, Mich., and Rollin E. Wiseger, Willoughby, Ohio, assignors to The Eagle-Picher Company, Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 2, 1959, Ser. No. 784,727
9 Claims. (Cl. 138—109)



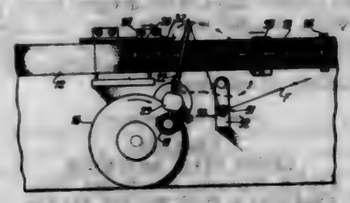
8. In flexible tubing having a helical elongated supporting element and a flexible wall supported thereby, an annular end cap fitted over the cylindrical end of the tubing, and attaching means for said cap passing therethrough and gripping said supporting element.

2,980,145
SELECTIVE SHEDDING MECHANISM FOR LOOMS
Archibald J. Herard, Jr., Auburn, and Clarence R. Kroneff and Victor F. Sepavich, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed July 3, 1959, Ser. No. 824,811
25 Claims. (Cl. 139—80)



1. In a selective shedding mechanism for a loom having a plurality of independently shiftable harness frames and a pattern mechanism, a plurality of pairs of actuating means having a working and a nonworking stroke, each pair being interconnected to each other to move simultaneously in opposite directions, and each means of said pair moving in one direction toward each other and then away from each other in the opposite direction, a plurality of sliding means each of which is operatively connected to a harness frame and selectively chosen by said pattern mechanism to positively raise or lower its corresponding harness frame depending upon which direction said sliding means moves when having a sliding movement and each of which is capable of maintaining its corresponding harness frame in raised or lowered position for any number of selected beats of the loom, selectable means for each of said sliding means under control of said pattern mechanism and normally in a non-operative position but rockably mounted on its corresponding sliding means for angular movement thereon in opposite directions to operative positions, latching means on each of said means of a pair of actuating means normally reciprocating in a path to avoid moving said selectable means but engageable therewith to move the latter when rocked to said operative positions, a pair of coacting hook means for said latching means on each of said selectable means and normally out of the path of said latching means, one coacting hook means for each latching means capable of being operatively connected to the corresponding latching means to effect bodily movement of said selectable means to cause longitudinal movement of said sliding means when said pair of actuating means moves away from each other in said opposite directions but incapable of causing said longitudinal movement of said sliding means when said pair of actuating means is moving in said one direction toward each other, giveway means controlled by said pattern mechanism operatively interposed between the latter and each of said selectable means to effect angular movement of said selectable means in one of said opposite directions to cause one or the other of said coacting means to be positioned for coaction with its corresponding latching means whereby selection of said sliding means is effected for sliding movement to raise or lower its corresponding harness frame, depending upon which direction said selectable means is rocked and bodily moved, and constantly rotating means each of which is provided with a pair of surfaces always operatively connected to one of the actuating means of each pair of actuating means to cause said each pair of actuating means to move simultaneously in said opposite directions to effect movement of said latching means in said path.

2,980,146
HIGH SPEED LOOM
Harry T. O'Neill, New Bedford, Mass., assignor to The Continental Elastic Corporation, a corporation of Delaware
Filed Apr. 3, 1958, Ser. No. 726,824
8 Claims. (Cl. 139—124)



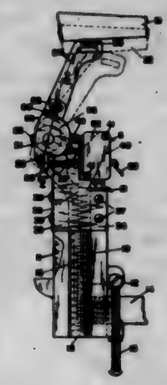
1. In a loom, having shed forming means, a filling needle slidably and pivotally mounted on one side of the shed, means on the end of said needle slidably to mount a vertical span of thread, a knitting needle on the other side of the shed, said needle having a hook end, means for

swinging said filling needle about its pivotal mount so that the end of said filling needle enters the wide end of the shed and is projected therethrough to the opposite side thereof and is retracted in a path adjacent the fell of the shed and is advanced along the side of the shed on which the filling needle is mounted to a point adjacent the wide end of the shed, said path being such that the vertical span of thread carried by said filling needle will be engaged by the hook end of the knitting needle, said hooked needle being reciprocably mounted to knit loops in the thread.

2,980,147
ELECTRICALLY INDICATING WEFT DETECTOR FOR LOOM

Archibald J. Herard, Jr., Auburn, and Victor F. Sepevich, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

Filed July 19, 1957, Ser. No. 673,086
8 Claims. (Cl. 139—273)



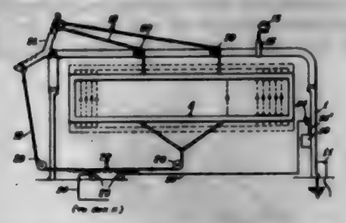
1. In a loom weft detecting mechanism having a carrier, a pivot on the carrier, a side slipping detector finger mounted on said pivot for a normal angular movement thereabout, an electric switch on the carrier having an arm to be moved to effect a change in the condition of the switch, and an angularly adjustable actuator interposed between said finger and said arm and constantly engaged therewith and having an upper part freely encircling said pivot and a lower part remote from said pivot and fixed to said finger, said upper part having an eccentric surface with respect to the axis of said pivot and capable of being adjusted angularly with respect to said arm without requiring a corresponding change in the normal angular throw of the detector finger, and said actuator being movable pivotally about said pivot when said finger moves to cause said surface to positively move said arm with respect to said pivot to effect said change in the condition of said switch.

2,980,148
LOOM STOP MOTIONS

Fred B. Wiseman, Sweetwater, Tenn.

Filed May 8, 1953, Ser. No. 353,839
2 Claims. (Cl. 139—337)

1. In a loom having heddle frames, harness mechanism for operating the heddle frames and including a magnetizable material connected directly with the harness mechanism, a pair of spaced magnetized bars arranged adjacent the magnetizable material in position to attract said material upon breakage of the harness mechanism, a signal device, and an electric circuit connected with the signal device and with the magnetized bars in posi-

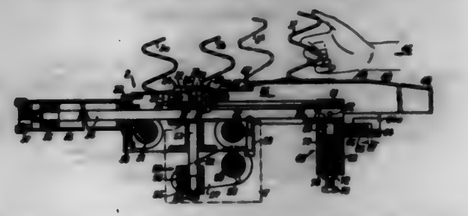


tion to be closed thereby upon breakage of the harness mechanism.

2,980,149
CLAMPING DEVICE

Walter Spühl, 9 Hauptstrasse, St. Gallen, Switzerland

Filed Nov. 25, 1957, Ser. No. 698,743
Claims priority, application Germany Mar. 18, 1957
12 Claims. (Cl. 140—92.5)



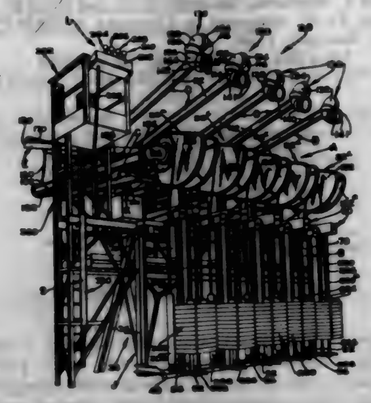
1. In a machine for interconnecting the ends of coil springs for producing spring assemblies, the combination comprising, a fixed frame member, a plurality of clamping tongs arranged in a row on said frame member, each clamping tong comprising a fixed jaw and a complementary movable jaw reciprocally mounted for movement to and away from its fixed jaw between open and closed positions in a linear direction, pneumatic means for reciprocating each of said movable jaws between its open and closed positions, a bracket for each of said clamping tongs fixed with respect to said frame member and adapted to support one end of a coil spring positioned at a feed position prior to closure of its respective jaw, each of said movable jaws having a projecting lug portion operative when said movable jaw is in open position to hook about said one end of its coil spring being fed and advance it against its fixed jaw upon closure, said complementary jaws each having means to straighten and clamp together arcuate portions of said ends of successive pairs of coils being fed to the clamping tongs as the moving jaws reciprocate, mechanism for guiding a helical wire about said clamped together portions of said springs while said jaws are in closed position for securely interconnecting them, and means including a vertically reciprocating pin for ejecting said interconnected coil end portions during movement of the movable jaws to their open position.

2,980,150
FLUID CONVEYING APPARATUS

Peter J. Elly, Brea, Calif., assignor, by mesne assignments, to Chiksan Company, Brea, Calif., a corporation of California

Filed Nov. 28, 1956, Ser. No. 624,712
24 Claims. (Cl. 141—387)

1. Apparatus for establishing fluid conveying communication between fluid delivering and fluid receiving means, comprising a fluid tight hose connected at one end to the fluid delivering means, means mounted for movement in a vertical plane for supporting the hose and for moving the hose toward and away from the fluid receiving means, and means carried by the hose moving

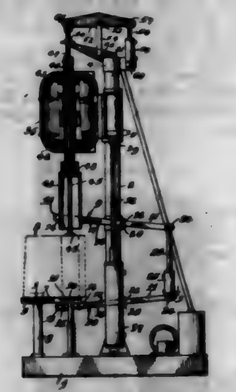


means and operable to maneuver the other end of the hose to a position adjacent said fluid receiving means.

2,980,151
MACHINE FOR CUTTING BILLETS FROM A BLOCK

Foy A. Arbour, Gladstone, Mich., assignor to Arbour Box Company, a partnership, and Brunswick Corporation, a corporation of Delaware, jointly

Filed Dec. 19, 1957, Ser. No. 703,865
4 Claims. (Cl. 143—85)

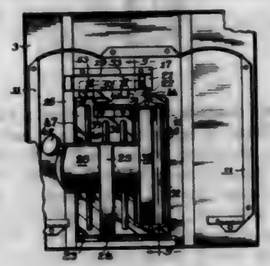


3. In a billet forming machine for cutting billets from a log block, means for supporting a log block in cutting position, means for holding the log block against movement during cutting thereof including an upper clamp and a lower clamp selectively engageable with the upper and lower faces respectively of a block, means for cutting a billet from the block including a slide movable up and down relative to said block supporting means, a motor mounted on said slide having a hollow drive shaft, and a barrel saw connected to the lower end of said drive shaft, a support for the underside of a billet cut from the block, a hold-down member reciprocatively mounted within the hollow drive shaft and barrel saw for releasably holding a billet cut from the block against the support and freeing a billet from the saw, and means located above the saw for reciprocating said hold-down member independently of said barrel saw and said block holding means whereby the hold-down member may be reciprocated relative to the saw to apply an impact force to a billet bound in the saw and knock the billet therefrom, said holding means further releasably holding a billet against the support until the clamps, saw and log block are withdrawn therefrom.

2,980,152
UNDERTABLE MOUNTING FOR PORTABLE POWER TOOL

Edwin Slavin, 630 Apple Tree Lane, Deerfield, Ill.

Filed Sept. 25, 1957, Ser. No. 686,112
6 Claims. (Cl. 143—132)

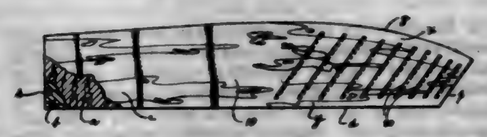


1. In combination with a portable tool secured to a base plate, a table top having a longitudinally extending opening extending therethrough and a pair of longitudinally spaced flanges rigidly secured to the underside of said table top, said flanges extending transversely of said table top and having inturned edges spaced from the underside of said table top, one end of said base plate being receivable between one of said inturned edges and the underside of said table top with an operative portion of said tool projecting through said opening in operative position above said table top, the other end of said base plate being engageable with said other inturned edge, a screw threaded through said first mentioned inturned edge into holding engagement with the first mentioned end of said base plate, and a cam engaging said screw to move said base plate longitudinally to position said second mentioned end of the base plate in holding engagement with said second mentioned inturned edge as said screw is threaded through said first mentioned inturned edge.

2,980,153
METHOD OF PREPARING PLYWOOD PLANKING FOR COMPOUND BENDING

Oren P. Burch, Rte. 19, Box 62, Aberdeen, Wash.

Filed Nov. 12, 1958, Ser. No. 773,372
8 Claims. (Cl. 144—324)



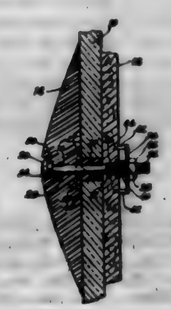
1. A method of preparing plywood panels for compound bending, the method comprising forming those areas of the panels that are to be subjected to compound bending with a plurality of substantially parallel saw kerfs cut completely through the thickness of the panel and directed angularly across the panels with respect to their lengthwise direction, and said kerfs being directed angularly with respect to the surfaces thereof and terminating at their opposite ends short of the longitudinal edges of the panels thus leaving the panels with uncut opposite edge portions of normal strength and rigidity.

2,980,154
SLEDGE HAMMERS
James W. Williamson, P.O. Box 93, Tahoe City, Calif.
Filed Jan. 12, 1959, Ser. No. 786,280
5 Claims. (Cl. 145—39)



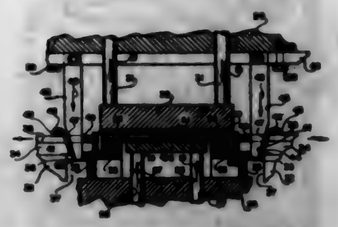
1. A hammer construction comprising a hammer head, a bore in said head to receive a handle, a handle disposed in said bore, a handle guard carried rigidly by said head comprising a tubular sleeve-like member being in the form of a pointed double ended oval in cross-section and oriented with its major axis substantially in vertical alignment with the longitudinal axis of the hammer head formed of heavy gauge metal depending from said head and enclosing said handle, said guard having internal diameters substantially greater than the diameters of said handle bore and positioned to be out of contact with said handle throughout its length.

2,980,155
HARDWARE FOR MIRRORS
Arthur Waller, Highland Park, and Otto Isensee, Jr., Glenview, Ill., assignors to Bull Dog Lock Company, Chicago, Ill., a corporation of Illinois
Filed June 22, 1956, Ser. No. 593,171
2 Claims. (Cl. 151—69)



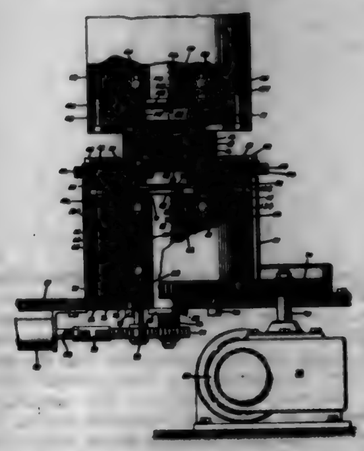
2. Hardware for mounting a mirror on a soft backing board, said hardware comprising a bolt having a head at one end and a shank extending therefrom, said shank having a threaded end portion with a nut thereon at the opposite end of said bolt from said head, said shank having a substantially enlarged generally cylindrical intermediate portion adjacent said threaded end portion and spaced from said head, and a locking collar disposed on said shank between said enlarged portion and said nut, said collar comprising a centrally apertured disc, a sleeve rigid with said disc and extending axially therefrom toward said enlarged portion of said shank, and prongs extending from the outer portion of said disc toward said head of said bolt, said sleeve being slidably received on said threaded end portion of said shank but having an inside diameter substantially less than the outside diameter of said enlarged portion, said nut being adapted to force said sleeve onto said enlarged portion with a press fit.

2,980,156
METHOD AND APPARATUS FOR STRETCH SHAPING PANELS
Frederick C. Hoffman, Sherman Oaks, and Reed B. Scott, Encino, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Oct. 15, 1956, Ser. No. 616,033
7 Claims. (Cl. 153—2)



1. A panel forming apparatus for shaping a panel, comprising a cushion for supporting said panel, gripping means slidably affixed to said apparatus for engagement of opposite edge portions of said panel, upper pressure members selectively engageable with said panel for compressing substantially the entire plane surfaces of both sides of said panel against said cushion, activating means carried by said apparatus for reciprocating said gripping means in opposite directions for stretching said panel, a reciprocating means for applying pressure to said upper pressure members and for forcibly closing said gripping means simultaneously prior to said activating means reciprocating said gripping means.

2,980,157
APPARATUS AND METHOD FOR FORMING WINDING END TURNS OF A DYNAMOELECTRIC MACHINE
Alvin L. Rediger, Holland, Mich., assignor to General Electric Company, a corporation of New York
Filed July 20, 1959, Ser. No. 828,343
14 Claims. (Cl. 153—54)



1. A method for forming and shaping stator core winding end turn assemblies having a plurality of wires, which comprises, positioning an end turn assembly to be formed between two assemblies each having walls defining shaping surfaces, compressing said end turn assembly between said shaping surface walls while concurrently producing a rolling engagement between said end turn assembly and at least one of said shaping surface walls whereby the wires tend to flow in front of said rolling engagement to form a compact mass having peripheral surfaces substantially conforming to the contour of said shaping surfaces, and removing said formed end turn assembly from between said shaping surface walls.

2,980,158
METHOD AND MOLD FOR PRODUCING AN ARCHERY BOW
Leonard S. Meyer, Waverly, Ohio, assignor, by mesne assignments, to Parallel Products Company, Columbia, S.C., a corporation of South Carolina
Filed Apr. 10, 1958, Ser. No. 727,648
5 Claims. (Cl. 154—1)



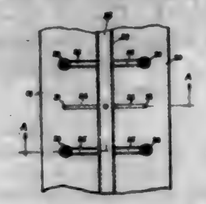
1. The method of molding an archery bow, having opposed elongated belly and back surfaces which are of unequal lengths and are in non-parallel relationship, of an adhesive matrix and fiber reinforcing strands embedded therein, which comprises winding adhesive-treated strands of the fiber reinforcing under tension on a reel in the form of a loop so that the opposed sides of the loop are of unequal lengths in accordance with the unequal lengths of said belly and back surfaces, placing the reel so that the loop thereon is between opposed sections of a mold, which have opposed contours of unequal lengths corresponding to said belly and back surfaces of the bow which are to be imparted to the said belly and back surfaces of the bow, with the tension released from the loop but with the ends of the loop being held by the reel, and moving the mold sections together into cooperative relationship so that the sides of the loop will be moved toward each other while the overall length of the loop is maintained so as to provide tension in the strands at the opposite sides of the loop and so as to form said unequal length belly and back surfaces.

2,980,159
APPARATUS FOR APPLYING FLAT STRIPS TO CORRUGATED PAPER
Kermit Greene, Newton, Mass., assignor to Sherman Paper Products Corporation, Newton Upper Falls, Mass., a corporation of Massachusetts
Filed Aug. 22, 1956, Ser. No. 605,651
1 Claim. (Cl. 154—1.6)



A machine for attaching flat paper strips to a corrugated sheet of paper, comprising an extruding nozzle, a reservoir for adhesive, a pump connected so as to pump adhesive from said reservoir to said nozzle, a roll, means for continuously driving a strip past said nozzle and around said roll edge guides spaced by substantially the width of the strip and adapted to engage a strip as it passes under said nozzle, said nozzle being narrower than the space between the edge guides and centrally disposed with respect to the guides, means for continuously driving a corrugated sheet around said roll along with said strip, and means for driving said pump at a speed proportionate to that of the sheet and strip around said roll.

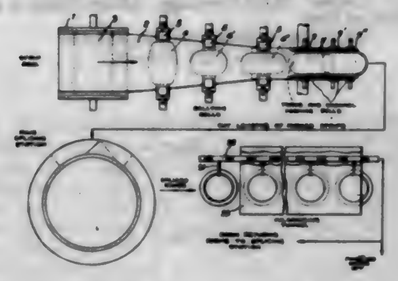
2,980,160
TIRE BUILDING DRUM
Mason J. Dalbel, Cuyahoga Falls, Ohio, assignor to The Akron Standard Mold Company, Akron, Ohio, a corporation of Ohio
Filed May 8, 1956, Ser. No. 583,431
4 Claims. (Cl. 154—9)



1. A collapsible tire building drum comprising in combination, an annular base member having a plurality of relatively movable arcuate segments adapted to be assembled in end to end relation for rotation about a central axis, a pair of annular wing members each having a substantially continuous cylindrical surface and assembled in side by side axially adjustable relation on the base member to form a substantially continuous smooth tire building surface, each of said wing members including a plurality of independent arcuate segments disposed in end to end relation about the base member, guide means coacting between each base member segment and the corresponding wing member segments to locate and maintain the latter in predetermined circumferential position on the base member, releasable clamping means coacting between each base member segment and the corresponding segments of each wing member to secure the wing members in any selected axial position thereon, and interchangeable segmental spacer means supported on and engaging the base member and coacting in interlocking relation between the wing members on the base member to maintain a substantially continuous smooth tire building surface for any axially extended position of the wing members, said interlocking relation comprising a continuous laterally projecting flange on each of the side edges of said segments of said spacer means disposed in underlying engaged relation with a single laterally projecting overlapping flange on the inner edge of the corresponding segment of each wing member whereby the outer arcuate faces of said spacer segments and said wing member segments provide a substantially continuous smooth tire building surface, said flanges on said spacer segments engaging said base member whereby the clamping force at the inner edges of said wing member segments due to said clamping means is applied to said spacer segments and thence directly to said base member through said flanges of said spacer segments, and guide means coacting between said base member and each of said spacer segments to maintain the latter in predetermined circumferential position on said base member, said releasable clamping means including a headed bolt carried by each base member segment with the bolt shank and head extending outwardly into the path of the corresponding wing member segment, each wing member segment having an axially extending undercut slot in its inner surface receiving and being selectively engaged by the corresponding bolt head, and threaded means coacting

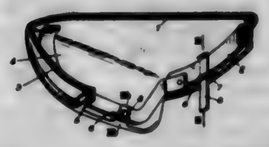
between each base member segment and the corresponding bolt shank to draw the bolt head towards the respective base member segment and thereby clamp the corresponding wing member segment in fixed position thereon.

2,980,161
CONTINUOUS MECHANIZED PRODUCTION OF TUBELESS TIRE SAFETY RINGS
Frank A. Howard, 30 Rockefeller Plaza, New York, N.Y.
Filed Dec. 27, 1954, Ser. No. 477,823
4 Claims. (Cl. 154—14)



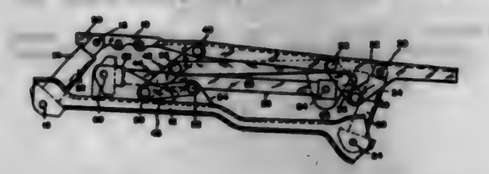
1. The method for continuously fabricating a toroidal safety ring for a tubeless tire, the ring having a circumferential opening on the inner periphery thereof and having marginal outturned channel sections, comprising the steps of passing a flat flexible strip through bellying rolls while gripping the margins thereof to effect a progressive bellying of the strip causing it to assume a U-shaped cross-section with flat margins, passing the bellied strip through channel-forming rolls progressively to deform said flat margins into out-turned channel sections, feeding the bellied and deformed strip through stretch rolls along an arcuate path to stretch out the central longitudinal portion of the strip while securing the out-turned channel sections thereof, cutting off lengths of the strip so stretched, and joining the ends thereof to form said toroidal safety ring.

2,980,162
MOULDED SADDLES FOR CYCLES, MOTOR-CYCLES, SCOOTERS AND THE LIKE
Jean Bourgain, 41 Rue de Lille, Phalempin, France
Filed Nov. 6, 1957, Ser. No. 694,835
Claims priority, application France Nov. 13, 1956
9 Claims. (Cl. 155—5.23)



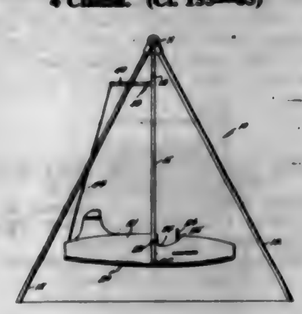
1. In a saddle for a bicycle and the like, in combination, a cover of molded material having downwardly depending edge portions and a pocket portion at the forward end of said cover; substantially flat rigid band means shaped to match said edge portions of said cover and located in said cover surrounded by said edge portions, said band means having a portion located in said pocket portion; a catch member integral with said cover and spaced rearward of said pocket portion, at least a portion of said catch member projecting inwardly from said cover; a fastening member engaging said catch member to secure said cover to said band means; and substantially closed loop means surrounding a portion of said band means, at least a portion of said loop means being formed by one of said members.

2,980,163
ADJUSTABLE SEAT SUPPORT MECHANISM
Joseph Pickles, Dearborn, Mich., assignor to Ferro Stamping Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 15, 1958, Ser. No. 780,342
11 Claims. (Cl. 155—14)



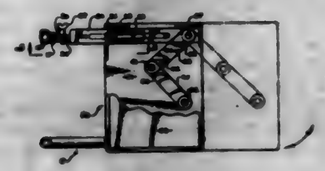
6. An adjustable vehicle seat suspension comprising a seat support bar adapted to be connected to one end of a vehicle seat, means mounting said bar for generally endwise movement, said means comprising first linkage means pivotally connected to one end of said bar and having a pivot mounting below its pivotal connection to said bar to cause the front end of said bar to move in an upwardly convex arc on endwise movement of said bar, a suspension link pivotally connected at one end to the other end of said bar and having a pivot mounting above its pivotal connection to said bar to cause the rear end of said bar to move in an upwardly concave arc on endwise movement of said bar, and means for shifting said bar endwise into different positions of adjustment.

2,980,164
HAND POWERED SWING
Homer C. McNeil, San Antonio, Tex., assignor of fifty percent to Edgar A. Gittinger, Jr., San Antonio, Tex.
Filed July 6, 1959, Ser. No. 825,147
4 Claims. (Cl. 155—65)



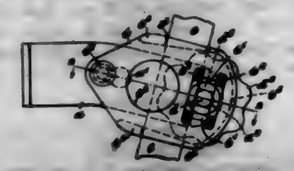
1. A hand powered swing comprising a body, a horizontal support bar positioned above said body and extending transversely thereof, a pair of elongated generally upright support members rigidly secured to said body at their lower ends and pivotally secured to said support bar at their upper ends, said body being adapted to swing in an arc having an axis parallel to the axis of said horizontal support bar, a hand operated swinging lever pivotally mounted on said body, a first bell crank lever pivotally mounted on said horizontal bar, said bell crank lever having an elongated generally vertical slot formed therein, a shaft extending transversely through said support members and through said slot for sliding movement in said slot connecting said bell crank lever to said support members, and means including a second bell crank lever pivotally mounted on said body, a connecting rod extending between said second bell crank lever and said hand-operated lever and a second connecting rod extending between said second bell crank lever and said first bell crank lever for connecting said hand operated lever to said bell crank lever to cause swinging movement of said support members upon swinging movement of said hand operated lever.

2,980,165
ADJUSTABLE TRAY
Carl A. Stinz, 4135 Woodman Ave., Sherman Oaks, Calif.
Filed July 14, 1959, Ser. No. 826,965
6 Claims. (Cl. 155—128)



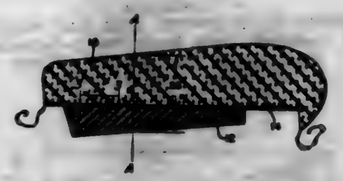
1. An adjustable tray device comprising a tray member having spaced parallel top and bottom walls, a tray supporting arm slideably extending at its outer end portion between and engaging said walls, link means pivotally connecting said outer end portion of said arm to one of said walls for swingable and slideable movement relative thereto and means for supporting the inner end portion of said arm from a chair of the like.

2,980,166
ADJUSTABLE BACK RESTS FOR SEATS
Stanley Howard Adcock Thompson, Stoke Bishop, Bristol, England, assignor to The Tan-Sad Chair Company (1931) Limited, Birmingham, England, a British company
Filed July 9, 1959, Ser. No. 825,979
3 Claims. (Cl. 155—157)



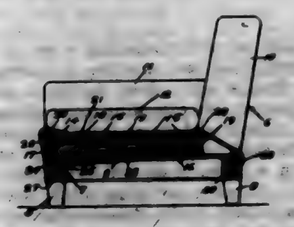
1. In a device for so supporting a back rest relative to a chair seat that the back rest can be adjusted up and down and angularly forward and back, and conveniently and safely clamped in adjusted position, in combination, a pair of substantially parallel plate-like extensions projecting rearwardly and capable of being sprung toward each other, a bolt passing through said plate-like extensions, socket parts lying against the outersides of said plate-like extensions, pivots connecting the forward ends of said socket parts to said extensions, said socket parts having slots through which said bolt passes, whereby the position of said bolt is unchanged when said socket parts are swung about the said pivots, said socket parts having flanges that overlie and underlie edges of said plate-like extensions and overlie and underlie space between said plate-like extensions, the said flanges being notched to receive a back rest stem, a flat-sided back rest stem received by said notched flanges and longitudinally adjustable relative thereto, washers on said bolt, said washers and said socket parts having interengaging rugations, and a hand operated nut member threaded upon said bolt, whereby when said hand operated nut member is turned back engagement of said rugations is loosened and clamping of said socket parts upon said plate-like extensions and clamping of said extensions upon said flat-sided back rest stem are relieved to permit the stem to be adjusted longitudinally and tilted forwardly or backwardly while the position of the hand operated nut remains unchanged and whereby when the hand operated nut is turned up the elements are safely secured together.

2,980,167
SEAT CONSTRUCTION
Edward P. Harris and James R. Wall, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 18, 1957, Ser. No. 672,650
5 Claims. (Cl. 155—179)



1. A seat construction to be carried on a rigid support member, comprising, a combination of a polyurethane foam cushion portion having a soft smooth upper seat surface and having a non-linear load deflection including within the elastic limit thereof a relatively flat portion, a lower portion to supplement said soft polyurethane cushion portion in the form of means to increase hardness and to distribute weight exclusively while cushioning heavy impact as well as improving lateral stability as to the rigid support member and including a secondary polyurethane foam pad portion harder than said polyurethane foam cushion portion, said secondary smaller pad portion having a size smaller laterally and thinner in height than said cushion portion though only said secondary smaller pad has one surface directly in contact with the vehicle floor pan, and a perforated flexible though tough interlayer lining for equalization of load distribution directly between said cushion portion and said secondary pad portion, both said tough lining and said harder secondary pad portion serving to distribute weight and increase hardness for absorption of relatively heavy impact incident to severe bumps and the like such that a seat occupant is free of possible injury by hitting bottom on the rigid support member, said secondary pad portion and said cushion portion both being made of polyurethane foam material that provides a hysteresis effect for lag during unloading in reaction against loading force on said cushion portion so as to avoid sudden reaction that would throw the seat occupant upwardly.

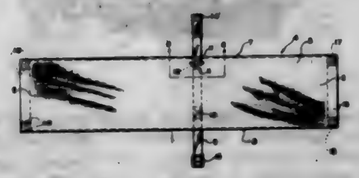
2,980,168
MOLDED BASE UNIT FOR FURNITURE
Robert H. Rom, 1419 Bellamy St., Superior, Wis.
Filed Dec. 18, 1959, Ser. No. 860,465
6 Claims. (Cl. 155—181)



1. In combination with a piece of furniture including a base frame having a webbing covering, fabric pieces anchored to front and rear portions of the base frame, and

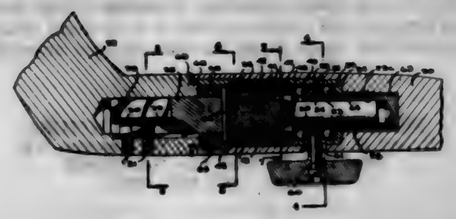
a loose seat cushion; a molded base unit for the furniture piece comprising a relatively thick resilient body portion formed of a molded foam material and including a bottom surface and a top surface, a plurality of coiled springs embedded in said body portion in upright positions, the bottom surface of said body portion resting upon and being supported by the webbing, and said fabric pieces extending from their anchored edges upwardly and across the top surface of the molded base unit for enclosing and covering the base unit, said base unit providing a support for the loose cushion.

2,900,169
COMBINED SEAT COVER AND LAP PROTECTOR
Paul F. Campbell, Dunn Road, Rte. 2, Columbus, Ind.
Filed Aug. 8, 1957, Ser. No. 677,907
3 Claims. (Cl. 155—183)



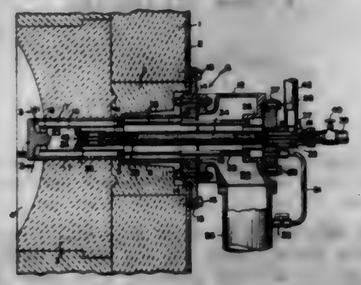
1. A combined auto seat cover and lap protector comprising a strip of flexible material having a length and width greater than the width and depth, respectively, of an auto seat with which it is to be used; a flexible attaching belt secured to said strip solely intermediate the ends and the sides of the latter, said belt being of such length as to encircle said seat from front to back; and means on said belt for securing said strip to an auto seat, the arrangement being such that said strip, when secured to an auto seat, may cover the latter and be be sat upon or may have the portions on either side of said belt raised to cover the lap of a person seated on the auto seat.

2,900,170
ROTATING CHAIR ARM STRUCTURE
Friedrich W. Bechtold, West New Brighton, N.Y., assignor to The S. S. White Dental Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 29, 1960, Ser. No. 5,466
11 Claims. (Cl. 155—198)



1. A chair assembly, including a seat structure and an arm support; said seat structure including an extension at a side thereof with a bore therein, a shaft secured to the arm support and extending into said bore, a first plurality of friction washers on the shaft and conformed to engage the shaft and rotate therewith, a second plurality of friction washers positioned alternately with washers of the first plurality and fitting within the bore and conformed to be held by the extension against relative movement about the shaft axis, means for detaining the shaft in said bore, and means for pressing the washers together for controlling the movement of the arm support relative to said seat structure.

2,900,171
GAS AND OIL BURNER
Alfons A. Furczyk, Wyncote, James B. Henwood, Bala-Cynwyd, and Frederick S. Bloom, Mount Lebanon Township, Pa., and James E. Hovis, Cleveland, Ohio, assignors to Selas Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 16, 1949, Ser. No. 88,022
15 Claims. (Cl. 158—11)



4. In a burner, the combination of a refractory block having a cup formed in one face thereof and an opening extending from the base of said cup to an opposite face of said block, a distributor member in said opening and having an end thereof projecting into said cup, said member being formed with a centrally disposed chamber, a plurality of pairs of radially displaced passages spaced circumferentially around said member, the inner passages of each pair terminating in said chamber, said member having a radial channel extending from the periphery thereof in said cup to each pair of passages, means to supply finely dispersed oil to said chamber from which it can flow through the inner passages and channels to said cup, means through which gas may be supplied to the outer passages so it can flow through the channels to said cup, and means to supply air through all of the passages, the air mixing in the respective passages with the oil and gas.

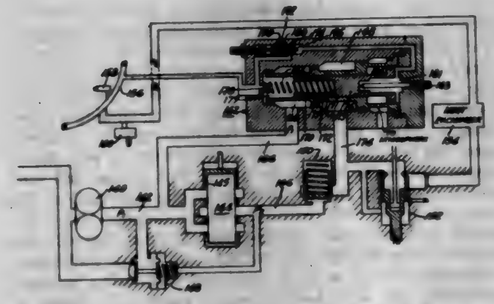
2,900,172
OIL HEATER
William H. Thompson, Chatham, N.J., assignor to American Metal Products Company (Davis Engineering Division), Elizabeth, N.J., a corporation of Michigan
Filed Oct. 14, 1959, Ser. No. 846,392
12 Claims. (Cl. 158—36)



1. An oil heater for mounting on a wall of an oil tank, comprising a containing tube extending generally

vertically into the tank and terminating above the bottom wall thereof, a mixing bell mounted at the lower end of the containing tube and having walls surrounding the open end of the containing tube, said mixing bell being substantially closed at its top and having an open lower end spaced above the bottom wall of the tank, the lower end of said containing tube extending substantially below the top wall of said mixing bell but terminating above the lower edge of the walls thereof, an oil return tube extending generally vertically into the tank and having its lower end open to the interior of the mixing bell, an air discharge tube extending generally vertically in the tank and having its lower end open to the upper portion of the mixing bell and its upper end terminating within the tank above the oil level therein and open to the atmosphere, heat transfer means mounted at the top of and extending downward into the containing tube, and means adjacent the top of the tube for connecting an oil output line.

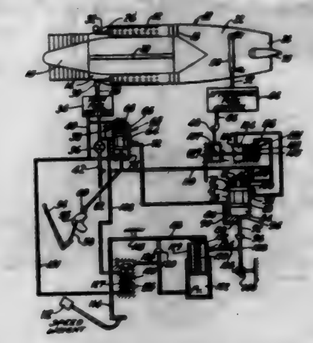
2,900,173
STARTING CONTROL FOR GAS TURBINE ENGINES
Russell C. Perkey, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 24, 1955, Ser. No. 542,340
9 Claims. (Cl. 158—36.3)



2. In a fuel control system for a gas turbine engine, a fuel manifold, a first fuel conduit connected to said manifold, a first fuel control valve in said first conduit, a second fuel conduit connected to said manifold, a second fuel control valve in said second conduit, with the second fuel control valve being responsive to the fuel pressure in said manifold to vary the flow of fuel through the second fuel conduit, said second fuel control valve including a movable member having first and second side portions, a fixed orifice member connected to supply fuel from said manifold to said first side portion of the movable member, and a variable orifice member connected to supply fuel from said manifold to said second side portion of the movable member, with said variable orifice member being temperature responsive.

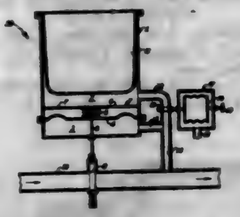
2,900,174
FUEL CONTROL FOR GAS TURBINE ENGINE
Francis R. Rogers, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 15, 1955, Ser. No. 553,316
6 Claims. (Cl. 158—36.3)

1. Fuel control apparatus for use with an engine having an afterburner combustion section, the combination of a first conduit for supplying fuel to said afterburner combustion section, an afterburner fuel control operative with said first conduit for controlling the rate of fuel flow therethrough, a control valve member disposed in said first conduit and having a first position for preventing the flow of fuel to said afterburner control and a second position for permitting the flow of fuel to said afterburner control, said control valve member being responsive to fluid pressure such that said control valve member is positioned from said first to said second position when pressurized fluid is supplied thereto, a pressurized fluid source, a second conduit interconnecting said source and said control valve member for supplying a pressurized fluid thereto,



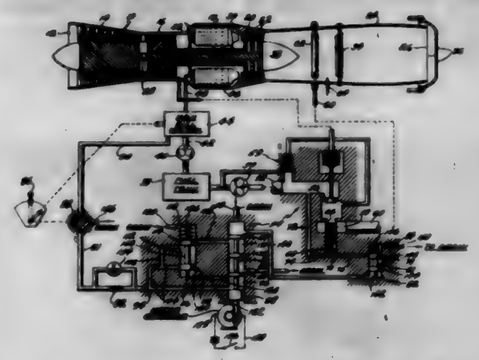
first and second valves arranged in series flow relationship in said second conduit each having a flow permitting and a flow preventing position, an engine throttle control means operatively connected to said first valve to control the position thereof, and means responsive to engine speed connected to said second valve for controlling the position thereof.

2,900,175
DEVICE FOR CONTROLLING THE ACCELERATION TIME OF TURBOJET ENGINES
Joseph Szydlowski, Usine Turbomeca, Bordes, Basses-Pyrenees, France
Filed July 25, 1955, Ser. No. 524,130
Claims priority, application France Aug. 4, 1954
5 Claims. (Cl. 158—36.4)



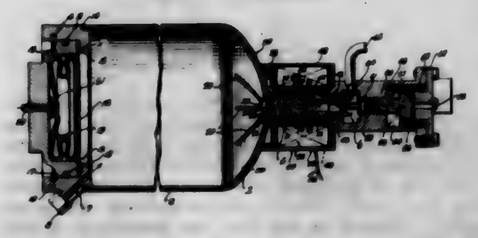
1. In a liquid fuel supply system for engines, more particularly for turbojet engines, having a fuel feed line connecting a fuel pump to feed nozzles of the engine, the combination of an acceleration time controlling device comprising an adjustable valve in said feed line normally open for a stable flow of fuel therethrough, and an assembly connected to said feed line downstream of said adjustable valve and comprising a container, a flexible diaphragm defining two chambers in said container and one side of which is connected through one of said chambers to said adjustable valve, a perforated partition in said container disposed on the other side of said diaphragm, a spring disposed between said other side of the diaphragm and said partition, a deformable wall responsive to the pressure variations housed in said container remote from said diaphragm relatively to said partition, a by-pass interconnecting said two chambers and having a restricted flow passage, and a pipe interconnecting the part of said by-pass which is connected to the chamber through which passes the connection of the diaphragm with the adjustable valve and the feed line downstream of said valve.

2,988,176
FAIL-SAFE AFTERBURNER FUEL CONTROL
Bruce N. Terell, Wethersfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 15, 1957, Ser. No. 634,255
8 Claims. (Cl. 158—36.4)



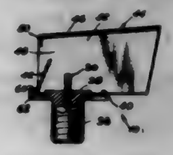
1. In a fuel system for a gas turbine power plant, a conduit through which fuel under pressure is delivered to said power plant, a shut-off valve in said conduit, fuel pressure means for closing said shut-off valve in response to an increase in pressure, control means for controlling the pressure of said fuel pressure means, means for introducing a fluid pressure to said control means when required power plane operation exceeds a predetermined level, said control means including a first pilot valve controlling the effect of said fuel pressure upon said shut-off valve, and at least one pilot valve controlling the admission of said fluid pressure to said first pilot valve, at least one of said pilot valves being motor actuated.

2,988,177
EXPULSION-BAG TANK FOR LIQUID PROPELLANT
William J. Glasson, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 15, 1957, Ser. No. 678,760
1 Claim. (Cl. 158—50.1)



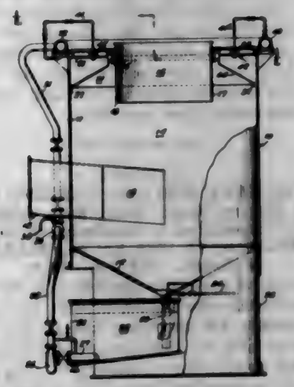
In a fuel supply system, means for storing fuel under pressure while permitting delivery at a prescribed time, comprising: a fuel storage tank; a propulsion bag compartment formed in a portion of said tank; a rupturable diaphragm sealing said bag compartment from the remainder of said storage tank; an inflatable bag of resilient, impermeable material disposed in said compartment; means for supplying propelling gas, of the class of nitrogen, under pressure to said inflatable bag; means for supplying liquid fuel, of the class of ethylene oxide under pressure to said tank; a fuel delivery bore formed in said tank opposite said bag compartment; a strainer element disposed about said fuel delivery bore; a piston valve slidably disposed within said fuel delivery bore and having a central opening therethrough adapted to receive spring means for positioning said piston valve, said piston valve being adapted to close said delivery bore in one position and to permit the passage of said liquid fuel in other positions; resilient means for normally maintaining said piston valve in a position substantially to prevent egress of said fuel; and another rupturable diaphragm positioned downstream from said piston valve for sealing said fuel delivery bore to prevent loss of material leaking past said valve means, said last mentioned diaphragm being of sufficient strength to withstand maximum pressure of said fuel passing through said piston valve.

2,988,178
PILOT BURNER
Arthur H. Sears, Chicago, Ill., assignor to Harper-Wyman Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 28, 1958, Ser. No. 777,877
2 Claims. (Cl. 158—115)



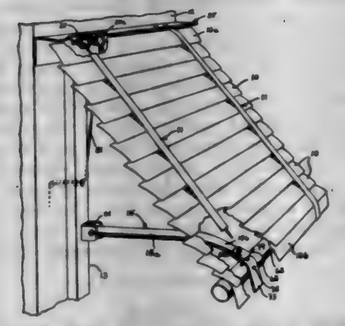
1. A pilot burner for a main burner having a port for discharge of gas to be ignited by the pilot burner including in combination, a pilot burner extending to a predetermined height, and a screen type baffle disposed on one side of the pilot burner, said baffle being inclined upwardly and toward the pilot burner, and extending a short distance above the height of the pilot burner, a shield overlying the pilot burner and baffle structure, said shield having side walls spaced from the pilot burner and said screen extending substantially from one side wall to the other, said side walls extending some distance above the screen and from the screen some distance beyond the opposite side of the pilot burner, and a top wall interconnecting said side walls, said top wall being inclined upwardly and rearwardly from a position in front of the screen to a position on said opposite side of the pilot burner.

2,988,179
CYCLONE EVAPORATOR FOR RESIDUAL LIQUOR
John Campbell, Jr., Massapequa Park, N.Y., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed June 25, 1954, Ser. No. 439,183
2 Claims. (Cl. 159—4)



1. Gas and liquid contact apparatus comprising a cylindrically walled main chamber having a liquor outlet in the lower part thereof, a centrally located gas outlet duct projecting downwardly into the upper end of said chamber, an upright frusto-conical member surrounding said gas outlet duct and having its lower periphery spaced inwardly from and adjacent to the circumferential wall of said main chamber to define a narrow annular passage therebetween, said frusto-conical member cooperating with said circumferential wall to define therebetween a liquid spray chamber and with said gas outlet duct to define therebetween an annular gas turning space extending above the level of said narrow annular passage, spray means in said liquor spray chamber arranged to discharge a liquid directly onto the outer surface of said frusto-conical member and thence downwardly through said narrow annular pasage to form a downwardly moving film of liquor on the subjacent portion of said circumferential wall, and a tangentially arranged gas inlet duct positioned in the lower portion of said circumferential wall for the introduction of hot gas into said main chamber.

2,988,180
FOLDABLE AWNING
William R. Stephens, 915 E. State St., and Paul A. Johnson, 1611 Gresham Place, both of Rockford, Ill.
Filed Sept. 22, 1958, Ser. No. 762,622
10 Claims. (Cl. 160—62)



1. A collapsible awning construction comprising a plurality of ladder tapes each including spaced front and rear flexible strips having upper, lower, and a plurality of intermediate tie bands therebetween at longitudinally spaced points therealong, a plurality of intermediate slats each supported on corresponding ones of the intermediate tie bands, the upper portion of the front strip extending contiguous to said upper tie band and being attached to the rear strip adjacent the juncture of the upper tie band therewith, an upper slat interposed between the upper tie band and the front strip, a cord guide bracket disposed between said upper tie band and rear strip and underlying said upper slat, mounting means for supporting said cord guide brackets, a pair of arms mounted for vertical swinging movement, a crosspiece extending between said arms, a tape attaching bracket for each tape attached to said crosspiece and having a front face approximately equal to the width of a slat, means attaching the lower end of a tape to each tape attaching bracket with the lower portion of the front strip extending adjacent to the lower tie band and across the front face of the tape attaching bracket, a lower slat disposed between the front strip and the front face of the tape attaching bracket to overlie the front of the crosspiece, and a cord attached to said crosspiece and extending upwardly between the strips of one tape and over the guide brackets for drawing the crosspiece upwardly toward the guide brackets to collapse the intermediate slats into a compact stack and raise said upper slat into overlying relation to said guide bracket and said stack of intermediate slats.

2,988,181
WINDOW STRUCTURE
Alexander Greenstein, Flushing, and Neil Greenstein, Fresh Meadows, N.Y., assignors to East Coast Millwork Company, Incorporated, a corporation of New York
Filed June 27, 1958, Ser. No. 745,158
1 Claim. (Cl. 160—91)



A window structure, comprising a frame having an inside face, an outside face, an upper section of rectangular form, a lower section of rectangular form, and a continuous strip around each of said sections spaced substantially equidistantly from said inside and outside faces, each of said strips having an inside surface substantially parallel to said inside face, an outside surface substantially parallel to said outside face and a top surface substantially perpendicular to said inside and outside faces, each of said sections having a continuous inside section surface between said inside face of said frame and said inside surface of said strip and a continuous outside section surface between said outside face of said frame and said outside surface of said strip, a permanent glass insert having an inside surface, an outside surface and a top surface forming an edge between said inside surface and said outside surface, means positioning said insert in one of said sections in a manner whereby the area adjacent the edge portion of the inside surface of said insert is seated in substantially continuous contact with the outside surface of the strip of said section and the outside surface of said insert is seated substantially flush with the outside face of said combination window frame, the top surface of said insert being seated in substantially continuous contact with the outside section surface of said section, a first removable insert adapted to fit in each of said sections comprising a rectangular glass pane having an inside face, an outside face and four edges between said faces and a continuous first insert frame consisting of a vinyl plastic material, said first insert frame comprising an inside surface, an outside surface and a main top surface spaced from the corresponding edges of said pane and substantially parallel to said corresponding edges, said main top surface having a width extending beyond each face of said pane, an inclined ledge integrally formed with said first insert frame and having an auxiliary top surface extending away from the outside face of said pane from a line spaced from said outside face of said pane and parallel to the said outside face of said pane and parallel to said edges lying in a plane through an edge of said main top surface and parallel to the said outside face of said pane, an outside surface coplanar with said last-mentioned plane joining said edge of said main top surface with said line and an inclined surface, said ledge being inclined at a substantially acute angle with said outside surface and extending a substantial distance beyond the said last mentioned outside surface, a second removable insert adapted to fit in each of said sections, said second re-

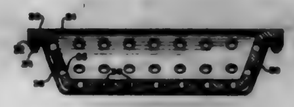
movable insert having a rectangular second insert frame consisting of aluminum, said second insert frame comprising an inside surface, an outside surface and a top surface, fastening means positioned on said inside face of said combination window frame around each of said sections in a manner whereby each of said removable inserts may be removably fitted in each of said sections with the outside surface of said first and second insert frames seated in substantially continuous contact with the inside surface of the strip of the corresponding section and the inside surface of said first and second insert frames seated substantially flush with the inside face of said combination window frame, the inclined ledge of said first insert frame being positioned above the top surface of the strip of the corresponding section and the main top surface of said first insert frame and the top surface of said second insert frame being seated in substantially continuous contact with the inside section surface of the corresponding section, hinge means affixed to said outside face of said combination window frame substantially adjacent the top of said upper section, and extendable arms affixed to said inside face of said combination window frame substantially adjacent the bottom of said lower section.

2,988,183
UPWARDLY ACTING DOORS AND ROLLER SPINDLE SUPPORTS THEREFOR
Earl L. Stroup, Hartford City, Ind., assignor to Overhead Door Corporation, Hartford City, Ind., a corporation of Indiana
Filed Sept. 26, 1957, Ser. No. 686,396
6 Claims. (Cl. 160—201)



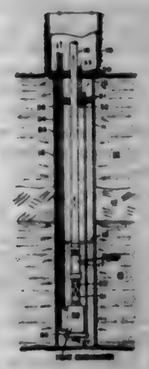
1. The combination of, a track engaging roller provided with a spindle, a U-shaped bracket member having laterally disposed attaching flanges at the inner ends of its arms, one arm of the bracket member being disposed at substantially right angles to its attaching flange and having a planar face portion and a longitudinally extending intermediate portion offset inwardly relative to its said face portion and disposed in an inwardly diverging relation relative thereto and having a longitudinally extending slot therein, a spindle socket member having a plate like body portion reversibly positionable on said arm having said offset portion and provided with a socket at one end thereof with which the said spindle is supportedly engaged and having laterally projecting flanges on its side edges supportedly and slidably embracing said edges of said bracket arm, a bolt disposed through said slot in said bracket arm in nonrotatable engagement with the edges thereof and extending through said socket member provided with a nut for clampingly securing said socket member in its adjusted position on said arm, the inclination of the inwardly offset portion of said arm relative to the face thereof being of such degree that a wedging action results when said spindle socket member is subjected to inward thrust stress relative to the bracket.

2,988,183
EXPANDABLE TRANSFER HEAD FOR PULP MOLDING MACHINE
Roger Wells, Stamford, Conn., assignor to Diamond National Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 9, 1960, Ser. No. 13,891
8 Claims. (Cl. 162—416)



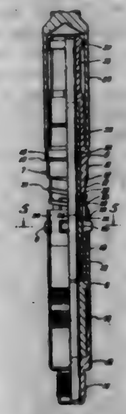
4. A transfer head for pulp molding machines, comprising a contoured plate conforming approximately to the shape of a molded pulp article to be transferred thereon and adapted to be connected internally to a source of fluid pressure and a source of suction, said plate having a plurality of uniformly spaced perforations extending therethrough, an expandable flexible diaphragm composed of rubber sheet material secured around the periphery of the head and covering the exterior surface of the contoured plate, said diaphragm having a plurality of perforations corresponding to and registering with the perforations in the plate, and a plurality of unidirectional flow valves mounted one for each on the perforations in the diaphragm for permitting inward fluid flow but preventing outward flow therethrough, whereby the diaphragm is expanded when the internal pressure is applied to compress a molded pulp article to be transferred and the diaphragm is collapsed when the suction is applied to hold the article thereon during transfer thereof.

2,988,184
METHOD AND APPARATUS FOR PRODUCING WELLS
Davis W. Reed, Ventura, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed Sept. 22, 1958, Ser. No. 762,634
2 Claims. (Cl. 166—57)



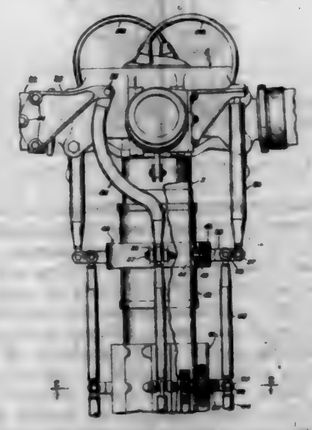
1. Apparatus for heating oil formations and recovering oil therefrom, said apparatus comprising an oil well casing positioned within a well traversing at least one oil-producing formation, said casing have perforations through the wall thereof at a level adjacent said oil-producing formation, fluid heat exchange means disposed within said well casing near the lower part of one of said producing formations for heating well fluid therein, transmission means comprising fluid conduit means operatively connected to said heat exchange means and extending upwardly to the well head for circulating a heating fluid to said heat exchange means and up to the well head again, an oil production tubing positioned within said well casing and extending downwardly therein, an oil well pump connected to the lower end of said production tubing and positioned in the well fluid within the well casing, a recirculating pump disposed in the heated well fluid within said well casing, the intakes of said pumps being below the oil level within said well casing, means in the path of said circulating fluid for operating said recirculating pump, double packer means set in the annular space between the production tubing and the perforate well casing near but below the top of the oil-producing formation, and conduit means connecting the recirculating pump discharge with the space between said double packer means.

2,988,185
RETRIEVABLE WELL TOOL HANGER
Douglas E. Dollin, Pasadena, Tex., assignor to Cameo Incorporated, Houston, Tex., a corporation of Texas
Filed July 11, 1958, Ser. No. 747,980
8 Claims. (Cl. 166—211)



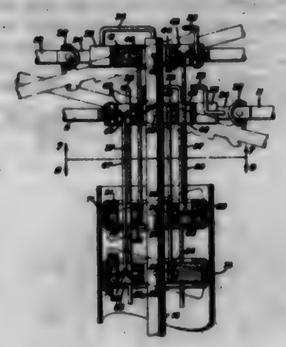
1. In a well tool, a tubular housing having a travel stop seat, a slide sleeve mounted on the housing for movement axially thereof, spring means bearing downwardly on said sleeve and yieldably resisting upward slide travel thereof, a fixed stop on the housing engageable by the sleeve at its lower limit of slide travel, a retractable-projectable dog radially movably mounted by the sleeve, interengageable surfaces on the dog and the sleeve defining the outward limit of dog projection, said housing having an axially elongated slot slidably receiving the inner end of said dog, a central core slidable within the housing, a releasable connection between the housing and said core retaining the core against relative slide movement in the housing, a bearing abutment on said core engageable with the inner end of the dog to maintain the same radially projected from the sleeve when the latter is at its lower travel limit, a radially relieved portion on the core upwardly of said core abutment and radially aligned with the inner end of the dog when the latter is carried upwardly with the sleeve, said relieved portion providing clearance for inward dog retraction and another relieved portion on the core downwardly of said bearing abutment and movable with the core upon release of said connection and into radial alignment with the inner end of the dog and thereby providing clearance for inward dog retraction.

2,988,186
ROTOR CONTROL SYSTEM FOR HELICOPTER
Edward W. Strong, Stony Brook, Alexander James Pappas, Bellerose, Arthur Marquis Leezy, Islip, and Geoffrey Griffiths Clewlow, Oyster Bay, N.Y., assignors to Gyrodyne Company of America, Inc., St. James, N.Y., a corporation of New York
Filed Jan. 10, 1956, Ser. No. 558,226
7 Claims. (Cl. 170—135.26)



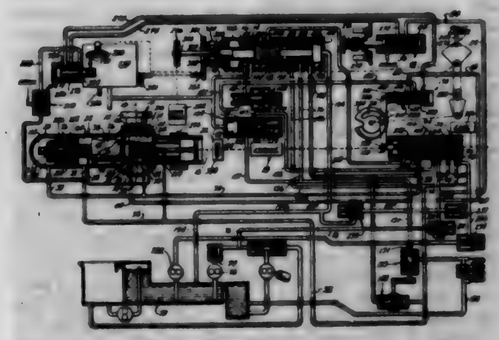
1. In a rotor system for rotary wing aircraft, coaxial upper and lower rotors, coaxial upper and lower rotor shafts, means for driving said shafts in opposite directions, the upper rotor shaft extending upwardly beyond the lower rotor shaft, each of said rotors comprising a rotor hub mounted on the respective rotor shaft to rotate therewith and tilt universally relative thereto and at least three rotor blades extending radially outwardly from said hub, said blades being mounted on the respective rotor hub for rotation about axes which extend longitudinally of the blades and are fixed relative to said hub so that the rotor comprising said hub and blades is tiltable as a unit about virtual axes perpendicular to the axis of the rotor shafts, and means for turning said blades about said longitudinally extending axes to control the pitch of said blades, said pitch control means comprising a pitch horn extending forwardly from each blade adjacent the hub, a swash plate for each of said rotors, each swash plate being coaxial with the rotor shafts and universally tiltable and comprising a ring rotatable with the shaft of the respective rotor, and a pitch control link for each blade, each of said links being connected at one end to the pitch horn of the respective blade and at the opposite end to a point on the swash plate approximately ninety degrees in advance of the respective rotor blade and lying approximately in a plane defined by the rotor shaft axis and a virtual axis of tilt of said hub perpendicular to the rotor shaft axis and to the longitudinal axis of said blade so that said point of connection for a blade of the lower rotor and a corresponding point of connection for a blade of the upper rotor when directly above said lower rotor blade are approximately 180 degrees apart, whereby the paths of rotation of the upper rotor blades and the lower rotor blades are maintained approximately parallel, the point of connection between said horn and link being disposed not more than eighty degrees ahead of the respective rotor blade to provide a stabilizing effect on the rotors.

2,980,187
HELICOPTER
Rodrigo M. Smyth-Davila, Apartado 769, San Jose, Costa Rica
Filed Feb. 28, 1957, Ser. No. 643,910
29 Claims. (Cl. 170—135.24)



16. A helicopter comprising a fuselage and a plurality of blades, means to transmit power to the blades including a plurality of coaxial shafts, a hub assembly to which the blades are attached, including a guiding and a guided member rotationally slidable relatively to each other, a plurality of pitch controlling means for producing cyclic pitch variations of said blades, different pitch controlling means producing cyclic pitch variations of different blades, so that a blade controlled by one of said pitch controlling means rotates in a plane different from the plane in which a blade controlled by another pitch controlling means rotates, means for connecting each of said rotationally relatively slidable members for universal motion with one of the drive shafts, one of said coaxial shafts transmitting power to said guiding member.

2,980,188
COMBINED FEATHERING AND PITCH LOCK SYSTEM
Arthur N. Allen, Jr., Wethersfield, and Leonard I. Gaubis, Granby, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 14, 1958, Ser. No. 774,865
9 Claims. (Cl. 170—160.2)



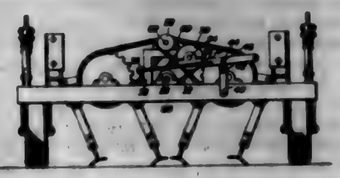
5. In a variable pitch propeller unit having an axis and having a plurality of blades supported by a hub unit for rotation therewith about said axis for propulsion purposes and for rotation with respect to said hub for propeller blade pitch change purposes, and further having a pitch lock which is normally hydraulically disengaged so that loss of hydraulic pressure will engage said pitch lock, a pitch lock disengaging chamber connected to disengage said pitch lock in response to hydraulic actuation, a hydraulic pitch change motor attached to said hub and said blades to cause rotation therebetween to vary propeller blade pitch, a main pump connected by conduit means to supply hydraulic fluid to said pitch change motor and said pitch lock disengaging chamber, a propeller speed control positioned distributor valve, a manually operated pitch lock engaging valve and a propeller overspeed topping governor cylinder located in said conduit means between said main pump and said pitch lock disengaging chamber and being hydraulically connected in series so that the actuation of any one will bleed said pitch lock disengaging chamber and engage said pitch lock.

2,980,189
ROCK DIGGER AND PICKER
Paul Jacobs, Box 68, Sylvania, Saskatchewan, Canada
Filed Mar. 19, 1959, Ser. No. 800,550
1 Claim. (Cl. 171—63)



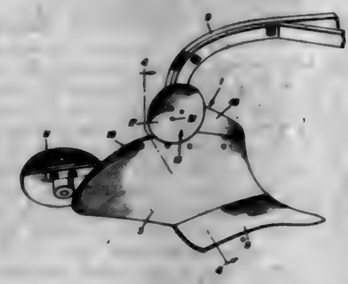
The combination of a tractor having a frame supported by front and rear wheels and also having an operator's seat disposed between the rear wheels, and a rock picking and gathering attachment comprising an elongated support member disposed at one side of said tractor frame between said seat and one of said rear wheels, said support member having a front end and a rear end, the rear end of the support member being pivotally connected to the tractor frame at a point adjacent said one of said rear wheels whereby the support member may be raised and lowered, means for raising and lowering said support member, a vertically tiltable rock picking unit pivotally mounted at the front end of said support member in a position wherein it is readily visible to an occupant of said seat, a rock conveying chute extending rearwardly on said support member from said picking unit to the rear end of the support member, means for tilting said picking unit whereby a rock picked thereby may be deposited on said chute and gravitate rearwardly thereon when said support member is raised, a rock receptacle tiltably mounted at the rear of the tractor frame between said rear wheels, said chute having a laterally inwardly curved rear end portion adapted to discharge rocks into said receptacle, and means for tilting the receptacle to dump rocks accumulated therein.

2,980,190
CROP THINNER
Gerald C. Hannagan, Tracy, Calif., assignor of small percentages to various assignees
Filed Jan. 3, 1958, Ser. No. 706,958
4 Claims. (Cl. 172—58)



1. A crop thinning device adapted to be pulled by a tractor comprising a supporting frame, a rotatable shaft longitudinal of said frame, a variable speed pulley driven by said shaft, power take-off means connected to said tractor and operatively drivingly connected to said shaft, a pair of sprocket gears supported by said frame and driven by said variable speed pulley, a pair of links eccentrically and pivotally connected at a common point to each sprocket gear, an agricultural implement connected to each link for thinning a crop, said implement being connected to said link by a rod pivotally connected to a terminal portion of said link, said rod being pivotally secured intermediate its ends to said frame.

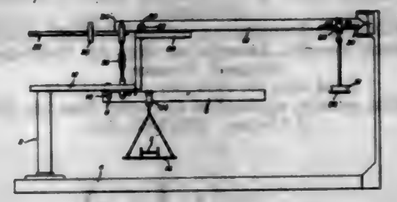
2,980,191
SOIL TURNING DEVICE FOR PLOWS
Arthur E. Saxmann, Alma, Mo.
(209 W. 5th St., Leon, Iowa)
Filed Aug. 20, 1958, Ser. No. 756,185
3 Claims. (Cl. 172—164)



1. A device for turning sod at the upper edge portion of a plow moldboard outwardly and forwardly of the front side of the moldboard to facilitate turning of sod completely under during plowing comprising a disk, a bar attachable to the rear side of a moldboard, and means mounting said disk on said bar to extend above the moldboard forwardly of said front side at said upper edge portion in closely spaced relation thereto for rotation about an axis transverse to the moldboard in a position in which said disk is inclined upwardly forwardly of said edge portion and also rearwardly away from said edge portion, whereby the crest of sod at and above the upper edge portion of the moldboard may engage the disk below said axis to rotate the disk in the direction of travel of a plow in response to travel of the plow, said mounting means including a spindle extending across said upper edge of the moldboard and inclined forwardly and downwardly of said front side, and a deflector plate fixed to said bar to extend along the upper edge portion of the moldboard from said disk to the leading edge of the moldboard to deflect the sod above the moldboard to said disk and having a concave rear end in which said disk rotates, whereby sod is deflected from said deflector plate directly to said disk.

2,980,192
DUAL BEAM BALANCE SCALE
John E. Soltis, Charleroi, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Jan. 31, 1958, Ser. No. 712,486
2 Claims. (Cl. 177—25)

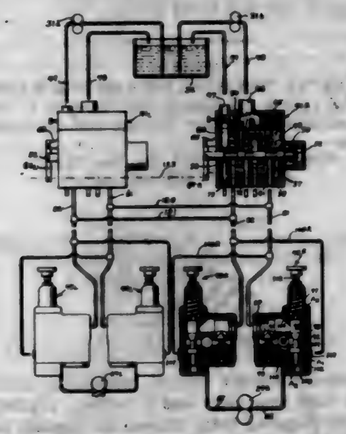
1. Balance apparatus for determining the deviation of a sample of rolled product from a given standard weight per foot of length which comprises a first beam having a bearing adjacent one end pivoted on a fixed fulcrum, a sample suspending means slidably carried by said first beam; said beam being graduated at the portion thereof which carries said suspending means to correspond with the length of a sample suspended therefrom, a second beam having a bearing intermediate its ends pivoted on a fixed fulcrum, a standard weight adjustably suspended from one end of said second beam, means for varying said standard weight to correspond to a given standard weight per foot of length of a sample of rolled product suspended from said first beam, said one end of said second beam being graduated to show deviation from said given standard weight per foot of said sample suspended from said first beam by the balancing position of the standard weight adjustably suspended from said one end of said second beam, and a link pivotally connecting a point on said first beam between the bearing thereof and the point of suspension of the sample therefrom, with a point on said second beam on the opposite side of the bearing thereof from the point of suspension of said standard weight.



ERRATUM

For Class 177—211 see:
Patent No. 2,980,414

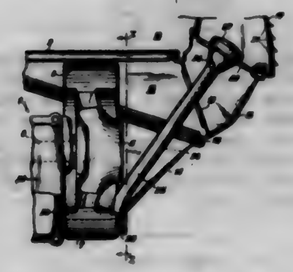
2,980,193
FLUID DRIVING SYSTEM FOR VEHICLES
George J. Bandlenka and Arnold C. Petersen, Sturgeon Bay, Wis., assignors to Marine Travelift & Engineering, Inc., Sturgeon Bay, Wis., a corporation of Wisconsin
Filed Nov. 16, 1959, Ser. No. 853,262
15 Claims. (Cl. 180—6.48)



2. An hydraulic drive system for a vehicle having at least one drive wheel comprising, a pump, a fluid motor connected to said drive wheel, a flow reversing valve connected to said pump and having first and second flow passages connected to said motor, said reversing valve being operable to selectively supply fluid under pressure to said first and second flow passages, first and second brake valve means in said first and second flow passages normally urged to a position blocking flow through said flow passages, a first means responsive to the application

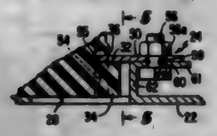
of a first preselected pressure from said pump to said one of said flow passages for opening said brake valve means to thereby effect driving of said motor from said pump, and a second means responsive to a second preselected pressure in said flow passages produced when said motor is driven by said drive wheel for opening said brake valve means to gradually stop said motor.

2,988,194
AIR-COOLED INTERNAL COMBUSTION ENGINE
Ferdinand Porsche, Feuerbacher Weg 45, Wurttemberg, Stuttgart, Germany
Filed May 29, 1959, Ser. No. 816,933
Claims priority, application Germany June 28, 1958
18 Claims. (Cl. 180—54)



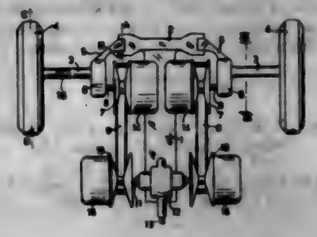
1. An air-cooled internal combustion engine provided with a crankshaft, particularly for driving a motor vehicle, comprising a crank case and at least one row of cylinders arranged to one side thereof, cooling air distributing chamber means disposed below said row of cylinders to conduct cooling air to said cylinders, air blower means arranged coaxially with respect to said crankshaft including a blower casing and a scroll casing for supplying cooling air to said chamber means, oil filler pipe means operatively connected to a wall portion of said crank case adjacent said blower means and extending between said blower casing and said scroll casing.

2,988,195
MECHANICAL HOLDING MEANS FOR BATTERIES
Howard D. Herbst, Vincennes, Ind., assignor to The Electric Auto-Lite Company, Toledo, Ohio, a corporation of Ohio
Filed May 14, 1958, Ser. No. 735,317
6 Claims. (Cl. 180—68.5)



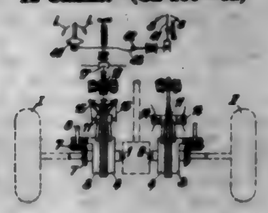
1. A molded battery box of monolithic construction having at least four sides and a bottom, a substantially horizontally disposed ledge formed on opposed sides adjacent the bottom of the box and having a top transverse face and substantially vertically disposed end faces, removable clamping means therefor including a transversely disposed plate for engaging the top face of said ledge to prevent vertical movement of said box and spaced downwardly disposed elements carried by said plate for engaging the end faces of said ledge to prevent transverse movement of said box, to thereby securely retain said box on a horizontal supporting surface, and means for mounting said clamping means on said supporting surface.

2,988,196
MOTOR VEHICLE PROVIDED WITH SWINGING AXLES
Joan van der Brugghen, Eindhoven, Netherlands, assignor to Van Doorne's Automobielfabriek N.V., Eindhoven, Netherlands, a Netherlands limited liability company
Filed Jan. 12, 1959, Ser. No. 786,582
Claims priority, application Netherlands Jan. 16, 1958
3 Claims. (Cl. 180—73)



1. Means for driving a motor vehicle comprising a driving shaft, a stationary driving pulley located at each side of the longitudinal central plane of the vehicle driven by said driving shaft, a driven pulley located at each side of the longitudinal central plane of the vehicle, a belt extending over a driving pulley and a driven pulley on each side of the longitudinal central plane of the vehicle for driving the driven pulley, two swinging half axles each swivelling about a separate axis located at each side of the longitudinal central plane of the vehicle, a casing containing a reduction gear having an input shaft enclosed in said casing, said input shaft being driven by a driven pulley, a road wheel mounted upon each of said half axles and said reduction gear being located closer to the swiveling axis than to said road wheel.

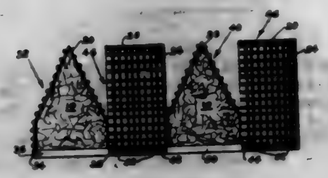
2,988,197
ARRANGEMENT FOR PREVENTING MOTOR VEHICLES FROM SKIDDING
Franz Breig, Ingo Breig, and Gunther Breig, all of 51 Buchener Weg, Lueneburg (Elbe), Germany
Filed Feb. 18, 1959, Ser. No. 794,186
Claims priority, application Germany Feb. 20, 1958
12 Claims. (Cl. 180—82)



1. In an arrangement for preventing the skidding of motor vehicles having four wheels, two of which are driven and two of which are idle, each of the two driven wheels being mounted on a half-axle, the improvement comprising two rotary pressure pumps mounted on each half-axle, each of said two rotary pressure pumps comprising a housing and a common movable wall therein to form therein two pressure chambers, one for each said rotary pressure pump, the movement of said movable wall being dependent upon the difference in pressure between said two pressure chambers, means directly coupling one of said pumps with the half-axle of one driven wheel so that the pressure in one of said pressure chambers is responsive thereto, means including bevel gears and a flexible shaft for connecting the other of said pumps with the idle running wheel directly opposite said driven wheel so that said other pressure chamber is responsive to said last-mentioned idle running wheel, the difference in pressure between said two pressure

chambers being effective to move said movable wall, devices for limiting engine power and braking force and means operatively associated with said movable wall to control the devices for limiting the engine power and braking force in accordance with the movement of said movable wall.

2,988,198
ASSEMBLY OF SOUND ABSORBING MEMBERS
Oliver C. Eckel, 155 Fawcett St., Carlisle 38, Mass.
Filed July 27, 1959, Ser. No. 829,440
4 Claims. (Cl. 181—33)



1. An acoustic assembly comprising a frame base, at least two sound absorbing elements on said frame, said elements having polygonal base portions and outwardly extending wedge-shaped portions, said elements being arranged with their base portions adjacent each other, a sheet-like, open-work cover extending over each of said elements having terminal portions on opposite sides of said elements, said terminal portions being attached to said base.

2,988,199
VARIABLE AREA JET PROPULSION NOZZLES
John Michael Storer Keen, Allestree, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 15, 1957, Ser. No. 646,494
Claims priority, application Great Britain Mar. 16, 1956
6 Claims. (Cl. 181—41)



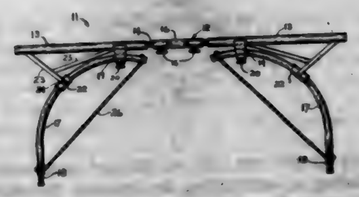
1. A propelling nozzle for a continuous combustion jet propulsion engine, said nozzle comprising a tubular wall structure through which exhaust gases from the engine flow in a continuous stream, said exhaust gases being discharged to atmosphere from the downstream end of said nozzle to provide propulsive thrust, said tubular structure having a cross-sectional area which decreases from the upstream end of the nozzle towards the downstream end thereof over at least part of the axial length of the nozzle, a series of at least six angularly-spaced flap members accommodated within said tubular wall structure, each said flap member being mounted to swing towards and away from the tubular wall structure about an axis disposed substantially at right angles to a plane containing the longitudinal axis of the nozzle, and a corresponding series of angularly-spaced pairs of fixed walls projecting inwardly from the tubular wall structure into the gas stream and being in planes parallel with the longitudinal axis of the nozzle, and each pair of walls being associated with a corresponding one of the flap members and being positioned one on each side of the associated flap member so that the flap member swings between them.

2,988,200
COMBINATION HANDTRUCK AND LADDER
William A. Kibby, 7040 W. School St., Chicago 34, Ill.
Filed Nov. 24, 1959, Ser. No. 855,077
10 Claims. (Cl. 182—16)



1. A two wheel hand truck in combination with a ladder arrangement comprising a frame made of longitudinal members maintaining a fixed position to each other through attached transverse members, the frame having handles at one end thereof and a toe plate at the other end thereof, an extendible ladder structure comprising a pair of angular skid members affixed to the longitudinal members and forming means for mounting a pair of wheels adjacent the toe plate, a pair of leg members attached to the skid members and forming an acute angle with the longitudinal members, a plurality of rung members transversely bracing the leg members, said leg members including interiorly housed, slidably disposed inner elements terminating at their lower extremities in foot members extending beyond the leg members, and means for controlling the amount of extension of the foot members with respect to the toe plate to establish a support base in conjunction with the toe plate, said support base permitting the use of the hand truck in its substantially vertical position as a mounting device.

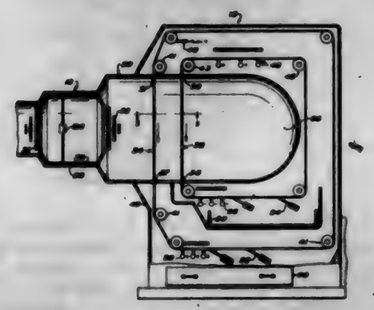
2,988,201
SCAFFOLD HORSE
William K. Ashenfelter, R.R. 1, Swanton, Ohio
Filed Mar. 31, 1958, Ser. No. 725,897
3 Claims. (Cl. 182—184)



1. A trestle for supporting a scaffold platform or the like comprising an elongate member on which the scaffold platform rests, at least two supporting legs for said member of arcuate shape, each of said legs having only one supporting end adapted to support said elongate member on a supporting surface, first guides attached to intermediate portions of said member, each of which

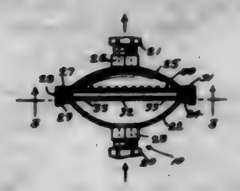
guides is disposed around at least a portion of each of said supporting legs, and second guides attached to said member and spaced from said first guides toward the extremities of said member, each of which second guides at least partially extends around at least a portion of each of said supporting legs, said second guides being disposed at angles to said first guides with said member, said guides, and said legs being disposed in a common plane with concave sides of said legs facing in opposite directions, said legs being slidable in said guides to vary the distances the supporting ends of said legs are spaced from said elongate member.

2,988,282
IRRADIATING APPARATUS
Fred J. Meyer, 355 Highland Drive, Adrian, Mich.
Filed Jan. 12, 1954, Ser. No. 403,579
11 Claims. (Cl. 183—7)



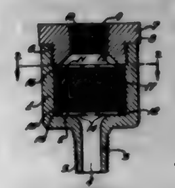
1. Apparatus for irradiating and collecting subdivided material comprising a conduit for a fluid suspension of the material, means for flowing the suspension through the conduit, a collecting chamber surrounding and enclosing at least a part of said conduit with separating walls between the conduit and collecting chamber, a plurality of endless belts mounted to traverse paths in said collecting chamber and which for a part of their extent pass through the said separating walls and across said conduit, and a source of irradiation rays located in said conduit upstream of the path of said belts through said conduit.

2,988,283
CHOKE FILTER
Peter Edward Lutka, P.O. Box 97, City Service Oil Company Camp, about three miles west of Hobbs, N. Mex.
Filed June 26, 1957, Ser. No. 668,113
1 Claim. (Cl. 183—44)



An air filter for use with an internal combustion engine including a carburetor, an exhaust manifold, an automatic choke for said carburetor, a manifold adapter overlying said manifold, and a conduit connecting said automatic choke to said adapter, said air filter adapted to be positioned in the conduit, said air filter comprising a pair of confronting domed shells each having a diameter substantially in excess of its height, and each being provided with a peripheral flange, a spacing washer positioned between said flanges, a porous filtering disc positioned between one of said flanges and said washer, a perforate asbestos heat distributing disc between the other of said flanges and said washer, said heat distributing disc being adapted to be positioned between said filtering disc and the exhaust manifold, and a marginal flange integral with and perpendicular to one of said first-mentioned flanges, said marginal flange being crimped inwardly to engage the other of said first-mentioned flanges clampingly to hold said spacing washer, said filtering disc and said heat distributing disc between said flanges centrally of the chamber formed by said confronting domed shells.

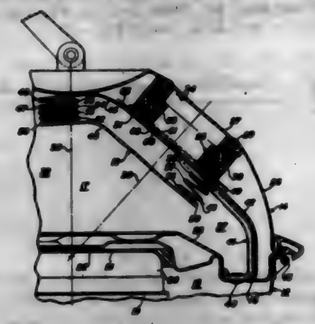
2,988,284
APPARATUS FOR FILTERING GAS
Claude W. Jordan, Paoli, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 4, 1959, Ser. No. 831,581
10 Claims. (Cl. 183—45)



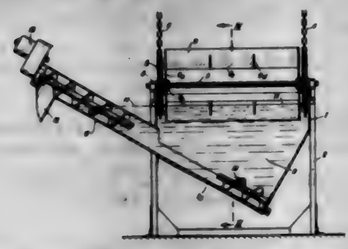
1. A unidirectional gas filter adapted to remove from a gas extremely minute vapor phase gum particles and inorganic particles, comprising a filter casing having inlet and outlet openings and a porous filter element comprising glass fibers having a diameter of from about 0.5 to about 3 microns bonded together by a bonding agent to form a resilient mat and arranged in said casing for the flow of said gas therethrough, said filter element increasing in density with distance from the gas inlet surface thereof, the average density of that portion of the filter element extending from the gas inlet surface thereof approximately one-eighth of the distance toward the gas outlet surface thereof being from about 0.2 to about 0.55 gram per cubic inch, and the average density of that portion of the filter element extending from the gas outlet surface thereof approximately one-eighth of the distance toward the gas inlet surface thereof being from about 1 to about 1.8 grams per cubic inch, said filter element having an average density of from about 0.4 to about 0.7 per cubic inch.

2,988,285
SUCTION CLEANERS
Werner G. Seck, Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed June 19, 1959, Ser. No. 821,539
6 Claims. (Cl. 183—51)

1. In a suction cleaner, a filter chamber, an air inlet connection for said chamber offset with respect to the central axis of said filter chamber to provide a constricted chamber area at one side of said inlet in comparison to the chamber area at the other side of said inlet, a filter bag in said chamber and having opposed principal walls joined by spaced side walls, one of said side walls having less area than the other side wall, a mouth in one of said principal walls attached to said inlet connection for passage of a dirt laden air stream into said bag, said bag arranged in said chamber with respect to said inlet connection to position said one side wall in the constricted area of said chamber and said other side wall in the larger area of said chamber, whereby when said bag is inflated said one side wall expands a lesser extent in said constricted area of said chamber than said other side wall in the larger area of said chamber.



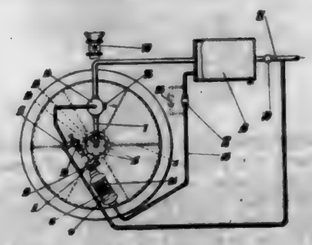
2,988,286
GAS SCRUBBER
Francois Schlumberger, Chaville, France, assignor to Compagnie de Construction du Gros Materiel Electro-Mecanique, Paris, France, a company of France
Filed Nov. 13, 1959, Ser. No. 852,753
Claims priority, application France Dec. 15, 1958
8 Claims. (Cl. 183—52)



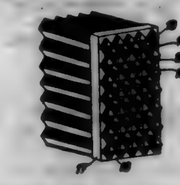
1. A gas scrubbing system comprising in combination means defining an endless loop of filtering material, said loop including a generally vertical rectilinear flight and an arcuate bottom end, a container for a body of cleaning liquid, means supporting said loop in a position such that said rectilinear flight thereof is traversed by a flow of gas to be scrubbed so as to deposit dirt particles on said filtering material and that said bottom end thereof dips into said body of liquid, power means driving said loop so that dirt-laden filtering material from said flight is continuously moving through said container at said bottom end of the loop, and means within said bottom end of the loop, temporarily defining with a portion of the filtering material passing through said container, a partly enclosed chamber adapted to scoop up liquid during movement of said material through said container, and said chamber being adapted to subsequently discharge its contents by gravity through said material as the chamber rises out of the container on continued movement of said material whereby to clean the material of the dirt deposited thereon.

2,988,287
AIR FILTERS
Robert W. Allen, Hazel Grove, England, assignor to Henry Simon Limited, Stockport, England, a British company
Filed Sept. 15, 1958, Ser. No. 761,047
Claims priority, application Great Britain Sept. 26, 1957
8 Claims. (Cl. 183—57)

1. An air filter of the type comprising porous elements arranged in sections which elements are cleaned by reverse-to-normal air flow, incorporating automatic means for the continuous cyclical cleaning of the elements in all sections, said automatic means comprising a source of comparatively high pressure air, an air storage reservoir, a pipe line connecting said source to said reservoir, a predetermined constriction in said pipe line for regulating the rate of growth of pressure within the reservoir, isolating valve gear on the filter for isolating in turn each section of the porous elements, a pressure operable driving device for operating said isolating valve gear, a pressure sensitive means associated with the reservoir for permitting air to flow from the reservoir to the pressure operable driving device to operate same when the pressure in the reservoir reaches a predetermined level, an air cut-off valve normally closing an air path from the reservoir to the isolating valve gear, means for opening said air cut-off valve on completion of the movement of the isolating valve gear to permit air stored in the reservoir to escape in the form of a blast through the isolated section of porous elements and means for restoring to normal the driving device of the isolating valve gear and the cut-off valve after the pressure in the reservoir has fallen to a second predetermined level.

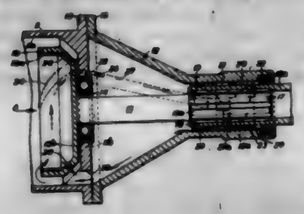


2,988,288
FILTER ELEMENT FOR EXTREMELY FINE DUST
Gerhard Max Neumann, Berlin-Friedenau, Germany, assignor to Delbag-Luftfilter G.m.b.H., Berlin-Halensee, Germany, a limited liability company of Germany
Filed May 21, 1957, Ser. No. 660,624
3 Claims. (Cl. 183—71)



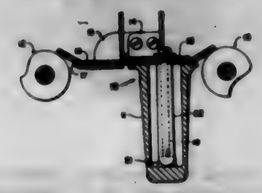
1. A filter element to be fitted in frames of air filters for separating extremely fine dust, comprising a single rectangular sheet of filter material creased first lengthwise zig-zag fashion to divide the sheet into a plurality of equal folds, then creased transversely along a plurality of equally spaced fold lines to define panels of equal length, said panels then folded transversely accordion-fashion each through 90° from their initial position at intervals, said panels forming after the transverse folding a plurality of opposed convex edges extending the length of said panels, said convex edges contacting their respective opposites throughout like a mirror image, the faces of the panels forming quadrangular honeycomb cells having their ends closed on the upstream and downstream side in alternate rows, whereby said panels are rigidly supported by one another and are made stress-resistant in a direction transverse to said edges.

2,980,209
CHANGE-SPEED GEARS
Edward John Rabson, Birmingham, England, assignor to Hardy Spicer Limited, Birmingham, England
Filed Mar. 24, 1958, Ser. No. 724,982
Claims priority, application Great Britain Apr. 1, 1957
10 Claims. (Cl. 184—11)



1. A change-speed gear comprising in combination a casing at least a rear portion of which is of generally rearwardly tapering shape, an output member of said gear arranged within said casing and the forward end of which during rotation acts as the impeller of a centrifugal pump the body of which is formed by a part of said casing adjacent said output member and disposed thereabout, an output bearing at the narrow rear end of said casing for said output member, and a tubular gallery open only at each end and formed in the wall of said casing to provide an oilway extending from said adjacent part of the casing to said output bearing, said adjacent part of the casing being shaped to catch and deflect oil centrifuged by said forward end of the output member to the adjacent open end of said gallery the opposite end of which opens directly on to said forward end of the output bearing, said output member being formed as an internally toothed ring gear provided with a plurality of angularly spaced openings disposed in a supporting substantially radial web of the ring gear to provide communication from the interior to the exterior of said forward end of said output member in order to facilitate the flow of oil under the rotation of said output member to said shaped part of said casing.

2,980,210
LUBRICATING DEVICE
Paul R. Simms, Niles, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,819
2 Claims. (Cl. 184—102)



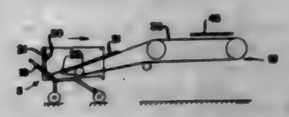
1. In a lubricating system for supplying a predetermined amount of lubricant to each of a plurality of cams, in a cam assembly, a container for lubricant, and a member consisting of a material capable of conveying lubricant by capillary attraction from said container to all of said cams, said member having a width sufficient to span all of the cams in said assembly and having a tongue portion extending into the lubricant in said container and another portion intermediate the container and said cams which other portion is provided with at least one slotted hole through it disposed with its longest dimension transversely of the direction of flow of lubricant from the container to the cams to provide restricted areas of predetermined widths in the member for restricting the flow of lubricant from the container to the cams.

2,980,211
GENERAL MERCHANDISE SELF-SERVICE STORE
Walter H. Richter, 619 Surrey Lane, Glenview, Ill.
Filed May 14, 1959, Ser. No. 813,132
6 Claims. (Cl. 186—1)



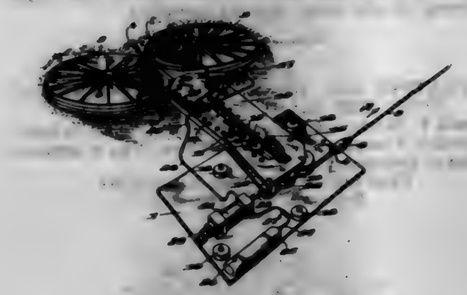
1. In a self-service store having facilities for the open display of general merchandise and a plurality of checkout stations, means providing a pair of spaced parallel walls, a conveyor belt disposed in the space between said walls and extending substantially the full length of said space, means providing a row of show cases generally parallel to said walls on one side of at least one of said walls and spaced from the adjacent wall a distance sufficient to provide space for sales personnel behind said show cases, said adjacent wall having openings therethrough accessible only from the space behind said show cases to the space above said conveyor belt, a receiving station beyond the end of said adjacent wall, means for driving said conveyor belt to convey merchandise thereon to said receiving station, and means providing the facilities of a checkout station contiguous to said receiving station.

2,980,212
SELF-UNLOADING CHECKOUT COUNTER
Allan D. Foster, Grosse Pointe, Mich., assignor to Almer Corporation, Detroit, Mich.
Filed Oct. 14, 1959, Ser. No. 846,399
6 Claims. (Cl. 186—1)



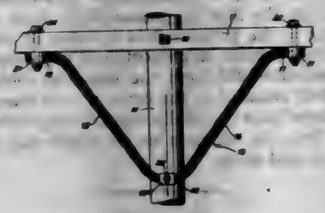
1. A supermarket checkout counter having an entrance end and an exit end, comprising a merchandise handling unit extending the length of the counter and consisting of a substantially horizontal merchandise receiving deck portion extending from the exit end towards and part way to the entrance end, and an unloading portion formed of an endless conveyor belt having a top belt lap that slopes upwards, relative to the horizontal, from the receiving end to said deck portion for carrying merchandise upwards from the receiving end to the deck portion; means supporting the unit with its bottom a considerable distance above floor level, said means consisting of legs connected at their upper ends to the sides of the unit near the top of the unit and at the deck portion of the unit, the legs supporting the unit upon a floor and the legs being spaced a short distance from the sides of the unit, the unloading portion being supported only by the receiving portion of the unit, and a U-shaped passageway consisting of the space beneath the unit and the side spaces between the respective sides of the unit and the support legs, extending the full length of the counter wherein a shopping cart having a U-shaped body supported on wheels may be moved into the entrance end of the counter through the passageway and out of the exit end of the counter.

2,980,213
ENERGY ABSORPTION UNIT
William D. Van Zelm, Ruxton, and Martin A. Jackson, Bradshaw, Md., said Jackson assignor to Van Zelm Associates Inc., Baltimore, Md., a corporation of Maryland
Filed Feb. 17, 1958, Ser. No. 715,579
11 Claims. (Cl. 188—1)



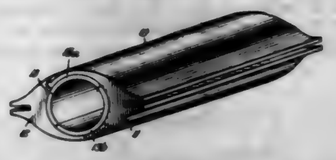
1. An energy-absorbing device comprising an elongated strip of metal, frame means mounted on each side of said strip, one of said metal strip and frame means being adapted for connection to a moving load to be retarded, said frame means having means pivotally mounted thereon to engage said strip to progressively and successively deform increments of said strip by bending beyond the elastic limit of said metal, and means connected to said frame means and responsive to the loading on said one of said metal strip and frame means to apply a portion of the kinetic energy of the moving load to be absorbed to effect lateral relative motion between said strip and said frame means to effect absorption of the remainder of said kinetic energy therebetween by said pivotally mounted means.

2,980,214
BRACE ASSEMBLY
Clifford W. Petersen, Wauwatosa, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Jan. 13, 1958, Ser. No. 708,620
3 Claims. (Cl. 189—33)



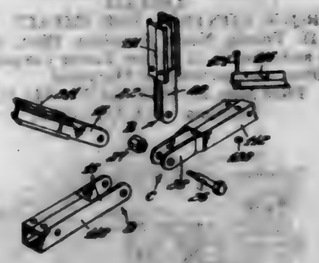
1. Electrical conductor support means comprising, in combination, a vertically extending electrical power pole of insulating material, a wire support member of insulating material fixedly engaging and disposed transversely relative to said pole, a generally V-shaped brace affixed at its ends to said wire support member, said V-shaped brace comprising a stack of laminae of insulating material having a relatively high dielectric strength bonded into a laminate, the said V-shape defining a laminated apex, fastening means piercing the laminations of said apex securing said apex to said pole at a point spaced vertically from the point at which said wire support member engages said pole, and means in the form of a support simultaneously engaging said fastening means and the lowermost of the laminae at said apex for transferring forces directed along the legs of said V-shaped brace to said fastening means, whereby delamination of said brace by said forces is prevented.

2,980,215
TUBULAR INTERLOCKING JOINT
Ernest England, 118 W. Florida, Urbana, Ill.
Filed Nov. 12, 1957, Ser. No. 695,834
1 Claim. (Cl. 189—34)



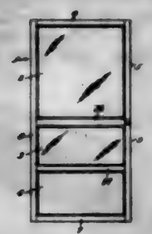
A frame member comprising a plurality of longitudinally extending, laterally curved sections arranged in radial overlap to define in composite a cavity, each of said sections overlapping and underlapping respectively adjacent sections and being longitudinally slotted on the surface of overlap and being longitudinally keyed on the surface of overlap for interlocking said section with adjacent sections, and means conformable to the dimension of said tubular cavity including a sectioned column coextensive with the length of said frame member for maintaining said sections in interlock.

2,980,216
CONSTRUCTIONAL METALWORK
Guy Richards, London, England, assignor to Formwork Patents Limited, London, England, a company of Great Britain
Filed Mar. 3, 1958, Ser. No. 718,758
5 Claims. (Cl. 189—37)



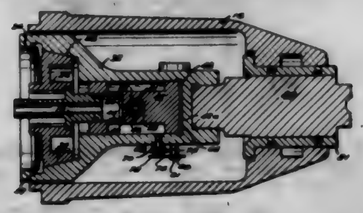
2. A chord member for a framing structure or the like, which comprises two channel elements rigidly secured together in web-to-web contact, each of said channel elements comprising the usual web and two flanges; the flanges extending at substantially right angles from the respective edges of said web; an attaching ear at one end of each of said elements and comprising a virtual prolongation of its web beyond the ends of the flanges, and another attaching ear at the opposite end of each of said elements, which latter ear extends in a generally longitudinal direction from the opposite ends of the flanges of said element and parallel to the plane of said web; the planes of the ears at the first end of said element being respectively closely adjacent the planes of the corresponding ears at the second end, whereby when two of such chord members are joined at their ends to lie in the same plane the two first named ears of one chord member will interfit between and contact the second named ears of the other chord member for firm attachment.

2,980,217
METAL DOOR CONSTRUCTION
Harold A. Elling, Marshallville, Ohio, assignor to Weather-Seal, Inc., North Barberton, Ohio, a corporation of Ohio
Filed Oct. 10, 1958, Ser. No. 766,589
6 Claims. (Cl. 189—46)



1. In a door comprising hollow metal side stiles, a hollow metal top stile, a hollow metal bottom stile, all of said stiles having top and bottom walls and inner and outer side walls and being of rectangular shape and the same size in section, said side stiles being overlapped with the top and bottom stiles at the corners of the door, one of said stiles at each corner of the door having the inner side wall thereon removed and the other one of said stiles at each said corner being of reduced thickness at the end thereof to be received within said first stile through the opening provided by the removed side wall therein, the improvement comprising the said stile of unreduced end thickness having a pair of end flaps extending therefrom from the top and bottom walls thereof, said end flaps being shaped to lie against the outer surfaces of the side wall of the other of said stiles, and rivet means securing the end flaps to the other of said stiles.

2,980,218
TORQUE CONTROL FOR IMPACT TOOL
Charles H. Young, North Royalton, Ohio, assignor, by mesne assignments, to Master Power Corporation, Bedford, Ohio, a corporation of Maryland
Filed Mar. 20, 1958, Ser. No. 722,723
7 Claims. (Cl. 192—30.5)



1. A clutch control mechanism for an impact wrench including a motor, a spindle and a clutch having a rotary impact element for transferring torque from said motor to said spindle, means drivingly connecting said rotary impact element to said motor to be rotated thereby, said clutch including a piston and a hammer unitarily reciprocable longitudinally along said impact element to selectively effect engagement and disengagement between said motor and said spindle, means to reciprocate said piston and hammer, a latch member mounted for movement in said impact element into a latching position intersecting the reciprocating path of said piston, means biasing said latch member out of latching position, inertia means movable in said impact element in response to deceleration thereof, a flexible strip connected at one end to said impact element and connected at the other end to said inertia means, said flexible strip being positioned to engage said latch member at a point intermediate said ends and to move said latch member into latching position when said flexible strip is moved by said inertia means in response to a predetermined rate of deceleration, and spring means urging said inertia means and said strip away from said latch member whereby the torque delivered by said clutch may be controlled.

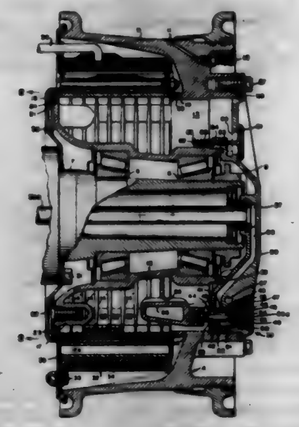
2,980,219
ACTUATING AND TORQUE-SUSTAINING STRUCTURE FOR CLUTCHES AND BRAKES
Donald P. Skurla, Hales Corners, Wis., assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Filed July 29, 1957, Ser. No. 674,793
5 Claims. (Cl. 192—85)



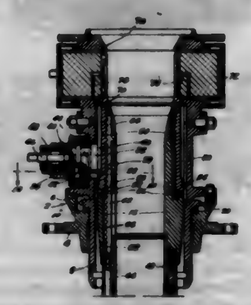
1. An assembly of the character described comprising: two relatively rotatable structures adapted for frictional torque sustaining engagement with each other, one of said structures comprising a member having an annular frictional-engagement face, and the other of said structures comprising a mounting; a pair of friction shoes each pivoted adjacent one of its ends at a fixed position on said mounting for rotation of the shoes all in the same rotative direction about their respective pivot axes for engagement with said frictional-engagement face; a pressure-fluid actuator connected to each shoe adjacent the other end thereof for effecting engagement of the shoe; a common source of pressure fluid for said pressure-fluid actuators; and continuously open pressure-fluid flow-control means for restricting the flow of pressure-fluid from said common source to the pressure-fluid actuator of one of said shoes, such flow being so proportioned with respect to the flow of pressure-fluid from the common source to the pressure-fluid actuator of the other of said shoes that the last-mentioned shoe is initially engaged responsive to pressure fluid from the common source before engagement of said one of said shoes.

2,980,220
LIQUID COOLED FRICTIONAL MECHANISM
James Owen Eames, P.O. Box 400, Washington, Conn., assignor to Ray S. Sanford, Wilfred A. Hains, and Erling D. Soderguen, all of Woodbury, Conn., and Roger H. Cuder and James O. Eames, both of Washington, Conn.
Filed Jan. 2, 1959, Ser. No. 784,666
11 Claims. (Cl. 192—113)

1. Liquid cooled frictional mechanism including a rotatable cylindrical drum member having an annular cooling liquid chamber therein, a wall for the chamber having an outer surface adapted to be engaged by a friction element and an opposite inner surface exposed in said chamber, a cooling liquid inlet valve in said member, means for biasing said valve to closed position, means for connecting the valve to a source of cooling liquid outside of the rotatable drum member, means for discharging vaporized cooling liquid from the chamber, and a float in said chamber mounted for rotation with the drum member and having an operative connection with said valve, said float during rotation of the drum member being movable in one direction by centrifugal force to open the valve to admit cooling liquid to the chamber and being movable in the opposite direction by the buoyancy of the float in the liquid to permit closing of the valve by said biasing means.



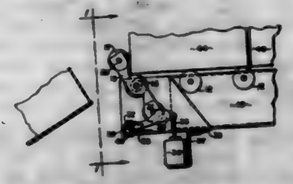
2,980,221
APPARATUS FOR TURNING AND RADIUSING AN ADJUSTABLE CHUTE
Ronald Bellinger, Bristol, England, assignor to Strachan & Henshaw Limited, Bristol, England, a company of Great Britain and Northern Ireland
Filed Nov. 13, 1957, Ser. No. 696,221
Claims priority, application Great Britain Nov. 15, 1956
8 Claims. (Cl. 193—30)



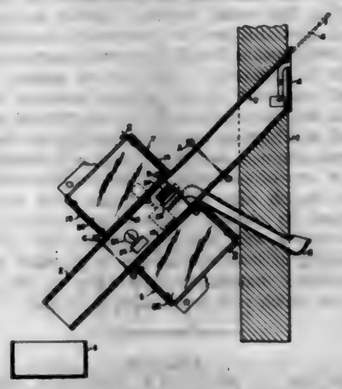
1. Apparatus for turning a chute about its axis and for reciprocating lengthwise of said chute a member associated with said chute, comprising a pair of axially aligned, independently rotatable sleeves adapted to receive said chute, means for coupling one of said sleeves to said chute whereby to impart rotation to said chute upon rotation of said one sleeve, and means for coupling the other of said sleeves to said member whereby to reciprocate said member upon rotation of said other sleeve relative to said one sleeve, said other sleeve being freely rotatable relative to said chute.

2,980,222
ESCAPEMENT MECHANISM FOR GRAVITY CONVEYOR
Peter F. Crosby, Cazenovia, N.Y., assignor to Lamson Corporation, Syracuse, N.Y., a corporation of New York
Filed May 11, 1959, Ser. No. 812,446
5 Claims. (Cl. 193—35)

1. An escapement mechanism for a gravity conveyor comprising a package supporting platform at the lower end of the conveyor and being journalled medial of its ends for rotation about an axis extending transversely of the conveyor, a latch operable in latching position to hold said platform stationary and extending in angular position to the conveyor with one end portion of the platform extending upwardly beyond said conveyor and forming a stop for the lowermost package on said conveyor, means operable to move said latch out of latching position to permit rotation of said platform about its axis by movement of said lowermost package for the release of said lowermost package, said platform, upon such rotation, forming a temporary extension of said conveyor.

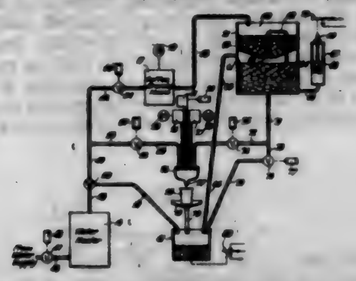


2,980,223
OBJECT DEPOSITORY MONITOR
James Frank Stidham, 820 Sargent St., Fort Worth, Tex.
Filed July 31, 1957, Ser. No. 675,290
4 Claims. (Cl. 194—4)



1. An object depository monitor, or the like, comprising a chute having a transparent section intermediate its ends, a housing arranged on said transparent section, a pair of angularly disposed mirrors in said housing arranged on opposing sides of said transparent section capable of reflecting an image of each side of an object traversing said chute, a camera in said housing focused on said mirrors to photograph the said images, a receipt dispensing mechanism on said chute opposite said camera, having an angularly disposed mirror thereon reflecting an image of a receipt dispensed by said mechanism to be photographed by said camera, a dispensing chute for said receipt dispensing mechanism, and electronic means in said object chute actuated by an object traversing the same for operating said receipt dispensing mechanism and said camera.

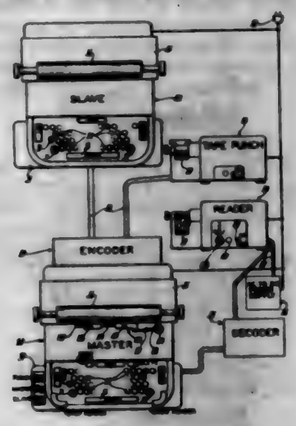
2,980,224
COIN ACTUATED OPERATING MECHANISM FOR VENDING MACHINES
Floyd Vest Beckett, Independence, Theodore Lewis Hansen, Kansas City, and Donald Wallace McBride, Independence, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Dec. 4, 1957, Ser. No. 700,606
22 Claims. (Cl. 194—13)



1. In a vending machine, the combination of: product supply means for providing a source of any of a plurality of product materials; vending means operably coupled with said product supply means and including a number of electrically responsive devices for dispensing corresponding of said product materials; coin handling means for receiving deposited coinage and including electrical switching apparatus arranged for actuation by said deposited coinage; credit means including shiftable electrical switching structure having normal and operated positions, and electrically responsive means operably coupled with the structure for shifting the same; homing means including rotatably shiftable electrical switching mechanism having a normal position and more than one successive switching positions, and electrically responsive means operably coupled with the mechanism for shifting the same; electrical circuit means coupled with said apparatus and the electrically responsive means of said credit means for shifting said structure when said apparatus is actuated; a plurality of product selection switches; electrical circuit means coupled with said switches, said structure and the electrically responsive means of said homing means for shifting the mechanism to a predetermined switching position responsive to operation of any of said switches and corresponding to the operated switch after said structure has been shifted away from its normal position; and electrical circuit means coupled with said mechanism and said devices for actuating at least one device to dispense a quantity of the product material corresponding to the particular position to which said mechanism is shifted.

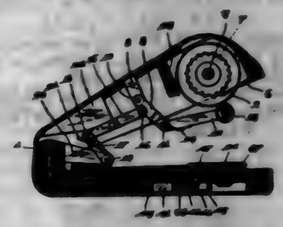
2,980,225
APPARATUS TO PRODUCE PRINTED AND CONTROL RECORDS AND TO UTILIZE THE LATTER FOR AUTOMATIC CONTROL PURPOSES
Salvatore J. Intaglietta, Windsor, William J. Hildebrandt, Simsbury, Richard W. Yerks, Manchester, Vincent J. Di Gallo, Hartford, and Wayne P. Hall, New Britain, Conn., assignors to Underwood Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 1, 1958, Ser. No. 725,637
27 Claims. (Cl. 197—1.6)

8. In an apparatus system comprising a power operated typewriter, and a coded record producing apparatus; said typewriter comprising power-operable type actions, a letter-feeding carriage, a letter-feeding escapement normally in control of the carriage, and operation instituting elements associated with said power-operable type actions severally to cause them to function; an encoding device having coding elements adapted for power operations severally by said type actions to control said coded record producing apparatus, a device movable between an effective and an ineffective position respectively to hold said carriage stationary or to permit its movement, another device movable between



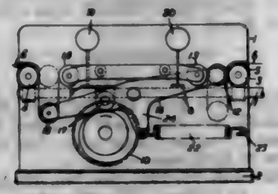
an effective and an ineffective position respectively to foreshorten for non-printing effect the movements of said type actions or to permit full type movements thereof, and means to control said devices conjointly to reside either in their effective or ineffective positions.

2,980,226
POCKET SIZE CHECK WRITER
Takayasu Inoue, 838 Rokkakubashi-machi Kanagawa-ku, Yokohama, Japan
Filed Oct. 22, 1959, Ser. No. 848,114
1 Claim. (Cl. 197—6.4)



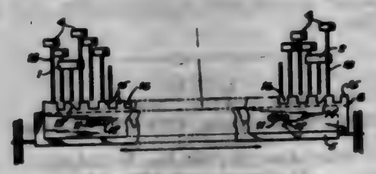
A pocket size check writer comprising a base stand provided with a paper feeding mechanism and a paper feeding rod holder, and an operating lever having a printing wheel and ink applying means and adapted to be opened automatically by swinging upwardly under the action of a spring about a pivot at the rear end of the base stand, said ink applying means comprising an ink roller which is pressed against the under surface of the printing wheel at the open position of the operating lever and is retracted by pressing down the operating lever and said paper feeding mechanism comprising a driving gear wheel, a paper feeding rod mounted in said rod holder and engaged with the driving gear wheel, and means engageable with the operating lever to rotate the driving gear wheel over a given angle by the upward swinging motion of the operating lever so as to move the paper feeding rod engaged with the gear wheel over a given length, said paper feeding rod consisting of a main racked sleeve and an inner slidable additional rod having a stop pawl which engages with a hole in the main sleeve whereby the length of said feeding rod may be increased corresponding to the size of a check paper to be printed, and said check paper feeding rod being provided at its outer end with a paper holding device consisting of a paper clip and openings provided therein and projecting parts formed on a head of the paper feeding rod whereby the check paper is satisfactorily held and clipped between said openings and projecting parts at the printing operation.

2,980,227
TYPE PRINTING APPARATUS
John Handley, Little Mariand, Briar Hill, Purley, England
Filed June 22, 1959, Ser. No. 821,817
Claims priority, application Great Britain July 12, 1958
3 Claims. (Cl. 197—36)



1. Type printing apparatus, comprising a first reading head for reading information from a part of a tape; a first printing head controlled by said first reading head; a second reading head for reading information from another part of the tape simultaneously with said first reading head and similarly controlling a second printing head; both printing heads being arranged to print on the same sheet of paper; means for feeding the tape through the apparatus at a speed in excess of the reading speed; means operative for causing the said parts of the tape to be moved past the corresponding reading heads at reading speed during a reading period, and to cause the whole of the said other part of the tape to move at a faster rate past the said first reading head during a period following the reading period; and means for inhibiting the said reading heads when the said other part of the tape is being moved at a faster rate past the said first reading head.

2,980,228
SELECTIVE BLOCKING DEVICE FOR OFFICE TYPEWRITER KEYBOARD
Heinz Wlodarczak, Pforzheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1955, Ser. No. 536,601
Claims priority, application Germany Sept. 28, 1954
1 Claim. (Cl. 197—107)



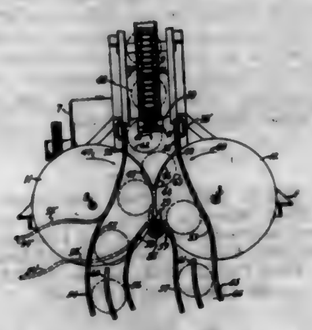
A mechanical blocking mechanism for use in typewriter apparatus to condition the said apparatus for either of two modes of operation and for selectively conditioning said apparatus for either of two kinds of operation within one of said modes, said typewriter apparatus including a first and a second group of typing keys and a first and a second function key, said mechanism including a toothed bar extending transversely beneath said groups of typing keys, means for rotating said blocking mechanism between a first position out of engagement with all of said typing keys and a second position in engagement with one of said groups of typing keys, and means controlled by the said function keys when said blocking mechanism is in said second position for laterally moving said toothed bar into engagement with either of said groups of typing keys.

2,980,229
ARTICLE-DIVIDING CONVEYOR APPARATUS
Sidney T. Carter, Shrewsbury, Mass., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin
Filed Jan. 15, 1960, Ser. No. 2,637
12 Claims. (Cl. 198—31)



1. An article-divider operative to divide articles which are advanced in single file at a constant linear velocity into its field of action, in a row in which the articles are uniformly spaced apart, said apparatus comprising normally fixed guides which define a path for the articles, and a plurality of successive conveyors designed to move articles along said path, the first of said conveyors being operative so to reduce the linear velocity of the articles that successive articles are brought substantially into contact; the second of said conveyors is so devised as further to reduce the linear velocity of the articles substantially to ¼ that of the velocity of articles as received by the first conveyor, and the guide means is so arranged as to define a path which gradually widens in such a manner, as the articles are moved by the second conveyor, that the articles automatically assume a relatively staggered relation with alternate articles engaging guides at opposite sides respectively of the path.

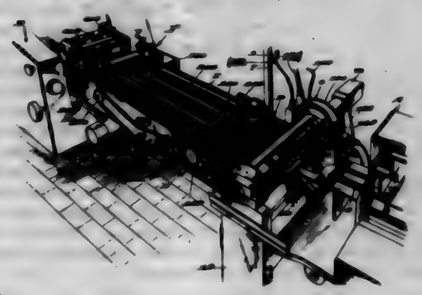
2,980,230
CAN DIVIDER
Eugene B. Hitchcock, Box 51, Longwood, Fla.
Filed Feb. 5, 1958, Ser. No. 713,451
9 Claims. (Cl. 198—31)



1. A can dividing machine having an input side and an output side, a can receiving stationary platform at the input side having a receiving end and a delivery end, conveyor means for supplying cans to said receiving end of said platform, a pair of laterally spaced can guides confining the cans delivered to said platform to a path extending from said receiving end to said delivery end and said path having a width between the guides greater than the diameter of one can and less than twice such diameter, the cans being pushed in sequence along said path by following cans supplied by said conveyor and alternating in position toward one and the other side of said path, a pair of circular turntables having vertical axes spaced equally toward opposite sides of said path and beyond the delivery end of said platform, the circumferential peripheries of said turntables approaching closest to each other at a point beyond said delivery end, the delivery end of said platform being generally cratoid cuspate and extending toward said point of closest approach of said

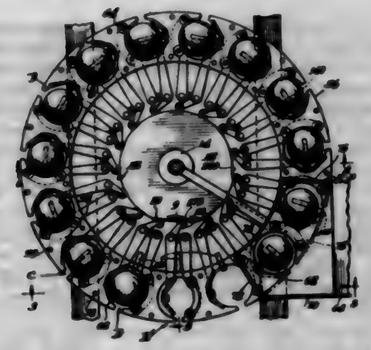
turntables and having opposite arcuate edges immediately adjacent said peripheries, means for rotating said turntables in the respectively opposite directions necessary to transport cans pushed thereonto forwardly away from said platform, and means to direct the cans from each said turntable into two respective output paths.

2,988,231
AUTOMATIC SWITCHING AND STORAGE CONVEYOR
Reid Alexander Mahaffy, Montclair, and John Richard Harder, Cedar Grove, N.J., assignors to Albert F. Gootee, Incorporated, Baltimore, Md., a corporation of Maryland
Original application Sept. 2, 1958, Ser. No. 758,186. Divided and this application July 20, 1959, Ser. No. 831,925
4 Claims. (Cl. 198—31)



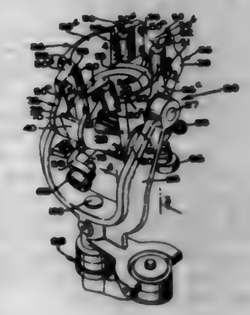
1. A switching device comprising a cylinder journalled to rotate on its horizontal axis, means for rotating said cylinder, a stationary barrel cam mounted in said cylinder, a carriage slidably mounted along the periphery of said cylinder and connected by a cam follower to said barrel cam, a cam switch longitudinally movable in said barrel cam for shifting the cam follower to one of a plurality of cam tracks in said barrel cam, means to move said cam switch to predetermined switching positions, article grabbing fingers slidably movable by said carriage, and cam actuated means for opening and closing the fingers of said article grabbing fingers.

2,988,232
FRUIT ORIENTING MACHINE
Henry A. Skog, Olympia, Wash., assignor, by mesne assignments, to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Dec. 2, 1948, Ser. No. 64,022
26 Claims. (Cl. 198—33)



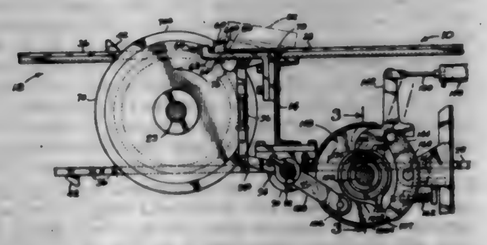
1. In a device for orienting the suture plane of a peach, the combination of an orientation sensing member having an elongated peach contacting surface shaped substantially to conform to and to enter the stem indent of the peach to a maximum extent when the plane of said elongated peach contacting surface registers with the long axis of said stem indent, means for supporting a whole peach above said surface and for turning the peach while so supported relative to said elongated peach contacting surface to cause the plane of said elongated peach contacting surface to register with the long axis of the stem indent of the peach, and means for causing said elongated peach contacting surface to project into said stem indent to its maximum degree of penetration when in such registration with the long axis of the stem indent of the peach.

2,988,233
APPARATUS FOR HANDLING FRUIT
Sylvio Puccinelli, San Jose, Calif., assignor to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed July 25, 1957, Ser. No. 674,166
13 Claims. (Cl. 198—33)



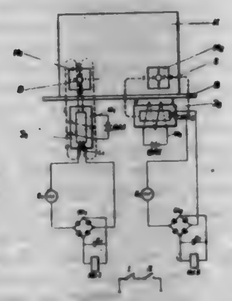
1. In a fruit carrier of the type employing jaws pivotally mounted for swinging movement toward each other to engage and center a fruit about a predetermined axis substantially normal to the direction of movement of said jaws: the improvement comprising a fruit contacting member slidably mounted on each jaw for bodily self-adjusting sliding movement when in contact with the fruit, the sliding movement of said member being along an axis substantially normal to the direction of swinging movement of said jaws to accommodate axial movement of the fruit.

2,988,234
LUMBER FEEDER MECHANISM
Edwin W. De Koning, 8205 S.W. Hamilton, Portland 23, Oreg.
Filed Apr. 22, 1960, Ser. No. 24,016
11 Claims. (Cl. 198—34)



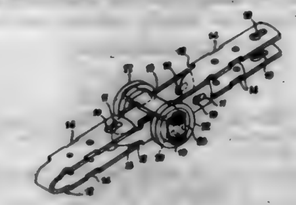
1. Feeder mechanism for feeding lumber pieces onto an off-bearing conveyer comprising a constantly driven holding conveyer mounted with its discharge end adjacent the feed end of the off-bearing conveyer, shiftable stop means adjacent said discharge end adjustable between hold and release positions and operable in a hold position to inhibit forward progress of lumber pieces beyond the holding conveyer and in a release position to release such pieces for forward travel, and mechanism for operating said shiftable stop means, said mechanism having an element moved in timed relation with movement of the off-bearing conveyer, sensing means for sensing a backlog of lumber pieces on the holding conveyer behind said shiftable stop means, actuating mechanism operable when actuated to shift said shiftable stop means to its release position, and regulator mechanism operatively interconnecting said element, sensing means, and actuating mechanism whereby said actuating mechanism is actuated at intervals regulated by both said sensing means and the position of said element.

2,988,235
ARRANGEMENT TO PRODUCE ELECTRICAL SIGNALS IN BELT CONVEYORS USING CONTAINERS
Fritz Mittag, Berlin-Friedenau, and Jürgen Lindner, Berlin, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 1, 1957, Ser. No. 675,722
4 Claims. (Cl. 198—38)



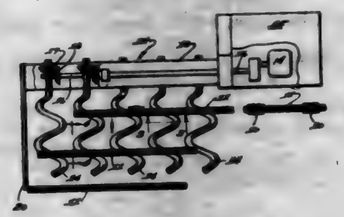
1. In a conveyor transport system having at least one article-carrying container associated with a movable belt conveyor, the automatic container routing system that comprises, a plurality of permanent magnet elements each rotatably mounted on said article-carrying container, a plurality of magnetically-responsive switching devices mounted adjacent said movable belt conveyor each being approximately positioned to be influenced principally by the magnetic field of a selected permanent magnet element upon passage of an article-carrying container thereacross, circuit means electrically connected to said magnetically-responsive switching devices for controlling said movable belt conveyor with respect to routing of the article-carrying container thereon, said magnetically-responsive switching devices being differentially positioned with respect to each other to effect maximum magnetic decoupling between any single switching device and adjacent permanent magnet elements other than the selected element for said switching device, said permanent magnetic elements being rotatable to selectively vary their polarity to aid or oppose the flux developed by a corresponding electromagnetic element to effect predetermined different switching connections when said article-carrying container passes in magnetic field proximity to said magnetically responsive switching device.

2,988,236
CHAINS FOR CONVEYORS
Donald Mayer King, Stevenage, Hertfordshire, England
Filed Oct. 16, 1958, Ser. No. 768,525
Claims priority, application Great Britain Oct. 15, 1957
1 Claim. (Cl. 198—189)



A chain structure comprising a U-shaped link including parallel legs having aligned longitudinal edges provided with aligned recesses constituting transverse troughs, plates in said troughs and provided with recesses to accommodate said legs whereby to form a locking arrangement preventing movement of the plates transversely of said legs, the plates being parallel planar members including portions extending outwardly from opposite sides of said link, bearing members on said outwardly extending portions and having openings to accommodate the latter, said portions having openings aligned transversely of said plates, rollers between said plates and having bores aligned with the latter said openings, sleeves on said plates and having openings aligned with said bores, said sleeves being adapted to maintain said bearing members against said legs, pins extending through said sleeves, plates and rollers to lock the same together and to lock said plates to said legs, wheel members on said bearing members and a central portion connecting said legs and including the foremost portion of said link, said central portion tapering towards the foremost portion from a position spaced from the latter and tapering rearwardly of said position.

2,988,237
HELIX CONVEYOR
Arthur L. McCloy, Jr., Vineland, N.J., assignor to Kimble Glass Company, a corporation of Ohio
Filed July 22, 1957, Ser. No. 673,347
1 Claim. (Cl. 198—213)



Conveyor mechanism for transporting rod or tubular shaped articles transversely of their length in spaced-apart relation, said mechanism comprising a base member, a series of substantially parallel load-supporting helical members disposed in essentially the same plane and having essentially the same helix diameter, each of said helical members having an axial end portion mounted on said base member in rotatable arrangement and a convoluted portion curved in the same direction projecting in freely cantilevered relation to a point of delivery, rotational means connected to a retained axial end portion of each helical member for effecting simultaneous co-directional rotation thereof, each of said helical members having a heat-resistant covering over its convoluted portion and having substantially the same number of

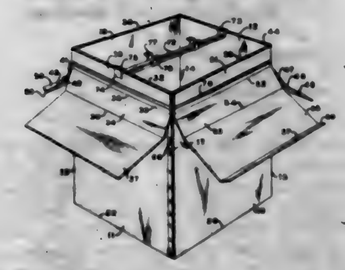
turns, a stationary stop-plate mounted essentially coplanar with the root plane of said helical members for limiting lengthwise movement of said articles during their conveyance for alignment thereof, the pitch dimension of said helical members increasing in a unilateral direction across their mounting plane for delivering said articles angularly from their initially received position.

2,988,238
DRAW BUGGY
Elmer W. Nilsson, Youngstown, Ohio, assignor to The McKay Machine Company, Youngstown, Ohio, a corporation of Ohio
Filed May 20, 1958, Ser. No. 736,622
3 Claims. (Cl. 205—3)



1. In a draw carriage for metal drawing equipment having an elongated frame and at least one pair of converging grip bits carried by one end of said frame and guided for movement in converging directions whereby the bits may be moved into and out of engagement with a work piece the improvement comprising a pair of transversely spaced push rods extending longitudinally along said frame and operatively connected with said bits to move the same into engagement with said work piece, a rack gear for each of said rods and operatively connected thereto to move the same longitudinally, a transverse shaft journaled on said frame and having a pair of spaced pinion gears keyed thereon and meshing with said rack gears, an electric motor mounted on said frame between said rods, reduction gearing between the output shaft of the motor and said transverse shaft, and a plug-in type of electrical connection rigidly carried by said frame adjacent said grip bits and adapted to engage a connection on said carriage whereby current is supplied to the motor when said carriage is at the die block of said equipment.

2,988,239
SHIPPING CONTAINER
Samuel P. Belsinger, 840 W. Paces Ferry Road NW., Atlanta, Ga.
Filed July 22, 1958, Ser. No. 750,236
5 Claims. (Cl. 206—7)



1. A shipping container formed from a one-piece blank of fibre board scored and cut to define a closure having top and bottom openings comprising front, rear and a pair of side panels, said front panel being provided with intermittent cuts along a line to separate said front panel into an upper door panel and a lower panel joined together by uncut portions between the intermittent cuts, said lower panel being secured between the front edges of said side panels, reverse flanges extending from the upper portions of said front, side and rear panels, intermediate flanges extending from the edges of said reverse flanges, flaps extending from said intermediate flanges to close said top opening, hanger engaging flanges extending from the flaps of said front and rear panels, said reverse flanges being folded outwardly and downwardly against their respective panels, a strap extending around said reverse flanges between said reverse flanges and said intermediate flanges, a tab extending from said upper door panel and adapted to be engaged between a side panel and its reverse flange, and a bottom closing the bottom opening of said container.

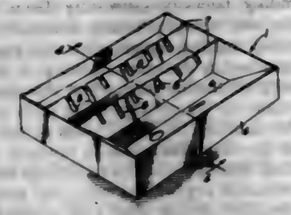
2,988,240
ARTICLE PACKING AND DISPENSING CARTON
Harold Amatel, Verona, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 24, 1958, Ser. No. 763,070
5 Claims. (Cl. 206—45.14)



1. The combination which comprises a packing and dispensing carton and a plurality of articles packed therein, each of said articles having an inwardly tapered neck portion at one end; said carton comprising a pair of side walls, end walls, and a bottom wall articulated and dimensioned to form an elongated enclosure open along one side; said packed articles being arranged in side-by-side single-row formation within and snugly enclosed by said carton with said neck portions facing the open side thereof; article-retaining means articulated with the edges of said side walls along the open side of the carton comprising a flap hinged to and coextensive with each of the said side wall edges and resiliently folded thereabout into the carton; the inwardly disposed ends of said flaps being notched to provide a series of extensions that nest between and engage the neck portions of said packed articles; said flaps being displaced outwardly from their normally inturned position within the carton by the engaged neck portions of said packed articles, whereby said extensions are pressured against and coactively grip said neck portions; each of said flaps and the associated ones of said extensions being disposed at an angle relative to the tapered parts of the packed articles engaged by said extensions such that the forces exerted thereby on said articles retain said articles in loaded formation within the carton but permit them to be slidably and separately withdrawn therefrom without disturbing and thus terminating the retentive force exerted by said flaps.

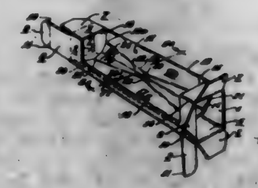
2,988,241
BOX
Chester E. Howell, Jr., and Harwood S. Taylor, Jr., Elmira, N.Y., assignors to F. M. Howell & Co., Elmira, N.Y., a corporation of New York
Filed Feb. 5, 1958, Ser. No. 713,409
11 Claims. (Cl. 206—45.19)

1. In a paperboard combination shipping and display container of the type comprising a box and an insert therefor, said box including a bottom, opposed vertical sides, and opposed ends having sloping inner walls converging toward said bottom, said insert comprising vertical end members seated against the opposed vertical sides and between the vertical sides and the ends of the said sloping inner walls, one of said end members being the height of the vertical side against which it rests and the other being shorter, a wall panel connected to the top of the taller of the end members and extending angularly downward to the bottom of the box, said wall panel bridging the space between the sloping inner walls of



the box to appear as a third sloping box wall, ridge forming means extending from the bottom of the wall panel to the top of the shorter end member having its side edges in contact with the sloping inner walls of the box, and means to interlock the insert with the box.

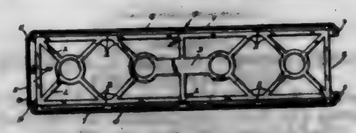
2,988,242
OPEN FACED CARTONS FOR COLLAPSIBLE TUBES
James S. Miller, New York, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 31, 1959, Ser. No. 803,213
9 Claims. (Cl. 206—45.31)



1. In a carton adapted to display a collapsible tube, a saddle formed by two cuts of substantially equal length, said cuts being in spaced relation to each other and each extending across at least a substantial portion of each of two adjoining panels of said cartons but not completely across both of said adjoining panels, and two score lines each connecting corresponding ends of each cut, said saddle being divided into four surfaces by diverging lines of weakening extending from a portion of the saddle to points spaced along said cuts, said lines of weakening being so constructed and arranged that upon tucking said saddle inwardly when the carton is erected each of said surfaces becomes warped in a longitudinal direction, whereby said saddle constitutes an integral combination of individually warped surfaces which hold said collapsible tube and restrain its movement when in proper alignment for display.

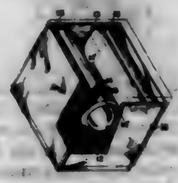
2,988,243
PLASTIC DISPLAY BASKET FOR TOMATOES AND THE LIKE WITH INTEGRAL INTERCONNECTING MEANS
William S. Pinkerton, Minneapolis, Minn., assignor to Nestway Products, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 12, 1959, Ser. No. 845,779
2 Claims. (Cl. 206—45.33)

1. A display basket for tomatoes and the like, said basket comprising a pair of cooperating substantially identical generally rectangular basket sections molded from resilient plastic material and each thereof comprising a perforate top-bottom wall, perforate opposite side walls integral with said top-bottom wall, a perforate end wall integral with said top-bottom and opposite side walls, and an open end, each of said basket sections at its open end portion being formed to provide laterally opening hook elements adjacent said side walls thereof and at its closed end portion being formed to define hook receiving elements, one of said sections being superimposed upon the other thereof in inverted relationship



with the open end thereof overlying the closed end of said other thereof and with the hook elements of each thereof in locking relationship with the hook receiving elements of the other thereof, lateral flexing of the hook elements of each of said sections permitting locking or unlocking relationship between said sections.

2,988,244
PACKAGE
Victor J. Le Gendre, Mountainside, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 3, 1957, Ser. No. 701,284
11 Claims. (Cl. 206—46)



1. A packaged shipping unit, comprising the combination of an electronic tube, a cylindrical magnet mounted about said tube, a single strip of cushioning material folded to form an expandable row of panels, means located in two juxtaposed panels for seating said magnet to support said tube out of contact with said panels, and a box holding the panel row in unexpanded condition, the panels of said strip of cushioning material occupying the space between said tube and the sides of said box.

2,988,245
CONTAINER, PACKAGE, AND MANUFACTURE OF PACKAGE
Carl B. Stoker, Jr., Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 16, 1959, Ser. No. 827,474
2 Claims. (Cl. 206—46)



1. A package composed of an object, a stiff, bendable, rectangular backing bent over one surface of the object and transparent cover film adhered directly to the backing only at areas at opposite edges of the backing whereby a sleeve with mouths at opposite ends thereof is formed, said areas being closer to one another than if the backing were not bent, the ends of the object being located a substantial distance from the respective ends of the backing, the backing being substantially homogeneous in composition and composed mostly of cellulosic fibers, the film being copolyester of substantially 60 percent ethylene

terephthalate and 40 percent ethylene isophthalate, and the film being taut and holding the backing bent, and being in tight contact with a surface of the object and at the mouths of the sleeve being shrunken away from the ends of the backing and drawn down over said ends of the object and holding it in the package.

2,980,246
CONTAINER-DISPENSER FOR COSMETICS IN SOLID STICK FORM
Joseph Lashin, Bronx, N.Y., assignor to Calumet Manufacturing Co., Inc., a corporation of New York
Filed July 9, 1952, Ser. No. 297,869
1 Claim. (Cl. 206—56)



A liquid-tight and air-tight container-dispenser for cosmetics in solid stick form and of the volatile variety comprising a tubular body with a bottom wall, an interiorly threaded follower arranged within the body and having a slidable but non-rotatable engagement therewith, said follower being of skeleton form to embed itself in the stick when the stick material is poured in hot liquid state into the body for casting, an exteriorly threaded stem also arranged within the body and having cooperative engagement with the follower, said stem being rotatably mounted at its lower end on the bottom wall of the body, and a rotatable knob arranged outside of the body at the base of the container-dispenser and secured non-rotatably to the stem.

2,980,247
BUTTER HOLDER AND DISPENSER
Robert R. Di Giantomasso, 940 East H St., Ontario, Calif.
Filed Sept. 2, 1959, Ser. No. 837,681
1 Claim. (Cl. 206—56)



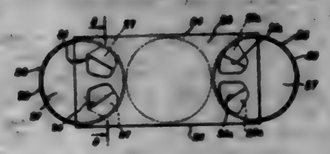
A device for holding and dispensing butter or the like material comprising an elongated housing, the interior of which is square in cross-section, said housing having one end open, a closure for the other end of said housing, the walls of said open end being provided with one or more internal projections for retaining the contents of the housing against accidental discharge, the closure end of the housing having a pair of opposed flanges extending laterally outwardly from two of its opposed walls, said closure having downwardly and inwardly extending mating flanges slideably engaging said housing flanges and a threaded opening in said closure disposed axially of the housing when the closure is applied, stop means on the corresponding ends of the housing flanges for limiting the application of the closure, a pressure plate for disposition in said housing, a threaded shaft extending through the threaded opening in said closure for rotatable connection with said pressure plate whereby by rotation of said shaft said pressure plate can be moved endwise within said housing to expel the contents from the open end thereof.

2,980,248
MEDICAMENT MOLD
Paul Gunnar Ekelund, Uppsala, Sweden, assignor to Aktiebolaget Akerlund & Rausing, Lund, Sweden, a company of Sweden
Filed Oct. 28, 1957, Ser. No. 692,599
6 Claims. (Cl. 206—63.2)



4. In a mold unit adapted to receive and form moldable material into suppositories, medicaments and the like comprising a mold body having top and bottom surfaces and divided into at least two separable juxtaposed parts, the adjacent faces of said parts being formed with matching recesses each adapted to cooperate with the corresponding recess on the other juxtaposed part to form a mold cavity closed at one end and open to a surface of the mold body at the other, and wherein all of the mold cavities are arranged to open at the top surface of the mold body with their closed ends directed towards the between surface, and wherein the mold parts are connected together adjacent one of said surfaces for swinging movement between open and closed positions: the improvement which comprises a flexible bridge member attached to said top surface and serving as the means for swingably connecting said mold parts adjacent said top surface and simultaneously acting as a cover member to overlie said top surface and thereby close the open ends of said cavities, and releasable interlocking means on said mold parts for normally retaining said mold parts in closed position at said bottom surface.

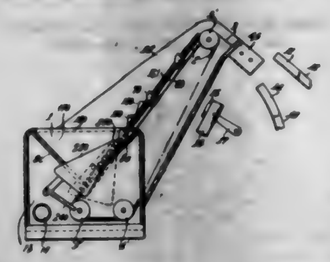
2,980,249
CARRIER FOR CONTAINERS
Richard E. Paige, New York, N.Y., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 6, 1958, Ser. No. 740,210
8 Claims. (Cl. 206—65)



1. A carrier for a plurality of chimed cans comprising an open end tube made of hingedly connected panels,

at least one of which has a first locking mechanism folded out of the plane of the panel, said mechanism including a pair of die cut tabs nearer one end of the panel than the other, the tabs being folded upon score lines diverging toward the near end, and a second locking mechanism folded out of the plane of the panel, said second mechanism including a second pair of die cut tabs near the other end of the panel, the second pair being folded upon score lines converging toward the other end.

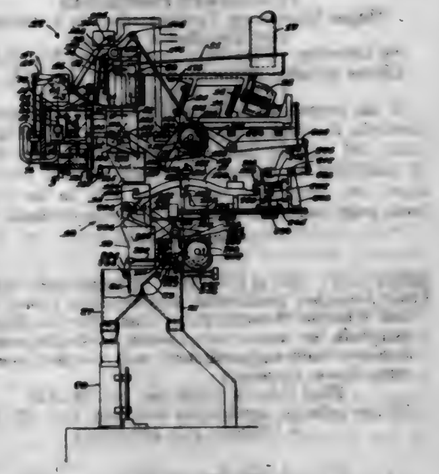
2,980,250
SYSTEM FOR TESTING AND SORTING COIL CORES
Hans Beckers, M. Gladbach, Germany, assignor to Walter Reiners, M. Gladbach, Germany
Filed Oct. 3, 1957, Ser. No. 688,021
Claims priority, application Germany Oct. 6, 1956
17 Claims. (Cl. 209—75)



3. A feeder and tester apparatus for coil cores to be automatically supplied to a textile fabricating machine, the coil cores each having an enlarged head portion and a narrow stem portion, comprising means for transferring the coil cores from one location to a selected one of several other locations, said means carrying the cores with their stems down and their heads up, core receiving means at a first, upper one of said other locations, means operatively connected to the latter receiving means to determine whether the coil cores have a residual winding on the stem portions and to reject the core if it does, a positioning device including means contacting each core at its lower end to individually lift each core to enable transfer to said upper location for reception onto or for rejection from said core receiving means, the positioning means thereat enabling transfer of the core to a second, lower one of said locations, the lift means being ineffective to lift, through a sufficient distance, a core having a stem length shorter than a pre-set length, the core of short stem length being thereby disabled, by its short length, from lift transfer to said upper location and from reaching the said second location.

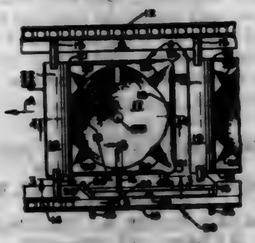
2,980,251
WEIGHING MACHINE
Stanley R. Howard, Milton, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts
Filed Oct. 1, 1954, Ser. No. 459,694
15 Claims. (Cl. 209—121)

2. In a machine of the character described, in combination, check weighing means including a weighing element having a load receiver and movable under the influence of a preformed load placed thereon, means for locking the weighing element in an inoperative position during the placing of the load thereon including a fixed stop and a vibration absorbing member, means for then moving the vibration absorbing member to first permit slight movement of the weighing element out of contact with said fixed stop and for thereafter suddenly removing the vibration absorbing member and releasing the weighing element to permit sudden movement of the element to an initial impulse position proportional to the weight of the load prior to coming to rest in a balanced position, means cooperating with the weighing element for sensing the extent of the initial impulse movement to determine the weight of the load relative to a predetermined weight, means for discharging the check



weighed load from said load receiver, and guide means responsive to said sensing means for guiding the discharged load into one path if the same is found to be within predetermined limits of a predetermined weight and for guiding the load into a second path in the event the same is found to deviate beyond predetermined limits of said predetermined weight.

2,980,252
FRUIT GRADING MACHINE
Walter E. Bray, San Jose, and Robert E. Stilwell, Santa Clara, Calif., assignors to Food Machinery and Chemical Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 24, 1958, Ser. No. 723,541
6 Claims. (Cl. 209—121)



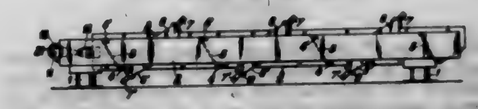
1. In a fruit grading machine of the type including a track having a cut-away portion therein, a diagonal knife edge defining the downstream end of said cut-away portion, a carrier cup supported by and movable along said track past said cut-away portion, and a depressible scale member in said cut-away portion movable from a position flush with said track to a position disposed below said track, the improvement which comprises a pin projecting from said cup over said track and said cut-away portion and slidable on said track and said depressible scale member, said pin having a pointed tip arranged to cooperate with said knife edge to accurately guide the pin above said knife edge in cup supporting position if the weight of the cup and article supported therein is

insufficient to depress said scale member, or below said knife edge in article discharging position if the weight of the cup and article supported therein is sufficient to depress said scale member.

2,980,253
FLOTATION PROCESSES
Magne Mortensen, Prestegaardsveien 2, Strinda, near Trondheim, Norway
No Drawing. Filed Mar. 2, 1954, Ser. No. 413,723
Claims priority, application Norway Apr. 18, 1953
1 Claim. (Cl. 209—166)

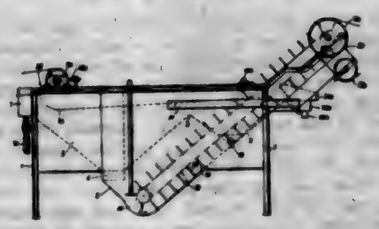
In the process of selective flotation of ores containing minerals, in which a calcium-basic pulp is used in a first stage and an acid pulp in a subsequent stage, the step of acidifying the calcium-basic pulp without freeing calcium ions comprising introducing CO_2 in the calcium-basic pulp until a desired pH value is obtained.

2,980,254
RESONANT OSCILLATORY SCREENING DEVICE
Ernst Johannes Brüderlein, Rheinhausen, Lower Rhine, and Wilhelm Heinrich Rohr, Essen-Werden, Germany, assignors, by mesne assignments, to Betolligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed Feb. 24, 1959, Ser. No. 795,128
Claims priority, application Germany Feb. 28, 1958
4 Claims. (Cl. 209—339)



1. A resonant oscillatory device comprising a body to be vibrated, a frame structure somewhat larger than and around said body, said frame structure being resiliently mounted on a relatively stationary base, means to suspend said body for vibratory movement in and adjacent said frame structure, kinetic coupling means between said body and said frame structure, said body and said frame structure forming masses oscillating in opposite directions when subjected to vibratory actions via said coupling means, a plurality of transverse bars on and across said frame structure, some of said bars extending over the top of said body and the others of said transverse bars extending below said body, pairs of elastic organs being inserted between said transverse bars and said body, one half of each of said pairs being on top and the other half below said body, whereby said elastic organs of each pair cooperate in the oscillating directions.

2,980,255
METHOD AND APPARATUS FOR THE GRADING OF COFFEE BEANS
Bernhard M. Aagaard, Post Box 17, Kisumbu, Kenya Colony
Filed Mar. 4, 1958, Ser. No. 719,911
5 Claims. (Cl. 209—427)



1. The method of grading coffee beans in a water medium which comprises maintaining a relatively quiescent body of water, causing an upper portion of the body of water to flow over a pair of side-by-side compartments and through an outlet, withdrawing water from a lower portion of the second of said compartments whereby a downwardly flowing body of water is created between the quiescent body and the overflow, and feeding coffee beans to the water flowing over the quiescent body of water whereby the heavy beans sink into the quiescent body of water, floating the light beans over the overflow with the overflowing water, entraining beans of intermediate specific gravity by the downwardly flowing water passing through the outlet and separately removing the sorted beans from the water.

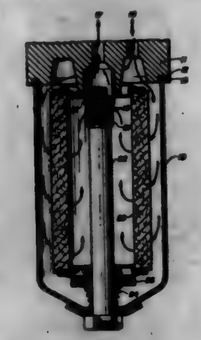
2,980,256
SWIMMING POOL FILTERING AND VACUUM CLEANING SYSTEM
Floyd M. Nash, Berkeley, Calif., assignor to Jacuzzi Bros., Inc., Richmond, Calif., a corporation of California
Filed Mar. 27, 1958, Ser. No. 724,475
12 Claims. (Cl. 210—169)



3. A vacuum system comprising in combination, a tank, a plate disposed transversely in the tank having apertures therein and dividing the tank into an inner and outer chamber, intake means for supplying fluid to the outer chamber of the tank, suction means including an elongated pipe having openings to place it in direct communication with the upper and lower chambers of the tank, filter means having a plurality of elongated filter elements with outwardly flanged open ends communicating with the outer chamber, the filter elements being suspended in the apertures of the plate through engagement of their flanged open ends with the plate, filtering being accomplished by the flow of fluid through the filter elements in a direction from the inside to the outside thereof, backwashing means comprising a flexible hose connected at one end to a probe and at the other end to a tube, the probe being inserted into one of the filter elements and the tube being inserted into the elongated pipe of the suction means to close said openings and prevent direct communication between the pipe and both the inner and outer chambers of the tank, the backwashing of the individual filter elements being accomplished while the tube is so inserted in the pipe through successive insertion of the probe into the substantially open ends of the individual filter elements, a backwashing fluid flow thereby being effected through the particular filter element being backwashed in a direction from the outside to the inside thereof.

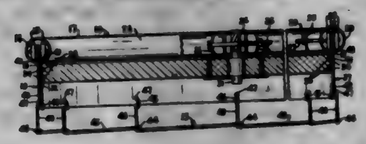
2,980,257
DEVICE FOR MAINTAINING QUALITY OF LUBRICATING OIL
Sidney F. Paton, 68 Rockaway Ave., San Francisco, Calif.
Filed Jan. 30, 1957, Ser. No. 637,245
1 Claim. (Cl. 210—223)

In an oil filter, means defining a closed chamber, said means including a downwardly opening inlet port and an outlet port at the top of said chamber, a conventional oil filtering element in said chamber extending downwardly therein to a position adjacent but above the bottom thereof to define a relatively small settling zone therebelow, said ports and filtering element being so arranged that oil entering said inlet port is directed thereby to flow along a flow path extending downwardly in said chamber in the outer peripheral portions thereof then laterally inwardly through said filtering element above



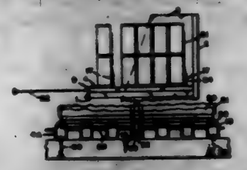
said settling zone and then upwardly to said outlet port whereby metal particles in said oil are directed downwardly from said inlet directly toward said settling zone, said outer peripheral portion being open at the bottom thereof to said settling zone, and a permanent magnet in said settling zone below said filtering element but above the bottom of said chamber and spaced below said flow path to attract and hold particles of metal carried into said chamber by said oil and before said oil passes through said filtering element.

2,980,258
DRIVE AND TRACK ASSEMBLY FOR FLEXIBLE BELT CARRIER
Floyd E. Collette, 713 4th St., Farmington, Minn.
Filed Apr. 7, 1958, Ser. No. 726,838
7 Claims. (Cl. 211—1.5)



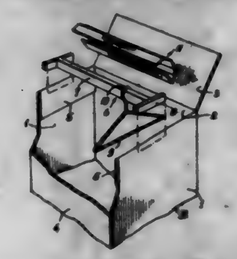
1. A conveyor apparatus for carrying suspended articles in an endless pathway comprising, a supporting frame, an endless tube secured substantially in a horizontal plane to the supporting frame and having a longitudinal bottom slot formed continuously for the length of the tube, said tube having a plurality of arcuate bends and interconnecting tangential portions, an endless belt disposed edgewise with its upper margin lying continuously within said slot, roller means secured at spaced intervals along the upper margin of said belt and lying in parallel relation closely thereto and within said tube in rolling contact therewith adjacent said slot, means depending from the lower edge of said belt for suspending articles therefrom, and a plurality of horizontal wheels lying in a plane parallel to and below the plane of said endless tube and journaled in said supporting frame and each having at its circumference a rate of curvature the same as that of an arcuate bend in said tube, each of said wheels bearing circumferentially outward against said belt below the tube whereby to maintain the belt immediately below said slot and without lateral thrust against the tube.

2,980,259
DISPLAY AND DISPENSING RACKS
Clinton H. Fowler, Vancouver, Wash., assignor, by direct and mesne assignments, to S. & F. Manufacturing Co., Inc., Vancouver, Wash., a corporation of Washington
Filed Dec. 18, 1957, Ser. No. 703,644
11 Claims. (Cl. 211—49)



1. A display and dispensing rack comprising, a base member for supporting articles to be displayed and having an upwardly opening guideway extending fore-and-aft, article follower means having a back wall portion and having guide means riding in said guideway, follower pull means in said guideway and extending forwardly and rearwardly of said follower means, said pull means being movable along said guideway relative to said follower means and having an offset portion engageable with the follower means whereby said follower means and the articles displayed in front thereof can be selectively pulled forwardly responsive to a forward pull on said pull means.

2,980,260
HANGER LOCK FOR GARMENT SHIPPING CONTAINERS
Irving Richer, 5415 Cavendish Blvd., Montreal, Quebec, Canada
Filed May 31, 1960, Ser. No. 33,655
10 Claims. (Cl. 211—124)

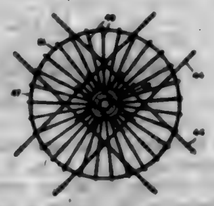


1. As a means for locking the hooks of hangers supported by and extending over a suspension bar of a garment shipping container, an elongated sheet provided with spaced longitudinally extending score lines defining sections folded about said score lines to extend in planes at an angle to one another and form an envelope surrounding said hanger hooks and said bar and means to secure said envelope around said hooks such that said envelope engages the open ends of the hanger hooks below the level of the top of said suspension bar whereby said envelope prevents bending open and slipping of said hanger hooks off said suspension bar.

2,980,261
REVOLVABLE ARTICLE SUPPORT
Ira Bruce Young, Jr., Chattanooga, Tenn., assignor to Stainless Metal Products, Inc., Chattanooga, Tenn., a corporation of Tennessee
Filed Nov. 13, 1957, Ser. No. 696,149
3 Claims. (Cl. 211—131)

1. A unit for use as a part of a display fixture embodying an upright standard; said unit comprising a sleeve adapted to have the standard extended therethrough, and

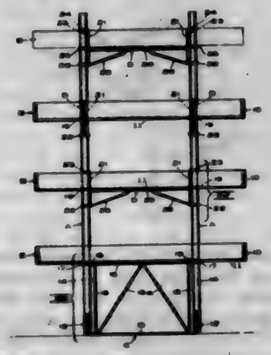
a lattice structure comprising a plurality of bar members arranged to extend perpendicularly to the sleeve and fixed thereto outside of the area circumscribed by the interior cross section of the sleeve and each of said bar members crossing and being secured to at least two other bar members at the crossing points of such members, the lattice structure forming when the unit is mounted on a standard a substantially horizontal body supporting means, a receptacle supported upon the lattice



structure and comprising an annulus concentric with and of only slightly larger diameter than said sleeve and resting upon and secured to said bars to form a fixed part of the unit, a multiplicity of bars in relatively closely spaced relation secured to and radiating from said annulus in a common plane therewith, said last mentioned bars having upturned outer end portions and a means joined to and connecting together said upturned outer end portions.

2,988,262
KNOCK-DOWN DISPLAY RACK
Richard V. Downey, deceased, late of San Francisco, Calif., by Angela Downey, executrix, San Francisco, Calif.

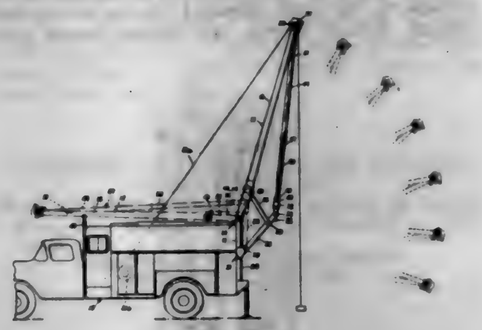
Filed Aug. 1, 1960, Ser. No. 46,843
5 Claims. (Cl. 211—148)



1. In a knock-down display rack: a pair of upright standards arranged in spaced relation; a shelf fashioned with holes through which the standards extend; and a shelf supporting frame disposed beneath the shelf and extending between the standards; the frame being provided with a horizontal reach rod on which the shelf rests for support thereby; the opposite ends of the reach rod having upright rods secured thereto, which are disposed adjacent to the standards and extending upwardly therealong; the upright rods being provided with hooks at their upper ends which are removably inserted into holes formed in the standards above the shelf; the upright rods passing through the same holes in the shelf in which the standards are mounted, and the walls of the holes in the shelf bearing against intermediate portions of the upright rods for holding the hooks in engagement with the holes in the standards.

2,988,263
DERRICK
Herman J. Troche, Fairview Park, and George H. Eckels, Lakewood, Ohio, assignors to Holan Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 16, 1959, Ser. No. 846,916
12 Claims. (Cl. 212—8)

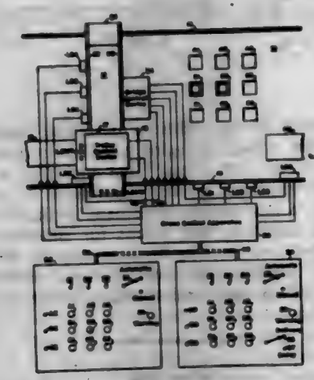


1. In a portable boom pivotally mounted at one end on a support for swinging movement in a generally vertical plane from forward storage position to rearward load supporting position, fluid powered reciprocal means pivotally connected adjacent one end thereof to the boom outwardly therealong from the pivotal connection of the boom to the support, linkage means pivotally connected to the support and downwardly from the pivotal connection of said boom to the support, said linkage means being disposed generally rearwardly of said pivotal connection of said boom to the support, the other end of said reciprocal means being pivotally connected to said linkage means outwardly therealong from the pivotal connection of said linkage means to said support, and other linkage means extending between said first linkage means and said boom and being pivotally connected thereto, the axis of the pivotal connection of said other linkage means to said boom being disposed above a horizontal plane passing through the axis of the pivotal connection of said other linkage means to said first linkage means, throughout the range of movement of said boom, said other linkage means operating to pivot said first linkage means and said reciprocal means outwardly and rearwardly away from the pivotal connection of said boom to said support, upon actuation of said reciprocal means to move said boom from its storage position to load supporting position.

2,988,264
CONTROL SYSTEM FOR A LOAD POSITIONING DEVICE
Donald A. Burt, Murrysville, and John W. Cook, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

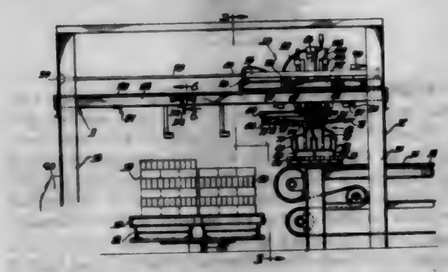
Filed June 12, 1957, Ser. No. 665,238
4 Claims. (Cl. 212—132)

1. In a control system for moving a load member between a predetermined one of a plurality of load positions arranged in a plurality of first rows of positions and in a plurality of second transverse rows of positions, the combination of a first control member for providing a first control signal corresponding to the one of said first rows in which said predetermined position is located, a second control member for providing a second control signal corresponding to the one of said second rows in which said predetermined position is located, a load positioning device operatively connected to said load member for moving said load member relative to said predetermined position, and a position control device operative with said load positioning device, with said position control device including a plurality of AND devices, with each of said AND devices having a plurality of inputs and being operative to provide an output signal only when all of its inputs are energized, with one of said AND devices being provided for each of said plurality of load positions, with said first control signal being applied to one input of the AND device provided for said predetermined position, with said second control signal being applied to another input of the latter AND device provided for said predetermined position, and with the output of the latter said AND device being operatively connected to said load positioning device for controlling the movement of said load member relative to said predetermined position, with said first and second control signals not being applied to one of the inputs of the others of said AND devices to thereby prevent said load positioning device from being moved relative to any of the others of said load positions.



2,988,265
TRANSFER CRANE
Paul V. Johnson, Geneva, Robert B. Taylor, Elmhurst, and John P. Dunne, Chicago, Ill., assignors to Structural Clay Products Research Foundation

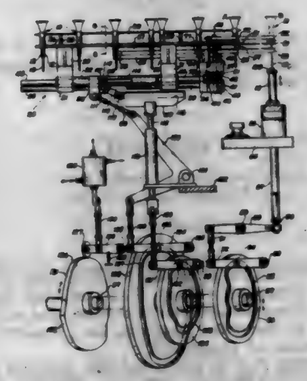
Filed June 19, 1957, Ser. No. 667,070
5 Claims. (Cl. 214—1)



1. Transfer apparatus having, in combination, a supporting framework, a carriage mounted on said framework to move back and forth along a path between horizontally spaced pickup and discharge positions, means at said pickup position adapted to support objects to be picked up in an alined relation with respect to said path, and clamping mechanism for engaging and picking up objects which are out of alinement without disrupting the objects, the clamping mechanism comprising a pair of oppositely facing mounting cylinders mounted in line on said carriage, a pair of mounting pistons extending from the outside ends of said mounting cylinders, a pair of clamping tongs secured to the outer ends of the mounting pistons and supported on the carriage by the mounting pistons and cylinders on opposite sides of objects on said object supporting means at said pickup position, and means for moving said tongs toward each other to clamp objects therebetween, said tong moving means being mounted between and secured to said tongs for horizontal movement therewith so that, when one tong engages an object before the other tong, said first tong will stop without further movement and said clamping means will move the other tong into clamping position, said mounting cylinders and pistons permitting movement of said tongs under the action of said tong moving means.

2,988,266
APPARATUS FOR LOADING LAMP MOUNTS
Steve Boros, Whitehaven, Tenn., assignor to General Electric Company, a corporation of New York

Filed Sept. 25, 1958, Ser. No. 763,372
7 Claims. (Cl. 214—1)



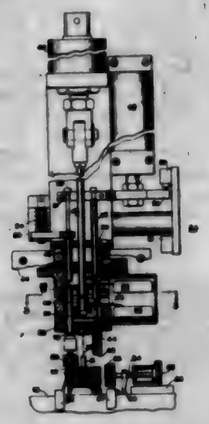
1. Apparatus for loading lamp mounts having a stem tube, an exhaust tube and lead wires comprising, in combination, a first pair of jaws for gripping the exhaust tube, a second pair of jaws in vertical alignment with said first pair for gripping the lead wires and exhaust tube to hold the lead wires in parallel relationship against the exhaust tube, a third pair of jaws for gripping the stem tube, a hollow member for supporting the lamp mount, means for moving the hollow member toward said pairs of jaws, and means to open the pairs of jaws in sequence to position the lamp mount on the hollow member with the exhaust tube and leads located within the interior of the hollow member as the member passes between the open jaws.

2,988,267
ALIGNING MACHINE
David Kalish, Alliance, Ohio, assignor to Consolidated Electronics Industries Corporation, a corporation of Delaware

Filed Dec. 22, 1958, Ser. No. 782,001
14 Claims. (Cl. 214—1)

1. A stack aligning machine for aligning a stack of laminations having an axis and each lamination having holes equally spaced around the periphery, said machine comprising, an aligning pin disposed substantially axially parallel and spaced from the axis of said stack a distance equal to the radial distance of said holes from said axis, a relatively blunt end on said aligning pin adapted to engage a hole in said laminations, means acting on the opposite end of said pin restraining transverse movement, means establishing an axial force urging

said pin toward said stack, and transverse vibrating means acting on said aligning pin near said blunt end during

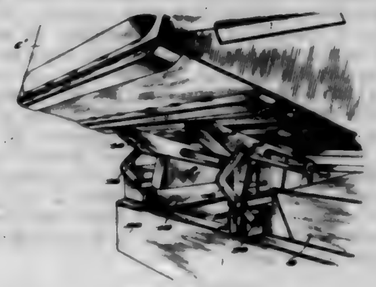


application of said axial force to cause it to burrow axially through one hole in each of said laminations to align all of said laminations.

ERRATUM

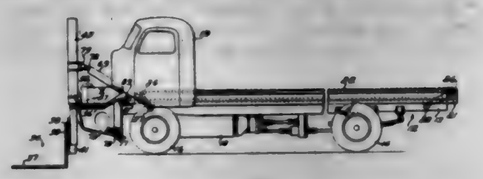
For Class 214—1.5 see:
Patent No. 2,979,804

2,980,268
TRANSPORTING AND DUMPING EQUIPMENT
George R. Dempster, Harry W. Jones, and William A. Herpich, Knoxville, Tenn.; said Jones and said Herpich assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Oct. 8, 1956, Ser. No. 614,683
9 Claims. (Cl. 214—75)



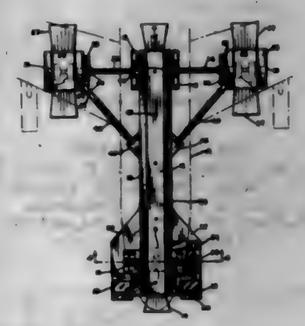
1. In transporting equipment adapted to be mounted on a vehicle chassis and including a pair of bucket rests having supporting surfaces adapted to be mounted on the rear end of the chassis to receive a container thereon, and means for lifting a container to a seated position on the supporting surfaces of the bucket rests, the combination therewith, of extension members slidably mounted on the rear ends of the bucket rests to support an oversized container, each of the extension members being substantially U-shaped in cross-section and embracing the supporting surface of a bucket rest, and means connected to said chassis and extension members for mounting said extension members to extended and retracted positions substantially in alignment with the supporting surfaces of the respective bucket rests to cooperate therewith in supporting the container.

2,980,269
ELEVATING AND HANDLING MEANS FOR SELF-LOADING VEHICLE
Leonard R. Zimmerman, 1451 Lincoln Road, Stockton, Calif.
Filed June 18, 1957, Ser. No. 664,531
8 Claims. (Cl. 214—75)



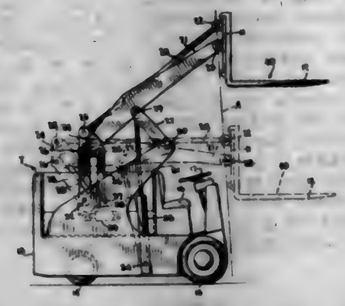
1. Apparatus of the character described comprising a mobile chassis, a load engaging assembly mounted adjacent one end of said chassis and including a bearing member, rail members rotatably journalled on said bearing member, a load engaging element vertically movable on said rail members, and means for rotating said rail members about said bearing member through an angle of 180 degrees together with said bearing member, and means for moving said load engaging assembly laterally of said chassis.

2,980,270
AIRCRAFT CARRIER
David Elliott and Roy P. Gibbons, Miami, Fla.; said Elliott assignor to Suzanne Elliott, Miami, Fla.
Filed Jan. 7, 1958, Ser. No. 707,508
6 Claims. (Cl. 214—85)



1. An aircraft carrier for transporting an aircraft having nose and main landing gears, said main landing gear being arranged in rear of and laterally of said nose gear, comprising an elongated main trackway supported at each end by wheels and being of a length at least equal to the overall distance from the nose landing gear to and including the main landing gear of the aircraft, and two wheeled outrigger tracks pivotally connected to said main trackway at one end thereof and disposed one on each side of said main trackway in parallel relation thereto, and means connected to each of said wheeled outrigger tracks and to said trackway intermediate its ends for adjustably positioning said wheeled outrigger tracks with respect to said trackway, said main trackway providing a support for said nose landing gear at the end thereof in advance of said outrigger tracks, and said outrigger tracks providing a support for said main landing gear, so that the greatest weight of the aircraft is supported by said outrigger tracks, and power means mounted on said outrigger tracks for propelling the wheels of said outrigger tracks and transmitting driving force to said main trackway.

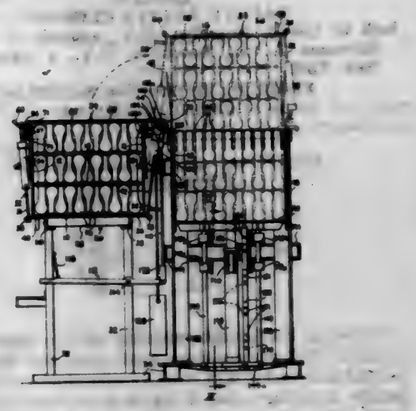
2,980,271
LIFTING MECHANISM FOR INDUSTRIAL TRUCK
Bronislaus I. Ulinski, Flossmoor, Ill., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn., a corporation of Connecticut
Filed Feb. 11, 1957, Ser. No. 639,367
9 Claims. (Cl. 214—140)



1. In a truck of the class described, a load carrier, upper and lower parallel arms each pivoted at one end thereof to said load carrier in predetermined spaced relation, said arms being each pivoted at their opposed ends to a lever in the same predetermined spaced relation whereby to form a first parallelogram comprising said arms, said load carrier and said lever, a swing link pivoted at one end to one of said arms and at its other end to the truck, a second swing link pivoted at one end to said lever on the same axis as the pivot of said lower arm and at its other end to the truck, two additional links pivoted to said lever and second swing link and forming therewith a second parallelogram for positioning said lever in a particular angular position predetermined by said second parallelogram while supporting said first parallelogram for swinging movement, means for swinging said first parallelogram on said swing links whereby to raise that parallelogram relatively to the truck and to elevate the load carrier, said lever by its predetermined angular position holding the parts of the first parallelogram during said swinging thereof so as to maintain the load carrier in a particular angular position, and means effective through movement of the second parallelogram for rotating said lever relatively to said second swing link whereby to change the angular position of said load carrier in all elevated positions thereof.

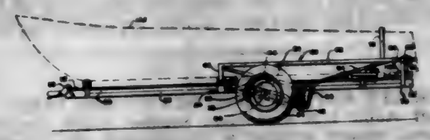
2,980,272
HAMPER RECEIVING AND SQUARING APPARATUS
Alexander V. Wedensky, R.F.D. 1, Mountain Springs, N.J.
Original application Aug. 7, 1957, Ser. No. 676,738. Divided and this application Oct. 2, 1958, Ser. No. 768,820
6 Claims. (Cl. 214—307)

1. Apparatus for receiving and squaring a box-like carton having an open end, said apparatus comprising a bottom support member for receiving and supporting said carton with its open end opposite to such bottom support member, a side member and a resilient clamping member pivoted on said bottom support member, a cover frame member pivoted on said side member, said side member and said resilient clamping member and said cover frame member being movable to an open position to permit reception of said carton on said bottom support member, said cover frame member being thereafter movable into engagement with the open-end of said carton, a plurality of anvils on said cover frame member, one for each corner of the open end of said carton, a stretcher on said cover frame member adjacent each of said anvils and movable with respect to its associated anvil, each of said anvils and its associated stretcher being positioned on the outside and the inside respectively of a corner of said open end when said cover frame member engages said open end, coupling means on said cover frame member, and operating means connecting said stretchers to



each other and to said coupling means, said resilient clamping member being movable into engagement with said coupling means when said cover frame member is in engagement with said open end to clamp said carton between said bottom support member and said cover frame member and to cause said stretchers to move said corners toward said anvils thereby stretching and squaring the clamped carton.

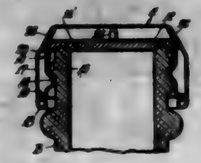
2,980,273
BOAT TRAILER
Roscoe E. Jernigan, 2nd and Henry Sts., Petersburg, Va.
Filed Sept. 10, 1958, Ser. No. 760,140
5 Claims. (Cl. 214—505)



1. A boat trailer comprising an elongated frame having a boat support means thereon; a first pair of arms, each pivotally mounted on the respective transverse sides of the frame to move in an arc parallel to the longitudinal axis of the frame; wheel means pivotally mounted on each of said arms at points equally removed from the pivotal connection of the arms to the frames; a second pair of arms, each pivotally mounted on the frame at the respective transverse sides thereof to move in an arc parallel to the longitudinal axis of said frame; resilient compression means extending from each of said first pair of arms to its corresponding second arm whereby each of the second arms is resiliently urged away from each of said first arms, a transverse member extending from one second arm to the other second arm; means to draw said second arms and said transverse member toward said frame when a boat is disposed on said boat supporting means until said transverse member contacts said boat to hold the same firmly upon the trailer; the connection of said compression means to said first arms and to said second arms being such that the above-mentioned movements of said second arms are

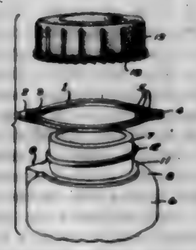
accompanied by the compression means' imparting a resilient downward force upon the free ends of said first arms and by an upward movement of said frame relative to said wheel means; said compression means acting as a riding spring when said transverse member is disposed in the last mentioned position.

2,988,274
SAFETY BOTTLE CLOSURE
Jack U. Gould, Brooklyn, N.Y., assignor to Ferdinand Gutmann & Co., Brooklyn, N.Y., a corporation of New York
Filed Nov. 29, 1955, Ser. No. 549,691
1 Claim. (Cl. 215—9)



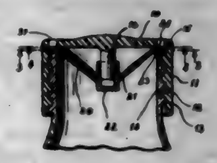
A safety bottle cap consisting of two parts, namely an inner shell and an outer shell, each said shell having an end face and a skirt with a lower rim, the inner shell having a conformation at its skirt for threaded engagement with a bottle to which it is to be applied, the outer shell encompassing the inner shell and resting directly thereon for free rotation with respect thereto, the two shells having complementary conformations below the respective end faces thereof and near the peripheries of the upper ends of the inner and outer shells respectively, but at a substantial distance above the respective rims for interlock upon pushing the outer shell downward, for keying to the inner shell to effect turning movement of the two shells in unison, said complementary conformations consisting of (*a*) a series of teeth equidistantly spaced about the inner shell, each said tooth being rounded and terminating substantially at the end face of said shell, and (*b*) a frusto-conical surface connecting the end face and skirt of the outer shell, said surface having spaced inwardly extending ribs thereon rounded in cross section, said ribs cooperating with teeth on the inner shell when downward turning pressure is applied.

2,988,275
SCREW CAP LOCKING DEVICE FOR JARS
Rudolf Adolf Isak Lundgren, Sanghus Gard, Overumhorna, Sweden, assignor to Aktiebolaget Astra, Apotekarnas Kemiska Fabriker, Sodertalje, Sweden, a company of Sweden
Filed Nov. 5, 1957, Ser. No. 694,650
Claims priority, application Sweden Nov. 21, 1956
12 Claims. (Cl. 215—43)



1. In combination with a container such as a bottle or jar having (*a*) a neck closeable by a screw-cap with inside threads that engage in registry with threads on the outside of the container neck and (*b*) a radially relatively flat shoulder portion of the body of the container annularly encircling the base of the neck, a screw-cap locking means comprising a locking ring whose opening is of such size to slip over the container neck and rest on the relatively flat shoulder portion, and extending from the ring a plurality of teeth shaped to allow correspondingly reciprocally shaped teeth projecting from the bottom of the skirt of the screw-cap to slip over them as the screw-cap is about reaching its closed position and to intermesh and engage with them when the screw-cap reaches its closed position; and, apart from said teeth, holding means on the locking ring adapted to engage with correspondingly reciprocal holding means in the shoulder portion of the container to restrain the locking ring against rotation about the container neck; the locking ring being composed of material yieldable to pressure of at least the engaging teeth of the screw-cap when it tightly engages the locking ring and sufficiently flexible to permit pulling it away to disengage the teeth of the ring from those of the screw-cap thereby to allow the latter to be unscrewed.

2,988,276
BOTTLE CLOSURE
Doris Nina Robinson, Scarsdale, N.Y., assignor to The Poly-Seal Corp., New York, N.Y., a corporation of New York
Filed Oct. 2, 1958, Ser. No. 765,710
9 Claims. (Cl. 215—56)



1. A closure for a container having a mouth defined by a container wall portion terminating in an end encircling the mouth in a plane transverse to the axis of the opening of the container mouth, said closure comprising a cap having at least one orifice therein, said orifice being oriented over the end of the wall defining the mouth of the container and extending over the mouth of the container, a cylindrical portion on said cap with means for tightening the same upon a container, an imperforate sealing member of resilient material fitted within said cylindrical portion against said cap, said sealing member being frustro-conical and flaring outwardly from a central portion of the sealing member to fit upon the mouth of the container, with the outer edge of said sealing member terminating under said orifice and over the end of the wall defining the mouth of the container, said sealing member cooperating with said cap and said container mouth to produce a differential compression of the edge of said resilient sealing member upon closure of said bottle.

2,988,277
HANGING DEVICE AND CONTAINER
Frederick M. Genz, Jr., San Francisco, and Don E. Otermat, Redwood City, Calif., assignors to Tidy Chemical Company, Sunnyvale, Calif., a corporation of California
Filed Oct. 14, 1957, Ser. No. 690,838
1 Claim. (Cl. 215—100)

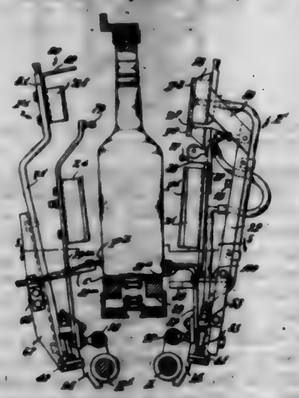
In combination, a container and a hanging device for suspending the container from a support, the container having side walls and a bottom wall; an outwardly facing recess in each of opposed side walls adjacent said bottom wall, said hanging device comprising a generally flat elongated strip of ductile metal having substantially straight side edges and extending across said bottom wall

with its end portions bent upwardly and inwardly into said recesses to lock said device to said container, a generally U-shaped slit in the longitudinal central portion of said strip with its bight portion adjacent one edge of said bottom wall and its spaced leg portions terminating substantially at the opposite edge of said bottom wall and defining an integral bendable tab adapted to be



bent to extend laterally of said container whereby it may be bent over the upper edge of a support to suspend said container along a side of said support, and reinforcing ribs extending along said strip from end to end thereof between said U-shaped slit and each of said side edges and serving to stiffen said strip to securely retain said end portions in said recesses.

2,988,278
BOTTLE SPOTTING APPARATUS FOR LABELING MACHINES
Sidney T. Carter, Shrewsbury, Mass., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin
Filed July 27, 1959, Ser. No. 829,869
23 Claims. (Cl. 216—13)



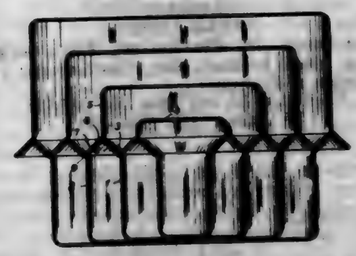
1. A machine for labeling bottles of substantially circular transverse horizontal section and each provided with a spotting element and wherein a conveyor uninterruptedly moves the bottles to be labeled along a predetermined path, while standing upright, through the field of action of label-applying means and wherein a label-affixing pad takes a label from a picker at a transfer station and places it in affixing contact with a bottle as the latter moves along said path, the machine comprising a pair of rock shafts, located at opposite sides respectively of and parallel to the article path, and means operative simultaneously to rock said shafts in opposite directions, said shafts also being capable of endwise movement, and means operative at times to move said shafts axially at the same linear velocity as the conveyor, a support fixed to one of the said rock shafts and which carries the label-affixing pad, a support fixed to the other rock shaft, and bottle-orienting means mounted upon said last-named support, said orienting means comprising opposed parts cooperable with the spotting element of the bottle, as the support approaches the article path, and thereby to turn the bottle until the center of the spotting element is in a plane which is perpendicular to the article path.

2,988,279
INSULATED STRUCTURE
Robert W. Laeders, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed July 22, 1958, Ser. No. 750,268
6 Claims. (Cl. 220—9)



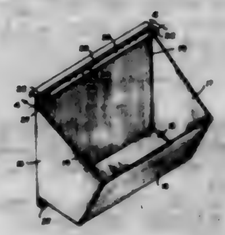
1. A thermally insulated structure having a convexly curved wall surface, insulation for said convexly curved wall surface comprising a plurality of edge abutting normally flat rectangular panels of semirigid and resilient insulation material enclosing said curved wall surface, said panels being disposed in curved, sprung condition with their outer faces in tension between pairs of non-conducting I-shaped supports attached to said structure by bands which encircle said curved wall surface, said supports including oppositely projecting inner flanges clamped against said curved surface by said bands and oppositely directed outer flanges disposed outwardly of said curved wall surface, adjacent pairs of the outer flanges being received within kerfs provided in opposite transverse edges of said insulation material and holding said panels in said curved and tensioned condition.

2,988,280
HOLLOW WARE SERVICE SET
Erik Herløw, Copenhagen, Denmark, assignor to Carl M. Cohr's Sølvvarefabriker A/S, Fredericia, Denmark
Filed June 30, 1959, Ser. No. 824,036
Claims priority, application Denmark July 3, 1958
6 Claims. (Cl. 220—17)



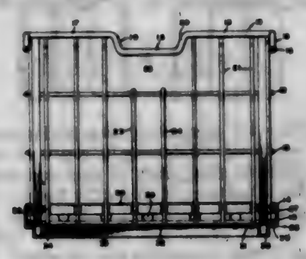
1. A service set comprising first and second sets of containers, each set comprising a series of nested containers of different sizes, each of said containers including a cylindrical portion, an upwardly flaring conical collar and a substantially horizontal radial flange connecting said collar to said cylindrical portion, the containers of the first set being concentrically arranged with their flanges in coaxial alignment, the collars of the containers of the first set having upper edges in coaxial alignment, the containers of the second set being in inverted concentric arrangement with the flanges thereof resting on said upper edges of the containers of the first set and with the collars thereof resting on the flanges of the first set.

2,980,231
WASTE BASKET AND MOUNTING
Frederick P. Stewart, 600 National Theater Bldg., Washington, D.C.
Filed July 16, 1958, Ser. No. 748,949
2 Claims. (Cl. 220—18)



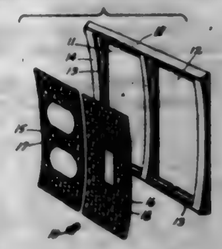
1. The combination with an article of furniture such as a desk having spaced portions with an opening therebetween, of a wastebasket and supporting means therefor, said waste basket having front, bottom, rear and side walls, the rear wall being of a size substantially to fill said opening and to present with said spaced portions a solid wall, said bottom and side walls terminating inwardly of the upper and lower edges of the rear wall and the rear wall extending below the bottom wall and forming with said bottom wall a receiving channel, a first rod like support the length of which is adjustable to accommodate itself to the distance between said spaced portions, said support being located beneath said bottom and in said channel formed by said rear wall and said bottom wall, a second rod like support the length of which is adjustable to accommodate itself to the distance between said spaced portions, said second support being located across and between the upper part of the spaced portions and against which second support the upper front face portion of said rear wall is engaged for holding the waste basket in place, said rear wall having a fingers-receiving groove along its rear upper portion for facilitating its application and removal, said first and second supports including means normally tending to extend the length of said supports into contact with said spaced portions and having gripping portions at their opposite ends for increasing gripping engagement of said supports with said spaced portions.

2,980,282
MILK CASE
Ira Bruce Young, Jr., Chattanooga, Tenn., assignor to Stainless Metal Products, Inc., Chattanooga, Tenn., a corporation of Tennessee
Filed Mar. 13, 1957, Ser. No. 645,753
9 Claims. (Cl. 220—19)



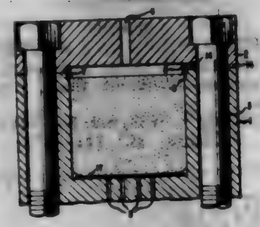
1. A milk case for receiving a plurality of milk cartons, comprising a plurality of horizontally disposed, vertically spaced forming ribs interconnected by a series of vertical members to present a reticulated enclosing side wall for said case, the vertical members being outturned at their top ends and there joined to the underside of the topmost one of the forming ribs and thereby defining an enlarged top opening for said case, said vertical members being of wire-like form and lying on the inner sides of said forming rib and with the upper extremities thereof projecting laterally outwardly for securement to said uppermost forming rib, a perforate bottom wall for said case, and a bumper-runner unit disposed along each bottom edge of said case, said units being secured to said bottom wall and to at least one of said forming ribs to rigidly secure said bottom wall said units and said side walls together as a single unitary structure, each of said units including a vertical bumper wall portion lying along the outer side of its corresponding side of the case and having an upper marginal portion presenting a series of tabs secured around one of said forming ribs whereby to attach said units to the side wall structure, each unit also including a horizontal wall portion projecting inwardly of said forming ribs and a depending runner portion, said bottom wall marginally engaging said horizontal wall portions of said units, and means securing said bottom wall to said units whereby the units, the bottom wall and the side wall structure are rigidly but detachably interconnected as a single unitary structure.

2,980,283
FACEPLATE DESIGN WITH REMOVABLE INSERTS
Arthur R. Beatson, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 27, 1958, Ser. No. 745,282
1 Claim. (Cl. 220—24.2)



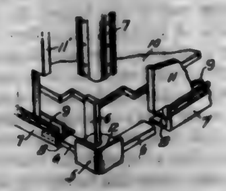
A faceplate for electrical wiring devices comprising a frame of slender sections with at least two rectangular openings, the faceplate being flat at one side, said side being adapted to abut a wall surface adjacent a multigang device box, each said rectangular opening at its top and bottom having a recessed ledge, each said ledge being laterally spaced from the said flat side of the faceplate adapted to abut the wall surface, the surfaces of said ledges which face away from the said flat side of the faceplate being canted inwardly toward the said flat side of the faceplate, two other ledges also recessed from the said opening on either side thereof and joined to said canted ledges, said two other ledges being concavely cylindrical with their intermediate portions being closer to the said flat side of the faceplate than their end portions, the surfaces of the top, bottom and side ledges being continuous and facing away from the said flat side of the faceplate, a flexible thin sheet metal insert within each said rectangular opening in the faceplate, each insert having at least one screw-receiving hole so that a screw may extend therethrough and be threaded into a wiring device to hold the insert and thus the faceplate over the device, the said inserts being free at their mid portions to bend inwardly and contact, along their sides, the arcuate side ledges, the bending of the inserts producing a stress therein to spring bias the faceplate in its desired position on a wall.

2,980,284
SELF-SEALING GASKET
James M. Gill, Wilmington, and Cleveland L. Hildebrand, Delmar, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 30, 1957, Ser. No. 681,328
5 Claims. (Cl. 220—46)



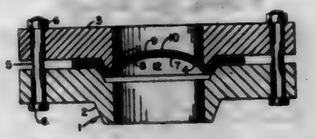
1. A container for holding fluid at superatmospheric pressure which comprises a body portion releasably joined to a lid, the contiguous surfaces of the body and lid forming an annular junction line about the interior of the container within an annular groove of substantially rectangular cross section having upper and lower shoulders for seating a gasket, a V-shaped annular recess positioned in said annular groove and concave inwardly with the apex of the recess running along said junction line, the walls of the V-shaped recess forming angles of between about 135° and about 160° with the interior walls of the container to form abrupt annular corners at the outer extremities of said recess walls, and a gasket in the form of a metal band contacting all points along said corners, the metal band having an initial height which is slightly greater than the cross-sectional height of said groove and being compressed between said upper and lower shoulders to form a pressure-tight seal until sufficient pressure is applied to seal the band tightly against said corners of the V-shaped recess.

2,980,285
CASE CONSTRUCTION
George B. Parsons, Sparrow Bush, N.Y., assignor to Skydyne, Inc., Port Jervis, N.Y., a corporation of New York
Filed Sept. 10, 1957, Ser. No. 683,057
2 Claims. (Cl. 220—64)



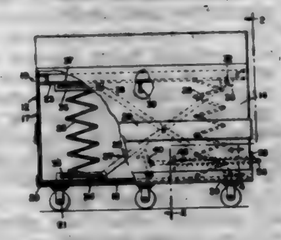
1. A corner construction for a case having side panels comprising a substantially cubic corner block member, said block member having three of its sides with outer surfaces all at substantially right angles relative to each other, an arm member extending from each of the remaining three sides of said block member so that the three arms extend at substantially right angles relative to each other, three edge rail members each having a first channel receiving both an arm and one edge of a side panel therein and a second channel at a substantially right angle to said first channel receiving one edge of another side panel therein, and a lip formed around the periphery of said outer surfaces of said corner block member to receive a sealing compound.

2,980,286
SAFETY PRESSURE RELIEF DEVICE SUPPORT
Robert S. Coffman, Kansas City, Mo., assignor to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware
Filed Oct. 8, 1956, Ser. No. 614,618
7 Claims. (Cl. 220—89)



1. A combination safety pressure relief device and vacuum support including, a rupture member having a central concave-convex portion, the concave side of said portion adapted to be exposed to pressures, two sealing membranes, said membranes positioned on both sides of said rupture member and a concave-convex support member positioned in nesting relationship with the convex side of said rupture member between said rupture member and one of said sealing members.

2,980,287
LOCK-DOWN FLOATING PLATFORM MECHANISM FOR SPOOLER TROUGHS AND DOFF TRUCKS
James Glenn Fisher, Hartwell, Ga., assignor to Fisher Manufacturing Company, Inc., Hartwell, Ga., a corporation of Georgia
Filed Oct. 6, 1958, Ser. No. 765,511
8 Claims. (Cl. 220—93)



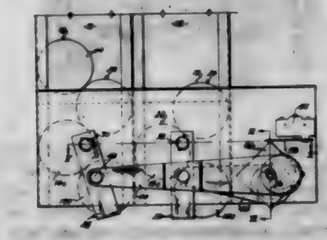
1. In textile handling apparatus comprising a receptacle having an open top, side walls and a bottom, the combination with a floating supporting structure mounted within said receptacle and comprising a false bottom and supporting spring elements normally urging upward movement of the false bottom, lazy tong units connecting the false bottom with the bottom of the receptacle, said lazy tong units including pivoted crossed arms wherein one arm of each unit has pivotal sliding engagement with the floating supporting structure, means securing the false bottom in depressed position only against the resistance of said springs, the means comprising a first keeper element of U-shaped configuration and carried by the floating support structure, a second keeper element carried by the receptacle bottom, the second keeper element having a triangular shaped head portion with an upwardly positioned camming surface over which the first keeper element rides upon the said depressing movement of the slidably attached ends of the lazy tong arms to effect the interengagement of the keeper elements and a release means carried by the bottom of the receptacle and extending through a side wall of the receptacle and operable from the exterior of the receptacle, the release means actuating one of the keeper elements to release the other keeper element and thereby release the false bottom allowing the springs to raise the false bottom.

2,980,288

MECHANISM FOR VENDING CYLINDRICAL CONTAINERS DISPOSED IN STAGGERED STACK ARRANGEMENT

Charley Ward Hunter, Kansas City, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri

Filed Apr. 9, 1956, Ser. No. 576,912
1 Claim. (Cl. 221—67)



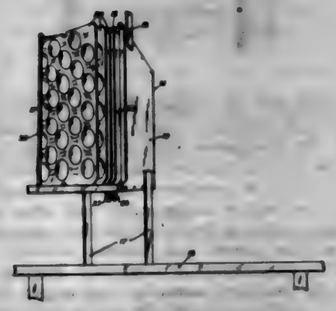
In a vending machine having a pair of upright units each having supporting and guiding means for receiving two columns of articles in staggered relationship, a U-shaped bale member for each of said upright units and each having a horizontal bight of substantial width relative to the normal width of said articles and each bale having elongated, parallel, upstanding legs; pivotal means adjacent the lower end of each of the units supporting the legs of respective bale members for swinging movement thereof about parallel, horizontally spaced axes, said bights being disposed below corresponding units in positions to alternately engage the columns therein and thus restrain both columns in each unit from moving downwardly; a single crankshaft rotatable about an axis horizontally spaced from and parallel with the axes of swinging movement of said bale members, the axis of rotation of said crankshaft being disposed to one side of the axes of both of said bale members, said shaft being provided with a bale of relatively offset, eccentric disks rigidly mounted thereon, the axes of eccentricity of said disks being offset from each other by an angle of substantially 90°, said disks being rotatable with said shaft into four successive particular positions of rotation of said shaft and said disks displaced substantially 90° apart; and generally horizontally, elongated arms having rings mounted therein rotatably encircling respective disks on said shaft connecting respective disks to corresponding bale members, said arms lying in vertical planes disposed in horizontally spaced relationship, said arms reciprocating as said disks are rotated and pivotally coupled adjacent the opposite ends thereof to respective legs of the bale members intermediate the ends of said legs, one of said arms being of length positioning the legs of its corresponding bale member in a vertical position and its bight below both of said columns when said shaft is in the first of its said positions, its legs in a position inclined from vertical in one direction and its bight below one of said columns of its stack but clearing the other of said columns for releasing an article therefrom when said shaft is in the second of its said positions, its legs in said vertical position and its bight below both of said columns when said shaft is in the third of its said positions, and its legs in a position inclined from vertical in the opposite direction and its bight below the other of said columns and clearing said one column when said shaft is in the fourth of its said positions, the other of said arms being of different length positioning the legs of its corresponding bale member in a position inclined from vertical in one direction and its bight below one of said columns of its stack but clearing the other of said columns for releasing an article therefrom when said shaft is in the first of its said positions, in a vertical position and its bight below both of said columns when said shaft is in the second of its said positions, its legs in a position inclined from vertical in the opposite direction and its bight below the other of said columns and clearing said one column when said shaft is in the fourth of its said positions, and its legs in a position inclined from vertical in one direction and its bight below one of said columns of its stack but clearing the other of said columns for releasing an article therefrom when said shaft is in the second of its said positions, and its legs in a vertical position and its bight parallel both of said columns when said shaft is in the fourth of its said positions.

2,980,289

MOLDED PULP TRAY DISPENSER

Charles O. Pick, Tigard, Oreg., assignor to Pacific Pulp Molding Company, Portland, Oreg., a corporation of Washington

Filed July 7, 1958, Ser. No. 746,819
3 Claims. (Cl. 221—279)



1. A dispenser for molded pulp packing trays comprising a pair of opposed rectangular side walls, a top and a bottom all joined edge to edge to form an open ended, horizontal tunnel having an inlet opening at one end and an outlet opening at the other end, said tunnel being of such dimensions that a stack of trays may be disposed therein with the trays vertically on edge and extending transversely of the tunnel, said bottom having a longitudinal slot therein, a slide member slidably guided by said slot for movement longitudinally of the tunnel, a handle projecting downwardly from said slide member, a vertical, transversely disposed follower plate mounted on said member for urging a stack of trays forwardly through said tunnel when said slide member is manually moved toward said outlet end by said handle, an inwardly directed, narrow flange along the vertical edge of one of said side walls at the outlet end of the tunnel, and a ramp on the inner surface of the opposed side wall adjacent the outlet end of the tunnel for frictionally engaging a side edge of said trays and for urging the trays laterally against said one side wall behind said flange, the edges of both of said side walls at the outlet end of said tunnel being vertical and disposed in a plane normal to said side walls, said ramp terminating adjacent said outlet opening, and said bottom wall extending beyond said tunnel to provide a support for trays which fan outwardly beyond said tunnel due to the vertical edges thereof at one side being restrained by said flange against the pressure of said follower plate, said flange being of such proportion as to allow the foremost trays to pivot about said flange due to the pressure applied to the trays by said follower plate.

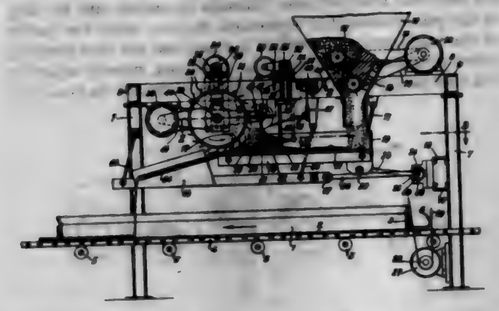
2,980,290

METHOD AND DEVICE FOR THE FORMATION OF A STREAM OF PARTICLES OF CONSTANT LAYER THICKNESS

Fred Fahrni, Freudenbergstrasse 115, Zurich, Switzerland

Filed Jan. 16, 1957, Ser. No. 634,573
Claims priority, application Switzerland Jan. 16, 1956
21 Claims. (Cl. 222—1)

13. A method for the formation of a stream of particles of constant layer thickness, in particular of wood particles such as shavings, chips and similar particles, comprising using a flat transport member and measuring means arranged above the transport member, damming those particles which lie above the height corresponding to the desired layer thickness, sensing in different places



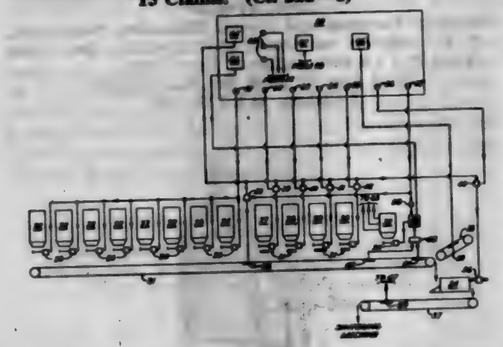
the height of the heap of particles lying in front of the measuring means and across the width of the transport member, and equalizing the difference in the dammed-up height of the heap of particles when the transversal distribution of the stream of particles becomes uneven.

2,980,291

METHOD AND APPARATUS FOR COMPOUNDING SINTER FEED

Thomas R. Schaerger, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed May 1, 1959, Ser. No. 810,508
15 Claims. (Cl. 222—1)



1. In an apparatus for compounding sinter feed, which apparatus includes a main conveyor, and individually controllable means for feeding ore, additives and hot recycle successively to said conveyor, the combination with said feeding means of a proportioning mechanism comprising a scale for determining the weight of ore fed to the conveyor, means for adjusting said hot recycle feeding means to feed this material substantially at the rate received, a summator connected to said scale and to said adjusting means for combining the weights of ore and hot recycle, and ratio devices connected to said summator and to said additive feeding means for proportioning the rate of feeding additives as definite ratios of the combined weights of ore and hot recycle.

13. A method of compounding sinter feed comprising feeding successively to a traveling conveyor ore, additives, and hot recycle at a predetermined respective rate for each, continuously and separately obtaining measurements of the feeding rates of ore and hot recycle, continuously obtaining a summation of said measurements, and continuously controlling the feeding rate of additives to a rate proportional to this summation.

2,980,292

PROPORTIONING AND METERING DEVICE FOR LIQUIDS

Robert B. Taylor, P.O. Box 626, Fort Wayne, Ind.

Filed July 11, 1957, Ser. No. 671,296
15 Claims. (Cl. 222—36)



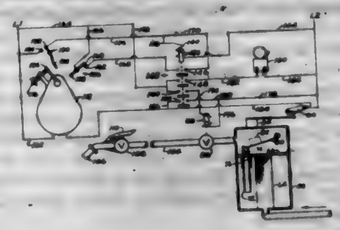
1. A proportioning device for fluids comprising a main fluid displacement pump including a main cylinder having inlet and outlet ports at opposite end portions thereof for fluid flow therethrough into and out of the main cylinder and a piston and piston rod reciprocable within said cylinder between said ports for effecting fluid displacement, a proportioning fluid displacement pump including a proportioning cylinder having inlet and outlet ports in opposite end portions thereof for fluid flow therethrough into and out of the proportioning cylinder and a piston and piston rod reciprocable within said proportioning cylinder between said ports for effecting fluid displacement, a proportioning bar mounted for axial displacement with said main piston and piston rod, means for adjusting said proportioning bar at an angle with a plane through the axis of the main piston and piston rod, and an operative connection between said proportioning bar and the proportioning piston and piston rod whereby the proportioning piston and rod are displaced within the proportioning cylinder responsive to displacement of the piston and piston rod of the main fluid displacement pump and in proportion thereto depending upon the angular relationship of the proportioning bar.

2,980,293

FUMIGANT APPLICATOR

Eldon H. Leitte, Lake Minnetonka, Minnetonka Beach, Minn.

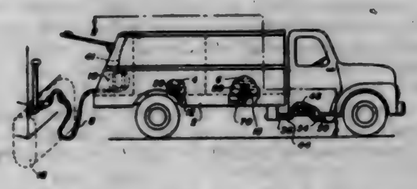
Filed Aug. 25, 1958, Ser. No. 757,063
9 Claims. (Cl. 222—39)



1. In a fumigant applicator of the character described, conduit means for conducting fumigant under pressure to an infested location from a fumigant supply source, a manually operated valve near the discharge end of said conduit means, an electrically controlled valve disposed in said conduit means between said manually operated valve and the source of fumigant to which the other end of the conduit means is intended to be connected, said electrically controlled valve being normally biased to open position, timing means, means responsive to the flow of fumigant under pressure caused by the opening of said manually operated valve for initiating operation of said timing means, and circuit means responsive to said timing means for energizing said electrically controlled valve to close same after said timing means has operated for a predetermined period of time.

2. A fumigant applicator in accordance with claim 1 in which said circuit means includes an alarm for signalling the operator when said electrically operated valve has been energized into its closed position, thereby informing the operator that he should then close said manually operated valve.

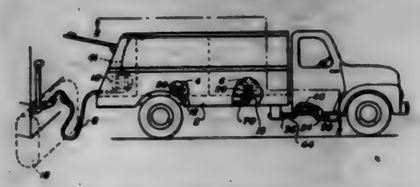
2,980,294
LIQUID-DELIVERING-AND-METERING APPARATUS AND METHOD
Victor Sacco, 265 Park Ave., Revere, Mass., assignor of one-half to James Sacco, Saugus, Mass.
Filed Aug. 13, 1958, Ser. No. 754,845
8 Claims. (Cl. 222—66)



3. Liquid-delivering-and-metering apparatus comprising a truck, means for driving the truck, a tank mounted on the truck having two compartments for containing the liquid each having an outlet, a pump, a two-position valve for connecting the pump to one of the outlets and disconnecting it from the other outlet in one of its positions and for connecting the pump to the said other outlet and disconnecting it from the said one outlet in its other position, a compartment valve for substantially closing the outlet of one of the compartments, gearing, means for connecting the gearing to the truck-driving means and to the pump for operating the pump to cause the pump to deliver the liquid from the said one compartment through the outlet of the said one compartment when the outlet of the said one compartment is open and the two-position valve occupies one of its two positions, a meter through which the liquid may travel, through the respective outlets, during its delivery from the respective compartments, in order to meter the liquid delivered from the respective compartments, means whereby the compartment valve is caused substantially to close the outlet of the said one compartment when the liquid has become delivered from the said one compartment substantially to the level of the outlet of the said one compartment, and means for thereupon disconnecting the gearing from the pump to terminate the pumping operation of the pump, thereby to prevent further delivery by the pump of any substantial amount of fluid from the said one compartment, through its outlet and through the meter, prior to the two-position valve being actuated to its other position.

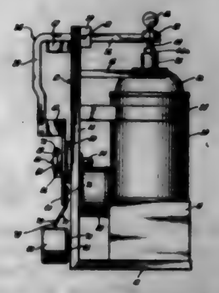
2,980,295
LIQUID-PUMPING APPARATUS AND METHOD
Victor Sacco, 265 Park Ave., Revere, Mass., assignor of one-half to James Sacco, Saugus, Mass.
Filed Aug. 13, 1958, Ser. No. 754,846
15 Claims. (Cl. 222—66)

1. Liquid-pumping apparatus comprising a tank having two compartments for containing the liquid each having an outlet, a pump, two pipe connections between the pump and the respective outlets by way of which the pump may deliver the liquid from the respective compartments when the respective outlets are open, a two-position valve for connecting the pump to one of the pipe connections and disconnecting it from the other pipe connection in one of its positions and for connecting the pump to the said other pipe connection and disconnecting it from the said one pipe connection in its other position, a compartment valve for substantially closing the outlet of one of the compartments, means for operating the pump, means for connecting the operating means to the pump to cause the pump to deliver the liquid from the said one compartment through its outlet and by way of the pipe connection connected thereto, when the outlet of the said one compartment is open and the two-position valve occupies one of its two positions, means whereby the compartment valve is caused substantially to close the



outlet of the said one compartment when the liquid has become delivered from the said one compartment to substantially the level of the outlet of the said one compartment, and means for thereupon disconnecting the operating means from the pump in order to terminate the pumping operation of the pump, thereby to prevent further delivery by the pump of any substantial amount of fluid from the said one compartment, through its outlet and by way of the pipe connection connected thereto, prior to the two-position valve being actuated to its other position.

2,980,296
VALVE ACTUATING ASSEMBLY FOR AEROSOL CONTAINERS
Albert L. Edelstein and Joseph Glickstein, New York, N.Y., assignors to Syncro-Mist Controls, Inc., New York, N.Y., a corporation of New York
Filed Aug. 22, 1958, Ser. No. 756,608
8 Claims. (Cl. 222—79)



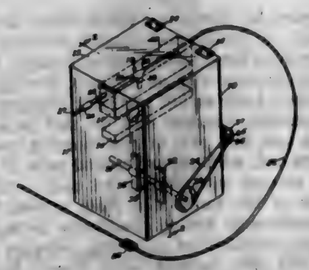
1. A device for automatically periodically opening the normally closed valve of a spray dispensing pressurized container, said device comprising means for supporting said container, an actuating member mounted on said supporting means in position to engage the valve of said supported container and movable between a valve open and valve closed position, a timing motor, an energy storing weighted member having a center of gravity movable between an upper and lower position, means coupling said timing motor to said weighted member to raise said center of gravity to its raised position and to thereafter release said weighted member and permit the center of gravity thereof to substantially freely fall to its lower position, and means connecting said valve actuating member to said weighted member to urge said valve actuating member to a valve open position during the return of the center of gravity of said weighted member to the lower position.

2,980,297
SOAP DISPENSER
Anthony Tucci, 707 South St., Utica, N.Y.
Filed Oct. 30, 1958, Ser. No. 770,723
3 Claims. (Cl. 222—198)



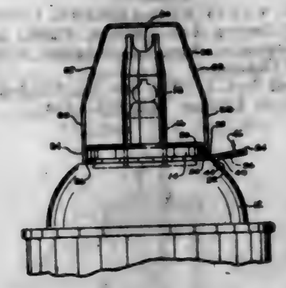
1. A soap dispenser for use with conventional cardboard soap boxes containing soap of the powdered or granulated type and having a spout opening therein at the top of one of the narrow sides thereof, comprising, in combination, a generally rectangular outer receptacle portion having at least partial front, rear, one side and bottom walls adapted to embrace the spouted side of said box; a tubular dispensing portion extending downwardly adjacent said receptacle portion and having an opening at the bottom thereof; and a measuring portion connected to and extending outwardly from the top portion of said dispensing portion; said side wall of said receptacle portion having an opening therethrough registerable with the spout opening of said box whereby said measuring portion is below said spout opening when said box and dispenser are tipped 90°, and the bottom wall of said measuring portion sloping downwardly and inwardly and joining with the outer side wall of said dispensing portion whereby soap poured into the measuring portion drops through said dispensing portion when said box and dispenser are returned to their upright position.

2,980,298
MATERIAL DISPENSING APPARATUS
J C Hanson, 2434 Palmetto St., Montgomery, Ala.
Filed Feb. 18, 1957, Ser. No. 640,768
6 Claims. (Cl. 222—182)



6. A dispensing apparatus including a container, a cover for said container, an eduction tube extending vertically in said container, fluid pressure means within said container at the upper end of said tube and below said cover for delivering material through said tube from said container by aspiration, and a transversely disposed sealed enclosure for said means within said container and enclosed by said cover.

2,980,299
CLOSURE ACTUATOR
Robert Archer Smith, 29835 Beechwood, Garden City, Mich., assignor, by mesne assignments, of one-half to said Robert Archer Smith, and one-half to Harvey B. Whitehouse, Detroit, Mich.
Filed June 9, 1958, Ser. No. 740,790
6 Claims. (Cl. 222—182)



5. A reusable cap for a container dispensing liquids under pressure having a nozzle extending upwardly of said container, said cap having a body member formed of a plastic material for enclosing said nozzle and provided with an opening at the bottom thereof for engagement with the neck of the container, said body having a plurality of inwardly extending projections integrally formed with said body and adapted to engage the neck of the container for locking said cap to said container, a lever integrally formed with said body and extending outwardly of said body, said lever having means engaging a surface portion of said container whereby said surface portion acts as a fulcrum for said lever when said lever is depressed to cause at least one of said projections to become disengaged from said neck to permit disengagement of said cap from said container.

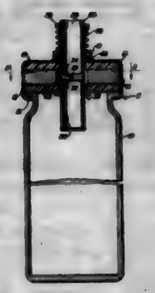
2,980,300
FLUID HANDLING DEVICES
Roger Strange Waddington, 6 Magdalene House, Manor Fields, London, and Bruce Duval, 39 Chessa Road, Ewell, England
Filed Feb. 26, 1957, Ser. No. 642,594
Claims priority, application Great Britain Jan. 30, 1957
6 Claims. (Cl. 222—361)



1. Sealed dispensing apparatus for a container which comprises a tubular plug of elastomeric material, a fluid dispensing device fitting the bore of said plug in fluid-tight relationship therewith and, surrounding said plug, a pair of flanges whose adjacent surfaces are spaced apart in the axial direction of the plug by a distance which is small in comparison with the diameter of the plug inside the flanges and forming a groove between said flanges, the first of the flanges being bounded over at least a part of its axial length with a surface whose diameter increases in the direction toward the groove, being of maximum peripheral size adjacent to the groove, having a minimum peripheral size which is, at most substantially equal to the peripheral size of the plug on a section taken through the groove, and having a maximum peripheral size which is insufficient to prevent sufficient

deformation of the elastomeric material while the shape of the bore of the plug is maintained constant by said fluid dispensing device, to allow passage of the first flange through an aperture leading from the outside to the inside of a container.

2,980,301
METERING VALVE FOR AEROSOL CONTAINER
Benjamin de Gorter, Los Angeles, Calif., assignor to Riker Laboratories, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Sept. 2, 1958, Ser. No. 758,344
11 Claims. (Cl. 222—394)



1. A metering valve for dispensing measured volumes of fluid material from a container comprising: a closure for closing the mouth of a container, said closure having an aperture formed therein extending between opposite surfaces of said closure; said closure having two spaced sealing portions having bores formed therein; an intermediate closure portion positioned between said sealing portions and having a bore formed therein of greater cross-sectional area than said bores in said sealing portions; said bores in said sealing portions and said bore in said intermediate closure portion registering to form said aperture; a plunger reciprocably positioned in said aperture with said intermediate closure portion forming a channel adjacent said plunger; said plunger sealingly and slidably engaging said sealing portions; said plunger having a hollow measuring chamber formed therein and an orifice extending between said hollow measuring chamber and the exterior of said plunger; said plunger having a hollow exit chamber formed therein and an inlet extending between said exit chamber and the exterior of said plunger; said orifice and inlet being no farther apart on the longitudinal axis of said plunger than the length of said channel in the direction of movement of said plunger so that the plunger can be moved to a position where both said orifice and said inlet simultaneously communicate with said channel; whereby said plunger can be pushed through said aperture to expose said orifice to the interior of the container with the subsequent filling of said hollow measuring chamber with a charge of fluid material, and said plunger can be moved in the opposite direction through said aperture to a position where said orifice and said inlet simultaneously communicate with said channel and a measured charge under pressure moves through said orifice, said channel and said inlet into said exit chamber.

2,980,302
METERING LIQUID DISPENSER
William B. Rasmussen, 1915 Benson Ave., Prosser, Benton County, Wash., assignor of one-half to Alvin G. Ash, Tacoma, Wash.
Filed Dec. 9, 1957, Ser. No. 701,619
2 Claims. (Cl. 222—453)

1. In combination, a container having a body, a cylindrical, elongated, up-standing discharge neck integrally formed and projecting above the body and open to its full interior diameter at both ends, said neck being of substantially reduced cross-sectional area in comparison to the cross-sectional area of the body; a dispensing cap slidably mounted on the free end of said discharge neck, said dispensing cap comprising a straight cylindrical sidewall portion and end wall integral with said sidewall, the interior diameter of said cap being greater than the exterior diameter of said neck whereby the cap is freely movable on said neck, a post affixed to the interior surface of said end wall and projecting at right angle thereto, a



valve secured to the free end of said post and positioned within said body adjacent the neck, said valve being adapted, incident to the outward movement of said cap, to sealingly engage said body adjacent said neck, a dispensing slot formed in the endwall of said cap adjacent the sidewall thereof, said slot being arcuately shaped and conforming to the curvature of the free end of said neck whereby the neck, when engaged with the end wall of the cap, closes said slot and an air port formed in said end wall adjacent the sidewall and diametrically opposed from said slot whereby the port will be closed by engagement of the neck with said end wall.

2,980,303
FLEXIBLE CLOSURE FOR DISPENSERS
Donald A. Jacobsen, 7544 Park Ave. S., Minneapolis 23, Minn.
Filed Mar. 18, 1957, Ser. No. 646,708
3 Claims. (Cl. 222—507)



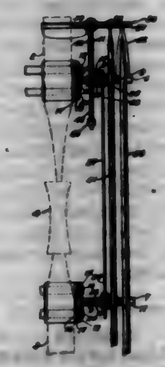
2. A closure for containers comprising: an elongated neck member of flexible, deformable material having a passage extending longitudinally therethrough; a first pair of oppositely disposed ribs on the neck member tapering outwardly toward one end of said neck member; a second pair of oppositely disposed ribs on said neck member intermediate said first pair of ribs tapering inwardly toward said one end, said first and second pairs of ribs being quadrantly located with respect to each other; and a ring element in the form of a plate provided with an opening therethrough having quadrantly located notches for the accommodation of said ribs, whereby said ribs will guide said ring element when moved toward said one end of the neck member, the notches accommodating the first pair of ribs being so dimensioned with respect to said first pair of ribs that said first pair of ribs will be forced inwardly in the region of said one end to close said one end and the notches accommodating the second pair or ribs being so dimensioned with respect to said second pair of ribs that said second pair of ribs may be spread further into their respective notches without obstructive interference.

2,980,304
PAPERBOARD FLUID CONTAINER
Richard Sisco, 470 Knollwood Road, Ridgewood, N.J.
Filed Feb. 15, 1958, Ser. No. 780,351
5 Claims. (Cl. 222—566)



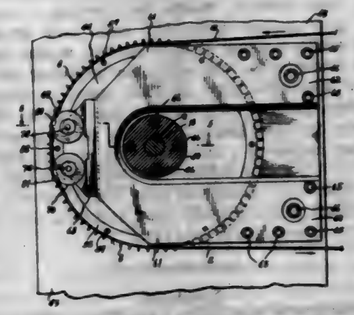
1. A paperboard container for liquids including in combination a single sheet of paperboard material folded to provide the side walls and top of a container, said top having the form of a truncated square pyramid, said sheet comprising four rectangular panels of similar shape folded to form said side walls, tabs having generally the shape of truncated triangles extending upwardly from each of said panels to form the sides of said truncated square pyramid, generally triangularly-shaped ears extending from each of the sides of each of said truncated triangular tabs, generally rectangular ears extending from the line of truncation of two alternate truncated triangular tabs, said rectangular ears being formed with notches, one of said rectangular ears being formed with a pair of lateral extensions, generally square ears extending from the line of truncation of the other pair of alternate truncated tabs, each of said square ears being formed with an opening symmetrical with the pair of said notches, one of said square ears being formed with a pair of lateral extensions, said notches and said openings being in aligned position, and a pouring spout positioned in said aligned openings.

2,980,305
CIRCULAR ARROW QUIVER
Floyd B. Reese, P.O. Box 582, Dorris, Calif.
Filed Feb. 24, 1959, Ser. No. 795,158
3 Claims. (Cl. 224—1)



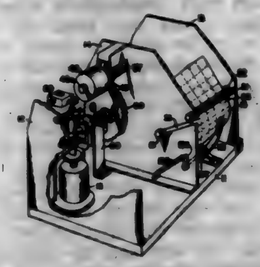
3. An arrow quiver adapted to be spacedly secured to the upper and lower limbs of a bow, including: a pair of racks arranged in vertical spaced relation, each rack being of arcuate form and provided with a plurality of slots inwardly extending from the perimeter thereof, the slots of the upper rack being aligned with the slots of the lower rack, the aligned slots being adapted to receive the shafts of arrows, an elongated rod extending through said rack and having an end portion adjustably secured to the adjacent rack for spacedly maintaining the pair of racks in spaced apart relationship, a shield overlying and spaced above the uppermost rack, means carried by the uppermost rack and slidably supporting said shield, and a spring operatively connected to said last mentioned means for urging the shield toward the uppermost rack.

2,980,306
HIGH SPEED MOTION PICTURE CAMERA
Charles F. Sullivan, Bronx, N.Y., assignor to Fairchild Data Devices Corporation, Yonkers, N.Y., a corporation of New York
Filed June 23, 1958, Ser. No. 743,929
8 Claims. (Cl. 226—86)



1. A high speed camera for a continuously driven film having sprocket holes along its length, comprising a film gate having an aperture, a sprocket drum disposed opposite said film gate aperture and having sprocket teeth around its periphery adapted to engage the walls of said sprocket holes, and means engaging said film to place it in a single plane opposite said film gate aperture while still maintaining contact between certain of the sprocket teeth and the walls of certain of the sprocket holes of the film lying in said plane.

2,980,307
REMOTE CONTROL STRIP STAMP DISPENSING DEVICE
Carl J. Crane, Helotes, Tex., assignor to Charles M. Musser and Britt Moore, both of San Antonio, Tex.
Filed Apr. 18, 1960, Ser. No. 22,961
5 Claims. (Cl. 226—135)



5. In a remote controlled strip stamp dispensing device having an actuated mechanism comprising a source of electric pulses, a housing, a base within said housing, three spaced supporting uprights mounted on said base defining an actuating zone and a stamp containing zone, said actuating zone including a solenoid adapted to be supplied with electric pulses from said source, said solenoid having a reciprocating armature, a shaft mounted in said actuating zone between two of the uprights, a ratchet mounted on said shaft, said armature adapted to turn said ratchet one-tenth of a revolution for each

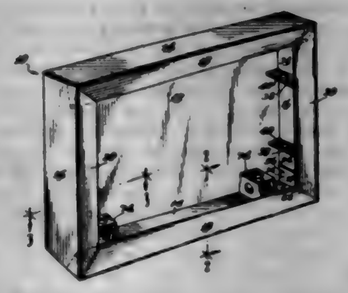
stroke of the armature as the solenoid is energized, a cam wheel having a cam depression mounted on said shaft and adapted to rotate therewith, a first gear mounted concentrically around said shaft independently thereof to give rotation thereabout, an electric switch mounted on the surface of said first gear, said switch having a cam follower adapted to ride on said cam wheel, said switch adapted to be opened when the cam follower rides into said cam depression, an electric motor, said switch being in series with electric conduits supplying said motor, said motor driving a shaft, said shaft driving a second gear which is in engagement with the first gear, the ratio of the first gear to the second gear being 5:1, said shaft also driving a stamp spool positioned in said stamp containing zone, said stamp spool having a circumference equal to four linear stamps, means for carrying a stamp roll supply, gate means associated with said draw spool through which a stamp strip is ejected, means for aligning said stamp strip with said gate including pin means mounted perpendicularly on said spool to engage the stamp strip, guide means to feed the strip to the spool and means for positioning the spool, said source of electric pulses including a switch having electric contacts, a rotatable cam, a cam follower therefor, one end portion having means for riding said cam, the other end portion having means to periodically open and close said contacts in response to rotation of said cam.

2,988,368
METHOD OF MANUFACTURE OF BOX AND STRUCTURE THEREOF
Hubert V. Bolding, Jeffersonville, Ind., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Mar. 8, 1957, Ser. No. 644,843
1 Claim. (Cl. 229—31)



A tray type erectable box comprising, in collapsed condition, a rectangular main panel, end walls hinged to the opposite end edges of said main panel and extending outwardly of and substantially coplanar with said main panel, side walls longitudinally hinged to the opposed side edges of said main panel and extending inwardly so as to overlie said main panel, erecting panels hinged to the outer end edges of said end walls and overlying said end walls, motion transmitting connections between said side walls and said erecting panels, each of said motion transmitting connections including a first member hinged to an end edge of one of said side walls and lying in the same plane therewith so as to overlie part of the adjacent end wall, and a second member hinged to the end edge of said first member on a line substantially juxtaposed but offset inwardly of the hinge line between the end wall and the erecting panel, said second member being interposed between the first member and the adjacent erecting panel and affixed in face-to-face relationship with said adjacent erecting panel so as to maintain the juxtaposed relationship in the hinges between the first and second members on the one hand and the end wall and the erecting panel on the other hand, the spacing between the said offset hinge lines being such as to afford a hinged movement to said erecting panel of more than 90 degrees and less than 180 degrees from a position overlying the end wall, the said offset hinge lines causing the pivotal movement of the erecting panel from its collapsed condition to lift the first member in relation to the adjacent end wall to help start the proper erection of the carton, said first member having a diagonally hinged line causing the upper surfaces of the two sections defined thereby to assume face-to-face engagement in erected condition, and locking means carried by each of the erecting panels for maintaining the end walls and the side walls in erected condition when the box is erected.

2,988,369
SHADOW BOX
Louis A. Papas, 1727 N. Rutherford Ave., Chicago, Ill.
Filed Aug. 5, 1957, Ser. No. 676,318
6 Claims. (Cl. 229—34)

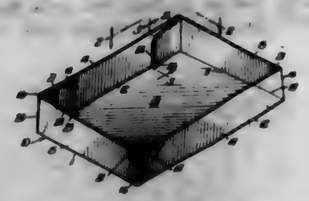


1. A shadow box formed entirely of sheet material from a single unitary blank comprising a back wall and side walls integral with said back wall, said side walls having opposed ends, one end secured to said back wall, frame members integral with the opposite end of said side walls, each of said frame members comprising a first section having opposed ends, one end integral with said opposite end of one of said side walls and inwardly projecting from the periphery of the shadow box towards said back wall, the opposite end integral with one of the opposed edges of a second section, said second section projecting back toward said one side wall and toward said back wall, the opposite edge of said second section engaging said one side wall and connected to one of the opposed edges of a third section, said third section in face contact with the inner surface of said one side wall and terminating in butting contact with said first section forming thereby a frame member substantially triangular in cross section, said frame member sections being dimensioned so that the opposite edge of said second section is appreciably spaced from said back wall, and sheet material locking members, said sheet material locking members comprising projections integral with said side walls and with the sections of said frame members, said sheet material locking members adapted to be in interlocking engagement with each other and engaging the side walls and frame members for holding the shadow box in assembled relation.

2,988,316
COLLAPSIBLE TRAY
Edwin L. Arneson, Morris, Ill., assignor to Federal Paper Board Company, Inc., Bogota, N.J., a corporation of New York
Filed Sept. 30, 1959, Ser. No. 843,587
6 Claims. (Cl. 229—35)

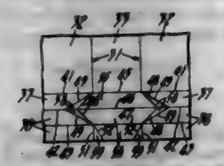
1. A paperboard container formed from a generally rectangular blank which is cut and scored to provide a bottom wall forming panel and side wall forming panels hinged to opposite edges thereof and adapted to be swung into upright side wall forming relation with the bottom wall panel, oppositely disposed side walls having corner

connecting flaps hinged to opposite ends thereof and each of said flaps being separated from the adjacent side wall by cutting on lines which provide an upwardly and inwardly tapered edge on the end of said adjacent side wall and a small triangular shaped locking tab on the opposed edge of the corner connecting flap which is foldable about its connecting edge, said corner connecting flap having a triangular inner portion thereof adhesively secured to the inner face of a triangular shaped hinged section on the end of said adjacent side wall, and



said bottom wall having a small slit adjacent the hinge connection thereof with said adjacent side wall whereby when the container is set up the free edge of the locking tab on the corner connecting panel may be moved into position to be engaged in abutting relation with the outwardly facing edge of the bottom material which is exposed by said slit so as to lock the corner in upright position.

2,988,311
CONTAINER
Frederick C. Buselt, New York, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 6, 1957, Ser. No. 701,066
2 Claims. (Cl. 229—37)



1. A fibre container comprising a tubular polyhedral body having an even number of relatively wide vertical side walls and an equal number of relatively narrow vertical panel walls disposed alternately around the body perimeter, each wall and panel being bounded laterally by vertical crease lines and at least one end thereof by a first horizontal crease line, said first horizontal crease lines lying in a first horizontal plane spaced from an end of said body, a second series of horizontal crease lines lying in a second horizontal plane disposed between said first horizontal plane and said end of the body and setting off a continuous flange at the end of the body, a pair of diverging crease lines starting at each point of intersection between a said vertical crease line and a said first horizontal crease line, said pairs of diverging lines terminating at points on said second horizontal crease lines and setting off between said first and second series of horizontal crease lines a series of inclined trapezoidal wall sections each merging at one side with a said vertical wall and at the opposite side with said flange and a series of obtuse triangular wall sections each disposed between adjacent trapezoidal wall sections, the fibre along said diverging crease lines being bent in alternately opposite directions, and an end closure secured to said flange at said end of the body, whereby a strong and relatively unstressed necked-in formation lies between said vertical walls and said end closure.

2,988,312
SHOPPING BAG AND HANDLE STRUCTURE THEREFOR
William Gould, Milburn, N.J. (280 Badger Ave., Newark 8, N.J.)
Filed Aug. 31, 1959, Ser. No. 836,979
4 Claims. (Cl. 229—54)



1. In a bag having flat surface areas adjacent its open end for the attachment of a loop handle, a loop handle of inverted U-shape comprising a seamless moisture impervious elongated resiliently flexible plastic tubular strip of substantially greater width than thickness comprising longitudinal edge portions convexly rounded in cross-section and opposed substantially flat longitudinal side walls extending in transversely unbroken relation between said side portions and being normally spaced apart and yieldable toward each other through flexing of said edge portions, and attachment means securing the side legs to said flat surface areas of said bag.

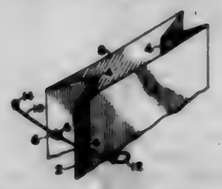
2,988,313
BAG
James L. Quinn, Norfolk, Va., assignor to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri
Filed Sept. 23, 1957, Ser. No. 685,502
1 Claim. (Cl. 229—63)



A desiccant bag formed of a rectangular blank of nonwoven fabric folded in half on a heightwise fold, said fold constituting one side edge of the bag, said bag having a stitched side seam securing together the margins of the blank opposite the fold, a cord extending heightwise of the folded blank from one end thereof to the other entirely on the inside of the fold and adhered at least at intervals to the blank, a top portion of the folded and side-seamed blank being folded over against one face of the bag on a transverse fold constituting the top edge of the bag, said folded-over top portion including a portion of said stitched side seam and a portion of said cord, a tie string extending laterally across the bag on the outside thereof adjacent the top edge of the bag along a line spaced from the top edge a distance less than the height of the folded-over top portion, said tie string extending out beyond both sides of the bag, and said bag having top stitching extending through said tie string, through said folded-over top portion and through the walls of the bag for securing said folded-over top portion in closed posi-

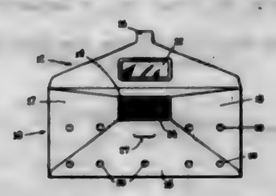
tion and securing the tie string to the bag, said cord and said side seam reinforcing the top corners of the bag, said bag being open at the bottom.

2,988,314
BAG
Richard E. Adams, 523 S. Main St., Hightstown, N.J.
Filed July 24, 1959, Ser. No. 829,426
1 Claim. (Cl. 229—65)



A bag formed of flexible material provided with a pair of holes therein spaced equal distances from the mouth of the bag and in position to be located at the neck of the bag when the mouth of the bag is drawn together to form such a neck above articles enclosed in the bag, and tying means made of flexible wire having loops of different size formed on the opposite ends thereof with the loop on one end small enough to pass through said holes and to pass through the loop on the opposite end of the tying means, the loop on said opposite end of the tying means being larger than said holes.

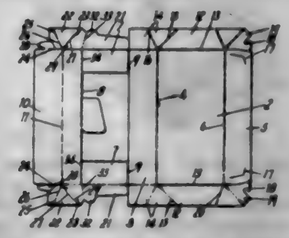
2,988,315
ENVELOPE ADAPTED TO BE ROUTED TO SEVERAL DESTINATIONS
Leonard P. Miner, Bridgeport, Conn., assignor to David E. Zimmer, Bridgeport, Conn.
Filed Mar. 16, 1959, Ser. No. 799,547
3 Claims. (Cl. 229—73)



1. An envelope of the type intended to be routed to various people, said envelope having a pocket-like body portion adapted to hold papers and the like, and having a hinged flap foldable against the body portion; and a pair of cooperable recording and pigmented elements on the said flap and body portion respectively, providing a self-erasing writing means on which writing may be produced and retained while the flap is disposed against the body portion, said writing being automatically erased upon separation of the flap from the body portion, said hinged flap and body portion respectively having pockets holding the said cooperable elements to enable the latter to be easily and quickly removed and replaced.

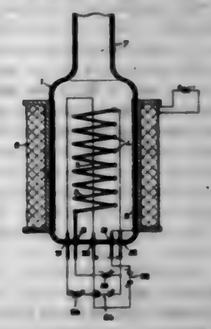
2,988,316
CARTON
Kenneth T. Buttery and Thomas Vander Lugt, Jr., Kalamazoo, Mich., assignors, by mesne assignments, to KVP Sutherland Paper Company, a corporation of Delaware
Filed Nov. 9, 1959, Ser. No. 851,588
9 Claims. (Cl. 229—37)

1. A carton having a generally parallelogram transverse contour when erected formed integrally of paperboard cut and scored to provide a bottom, a front wall at the front edge of the bottom, an inner rear wall panel at the rear edge of the bottom, a top hingedly connected to the upper edge of the front wall, and an outer rear wall member hingedly connected to the swinging edge of the top, inner end wall members hingedly connected to the bottom, said inner end wall members and front wall having inwardly foldable corner flaps integral therewith and hingedly connected thereto and foldable inwardly on the inner side of the front wall when the carton is erected, said inner end wall members having upwardly facing tongues on their rear ends hingedly connected thereto for positioning on the inner side of said



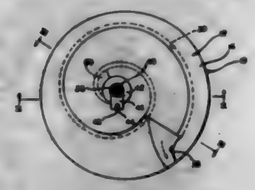
inner rear wall panel, said rear wall panel having angled slits therein with which said tongues are engageable, the inner end wall members having diagonal scores therein facilitating the manipulation of said corner flaps, outer end wall members hingedly connected to said top, said outer end wall members and said outer rear wall panels having inwardly foldable rear corner flaps hingedly connected thereto, there being angled slits at the juncture of said rear corner flaps with said outer end wall members providing slot-like tongue receiving openings when the outer end wall members and corner flaps are in erected position, said outer rear wall panel having upwardly facing tongues on its end edges positionable in said slots engageable with the upper edges thereof.

2,988,317
VACUUM DEVICE
Günter Reich, Köln-Zollstock, Germany, assignor to E. Leybold's Nachfolger, Köln-Bayental, Germany
Filed Apr. 14, 1958, Ser. No. 728,175
1 Claim. (Cl. 230—69)



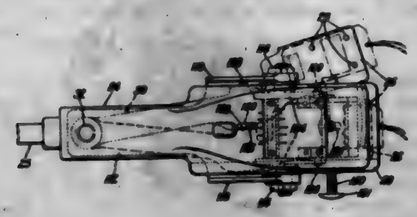
A vacuum pumping device comprising a vacuum-tight container, a getter coating on the inner wall of said container, an offtake duct joined near one end of said container, a thermionically-emissive filament supported by and positioned within said container, means to supply current to said filament, potential means for maintaining said getter coating on the wall of said container at a negative potential with respect to said filament, a getter helix having spaced turns surrounding said filament and carrying a getter material, and means for maintaining said getter helix at a positive potential with respect to said filament, whereby said getter helix serves both as a getter material carrier and source as well as an electron collector.

2,988,318
NUTATING DISC GAS COMPRESSOR OR MOTOR
Norman Matz, Cleveland Heights, Ohio, assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Dec. 9, 1957, Ser. No. 701,486
16 Claims. (Cl. 230—148)



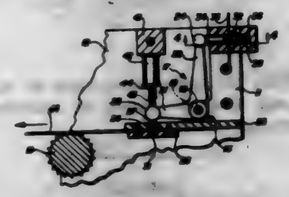
1. An expansible gas driven motor comprising in combination a curved volute-shaped motor chamber for receiving expanding gas shaped to expand in cross-section as a function of the specific heat of the gas to be used for adiabatic expansion of the gas, a flat spiral-shaped plate positioned within said chamber and having a width to extend across the chamber and to separate upper and lower sections of the chamber, said chamber having an upper curved tapered surface for rolling line contact with the plate and having a lower tapered curved surface for rolling line contact with the plate, said plate moving with a wobbling nutating motion when driven by expansible gas, a gas inlet passageway connected to the small end of said chamber for communication both above and below said plate, a tangentially extending gas exhaust passageway connected to the large end of the chamber for the exhaust of gas from both above and below said plate, a central support for said plate maintaining it in position during wobbling motion, and a drive member connected to the plate to move with a nutating motion for deriving power from the plate.

2,988,319
PORTABLE RECORD SENSING AND RECORDING APPARATUS
John E. Clemens, Xenia, Ohio, Herbert W. Dean, Cambridge, Mass., and Edward R. Thomas, Dayton, and William S. Touchman, Cedarville, Ohio, assignors to A. Kimball Company, New York, N.Y., a corporation of New York
Filed Dec. 30, 1957, Ser. No. 706,944
12 Claims. (Cl. 234—30)



1. A record sensing device of lightweight construction supportable in one hand of an operator for extended periods of time including a handle by which the device is held in one hand of an operator for carrying and presenting the device to individual records which remain attached to goods to which they relate, means engageable with a record to which the device is presented for sensing coded data designations therein, a support for registering with the sensing means a record which remains attached to said goods, and manually actuated means coacting with the handle for engaging the sensing means with the registered record.

2,988,320
COMBINATION PUNCH AND READER UNITS
Lloyd J. Lapointe, Manchester, Conn., assignor to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York
Filed May 22, 1959, Ser. No. 815,101
3 Claims. (Cl. 234—41)

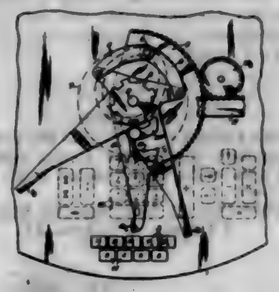


1. Apparatus of the type described which is capable of sensing and perforating a record having data items in columns transverse to record movement, said record being adapted to be moved past a sensing/perforating station; comprising a frame, a pair of spaced plate members mounted on said frame and forming a channel through which said record is moved columnwise, a plurality of elements mounted within a first of said plate members for movement into and out of contact with the other plate member, means comprising switch means mounted on said frame for normally yieldably biasing said elements into contact with said other plate member, said switch means being operable simultaneously with the movement of said elements toward and away from said other plate member, said elements being moved out of contact with said other plate member when unperforated portions of said record pass through said channel, perforated portions of said record permitting said elements to move into contact with said other plate member under the action of said biasing means, means for selectively driving said elements and an unperforated portion of a record in said channel into contact with said other plate member, and means on said other plate member co-operating with said selectively driven elements to effect a circular line of contact whereby the record therebetween is perforated.

2,988,321
SHIFTING DEVICE FOR SLIDING CARRIAGES IN OFFICE MACHINES
Theodor Schrimpf, Berlin-Lichterfelde, Germany, assignor to Deutsche Telephonwerke und Kabelindustrie Aktiengesellschaft (De Te We), Berlin, Germany
Filed July 23, 1954, Ser. No. 445,493
4 Claims. (Cl. 235—60)

1. In an office machine including a sliding carriage and a shifting device for said carriage, said shifting device comprising a shifting lever operatively connected to said carriage whereby movement of said lever moves said carriage, a pair of pushing levers mounted for pivotal movement about a common axis, the respective levers being adapted to engage the shifting lever upon opposite sides to move the same, means for pivoting said pushing levers scissors-fashion in arc-like paths, the sum of which is constant irrespective of the extent of movement of each individual lever, said pivoting means comprising a pair of links each pivoted to one of said pushing levers and to a common axis and cam means for varying the position of said common axis to swing said links to-

gether, and a plurality of stop means optionally interposable in the paths of said pushing levers at predetermined positions to control the extent of movement of each lever and thus the extent of movement of said shifting lever and said carriage.



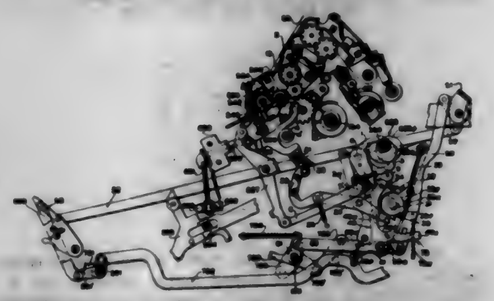
2,980,322
DECIMAL POINT INDICATOR MECHANISM FOR REGISTERS
Emil C. Walker, Jr., Woodstock, Ill., assignor to Comptometer Corporation, a corporation of Illinois
Filed May 14, 1956, Ser. No. 584,813
14 Claims. (Cl. 235—61)



1. In a machine having a multi-order accumulator with a numeral wheel in each order, and cover means, including a member having a sight aperture aligned with each said numeral wheel and transparent means mounted thereon for closing said sight apertures, decimal point indicator means mounted on said member, comprising an indicator disposed between each said sight aperture and a first surface portion of the same color as that of the outer surface of said member and a second surface portion of a contrasting color, said member having a display opening between adjacent said sight apertures, and spring means for rotatably mounting each said indicator for movement between an inactive position, in which only said first surface portion is visible through the ordinally associated display opening, and an active position in which only said second surface portion is visible through such display opening, said indicators being larger than their associated said display openings, and said spring means resiliently engaging said indicators to maintain the same in said openings with a part of each indicator extending through its associated said opening.

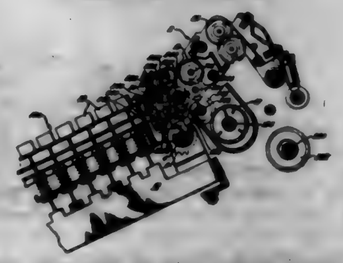
2,980,323
QUOTIENT REGISTRATION MEANS FOR CALCULATING MACHINES
Herman Gang, Morris Plains, N.J., assignor to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed June 14, 1956, Ser. No. 591,349
3 Claims. (Cl. 235—79)

1. In a calculating machine operable to perform division and positive and negative multiplication: cyclically operable registering mechanism operable to perform additive and subtractive operations, said registering mechanism operating additively in positive multiplication and subtractively in negative multiplication, said registering mechanism including reversely operable cyclic actuating means operating in one direction during additive operations and in the reverse direction during subtractive operations; an ordinal series of multiplier storage devices; counting means for counting a multiplier out of said multiplier storage devices, said counting means comprising a unidirectionally operable counting finger for counting a



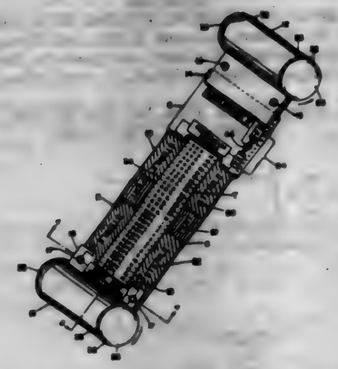
multiplier out of said storage devices during both additive and subtractive operation of said actuating means; a drive member reciprocally operable in time with said registering mechanism for operating said counting finger; means for automatically entering a quotient calculated during a division operation of said machine into said multiplier storage devices including a normally disabled counting finger reciprocally operable by said drive member for counting said quotient into said multiplier storage devices; means for selectively enabling said multiplier counting finger or said quotient counting finger; and means for initiating a multiplication calculation with said quotient standing in said multiplier storage devices to act as a multiplier in said multiplication calculation, said unidirectionally operable multiplier counting finger being operable during said multiplication calculation to count said quotient out of said multiplier storage devices regardless of the direction of operation of said actuating means.

2,980,324
CONSTANT FACTOR MECHANISM
Fritz A. Deutsch, East Orange, and Martin E. Hesse, Denville, N.J., assignors to Monroe Calculating Machine Company, Orange, N.J., a corporation of Delaware
Filed Oct. 4, 1957, Ser. No. 688,963
9 Claims. (Cl. 235—79)



1. In a calculating machine having differentially adjustable factor storage mechanism comprising factor storage devices and constant factor means for controlling restoration of said storage devices to a selected value, and means for locking said constant factor means in differentially adjusted position; differential value entering means operable to enter a value into said storage mechanism, and means automatically operable to render said locking means ineffective during operation of said value entering means.

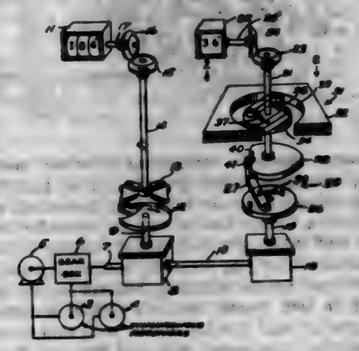
2,980,325
DEVICE FOR INDICATING RHYTHMIC CYCLE
Francis J. Pizarro, 18 Beekman Place, Fair Lawn, N.J.
Filed June 18, 1956, Ser. No. 592,056
15 Claims. (Cl. 235—86)



3. In a rhythmic cycle indicating device, a base bearing indicia denoting a period of probable fertility and periods of probable sterility, said indicia being visible from the upper surface of the base, a pair of spaced housings carried by the base, a reel supported by and rotatable with respect to each housing, each reel having a pair of axially spaced surfaces that frictionally engage the inner surface of its housing to restrain the reel against rotational movement relative to its housing, each reel also having an annular recess intermediate its spaced surfaces, a tape of flexible material narrower than the base and having markings denoting days of a calendar year arranged consecutively and equidistantly therealong, said tape comprising end portions that are wound on and at least partly disposed in the annular recesses of corresponding reels and an intermediate portion that extends between the end portions and overlies the upper surface of the base, and a slide mounted on the base and including a member overlying and covering part of the intermediate portion of the tape, said slide being movable along the base and the intermediate portion of the tape.

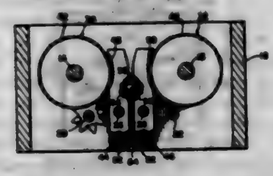
2,980,326
COUNTER SPEED LIMITER
Raymond E. Crooke, Roslyn, N.Y., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware
Filed Aug. 21, 1957, Ser. No. 679,341
8 Claims. (Cl. 235—91)

1. An indicating mechanism for visually indicating changes in degrees and minutes of latitude or longitude having a degree counter which is operative to indicate changes in degrees of latitude and/or longitude, and a separate independent minute counter which is operative to indicate changes in minutes of latitude and/or longitude in conjunction with said degree counter, and means by which said degree counter and said minutes counter are adapted to be actuated in accordance with signals imparted to said mechanism, said mechanism comprising; a degree counter which is adapted to be constantly driven, a separate independently driven minutes counter which is adapted to be driven in timed relation to said degree counter when said degree counter is driven below a predetermined speed, and to be maintained stationary when said degree counter is driven above said predetermined speed, a power input shaft which is adapted to be constantly driven at varying speeds in accordance with signals imparted to said mechanism, a first output shaft which is adapted to be constantly driven by said power shaft, a second output shaft which is adapted to be constantly driven by said power shaft independently of said first output shaft and at a substantially greater speed than said first output shaft and in a constant predetermined ratio with respect to said first output shaft, interconnecting means between said first output shaft and said degree



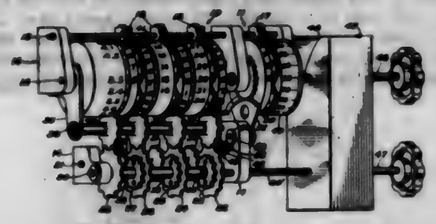
counter through which said degree counter is adapted to be driven by said first output shaft, a high speed connecting shaft disposed in axial alignment with said second output shaft with the upper end thereof operatively connected to said minute counter, and a centrifugally actuated single position clutch means interposed between said high speed connecting shaft and said second output shaft through which said connecting shaft is adapted to be driven in unison with said second output shaft below a predetermined speed of said second output shaft and by which said connecting shaft is adapted to be automatically disconnected from said second output shaft when said second output shaft exceeds said predetermined speed.

2,980,327
MECHANICAL COUNTER HAVING A POSITIVE SHAFT LOCK
Willard J. Opocensky, Glendale, Calif., assignor to General Precision Inc., a corporation of Delaware
Filed Jan. 8, 1959, Ser. No. 784,990
3 Claims. (Cl. 235—130)



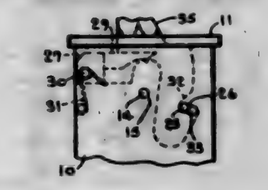
1. A mechanical counter comprising a pair of spaced hubs each mounted on a separate shaft and locked thereto, said hubs having serrations on the periphery thereof, a plurality of counting dials freely rotatably mounted on said shafts, a pair of positive shaft locking levers positioned between said spaced hubs, pivot means mounting each of said levers and resilient means urging said levers away from said hubs, said levers having concave portions with serrations thereon whereby said hubs and said shafts are positively locked against rotation when said levers are urged against said hubs permitting independent rotation of said counting dials.

2,980,328
COUNTER MECHANISM
Herbert P. Jacobsen, Quito, Ecuador, and Winston F. Williams, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 3, 1956, Ser. No. 613,788
1 Claim. (Cl. 235—136)



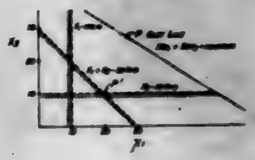
A counter assembly comprising corrector means having first, second and third gears, a frame, said first gear rotatably mounted to said frame and connected to a first input shaft, a coarse tuning counter assembly including at least said third gear and a first counter wheel connected to said third gear rotatably mounted to said frame, said corrector means including bracket means pivotally mounted on said frame, means rotatably mounting said second gear on said bracket means with said second gear in cooperative engagement with said first and third gears, a fine tuning assembly including at least a fourth gear and counter wheel connected to said fourth gear rotatably mounted to said frame, said fine tuning assembly connected to a second input shaft, means connecting said second input shaft to said first input shaft so that said first input shaft partakes of the motion of said second input shaft, a sector gear rotatably mounted on said frame and cooperatively engaged with said fourth gear, and alignment means connected to said sector gear and said bracket means for transferring the movement of said sector gear to said corrector means to thereby prevent misalignment of said coarse tuning counter assembly due to the motion of said second input shaft.

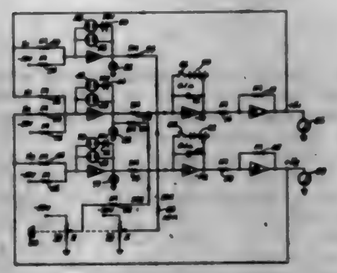
2,980,329
COUNTER RESETTING MEANS
Walter W. Hoffmann, Waukesha County, Wis., assignor to Durant Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 28, 1956, Ser. No. 612,718
4 Claims. (Cl. 235—139)



1. A counter comprising, a number wheel shaft, a series of coaxial rotary number wheels on said shaft, means for actuating one of said number wheels, transfer means for transferring rotary motion from wheel to wheel, said transfer means including transfer pinions on a transfer pinion shaft slidably mounted for free movement between counting and resetting positions, means for resetting said number wheels to a position of zero reading, means for rendering said transfer means inoperative during the resetting operation, and locking means for positively locking said transfer means in position during the counting operation, said locking means including a pivotally mounted yoke swingable from counting to resetting positions, said yoke having a first cam for engaging said transfer pinion shaft to slide it to resetting position and a second cam for engaging said transfer pinion shaft to slide it to counting position, said cams coacting with each other when said yoke is in counting position to positively lock said transfer pinion shaft in counting position to thereby restrain sliding movement of the shaft either towards or away from said number wheels.

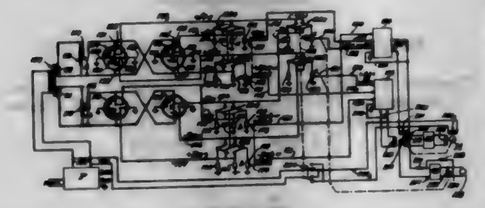
2,980,330
ANALOG PROGRAMMING SYSTEM
Clarence M. Ablow, Belmont, Calif., and Georges Brigham, Beaconsfield, England, assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Oct. 19, 1956, Ser. No. 617,186
18 Claims. (Cl. 235—184)





1. Computer apparatus for determining the values of a plurality of unknowns which minimize or maximize a criterion function of said unknowns subject to constraints defined by constraint functions of said unknowns, which to be satisfied must have values equal to or different in one sense from predetermined values, respectively, said apparatus comprising, in combination, separate electrical integrating means related to the respective unknowns, each such integrating means having an input and having an output operable to represent the related unknown by a voltage proportional thereto, a plurality of electrical constraint function generators having inputs connected to said integrating means outputs and having outputs in which the values of said constraint functions are represented by proportional voltages for different values of said unknowns, respectively, electrical derivative function generators having inputs connected to said integrating means outputs and having outputs in which the respective terms of the time derivatives of said constraint functions with respect to said unknowns are represented respectively by proportional voltages, separate adding means for adding together said derivative voltages of all the constraint functions for each of said unknowns and applying the resultant thereof to the input of the corresponding integrating means, whereby the output of the latter represents the corresponding unknown voltage, relay means corresponding to each constraint and having sets of normally open contacts corresponding to the respective terms of said derivatives, said contacts being arranged in the connections of said derivative function generators to said adding means and respectively operable to interrupt application of said derivative voltage terms thereto, separate detecting means having inputs connected respectively to the outputs of said constraint function generators and arranged to detect values of the constraint function voltages which violate the respective constraints, said latter means being actuatingly connected to the respectively associated relays to actuate such relays and close said contacts thereof in response to violation of the corresponding constraints, and thereby apply the corresponding constraint derivative voltage terms to said integrating means, thereby to cause change in the values of said unknowns in a direction toward satisfaction of said constraint, means for deriving the time derivatives of said criterion function with respect to each of said unknowns and representing the terms thereof by voltages proportional thereto, said latter means being connected for applying the same to the corresponding integrating means in a sense to shift the criterion function toward the desired maximum or minimum subject to said constraints, means to indicate when the constraint functions are satisfied, and means to indicate the values of said unknowns.

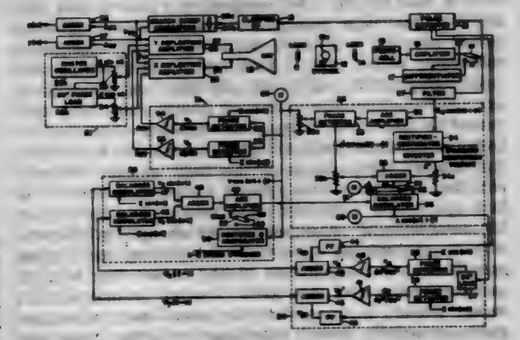
2,980,331
DETERMINATION OF DYNAMIC UNBALANCE
Warren M. Gruber, Hornbeam, and Bernard T. Svihel, Croydon, Pa., assignors to Tinius Olsen Testing Machine Company, Willow Grove, Pa., a corporation of Pennsylvania
Filed May 3, 1956, Ser. No. 582,487
7 Claims. (Cl. 235—189)



2. In a balancing machine having means to determine for a measurement plane of an article the amount and the angle of unbalance with respect to a reference plane, a computer for determining the angle and amount of unbalance in a correction plane comprising: means to develop for said plane a voltage representing the amount of unbalance; electrical circuit means receiving said voltage to develop voltages corresponding to the 90° components of unbalance in said measurement plane; means responsive to last said voltages to develop voltages proportional to the value of the 90° components of unbalance in a plane of correction spaced from said plane of measurement; and means to obtain the amount and angle of unbalance for said correction plane including mechanism to vectorially add last said voltages.

2,980,332
ELECTRONIC CURVE FOLLOWER AND ANALOG COMPUTER
Joseph W. Brouillette, Jr., and Charles W. Johnson, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 26, 1956, Ser. No. 618,504
9 Claims. (Cl. 235—189)

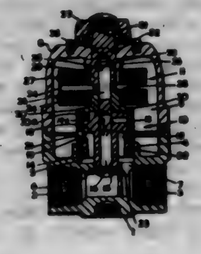
7. Apparatus for simulating the motion of a particle along a trajectory determined by the action on said particle of a radial accelerating force as a function of time, said apparatus comprising, a master oscillator having a first sinusoidal voltage output, means to derive a second sinusoidal voltage of the same frequency as and differing in phase by 90° from said first sinusoidal voltage output; first and second direct current signal voltages representing the orthogonal components of the initial vector velocity of said particle in a set of orthogonal axes the orientation of which is established by said master oscillator; first and second balanced modulators having said first and second direct current voltages respectively applied thereto as signal inputs; means to apply said first and second sinusoidal voltages to said first and second balanced modulators respectively as carrier input voltages; a first adding means, means applying the respective outputs of said first and second balanced modulators as inputs to said first adding means, the output of said first adding means being a first alternating current signal voltage having a carrier frequency equal to the frequency of the output of said master oscillator, said first alternating current signal voltage being a polar representation of said initial vector velocity of said particle, the magnitude of said voltage representing the scalar value of said initial velocity, and the phase angle of said voltage measured with respect to a phase reference established by said master oscillator representing the direction angle of said initial velocity in said set of axes, first and second phase detectors each having said first alternating current signal voltage applied thereto, said first and second phase detectors also having said first and second sinusoidal voltages respectively applied thereto as carrier input voltages, the outputs of said first and second phase detectors being respectively third and fourth direct current signal voltages representing the orthogonal components of the vector velocity of said particles in



said set of axes; first and second integrating means connected to integrate said third and fourth direct current signal voltages respectively; the outputs of said first and second integrating means respectively representing the orthogonal components of the position vector of said particle in said set of axes; a third balanced modulator, said third balanced modulator having said first alternating current signal voltage applied thereto as a carrier input voltage, a fifth direct current signal voltage the magnitude of which represents the magnitude of said radial accelerating force, said fifth direct current voltage being applied as a signal input to said third balanced modulator, the output of said third balanced modulator being a second alternating current signal voltage; third and fourth phase detectors each having said second alternating current signal voltage applied thereto, said third and fourth phase detectors also having said first and second sinusoidal voltages respectively applied thereto as carrier input voltages, and means to shift the phase angle of said second alternating current signal voltage by 90° with respect to the phase angle of said first alternating current signal voltage; the outputs of said third and fourth phase detectors being respectively sixth and seventh direct current signal voltages representing the orthogonal components of the vector acceleration of said particle in said set of axes; third and fourth integrating means connected to respectively integrate said sixth and

seventh direct current signal voltages; second and third adding means connected to respectively add the outputs of said third and fourth integrating means to said first and second direct current signal voltages; and means to display the outputs of said first and second integrating means.

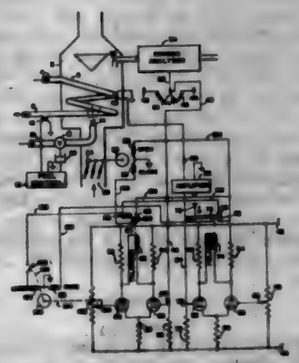
2,980,333
FLUID MIXING DEVICES
Clifford L. Barker, Cheltenham, England, assignor to Walker, Crosweller & Company Limited, Cheltenham, England
Filed Feb. 25, 1958, Ser. No. 717,501
Claims priority, application Great Britain Feb. 26, 1957
3 Claims. (Cl. 236—12)



1. A fluid mixing valve comprising a hollow base having two fluid inlet passages, a hollow cover removably seated on said base, a proportional mixing mechanism removably seated in said base and communicating with said passages, the interior of said base and cover forming a mixing chamber, a control handle removably connected to said cover, a spindle detachably connected between said handle and said mixing mechanism for varying the selected temperature of the fluid mixture, thermosensitive means in said mixing chamber connected to and operatively associated with said mixing mechanism for automatically compensating for changes in temperature in the mixing chamber, said mixing mechanism, spindle and thermosensitive means constituting a single unit removable with said cover, a spigot around which a valve sleeve is mounted for rotational movement only, an axially bored extension projecting from and concentrically of one end of the spigot and making a fluid-tight fit within a complementary port in the bottom of a well formed in the crown of the said base, the said port communicating with one of the fluid inlets in the base and wherein the said spigot end sockets into and makes a fluid tight fit within the well, has an annular passage opening to the interior of the well and communicating with the one of said inlets in the base through an eccentric port in the bottom of the well.

2,980,334
DAMPER CONTROL SYSTEM FOR PROCESS HEATERS
Donald J. Geniesse, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed July 25, 1957, Ser. No. 674,218
5 Claims. (Cl. 236—14)

1. Apparatus for control of a fuel-burning heater comprising means for controlling the supply of combustion air to a heater, an oxygen analyzer responsive to oxygen content of products of combustion in said heater, means establishing a set point for oxygen content of said products of combustion, means responsive to said oxygen analyzer and to said set point establishing means for operating said air supply controlling means to maintain the oxygen content of the products of combustion normally approximately at said set point, means responsive to a temperature in said heater, means controlled by said temperature responsive means to operate said air supply controlling means to increase air flow irrespective of the first mentioned operating means when said



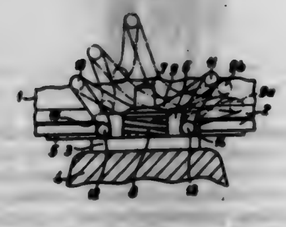
temperature exceeds a predetermined value, and means controlled by said temperature responsive means to operate said set point establishing means to raise the set point when said temperature exceeds a predetermined value.

2,980,335
PRESSURE-INSENSITIVE AUTOMOTIVE THERMOSTAT VALVE
Clarence P. Salmon, Elgin, Ill., assignor to Flexonics Corporation, Maywood, Ill., a corporation of Illinois
Filed Aug. 9, 1956, Ser. No. 602,988
1 Claim. (Cl. 236—34)



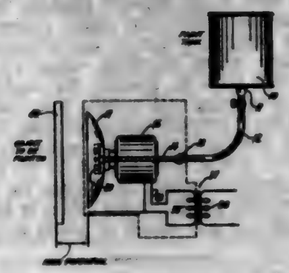
A thermostat valve assembly suitable for use in internal combustion engines, and comprising a mounting member including a centrally disposed guide aperture and providing a valve opening and a valve seat therearound, a support member including a pair of strap portions depending from said mounting member and an imperforate cross member connecting the lower ends of said strap members, a dome-shaped wall section having the peripherally larger lower end thereof secured to said cross member and closed thereby to provide a chamber receiving thermally expansive medium, the peripherally smaller upper end of said dome-shaped wall section including a depending integral flange portion disposed internally thereof and defining an aperture therethrough, an elongated guide tube secured within said depending flange portion with the upper end of the tube projecting above the dome-shaped wall section and with the lower end of the tube positioned in close proximity to said cross member, a valve stem extending through said guide aperture and slidably mounted in said elongated guide tube and guided thereby over a substantial portion of its length for stable rectilinear movement, a resilient sealing plug slidable within said elongated tube and disposed below the lower end of said stem and of a length greater than the spacing of the lower end of the tube from said cross member to prevent the plug from escaping from said guide tube at the lower extremity of movement of said stem, a valve member carried by the upper end of said stem in position for cooperation with said valve seat, a frusto-conical spring support having the reduced end thereof secured to said valve stem substantially intermediate said guide aperture and the upper end of said tube at a predetermined open position of said valve member and with the depending flaring wall thereof having a spring seat at the lower end thereof, the flaring wall of said spring support being spaced from the adjacent surface of the dome-shaped wall section at said predetermined open position of said valve member such as to prevent interference therebetween to full movement of said valve member toward closed position, and a coil spring seated in said spring seat with the opposite end seated beneath the valve seat for urging the valve member and valve stem toward closed position.

2,980,336
RAIL ATTACHMENT MEANS FOR USE IN RAILWAY TRACKS
Adalbert Doll, Minden, Westphalia, Germany, assignor to Vossloh-Werke G.m.b.H., Werdohl, Germany
Filed Feb. 25, 1958, Ser. No. 717,496
10 Claims. (Cl. 238—349)



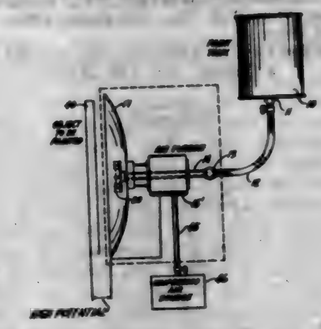
1. For use in securing rails to sleepers in railroad track, rail attachment means comprising a pair of elongated abutment members, means to secure said abutment members fixedly relative to the sleepers in mutually spaced relationship to define the track and receive a rail flange between them, each abutment member being formed at one end region thereof with a recess substantially in the shape of a bore and at the other end region with a recess comprising a slot open in the end face of said other end region, said recesses extending from the side of the abutment member remote from the rail towards the latter, and a pair of stirrups formed of spring rod material and adapted to engage the rail flange on either side of the rail, each stirrup comprising a center portion so as to extend substantially lengthwise of said rail, a curved and arched end portion at each end of said center portion, said end portions being directed away from said center portion, and shank ends continued from said end portions, respectively, said shank ends being bent back towards said center portion and being adapted to engage in said recesses, respectively, said shank ends of each stirrup being springingly spreadable lengthwise of said rail, and each stirrup being resiliently bendable between said center portion and said shank ends in a plane substantially at right angles to said rail, said center portion of each stirrup bearing with spring pressure on the adjacent flange of said rail when the one shank end is inserted in the one recess from the side of the abutment member remote from the rail and the other shank end is inserted into said other recess from said end face of said abutment member through said slot by first urging said other shank end downward and spreading and then releasing it in relation to the first mentioned shank end.

2,980,337
PAINT SPRAYING SYSTEM
Joseph Kozinski, Chicago, Ill., assignor to H. G. Fischer & Co., Franklin Park, Ill., a corporation of Illinois
Original application Mar. 4, 1954, Ser. No. 414,089. Divided and this application Oct. 7, 1960, Ser. No. 61,297
2 Claims. (Cl. 239—15)



1. For use in an electrostatic type paint spray system, the combination of an alternating current electric motor having a stator and rotor including a hollow metal shaft, a hollow rotary coupling and stationary pipe providing a connecting means between one end of said hollow shaft and a stationary paint tank, said connecting means including high potential insulation along the line of paint travel between said shaft end and said paint tank, atomizing means carried by the other end of said hollow shaft for receiving paint and atomizing the same during motor rotation, a transformer having primary and secondary windings, connections between said secondary winding and said electric motor for operating the same from said transformer, said primary winding being energized from a conventional power line, said secondary providing a suitable potential for operating a motor, and high potential insulation between said primary and secondary windings, means for supporting said electric motor as a whole to provide high potential insulation, said atomizing means being adapted to be at high potential during spraying whereby the complete atomizing system including the motor may be at high potential relative to ground without communicating such high potential to the paint supply or to the power line, said electric motor being of generally conventional construction and lacking sufficient insulation between its windings and frame to withstand the high potential.

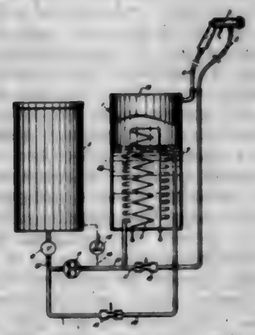
2,980,338
ELECTROSTATIC PAINT SPRAYING SYSTEM
Joseph Kozinski, Chicago, Ill., assignor to H. G. Fischer & Co., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 4, 1954, Ser. No. 414,089
1 Claim. (Cl. 239—15)



For use in an electrostatic type paint spray system, the combination of an air turbine having a stator and rotor

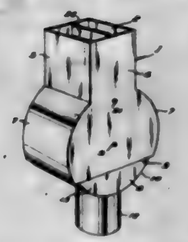
including a hollow metal shaft, a hollow rotary coupling and stationary pipe providing a connecting means between one end of said hollow shaft and a stationary coating material tank, said connecting means including high potential insulation along the line of coating material travel between said shaft and said tank, a source of power, a stationary metal bowl rigidly supported on said stator, said bowl being disposed adjacent the other end of said rotor shaft, atomizing means supported on said shaft at the other end thereof and rotatable therewith, said atomizing means operating within the region enclosed by said bowl to atomize the coating material, means for connecting said turbine with said source of power, said last mentioned means including high potential insulation in said connecting path, means for electrically insulating said turbine from ground for the full potential of said electrostatic system, and means for maintaining said entire turbine and atomizing means at high potential and said tank and said source of power at ground.

2,980,339
PAINT SPRAYING APPARATUS
Hendrik Frederik Bok and Edward Bok, Amsterdam, Netherlands (both of The Lofstrand Co., Southlawn Lane, Rockville, Md.)
Filed Mar. 10, 1959, Ser. No. 798,589
12 Claims. (Cl. 239—135)



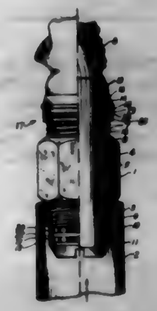
1. A paint spraying apparatus comprising a paint supply source, a spray gun and an evaporating device interconnecting said supply source and said spray gun, said evaporating device having mounted therein a heating element for the formation of a spraying medium by the evaporation of a volatile liquid and a heat exchanger through which said paint is conveyed.

2,980,340
AIR STREAM OSCILLATING DEVICE
Loyd R. McEachern, Greenville, S.C., assignor to The American MonoRail Co., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 12, 1959, Ser. No. 846,004
4 Claims. (Cl. 239—237)



1. Apparatus for use in oscillating an air stream comprising a shell open at each end, a hollow cylinder mounted for rotation in said shell, said cylinder having an opening in one side wall to receive air under pressure from one end of the shell and an outlet nozzle projecting through the other end of the shell, and means for oscillating said nozzle, said means including baffles in the cylinder and a deflector positioned in the shell and movable to direct an air stream alternately against said baffles.

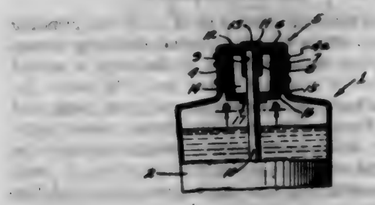
2,980,341
ROTARY SPRINKLER SWIVEL WITH THRUST BEARING ASSEMBLY
John A. Royer, William S. Kimbro, and Harry D. Jacoby, Fresno, Calif., assignors to Buckner Manufacturing Company, Inc., Fresno, Calif., a corporation of California
Filed May 2, 1955, Ser. No. 505,338
3 Claims. (Cl. 239—261)



1. In a sprinkler assembly, an elongated tubular bearing housing adapted for connection at its lower end to a water supply riser, a hollow spindle journaled for rotation within said housing, said spindle having upper and lower end portions projecting beyond respective ends of said housing, the lower end of said spindle terminating in an enlarged shoulder presenting a flat, annular and upwardly facing thrust surface and the lower end of said housing presenting a flat, annular and downwardly facing thrust surface, combined bearing and sealing means sandwiched between said thrust surfaces and constituting the sole means for limiting axial upward movement of said spindle with respect to said housing, a hollow discharge member secured to the upper end portion of said spindle and rotatable in response to the flow of water outwardly therethrough, said discharge member being spaced from the upper end portion of said housing to permit limited relative sliding movement between the housing and the spindle, said rotary discharge member being of the type providing resistance to discharge of water therethrough so that water under pressure passing upwardly through said spindle will impart a lifting force upon said spindle to compress said combined bearing and sealing means and maintain the same in sealing relation with said thrust surfaces, said combined sealing and bearing means including a pair of stacked and sealingly interengaged annular washers surrounding said spindle and effecting a seal between said thrust surfaces, said washers being of rectangular cross section and of substantially the same outer diameter, one of said washers being of soft rubber material and the other washer being of hard plastic material, resilient means interposed between and bearing upon said housing and said discharge member normally to effect a seal between said washers in the absence of water under pressure in said riser, a seal between the upper end of said housing and said discharge member to prevent the entry of foreign material from outside the housing between the housing and spindle, said discharge member terminating at its lower end in a downwardly facing shoulder and said housing having an upwardly facing

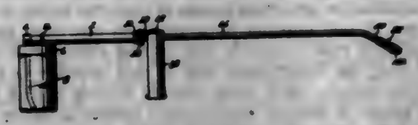
shoulder disposed in spaced relation thereto, said last mentioned seal including a plastic washer surrounding the upper end portion of said housing and sealingly engaging said downwardly facing shoulder on said discharge member, and a resilient rubber washer engaging the undersurface of the last mentioned plastic washer and sealingly embracing the upper end portion of said housing, said resilient means being seated upon said upwardly facing shoulder on the housing and bearing against the undersurface of the last mentioned rubber washer to maintain the same in sealed relation with the last mentioned plastic washer.

2,980,342
LIQUID SPRAY DISPENSER
Donald F. Armour, Bloomfield, Conn., assignor to Plax Corporation, Bloomfield, Conn., a corporation of Delaware
Filed Sept. 5, 1957, Ser. No. 682,132
2 Claims. (Cl. 239—327)



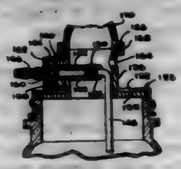
1. A liquid atomizer for dispensing an atomized spray of liquid in upright or inverted positions of the atomizer comprising a flexible container for a supply of liquid to be atomized, a discharge nozzle at the upper end of said container, said discharge nozzle having a discharge orifice at its upper end, a mixing chamber in said discharge nozzle communicating with and positioned adjacent said discharge orifice, a tube communicating with and extending from said mixing chamber to the interior of said container, an intermediate chamber in said nozzle surrounding said tube, means forming a passageway from the interior of said intermediate chamber to said mixing chamber, said intermediate chamber having wall means separating it from the liquid supply in said container, and a liquid throttling passage in said wall means to connect the interior of said container with the interior of said intermediate chamber to restrict rate of flow of liquid from said container to said intermediate chamber in the inverted position of said container to thereby provide an atomized spray of liquid when said container is squeezed while in such inverted position which spray is similar to the atomized spray obtained when said container is squeezed while in upright position.

2,980,343
HAND SPRAYER
Charles E. Hays, Kansas City, Mo., assignor to H. D. Hudson Manufacturing Company, Chicago, Ill., a corporation of Minnesota
Filed Jan. 19, 1959, Ser. No. 787,625
3 Claims. (Cl. 239—331)



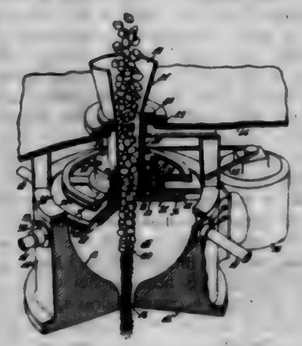
1. A manually-operated hydraulic spraying device consisting of a container for spray solution, a fitting on said container having a non-return valve permitting flow from said container but preventing flow in a reverse direction, a tubular pump including a cylinder connected at one end to the fitting for receiving spray solution from said container with said cylinder providing the pressure chamber of the pump, a tubular reciprocating plunger arranged within said cylinder and spaced concentrically therefrom to provide an annular storage chamber therebetween, a piston in and having sealing engagement with said cylinder and affixed to the inner end of said tubular plunger with said piston having a central flow passage and a non-return valve, the tubular wall of said plunger having one or more openings adjacent said piston and communicating with said annular storage chamber, a fitting on the other end of said cylinder having sliding and sealing contact with the encompassed tubular wall of said plunger and providing a sealing closure for the outer end of the annular storage chamber, a spring-actuated pressure accumulator affixed to the outer end and communicating with the interior of said tubular plunger, said accumulator having a tubular housing closed at its upper end and open at its lower end, an abutment at its lower end, the open outer end of the tubular plunger communicating with the interior of said housing, a piston slidably mounted in said housing below the communicating tubular plunger, a compression spring having one end bearing against said piston and the other end bearing against said abutment at the lower open end of the housing, said container and said housing depending laterally from the longitudinal axis of the tubular pump to provide spaced handles to be grasped by the operator for reciprocating said tubular plunger and directing the spray solution during spraying operation, a nozzle tube having one end opening into the accumulator housing, and an adjustable spray head on the other end of the nozzle tube for controlling discharge of the spray solution upon reciprocation of the pump.

2,980,344
ASPIRATOR MEANS
Paul B. Marasco, 607 Larkspur Lane, Rte. 5, Grand Junction, Colo.
Filed Aug. 26, 1958, Ser. No. 757,290
1 Claim. (Cl. 239—338)



A power driven atomizer comprising an air compressor, a liquid container having opposed open and closed ends, a centrally-apertured cap extending across said open end of said container, a flange clamped between said cap and the adjacent end of said container, said flange having a neck portion projecting through said apertured cap and in communication with the interior of said container, liquid aspirating means carried on said neck portion and means for connecting said air compressor with said aspirating means, said aspirating means comprising an elongated open ended hollow tubular substantially cylindrical element having an orifice extending transversely therethrough adjacent one end thereof, a deflector disposed within said hollow tubular member coaxially aligned with said orifice, said cylindrical element having its opposed ends terminating externally and internally of said neck, said connecting means being connected with the external end of said tubular member, and a pipe having one of its ends connected to the other end of said tubular member, the other end of said pipe terminating adjacent to but spaced from said closed end of said container.

2,980,345
ULTRASONIC APPARATUS AND METHODS OF COMMINUTION
Dimitri B. Kocoleglu and Robert T. Baugh, Milwaukee, and Thomas R. Hoffmann, Madison, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Feb. 10, 1958, Ser. No. 714,200
18 Claims. (Cl. 241—1)



1. Comminution apparatus comprising in combination: means for generating ultrasonic waves and controlling said waves to have a frequency approximating the natural frequency of a preselected mineral; means for directing said waves into a focal region; and means for directing the preselected mineral into said focal region whereby said solid material is engaged by said ultrasonic waves region whereby said preselected mineral is engaged by said ultrasonic waves and comminuted by vibratory forces induced therein by said waves.

2,980,346
PROCESS FOR DRESSING ORES
Olav Mokkelvet, Hauge I Dalane, Norway, assignor, by mesne assignments, to R-N Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 1, 1953, Ser. No. 358,981
Claims priority, application Norway July 8, 1952
4 Claims. (Cl. 241—14)

1. A process for dressing ore and separating soft iron oxides contained in the interior channels of a relatively hard gangue component of the ore which comprises crushing said ore to form small discreet particles, pugging said particles in the presence of water thereby withdrawing iron oxides from the interior of the gangue component, and forming a pulp of soft iron particles so liberated without decreasing the size of the ground gangue particles, subsequently separating the iron oxide slurry from the gangue component and recovering the iron oxide from the water, the total amount of water employed in the pugging operation being approximately fifty percent by weight of the iron oxide pulp.

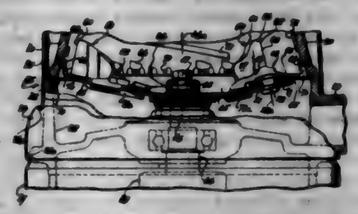
2,980,347
APPARATUS FOR HARD DISINTEGRATING AND SIFTING
Georg Claas, Ennigerloh, Westphalia, Germany, assignor to Firma Gebr. Hinckmann, Maschinenfabrik, Ennigerloh, Westphalia, Germany, a cooperation of Germany
Filed Apr. 17, 1958, Ser. No. 729,215
Claims priority, application Germany Apr. 18, 1957
3 Claims. (Cl. 241—34)

1. In an apparatus for reducing and sifting of goods to be ground, means for pre-breaking said goods, a preliminary sifting device, first means including driving means for conveying said goods discharged from said pre-breaking means to said preliminary sifting device, a fine grinding mill, an intermediate bunker having variable discharge means, a first discharge means of said preliminary sifting device adapted to discharge a first fine grain portion of a first order, second means for conveying a discharge of a first coarse grain portion of a first order from said preliminary sifting device to said fine grinding mill, third means for conveying said goods from said intermediate bunker to said fine grinding mill, a main sifting device, fourth



means for conveying the discharge of said fine grinding mill to said main sifting device, a second discharge means of said main sifting device adapted to discharge a second fine grain portion of a second order, and fifth means for conveying a discharge of a second coarse grain portion of a second order from said main sifting device to said intermediate bunker, and a single sensing means responsive to the quantity produced of said fine grain portion of a second order for controlling said driving means of said first conveying means.

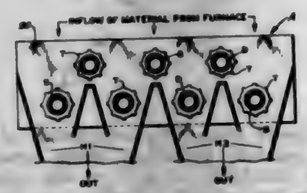
2,980,348
ROTARY GRIND TABLE WITH TRAILING IMPELLERS HAVING PLURAL CUTTING EDGES
Hans Jordan, Los Angeles, Calif., assignor to Given Machinery Company, Los Angeles, Calif., a partnership
Filed Aug. 22, 1957, Ser. No. 679,626
9 Claims. (Cl. 241—46)



1. In combination a waste disposal device: a substantially horizontal rotary table including a stamped sheet metal plate providing an axis and having mounting means for rotation about said axis; a grind ring disposed about said table and having cutting elements; and an elongated impeller formed of sheet metal of substantially uniform thickness and providing a longitudinal axis and mounted at one end upon said plate to swing thereon about a pivot center disposed adjacent the periphery of said plate and generally parallel to said axis of rotation, the combination including means to limit the swing of the free end of said impeller outward to an operative grinding position with respect to said cutting elements of said grind ring, the longitudinal axis of said impeller in such grinding position upon table rotation trailing behind said pivot center in position substantially perpendicular to the table radius through said pivot center to exert substantially maximum leverage, the swinging end of said impeller being turned upward at an angle to said longitudinal axis to form a head providing weighting means for enhancing grinding moment and providing grind means

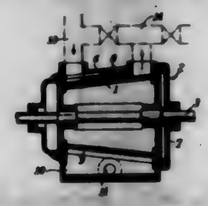
at a radially outward edge to co-operate with said cutting elements of said grind ring, said impeller including a grind point at the outer side of said impeller disposed forward in the direction of rotation from said head in position to co-operate with said cutting elements of said grind ring.

2,980,349
FURNACE CHUNK BREAKER
Frank J. Boron, Elyria, Ohio, assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Apr. 11, 1958, Ser. No. 728,010
9 Claims. (Cl. 241—67)



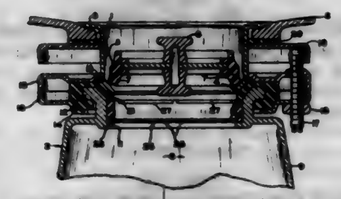
1. In a chunk breaker to be installed adjacent a furnace for breaking up hot chunks of material discharged from the furnace, a cylindrical supporting shaft adapted to be rotated and cooled internally by means of a fluid cooling stream, said shaft being composed of ferrous material having a given coefficient of thermal expansion, and a breaker disc mounted on said shaft and extending circumferentially thereabout for rotation therewith, said disc being composed of a heat-resistant ferrous metal alloy having a coefficient of thermal expansion different from that of said shaft, said disc having spaced teeth of uniform dimension formed on the outer periphery thereof and having an arcuate inner peripheral rim of narrower axial dimension than said teeth and of greater diameter than the outside diameter of said shaft, and means contacting the outer surface of the shaft at circumferentially spaced points and securing the disc to the outer periphery of said shaft with spacing between the arcuate inner surface of said rim and the outer surface of said shaft.

2,980,350
FIBRE DISINTEGRATING APPARATUS
Emile Jean Albert Lejeune, 44 Rue la Boétie, Paris, France
Filed May 26, 1958, Ser. No. 737,929
Claims priority, application France May 24, 1957
1 Claim. (Cl. 241—73)



Apparatus for disintegrating and refining cellulosic material comprising a frustoconical stator arranged with its axis extending substantially horizontally, a frustoconical rotor rotatably mounted in said stator coaxially with the latter and having disintegrating grooves in the surface of the rotor, said stator having an inlet opening for the material to be treated in its upper portion adjacent the relatively small diameter end of the stator, said upper portion of the stator having disintegrating grooves in at least an axial portion thereof extending from said small diameter end a distance corresponding to the length of said grooves of the rotor, the lower portion of said stator being in the form of a smooth wall having perforations in an axial portion thereof extending from said small diameter end to form a sieve for the disintegrated material, a substantial axial length of said stator adjacent the relatively large diameter end thereof being smooth and imperforate at least in said lower portion thereof, and said stator further having an outlet orifice for incompletely disintegrated material opening from said upper portion adjacent said large diameter end.

2,980,351
WASTE DISPOSER AND SPLASH GUARD THEREFOR
John P. Greene, Denville, N.J., assignor to National Rubber Machinery Co., Akron, Ohio, a corporation of Ohio
Filed June 30, 1958, Ser. No. 745,355
12 Claims. (Cl. 241—100.5)

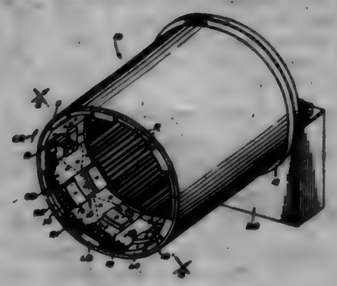


1. In a sink-mounted waste disposer, the combination of a sink flange extending downwardly through the sink drain opening; a waste disposer suspended from said sink flange and having an inlet opening which, together with said sink flange, defines a passage for introduction of waste and flushing water into said disposer; and a splash guard extending across said passage, said splash guard comprising a plurality of vertically and circumferentially offset resiliently deformable members which define corresponding pluralities of vertically and circumferentially offset openings therebetween through which flushing water may freely gravitate from the sink into said disposer, said deformable members lying in the upward path of splashing water and waste in said disposer to thus prevent splashing into the sink and being deformable by pieces of waste introducted into said disposer through said sink flange.

2,980,352
GRINDING MILLS
Oscar H. Johnson, Denver, Colo., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Dec. 22, 1958, Ser. No. 782,222
5 Claims. (Cl. 241—183)

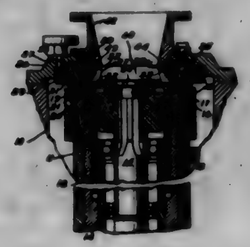
1. In a grinding mill of the kind described having a rotatable shell and which is to contain grinding rods having predetermined diameters, and the charge to be comminuted by the grinding rods: alternating rows of dissimilar shell liners secured for rotation with the shell, certain ones of the liner rows presenting depressed wear surfaces defining elongated conveyor channels each of a width substantially equal to the combined diameters of several of the grinding rods to enable at least several of the grinding rods to be confined therein in side-by-side relation, said channels being uninterrupted substantially from one end of the mill to the other, and the remaining liner rows having raised lifter pads that are spaced apart one from another along the length of those rows, said lifter pads having wear surfaces spaced above said depressed channel wear surfaces by a distance at least one-third the diameter of the maximum sized grinding rods

sued in the mill, the width of the lifter pad wear surfaces being at least the combined diameters of several of the grinding rods to enable at least several of the grinding rods to be supported thereon in side-by-side relation, said remaining liner rows having depressed lodges presenting depressed wear surfaces between and separating the lifter



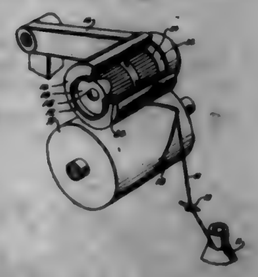
pads by distances substantially equal to the length of the lifter pads and which are substantially coplanar with the first-named depressed wear surfaces enabling the comminuted charge to move freely in a cross-flow past said pads and into the conveyor channels.

2,980,353
HIGH PRODUCTION GRINDING MILL
Donald J. Brown, La Crescenta, Calif., assignor to Morehouse Industries, Inc., Los Angeles, Calif., a corporation of California
Filed June 25, 1958, Ser. No. 744,492
8 Claims. (Cl. 241—259)



5. In a high production positive feed grinding mill having a rotor with an upwardly presented annular grinding face, a stator with a downwardly presented annular grinding face confronting and in parallel relation to said grinding face of said rotor so as to define therebetween an annular grinding space of uniform thickness, said stator having therein a central opening defined by a wall which flares downwardly and outwardly so as to define in conjunction with the adjacent portion of said rotor, an annular outwardly narrowing entrance mouth for said grinding space, the surface of said flaring wall being the surface of generation resulting from the revolution of a concavely curved line around the axis of rotation of said rotor: involute impeller vanes projecting from said rotor, said vanes being of decreasing height from their inner ends to their outer ends, and said outer ends extending in said entrance mouth, the inner ends of said vanes extending into said opening of said stator, and being spaced outwardly from the axis of rotation of said rotor in close underlying proximity to said flared wall so as to define a receiving chamber from which material therein will be forced via said mouth into the grinding space by said vanes; and means for directing the product to be milled into said receiving chamber.

2,980,354
THREAD WINDER
Harrison G. Mason, Winnebago, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Mar. 3, 1959, Ser. No. 796,969
3 Claims. (Cl. 242—18)



1. In a thread winder, the combination of a rotary spindle, a generally cylindrical sleeve constituting a cheese core detachably received on said spindle, said sleeve having longitudinally extending slots therethrough angularly spaced around the sleeve, outwardly opening peripheral grooves formed in said sleeve adjacent and in communication with the outer ends of said slots, the inner side walls of said grooves being disposed in planes substantially perpendicular to the axis of said sleeve, means for rotating said sleeve to wind thread thereon while traversing the thread back and forth along the sleeve through a range slightly greater than the axial spacing of said grooves, said inner walls of said grooves constituting stops for engaging the convolutions of said thread initially laid on said sleeve and limiting the sliding of such convolutions inwardly past the grooves.

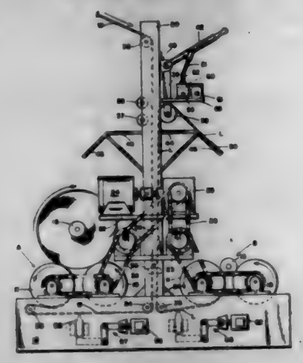
2,980,355
TAPE-FEEDING APPARATUS
Frederick George Cummings, Sutton, England, assignor to International Computers and Tabulators Limited, London, England, a British company
Filed Mar. 12, 1959, Ser. No. 798,999
Claims priority, application Great Britain Mar. 24, 1958
16 Claims. (Cl. 242—55.12)



1. A reservoir in which a tape can be formed as a loop from which the tape can be withdrawn in either of two opposite directions, comprising a first channel to and from which a tape can be fed lengthwise and having a first conduit connection adapted for connection with a source of negative air pressure and a scond channel communicating with the first channel and having a second conduit connection adapted for connection wth a source of negative air pressure, the arrangement being such that a tape loop is drawn lengthwise of the first channel by negative air pressure applied thereto from said first conduit and that when the length of the loop is sufficient the loop is

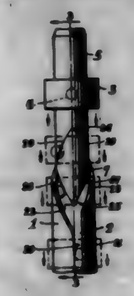
turned and drawn lengthwise along the second channel by negative air pressure applied thereto from said second conduit.

2,980,356
NON-STOP WINDING OF CONTINUOUS WEB INTO SUCCESSIVE ROLLS
William C. A. Beese, Binghamton, and Herbert E. Bergmann, Corbettsville, N.Y., assignors to Azon Corporation, Johnson City, N.Y., a corporation of New York
Filed Sept. 26, 1958, Ser. No. 763,754
6 Claims. (Cl. 242—56)



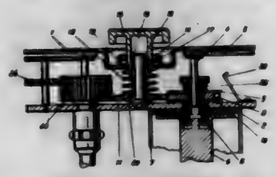
1. The method of winding successive rolls from a continuously travelling web comprising, guiding said web along a path and onto a weighted winding bundle, supporting and rotating said bundle by direct contact with the surface layer of web thereon, preparing a stationary second bundle with initial turns of a web leader, positioning the terminal portion of said leader adjacent said path and preparing its facing end with adhesive, rotating said second bundle at at least the same peripheral speed as the speed of the said travelling web, pressing the terminal portion of said leader against the travelling web in said path with sufficient pressure to attach it thereto by said adhesive, and severing the web between said adhered portion and the first bundle.

2,980,357
GUIDE FOR THE ENGAGEMENT OF STUD CARRYING COLLARS ON A GROOVED SHAFT
Charles Labrie, 278 Cousineau St., Pont Viau, Quebec, Canada
Filed Apr. 22, 1960, Ser. No. 24,059
6 Claims. (Cl. 242—68.1)



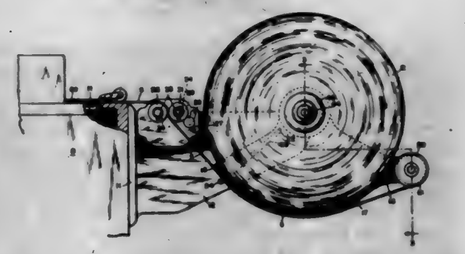
1. A guide for stringing stud carrying collars on a longitudinally grooved shaft, comprising a shaft section having a longitudinal groove with a bottom and longitudinal sides, said sides flaring at one end of said groove to form inclined side portions joining into a first apex at a point of the shaft diametrically opposed to said groove, the bottom of said groove defining a surface which extends between said inclined side portions, and a lozenge shaped boss on said surface disposed between said inclined side portions and defining with said inclined side portions and two of its own sides, a bifurcation of said groove, said lozenge shaped boss having an outer and an inner apex disposed along a line parallel to said longitudinal groove.

2,980,358
FILM SPOOL COUPLING FOR PHOTOGRAPHIC CAMERAS
Rudolf Hainy, Dresden, Germany, assignor to VEB Kamera- und Kinowerke Dresden
Filed July 15, 1957, Ser. No. 671,832
Claims priority, application Germany July 28, 1956
12 Claims. (Cl. 242—71.3)



1. In a photographic camera having a housing, a depression projecting into said housing, a film spool adapted for positioning within said housing, film advancing means in said housing, a winding knob adapted for countersunk positioning within said depression and axially shiftable into an intermediate and an end position outwardly displaced from said depression, a driver coaxially and rotatably cooperative with said winding knob for operation of said film advancing means, a carrier drive gear axially offset from said driver and in engagement with said driver for driving rotation thereby, said carrier drive gear including means adapted to be in engagement with the driver for causing axial movement thereof by said driver, a carrier drive coaxial with said carrier drive gear for coaction therewith in the rotary and axial direction so as to be turned and axially moved by said driver, and positioned to be engaged with said spool only in the countersunk and intermediate position of said winding knob, resilient means connected to said winding knob for urging said winding knob into said intermediate position, and locking means connected to said knob for selectively locking said knob in said countersunk position.

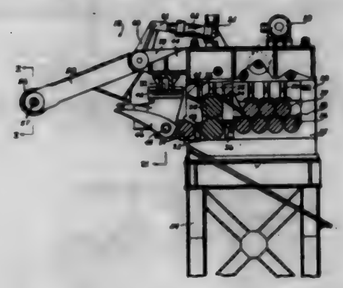
2,980,359
ROLL HOLDER AND WEB FEEDER
Kurt Rudolf Schneider, Bainbridge, N.Y., assignor to Eureka Specialty Printing Company, Scranton, Pa., a corporation of Pennsylvania
Filed May 14, 1958, Ser. No. 735,186
16 Claims. (Cl. 242—75.3)



13. A strip feeding apparatus comprising a rocker member having a strip turning device thereon, an outlet guide for the strip, a strip supply from which the strip

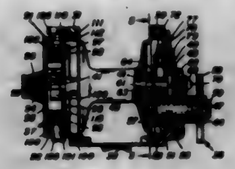
is led to and around the said strip turning device, and a friction surface portion on the rocker for engaging the strip on its way to the outlet guide.

2,980,360
COIL PEELER
Halton A. Billetter, Youngstown, and William W. Stevens, Salem, Ohio, assignors to The McKay Machine Company, Youngstown, Ohio, a corporation of Ohio
Filed Jan. 23, 1957, Ser. No. 635,886
5 Claims. (Cl. 242—78.8)



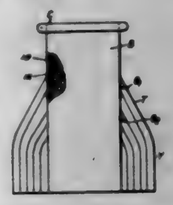
1. A coil peeler comprising a generally pointed finger, means mounting said finger in vertically disposed relation with respect to a coil to be unwound and the path of strip travel, driving means operatively coupled with said finger for moving said finger transversely with respect to and into and from the projected vertical plane of the path of strip travel, power means operatively connected with said finger for moving said finger into engagement with a coil to be unwound when said finger is within the projected vertical plane of the path of strip travel, said mounting means comprising a bracket, a shaft journaled in said bracket, said finger being rigidly mounted on said shaft, said power means having an output shaft and being mounted on said bracket, and said output shaft being axially aligned and operatively coupled with said first mentioned shaft whereby upon energization of said power means said finger is caused to rotate.

2,980,361
CASTING FISHING REEL
Paul W. Nachtrieb, 3517 Ashwood Ave., Los Angeles 66, Calif.
Filed July 6, 1959, Ser. No. 825,253
6 Claims. (Cl. 242—84.3)



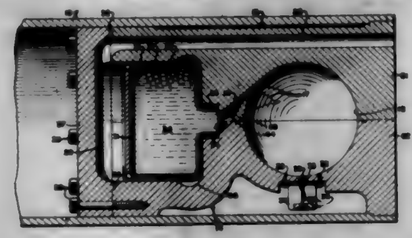
5. A spring-actuated line-unwinding motor means adapted for attachment to a fishing reel of the kind described, comprising a housing attachable to an end plate of a fishing reel, a toothed wheel attached to the end of a spool spindle mounted in said end plate and extending into said housing, a spring-cage within said housing, said cage being normally disposed in axial alignment with the spool spindle and said toothed wheel, a coiled torsion spring having an outer end and an inner free end mounted within said spring-cage, the outer end of said spring being anchored to said cage, and the free end of said spring being formed as a hook engageable with a tooth on said toothed wheel when said cage is moved out of axial alignment, means for holding said cage against rotation, and manually operative shifter means extending through said housing for laterally shifting said spring-cage and enclosed spring out of alignment with said spindle whereby to engage said hook and a tooth on said toothed wheel.

2,980,362
THREAD PACKAGE WOUND FROM CONTINUOUS FILAMENTS OF A SYNTHETIC LINEAR POLYMER
Sidney Goddard, Aberaychan, Pontypool, England, assignor to British Nylon Spinners Limited, Pontypool, England
Filed Mar. 6, 1956, Ser. No. 569,852
Claims priority, application Great Britain Mar. 17, 1955
5 Claims. (Cl. 242—176)



1. A yarn package consisting of a bobbin and a drawn single filament or a plurality of drawn filaments of a synthetic linear high polymeric substance showing viscoelastic properties wherein superposed layers of loops of the yarn are wound upon said bobbin substantially immediately after the yarn is drawn, each layer extending by a small amount beyond the preceding layer at either or both ends of the package; said package containing at least one pound by weight of yarn and wherein the axial distance on said bobbin covered by the longest layer of loops of yarn is not substantially greater than 1½ times the axial distance covered by the shortest layer.

2,980,363
FLUID GYROSCOPE FOR INDICATING ORIENTATION OF A SPINNING MISSILE
Erick O. Schonstedt, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 29, 1952, Ser. No. 317,607
7 Claims. (Cl. 244—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



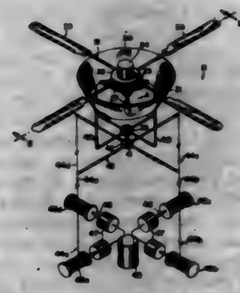
1. Orientation indicating mechanism for a spinning missile containing a steering charge and comprising, in combination, a hollow spherical member fixed in said missile for rotation therewith, an injection conduit tangentially mounted on said spherical member and communicating with the interior thereof, a quantity of mercury contained in a collapsible container and communicating with said spherical member through said conduit, frangible sealing means interposed between said container and said conduit, means for suddenly collapsing said container as the missile is launched thereby to break said frangible means to inject said mercury into said spherical member at high velocity and to cause said mercury to rotate at high speed in said spherical member about an axis substantially perpendicular to the spinning axis of said missile, means extending into the path of said mercury and rotating about the spinning axis of said missile in unison therewith for sensing apparent changes in direction of rotation of said mercury as the missile spins, and circuit closing means in operative connection with said sensing means for operation during travel of the sensing means through said mercury a portion of each revolution of the missile.

2,980,364
HORIZONTAL TAIL CONTROL SYSTEM FOR ROTARY WING AIRCRAFT
Kurt H. Hohenemser, Rock Hill, Mo., assignor to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland
Filed Aug. 24, 1955, Ser. No. 530,260
13 Claims. (Cl. 244—17.11)



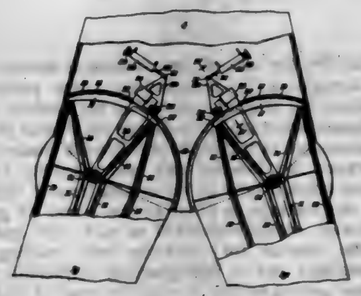
1. An aircraft comprising an aircraft structure, lifting rotor means supported by said aircraft structure, a stabilizer and elevator horizontal tail consisting solely of a tail surface hingedly connected to said aircraft structure and movable about the axis of the hinge connection to float in response to the relative wind and effect of the down wash from the lifting rotor means, a tab hinged at the trailing edge of said tail surface, antibalance mechanism connected between said tab and said aircraft structure tending to move said tab in the trailing edge down direction with respect to said tail surface when said tail surface is moved in the trailing edge down direction a control column, control linkage connecting said control column to said antibalance mechanism, and elastic means connected to said aircraft structure and to said tail surface tending to move said tail surface about its hinge axis in the trailing edge down direction, said tail surface being otherwise unrestrained and assuming an equilibrium position under the combined action of aerodynamic moments and the moments of said elastic means, this equilibrium position being automatically changed selectively responsive to a change of aircraft flight speed and a change of position of said control column.

2,980,365
AIRCRAFT WITH ROTARY LIFTING AIRFOILS
Lester N. Yohe, 1601 Melrose Ave., Havertown, Pa.
Filed Dec. 5, 1958, Ser. No. 778,347
11 Claims. (Cl. 244—23)



1. In an aircraft, the combination of an annular duct having an axis, an impeller disposed within said duct to rotate about said axis, motor means carried by said duct and adapted to drive said impeller in one direction and said duct in the opposite direction, and a plurality of airfoils carried by and extending radially from said duct for rotation therewith, and all cooperating to provide a lifting force to said aircraft.

2,980,366
VARIABLE SWEEPBACK AIRPLANE
Barnes N. Wallis, Effingham, England, assignor to Vickers-Armstrongs (Aircraft) Limited, London, England
Filed Dec. 17, 1959, Ser. No. 860,288
2 Claims. (Cl. 244—46)



1. An aircraft comprising a fore-wing structure, a pair of main-wings, each of said main wings being connected to said structure by a pivot, said main wings being adjustable about said pivots for varying the sweepback, means for effecting relatively slow large-amplitude adjustments of the main-wings in sweep for the purpose of speed control, supplementary means, operable indepently of the speed control means, for performing relatively fast small-amplitude pivotal movements of the main-wings alternatively in the same sense and to the same extent for control in pitch, or differentially for control in roll.

2,980,367
LINKED INERTIAL BALANCE FOR TAB
J. Ford Johnston, Burbank, and Edward Everett Postel, Sherman Oaks, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 11, 1959, Ser. No. 819,721
3 Claims. (Cl. 244—75)



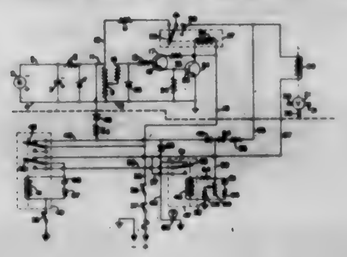
1. In a control surface for an aircraft, a tab pivotable about a hinge line on said control surface, first and second counterweights having independently selectable masses carried at opposite ends of a bar, said bar being rotatable about a pivot having the first and second counterweights on opposite sides of the pivot axis, means linking said bar to said tab including an arm extending downward midway between the counterweights and a push rod connected between the arm and tab for transferring motion of said bar to said tab to provide independently selectable amounts of dynamic balance and static balance to said tab as determined by the selected masses of said first and second counterweights.

2,980,368
DEVICES FOR THE TAKE-OFF AND LANDING OF AIRCRAFT
Wsiewolod John Jakimiuk, Paris, and Roger Georges Sessasse, Colombes, France, assignors to Sud-Aviation Société Nationale de Constructions Aéronautiques, Paris, France
Filed Dec. 27, 1956, Ser. No. 630,803
Claims priority, application France Dec. 27, 1955
18 Claims. (Cl. 244—102)



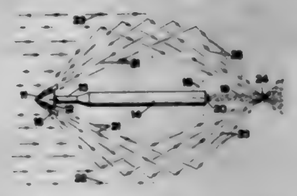
1. Device for the take-off and landing of aircraft with fuselage comprising, in combination, a rear ground-engaging retractable assembly carried by the fuselage at the tail-end thereof and adapted to engage the ground at take-off, at landing and at taxying of the aircraft, means interposed between the fuselage and said assembly for retracting the latter, a pair of retractable central skids secured on the fuselage in front of the center of gravity of the aircraft, means connected to said skids and carried by the fuselage for retracting and lowering said skids, a steerable and at least partially retractable front landing-gear carried by the fuselage in front of said central skids and having at least one wheel, means connected to said front landing-gear and carried by the fuselage for retracting at least partially and lowering said front landing-gear, means connected to said front landing-gear and carried by the fuselage for steering said front landing gear, and means carried by the fuselage and connected to the retracting and lowering means for said front landing-gear for adjusting the height of said front landing-gear according to the firmness of the ground on which moves the aircraft.

2,980,369
ANTI-SKID SYSTEM ELECTRIC CIRCUIT
Edgar J. Ruof, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 7, 1959, Ser. No. 804,688
15 Claims. (Cl. 244—111)



1. In an anti-skid system for use with a vehicle where a D.C. generator is provided driven to a speed proportional to the speed of a vehicle wheel, the combination comprising a reference voltage capacitor one terminal of which connects to said generator, rectifier means connecting the generator to the opposite terminal of said reference voltage capacitor for charging current flow thereto, a resistor connecting said reference voltage capacitor to ground, a pair of transistors connected in current amplifying relation and having a base of one transistor connected to said reference voltage capacitor, a D.C. power supply, means connecting the emitter of the other of said transistors to ground, a relay connected to the collector of said other transistor for actuation when a predetermined current flows through said other transistor, a solenoid valve, and means connecting a power circuit to said solenoid valve when said relay is actuated.

2,980,370
FLYING BODY FOR SUPERSONIC SPEED
Francisco Takacs, Apt. 5388-Este, Caracas, Venezuela
Filed Oct. 18, 1957, Ser. No. 691,009
Claims priority, application Switzerland July 9, 1957
1 Claim. (Cl. 244—130)



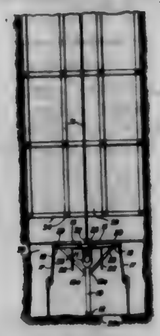
In a missile for flight at supersonic speeds, an elongated body having a longitudinal axis of symmetry and a nose cone fixed coaxially with the forward end of said body, the surface of said cone being ribbed along regularly-spaced elements of the cone, each rib decreasing in height from base to apex of the cone, said ribs being arcuately concave in radial section, and control vanes mounted on said cone at the base thereof.

2,980,371
CONSTANT DISREEFING MEANS FOR PARACHUTES
Rex Guy Finney, La Mesa, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.
Filed Dec. 1, 1958, Ser. No. 777,294
4 Claims. (Cl. 244—152)



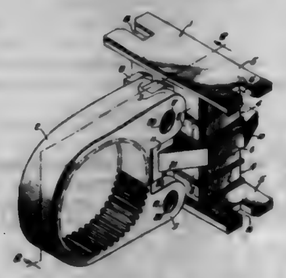
1. In combination: a parachute, comprising: a canopy having a plurality of interconnected gores, said canopy having an outer skirt and a central opening, a plurality of shroud lines secured to said skirt at spaced intervals, and means for securing said shroud lines to a load; a pilot chute having an attachment harness thereon; and a plurality of reefing lines each terminally fixed at points in said skirt; a guide means fixed to said skirt a short distance measured circumferentially of the canopy from each of said points, each reefing line passing through the corresponding guide means and being connected to said attachment harness, whereby tension on said reefing lines caused by the drag of said pilot chute causes collapse of said skirt to a predetermined minimum circumference substantially equal to the full circumference less the sum of the distances between the fixed ends of said reefing lines at said skirt and their respective guide means.

2,980,372
SUPPORT FOR ROCK DRILL
Paul C. O'Leary, Salt Lake City, Utah, assignor, by mesne assignments, to Machinery Center, Inc., Salt Lake City, Utah, a corporation of Utah
Filed Nov. 26, 1958, Ser. No. 776,568
3 Claims. (Cl. 248—2)



1. A drill jumbo for shaft work comprising a supporting post structure; a pair of substantially rectangular platform sections pivotally secured to the upper part of said post structure at opposite sides thereof, respectively, and transversely of its height so as to swing from lowered substantially vertical position to raised, substantially horizontal position and vice versa, each of said platform sections having considerably greater width than has said post structure so as to span a relatively wide work area extending transversely of said opposite sides thereof; means for raising and lowering said platform sections; drill-mounting arms pivotally secured to inner corners, respectively, of said platform sections and extending outwardly therefrom; lugs extending from said arms, respectively, intermediate their lengths, toward and into lapping relationship with respective platform sections; cooperative latch means carried by said lugs and said platform sections, respectively, and having latching positions corresponding to inwardly retracted and outwardly extended positions of said arms; means secured to the outer ends of said arms, respectively, for mounting respective rock drills; and means for supporting said post structure in an erect position during working periods.

2,980,373
SHOCK ABSORBING MOUNT
Harley G. Pyles, Morgantown, W. Va., assignor to Galis Electric & Machine Company, Morgantown, W. Va., a corporation of West Virginia
Filed Nov. 3, 1959, Ser. No. 850,661
3 Claims. (Cl. 248—15)



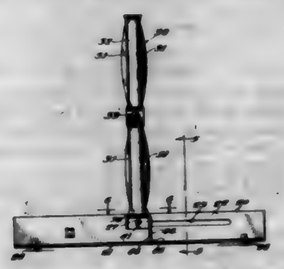
1. A shock absorbing mount for gear systems including a fixed member comprising, a torque arm connected at one end to the fixed member of the gear system, a spring unit composed of spaced top, bottom and central plates having rubber blocks bonded between them upon each side of the torque arm at the opposite end, bearing mounting plates at the outer sides of the spring units, the spring units having central openings extending completely therethrough, a pin mounted on the torque arm and seated in the opening in one spring unit, and a pin mounted on one of the bearing plates and seated in the opening in the other spring unit.

2,980,374
RESILIENT SUPPORT FOR CHAIN SAWS
Loyd Young, Rte. 2, Salem, Ill.
Filed Aug. 18, 1958, Ser. No. 755,738
1 Claim. (Cl. 248—18)



A support for a chain saw comprising an elongated tube having an open lower end, a transverse rod connected to the tube adjacent its upper end, link means connected centrally of said rod and extending from the upper end of the tube for mounting the tube from a support, a plurality of helical extension springs having their upper ends secured to said transverse rod and extending downwardly through said tube with their lower ends terminating within said tube when in no load position, a second transverse rod having a length less than the diameter of the tube connected to the lower ends of said springs, link means connected centrally of the second rod and means thereon for connecting said link means to a chain saw.

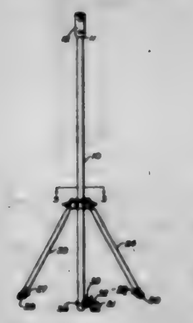
2,980,375
FOLDABLE WARNING SIGNAL
Ralph R. Gunderson, 5520 South Shore Drive, Chicago, Ill.
Filed Apr. 10, 1958, Ser. No. 727,714
8 Claims. (Cl. 248—33)



5. A foldable warning signal, comprising: a supporting frame having a base and a pair of upright opposed side walls, each of said side walls being provided with a similar journal slide extending longitudinally of said frame and having a journal seat; a signaling device provided at one end with a transverse crossbar having journals at its opposite ends, each of said journals being slidably received

in one of said journal slides and adapted to fit in a journal seat to permit swinging movement of said signaling device between retracted closed position and upright open position, said crossbar having an end portion swingable forwardly and downwardly as the signaling device is moved toward open position, said end portion being of a length to make an abutting contact with the base to stop the signaling device in upright open position and retain the journals positioned in the journal seats; and a latch member on the frame for releasably locking the signaling device in upright open position, said latch member being positioned rearwardly of the crossbar when said end portion and base are in abutting contact to retain said journals in the journal seats and to releasably latch the signaling device in upright open position.

2,988,376
SELF-SUPPORTING TRIPOD MAST
James G. Westerfield, 76 Melrose Ave., Youngstown, Ohio
Filed Feb. 4, 1960, Ser. No. 6,692
2 Claims. (Cl. 248—44)



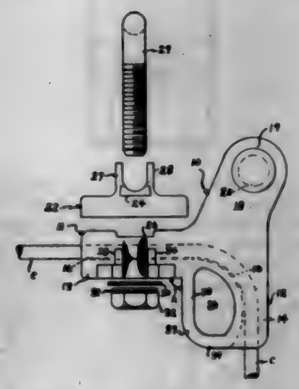
2. A self-supporting tripod mast comprising an elongated straight mast section, a pair of relatively shorter leg sections having flattened ends and a clamping device attached to the flattened ends of said leg sections and to said straight mast section, said clamping device comprising an apertured channel section having oppositely disposed serrated portions engaged on said straight mast section, an apertured bracket positioned adjacent said channel section, said legs secured to said apertured bracket by bolt and nut assemblies, a U bolt positioned through said channel section and said bracket section and positioned around said mast for securing the same to one another, L shaped brackets on the ends of said legs and an L shaped bracket on one end of said straight mast section.

2,988,377
TREE STAND
Olaf Nielsen, 1016 Emma Ave., Akron, Ohio; Joseph Virgil Viola, 1429 Marcy St., Akron, Ohio; and Raymond Kent, Akron, Ohio (905 Norton Drive, Tallmadge, Ohio); Dorothy Jane Viola, executrix of said Joseph Virgil Viola, deceased
Filed Feb. 5, 1958, Ser. No. 713,351
5 Claims. (Cl. 248—44)



1. The combination of a tree having a trunk-end and a stand therefor, said stand comprising a base having an integral cup member, a separable cup member engaging the inner surface of said integral cup member and receiving said trunk-end, and an initially flowable, thereafter quick-hardening, material between the inner surface of said separable member and said trunk-end, whereby upon hardening of said material said trunk-end is rigidly supported in said base, while being removable from said base with said separable member.

2,988,378
DEAD END CABLE CLAMP
Barron Bethea, 1625 Carolina Ave., Bessemer, Ala.
Filed Nov. 23, 1959, Ser. No. 854,844
3 Claims. (Cl. 248—63)

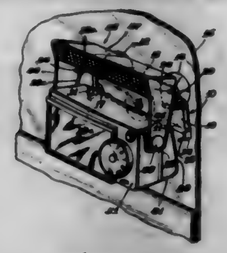


1. In a cable clamp, a body having a pair of body portions in right angular relation to each other, said body portions having a continuous cable groove therein with the cable groove in one body portion positioned in substantially a right angular relation to the cable groove in the other body portion, a pair of substantially parallel spaced sides extending from each of the body portions and intersecting at the juncture of the body portions, an extension extending from the intersection of the parallel sides and comprising two parallel side portions, a pin extending through said side portions and adapted to be secured to a fixed support for supporting the cable clamp, an elongated member extending between the outer surface of the body portions on a side of the body portions opposite the extension thereby to form a pulling eye, a keeper being of a size to fit between the parallel sides of one of the body portions and pressing against a cable therein having cable portions in right angled relation to each other with the longitudinal axis of one cable portion being in alignment with said pin, a U-bolt fitting over the keeper and extending therefrom over the parallel sides of said one body portion, guides on the parallel sides adjacent the keeper to receive the ends of the U-bolt, and nuts on the ends of the U-bolt to draw the keeper into engagement with the cable in the cable groove.

2,988,379
DETACHABLE SUPPORTING RACK
Samuel M. Goldfus, Lincolnwood, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed June 23, 1958, Ser. No. 743,612
4 Claims. (Cl. 248—206)

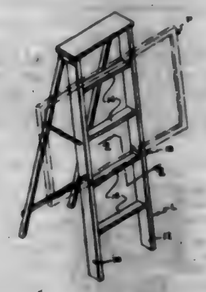
3. A rack for mounting a portable radio receiver including in combination, a mounting plate, suction cups carried on one face of said plate for securing the same to a surface, integral sleeve portions formed from opposite side edges of said plate on the other face thereof, a pair of arms pivotally and slidably mounted within

said sleeve portions, each of said arms including an elbow portion adapted to engage and support a portable radio receiver, each of said arms including a straight shank portion within said sleeve portion and extending therebeyond to allow said arm to be slidably raised therein for pivotal movement to an extended position, said arms having turned-out portions at opposite ends of each shank for limiting the sliding movement thereof, and a pair of integral projections formed from an edge of said plate and extending from said other face of said plate adjacent each of said arms, said turned-out portion of each arm



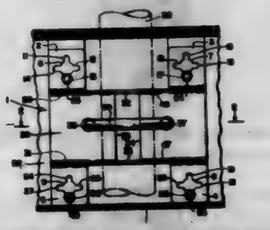
at the lower ends of said shank portion bearing against one of said projections to thereby retain said arms in fixed angular positions with respect to said plate when said arms are in their respective extended positions with the receiver supported thereby, and a pair of integral lug members formed from an edge of said plate and extending into and terminating above the normal arc of rotation of the upper turned-out portions, said arms being retainable in a compact folded position against said plate by slidably raising and pivoting the upper turned-out portions over said lug members and then lowering the same between said lug members and said plate.

2,988,380
ARTICLE SUPPORTING LADDER ATTACHMENT
Robert L. Gibson, 1010 N. Badger Ave., Appleton, Wis.
Filed Jan. 9, 1959, Ser. No. 785,906
1 Claim. (Cl. 248—211)



In combination, a step ladder having a side rail and a step extending laterally from the rail, said step having an upper surface and a forward edge and a rear edge and having an upper surface which is angled forwardly and downwardly relative to the length of the rail, an article supporting bracket comprising an elongated body having forward and rear ends, an upstanding arm on said rear end, said bracket being positioned at the laterally inward side of the rail, means pivoting said arm on the rail at a point spaced above the step and spaced from the forward and rear edges of the rail, said body having a rear end portion having a lower edge adapted to bear upon the upper surface of the step, in the operative position of the bracket wherein the bracket extends forwardly beyond the rail and the step, said body having a forward end portion having an upper edge adapted to bear against the rear edge of the step in the inoperative storage position of the bracket, said upper edge of forward end portion the bracket body being forwardly and upwardly angled relative to the lower edge of the rear end portion of the body, to locate said upper edge at right angles to the ladder rail in the operative position of the bracket.

2,988,381
SUPPORT APPARATUS
Tellus X. Dectrow, Philadelphia, and Harold C. Sundby, Roslyn, Pa., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 26, 1957, Ser. No. 686,418
1 Claim. (Cl. 248—223)



A supporting bracket operative to support an instrument case in any one of four angularly displaced positions of the bracket, comprising a plate of an H-shaped configuration having four apertures substantially equally spaced from a central position on said plate, adjacent ones of said apertures being substantially equally spaced from each other to accommodate correspondingly positioned mounting bolts on a flat side of said instrument case, each of said apertures having a central opening through which the head of an individually associated bolt on said instrument case may extend, the opening in each of said apertures communicating with four radial slots similarly displaced approximately at right angles from each other and each of such size as to snugly receive the shank of the associated bolt for rigidly mounting said instrument case on said bracket in a selected one of said positions, said H-shaped plate having an elongated, dished out portion of U-shaped configuration which when in position to support said instrument case extends away from the said flat side, and openings in said U-shaped portion to accommodate mounting means for said bracket.

2,988,382
CURTAIN AND SHADE SUPPORT
Rafael S. Trias, 390 Palisade Ave., Jersey City, N.J.
Filed Aug. 6, 1959, Ser. No. 832,944
2 Claims. (Cl. 248—265)

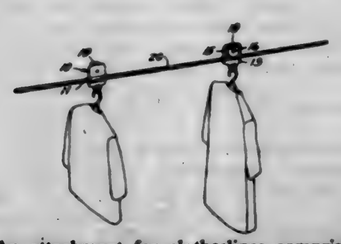
2. A curtain support comprising vertically spaced upper and lower brackets for mounting on a window frame, an elongated vertical guide mounted on said brackets and including inturned longitudinal marginal flanges defining a slot, an elongated slide operable in the guide and including an outwardly pressed longitudinal rib operable in the slot and providing a groove in the inner side of said slide, said rib having an opening in its lower portion, a flat, horizontal keeper projecting forwardly from the lower bracket beneath the guide and having a slot therein, a rod engaged in the groove and including an angularly bent end portion projecting through the opening for operatively connecting said rod to the slide for raising and lowering same, said rod further including a reversely bent intermediate portion terminating in a right angularly extending free end portion providing an operating handle and engageable on the

keeper for supporting the slide in a raised position, said reversely bent intermediate portion being engageable in



the slot for retaining the handle on the keeper, and a curtain rod bracket on the slide.

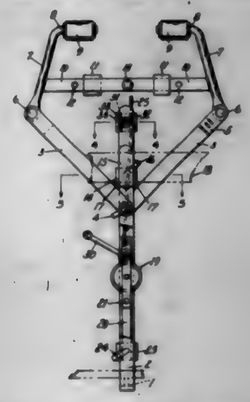
2,980,383
CLOTHESLINE ATTACHMENT
J. Roland Anderson and Lenore Anderson, both of 7459 E. River Road, Minneapolis, Minn.
Filed May 11, 1959, Ser. No. 812,245
5 Claims. (Cl. 248—317)



1. An attachment for clotheslines comprising a body member having a substantially planar portion and having an elongate, continuous clothesline receiving groove formed therein and extending transversely thereof, said body member including means for attaching a clothes hanger thereto, a locking member secured to said body member for oscillating movement in a plane substantially parallel to said planar portion of said body member, said locking member having a portion of its marginal area flared outwardly and away from said body member to thereby define a camming segment whereby upon oscillation of said locking element the camming segment will progressively press a clothesline into clamped relation within said groove.

2,980,384
SCAFFOLD HANGER
Henderson G. Leonard, Box 128, Covert, Mich.
Filed June 19, 1959, Ser. No. 821,544
8 Claims. (Cl. 248—324)

1. A scaffold hanger comprising a U-shaped support having upright arms with divergent bars pivotally connected to their upper ends and swingable in parallel planes perpendicular to the plane of the U-shaped support, angled hanger members pivotally connected to the upper ends of said divergent bars and having inwardly directed pintles on their upper ends with rollers thereon, spreader bars rigidly connected to said angled hanger members and projecting inwardly in overlapping relation with the spreader bar on the opposed hanger member, means forming guides on said spreader bars holding the lapped bars in lapped relation, said spreader bars defining holes selectively positioned in registering relation, pins passed through registering holes in said spreader bars, a winch positioned between said upright arms and connected thereto by downwardly divergent straps, said straps having U-shaped clips on their lower ends embracing the edges of said upright arms to prevent lateral tilting of the straps, a cable carried by said winch and adapted to extend thereabove to a beam engaging clamp, a tie bar extending transversely between the upper ends



of said upright arms and having U-shaped clips on its ends embracing the edges of said upright arms, and a U-shaped angled clip secured in concavely facing relation to the side of said tie bar and defining a guideway passing the cable of said winch, the upper ends of said upright arms having sleeves adjustably slidable thereon between said tie bar and the pivotal connections between said divergent bars and said upright arms with means for clamping said sleeves in blocking engagement with the divergent edges of said divergent bars, said sleeves having hand rail engaging brackets mounted on their outer sides.

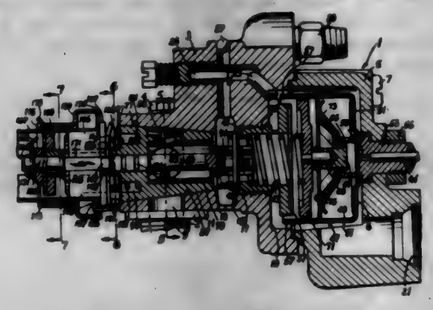
2,980,385
REMOTE CONTROL VALVE
Edwin J. Hunter and Lorenzo A. Richards, both of P.O. Box 489, Riverside, Calif.
Filed Aug. 3, 1956, Ser. No. 601,959
10 Claims. (Cl. 251—25)



1. A control valve, comprising: a valve body having an inlet port, a valve seat at said inlet port, an outlet port and a valve chamber therebetween, said valve chamber having internal ribs; a mounting core within said ribs and spaced thereby from the walls of the valve chamber, said mounting core having a control passage directed through one of said ribs and walls defining a recess confronting said inlet port of larger diameter than said inlet port and communicating with said control passage, the extremities of said walls being spaced from the portions of the valve chamber walls surrounding said inlet port and forming therewith an annular entrance opening affording communication between said inlet port and said outlet port; a hollow single piece dome-shaped

valve membrane formed entirely of yieldable material closing said recess and forming therewith a pressure chamber of larger cross-sectional area than said inlet port, said valve membrane having a wall thickness at least one-half the axial dimension of said entrance opening to bridge said opening and resist pressure differentials between said inlet and outlet ports; means for pressurizing said pressure chamber to force said valve membrane into sealing engagement with said inlet port; and means for relieving the pressure in said pressure chamber to permit opening of said inlet port.

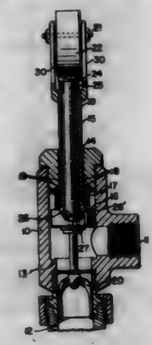
2,980,386
THERMOSTATIC GAS VALVE CONTROL
Harold C. Reinhart, Ferguson, Mo. (5005 Daggett Ave., St. Louis, Mo.), and Walter H. Holzboog, Clayton, Mo.
Filed Apr. 30, 1959, Ser. No. 810,061
10 Claims. (Cl. 251—96)



1. In a construction having a rotary stem extending from a body member; the improvement comprising an arbor splined to the stem, a fixed cage around the arbor and spaced from said body member, said arbor having axially operative stop means located between the body member and the cage engageable with the cage to limit axial movement of the arbor along the stem away from the body member, a latch member located between said body member and the arbor, said latch member having a rocking contact with the arbor, spring means biasing the latch member to an initial rocked position and biasing the arbor toward its limit position relative to the cage, stop means on the cage, said latch member having an extension on one side of the stem directed toward the cage and movable to and from said stop means when the latch member is moved to said initial position by the spring means, said latch member having a projection on the other side of said stem extending toward the body member for engagement therewith upon axial movement of the arbor toward the body member whereby the latch member may be rocked to remove said extension from said stop means, said latch member and arbor having a rotary driving connection therebetween.

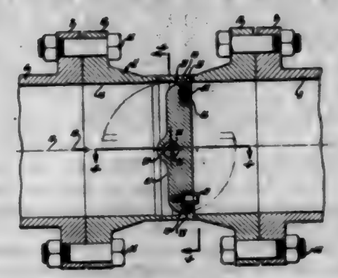
2,980,387
SAFETY VALVE
Lloyd J. Devlin, P.O. Box 9, Newton, British Columbia, Canada
Filed Dec. 16, 1958, Ser. No. 780,839
7 Claims. (Cl. 251—149)

1. A valve for controlling the flow of a fluid to a receptacle, said valve comprising a body having an inlet opening and an outlet opening interconnected by a passageway, a valve seat in said passageway substantially in axial alignment with the outlet opening; coupling means adapted to connect the outlet opening to the receptacle; a tubular valve stem having a head, said head having an opening coaxial with said tubular valve stem and being adapted to fit against said valve seat to close said passageway; a push rod adapted to pass through the tubular valve stem and the coaxial opening in said head, means for forming a seal between said push rod and said valve stem; an opening in said body positioned opposite said outlet opening, said valve stem passing through the opening positioned opposite said outlet opening, means forming a sliding seal between said valve stem and said opening opposite said outlet opening, means operable to



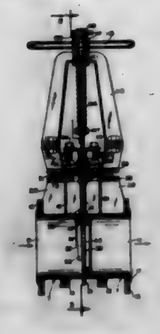
produce axial relative motion between said valve stem and said push rod; an anchor adapted to be maintained in said passageway between the outlet opening and the valve seat by said coupling means, said anchor being fixed to said push rod thereby anchoring said push rod with relation to said body when said outlet opening is connected to the receptacle by said coupling means, and spring means urging said head against said seat.

2,980,388
BUTTERFLY VALVE
Ira Morgan White, Berkeley, Calif., assignor, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 15, 1955, Ser. No. 501,557
5 Claims. (Cl. 251—175)



1. A butterfly valve comprising a circular cylindrical conduit having a flow axis, a rotatable shaft extending across said conduit and disposed laterally with respect to said flow axis, a continuous conical seat extending around the interior periphery of said conduit on one side of said shaft, said conical seat having its larger diameter near said shaft and its smaller diameter away from said shaft, a valve disc mounted on and rotatable with said shaft into and out of closed position, said disc having a diameter less than said smaller diameter of said conical seat whereby said disc in all positions thereof is spaced from said seat, and a rubber-like continuous sealing ring mounted on and extending freely in a radially outward direction all around the periphery of said disc in a position to engage said seat when said valve disc is in said closed position, the free diameter of said ring being greater than the smaller diameter of said seat and smaller than the larger diameter of said seat.

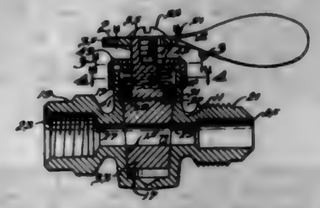
2,980,389
STOCK VALVE HAVING YIELDABLE GATE ENGAGING ELEMENTS
John L. Williams, 17467 NE. West View Road, Cowego, Oreg.
Continuation of application Ser. No. 423,114, Apr. 14, 1954. This application July 11, 1958, Ser. No. 748,030
7 Claims. (Cl. 251—175)



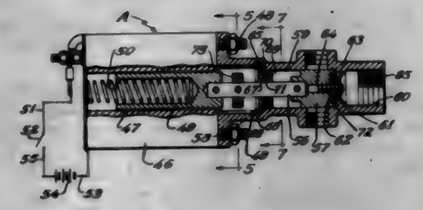
1. A gate valve comprising a valve body having inlet and outlet portions having curved walls of circular cross section defining a flow passage, said valve body providing a gate blade slot between said inlet and outlet portions, a gate blade having a semi-circular end projecting through said slot, a seat for said blade on said outlet portion, a backing member for said blade disposed on the side thereof remote from said seat, said backing member consisting solely of an incomplete ring having an external diameter the same as the internal diameter of said inlet portion, said backing member being disposed in nesting relation within the curved walls of said inlet portion with the central part of said backing member next to the central part of said slot and the end portions of said backing member disposed symmetrically one on either side of the center line of said blade to be laterally spaced relative to the tip of said blade, said backing member being connected by a weld at its outer arcuate edge to the curved walls of said inlet portion in spaced relation to said end portions so that said end portions provide yieldable backing fingers, said fingers extending generally in the direction of closing movement of said blade and projecting toward said outlet portion to engage said blade and push it against said seat, said fingers also being longitudinally spaced from such said blade tip in the closed position of the latter, so that said fingers apply pressure against said blade along a transverse region longitudinally spaced toward the central portion of the passage from the closed position of said blade tip, the curvature of said blade end providing for initial engagement between said fingers and the side marginal portions of said blade just before said blade is fully closed and separation of said fingers and blade just after said blade commences its opening movement, despite the longitudinal spacing of said fingers from said blade tip closed position.

2,980,390
ROTARY VALVE
Ervin R. Anderson, Lincoln Park, and Gerald H. Kass, Garden City, Mich., assignors to Anderson Brass Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 2, 1958, Ser. No. 706,667
4 Claims. (Cl. 251—181)

1. In a tapered plug cock having a body with a tapered internal wall defining a chamber therein and a plug member including a plug section normally seated in and rotatable in said chamber and an actuating stem section extending outwardly from the plug section, spring means surrounding the stem for urging the plug section into the chamber, means for maintaining a seal between the body and the plug including an annular shoulder on the plug member surrounding the stem section, an elastic annulus interposed between said spring means and said shoulder and having its inside diameter spaced from the periphery of the stem, and a substantially cylindrical wall sealed with respect to the body and sealingly engaged by the outside diameter of said annulus, said spring means urging said annulus against said shoulder, thereby urging the plug section into the chamber.



2,980,391
SOLENOID OPERATED PRIMING VALVE
Robert A. Hill, Minneapolis, Minn., assignor to Waterous Company, St. Paul, Minn., a corporation of Minnesota
Filed Apr. 19, 1956, Ser. No. 579,312
5 Claims. (Cl. 251—310)



1. A valve including a valve cylinder, a valve piston slideable within said cylinder, end walls on said cylinder, one end wall on said cylinder having an outlet opening therethrough, a valve element supported on one end of said piston and seating against said one end wall about said opening, a portion of said one piston end being spaced from said one end wall when said valve element is seated, a valve port extending through the side wall of said cylinder into communication with the interior surface of said cylinder and closed by said piston in seated position of said valve element thereon, a valve rod secured to said piston and passing through the opposite end wall of said cylinder, means associated with said valve rod to move the same into position to uncover said port, a by-pass of relatively small area relative to said port extending from said port to opposite sides of said piston in said cylinder when said valve element on said valve piston is seated, the area subject to by-passed pressure acting against the end of said piston adjoining but spaced from said one end wall being smaller than the area subject to by-passed pressure acting upon the opposite end thereof.

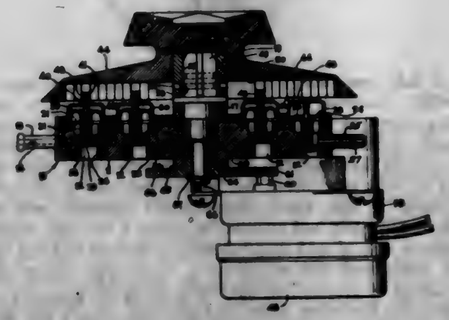
2,980,392
COMBINATION METERING AND SHUT-OFF VALVE
Eugene C. Greenwood, 413 Poinsettia, Corona Del Mar, Calif.
Filed Aug. 27, 1957, Ser. No. 680,458
2 Claims. (Cl. 251—210)

1. A combination metering and shut-off valve, which comprises a generally cylindrical valve casing having an inlet opening and an outlet opening, an insert threadedly mounted in said casing, said insert having a cylindrical passage therethrough, a cylindrical plug mounted in said insert passage for longitudinal rotational movement therein, a threaded rod connected to said plug and threadedly mounted in said casing, means to rotate said threaded rod to effect rotational movement of said plug and also longitudinal movement of said plug in said insert passage, an O-ring mounted in said insert around said plug, single tapered groove means formed in said plug, said tapered groove means including two groove walls each lying in a single plane and meeting at an apex, said apex lying



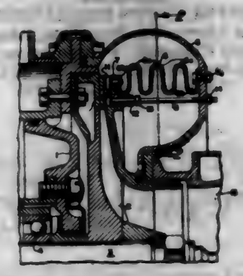
in the same plane as the axis of said plug but being oblique to said axis, the angle between said groove walls being from 45° to 135°, and shoulder means provided on said plug to limit the amount of insertion thereof into said insert passage, the narrow end of said tapered groove means being disposed in spaced relationship from said shoulder means whereby the ungrooved portion of said plug between said narrow end and said shoulder means may be disposed in engagement with said O-ring when said shoulder means is in engagement with said insert, thereby completely blocking the flow of fluid through the valve.

2,980,393
PNEUMATIC TIMER
Carl C. Baserlein, Lincolnwood, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed May 7, 1958, Ser. No. 733,649
4 Claims. (Cl. 251—262)



1. A self-returning pneumatic valve particularly adapted for pneumatic timers and the like, comprising a valve block having a valve chamber therein having a generally cylindrical wall, an inlet leading into said valve block and having communication with said valve chamber, adjacent one end thereof, an outlet leading through the wall of said valve chamber in axially spaced relation with respect to said inlet, a valve having a resilient flared valve face movable along the cylindrical wall of said valve chamber in sealing engagement therewith and affording communication between said inlet and said outlet, when said valve is in its open position, a yieldable diaphragm closing the end of said chamber adjacent said inlet and having connection with said valve, the facing surfaces of said valve and said diaphragm being subject to inlet pressure when said valve is in its open and closed positions, and the effective area of said diaphragm being greater than the effective area of said valve, to bias said valve into its closed position.

2,980,394
TEMPERATURE RESPONSIVE VARIABLE MEANS FOR CONTROLLING FLOW IN TURBOMACHINES
Bob H. Rowlett, Playa Del Rey, and Alexander Silver, Torrance, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Nov. 23, 1956, Ser. No. 623,913
4 Claims. (Cl. 253—52)



1. In a temperature responsive variable means for controlling flow in turbomachines; a turbine wheel having an inlet, means forming a variable area device disposed at said inlet to control flow through said turbine, a bimetal temperature sensing element disposed in said inlet to sense fluid temperature therein, said temperature sensing element being connected to said variable area device to actuate the same, and guideways extending axially relative to said turbine wheel and disposed to support both said variable area device and said bimetal temperature responsive device.

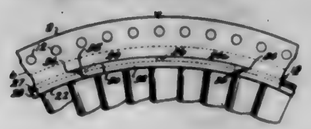
2,980,395
ROTOR WITH PIVOTED BLADES FOR COMPRESSORS AND TURBINES
Arthur Alexander Rubbra, Littleover, and Ronald Jones, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 29, 1954, Ser. No. 419,394
Claims priority, application Great Britain Apr. 10, 1953
15 Claims. (Cl. 253—77)



1. A rotor for a compressor or turbine comprising a rotor structural part, and a blade element, and means

pivotally connecting the blade element to the rotor structural part comprising two lugs at one end of the blade element, the lugs being spaced apart along the pivotal axis of the blade element, at least three radial flanges on said structural part at its periphery, said flanges being spaced apart along said pivotal axis, each of the lugs extending between a corresponding pair of said flanges, axially aligned bores in all said lugs and flanges and a plurality of pivot pin elements, each pivot pin element solely engaging the bore in one lug and the corresponding pair of flanges between which it extends and said pivot pin elements being axially aligned whereby the blade element is pivotally connected to the rotor structural part and relative rotation of the lugs on the blade owing to twisting of the blade is accommodated by relative rotation of the aligned pivot pin elements and frettage of the pivot pin elements is reduced, adjacent axially aligned pivot pin elements having an inter-connection facilitating their engagement with the bores in the lugs and the flanges and permitting relative rotational movement of the pivot pin elements when engaged in their respective bores.

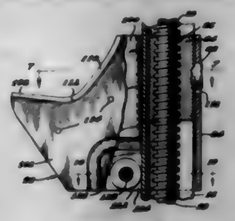
2,980,396
STATOR CONSTRUCTION FOR TURBINE ENGINES
Edward Neshan Movsesian, Stoneham, Mass., assignor to General Electric Company, a corporation of New York
Filed June 29, 1959, Ser. No. 823,702
7 Claims. (Cl. 253—78)



1. In a turbine engine of the type comprising an annular casing partially defining a working fluid duct, a row of blades mounted for rotation in said duct, and a row of guide vanes in said duct for guiding a flow of working fluid therein, a stator construction for mounting said vanes in said casing, comprising, in combination; an annular shroud ring secured to an end of each of said vanes, said shroud ring divided circumferentially into a plurality of arcuate segments, said casing formed with a recess extending circumferentially thereabout for receiving said shroud ring, a pair of spaced-apart circumferentially-extending grooves formed in said recess for receiving said segments in circumferentially-slidable supporting engagement, said casing formed with a loading slot communicating with said recess for receiving said segments individually for movement into slidable engagement with said grooves, such that said segments may be individually inserted into said recess through said loading slot and slid along said grooves to assemble said shroud ring as a complete annulus in said recess.

2,980,397
LIFTING JACK
Millard B. Lacker, St. Joseph, Mich., assignor to Auto Specialties Manufacturing Company, St. Joseph, Mich., a corporation of Michigan
Filed July 14, 1954, Ser. No. 443,326
1 Claim. (Cl. 254—99)

A lifting jack comprising an upstanding channel-shaped strut having a forwardly disposed arcuate bight portion and a pair of spaced apart generally straight sides extending rearwardly from said bight portion and presenting rearwardly facing edges, said edges defining an opening and providing a pair of spaced apart and upwardly extending bearing surfaces, a screw rod pendantly supported within said strut and disposed entirely forwardly of the rearwardly facing edges of the strut, a nut member threadedly engaging said screw rod within said strut and having a transverse cross section smaller than an interior transverse cross section of the strut for permitting limited lateral movement of the nut member relative to the strut, said nut member including portions engageable with said strut for preventing rotation of the nut member when the screw rod is rotated, means for rotating said screw rod for moving said nut member along the screw rod within the strut, said nut member including a pin extending rearwardly through said opening and generally perpendicular to said strut and having a rounded upper surface, and a load lifting member having



a portion thereof provided with a rounded aperture of greater curvature than that of the pin to loosely receive the pin and permit relative tilting movement between the nut member and the load lifting member, said load lifting member being engaged on said pin for upward travel with the nut member along the screw rod and including a load engaging portion extending forwardly with respect to said bight portion, the engagement between the relatively different surface curvatures of said aperture and said pin providing substantially a line contact permitting relative lateral pivotal movement between the nut member and the load lifting member with minimum sliding friction therebetween.

2,980,398
FISH TAPE LEADER
William E. Raney, 20080 Frazier Drive, Rocky River, and Milan J. Siebert, 5617 Onaway Oval, Parma, Ohio
Filed Feb. 13, 1957, Ser. No. 640,023
1 Claim. (Cl. 254—134.3)



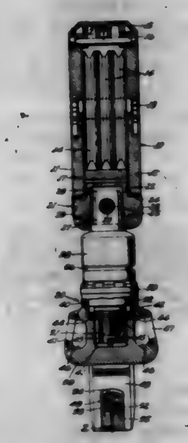
A fish tape leader comprising an elongated strip of flexible material of rectangular cross-section, a coupling sleeve at one end of said strip comprising a short length right circular cylindrical tubular member having a circular longitudinal opening therethrough, said one end of said strip being welded therein, and a set screw threaded in said sleeve diametrically opposite said one end of said strip and adapted to clamp a fish tape against said one end of said strip whereby said strip and fish tape are jutaxposed and constitute a substantial linear continuation of each other, said strip being of progressively increasing flexibility from said one end toward the other end to facilitate longitudinal feeding of said leader and of the fish tape adapted to be clamped in said sleeve into a conduit having sharp bends therein, and a generally conically-shaped bulb on said other end of said strip which initially confronts said sharp bends when said leader and such tape are thus longitudinally fed.

2,980,399
FLOW PROPELLED SEWER OR PIPE THREADER
Kendall M. Littlefield, 1332 11th Ave. N., Moorhead, Minn.
Filed June 30, 1958, Ser. No. 745,353
1 Claim. (Cl. 254—134.4)



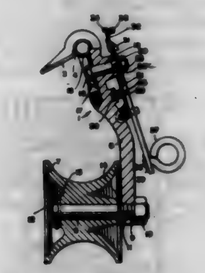
A device for threading a cable through a sewer main comprising an elongated tapered buoyant core having a plurality of axially spaced radially projecting normally flat resilient flexible discs attached thereto, the diameters of said discs being slightly less than the diameter of the main in which the device is being used, the core tapering from its rearward end toward its forward end so that the unsupported areas of the foremost disc is materially greater than that of subsequent rearward discs to permit greater flexing of said foremost disc whereby to pass more easily over silt and obstructions in said main and reduce drag therein, said rearmost disc being exposed to the full force of fluid pressure for driving said device through the main, and means at the larger end of the core for attaching a cable to be drawn through the main.

2,980,400
HOOK-BLOCK ASSEMBLY
Spencer W. Long, Inglewood, Calif., assignor, by mesne assignments, to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Feb. 5, 1957, Ser. No. 638,267
1 Claim. (Cl. 254—192)



In a hook-block assembly, the combination of: a traveling block having parallel side plates defining the side boundaries of said block, a plurality of sheaves rotatably supported between said plates, said plates projecting below the lower portions of said sheaves and being provided with aligned apertures, a member positioned between the lower ends of said plates and having faces abutting the inner surfaces of said plates, said member having a pair of coaxial oppositely extending horizontal trunnions projecting from said faces and pivotally mounted in said apertures, said member having a central recess, a spring hook assembly having a housing positioned below the said member and having a hook element fixed thereto, said housing being larger than the recess in said member, a load carrying shank within said housing and extending upwardly into said recess, said shank having a transverse opening, a horizontal cross pin mounted upon said member and extending through said transverse opening to pivotally support said shank, and means including a spring within the housing and encircling said shank for supporting the housing upon said shank.

2,980,401
CABLE BLOCK
William N. Witmer, deceased, late of 2364 Canby St., Peabrook, Pa., by Citizens Trust Co. of Harrisburg, executor, Harrisburg, Pa., assignor to Beatrice L. Witmer, now by change of name Beatrice L. McCormick
Filed Sept. 22, 1959, Ser. No. 841,651
1 Claim. (Cl. 254—196)

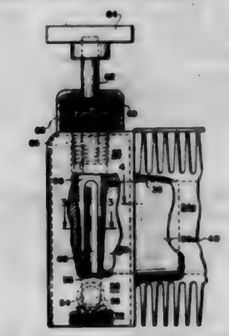


A cable block comprising hanger means adapted to hand a cable block over a messenger wire, a frame having a downward extension from said hanger means, a grooved pulley mounted on the lower part of said frame and rotating on an axis of rotation extending transversely from said downward extension, clamping means comprising a rotary eccentric cam element adapted to clamp said cable block to said messenger wire when said cam element is moved to a predetermined position and to release said cable block from its clamped association with the messenger wire when said cam element is moved to another predetermined position so that the cable block can be removed from the messenger wire after the clamping means have been released, and means to control the movement of said cam element comprising a lever connected to said cam element and adapted to rotate it, a plate member pivotally mounted at one end from said frame, means between said frame and said plate member to hold the latter resiliently against said lever, means providing a hole in said plate member around the connection between said lever and said cam element permitting said plate member to be depressed away from said lever adjacent the end of said plate member opposite its pivoted end, and stop members on said plate members adapted to limit the movement of said lever in predetermined positions when said plate member is held against said lever and adapted to permit movement of said lever over said stop members when said plate member is depressed.

2,980,402
BASE-BOARD RADIATORS
Allan W. Lundstrum, % Ohio Fuel Gas Co., 99 N. Front St., Columbus, Ohio
Filed Sept. 19, 1957, Ser. No. 685,036
6 Claims. (Cl. 257—133)

1. A base-board radiator comprising: a die cast inlet terminal section having a tapered male connector part and having valve means including a tapered valve member and a tapered valve seat therefor, for regulating the flow of heated fluid to the base-board radiator; a die cast outlet terminal section for discharging fluid from the base-board radiator, said outlet terminal having a

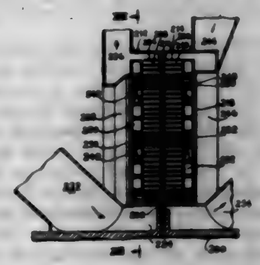
tapered female connector part; and a plurality of finned radiator sections coupled together in end-to-end relation and to said inlet and outlet terminal sections, each said radiator section including die cast top, bottom, front and rear walls integral with each other and spaced apart to form an elongated substantially smooth-bored fluid conduit extending lengthwise of the section from end-to-end thereof, said conduit gradually increasing in size from the center toward both ends and terminating at its one end in an internally tapered female connector part, and at its other end in an externally tapered male connector part, said male and female connector parts being coaxially aligned with each other and with the lengthwise axis of said conduit, and said top, bottom



and rear walls only having, exteriorly, a set of die cast tapered heat radiating fins integral therewith, said fins being generally parallel to each other and perpendicular to the lengthwise axis of said conduit, said fins also extending generally rearwardly from said front wall to and beyond said rear wall, and having side walls which are converging in the direction from front to rear, said inlet terminal having its male connector part sealingly, telescopically received in the tapered female connector part of the first of said radiator sections, and said outlet terminal section sealingly, telescopically receiving in its tapered female connector part the tapered male connector part of the last of said radiator sections.

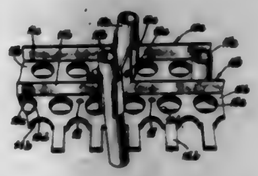
2,980,403
HEAT TRANSFER
Karl Gustav Åhlén, Stockholm, Sweden, assignor to Svenska Rotor Maskiner Aktiebolag, Necka, Sweden, a corporation of Sweden
Original application May 16, 1951, Ser. No. 226,582, now Patent No. 2,874,940, dated Feb. 24, 1959. Divided and this application June 5, 1958, Ser. No. 740,917
3 Claims. (Cl. 257—241)

3. Heat exchange apparatus comprising a rotor disc having a plurality of circumferentially continuous open circular groove-like channels concentric with the axis of rotation of the disc and providing for flow of fluid media in paths of flow in said channels lying in planes normal to said axis, said channels comprising a first series of front channels extending axially outwardly from one side of the disc and a second series of rear channels extending axially outwardly from the other side of the disc with said disc defining the bottoms of both series of channels, stationary structure including inlet and outlet openings for fluid media and having front and rear walls concentric with and cooperating with said disc to provide for flow of fluid media in paths of flow in said front and rear channels between said openings, said stationary structure including radial front and rear baffles, said front baffles having one radial edge abutting said front wall and the opposite radial edge having fingers extending into and obstructing said front channels, said rear baffles having one radial edge abutting said rear wall and the opposite radial edge having fingers extending into and obstructing said rear channels, arcuately extending front and rear cover members for said front and rear channels disposed between adjacent front baffles and between adjacent rear baffles, means providing front transfer pas-



sages connecting different front channels at places adjacent said front baffles at opposite sides of said front cover means for flow of a first fluid medium progressively through different channels of said first series, means providing rear transfer passages connecting different rear channels at places adjacent said rear baffles at opposite sides of said rear cover means for flow of a second fluid medium progressively through different channels of said second series, and means to drive said rotor disc.

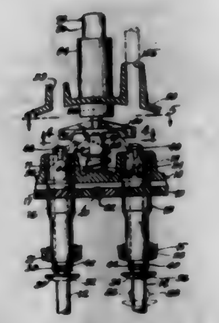
2,980,404
HEAT EXCHANGE DEVICE
Carl P. Andersen, Kenmore, N.Y., John C. Richardson, Speedway, Ind., and Vincent E. First, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 7, 1957, Ser. No. 695,154
8 Claims. (Cl. 257—248)



7. Coil supporting means for a shell-coil type heat exchanger in which the coils are wound in substantially uniformly and normally spaced concentric layers within the shell, comprising a series of elongated support members extending substantially continuously longitudinally between the respective coil layers with the widths of said continuous members disposed substantially normally to said coils for maintaining the coil layers in suitably spaced relation; said support members being angle shaped in cross section in a plane transverse to the axis of said coils, with base legs engaging the outer surfaces of an inner layer of coils, and vertical legs extending outwardly from said base legs with outwardly opening slots in the outer portion of said vertical legs for receiving and supporting the individual windings of an outer layer, a substantially flat integral projection between each pair of slots extending outwardly substantially normal to and beyond said outer layer and overlapping the support member thereabove beyond the base leg thereof, and

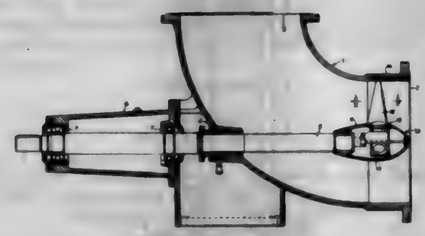
means for securing the lower portion of said support member thereabove to said projections with said projections in flat overlapping relation therewith.

2,980,405
EJECTOR BEATER
Fred C. Schwanke, Chicago, Ill., assignor to Dormeyer Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 27, 1957, Ser. No. 680,558
8 Claims. (Cl. 259—1)



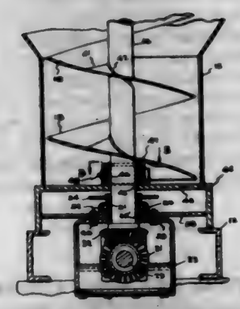
1. In a food mixer of the class described, a spindle, means for rotatably supporting said spindle, said spindle having an axial bore therethrough, an ejector head, a sleeve on said support means for slidably supporting said ejector head, said sleeve defining an axial slot having an offset recess at its upper end providing an inclined camming shoulder and said ejector head having a shaft received in said sleeve defining a lug adapted to be received in guided relationship in said slot and having a shoulder inclined in complementary relationship to said camming shoulder, a torsion spring biasing said ejector head upwardly in said sleeve and tending to dispose said lug in said recess, a food working tool having a shaft received in said axial bore, said shaft projecting upwardly above the spindle and a manually depressible plunger on said support means to force said ejector head to eject the shaft from said bore in response to depression of said plunger.

2,980,406
IMPELLER PUMP
Emile Egger, Cressier-pres-Neuchatel, Switzerland
Filed Sept. 16, 1957, Ser. No. 684,328
4 Claims. (Cl. 259—9)



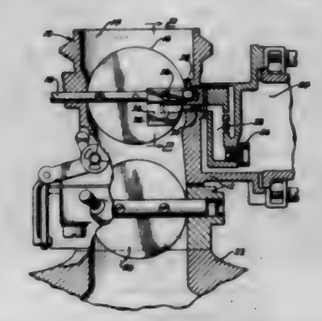
1. A pump for homogenizing and transporting an inhomogeneous liquid and comprising, in combination, a curved tubular stator member having an inlet portion terminating in a circular inlet and an outlet portion transverse to said inlet portion and terminating in a circular outlet; an impeller having an axis of rotation coaxial with said circular inlet, said impeller being located in said tubular stator member adjacent said inlet and including a hub portion and a plurality of impeller vanes projecting from said hub portion, said impeller vanes being shaped for transporting to said outlet an inhomogeneous liquid entering said inlet, each of said impeller vanes having a front edge portion facing said inlet and a rear edge portion, and having in a transverse section a convex leading face and a concave trailing face connecting said front edge portion and rear edge portion, said convex faces of said vanes facing toward said inlet, a first portion of said trailing face located adjacent said front edge portion being more concave than a second portion of said trailing face adjacent said rear edge portion, said front edge portions having a selected radius of curvature and a selected thickness whereby during rotation of said impeller at a selected speed the liquid is forced to separate at least from said first portion while passing along the leading faces of said impeller vanes whereby zones of reduced pressure are created behind said first portions of said trailing faces and the liquid is rendered homogeneous; and means for rotating said impeller at said selected speed with said convex faces leading and said concave faces trailing.

2,980,407
BEARING PROTECTIVE STRUCTURE FOR THE AUGER OF A FEED MIXER
Arthur J. Luscombe, R.F.D., Dolliver, Iowa
Filed May 29, 1959, Ser. No. 816,836
1 Claim. (Cl. 259—97)



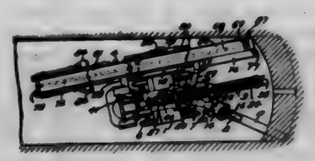
In a feed mixing apparatus, a support, a vertical generally cylindrical mixing collar mounted on said support and defining a feed mixing chamber, said support including a horizontal wall member secured to the bottom of said mixing collar, said horizontal wall member being formed with an aperture centrally located in said collar, an upstanding sleeve secured to the wall member around said aperture, a vertical mixing auger in said collar and having a shaft extending rotatably through said sleeve, an annular flange member secured to said shaft immediately above said sleeve and having a depending outer cylindrical skirt portion receiving said sleeve, a plurality of outwardly projecting spaced vertical triangular agitating lugs on said skirt portion adjacent said horizontal wall member, a horizontal frame plate secured to said support and spaced below said wall member, said frame plate being formed with a central aperture axially aligned with the vertical auger, a ball bearing assembly beneath said wall member comprising an outer race member secured to said frame plate, an inner race member secured to the lower portion of said shaft, and a plurality of bearing balls disposed between said race members, and a flat circular shield plate secured to the shaft immediately above said bearing assembly in the space between said frame plate and said horizontal wall member and being of substantially greater diameter than said outer race member so as to completely overlie and cover said race members and bearing balls.

2,980,488
NOZZLE BAFFLE
Frederick J. Marsee, Hazel Park, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed July 2, 1959, Ser. No. 824,742
3 Claims. (Cl. 261—61)



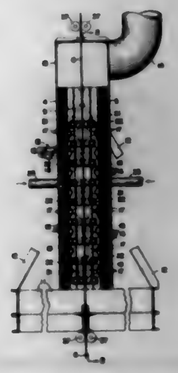
1. A carbureting device adapted to be mounted on the intake manifold of an internal combustion engine, comprising a body, an induction passage formed through said body and in communication with said intake manifold, a main fuel nozzle adapted to at times discharge fuel into said induction passage, a throttle valve in said induction passage adapted to control the flow of combustible mixtures to said intake manifold, a choke valve, a pivotal support for said choke valve located anterior to said main fuel nozzle, an opening formed within said choke valve in order to receive said main fuel nozzle when said choke valve is in its fully open position, and baffle means operatively connected to said choke valve for inhibiting the free flow of air currents through said opening.

2,980,489
COAL CUTTING, DRILLING, AND LOADING MACHINE
Ross H. Goodrich, Claremont, N.H., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 31, 1956, Ser. No. 588,473
14 Claims. (Cl. 262—9)



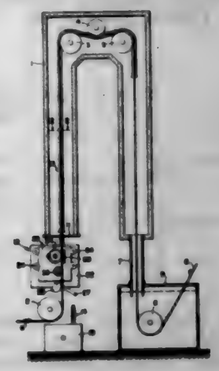
1. In combination, a mobile base, kerf cutting mechanism mounted on said base for movement relative thereto to effect cutting of plane kerfs in the solid mineral of a mine vein, drilling mechanism adjustably mounted on said base rearwardly of the effective cutting portion of said kerf cutting mechanism and extending above the latter for drilling blast holes in the mineral at various locations in the face, and loading mechanism mounted on said base longitudinally at one side of said base and laterally of said kerf cutting and drilling mechanisms, said loading mechanism having a forward receiving conveyor portion disposed at the floor level, and, said kerf cutting mechanism being positionable and operable to effect its kerf cutting operation by movement relative to said drilling and loading mechanisms, and said drilling and loading mechanisms positionable while mountably retained on said base to permit such operation of said kerf cutting mechanism during cutting.

2,980,410
WEB HEATING FURNACE
Torsten F. A. Edvar, Philadelphia, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania
Filed Mar. 6, 1957, Ser. No. 644,331
3 Claims. (Cl. 263—3)



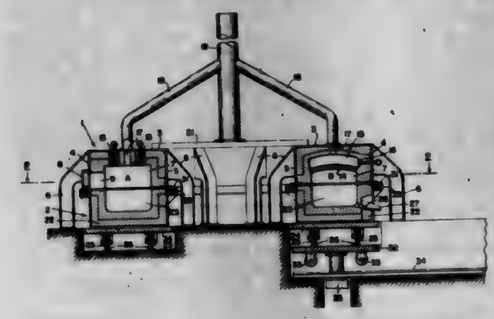
1. In combination, structure forming a furnace having a chamber therein, burners in said chamber, a first stack for natural draft connected to said furnace, a second stack connected to a source of reduced pressure, a damper operative to connect said chamber to one or the other of said stacks, means normally to operate said damper to connect said chamber to said second stack, a fuel supply pipe having a normally closed valve therein, and means operable simultneously to open said valve and adjust said damper to connect said chamber with said first stack.

2,980,411
STRIP THREADING DEVICE
Robert E. Buckholdt, Abington, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed Sept. 25, 1958, Ser. No. 763,267
12 Claims. (Cl. 243—3)



1. Apparatus for threading a strip of material to be heated through a furnace including a furnace having a guide roll therein over which the strip is to pass in a loop, a guide having a U-shaped section, means attaching said guide to a wall of the furnace with the guide extending from the entrance of said furnace around said roll and following the path the strip is to travel, the opening of the U facing the portion of the furnace through which the strip is to travel, a chain received in said guide and having rollers thereon engaging the legs of said U to prevent buckling and having a strip engaging portion adjacent to one end thereof with said portion projecting from said guide, drive means operative to push said chain through said guide, and means to mount said drive means adjacent to the entrance of said furnace and aligned with said guide.

2,980,412
ROTARY FURNACE
Hans Koerner, Broelsch, Siegkreis, Germany, assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1957, Ser. No. 686,341
10 Claims. (Cl. 263—12)



1. In a furnace, a plurality of cars that, placed end to end, form a circle, each car having a hearth thereon including side and end walls upon which metal is adapted to be melted, a circular structure forming a roof and side walls with the side walls being over said side walls of said cars, means dividing said structure into a plurality of sections each the size of one of said cars and cooperating with the end walls of said cars whereby each car and section forms an individual combustion chamber, a plurality of burners in said roof firing into one of said chambers, means in said structure to heat another of said chambers, a circular track upon which said cars move, means to move said cars on said track to bring different cars into operative relation with different sections of said structure, means to lower a car and the portion of track upon which it rests, when in position under a given section, out of cooperative relation with said roof, and means to move said car and track portion radially outward from said structure.

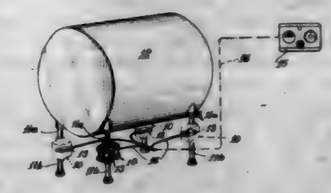
2,980,413
ROTARY KILNS
Paul L. Schoonover, Los Angeles, Calif., assignor to Monolith Portland Cement Company, Los Angeles, Calif., a corporation of Nevada
Filed Apr. 4, 1957, Ser. No. 650,643
1 Claim. (Cl. 263—32)

A rotary kiln which includes: a supporting framework having upper and lower levels; upper and lower elongated, cylindrical kiln shells located at an angle to the horizontal on said upper and lower levels of said framework, respectively; means for burning fuel in the lower end portion of said lower kiln shell only; independently regulatable means for rotating said kiln shells; curved gas conduit means having an inlet opening substantially coaxial with the upper end portion of the lower kiln shell and extending between the lower end of said upper kiln shell and the upper end of said lower kiln shell to conduct the hot gases from the lower kiln shell to the upper kiln shell; means for conveying finely divided solid material from the lower end of said upper kiln shell into the upper end of said lower kiln shell, said means including a chute extending downwardly from the lower end of the upper kiln shell, an independently regulatable rotary barrel valve receiving the finely divided solid material at the lower end of said chute, housing means surrounding an upper end portion of the periphery of the lower kiln shell, a pair of spaced circumferential flanges on said lower kiln shell within said housing, conduit means com-



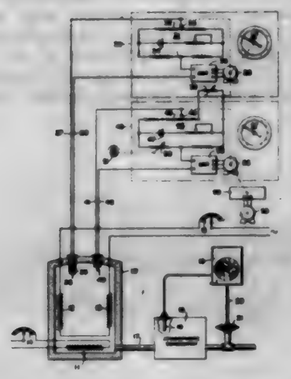
municating with said barrel valve and the space in said housing between said flanges, scoop means mounted on the lower kiln shell and extending through such kiln shell from said space to the inner periphery of such kiln shell for transferring the finely divided solid material for said space to the inner periphery of said lower kiln shell, and means for returning to said chute excess solid material not picked up by said scoop means; and rotary seal means connecting the lower end of said upper kiln shell and the upper end of said lower kiln shell with said gas conduit means and said means for conveying solid material so as to form a gas seal preventing the loss of gas between said kiln shells during the operation of said rotary kiln.

2,980,414
COMPRESSION BRACKET
Joseph A. Perry, Jr., Morton Grove, Ill., and William M. Haselton, Cedar Rapids, Iowa, assignors to Cherry-Burrell Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 16, 1956, Ser. No. 571,974
5 Claims. (Cl. 177—211)



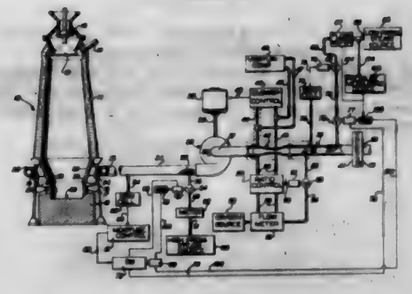
1. A bracket of the class described comprising the combination of an upper block and a lower block having portions disposed in face-to-face spaced apart relation to receive a load-sensitive cell therebetween, each of said blocks having two corresponding spaced apart leg members projecting toward one side of the other block in relatively straddling relation, each block being provided with a substantially rectangular frame pivotally mounted on the leg members thereof adjacent the block in a plane substantially perpendicular to that of said leg members, said frame also being pivotally connected to the free ends of the legs of the other block.

2,980,415
APPARATUS FOR CONTROLLING CASE HARDENING ACTION
Richard B. Board, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 16, 1954, Ser. No. 410,521
5 Claims. (Cl. 266—5)



1. A heat treating furnace controller comprising, in combination, hydrogen partial pressure sensing means arranged to control the atmosphere supplied to the furnace, and carbon potential sensing means connected to regulate the heat supplied to said furnace.

2,980,416
APPARATUS FOR OPERATING METALLURGICAL FURNACES
Julius H. Strassburger, Steubenville, Ohio, assignor to National Steel Corporation, a corporation of Delaware
Filed June 5, 1958, Ser. No. 740,852
15 Claims. (Cl. 266—30)



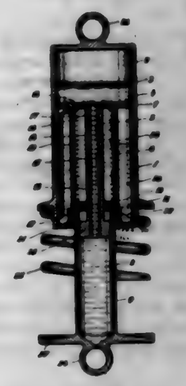
1. In a blast furnace installation including a blast furnace having tuyere means through which blast gas is discharged into the furnace, means including compressor means for blowing blast gas to the tuyere means, measuring means for measuring the rate of flow of blast gas through the compressor means, control means operative responsively to the measuring means for controlling the compressor means, means including first conduit means for introducing low pressure water vapor into blast gas on the suction side of the compressor means, means including second conduit means for introducing relatively high pressure water vapor into blast gas on the discharge side of the compressor means, moisture measuring means for measuring the moisture content of blast gas blown to the tuyere means, and moisture control means operative responsively to the moisture measuring means for controlling the flow of water vapor in the first conduit means.

2,980,417
OVERLOAD SUPPORT FOR VEHICLES
Roscoe O. Pence, Sterling, Kans.
Filed Nov. 29, 1957, Ser. No. 699,618
8 Claims. (Cl. 267—33)



1. An overload support for vehicles comprising an upper rubber truncated cone, a lower rubber truncated cone, a coil spring disposed between said cones, said cones being tapered inwardly toward each other, means for connecting said upper cone to a vehicle frame member, the lower surface of said lower cone being provided with a concave notch adapted to seatingly receive the upper surfaces of a tubular axle housing and properly position the lower cone with respect to the axle housing upon movement of the vehicle frame downward toward the axle housing, a seat in said lower cone accommodating the lowermost coil of said spring, means for fixedly securing at least the uppermost coil of said spring to the vehicle frame member.

2,980,418
SELF-ADJUSTING HYDRAULIC SHOCK ABSORBER
Hans Peter Doetsch, Bayreuth, Germany
Filed Oct. 6, 1958, Ser. No. 765,445
Claims priority, application Germany Oct. 10, 1957
7 Claims. (Cl. 267—34)



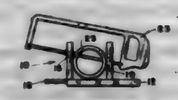
1. A shock absorber comprising in combination; a main cylinder closed at one end, said closed end being adapted to be connected to the body of a wheeled vehicle; a movable cylinder coaxial with said main cylinder and movable inwardly and outwardly of said main cylinder, said movable cylinder being closed at its outer end and open at its inner end, said outer end being adapted to be connected to an axle of said vehicle; a first sealing means providing a liquid-tight connection between said cylinders during reciprocatory axial movement of said movable cylinder; an axially movable partition spaced from said closed end of said main cylinder; resilient means yieldingly urging said partition away from said closed end of said main cylinder; a fixed partition connected to said main cylinder and spaced from said movable partition and defining therewith a working space between said partitions; a control cylinder having one end connected to said fixed partition, said control cylinder being coaxial with said main cylinder, the interior of said control cylinder communicating with said working space and with the interior of said movable cylinder; a fixed piston disposed at the other end of said control cylinder, said piston guiding said movable cylinder; a second sealing means including check valve means disposed at the inner end of said movable cylinder and engaging the external surface of said control cylinder; an intermediate cylinder disposed between said main and control cylinders, said intermediate cylinder being coaxial with said main cylinder, one end of said intermediate cylinder being fixed to said fixed partition, said intermediate and main cylinders defining a reservoir space therebetween; refill pipe means having one end in communication with said reservoir space and the other end in communication with the interior of said intermediate cylinder adjacent to said fixed partition; hydraulic fluid partially filling said reservoir space and completely filling the interiors of said intermediate cylinder, said control cylinder, said movable cylinder and said working space; further check valve means connected to said refill pipe means, said further check valve means permitting fluid to flow unidirectionally from said reservoir space into the interior of said intermediate cylinder; a third sealing means disposed at the other end of said intermediate cylinder and cooperating with the external surface of said movable cylinder, the check valve means of said second sealing means permitting said fluid flow to unidirectionally from the interior of said intermediate cylinder into the interior of said movable cylinder; means permitting restricted fluid flow past said fixed piston; and means placing the interior of said movable cylinder between said fixed piston and said second sealing means in communication with said reservoir space with said movable cylinder substantially at its limit of outward travel.

2,980,419
DEVICE FOR USE IN INSTALLING FLUORESCENT LIGHT FIXTURES
David H. Bass, 423 Cashua Drive, Florence, S.C.
Filed May 27, 1959, Ser. No. 816,258
2 Claims. (Cl. 269—140)



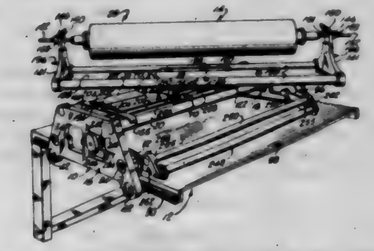
1. A device for use in installing fluorescent light fixtures on a ceiling; said device comprising a single substantially vertical support, said support including a bar, a sleeve slidably mounted upon the bar, adjustable means to clamp the sleeve upon the bar; a base plate secured to the lower end of the bar to engage the floor; a horizontal support plate secured to the upper end of said sleeve; arms arranged in end-to-end relation when in the open position and having their inner ends arranged above the horizontal support plate; hinges connecting the inner ends of the arms with the support plate so that the arms may be collapsed to extend longitudinally of said support, said arms engaging the upper face of the support plate so that said support plate supports said arms when they are swung to the outer substantially horizontal position; bars mounted upon the outer ends of said arms and extending transversely thereof and being horizontally arranged when said arms are horizontal, said second-named bars having longitudinal slots; clamp plates secured to the outer ends of the arms adjacent to the inner ends of said second-named bars; adjustable clamp plates mounted upon the upper faces of said second-named bars; screw-threaded elements carried by the adjustable clamp plates and extending through the longitudinal slots of said second-named bars; and clamping elements arranged beneath the second-named bars and engaging the screw-threaded elements.

2,980,420
SAW-A-HOSE
Donald E. Story, 602 Donaldson St., Canton, Mo.
Filed June 2, 1958, Ser. No. 739,355
1 Claim. (Cl. 269—141)



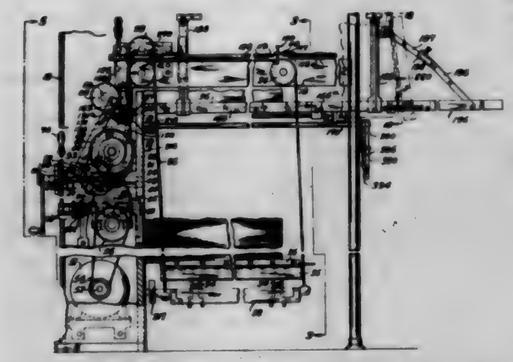
A cutting device for use in cutting flexible hollow hose of cylindrical configuration comprising two cooperating members, each of said members having a horizontal base portion with an upright vertical wall secured to and above the upper surface thereof and located at the forward end thereof, the base portion of one of said members forming a main base plate of substantially rectangular configuration in plan and in cross-section, said main base plate having a longitudinal slot of rectangular configuration in plan and in cross-section formed in the horizontal upper portion thereof and extending the entire length thereof and under its upright wall forming a passageway therethrough of rectangular cross-section, the base portion of the other of said members forming a longitudinal disposed tongue of rectangular configuration in plan and in cross-section and being slidable within said slot and through said passageway beneath the upright wall of the first named member, the depth of said tongue being substantially the same as the depth of said slot whereby the top surface of said tongue is in horizontal alignment with the top surface of said main base plate when disposed therein whereby the hose to be cut will contact the top surfaces of the tongue and main base plate when being cut upon the device, the width of the tongue being substantially the same as the width of said slot thereby preventing relative angular movement of said tongue when disposed therewithin, said upright vertical walls of said members being substantially identical having exterior vertical side wall faces and cooperating vertical side wall faces parallel with each other and extending end to end thereof, said exterior side wall faces and said cooperating side wall faces being flat and smooth, said cooperating side wall faces adapted to contact the diametrically opposite sides of the flexible hose to be cut, said upright vertical walls each having a single longitudinal aligned kerf extending from the top to the bottom thereof and located midway between the vertical edges thereof dividing each upright vertical wall into two equal sections whereby the cutting pressure of a blade arranged within said kerfs for cutting the hose to be cut is directed in alignment with the central longitudinal axes of said base plate and said tongue, and the bottom surface of said main base plate being flat and horizontal for effecting a flat supporting surface when the cutting device is in use.

2,980,421
TURNTABLE SPREADING MACHINES
Walter Deichmann, Mineola, N.Y., assignor to Cutting Room Appliances Corp., New York, N.Y., a corporation of New York
Filed Mar. 20, 1957, Ser. No. 647,407
23 Claims. (Cl. 270—31)



1. In a spreading machine, a carriage for movement over a table, the carriage comprising a pair of end frames, a plurality of members extending between the frames and retaining the frames rigidly in spaced apart association, a platform having a plurality of rollers, the platform being positioned between a pair of the members with certain of the rollers riding upon said pair of members, a dolly, means for pivoting the dolly on the platform, cloth-carrying means mounted on the dolly, certain of the rollers supporting the dolly as it is rotated on said pivoting means, latch means carried by the dolly, and means carried by the carriage astride and pair of members for receiving the latch means at every position of the platform along the pair of members.

2,980,422
PILE ELEVATING MECHANISM
Arthur G. Royer, Cleveland Heights, and Sherman S. Watts, Shaker Heights, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 5, 1959, Ser. No. 818,313
23 Claims. (Cl. 271—62)



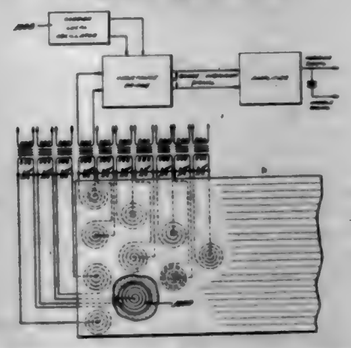
1. A pile elevating mechanism, comprising a main hoist, an auxiliary hoist for supporting a pile of sheets on a pallet above the main hoist, first and second means each selectively operable in opposite directions for respectively vertically raising and lowering a respective one of said hoists independently of the other, pile height detecting means mounted to operate at a predetermined sheet feed level for gauging the position of a pile at such level on one or the other of said hoists, means operatively connecting the pile height detecting means with one or the other of said raising and lowering means to cause intermittent operation of one of said hoists to maintain the top of the pile at the predetermined feed level, and means for enabling operation of the raising means for both of said hoists together at substantially the same rate of upward travel under control of said pile height detecting means at least at a time when a new pile on the main hoist is brought immediately below a pile supported on a pallet on the auxiliary hoist.

2,980,423
SKIPPING DEVICE
Robert D. Parkhurst, 2217 Chevrolet Ave., Flint 4, Mich.
Filed Feb. 23, 1960, Ser. No. 10,453
4 Claims. (Cl. 272—74)



1. A skipping apparatus for children comprising a vertical tube, a transverse bar extending from a lower portion of said tube over which a child is adapted to skip, and hand operated means for rotating said tube, said hand operated means including a handle, a twisted rod secured to said handle and extending into said tube, a member relatively fixed in said tube having a twisted slot therein through which said twisted rod extends, whereby vertical movement of said rod imparts rotative movement to said tube and clutch means for disengaging said relatively fixed member from said tube upon upward movement of said twisted rod whereby upward movement of said twisted rod may be effected without rotation of said tube.

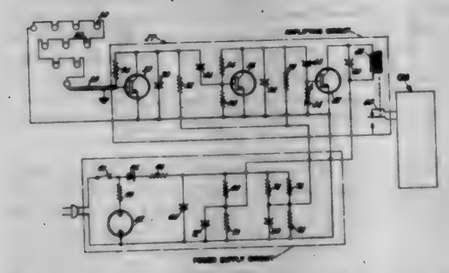
2,980,424
AUTOMATIC PIN SPOTTER CONTROL MECHANISM
Milton Sanders and Howard S. Halpern, Stamford, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Apr. 4, 1957, Ser. No. 650,634
56 Claims. (Cl. 273—43)



1. A pin-setting machine for setting, removing and resetting bowling pins on an alley floor in a triangular

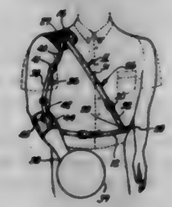
playing arrangement, said machine including detecting means for producing a first signal in response to a movement of any individual pin, said detecting means also producing a second signal in response to removal of any individual pin from its normal standing position on said alley floor, and mechanism operative in responsive to said signals for controlling the operation of said machine in accordance with a predetermined sequence of operations.

2,980,425
CONTROL MECHANISM FOR BOWLING PIN SPOTTING MACHINES
Carl J. Zaander, Clarendon Hills, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 18, 1957, Ser. No. 690,981
10 Claims. (Cl. 273—43)



1. In a bowling alley installation of the type comprising an alley bed and a spotting machine for spotting and re-spotting on the alley bed a set of bowling pins each equipped with magnetic means, a pin wobble detector comprising the combination of a plurality of electrical inductance elements mounted in the alley bed and each located in a different one of the pin spot positions thereof, each of said inductance elements including a permanent magnet and a coil; an operating circuit, said coils being connected in said operating circuit in series, the magnetic means of the bowling pins each co-acting with one of said inductance elements to generate a signal in the corresponding one of said coils in response to wobbling of any individual pin on the alley bed; means connected in said operating circuit to amplify such signals; and control means in said operating circuit selectively operative in response to a predetermined signal amplitude to prevent the spotting machine from operating after the rolling of a ball until the wobbling pin has returned to a condition of stable equilibrium on the alley bed.

2,980,426
DEVICE FOR BOWLERS
Clifford S. Johnson, 708 Beckville Ave., Duarte, Calif.
Filed Sept. 25, 1959, Ser. No. 842,483
4 Claims. (Cl. 273—54)



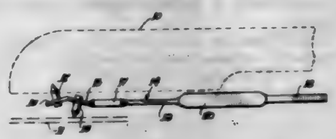
1. A device for a bowler comprising a waist band, a shoulder patch, a plurality of connecting members connected between the shoulder patch and the waist band, a forearm band, and a support member connected between the forearm band and the shoulder patch, at least the major portion of said support member consisting of an elastic material, said support member having a length so that it is placed in tension upon movement of the bowler's arm to a substantially straightened position.

2,980,427
BASEBALL GAME
Thomas W. Cragg, 403 E. Columbus Ave., Corry, Pa.
Filed Jan. 15, 1958, Ser. No. 709,018
3 Claims. (Cl. 273—90)



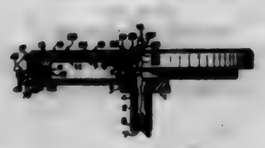
1. A simulated baseball game comprising a flat, generally rectangular table top, walls attached to the marginal edges of said table top and extending upwardly therefrom forming a fence, said table top being laid out with indicia in the manner of a regular baseball field with a first, second, and third base and a home plate, simulated players, said simulated players comprising two arms connected together and diverging at an angle from each other and resting on said table top in positions corresponding to positions generally occupied by players in a baseball game, a flat disk shaped member simulating a baseball, and a bat, said bat having an elongated handle portion terminating in a boss portion having a side adapted to be slid along said table top adjacent its distal end and to engage said table top along a substantial portion parallel to said bat, said bat adapted to extend away from said table top when said boss portion engages said table top to allow a player to grasp said bat with his fingers spaced from said table top.

2,980,428
STYLUS MOUNTING FOR PHONOGRAPH PICKUP
Eugene A. Blashewski, Maywood, Ill., assignor to Jensen Industries, Inc., Forest Park, Ill., a corporation of Illinois
Filed Jan. 8, 1959, Ser. No. 785,728
5 Claims. (Cl. 274—37)



1. For use in a phonograph pickup, the combination of an elongated stylus holder adapted to be supported for rotation about the longitudinal axis of the holder and including a generally straight body portion extending along such axis, a straight end portion inclined in one direction and at a predetermined angle with respect to said axis and a flat connecting section joining said end and body portions integrally and inclined at said angle and in the opposite direction with respect to the axis, a stylus rigid with said connecting section and projecting at approximately a right angle away from one side of the section so as to be inclined away from said body portion, and a second stylus rigid with said end portion and projecting approximately at a right angle away from the opposite side of the portion so as to be inclined away from said body portion, the projection of said styli from opposite sides of said holder enabling the styli to be brought individually into an active position by rotating the holder about said axis.

2,980,429
DRIVING DEVICE OF THE TURN-TABLE OF A SPEAKING MACHINE
Louis Thévenaz, Les Rasses, Switzerland, assignor to Thorens S.A., Sainte-Croix, Vaud, Switzerland, a corporation of Switzerland
Filed Mar. 24, 1958, Ser. No. 723,366
Claims priority, application Switzerland Apr. 3, 1957
6 Claims. (Cl. 274—39)



1. In a phonograph comprising a frame, a turntable having a depending peripheral flange, a motor, a flywheel driven in rotation by said motor, a centering member of said turntable and a friction coupling connecting said turntable to said flywheel, the combination of an actuating device comprising an arcuate actuating member pivoted on said frame of said phonograph and displaceable from a rest to a working position, said actuating member being located between the upper surface of said frame and the lower front surface of said peripheral flange of said turntable, means carried by said actuating member, said actuating device comprising further means carried by said frame, said means carried by said frame engaging said means carried by said actuating member when said actuating member is in its rest position and abutting against the lower surface of said actuating member when it is located in its working position, whereby said turntable rests on said flywheel and is driven in rotation by said flywheel through said friction coupling when said actuating member is in rest position and on the upper surface of said actuating member when it is in its working position, disconnecting said turntable from said flywheel and maintaining said turntable in a fixed axial position.

2,980,430
DEVICE FOR SPREADING STREWABLE MATERIAL DURING TRAVELLING
Cornelis van der Lely and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited company of the Netherlands
Filed Mar. 30, 1954, Ser. No. 419,825
Claims priority, application Netherlands Apr. 2, 1953
27 Claims. (Cl. 275—7)



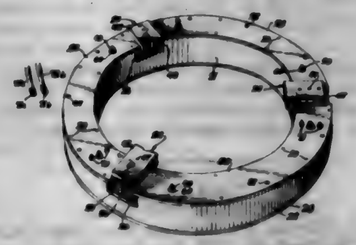
1. A vehicular device for spreading strewable material over a strip-like area of the ground during ground traversing movement of the device; comprising the combination of a vehicle having at least two wheels located on each of the opposite sides of the longitudinal axis of the vehicle; a supporting frame carried by said vehicle; at least one container for the material to be strewn mounted on said frame and having at least one outlet opening; at least one supporting member operatively associated with said frame for receiving the material to be strewn, said member extending from beneath said outlet opening in lateral direction from said longitudinal axis of the vehicle to a point located a substantial lateral distance beyond a wheel of the vehicle, said supporting member having at least one discharge edge arranged at an acute angle to said longitudinal axis, and means coupled to said supporting member whereby the latter is reciprocated to cause the material supplied thereto through said outlet opening of the container to move substantially laterally over said supporting member and to be uniformly distributed over said edge onto the ground, said supporting member having a displaceable extremity to permit reduction of the width of the device.

2,980,431
SPREADING DEVICES
Cornelis van der Lely, Maasland, Netherlands (7 Bruschrain, Zug, Switzerland)
Filed Mar. 1, 1957, Ser. No. 643,269
Claims priority, application Netherlands Mar. 9, 1956
4 Claims. (Cl. 275—8)



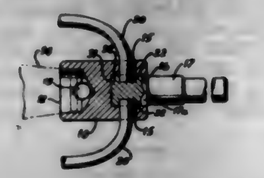
1. A device for spreading material comprising a hopper having a discharge opening, a guide member adjacent the opening for receiving the material and extending over the width of the hopper, a rotatable spreading member adjacent the guide member and extending over the width of the hopper, said spreading member including a blade-like helical flight, the flight having a pitch which decreases towards each extremity of the spreading member from the center therof, and means for rotating the spreading member at a speed to distribute the material over a width substantially greater than the width of the hopper.

2,980,432
FLUID OPERATED CHUCK
James M. Benson, Buffalo, N.Y., assignor to Mollenberg-Betz Machine Company, Buffalo, N.Y., a corporation of New York
Filed Aug. 10, 1959, Ser. No. 832,742
4 Claims. (Cl. 279—4)



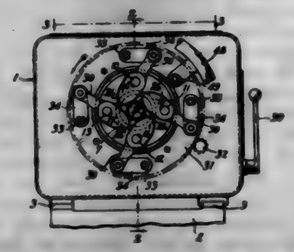
1. A fluid operated chuck, comprising a body having a chamber, a piston member reciprocably arranged in said chamber, spaced jaws arranged on said body for movement transversely of said piston member, cam means operatively interposed between said piston member and jaws and arranged to move said jaws in a direction transverse to the direction of movement of said piston member, recess and plunger means operatively arranged between said body and piston member for moving said piston member in one direction, and means arranged alternatively and selectively to introduce pressurized fluid into said chamber between said body and piston member to move the latter in a direction opposite from said one direction while allowing fluid to exhaust from said recess and plunger means, whereby said piston member and hence said jaws can be moved in the direction desired.

2,980,433
INTERCHANGEABLE DRILL CHUCK AND HANDLE
William A. Eager, Old Tappan, N.J., and Lewis Walter Bell, Monroe, N.Y., assignors to Star Precision Devices, Inc., Mountainville, N.Y., a corporation of Delaware
Filed Apr. 20, 1959, Ser. No. 807,641
4 Claims. (Cl. 279—9)



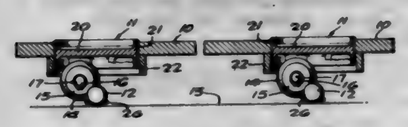
1. An interchangeable chuck combination comprising: a chuck having a tool receiving socket and a chamber, said chamber having an open outer end, an inner end forming a seat, and means between the said ends of the said chuck chamber communicating between the inside of said chamber and the outside of the said chuck; a separable shank with an outer end, and an inner end having recessed means; and a handle associated with retention means adapted to be removably engaged to the said chuck and shank; in which the said chamber of the said chuck and the inner end of the said shank have substantially the same cross section shape, with the inner end of the shank being relatively smaller in cross section measurement than the said chamber, so that the said inner end of the shank will slide fit into the said chuck chamber with the said inner end of the shank being in faced contacting relationship with the said seat formed in the chuck chamber; and whereby when the inner end of the shank is slide fitted into the chuck chamber, and the retention means associated with the handle are placed within the said outside communicating means in the chuck chamber and the recessed means in the inner end of the shank, the chuck, the shank and the handle will be held in engaged combination.

2,980,434
WORK HOLDING AND CENTERING CHUCK
Max Hoffman, Rocky River, Ohio, assignor to The Oster Manufacturing Company, Wickliffe, Ohio, a corporation of Ohio
Filed Mar. 20, 1959, Ser. No. 800,677
12 Claims. (Cl. 279—106)



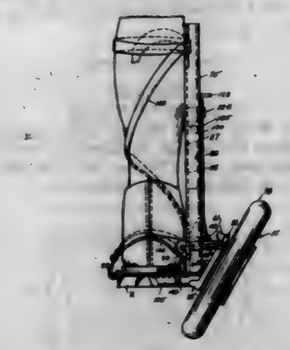
1. A work holding and centering chuck comprising a spindle that has a central work receiving opening, a series of work clamping jaws pivoted to said spindle to swing about axes disposed radially outwardly with respect to said opening and substantially equally spaced with respect to one another and the spindle axis, each jaw having work gripping side edges that taper toward a tip that is at a distance from its pivotal axis slightly less than the distance between said pivotal axis and the spindle axis and that has portions of its work gripping edges axially offset with respect to the gripping edges of the next adjacent jaws to permit simultaneous movement of all the jaws in either direction about their axes past a central position in which the tips of all the jaws are closely adjacent the spindle axis, and means for simultaneously moving said jaws angularly about their axes and across said work receiving opening from either side of said central position to grip a work piece positioned in said opening and in the path of said jaws.

2,980,435
PRECISION ROLLING SUPPORT
Riley J. Brett, Los Angeles, Calif., assignor to Sampson Motors, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 6, 1958, Ser. No. 765,347
1 Claim. (Cl. 280—6)



A precision rolling support, comprising: a plate having three internally screwthreaded apertures; an externally screwthreaded body vertically adjustable in each of said apertures; a screwthreaded lock ring for adjustably securing each body relative to said plate; each body having three equally spaced depending journal lugs having horizontal bearing bores disposed in a common plane; a shaft journalled in each bearing bore; frusto-conical rollers at the proximal ends of said shafts defining therebetween a bearing pocket; and a ball member disposed in said pocket and constituting the sole support of said rollers with respect to an underlying surface, said ball being approximately one-half the effective diameter of said rollers.

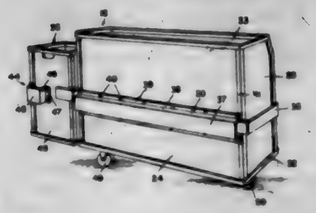
2,980,436
SINGLE WHEEL SKATE
John J. Kosach, 5022 W. Lawrence Ave., Chicago, Ill.
Filed June 6, 1960, Ser. No. 34,055
11 Claims. (Cl. 280—11.24)



1. In an inclined single wheel road skate, the combination of the wheel proper, a wheel support having a horizontal extending arm, said arm having a transverse bore in the outer end portion thereof, said wheel having a hub portion, a transverse bore in said hub portion in alignment with said bore in said arm, a bearing pin extending through said bores in said hub portion and said arm pivotally supporting said wheel upon said arm, a foot-plate, a vertical channel type leg support attached to and extending above said foot-plate, said hub portion having an integral apertured plate section arranged nor-

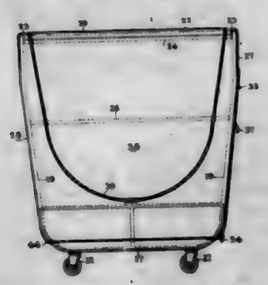
mal to the central axis thereof at its inner end, said wheel support slidable vertically within said channel type leg support, said wheel movable between an inclined operative position, and a vertical inoperative position, and a permanent magnet transversely attached to the bottom of said foot-plate with one end thereof adjacent said wheel whereby the lower end portion of said integral apertured plate section of said hub portion is attracted magnetically to said magnet attached to said foot-plate to hold said wheel in an inclined operative position.

2,988,437
DOFF TRUCK BOXES AND THE LIKE HAVING RUB GUARDS AND BUMPERS
James Glenn Fisher, Hartwell, Ga., assignor to Fisher Manufacturing Company, Inc., Hartwell, Ga., a corporation of Georgia
Filed Jan. 28, 1959, Ser. No. 789,665
4 Claims. (Cl. 280—79.2)



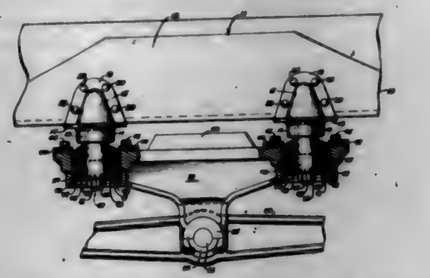
1. In equipment for use in connection with textile machinery, the new combination of a truck structure comprising a package box body having longitudinal side walls and transverse end walls, supporting rollers beneath and operatively coupled with the lower part of said box body, a rub guard extending longitudinally of one of said side walls and having a surface adapted for contact with a portion of a textile machine adjacent to which the truck is used, a bobbin box, means for mounting the bobbin box on one end of the package body, said bobbin box being mounted with one side wall substantially in the plane of said one side of the package body, and a bumper fender secured to said one side of the bobbin box in the horizontal plane of said rub guard and a projecting laterally beyond said horizontal plane to a slightly greater extent than said rub guard.

2,988,438
GARMENT RACK
Ralph S. Baer, Silver Spring, Md., assignor to Nelson P. Greller, Washington, D.C.
Filed Aug. 11, 1958, Ser. No. 754,241
4 Claims. (Cl. 280—79.3)



1. A garment rack comprising in combination an open-topped box-like bottom; wheels attached to and supporting said bottom; an open-work frame, defining the margins of a storage compartment, carried by said bottom and including upper, horizontal, longitudinal and lateral members, and uprights interconnecting the ends of said horizontal members and corresponding corners of said bottom, two of the opposed faces defined by said frame extending upward and diverging from one another; a central member extending longitudinally between the upper lateral members; and a cover having only top, side and end faces and including a placket extending upward from its lower edge and separable fastener means operable to close and open said placket, said cover fitting closely against said frame and the upper periphery of said bottom when said placket is closed, whereby withdrawal of the cover is prevented, said cover also having an access flap formed in a side face thereof, and having separable fastener means operable to open and close said access flap.

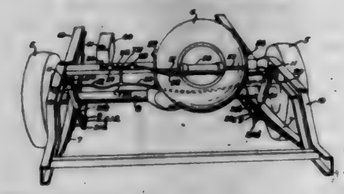
2,988,439
RESILIENT SUSPENSION SYSTEM AND STRESS ABSORBING UNITS THEREFOR
R. Earl Miller, Butler, Ind., assignor to Hendrickson Mfg. Co., Lyons, Ill., a corporation of Illinois
Filed July 17, 1958, Ser. No. 749,122
6 Claims. (Cl. 280—104.5)



1. A resilient axle suspension adapted to be interposed between each side of a vehicle frame and axle support means therefor, comprising, a pair of pins secured to and depending from the underside of the vehicle frame in front and rear spaced relationship on opposite sides of the center of the axle support means, the vehicle frame being provided with rigid socket portions depending from the underside thereof adjacent each of said pins, means defining a pair of vertically extending bores in the axle support means, each of said bores being disposed concentrically with respect to one of said depending pins and having a diameter substantially greater than the diameter of its associated pin, two series of at least three concentrically arranged, rigid sleeve members, resilient sleeve members formed of a rubber-like material disposed between and bonded to each pair of adjacent rigid sleeves in each series in a manner such that normally the upper ends of the rigid sleeves are disposed in a downwardly stepped arrangement from the inner sleeves to the outer sleeves, each of said inner rigid sleeves being adapted to fit over one of said pins with its upper end in abutting engagement with the rigid depending socket portions of the frame which extends only over the upper ends of the rigid sleeves intermediate said inner and outer rigid sleeves of each of said series, means for retaining said inner rigid sleeves on said pins and in abutting engagement with said rigid socket portions of the frame, said outer rigid sleeves being adapted to fit in said bores in the axle support means, and means for retaining said outer rigid sleeves in said bores, whereby said resilient sleeve members are progressively effective, beginning with the innermost ones, to resiliently support the frame when increases in the load on the vehicle cause said rigid socket portions of the frame to engage progressively the step-arranged upper ends of the rigid sleeves intermediate said inner and outer rigid sleeves, beginning with the ones next adjacent to said inner rigid sleeves, said arrangement of

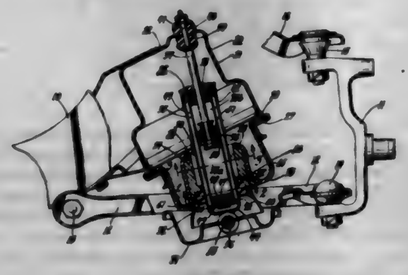
parts permitting disposition of the upper edges of said inner and intermediate rigid sleeves below the upper edges of said outer rigid sleeves upon the application of a maximum load on the vehicle.

2,988,440
VARIABLE DISPLACEMENT HYDRAULIC SYSTEM WITH RESILIENT MEANS FOR VARIABLE-VALVE AUXILIARY VEHICLE SUSPENSION
Brooks Walker, 121 Scenic Ave., Piedmont, Calif.
Filed Nov. 3, 1955, Ser. No. 544,715
7 Claims. (Cl. 280—124)



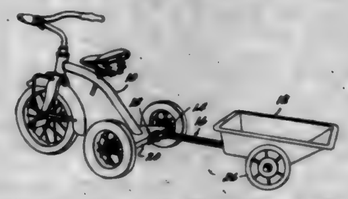
1. A vehicle having ground-supporting wheels, a frame, a structure on which said wheels rotate, a supporting hydraulic cylinder connected between said structure and said frame, a second hydraulic cylinder, a hydraulic system connecting said cylinders, a spare tire, said second hydraulic cylinder connected to said spare tire, a shoe pressing against the said spare tire, said shoe connected to said second cylinder, the motion of said structure on which said wheels rotate supporting said frame partially through the resistance to compressing of said spare tire as transmitted to said structure by means of said cylinders, valve means in said hydraulic circuit whereby said supporting cylinder can act as a pump to increase the fluid in said circuit to increase the auxiliary support provided by said hydraulic circuit.

2,988,441
FLUID SUSPENSION UNIT
Fred F. Timpner and John Z. De Lorean, Birmingham, and Carl J. Miller, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 28, 1958, Ser. No. 776,781
11 Claims. (Cl. 280—124)



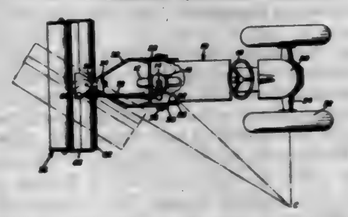
1. In an air suspension unit for supporting the sprung mass of a vehicle on the unsprung mass, the combination of, an air spring comprising a hollow container having a stationary wall and a movable wall connected by a flexible wall providing for relative movement between the stationary and movable walls, and a shock absorber unit positioned largely within said container connected between said stationary wall and said movable wall with a resilient pad on the shock absorber supporting the movable wall on the shock absorber unit with a nonrigid connection therebetween insulating transmission of angular displacement movement between the movable wall and the shock absorber.

2,988,442
HITCH ASSEMBLY
Raymond M. Krokos and John J. Kostrewa, Detroit, Mich., assignors to Evans Products Company, Plymouth, Mich., a corporation of Delaware
Filed Jan. 2, 1958, Ser. No. 706,749
12 Claims. (Cl. 280—204)



1. A unit tongue, axle and catch for connecting a trailer to a velocipede comprising two members joined together at a point adjacent to and spaced from corresponding ends thereof with the other ends thereof bent to form axle portions for said trailer, one of said corresponding ends having a substantially vertical portion adapted to engage the rear of said velocipede, the other of said corresponding ends sloping downwardly from said point to an acute angle to said one of said ends to a position beneath and spaced from said vertical portion, and locking means slidably disposed on the other of said ends for releasably retaining said vertical portion in engagement with the velocipede.

2,988,443
STEERING MECHANISM FOR VEHICLE ATTACHED TOOL
Fil L. Fina, Jr., Saratoga Springs, N.Y., assignor to Capitol Equipment Inc., a corporation of New York
Filed Sept. 29, 1959, Ser. No. 843,133
5 Claims. (Cl. 280—467)

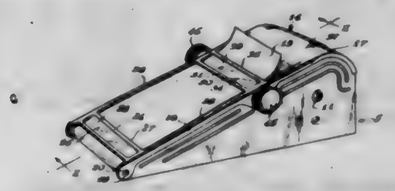


1. The combination of a prime mover having front steerable wheel means, a steering mechanism for moving and controlling said steerable wheel means, a tool including a frame mounted forwardly of the prime mover and including ground engaging support means carrying the weight of the tool, and means connecting the tool frame to the prime mover for pivotal steering movement about an axis substantially parallel to the pivotal axis of the front steerable wheel means on the prime mover, and means interconnecting the tool frame and the steering mechanism of the prime mover for pivoting the tool frame in accordance with and proportionally to the prime movers steerable wheel means, said means connecting the tool frame to the prime mover including a longitudinally extending and normally horizontal pivot bolt for permitting the tool to follow the transverse variations in the terrain.

2,988,444
MEMORANDUM DEVICE
Samuel M. Radzyner, 549 W. Washington St., Chicago 6, Ill.
Filed Jan. 23, 1958, Ser. No. 710,654
1 Claim. (Cl. 281—11)

In a memorandum device including a housing shell provided with upstanding parallel side walls having the

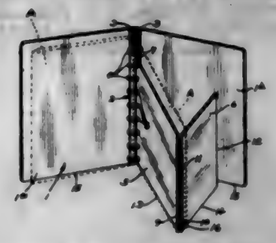
upper edges thereof sloping from a maximum rear portion height to a minimum forward portion height and defining between the maximum portion height an upwardly opening chamber space for accommodating a roll of writing paper in strip form, a one-piece combination cover and desk member hingedly connected in a forward portion thereof to the forward ends of said side walls and constructed and arranged to lie in closing relation to said chamber upon said side wall upper edges and being swingable into open position for access to said roll, said cover-desk member having on the forward end thereof an underturned rounded paper straightening lip flange over which the paper strip is trained onto the upper side of the cover-desk member and the cover-desk member rearwardly from said lip flange being provided with a depressed flat writing table area defined along its longitudinal sides by longitudinal guide shoulders, said writing table area having adjacent to said lip flange a hold-down strip severed therefrom and at a higher elevation than the plane of the table area, said table area having adjacent to the rear end thereof a second hold-down strip severed therefrom and at a higher elevation and extending integrally between said shoulders, both of said hold-down



strips providing respective entry and exit slots through which the paper strip is threaded onto and over said writing table area, each of said hold-down strips having within the margins thereof depressed smooth hold-down area portions engageable with the upper side of the paper strip to hold it against the writing table area, each of said hold-down strips having front and rear margins disposed in substantially the normal undepressed plane of the cover-desk member and above respectively the associated entry and exit slots, and feed roller means mounted under the second of said hold-down strips and comprising a rotary shaft, having thereon a plurality of soft resilient rollers of high coefficient of friction pressing in paper feed relation toward the underside of the depressed hold-down area of said second hold-down strip for feedingly advancing the paper strip across said writing table area by withdrawing the strip from the roll in said chamber space and over said lip flange and under said hold-down strip adjacent the lip flange and thence over the writing table area and under said second hold-down strip to be ejected through the rear slot defined by said second hold-down strip, said shaft having knurling thereon engaging inner peripheries on said rollers and thereby holding the rollers corotative with the shaft.

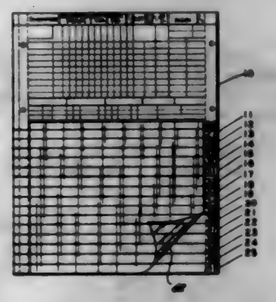
2,980,445
LOOSE LEAF BINDER AND SUPPORTING STRUCTURE THEREFOR
Roy T. Sorensen, % Twin City Wire-O Co., 750 Washington Ave. N., Minneapolis, Minn.
Filed Sept. 18, 1958, Ser. No. 761,714
1 Claim. (Cl. 281—33)

The improvement in loose leaf books of the type having a ring type page binder secured between generally rectangular matching cover elements, said improvement comprising a pair of cooperating rigid sheet-like easel-forming members having radially inner and outer edges and upper and lower edges and one of said members having less radial width than the other thereof, means hingedly securing the radially outer edges of said members together for swinging movement of the narrower of said members from an inoperative collapsed position in side by side relationship to said relatively wide member to an operative easel-forming position angularly disposed with respect to said relatively wide member and to the adjacent one of said cover elements, said lower edges of said easel-forming members diverging radially outwardly and downwardly with respect to the adjacent edge of said cover elements, means for hingedly securing



the radially inner edge of said relatively wide easel-forming member to said page binder in a plurality of selected axial positions in a manner whereby said easel-forming members may be moved from an inoperative position totally received within said cover elements to said operative position with the outwardly and downwardly diverging lower end portions of said easel-forming members projecting downwardly with respect to the adjacent edge of said cover elements.

2,980,446
BUSINESS FORM ASSEMBLY
Jack Moss, 1516 Cory Drive, Dayton, Ohio
Filed Mar. 18, 1957, Ser. No. 646,772
10 Claims. (Cl. 282—22)



1. A business form assembly comprising a plurality of separate forms arranged in superimposed staggered relationship with the side edges thereof in substantial registration with each other with a marginal end edge area of each form being exposed thereby, and a flat sheet member positioned over said forms and bonded to the exposed end edge area of each form over a major portion of the width of said forms between the side edges of the assembly whereby the positional arrangement of said forms and said end edge areas between the side edges is maintained against longitudinal movement and separation of said forms and said edge areas from each other.

2,980,447
MANIFOLD VIOLATION AND COMPLAINT FORM
Ronald E. Weger, 3218 S. Cambridge Road, Lansing, Mich.
Filed Dec. 22, 1958, Ser. No. 782,273
1 Claim. (Cl. 282—22)

A manifold traffic violation form including a summons, a police record, a complaint and a court record, comprising: at least three rectangular indicia-bearing sheets, said sheets being of substantially the same size and shape and each sheet having a pair of perforated severance lines substantially parallel with and near to the upper and lower edges thereof whereby each sheet is divided into an indicia-bearing portion and a pair of relatively small stub portions; another indicia-bearing sheet of substantially the same shape as, and of smaller length and stiffer than, the three indicia-bearing sheets said other sheet having a perforated serverance line parallel with and near to the lower end edge thereof whereby a stub portion is formed; means securing together the stub portions at the lower ends of said indicia-bearing sheets substantially along a line adjacent to the said lower end edges of each sheet and spaced from the severance line thereof, whereby said indicia-bearing sheets are held in a superimposed group with said other sheet at the back end of said group, the indicia-bearing portions of the first and second indicia-bearing sheets at the front end of said group being separably secured together along a line near their upper edges; means securing together the stub portions of said three

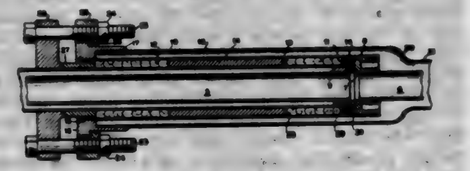


indicia-bearing sheets at the upper ends thereof; at least three impression transferring sheets, one of said transferring sheets being disposed between each pair of adjacent indicia-bearing sheets, and each transferring sheet having one impression transferring surface facing said other sheet; means securing one edge of each transferring sheet to the stub portion of the adjacent indicia-bearing sheet at the lower end thereof; first indicia relating to the violator and the violation located on the inner side of the indicia-bearing portion of said other sheet and in registry on the corresponding sides of the other indicia-bearing sheets, said first sheet being identified as the complaint, the second sheet being identified as a copy for the state licensing authority, the third sheet being identified as a police record and the other sheet being indentified as a summons; second, substantially identical indicia in registry on the reverse sides of said first and second indicia-bearing sheets relating to the court's disposition of the complaint; third indicia on the reverse side of said third sheet relating to the police record; and fourth indicia on the reverse side of the other sheet relating to instructions for the violator.

2,980,448
CONNECTOR FOR JOINING PIPELINES HAVING OUTER JACKET INSULATION IN CONTINUOUSLY INSULATED RELATION
Clair D. Holben, Denver, Colo., assignor to Beech Aircraft Corporation, Wichita, Kans., a corporation of Delaware
Filed Mar. 24, 1958, Ser. No. 723,185
1 Claim. (Cl. 285—47)

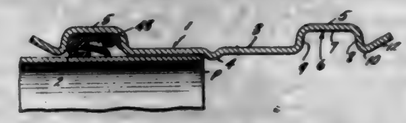
Connector for pipelines having outer jacket insulation comprising first and second inner pipe sections of substantially equal diameter in end to end relation and having end rings fixed thereon in abutting face to face relation, the end ring on the first pipe section being of less

outer diameter than the outer diameter of the end ring on the second pipe section, an outer jacket wall on said first pipe section permanently sealed to the smaller end ring on that section in spaced relation to said first pipe section, an extension wall of larger diameter than the outer jacket wall of said first section permanently sealed to said larger end ring on said second section and extending over said smaller end ring and in spaced relation over the jacket wall of said first section, a jacket wall over said second pipe line section and extending in spaced relation over said extension wall, a coupling ring permanently sealed to the ends of said extension wall and jacket wall extending thereover, packing interposed in the space between the jacket wall of said first pipe sec-



tion and said extension wall of the second pipe section, an annular abutment shoulder on said smaller end ring extending across said space between said jacket wall of the first pipe section and said extension wall of the second pipe section and slidably received within said extension wall, said abutment shoulder being engaged by the inner end of said packing, a bushing surrounding the jacket wall of the first pipe section in thrust applying engagement with the outer end of said packing, a coupling flange surrounding the jacket wall of said first pipe section in thrust engagement with said bushing and screw means for adjustably connecting said coupling flange with said coupling ring and for applying thrust through said packing to force and secure the conduit sections together with the end rings in abutting metal seal engagement.

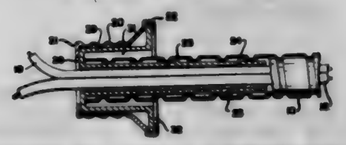
2,980,449
SELF-SEALING PIPE COUPLING
John T. Dunton, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Jan. 24, 1957, Ser. No. 635,994
4 Claims. (Cl. 285—110)



1. A pipe joint for plain end pipe comprising a continuous annular sleeve portion having spaced axially aligned pipe receiving apertures and an inwardly opening annular channel between said apertures, an annular gasket of firm resilient stretchable elastomer material seated in said channel and a plain end pipe section stabbed into said sleeve portion through said pipe receiving apertures and gasket, said pipe receiving apertures having an internal diameter slightly larger than the external diameter of said pipe section to receive the plain end portion of said pipe section snugly without binding, said channel being of substantially rectangular cross section with a substantially cylindrical outer peripheral surface and an outer end surface and inner end surface extending radially inwardly from said peripheral surface and terminating respectively in said pipe receiving apertures, said gasket comprising a body portion seating against said peripheral surface and outer end surface of said channel and a plurality of flanges radiating from said body portion and comprising an outer flange extending axially inwardly from said body portion and

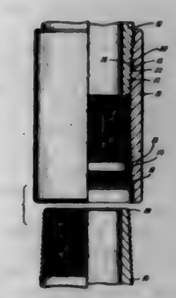
having an outer peripheral surface seating on said peripheral surface of said channel, said outer flange terminating in a tapered lip portion that extends axially and radially inwardly at the axially inner end of said outer flange in sealing engagement with the inner end surface of said channel, the overall width in an axial direction of said outer flange portion with said body portion and said tapered lip portion in free condition being greater than the axial width of said channel so that when said gasket is seated in said channel, said tapered lip portion is pressed resiliently against said inner end surface of the channel to provide a seal, an intermediate flange which in unconfined condition extends axially and radially inwardly from said body portion at an acute angle to the longitudinal axis of the pipe section, said intermediate flange having in section taken through the longitudinal axis of the pipe section a width less than that of said outer flange and an inner flange extending radially inwardly from said body portion at an angle to said axis greater than that of said intermediate flange, the width of said inner flange being materially less than that of said intermediate flange, said intermediate and inner flanges terminating respectively in annular lip portions having inner diameters materially smaller in unconfined condition than said pipe receiving apertures so that said intermediate flange and inner flange are flexed radially outwardly when said plain pipe end portion is stabbed into said sleeve portion, and a narrow annular rib integral with one of said outer and intermediate flanges and positioned between said last mentioned flanges, said rib being spaced axially from said body portion and from said tapered lip portion and projecting radially toward the other of said last mentioned flanges in position to engage the axially inner portion of said other flange when said intermediate flange is flexed outwardly by the stabbing of said pipe end portion into said sleeve and thereby support said axially inner portion of said intermediate flange against further flexing and also support the axially inner portion of said outer flange against radially inward flexing to provide a fluid tight seal against both internal and external fluid pressure.

2,980,450
CONNECTOR FITTINGS FOR SMALL SIZE FLEXIBLE CONDUIT
Charles G. Lifka, 20000 Sherwood Ave., Detroit, Mich.
Filed July 6, 1959, Ser. No. 825,156
1 Claim. (Cl. 285—161)



A connector for securing a spirally formed, flexible, ridged conduit to a box through a hole in the box and wherein the outer dimension of the conduit is considerably less than the hole, said connector comprising a ferrule and a sleeve; the ferrule being in the form of a thin-wall sheet metal tube having a forward end formed with a continuous, integral, radially inwardly directed flange, and having external threads formed thereon by deforming the wall so that the threads are internal threads, as well as external threads, the internal threads defining the inner surface of the wall, the threads extending from the forward end part way to the rear end, and with the outer diameter of the ferrule at its threads being approximately equal to the diameter of a box hole through which it may be inserted and with its rear end, beginning at the threads, being outwardly flared a distance greater than the diameter of the box hole so as to abut the box at the edge defining the hole and hence act as a stop when the ferrule threads are inserted through the hole; the sleeve being formed of a single piece of thin sheet metal bent into an inner tube of a diameter slightly less than the diameter of the conduit for snugly fitting within the conduit and an outer tube surrounding and spaced from and coaxial with the inner tube, the tubes being integrally joined together by an annular flat wall portion integral with both of the tubes forward ends, the inner tube being considerably longer than the ferrule and the outer tube being approximately the length of the ferrule, said sleeve being fitted into the ferrule with its forward wall portion in face to face contact with the ferrule flange and with the outer tube being in face to face contact with the inner wall, that is, the inner portion of the internal threads of the ferrule; the rear end of said outer tube being bent into a radially outwardly directed flange fitted into and surrounded by the flared rear end of the ferrule, and the rear end of the ferrule being bent over the outer peripheral edge of the outer tube flange and being arranged in overlying contact with the outer peripheral portion of the rear face of the outer tube flange and tightly gripping the outer tube flange to rigidly secure the sleeve to the ferrule; and means formed on the outer surface of the inner tube for mechanically interlocking the sleeve to the conduit, with the space between the inner and outer tubes being of a size to receive the forward end of the conduit so that the forward end of the conduit may receive the inner tube and be positioned within the outer tube and thus within the ferrule.

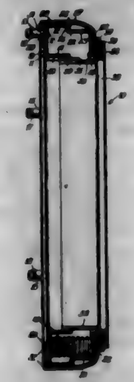
2,980,451
THREADED PIPE JOINT HAVING AN EXTRUDABLE GENERALLY NON-RESILIENT SEALING MEANS
William B. Taylor and Wilber H. Griffin, Houston, Tex., assignors to Atlas Pipe Inc., a corporation of Texas
Filed Apr. 17, 1957, Ser. No. 653,451
4 Claims. (Cl. 285—332.3)



1. A sealed joint comprising an outer tubular member provided with an inwardly tapered threaded section on its inner periphery, an inner tubular member provided with an inwardly tapered threaded section on its outer periphery threadedly received in the outer tubular member, one of said members being provided intermediate the ends of its threaded section with an annular groove, and a ring-shaped extrudable generally non-resilient sealing member seated in said groove and extruded into and confined by the tapered threaded sections adjacent the annular groove.

2,980,452
END FACE SEALING UNIT
Richard T. Cahill, Arlington Heights, and Edmund J. Kujawa, Wilmette, Ill., assignors to Chicago Rawhide Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 25, 1957, Ser. No. 636,312
10 Claims. (Cl. 286—11)

1. An expansible and compressible end face sealing unit including an outer shell, an inner shell having a portion thereof telescopically received within said outer shell, axially aligned and radially overlapping stop means forming a part of both said outer and inner shells to prevent separation thereof, resilient means acting between said outer and inner shell to urge the inner shell axially away from the outer shell, a diaphragm externally received about portions of both said outer and inner shells and being fixed relative thereto along marginal portions of said diaphragm, said diaphragm having an axially ex-



tending portion and a radially inwardly extending portion, said radially inwardly extending portion being fixed relative to said inner shell, and a retainer shell having a portion thereof telescopically positioned relative to said outer shell and having a further portion fixed to the radially inwardly extending portion of said diaphragm, said outer and retainer shells being provided with cooperating means holding the same against rotation relative to one another.

2,980,453
ARM COUPLING FOR WINDSHIELD WIPER ARMS
Israel Nemon, Lynn, Mass., assignor to Max Zaiger, Swampscott, Mass.
Filed Jan. 17, 1955, Ser. No. 482,302
3 Claims. (Cl. 287—53)



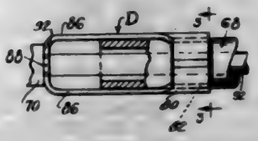
1. A coupling, adapted to connect a windshield wiper arm to a shaft having a tapered shoulder and a threaded end, comprising a ring having an inner wall engaged with said shoulder, a base member to which the arm is attached, said member having an opening in which said threaded end is received, and an annular face surrounding said opening, a nut engaged with said threaded end and bearing on said base member and adapted to draw the shaft toward said face, said ring having an annular toothed surface surrounding said shaft and engaged with said face, said ring surface having teeth of substantial width in the radial direction adapted to bite into said face in a generally axial direction with respect to the shaft, substantially one-half said teeth being slanted clockwise with respect to the ring and the remainder being slanted counterclockwise.

2,980,454
CHAIR FRAME STRUCTURE
Herbert V. Thaden, High Point, N.C., assignor, by mesne assignments, to Samuel S. Dennis 3rd, Boston, Mass., trustee
Filed Nov. 26, 1958, Ser. No. 776,625
4 Claims. (Cl. 287—54)



3. A rod and pipe joint coupling comprising a hollow first tubular member having a pair of oppositely-aligned openings in the periphery thereof, a second cylindrical member arranged at an angle with respect to said first tubular member and extending through said openings, the portion of said second member within said hollow first member having a pair of peripheral grooves therein and a cylindrical sleeve coaxially arranged within said hollow first member, said sleeve having a plurality of axially-extending slots at one end thereof, the walls of said slots extending within the peripheral grooves of said second member to connect said second member to said first member.

2,980,455
DETENT MECHANISM
Richard H. Roxback, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Original application June 7, 1957, Ser. No. 664,325. Divided and this application Oct. 10, 1958, Ser. No. 768,821
2 Claims. (Cl. 287—58)

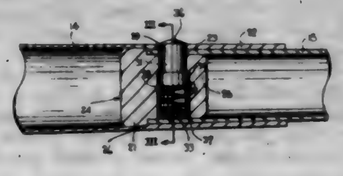


1. A detent mechanism for transferring force between axially movable members comprising: a rod member, a tubular member having one end constructed and arranged for telescopic movement with respect to said rod, one of said members having a groove in its outer surface and the other of said members having a recess in its outer surface, said other member being stepped at said recess so that one side edge of said recess is larger than its other side edge, and a spring clip having a generally annularly shaped base portion formed of springy material which biases itself into said groove for retention on the member containing said groove, a pair of generally axially extending fingers projecting from said base portion, the ends of said fingers being bent radially inwardly for reception in said recess and said fingers providing a spring action which biases the ends of said fingers into said recess with generally predetermined force, said fingers transmitting large forces to said other member when the clip is moved against the large side edge of said recess, and only transmitting limited forces to said other member when the clip is moved in the other direction.

2,980,456
TELESCOPING POLE
Earl L. McMullin, Rutland Township, Barry County, Mich. (Rte. 2, Hastings, Mich.)
Filed Aug. 14, 1959, Ser. No. 833,843
2 Claims. (Cl. 287—58)

1. A sectional, telescopic pole comprising a plurality of tapered, tubular, elongated, round sections of progres-

sively smaller diameter which are telescopically interfitted, each section having an end portion of internally enlarged wall thickness adjacent the small end thereof, said end portion defining a shoulder spaced a predetermined distance from the small end thereof, said end portion having a first radial opening therethrough between said shoulder and said small end, said section having a second radial opening therethrough adjacent the large end thereof; a plug closing the large end of each of said sections, said large end of each section being of slightly less diameter than the internal diameter of the adjacent outer section at the shoulder therein, said plug having a round shank extending into said large end and snugly received therein, said plug having an enlarged flange located outside of said large end, said flange being of smaller diameter than the internal diameter of the adjacent larger section up to the shoulder therein and being



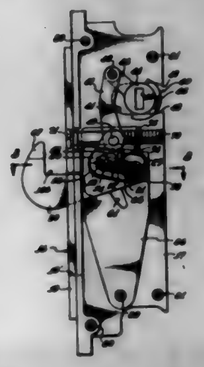
of larger diameter than said shoulder so that said flange is freely slidable within the adjacent larger section until it engages the shoulder therein, said shank having a single transverse passage therein transversely aligned with said second opening in said section and alignable with said first opening in the end portion of the adjacent outer section when the flange on the plug in the inner section abuts against the shoulder of the adjacent outer section; a pin slidably disposed in said passage and a spring urging said pin outwardly whereby when said openings are aligned said pin extends through both openings to positively mechanically lock the sections in their extended position with respect to each other, said pin being of lesser length than said passage so that said pin may be completely received within said passage, said plug being free of other connection to said section so that it may be entirely removed therefrom when said pin is completely received in said passage.

2,988,457
HANDLE FOR SQUEEGEES, BRUSHES AND OTHER IMPLEMENTS
Reuben F. Page, 555 Chain Drive, Appleton, Wis., assignor of one-half to Joseph A. Loberger, Appleton, Wis.
Filed June 2, 1959, Ser. No. 817,647
1 Claim. (Cl. 287—86)



A flexible implement handle for implements of the type including an elongated flat resilient squeegee blade, head clamped to said squeegee blade and a hollow shank integrally formed with said head intermediate the opposite ends thereof and extending perpendicularly to said head, comprising; a stub handle adapted to be secured in said shank, an elongated handle arranged in axial alignment with said stub handle, said stub handle and said elongated handle having the adjacent ends thereof inwardly tapered terminating in contacting dome shaped ends, a coil spring of a normal diameter greater than said tapered ends, connecting said stub handle to said elongated handle with said coil spring encompassing said tapered ends and closely gripping said stub handle and said elongated handle at only the respective end portions of said spring whereby said stub handle may be readily angularly deflected with respect to said elongated handle upon operation of said squeegee blade, and a rubber sleeve surrounding said coil spring.

2,988,458
SLIDING DOOR LATCH WITH DEAD LOCK
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles, Calif.
Filed May 11, 1959, Ser. No. 812,486
3 Claims. (Cl. 292—113)



1. In a sliding door latch combination, a housing having a vertical outer face adapted to be mounted flush with an edge of the door, a latch hook movably mounted on the housing and shiftable between an unlatching and a latching position by extending outwardly and inwardly of said outer face of said housing, an elongated recess means in the housing having a long axis thereof generally transverse relative to the outer face of the housing, operating means comprising a hub rotatably mounted in said recess means and slidable therein to a plurality of operable locations relative to the edge of the door, means forming a hub station on said door located at one of said operable locations, and a jointed connection between said hub and said latch hook operable in all positions of the hub in said recess means whereby said latch hook is shifted to said latching and unlatching positions by rotation of said hub at one of said operable locations within said recess means without change in the jointed connection.

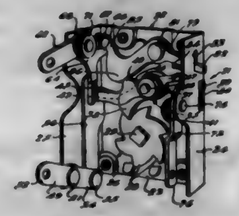
2,988,459
PUSH-RELEASED DOOR LATCH
Donald E. Schwass and Vernon L. Sturman, Minneapolis, Minn., assignors to Hirwatin Metalcraft, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 23, 1957, Ser. No. 679,917
2 Claims. (Cl. 292—122)



1. In combination with a vertically hinged door having a small aperture bored medially of its height adjacent the free vertical edge thereof, door latch and guard structure comprising a latch member mounted within said apertured portion of the door and having a securing element extending outwardly from said door, said latch member being shiftable inwardly and outwardly relative

to the door jamb for cooperation with a fixed retaining element, an integral bar constructed throughout of somewhat flexible resilient material having an elongated, substantially straight body disposed transversely and medially of said door and acting as a guard for panels of said door, means for affixing one end of said body to said door at a point substantially removed from said latch member leaving the greater portion of said body and the opposite end free for flexing movement toward and away from said door, said opposite end of said body being first curved to form a short portion angled with respect to said body and which extends through the aperture of said door adjacent said latch member and directly connected to a portion of said latch member for shifting the same when said body is flexed inwardly toward said door, said opposite bar end terminating in a handle portion curved from said last mentioned angle portion and disposed on the side of said door opposite from said body, the said curving of said bar to form said angled portions enabling said integral bar to be longitudinally passed through said door aperture for assembly purposes of said structure.

2,988,460
DOOR LATCH
Ronald W. Campbell, Jackson, Mich., assignor to Hancock Industries, Inc., Jackson, Mich., a corporation of Michigan
Filed June 2, 1958, Ser. No. 739,145
15 Claims. (Cl. 292—280)



1. In a latching mechanism, a mounting plate, a rotatable multi-toothed bolt on said mounting plate, detent means carried by said mounting plate and comprising a detent member and a transmitting lever on a common pivot, said detent member having an arm engageable with said bolt and movable between latching and unlatching positions, a second arm on said detent member, an inside rollback carried on said mounting plate and engageable with said second arm to move said detent member to unlatching position, overlapping portions on said detent member and transmitting lever whereby movement of said lever in one direction will cause unlatching movement of said detent member, an outside rollback carried by said mounting plate, means connecting said outside rollback and transmitting lever, and locking means for causing said connecting means to be separated from said transmitting lever, whereby said connecting means will be ineffective to move said lever when said outside rollback is operated.

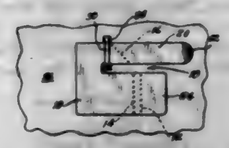
2,988,461
FOLDABLE HASP-LOCKING SEAL
Winfred M. Brooks, West Orange, N.J., assignor to E. J. Brooks Company, Newark, N.J., a corporation of New Jersey
Filed Mar. 3, 1960, Ser. No. 12,575
4 Claims. (Cl. 292—307)

1. A locking-sealing device of sheet metal, comprising two integrally interconnected, substantially rigid locking sections, bendable relatively to each other along a first line of weakness between open positions in which said sections are substantially angularly separated and closed positions in which opposed faces of said sections are in close face-to-face relationship, and a sealing flap, integrally adjoining a first one of said locking sections along a second line of weakness parallel to said first line of weakness and bendable relatively to said first locking section to a sealing position in which, with said locking sections in said face-to-face relationship, said sealing flap closely overlies said locking sections with a second one of said locking sections sandwiched between said first locking section and said sealing flap; each of said locking sections being provided with an aperture and being deformed, immediately adjacent to an edge of said aperture which edge extends in a direction generally parallel to said lines of weakness, to provide a detent which, on each of said sections, when the latter are in said face-



to-face relationship, protrudes toward and in alignment with said aperture of the facing one of said sections with protruding edges of the two detents abuttingly overlapping each other to a substantial extent to prevent material shifting of said sections in one direction normal to said lines of weakness; the sheet metal at said sealing flap's interconnection with said first one of the locking sections constituting an abutment coacting with said second one of the locking sections to prevent relative shifting of the two locking sections in an opposite direction normal to said lines of weakness; and said detents being covered, at one side of the device, by said sealing flap, when the latter is in its said sealing position, to oppose tampering with said detents while the device is in sealed condition.

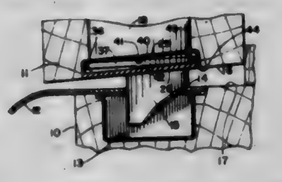
2,988,462
HAND-CLOSABLE DUAL SEAL
Sigurd M. Moberg, Pompton Plains, N.J., assignor to E. J. Brooks Company, Newark, N.J., a corporation of New Jersey
Filed Sept. 26, 1957, Ser. No. 686,407
1 Claim. (Cl. 292—315)



A hand-closable dual seal, of sheet metal of substantially uniform thickness, comprising a sheet metal body portion and two parallel sheet metal sealing tongues integral with said body portion and separated by a space an inner part of which extends substantially into said body portion, said seal having a first line of weakness at an angle of approximately 45° to the line of parallelism of said tongues, demarking one of said sealing tongues from said body portion, and extending outwardly, in the direction of said one tongue and toward the other of said sealing tongues, from a point distant, to the extent of the thickness of a hasp-eye, from the inner end of said space, said line of weakness facilitating manual, bodily bending of said one tongue over the space's said inner part and into intimate, overlapping relationship with said body portion, and a second line of weakness, normal to said line of parallelism, outwardly of and

approximately in line with the outermost end of said first line of weakness, demarking said other of the sealing tongues from said body portion and facilitating manual, bodily bending of said other tongue into intimate, overlapping relationship with said thus-bent one tongue with an edge of said one tongue extending closely adjacent and parallel to said second line of weakness to hold said one tongue against unbending except upon unbending of said other tongue to the extent of approximately 90°; said seal being adapted for bending only at said lines of weakness, and said one of the sealing tongues being adapted for insertion into a hasp-eye and, when thus bent over, being in position to abut the hasp-eye to oppose withdrawal of the last-mentioned sealing tongue therefrom.

2,980,463
TILTING LATCH FACE
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles, Calif., and Franz J. Netschert, Glendale, Calif.; said Netschert assignor to said Russell
Filed Apr. 13, 1959, Ser. No. 805,946
3 Claims. (Cl. 292—337)



1. In a latch mechanism for attachment to the edge of a door a latch bolt assembly comprising a casing having a bore therethrough for reception of a reciprocatably movable latch bolt, a flange means at the outer end of said casing on diametrically opposite sides and extending at right angles to the exterior of the casing, a back-up plate member on one side of the flange means and a face plate member on the other side of said flange means, spacing means separating said plate members a distance apart in excess of the thickness of said flange means, a first projection means between said back-up plate member and said flange means and a second projection means between said flange means and said face plate member, said projection means forming engagements between said plate members and said flange means and also serving as fulcrum points which enable said flange means to rock whereby to enable said plate members to assume an angle agreeing with the beveled edge of the door.

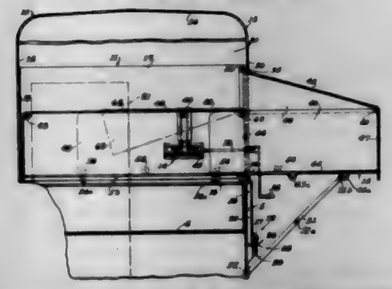
2,980,464
FISHING TOOL
Dallas A. Poteet, Diamond-D-Ranch, Milo, Okla.
Filed Mar. 3, 1960, Ser. No. 12,564
12 Claims. (Cl. 294—86)

1. A fishing tool for recovering a pipe or the like stuck in a well bore, comprising a housing, means for lowering and raising the housing through the well bore, spring-loaded slip means for coupling the housing to the stuck pipe, said slip means being slidingly carried by the housing in a position to contact the stuck pipe and be moved upwardly relative to the housing upon downward movement of the housing in the well bore adjacent the stuck pipe, said slip means also being biased in a direction to be disengaged from the stuck pipe, a slips actuator carried by the housing for moving the slip means into engagement with the stuck pipe upon downward movement of the slip means relative to the housing, a spring carried by the housing urging the slip means down relative to the housing, and snubbing means carried by the housing for controlling the rate of expansion of said spring, whereby the slip means may be released from the stuck pipe by first raising the slip means relative to the



housing against the action of said spring and then raising the housing.

2,980,465
VEHICLE WITH TELESCOPING SHELTER AND DRAWER-TYPE BED
George D. Letzler, 20741 Community St., Canoga Park, Calif.
Filed Dec. 15, 1958, Ser. No. 780,318
8 Claims. (Cl. 296—23)

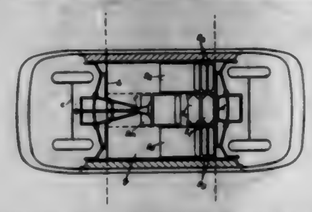


1. A vehicle-mounted shelter comprising a two-part housing having a lower housing part and an upper housing part telescopically engaged with the lower part, the upper part having a side opening, a bed structure carried by the lower part and retained in retracted position entirely within the shelter by the upper part, said bed structure being provided with a fixed outer side wall that closes the side opening in the upper part when the bed structure is in retracted position, means to upwardly extend the upper part to release the bed structure, means to guide the bed structure for movement between retracted position and an extended position laterally of the housing, and a top for the bed hingedly connected to the side wall thereof and extending over the bed when the bed is extended and into the upper portion of the side opening in the upper part.

2,980,466
LOAD-CARRYING COMPARTMENT FOR PASSENGER CARS
Béla Barényi, Stuttgart-Rohr, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart, Untertürkheim, Germany
Original application Feb. 18, 1952, Ser. No. 272,875. Divided and this application Mar. 27, 1956, Ser. No. 577,431
Claims priority, application Germany Feb. 21, 1951
1 Claim. (Cl. 296—24)

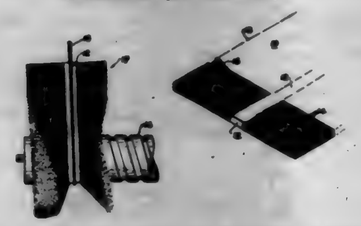
A passenger car having a substantially flat rectangular load-bearing floor having front and rear upturned ends, the steering wheel and the driver's seat being arranged

substantially symmetrical to the central longitudinal plane of the car, two additional seats disposed at a level adjacent said floor and respectively arranged to the left and to the right of the driver's seat, the widths of said driver's seat and said additional seat being substantially equal to one-third the width of said floor, said driver's seat being disposed at a higher level than that of said additional seats to afford the driver an advantageous position for operating said car, said driver's seat being disposed at substantially equal distances from said front and rear upturned ends, said additional seats comprising bottoms and backs, the rearward parts of said bottoms and the



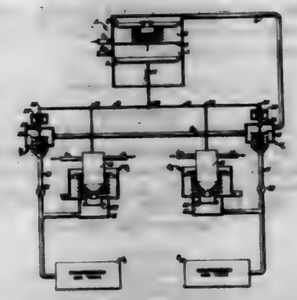
said rear upturned end defining the forward and rear limits of spaces less than the space between said driver's seat and said rear upturned end, said backs of said seats being rearwardly turnable to substantially horizontal positions, the positions of said bottoms being fixed, means for forming beds in said car, said means comprising said backs when turned to said substantially horizontal positions and further comprising said bottoms in said fixed positions, said backs when turned to said substantially horizontal positions being closely adjacent said rear upturned end and occupying at least a portion of said spaces, said backs constituting one end of each of said beds.

2,980,467
METHOD OF MAKING BRISTLES FOR STREET SWEEPING BROOMS
Leo L. Lechene, Hazel Park, Mich. (Irvona, Pa.)
Filed Mar. 14, 1958, Ser. No. 721,573
2 Claims. (Cl. 300—21)



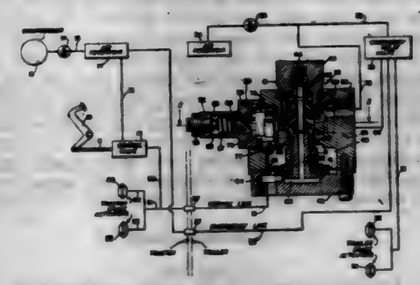
2. The method of making an assembly of bristles for rotary brooms out of plastic sheet stock in the form of bands, the method consisting of stacking the bands upon each other lengthwise to form a composite band in which the side edges of the component bands are alined with each other, bonding each band along its midportion lengthwise to adhere to the corresponding portion of the adjoining band or bands, but leaving portions of each band extending laterally from said bonded portion unconnected, splitting said unconnected portions of all the bands by a multiplicity of straight cuts transversely to the length of the band, the cuts being spaced from each other by a distance equal to the desired width of individual bristles, applying said band lengthwise and tangentially to a broom core having a helical groove therein with its fused central portion in registry with said groove, and tightly winding a wire over the band lengthwise thereof into said groove forming said band transversely into U-shape so that the bristles project radially of the core throughout its length following said helical groove.

2,980,468
PNEUMATIC BRAKING EQUIPMENT WITH MULTIPLE SECTIONS PARTICULARLY FOR VEHICLES
Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a company of Italy
Filed Jan. 7, 1959, Ser. No. 785,454
Claims priority, application Italy Jan. 9, 1958
3 Claims. (Cl. 303—2)



1. Pneumatic braking apparatus comprising a plurality of compressed air tanks, a distributor coupled to each tank, a supply conduit adapted for connection to said tanks and distributors, valves connecting said conduit to said tanks and distributors and including displaceable elements for opening and closing the valves, said distributors including displaceable members for the opening and closing of the same, a displaceable rocker system engaging said displaceable elements and members for operating the same, and elastic members between said system and displaceable elements to enable a displacement of said displaceable members in part independently of the displacement of said displaceable elements.

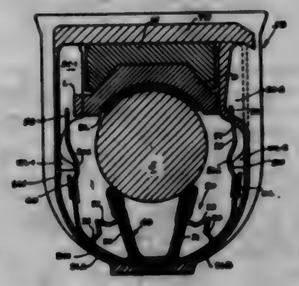
2,980,469
TRACTOR-TRAILER BRAKE SYSTEM
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Detroit, Mich., a corporation of Delaware
Filed Sept. 2, 1959, Ser. No. 837,744
14 Claims. (Cl. 303—29)



1. In a remote control pressure operated brake system having a service line to control a portion of the brakes of the system, a relay device interposed in said service line to divide the latter into a primary control line for transmitting controlling pressures to said relay device and a secondary control line to transmit pressures regulated by said relay device, said relay device comprising a body having a pressure responsive member therein forming therewith a first and a second chamber, said first chamber being connected to said primary control line, a valve device operable upon an increase in pressure in

said first chamber for admitting pressure from a source to said secondary control line, a bypass for conducting to said second chamber fluid admitted from said source by said valve device, a check valve in said bypass opening away from said source, means biasing said check valve to closed position, and means for rendering said biasing means inoperative when pressure admitted from said source by said valve device increases to a predetermined point so that pressure bypassed to said second chamber will equal pressure supplied to said secondary control line and which pressure in said second chamber will oppose movement of said pressure responsive member by pressure in said first chamber.

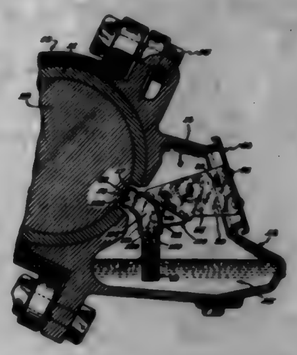
2,980,470
JOURNAL LUBRICATOR
Llewellyn E. Heyer, Wyckoff, and Edward R. Gercyen, Mahwah, N.J., assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,485
7 Claims. (Cl. 308—88)



1. A lubricator for a journal disposed for rotation within a journal box and comprising, a base member in the form of a generally flat and rectangular sheet of flexible resilient hard rubber material, a pair of arms composed of said material molded integrally with said base member so as to be flexibly joined at their lower edges thereto and projecting in spaced divergent generally V-relation therefrom, a one-piece sleeve of wicking material woven in tube form and having the opposed open ends thereof capping the free end portions of said arms with opposed intermediate portions of said sleeve looped between and draped along the opposed inner faces of said arms and with the medial portion of said sleeve disposed closely adjacent the medial part of said base member between said arms, webs composed of said material integrally joined to said arms and said base member and serving as spring means for urging said arms toward one another upon spreading said arms apart, and retainers of relatively rigid material at the opposed inner ends of said base member.

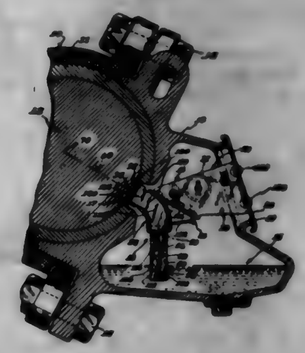
2,980,471
LUBRICATING WICK AND METHOD OF MAKING SAME
Robert J. Harbourider, Winona, Minn., assignor to Gladys D. Miller, Winona, Minn.
Filed Apr. 10, 1959, Ser. No. 805,487
5 Claims. (Cl. 308—132)

1. A lubricator comprising an elongate body of felt material of generally rectangular cross-sectional configuration and a tubular arcuate holder member through which said body extends, said holder member closely engaging said body and being received about an arcuate portion in said body, said holder member and said body curving to define concave and convex surfaces in the respective wide sides of said body, said body from one end thereof through said curved portion being bisected along the maximum dimension of said cross-sectional configuration to define said body into layers extending longi-



tudinally of said body, said layers being longitudinally displaceable with respect to each other when said curved portion is formed, and means for securing said layers together in displaced relation.

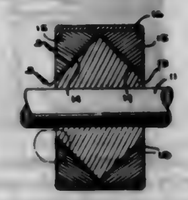
2,980,472
LUBRICATOR FOR TRACTION MOTOR SUSPENSION BEARINGS
Robert J. Harbourider, Winona, Minn., assignor to Gladys D. Miller, Winona, Minn.
Filed Apr. 10, 1959, Ser. No. 805,488
13 Claims. (Cl. 308—132)



1. A lubricator device for applying lubricant to a rotatable journal from a lubricant reservoir, said lubricator device comprising spaced support members each including a trackway that extends transversely of the journal when the lubricator device is mounted in operative relation to the journal, a lubricator body holder mounted on said trackways for movement toward and away from the journal when the lubricator device is mounted in operative relation to the journal, a lubricator body carried by said holder, resilient means for biasing said holder for movement toward the journal when the lubricator device is mounted in operative relation to the journal, said resilient means comprising spaced spring arms engaging said holder, said spring arms extending through openings in the respective trackways, the end of said lubricator body positioned adjacent the journal when the lubricator device is mounted in operative relation to the journal sufficiently extending from said holder so that

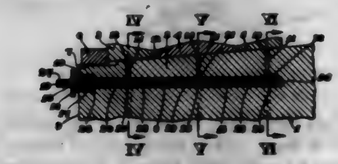
when said body is placed in contact with the journal, said spring arms are spaced from the rims of the respective openings in said trackways, whereby said openings function as stop means to simultaneously limit the movement of said holder toward said journal and said biasing action of said arms on said holder when the lubricator device is mounted in operative relation to the journal and when said lubricator body has worn away a predetermined amount.

2,980,473
SURFACE TENSION BEARING
Marlyn D. Tanis, 6311 Dorchester Road, Lockport, N.Y.
Filed Oct. 17, 1958, Ser. No. 767,914
5 Claims. (Cl. 308—161)



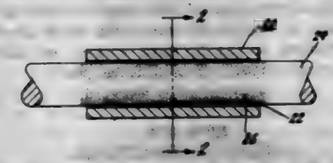
1. In a bearing of the character described, a first surface a second surface disposed adjacent to and being spaced from or only lightly touching said first surface and being movable relative thereto, at least one of said surfaces being formed with relatively shallow, non-communicating recesses, said surfaces being non-wetting with respect to mercury, and respective discreet liquid mercury masses in said recesses and being of sufficient size to engage the opposing surface and to support same by surface tension.

2,980,474
SHAFTS FOR CARRYING INTERFERENCE-FITTED MEMBERS THEREON
Ernest Robert Gargan, deceased, late of Daventry, England, by Lilian Lucina Gargan, executrix, Daventry, England, assignor to British Timken Limited, Birmingham, England, a British company
Filed Mar. 17, 1958, Ser. No. 721,845
Claims priority, application Great Britain Mar. 30, 1957
10 Claims. (Cl. 308—236)



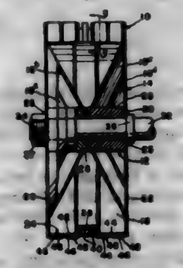
1. In combination, a shaft, a plurality of interference-fitted members carried by said shaft, means for supplying fluid under pressure to the surface of said shaft for the purpose of facilitating the removal of respective interference-fitted members carried thereon, said means comprising an axially-extending fluid supply passage in said shaft and branch passages leading therefrom to the surface at positions corresponding to the positions of the respective interference-fitted members, control valve means in association with said branch passages, whereby fluid pressure can be prevented from being transmitted to the surface of the shaft through any selected one of the branch passages the outlet end of which is not covered by an interference-fitted member, and sealing means associated with each of the branch passages.

2,980,475
LUBRICANT SYSTEM
John John Wolfe, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 11, 1958, Ser. No. 747,989
7 Claims. (Cl. 308—240)



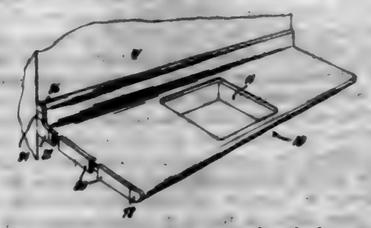
1. A lubricant system adapted to operate at temperatures above 500° F., comprising; smooth mating bearing surfaces taken from the class consisting of glass, ceramics, metallic carbides and aluminum oxide and a lubricant for said surfaces consisting of a mixture of hexagonal boron nitride and a gallium base alloy.

2,980,476
COMPRESSOR PISTON
Henry C. Harrison, Port Washington, and Henry Harrison, Locust Valley, N.Y., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 23, 1958, Ser. No. 762,867
8 Claims. (Cl. 309—14)



1. A piston, comprising a hub, a substantially hollow casing encircling said hub and secured thereto and having opposed ends, a pair of conical sheet members arranged in opposed relationship in said casing, each having its end of smaller diameter encircling and secured to said hub, and each secured at its opposite end to its associated end of said casing.

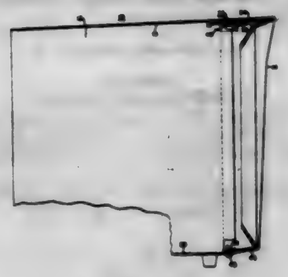
2,980,477
FORM PIECE FOR COUNTERTOP BACK SPLASH
Herman E. Hansen, Winterton, N.Y., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Original application Mar. 15, 1956, Ser. No. 571,689, now Patent No. 2,890,919, dated June 16, 1959. Divided and this application Dec. 8, 1958, Ser. No. 778,998
2 Claims. (Cl. 311—107)



1. In a counter construction, a back splash panel having an upper substantially horizontal edge, a form piece mounted on the upper edge of said panel, said form piece

presenting an exterior surface forming a continuation of the forward surface of said panel and curving convexly upwardly and rearwardly, said form piece further including a horizontal flange forming a continuation of said convexly curved surface and projecting rearwardly beyond the rearward surface of said panel and a shoulder resting on the upper edge of said panel, means to secure the form piece to said panel and a thin sheet of material intimately bonded to the forward surface of said panel and the exterior surface of said form piece.

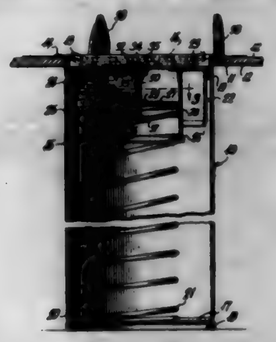
2,988,478
CABINET STRUCTURE
Harry G. Woebcke, North Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 3, 1958, Ser. No. 712,868
2 Claims. (Cl. 312—7)



2. A television receiver cabinet structure comprising a cabinet body, a molded cabinet front having a front member and sides rearwardly projecting therefrom, said front member and said sides being of generally weak mechanical strength, a boss on the inside of one of said sides, said boss extending to and adjoining with said front member, said boss defining a channel adjacent said rearwardly projecting side, a notch in the side of said boss parallel to said rearwardly projecting side, a spring clip mounted in said channel, one end of said clip having a hook engaging said notch, a tab intermediate the ends of said clip pressing against said rearwardly projecting side to maintain the engagement of said hook with said notch, and means for securing the other end of said clip to said cabinet body.

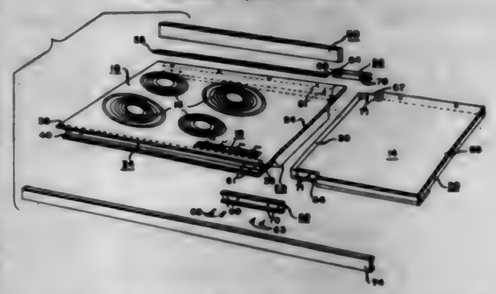
2,988,479
APPARATUS FOR STORING STACKED ARTICLES
Emory L. Brown, Baltimore, Md., assignor to Vulcan-Hart Manufacturing Company, Inc., Baltimore, Md., a corporation of Kentucky
Filed Aug. 8, 1957, Ser. No. 676,995
5 Claims. (Cl. 312—71)

1. A self-leveling device for storing and feeding stacked articles comprising an elongated vertical upwardly opening housing for accommodating a plurality of articles therein, a base for said housing closing the lower end thereof, a carrier for stacked articles reciprocable within said housing along the axis thereof having a platform member extending transversely over the area of the housing for supporting the articles, a compression spring disposed between said carrier and said base for yieldingly supporting said carrier and a load of stacked articles thereon with the uppermost unit of said articles at a reference level adjacent the upper end of said housing, said compression spring being calibrated to compress or expand respectively to lower or raise stacked articles on the carrier a given distance for each given adidtion or decrement in the weight of the load, pressure plate means forming an abutment surface for the upper end of said compression spring, means for supporting said pressure plate means in spaced relation to said platform member of said carrier comprising means projecting through said platform member and exposed for manipulation through the open end of said housing for adjusting the spacing of said pressure plate means from said platform member to alter the reference level to which the uppermost unit of the stack of articles supported on said carrier is biased by



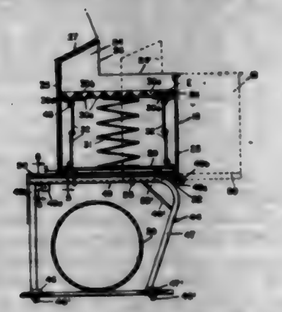
the spring, and a downwardly opening flange carried in depending relation by said carrier in coaxial relation with the longitudinal axis of said housing for guiding said pressure plate means during adjustment of the spacing thereof from said platform member and for guiding said spring into coaxial alignment with the axis of said housing upon insertion of said platform member into said housing.

2,988,480
DOMESTIC APPLIANCE
James W. Jacobs and Kenneth A. Harnish, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 12, 1958, Ser. No. 714,863
3 Claims. (Cl. 312—111)



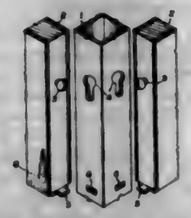
1. In a flush mounting arrangement for joining adjacent kitchen surfaces, a first work surface having a support layer and a plastic finish layer in juxtaposition therewith; an offset in a corner of said layers; said support layer extending beyond said plastic finish layer adjacent said offset; a second work surface having a U-shaped support channel, a metal top and a bottom pan; said support channel having a top leg in horizontally affixed relationship to said metal top and a bottom leg in horizontally affixed relationship to said bottom pan; said metal top portion extending beyond said support channel into overlying relationship with said support layer and into abutting relationship with said plastic finish layer whereby said first work surface is placed in coplanar relationship to said second work surface; and a U-shaped adapter channel for connecting said support channel to said offset; said adapter channel nesting between said top leg and bottom leg of said support channel and extending into juxtaposition with said offset.

2,988,481
SPOOLER TROUGH
James Glenn Fisher, Hartwell, Ga., assignor to Fisher Manufacturing Company, Inc., Hartwell, Ga., a corporation of Georgia
Filed May 15, 1957, Ser. No. 659,402
3 Claims. (Cl. 312—250)



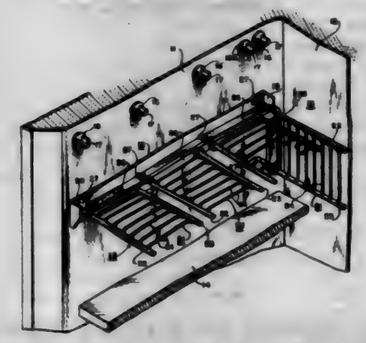
1. A yarn and bobbin trough structure and supporting means therefor for a textile winding machine, said structure and means comprising an elongate receptacle having a cross sectional configuration providing a bottom wall, back wall and partial top wall adapting it to substantially conform to and fit against the lower front part of a textile winding machine, the said supporting means comprising at least two leg units each embodying front and rear upstanding struts and a horizontal rail therebetween and extending across the bottom wall of the receptacle, a channel iron runner secured to and across the said bottom wall of each horizontal rail with the channel directed downwardly and receiving the rail therein, each channel being slidable on the underlying rail, a U-member encircling the underside of each rail and having the side portions extending upwardly into the overlying channel and through the same and secured to the receptacle bottom wall, said U-members limiting the sliding movement of the receptacle on the rails, a rotary antifriction member supported by each leg unit forwardly of the rail thereof and at the top of the adjacent strut at an elevation to have the adjacent channel iron runner ride thereon when the receptacle is drawn outwardly from the textile winding machine lying therebehind, and antifriction means carried by each channel iron runner adjacent to the receptacle back wall for engagement against and to ride along the underside of the adjacent rail.

2,988,482
FURNITURE CONSTRUCTION
George Alfonso Baio, New Hyde Park, N.Y.
(48—50 38th St., Long Island City 1, N.Y.)
Filed Oct. 17, 1957, Ser. No. 690,671
1 Claim. (Cl. 312—257)



An article of furniture having a plurality of side panels and a plurality of tubular corner posts, keyhole slots formed in said posts and headed fastening members secured to said panels, said fastening members being in detachable engagement with said keyhole slots to secure the panels to the posts, said tubular corner posts being metal tubes which are substantially rectangular in cross-section, said keyhole slots being formed in at least two adjacent walls of each said metal tube to accommodate the screws of at least two said wooden side panels disposed at right angles to each other, said tubular metal corner posts being provided with transverse slots formed in the same side walls in which the keyhole slots are formed, said transverse slots being located adjacent the bottom edges of said wooden side panels, and locking bars being detachably secured to said bottom edges of said wooden side panels and being in engagement with said transverse slots to prevent disengagement of said wooden side panels from said tubular metal corner posts.

2,988,483
ADJUSTABLE SHELF STRUCTURE FOR REFRIGERATOR CABINET OR THE LIKE
Pearl C. Davis, Columbus, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 31, 1958, Ser. No. 752,526
5 Claims. (Cl. 312—271)



1. In a cabinet having side and rear walls and an opening at the front thereof, means providing upper and lower vertically spaced, horizontal rows of supports on each of said side walls, the rows on one of said side walls being at substantially the same elevations as the respective rows on the other side wall, and a shelf adapted to rest on and span the distance between opposite supports, said shelf comprising a plurality of substantially rigid sections hingedly connected in series with the hinge axes of said sections extending normal to the side walls of said cabinet, the distance between the hinge axes of at least one intermediate shelf section being substantially equal to the vertical distance between said upper and lower rows of supports, whereby the two sections connected to said one section can be disposed on said upper and lower rows of supports, respectively.

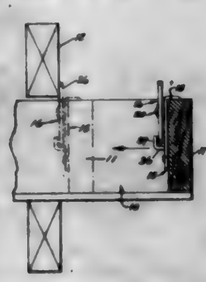
2,988,484
CABINET STRUCTURE
Marion J. Pifer, Williamsville, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed July 21, 1958, Ser. No. 749,920
1 Claim. (Cl. 312—319)



A cabinet for an electrical unit comprising a housing having an external surface formed with a tapered edge

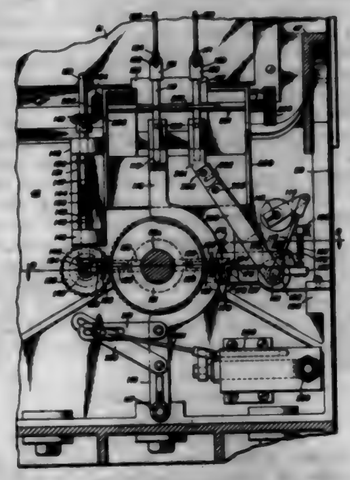
portion defining an opening, allowing access to electrical controls, a guide track disposed adjacent said opening internally of the cabinet surface, and a shelf mounted within the opening extended to lie in spaced relationship with said guide track, in combination with a sliding cover member formed with an outer surface having a configuration substantially conforming to the shape of said opening, a shoulder formed to abut the internal surface of said edge portion when said cover member is in closed position over said controls and slidably engage said guide track when said cover member is depressed and slidably removed from the closed position, and two spaced torsion springs each having a cross bar connected to the internal side of said cover member provided with legs disposed at an angle relative to one another and having feet adapted to track along said shelf, said torsion springs continuously biasing said cover member toward the exterior surface of said cabinet.

2,980,485
RETRACTABLE STOP ATTACHMENT FOR SLIDING DRAWER FOR FURNITURE
Charles J. Gallo, Jr., 29 W. 12th St., Linden, N.J.
Filed Oct. 6, 1958, Ser. No. 765,638
4 Claims. (Cl. 312—348)



1. In combination with an article of furniture having a sliding drawer fitted thereto, said sliding drawer having a rear wall attached thereto, substantially parallel to the forward face of the article of furniture, the article of furniture having a panel attached thereto, extending above the upper edge of the sliding drawer, the panel being substantially parallel to the rear wall of the sliding drawer and longitudinally spacedly located relative thereto, a retractable stop mechanism including a bracket fixedly attached to the rear wall of the sliding drawer, said bracket having a pivot member supported thereby and projecting beyond one face thereof, a retractable stop plate supported by the pivot member, located adjacent one face of the bracket, a portion of the retractable stop plate, located above the pivot member, being adapted to project beyond the upper edge of the rear wall of the sliding drawer, to engage the panel of the article of furniture, thereby to arrest the opening movement of the sliding drawer, the retractable stop plate having tubular means attached thereto, adapted to fit the cylindrical portion of the pivot member, to enable the retractable stop plate to be freely rotatable about the pivot member, the support bracket having a relatively shallow substantially circular depression therein, surrounding the pivot, with a mating circular projection integral with the face of the support bracket, opposite the depression, said circular projection being adapted to engage one face of the retractable stop plate to enable the face of the stop plate to clear the face of the support bracket, the pivot having a head integral with one end thereof, the end of the pivot, opposite the head, having a shallow circular headed portion integral therewith, the circular headed portion being adapted to fit into the depressed portion of the support bracket, the portion of the retractable stop plate located diametrically opposite the stop portion thereof, relative to the pivot member, being adapted to overbalance the stop portion of the retractable stop plate, to normally retain the stop portion thereof in a position with a portion thereof projecting beyond the upper edge of the rear wall of the sliding drawer, said retractable stop plate being adapted to be manually rotated about the pivot member to clear the panel of the article of furniture, thereby to permit removal of the sliding drawer from the article of furniture, a portion of the vertical section of the support bracket, located adjacent the lower edge of the retractable stop plate, being cut out to form a relatively narrow ledge located adjacent the bottom of the retractable stop plate, the ledge being substantially perpendicular to the vertical section of the support bracket, said ledge having a forward flange integral therewith and substantially perpendicular thereto, the forward flange being located near the surface of the lower edge of the retractable stop plate, to clear the stop plate, said lower flange being adapted to shield the retractable stop plate, to limit the angular movement thereof, in a plane perpendicular to the plane of the vertical section of the support bracket.

2,980,486
RECORDER
James Otho Melton, Norman, Okla., assignor to The Geolograph Company, Oklahoma City, Okla., a partnership
Filed Apr. 5, 1956, Ser. No. 576,485
4 Claims. (Cl. 346—33)



1. A recorder comprising a frame, a first shaft journalled in said frame, a rotor rotatably mounted on said first shaft, a clutch means for placing said rotor in driving engagement with said first shaft, means for moving said clutch means into and out of contact with said rotor, a rotor engaging means mounted adjacent said rotor and engageable therewith, means mounting said rotor engaging means for movement within said frame, said rotor engaging means being moveable by said rotor into two spaced positions, one position corresponding to the rotation of said rotor in a given rotary direction and the other position corresponding to the rotation of the rotor in the opposite rotary direction, a second shaft mounted in said frame, a bell crank pivotally mounted on said second shaft, said bell crank having first and second arms thereon, a fixed stop means mounted in said frame, means resiliently engaging said bell crank so as to urge said first arm against said stop means, means responsive to a predetermined angular movement of said first shaft for pivoting said bell crank intermittently relative to said second shaft against the action of said resiliently engaging means, a chart mounted on a movable support within said frame, a shoe pivotally mounted intermediate its ends on said second arm of said bell crank, a recording element mounted on one end of said shoe for engaging said chart and for marking a record thereon, means coacting between said shoe and said bell crank to prevent relative pivotal movement between them in a given rotary direction, and means connected between the other end of said shoe and said rotor engaging means for pivoting said shoe relative to said arm in response to the movement of said rotor engaging means, whereby, when said clutch means places said rotor in driving engagement with said first shaft, said bell crank and said shoe are moved by said first shaft so as to move said recording element in a given direction on said chart, and, whereby, when said clutch means is disengaged, said shoe is pivoted relative to said second arm by said rotor engaging means so as to move said recording element in an opposite direction on said chart.

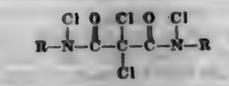
CHEMICAL

2,980,487
PRINTING PASTE FOR TEXTILE FABRIC
Robert Johnson Summerill, Westville, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 25, 1958, Ser. No. 750,863
6 Claims. (Cl. 8—70)

2. A stable printing composition for printing textile fabric with a phthalocyanine precursor, said composition comprising a water-in-oil emulsion containing per 100 parts of total weight, from 2.5 to 7.5 parts of an emulsifier comprising pine oil and an alkali permeable alkyd resin, from 1.5 to 2.5 parts of a stabilizer comprising ethyl cellulose and a sparingly soluble aliphatic alcohol of 6 to 8 C-atoms, from 22 to 31 parts of said phthalocyanine precursor dissolved in a lower monoalkyl ether of diethylene glycol, and from 48 to 14 parts of water, said oil making up the difference and being composed essentially of a mixture of aliphatic, cycloaliphatic and aromatic hydrocarbons which are liquid in the range beween room temperature and 105° C.

2,980,488
METHOD OF BLEACHING COTTON FABRICS WITH TETRACHLOROMALONAMIDES
Michael Kokoruda, Southgate, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Original application June 23, 1958, Ser. No. 744,013, now Patent No. 2,957,915, dated Oct. 25, 1960. Divided and this application Feb. 10, 1960, Ser. No. 7,770
3 Claims. (Cl. 8—108)

1. A method for bleaching cotton fabrics, which comprises, contacting said fabrics with an aqueous solution of a compound corresponding to the formula



wherein R is a member selected from the group consisting of methyl and ethyl radicals.

2,980,489
PROCESS OF MAKING WOOL-LIKE CELLULOSIC TEXTILE MATERIALS
Hugh C. Gulledge, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 9, 1958, Ser. No. 707,857
9 Claims. (Cl. 8—117)

1. A method for preparing a cellulose textile material possessing substantially the single fiber, liveliness, crease resistance and bulk characteristics of wool, comprising reacting a cellulose textile material under anhydrous conditions in the presence of a nitrogenous chemical swelling agent for cellulose selected from the group consisting of ammonia and amine compounds which swell the cellulose and form nitrogenous complexes with the cellulose and containing a radical selected from the group consisting of $—NH_2$ and $>NH$, with (1) a water hydrolyzable antimony ester corresponding to the formula $(RO)_3Sb$ in which R is selected from the group consisting of a hydrocarbon and chlorinated hydrocarbon radical, and (2) a water hydrolyzable organic compound selected from the group consisting of

(*a*) a metal ester corresponding to the formula $Me(OR)_x$ wherein Me is a metal selected from the group consisting of titanium, zirconium, hafnium, thorium, aluminum and iron and which forms a water-insoluble oxide and has a valence selected from the group consisting of 3 and 4 and has a coordination number in the oxide state at least one greater than the valence, R is selected from the group consisting of hydrocarbon and chlorinated hydrocarbon radicals, and *x* corresponds to the valence of the metal, and

(*b*) a condensed ester of said hydrolyzable metal ester resulting from the reaction of said ester with water, continuing said reaction until a highly tendered metal ester-amine cellulose complex intermediate product forms of substantially reduced tensile and tear strength over that of the swollen cellulose textile obtained from said chemical agent treatment, contacting said metal ester-amine cellulose complex intermediate product with aqueous media consisting essentially of water which regenerates and restores said product to substantially the tensile strength of the original untreated cellulose textile material, and recovering the resulting chemically modified cellulose product.

2,980,490
PROCESS OF MAKING WOOL-LIKE CELLULOSIC TEXTILE MATERIALS
Hugh C. Gulledge, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 9, 1958, Ser. No. 707,870
9 Claims. (Cl. 8—117)

1. A method for preparing a cellulose textile material possessing substantially the single fiber, liveliness, crease resistance and bulk characteristics of wool, comprising reacting a cellulose textile material under anhydrous conditions in the presence of a nitrogenous chemical swelling agent for cellulose selected from the group consisting of ammonia and amine compounds which swell the cellulose and form nitrogenous complexes with the cellulose and containing a radical selected from the group consisting of $—NH_2$ and $>NH$, with a water hydrolyzable organic compound selected from the group consisting of

(1) an ester corresponding to the formula $Me(OR)_x$ wherein Me is a metal selected from the group consisting of titanium, zirconium, hafnium, thorium, aluminum and iron and which forms a water-insoluble oxide and has a valence selected from the group consisting of 3 and 4 and a coordination number in the oxide state at least

one greater than the valence, R is selected from the group consisting of hydrocarbon and chlorinated hydrocarbon radicals, and x corresponds to the valence of the metal, and

(2) a condensed ester of said hydrolyzable ester resulting from the reaction of said ester with water, continuing said reaction until a highly tendered metal esteramine cellulose complex intermediate product is formed of substantially reduced tensile and tear strength over that of the swollen cellulose textile, obtained from said chemical swelling agent treatment contacting said metal ester-amine cellulose complex intermediate product with aqueous media consisting essentially of water which regenerates and restores said product to substantially the tensile strength of the original untreated cellulose textile material, and recovering the resulting chemically modified cellulose product.

2,980,491

TEXTILE FIBERS COMPRISING PERFLUOROALKANOYL ESTERS OF CELLULOSE AND PROCESS OF MAKING THE SAME

Leon Segal, Metairie, and Leopold Loeb, Kazuo H. Takamura, and Frederick J. Philips, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed June 15, 1955, Ser. No. 515,797
9 Claims. (Cl. 8—120)
(Granted under Title 35, U.S. Code (1952), sec. 266)

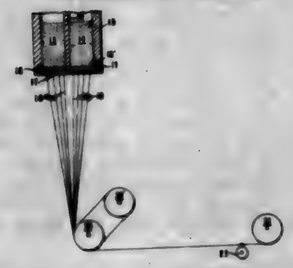
5. A process of converting a cellulose textile fiber to a cellulose textile fiber containing perfluoroalkanoyl radicals attached to the cellulose molecules, comprising reacting, at a temperature of about from 50° C. to 90° C., a cellulose textile fiber with an esterifying agent of a perfluoroalkanoic acid wherein the alkanoyl radical contains from 2 to 10 carbon atoms and which agent is selected from the group consisting of the said acid, its anhydride, and its acyl halide, in the presence of a quantity of a normally liquid heterocyclic tertiary aromatic amine sufficient to dissolve the esterifying agent and to neutralize acidic reaction products to their respective amine salts, said reaction being carried out until perfluoroalkanoyl esters of cellulose in the form of a textile fiber is produced, the thus-produced textile fiber having a degree of substitution ranging from 1 to 3 perfluoroalkanoyl groups per anhydroglucose unit of the cellulose and being characterized in that it is resistant to wetting.

2,980,492

PROCESS FOR PREPARING TEXTILE YARNS

William H. Jamieson, Newark, Del., and Cecil E. Reese, Kinston, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 27, 1958, Ser. No. 738,032
13 Claims. (Cl. 18—54)



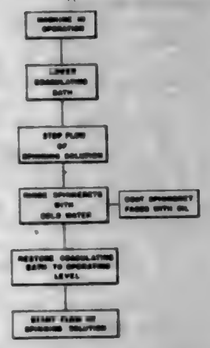
1. A process for preparing textile yarn having the property of becoming bulky when heated to a temperature from about 70° C. to about 220° C. which comprises forming a filament bundle consisting of at least two species of continuous essentially straight filaments of equal length by extruding a molten linear condensation polyester through a plurality of orifices at unequal rates of flow and forwarding said filaments as a continuous filament bundle, the rate of flow through said orifices and the rate of forwarding being adjusted so that the first of said species has a denier of not greater than about 8 and another of said species has a denier at least 1.25 times the denier of said first species, maintaining both of said species as separate essentially straight continuous filamentary structures throughout said forwarding step.

2,980,493

METHOD OF OPERATING A TOW MACHINE

Henry J. McDermott, Collingdale, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware

Filed July 7, 1959, Ser. No. 825,464
3 Claims. (Cl. 18—54)



1. In the wet spinning of viscose rayon filaments wherein viscose is extruded through a multiplicity of spinnerets fixed in a compartment containing a coagulating liquid the surface of which normally covers the spinnerets, the method of stopping and restarting the spinning operation comprising the following steps in the order named: withdrawing coagulating liquid from the compartment to a point where the surface of the liquid is below the faces of the spinnerets, stopping the flow of viscose through the spinnerets, rinsing the faces of the spinnerets, introducing coagulating liquid into the compartment to submerge the spinnerets, and resuming the flow of viscose through the spinnerets.

2,980,494

METHOD OF DECOMPOSING OZONE

Arthur C. Jenkins, Tonawanda, and Adam H. Malik, Buffalo, N.Y., and Roy L. Pruett, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 13, 1959, Ser. No. 805,704
7 Claims. (Cl. 23—4)

1. A method of decomposing ozone comprising passing an ozone-containing gas through a crystalline zeolitic molecular sieve material at a temperature between about room temperature and approximately −150° C.

2,980,495

METHOD OF PREPARING POLYMERIC PHOSPHONITRILIC FLUORIDE

Rudi F. W. Rätz and Christoph J. Grundmann, Columbus, Ohio, assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Sept. 23, 1957, Ser. No. 685,409
6 Claims. (Cl. 23—14)

1. The method of preparing polymeric phosphonitrilic fluorides which comprises admixing polymeric phosphonitrilic chloride with silver monofluoride to form polymeric phosphonitrilic chlorofluoride, separating the said chlorofluoride and admixing said chlorofluoride with a silver fluoride selected from silver monofluoride and silver difluoride to produce the polymeric phosphonitrilic fluorides, said polymeric phosphonitrilic chloride and silver monofluoride being admixed at a temperature of about 80 to 150° C. and in proportions of about 1.33 to 3.5 moles of silver monofluoride per PCl_2 group and for a time of about 2 to 6 hours.

2,980,496

PROCESS FOR PURIFYING FLUORIDE-CONTAMINATED COLUMBIUM AND TANTALUM COMPOUNDS

John D. Mettler, Jr., Niagara Falls, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 24, 1957, Ser. No. 704,906
4 Claims. (Cl. 23—16)

1. A process for purifying fluoride-contaminated tantalum pentoxide which comprises reducing the fluoride content of said fluoride-contaminated tantalum pentoxide to below about 4 weight percent by washing said pentoxide with water; substantially drying the washed pentoxide without substantial evolution of gaseous fluorine compounds; and calcining the dried pentoxide at a temperature of at least about 1000° C. in a carbon monoxide atmosphere in a graphite vessel until the fluoride contamination of the pentoxide is reduced below about 0.1 weight percent.

2,980,497

RECOVERY OF LITHIUM FROM LITHIUM ALUMINATE COMPLEX

Robert D. Goodenough and Vernon A. Stenger, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 29, 1957, Ser. No. 636,869
4 Claims. (Cl. 23—25)

1. A process for the recovery of lithium from a lithium aluminate complex precipiated from a chloride brine and containing as impurities calcium, magnesium, aluminum and ferric ions, which comprises heating the lithium aluminate complex to a temperature of at least 75° C. in the presence of liquid water to decompose the lithium aluminate complex to aluminum hydroxide, and a soluble lithium compound which dissolves in the water with the impurities contacting the resulting lithium containing solution with a strongly acidic cation exchange resin to thereby bind the lithium and the impurities to the resin, subsequently contacting the strongly acidic cation exchange resin with a caustic solution containing from 1 to 20 weight percent caustic to obtain lithium hydroxide in solution and the impurities as insoluble hydroxide precipitates, recovering the lithium hydroxide from the solution, and separating the resin from the precipitated impurities.

2,980,498

RECOVERY OF LITHIUM FROM LITHIUM BEARING ORES

Robert M. Wheaton and Raymond J. Anderson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 29, 1957, Ser. No. 636,870
7 Claims. (Cl. 23—32)

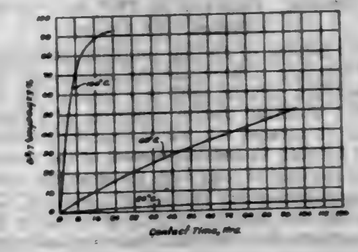
1. A process for the recovery of lithium values from a solid lithium bearing ore containing lithium in an acid leachable form, which comprises contacting the solid ore, in the presence of water, with a solid, strongly acidic cation exchange resin in the acid form to obtain an ion exchange of the lithium from the ore to the ion exchange resin, separating the resin from the contacted ore, and recovering the lithium values from the resin.

2,980,499

RECOVERY OF LITHIUM FROM LITHIUM BEARING ORES

Robert D. Goodenough and Vernon A. Stenger, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 29, 1957, Ser. No. 636,954
2 Claims. (Cl. 23—32)



1. A process for the recovery of lithium values from solid lepidolite, which comprises heating the solid lepidolite at a temperature below the fusion point in the range of 850° to 1200° C., cooling the heated lepidolite, contacting the cooled solid lepidolite, in the presence of water, with a solid, strongly acidic cation exchange resin at a temperature from 95° to 150° C., separating the contacted lepidolite from the resin, and recovering the lithium values from the resin.

2,980,500

METHOD FOR THE PREPARATION OF SEMICONDUCTOR CADMIUM COMPOUNDS

Herbert Miller, Needham, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 25, 1958, Ser. No. 730,825
14 Claims. (Cl. 23—58)

1. Method for the production of a compound selected from the group consisting of cadmium sulfide, cadmium selenide and cadmium telluride which comprises reacting cadmium metal in the vapor phase with a compound selected from the group consisting of alkyl mercaptans, alkyl sulfides, alkyl disulfides, alkyl selenols, alkyl selenides, alkyl diselenides, alkyl tellurols, alkyl tellurides and alkyl ditellurides, in which each alkyl radical has less than 4 carbon atoms, and in which the temperature is maintained within the range of from 800° C. to 1000° C.

2,980,501

PROCESS FOR PURIFYING SPENT MERCERIZATION CAUSTIC

Ralph L. Carr, Towson, Md., and Charles R. Dalany, Niagara Falls, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Dec. 31, 1957, Ser. No. 706,296
8 Claims. (Cl. 23—69)

1. A method for the purification of spent mercerization caustic solution which has been concentrated to a sodium hydroxide content within the range from about 20 to about 40 percent by weight which comprises admixing the spent caustic solution with a material selected from the group consisting of chlorine, sodium hypochlorite and calcium hypochlorite and heating the mixture at a temperature below its boiling point whereby a lower,

clear caustic solution layer and an upper layer containing flocculated impurities form, and separating the caustic solution layer from the upper layer.

2,980,502

STRONTIUM CHROMATE FROM BRINE

Robert D. Goodenough and Vernon A. Stenger, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 22, 1959, Ser. No. 788,254
7 Claims. (Cl. 23—56)

1. The method of making strontium chromate from a brine containing a strontium salt intermixed with other salts including calcium salts in a ratio of Ca:Sr of not over 20:1 dissolved therein consisting of admixing with the brine an aqueous solution of a soluble chromate in an amount between 80 and 100 percent of the stoichiometric quantity required to react with the strontium values present at a temperature of between 90° and 110° C., digesting the resulting mixture for at least 5 minutes to precipitate strontium chromate, and separating and washing the thus precipitated strontium chromate.

2,980,503

METHOD OF PRODUCING CAESIUM CARBONATE AND CAESIUM SULPHATE FROM AQUEOUS NITRIC ACID SOLUTIONS OF FISSION PRODUCTS

Thomas Victor Healy, Chilton, Harwell, England, assignor to The United Kingdom Atomic Energy Authority, London, England

No Drawing. Filed July 30, 1957, Ser. No. 675,814
Claims priority, application Great Britain July 30, 1956
12 Claims. (Cl. 23—63)

5. A method of recovering radioactive caesium in a highly purified condition from an aqueous nitric acid solution of nuclear fission products comprising the steps of precipitating said radioactive caesium as phosphotungstate from said solution by the addition thereto of phosphotungstic acid, separating the precipitate of said phosphotungstate from said solution, adding to said precipitate a solution of an alkaline earth metal hydroxide, said alkaline earth metal being in excess of the chemical equivalent of the phosphate and tungstate in said phosphotungstate so that a solution containing said radioactive caesium as hydroxide and a precipitate of the phosphate and tungstate of said alkaline earth metal are formed, precipitating the excess of said alkaline earth metal as carbonate by the addition of ammonium carbonate in excess and boiling the solution, evaporating the solution now containing said radioactive caesium as carbonate to small bulk whereby ammonia is driven off, and separating the solution containing said radioactive caesium as carbonate from the precipitate of the carbonate, phosphate and tungstate of said alkaline earth metal.

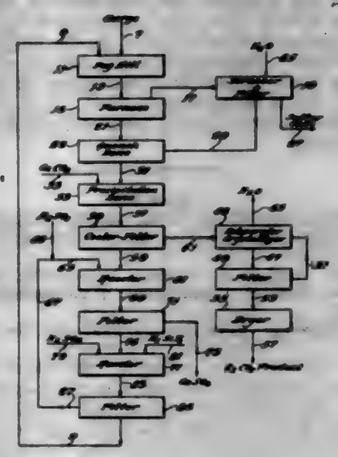
2,980,504

PREPARATION OF POTASSIUM COMPOUNDS FROM POTASSIUM SULFATE

Arthur N. Bourgeois, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York

Filed Jan. 7, 1959, Ser. No. 785,514
11 Claims. (Cl. 23—63)

3. A process for the preparation of potassium carbonate which comprises heating a finely divided admixture of potassium fluosilicate, potassium sulfate, and carbonaceous material in a non-oxidizing atmosphere, at a temperature of at least 1200° F., and treating the resultant reaction mass with calcium carbonate in aqueous solution, thereby producing an aqueous solution of potassium



carbonate and a solid precipitate containing calcium fluoride and silica.

2,980,505

PROCESS OF PRODUCING ALKALI METAL SALTS OF UREA

Karl Haas and Kurt Dessloers, Lauledorf, über Troisdorf, Germany, assignors to Feldmuehle Papier- und Zellstoffwerke A.G., Duesseldorf-Oberkassel, Germany

No Drawing. Filed Nov. 12, 1958, Ser. No. 773,136
Claims priority, application Germany Nov. 16, 1957
9 Claims. (Cl. 23—75)

7. In a process of producing alkali metal cyanates, the steps which comprise intimately mixing finely pulverized solid urea with a finely pulverized solid alkali metal alcoholate, heating the resulting mixture at a temperature below 100° C. until no more alcohol is split off, said temperature being higher than the boiling point of said alcohol in said mixture, separating said alcohol from said mixture in the gaseous state, and increasing the temperature of the resulting alkali metal salt of urea to a temperature substantially exceeding 100° C. until no more ammonia is split off.

2,980,506

NITROGEN-PHOSPHORIC ACID COMPOUNDS CONTAINING ACTIVE CHLORINE

Valentin Haberstich, Duesseldorf, and Alfred Kleter, Duesseldorf-Oberkassel, Germany, assignors to Henkel & Cie, G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Sept. 16, 1957, Ser. No. 683,961
Claims priority, application Germany Sept. 27, 1956
11 Claims. (Cl. 23—85)

1. Process for the preparation of a nitrogen-phosphoric acid compound containing an active chlorine connected directly to an amido group which comprises chlorinating a nitrogen-phosphoric acid compound having at least one amido group which is obtained by the reaction of a member selected from the group consisting of phosphorus pentoxide and phosphoric acid with a member selected from the group consisting of ammonia, urea, ammonia salts and ammonium carbamate, with a member selected from the group consisting of gaseous chlorine, hypochlorous acid, hypochlorites and N-chloro-succinimide.

2,980,507

PROCESS FOR PREPARING ZIRCONIUM OXIDE

Gerd Rossmy, Essen, Germany, assignor to Th. Goldschmidt A.G., Essen, Germany, a company of Germany

No Drawing. Filed Sept. 30, 1957, Ser. No. 686,991
6 Claims. (Cl. 23—140)

1. A process for preparing highly purified zirconium oxide which comprises reacting zirconium tetrachloride with an unsubstituted aliphatic ether having at least two and not more than six carbon atoms to fom an intermediate reaction product $ZrCl_4.2ROR'$, wherein R and R' are similar or different alkyl groups having one to three carbon atoms, thereafter heating said intermediate reaction product at a temperature within the range of about 100 to 300° C. and for a time ranging between about 1 hour and 40 hours to produce decomposition products comprising a corresponding unsubstituted aliphatic ether at least one chloride of the above-recited alkyl groups and zirconium compound polymers containing at least one radical selected from the group consisting of Cl, OR and OR', wherein R and R' are alkyl groups having between one and three carbon atoms, and then converting the said zirconium compound polymers to zirconium oxide of high purity by steaming at a temperature within the range of about 300–500° C. and then calcining at a temperature between about 800 and 1000° C.

2,980,508

OXIDATION OF TRIVALENT TITANIUM COMPOUNDS CONTAINED IN SOLID TITANIFEROUS MATERIALS

Olav Mokleby and Harald Bjoernaasset, Hauge I Dalane, Norway, assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 27, 1956, Ser. No. 624,585
Claims priority, application Norway Dec. 5, 1955
6 Claims. (Cl. 23—202)

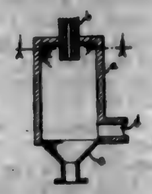
1. Method for rendering a material consisting essentially of a finely divided titanium concentrate having a particle size not in excess of about 50 microns and containing solid trivalent titanium oxide amenable to digestion with concentrated sulphuric acid which comprises wetting the finely divided concentrate with water and a small amount of oxidation accelerator without dissolving the concentrate and without forming a slurry, contacting the so wetted concentrate, prior to digestion, with oxygen containing gas to oxidize the trivalent compounds to tetravalent while maintaining the temperature during oxidation below 100° C.

2,980,509

VAPOR PHASE PROCESS FOR THE PRODUCTION OF TITANIUM DIOXIDE

Walter Frey, Muttenz, Switzerland, assignor to Fabriques de Produits Chimiques de Thann et de Mulhouse, Thann, France, a corporation of France

Filed Aug. 28, 1957, Ser. No. 680,734
9 Claims. (Cl. 23—202)



1. In a process for producing a finely divided titanium dioxide pigment, comprising continuously flowing into a reaction zone and anhydrous gaseous reaction mixture of vaporized titanium tetrachloride and oxygen containing gas, continuously flowing thereinto auxiliary gases including separate streams of carbon monoxide and oxygen containing gas respectively surrounding the inflowing reaction mixture and maintaining an auxiliary flame around said mixture in said zone by burning said carbon monoxide therein, thereby reacting said mixture in contact with said flame to form said pigment; the improvement which comprises supplying as the stream of auxiliary gas next adjacent to said inflowing mixture a dry gas containing less than 0.05% of moisture by volume and so little moisture as to prevent oxide incrustations on the reaction mixture inlet, yet maintaining in said auxiliary gases a total moisture equivalent of at least 0.005% of their volume to keep said carbon monoxide flame burning, said total moisture equivalent being maintained at not more than 0.25% of the volume of said auxiliary gases to limit to a minute amount the HCl content of the reaction products.

2,980,510

PREPARATION OF FIBROUS TITANIUM DIOXIDE

Kenneth L. Berry, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 21, 1959, Ser. No. 828,459
5 Claims. (Cl. 23—202)

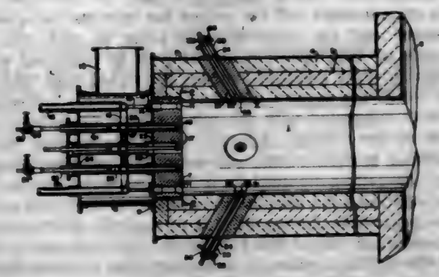
1. Process for preparing fibrous titanium dioxide which comprises reacting a halide of tetravalent titanium with a melt selected from the class consisting of boric oxide, alkali metal borates and mixtures of boric oxide with at least one alkali metal borate.

2,980,511

CARBON BLACK MANUFACTURE

Robert H. Havard, Eola, La., assignor to Columbian Carbon Company, New York, N.Y., a corporation of Delaware

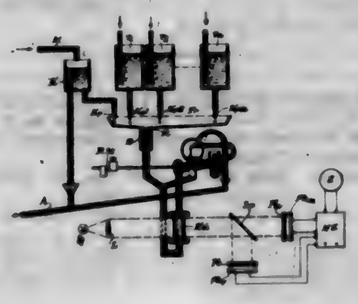
Filed Jan. 28, 1959, Ser. No. 789,580
9 Claims. (Cl. 23—209.4)



1. In the process for producing carbon black by the decomposition of a liquid hydrocarbon wherein a combustible mixture of a fluid fuel and an oxidizing gas is blasted into one end of an elongated, unobstructed, heat-insulated reaction chamber as a multiplicity of streams uniformly spaced over the cross-sectional area of the chamber and said combustible mixture is burned as it enters the chamber to form a violently turbulent stream of hot blast flame gases passing longitudinally through the chamber and the hydrocarbon to be decomposed is separately injected longitudinally into the resultant stream of hot gases adjacent the said end of the chamber as a plurality of gas-atomized liquid sprays symmetrically positioned over the cross-sectional area of the chamber between, and flanked on all sides by, the entering streams of combustible mixture whereby the hydrocarbon to be decomposed is rapidly, uniformly mixed with the hot blast flame gases and is decomposed by heat absorbed from said gases to form carbon black in suspension, the improvement which comprises the step of separately introducing steam into the furnace chamber

and rapidly, uniformly mixing the steam with the preformed mixture of hot furnace gases and hydrocarbon to be decomposed in a zone of the chamber preceding that in which the carbon black particles are formed.

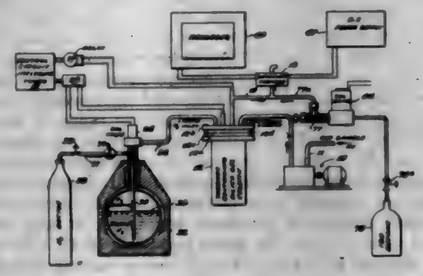
2,980,512
CONTINUOUSLY WORKING PLANT COLORIMETER
Otto Petersen, Krefeld, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Mar. 27, 1959, Ser. No. 802,451
Claims priority, application Germany Mar. 28, 1958
2 Claims. (Cl. 23—253)



1. A continuously working plant colorimeter comprising a collector which receives a constant partial current of the liquid whose content of colorless constituent is to be measured quantitatively as well as currents of liquid reagents required to bring out a coloration, a measurement cell, means connected with the collector and the measurement cell for uniting the currents into a single current and for delivering the latter to said cell, the length of said means being adapted to each and every reaction time, additional means connected with said cell by which the current of liquid is circulated, a discharge funnel connected with the cell for carrying away a portion of the current of liquid, means for cycling the remaining portion of the current with fresh liquid entering the cell, a lighting means located adjacent the cell for sending a parallel beam of light through the cell, a semipermeable mirror inserted in the path of rays under an angle of 45° at the side of the cell opposite to that of the lighting means, a measuring filter inserted behind the mirror in the straight-lined path of rays, a measuring photocell supported immediately behind said measuring filter, a comparison filter inserted in the path of rays reflected by the mirror, a comparison photocell supported behind the comparison filter and a measuring device which receives the currents supplied by the two photocells, evaluates them and indicates the result.

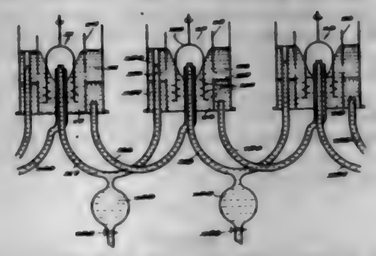
2,980,513
COMBUSTIBLES-IN-AIR INSTRUMENT
Sixt Frederick Kapff, Homewood, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Oct. 28, 1957, Ser. No. 693,623
2 Claims. (Cl. 23—255)

1. An apparatus for detecting micro amounts of combustibles in air which comprises accumulator chamber means, hydrocarbon adsorption means in said accumulator chamber means, means for cooling said accumulator chamber means while flowing a sample air stream containing micro quantities of combustibles through said adsorption means, heater means for said adsorption means, timing means adapted to terminate the cooling of the accumulator chamber means and for energizing the heater for the adsorption means, whereby accumulated combustibles are desorbed from said adsorption means, combustibles detector means, conduit means for flowing the desorbed combustibles from the accumulator chamber means through the combustibles detector means,



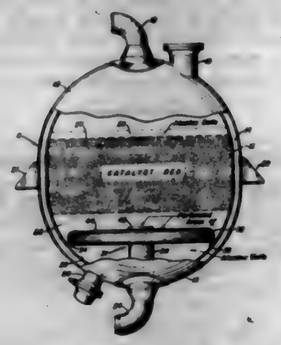
and means actuated by said timing means for injecting into said conduit en route to said detector means a small amount of a standardizing combustible gas as a reference peak for indicating the accumulated amount of desorbed hydrocarbon combustibles.

2,980,514
APPARATUS FOR FRACTIONATED PARTITION AND SEPARATION OF DISSOLVED SUBSTANCES BETWEEN TWO LIQUID PHASES
Hermann Renner, Konstanz (Bodensee), Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
Filed Jan. 18, 1957, Ser. No. 634,842
Claims priority, application Germany Jan. 19, 1956
3 Claims. (Cl. 23—270.5)



1. In an apparatus for the fractionated partition and separation of dissolved substances between two liquid phases of different density, the combination of a plurality of separating units joined with each other in horizontal relationship, each comprising a mixing chamber provided with a bell shaped stirrer rotating about a vertical axis leaving the center portion of the mixing chamber free and adapted and arranged to provide a vortex in the liquid stirred and at least one settling chamber, and communicating tubes connecting the mixing and settling chambers of neighboring separating units for the separate transfer of liquid from the top zone and from the bottom zone of the settling chamber of each separating unit to the mixing chambers of neighboring units, the outlet ends of the communicating tubes in the mixing chambers being centrally located and concentrically disposed, said outlet ends furthermore being below the upper plane of the liquid in the settling chambers but in the free space above the vortex above the stirred liquid in the mixing chambers.

2,980,515
REACTION CHAMBER
John F. Horner, La Marque, Tex., and Laurence T. Wright, Homewood, Ill., assignors, by direct and mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Mar. 6, 1958, Ser. No. 719,524
4 Claims. (Cl. 23—288)



1. A reaction chamber, adapted for contacting a gaseous stream with particulate solid contact material, comprising a substantially spheroidal vessel provided with curved upper and lower end-closures, respectively, inlet vapor conduit positioned in said upper end-closure for admitting a gaseous stream into the upper portion of said vessel, an outlet vapor port positioned substantially centrally in said lower end-closure for passing vapors out of said chamber, a header disposed centrally in said vessel communicating with said outlet vapor conduit and extending upwardly a substantial distance into the interior of said vessel, a ring-shaped conduit positioned in said vessel substantially adjacent to the inner peripheral surface thereof approximately at the maximum cross-sectional area of said vessel to provide a diameter of said ring-shaped conduit of at least 70% of the maximum interior diameter of said vessel, and at least three conduits communicating with said ring-shaped conduit and the body portion of said header, said ring-shaped conduit and said communication conduits being provided with perforations of a size to substantially prevent passage of particulate solid material therethrough.

2,980,516
INTIMATE MIXTURES OF PITCH DUST WITH OTHER MATERIALS AND METHOD OF PROVIDING SAME
Friedrich Croy, Schriesheim, Germany
No Drawing. Filed June 29, 1956, Ser. No. 594,713
11 Claims. (Cl. 44—19)

10. A water-free composition of matter consisting essentially of finely divided coal intimately admixed and compressed with approximately 3.5 to 5.5% of finely divided pit-coal tar pitch and approximately 0.1 to 0.13% of a solution of one part of an oil soluble compound selected from the group consisting of alkanolamine fatty acid soaps and alkyl halide silanes in two parts of coal tar oil.

2,980,517
STABILIZATION OF FUEL OILS
Ira Kukin, Bronx, N.Y., and Kurt S. Spiegler, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed May 31, 1957, Ser. No. 662,584
7 Claims. (Cl. 44—62)

1. A process for stabilizing fuel oil comprising maintaining a mixture of catalytically cracked and straight run fuel oil distillates that normally tends to deposit sludge during storage in contact with a minor proportion, sufficient to stabilize the oils, of a strongly basic anion exchange resin that comprises a polymeric matrix having a plurality of quaternary ammonium hydroxide groups associated therewith substantially throughout the period of storage of said mixture of oils at ambient atmospheric temperature, where the moisture content of the resin is at least about 25 weight percent.

2,980,518
INHIBITING GEL FORMATION IN FUEL OILS
Philip L. Bartlett, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 27, 1956, Ser. No. 606,186
20 Claims. (Cl. 44—66)

1. A hydrocarbon distillate fuel oil which is in contact with a member of the group consisting of copper, copper compounds and brass, and which contains at least one mercaptan which normally tends to form a copper mercaptide gel, and a small proportion sufficient to inhibit such gel formation of at least one polyamino compound of the group consisting of alkylene primary diamines of 2 to 10 carbon atoms in which the primary amino groups are separated by 2 to 6 carbon atoms, dialkylene triamines of 4 to 10 carbon atoms in which the amino groups are separated by 2 to 4 carbon atoms and two of the amino groups are primary amino groups, and mono-acid salts of said diamines and said triamines in which the acids are selected from the group consisting of monocarboxylic fatty acids of 8 to about 22 carbon atoms, monohydric mononuclear phenols, and monocarboxylic petroleum naphthenic acids of about 8 to about 29 carbon atoms, said polyamino compound being in a proportion equivalent to 0.1 to about 5 parts of polyamino for each part of active mercaptan sulfur in the fuel oil.

2,980,519
GASOLINE FUEL COMPOSITIONS
Alan C. Nixon, Berkeley, and Harry B. Minor, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware
Filed Dec. 16, 1955, Ser. No. 553,629
6 Claims. (Cl. 44—69)

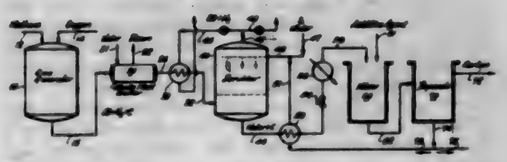
3. A gasoline fuel consisting essentially of gasoline containing tetraethyl lead and from about 0.00005 to about 1.5% by weight of an oxidation inhibitor consisting essentially of a mixture of from about 25 to about 90% by weight of 2,6-ditertiarybutyl-4-methylphenol and from about 75 to about 10% by weight of 2-tertiarybutyl-4-methylphenol.

2,980,520
GASOLINE MOTOR FUEL
Helen I. Thayer, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 11, 1959, Ser. No. 819,568
9 Claims. (Cl. 44—69)

2. A gasoline motor fuel comprising a major amount of a hydrocarbon mixture boiling in the gasoline range and containing tetraethyl lead in an amount normally tending to cause preignition of said fuel in the combustion chamber of a spark ignition, reciprocating internal combustion engine, and a minor amount, sufficient to inhibit such preignition, of a reaction product of (*a*) an amine selected from the group consisting of primary, secondary and tertiary alkyl, alkenyl and alkylol mono- and diamines whose substituents each contain 2 to 22 carbon atoms, and (*b*) an anhydride prepared by reacting a partially esterified orthophosphoric acid that contains 1 to 2 organic substituents per molecule, at least

one of whose substituents is a hydrocarbon radical containing 5 to 22 carbon atoms, and the other substituent of which when present is a hydrocarbon radical containing 1 to 22 carbon atoms, with a borylating agent selected from the group consisting of boric acid, boric oxide, and an anhydride of boric oxide and an aliphatic monocarboxylic acid, in the ratio of about 0.5 to about 6 moles of said partially esterified orthophosphoric acid per mole of borylating agent, under conditions conducive to anhydride formation, said amine and said anhydride being reacted in the proportion range of about 0.5 to about 2 equivalents of anhydride per equivalent of amine.

2,988,521
CARBON SEPARATION PROCESS
Roger M. Dille and Ronald W. Chapman, Whittier, Calif., assignors to Texaco Inc., a corporation of Delaware
Filed Dec. 19, 1958, Ser. No. 781,630
17 Claims. (Cl. 48—196)



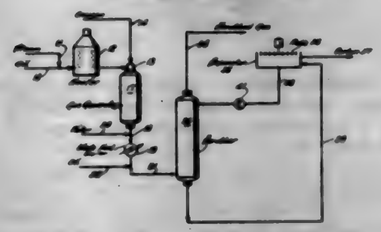
1. In a process for the generation of a synthesis gas mixture by partial oxidation of a hydrocarbonaceous material at an elevated temperature and pressure in which the generated gas mixture comprising carbon monoxide and hydrogen contains minor amounts of solid carbon particles produced by said partial oxidation process, and the generated gas mixture is contacted in a scrubbing zone with an aqueous liquid to effect removal of said carbon particles from the mixture with the resulting formation of an aqueous slurry of said carbon particles, the improvement which comprises incorporating an additive agent consisting of a water soluble nonionic surface active agent having the general formula $RO(R'O)_nH$, wherein R is a member selected from the group consisting of an aliphatic hydrocarbon radical containing 8 or more carbon atoms and an alkaryl hydrocarbon radical in which the alkyl group contains an average of at least 3 carbon atoms, R' is a member selected from the group consisting of divalent C_2 and C_3 aliphatic hydrocarbon radicals, and n has a value of at least 8, in the aqueous slurry in an amount of at least about 10% by weight, basis weight of free carbon present, said amount being sufficient to decrease the water content of the separated carbon particles and thereafter separating carbon particles of reduced water content from the slurry.

2,988,522
CARBON SEPARATION PROCESS
Roger M. Dille and Ronald W. Chapman, Whittier, Calif., assignors to Texaco Inc., a corporation of Delaware
Filed Dec. 19, 1958, Ser. No. 781,788
17 Claims. (Cl. 48—196)



1. In a process for the generation of a synthesis gas mixture by partial oxidation of a hydrocarbonaceous material at an elevated temperature and pressure in which the generated gas mixture comprising carbon monoxide and hydrogen contains minor amounts of solid carbon particles produced by said partial oxidation process, and the generated gas mixture is contacted in a scrubbing zone with an aqueous liquid to effect removal of said carbon particles from the mixture with the resulting formation of an aqueous slurry of said carbon particles, the improvement which comprises incorporating a water-soluble inorganic salt of a lignosulfonic acid in the aqueous slurry in an amount of at least about 40% by weight, basis weight of free carbon present, said amount being sufficient to decrease the water content of the separated carbon particles, and thereafter separating carbon particles of reduced water content from the slurry.

2,988,523
PRODUCTION OF CARBON MONOXIDE AND HYDROGEN
Roger M. Dille and Ronald W. Chapman, Whittier, and John C. Ahlbern, Monterey Park, Calif., assignors to Texaco Inc., a corporation of Delaware
Filed Dec. 1, 1958, Ser. No. 777,275
7 Claims. (Cl. 48—215)



1. In a process for the production of carbon monoxide and hydrogen from carbonaceous fuels wherein said fuel is reacted with an oxygen-containing gas in a reaction zone to produce a product gas stream comprising carbon monoxide, hydrogen and entrained carbonaceous solid, and said product gas stream is contacted with water in a gas scrubbing zone effecting removal of carbonaceous solid from said gas stream, the improvement which comprises contacting said gas stream comprising carbon monoxide, hydrogen and entrained carbonaceous solid with liquid hydrocarbon in an amount within the range equivalent to about 0.5 to 2.0 times the oil absorption value of said entrained carbonaceous solid and insufficient to effect removal of said entrained solid from said gas stream before contacting said product gas stream with said water rendering said carbonaceous solid hydrophobic and thereafter scrubbing said gas stream with water effecting removal of said carbonaceous solid from said gas stream.

2,988,524
ABRASIVE COMPOSITIONS
John S. Merton, Chicago, Ill., assignor to Engis Equipment Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 29, 1957, Ser. No. 655,466
1 Claim. (Cl. 51—293)

A method for producing stable uniform compositions of precious stone abrasive particles up to 200 microns in size in a water-soluble carrier wherein said particles can be easily salvaged from the spent compositions after use, consisting essentially of dispersing said particles throughout water-soluble fluid type polyalkylene glycol fluid in about the proportion by weight of 2 units of fluid to 1 unit by weight of abrasive particles; adding water-soluble, normally solid, highly polymerized ethylene oxide of molecular weight 4000 to the resulting dispersion, the solid comprising at least about one-third of the weight of the fluid; heating and agitating the resulting mixture until uniform; and agitating the resulting uniform mixture while it cools and until it sets.

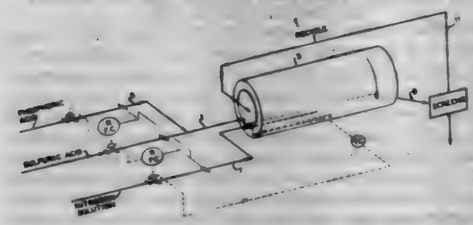
2,988,525
METHOD FOR COMBATING UNDESIRABLE PLANT LIFE
Johannes T. Hackmann and Pieter Ten Haken, Kent, England, assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed July 7, 1958, Ser. No. 746,679
Claims priority, application Great Britain July 12, 1957
4 Claims. (Cl. 71—2.7)

1. The method of combating undesirable plant life comprising applying to said plant life an herbicidally effective quantity of a compound having the formula



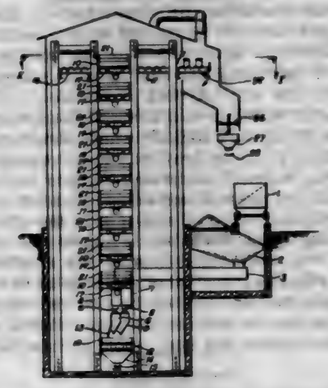
wherein Y represents a member selected from the group consisting of —OCHClX and $—NR_1R_2$ in which X represents a member of the group consisting of the unsubstituted alkyl radicals having from one to four carbon atoms and chlorine-substituted alkyl radicals having from one to four carbon atoms, and R_1 and R_2 each represent a member selected from the group consisting of hydrogen and aliphatic hydrocarbon radicals having up to four carbon atoms.

2,988,526
PREPARATION OF MIXED FERTILIZERS
Joseph F. Wilson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 13, 1959, Ser. No. 793,166
5 Claims. (Cl. 71—32)



1. A process for the continuous production of a dry, granular fertilizer containing approximately 26–27 weight percent nitrogen and 14 percent phosphorus, as P_2O_5, using only liquid reactants which comprises bringing together in an agitated reaction zone proper amounts of a nitrogen-containing solution in the form of a solution of ammonium nitrate and anhydrous ammonia in water and concentrated sulfuric acid at least about 90 percent by weight and concentrated phosphorus acid having at least 45 percent by weight P_2O_5 in the presence of pre-formed solid subdivided fertilizer product having substantially the aforesaid composition, maintaining the reaction zone at a temperature in the approximate range of 195–230° F., maintaining a sufficient body of solid product in the reaction zone to ensure discharge of dry, solid granular product therefrom, separating from granular product thus obtained a desired first portion of on-size product consisting essentially of dry, granular fertilizer containing approximately 26–27 weight percent nitrogen and 14 percent phosphorus, as P_2O_5, and a second portion of product composed of material having a size not appreciably larger than on-size product and containing a substantial portion of smaller than on-size material, recycling said second portion of solid granular product to said zone, adjusting the ratio of the recycled product to liquid reactants fed to said reaction zone, on a weight basis, to a value of at least about 2:1 and whenever the said ratio is less than about 3:1 yet not less than about 2:1, maintaining a ratio by weight of said recycled product to total weight of the acids above about 4:5:1.

2,988,527
METHOD AND APPARATUS FOR PRODUCING ORE SINTER
Robert W. Strang, 103 S. Patton Drive, Coraopolis, Pa.
Filed Feb. 13, 1958, Ser. No. 714,995
7 Claims. (Cl. 75—5)



1. An apparatus for producing ore sinter comprising a charging station, a plurality of sintering stations vertically disposed one over the other and each of said sintering stations having an igniter and a suction exhaust connection, a charging elevator communicating with the said charging station and each of the said sintering stations, a discharging elevator communicating with the charging station and each of the said sintering stations, a plurality of sintering pans each capable of being accommodated by the said sintering stations and the said charging and discharging elevators, and a pan dumping station adjacent the said discharging elevator and communicating with the said discharging elevator.

2,988,528
PROCESS FOR THE MANUFACTURE OF RUSTLESS IRON
Sampei Katakura, 60–5 Gotanda, Shinagawa-ku, and Kenkichi Tachiki, 117 Sanya-cho Meguro-ku, both of Tokyo, Japan
No Drawing. Filed Dec. 24, 1958, Ser. No. 782,621
1 Claim. (Cl. 75—28)

The process for the production of rust resistant iron which comprises mixing 100 parts finely divided iron containing metallic impurities with 20 to 30 parts powdered metallic calcium in an inert gaseous atmosphere to form a mass wherein the calcium and iron particles are in intimate contact, maintaining the particles in intimate contact for from 12 to 24 hours at a temperature in the range of 20° to 30° C. above room temperature with stirring every two hours until the mass takes on a brown coloration, and separating the iron particles from the mass.

2,988,529
METHOD OF MAKING ALUMINUM KILLED STEEL
William E. Knapp and Wilbur T. Bolkcom, Allison Park, Pa., assignors to American Metallurgical Products Company, Pittsburgh, Pa., a partnership of Pennsylvania
No Drawing. Filed Dec. 7, 1956, Ser. No. 626,822
5 Claims. (Cl. 75—57)

1. The method of reducing alumina segregation and imparting hot and cold ductility to aluminum killed steel comprising the steps of adding to a ladle an alloy of about 4% to 30% rare earth metals and the balance aluminum with usual impurities in ordinary amounts, pouring into the ladle a molten bath of steel to be killed and thereafter teeming the molten product into molds.

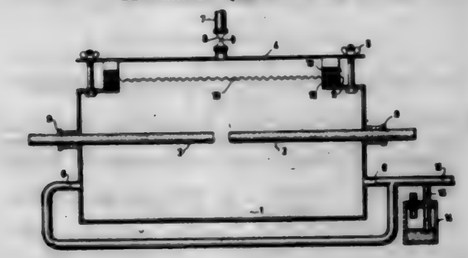
2,980,530
METHOD OF PRODUCING NODULAR IRON
Lester C. Crome, West Alexandria, Ohio, assignor to The Dayton Malleable Iron Company, Dayton, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 11, 1958, Ser. No. 779,544
16 Claims. (Cl. 75—130)

1. In the production of as-cast nodular iron from a molten gray iron mix by the use of rare earth metals as the nodularizing agent added to said molten mix, the method of increasing the efficiency of incorporation of said agent into said mix and of decreasing the amount of said agent added to said mix and the amount of said agent lost during said addition which comprises the steps of preparing a molten gray iron mix, treating said mix with a slag material comprising calcium carbonate and a carbonaceous material and calcium fluoride for enhancing the responsiveness of said mix to the effect of said nodularizing agent, thereafter adding to said mix before casting a rare earth metal fluoride and a reducing agent therefor, effecting reduction of said rare earth metal fluoride to said rare earth metal by said reducing agent in said molten mix for nodularizing action therein, and pouring the thus treated mix into a mold to form said casting.

2,980,531
PRODUCTION OF NODULAR IRON
Lester C. Crome, West Alexandria, Ohio, assignor to The Dayton Malleable Iron Company, Dayton, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 28, 1959, Ser. No. 789,505
12 Claims. (Cl. 75—130)

1. In a process of the character described for the production of nodular iron castings from a molten gray iron mix, the steps which comprise forming in a melting furnace a hypoeutectic molten gray iron mix having a low carbon content, heating said mix in said melting furnace to a high founding and pouring temperature of at least about 2850° F. for dissolving in said iron substantially all the carbon present in said mix, withdrawing said thus melted mix from said furnace, adding to said withdrawn molten mix solid metal effecting a sudden chilling of about 100° F. of said molten mix by the addition of said solid metal thereto, thereafter treating said mix with a nodularizing agent, and pouring said thus treated mix into a mold to form said nodular iron casting.

2,980,532
METHOD OF PRODUCING PERMEABLE MEMBRANES
Karl Mårten Martensson, Claes Peter Löfman, and Erik Ingemar Erikson, Stockholm, Sweden, assignors to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden
Filed Jan. 12, 1959, Ser. No. 786,436
Claims priority, application Sweden Jan. 10, 1958
11 Claims. (Cl. 75—205)



1. A method of producing a permeable membrane which comprises vaporizing a metallic electrode in a gas atmosphere by means of an electric arc, collecting finely divided material from said atmosphere directly on a metallic network, compressing said collected material together with the network to form a compressed unit and sintering the resulting compressed unit.

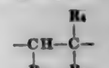
2,980,533
TRANSLUCENT OBJECTS DECORATED WITH DESIGNS OR IMAGES
Alexander E. Charlton, Cincinnati, Ohio, assignor to Photoceramics, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 6, 1953, Ser. No. 340,825
1 Claim. (Cl. 96—34)



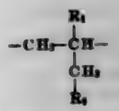
A fireable photographically decorated object comprising a translucent base, a colored background layer applied thereto, a photographic design formed in a fireable pigmented light sensitized layer superimposed on a non-pigmented burnable light sensitized layer applied to the colored background layer, and a fusible protective layer over the photographic design.

2,980,534
PHOTOGRAPHIC COMPOSITIONS AND PHOTOGRAPHIC ELEMENTS
John O. Printy and Edward Wangelin Wagner, St. Louis, Mo., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 17, 1956, Ser. No. 628,492
24 Claims. (Cl. 96—35)

21. The method of forming a relief image which comprises: (1) preparing a coated surface by coating a surface with a photographic composition consisting essentially of a photosensitive material incorporated in a water-insoluble resinous copolymer, (2) exposing the coated surface to light with a replica of the relief image interposed between the light source and the coated surface, and (3) treating the coated surface with a solution to remove the coating composition from the unexposed area; said photosensitive material being selected from the group consisting of light-sensitive dichromate and light-sensitive diazo compounds; said resinous copolymer containing in its formula both (*a*) polymerized olefinic hydrocarbon groups, and (*b*) at least one polymerized monomer group having a formula of the group consisting of:



and



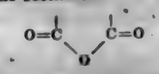
where R_4 is selected from the group consisting of a hydrogen atom and a methyl group and where R_5 and R_6 are independently selected from the group consisting of carboxyl groups of the formula:



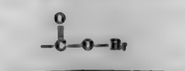
ester groups of the formula:



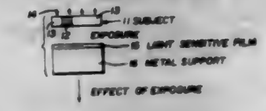
where R_7 is selected from the group consisting of alkyl groups, alkoxyalkyl groups, alkenyl groups, alkinyl groups, cycloalkyl groups and aryl groups, and an anhydride group of the formula:



formed by R_5 and R_6 collectively, with the further provision that 5–90% of the R_5 and R_6 groups are ester groups of the formula:



2,980,535
LIGHT SENSITIVE LAYERS OF SYNTHETIC MATERIALS
Gustav-Adolf Schroeter, deceased, late of Wesseling, Germany, by Christa B. E. Schroeter, widow and heir, Koln-Lindenthal, Germany, and legal representative of Udo Schroeter, Ivo Schroeter, Jonke Kai Schroeter, and Silvelin Schroeter, all of Koln-Lindenthal, Germany, heirs, assignor to Feldmühle Papier- und Zellstoffwerke Aktiengesellschaft, Dusseldorf, Germany, a corporation of Germany
Filed Oct. 6, 1958, Ser. No. 765,671
5 Claims. (Cl. 96—35)



1. A light-sensitive photographic element comprising a support, said support having two opposing surfaces, one of said surfaces being coated with a layer of a material consisting of an acetal of a polymer selected from the group consisting of polyvinyl alcohol, cellulose, and partially acetylated polyvinyl alcohol and cellulose, with a monoformyl derivative of a compound selected from the group consisting of anthracene, acridine, benzopyrene, phenazine, phenanthrophenazine, benzanthrene, and 2,9,10-trichloro anthracene, said material being the sole light-sensitive component of said element, said material being removable from said support with an organic solvent.

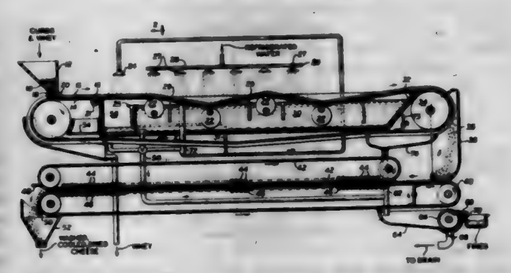
2,980,536
PHOTOGRAPHIC SHORTSTOP COMPOSITIONS
Shuji Kimura, Crystal Lake, and Jules N. Stich, Woodstock, Ill., assignors, by mesne assignments, to Morton Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 2, 1956, Ser. No. 595,052
5 Claims. (Cl. 96—62)

1. In the process of rapidly producing a silver image in a light exposed silver halide emulsion layer comprising (1) developing the exposed emulsion layer with a super-active black-and-white developer, (2) shortstopping the development by immersing the developed emulsion layer in an aqueous solution of a substance selected from the group consisting of sodium bisulfate, potassium bisulfate, ammonium bisulfate, sulfuric acid and hydrochloric acid having an acid hydrogen content equivalent to that of an aqueous solution containing from about 1% to about 5% by weight sulfuric acid and having a pH of not more than 2.0, and (3) fixing the developed emulsion layer, the improvement comprising shortstopping the development with an aqueous shortstop solution of the previously specified composition and acidity and containing, in addition, a substance selected from the group consisting of formaldehyde, paraformaldehyde, glyoxal, acetone and methyl ethyl ketone in an amount sufficient to produce a carbonyl function concentration therein of from about 4 to about 32 grams per liter.

2,980,537
METHOD FOR TENDERIZING MEATS
William F. Hagen, Northbrook, Ill., assignor to The Union Stock Yard and Transit Company of Chicago, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 16, 1956, Ser. No. 571,891
6 Claims. (Cl. 99—107)

1. In the method of tenderizing meat in an unfrozen state, the steps of providing a source for generating vibrational sound waves at high frequencies, energizing the source to generate vibrational sound waves, coating one surface of the meat in an unfrozen state with a coupling agent for making solid contact with the source for generating the vibrational sound waves, and pressing the coated surface of the meat into a firm contacting relationship with the source for transmission of the generated vibrational sound waves from the source to the meat to excite the meat with vibrational sound waves at high frequencies in excess of 15,000 cycles for from ½ to 30 minutes whereby the alternating pressures generated in closely spaced-apart relation in the meat during passage along the connective tissues causes breakdown of the connective tissues.

2,980,538
PROCESS AND APPARATUS FOR WASHING CURD FOR COTTAGE CHEESE
Raymond B. Wolf, San Francisco, Calif., assignor to The Borden Company, New York, N.Y., a corporation of New Jersey
Filed June 30, 1959, Ser. No. 824,058
10 Claims. (Cl. 99—116)

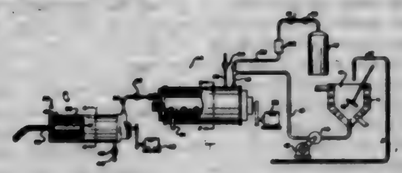


1. In washing whey from curd for cottage cheese and quickly chilling and firming the curd, the process which comprises moving the curd in layer form on a draining support alternately down and up, into and above a bath of refrigerated water, at a rate to cause the refrigerated water to move alternatively upwardly and downwardly in the said layer, subjecting the curd at positions above the said bath to sprayed refrigerated water, draining the sprayed water from the curd and repeating these steps until the whey is washed from the curd and the washed curd is chilled to firm condition.

2,980,539
METHOD FOR PRODUCING AND MOLDING PLASTIC MATERIALS HAVING A GASEOUS INGREDIENT
Henry W. Bevarly, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed June 23, 1958, Ser. No. 743,660
9 Claims. (Cl. 99—118)

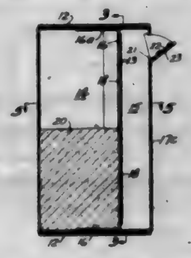
1. A method for preparing plastic material having a gaseous ingredient and forming therefrom accurately sized prints of uniform weight comprising, mixing under a controlled elevated pressure an aerated mixture of material ingredients including a volume of gas commensurate with a predetermined specific gravity of the final print at atmospheric pressure, flowing a portion of said

aerated mixture under an elevated pressure into a molding apparatus and permitting said portion to undergo a first expansion and to reach an intermediate and lower pressure prior to segregation of said portion from the remainder of said mixture, and segregating said portion and permitting said segregated portion to undergo a second expansion and to reach substantially atmospheric



pressure in the form of an accurately sized print having said predetermined specific gravity, said second expansion occurring while said portion is out of communication with the atmosphere whereby the shape of said print acquired during said second expansion may remain substantially unchanged when said print is discharged from its molding treatment.

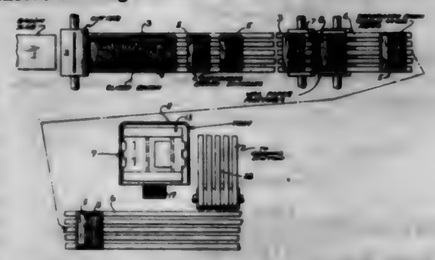
2,980,540
DOUGH MIX PACKAGE
Charles H. Turpin, Minneapolis, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 12, 1958, Ser. No. 779,885
7 Claims. (Cl. 99—172)



6. A prepared mix package for use with water, comprising a quantity of flour-base food mix, a substantially water-tight box constructed of moisture-resisting material, divider means extending across the interior of the box and sealed relation thereto to divide the interior into a first storage compartment and a second measuring compartment, the flour-base food mix partially filling the first compartment, and the second compartment being empty and having a predetermined volume to permit accurate measuring of a predetermined quantity of water to be added to the food mix, said divider means including a water-soluble panel constructed of material which is safely edible and non-toxic when dissolved in water, the box sidewall having a reclosable opening in communication with said first empty compartment to permit adding of water thereto, whereby the water added into said first compartment will be measured and will cause dissolving of the panel so that the liquid and food mix will be added to one another and may be mixed together into a batter by shaking the package.

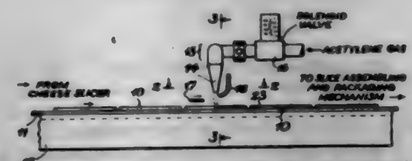
2,980,541
METHOD OF PACKAGING BACON
Norman A. MacDonald, Los Angeles, Calif., assignor to Luer Packing Co., Los Angeles, Calif., a corporation of Delaware
Filed Sept. 29, 1958, Ser. No. 764,141
4 Claims. (Cl. 99—174)

1. A method of packaging shingled bacon slices, characterized by: separating shingled bacon into shingle units and placing said shingle units without inversion on a backing sheet; placing a shingle unit with said backing sheet remaining thereunder on a shelf having substantially



the width of said shingle unit; placing the front panel of a package member over said shingle unit; and then folding the sides of said package member over the sides of said shelf.

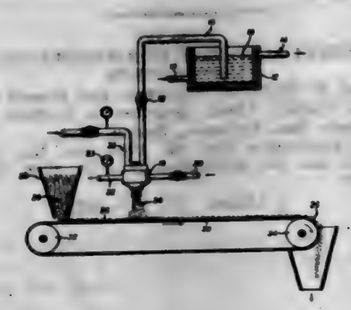
2,980,542
CHEESE TREATMENT
Daniel David Nusbaum, West De Pere, Wis., assignor to L. D. Schreiber & Co., Inc., Green Bay, Wis., a corporation of Delaware
Filed Aug. 3, 1951, Ser. No. 240,225
1 Claim. (Cl. 99—178)



A method of preparing for packaging a stack of non-adhering slices of cheese which normally constitutes an emulsion in which butter fat is in a discontinuous phase in a continuous phase of hydrated protein, said method comprising the steps of slicing the cheese and thereupon effecting superficial reversal of emulsion phase on the freshly cut surfaces of the slices by dehydrating such surfaces until an oil film develops thereon, the superficial dehydration and phase reversal being effected by thermal radiation of the cut slice surfaces, followed by the further step of assembling the irradiated slices in a stack in which the oil films on the cut surfaces intervene between the normal cheese emulsions of the slices, the said oil films rendering the slices readily separable and substantially mold-free during commercial handling, the cheese being cold when sliced and the slices being cold when irradiated, the step of irradiation being terminated before the cheese of the slice below the irradiated surface becomes warmed substantially above its starting temperature.

2,980,543
PROCESS FOR PREPARING INSTANT POTATO
James F. Hale, Syracuse, Ralph A. Klein, Liverpool, and Elizabeth M. Bradway, Syracuse, N.Y., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
Filed July 16, 1958, Ser. No. 748,873
9 Claims. (Cl. 99—207)

1. In preparing, from cooked and mashed potatoes, a dry product reconstitutable to mashed form by mixing with a hot water and milk, the improvement which comprises drying the mashed potato, then reducing it to particulate form and applying to the surfaces of the particles so formed a texture improving and antisticking agent, the said agent being a non-toxic, edible and oxidation resistant surfactant containing both hydrophilic and hydrophobic groups and the proportion of the said



agent so applied being about 0.2–1.5 parts for 100 parts dry weight of the potato.

2,980,544
METHOD OF HEATING MEAT
Clarence A. Mills, Cincinnati, Ohio, assignor to Reflectotherm, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 15, 1958, Ser. No. 709,145
3 Claims. (Cl. 99—229)



3. As a step in the method of heating meats which consists in the use of carbon black coated surfaces heated to a temperature of from 200° to 500° F. for the emission of infrared rays which are primarily of wave lengths of 30 to 400 microns, and smoking the meats during the heating stage.

2,980,545
WATER BASE STENCIL DUPLICATING INK
Clarence J. Shoemaker, Elmhurst, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois
No Drawing. Filed Oct. 29, 1957, Ser. No. 693,009
5 Claims. (Cl. 106—22)

2. A stable, aqueous stencil duplicating ink composition consisting essentially of:

15–40 percent by weight petroleum sulfonate
10–50 percent by weight of a mineral oil having an API number within the range of 32–36
2.5–20 percent by weight of a non-ionic polyhydric alcohol ester of a high molecular weight organic fatty acid
1–5 percent by weight of a water miscible polyol
3–15 percent by weight of a tinctorial agent
20–65 percent by weight of water.

2,980,546
CERAMIC DIELECTRIC MATERIALS
Karl Wolfgang Plessner, Ruislip, and Roger West, South Harrow, England, assignors to British Dielectric Research Limited, London, England, a British company
Filed Apr. 12, 1957, Ser. No. 652,481
Claims priority, application Great Britain Apr. 17, 1956
10 Claims. (Cl. 106—39)

1. A barium titanate ceramic dielectric material consisting essentially of barium oxide, an alkaline earth oxide, an oxide from the group consisting of iron, nickel, cobalt and manganese oxide, titania and an oxide selected from the group consisting of stannic oxide and zirconia, the relationship between the barium oxide content and titania content being substantially stoichiometric for the formation of barium titanate, the relationship between the alkaline earth oxide content and the content of said group zirconia and stannic oxide being substantially stoichiometric for the formation of at least one of an alkaline earth stannate and zirconate in an amount less than the amount of barium titanate and at least 2% by weight of the barium titanate and said one of alkaline earth stannate and zirconate together, and the content of the oxide from the group consisting of iron, nickel, cobalt and manganese being the molecular equivalent of ¼%–1% of magnesium oxide based on the total weight of all other ingredients.

2. A ceramic material in accordance with claim 1 in which the relationship between the barium oxide and titanium dioxide content is varied from stoichiometric to the extent that the excess of one of these constituents is sufficient to form a molar percentage not greater than 5 of one compound selected from the group consisting of alkaline earth titanate and at least one of barium zirconate and barium stannate, the ratio of (BaO+alkaline earth oxide):([one of ZrO_2 and SnO_2]+TiO_2) being within the limits 0.98:1 and 1.02:1.

2,980,547
HIGH REFRACTIVE INDEX GLASS BEADS
Vincent L. Duval d'Adrian, Shrewsbury, Mo., assignor to Flex-O-Lite Manufacturing Corporation, St. Louis, Mo., a corporation of Missouri
No Drawing. Filed May 3, 1957, Ser. No. 656,772
3 Claims. (Cl. 106—47)

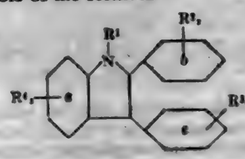
1. A reflective substantially transparent spherical glass bead consisting essentially of about 54–58% by weight of barium oxide, about 10–12% by weight of boric oxide and about 31–34% by weight of titanium dioxide.

2,980,548
PLASTER COMPOSITION
Archie Lee Hampton, Chicago, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 29, 1955, Ser. No. 505,045
4 Claims. (Cl. 106—111)

1. In the process of overcoming the difficulty of mixing and spreading a plastic sticky mortar formed from a mixture of water, a highly plastic calcium sulfate hemihydrate and a lightweight granular aggregate selected from the group consisting of expanded perlite and expanded vermiculite the improvement comprising introducing a wetting-antifoaming agent into said mortar prior to spreading.

2,980,549
BRIGHTENING OF FINE FABRICS
Louis E. Craig, Pryor, Okla., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 21, 1956, Ser. No. 592,721
7 Claims. (Cl. 117—33.5)

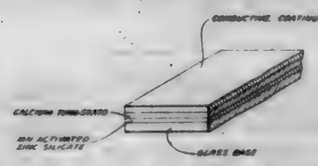
1. Process for achieving a brightening effect on white and colored fibers, filaments and fabrics of synthetic materials, which comprises applying to said fibers, filaments and fabrics an aqueous dispersion of from 0.05 to 0.5%, based on the weight of said fibers, filaments and fabrics, in a water-miscible organic solvent therefor, of a diphenylindole of the formula



wherein R^1 represents a member of the class consisting

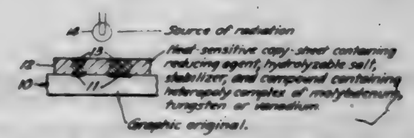
of hydrogen, alkyl, aryl, aralkyl, cycloalkyl, hydroxyalkyl, cyanoalkyl, aminoalkyl, and mono- and di-alkyl substituted aminoalkyl; R^2, R^3 and R^4 represent members of the class consisting of hydrogen, alkyl, alkoxy, hydroxy, carbalkoxy, cyano, amino, mono- and di-alkylamino, acylamido, aryl and aralkyl; R^4 may additionally represent a second identical indole moiety connected by a connecting linkage which is a member of the class consisting of CH_2, O, S, SO_2, CO, CONH and a diphenyl linkage; *x*, *y* and *z* represent one of the integers 1–3; and wherein the ring designated *a* may be fused to a benzene ring and a pyrrole ring which is further substituted by diphenyl rings as defined by the rings designated *b* and *c*.

2,980,550
EVAPORATED PHOSPHOR SCREEN
Peter Soots, Lake Hiawatha, N.J., assignor to Thomas Electronics, Incorporated, Passaic, N.J., a corporation of New Jersey
Filed Jan. 15, 1958, Ser. No. 708,992
3 Claims. (Cl. 117—33.5)



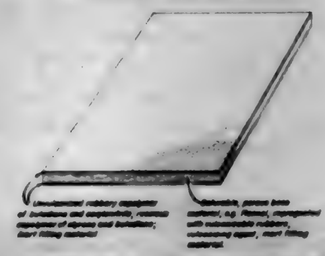
1. A method of forming a luminescent screen in a cathode ray tube which comprises evaporating a zinc silicate phosphor containing manganese and condensing the vapor upon a hard glass envelope, firing the condensed phosphor in air at a temperature of approximately 600° C. for approximately one hour to produce a first transparent phosphor layer, evaporating calcium tungstate, condensing the vapor on said first layer, and firing the superposed layers in air at a temperature of approximately 500° C. for approximately one half hour.

2,980,551
METHOD OF MAKING A HEAT-SENSITIVE COPY-SHEET AND RESULTANT ARTICLE
Donald L. Thomsen, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 13, 1959, Ser. No. 792,985
12 Claims. (Cl. 117—36)



1. A heat-sensitive copy-sheet suitable for the thermographic reproduction of graphic originals, capable of permanently converting to a visibly distinct form on being momentarily pressed against a metal test bar at a temperature within the range of about 60–150° C., and including a visibly heat-sensitive layer comprising: a water-soluble compound of a cation and a difficultly reducible heteropoly complex oxygenated anion having a central atom within an enclosing structure of atoms selected from the class consisting of molybdenum, tungsten and vanadium, and mixtures thereof; a water-soluble hydrolyzable salt selected from the class consisting of aluminum chloride, calcium chloride, cadmium chloride, lithium chloride, magnesium bromide, magnesium chloride, magnesium nitrate, magnesium sulfate, manganese chloride, manganese sulfate, nickel chloride, strontium chloride, zinc chloride, and zinc sulfate; and a water-soluble reducing agent having a mild reducing action in acid solution.

2,980,552
SHEET MATERIAL FOR STIFFENING SHOE UPPERS
Raymond B. Harrison, Arlington, and Russell G. Edwards, Quincy, Mass., assignors to Stedfast Rubber Company, Inc., Mattapan, Boston, Mass.
Original application Nov. 16, 1953, Ser. No. 392,302. Divided and this application Dec. 21, 1956, Ser. No. 629,988
6 Claims. (Cl. 117—68)



1. As an article of manufacture and sale, a non-blocking shoe upper stiffening sheet material that is pliable and extensible and comprises saturable base material impregnated with vulcanizable rubber in an unvulcanized condition and vulcanizing agent in amount sufficient for eventual curing of the vulcanizable rubber but no vulcanizing accelerator, and a surface coating on at least one side comprising 100 parts of an unvulcanized rubbery copolymer of butadiene and acrylonitrile, from 10 to 35 parts of a resinous copolymer of styrene and butadiene, about 2.5 to about 3.5 parts of sulphur, and about 20 to 70 parts of inert filling material, but no vulcanizing accelerator, said parts being by weight, said article of manufacture being adapted to be adhesively incorporated into the upper of a shoe by an adhesive cement that contains a migratory vulcanizing accelerator.

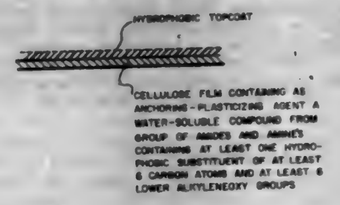
2,980,553
GLASS COATED STEEL ARTICLE AND METHOD OF MAKING THE SAME
James D. Sullivan, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed June 23, 1958, Ser. No. 743,589
9 Claims. (Cl. 117—70)

6. A method of glass coating a steel base, comprising cleaning the steel base, coating the steel base with an aqueous suspension of a mixture of the lower valent form of nickel oxide and barium phosphate, said nickel oxide being applied to the steel with a concentration of 0.05 to 1.00 gram per square foot of said steel base and said barium phosphate being applied to said steel base with a concentration of 0.02 to 4.6 grams per square foot of steel base, drying the mixture on the steel base to provide a coating thereon, applying a light colored glass composition directly to the coated steel, and firing the steel at an elevated temperature to fuse the glass composition to the steel base.

2,980,554
NON-FIBROUS REGENERATED CELLULOSE FILM CONTAINING ANCHORING-PLASTICIZING AGENT
Anthony J. Gentile, Greenwich, and Clemmon Porter, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Jan. 27, 1959, Ser. No. 789,271
15 Claims. (Cl. 117—76)

12. Non-fibrous regenerated cellulose film containing as anchoring-plasticizing agent of a water-soluble compound

selected from the group consisting of amides and amines containing at least 6 lower alkyleneoxy groups and at



least one hydrophobic substituent of at least 6 carbon atoms and carrying hydrophobic topcoat material on at least one side thereof.

2,980,555
WITHDRAWN

2,980,556
SIZING OF TEXTILE YARN
Charles P. McClelland, Briarcliff Manor, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 20, 1957, Ser. No. 641,234
27 Claims. (Cl. 117—138.8)

1. In a process of sizing textile yarn, the improvement which comprises sizing said yarn with an aqueous solution comprising poly(ethylene oxide), said poly(ethylene oxide) having a reduced viscosity in acetonitrile of at least one.

2,980,557
NON-FELTING WOOL AND METHODS FOR PREPARING THE SAME
Kermit S. La Fleur, Union, S.C., and Edwin J. Greene, Charlotte, N.C., assignors to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
No Drawing. Filed Jan. 16, 1958, Ser. No. 709,199
10 Claims. (Cl. 117—141)

1. A washable fabric with an area felting shrinkage of less than 10% which is composed largely of wool fibers having their scale structure destroyed by halogenation to such an extent that they are substantially non-felting, said fibers having deposited thereon from about 0.2% to 4%, by weight of the wool, of a water-insoluble polymer of a member selected from the group consisting of silicones capable of being represented by the formula:

$$(R)_a(H)_bSi(O)_{\frac{4-a-b}{2}}$$

wherein R represents a hydrocarbon radical having not more than about six carbon atoms, "*a*" is a number from 1.0 to 2.0, "*b*" is a number from 0.25 to 1.25 and "*a*" + "*b*" is equal to 1.0 to 2.25; and carboxylic acid-metal Werner type complexes capable of being represented by the formula:

$$RCO_2Me_n(OH)_{n+1}Cl_{4-n}$$

wherein R is a radical selected from the group consisting of hydrocarbon, fluorocarbon, and hydrofluorocarbon radicals having from 8 to 20 carbon atoms, Me represents a metal selected from the group consisting of chromium, aluminum, and molybdenum, and *n* is an integer from 2 to 4.

2,980,558
PROCESS OF IMPREGNATING PAPER WITH SILICA SOLS
Donald F. Dempcy and Joseph M. Rule, Brandywine Hundred, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 29, 1958, Ser. No. 738,612
4 Claims. (Cl. 117—152)

1. In a process for improving paper the steps comprising impregnating the paper with an essentially salt-free sol of active, non aggregated silica at a pH below 6.0, the sol having an SiO_2 content not exceeding 15% by weight and said silica being in the form of particles having a size not exceeding 7 millimicrons, and drying the impregnated product, the amount of silica deposited in the paper being at least 0.5% based on the dried weight of the treated product.

2,980,559
PICKLING OF MAGNESIUM ALLOYS
Lawrence Whitby, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 6, 1958, Ser. No. 713,565
4 Claims. (Cl. 134—41)

1. The method of removing contaminants from the surface of a magnesium article which comprises subjecting the article to the action of an aqueous solution consisting by weight of between 10 and 40 percent of glycolic acid and from 1/3 to 1/10 as much of NO_3, in the form of a soluble nitrate selected from the group consisting of ammonium and alkali and alkaline earth metal nitrates, as the weight of glycolic acid in said solution.

2,980,560
METHODS OF MAKING SEMICONDUCTOR DEVICES
Kurt Weiser, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 29, 1957, Ser. No. 674,759
6 Claims. (Cl. 148—1.5)



1. The method of introducing a PN junction in a given conductivity type wafer of a semiconductive compound selected from the group consisting of the phosphides and arsenides of aluminum, gallium, and indium, said wafer containing both acceptor type-determining materials selected from the group consisting of zinc and cadmium and donor type-determining materials in relative proportions such that the following relationship is satisfied:

$$\frac{K'}{K} < \frac{C}{C'}$$

where

K' is the segregation constant of said type-determining material of given conductivity type,
K is the segregation constant of said type-determining material of opposite conductivity type,
C' is the atomic concentration of said type-determining material of given conductivity type
C is the atomic concentration of said type-determining material of opposite conductivity type,

comprising heating a region of said wafer to a temperature below the melting point of the compound but above the temperature at which the compound appreciably decomposes, then cooling the wafer.

2,980,561
METHOD OF PRODUCING IMPROVED MAGNETIC STEEL STRIP
James G. Ford, Sharon, Pa., Thomas J. Murrin, Athens, Ga., and John H. Bramble, Brookfield, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 1, 1958, Ser. No. 752,625
5 Claims. (Cl. 148—6.15)



1. In the process of improving the flatness and the magnetic properties of a sheet of ferrous magnetic steel, the steps comprising preheating the sheet to a temperature of from 700° C. to 850° C., hot roller leveling the sheet while it is at the temperature in order to impart thereto an incremental stretching to remove waviness and other irregularities without introducing longitudinal corrugations to the sheet, soaking the sheet at a temperature of from 770° C. to 850° C. following the hot roller leveling for a period of time to remove previously imparted stresses from the sheet while applying a longitudinal tension of from 100 to 1000 p.s.i. and cooling the sheet substantially uniformly to a temperature of below 300° C. without subjecting the sheet to any stresses other than the applied longitudinal tension during the soaking and cooling operations.

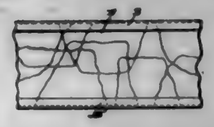
2,980,562
METHOD OF SOLDERING AND FLUX THEREFOR
Robert C. Matter and Ira T. Landon, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Aug. 12, 1957, Ser. No. 677,803
11 Claims. (Cl. 148—23)

1. A composition of matter suitable for use as a soldering flux consisting essentially of, a component consisting of a carrier containing at least one salt selected from the group consisting of hydrazine monohydrobromide and hydrazine monohydrochloride together with an alcohol soluble Nylon-type polyamide and alcohol wherein said polyamide is present in quantities by weight of from one to two and a half times the quantity of the salt.

2,980,563
LOW REMANENCE HIGH ALUMINUM-IRON
Dusan Pavlovic, Forest Hills, and Karl Foster, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 21, 1958, Ser. No. 775,364
4 Claims. (Cl. 148—121)

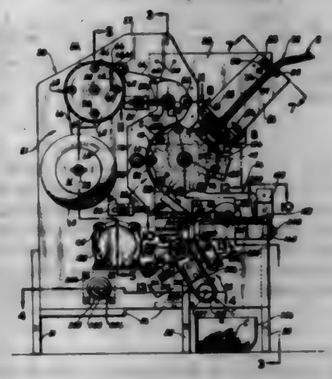
1. A method for preparing an aluminum-iron alloy having outstanding magnetic properties of high maximum permeability, low coercive force and a low remanence of below 500 gausses, when measured at 100 oersteds, which comprises heating a magnetic alloy member consisting essentially of 16.3 to 17.5 percent by weight of aluminum and the remainder iron in a vacuum at a temperature of about 1115° to 1300° C. for at least one-half hour, slowly cooling the annealed alloy member to a temperature of about 550° to 650° C., releasing the vacuum on said alloy member and quenching the alloy to about room temperature.

2,980,564
METHOD OF WRAPPING WINDINGS OF ELECTRIC MACHINES
Eugen Wiedemann, Hasel, Spreitenbach, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Aug. 21, 1956, Ser. No. 605,345
Claims priority, application Switzerland July 7, 1956
4 Claims. (Cl. 154—2.26)



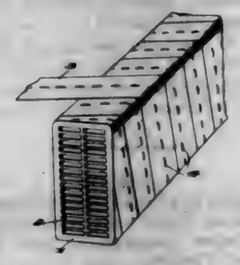
1. The method of insulating elements of electrical apparatus which comprises the steps of contiguously placing a layer of mica plates upon the surface of a band of supporting material, folding small edge portions of the band at each longitudinal edge thereof back over the band and over a portion of the mica plate layer thereon, said mica plate layer being secured to said band solely by the folded over edge portions of the band, feeding the folded band to the element to be wound, simultaneously cutting off the folded-over portions of the band at each side thereof and winding upon the electrical element the remaining central flat band portion with the mica plates loosely positioned thereon, and finally impregnating the tape and mica plates wound upon the element with an insulating agent.

2,980,565
APPARATUS FOR APPLYING INSULATING MATERIAL ABOUT ELECTRICAL DEVICES
Martin Bardach, Des Moines, Iowa, and Dale H. Field, Kenneth E. Gooden, and William J. Hood, all of Tucson, Ariz., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 15, 1957, Ser. No. 678,761
6 Claims. (Cl. 154—2.26)



1. In an apparatus for applying insulating material to electrical devices, the combination of: a supporting structure; roll material support and supply apparatus carried by said structure and adapted to dispense a continuous web of said material; intermittently operable device dispensing apparatus carried by said structure; sharp edged roller guides disposed in operable association with said material dispensing apparatus; rotatably operable device transporting apparatus rotatably carried by said supporting structure and adapted for individually receiving said devices from said device dispensing apparatus; means for preventing rotation of said devices in said transporting apparatus; means for delivering said web of said material to said transporting apparatus for application to said devices at spaced positions thereon; spring loaded backup means disposed partially about said transporting apparatus for supporting said web of said material in contact with said devices; means for receiving said devices from said transporting apparatus and for separating said devices and said web of said material applied thereto from each other; wrapping means for receiving said devices from said separating means and for applying said separated web of said material thereabout, thereafter to deliver devices having said material applied thereto therefrom; and means carried by said structure for driving said dispensing and transport apparatuses and said separating and wrapping means.

2,980,566
METHOD FOR THE PRODUCTION OF HIGH-VOLTAGE INSULATION, AND INSULATION PRODUCED BY THIS METHOD
Otto Wohlfahrt, Zurich, and Kurt Michel, Neuenhof, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed May 14, 1956, Ser. No. 584,522
Claims priority, application Switzerland May 16, 1955
1 Claim. (Cl. 154—2.27)



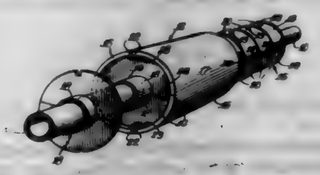
The method for the production of high voltage insulation for the winding elements of electric machines which comprises the steps of forming on said winding element to be insulated a lap comprising mica sewn to a sheet-like support therefor and which lap is permeable to an impregnating agent, and applying to said lap, under vacuum, a solvent-free impregnating agent in such manner that the finished insulation contains no cavities.

2,980,567
LOUVERED SCREEN AND METHOD OF MAKING THE SAME
John F. Steel, Hollywood, Calif.
(133 S. Bedford Drive, Beverly Hills, Calif.)
Filed June 6, 1958, Ser. No. 740,305
12 Claims. (Cl. 154—2.65)



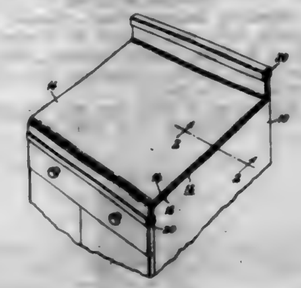
1. A louvered screen comprising a transparent sheet of synthetic resinous material and a plurality of spaced parallel louvers embedded in said sheet, said louvers being slat shaped with their sides extending across the plane of said sheet leaving transparent passages through said sheet between said louvers, each of said louvers being composed of a substantial number of strips of opaque material disposed parallel to the plane of said sheet and closely spaced from each other across the entire width of the louver, the sides of said slat shaped louvers being defined by the edges of said strips, each of said louvers because of the width and close spacing of said strips being substantially opaque over its entire width to the passage of light through said sheet along lines inclined relative to said passages so as to intersect said louver.

2,980,568
PLASTIC PIPE COVERING
Constantine A. Kazmierowicz, 9648 Mansfield Ave., Oak Lawn, Ill.
Filed Jan. 12, 1956, Ser. No. 558,737
7 Claims. (Cl. 154—44)



1. A pipe covering composed of an inner core formed of symmetrical halves, each of which is formed with a semi-cylindrical sleeve portion to provide when the two halves are assembled a tubular sleeve construction for receiving the pipe and having along the outer circumference thereof semi-circular rib members slotted at the middle thereof, and an outer covering formed of two semi-cylindrical sleeves each having a longitudinal inturned flange extending radially inwardly along each longitudinal edge to detachably engage the slots of the semi-circular ribs.

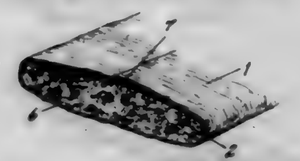
2,980,569
TABLE TOP CONSTRUCTION MATERIAL
Herman E. Wesing, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 18, 1956, Ser. No. 585,907
1 Claim. (Cl. 154—45.9)



In a laminated table top structure comprising a sheet metal supporting member, having a vulcanized tough resilient oil and heat resistant plastic sheet bonded coextensively to the sheet metal supporting member wherein said plastic sheet comprises a base material of a homogeneous rubber-like material consisting of a copolymer of a rubbery butadiene-acrylonitrile copolymer consisting of about 60% butadiene and 40% acrylonitrile and a rubbery butadiene-styrene copolymer consisting of about 77% butadiene and 23% styrene, said rubber-like material being a mixture in substantially equal proportions of the two rubbery copolymers, a relatively non-elastic resinous material consisting of a styrene-butadiene copolymer consisting of about 85% styrene and about

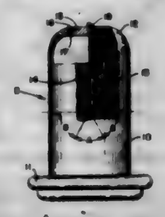
15% butadiene, and heat resistant filler material comprising titanium dioxide, said materials being present in ratio ranges by weight of two to three parts of the rubber-like material to one part of the resinous material and .35 to .60 parts of the rubber-like material plus the resinous material to one part of the filler material.

2,988,570
PADDING UNIT
Wayne S. Cook and Frank J. Hornseth, Grand Rapids, Mich.; said Cook assignor to Sackner Products, Inc., Grand Rapids, Mich.
Filed Nov. 7, 1956, Ser. No. 620,888
10 Claims. (Cl. 154—53.6)



1. A padding unit comprising a garnetted strip-like batt of approximately 80% cotton linters and 20% thread waste, a batt supporting strip of crinkled kraft paper of a width corresponding to the width of the batt and disposed with the crinkles thereof extending transversely of the batt and adhesively bonded to the inner side thereof, the outer side of the batt strip having a filament bonding adhesive thereon the batt material being otherwise conformingly free, and a wrapper of crinkled kraft paper wrapped transversely around said batt and its said supporting strip with its crinkles disposed transversely thereof and with the edges of the wrapper disposed in overlapping relation and bonded together centrally of said batt supporting strip and coacting therewith to provide a reinforced substantially flat inner side for the padding unit with the edges thereof curvedly conformed and the outer side thereof transversely curvedly crowned.

2,988,571
METHOD OF MAKING A DIAPHRAGM FOR FLUID SPRING
Crockett Mossbert, Detroit, Mich., Gerald O. Edgerly, Indianapolis, Ind., and Russell R. Eccleston, Detroit, and Alfred W. Sear, Mount Clemens, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 4, 1958, Ser. No. 752,788
14 Claims. (Cl. 154—81)



2. In a method of making a generally tubular, flexible diaphragm having a larger end and a smaller end be superposing and adhering two plies of fabric coated with a flexible fluid-impermeable composition, the improvement comprising the steps of forming a single-ply cylindrical unit from said coated fabric, twisting the central portion of said cylindrical unit to thereby contract and flare the same inwardly, drawing one end of the unit along the remainder thereof to a position over the other end of said unit thereby forming a continuous fold line at the center of said flared central portion and obtaining a generally tubular, flexible diaphragm having a larger end and a smaller end at said fold line and having two superposed, substantially coextensive plies of said coated fabric.

2,988,572
METHOD OF MAKING A SHIM
Richard J. Bagdon, Los Altos, and Raymond Warren, Redwood City, Calif., assignors to Laminated Shim Company, Inc., Glenbrook, Conn.
Filed Nov. 30, 1956, Ser. No. 625,356
2 Claims. (Cl. 154—116)



1. A method for making laminated shims from thin sheet aluminum shim stock comprising the steps of stacking a series of preformed laminations of said shim stock to form a shim assembly, placing a piece of interleaving material over said shim assembly, stacking successively other shim assemblies, separating each from the other by interleaving sheets, clamping a stack of a multiplicity of said shim assemblies together, applying synthetic rubber cement along one edge only of said stack, tightening the clamp further to force out any cement that may get in between the faces, and coating other edges of said stack with said cement, drying said cement and disassemblying said stack so as to remove the interleaving sheets.

2,988,573
VENTILATED HONEYCOMB
Burton K. Clifford, Glens Falls, N.Y., assignor to Union Bag-Camp Paper Corporation, New York, N.Y., a corporation of Virginia
Filed May 7, 1959, Ser. No. 811,728
6 Claims. (Cl. 154—118)



1. A honeycomb core material for use in a structural panel having face sheets separated by a core comprising a plurality of paper strips, a plurality of spacers, said strips having spacers adhesively bonded thereto at spaced intervals with intervening areas separated to form a plurality of cells, the spacers on one side of each strip being positioned between the spacers on the other side of said strip, said spacers being formed of corrugated board and thereby having passageways extending between the cells for liberating gases and vapors from within each cell and from within the structural panel.

2,988,574
PLASTIC SHEET MATERIAL
Alfred B. Meuser, Joliet, Ill., assignor to Kamlite Corporation, Joliet, Ill., a corporation of Illinois
Filed May 28, 1956, Ser. No. 587,520
9 Claims. (Cl. 154—128)

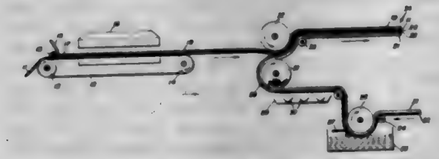
1. A laminated structure comprising a pair of fiberglass sheets, a center fiber sheet interposed between said pair of sheets and carrying on one side thereof a printed design, each of said sheets being impregnated with resin

and each having substantially the same refractive index as said resin whereby the fibers of said sheets are



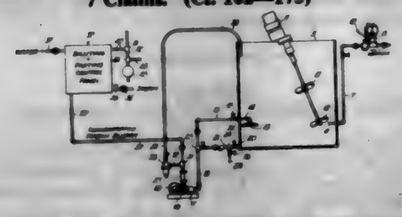
minimized in appearance and said design is made clearly apparent from each side of said structure.

2,988,575
RESILIENT SURFACE COVERING AND PROCESS THEREFOR
Robert E. Petry, Mountain Lakes, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed Oct. 18, 1957, Ser. No. 690,927
6 Claims. (Cl. 154—138)



5. A method of producing a decorative resilient, smooth surface plastic covering for floors, walls and the like which comprises applying to one surface of a flexible sheet of felted fibers having a Scott tensile value of at least 50 pounds, a Bent Scott value of at least 35 pounds and a Finch tear value of at least 15 pounds, a uniform layer of resilient resinous foam having a thickness of less than 0.1 inch and a density of 6 to 30 pounds per cubic foot, heating to set said foam and adhesively laminating the opposite surface of said felt sheet to the back of a second flexible sheet of felted fibers having on its surface a layer of decorative and wear resistant plastic composition.

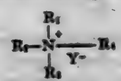
2,988,576
METHOD OF COOKING STARCH
Oliver R. Etheridge, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
Original application Feb. 24, 1954, Ser. No. 412,219. Divided and this application Jan. 30, 1958, Ser. No. 713,078
7 Claims. (Cl. 162—175)



The improvement in introducing cooked or pasted starch at the wet end of a paper-making machine which comprises, continuously pasting a stream of starch with a jet of steam in a uniform immediate manner and immediately after pasting introducing the stream of pasted starch into a large volume of aqueous fluid in the wet end of the paper-making machine whereby the starch paste is quickly cooled and the cooking or pasting action quenched.

2,988,577
NEMATOCIDE
Morris L. Nielsen, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Original application May 14, 1957, Ser. No. 658,963. Divided and this application Jan. 18, 1960, Ser. No. 2,806
8 Claims. (Cl. 167—22)

1. The method of controlling nematodes comprising exposing said nematodes to a toxic quantity of a nematocidal composition comprising as the essential active ingredient a quaternary ammonium thiocarbonate reaction product of a quaternary ammonium compound of the formula



where R_4 is an alkyl hydrocarbon radical having not more than about 18 carbon atoms R_1, R_2, and R_3 are selected from the class consisting of alkyl hydrocarbon radicals having not more than 18 carbon atoms when taken separately and when taken together the carbon and hydrogen atoms necessary to form the pyridine nucleus of which the nitrogen is a member, and Y is selected from the class consisting of the hydroxy and halide anions, with a salt selected from the class consisting of the ammonium, alkali metal and alkaline earth metal salts of trithiocarbonic acid and tetrathioperoxycarbonic acid.

2,988,578
METHOD OF COMBATING PLANT-ATTACKING FUNGUS
Walter W. Abramitis, Downers Grove, and Edward A. Tehle, Jr., Brookfield, Ill., assignors to Armour & Company of Delaware, Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 24, 1955, Ser. No. 517,908
3 Claims. (Cl. 167—22)

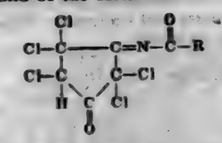
1. A method for combating plant fungus which comprises applying to growing plants a fungicidal non-phytotoxic concentration of a compound having the general formula



wherein R is an aliphatic hydrocarbon radical having from 8 to 18 carbon atoms and X is a member of the group consisting of chlorine and bromine.

2,988,579
ACYLIMINO - 2,2,4,4,5 - PENTACHLOROCYCLOPENTANONES AS NEMATOCIDES AND FUNGICIDES
Sidney B. Richter and Harold J. Wahlborg, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Jan. 12, 1959, Ser. No. 786,039
10 Claims. (Cl. 167—30)

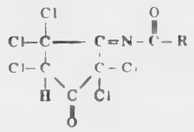
1. A compound of the formula:



wherein R is selected from the group consisting of

saturated aliphatic hydrocarbon radicals containing from 1 to 17 carbon atoms, any ring portion thereof containing not more than 6 carbon atoms, unsaturated aliphatic hydrocarbon radicals containing from 1 to 17 carbon atoms, any ring portion thereof containing not more than 6 carbon atoms, phenyl, tolyl and benzyl radicals, and their monochlorinated derivatives.

10. A method of destroying undesirable fungi and nematodes which comprises contacting these pests with a fungicidal and nematocidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is injurious to said pests, a compound of the formula:



wherein R is selected from the groups consisting of saturated aliphatic hydrocarbon radicals containing from 1 to 17 carbon atoms, any ring portion thereof containing not more than 6 carbon atoms; unsaturated aliphatic hydrocarbon radicals containing from 1 to 17 carbon atoms, any ring portion thereof containing not more than 6 carbon atoms; phenyl; tolyl; benzyl; and their monochlorinated derivatives.

2,980,580

CYCLOHEXIMIDE ACETATE HORTICULTURAL FUNGICIDAL COMPOSITION AND METHOD OF USE

William Klomparens, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Mar. 19, 1956, Ser. No. 572,221
5 Claims. (Cl. 167—33)

3. A process for the protection of plants subject to fungal diseases which comprises applying cycloheximide acetate to said plants whereby the fungical factor is systemically translocated and thus effecting control of disease in new growth and parts of the plant to which cycloheximide acetate may not have been applied.

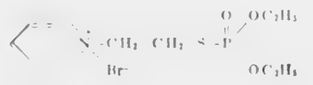
2,980,581

THIOPHOSPHORIC ACID ESTERS AND PROCESS FOR THEIR MANUFACTURE

Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 2, 1957, Ser. No. 699,935
Claims priority, application Germany Dec. 21, 1956
2 Claims. (Cl. 167—33)

1. The thiophosphoric acid ester of the following formula



2,980,582

AEROSOLS

John Lewis Keats, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 7, 1945, Ser. No. 587,217
7 Claims. (Cl. 167—39)

1. The process for obtaining an aerosol, which comprises bursting in the air a frangible receptacle containing a finely divided solid material and a fluid, said fluid in liquid phase having a vapor pressure of at least three atmospheres at 25° C., having the property of expanding endothermally, being inert toward, and a non-solvent for, said solid material and being under a pressure of at least three atmospheres in said receptacle.

2,980,583

COORDINATION COMPOUNDS AND USES THEREOF

Herbert Giles Tanner, R.F.D. 3, Box 70, Frederick, Md.

No Drawing. Filed Aug. 7, 1957, Ser. No. 676,712
13 Claims. (Cl. 167—58)

1. A therapeutic composition for external medication consisting of an inert carrier in which is dispersed a coordination product of reaction between a strongly basic hydrocarbon monoamine and a mercuric salt from a group composed of mercuric chloride and mercuric bromide.

2,980,584

PARENTERAL MAGNESIUM OXYTETRACYCLINE ACETIC OR LACTIC ACID CARBOXAMIDE VEHICLE PREPARATION

Henry F. Hammer, Seaford, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 29, 1957, Ser. No. 692,998
5 Claims. (Cl. 167—65)

1. A stable liquid antibiotic composition adapted for parenteral administration comprising, as vehicle, an aqueous solution containing from 25 to 80% by weight of a physiologically acceptable, water soluble, lower aliphatic carboxamide selected from the group consisting of an amide of acetic acid and an amide of lactic acid and dissolved in said vehicle from 10 to 100 mg./ml. of a substance selected from the group consisting of oxytetracycline and an acid addition salt thereof, from 0.67 to 1.0 molar equivalent of a water soluble, physiologically acceptable magnesium salt per mole of oxytetracycline, and sufficient of a water soluble, physiologically acceptable base selected from the group consisting of ammonia and a physiologically acceptable, water soluble lower aliphatic amine having a dissociation constant of greater than 10^{-6} to provide said composition with a pH of about 8.5 to 9.5.

2,980,585

CONTROLLING THE BLOOD CHOLESTEROL LEVEL BY ADMINISTRATION OF DIIODOTYROSINE POLYPEPTIDE

Joseph Stambul, Medical Tower Bldg., 255 S. 17th St., Philadelphia, Pa.; Rae Stambul, administratrix of the estate of said Joseph Stambul, deceased

No Drawing. Filed Sept. 11, 1958, Ser. No. 760,301
3 Claims. (Cl. 167—65)

1. A method of controlling the cholesterol content of the human blood stream which comprises decreasing the concentration of beta-lipoproteins and increasing the alpha:beta lipoprotein ratio by the oral administration of sufficient solid diiodotyrosine polypeptide to contain about 1 to 1.5 mg. of iodine.

2,980,586

METHOD OF PRODUCING SWINE ERYSIPELAS VACCINE

Carl J. Norden, Jr., Lincoln, Nebr., and Clinton W. Gray, Bogota, Colombia, assignors, by mesne assignments, to Norden Laboratories, Inc., Lincoln, Nebr., a corporation of Delaware

No Drawing. Filed June 9, 1958, Ser. No. 740,581
17 Claims. (Cl. 167—78)

1. The method of producing an avirulent strain of *Erysipelothrix rhusiopathiae* organisms including growing *Erysipelothrix rhusiopathiae* organisms in culture media containing trypaflavine.

2,980,587

DRY STABLE VITAMIN A AND/OR D-PREPARATION AND METHODS OF PRODUCING SAME

Evert Jan Ten Ham, Weesp, Netherlands, and Peder Lund Kring, Virum, Denmark, assignors, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 20, 1956, Ser. No. 572,613
Claims priority, application Denmark Mar. 21, 1955
14 Claims. (Cl. 167—81)

10. A dry, free flowing, mineral stable vitamin preparation comprising at least one vitamin selected from the group consisting of vitamins A and D, a jellifiable, film forming colloid, a carbohydrate and, as a stabilizer, 4-methyl 2,6-ditertiarybutylphenol, in an amount of at least about 2 grams per 100 S.U. of vitamin present.

2,980,588

MULTIVITAMIN PREPARATION AND METHOD OF MAKING SAME

Raymond Larde, Paris, France, assignor to Les Laboratoires Français de Chimiotherapie, Paris, France, a corporation of France

No Drawing. Filed July 18, 1957, Ser. No. 672,555
Claims priority, application France July 27, 1956
13 Claims. (Cl. 167—81)

1. In a process of producing concentrated, stable, readily water-dispersible multivitamin preparations containing fat-soluble and water-soluble vitamins, said preparation forming, on dilution with water, an extremely fine dispersion of the fat-soluble vitamins and, in such diluted form, being readily assimilated by the body, the steps which comprise admixing colloidal silica to a pharmaceutically acceptable vegetable oil, heating said mixture to a temperature of at least 100° C., cooling said heated mixture of colloidal silica and vegetable oil to cause gelling thereof, incorporating water-soluble vitamins into said cooled gelled mixture of colloidal silica and vegetable oil, and admixing a solution of fat-soluble vitamins in a liquid produced by partial alcoholysis of Rosaceae kernel oil with polyethylene glycol to said gelled mixture of colloidal silica and vegetable oil having incorporated therein water-soluble vitamins.

2,980,589

PROCESS FOR PRODUCING ANHYDROUS GRANULATION OF A MEDICINALLY ACTIVE WATER-LABILE POWDER

Alfred Charles de Grunigen, Nanuet, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Sept. 12, 1958, Ser. No. 760,572
10 Claims. (Cl. 167—82)

1. In the process of granulating powders for tablet manufacture, the improvement which comprises the step of effecting granulation of the powder with a solution of from 0.5% to 10% of water permeable ethyl cellulose in a substantially water free lower alkanol solvent.

2,980,590

PRODUCTION OF LYSINE

Harry Pearson Broquist, Woodcliff Lake, N.J., and Alberta Marie Albrecht and Arthur Van Buren Stiffey, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 19, 1957, Ser. No. 679,059
7 Claims. (Cl. 195—29)

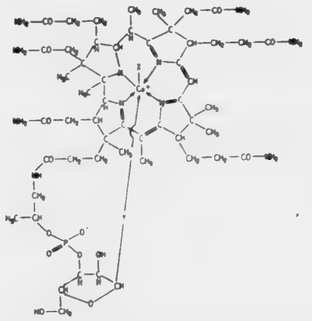
1. A method of preparing free l-lysine which comprises the step of subjecting alpha-aminoadipic acid in amounts from 1 to 10 mg./ml. to the action of the enzymes of yeast at a pH from 3.0 to 5.0 and a temperature from 5° C. to 50° C.

2,980,591

PREPARATION OF COBALAMINS

David Perlman, Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Jan. 22, 1957, Ser. No. 635,299
13 Claims. (Cl. 195—65)



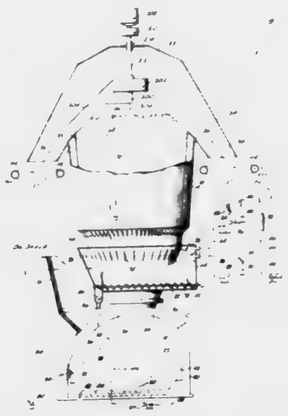
1. A process for preparing a physiologically active cobalamin, which consists of culturing a precursor-requiring vitamin B_{12}-producing microorganism in a cobalt-containing nutrient medium substantially free of precursor, separating the cells from the medium to obtain resting cells, treating said separated resting cells with a precursor and recovering the resulting physiologically active cobalamin.

2,980,592

RETORTING PROCESS AND APPARATUS

Roland F. Deering, Brea, Roland O. Dhondt, Long Beach, James R. Hunt and Arnold E. Kelley, Fullerton, and Charles J. Welsh, Orange, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

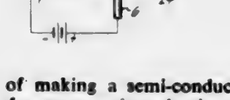
Filed June 19, 1958, Ser. No. 743,085
18 Claims. (Cl. 202—6)



12. In a method for continuously processing solids, wherein said solids are passed upwardly through a solids bed containing a processing zone to which heat is supplied by direct contact with a downwardly flowing stream of combustion gas from a combustion zone maintained at a higher zone within said bed of solids, the improved method of maximizing vessel capacity and minimizing thermal stress of said vessel walls, which comprises permitting said bed of solids to rise above the upper edge of the vessel, supplying combustion supporting fluid

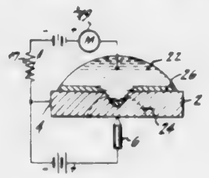
downwardly through the upper surface of said rising mass, and continuously scraping the upper surface of said rising mass to shape said mass into a form which will permit the downwardly introduced combustion supporting fluid to be uniformly distributed over the cross sectional area of said bed of solids and maintaining a substantial portion of said combustion zone above said upper vessel edge and within said rising mass of solids.

2,980,593
METHOD OF TREATING CHROMIUM PLATED CYLINDERS
Carl R. Larson, Miami Springs, Fla., assignor to Aerodex, Inc., Miami, Fla., a corporation of Delaware
Filed May 27, 1958, Ser. No. 738,153
1 Claim. (Cl. 204—26)



In the treatment of cylinders of engines of the piston type for elimination of scoring of the wall by piston rings during the initial operation of the piston in the cylinder bore, a method which comprises electrolytically depositing a chromium layer on the wall of the cylinder in such quantities that the thickness thereof is slightly less than the desired finished diameter of the cylinder bore and producing in the deposited chromium a plurality of interconnecting grooves to retain lubricating material therein, reducing the chromium surface to the desired diameter, applying a dry lubricant of colloidal size to the surface of the chromium, removing the excess lubricant, applying on the dry lubricant an adhesive carbonizable substance having an affinity therefor, removing the excess adhesive carbonizable substance, heating the applied adhesive at a temperature sufficient to at least partially carbonize the adhesive substance thereby producing raised irregularly shaped spaced areas which areas are spaced a greater distance from the chromium surface than the remainder of the carbonized areas, and simultaneously producing small hollow protuberances on the irregularly shaped areas, removing the protuberances and finishing the interior of the adhesive coated bore to a smooth condition whereupon the cylinder is ready for reception therein of the piston.

2,980,594
METHODS OF MAKING SEMI-CONDUCTOR DEVICES
Jacques I. Pankove, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 1, 1954, Ser. No. 433,619
6 Claims. (Cl. 204—32)

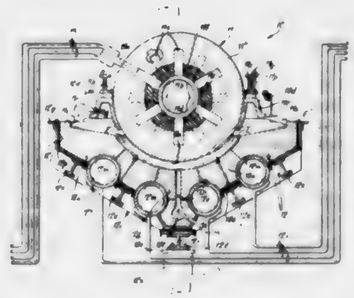


5. A method of making a semi-conductor device including a base of p-type semi-conductive material comprising the steps of establishing a rectifying barrier upon a first surface of said body, biasing said barrier in the reverse direction, contacting an electrolyte to a second surface of said body opposite said first surface, applying an etching potential between said electrolyte and said body thereby to etch a shaped depression into said second surface, contacting a metal ion-bearing electrolyte to said second surface, said metal being one that forms a rectifying contact when electroplated upon said semiconductive material, biasing said barrier upon said first surface in a forward direction and applying an electroplating potential between said electrolyte and said body thereby to deposit said metal upon said second surface at the base of said depression, etching said second surface thereby to reduce the thickness of said deposited metal and to remove said deposited metal from predetermined portions of said surface, contacting said second surface with an electroplating electrolyte, said electroplating electrolyte comprising ions of a metal capable of imparting p-type conductivity to said semi-conductive material when dispersed therein, biasing said barrier upon said first surface in a reverse direction and applying an electroplating potential between said body and said electroplating electrolyte thereby to deposit a metal lamina upon said second surface, said lamina being closely adjacent to and separated from said electrode.

2,980,595
BRIGHT NICKEL PLATING
Marilyn K. Sanicky, Cleveland, Ohio, assignor to Incar, Inc.
No Drawing. Filed Aug. 11, 1958, Ser. No. 754,142
10 Claims. (Cl. 204—49)

1. A bright nickel plating bath containing a primary brightener of the first class selected from the group consisting of aryl sulfonamides, aryl sulfinimides, aryl sulfinic acids and arylsulfone sulfonates, and from about 0.001 to 0.1 gram per liter of a totally hydroxyalkylated alkylene polyamine having 3 to 5 nitrogen atoms as a booster.

2,980,596
ELECTROLYTIC REDUCTION FURNACE CONSTRUCTIONS AND METHOD
George E. Conway, 33 Mezzine Drive, Cresskill, N.J.
Filed Dec. 27, 1956, Ser. No. 630,914
11 Claims. (Cl. 204—67)

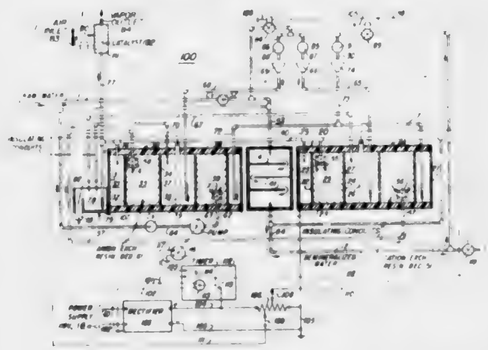


6. In a method of continuously operating an electrolytic reduction furnace having an anode formed with a current carrying carboniferous shell mounted to turn on a horizontally disposed axis and fitted in operative relation to immerse a first surface portion of said shell in an electrolytic bath contained in a trough portion of a cathode and to position a second surface portion of said shell accessibly for rebuilding, said first and second anode shell surface portions being of similar predetermined shape and substantially conforming to said cathode trough portion; the steps of operating said furnace with the anode at rest and with said first shell surface portion in register with and at a desired substantially uniform gap distance from said cathode trough portion and immersed in said bath at a required normally high operating temperature for a predetermined time interval until said first shell surface portion is consumed to a desired relatively shallow depth, rotating said anode on said axis through an increment of at least 120° of arc to immerse said second shell surface portion in said bath in register with and at a desired substantially uniform gap distance from said cathode trough portion and to simultaneously position said consumed first shell surface portion accessibly for rebuilding, coating said consumed first shell surface portion with a carboniferous paste to rebuild said consumed layer forming a refinished surface, partially curing said refinished surface to semi-hardness by heat radiation from said furnace while said second shell surface portion is being consumed by the operation of the furnace, and thereafter rotating said anode to replace in the bath in operative position said consumed second shell surface portion by said first refinished partially cured portion, while simultaneously "frying" the latter to a current conducting hardened crust.

2,980,597
SURFACE TREATMENT OF LEAD ALLOYED SEMI-CONDUCTOR ELEMENTS
Marceline Mazond and Georges Youssov, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, a corporation of France
No Drawing. Filed Jan. 30, 1958, Ser. No. 712,062
Claims priority, application France Feb. 12, 1957
4 Claims. (Cl. 204—141)

1. A surface treatment of lead-alloyed semi-conductor junctions, comprising the steps of dipping the junction into a boiling, concentrated chromic acid bath, flushing with warm distilled water, drying the cleaned junction and etching to remove the chromate film.

2,980,598
WATER DEMINERALIZING METHODS AND SYSTEMS
Edgar S. Stoddard, Oak Park, Ill., assignor to General Electric Company, a corporation of New York
Filed Dec. 9, 1957, Ser. No. 701,465
6 Claims. (Cl. 204—151)



1. The method of demineralizing raw water, comprising circulating water containing dissolved metal salts in a closed series loop circuit from a buffer tank through a porous cation exchange bed arranged in the treatment chamber of a first electrolytic cell and then through a porous anion exchange bed arranged in the treatment chamber of a second electrolytic cell and thence back to said buffer tank, wherein said two beds have substantially equivalent total ion exchange capacities, whereby the circulated water is demineralized by the removal therefrom of substantially equivalent cations and anions accompanied by substantially equivalent degenerations of the ion exchange capacities of said two beds, regenerating at substantially equivalent rates the ion exchange capacities of said two beds by the respective applications thereacross of independent direct voltages, whereby said two beds are maintained at substantially equivalent states of ion exchange regeneration in order to avoid both relatively low pH water and relatively high pH water in said buffer tank, introducing raw water into said loop circuit on the inlet side of said buffer tank, wherein said buffer tank has a volume sufficiently large to effect substantial dilution of the raw water introduced thereinto with the previously demineralized water therein, and withdrawing demineralized water from said loop circuit on the outlet side of said buffer tank.

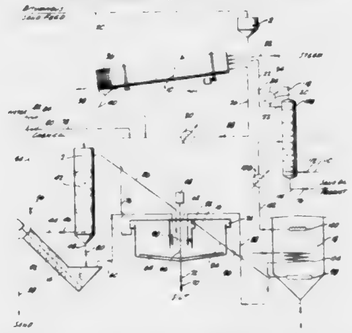
2,980,599
MODERATOR COMPOSITION
Jerome G. Morse, Baltimore County, Md., assignor to The Martin Company, a corporation of Maryland
No Drawing. Filed Jan. 9, 1956, Ser. No. 557,869
10 Claims. (Cl. 204—154.2)

1. A process of moderating a nuclear reaction in a reactor which includes the step of circulating in close proximity to a neutron fissionable mass a moderating medium comprised by at least one moderator compound selected from the group consisting of biphenyl, m-terphenyl, p-terphenyl, o-terphenyl and quaterphenyl, and an inhibitor compound selected from the group consisting of beta-mercaptoethylamine, S,beta-aminoethylisothiouronium.Br, S - gamma - aminopropylisothiouronium. Br and gluthathione.

ERRATUM

For Class 204—193.2 see:
Patent No. 2,980,667

2,980,600
PROCESS AND APPARATUS FOR BITUMINOUS SAND TREATMENT
Arnold E. Kelley, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed July 19, 1957, Ser. No. 673,066
10 Claims. (Cl. 208—11)



1. In a process for the recovery of hydrocarbon values from naturally-occurring hydrocarbonaceous mineral solids which comprises contacting said solids with an aqueous chemical solution and a hydrocarbon diluent at a moderately elevated temperature for a period sufficient to reduce said solids to a homogeneous fluid pulp, and said pulp is then treated to separate it into a solids phase, a hydrocarbon phase, and an aqueous phase, the method of effecting said separation treatment which comprises: (1) introducing said pulp into the upper end of a confined vertically elongated separation zone, said separation zone comprising within its confines a plurality of vertically spaced hydrocarbon separation zones; (2) allowing the solids components of said pulp to settle

into a substantially compact bed at the upper end of said separation zone; (3) allowing said compact bed to descend by gravity through said separation zone to the lower end thereof while directing the path of said descent past said hydrocarbon collection zones and alternately towards the periphery and towards the axis of said separation zone, whereby the solids pass downwardly in a sinuous path through said separation zone in the form of a continuous compact bed having the shape of a vertical sinusoidal envelope; (4) removing essentially hydrocarbon-free solids from the lower end of said separation zone; (5) simultaneously introducing an aqueous liquid into the lower end of said separation zone; (6) passing said aqueous liquid in a continuous stream upwardly through said separation zone and through said hydrocarbon collection zones in a sinuous path which passes transversely across the sinusoidal path of descending compact solids bed; (7) removing an aqueous phase from the upper end of said separation zone; (8) removing a hydrocarbon phase from each of said hydrocarbon collection zones; (9) separately passing the hydrocarbon phase removed from each of said hydrocarbon collection zones in a confined stream out of contact with the compact solids bed and out of contact with said aqueous liquid to a discharge point located a sufficient distance above the liquid level in said separation zone that substantially only hydrocarbon is discharged at said point; and (10) removing the so-discharged hydrocarbon from the upper end of said separation zone.

6. An apparatus for separating a fluid pulp comprising mineral solids, liquid hydrocarbons and water which comprises a vertically elongated vessel closed at its upper end and lower end and having a liquid outlet opening through its wall adjacent to its upper end and a solids outlet opening adjacent its lower end; a pulp inlet conduit extending into said vessel adjacent its upper end and terminating within said vessel at a point below said outlet opening; a plurality of primary baffles positioned in spaced relationship within said vessels, each of said primary baffles taking the form of a hollow cone whose axis coincides with that of said vessel, whose apex is directed upwardly, whose lower periphery has a diameter less than the internal diameter of said vessel, and having louvres opening through its wall adjacent the lower edge thereof; a plurality of secondary baffles positioned in spaced relationship within said vessel and alternation with said primary baffles, each of said secondary baffles taking the form of a hollow inverted truncated cone whose axis coincides with that of said vessel, whose upper peripheral edge is in register with the wall of said vessel, and having louvres opening through its wall adjacent the lower edge thereof; a plurality of first conduit means each of which extends through the wall of one of said primary baffles adjacent the apex thereof and terminates at a point above said outlet opening; a plurality of second conduit means each of which extends from a point adjacent and below the upper edge of one of said secondary baffles and terminates at a point above said outlet opening; and a liquid inlet conduit extending through the wall of said vessel and terminating within said vessel at a point below the lowermost of said baffles.

2,980,601

COAL TAR MODIFIED AMINE TYPE CURING AGENT FOR POLYEPOXIDES

Archibald V. Meigs, Houston, Tex., assignor to Coast Paint and Lacquer Company, Houston, Tex., a corporation of Texas

No Drawing. Filed June 12, 1958, Ser. No. 741,451
11 Claims. (Cl. 208—44)

1. A process of making a curing agent containing a plurality of tertiary amino groups for glycidyl polyethers of polyhydric phenols and polyhydric alcohols, which comprises heating one mol of a polyfunctional aliphatic amine containing two primary amino groups and at least one secondary amino group with two mols of a ketone to 60° to 70° C. and maintaining this temperature until the reaction is complete, then mixing one part by weight of the resulting product with 5 to 6 parts by weight of a liquid refined coal tar obtained by the removal of water, ammonia and light oil from crude coal tar and containing compounds having hydroxyl groups capable of reacting chemically with amino groups and heating to 60° to 70° C. and maintaining this temperature until the reaction of the secondary amino groups with the hydroxyl groups present in the refined coal tar is complete.

2,980,602

PROCESS FOR FRACTIONATING ASPHALTIC BITUMINOUS MATERIALS UTILIZING AROMATIC HYDROCARBONS OF LESS THAN TEN CARBON ATOMS

Leo Garwin, Oklahoma City, Okla., assignor to Kerr-McGee Oil Industries Inc., a corporation of Delaware

No Drawing. Filed May 13, 1958, Ser. No. 734,852
15 Claims. (Cl. 208—45)

1. A process for separating a heavy fraction from asphaltic bituminous material as a fluid phase, which comprises treating each volume of an asphaltic bituminous material with at least 2 volumes of a liquid aromatic hydrocarbon solvent containing less than 10 carbon atoms per molecule at elevated temperature and pressure, said temperature being within the paracritical range for said solvent, adjusting the pressure to obtain a solvent density greater than 0.30 g./ml. but less than 0.50 g./ml. and separating the resulting heavy fraction phase from the solution phase.

2,980,603

PRODUCING OXIDATION RESISTANT LUBRICANTS

James Van Dyck Fear, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Jan. 13, 1958, Ser. No. 708,345
4 Claims. (Cl. 208—80)

1. Process for producing oxidation resistant lubricants which comprises separating petroleum lubricating oil into a saturated fraction and an aromatic fraction, contacting the saturated fraction with hydrogen in the presence of a metallic hydrogenation catalyst at a temperature of 650 to 825° F., contacting the aromatic fraction with hydrogen in the presence of a metallic hydrogenation catalyst at a temperature of 450 to 750° F., the severity of the latter contacting being less than that of the first-named contacting, and blending the hydrogenated aromatic fraction with the hydrogenated saturated fraction.

2,980,604

HYDROCRACKING CATALYST AND PROCESS FOR HYDROCRACKING SHALE OILS

Clark Edward Adams and Charles Newton Kimberlin, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 17, 1958, Ser. No. 780,960
7 Claims. (Cl. 208—111)

5. A process of hydrocracking a shale oil boiling in the range of about 350° F. to about 800° F. which comprises contacting said shale oil as feed stock mixed with hydrogen with a catalyst containing 5–20 wt. percent of cobalt molybdate on an alumina-boria support containing 80–95 wt. percent of alumina and 5–20 wt. percent boron oxide at a temperature in the range of about 900° F. to 1000° F., under a pressure of 100 to 1000 p.s.i.g., said hydrogen being mixed with the feed stock at a rate

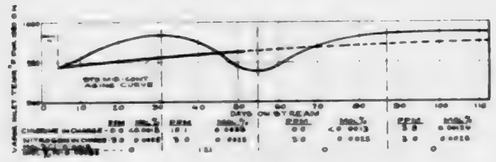
of 1000 to 10,000 cu. ft. per barrel of said feed stock, for a period sufficient to convert a major proportion of said feed stock to products boiling below 400° F.

2,980,605

CORRECTING ACTIVATION OR DEACTIVATION OF PLATINUM-TYPE REFORMING CATALYST

Philip P. Lifland, Woodbury, and Anthony E. Potas, Wenonah, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Apr. 7, 1959, Ser. No. 804,817
7 Claims. (Cl. 208—138)



1. In the reforming of a poisoned naphtha containing a not more than about 0.0065 mol percent of water and platinum-group metal-reforming-catalyst-poison selected from the group consisting of halogen in excess of a tolerable concentration of 0.0013 mol percent and nitrogen in excess of a tolerable concentration of 0.00085 mol percent wherein said poisoned naphtha is reformed in contact with a platinum-group metal catalyst in the presence of hydrogen at a vapor inlet temperature below that of the temperature of the normal catalyst aging curve when the poisoned naphtha contains said excess halogen and at a vapor inlet temperature above that of the normal catalyst aging curve when the poisoned naphtha contains said excess nitrogen to produce a reformate having the required octane rating (Research+3 cc. TEL), the improvement which comprises reforming said poisoned naphtha in the presence of an added amount of catalyst poison selected from the aforesaid group consisting of nitrogen and halogen not present in said poisoned naphtha equal to the atomic equivalent of the excess of the aforesaid catalyst poison selected from the aforesaid group consisting of nitrogen and halogen present in said naphtha, the excess of added catalyst poison selected from the aforesaid group consisting of nitrogen and halogen not exceeding the tolerable concentration of said added catalyst poison.

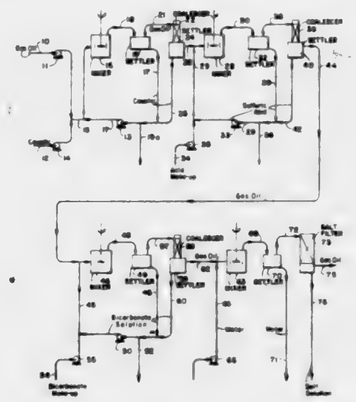
2,980,606

HYDROCARBON REFINING TO REDUCE SULFUR, NITROGEN, AND NAPHTHENIC ACID CONTENT

Adolf C. van Beest and Jacobus W. Le Nobel, Amsterdam, Netherlands, assignors to Shell Oil Company, a corporation of Delaware

Filed Aug. 12, 1957, Ser. No. 677,434
Claims priority, application Netherlands Aug. 14, 1956
4 Claims. (Cl. 208—254)

1. In a process for refining a petroleum hydrocarbon mixture containing naphthenic acids, sulfur compounds and nitrogen bases wherein there is a mixing of the hydrocarbon with an aqueous alkali wash solution whereby the naphthenic acids are converted to water-soluble soap and wherein there is a separation of the mixture of hydrocarbon and wash solution to obtain a washed hydrocarbon phase containing a small amount of naphthenic soaps and an aqueous wash phase containing the remainder of said soaps, the improvement comprising treating the alkali-washed hydrocarbon with an excess of sulfuric acid to remove nitrogen bases and to acidify the naphthenic soaps contained therein and subsequently washing the acid treated hydrocarbon containing excess sulfuric acid with an aqueous basic solution of a salt of a weak acid and a strong base, said solution having a pH of less than 8.5, to neutralize substantially the sulfuric acid



remaining therein from the acid treatment without significantly saponifying the naphthenic acids to the extent that they form a permanent haze when the oil is contacted with water.

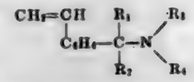
2,980,607

TREATMENT OF AQUEOUS LIQUID SOLUTIONS OF CHELATE-FORMING METAL IONS WITH CHELATE EXCHANGE RESINS

Richard A. Mock, Russel C. Calkins, and Charles A. Marshall, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 10, 1957, Ser. No. 658,459
19 Claims. (Cl. 210—31)

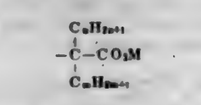
1. A method which comprises contacting an aqueous liquid solution of an ionizable metal compound with a solid chelate exchange resin insoluble but swellable therein, the resin being one whose molecular structure is an addition polymer of an ar-vinylphenyl aliphatic aminocarboxylic acid having the monomeric formula



wherein the symbol R_1 represents a radical selected from the group consisting of —H, $—CO_2M$, and $—CH_2CO_2M$; the symbol R_2 represents a radical selected from the group consisting of —H and $—CH_3$; each of the symbols R_3 and R_4 individually represents a radical selected from the group consisting of

$$—H,\ —CH_2$$
$$—CH_2—C_6H_4—CH=CH_2$$
$$—CH_2CO_2M$$
$$—CH_2CH_2CO_2M$$
$$—CH(CO_2M)CH_2CO_2M$$
$$—CH_2CH_2—N(CH_2CO_2M)_2$$
$$—CH_2CH_2CH_2—N(CH_2CO_2M)_2$$

and



where n is an integer from 1 to 4, m is an integer from 0 to 2, and M is a cation, and wherein at least one of the radicals represented by the symbols R_1, R_2, and R_4 contains a $—CO_2M$ group which together with the nitrogen atom constitutes a metal-chelating group, the resin being

further characterized as having a swelling factor of at least 30, the swelling factor being defined as the arithmetic product in the equation

$$SF=(GWC)\times(V'/V)$$

wherein the symbol (GWC) represents the gel water content of the resin at its isoelectric pH in percent by weight of water in the resin saturated with water at room temperature, and wherein the symbol (V'/V) represents the ratio of the volume of the resin saturated with water at a pH value of 10 to the volume of the resin saturated with water at the isoelectric pH of the resin, the contacting aqueous liquid solution being one that contains at least one kind of metal-containing ion that is capable of displacing the cation M from the metal-chelating groups of the resin and forming therewith a chelate structure.

2,980,608

METHOD OF FLOCCULATING SUSPENDED SOLIDS

Tegner A. Johnson, Duluth, Minn., assignor to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Nov. 7, 1956, Ser. No. 620,794
1 Claim. (Cl. 210—52)

A method of treating a water suspension of iron ore slimes remaining after a concentrating operation to accelerate settling of the solids therein and produce a relatively clear supernatent liquid for re-use in the operation consisting of adding to the suspension a flocculating agent, which agent consists of a solution of silica having a mol ratio of SiO_2/alkali metal oxide of at least 10 to 1, in combination with hydrated lime, said silica solution being added in an amount to provide about 0.25 to 10 pounds SiO_2 per long ton of suspended solids, and said lime in an amount to provide about 1 to 5 pounds $Ca(OH)_2$ per long ton of suspended solids, and thus forming substantially all the suspended solids in relatively large flocs which readily settle by gravity.

2,980,609

CLARIFICATION OF INDUSTRIAL WATERS

Ronald R. House, Darien, and Sewell T. Moore, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 22, 1953, Ser. No. 363,392
7 Claims. (Cl. 210—54)

1. A method of coagulating suspended solid organic impurities in water which comprises adding to said water an aqueous dispersion of a hydrophilic aminoaliphatic linear having a molecular weight of at least 2,000 and carbon-to-carbon chain polymer resin having a molecular weight of at least 2,000 and having free amine groups attached directly to the polymer chain thereof, the quantity of added resin being within the range of 0.25% to 3% based on the dry weight of said organic impurities, maintaining the water in a non-acid condition until coagulation of said impurities has occurred and separating the coagulated impurities from the water.

2,980,610

PROCESS FOR TREATING WATER

Robert A. Ruehrwein, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 13, 1956, Ser. No. 597,591
1 Claim. (Cl. 210—58)

The process which comprises treating water containing hardness imparting compounds which comprise adding thereto, in an amount not over 20% by weight of the contained hardness imparting compound, a polyacrylamide polymer.

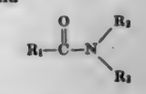
2,980,611

SILICA-THICKENED GREASE CONTAINING ACID AMIDE DISPERSANT

Thomas W. Martinek and Ernest F. Fronczak, Crystal Lake, Ill., and Nathaniel L. Remes, Miami, Fla., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed Dec. 24, 1957, Ser. No. 704,893
20 Claims. (Cl. 252—28)

1. A lubricating grease consisting essentially of a major portion of a petroleum lubricating oil having incorporated therein sufficient finely divided silica to produce a gel-like grease structure and an oil-soluble acid amide of the formula



where R_1, R_2, and R_3 are of the group consisting of hydrogen and C_1–C_{24} hydrocarbon radicals and at least one of the substituents R_1, R_2, and R_3 is a hydrocarbon radical, in an amount sufficient to effect the complete dispersion of the silica.

2,980,612

WATER-RESISTANT NON-SOAP GREASES

Ralph A. Potter, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Aug. 12, 1957, Ser. No. 677,770
16 Claims. (Cl. 252—28)

1. A water-resistant grease consisting essentially of lubricating oil of the class consisting of mineral lubricating oil and ester lubricating oil, said ester lubricating oil being an ester of a saturated aliphatic dicarboxylic acid of 8 to 12 carbon atoms and a monohydroxy saturated aliphatic alcohol of 6 to 10 carbon atoms containing between about 3% and about 30%, based on the grease, of a finely divided thickening agent of the class consisting of silica, alumina, and mixtures thereof, and small amounts, between about 0.1% and about 10% by weight of the grease, sufficient to impart water resistance to the grease upon heating the mixture to a least 250° F., of a polyoxyethylene sorbitan partial ester of a long chain fatty acid of 12 to 22 carbon atoms per molecule and having a hydrophile-lipophile balance value between about 9 and about 12.

2,980,613

SULFUR-CONTAINING LUBRICANT INHIBITED AGAINST STAINING

Howard M. Rue, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Oct. 11, 1956, Ser. No. 615,233
10 Claims. (Cl. 252—34.7)

1. A lubricating composition consisting essentially of a sulfur-containing lubricant selected from the group consisting of petroleum hydrocarbon oils and fatty oils, which lubricant contains at least 1 weight percent of sulfur and tends to stain ferrous metals upon contact therewith, 0.1 to 5 weight percent of a partial ester of a polyhydric alcohol, said ester having hydrophile-lipophile balance within the approximate range from 3 to 6 and containing 14 to 56 carbon atoms per molecule, and 0.1 to 5 weight percent of a component selected from the group consisting of an acyclic polyamine containing 12 to 28 carbon atoms per molecule and a salt of said polyamine with an organic carboxylic acid containing 12 to 30 carbon atoms per molecule.

2,980,614

LITHIUM HYDROXYSTEARATE THICKENED GREASE HAVING BOTH STABLE SHORT SOAP FIBERS AND METASTABLE SOAP MICROFIBERS AND PROCESS FOR FORMING SAME

Arthur C. Borg, Chicago, Ill., and Richard H. Leet, Hammond, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed May 12, 1958, Ser. No. 734,436
8 Claims. (Cl. 252—41)

1. A process for preparing a blended lithium hydroxystearate thickened grease having both stable short soap fibers having a fiber length between about 1 and 10 microns and an average ratio of fiber length to fiber width between about 17 and 26 and metastable soap microfibers having a fiber length of less than 1 micron and a ratio of fiber length to fiber width of between about 5 and 15, said grease being characterized in having mechanical stability superior to individual greases containing either fibers alone, which process comprises mixing a first grease comprising a lubricating oil thickened with stable short lithium hydroxystearate fibers, with a second grease comprising a lubricating oil thickened with metastable lithium hydroxystearate microfibers said short fiber grease and said microfiber grease being present in a ratio of between 1:3 and 3:1 respectively, and milling the blend.

2,980,615

LUBRICANTS THICKENED WITH METAL SALTS OF HALF ESTERS OF SUBSTITUTED DICARBOXYLIC ACIDS

Arnold J. Morway, Clark, and Jeffrey H. Bartlett, New Providence, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 20, 1959, Ser. No. 800,633
5 Claims. (Cl. 252—41)

1. A lubricating grease composition comprising lubricating oil and about 5 to 40 weight percent of the alkali metal salt of a half ester prepared from a C_8 to C_{18} aliphatic saturated alcohol and a material selected from the group consisting of alkenyl succinic acid and alkenyl methyl succinic acid, wherein said alkenyl groups contain 8 to 22 carbon atoms.

2,980,616

SOAP THICKENED LUBRICATING GREASE CONTAINING FORMAMIDE

Edwin C. Knowles, Poughkeepsie, Norman R. Odell, Fishkill, and Joseph F. Lyons, Poughkeepsie, N.Y., assignors to Texaco Inc., a corporation of Delaware

No Drawing. Filed Feb. 6, 1958, Ser. No. 713,541
2 Claims. (Cl. 252—42.1)

1. A lubricating grease consisting essentially of a mineral lubricating oil thickened to a grease consistency with about 7–30 percent by weight of a lithium hydroxy fatty acid soap and containing formamide in an amount from above 1 percent to about 10 percent by weight, sufficient to impart rust preventiveness to the said grease in the water washing and rusting test.

2,980,617

FERRITE COMPOSITIONS AND METHOD OF MAKING SAME

James R. Ireland, Valparaiso, Ind., assignor to Indiana General Corporation, a corporation of Indiana

Filed Mar. 13, 1956, Ser. No. 571,210
4 Claims. (Cl. 252—62.5)

1. In a method of producing a permanent magnet of the mixed ferrite type having a non-cubic crystalline lattice and an empirical formula $MO.6Fe_2O_3$ where M is a metal selected from the group consisting of barium, strontium, and lead wherein said magnet is prepared by mixing iron oxide with a source of the oxide MO followed by sintering the mixture at a temperature in the range from 2,000 to 2,500° F. and compacting the mixture while under the influence of a magnetic field, the improvement whereby the maximum energy product is increased which comprises adding to said mixture prior to said compacting from 0.1 to 2.0% by weight of a refractory oxide mixture selected from the group consisting of alumina and silica, calcium oxide and silica, calcium oxide and titania, alumina and titania, boric oxide and silica, boric oxide and titania, chromic oxide and silica, and chromic oxide and titania, the alumina to silica molar ratio being generally between 1 to 2 to 3 to 2, and the other oxides of the remaining mixtures being substantially in equal proportions by weight.

2,980,618

FERROMAGNETIC MATERIAL FOR GYROMAGNETIC EFFECT

Charles Louis Guillaud and Roger Vautier, Bellevue, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a French government administration

Filed May 1, 1957, Ser. No. 656,421
Claims priority, application France May 2, 1956
3 Claims. (Cl. 252—62.5)

1. A body of ferromagnetic ceramic material having the properties of a large angle of rotation of the plane of polarisation for energy of microwave frequencies when placed in a longitudinal magnetic field and presenting a low attenuation to said frequencies, said body being the reaction product of a finely divided mixture of from 13 to 20 mol. percent of nickel oxide, from 5 to 20 mol. percent of chromic oxide, from 30 to 50 mol. percent of ferric oxide and the remainder zinc oxide, the sum of the chromic oxide and the ferric oxide comprising between 46 and 54 mol. percent of the material, said mixture being compressed and sintered at a temperature between approximately 1200° C. and approximately 1250° C. in an oxygen atmosphere for approximately four hours.

2,980,619

MANGANESE ZINC FERRITE CONTAINING TUNGSTIC OXIDE

Kurt Wetzel, New Brunswick, N.J., assignor to Steatite Research Corporation, Keasbey, N.J., a corporation of Delaware

No Drawing. Filed Nov. 28, 1958, Ser. No. 776,710
1 Claim. (Cl. 252—62.5)

A manganese-zinc ferrite composed of: ferric oxide in the range of 50 to 60 mol percent, zinc oxide in the range of 5 to 25 mol percent and manganese oxide, calculated as manganese oxide, in the range of 15 to 45 mol percent with the addition of tungstic oxide, in the range of 0.1 to 1 weight percent, said ferrite having a saturation flux density of over 5500 gausses at 25 oersteds measured at 20° C. and being formed by mixing the oxides, molding a body therefrom, and firing the body in a protective neutral gas atmosphere containing less than 1% oxygen to provide a densely packed uniformly crystallized body.

2,980,620

METHOD OF INHIBITING ICE MELTING SALTS AND PRODUCTS FOR USE IN ICE MELTING

George B. Hatch, Allison Park, Pa., assignor, by mesne assignments, to Hagan Chemicals & Controls, Inc., a corporation of Pennsylvania

No Drawing. Filed Feb. 28, 1956, Ser. No. 568,192
11 Claims. (Cl. 252—70)

1. A non-corrosive composition for melting ice and snow under conditions whereby corrosion of steel and aluminum are ordinarily concurrently encountered which composition consists principally of a freezing point depressant selected from the group consisting of ammonium sulfate, urea, and sodium nitrate and at least 0.2 percent by weight of a water-soluble alkali-metal molecularly

dehydrated phosphate and at least the chemical equivalent amount of a water-soluble salt, other than the chlorides, of a divalent metal selected from the group consisting of zinc, calcium, and strontium.

2,980,621

SPOTTING COMPOSITION

Morris Bittenfield, 2127 Division St., Chicago, Ill.

No Drawing. Filed Aug. 7, 1956, Ser. No. 602,509

3 Claims. (Cl. 252—97)

3. A spotting composition for use in cleaning of garment material, consisting essentially of, in percentage by liquid measure per gallon:

	Percent
Sulphonated castor oil	12 to 50
28% acetic acid	10 to 25
26% ammonia	5 to 38
Soap solution	15 to 65

and said soap solution consisting essentially of, by weight to a gallon of water:

	Ounces
Laundry soap	1 to 4
Sodium perborate	1 to 3
Table salt	1 to 8

2,980,622

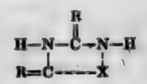
STABILIZED TRICHLOROCYANURIC ACID COMPOSITIONS

William F. Symes, Winchester, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

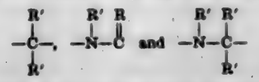
No Drawing. Filed Apr. 23, 1956, Ser. No. 579,711

12 Claims. (Cl. 252—99)

1. A composition of matter having improved resistance to loss of available chlorine in the presence of moisture and consisting essentially of (1) from about 0.5 to 40% by weight of trichlorocyanuric acid, (2) from about 0.1 to 1.5 mol, per mol of trichlorocyanuric acid, of an organic compound having in one tautomeric form the structural formula:



where X is selected from the group consisting of



where R is selected from the group consisting of oxygen and NH and R' is selected from the group consisting of hydrogen and alkyl radicals having from 1 to 10 carbon atoms, (3) a water-soluble salt selected from the group consisting of an alkaline, water-soluble alkali metal salt and mixtures thereof with a water-soluble neutral alkali metal salt and (4) moisture in the range of 0.5 to 5% by weight.

2,980,623

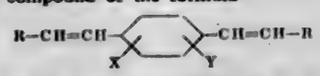
COMPOSITION AND PROCESS FOR WHITENING FIBERS

Allan Gilbert Osborne, Pencader Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 25, 1957, Ser. No. 686,008

6 Claims. (Cl. 252—117)

1. The process of whitening textile fiber, which comprises impregnating the same with an aqueous bath containing a compound of the formula



wherein the R's represent pyridyl radicals of the group consisting of 2-pyridyl, 4-pyridyl and their alkyl substitution derivatives having from 1 to 4 C-atoms in the alkyl radical, while X and Y stand each for a member of the group consisting of hydrogen and alkyl radicals having 1 to 4 C-atoms, said compound being present in said aqueous bath in a quantity equal to from 0.001 to 0.5 part by weight of said compound for each 100 parts by weight of the fiber to be treated.

2,980,624

DRY CLEANING COMPOSITIONS

John P. Miller III, Bloomfield, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 4, 1957, Ser. No. 632,415

15 Claims. (Cl. 252—152)

1. A composition adapted for use in the dry cleaning of textile and fibrous materials in chlorinated hydrocarbon dry cleaning solvent consisting essentially of a surface active agent mixture for each 100 parts of which there are present at least 15 parts of a polyoxyalkylated fatty amine surface active agent containing from about 14% to about 53% alkylene oxide, the said amine containing at least 35% octadecadienyl amine and the balance of said mixture a mixture of an anionic and an alkyl aryl polyoxyalkylene glycol ether nonionic surface active agent, the components of said mixture being present in the ratio of from about 1:9 to 1.5:1, the anionic surface active agent being selected from the group consisting of the sulfate and phosphate esters of alkyl aryl polyoxyalkylene glycols.

2,980,625

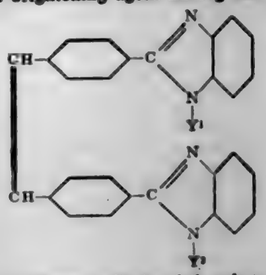
DISPERSIONS OF BENZIMIDAZOLYLSTILBENE WHITENING AND BRIGHTENING AGENTS AND PRODUCTION THEREOF

Nathan N. Crounse, Cincinnati, Ohio, assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 11, 1959, Ser. No. 812,121

10 Claims. (Cl. 252—152)

1. The process for obtaining a uniform dispersion of a relatively small quantity of a benzimidazolylstilbene whitening and brightening agent having the formula



wherein Y^1 and Y^2 are radicals of the class consisting of hydrogen, lower alkyl containing 1–6 carbon atoms, hydroxy lower alkyl containing 2–6 carbon atoms, 2-hydroxy-3-sulfopropyl, hydroxy-oxaalkyl containing 3–15 carbon atoms, carboxy-lower alkyl containing 2–6 carbon atoms, cyano-lower alkyl containing 3–6 carbon atoms, allyl, methallyl, and monocyclic aralkyl containing 7–11 carbon atoms, at least one of the radicals Y^1 and Y^2 being other than hydrogen, in a relatively large quantity of an aqueous paste of a water-soluble synthetic organic anionic detergent which comprises: dissolving the benzimidazolylstilbene at a temperature in the range 140–200° C. in an amide of the class consisting of higher fatty acid amides and higher fatty acid lower alkanol amides; and mixing the resulting solution with the said aqueous paste in the proportion of 0.01–0.5 part by weight of the benzimidazolylstilbene per hundred parts by weight of the aqueous paste.

2,980,626

PREPARATION OF A ZINC CHALCOGENIDE PHOSPHOR OF IMPROVED THERMAL STABILITY

Jacob Quentin Umberger, Holmdel, N.J., and Robert Ellis Wayrynen, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 26, 1957, Ser. No. 686,279

12 Claims. (Cl. 252—301.6)

7. The process for the preparation of a zinc chalcogenide phosphor of improved thermal stability which comprises treating particles of a fired phosphor activated by a metal selected from the group consisting of silver, copper, gold, manganese and lead and taken from the class consisting of zinc cadmium sulfide, zinc cadmium selenide and zinc cadmium sulfo-selenide phosphors with an aqueous solution containing zinc ions and sulfate ions in an amount sufficient to form 0.03 to 4 molar zinc sulfate until the surface of said particles is effectively wetted, filtering the treated particles and washing the latter with water.

2,980,627

ELECTRO-LUMINESCENT ZINC SULFIDE IODIDE FLUXED PHOSPHORS, AND METHOD FOR THEIR PREPARATION

Frank Evans Swindells, Maplewood, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 17, 1958, Ser. No. 761,486

9 Claims. (Cl. 252—301.6)

1. A bright blue-emitting electroluminescent phosphor consisting essentially of zinc sulfide activated by materials selected from the three following groups: (1) copper in an amount of 0.0065 to 0.65%, (2) copper in an amount of 0.0065 to 0.65% with coactivating arsenic in an amount of 0.0075 to 7.5%, and (3) copper in an amount of 0.0065 to 0.65% with coactivating lead in an amount of 0.0207 to 20.7%; and fluxed with at least one iodide compound selected from the group consisting of sodium iodide and potassium iodide, wherein the iodide compound is in an amount of 0.3 to 6% in the case of (1) and in the amount of 0.3 to 3% in the cases of (2) and (3); the mixture having been fired at between about 850 and 1100° C. for from about 0.5 to 4 hours, the only halide present during the firing being said iodide compound, wherein all percents are percent by weight based on the weight of the zinc sulfide.

5. In the process of preparing a bright blue-emitting electroluminescent phosphor, the combination of steps comprising admixing zinc sulfide and material selected from the following three groups: (1) a water-soluble copper compound sufficient to provide copper in an amount of 0.0065 to 0.65%, (2) copper in an amount of 0.0065 to 0.65% with a water-soluble arsenic compound sufficient to provide arsenic in an amount of 0.0075 to 7.5%, and (3) a water-soluble copper compound sufficient to provide copper in an amount of 0.0065 to 0.65% with a water-soluble lead compound sufficient to provide lead in an amount of 0.0207 to 20.7%; together with at least one iodide compound selected from the group consisting of sodium iodide and potassium iodide, wherein the iodide compound is in an amount of 0.3 to 6% in the case of (1) and in the amount of 0.3 to 3% in the cases of (2) and (3); in water to form a dispersion, drying said dispersion, and firing the dried product at a temperature within the range from about 850 to 1100° C. for from about 0.5 to 4 hours, the only halide present during the firing being said iodide compound, all percents being percent by weight based on the weight of the zinc sulfide.

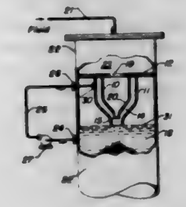
2,980,628

APPARATUS FOR THE MANUFACTURE OF SPHERICAL PARTICLES

Marvin A. Smith, Shreveport, La., assignor, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed July 25, 1958, Ser. No. 750,932

3 Claims. (Cl. 252—359)



1. An apparatus for use in the manufacture of spherical particles comprising a closed vertical sphere-forming chamber adapted to be maintained under superatmospheric pressure and to contain a gelling liquid in its lower portion, a horizontal plate extending across the upper portion and spaced from the top of said chamber and forming a reservoir with the top of the chamber, means for introducing to said reservoir fluid material to be formed into spherical particles, a dropping tip depending from said plate and comprising an inner shell having an enlarged upper portion and a conical lower portion terminating in a restricted outlet for droplets at its lower end, an outer shell depending from said plate and of substantially the same shape as and surrounding and spaced from said inner shell and having a restricted bottom outlet at a lower elevation in said chamber than the first-mentioned restricted outlet, the enlarged upper portion of said inner shell being in communication with said reservoir through an opening in said plate and the upper portion of said outer shell being closed to the reservoir by said plate, means for passing gelling liquid through the space between said shells and through said restricted bottom outlet into said forming chamber, and means for removing gelled particles from the lower portion of the chamber.

2,980,629

GEL-FREE ROSIN SOAP AND METHOD OF PREPARING SAME

Charles M. Lambert, New London, Pa., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 13, 1957, Ser. No. 683,697

12 Claims. (Cl. 252—369)

9. The process of forming a liquid gel-free rosin soap which comprises forming a mixture of (1) rosin, (2) a saponifying agent selected from the group consisting of sodium and potassium alkali, (3) a salt selected from the group consisting of sodium chloride and potassium chloride and (4) water, reacting the mixture to form a soap, and adjusting the acid number, total solids content and salt content such that the potassium soap has an acid number from about 17 to about 22, a total solids content from about 78% to about 82% and a salt content from about 1.8% to about 2.0%, based on the total solids, and the sodium soap has an acid number from

about 22 to about 26, a total solids content from about 75% to about 79%, and a salt content from about 1.8% to about 2.0%, based on the weight of the solids.

2,980,630

CATALYST RECOVERY

Melvin C. Baker, Niagara Falls, Thomas C. Bissot, Grand Island, and Jack Rowbottom, Niagara Falls, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 29, 1958, Ser. No. 731,641

10 Claims. (Cl. 252—414)

1. The process for separating cuprous chloride and organic solvents from used non-aqueous acrylonitrile catalyst solution of cuprous chloride dissolved in organic nitrile solvent therefor which boils above 100° C. and is a liquid between 80° and 140° C. and non-volatile by-products after use in the production of acrylonitrile from hydrogen cyanide and acetylene which comprises, while protecting the cuprous chloride from oxidation, precipitating the cuprous chloride and by-products from said non-aqueous catalyst solution with a water-miscible volatile solvent for the organic nitrile which solvent is a monoalcohol boiling below about 140° C. under normal pressure by gradually mixing the catalyst solution, maintained in a molten condition at 50°–120° C., with the water-miscible solvent, maintained between ambient temperature and the boiling point, while stirring to avoid gelling; separating the solvent mixture from the precipitated cuprous chloride and by-products; dissolving the cuprous chloride in aqueous ammonia, leaving a residue of undissolved by-products; and separating the cuprous solution from the insoluble by-products.

2,980,631

REGENERATION OF NOBLE METAL CATALYSTS

Robert G. Craig, Wilmington, Del., and Donald H. Stevenson, Milmont Park, Pa., assignors to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 30, 1954, Ser. No. 478,926

2 Claims. (Cl. 252—419)

1. In a method of regenerating a fixed bed of platinum-on-alumina catalyst particles containing carbonaceous materials deposited during a previous period of reforming gasoline the improvement which consists essentially of: subjecting the catalyst bed to a combustion-supporting gaseous mixture consisting predominantly of nitrogen, containing a restricted amount of oxygen to bring about the combustion of carbonaceous deposits on the catalyst particles, said restricted amount of oxygen providing an absolute pressure within the range from 10 mm. to 20 mm. of mercury, said gaseous mixture being purified to remove acidic gases to reduce the carbon dioxide concentration to less than 1%; withdrawing the effluent from such combustion of the carbonaceous deposits; recirculating at least a portion of such effluent after subjecting such effluent to a step of scrubbing with an aqueous alkaline solution consisting essentially of 10% sodium hydroxide and 90% water to reduce the carbon dioxide content of the gas stream to less than 1%; adding an oxygen-containing gas to the combustion-supporting gaseous mixture to provide a partial pressure of oxygen of from about 10 mm. to about 20 mm. of mercury; thereafter subjecting the catalyst bed to hydrogen at 825° F.; and thereafter subjecting the catalyst bed for about five hours to a gas stream consisting essentially of hydrogen and hydrogen chloride providing an absolute partial pressure of hydrogen chloride of from 0.2 to 2 mm. of mercury.

2,980,632

ALUMINA OF CONTROLLED DENSITY AND CATALYSTS PREPARED THEREFROM

Thomas J. Malley, Stamford, Harvey D. Schindler, Darien, and John D. Pennell, Jr., and William B. Innes, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

Filed May 17, 1957, Ser. No. 660,000

9 Claims. (Cl. 252—465)

1. A method of producing an alumina-base catalyst of controlled density which comprises precipitating hydrated alumina from an aqueous solution of a water-soluble aluminum compound at a pH of from 9 to 10.5, impregnating said hydrated alumina with an activating metal compound, densifying the impregnated alumina by homogenization and converting it into a dried gel by the application of heat.

2,980,633

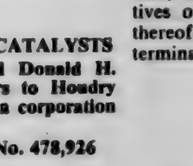
CARBON AND GRAPHITE ARTICLES

James O. Koehler, Parma, Ohio, and Headlee Lamprey, Lewiston, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 5, 1957, Ser. No. 643,913

8 Claims. (Cl. 252—507)

1. A process for producing shaped carbonaceous articles, which comprises mixing finely divided carbonaceous particles with an organic binder, and from 0.1 percent to 5 percent by weight of at least one additive selected from the group consisting of the carboxylates of tin, silicon and lead, the aminoalcohol and polyhydric alcohol derivatives of tin, lead, silicon and zirconium and mixtures thereof, and forming the resulting mixture into predeterminate shape, said carboxylates having the formula:



wherein R is a member selected from the group consisting of the alkyl, and the substituted alkyl radicals having from 10 to 18 carbon atoms, M is a metal selected from the group consisting of silicon, tin and lead, R′ is an alkyl group having from 1 to 4 carbon atoms, and x is a small whole number ranging from 1 to 3;

said amino alcohols having the formula:

$$(RO)_xM(O—C_2H_4N(R')_2)_{4-x}Y(HO_2CR'')$$

wherein M is a metal selected from the group consisting of silicon, tin, lead and zirconium, R is an alkyl group having from 1 to 4 carbon atoms, R′ is selected from the group consisting of the alkyl and substituted alkyl groups having from 1 to 4 carbon atoms, R″ is a member selected from the group consisting of the alkyl and substituted alkyl groups having from 10 to 18 carbon atoms, x is a number ranging from 0 to 3; Y is a number equal to $(4-x)$, and said polyhydric alcoholates having the formula:

$$(RO)_xM[OY—(OH)_z]_{4-x}$$

wherein M is a metal selected from the group consisting of silicon, tin, lead and zirconium, R is an alkyl group having from 1 to 4 carbon atoms, Y is a substituted alkylene radical having from 2 to 8 carbons, z is a number ranging from 1 to 3 and x is a number ranging from 1 to 3.

2,980,634

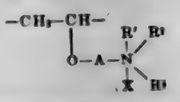
QUATERNARY AMMONIUM COMPOUNDS OF POLYMERS OF AMINOALKYL VINYL ETHERS

Sidney Melamed, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 8, 1954, Ser. No. 461,285

12 Claims. (Cl. 260—2.1)

1. A resinous linear addition polymer of about 20 to 100 mole percent of polymerized units having the formula



in which A is selected from the group consisting of ethylene, trimethylene and —CHR-CH$_2$—, R being selected from the group consisting of alkyl and alkenyl groups having 1 to 16 carbon atoms,

R′ and R^2 are selected individually from the group consisting of alkyl groups having 1 to 12 carbon atoms,

R^3 is selected from the group consisting of ethylenically unsaturated aliphatic hydrocarbon groups having 3 to 18 carbon atoms, and alkylbenzyl and alkenylbenzyl groups having up to 24 carbon atoms, at least one of R′, R^2, and R^3 having at least 7 carbon atoms, and

X is selected from the group consisting of OH and negative, salt-forming atoms and radicals,

and 0 to 80 mole percent of at least one other monoethylenically unsaturated compound copolymerizable therewith.

2,980,635

ION-EXCHANGE ARTICES AND METHOD OF MANUFACTURE FROM ACRYLONITRILE POLYMER AQUAGELS

Clyde W. Davis, Antioch, and Forrest A. Ehlers and Robert D. Barnard, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 7, 1957, Ser. No. 638,670

7 Claims. (Cl. 260—2.1)

7. A polymeric acrylonitrile aquagel composition consisting of a polymer of at least 80 percent acrylonitrile in the aquagel form in the polymer molecule, the balance of the polymer molecule being copolymerized ethylenically unsaturated comonomer, about 50 weight percent of water, composition basis, said aquagel having finely divided ion exchange resin particles dispersed therein in amount sufficient to cause the composition to function as an ion exchanger.

2,980,636

COATING COMPOSITIONS COMPRISING AN OIL-MODIFIED ALKYD RESIN AND AN ETHERIFIED MELAMINE-FORMALDEHYDE RESIN

Harry M. Culbertson, Wilbraham, Mass., and Byron L. Williams, Jr., North Texas City, Tex., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 4, 1957, Ser. No. 700,536

5 Claims. (Cl. 260—21)

1. A protective coating composition comprising an organic solvent solution of a ternary mixture of (1) an oil-modified alkyd resin, (2) an etherified formaldehyde condensate of melamine and (3) a compound of the group consisting of (*a*) an N-substituted melamine of the group consisting of N,N′-dicyclohexylmelamine, N,N′,N″-tricyclohexylmelamine and mixtures thereof and (*b*) an unetherified formaldehyde condensate of an N-substituted melamine of the group consisting of N,N′-dicyclohexylmelamine, N,N′,N″-tricyclohexylmelamine and mixtures thereof; said oil-modified alkyd resin constituting 50–90 weight percent of the total of (1), (2) and (3); said component (3) constituting 5–80 weight percent of the total of (2) and (3); said etherified formaldehyde condensate of melamine being an etherified reaction product of at least 4 mols of a monohydric alcohol containing 1–6 carbon atoms and a condensation product of 1 mol of melamine and at least 3 mols of formaldehyde.

2,980,637

COATING COMPOSITIONS CONTAINING AMINOPLAST RESINS

Harry M. Culbertson, Wilbraham, Mass., and Byron L. Williams, Jr., Texas City, Tex., assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 4, 1957, Ser. No. 700,547

6 Claims. (Cl. 260—21)

1. A protective coating composition comprising an organic solvent solution of a ternary mixture of (1) an oil-modified alkyd resin, (2) an etherified formaldehyde condensate of an N-substituted melamine and (3) an etherified formaldehyde condensate of melamine; said oil-modified alkyd resin constituting 50–90 weight percent of the total of (1), (2) and (3); said etherified formaldehyde condensate of an N-substituted melamine constituting at least 5 weight percent of the total of (2) (3); said etherified formaldehyde condensate of an N-substituted melamine being a resin that is prepared by heating a mixture of at least 3 mols of a monohydric acyclic alcohol containing 1–6 carbon atoms and a condensation product of 1 mol of an N-substituted melamine and at least 1 mol of formaldehyde to substantially atmospheric reflux temperature at a pH of 5.5–7.0 for a period of time sufficient to etherify and polymerize said condensation product of the N-substituted melamine and formaldehyde; said N-substituted melamine being selected from th group consisting of N,N′-dialkylmelamines, N,N′,N″-trialkylmelamines and mixtures thereof, the individual alkyl groups of said N-substituted melamines being acyclic and containing a maximum of about 20 carbon atoms and the total number of carbon atoms contained in all of said alkyl groups not exceeding about 36; said etherified formaldehyde condensate of melamine being an etherified reaction product of at least 4 mols of a monohydric acyclic alcohol containing 1–6 carbon atoms and a condensation product of 1 mol of melamine and at least 3 mols of formaldehyde.

2,980,638

ALUMINUM-CONTAINING NON-LEAFING ALKYD RESIN PROTECTIVE COATING

Walter Polovina, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed June 17, 1957, Ser. No. 666,245

5 Claims. (Cl. 260—22)

1. A protective coating composition comprising the product obtained from reacting 10% to 20% by weight of glycerin, 30% to 40% by weight of phthalic anhydride, 18% to 30% by weight of rosin, and 15% to 25% by weight of drying oil, to which said product there has been added from one to three pounds of finely divided non-leafing aluminum particles per gallon, the said aluminum particles being of a size to pass through a 300-mesh screen.

2,980,639

RUBBER COMPOUNDING

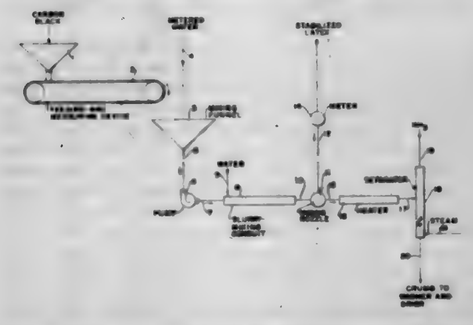
Harold A. Braendle, Garden City, N.Y., assignor to Columbian Carbon Company, New York, N.Y., a corporation of Delaware

Filed May 29, 1957, Ser. No. 662,444

3 Claims. (Cl. 260—27)

1. In the process for producing dispersions of carbon black in rubber in which the black is mixed with the rubber while in latex form and the carbon black-latex mixture thereafter coagulated, the improvement comprising the following steps in sequence, continuously charging the carbon black and water in uniform, predetermined

proportions to a mixing chamber, subjecting the black-water mixture in the chamber to violent hydraulic agitation and impact and thereby forming a continuously flowing, confined stream of aqueous carbon black slurry of uniform composition, continuously mixing the resultant stream of slurry, before any separation or localized concentration of the carbon black can occur therein, in uniform predetermined proportions, by violent hydraulic turbulence and impact, with a stream of a synthetic polymeric diolefin rubber latex which has been produced by emulsion polymerization using a soap from the class consisting of ammonium soaps of fatty acids and ammonium soaps of rosin acids as the emulsifying agent and stabilized by the presence therein of ammonium soap and excess ammonia, and effecting the coagulation of the resultant mixture by heating the mixture sufficiently high to drive off the excess ammonia and decompose the ammonium soap present therein, but below that at which the rubber of the latex is detrimentally affected, and liberating the ammonia resulting from the decomposition of the ammonium soap from the mixture, thereby forming crumb rubber having the carbon black dispersed therein.



2,980,640

POLYMERIC COMPOSITIONS

William E. Shoemaker, Baden, and Roger Macdonald, Hookstown, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Apr. 5, 1957, Ser. No. 650,844
5 Claims. (Cl. 260—28.5)

1. The method of preparing thermoplastic compositions containing a resinous polymeric styrene and a rubbery polymeric butadiene which comprises preparing a blend consisting essentially of (A) 70 to 96 weight parts of a resinous polymeric styrene, (B) 3 to 20 weight parts of a rubber polymeric butadiene, and (C) 1 to 10 weight parts of a microcrystalline wax having a melting point of about 180–220° F. in the presence of a metallic peroxide of the group consisting of MgO_2, CaO_2, ZnO_2, SrO_2, BaO_2, PbO_2, and mixtures thereof in amounts from about 0.03 to 0.15 weight part zinc peroxide equivalent per hundred weight parts of said blend, by mechanically mixing said ingredients into a uniform mass at a temperature of about 280–450° F. for a time sufficient to obtain a homogeneous blend.

2,980,641

SOLUTIONS OF POLYPYRROLIDONE IN AQUEOUS PHYTIC ACID AND PROCESS FOR MAKING SAME

Paul R. Cox, Jr., Decatur, Ala., assignor to The Chemstrand Corporation, Decatur, Ala., a corporation of Delaware

No Drawing. Filed Sept. 25, 1958, Ser. No. 763,198
15 Claims. (Cl. 260—29.2)

1. A new composition of matter comprising polypyrrolidone dissolved in a solvent containing 5 to 50 percent by weight of water, based on the total weight of the solvent, and 95 to 50 percent of a compound selected from the group consisting of phytic acid, the water-soluble alkali metal acid salts of phytic acid, the alkaline earth metal acid salts of phytic acid, and the mixed alkali and alkaline earth metal acid salts of phytic acid.

2,980,642

COLOR STABLE LACQUER COMPRISING VINYL CHLORIDE RESIN AND 1,3-BUTYLENE ADIPATE

Collins E. Bushnell, Lancaster, and John A. Parker, West Lampeter Township, Lancaster County, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 16, 1958, Ser. No. 709,215
9 Claims. (Cl. 260—31.6)

1. A color-stable lacquer comprising relative proportions of 100 parts by weight polymerized vinyl chloride resin selected from the group consisting of polyvinyl chloride and vinyl chloride-vinyl acetate copolymers containing 2–15% by weight vinyl acetate, about 100–300 parts by weight of a solvent system for said resin, about 20–60 parts by weight 1,3-butylene adipate having a hydroxyl number in the range of about 30–50 and an acid number in the range of about 2–7, and about 1–3 parts by weight of a compound selected from the group consisting of formaldehyde, paraformaldehyde, and polyoxymethylene diacetate.

2,980,643

PLASTISOL COMPOSITION COMPRISING A THERMOPLASTIC VINYL RESIN AND FILTER CAKE

Leonard E. Edelman, Penn Township, Allegheny County, and James W. Forbes, Jeannette, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 23, 1956, Ser. No. 599,385
5 Claims. (Cl. 260—31.8)

1. A vinyl plastisol composition comprising as its essential ingredients (A) a finely divided thermoplastic polyvinyl resin selected from at least one of the group consisting of polyvinyl chloride, polyvinyl acetate, polyvinyl acetal, polyvinyl butyral, polyethylene, polyvinylidene chloride, and copolymers of vinyl chloride and vinyl acetate, (B) a high boiling point liquid organic ester plasticizer in which said polyvinyl resin is insoluble except at elevated temperatures, (C) a finely divided inorganic filler selected from at least one of the group consisting of calcium carbonate, silica flour, aluminum silicate, and mica flour, and (D) a filter cake comprising (1) a finely divided filter-aid selected from the group consisting of charcoal and diatomaceous earth, and (2) an organic ester plasticizer selected from the group consisting of dibutyl phthalate and dioctyl phthalate, said organic ester plasticizer (2) being dispersed throughout the filter cake, the weight ratio of plasticizer (B) plus plasticizer (2) to said polyvinyl resin being within the range of about from 1.25:1 to 1.75:1, and the weight ratio of filler (C) plus filter-aid (1) to said polyvinyl resin being within the range of about from 2.5:1 to 4:1.

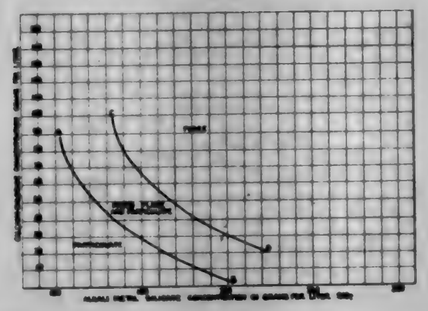
2,980,644

PRODUCTION OF CALCIUM SILICATE

George H. Atkinson, Akron, Ohio, assignor, by mesne assignments, to Pittsburgh Plate Glass Company

Filed Nov. 24, 1954, Ser. No. 470,864
10 Claims. (Cl. 260—41.5)

9. A composition which comprises rubber having well dispersed therein finely divided precipitated alkaline earth metal silicate preponderantly in the form of fine, non-crystalline flakes of substantial size and ranging up to 10 microns across the long dimension and having a thickness ranging from about 100 A. to 800 A., said rubber being selected from the group consisting of natural rubber,



butadiene-styrene copolymers and butadiene-acrylonitrile copolymers.

2,980,645

ULTRAVIOLET LIGHT PROTECTED POLY-α OLEFIN COMPOSITIONS

Gordon C. Newland and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 20, 1959, Ser. No. 814,394
5 Claims. (Cl. 260—45.75)

1. A solid poly-α-olefin composition comprising polyethylene containing .005% to 5% by weight based on said polyethylene of a stabilizer combination comprising zinc N,N'-dibutyldithiocarbamate and 2-hydroxy-4,4'-dimethoxybenzophenone, the weight ratio of said zinc N,N'-dibutyldithiocarbamate to said 2-hydroxy-4,4'-dimethoxybenzophenone being in the range of 1/10 to 10/1.

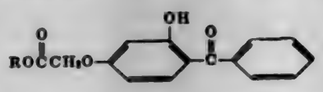
2,980,646

STABILIZED POLYETHYLENE

Gerald R. Lappin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 16, 1957, Ser. No. 702,807
6 Claims. (Cl. 260—45.85)

1. A solid poly-α-olefin composition comprising solid polyethylene and about 0.01% to 10% by weight based on said polyethylene of a compound having the formula



wherein R is an alkyl group containing 6 to 18 carbon atoms.

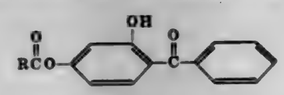
2,980,647

POLYETHYLENE STABILIZED WITH 3-HYDROXYL 4-(PHENYLCARBONYL) PHENYL ESTERS

Gerald R. Lappin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 16, 1957, Ser. No. 702,808
6 Claims. (Cl. 260—45.85)

1. A solid poly-α-olefin composition comprising solid polyethylene and about 0.01% to 10% by weight based on said polyethylene of a compound having the formula



wherein R is an alkyl group containing 7 to 17 carbon atoms.

2,980,648

STABILIZED POLY-α-OLEFIN COMPOSITIONS

Alan Bell, William M. Gearhart, and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 31, 1958, Ser. No. 724,814
4 Claims. (Cl. 260—45.85)

1. A solid poly-α-olefin composition substantially free of halide material comprising a solid poly-α-olefin prepared from an α-monoolefinic aliphatic hydrocarbon having 2 to 3 carbon atoms containing 0.1% to 10% by weight based on said poly-α-olefin of a substituted phenyl salicylate selected from the group consisting of 4-biphenylyl-5-phenyl salicylate and 4-biphenylyl salicylate.

2,980,649

FUSIBLE BUT INSOLUBLE HIGH-MELTING, FIBER-FORMING POLYESTERS

John R. Caldwell and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 23, 1956, Ser. No. 605,693
14 Claims. (Cl. 260—47)

1. A process for preparing a highly polymeric, cross-linked, fiber-forming polyester comprising (A) incorporating an organic peroxy compound in an amount of from about 1% to about 15% by weight of the polyester into a substantially linear polyester of reactants consisting of (I) a dicarboxylic acid composed of 30 to 100 mole percent of a hexacarbocyclic dicarboxylic acid selected from the group consisting of terephthalic acid, 4,4'-sulfonyldibenzoic acid, 1,4-cyclohexanedicarboxylic acid, 1,2-di(p-carboxyphenoxy)ethane, 1,2-di(p-carboxyphenyl)ethane, and p,p'-diphenic acid and from 0 to 70 mole percent of a dicarboxylic acid selected from the group consisting of isophthalic acid, p-carboxycarbanilic acid and a saturated aliphatic dicarboxylic acid containing from 2 to 20 carbon atoms and (II) a dihydroxy compound composed of from 10 to 100 mole percent of an aliphatic nonconjugated unsaturated glycol containing an ethylenically unsaturated bond in the group of interconnected carbon atoms attached to a glycolic oxy atom and from 0 to 90 mole percent of a saturated aliphatic glycol containing from 2 to 12 carbon atoms, and (B) heating at from about 50° C. up to the melting point of the substantially linear polyester whereby there is produced a cross-linked polyester which is substantially insoluble in organic solvents, possesses improved resistance to heat distortion and is fusible at temperatures within the range between about 150° C. and 300° C.

2,980,650

PREPARING POLYMERS UNDER VACUUM

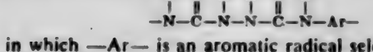
Christoper L. Wilson, Sloatsburgh, and Henry George Hammon, Piermont, N.Y., assignors to Hudson Foam Plastics Corporation, Yonkers, N.Y., a corporation of New York

No Drawing. Filed July 8, 1954, Ser. No. 442,195
14 Claims. (Cl. 260—75)

1. A process for making a polyester resin of viscous liquid consistency having an acid number not greater than 33.4 and a hydroxyl number not greater than 136.5 comprising reacting together with formation and evolution of water at least one saturated straight chain dibasic acid selected from the group consisting of succinic, glutaric, adipic, azelaic, sebacic, diglycolic and ethylene bis glycolic acids, a polyethylene glycol having the formula $HO(CH_2CH_2O)_nH$, where n is greater than 1, and an alkyl polyhydroxyl compound containing more than two hydroxyl groups, said reaction being conducted under vacuum at about 200 to about 280° C. at least during the latter portion of the heating period after most of the water has been removed and until the viscosity of the polyester product of said reaction is at least about 0.05.

2,980,651
POLYUREYLENES
John Farago, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 29, 1957, Ser. No. 655,464
11 Claims. (Cl. 260—77.5)

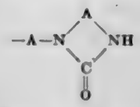
1. A linear polymer consisting essentially of a plurality of repeating units represented by the general formula



in which —Ar— is an aromatic radical selected from the group consisting of phenylene, biphenylene, and methylene-bis-phenyl radicals, said radical having not more than one substituent group selected from the group consisting of methyl, methoxy, and chloro groups attached to an annular carbon atom on any one ring with the proviso that when said radical —Ar— is phenylene the indicated free valences on said radical be attached to other than adjacent annular carbon atoms and that said substituent group be removed by at least two annular carbon atoms from one of said carbon atoms having a free valence, and that when said radical is selected from the group consisting of biphenylene and methylene-bis-phenyl the indicated free valences be in a p,p'-relationship to each other, and wherein X and X' are selected from the group consisting of hydrogen and a monovalent organic radical, said monovalent organic radical being free of active hydrogen and of groups reactive with aicive hydrogen, not more than one of X and X' being an aromatic radical attached directly to an N of the formula.

2,980,652
UNSATURATED DERIVATIVES OF N-(OMEGA-AMINOALKYL) - 1,3-CYCLODIAZOLIDIN-2-ONES AND COPOLYMERS THEREOF
Sidney Melamed, Philadelphia, and Louis C. Souder, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Sept. 19, 1958, Ser. No. 761,952
18 Claims. (Cl. 260—77.5)

1. As a new composition of matter, a compound selected from the group consisting of (1) N-substituted amic acids selected from the group consisting of maleamic acid, chloromaleamic acid, fumaramic acid, itaconamic acid, and citraconamic acid, in which the nitrogen atom of the amic acid is directly connected to a group of the formula



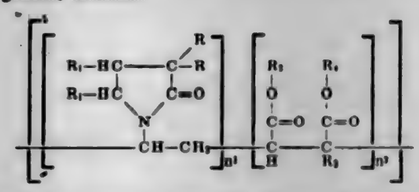
wherein A is an alkylene group having two to three carbon atoms and having at least two carbon atoms extending in a chain between the adjoined N atoms, (2) the cyclic imide of each of the aforesaid N-substituted amic acids, and (3) the esters of the aforesaid N-substituted amic acids with an alkanol having one to four carbon atoms.

2,980,653
MANUFACTURE OF LOW MOLECULAR WEIGHT OLEFIN/MALEIC ANHYDRIDE COPOLYMERS
John H. Johnson, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 21, 1956, Ser. No. 629,795
11 Claims. (Cl. 260—78.5)

1. In the copolymerization of maleic anhydride with an olefin having from 2 to 4 carbon atoms in the presence of a free radical-promoting catalyst at a temperature within the range of 40–100° C. to form an olefin/maleic anhydride copolymer, the improvement which comprises effecting said copolymerization in a non-aqueous reaction mixture comprising a liquid organic solvent and at least 5 mole percent based on the reacting monomers of a hydrocarbon carboxylic acid free from aliphatic unsaturation and having at least one hydrogen atom on an α-carbon.

2,980,654
COPOLYMERS OF N-VINYLPYRROLIDONES WITH DIALKYL MALEATES OR FUMARATES
William M. Perry, Bethlehem, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 23, 1957, Ser. No. 680,026
6 Claims. (Cl. 260—78.5)

1. A polymeric material characterized by the following general formula:



wherein R represents a member selected from the class consisting of hydrogen and methyl groups, R_1 represents a member selected from the class consisting of hydrogen, methyl and ethyl groups, R_2 represents a member selected from the class consisting of hydrogen and alkyl groups of from 1 to 3 carbon atoms, R_3 and R_4 each represents an alkyl chain of from 3 to 14 carbon atoms, and wherein the ratio of n^1 to n^2 ranges from 6 to 1 to 60 to 1, said material being water-soluble, hexane-insoluble and capable of forming stable clear and substantially non-tacky films.

2,980,655
POLYMERIZATION PROCESS
John A. Glass, Akron, and John F. Jones, Cuyahoga Falls, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 27, 1957, Ser. No. 680,637
12 Claims. (Cl. 260—80.3)

1. A method of preparing a fluid slurry of a solid granular polymer by polymerizing a monomeric material consisting of an acid selected from the class consisting of acrylic acid and methacrylic acid and from 0 to 30% by weight, based on the weight of said acid of a monomer copolymerizable therewith containing at least two $CH_2=C<$ groups per molecule, said method comprising mixing said monomeric material with a liquid organic medium, in which said monomeric material is soluble and its polymers insoluble, consisting of (1) a liquid aromatic hydrocarbon containing less than 10 carbon atoms per molecule, (2) a volatile liquid selected from the class consisting of a lower aliphatic monocarboxylic acid containing not more than 4 carbon atoms, a lower aliphatic monohydric alcohol containing not more than 4 carbon atoms, acetone, dioxane, tetrahydrofurane and acetonitrile and (3) a peroxygen catalyst soluble in said medium, the proportion of said monomeric material so mixed being from 12 to 30% by weight based on the weight of said medium and the proportion of (2) being sufficient to deswell the polymer produced therein by at least 5%, as determined by the change in the ratio of the weight of a wet filter cake of said polymer compared to the weight of the same filter cake when dried, and carrying to essential completion the polymerization of said monomeric material in said medium at a temperature of 25 to 90° C. and while agitating said medium and maintaining therein less than about 1% by weight of water, based on the weight of said monomeric material, thereby to produce a slurry of solid, granular polymer having greater fluidity than a corresponding slurry made at 10% solids in said aromatic hydrocarbon as the sole reaction diluent.

2,980,656
METHOD FOR PRODUCTION OF SOLUBLE CHLORINATED POLYMERS
Rufus V. Jones and Peter J. Canterino, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Aug. 30, 1954, Ser. No. 453,121
9 Claims. (Cl. 260—85.1)

1. The process of chlorinating a rubbery butadiene polymer comprising reacting the polymer under anhydrous conditions with elemental chlorine in carbon tetrachloride at a temperature of about 5–80° C. and in the presence of over 1 percent but not over 25 percent by weight of a catalyst based on the weight of the polymer, said catalyst being selected from the group consisting of phosphorus trichloride and phosphorus pentachloride, and recovering a thermoplastic chlorinated polymer which is soluble in conventional organic solvents.

2,980,657
QUATERNARY AMMONIUM COMPOUNDS OF POLYMERS OF ACRYLAMIDO TYPE AND METHODS FOR MAKING THEM
Sidney Melamed, Philadelphia, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed July 6, 1954, Ser. No. 441,643
23 Claims. (Cl. 260—86.1)

17. As a composition of matter, a water-soluble polymerization product which contains copolymerized (1) at least one mole percent of an amide of acrylic acid containing in the amide portion of the molecule one quaternary nitrogen atom which by one of its four valences is bound to the amide nitrogen by an alkylene radical containing at least two and at the most three carbon atoms, and the remaining three valences of the quarternary nitrogen atom are bound to saturated aliphatic radicals, and (2) at least one other polymerizable monoethylenically unsaturated compound, said copolymer product comprising at least one ester of acrylic acid with an alkanol having 1 to 4 carbon atoms and at least 0.1 mole percent of acrylic acid, the total polymerized units amounting to 100 mole percent.

2,980,658
COPOLYMER OF AN ALKYL METHACRYLATE AND AN ALPHA-ACYLOXYSTYRENE, AND METHOD FOR PREPARING SAME
George E. Ham, Easton, Pa., assignor to J. T. Baker Chemical Co., Phillipsburg, N.J., a corporation of New Jersey
No Drawing. Filed May 14, 1956, Ser. No. 584,482
4 Claims. (Cl. 260—86.1)

1. Polymerization products consisting of 55–90 parts by weight of an alkyl methacrylate in which the alkyl group is from one to four carbon atoms and 10–45 parts by weight of an alpha-acyloxystyrene having the formula



wherein R' is a phenyl radical and RCO— is a radical of the group consisting of formyl, acetyl, propionyl, butyryl, isobutyryl, valeryl and caproyl radicals, said polymer having an intrinsic viscosity of at least 0.2 when measured in dioxane at 25° C.

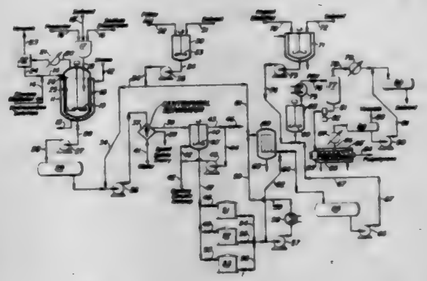
2,980,659
COPOLYMERIZATION PROCESS
Donald R. Witt, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 13, 1958, Ser. No. 708,349
10 Claims. (Cl. 260—88.2)

1. A process which comprises copolymerizing a major proportion of ethylene with a minor proportion of an aliphatic olefin having from 3 to 8 carbon atoms per molecule, at a temperature in the range of 100 to 325° F., with a catalyst consisting essentially of silica-alumina as a major component and, as minor components, chromium oxide and at least one oxide selected from the group consisting of manganese, cobalt, and nickel oxides, at least part of the chromium being in the hexavalent state.

2,980,660
POLYMERIZATION OF OLEFINS
Jack W. Ralls, Berkeley, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Dec. 28, 1956, Ser. No. 631,025
3 Claims. (Cl. 260—93.5)

2. A process for polymerizing materials selected from the group consisting of 1-olefins containing 2 to 6 carbon atoms and having no chain branching closer to the olefinic double bond than the 3 carbon atom and styrene, which comprises contacting at least one of said selected materials with a catalyst consisting essentially of a dispersion of $AlTi_2Cl_8$ and an alkali metal aluminum hydride in a nonpolar liquid at a temperature below about 150° C.

2,980,661
PRODUCTION OF POLYSTYRENE FROM STYRENE-IN-HYDROCARBON SOLUTION
Warren W. Twaddle, Hammond, Ralph W. Myerholtz, Jr., Highland, and Donald E. Burney, Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Apr. 3, 1957, Ser. No. 650,330
3 Claims. (Cl. 260—93.5)



1. In a process for preparing molding grade polystyrene by contacting a solution of a styrene monomer in a light aromatic hydrocarbon solvent with an amount of dispersed sodium in the range of 0.01 to 0.5 weight percent and an amount of a promoter also in the range of about 0.01 to 0.5 weight percent, both based on styrene monomer at a temperature in the range of about 40° to 120° C., the improvement which comprises the steps of initially contacting the styrene solution with a bed of alumina which has been previously calcined for a substantial period at a temperature of at least about 480° C. to remove oxygenated hydrocarbons as well as moisture from said solution prior to said contacting, mixing about 2 to 10 pounds of porous adsorbent solid material selected from the groups consisting of silica gel, diatomaceous earth and celite per pound of sodium in the polymer solution after said contacting and separating the added solids

for removing sodium, color bodies and polymer gel, treating the solution after solids removal with carbon dioxide for eliminating color formation by any residual sodium and recovering a polystyrene product from said solution having an intrinsic viscosity of from 0.2 to 2 and having substantially no peroxy or carbonyl structures in the polymer molecule.

2,980,662

MANUFACTURE OF OLEFIN POLYMERS

James L. Jezl, Swarthmore, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 27, 1956, Ser. No. 624,487
15 Claims. (Cl. 260—93.7)

15. In a process wherein propylene is polymerized by contacting propylene dissolved in an inert liquid hydrocarbon medium, under polymerization conditions, with a catalyst composition consisting essentially of a metal halide and a metallo-organic activator therefor selected from the group consisting of alkali metal hydrides, alkali metal aluminum hydrides, alkali metal borohydrides, metal alkyls wherein said metal is selected from the group consisting of aluminum, zinc, beryllium, chromium, magnesium, and lead, halides of said metal alkyls, and alkali metal alkyls, and wherein solid polypropylene is thereafter recovered from the reaction mixture, the improvement which comprises using as said metal halide component of said catalyst composition a material selected from the group consisting of (A) solid particles of a chloride of titanium firmly embedded in a solid carrier having a melting point below 440° C. selected from the group consisting of sodium aluminum chloride, thallium oxide, ferric chloride, gallium chloride, elemental sulfur, and a metal alloy, wherein said titanium has a valence of 2 to 3 and (B) solid particles of a chloride of zirconium firmly embedded in a solid carrier having a melting point below 350° C. selected from the group consisting of sodium aluminum chloride, thallium oxide, ferric chloride, gallium chloride, elemental sulfur, and a metal alloy, wherein said zirconium has a valence of 2 to 3 and a portion of the surfaces of said solid particles are exposed to the environment surrounding said composition.

2,980,663

POLYMERISATION PROCESS

Stefan Kazimierz Lachowicz, North Cheam, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Mar. 25, 1957, Ser. No. 647,941
Claims priority, application Great Britain Apr. 7, 1956
7 Claims. (Cl. 260—93.7)

1. A process for the polymerisation of aliphatic α-olefins having the formula $CH_2{=}CHR$ where R is selected from the group consisting of hydrogen and lower alkyl groups, which comprises contacting the α-olefin in an inert liquid medium at a temperature below 60° C. and at a pressure within the range from atmospheric pressure to about 500 p.s.i.g. with a catalyst system formed by mixing a solid, dispersed aluminium fluoride compound, having the formula $Na[Al(C_2H_5)_3F]$, with a titanium compound soluble in the liquid medium.

2,980,664

POLYMERIZATION OF OLEFINS

Archibald P. Stuart, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed May 6, 1959, Ser. No. 811,255
15 Claims. (Cl. 260—93.7)

1. A process for the polymerization of olefins which comprises contacting an olefin selected from the group consisting of ethylene, propylene, and butene-1 with a catalytic system consisting essentially of one prepared by mixing titanium tetrachloride with about 1 to about 15 mol percent based on said titanium tetrachloride of an anhydrous halide of a metal of group IB of the periodic table wherein said halide is selected from the group consisting of a chloride, an iodide and a bromide, reacting the mixture with at least one mol of an aluminum alkyl dichloride, in the presence of an inert solvent, allowing the reaction between the titanium tetrachloride and the aluminum alkyl dichloride to go to substantial completion, and adding to the reaction mixture at least one mol of an aluminum trialkyl per mol of titanium tetrachloride, said polymerization being carried out at a temperature between 60° F. and 130° F.

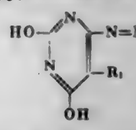
2,980,665

PYRIMIDINES

Bernard William Langley, Alderley Park, Macclesfield, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 15, 1958, Ser. No. 780,207
Claims priority, application Great Britain Jan. 6, 1958
7 Claims. (Cl. 260—154)

1. 2:6-dihydroxypyrimidines of the formula:



wherein R is selected from the group consisting of phenyl, mono- and di-halophenyl and lower alkylphenyl and R_1 is hydrogen.

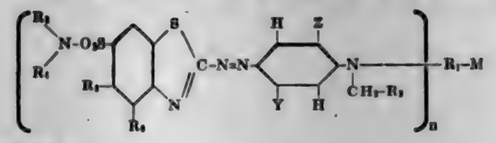
2,980,666

AZO DYESTUFFS OF LOW SOLUBILITY IN WATER

Ernest Merian, Bottmingen, and Bruno J. R. Nicolaus, Basel, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland

No Drawing. Filed June 9, 1958, Ser. No. 740,603
Claims priority, application Switzerland June 13, 1957
6 Claims. (Cl. 260—158)

1. A azo dyestuff which corresponds to the formula



wherein

R_1 represents an alkylene hydrocarbon radical with 1 to 4 carbon atoms,

R_2 represents a member selected from the group consisting of lower hydroxyalkyl, lower dihydroxyalkyl, lower alkoxyalkyl, lower cyanoalkyl, lower acetoxyalkyl, lower propionyloxyalkyl, polyfluoromethyl, fluorinated lower cyanoalkyl, lower carbalkoxyalkyl and lower carbamic acid alkyl ester,

R_3 represents a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl and lower alkoxyalkyl,

R_4 represents a member selected from the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, lower alkoxyalkyl, phenyl, methylphenyl, naphthyl, hydroxymethylphenyl, cyclohexyl, benzyl and phenylethyl,

R_5 represents a member selected from the group consisting of hydrogen, lower alkyl and, together with R_6, —CH=CH—CH=CH—,

R_6 represents a member selected from the group consisting of hydrogen, lower alkyl and, together with R_5, —CH=CH—CH=CH—,

Y represents a member selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl, lower alkoxy, trifluoromethyl, trifluoroacetyl, alkanoylamino with at most 18 carbon atoms,

M represents a member selected from the group consisting of hydrogen, hydroxyl, lower alkoxy, acetoxy and lower carbamic acid alkyl ester, when *n* stands for the figure 1, and a simple C-N linkage when *n* stands for the figure 2,

Z represents a member selected from the group consisting of hydrogen, methyl, methoxy and, together with —N—CH_2—R_3 and the adjacent benzene nucleus, a tetrahydroquinoline ring, and

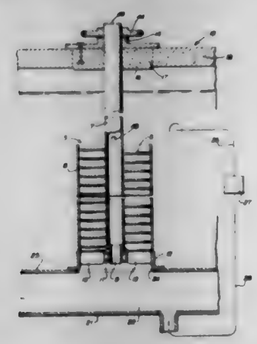
n represents one of the integers 1 and 2.

2,980,667

ROTATING FUEL ELEMENT REACTOR PUMP

Chadwick A. Coombs, Washington, D.C., assignor, by mesne assignments, to Allis-Chalmers Manufacturing Company, a corporation of Delaware

Filed Oct. 31, 1958, Ser. No. 770,972
10 Claims. (Cl. 204—193.2)



1. In a heterogeneous nuclear reactor containing a moderating and cooling liquid, a fuel element comprising a coil of fissionable material and wall means associated therewith so as to define a spiral passage having liquid inlet and outlet openings, respectively, at its opposite ends, and means mounting said fuel element for rotational movement thereof on the axis of said coil; said liquid inlet and outlet openings communicating with said liquid so that movement of said fuel element will cause said liquid to circulate through said passage.

2,980,668

NEW ORGANIC SULPHONAMIDO ISOTHIOCYANATES

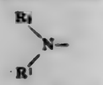
Herbert Aubrey Stevenson, John Ray Marshall, and Anthony Frederick Hams, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England, a British company

No Drawing. Filed Jan. 29, 1957, Ser. No. 636,873
Claims priority, application Great Britain Feb. 3, 1956
11 Claims. (Cl. 260—239.8)

1. An organic isothiocyanate of the formula



in which Y is a nitrogen-containing radical selected from the group consisting of Z=N— and



wherein Z=N— is selected from the group consisting of piperidyl, lower alkylpiperidyl, pyrrolidyl and tetrahydropyridyl R_1 is selected from the group consisting of hydrogen and lower alkyl, and R_2 is selected from the group consisting of lower alkyl, lower alkenyl, phenyl lower alkyl, phenyl, lower alkylphenyl, halogenated phenyl and lower alkoxyphenyl.

11. p - isoThiocyanatobenzenesulphon - 4 - methyl-piperidide.

2,980,669

METHYLENE BIS SULFONAMIDO PYRAZOLES

Jean Druey, Riehen, and Paul Schmidt, Therwil, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

No Drawing. Filed Apr. 21, 1959, Ser. No. 807,779
Claims priority, application Switzerland Apr. 23, 1958
2 Claims. (Cl. 260—239.9)

1. N:N'-methylene-bis-[3-(para-amino - benzene - sulfonamido)-2-phenyl-pyrazole].

2,980,670

FLUORINATED CORTICOSTEROIDS

Rudolph G. Berg, New London, and Gerald D. Laubach, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 2, 1959, Ser. No. 850,031
6 Claims. (Cl. 260—239.55)

1. The 17,20;20,21-bismethylenedioxy derivative of 9α-bromo-16β-fluorohydrocortisone.

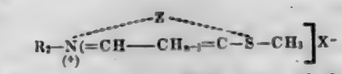
2,980,671

MONOMETHINE CYANINE DYES AND METHOD FOR PREPARING THEM

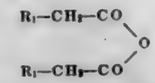
Jean Marie Nys, Mortsel-Antwerp, and Theofiel Hubert Ghys, Edegem-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Apr. 15, 1958, Ser. No. 728,534
2 Claims. (Cl. 260—240.7)

1. Process for preparing a symmetrical monomethine cyanine dye, which comprises heating at a temperature between about 100° and 160° C. in the presence of an alkaline condensing agent of the type used in the preparation of cyanine dyes a compound of the general formula



wherein R_2 represents an alkyl group of the formula C_qH_{2q+1} with *q* representing a positive integer from 1 to 4, *n* represents a positive integer selected from the group of 1 and 2, Z represents the atoms necessary to complete a heterocyclic nitrogen nucleus of the type contained in cyanine dyes, and X represents an acid radical of the type used in cyanine dyes, together with a compound of the following general formula



wherein R_1 represents a member selected from the group consisting of a hydrogen atom, an alkyl group of the formula C_pH_{2p+1} with *p* representing a positive integer from 1 to 4, a benzyl radical, and a phenyl radical.

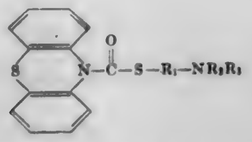
2,980,672

PHENOTHIAZINE THIOCARBOXYLATES

Arthur W. Weston, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 16, 1956, Ser. No. 559,096
4 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of bases of the formula



the non-toxic lower alkyl halide quaternary salts and the non-toxic acid addition salts thereof, wherein R_1 is an alkylene group containing from 2 to 4 carbon atoms inclusive, and $—NR_2R_3$ is a member selected from the group consisting of diloweralkylamino, piperidyl, pyrrolidyl, N-methylpiperazinyl and morpholinyl groups.

2,980,673

BIS-QUATERNARY AMMONIUM ESTERS OF AMINO-CARBOXYLIC ACIDS AND AMINO-ALCOHOLS

John Hidalgo, Berkeley, Calif., Arthur Rodney Williams, Golden, Colo., and Isaac Frederick Halverstadt, Berkeley, Calif., assignors to Cutter Laboratories, Inc., Berkeley, Calif., a corporation of California

No Drawing. Filed Nov. 28, 1956, Ser. No. 624,717
9 Claims. (Cl. 260—247.2)

3. 1-methyl-2-(4-methylmorpholinio)-ethyl 3-(4-methylmorpholinio)-propionate diiodide.

7. A bisquaternary ammonium compound of the formula



wherein X is a non-toxic, therapeutically useful acid anion, *n* and *m* are each integers from one to six inclusive, one of the groups Q and Q′ is a member of the group consisting of N-lower alkyl-1-pyrrolidinium, N-lower alkyl-1-piperidinium, N-lower alkyl-4-morpholinium, and N-pyridinium and the other is a member of the group consisting of tri-lower-alkylammonium, N-lower alkyl-1-pyrrolidinium, N-lower alkyl-1-piperidinium, N-lower alkyl-4-morpholinium and N-pyridinium, and wherein C_nH_{2n} and C_mH_{2m} each are branched chain alkylenes.

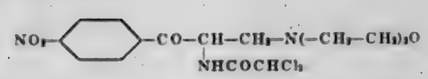
2,980,674

DIAMINONITROPROPIOPHENONES AND PROCESS OF PREPARATION

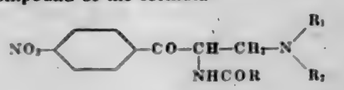
Carlo Giuseppe Alberti and Alberto Vercellone, Milan, Italy, assignors to Società Farmaceutici Italia, a corporation of Italy

No Drawing. Filed Dec. 10, 1957, Ser. No. 701,736
Claims priority, application Italy Apr. 29, 1954
4 Claims. (Cl. 260—247.2)

1. p nitro - α - dichloroacetamino - β - (4 - morpholinyl)-propiophenone



4. A compound of the formula



in which R is a member of the group consisting of lower alkyl and dihalo lower alkyl, and the radical



is taken from the group consisting of di-lower alkyl amine and radicals in which R_1 and R_3 are joined to form, with the attached nitrogen atom, a radical of the group consisting of morpholino and piperidino.

2,980,675

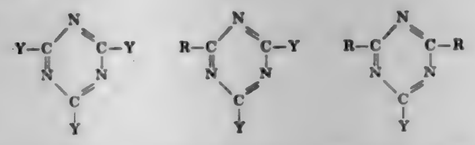
PROCESS FOR THE PRODUCTION OF THIOPHOSPHORIC ESTERS OF SYMMETRICAL TRIAZINES

Werner Schwarze, Frankfurt am Main-Griesheim, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed May 28, 1954, Ser. No. 433,261
Claims priority, application Germany June 2, 1953
6 Claims. (Cl. 260—248)

1. A process for the production of thiophosphoric acid esters of symmetrical triazines consisting in reacting cyanuric chloride with alkali salts of thiophosphoric acid esters in the presence of inert solvents at temperatures between 20 and 150° C.

2. A dialkylthiophosphoric acid ester of a symmetrical triazine having a formula selected from the group consisting of



wherein R is a radical selected from the group consisting of alkyl, phenyl, alkoxy, aroxy and amino radicals and Y is a dialkylthiophosphato radical.

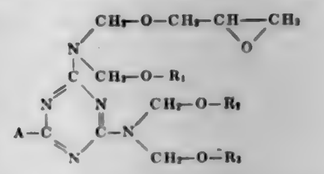
2,980,676

GLYCIDYL ETHERS OF N-METHYLOLAMINO-1:3:5-TRIAZINES

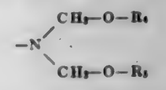
Paul Zuppinger, Arlesheim, and Willy Fisch, Binningen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss firm

No Drawing. Filed July 15, 1958, Ser. No. 748,587
Claims priority, application Switzerland July 24, 1957
4 Claims. (Cl. 260—249.6)

1. Ethers of N-methylolamino-1:3:5-triazines of the formula



in which R_1, R_2 and R_3 are members selected from the class consisting of hydrogen, lower alkyl, lower alkenyl and glycidyl, and A stands for a member selected from the class consisting of alkyl, phenyl and a radical of the formula



in which R_4 and R_5 are members selected from the class consisting of hydrogen, lower alkyl, lower alkenyl and glycidyl.

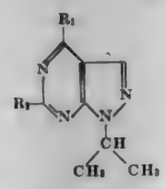
2,980,677

NEW PYRAZOLO-PYRIMIDINES

Jean Druey, Riehen, and Paul Schmidt, Therwil, Basel Land, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

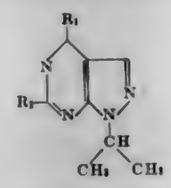
No Drawing. Filed June 20, 1957, Ser. No. 667,042
Claims priority, application Switzerland July 16, 1956
9 Claims. (Cl. 260—256.4)

5. 1-isopropyl-pyrazolo(3,4-d)pyrimidines of the formula



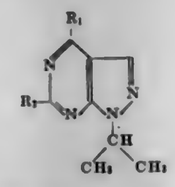
wherein R_1 represents a lower alkoxy group and R_2 represents hydrogen.

6. 1-isopropyl-pyrazolo(3,4-d)pyrimidines of the formula



wherein R_1 represents a lower alkoxy group and R_2 represents halogen.

7. 1-isopropyl-pyrazolo(3,4-d)pyrimidines of the formula



wherein R_1 represents a lower alkoxy group and R_2 represents a lower alkoxy group.

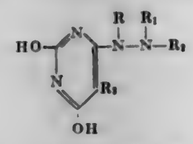
2,980,678

PYRIMIDINES

Bernard William Langley, Alderley Park, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 15, 1958, Ser. No. 780,208
Claims priority, application Great Britain Jan. 6, 1958
7 Claims. (Cl. 260—256.4)

1. 4-hydrazino-2:6-dihydroxypyrimidines of the for-



wherein R and R_1 are selected from the group consisting of hydrogen and methyl; R_2 is selected from the group consisting of hydrogen, phenyl, lower alkyl phenyl and halophenyl and R_3 is selected from the group consisting of hydrogen and methyl.

2,980,679

PROCESS FOR PREPARING HETEROCYCLIC SULFONAMIDES

Gianfranco Pala, Milan, Italy, assignor to Omikron-Gagliardi Societa di Fatto, Milan, Italy, a company of Italy

No Drawing. Filed Mar. 25, 1958, Ser. No. 723,638
Claims priority, application Italy Apr. 4, 1957
7 Claims. (Cl. 260—256.5)

1. In the method of preparing heterocyclic sulphonamides having the general formula:

$$R—SO_2—NH_2$$

wherein R is a heterocyclic nitrogenous monovalent radical selected from the group consisting of

benzothiazole-2-yl
2-acetlyamino-1,3,4-thiadiazole-5-yl
benzimidazole-2-yl
1-phenylimidazole-2-yl
5-acetylamino-pyridine-2-yl
4,6-dimethylpyrimidine-2-yl
pyrido-(2,1,C)-s-triazole-3-yl and
1,2,4-triazole-3-yl

comprising the steps of reacting a halogen selected from the group consisting of chlorine and bromine with an aqueous suspension of a heterocyclic nitrogenous mercapto-compound having the general formula:

$$R—SH$$

wherein R has the same meaning defined above, at a temperature less than about 10° C. and thereafter aminating the resulting sulfonyl halide ($R—SO_2$-halide) to convert same to the corresponding heterocyclic sulphonamide, the improvement which comprises: carrying out the halogenation reaction in the presence of a halogen-carrier catalyst selected from the group consisting of the halides of aluminium, bismuth, trivalent iron, tetravalent tin and zinc for a time sufficient to form the sulphonyl halide corresponding to said heterocyclic nitrogenous mercapto-compound, whereby the halogenation reaction may be carried out in a non-acidic medium.

2,980,680

SEPARATION OF ISOPROPANOLAMINE FROM DIMETHYLPYRAZINES AND DIMETHYLPIPERAZINES

George W. Fowler, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 26, 1956, Ser. No. 624,193
9 Claims. (Cl. 260—268)

9. A method of separating isopropanolamine from a mixture thereof with 2,5-dimethylpiperazine which comprises adding to the mixture a volatile liquid hydrocarbon selected from the group consisting of lower alkyl benzenes and aliphatic hydrocarbons having boiling points between 100° C. and 200° C. at atmospheric pressure, heating the resulting mixture and distilling therefrom an azeotrope consisting predominantly of isopropanolamine and said liquid hydrocarbon.

2,980,681

SALT OF PIPERAZINE AND 2,4,5-TRICHLOROPHENOL

Franklin W. Short and Edward F. Elslager, St. Clair Shores, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Oct. 14, 1957, Ser. No. 689,744
2 Claims. (Cl. 260—268)

1. Piperazine bis(2,4,5-trichlorophenol) salt.

2,980,682

LIQUID PHASE DEHYDRATION OF ISOPROPANOLAMINE

George W. Fowler, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 9, 1958, Ser. No. 707,847
5 Claims. (Cl. 260—268)

5. A process which comprises heating a mixture of chemically condensable starting material consisting essentially wholly of isopropanolamine, and a nickel-containing hydrogenation catalyst in contact with hydrogen in a closed vessel under superatmospheric pressure sufficient to yield a liquid phase at an elevated temperature in excess of 140° C.

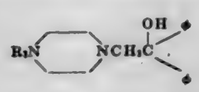
2,980,683

PROCESS FOR PREPARING β-SUBSTITUTED-ETHYL PIPERAZINES

Harold E. Zaugg, Lake Forest, Arthur W. Weston, Lake Bluff, Morris Freifelder, Waukegan, and Raymond J. Michaels, Jr., Mundelein, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 13, 1959, Ser. No. 786,457
7 Claims. (Cl. 260—268)

7. A method for making amino carbinols of the formula:



wherein R_3 is selected from the class consisting of loweralkyl and benzyl which comprises the steps of reacting under reflux conditions an acid ester of the formula:



with an excess of phenylmagnesium chloride in an organic solvent having a boiling point greater than 60° C., adding a salt of an inorganic acid and an ammonium alkali to decompose the Grignard complex in the reaction mixture and separating the amino carbinol product from the organic solvent filtrate.

2,980,684

PROCESS FOR DEHYDROGENATING ALKYL PYRIDINES

Jesse T. Dunn and David T. Manning, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 2, 1958, Ser. No. 738,989
7 Claims. (Cl. 260—290)

1. In a method of dehydrogenating an alkyl pyridine for the preparation of the corresponding alkenyl pyridine, the improvement which comprises passing said alkyl pyridine vapor mixed with steam over a catalyst consisting of calcium oxide activated with from five to fifty-five parts of magnesium oxide based on the total weight of catalyst at a temperature within the range of about 660 to 685° C., the feed rates of said pyridine and steam being approximately 0.33 to 1.0 and 0.67 to 3.0 liquid volumes per volume of catalyst per hour, respectively.

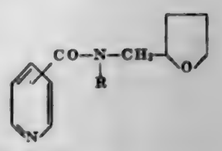
2,980,685

PYRIDINE CARBOXYLIC ACID DERIVATIVES

Jean Druey, Riehen, Hans Isler, Bottmingen, and Karl Schenker, Basel, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

No Drawing. Filed June 16, 1958, Ser. No. 742,021
Claims priority, application Switzerland July 17, 1957
4 Claims. (Cl. 260—295.5)

1. A member selected from the group consisting of pyridine-carboxylic acid tetrahydrofurfurylamides of the formula



in which R stands for a member selected from the group consisting of hydrogen and a lower alkyl radical, and acid addition salts thereof with a member of the group consisting of hydrohalic acids, sulfuric acid, perchloric acid and nitric acid.

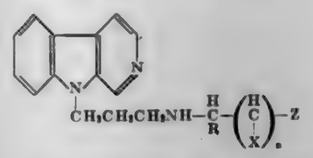
2,980,686

9-(N-SUBSTITUTED-ω-AMINOALKYL)-PYRID[3,4-b]INDOLES AND INTERMEDIATE

Richard A. Robinson, Evanston, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 15, 1959, Ser. No. 806,446
10 Claims. (Cl. 260—296)

10. A compound of the formula



wherein R is selected from the group consisting of hydrogen and methyl, X is a member of the class consisting of hydrogen and hydroxy groups, *n* is selected from the group consisting of 0 and 1, and Z is selected from the group of radicals consisting of monomethoxyphenyl, dimethoxyphenyl, trimethoxyphenyl, monohalophenyl, monoaminophenyl, phenyl, dibenzyloxyphenyl, and dihydroxyphenyl.

2,980,687

THIADIAZOLE-DICARBOXYLATES

Marvin Carmack, 300D Crowells Road, Bloomington, Ind., and Daniel Shew, 184 Newman St., and Leonard M. Weinstock, 1127 E. 1st St., both of Clifton, N.J.

No Drawing. Filed July 23, 1958, Ser. No. 750,419
2 Claims. (Cl. 260—299)

1. The process which comprises treating 4-nitro-2,1,3-benzothiadiazole with an alkali metal permanganate in a reaction medium having an initial pH of at least about 6 thereby producing an alkali metal salt of 1,2,5-thiadiazole-3,4-dicarboxylic acid.

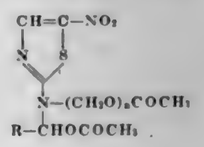
2,980,688

ACETYLATED ALDEHYDE ADDUCTS OF 2-AMINO-5-NITROTHIAZOLE

George Karmas, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey

No Drawing. Filed Dec. 8, 1958, Ser. No. 778,578
6 Claims. (Cl. 260—306.8)

1. A compound having the formula



in which R is a substituent selected from the group consisting of hydrogen, methyl, and ethyl and *n* is a whole number smaller than 2.

2,980,689

2-AMINO-5-CHLORO-6-BROMOBENZOXAZOLE AND PHARMACEUTICALLY ACCEPTABLE SALTS

James N. Plampin, Philadelphia, Pa., assignor to McNeil Laboratories, Incorporated, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 25, 1959, Ser. No. 795,357
3 Claims. (Cl. 260—307)

1. A compound selected from the group consisting of 2-amino-5-chloro-6-bromobenzoxazole and pharmaceutically acceptable acid addition salts thereof.

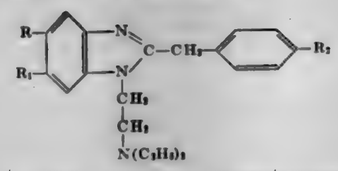
2,980,690

NEW BASICALLY SUBSTITUTED BENZYL-BENZIMIDAZOLES

Karl Hoffmann, Binningen, and Alfred Hunger, Jindrich Kebrle, and Alberto Rossi, Basel, Switzerland, assignors, to Ciba Pharmaceutical Products Inc., Summit, N.J.

No Drawing. Filed Nov. 4, 1959, Ser. No. 850,771
Claims priority, application Switzerland Aug. 30, 1957
9 Claims. (Cl. 260—309.2)

1. Benzimidazoles of the formula



wherein R and R_1 stand for a member selected from the group consisting of hydrogen, chlorine and the methyl group, and R_2 for a member selected from the group consisting of lower alkoxy, lower alkylmercapto, lower alkyl and lower alkanoyl, and their therapeutically useful acid addition salts.

2,980,691

HALOGENATED METAL-PHTHALOCYANINE PRECURSORS

Robert Alan Brooks, Salem, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 20, 1954, Ser. No. 444,660
1 Claim. (Cl. 260—314.5)

The process of producing a metal phthalocyanine precursor containing 6 phthalonitrile units and from 6 to 12 halogen atoms per molecule, which comprises reacting a halogenated phthalonitrile having not more than 2 halogen atoms per molecule with a metal salt of the group consisting of cupric salts and nickel salts, the reaction being effected by heating the two reactants in a water-soluble, inert organic liquid saturated with ammonia, in the presence of oxygen in the gaseous state, in the further presence of a catalyst selected from the group consisting of urea, biuret, guanidine, piperidine, methyl glucamine and triethanolamine, and at a temperature between 45° and 95° C.

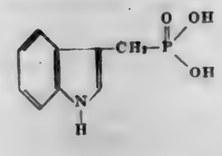
2,980,692

3-INDOLEMETHANEPHOSPHONIC ACID AND ITS SALTS AND PREPARATION THEREOF

Noel F. Albertson, Castleton on Hudson, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 28, 1958, Ser. No. 751,155
8 Claims. (Cl. 260—319)

1. 3-indolemethanephosphonic acid, having the structural formula



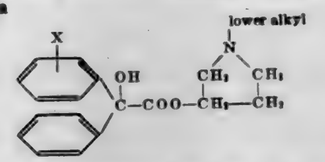
2,980,693

ESTERS OF SUBSTITUTED BENZILIC ACIDS AND METHODS FOR PRODUCING SAME

John Frederick Cavalla, Isleworth, England, assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed May 22, 1959, Ser. No. 814,977
Claims priority, application Great Britain May 28, 1958
5 Claims. (Cl. 260—326.3)

1. A member of the class consisting of compounds of the formula



and non-toxic acid-addition salts thereof, where X is selected from the class consisting of halogen atoms and lower alkyl radicals.

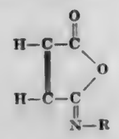
2,980,694

PROCESS FOR THE PREPARATION OF MALEIMIDES

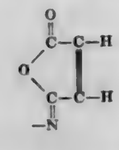
Carol K. Sauers, Middlebush, and Robert J. Cotter, New Brunswick, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 5, 1959, Ser. No. 851,030
8 Claims. (Cl. 260—326.5)

1. Process for the preparation of an N-substituted maleimide which comprises contacting an N-substituted isomaleimide having the formula:



wherein R is selected from the group consisting of a monovalent hydrocarbon radical, and a divalent hydrocarbon radical having as a substituent on its terminal carbon atom a radical having the formula:



with a catalytic amount of an anion of a lower fatty acid for a period of time sufficient to isomerize the said isomaleimide to the corresponding maleimide.

2,980,695

POLYFLUORO-1,3-DITHIETANES AND THEIR PREPARATION

William Joseph Middleton, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 12, 1957, Ser. No. 665,142

3 Claims. (Cl. 260—327)

1. Polyfluoro-1,3-dithietanes selected from the class consisting of tetrafluoro-1,3-dithietane and monochlorotrifluoro-1,3-dithietane.

2,980,696

PHTHALEIN AND FLUORESCEIN DERIVATIVES

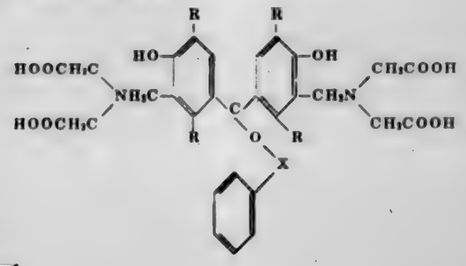
Jiří Körbl, 1327 Zdenka Nejedlého, Lysa nad Labem, Czechoslovakia

No Drawing. Filed Oct. 10, 1957, Ser. No. 689,254

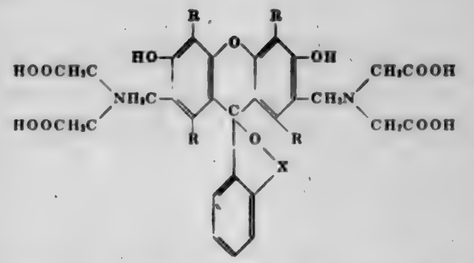
Claims priority, application Czechoslovakia Oct. 16, 1956

7 Claims. (Cl. 260—327)

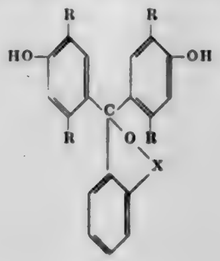
1. A method of producing a compound selected from the group consisting of:



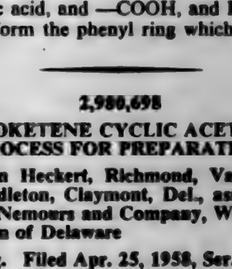
and



wherein R is selected from the group consisting of hydrogen, and methyl, ethyl, isopropyl, chlorine and bromine atoms, and X is selected from the group consisting of CO and SO_2, comprising the steps of heating a substance seelcted from the group consisting of:



and



wherein R and X have the same definitions as above as insoluble reactant with imino diacetic acid as insoluble reactant and with formaldehyde at a temperature of 50–70° C. in a medium of a lower aliphatic monocarboxylic acid in the presence of a salt of one of said acids and a monovalent cation, said monovalent cation being selected from the group consisting of alkali metal and ammonium cations and being present in an amount sufficient to dissolve at least one of said insoluble reactants, thereby forming the corresponding compound; and recovering the thus formed compound.

2,980,697

BENZOTHIOPHENE COMPOUNDS

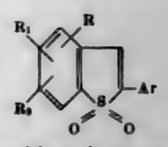
Otto Dann, Meilwaldstr. 11, Rudelsweiher, Erlangen, Germany

No Drawing. Filed Sept. 17, 1957, Ser. No. 684,404

Claims priority, application Germany Sept. 17, 1956

4 Claims. (Cl. 260—330.5)

1. A novel 2-aryl-benzothiophene-1,1-dioxide of the formula



wherein Ar is selected from the group consisting of phenyl, p-chlor-phenyl, and naphthyl, and R, R_1, and R_2 are each selected from the group consisting of H, halogen, lower alkyl, —OH, lower alkoxy, nitro, amino, diacetylamino, sulfonic acid, and —COOH, and R_1 and R_2 taken together may form the phenyl ring which is fused to the benzene ring.

2,980,698

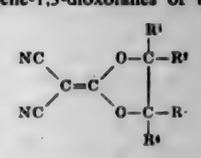
DICYANOKETENE CYCLIC ACETALS AND PROCESS FOR PREPARATION

Richard Edwin Heckert, Richmond, Va., and William Joseph Middleton, Claymont, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 25, 1958, Ser. No. 730,798

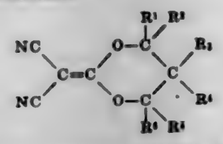
7 Claims. (Cl. 260—340.7)

5. A compound selected from the class consisting of 2-dicyanomethylene-1,3-dioxolanes of the formula



wherein the R's are selected from the class consisting of

hydrogen and lower alkyl, and 2-dicyanomethylene-1,3-dioxanes of the formula



wherein the R's are selected from the class consisting of hydrogen, lower alkyl and R^3 and R^4 taken together represent with the carbon to which they are attached a cyclohexene ring having a double bond in the 3-position.

2,980,699

DIHYDROPYRANOCOUMARIN DERIVATIVES AND PROCESS FOR THEIR PRODUCTION

Eric Smith, Fairlawn, and Norman Hosansky, Newark, N.J., assignors to S. B. Penick and Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 20, 1957, Ser. No. 704,008

11 Claims. (Cl. 260—343.2)

1. The process of preparing a 2',2'-dimethyl-3'-substituted - 4' - lower - alkoxy-dihydropyrano-(7,8:6',5')-coumarin wherein the 3'-position substituent is selected from the group consisting of lower-alkanoyloxy and lower-alkenoyloxy which comprises mixing a 2',2'-dimethyl-3'-substituted-4'-substituted - dihydropyrano-(7,8:6',5')-coumarin wherein the 3'-position and the 4'-position substituents are independently selected from the group consisting of lower-alkanoyloxy and lower-alkenoyloxy with about 1 to 2 moles of an inorganic alkaline hydroxide dissolved in a lower alkanol, maintaining the reaction temperature below 25 degrees centigrade and recovering the said 2',2'-dimethyl-3'-substituted-4'-lower-alkoxy-dihydropyrano-(7,8:6',5')-coumarin thus formed from the reaction mixture.

2,980,700

PROCESS OF GIBBERELLIC ACID PURIFICATION

Gerald W. Probst, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Jan. 21, 1958, Ser. No. 710,179

5 Claims. (Cl. 260—343.3)

1. A process for obtaining a purified alkali metal salt of gibberellic acid, which comprises extracting a filtered gibberellic acid-containing broth with a water-immiscible ketone selected from the group consisting of the water-immiscible aliphatic and alicyclic ketones having from four to eight carbon atoms, adsorbing the gibberellic acid in the ketone extract on solid alkali metal bicarbonate salt, washing occluded impurities from the resulting adsorbate, and recovering the gibberellic acid salt of said alkali metal from the washed adsorbate.

2,980,701

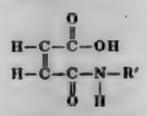
PROCESS FOR THE PREPARATION OF ISOMALEIMIDES

Carol K. Sauers, Middlebush, and Robert J. Cotter, New Brunswick, N.J., assignors to Union Carbide Corporation, a corporation of New York

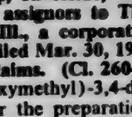
No Drawing. Filed Nov. 5, 1959, Ser. No. 851,028

8 Claims. (Cl. 260—343.6)

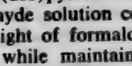
1. Process for the preparation of an N-substituted isomaleimide which comprises reacting an ammonium salt of an N-substituted maleamic acid, said acid having the formula:



wherein R' is a member selected from the group consisting of a monovalent hydrocarbon radical, and a divalent hydrocarbon radical having as a substituent on its terminal carbon atom a radical having the formula:



with an acid halide having the formula:



wherein R^2 is a hydrocarbon radical, Z is a member selected from the group consisting of a carbon atom and a sulfur atom, and X is a halogen atom, for a period of time sufficient to produce the corresponding isomaleimide.

2,980,702

HEAT RESISTANT DERIVATIVES OF L-ASCORBIC ACID

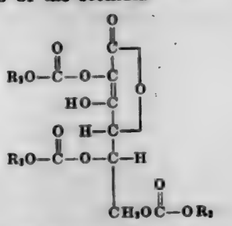
Jan Thesing and Roland Helger, Darmstadt, Germany, assignors to E. Merck Aktiengesellschaft, Darmstadt, Germany, a corporation of Germany

No Drawing. Filed Nov. 5, 1959, Ser. No. 850,986

Claims priority, application Germany Nov. 15, 1958

2 Claims. (Cl. 260—343.7)

1. Compounds of the formula



wherein R is an alkyl radical having from 1 to 3 carbon atoms.

2,980,703

2,2-BIS - (HYDROXYMETHYL) - 3,4 - DIHYDROPYRAN AND DERIVATIVES THEREOF AND PROCESSES FOR THEIR PREPARATION

Andrew P. Dunlop, Riverside, and Daniel S. P. Eftax, Barrington, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Mar. 30, 1959, Ser. No. 802,652

8 Claims. (Cl. 260—345.9)

1. 2,2-bis(hydroxymethyl)-3,4-dihydropyran.

4. A process for the preparation of 2,2-bis(hydroxymethyl)-3,4 - dihydropyran which comprises adding 2-formyl-3,4-dihydro(2H)pyran to a mixture comprising an aqueous formaldehyde solution containing about 5% to about 40% by weight of formaldehyde and an alkaline condensing agent while maintaining said mixture at a temperature ranging between about 10° C. and about 60° C., the molar ratio of formaldehyde to 2-formyl-3,4-dihydro-(2H)-pyran being at least about 2:1 and the amount of said condensing agent being sufficient to provide at least about one equivalent weight of alkaline agent per mole of 2-formyl-3,4-dihydro(2H)pyran; concentrating the basic reaction mixture; diluting the concentrate thus obtained with a saturated low-boiling aliphatic alcohol; separating the resulting solid phase from the liquid phase; and recovering the desired product from said liquid phase by fractional distillation.

5. 2,2-bis(hydroxymethyl)tetrahydropyran.

2,980,704

NITRATE AND IODIDE ESTERS OF 5-NITRO-2-FURFURYL ALCOHOL AND PREPARATION OF THE IODIDE

Gabriel Gever, Oxford, N.Y., assignor to The Norwich Pharmacal Company, Norwich, N.Y., a corporation of New York

No Drawing. Filed June 30, 1958, Ser. No. 745,247
2 Claims. (Cl. 260—346.1)

1. The chemical compound 5-nitro-2-furfuryl nitrate.

2,980,705

2,7-DIISOCYANATODIBENZOFURAN AND METHOD OF MAKING IT

John J. Jaruzelski, Pittsburgh, and Wayne E. Smith, Jr., Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Mar. 18, 1960, Ser. No. 15,804
1 Claim. (Cl. 260—346.2)

As a new manufacture, the chemical compound 2,7-diisocyanatodibenzofuran having the formula:



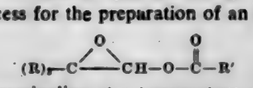
2,980,706

EPOXY ESTERS AND PREPARATION THEREOF

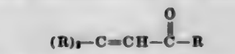
George B. Payne, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Mar. 3, 1958, Ser. No. 718,440
6 Claims. (Cl. 260—348)

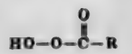
1. The process for the preparation of an epoxyester



comprising commingling at a temperature of from about 0° C. to room temperature and thereby effecting reaction between, a ketone represented by the formula

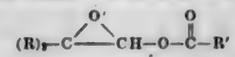


wherein each R is an alkyl group of from one to five carbon atoms, and an organic peracid represented by the formula



wherein R′ is an alkyl group of from one to ten carbon atoms.

3. An oxirane compound represented by the formula



wherein each of R represents an alkyl group of from 1 to 5 carbon atoms, and R′ represents an alkyl group of from 1 to 10 carbon atoms.

2,980,707

2,3,4,5-DIEPOXY COMPOUNDS

Paul H. Williams, Orinda, and William J. Sullivan, Oakland, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed June 2, 1958, Ser. No. 738,949
7 Claims. (Cl. 260—348)

1. The diepoxy compound comprising an alkane chain having up to 12 carbon atoms, having two vicinal epoxy groups disposed on said chain, one of said epoxy groups including the alpha and beta carbon atoms and the other epoxy group including the gamma and delta carbon atoms, and having attached to the alpha carbon atom of the chain a monovalent radical selected from the group consisting of the —CN,



phenyl and p-nitrophenyl radicals, wherein R is an alkyl radical having up to 8 carbon atoms.

2,980,708

EPOXY NITRILE PROCESS

George B. Payne, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed June 25, 1959, Ser. No. 822,717
6 Claims. (Cl. 260—348)

3. The process for preparing a vic-epoxyalkyl nitrile, while comprises reacting an unsubstituted vic-epoxyalkyl aldoxime of up to 8 carbon atoms with a lower alkyl acidic reagent selected from the group consisting of carboxylic acids and anhydrides thereof to form the alkyl ester of the aldoxime, and pyrolyzing the oxime ester at a temperature from about 100° C. to about 200° C. to produce the vic-epoxyalkyl nitrile.

2,980,709

PREPARATION OF GREY TO BLACK DYESTUFFS

David I. Randall, New Vernon, and John Taras, Alpha, N.J., and Tellis A. Martin, Evansville, Ind., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1956, Ser. No. 612,376
3 Claims. (Cl. 260—354)

1. Process for the preparation of grey to black vat dyestuffs, which comprises heating a mixture of an aminodibenzanthrone, selected from the group consisting of monoaminodibenzanthrone and diaminodibenzanthrone, sodium nitrite, soda ash, copper and iodine in a solvent medium at a temperature above about 200° C., and separating the dyestuff formed from the reaction mixture.

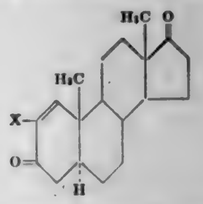
2,980,710

2-HALOANDROST-1-ENE-3,17-DIONES

Raymond E. Counsell and Paul D. Klimstra, Skokie, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 1, 1960, Ser. No. 40,194
4 Claims. (Cl. 260—397.3)

1. A compound of the structural formula



wherein X is a halogen atom of atomic weight less than 100.

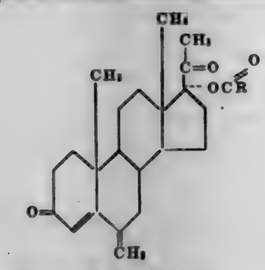
2,980,711

6-METHYLENE-STEROIDS AND PROCESS

Frank B. Colton, Chicago, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 28, 1960, Ser. No. 25,230
3 Claims. (Cl. 260—397.4)

1. A compound of the structural formula



wherein R is a lower alkyl radical.

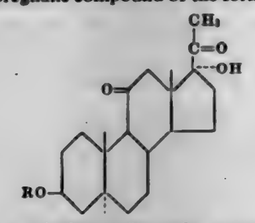
2,980,712

ALLOPREGNANE-3β,17α-DIOL-11,20-DIONE AND THE PREPARATION THEREOF

Earl M. Chamberlin, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 1, 1954, Ser. No. 440,851
15 Claims. (Cl. 260—397.45)

1. An allopregnane compound of the formula



wherein R is a substituent from the group consisting of hydrogen and lower fatty acid radicals.

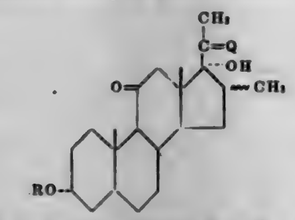
2,980,713

16-METHYL-3α,17α-DIHYDROXY STEROIDS OF THE PREGNANE SERIES

John M. Chemerda, Metuchen, Edward W. Tristram, Cranford, David F. Hinkley, Plainfield, and Jan Ten Broeke, Watchung, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 5, 1958, Ser. No. 759,127
11 Claims. (Cl. 260—397.45)

1. Compounds having the general formula



wherein R is a member selected from the group consisting of hydrogen and an acyl radical of a lower aliphatic carboxylic acid and Q is a divalent radical of a nitrogenous ketone reagent.

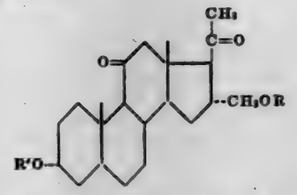
2,980,714

20-KETO-16α-LOWER-ALKOXYMETHYLATED STEROIDS AND PROCESS FOR THEIR PREPARATION

Georges Muller, Nogent-sur-Marne, and Milutin Stefanovic, Paris, France, assignors to Les Laboratoires Français de Chimiotherapie, Paris, France, a corporation of France

No Drawing. Filed Dec. 10, 1959, Ser. No. 858,589
Claims priority, application France May 22, 1959
12 Claims. (Cl. 260—397.45)

1. 20-keto-16α-alkoxymethylated steroids having the structural formula:



wherein R represents a lower alkyl radical and R′ represents a member selected from the group consisting of hydrogen, lower alkanoyl and monocyclic hydrocarbon aroyl radicals.

2,980,715

PRODUCTION OF HYDROXYLATED HIGHER FATTY ACID ESTERS

Edward H. Sheers, Kew Gardens Hills, N.Y., and Ralph J. Chamberlain, Glenbrook, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Feb. 18, 1959, Ser. No. 793,976
7 Claims. (Cl. 260—406)

1. A method of producing a hydroxylated higher fatty acid ester which comprises reacting a neutral ester of an unsaturated higher fatty acid with diborane and thereby forming a borane complex and hydrolyzing said complex by adding an aqueous alkali thereto and oxidizing said complex by bringing it into contact with a mild oxidant at a temperature below about 100° C.

2,980,716

METHOD FOR PREPARING 6,8-DIHALO-OCTANOIC ESTERS

Lester J. Reed, Austin, Tex., assignor to Research Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 11, 1954, Ser. No. 436,255
2 Claims. (Cl. 260—408)

1. The method which comprises treating with an alkali metal borohydride an ester of the group consisting of 8-chloro-6-oxooctanoic lower alkyl esters, 8-bromo-6-oxooctanoic lower alkyl esters and 6-oxo-7-octenoic lower alkyl esters to reduce the 6-oxo group to hydroxyl, and treating the 6-hydroxyl compound thereby produced with a halogenating agent selected from the group consisting of inorganic acyl chlorides and bromides to replace the 6-hydroxyl with a halogen selected from the group consisting of chlorine and bromine.

2,980,717

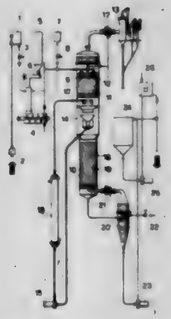
CONTINUOUS PURIFICATION AND DECOLORIZING OF OILS

Renato Raffaeta, Via Marco Polo 5, Milan, Italy

Filed Feb. 6, 1957, Ser. No. 638,609
Claims priority, application Italy Feb. 16, 1956
5 Claims. (Cl. 260—428)

1. The method of purifying crude stocks, said stocks being selected from the group consisting of edible fats and oils, which comprises the steps of: subjecting a fluid mixture of the crude stock and a bleaching adsorbent to a sudden rise in temperature by bringing said mixture,

while falling in subdivided state, into commingling contact with a separate hot mixture of said crude stock and a bleaching adsorbent, said separate hot mixture being heated to a temperature which is insufficient to cause polymerization of the fat content of the crude stock,



the commingling being made at sub-atmospheric pressure and a temperature of about 140–220° C., allowing the commingled materials to continue to fall, and moving a rising stream of superheated steam in countercurrent contact with said falling commingled materials.

2,980,718
METHOD OF DEGUMMING SOYBEAN OIL
George C. Cavanagh and Robert S. Bean, Fresno, Calif., assignors to Ranchers Cotton Oil, Fresno, Calif.
No Drawing. Filed Mar. 25, 1958, Ser. No. 723,635
4 Claims. (Cl. 260—428.5)

1. In a method of treating a miscella of soybean oil and a solvent to remove gum and the like substances from the oil so as to obtain a substantially degummed oil, said miscella including at least about sixty-five percent by weight of soybean oil and a suitable solvent therefor, the steps of heating the miscella to a temperature of at least about one hundred and thirty degrees Fahrenheit; adding from one and one-half to two and one-half percent by weight of the oil each of water and alcohol to the miscella, the alcohol being selected from the group consisting of ethyl, methyl and isopropyl alcohol; vigorously mixing the miscella, water and alcohol to develop a curdy break; adding water from approximately one to two percent by weight of the oil to the miscella, water and alcohol mixture subsequent to said mixing; again mixing the miscella, water and alcohol mixture to form a break-free degummed oil; and separating the water, alcohol, gums and solvent from the degummed oil, all of said steps being performed in the absence of alkali metal hydroxides and their metallic ions, and exposure of the oil and the miscella to air and light prior to degumming being limited so as not to exceed six hours for either.

2,980,719
REACTION OF TITANIUM ESTERS WITH ACID ANHYDRIDES
John H. Haslam, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 13, 1957, Ser. No. 665,608
15 Claims. (Cl. 260—429.5)

1. A process for the preparation of a polymeric titanium compound which comprises reacting an organic titanium ester selected from the group consisting of organic esters of ortho-titanic acid having the formula $Ti(OR)_4$, in which R is an organic radical selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, and alkylene and polymeric titanium esters having the nucleus of



in which the remaining valeneces are satisfied by radicals selected from the group consisting of alkoxy, cycloalkoxy, aroxy, alkaroxy, aralkoxy, and alkenoxy with an organic acid anhydride selected from the group consisting of anhydrides of monocarboxylic acids and dicarboxylic acids, said anhydride containing the carboxylic function as the only function reactive with said organic titanium ester.

11. As a new polymeric titanium compound the compound containing repeating



groups having the following chemical groups connected to the titanium atom: 0.05 to 2 ester-acylate groups per titanium atom, said ester-acylate groups being connected to the titanium atom only through the acylate group and derived from the group consisting of mono-alkyl, monocycloalkyl, mono-aryl, mono-alkaryl, mono-arakyl, and mono-alkylene ester of a dicarboxylic acid, and the remainder being oxy radicals selected from the group consisting of hydroxy, alkoxy, cycloalkoxy, aroxy, alkaroxy, aralkoxy, and alkenoxy.

2,980,720
PURIFICATION PROCESS FOR OBTAINING DIBASIC ACIDS FREE OF METAL IMPURITIES
George P. Brown, Jr., West Deer Township, Allegheny County, and Norman W. Franke, Penn Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Sept. 4, 1957, Ser. No. 681,888
4 Claims. (Cl. 260—452)

1. A method for obtaining dibasic acids free of metal impurities which comprises oxidizing a hydrocarbon with nitric acid in a metal container wherein said metal is selected from at least one of the group consisting of iron, chromium, nickel, aluminum and molybdenum to obtain a product containing dibasic acids having from 3 to 12 carbon atoms, unreacted nitric acid and an impurity comprised of at least one of said metals, distilling said product to remove all of said unreacted nitric acid therefrom, dissolving the remainder of said product containing said dibasic acids and said metal impurity in acetone under pressure and temperature conditions such as to maintain the acetone in liquid phase, filtering said solution, thereby separating said metal impurity from said solution, and thereafter recovering a filtrate containing the purified dibasic acids.

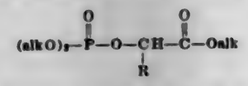
2,980,721
VINYLBENZYL DIALKYL PHOSPHONATES AND PREPARATION THEREOF
Elmer L. McMaster and William K. Giesner, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 12, 1958, Ser. No. 779,868
4 Claims. (Cl. 260—461)

1. A vinylbenzyl dialkyl phosphonate wherein each alkyl group contains up to 8 carbon atoms.

3. A process for making a vinylbenzyl dialkyl phosphonate by heating proportions between 1 and 5 moles of a trialkyl phosphite and 1 mole of vinylbenzyl chloride at a temperature between about 75° and about 115° C., wherein each alkyl group contains up to 8 carbon atoms.

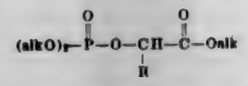
2,980,722
CARBOXY PHOSPHATES
Gail H. Birum and James L. Dever, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 8, 1959, Ser. No. 811,791
6 Claims. (Cl. 260—461)

1. A carboxy phosphate of the formula

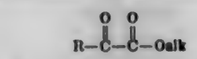


in which alk denotes an alkyl radical of from 1 to 8 carbon atoms and R is an alkyl radical of from 1 to 4 carbon atoms.

4. The method of preparing a carboxy phosphate of the formula



wherein alk denotes an alkyl radical of 1 to 8 carbon atoms and R is an alkyl radical of 1 to 4 carbon atoms which comprises heating, at a temperature of over 100° C. and below 200° C., a dialkyl phosphonate having from 1 to 8 carbon atoms in each alkyl radical with an alkyl 2-oxoalkanoate of the formula



wherein R and alk are as herein defined.

2,980,723
PROCESS FOR REDUCING OBJECTIONABLE ODOR OF PHOSPHORODITHIOATE COMPOUNDS
Simon Frank, Stamford, and George N. Gagliardi, Springdale, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 16, 1959, Ser. No. 820,591
7 Claims. (Cl. 260—461)

1. A process for reducing the objectionable odor of a malodorous phosphorodithioate compound which comprises subjecting said compound to the action of ozone in an amount from about 0.1 percent to about 3.5 percent by weight of said compound.

2,980,724
PREPARATION OF DIALKYL PHOSPHORIC ACIDS
James P. Hawk, Edmund B. Towne, and Joseph B. Dickey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed July 24, 1959, Ser. No. 829,192
8 Claims. (Cl. 260—461)

1. The process for preparing a dialkyl phosphoric acid which comprises reacting a dialkyl hydrogen phosphite having alkyl radicals containing 1 to 10 carbon atoms with a percarboxylic acid at a temperature in the range of 40° to 100° C.

2,980,725
PROCESS FOR THE PREPARATION OF NITRILES FROM ALCOHOLS AND PHENOLS
William L. Fierce, Crystal Lake, and Walter J. Sundner, Carpentersville, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed June 17, 1958, Ser. No. 742,504
9 Claims. (Cl. 260—465)

1. A method of preparing hydrocarbyl nitriles which comprises reacting cyanogen with a compound of the group consisting of low-molecular-weight, hydrocarbyl mono-hydric alcohols and phenols at a temperature in the range from about 300° to 700° C., in the presence of a high-surface-area, refractory catalyst, and recovering a hydrocarbyl nitrile in which the hydrocarbyl radical is derived from the alcohol or phenol reactant.

2,980,726
ACRYLONITRILE EXTRACTION PROCESS
William G. Johnson, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 29, 1958, Ser. No. 783,453
3 Claims. (Cl. 260—465.9)

1. A process for the elimination of substantially all the nitrogen and a substantial proportion of the propane content from an acrylonitrile reactor product gas consisting essentially of propane, propylene, acrylonitrile, and nitrogen which comprises introducing said propane-propylene-acrylonitrile-nitrogen stream near the bottom of a rectification tower maintained under superatmospheric pressure, introducing benzonitrile near the top of said tower, permitting the benzonitrile to contact the propane-propylene-acrylonitrile-nitrogen stream in countercurrent relationship, removing a gaseous fraction containing substantially all of the nitrogen and enriched in propane, and removing a liquid fraction comprising benzonitrile containing dissolved therein essentially all of the acrylonitrile, the propylene, and the remaining propane.

2,980,727
ACRYLONITRILE EXTRACTION PROCESS
William G. Johnson, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 22, 1959, Ser. No. 788,381
3 Claims. (Cl. 260—465.9)

1. A process for elimination of substantially all the nitrogen and a substantial proportion of the propane content from an acrylonitrile reactor product gas consisting essentially of propane, propylene, acrylonitrile, and nitrogen which comprises introducing said propane-propylene-acrylonitrile-nitrogen stream near the bottom of a rectification tower maintained under superatmospheric pressure, introducing liquid acrylonitrile near the top of said tower, permitting the liquid acrylonitrile to contact the propane-propylene-acrylonitrile-nitrogen stream in countercurrent relationship, removing a gaseous fraction containing substantially all of the nitrogen and enriched in propane, and removing a liquid fraction comprising acrylonitrile containing dissolved therein the propylene and the remaining propane.

2,980,728
N-(ALKYL, ARYL AND HETEROCYCLIC)β-(CARBOALKOXY AND CARBOARYLOXY) ALKANOYL AMIDES
Carl J. Buck, Fresh Meadows, and Barry M. Bloom, Kew Gardens, N.Y., assignors to Chas. Pfizer & Co., Inc., Brooklyn, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 4, 1959, Ser. No. 831,467
7 Claims. (Cl. 260—471)

1. A compound selected from the group consisting of compounds of the formula:

$$ROCONHNHCH(R_3)CH_2CONR_1R_2$$

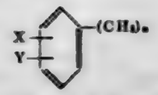
wherein:

R is selected from the group consisting of lower alkyl, phenyl and phenylalkyl in which the alkyl group contains up to 4 carbon atoms;

R_1 is selected from the group consisting of hydrogen and lower alkyl;

R_2 is selected from the group consisting of alkyl and alkenyl containing up to 5 carbon atoms; cycloalkyl containing 3 to 6 carbon atoms, pyridyl, pyridylalkyl, furylalkyl and thienylalkyl in which the alkyl group is lower alkyl, and ring-substituted derivatives thereof in

which each ring-substituent is lower alkyl; aryl and aralkyl of the formula:



wherein X is selected from the group consisting of hydrogen, lower alkyl and halogen; Y is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, halogen, trifluoromethyl, cyano and alkanoyl containing 2 to 4 carbon atoms; and *n* is an integer from 0 to 4; and R_3 is selected from the group consisting of hydrogen and alkyl containing up to 3 carbon atoms; and the acid addition salts thereof.

2. The compound of the formula:

$$ROCONHNHCH_2CH_2CONHR_3$$

in which R and R_3 are each phenylalkyl in which the alkyl group contains up to 4 carbon atoms.

2,980,729

PROCESS OF PRODUCING ESTERS OF METHYLENE BIS-THIOGLYCOLIC ACID

Raymond Buret, Villiers-sur-Marne, France, assignor to UCLAF, Paris, France, a corporation of France

No Drawing. Filed July 23, 1958, Ser. No. 750,302
Claims priority, application France Aug. 2, 1957
2 Claims. (Cl. 260—481)

2. In the process of preparing esters of methylene bis-thioglycolic acid, the steps which comprise heating an aqueous solution of the sodium salt of monochloro acetic acid with sodium thiosulfate at a temperature of about 80° C. for 30 minutes, heating the resulting reaction product with formaldehyde in aqueous solution at a temperature of about 80° C. in the presence of sulfuric acid for about 30 minutes, refluxing the reaction mixture for about 10 minutes, and heating the resulting methylene bis-thioglycolic acid with an alkanol with 4 to 8 carbon atoms with the addition of an inert solvent forming an azeotropic mixture with water to cause esterification of the acid.

2,980,730

PRODUCTION OF ETHYL ACRYLATE

Kenneth Rowland Dobson, Hull, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

Filed Sept. 12, 1958, Ser. No. 760,783
Claims priority, application Great Britain Sept. 20, 1957
2 Claims. (Cl. 260—486)

1. A process of producing ethyl acrylate which comprises heating at a temperature from 100–200° C. in the presence of an acidic dehydration catalyst having a dissociation constant substantially in the range of dissociation constants of sulphuric acid, phosphoric acid and p-toluene sulphonic acid, a mixture consisting of 72–75% by weight of ethyl 3-ethoxypropionate, 14–17% by weight of ethyl alcohol, and from 13–16% by weight, based on the weight of ethyl 3-ethoxypropionate present in the mixture, of water, and removing the ethyl acrylate produced in the form of volatile azeotropes with ethyl alcohol and with water.

2,980,731

PROCESS FOR CONTACTING SOLID AND LIQUID PHASES

Louis Alheritiere and Jules Mercier, Melle, France, assignors to Les Usines de Melle (Societe Anonyme), Deux-Sevres, France, a corporation of France

Filed Mar. 10, 1958, Ser. No. 720,358
Claims priority, application France Mar. 21, 1957
9 Claims. (Cl. 260—488)

1. A process for carrying out a liquid phase reaction in the presence of a solid catalyst, which comprises providing a cone shaped bed of solid catalyst in an inverted conical zone, feeding a liquid reactant at a temperature sufficient to produce gas in said bed, at the inverted apex of the conical zone beneath the catalyst bed and passing it through the bed at a linear speed greater than the



speed of fall of the solid catalyst particles of said bed in the liquid and which near the top of the bed becomes lower than said speed of fall of the solid catalyst particles, thereby to suspend the catalyst particles in the liquid while avoiding loss by entrainment of catalyst in liquid at the top of said catalyst bed.

2,980,732

PRODUCTION OF TRICHLOROBENZOIC ACID

Theodore A. Girard, Wayne Township, Eugene P. Di Bella, Garfield, and Henri Sidi, Rutherford, N.J., assignors to Heyden Newport Chemical Corporation, a corporation of Delaware

No Drawing. Filed Oct. 15, 1956, Ser. No. 615,778
10 Claims. (Cl. 260—523)

4. In a method of producing trichlorobenzoic acid, the steps comprising esterifying trichlorobenzyl chloride with sodium acetate to form trichlorobenzyl trichlorobenzyl acetate, and oxidizing the trichlorobenzyl acetate to form trichlorobenzoic acid.

2,980,733

COORDINATION COMPLEXES OF UREA AND BORON TRIFLUORIDE AND METHODS OF PRODUCING THE SAME

Frank J. Sowa, Cranford, N.J.
(305 E. 46th St., New York, N.Y.)

No Drawing. Filed July 12, 1954, Ser. No. 442,911
9 Claims. (Cl. 260—555)

1. A water soluble compound having a melting point of 96° to 98° C. and consisting of four molecules of urea combined with one molecule of boron trifluoride.

2,980,734

THIOPSEUDOUREA DERIVATIVES

Milton Kosmin, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 10, 1959, Ser. No. 798,320
4 Claims. (Cl. 260—564)

1. A 2-[2-(alkylmercapto)ethyl]-2-thiopseudourea hydrochloride in which the alkyl radical has from 8 to 18 carbon atoms.

2,980,735

PREPARATION OF AROMATIC AMINES

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 4, 1959, Ser. No. 810,553
19 Claims. (Cl. 260—578)

1. A process which comprises reacting alkylcyclopentene hydrocarbon with ammonia in the presence of an acid-acting adsorptive support having deposited thereon a component selected from the group consisting of the metals of group VIII of the periodic table and the oxides of the metals of sub-groups V, VI, and VII of the periodic table, and recovering the resulting aromatic amine.

2,980,736

PREPARATION OF DICHLOROACETALDEHYDE, CHLORAL AND CHLORAL HYDRATE FROM BETA, BETA'-DICHLORODIETHYL ETHER

Robert M. Thomas, Tonawanda, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed June 2, 1958, Ser. No. 738,963
8 Claims. (Cl. 260—601)

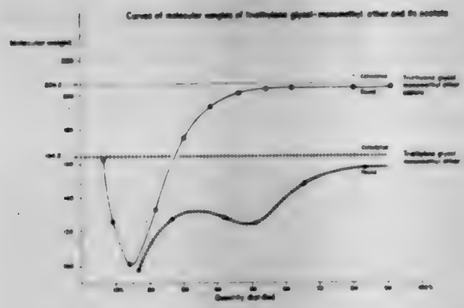
1. A method of producing at least one of the materials selected from the group consisting of dichloroacetaldehyde, chloral and chloral hydrate which comprises reacting beta, beta'-dichlorodiethyl ether with chlorine in a molar ratio within the range from about 1:1 to 1:3 and at a temperature of from 20° C. to 100° C. in the presence of actinic light under anhydrous conditions to produce an intermediate reaction product containing at least about 39 mole percent of alpha, alpha', beta, beta'-tetrachlorodiethyl ether and reacting the intermediate reaction product with chlorine in a molar ratio of 1:2.9 to 1:6 and with water in a molar ratio of 1:2 to 1:4 and at a temperature of from 75° C. to 90° C.

2,980,737

PROCESS FOR OBTAINING PURE POLYALKYLENE GLYCOL ETHERS

Ulrich Geyer, Binningen, Max Spillmann, Therwil, Arnold Stalder, Basel, and Eugen Tagmann, Therwil, Switzerland, assignors to Ciba Pharmaceutical Products Inc., Summit, N.J.

Filed July 5, 1957, Ser. No. 670,182
Claims priority, application Switzerland July 4, 1956
4 Claims. (Cl. 260—616)



1. A process for obtaining individual polyethylene glycol mono-lower alkyl ethers which comprises esterifying a mixture of polyethylene glycol mono-lower alkyl ethers with acetic acid, subjecting the resulting mixture of esters to fractional distillatiion to separate the individual esters and deacetylating the separated individual esters by hydrolysis.

2,980,738

PROCESS FOR PREPARING HYDRATES OF ALIPHATIC FLUOROOXOCARBONYL COMPOUNDS

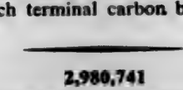
Richard M. Scribner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 23, 1959, Ser. No. 841,692
9 Claims. (Cl. 260—633)

1. The process for preparing hydrates of aliphatic fluorooxocarbonyl compounds which comprises reacting a fluoroalcohol from the group consisting of

$$X(CF_2)_mCH_2OH$$

and



wherein X is selected from the group consisting of hydrogen and halogen of atomic number less than 36 and *m* and *n* are integers of from 1 to 20, with a member of the group consisting of nitrogen dioxide and a mixture of nitric oxide and oxygen at a temperature in the range between 100° and 500° C.

2,980,739

PREPARATION OF FLUOROCARBONS

Mark Wendell Farlow, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 6, 1958, Ser. No. 765,331
20 Claims. (Cl. 260—653.3)

1. A process for the preparation of fluorine-containing carbon compounds which comprises heating to a temperature of at least 1500° C. a mixture of (*a*) a fluoride of a non-metallic element of groups IV to VII of the periodic table, having an atomic number from 6 to 53 inclusive, and (*b*) a compound of the class consisting of carbon-nitrogen compounds and carbon-nitrogen-hydrogen compounds, said compound boiling below 300° C. at atmospheric pressure, said carbon and nitrogen, or carbon, nitrogen and hydrogen, being the only elements in said compounds, and cooling the gaseous reaction product to a temperature below 500° C. in less than one second.

2,980,740

α,α,ω-TRIHYDROPERFLUOROALKANES

William R. Hasek and Alfred C. Haven, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 19, 1958, Ser. No. 743,012
8 Claims. (Cl. 260—653.8)

1. The process which comprises reacting an alcohol of the formula $H(CF_2)_nCH_2OH$, wherein *n* is a positive integer with a value of between 1 and 24, with a sulfur tetrafluoride and thereby preparing a polyfluoroalkane.

5. A polyfluoroalkane consisting solely of between 3 and 25 carbons, fluorine, and three hydrogens, said hydrogens being bonded to the terminal carbons of the polyfluoroalkane, each terminal carbon bearing at least one hydrogen.

2,980,741

DI-VALENT NICKEL ACETYLENE REACTIONS

Harold H. Zeiss and Minoru Tsutsui, Dayton, Ohio, assignors to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 8, 1959, Ser. No. 825,673
21 Claims. (Cl. 260—668)

7. The process of preparing hexaphenyl benzene and tetraphenyldihydrobenzene which comprises contacting diphenylacetylene with diethylnickel in tetrahydrofuran to effect condensation to hexaphenylbenzene and tetraphenyldihydrobenzene.

17. As a compound, 1,2,3,4-tetraphenyl-1,3-cyclohexadiene.

2,980,742
PROCESS FOR THE PURIFICATION OF 2,4-DIKETONE CHELATING AGENT-CONTAMINATED POLYMERIZATION HYDROCARBON DILUENTS
James Francis Ross, Baton Rouge, La., Bruce Robert Tegge, Madison, N.J., and Leon Clifford Kenyon, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Nov. 10, 1958, Ser. No. 773,075
6 Claims. (Cl. 260—674)



1. A process for purifying 2,4-diketone chelating agent-contaminated, substantially alcohole free hydrocarbon diluent selected from the group consisting of aliphatic hydrocarbons and single ring aromatic hydrocarbons from a diluent-alkanol rectifier used to rectify liquid separated from a low pressure catalytic olefin polymerization reaction mixture comprising the steps of washing said contaminated hydrocarbon diluent with aqueous alkali, separating said washed diluent from said aqueous alkali, washing said separated diluent with water, separating the water washed diluent, passing the separated diluent into an azeotropic drying tower, and separating a substantially pure hydrocarbon diluent therefrom.

2,980,743
TREATMENT OF GASES
Robert W. Toft, Orange, N.J., assignor, by mesne assignments, to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Mar. 19, 1958, Ser. No. 722,392
10 Claims. (Cl. 260—677)

1. A process for removing carbon monoxide from a mixture thereof with ethylene and oxygen, which comprises passing the mixture over a rhodium-containing catalyst at a temperature in the range of about 25 to 150° C.

2,980,744
PREPARATION OF VISCOUS POLYMERS
Sterling E. Voltz, Brookhaven, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Dec. 18, 1959, Ser. No. 860,343
7 Claims. (Cl. 260—683.15)

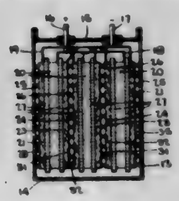
1. Polymerization method for forming viscous polymers which comprises contacting, under polymerizing conditions including a temperature in the range of 0–150° C. and in an inert hydrocarbon liquid medium, an alpha monoolefin having the formula

$$R-\overset{H}{\underset{}{C}}=\overset{H}{\underset{}{C}}H$$

wherein R is an alkyl radical having 1–8 carbon atoms, with a catalyst system composed of a copper halide distended on porous alumina in combination with an alkyl aluminum dihalide, the molar ratio of the alkyl aluminum dihalide to the copper halide being in the range of 0.1 to 10.

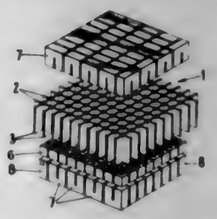
ELECTRICAL

2,980,745
COUNTERELECTROMOTIVE-FORCE CELL
Freimut Peters, Hagen, Westphalia, Germany, assignor to Accumulatoren-Fabrik A.G., Hagen, Westphalia, Germany, a corporation of Germany
Filed May 2, 1958, Ser. No. 732,512
8 Claims. (Cl. 136—1)



1. A hermetically sealed, electrolytic counter cell, comprising, in combination, a housing; means for hermetically sealing said housing; two metal electrodes of potentially different polarity and substantially free of active material located in said housing; separator means between and in contact with adjacent surface portions of said electrodes of potentially different polarity, at least one of said electrodes having free surface portions partially defining a gas space within said housing; an electrolyte capillarily fixed in said separator means and forming a thin film on said free surface portion of said electrode; and a gas atmosphere in said housing consisting at least primarily of oxygen at the time the cell is hermetically sealed, whereby gases evolved during operation of said counter cell will reach said gas space and will be consumed in contact with said electrolyte film-covered surface portion of said electrode.

2,980,746
MANUFACTURE OF THERMOELECTRIC DEVICES
Roy Claydon, Finchley, London, England, assignor to The General Electric Company Limited, London, England
Filed Feb. 18, 1959, Ser. No. 794,047
Claims priority, application Great Britain Feb. 20, 1958
5 Claims. (Cl. 136—4)



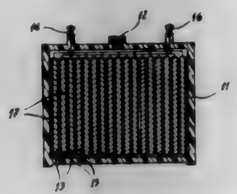
1. A method of manufacturing a thermoelectric device, said method comprising assembling a plurality of thermoelectric elements to form a rectangular array of alternately disposed dissimilar elements, the elements being assembled in a jig, said jig comprising a plurality of intersecting strips forming a rectangular array of cells open at their tops and bottoms, placing in contact with said elements so as to connect the elements in series a plurality of U-shaped rigid metallic bridging members whose ends are fitted into adjacent cells to bridge adjacent elements with the intermediate portions thereof bridging the strips supporting said adjacent cells, disposing said members alternately on opposite sides of the array, coating contacting surfaces of the elements and the members with soldering material, and then heating the assembly to solder the members to the elements.

2,980,747
SEALED NICKEL CADMIUM CELL
John L. S. Daley, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 10, 1959, Ser. No. 832,556
5 Claims. (Cl. 136—6)



1. In a sealed nickel cadmium secondary cell of the type employing an anti-polar mass of a cathodic reducible oxide and which comprises a container, a cover for said container, a seal gasket interposed therebetween, a negative cadmium electrode, a positive nickel electrode, a separator interposed therebetween, and an alkaline electrolyte throughout; the improvement which comprises said positive electrode consisting of two semi-cylindrical pieces and said anti-polar mass of a cathodic reducible oxide being in the form of auxiliary negative electrodes which are separated by a spacer screen or sheet and are located in said cell between and in juxtaposition with the flat surfaces of said semi-cylindrical pieces of said positive electrode.

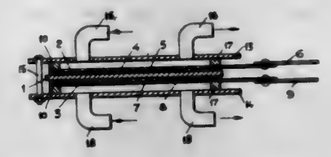
2,980,748
SEALED ALKALINE ACCUMULATOR
Jean Piroux, 18 Blvd. Gallieni, Villemomble, France
Filed Aug. 6, 1959, Ser. No. 831,957
Claims priority, application France July 26, 1955
4 Claims. (Cl. 136—29)



1. A method of manufacture for a fluid-tight electric accumulator of the nickel-cadmium type comprising a fluid-tight container having a block constituted by a stack of plate electrodes and thin separators, the said method consisting in filling the said container with electrolyte composed of potash having a density of 10 to 20° Baumé in sufficient quantity to saturate the block of electrodes and separators, then inverting the position of the container and connecting the accumulator to a source of current which ensures its electric formation, and in expelling out of the container the excess of electrolyte which is unretained by the block at the end of the charging period when the evolution of gas begins, and closing said container in a fluid-tight manner after completion of the expulsion of the excess of electrolyte.

2,980,749
FUEL CELL AND METHOD OF PRODUCING ELECTRODES FOR SUCH A CELL
Gerard H. J. Broers, 65 Geestersingel, Alkmaar, Netherlands
Filed Sept. 11, 1958, Ser. No. 760,394
Claims priority, application Netherlands Sept. 27, 1957
9 Claims. (Cl. 136—86)

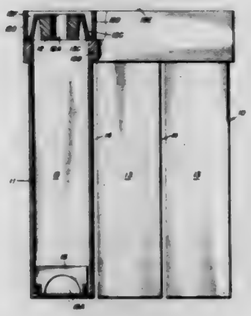
1. In a fuel cell a solid porous carrier of from about 1 mm. to about 10 mm. in thickness impregnated with a molten mixture of alkali metal carbonates as a semi-solid electrolyte having attached to each of its sides a layer of less than 1 mm. thick of separate pre-sintered grains of metal powder as electrodes of opposing polarity.



2,980,750
BATTERY SEPARATORS
Charles L. Mills, Jr., Longmeadow, Mass., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Feb. 26, 1959, Ser. No. 795,594
2 Claims. (Cl. 136—145)

1. A liquid-permeable battery separator comprising an air-permeable paper base sheet impregnated with a C-stage phenol-formaldehyde resin, said separator having incorporated therewith 0.5–10% by weight, based on the weight of phenol-formaldehyde resin, of a water-soluble polyelectrolyte of the group consisting of the hydrolyzed and ammoniated copolymers of maleic anhydride and an olefin containing 2–4 carbon atoms.

2,980,751
ELECTRIC STORAGE BATTERY AND CASE
Charles A. Toce, Sunland, and Robert Broussard, Glendale, Calif., assignors to Electro-Acid Corporation of Nevada, a corporation of Nevada
Filed Sept. 20, 1957, Ser. No. 685,225
5 Claims. (Cl. 136—166)



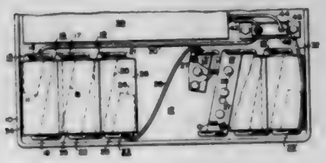
1. An electric storage battery comprising a molded plastic main case, which case is itself formed of a number of substantially separate containers, all integrally molded together near their top portions and providing between related containers substantially free and unobstructed air passage, each container being internally and peripherally shouldered near its top portion for the reception of a cover member; plates of a complete battery cell housed in each of said containers and having terminal posts projecting upwardly therefrom; and a number of separate cover members, one for each container, seated on related peripheral shoulders of said containers and having included ports for engaging about the protruding terminal posts and for the introduction of electrolyte, the said cover members being sealed to the containers and about the said terminal posts.

2,980,752
ELECTRIC STORAGE BATTERY
Charles A. Toce, Sunland, and Robert Broussard, Glendale, Calif., assignors to Electro-Acid Corporation of Nevada, a corporation of Nevada
Filed May 23, 1958, Ser. No. 737,413
5 Claims. (Cl. 136—166)



1. A composite storage battery built up of the combination of at least one battery casing; and an open rectangular carrying frame therefor nicely receiving said casing, the casing being formed of polystyrene, and being selected for 2-cell or 3-cell construction wherein individual cell compartments for each such construction are employed, which are integrally formed at the top portion thereof and for the greater part of their extent are physically separated from each other to provide air-washing between compartments and about all major surfaces thereof and the carrying frame having geometry conforming closely to the particular type of battery desired.

2,980,753
BATTERY CONTACT ASSEMBLY
George L. Nolter, Cornwells Heights, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 19, 1958, Ser. No. 743,078
4 Claims. (Cl. 136—173)



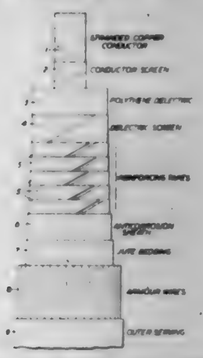
1. In a radio receiver for utilizing a plurality of batteries in series connection, the combination of a rigid insulating support member, a plurality of one-piece U-shaped conducting clip members, each having a substantially planar base portion, a first leg portion at one end of the base portion and a second leg portion at the other end of said base portion with said base portions being secured to said support member, all of said first leg portions lying in a first plane substantially perpendicular to said base portions, all of said second leg portions lying in a second plane substantially parallel to said first plane and spaced therefrom, each of said first leg portions extending outwardly from said support member at an acute angle thereto, so that the outer end of each first leg portion lies on one side of a medial plane perpendicular to said support member which passes through the longitudinal axis of the corresponding base portion, and each of said second leg portions extending from said support member at an acute angle, so that the outer end of each second leg portion lies on the opposite side of said medial plane with respect to said first leg portion.

2,980,754
CELL EXHAUSTION INDICATOR
Thomas A. Reilly, Cleveland, Ohio, and William M. McNeill, Plandome Manor, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed Mar. 23, 1959, Ser. No. 801,046
5 Claims. (Cl. 136—182)



5. In a primary galvanic cell, the combination indicating exhaustion thereof which comprises a consumable metal anodic container for said cell, a transparent wrapper therearound, and a metallic layer, which changes color upon contact with cell electrolyte, between said wrapper and said container, said metallic layer being separated from said container by a paper insulator.

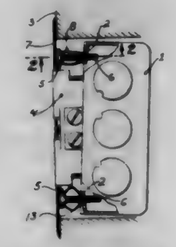
2,980,755
ELECTRIC CABLES
Ronald McLeod Fairfield, Knutsford, and Edward Leslie Davey, Hale, England, assignors to British Insulated Callender's (Submarine Cables) Limited, London, England, a British company
Filed Jan. 13, 1959, Ser. No. 786,576
Claims priority, application Great Britain Jan. 20, 1958
14 Claims. (Cl. 174—24)



14. A multi-core electric power cable, of the kind in which the dielectric of each conductor is maintained under pressure during operating conditions by means of an inert gas which is fed into the conductor, in which each core comprises a gas permeable stranded conductor, a dielectric in the form of a tube of polythene extruded over the conductor and reinforcement for the dielectric, in the form of at least one tape, which resists dilation of the dielectric during operation of the cable and the cores are enclosed in a common protective covering, the total permeablity to the gas per unit length of cable of the protective covering formed by all of the layers applied over the polythene dielectric of each core, including the common covering, being greater than the permeability per unit length of cable of the wall of polythene dielectric.

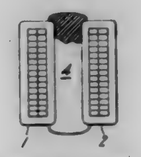
2,980,756
ELECTRICAL OUTLET LEVELER
John E. Kelleher, Rte. 4, Box 32, Vista, Calif.
Filed Sept. 29, 1958, Ser. No. 764,167
3 Claims. (Cl. 174—57)

1. The combination with an outlet box having a pair of inturned mounting lugs with screw-threaded apertures, an outlet fixture having a mounting strap, and a screw member for joining each end of said mounting strap to said box, of a leveler means for installation on said screw member between a mounting lug and said mounting strap, comprising: a pair of strut elements disposed on opposite sides of each of said screw members with their ends in bearing engagement with a corresponding lug and end of said strap member; said strut elements adapted on tightening of said screw member to draw said lug and strap member end toward each other to bow



outwardly from each other between an initially, substantially straight condition extending substantially axially with respect to the screw member and a fully folded condition wherein each strut is folded upon itself; said strut elements being formed of a substantially nonresilient, relatively stiff material tending, for any of its folded conditions between said initial and fully folded conditions, to restrain said lug and strap member end against relative displacement, and a perforated cross element connecting said strut elements and adapted to receive said screw.

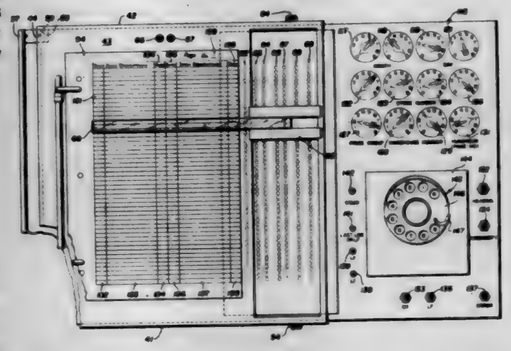
2,980,757
SPACING MEANS FOR ELECTRICAL DEVICES
Almy D. Coggeshall and Harold R. Shirk, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 20, 1959, Ser. No. 854,458
10 Claims. (Cl. 174—138)



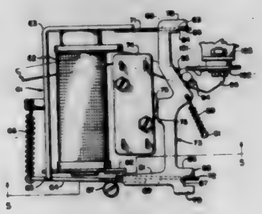
1. Means for restricting the relative movement of conductor bars, said means comprising blocks of glass fiber-filled thermosetting resin, said glass fibers being oriented in substantially one direction, said blocks being placed between said bars with the fiber orientation parallel to said bars and compressed at the free sides perpendicular to the direction of orientation to expand the blocks in a perpendicular transverse direction whereby the blocks conform to and space said bars.

2,980,758
STORE ORDERING SYSTEM AND APPARATUS
Robert Goldwater, Oakland, and Frank B. Calhoun, San Leandro, Calif., assignors to Safeway Stores, Inc., Oakland, Calif., a corporation of Maryland
Filed Apr. 19, 1957, Ser. No. 653,898
11 Claims. (Cl. 178—4)

1. In a store ordering apparatus of the type adapted to indicate a commodity ordered by generated pulses, the store ordering apparatus comprising order guide means having listed thereon a plurality of commodities in a predetermined arrangement, an arm movable over said order guide means and adapted to be positioned to select one of the commodities listed on said order guide means, fixed contact means arranged in a predetermined manner in accordance with the positioning of the commodities listed on the order guide means, movable contact means carried by the arm and adapted to engage said fixed contact means and circuit means including starting means connected to said fixed contacts for automatically generating pulses identifying the commodity selected by the movable arm after operation of said starting means.



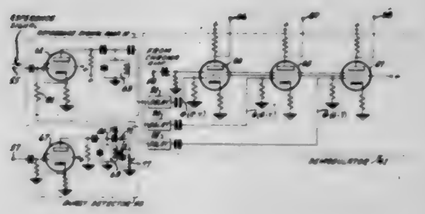
2,980,759
MOTOR CONTROL
Robert W. Nordin, Skokie, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 13, 1958, Ser. No. 773,635
14 Claims. (Cl. 178—4.1)



1. In a motor control arrangement, a signal line, a timer, a motor control magnet controlled alternatively by said timer and signals on said line, a switch, an element controllable by the armature of said magnet to operate said switch, said element arranged to pivot about a plurality of points under the control of said armature, the armature of said magnet providing a movable fulcrum means arranged to be operable to select the points about which said element pivots to operate said switch to effect a motor controlling operation, and means to return said element to its initial position.

2. In a motor control arrangement, a signal line, a timer, a motor control magnet controlled alternatively by said timer and signals on said line, a switch, a floatingly mounted element controllable by the armature of said magnet to operate said switch, said element arranged to pivot about a plurality of points under the control of said armature, the armature of said magnet providing a movable fulcrum means arranged to be operable to select the points about which said element pivots to operate said switch to effect a motor controlling operation.

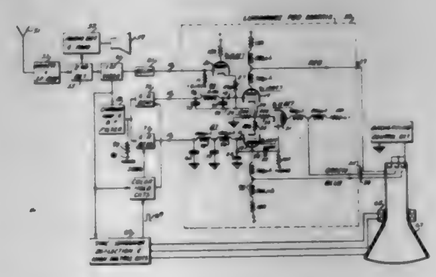
2,980,760
AUTOMATIC GAIN CONTROL OF DEMODULATING SIGNALS
Norbert David Larky, Somerville, and Carmen Louis Cuccia, Princeton, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed June 28, 1955, Ser. No. 518,453
14 Claims. (Cl. 178—5.4)



12. In a color television receiver adapted to receive at least chrominance signals and color synchronizing bursts, the combination of, a plurality of color demodulators each having at least an output electrode, a first control electrode and a second control electrode, means to apply said chrominance signal to each of said first control electrodes, color synchronizing burst responsive means to develop a reference signal the frequency and phase of which is related to that of said color synchronizing bursts, means to apply a selected phase of said reference signal to each of said second control electrodes of said color demodulators to cause a color information signal corresponding to that selected phase to be developed at the output electrode of said color demodulator, means to detect said color synchronizing bursts and to develop therefrom a control signal indicative of the amplitude of said color synchronizing bursts, means responsive to said control signal to adjust the amplitude of said developed reference signal whereby the signal strength of the color difference signals developed at the output electrodes of said color demodulators varies in accordance with a prescribed relationship with respect to the amplitude of said color synchronizing bursts.

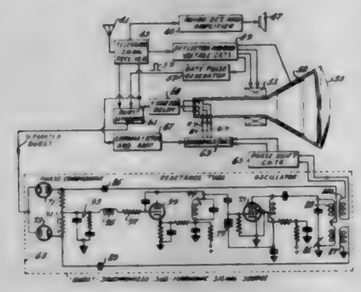
2,980,761
COLOR TELEVISION RECEIVER MATRIX
Dalton Harold Pritchard, Princeton, N.J., and Alfred C. Schroeder, Huntingdon Valley, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Sept. 21, 1955, Ser. No. 535,701
3 Claims. (Cl. 178—5.4)

1. In a color television receiver adapted to derive from received composite color television signals a luminance signal component and a chrominance signal component, said chrominance signal component comprising phase and amplitude modulated color subcarrier waves, apparatus for forming three separate primary color signals from the components of said received signals, said apparatus comprising first color demodulator means for heterodyning said chrominance signal component with color subcarrier frequency oscillations of a first predetermined phase to develop a first color difference signal representative of the difference between a first one of said primary color signals and a second one of said primary color signals; second color demodulator means for heterodyning said chrominance signal component with color subcarrier frequency oscillations of a second predetermined phase to develop a second color difference signal representative of the difference between said first primary color signal and a third one of said primary color signals; first, second, third and fourth amplifier devices each having an input electrode, an output electrode and a common electrode; means for maintaining the input electrode of said first amplifying device at a relatively fixed reference potential; means for applying a predetermined combination of said first color difference signal, said second color difference signal, and said luminance signal component to the common electrode of said first amplifying device, the relative proportions of said first color difference signal, said second color difference signal and said luminance signal component in said predetermned combination being such as to render said predetermined combination of signals representative of substantially exclusively said first-named primary color, whereby said first primary color signal appears at the output electrode of said first amplifier device; said signal combination applying means comprising a first impedance coupled between the common electrode of said first amplifier device and a point of reference potential, and means for developing said predetermined combination of signals across said first impedance; said last-named developing means including a respective coupling between the common electrode of each of said second, third and fourth amplifier devices and said first impedance, means coupled to said first color demodulator means for applying said first color difference signal to the input electrode of said second amplifier device, means coupled to said second color demodulator means for applying said second color difference



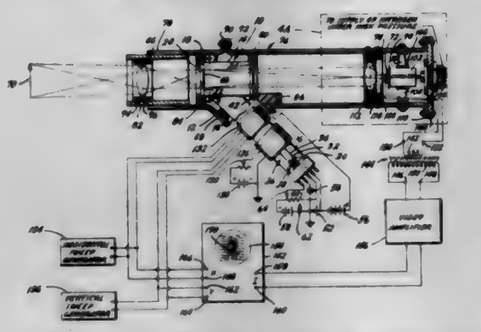
signal to the input electrode of said third amplifier device, and means for applying said luminance signal component to the input electrode of said fourth amplifier device; means for causing the signal developed at the output electrode of said second amplifier device in response to the first color difference signal applied to its input electrode and to the additional signals applied to its common electrode via the coupling between said common electrode and said first impedance to be representative substantially exclusively of said second primary color, said causing means comprising a second impedance included in the coupling of the common electrode of said second amplifier device to said first impedance, the impedance value of said second impedance bearing a first predetermined ratio to the impedance value of the first impedance; and means for causing the signal developed at the output electrode of said third amplifier device in response to the second color difference signal applied to its input electrode and to the additional signals applied to its common electrode via the coupling of said common electrode to said first impedance to be representative substantially exclusively of said third primary color, said last-named causing means comprising a third impedance included in the coupling of the common electrode of said third amplifier device to said first impedance, the impedance value of said third impedance bearing a second predetermined ratio, different from said first predetermined ratio, to the impedance value of said first impedance.

2,980,762
COLOR TELEVISION RECEIVER COLOR DEMODULATION APPARATUS
Richard W. Sonnenfeldt, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 8, 1956, Ser. No. 583,464
8 Claims. (Cl. 178—5.4)



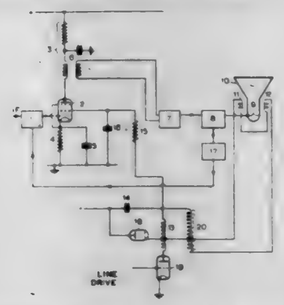
8. In a color television receiver providing a source of a color television signal including a chrominance signal component comprising a modulated color subcarrier and including color synchronizing bursts of color subcarrier frequency in reference phase, the combination of means coupled to said source for selectively deriving said chrominance signal component from said color television signal; oscillator means for providing an output signal having a frequency nominally equal to a subharmonic of a color subcarrier frequency; means coupled to said oscillator means and responsive to said color synchronizing bursts for controlling the frequency and phase of said oscillator means output signal to maintain synchronism between said oscillator output signal and said color synchronizing bursts; said controlling means comprising a phase detector for comparing in phase said color synchronizing bursts and said subharmonic frequency output signal to derive a control voltage, and means for utilizing said control voltage to vary the tuning of said oscillator means; and demodulator means coupled to said chrominance signal component deriving means and to said oscillator means for utilizing said subharmonic frequency output signal to recover a color informative signal from said chrominance signal.

2,980,763
IMAGE TRANSDUCING SYSTEM
Marvin E. Lasser, Elkins Park, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 2, 1959, Ser. No. 824,644
20 Claims. (Cl. 178—6.8)



1. In combination: a body of material whose transmissivity for electromagnetic radiation at any region thereof is variable in response to impingement of corpuscular particles on said region, means for focusing electromagnetic radiation onto a surface of said body to form an image on said surface, means for scanning a beam of corpuscular particles over said body to vary its transmissivity successsively at different regions thereof, said beam being substantially free of image-representative modulation, and means responsive to electromagnetic radiation and disposed to receive electromagnetic radiation transmitted through said body.

2,980,764
AUTOMATIC GAIN CONTROL CIRCUITS IN TELEVISION RECEIVERS
Edward Charles Crawford, Southall, England, assignor to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain
Filed July 26, 1956, Ser. No. 600,340
Claims priority, application Great Britain Aug. 3, 1955
3 Claims. (Cl. 178—7.5)

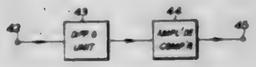


1. A television receiver comprising means for providing from received energy a carrier wave amplitude-modulated by a video signal, a mufti-stage amplifier for said carrier wave, a demodulator for demodulating the amplifier output of said amplifier to derive a video signal, a display tube, and a video amplifier for amplifying the video signal derived by said demodulator and applying the amplified video signal to said display tube, means for deriving a gain control signal in response to the demodulated video signal, and a gain control circuit responsive to said control signal to control the gain for at least one stage of said multi-stage amplifier, the final stage of said multi-stage amplifier comprising a valve having a cathode, a control electrode to which the amplitude-modulated carrier wave is applied, an ouput electrode coupled to said demodulator, and a further electrode disposed between said control electrode and said output electrode, a source of positive polarizing potential, an output impedance device connecting said source to said output electrode, a further source of substantially higher polarizing potential, and a further impedance device connecting said further source to said further electrode, said further impedance device and said higher polarizing potential having dimensions to constitute means responsive to current variations in said valve for counteracting a tendency for said valve to be overloaded in the absence of said gain control signal.

2,980,765
TRANSMISSION OF TELEVISION SIGNALS
Dennis Godson Holloway, Taplow, England, assignor to British Telecommunications Research Limited, Taplow, England
Filed Nov. 26, 1954, Ser. No. 471,477
Claims priority, application Great Britain Dec. 3, 1953
2 Claims. (Cl. 178—43.5)

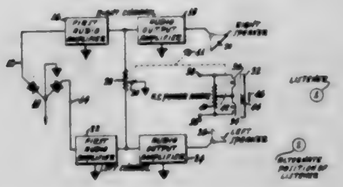
1. Apparatus for modifying television signals before their transmission comprising differentiating means de-

riving substantially the first derivative of said signals, amplitude compression means comprising non-linear signal amplifying means producing a relatively greater gain in response to changes in signals of small amplitude



than to corresponding changes in signals of large amplitude, and means coupling said differentiating means to apply said first derivative signal to the input of said compression means.

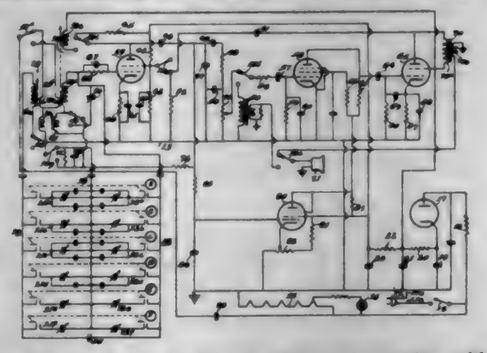
2,980,766
BALANCE INDICATOR FOR STEREOPHONIC SOUND SYSTEMS
John H. Nulton, Jr., Havertown, Pa., and James R. Shoaf II, Collingswood, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 19, 1959, Ser. No. 787,769
7 Claims. (Cl. 179—1)



3. A balance indicator for a stereophonic sound system of the type including a pair of signal channels for driving right and left horizontally spaced sound reproducing devices respectively and including balance control means for adjusting the relative sound output from said sound reproducing devices for the same signal input to said signal channels, comprising an elongated translucent lens having a front viewing surface positioned with the longitudinal axis thereof in a horizontal plane, a pair of electric lamps positioned along said longitudinal axis behind and to the right and left of center of said lens, an opaque shield positioned over the center portion of said front viewing surface, energizing control means for said lamps for simultaneously increasing the illumination from one lamp as the illumination from the other lamp is decreased, said energizing control means being adjusted so that for apparent balance between said right and left hand speakers a luminous area appears at the center of the front viewing surface of said lens extending substantially equal distances on both sides of said opaque shield, and means for ganging said energizing control means with said balance control means so that adjustment of said balance control in a direction to increase the output of the right sound reproducing device relative to that of the left, also increases the illumination from the right lamp and decreases the illumination from the left lamp and, adjustment of said balance control in a direction to decrease the output of the right sound reproducing device relative to that of the left, also decreases the illumination from the right lamp and increases the illumination from the left lamp.

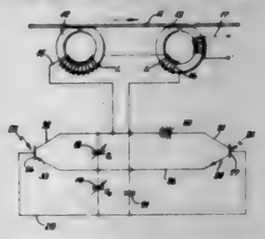
2,980,767
CARRIER COMMUNICATION APPARATUS
Arie Liberman, % Talk-A-Phone Co., 1512 S. Pulaski Road, Chicago, Ill.
Filed May 31, 1955, Ser. No. 512,206
5 Claims. (Cl. 179—15.5)

1. In a carrier wave communication system, a station of the character described for transmitting and receiving messages, comprising: an amplifier; switch means for selectively operating said amplifier as an oscillator during transmission and as a tuned radio frequency amplifier during reception; and circuit means for tuning said amplifier in both conditions of operation, at least a portion of the circuit tuning means being connected to said ampli-



fier through action of said switch and coacting with another portion of said circuit tuning means connected with said amplifier independent of the action of said switch means, compensating for the difference in characteristics of said amplifier in its two conditions, whereby said amplifier is tuned to the same predetermined frequency during both transmission and reception.

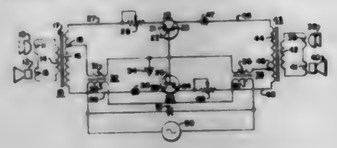
2,980,768
MAGNETIC RECORDING SYSTEM
Robert J. Ehret, Los Altos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Aug. 1, 1957, Ser. No. 675,749
13 Claims. (Cl. 179—100.2)



1. In a magnetic tape system including at least one magnetic head having a winding thereon, a source of alternating current frequencies comprising a parallel resonant circuit, including at least one capacitor and the winding of said head, a pair of complementary transistors each having at least emitter, collector and base electrodes, said base electrodes connected together to one side of the parallel resonant circuit, said collector electrodes being respectively connected to opposed terminals of a voltage supply and coupled to the other terminal of the resonant circuit, and said emitter electrodes being connected to the capacitor to form a symmetrical complementary oscillator.

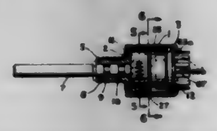
2,980,769
BIDIRECTIONAL MULTIPLEX TRANSISTOR COMMUNICATION APPARATUS
Leo Lawsine, Washington, D.C., and Donald A. McIver and John W. Taylor, Jr., Baltimore, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 6, 1957, Ser. No. 657,358
2 Claims. (Cl. 179—170)

1. Bidirectional communication apparatus for simultaneously transmitting in opposite directions a pair of alternating current intelligence signals comprising, in combination: a first unilateral triode transistor having a first base, first emitter and first collector; a second unilateral triode transistor having a second base, second emitter and second collector; first and second intelligence signal obtaining means; first and second signal utilization means; first transformer means having a first primary and a first tapped secondary; second transformer means having a second primary and a second tapped secondary; circuit means connecting said first and second bases together; additional circuit means including additional transformer means connecting said first and second bases to the tap of said first secondary; further circuit means including further transformer means connecting said first and second bases to the tap of said second secondary; other circuit means operatively connecting said first emitter to one terminal of said first secondary;



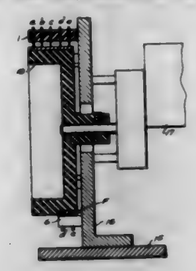
still other circuit means including first rectifier means connecting said first collector to one terminal of said second secondary; still further circuit means including second rectifier means connecting said second collector to the other terminal of said first secondary; supplemental circuit means operatively connecting said second emitter to the other terminal of said second secondary; means for obtaining an alternating current switching voltage having a frequency greater than the highest frequency in the intelligence signals to be transmitted and for applying said switching voltage to said additional transformer means and to said further transformer means to energize the same; adjunct circuit means connecting said first signal obtaining means and said first signal utilization means to said first primary; and added circuit means connecting said second signal obtaining means and said second signal utilization means to said second primary.

2,980,770
MINIATURE SWITCH
Elmer J. Nabstedt, Westwood, N.J., assignor to The Daven Company, Livingston, N.J., a corporation of New Jersey
Filed Dec. 18, 1958, Ser. No. 781,282
18 Claims. (Cl. 200—11)



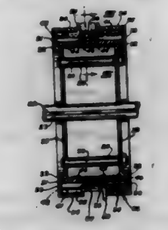
1. In a miniature switch, a housing forming a chamber open at one end, a contact panel closing the open end of said chamber, a shaft rotatably mounted in said housing and extending into said chamber, a plurality of circumferentially spaced stationary contacts in said contact panel disposed to extend therethrough into the chamber, center contact means in said contact panel disposed relative said stationary contacts in said chamber to form an annular space therebetween, said stationary contacts and said center contact means to provide a predetermined switching arrangement, a movable contact assembly means mounted on the end of said shaft including a carrier, said carrier having contact means thereon disposed to fit into said annular space for simultaneous contact with said stationary contacts and said center contact means to provide a predetermined switching arrangement on rotation of said shaft, detent means in said chamber to permit step by step indexing of said shaft during rotation, stop means in said chamber to limit the degree of rotation of said shaft in either direction, and means detachably connected to the stop means and said last mentioned means connecting the detent means to one side of the stop means and connecting the movable contact assembly to the other side of the stop means whereby the detent means, stop means and movable contact assembly are in fixed predetermined relation to provide a desired switching arrangement on rotation of said shaft.

2,980,771
VARIABLE FREQUENCY PULSE GENERATOR
Glenwood Grewell, Enon, and Kenton J. Jones, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 23, 1958, Ser. No. 730,504
4 Claims. (Cl. 200—24)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A periodic switching device comprising a first set of equally spaced contacts arranged along one side of a closed circular path, a second set of contacts arranged along the other side of said path, the number of contacts in said second set being equal to the number in said first set and the angular spacing between all adjacent pairs of contacts in said second set except one pair being equal to the angular spacing of the contacts of said first set increased by the angular spacing in said first set divided by the number of contacts in a set, means for imparting a constant speed relative motion between said sets of contacts along said circular path, means connecting the contacts of one set together and to an input circuit, and means connecting the contacts of the other set together and to an output circuits.

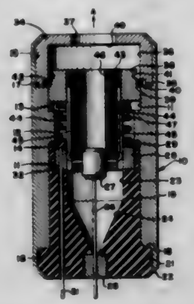
2,980,772
PROGRAMING DEVICE
George H. Doberstein, 9906 Chicago, Ave., Minneapolis, Minn.
Filed Mar. 7, 1960, Ser. No. 13,374
5 Claims. (Cl. 200—33)



1. A programming device including a base, a cylindrical drum assembly rotatably mounted with respect to said base, means for causing said drum assembly to complete a 360 degree cycle of rotation in a predeter-

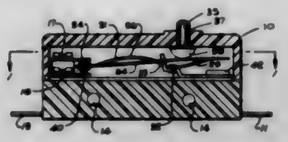
mined period of time, a plurality of sliders mounted in contacting, edge to edge relationship circumferentially around said drum assembly to be slidable parallel to the axis thereof, a pair of brushes fixedly mounted with respect to said base to be in simultaneous sliding contact successively with each of said sliders as said drum assembly rotates, each of said sliders having a part-cylindrical, non-conducting surface and a part-cylindrical surface of high electrical conductivity concentric with the axis of said drum, and each of said sliders being moveable from a position to have said non-conducting surface in circumferential alinement with said brushes to a position in which said conducing surface is circumferentially alined with respect to said brushes.

2,980,773
LATERAL ACCELERATION SWITCH
Audley B. Leaman, Chevy Chase, and Norman Czajkowski, Takoma Park, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 1, 1952, Ser. No. 296,777
6 Claims. (Cl. 200—61.51)
(Granted under Title 35, U.S. Code (1952), sec. 266)



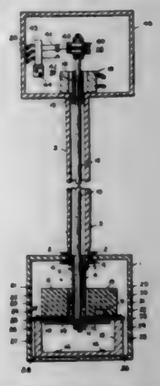
4. Arming apparatus for an ordnance device comprising, in combination, a casing, a reed having a free end and a supported end mounted axially within said casing, a weighted circuit closing member mounted on the free end of said reed, said circuit closing member being responsive to forces in a direction lateral to the line of flight of said ordnance device, means for restraining said contact member against lateral motion, and means for releasing said restraining means, said releasing means being responsive to forces along the line of travel of said ordnance device.

2,980,774
SNAP SWITCH
Carl H. Millerwise, Trumbull, Conn., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 14, 1958, Ser. No. 721,602
1 Claim. (Cl. 200—67)



A switch comprising an elongated blade slotted longitudinally to define a first tension section and a second interconnected compression section; said second section being severed laterally at an intermediate point therealong to form a flexible mounting portion and a bowable stressing portion; support structure positioned between the mounting portion and the stressing portion and defining a notch pivotally seating an end of the stressing portion and a substantially flat surface to which a flat portion of an end area of the mounting portion is fixed; a pair of opposed stop members adjacent one end of the blade for limiting blade movement in opposite directions; and an actuator engaging the blade adjacent its other end, with the stressing portion bowed out of the blade plane in one direction, and with the mounting portion extending out of the blade plane in the opposite direction; said actuator having a pretravel movement to move the tension section for increasing the bow in the stressing portion and snapping the blade from one stop member to the other stop member, and said actuator having an overtravel movement causing the mounting portion to buckle and effect a decrease in the bow of the stressing portion for thereby decreasing the force necessary to be maintained on the actuator to accomplish the overtravel movement.

2,980,775
MAGNETIC STICK HIGH WATER DETECTOR
Chester R. Crain, 1216 W. 38th St., Kansas City 11, Mo.
Filed July 3, 1959, Ser. No. 825,392
4 Claims. (Cl. 200—84)

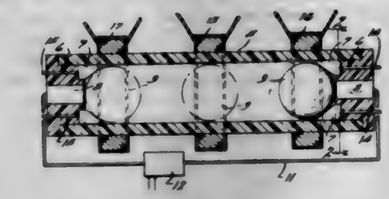


1. A railway block signal appurtenance for detecting rising flood waters comprising a housing divided into a float chamber and armature chamber by a horizontal non-magnetic separator, said float chamber pierced with apertures for flood water influx, means for excluding water from said armature chamber, an unattached float unit of foam-like body and embedded permanent magnet, said float confined within said float chamber but free to rise vertically from its normal resting place on aforesaid separator, a contact operating rod traversed by a magnetic armature affixed near one end, said armature suspended juxtaposed the underneath side of said separator by magnetic flux of aforesaid magnet, said flux traversing separator during period said float is continuously at-rest on separator, said rod free to fall vertically when magnetic field of said magnet is withdrawn by said float leaving normal position, extreme lower position of said armature below the influence of said magnet with said float normal, separable electrical contacts secured in alignment for finger contact to be actuated by aforesaid rod, means for electrically insulating said rod from said finger and actuating said finger.

2,980,776
ELECTRIC CONTROL DEVICE
Stanford R. Ovshinsky, Detroit, Mich., assignor to Tann Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 29, 1957, Ser. No. 655,738
9 Claims. (Cl. 200—87)

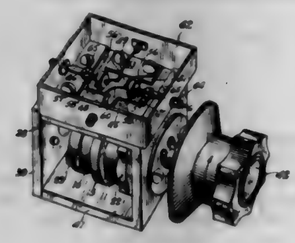
1. In an electric control device, a housing, spaced contacts in said housing, a ball freely movable within the

housing to and from bridging relation with said contacts, and electrode means for applying a charge to the ball to



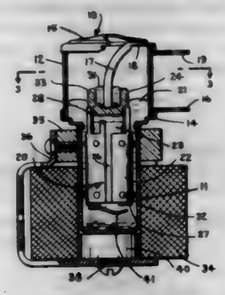
cause it to move within the housing to engage said contacts.

2,980,777
MAGNET CONTROL APPARATUS
Hugh A. Howell, Berwyn, and Jerry L. Jedd, Arlington Heights, Ill., assignors to Oak Manufacturing Co., a corporation of Delaware
Filed May 6, 1959, Ser. No. 811,471
12 Claims. (Cl. 200—87)



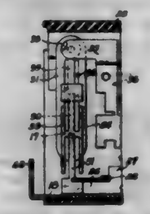
1. A control mechanism comprising a stack assembly having an axis about which said assembly is movable, said assembly having in succession along the axis thereof a first ferromagnetic pole member followed by a first permanent magnet followed by a ferromagnetic pole piece followed by a second permanent magnet followed by a second ferromagnetic pole member, the permanent magnets being polarized so that their pole faces are disposed against the ferromagnetic bodies on each side thereof, the assembly having magnetic lines of force in said permanent magnets extending generally parallel to the axis and going into the ferromagnetic bodies at the ends and center of the stack, said ferromagnetic pole piece having a smooth curved surface symmetrical about the axis of the assemby, said ferromagnetic pole members having teeth extending laterally from the axis to provide active portions, armature means which in plan view extends parallel to the stack axis, said armature means having three ferromagnetic portions spaced along the stack axis to correspond with the axial spacing of the pole piece and pole members, the teeth on one pole member being angularly staggered with respect to the teeth on the other pole member, the three ferromagnetic portions being disposed so that the pole piece wil in all positions bear against one ferromagnetic portion; and a tooth from one or the other pole member, depending upon the rotary position of the assembly, will bear against the cooperating ferromagnetic portions, the magnetic field intensity being much larger between a center ferromagnetic portion and that end ferromagnetic portion against which a tooth happens to be bearing, said armature being movable in response to changes in magnetic flux distribution and load means operated by said armature means.

2,980,778
PLUNGER TYPE MERCURY SWITCH
Karl Huscliker, Chicago, Ill., assignor to The Mercoid Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 1, 1958, Ser. No. 752,463
5 Claims. (Cl. 200—112)



1. A mercury switch comprising a two-section container wherein the lower and upper sections thereof are substantially cylindrical with the upper section being larger in diameter than the lower section, a metal ring located between the sections for joining and sealing the same, a main body of mercury contained within the container and extending normally to a level above the metal ring, a magnetizable plunger within the lower section and normally floating in the mercury contained by the lower section, a cap sealed to the upper section to close the container, an electrode depending from the cap, a ceramic cup supported by the plunger above the same whereby the cup is normally located within the upper section, a second body of mercury in the cup, said cup being so positioned that the electrode extends into the second body of mercury to be partly immersed therein for all positions of the plunger, a solenoid for magnetizing the plunger to effect downward movement thereof within the lower section for displacing the mercury therein and causing the same to rise and unite with the mercury in the cup, thereby providing a contact level for said bodies of mercury, and an upstanding conductor electrically connected to and supported by the metal ring, said conductor extending within the upper section in relatively close relation to the ceramic cup and within the main body of mercury, whereby the flow path for the electric current through the mercury from the electrode to the conductor is reduced to a minimum.

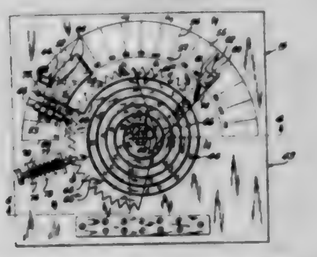
2,980,779
MOTOR PROTECTOR
Clyde Stephan Hickle and Paul B. Hover, Columbus, Ohio, assignors to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Oct. 22, 1958, Ser. No. 768,797
1 Claim. (Cl. 200—113)



In a thermally actuated switch mechanism for controlling an electric motor, an electric switch, an elongated bimetallic member having a central section adapted to flex upon a predetermined change in temperature to ac-

tuate said switch, a pair of elongated outer sections integral with said bimetal and extending along opposite sides thereof in spaced relation thereto, said elongated sections each being engaged solely by bridging sections at the central parts of said central section and said outer sections, said bridging sections having cross sectional areas substantially less than the major cross sectional area of said central section to substantially limit the flow of heat between said central section and said outer sections, and means to heat said central section according to the flow of current through said switch.

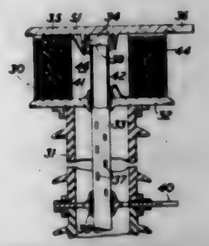
2,980,780
THERMOSTAT DEVICE
Peter Kardos, Cleveland Heights, Ohio, assignor to Morrison Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Mar. 27, 1958, Ser. No. 724,318
7 Claims. (Cl. 200—138)



1. A thermostat device comprising, support means, temperature responsive means responsive to ambient air temperature and having a held portion and a movable portion, means providing a reference point on said support means, said movable portion being movable by said responsive means in one direction relative to said reference point in response to an increase in said ambient temperature and movable in the opposite direction in response to a decrease in said ambient temperature, a pair of electric switches associated with said responsive means, one of said switches being actuatable to a closed condition in response to movement of said movable portion in said one direction away from said reference point and the other of said switches being actuatable to a closed condition in response to movement of said movable portion away from said reference point in said opposite direction, both of said switches being in the open condition when said movable portion is at said reference point, movable anchor means connecting said held portion with said support means and providing for adjustably shifting said movable portion relative to said reference point, a third switch comprising a complete switch unit and having a movable actuating member engageable by said movable portion for actuating said third switch in response to a predetermined extent of movement of said movable portion away from said reference point in said one direction, and a movable carrier supporting said third switch as said complete unit and providing for adjustable positioning of said unit relative to said reference point.

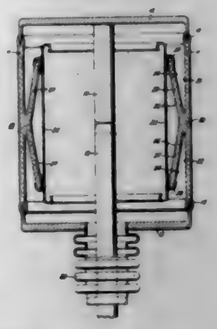
2,980,781
HIGH VOLTAGE ELECTRIC CIRCUIT-BREAKERS OF THE AIR-BREAKERS TYPE
Duncan Legg, South Shields, and Austin Frederick Brabant Young, Kenton, Newcastle-on-Tyne, England, assignors to A. Reyrolle & Company Limited, Hebburn, England, a company of Great Britain
Filed Mar. 10, 1955, Ser. No. 493,422
Claims priority, application Great Britain Mar. 16, 1954
4 Claims. (Cl. 200—144)

1. A high-voltage electric circuit-breaker of the air-break type including separable contacts between which the arc is initiated, an arc chute into which the arc is transferred and in which it is lengthened, a porous insulating barrier in the arc chute, the barrier being permeable by a current of air but impenetrable by the arc, and means for producing a current of air moving through the arc chute transversely to the arc and through the barrier transversely to its upstream surface, whereby the lengthened arc is held longitudinally against the said



upstream surface of the barrier by the said air current passing through the barrier and is thereby cooled, said arc chute including several separate arc chute chambers arranged in series, said chambers being arranged radially to and in helical disposition around the axis of a central passage in which the arc is initially drawn, the chambers communicating with one another to provide an elongated helical spiral path into which the arc is driven by the radial flow of air outwardly from the central passage.

2,980,782
VACUUM TYPE CIRCUIT INTERRUPTER
Harold N. Schneider, Springfield, Pa., assignor to General Electric Company, a corporation of New York
Filed Mar. 26, 1959, Ser. No. 802,235
9 Claims. (Cl. 200—144)



1. In a vacuum circuit interrupter, a highly evacuated vacuum-tight envelope comprising a generally tubular casing of insulating material, a pair of electrodes located within said insulated casing and disposed in spaced-apart relationship during a circuit-interrupting operation to define an arcing gap therebetween, a generally tubular metallic shield surrounding said arcing gap and extending along the length of said casing for substantial distances on opposite sides of said arcing gap for intercepting and condensing metallic vapors emitted from said arcing gap, said metallic shield having a potential relative to one of said electrodes in open-circuit position which is a predetermined percentage of the potential between electrodes, said percentage being retained substantially unchanged by the condensation of said metallic vapors on said shield even from a time prior to said condensation, said shield being electrically isolated from both of said electrodes and from ground, a tubular shield-support of insulating material surrounding said shield and

extending along a major portion of the length of said shield, means for attaching said shield to said tubular shield-support, means for supporting said shield-support on said casing in spaced-apart relationship relative to said casing in such a manner that the minimum length creepage path between said shield and said electrodes extends along the outer surface of said tubular shield-support for a substantial portion of the length of said shield-support, said interrupter being substantially devoid of solid insulating material located between said arcing gap and said metallic shield.

2,980,783
LIGHTING AND SIGNALLING INSTALLATION, IN PARTICULAR FOR MOTOR VEHICLES
Walter Haudschin, Chemin du Cap 1, Lausanne, Switzerland
Filed Aug. 16, 1956, Ser. No. 604,512
2 Claims. (Cl. 200—156)



1. A multi-contact rotary foot switch adapted for use in a multi-circuit vehicle illumination and sound signalling system, comprising, in combination, a casing, a hollow cylindrical body integral with and extending from said casing, a spring-loaded rod positioned in said hollow casing, an operating knob means slidably mounted about the top portion of said hollow body in contact with the top portion of said spring-loaded rod for actuating said rod, a slotted member connected to said rod at its lower portion, said slotted member being positioned within said casing, an axle member positioned transversely within said casing and in said slot of said slotted member, a first multi-armed member fixedly secured on said axle member, a disc member rotatably mounted on said axle member, said disc member having a single peripheral slot, said multi-armed member being spaced from said disc member, a second multi-armed member positioned on said disc member, a single arm of said first multi-armed member engaging said disc member at said single peripheral slot of said disc member, stop means fixedly secured to said slotted member for engaging an arm of said multi-armed member, at least one insulated finger member fixedly secured to said slotted member at the top portion thereof, a return-spring contact member fitted in said casing, and a fixed contact member fixedly secured to and insulated from said casing, whereby said slotted member moves downwardly upon actuating of said operating knob, whereby said stop means engages one arm of said multi-armed member thereby causing said member to rotate, whereby said disc and said second multi-armed member will be caused to rotate on said axle, and whereby said finger member will actuate said return-spring contact member to complete an electrical circuit with said fixed contact member.

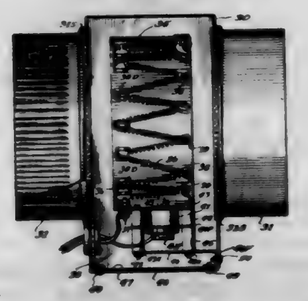
2,980,784
ILLUMINATED PUSH BUTTON SWITCH
Howard C. Goha, Syosset, and Lorimer P. Brooks, Briarcliff Manor, N.Y., assignors to Trine Manufacturing Corporation, New York, N.Y., a corporation of New York
Filed Aug. 15, 1958, Ser. No. 755,275
13 Claims. (Cl. 200—159)

1. An illuminated push button switch comprising a tubular shell having open ends, one of said ends being an inner end and the other being an outer end, a tubular button having a light transmitting outer end, said button being mounted in said shell with the exterior thereof in sliding engagement with the interior of said shell and with said outer end of said button adjacent said outer end of said shell, a pair of flexible conductive, spaced contact fingers mounted on said button and movable therewith, said fingers extending longitudinally inside of said shell and having their free ends spaced from said outer end of said shell in the direction of said inner end of said shell, spring means acting between said shell and said fingers and urging said free ends of said fingers toward said outer end of said shell, means limiting the movement of said fingers in the direction in which they are urged by said spring means for maintaining said fingers and said button within said shell, a lamp having a head and a base and mounted with said head and said base disposed longitudinally of said shell, said lamp also being mounted with



the head thereof in a fixed position within and in relation to said shell and nearer to said outer end of said button than said base and being adapted to fit between said fingers, said button, said fingers and said spring means being disposed with respect to said lamp so as to provide a light transmitting path between the head of said lamp and said outer end of said button, and said fingers and said button being movable with respect to both said lamp and said shell, a closure member mounted on said shell adjacent said inner end of said shell, a pair of electrical connecting terminals mounted on said closure member, means electrically connected to said terminals and slidably engageable with said ends of said fingers when said button is moved inwardly of said shell, means electrically connecting said terminals with the terminals of said lamp, and means maintaining said closure member in assembled relationship with said shell.

2,980,785
ELECTRIC HEATING
Nicholas E. Whitney, Jr., Michigan City, Ind., assignor to Nicholas E. Whitney, Sr., Michigan City, Ind.
Filed Mar. 30, 1959, Ser. No. 803,015
4 Claims. (Cl. 219—34)



2. An electric heating unit for connection in a room supply duct of a central air circulating system, said unit comprising walls defining a housing, aligned inlet and outlet openings in opposite sides of the housing, a tubular

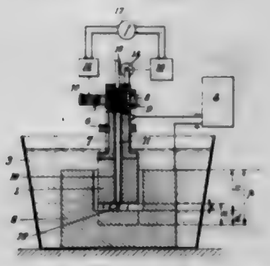
radiation shield supported within said housing in spaced relation with respect to the walls of the housing and in coaxial relation to said inlet and outlet openings, a resistance heating element supported on and within said radiation shield, one of said walls being spaced from the radiation shield to provide junction-box space, a temperature responsive limit switch disposed in said space, means including said switch supporting said shield in position in the housing, and means removably securing said one wall in position on said housing to facilitate insertion or removal of said shield and heating element.

2,980,786
DRYING ATTACHMENT FOR SPRAY GUN
Robert C. Chilton, 1409 Grayton Road, Grosse Pointe Park 30, Mich.
Filed Sept. 16, 1957, Ser. No. 684,130
12 Claims. (Cl. 219—39)



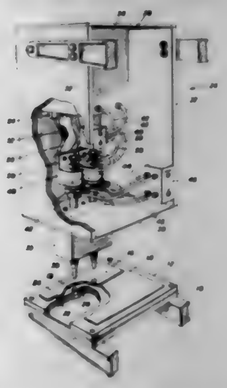
3. A drying device for association with the nozzle of a spray gun or the like, comprising an annular hollow housing having means to attach the same to said gun with said housing disposed coaxially and forwardly of said nozzle and out of direct heat transfer relation thereto, an annular heating element within said housing to heat the interior thereof, and means to supply air under pressure to said interior to be heated by said heating element, said housing being provided with air jet orifice means disposed to discharge the heated air into a spray discharged by the nozzle.

2,980,787
MACHINING DEVICES MAKING USE OF INTERMITTENT ELECTRICAL DISCHARGES
Marc Bruma, Sceaux, France, assignor to Centre National de la Recherche Scientifique, Paris, France, a French society
Filed June 7, 1960, Ser. No. 34,463
Claims priority, application France June 11, 1959
6 Claims. (Cl. 219—69)



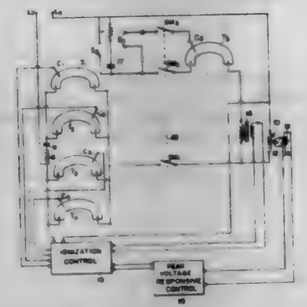
1. A device for machining by electro-erosion a workpiece made of an electricity conducting material, to form a hole therein, this device comprising in combination a tool forming an electrode movably mounted opposite the workpiece forming another electrode, means connected with said electrodes for generating successive electric discharges between them, said tool electrode being provided with a passage therein parallel to the direction of movement of said tool with respect to said workpiece, a follower slidable in said passage and adapted to bear against the bottom of the hole formed by said tool in said workpiece and remote indicator means operatively connected to said follower and responsive to displacements of said follower with respect to said tool.

2,980,788
WELDING PROCESS
Edwin L. Hunter, 51 Eastlawn Ave., Riverside, Ontario, Canada, and Arthur P. Boudreau, 2404 Alexis Road, Windsor, Ontario, Canada
Filed July 22, 1957, Ser. No. 673,239
7 Claims. (Cl. 219—78)



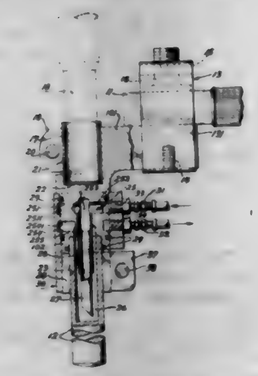
1. In a welding machine having a surface for supporting a workpiece to be welded at at least one spot; a shank corresponding to each of said spots located to extend toward said workpiece on the side thereof remote from said surface; welding tips attached to the ends of said shanks adjacent said surface, means for moving said shanks relative to said support surface, to bring said tips into and out of contact with said workpiece; and means for causing electric current to flow between said tip and said workpiece, wherein said means for moving said shanks comprises: a piston cylinder rigidly mounted relative to said surface corresponding to each of said spots having its axis directed toward said spot, said cylinder being located on the side of said workpiece remote from said surface, said cylinder being closed at either end by members each having a central bore therein to allow slidable movement in said bore of a shank extending through each of said cylinders, a piston mounted on each said shank to move longitudinally therewith, said piston being designed to be contained in the respective piston cylinder and to be slidable on the walls thereof, a first bore in said shank extending from a location adjacent the tip-remote end thereof to an opening on the surface of said shank on the tip remote side of said piston; means for ensuring that said opening will connect to the inside of said cylinder in any position of said piston; a second bore in said shank extending from a location adjacent the tip-remote end thereof to an opening on the surface of said shank on the tip-adjacent side of said piston; means for ensuring that the opening will connect to the inside of said cylinder in any position of said piston; and means for supplying fluid under pressure to either one of said bores adjacent the tip-remote end thereof and for simultaneously receiving fluid from the other one of said bores adjacent said tip-remote end, and wherein said cylinder is so located relative to the intended position for said workpiece that movement of said piston brings said tip into and out of contact with such workpiece.

2,980,789
WELDING APPARATUS
Alfred Vang, Rancho, P.O. Box 864, Santa Fe, Calif., assignor of one-third to Alfred Vang, as trustee, and one-third to Anna Vang
Filed Sept. 18, 1957, Ser. No. 684,741
3 Claims. (Cl. 219—114)



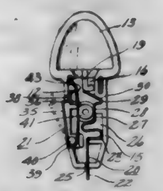
1. In a welding system, a welding transformer having a secondary winding and welding electrodes connected thereto and having a primary winding, a source of current for the primary winding and discharge tube means for electrically connecting and disconnecting the source to and from the primary winding, means for applying a sudden pulse of current to the primary winding independent of said source to induce a potential across the electrodes distinguishable from the welding current and means responsive to said potential for controlling said tube means.

2,980,790
WELDING ELECTRODE HOLDERS
Garland C. Bracken, Dearborn, Mich., assignor to Dollar Electric Co., Madison Heights, Mich., a corporation of Michigan
Filed Nov. 23, 1959, Ser. No. 854,625
7 Claims. (Cl. 219—120)



1. A welding electrode holder comprising a current conductive body portion including means of terminal lug engagement provided at one end thereof, means of pivotal support provided at the other end of said conductive member, an electrode carrier element formed integral with said conductive body portion and disposed in axial alignment with said means of pivotal support, and a rotatable coolant jacket means including coolant inlet and outlet means extending radially therefrom sleeved on said electrode carrier element turnable in respect thereto, and means fixing said terminal lug engagement means and said coolant jacket means in any position to which they may be turned.

2,980,791
AUTO MAP LIGHT
Walter C. Schumacher, Providence, R.I., assignor to General Electric Company, a corporation of New York
Filed Dec. 8, 1958, Ser. No. 778,813
2 Claims. (Cl. 240—8.14)



1. A combined lamp socket and attachment plug adapted for connection to an automobile-type cigarette lighter socket comprising an insulating housing of generally cylindrical configuration composed of first and second mating molded sections, said molded sections defining a contact end having an axial contact aperture and an oppositely disposed socket end, said first molded section defining a longitudinal slot, a circular embossment in said first molded section extending across said longitudinal slot near the contact end thereof, a U-shaped grounding contact mounted around said embossment with the ends extending toward the socket end of said housing, one leg of said grounding contact being hooked on the interior of said housing and leading exteriorly thereof through said longitudinal slot and the other leg thereof being positioned to make peripheral contact with the base of a lamp positioned in said socket, and a center contact of thin strip material with a straight end that extends through the axial contact aperture, the mid-section of the contact strip being bowed in an S configuration to bias the strip in an extended position, the opposite end of the strip having a free end positioned to engage the center contact of the base of a lamp positioned in said socket, said molded sections including interior partitions to maintain said contacts in position.

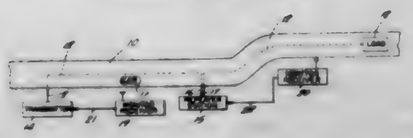
2,980,792
LIGHTING FIXTURE
George F. Johnston, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Sept. 28, 1959, Ser. No. 842,814
5 Claims. (Cl. 240—51.11)



1. In a lighting fixture, the combination of a pair of spaced apart junction boxes, a pair of reflector end members located at respective opposed sides of said junction boxes, a socket carried by each of said end members to support therebetween a tubular lamp, a reflector extending between and secured to said reflector end members to enclose a lamp in said sockets, said junction boxes each having an internal circumferential groove adjacent said side thereof, a clutch plate member having its periphery retained loosely in the said circumferential groove in each junction box for rotation therein, and means for retaining each reflector end member and its associated clutch member against relative rotation therebetween and for drawing toward each other said clutch plate and reflector end member to clamp therebetween a portion of the associated junction box whereby to re-

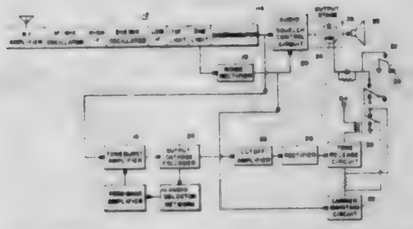
tain the assembly of reflector, reflector end members and clutch plates in a desired angular position relative to the junction boxes.

2,980,793
RESTRICTED RANGE RADIO TRANSMITTING SYSTEM
Donald B. Daniel, Sylmar, Calif., assignor to Electronic Safety Engineering Company, Oklahoma City, Okla., a company of Oklahoma
Filed June 11, 1956, Ser. No. 590,777
5 Claims. (Cl. 250—4)



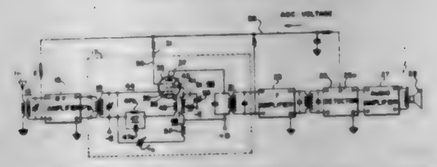
1. Apparatus for providing restricted range radio signals along an extended roadway comprising a radio transmitter, a transmission line antenna embedded in the roadway and extending along its length, means coupling the transmitter to the antenna, the transmission line antenna including a pair of spaced apart conductors, each of said conductors adjacent to the transmitter having a relatively large width in relation to its thickness, said width continuously decreasing while the conductor spacing is increasing along the transmission line as it extends from the transmitter to maintain the signal strength substantially uniform along the roadway.

2,980,794
AUTOMATIC TONE DECODER
William Vernon Hargreaves, East Paterson, and Louis Austin Durgin, Paterson, N.J., assignors, by mesne assignments, to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed June 13, 1957, Ser. No. 665,539
6 Claims. (Cl. 250—6)



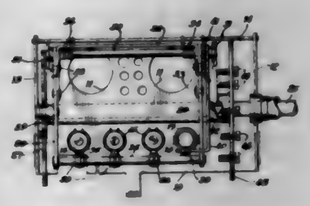
1. An automatic tone decoder operable by a transmitter having means to modulate a tone burst of a given frequency and short duration upon the carrier wave during the initial transmission of a series of transmissions, said decoder comprising, in combination, a receiver having an output stage with a cathode resistor, means normally muting said receiver, a normally energized relay having an energizing coil, said relay in its deenergized position providing a ground return for the cathode of said output stage, a tone burst amplifier stage, an output cathode follower stage, means applying the output of said amplifier stage to an input of said cathode follower stage, a normally cutoff amplifier, means applying the output of said cathode follower to an input of said cutoff amplifier to drive said amplifier out of cutoff on reception of a tone burst frequency, a tone release amplifier the output of which is fed to said relay energizing coil, means for applying the highly amplified negative going signal output of said cutoff amplifier to said tone release amplifier to drive said tone release amplifier into cutoff to thereby deenergize said relay and unmute said receiver upon reception of a tone burst frequency, means maintaining said relay deenergized and said receiver unmuted for the duration of an initial transmission, means automatically energizing said relay and remuting said receiver upon termination of an initial transmission, and means for defeating the remuting of said receiver, said means comprising a manually operable hook switch providing a ground return for said cathode resistor.

2,980,795
AUTODYNE CONVERTER
William F. Bailey, Valley Stream, Richard J. Farber, New Hyde Park, and Joseph J. Marzocchi, Huntington, N.Y., assignors to Hazeltine Research, Inc., a corporation of Illinois
Filed Dec. 9, 1959, Ser. No. 858,435
7 Claims. (Cl. 250—20)



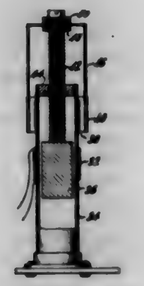
1. An autodyne frequency converter for converting a received radio frequency signal to a required frequency, the amplitude of the converted signal being stabilized against variations in received signal strength by a supplied automatic-gain-control voltage, said converter comprising: a vacuum tube having a cathode, a signal grid, a screen grid, a suppressor grid and an anode; input circuit means for applying said received signal between said signal grid and said cathode; means for applying said automatic-gain-control voltage to said suppressor grid so as to cause increasing diversion of current from said anode to said screen grid as said received signal increases; coupling circuit means for inductively coupling at least said screen grid to said cathode to establish a regenerative feedback loop, a tuned circuit comprised in said coupling circuit means resonant at a frequency differing from that of said received signal by said required frequency so as to cause oscillatory signals to be produced in said feedback loop at said resonant frequency; said coupling circuit means being constructed so as to minimize interaction of said oscillatory and received signals in said input circuit due to the inter-electrode capacitance between said signal grid and said screen grid; and an output circuit connected across said anode and cathode resonant at said required frequency so as to obtain said frequency converted signal.

2,980,796
RADIO-FREQUENCY TUNER
Francis G. Mason, Westport, Conn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Dec. 18, 1957, Ser. No. 703,604
4 Claims. (Cl. 250—40)



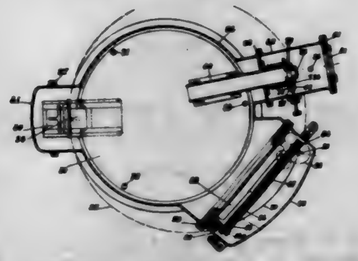
1. In a radio-frequency tuner having a first tuned circuit tunable by movement of a first tuning element and a second tuned circuit tunable by movement of a second tuning element, the combination comprising a tuning cam mounted for movement in a predetermined locus and having a plurality of distinct positions representative of frequency channels to be tuned, means for moving said cam into any selected one of said positions, cam-follower means connected to said first tuning element and operative responsively to engagement with said cam to move said first tuning element and thereby to tune said first circuit to a frequency channel corresponding to said selected position, means for moving said second tuning element, said moving means being mounted in a lost-motion relation with said follower means operative to move said second tuning element responsively to rotation of said cam while leaving to said moving means in each cam position a limited range of movement independently of said follower means, a second cam operatively connected to said cam-moving means for movement thereby in step with said first cam, said second cam being provided with a plurality of individually adjustable elements spatially disposed thereon to correspond with said distinct positions of said first cam and means operatively associating said second cam and said means for moving said second tuning element for causing said second tuning element to move within said limited range responsively to engagement with a particular one of said adjustable elements when said first cam is moved into a selected one of said positions, whereby optimum tuning of said second circuit for each of said channels may be achieved by adjustment of said adjustable elements.

2,980,797
VARIABLE TUNER
John W. Million, Jr., Mount Holly, N.J., assignor, by mesne assignments, to American Bosch Arma Corporation, Hempstead, N.Y., a corporation of New York
Filed July 17, 1958, Ser. No. 749,257
1 Claim. (Cl. 250—40)



A wide range tuner comprising a hollow insulated tubular member, a coil wound around said tubular member, a high permeability core disposed within said tubular member adapted to be moved within said coil to vary the inductance thereof, a slit ring forming one plate of a variable capacitor disposed around said tubular member in a coaxial relationship with said coil, a non-magnetic metal ring disposed around said tubular member forming a second plate of a variable capacitor adapted to be moved outside of said slit ring, said non-magnetic metal ring being disposed in a coaxial relationship with said high permeability core, a unitary control for moving said core and said non-magnetic metal ring, and said unitary control being adapted to move said non-magnetic metal ring away from said slit ring to decrease the capacitance of said variable capacitor and around said coil to decrease the inductance thereof and to provide a shield therefor.

2,980,798
SPECTRUM ANALYSIS APPARATUS
Jacques Louis Romand, Bourg-la-Reine, and Boris Vodar, Paris, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a French society
Filed Aug. 2, 1957, Ser. No. 675,878
Claims priority, application France Nov. 9, 1956
12 Claims. (Cl. 250—83.3)

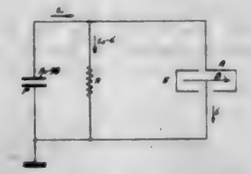


2. A spectrum analysis apparatus which comprises, in combination, a casing including a cylindrical portion and two end portions having their concavities turned toward the outside of said casing, said cylindrical portion being provided with at least two apertures both located on the same side of a diametral plane of said portion, a rigid plate at right angles to the axis of said cylindrical portion carried by said casing at at least three points thereof, a rigid support secured to said plate and extending through one of said apertures, means forming an entrance slit for the beam of rays to be analyzed carried by the outer end of said support, a cap fitted in gas-tight fashion on said last mentioned aperture and surrounding the portion of said support that projects from said last mentioned aperture, said cap also surrounding said entrance slit, means carried by said cap in the portion thereof on the outer side of said entrance slit for producing a spark opposite said slit, said last mentioned means including two electrodes and a piece of a material of the group consisting of insulators and semi-conductors, said piece extending between said electrodes and being in tight contact therewith, the inside of said cap being in communication with the inside of said casing, means carried by said casing forming a diffraction grating arranged to diffract the rays from said entrance slit toward the second of said casing apertures, a rigid support fixed to said plate and extending through said second aperture, photoelectric receiver means for analysis of the diffracted rays from said grating mounted on said last mentioned support, a cap fitted in a gas-tight fashion on said second aperture surrounding at least a portion of said receiver means, the inside of said last mentioned cap being in communication with the inside of said casing, and means for creating a vacuum in the whole of said casing and said caps.

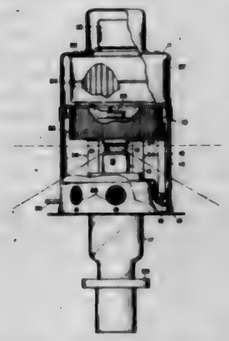
2,980,799
RADIATION METER INCORPORATING A RADIOACTIVE ELEMENT
Hervé Louis Eugène Marie Bongrain, 20 Rue Lafayette, Versailles, and Michel Albert Agon, 5 Bis Rue Agar, Paris, France
Filed Jan. 24, 1956, Ser. No. 561,050
Claims priority, application France Feb. 9, 1955
2 Claims. (Cl. 250—83.6)

1. A radiation metering system, comprising in combination a supply of voltage incorporating a radioactive element, a resistance fed by said supply, an electrometer fed by said supply in parallel relationship with the resistance and including a casing forming an ionizing chamber, a stationary armature and a revoluble hand carried inside the casing, said armature and hand being separated by a gap and being connected respectively with the opposite terminals of the resistance and adapted to feed

across the gap between them a current proportional to the ionization of the chamber to make the hand rock correspondingly, and a scale of Roentgens associated with the revoluble hand and forming an indicator of ionization.



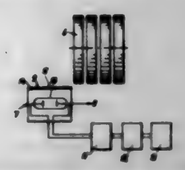
2,980,800
X-RAY UNITS
Gottfrid W. Steen, Stamford, Conn., assignor, by mesne assignments, to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut
Filed July 24, 1958, Ser. No. 750,764
4 Claims. (Cl. 250—90)



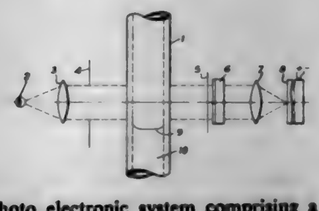
1. In an X-ray unit comprising a hollow housing, an X-ray tube in the housing for generating X-radiation and having a window for transmitting X-rays from the tube as a field of radiation, an electrical conductor extending parallel to the window in the field of radiation, said conductor being an elongated flat strip of metal foil transparent to X-radiation located with one flat surface directed toward the target of said X-ray tube, and means for securely mounting the foil upon the wall of the housing comprising a pair of spaced insulating blocks carried by said wall upon opposite sides of the field of radiation, metal blocks secured to and interlocked with each end of the fold, the metal block at one end of the foil being secured to one of the insulating blocks, the other insulating block having an arm pivotally mounted thereon, and a pair of springs connecting opposite ends of the arm with transversely spaced portions of the other metal block, the springs maintaining the foil in position relatively taut and rigid.

2,980,801
TRANSLATION OF SYMBOLS INTO ELECTRIC SIGNALS
Theodorus Reumerman, 12 Zandvoortselaan, Zandvoort, and Willem Hendrik Theodorus Helmig, 9 Van Slingelandtlaan, Leiden, Netherlands
Filed Feb. 5, 1957, Ser. No. 638,344
Claims priority, application Great Britain Feb. 6, 1956
14 Claims. (Cl. 250—106)

7. Apparatus for translating symbols into electric signals, comprising a counter, at least one movable symbol carrier in said counter and including a plurality of symbol fields in fixed and predetermined relation and at least partially provided with spots of a radio-active material grouped in a pattern corresponding to a predetermined code identifying the symbol on each field, a scanning device for converting the radiation of the said radio-active spots into impulses, and means to process the impulses.

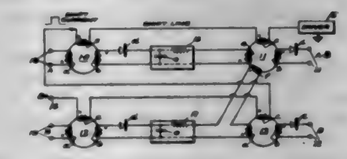


2,980,802
PHOTO ELECTRONIC SYSTEM
Ronald John Bracey, North Harrow, and Donald Lang Rigby, London, England, assignors to Baird and Tatlock (London) Limited, Chadwell Heath, England, a company of Great Britain
Filed July 18, 1958, Ser. No. 749,353
Claims priority, application Great Britain June 26, 1958
6 Claims. (Cl. 250—218)



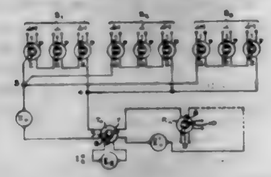
1. A photo electronic system comprising a source of radiant energy, a tube of substantially circular cross-section and of a material transparent to radiation from said source, a photo electronic device disposed on the side of said tube remote from said source, means for directing a beam of radiation from said source through said tube and on to said device, a first fluid in said tube in the path of said radiation, a first cylindrical lens constituted by said first fluid and said tube, a member opaque to said radiation located in the path thereof between said tube and said device at a distance from the axis of said tube substantially equal to the focal length of said first lens, a second fluid immiscible with said first fluid in said tube, means for causing relative movement in the longitudinal direction of said tube between said first and second fluids of the system to bring said second fluid into said path and a second cylindrical lens constituted by said second fluid and said tube having a focal length different from that of said first lens.

2,980,803
INTELLIGENCE CONTROL SYSTEMS
Sadia S. Guterman, Dorchester, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Mar. 11, 1955, Ser. No. 493,741
7 Claims. (Cl. 307—88)



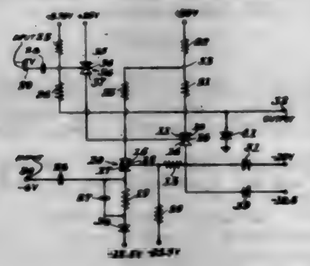
1. In an intelligence control system, transferror and transferee field-sustaining cores having input, output and series-connected field-shifting windings thereon, a single inhibiting winding on said transferee core, a delay network including capacitive storage means connecting the output winding of said transferror core with the input winding of said transferee core, said input winding of said transferee core adapted to cause current flow in one direction in the output winding of said transferee core, and means including said inhibiting windings for establishing magnetic flux saturation in the associated core in a direction opposite to that established by said input windings to set up an opposing magnetic flux in a degree sufficient to prevent by flux cancellation any substantial change in the field-condition of said core, notwithstanding operation of said first-named current flow-causing means.

2,980,804
BINARY CODED INFORMATION PROCESSING DEVICES
Francois Henri Raymond, Saint-Germain-en-Laye, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, France
Filed Jan. 8, 1957, Ser. No. 633,132
Claims priority, application France Jan. 11, 1956
11 Claims. (Cl. 307—88)



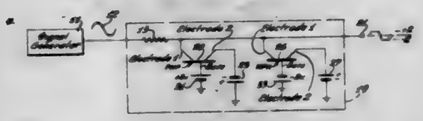
6. A binary coded information processing device including the combination of at least one first magnetic core and at least input and output windings on said first core, at least one second magnetic core and input and output windings on the said second core, an intermediate magnetic core and input, output and preset windings on this intermediate core, a series current circuit from a first intermittent current source including the said preset winding on the intermediate core, a series current circuit from a second intermittent current source including the output winding of the first core and the input winding of the intermediate core, and a series current circuit from a third intermittent source including the output winding of the intermediate core and the input winding of the second magnetic core, the periods of activation of the said first, second and third intermittent current sources being relatively shifted with respect to time.

2,980,805
TWO-STATE APPARATUS
Norman F. Moody, Ottawa, Ontario, Canada, assignor to Her Majesty the Queen in the right of Canada as represented by the Minister of National Defence
Filed Feb. 11, 1957, Ser. No. 639,287
29 Claims. (Cl. 307—88.5)



1. A two-state apparatus having at least one output connection and at least one input connection, said apparatus comprising a junction type semi-conductor unit having an effective emitter electrode, an effective first base electrode, an effective second base electrode, and an effective collector electrode; a source of fixed potential, means connecting the first base electrode to one terminal of the source, first means connecting the effective collector electrode to the other terminal of the source, an output connection connected to the effective collector electrode, a first clamping means adapted to maintain the semiconductor unit in a cut-off state; a second clamping means adapted to maintain the semiconductor unit in a state of conduction; the first clamping means including second means connecting the second base electrode to a source of fixed potential to maintain the semiconductive unit in a cut-off state and to clamp the effective collector electrode at a first predetermined potential, the second clamping means including third means connecting the second base electrode to a point of potential on said source which is fixed upon conduction of the semi-conductive unit in a state of saturation to clamp the effective collector electrode at a second predetermined potential and to clamp the current drawn by the second base electrode despite variation in the load, at a value which is equal to the current of the effective emitter electrode multiplied by α_2 and which is more than the current of the effective collector electrode multiplied by $(1-\alpha_1)$, where α_2 is the current amplification factor of the second base electrode to the emitter electrode and α_1 is the current amplification factor of the first base electrode to the collector electrode; an input connection taken from at least one of the electrodes of the semiconductor unit for switching the semiconductor unit from one state to the other state in response to an input signal to render the first and second clamping means selectively operable.

2,980,806
CORRECTED DIODE
Donald L. Ort, Los Angeles, Calif., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Apr. 22, 1957, Ser. No. 654,218
16 Claims. (Cl. 307—88.5)



1. A transistor voltage clamp for generating an accurate clamped voltage from an applied variable amplitude input signal, said clamp comprising: a transistor having a first electrode, second electrode, and a base electrode; high impedance means for applying the input signal to said first electrode; second means for electrically reverse biasing said second electrode; and first means for applying a predetermined clamping voltage to said base electrode, whereby the clamped voltage appears at said first electrode.

2,980,807
BISTABLE ELECTRICAL CIRCUIT
Gerhart K. Groetzinger and Philip Schwed, Baltimore, and Louis Witten, Baltimore County, Md., assignors to The Martin Company, a corporation of Maryland
Filed Sept. 17, 1957, Ser. No. 684,610
9 Claims. (Cl. 307—88.5)

1. A bistable electrical circuit comprising, a single cryotron having a switching element characterized by a superconducting state with a resistance R_s and a normal state with a resistance R_n, and a control winding for generating and applying a magnetic field H_c to said switching element, said switching element being adapted to pass

from said superconducting state to said normal state in response to the increase of an applied magnetic field through a preselected critical magnitude H_c, means for generating and applying a magnetic field H_s to said switching element equal to or greater than H_c in magni-



tude, a voltage source V, and a resistive element R, said switching element, control winding, voltage source, and resistive element being connected in series circuit relation, the values of V and R in said series circuit being defined by the equations:

$$V=I_0(R+R_k+R_0)$$
$$V=I_a(R+R_k+R_a)$$

whereby the said circuit is stable with the said switching element in either its superconducting or normal state, where:

R_k is the resistance of the said control winding,

I_0 is equal to a value of current through said series circuit for generating a magnetic field which, in combination with said magnetic field H_s produces a net magnetic field $H<H_c$, and

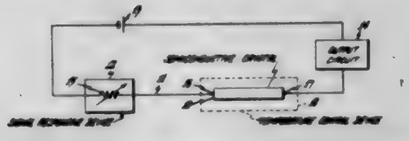
I_a is equal to a value of current through said series circuit for generating a magnetic field which, in combination with said magnetic field H_s, produces a net magnetic field $H>H_c$.

2,980,808

SWITCHING CIRCUIT COMPRISING TEMPERATURE CONTROLLED SEMICONDUCTIVE DEVICE

Martin C. Steele, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 20, 1957, Ser. No. 697,550
19 Claims. (Cl. 307—88.5)



19. A switching circuit comprising in combination, a body of material which exhibits a sharp change in resistivity due to impact ionization under predetermined conditions of temperature and applied electric field, means for adjusting the temperature of said body to said predetermined temperature condition, means to apply a unidirectional potential to said body sufficient in value to cause said sharp change in resistivity, and means including an adjustable impedance element responsive to a control signal to vary the unidirectional potential applied to said body according to said control signal.

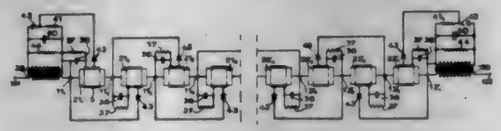
2,980,809

SEMI-CONDUCTOR DEVICES FOR RECTIFYING AND CLIPPING LARGE ELECTRICAL CURRENTS

Stanislas Teszner, 49 Rue de la Tour, Paris, France

Filed Dec. 9, 1957, Ser. No. 701,478
Claims priority, application France Dec. 12, 1956
11 Claims. (Cl. 307—88.5)

10. A device for controlling the amplitude of an electrical current flowing through a supply line designed for being inserted in series across said line comprising a plurality of field-effect transistors having each two ohmic terminal electrodes and rectifying contact gate electrode adapted to receive control signals, leads connecting the internal transistor paths between a pair of said ohmic electrodes in tandem transmission relation to form a series chain constituting, in the absence of control signals, a conductive path for the electrical current, at least one means in series with said line responsive to the electrical current amplitude and polarity and adapted to derive



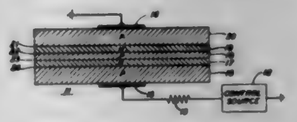
from said amplitude and polarity a signal voltage having a value at least equal to the complete pinch-off voltage of said field-effect transistors, means for applying said signal voltage to the gate electrode of at least a field-effect transistor of said plurality of in the reverse direction of the rectifying contact constituted by said gate electrode and transistor body and means for applying in cascade relationship the potential of an ohmic electrode of a given field-effect transistor to the gate electrode of another field-effect transistor in said plurality.

2,980,810

TWO-TERMINAL SEMICONDUCTIVE SWITCH HAVING FIVE SUCCESSIVE ZONES

James M. Goldey, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 30, 1957, Ser. No. 706,185
3 Claims. (Cl. 307—88.5)



1. A switch comprising a monocrystalline body including five zones arranged in succession, contiguous zones being of opposite conductivity type, and electrical connections to only the two terminal zones of the body, the three intermediate zones being floating, each of said intermediate zones having a thickness of the order of ten-thousandths inches and a concentration of recombination centers related to said zone thickness whereby the effective alpha of the body is substantially below unity for a current density in the body below a predetermined switching level and reaches unity for a current density in the body above the predetermined switching level for applied potentials of either polarity.

2,980,811

CERAMIC TRANSDUCER ELEMENTS

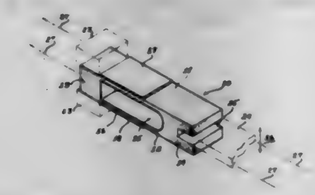
James M. Jacque, Conneaut, Ohio, assignor to The Astatic Corporation, Conneaut, Ohio, a corporation of Ohio

Original application Sept. 10, 1956, Ser. No. 608,934. Divided and this application Jan. 4, 1960, Ser. No. 311

6 Claims. (Cl. 310—9.4)

1. A piezo-electric ceramic transducer comprising a tubular section having top and bottom walls and two end walls, electrode areas on said top and bottom walls, means for securely anchoring one of said end walls, means for applying a driving force to the other of said

end walls, said means for applying a driving force comprising a drive lever, said other end wall being formed with a groove-like recess therein to receive said drive



lever, and the functional piezo-electric axis of said element being disposed transversely to the physical axis of said tubular section.

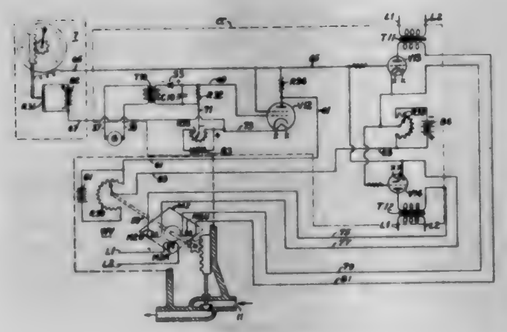
2,980,812

DYNAMOMETER

Jerrold B. Winther, Kenosha, Wis., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Original application July 17, 1957, Ser. No. 672,510, now Patent No. 2,943,481, dated July 5, 1960. Divided and this application Oct. 27, 1958, Ser. No. 769,825

7 Claims. (Cl. 310—93)



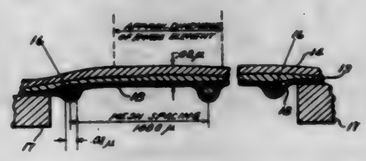
1. In a liquid-cooled dynamometer having a rocking case adapted for torque measurement, a rotary shaft in the case adapted for attachment to an engine under test, an electromagnetic dynamometer brake having a stator attached to said case and a rotor attached to said shaft, and a cooling circuit adapted to pass liquid coolant in heat exchange relationship with said brake; a proportioning valve in said coolant circuit adapted to control the flow of coolant through said circuit, a reversing motor for operating said valve, an electric generator responsive to the speed of said dynamometer shaft to produce a first electrical signal, first electric means responsive to movement of said rocking case to produce a second electrical signal, second electric means responsive to instantaneous positioning of said valve to produce a third electrical signal, and an electrical control circuit responsive to the composite of said first, second and third signals to energize said motor in the proper direction to vary the opening of said valve whereby said valve is substantially instantaneously and accurately positioned in response to the level of horsepower actually being absorbed simultaneously by said brake.

2,980,813

PHOTOTHERMIONIC APPARATUS

Max Garbuny, Pittsburgh, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed July 12, 1957, Ser. No. 671,681
7 Claims. (Cl. 313—65)



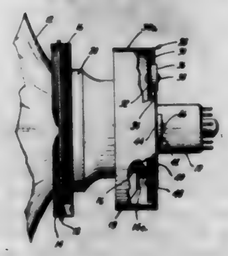
6. A photothermionic retina assembly including a mesh of non-conducting thread-like material, and layers of silicon oxide and gold-black, respectively, on opposite surfaces of said mesh.

2,980,814

COMBINED MAGNETIC SHIELDING AND BEAM CENTERING ASSEMBLY FOR CATHODE-RAY TUBES OR THE LIKE

Henry S. Vasilevskis, Ardsley, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 15, 1958, Ser. No. 755,270
2 Claims. (Cl. 313—75)



1. In combination with a cathode-ray tube system having magnetic deflection coils for creating a relatively high frequency magnetic deflection field in a first plane and a relatively low magnetic deflection field in a second plane, a laminated magnetic shielding and beam centering assembly comprising a sheet-like member formed of a highly conductive material, said sheet-like member being apertured to receive the neck of said cathode-ray tube and disposed in adjacency with said deflection coils, a first pair of semicircular coplanar plates of high permeability material disposed in juxtaposition with said sheet-like member on the side of said sheet-like member remote from said coils, selected portions of the diametrical edge of one of said first pair of plates being disposed in spaced juxtaposition to corresponding portions of the other plate of said first pair thereby to define a gap extending substantially transversely to said low frequency magnetic deflection field, said gap being formed with an enlarged central portion to receive the neck of said cathode-ray tube, a first permanent magnet bridging said gap between the plates of said first pair, a second pair of coplanar plates of high permeability material disposed in spaced juxtaposition to said first pair of plates and on the side remote from said sheet-like member, each of said second pair of plates comprising a main portion of relatively large radial dimension lying substantially entirely on one side of said gap in said first pair of plates and an integrally formed, arcuate, finger-like portion of relatively small radial dimension extending partially around the neck of said cathode-ray tube, a selected portion of an edge of said main portion of

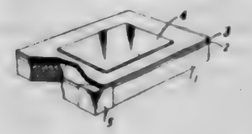
one of said plates in said second pair being disposed in spaced juxtaposition to a corresponding portion of the other plate in said second pair thereby to define a second gap extending transversely to said first gap, a second permanent magnet bridging said second gap between said second pair of said coplanar plates, said second magnet being so oriented as to establish a magnetic field between said second pair of said coplanar plates and across the neck of said cathode-ray tube, one of said plates of said first pair being formed with an aperture therein underlying said gap between said second pair of plates, said second magnet extending through said last-mentioned aperture in a non-contacting relationship.

2,980,815
DEFLECTION YOKE ASSEMBLY FOR CATHODE RAY TUBES
Mario E. Ecker, Pennsauken, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 5, 1957, Ser. No. 676,121
11 Claims. (Cl. 313—76)



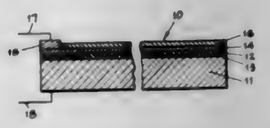
1. A deflection yoke assembly adapted to be closely fitted around the neck portion of a cathode ray tube, said assembly comprising transverse deflecting coils, each coil having thin linear coil sides arranged to extend lengthwise along the surface of said neck portion of a cathode ray tube, means for supporting and positioning said deflecting coils whereby said coil sides define a hollow cylinder, a ring core of magnetic material enclosing said coil sides, a clamping ring of insulating material for holding said coil and core assembly together, said ring having at least one groove extending partially around its outer surface, a flexible printed circuit strip carrying circuitry for said coils disposed in said groove, and means for securing said strip in said groove, said groove being sufficiently deep to accommodate said printed circuit strip with components mounted thereon.

2,980,816
ELECTROLUMINESCENT LAMP
Elmer Curry Payne, New Brunswick, N.J., assignor to Sylvania Electric Products Inc., Salem, Mass., a corporation of Massachusetts
Filed Jan. 9, 1953, Ser. No. 330,543
9 Claims. (Cl. 313—108)



4. An electroluminescent lamp comprising a particle of a semi-conductor material having a projection, a depletion layer over said projection and a dielectric material in contact with said depletion layer.

2,980,817
ELECTROLUMINESCENT STRUCTURE
Romey A. Gaiser, Muncie, Ind., assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed June 14, 1956, Ser. No. 591,473
10 Claims. (Cl. 313—108)



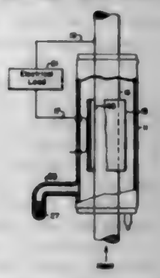
1. An electroluminescent structure comprising, an electrically conducting plate, a glass frit containing a phosphor material fired on said plate, a thin layer of a chemically inert heat resistant insulating material on said layer of glass frit, and a transparent electrically conducting oxide film on said layer of insulating material.

2,980,818
PROJECTION LAMP
Joseph M. Harris, Topsfield, and Robert F. Scoledge, Danvers, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Jan. 9, 1958, Ser. No. 707,952
4 Claims. (Cl. 313—113)



1. An incandescent lamp comprising an hermetic sealed bulb having a light-transmitting portion, a concave reflector of sheet metal supported inside said bulb and spaced therefrom, a metallic filament inside the same bulb, and means holding said filament in reflecting relationship to said reflector and insulating it therefrom, said filament being placed between the concave reflector and the light-transmitting portion of the bulb.

2,980,819
THERMAL ENERGY CONVERTER
Gene R. Fenster, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 1, 1958, Ser. No. 746,028
13 Claims. (Cl. 313—212)



1. A thermionic device for converting thermal energy into electrical energy including an envelope, a cathode,

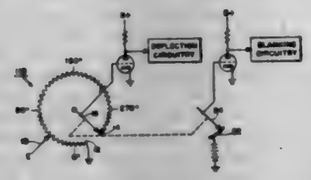
a source of thermal energy for supplying heat to said cathode, an anode and alkali metal vapor located at least partially between said cathode and said anode during operation, said cathode having an electron emissive surface portion having a work function greater than the ionization potential of said alkali metal, said electron emissive surface, during operation, being at a temperature adequate to produce substantial thermionic emission and being at a higher temperature than said anode.

2,980,820
FILAMENT SUPPORT FOR AN ELECTRIC LAMP OR SIMILAR DEVICE
William L. Brundige, West Caldwell, and Raymond M. Kane, Hanover, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 24, 1959, Ser. No. 861,861
7 Claims. (Cl. 313—279)



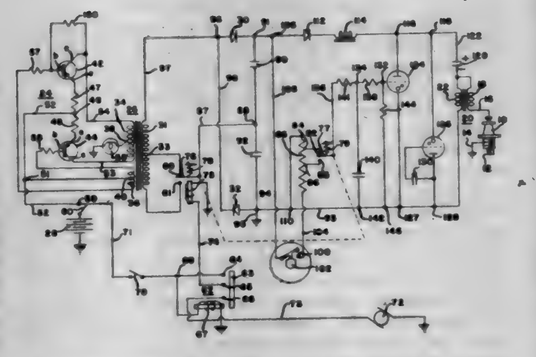
1. In combination with a coiled filament of refractory wire comprising a plurality of spaced turns, a support member of refractory sheet material having an opening that extends inwardly from its periphery, said support member being inserted between adjacent turns of said filament and disposed transversely of said filament so that a part of one of said adjacent turns passes through said opening, said support member in the region interposed between said adjacent filament turns having a thickness greater than the spacing between said turns and, by virtue of the resultant spreading of said turns, being firmly gripped and compressively clamped thereby and prevented from being rotatively or laterally displaced from its inserted position on said filament.

2,980,821
DISPLAY SYSTEM
William J. Dunn, Teaneck, Charles A. Ankenbrock, Paramus, and Martin Rabb, East Paterson, N.J., assignors, by mesne assignments, to Fairchild Camera and Instrument Corporation, Long Island City, N.Y., a corporation of Delaware
Filed Dec. 31, 1957, Ser. No. 706,483
11 Claims. (Cl. 315—24)



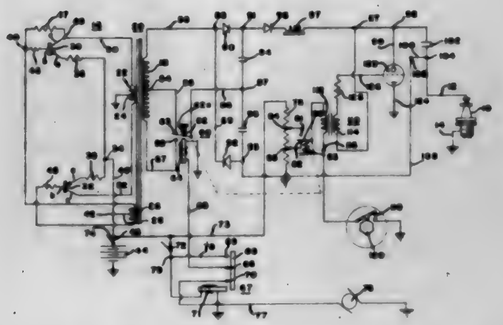
1. Apparatus by producing a trace which is presented on an indicator by deflection means comprising a potentiometer having ends which are separated, means for connecting one of said ends to a reference potential point, said potentiometer having a first movable wiper which is connected to said deflection means and a second wiper which is positionable on the body of said potentiometer, a source of voltage electrically connected across said reference potential point and said second wiper, said first wiper applying a sweep voltage to said deflection means as it moves on the body of said potentiometer between said one end and said second wiper, the position of said second wiper determining the speed of said sweep voltage, said first wiper causing a blind spot to be produced on said trace as it moves between the separated ends of the potentiometer, a second structure having a contact which corresponds in position to the separation between the ends of said potentiometer, an energizing blanking signal source connected to said contact, said second structure having a third wiper which is connected to move with said first wiper, blanking circuit means connected to said third wiper, said blanking circuit being energized from said blanking signal source to blank out the trace when said first wiper moves between the separated ends of the potentiometer.

2,980,822
IGNITION SYSTEM
Brooks H. Short, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,698
4 Claims. (Cl. 315—180)



1. An electronic ignition system for firing the combustible mixture of an internal combustion engine comprising, a source of direct current power, an ignition coil having a primary winding and a secondary winding, a spark plug connected with said secondary winding, a first condenser, a charging circuit for said first condenser connected across said direct current power source and including the primary winding of said ignition coil, a three terminal electronic switch having a control terminal and a pair of current carrying terminals, a discharging circuit for said first condenser including the current carrying terminals of said electronic switch and the primary winding of said ignition coil, a third circuit including a second condenser, breaker contacts opened and closed in synchronism with operation of said engine, means connecting said breaker contacts with said power source and with said third circuit for controlling application of power to said third circuit, and means connecting said third circuit with the control terminal and one of the current carrying terminals of said electronic switch whereby said second condenser charges from said source and discharges through said electronic switch at a repetitive rate as long as said breaker contacts are closed, said first condenser charging from said source and discharging through the primary winding of said ignition coil during the closure of the breaker contacts.

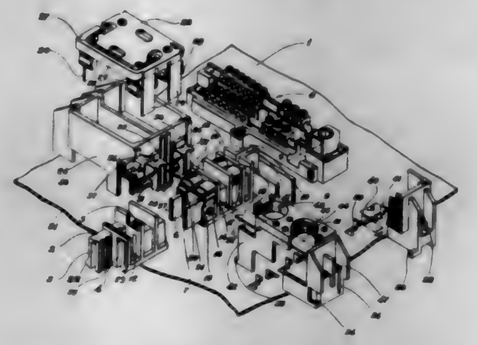
2,980,823
LOW VOLTAGE ELECTRIC IGNITION SYSTEM
Brooks H. Short, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 12, 1958, Ser. No. 760,699
3 Claims. (Cl. 315—180)



1. A low voltage electronic ignition system for igniting the combustible mixture in an internal combustion engine comprising, a relatively low voltage battery, a relatively high frequency oscillator circuit including at least one transistor, means connecting said oscillator circuit to be energized by said low voltage battery, transformer means including a secondary winding energized from said oscillator circuit for boosting the A.C. voltage developed by said oscillator circuit, rectifier means of the PN junction semiconductor type connected with said secondary winding for converting the high frequency A.C. output of said oscillator circuit to direct current, a condenser, a spark plug of the creepage gap type, means connecting said condenser and the electrodes of said spark plug in series with each other, means connecting said condenser with said rectifier means whereby said condenser is charged with direct current, a three terminal electronic switch having a pair of current carrying terminals and a control terminal, a discharging circuit for said condenser including the current carrying terminals of said electronic switch and said creepage gap spark plug, and means connected with the control electrode of said electronic switch for controlling the conduction of said electronic switch in synchronism with operation of said engine, said last named means including breaker contacts energized solely from said low voltage battery.

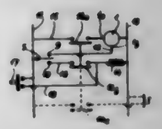
2,980,824
LOAD DISTRIBUTING ARRANGEMENT
Herman H. Kobryner, Forest Hills, N.Y., assignor to Murray Manufacturing Corporation, Brooklyn, N.Y.
Filed June 17, 1957, Ser. No. 666,044
10 Claims. (Cl. 317—116)

5. A load distributing arrangement comprising a panel, a bus-bar retaining block of insulating material, rigidly mounted on said panel, and including a pair of parallel slots extending longitudinally of the block, each of said slots lying in a plane perpendicular to said panel, a pair of bus-bars mounted in said slots, said insulating block being slotted on opposite sides to expose the adjacent bus-bars, the slots on one side being off-set relative to the slots on the opposite side, a plurality of connector members, each comprising a first part mounted snugly in one of said slots and connected rigidly to the exposed bus-bar and a second part extending across the top of said block, whereby adjacent second parts of said connectors are connectors to opposite bus-bars, said block including recessed portions extending a given distance from the panel along the opposite sides thereof; a first protective device comprising a pair of contact members separated so as to contact adjacent second parts of said connectors, a second protective device comprising a contact member positioned to contact the second part of one of said connectors, respective housings for each of said protective devices, each



housing having an extension at one end along the bottom thereof, for fitting snugly in said recessed portion of said block; and means for securing the opposite ends of said housings to said panel when the housings are positioned so that said extensions lie in the recessed portions, whereby said housing are locked at both ends to said panel.

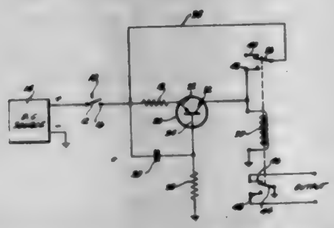
2,980,825
TIME SWITCHES AND THE LIKE
Marc Frachon, La Pierre Souveraine, Saint-Genis-Laval, France
Filed Aug. 4, 1958, Ser. No. 753,003
Claims priority, application France Aug. 13, 1957
3 Claims. (Cl. 317—141)



1. A time switch adapted to close an external circuit for an adjustable time, comprising an electric driving motor unit having a first speed and a second speed of same direction as said first speed but of higher value; a driving cam rotated by said motor unit, said cam being in the form of an arc of a spiral with a substantially radial junction between its outermost and its innermost point and said junction facing rearwardly with respect to the direction of rotation of said cam by said motor unit; a pivotally mounted micro-switch unit oscillated by said driving cam, said micro-switch unit embodying an actuating press-button and inner two-way snap acting contact system with a single stable position and an unstable position, actuated by said press-button to be brought to its unstable position when said press-button is pressed, said system comprising a first set of contacts which are closed at the stable position of said system and open at the unstable position thereof, and a second set of contacts which are open at the stable position of said system and closed at the unstable position thereof, said first set of contacts being connected with said motor unit to cause same to rotate at said second speed; means tending to maintain said micro-switch unit in engagement with said driving cam; a normally stationary but adjustable regulating abutment in front of said actuating button, said abutment and said button being so arranged that said button engages said abutment during the return stroke of said micro-switch unit from the outermost point of

said driving cam to cause said inner snap acting contact system to pass from its stable position to its unstable position under the action of said press-button; a relay having a relay coil and a plurality of relay contacts actuated by said coil, said coil being energized in series through a first one of said relay contacts and through said second set of contacts of the inner snap acting contact system of said micro-switch unit, and a second one of said relay contacts closing a circuit to energize said motor unit to cause same to rotate at said first speed; and a controlling contact to temporarily energize the coil of said relay to close the contacts of same and thereby to start said motor unit at said first speed and to rotate said driving cam, until said micro-switch unit is raised by said driving cam to bring said inner snap acting contact system to its stable position to cause the second set of contacts thereof to open and the first set of contacts thereof to close to rotate said motor unit at said second speed until the return stroke of said micro-switch unit.

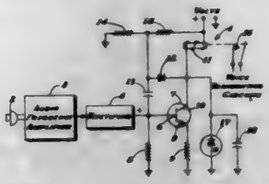
2,980,826
TIME DELAY RELAY DEVICE
William F. Horton, Pacific Palisades, Calif., assignor to Lear, Incorporated
Filed May 1, 1957, Ser. No. 656,386
3 Claims. (Cl. 317—148.5)



1. In combination, a source of D.-C. voltage, a transistor having emitter, collector and base electrodes, a relay control coil connected between said collector electrode and a point of reference potential, a switch coupled to said emitter electrode, an armature for said coil directly connected to said switch, said source being connected to said switch, means in the emitter-base circuit of said transistor operative upon closing said switch to delay for a predetermined period the establishment of collector current for energizing said coil, said armature upon energization of the coil moving to a position to establish a direct connection between said collector electrode and said switch, and a return circuit from said transistor base electrode and said relay coil to said source whereby a direct current connection from said source through said coil is established, whereby said switch upon being opened to de-energize the coil can immediately be closed to establish the predetermined delay period.

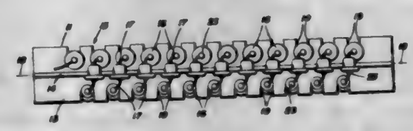
2,980,827
VOICE-OPERATED RELAY SYSTEM
John D. Hill III, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 21, 1959, Ser. No. 814,754
2 Claims. (Cl. 317—148.5)

1. A voice-operated relay comprising, a transistor having a base, an emitter and a collector, a source of potential having two terminals, a magnetic relay having a winding connecting said collector to one terminal of said source, a feedback circuit comprising a diode and a capacitor connected in series between said collector and said base, said diode being connected to said collector, a voltage divider connecting said source to the junction of said diode and said capacitor for biasing said diode nonconductive, means responsive to the application of audio-frequency signal above a predetermined level for applying rectified audio-frequency signal to said base, means for normally biasing said base beyond cutoff relative to said emitter to prevent substantial current flow through said transistor, said transistor becoming conductive in response to the application of rectified audio signal to said base for operating said relay, said diode becoming conductive and the voltage applied across said



capacitor decreasing in response to the voltage drop across the winding of said magnetic relay caused by the current flow through said transistor, and said capacitor recharging in response to an interruption in said rectified audio-frequency signal to maintain said transistor conductive and thereby to maintain said relay operated for an interval during which insufficient rectified audio-frequency signal is applied to said base for maintaining said relay operated.

2,980,828
DIODE SPIDER ASSEMBLY
Preben Eggers, West Newton, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 27, 1960, Ser. No. 25,172
5 Claims. (Cl. 317—234)

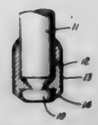


1. A compact voltage rectifier for use in electronic equipment having stringent economy of space, thermal dissipation and ease of accessibility for service requirements comprising a plurality of diodes, means to electrically interconnect said diodes, supporting means to support said diodes, said supporting means including a plurality of radial flange platforms radiating from a common cylindrical axis, the longitudinal peripheral edges of said flange platforms having a plurality of slots therein to receive and support said diodes, said slots being spaced such that the locus of slot positions proceeding from one flange platform to the next adjacent flange platform is a helix, whereby diodes inserted in said notches will be positioned such that their electrical terminals are easily accessible for connection thereto and sufficient surface area of each of said diodes will be exposed for adequate thermal dissipation.

2,980,829
CRYSTAL-SUPPORT ASSEMBLY AND METHOD OF FORMING SAME
Basil V. Lawson, Elkins Park, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 6, 1959, Ser. No. 791,714
7 Claims. (Cl. 317—234)

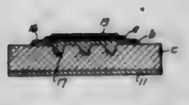
1. A method of forming a low resistance ohmic joint and a strong mechanical bond between a semiconductor crystal and its supporting stud for operation at temperatures such as to preclude the use of heat that would

adversely affect the crystal, which method includes the steps of alloying into the crystal a metal conducive to the formation of such joint, assembling the metal-alloyed crystal and the supporting stud in juxtaposed relation to one another with one end of the stud in confronting relation to a face of the crystal, and electro-



plating onto and in surrounding embracing relation to the adjacent portions of both the metal-alloyed crystal and the supporting stud a metal which strongly bonds them together and which serves cooperatively with the first-mentioned metal to form a low resistance ohmic joint between the crystal and the supporting stud.

2,980,830
JUNCTION TRANSISTOR
William Shockley, 23466 Corta Via, Los Altos, Calif.
Filed Aug. 22, 1956, Ser. No. 605,646
26 Claims. (Cl. 317—235)



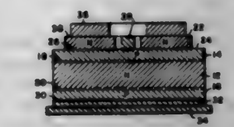
1. A junction transistor including emitter, base and collector regions, and ohmic emitter, base and collector contacts thereto respectively, said base region comprising relatively low resistance rib portions and relatively high resistance web portions, said rib portions being in contact with the ohmic contact, said base ohmic contact being made to at least one end of the ribs whereby the average resistance from web to contact is substantially less than the average resistance from web to contact in a base in which the rib portion is replaced by web.

2,980,831
MEANS FOR REDUCING SURFACE RECOMBINATION
Kurt Lehovec, Williamstown, and Rainer Zuleeg, North Adams, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Nov. 21, 1957, Ser. No. 697,962
4 Claims. (Cl. 317—235)



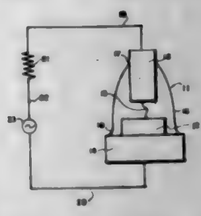
1. A semiconductor device comprising a body of semiconductive material, a first electrode in ohmic contact with said body, a second electrode in rectifying contact with said body, a surface coating in rectifying contact with said body and in electrical floating isolation from said first and second electrodes, said coating having a high minority carrier injection efficiency with respect to said semiconductive material, an open area in said coating providing means to permit the injection of minority carriers into said body, said open area spaced from said second electrode.

2,980,832
HIGH CURRENT NPNP SWITCH
Frank S. Stein and Elmer W. Torok, Greensburg, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 18, 1959, Ser. No. 819,307
8 Claims. (Cl. 317—235)



1. A high-current three terminal PNPN semiconductor switching device comprising (1) a single crystal wafer of a semiconductive material having a first and a second region of a first type semiconductivity separated by a region of a second type semiconductivity having two parallel surfaces, the first and second regions of first type semiconductivity each having one surface contiguous and coextensive with one of the parallel surfaces of said region of second type semiconductivity, (2) a p-n junction between each of the regions of first type semiconductivity and the region of second type semiconductivity, (3) an emitter of second type semiconductivity fused to another surface of the first region of first type semiconductivity, (4) a p-n junction between the emitter and the said first region, (5) a base contact affixed to the same surface of the first region as the emitter, (6) an ohmic solder fused to another surface of the second region of first type semiconductivity, and (7) means for making one electrical connection to each of the regions of first type semiconductivity and to the emitter.

2,980,833
POINT CONTACT RECTIFIER DEVICE
Arnold S. Epstein, Dayton, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware
Filed June 1, 1959, Ser. No. 817,348
17 Claims. (Cl. 317—236)



1. A point contact rectifier device comprising a polyphthalocyanine body, an electrode making ohmic contact with said body and a point contact electrode attached to said body.

2,980,834
CHARGING OF PHOTO-CONDUCTIVE INSULATING MATERIAL
John L. Tregay, Broadview, and John J. Schultze, Prospect Heights, Ill., assignors to Charles Bruning Company Inc., Teterboro, N.J., a corporation of Delaware
Filed Apr. 26, 1956, Ser. No. 580,892
2 Claims. (Cl. 317—262)

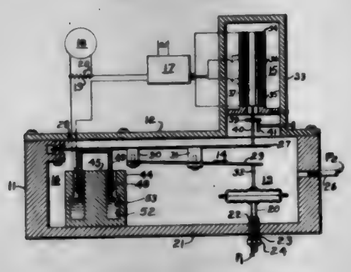
1. A process of producing an electrostatic charge upon the surface of a flexible photo-conductive insulating material, which process comprises passing said photo-conductive insulating material between two cylindrical surfaces spaced close enough to each other to effect feeding of said photo-conductive insulating material passed therebetween with substantially no air gap between each side

of said insulating material and the adjacent cylindrical surface, one of which cylindrical surfaces is a grounded electrically conductive surface and the other is an electrically semi-conductive surface having a resistance with-



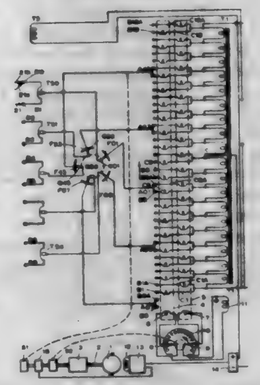
in the range of from 500 to 1,500 megohms per cubic centimeter, measured at 8,000 volts per centimeter, while applying a D.C. voltage of from 4,000 to 6,500 volts to said semi-conductive surface.

2,980,835
MECHANICALLY REBALANCED LINEAR MOTOR SERVOSYSTEM
Ray S. Williams, Orrville, Ohio, assignor to Hagan Chemicals & Controls, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 3, 1959, Ser. No. 824,900
2 Claims. (Cl. 318—22)



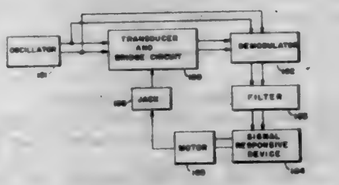
1. A pneumatic electric converter comprising a pressure-tight housing having therein a differential transformer comprising axially spaced input and output windings and a magnetic core disposed axially of the windings and movable relative thereto, means for supporting said core at mid position so that it is movable in one direction only from said position, a bellows having means for supplying input pressure to the interior of the same in said housing, a lever system disposed for actuation by said deflectable means and arranged to actuate said core from said mid position as the input pressure to said deflectable means increases, means for amplifying and rectifying the output voltage of said transformer and feed-back means responsive to said output voltage and connected to said lever system in such a way as to oppose and balance the force exerted by said pressure deflectable means on said lever system, said feed-back means comprising a magnetic shell having therein a centrally disposed core of permanent magnetic material, a coil winding embracing said core and connected to said lever system whereby the current in the coil develops a force that opposes and balances the force of the bellows on said lever system, a well formed in the space between the core and the shell and in which a quantity of damping liquid is contained, and a tubular member embracing said core and extending into said liquid and carrying the coil winding.

2,980,836
SERVOMOTOR AUTOMATIC CONTROL SYSTEM ESPECIALLY FOR MACHINE TOOLS
Kenneth William Hathaway, Chalfont St. Giles, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain
Filed Mar. 7, 1960, Ser. No. 13,945
Claims priority, application Great Britain Mar. 7, 1959
3 Claims. (Cl. 318—28)



1. An automatic control system comprising a part whose displacement is to be controlled, a servo motor for producing displacement of said part, a voltage divider tapped at a series of reference points, a series of contacts connected respectively to said reference points, an error signal lead for applying a signal to said servo motor, differential switching means for connecting said lead to one of said contacts, said differential switching means comprising command means for switching said lead from one of said contacts to another to represent a desired displacement of said part, feedback means for switching said lead from one of said contacts to another in response to displacement of said part, said servo motor being responsive to the signal from said lead to tend to displace said part, and said feedback means being responsive to displacement of said part in the sense tending to counteract the switching of said lead produced by said command means and additional switching means operable to switch said lead from one of said contacts to another independently of said command means and of said feedback means, so as to vary the datum point wtih reference to which displacement occurs in response to said command means.

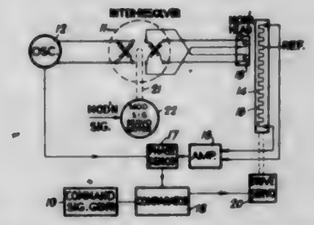
2,980,837
POSITION AND STRESS CONTROLLING SERVOSYSTEM
Henry H. Wu, Chicago, Ill., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania
Continuation of application Ser. No. 552,464, Dec. 12, 1955. This application Apr. 28, 1959, Ser. No. 809,532
2 Claims. (Cl. 318—28)



1. A circuit arrangement for establishing and maintaining a predetermined average displacement between first and second relatively displaceable surface elements where said first surface element may be vibrated nor-

mally to said second surface element, comprising a transducing means having two relatively displaceable members connected respectively to said first and second surface elements, an oscillator producing a carrier frequency to energize the transducer, a bridge in which the transducer forms one-half, means forming the other half of the bridge for preselecting the average position of the two surfaces, the signal from the bridge comprising the carrier frequency and superimposed frequency produced by the relative vibratory motion of the two transducer members, a demodulator receiving only said carrier and superimposed frequencies from the transducer, means for filtering the combined demodulated transducer signal so as to obtain a D.C. signal proportional to the average displacement of the two relatively displaceable transducer members, such D.C. signal varying in polarity and amplitude as the average varies from said predetermined value whereby no D.C. signal is present when the relatively displaceable members are at their predetermined average position, and D.C. signal responsive means responsive to an output from said filtering means for altering the average displacement between said surface elements upon occurrence of a variation thereof from the desired predetermined value thereby to reestablish the same.

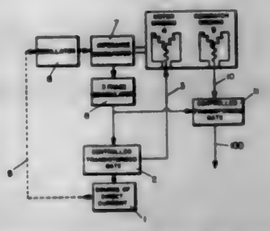
2,986,838
POSITION CONTROL SERVOSYSTEM
David Latcham Leete, Stockport, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Oct. 12, 1959, Ser. No. 845,856
Claims priority, application Great Britain Oct. 15, 1958
8 Claims. (Cl. 318—28)



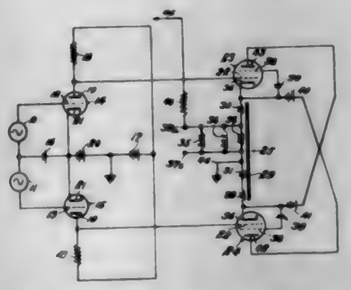
1. A servo system for controlling the operation of driving means for producing the movement of a first object relative to a second object the system comprising monitoring means for indicating the movement of the first object relative to the second object the output of the monitoring means taking the form of a cyclic monitor signal the frequency of which is a function of the velocity of said movement, means responsive to two incoming signals for controlling the driving means in conformity with such signals in combination in a feedback servo loop, one of said incoming signals being a command signal and the other of said incoming signals being the said cyclic monitoring signal and means responsive to modification signals for shifting the phase of one of the said incoming signals whereby the response of the said feedback servo loop to the said command signal is modified under control of the said modification signals.

2,986,839
ELECTRIC MOTOR
Walter Haenermann, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 12, 1959, Ser. No. 792,929
12 Claims. (Cl. 318—138)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An electric motor comprising: a rotary supporting means having non-ferrous material; a rotatable permament magnet carried by said means exciting a magnetic field; a non-rotary armature; an oscillator for converting direct current to alternating current; a source of direct current connected to said oscillator; a frictionless contactless impedance commutator comprising a reactance element that is fixed relative to said armature and receives current from said oscillator, and a rotary magnetic element that is supported by said supporting means, a portion of the non-ferrous material of said supporting means being located between said impedance element and said permanent magnet; and a transistorized gate, electrically connected with said impedance commutator and with said armature for supplying commutated current to said armature.



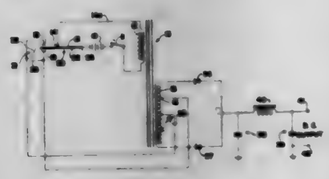
2,986,840
WIDE BAND, LOW DISTORTION, HIGH EFFICIENCY AMPLIFIER
Lester Levy, 535 Parkside Ave., Brooklyn 26, N.Y.
Filed Aug. 8, 1958, Ser. No. 753,907
7 Claims. (Cl. 330—121)



1. A wide band low distortion amplifier comprising a plurality of cascaded amplifier stages including a push-pull output stage having first and second amplifiers, each said output stage amplifier having signal input, cathode and anode electrodes; means supplying direct current to said output stage; means supplying an input signal to said input electrode; output transformer means connected between said cathodes, said transformer comprising a unity coupling multifilarly wound autotransformer including a plurality of primary and secondary windings connected in series and arranged alternately so that each said primary winding is adjacent an alternate secondary winding, whereby leakage inductance and phase shift in said transformer are minimized.

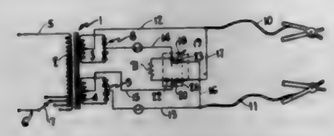
2,986,841
ELECTROSTRICTIVE VIBRATOR
Van W. Bearinger and Finn J. Larsen, Edina, Minn., assignors to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 26, 1956, Ser. No. 630,531
8 Claims. (Cl. 321—2)

7. Means for converting relatively low potential direct current power to relatively high direct current power comprising; an electrostrictive bimorph motor having individual charging electrodes positioned on opposite faces thereof, said bimorph being arranged to flex to a predetermined degree upon application of a certain predetermined potential thereacross, a primary direct current source of power having an output potential which is less than said predetermined potential, a step-up transformer having primary and secondary windings, the secondary winding being arranged to deliver an output potential



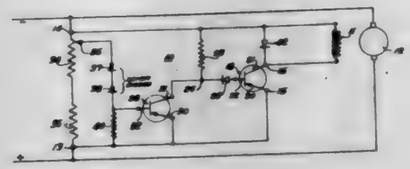
which is at least equal to said predetermined potential while the primary is being energized by said power source, conductive means connecting the primary winding to said primary source of power, and the secondary winding to the electrodes of said bimorph motor, means for de-energizing the primary of said transformer and said bimorph motor when said motor has been flexed to said predetermined degree, and an output load circuit including rectification means being taken from said secondary winding.

2,986,842
BATTERY CHARGING APPARATUS
Lewis A. Medlar, Oreland, Pa., assignor to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 18, 1957, Ser. No. 664,783
3 Claims. (Cl. 321—27)



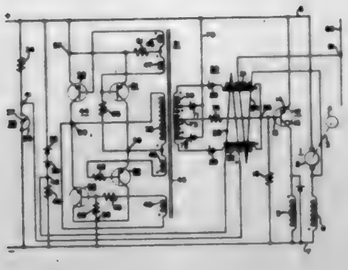
1. In an apparatus for selectively charging storage batteries of two different voltage ratings, the combination of a transformer having a primary winding and first and second centertapped secondary windings, supply circuit means for connecting said primary winding to a source of alternating current, first and second centertapped dry plate rectifier units respectivly connected across said first and second secondary windings, two power cables each terminating at one end in means for connection to a terminal of the battery to be charged, one of said cables being connected to the center tap of said first secondary winding and the other of said cables being connected to the center tap of said second rectifier unit, a first pair of conductors connected one to the center tap of said first rectifier unit and one to the center tap of said second secondary winding, a resistance, a second pair of conductors connected each to the other end of a different one of said power cables, and switching means having two operative positions, said switching means being arranged to interconnect said first pair of conductors and said resistance in series when said switching means is in one operative position, thereby connecting said rectifier units in series to supply current at a relatively higher voltage level via said power cables, and to interconnect said second and first pairs of conductors and omit said resistance when said switching means is in the other operative position, thereby connecting said rectifier units in parallel to supply current at a relatively lower voltage level via said power cables and said second pair of conductors.

2,986,843
VOLTAGE REGULATOR FOR GENERATORS
Channing C. Conger, Olmsted Falls, and James C. Laurence, Berea, Ohio, assignors to The Controllix Corporation, Bedford, Ohio, a corporation of Ohio
Filed Sept. 26, 1957, Ser. No. 686,421
9 Claims. (Cl. 322—28)



8. In a regulating system for varying current in a load in accordance with voltage applied to terminals of the regulating system, a first transistor having a base terminal and a collector terminal and an emitter terminal, a potential source, means connecting one of the collector and emitter terminals to one side of potential source and the other to one side of said load whereby current in the collector-emitter path of said transistor energizes said load, input circuit means connected to said base terminal and to the other side of said potential source and establishing a maximum input potential across said one terminal and said base terminal and a maximum input current in the base circuit of said transistor, said input circuit means comprising a resistor and a rectifying element connected in series with said rectifying element being connected between said base terminal and said resistor, said rectifying element having a low breakdown potential in its forward direction as compared to its breakdown potential in the opposite or reverse direction and being connected to conduct the base current of said transistor in a forward direction, a second transistor having input and output terminals, a sensing circuit comprising Zener diode means and a resistor connected in series across the input terminals of the system, means connecting said resistor to the input of said second transistor whereby the voltage drop across said resistor provides the input potential for said second transistor to vary the conductivity of said second transistor in accordance with variations of voltage at the input of the system above a magnitude approximately equal to the Zener voltage of said Zener diode means, said resistor in series with said Zener diode means is of a magnitude which limits the current in said series circuit upon the breakdown of said Zener diode means to a magnitude such that the input potential to said second transistor is the lowest input potential necessary to effect operation of the second transistor on the linear portion of its input voltage versus output current characteristic curve and such that said Zener diode means is operating on a linear portion of its reverse voltage current characteristic curve, circuit means connecting the output terminals of said second transistor to said one side of said potential source and to said input circuit means at a point between said rectifying element and said resistor whereby variations in the conductivity of the second transistor varies the input potential to said first transistor, said rectifying element having a low forward resistance to current in said input circuit means for all input potentials above a magnitude approximately equal to the minimum potential drop across the output terminals of said second transistor and a high impedance to potentials below said magnitude whereby said first transistor is cut off when the output potential of said second transistor approaches a minimum.

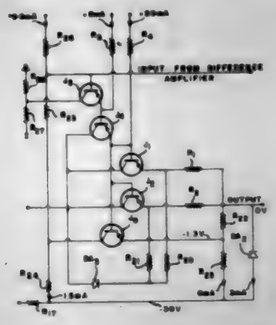
2,980,844
AUTOMATIC CONTROL SYSTEM
Lawrence R. Peaslee, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Feb. 25, 1959, Ser. No. 795,405
6 Claims. (Cl. 322—28)



1. A regulator for a direct current generator having an armature and a shunt control field winding comprising a PNP transistor having base, emitter and collector electrodes, said collector and emitter electrodes being connected in series with said control field winding, a magnetic amplifier comprising a pair of main load windings wound on a saturable core, means connecting said main load windings to said base electrode, a transformer having a primary winding and a secondary winding, said secondary winding constituting alternating current supply means for said magnetic amplifier, a rectifying device connected in series with each end of said secondary winding and each of said main load windings and poled to conduct when its respective transformer end is negative, means for providing a bias to maintain said transistor in an off condition comprising a connection to one terminal of said generator armature, a rectifier, a portion of said secondary winding connected in series with said base electrode and a resistor connected between said base electrode and the other terminal of said generator winding, a unilateral semi-conductor device having a critical reverse voltage characteristic connected to said armature, a generator voltage adjusting rheostat connected to said generator armature, a control winding for said magnetic amplifier connected to said semi-conductor device and said rheostat, means for supplying an alternating current to said primary winding from said armature terminals constituted by a static inverter means having input terminals and output terminals and means connecting said input terminals to said generator armature and said output terminals to said primary winding.

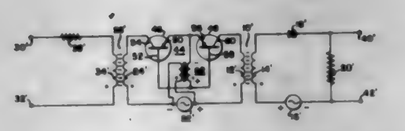
2,980,845
CURRENT OVERLOAD PROTECTIVE CIRCUITS
Philip M. Thompson, Cumberland, Ontario, and Colin A. Franklin, Eastview, Ontario, Canada, assignors to Her Majesty the Queen in the right of Canada as represented by the Minister of National Defence
Filed Apr. 13, 1959, Ser. No. 806,053
9 Claims. (Cl. 323—22)

1. An overload protection circuit for a plurality of transistors each having an emitter, a base and a collector comprising a compensating transistor having an emitter, a base and a collector; means adapted to bias said compensating transistor beyond cutoff; means responsive to excessive emitter current of anyone of said plurality of transistors to reduce the bias on said compensating transistor and cause conduction of said compensating transistor, and means responsive to conduction of said compensating transistor to reduce the signal input to said



plurality of transistors thereby decreasing the emitter currents of said plurality of transistors.

2,980,846
IMPEDANCE CONTROLLED MAGNETIC AMPLIFIER
John F. Ringelman, Catonsville, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 31, 1956, Ser. No. 588,442
1 Claim. (Cl. 323—89)

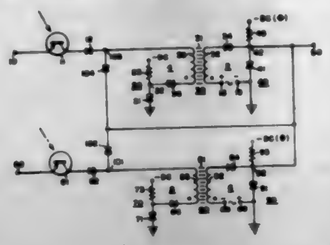


A magnetic amplifier comprising a saturable magnetic core having an output winding and a reset winding inductively coupled therewith, an output current path including said output winding, a load impedance and means for generating current in said current path only during spaced signal intervals for saturating said core, the spacing of said signal intervals defining reset intervals, another saturable magnetic core having an input winding and a control winding inductively coupled therewith, a reset current path including said reset winding, said control winding, generator means for generating current in said reset current path during said reset intervals for resetting said magnetic core, and a pair of transistors having at least a base, a collector, an emitter electrode, with the collector and emitter electrodes thereof connected in series with said reset and control windings and said generator means, and means responsive to said generator means to render said transistors non conductive during said signal intervals.

2,980,847
SWITCHING APPARATUS FOR MAGNETIC AMPLIFIERS
John W. Stuart, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 12, 1957, Ser. No. 677,726
3 Claims. (Cl. 323—89)

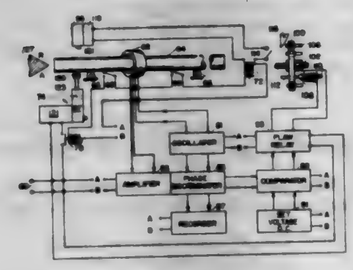
1. In a switching apparatus, in combination, a radiation sensitive device and a magnetic amplifier, said magnetic amplifier comprising a magnetic core member, a gating circuit including a gating winding inductively disposed on said magnetic core member and a gating rectifier, means for applying a first alternating voltage to said gating circuit, said gating circuit being operative so that

on one half-cycle of said first alternating voltage substantially all of said voltage is absorbed in driving said magnetic core member from negative to positive saturation and on the other half-cycle of said first alternating voltage said gating rectifier blocks the flow of current through said gating winding, a reset circuit including a reset winding inductively disposed on said magnetic core



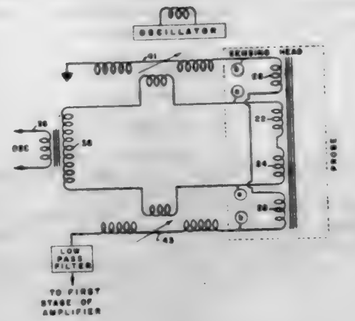
member and a reset rectifier, said reset circuit being adapted to drive said magnetic core member from positive to negative saturation only upon the application of an input signal to said reset circuit, said radiation sensitive device being connected to said reset circuit to prevent the application of an input signal to said reset circuit except when said radiation sensitive device receives a radiation input.

2,980,848
WELD SEAM TESTING APPARATUS
Paul L. Datt, Walnut Creek, William J. Warren, El Cerrito, and Richard B. Willoughby, Walnut Creek, Calif., assignors to Shell Oil Company, a corporation of Delaware
Filed Dec. 24, 1956, Ser. No. 630,188
6 Claims. (Cl. 324—34)



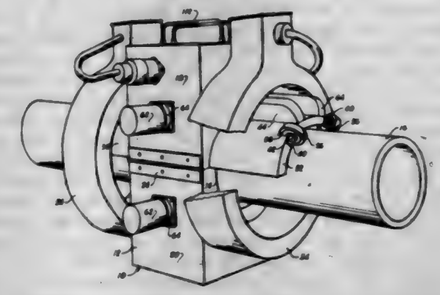
1. A magnetic testing system comprising a sensing head, means for supporting a test piece adjacent said head, means for moving said head and said test piece relative to each other, a source of oscillating voltage coupled to said head, said sensing head being adapted to produce a first signal voltage when being in register with an anomaly in said test piece, said first signal voltage being coupled to a phase discriminating means for comparing the phase of said first signal and said oscillating voltages, said phase discriminating means generating a second signal when said first signal and said oscillating voltages are in phase, a source of set voltage, means comprising a comparator circuit connected to the outputs of said phase discriminating means and of said set voltage source for comparing the amplitude of said second signal and said set voltage, circuit means connected to the output of said comparator circuit for amplifying any excess of said second signal over said set voltage to a pulse of increased amplitude and time duration, and means energized by said pulse to store mechanically a signal, said stored signal being used to perform work on said test piece in synchronism with the relative motion of the sensing head and the test piece.

2,980,849
SENSING HEAD FOR WELD SEAM TESTING APPARATUS
Paul L. Datt, Walnut Creek, William J. Warren, El Cerrito, and Richard B. Willoughby, Walnut Creek, Calif., assignors to Shell Oil Company, a corporation of Delaware
Filed Dec. 24, 1956, Ser. No. 630,281
4 Claims. (Cl. 324—37)



3. In a magnetic testing device, a plurality of coils arranged to form an annular sensing head adapted to receive a test piece in its axial opening, said coils having split primary and split secondary windings, the split primary windings being connected in series and spaced from each other along the axis of the annular head, the split secondary windings being connected in series and disposed radially each around one of the primary windings, said primaries being connectable to the output of an oscillation source, said secondaries being connectable to the input of a signal indicating circuit, and adjustable reactance means coupling said primary and said secondary windings outside of said annular head for neutralizing inductive reactance effects occurring between said windings within said head, a housing surrounding said sensing head formed of a steel alloy of high electrical permeability and having a U-shaped cross section, and annular plate means forming a portion of said housing and being positioned between said split primary and secondary windings.

2,980,850
ELECTRO-MAGNETIC PIPE INSPECTING APPARATUS
Kenneth W. Cochran, Oklahoma City, Okla., assignor of one-half to Tubular Inspection Co., Inc., Oklahoma City, Okla., a corporation of Oklahoma, and one-half to Russell C. Heldenbrand, doing business as Heldenbrand Tubular Service, New Iberia, La.
Filed Apr. 30, 1958, Ser. No. 731,971
7 Claims. (Cl. 324—37)



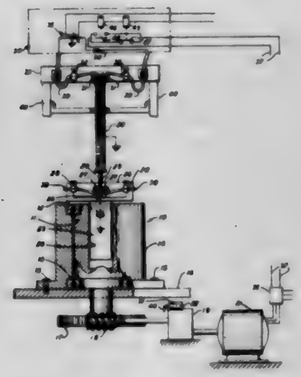
1. In an apparatus for detecting flaws in ferromagnetic pipe and the like, housing means surrounding the pipe,

means supporting the housing means on the pipe for relative movement of the pipe lengthwise through the housing means, magnetizing means carried by the housing means for magnetizing the pipe in the area of the housing means, flux detecting means rotatably supported in the housing means circumferentially around the pipe on axes extending at right angles to the longitudinal axis of the pipe, and means for rotating each detecting means about its respective axis, each of said detecting means comprising paper clip shaped coil means curved along its longest dimension on the arc of a circle having a radius slightly larger than the radius of the pipe and arranged to partially encircle the pipe during only a portion of the rotation of the respective detecting means.

2,980,851
APPARATUS FOR TESTING INSULATED CONDUCTORS

George E. Henning, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 9, 1959, Ser. No. 798,190
4 Claims. (Cl. 324—52)

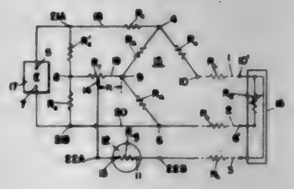


1. Apparatus for testing the physical and electrical properties of a plurality of electrically insulated conductors, which comprises a stationary arm, means for securing adjacent ends of the conductors in fixed positions on the stationary arm and for insulating the adjacent ends of the conductors from each other, a twisting head, means for rotating the twisting head, a counter connected operatively to the twisting head to indicate the number of revolutions the twisting head is turned, a revolvable arm secured to the twisting head, means for securing the opposite ends of the conductors in fixed positions with respect to the revolvable arm and for insulating the adjacent ends of the conductors secured thereto from each other, means for urging relative movement between the revolvable arm and the stationary arm to apply predetermined tensile forces to predetermine lengths of the insulated conductors extending therebetween, means for applying a predetermined potential difference between each of the insulated conductors, means for detecting when an electrical failure occurs in the insulated conductors as a result of the combined effect of the potential difference applied to the conductors, the tensile forces applied thereto and the twisting thereof, and means responsive to an electrical failure in the insulated conductors for stopping the means for rotating the twisting head when the electrical failure occurs so that the physical and electrical properties which the insulated conductors possess prior to being tested on the apparatus can be determined.

2,980,852
IMPEDANCE MEASURING NETWORKS

Thomas L. Mell, 501 Dorset Road, Devon, Pa.

Filed Mar. 18, 1958, Ser. No. 722,308
13 Claims. (Cl. 324—57)

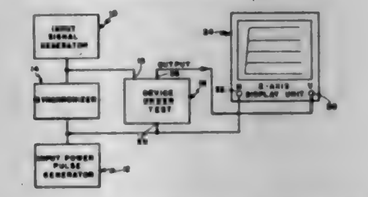


1. A measuring network comprising a first impedance means having an intermediate point to serve as a first potential divider and whose end terminals provide a first conjugate pair of network terminals, a Wheatstone bridge having a first pair of adjacent arms and condition-responsive impedance means in at least one of the other pair of bridge arms, connections from said end terminals of said first impedance means to the end terminals of said first pair of arms, at least one of said connections including second impedance means to effect a predetermined substantial difference between the impedances of said connections, a third impedance means connected between said intermediate point of said first impedance means and the junction of said first pair of arms, said third impedance means having an intermediate point to serve as a second potential divider, said intermediate point of said third impedance means and the junction of said other pair of bridge arms providing a second conjugate pair of network terminals, a current-supply means connected to said first conjugate pair of network terminals, and a detector connected to said second conjugate pair of network terminals for response to the difference between the unbalance voltage of said bridge and the voltage between said intermediate point of said third impedance means and the junction of said first pair of adjacent bridge arms.

2,980,853
COMPONENT OUTPUT CHARACTERISTIC TRACER

Joseph D. Kline and Donald E. Holcomb, Jr., San Diego, Calif., assignors to Ryan Aeronautical Co., San Diego, Calif.

Filed Apr. 28, 1958, Ser. No. 731,371
3 Claims. (Cl. 324—57)

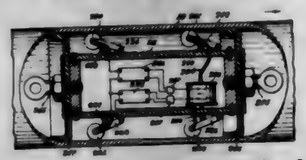


1. An output characteristic tracer for use in testing a power amplifying device having a signal input, a power input and an output, the tracer comprising: a sawtooth generator connected to supply a constant, repetitive sawtooth signal to the said signal input; a pulse generator connected to supply repetitive pulses of equal power to the said power input; synchronizing means interconnecting said sawtooth generator and said pulse generator and operative to time a constant number of pulses to occur at repetitive selected times during each sawtooth signal; a two-axis display unit having a separate input corresponding to each axis thereof, one of said inputs being connected to the said output to provide a sawtooth trace on one axis, and the other of said inputs being connected to said pulse generator to provide pulse traces on the other axis, whereby a family of pulsed output characteristics is displayed at selected values of the sawtooth signal.

2,980,854
PIPELINE SURVEYING

Howard J. En Dean, Fox Chapel, Pa., John Delbert Jones, Tulsa, Okla., and Edward Topanelian, Jr., Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed June 28, 1956, Ser. No. 594,643
5 Claims. (Cl. 324—72)

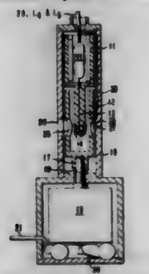


1. In apparatus for surveying the inside of a pipe for electrical potential gradients comprising a vehicle insertable in the pipe, a packer connected to the vehicle adapted to form a sliding seal against the wall of the pipe, potential difference measuring means in the vehicle, and recording means in the vehicle connected to the potential-difference measuring means recording the indications thereof, the improvement which comprises two electrically conducting contact members mounted on said vehicle, said contact members being electrically insulated and contacting the pipe at transversely spaced points lying in a plane substantially perpendicular to the longitudinal axis of the pipe, and means connecting said contact members respectively to the terminals of said potential-difference-measuring means.

2,980,855
COULOMETER

Charles B. Moore, Ward, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 29, 1959, Ser. No. 789,991
4 Claims. (Cl. 324—72)

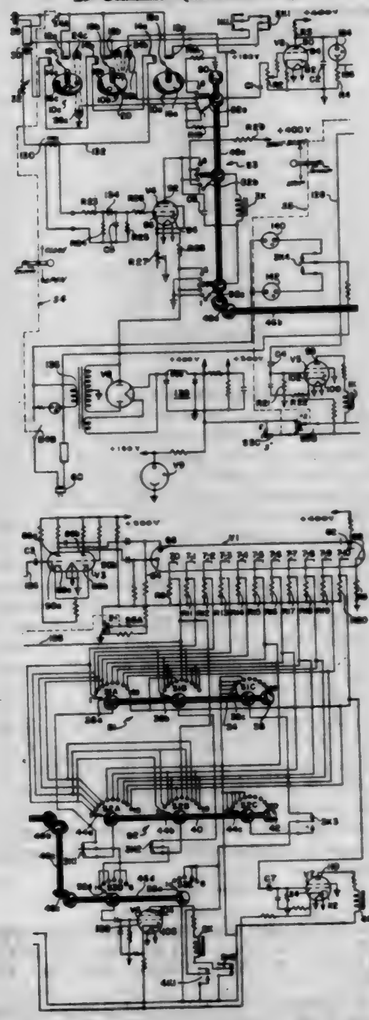


4. A coulometer for the measurement of electrostatic charges or D.-C. potentials comprising in combination a probe consisting of a centrally disposed annular sensing electrode and, coaxial with and in close proximity to said sensing electrode in sequence radially outward, an annular rotatable electrostatically shielded chopper and an enclosing electrostatically shielded housing, said housing being provided with an open port and said chopper being provided with at least one pair of diametrically opposed open windows disposed coplanar radially with said open port and with said sensing electrode, a reference electrode disposed radially of said sensing electrode coplanar radially with said open port in said housing and with said open windows in said chopper intermediate said chopper and the inner wall of said housing and opposite said open port referred to said longitudinal axis of said sensing electrode, means for the powered rotation of said chopper at substantially constant angular velocity, an electrometer pickup in electrical circuit with said sensing electrode, and means operating in common phase relationship with said chopper responsive to said electrometer pickup adapted to generate a D.-C. voltage which is a function of the A.-C. output from said electrometer pickup and to apply said D.-C. voltage as a feedback to said reference electrode and to a voltmeter measuring the electrical quantity under evaluation.

2,980,856
PHOTOELECTRONIC COUNTER

Edward R. Van Kreveles and Robert E. Burmeister, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed Mar. 3, 1955, Ser. No. 491,924
19 Claims. (Cl. 324—74)



1. In a photoelectric counting system for testing watthour meters according to either a light or dark method, photoelectric means responsive to changing light conditions caused by the rotation of a watthour meter induction disc, means for amplifying the electrical output

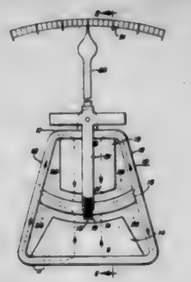
pulses from said photoelectric means, means for triggering said output pulses, a counting tube equipped with a plate and a plurality of cathodes, means for applying the output pulses from said triggering means to said tube to shift a glow discharge within the tube from one cathode to succeeding cathodes, selective switch means for establishing an electrical connection between each cathode or alternate cathodes, means for performing a start function when the glow is directed to one cathode, means for performing a stop function when the glow is directed to another cathode selected by said switch means, and hold means for inactivating said stop means during the early portion of the period when the electrical connection has been established between the switch means and alternate cathodes.

2,980,857

DUAL MAGNET ELECTRICAL INSTRUMENT

Robert C. Langford, West Orange, N.J., assignor to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey

Filed Dec. 30, 1958, Ser. No. 783,934
2 Claims. (Cl. 324—150)



1. A meter movement comprising a soft-iron yoke of substantially uniform, rectangular cross-sectional area and in the form of a closed loop having a first leg that is shorter than an opposed second leg and diverging side legs joining the first and second legs; a first permanent magnet of substantially uniform cross-sectional area normal to the magnetic axis, said magnet having one polar surface abutting the inner wall of said first yoke leg and the other polar surface being convex; a second permanent magnet having one polar surface abutting the inner wall of the second yoke leg and the other polar surface being concave and spaced from the similarly polarized convex surface of the said first magnet, said second magnet having tapered side walls diverging at an angle greater than that of the yoke side legs; an arcuate core of magnetic material extending between the yoke side legs and positioned between the proximate polar surfaces of the said magnets to form first and second arcuate flux gaps; axially-aligned bearings carried by the said first yoke leg and disposed on an axis spaced beyond the plane of the outer wall thereof; a movable coil having sides passing through the respective first and second flux gaps; and means mounting the movable coil for pivotal rotation in said bearings.

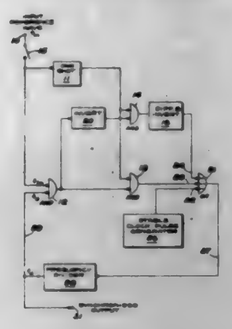
2,980,858

DIGITAL SYNCHRONIZATION CIRCUIT OPERATING BY INSERTING EXTRA PULSES INTO OR DELAYING PULSES FROM CLOCK PULSE TRAIN

George F. Grondin, Van Nuys, and Richard N. Royer, Glendale, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Dec. 7, 1959, Ser. No. 857,890
5 Claims. (Cl. 328—63)

1. A digital system for storing the phase of a received wave by means of the output from a frequency-divider comprising, a one-shot relaxation circuit, and a first "and" gate, each having an input connectable with said received wave, said one-shot relaxation circuit being triggered by said wave, said first "and" gate having a second input receiving said output from said frequency divider, second and third "and" gates, each having an input connected to an output of said one-shot, an output of said first "and" gate being connected to another input of said



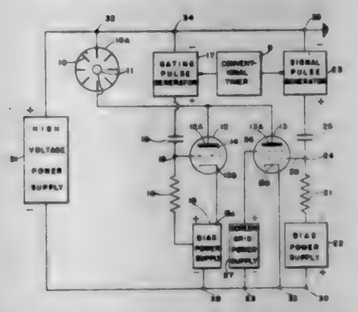
second "and" gate, inverting means connected between an output of said first "and" gate and an input of said third "and" gate, a differentiator being connected to the output of said third "and" gate, a source of pulses; an "or" gate having inputs receiving said pulses, an output of said second "and" gate and an output of said differentiating circuit; and an input of said frequency divider receiving an output of said "or" gate.

2,980,859

ELECTRICAL CIRCUITS FOR PULSE GENERATION

Joseph J. Oliver, Allston, and Louis H. Morrison, Waban, Mass., assignors to Raytheon Company, a corporation of Delaware

Filed Oct. 14, 1953, Ser. No. 385,966
5 Claims. (Cl. 328—258)



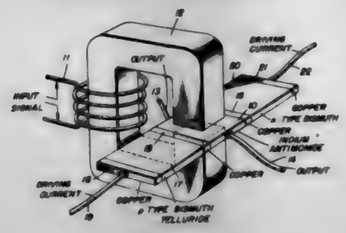
4. The combination of an electrical load device, containing an anode and a cathode, a source of current connected to said anode, first and second electronic switching means connected in circuit with said source of current and the cathode of said load device, means for generating a gating pulse, means for generating a signal pulse, said first electronic switching means being responsive to said gating pulse to bias said cathode of said electrical load device at a first voltage level, said second electronic switching means being responsive to said signal pulse and effective when applied concurrently with said gating pulse to supply to said cathode a second voltage level sufficient for the activation of said load device.

2,980,860

HALL EFFECT DEVICE

James Ross Macdonald, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 26, 1957, Ser. No. 705,380
11 Claims. (Cl. 338—6)



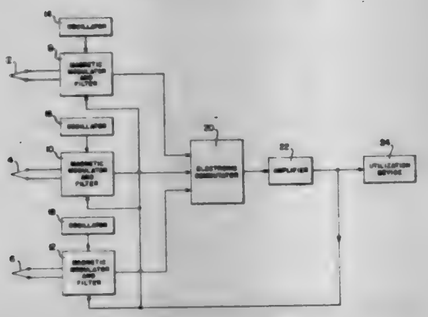
1. In a Hall effect device, including a block of material in which the Hall effect can be produced, means to apply a magnetic field to said block, and means to flow driving current through said block at substantially right angles to said magnetic field, the improvement that comprises a stack of annular members electrically connected together alternately at their inner edges and outer edges to form a series of Peltier cooling junctions at their inner edges, said stack being positioned surrounding said block, and means connecting said series of Peltier junctions in the path of said driving current.

2,980,861

SWITCHING SYSTEMS

William J. Popowsky, Wheaton, Md., assignor to Minneapolis-Honeywell Regulator Company, a corporation of Delaware

Filed Aug. 27, 1957, Ser. No. 680,509
5 Claims. (Cl. 330—10)



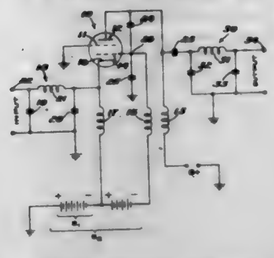
1. An electronic switching system for low-level signals comprising, in combination, a plurality of signal input circuits, a magnetic modulating means coupled to each of said input circuits for modulating input signals in accordance with a modulator exciter frequency, an output amplifier, means providing a coupling path between each of said modulating means and said output amplifier, control means in each of said paths, each of said control means including a diode and means for normally biasing said diodes to block the passage of signals in said paths, an electronic counting tube having an anode and a plurality of cathodes, means for energizing said counting tube to develop a conductive path between said anode and one of said cathodes, and means for shifting said conductive path sequentially from cathode to cathode, each of said control means being coupled to the cathode circuit of a separate one of said cathodes of said counting tube whereby to modify the bias condition on said control means selectively and sequentially in accordance with the position of said conductive path in said counting tube to unblock corresponding ones of said paths.

2,980,862

LINEAR LOW-INPUT R.F. IMPEDANCE AMPLIFIER

Warren B. Bruene, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 7, 1958, Ser. No. 746,827
1 Claim. (Cl. 330—76)



A linear high radio frequency amplifier, comprising: a tetrode tube including a cathode, a control grid, a screen grid, and plate; means connected to the plate of said tetrode tube for supplying a positive direct voltage thereto; means connected to the cathode and control grid of said tetrode tube for supplying direct negative voltages thereto, the difference between the applied voltage to said cathode and the applied voltage to said control grid determining the bias of said tetrode tube; means connected with the cathode of said tetrode tube whereby a signal input may be coupled thereto; means connected with the plate of said tetrode tube whereby an output signal may be coupled therefrom; means connecting the screen grid of said tetrode tube to ground; voltage dividing means consisting of a first capacitor having one end connected to said plate and a second capacitor having one end connected to ground and the other end connected to the other end of said first capacitor; and means connecting said other ends of said capacitors to the control grid of said tetrode tube whereby a part of the voltage developed on said plate due to an incoming signal is applied to said grid independently of frequency variations and as degenerative feedback so that the magnitude of the intermodulation products will be reduced without undesirably affecting the linearity of said amplifier.

2,980,863

RINGING TONE GENERATOR

Luther W. Hussey, Sparta, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

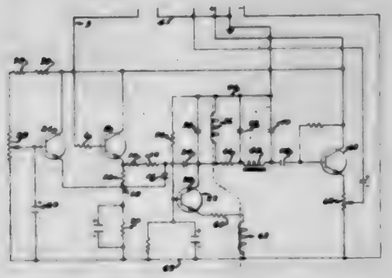
Filed Aug. 5, 1958, Ser. No. 753,231
8 Claims. (Cl. 331—56)



1. A pulse generator comprising a relatively high frequency oscillator having a capacitor, a two-state transistor device connected to and controlled by the charge on said capacitor for discharging said capacitor, means serially connected to said transistor device for providing an output from said generator, and circuit means including a first asymmetrically conducting im-

pedance element connected to said capacitor for charging said capacitor; means connected to said first asymmetrically conducting impedance element for inhibiting the conduction thereof at an intermediate frequency; and means for discharging said capacitor at a low frequency including a second asymmetrically conducting impedance element connected to said capacitor, and means connected to said second asymmetrically conducting impedance element for inhibiting the conduction thereof at said low frequency.

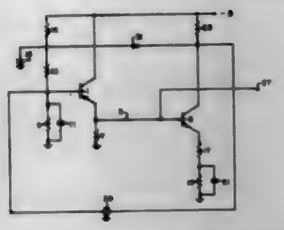
2,980,864
VOLTAGE CONTROLLED OSCILLATOR
Curtis Dean Rausch, Scottsdale, Ariz., assignor to Savage Industries, Inc., a corporation of Arizona
Filed Aug. 14, 1959, Ser. No. 833,738
1 Claim. (Cl. 331—109)



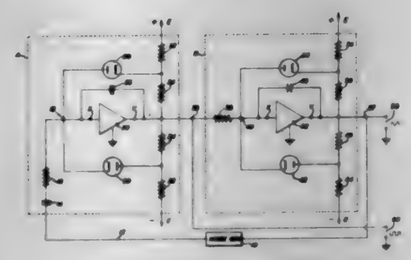
In a means for varying frequency linearly with respect to variations in a signal voltage the combination of: a tuned circuit comprising capacitance and inductance means, a diode coupled to said circuit and disposed to operate in a forward conducting mode whereby, the frequency is varied linearly with respect to variations of the signal voltage; a current feed for said diode comprising a transistor; means disposed to conduct a varying voltage signal to the base thereof; a temperature sensitive resistor means coupled between the emitter of said transistor and said diode, said resistor responsive to compensate for thermally induced changes in the operation of said diode; a load resistor coupled to the emitter of said transistor, a bias voltage source coupled to said load resistor and to an end of said diode which is opposite said temperature sensitive resistor; a center of frequency adjusting circuit comprising; a second transistor; an emitter of said second transistor connected between said bias voltage source and said load resistor; a potentiometer coupled to the base of said second transistor to provide a center of frequency adjustment which appears as an adjustment induced in the circuit between said load resistor and the bias for said first transistor; and temperature sensitive resistor means coupled in series with said potentiometer and the collectors of both said first and second transistors.

2,980,865
STABILIZED TRANSISTOR OSCILLATOR
Robert Arthur Hilbourne, London, England, assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 30, 1959, Ser. No. 802,781
Claims priority, application Great Britain Apr. 14, 1958
7 Claims. (Cl. 331—116)

1. A junction transistor oscillator comprising: a plurality of junction transistors connected in cascade to form an amplifier having a phase shift of substantially 180° and a signal gain dependent on the transistor current gain factors; a bimorph piezoelectric crystal connected between the input and output terminals of said amplifier for establishing a regenerative feedback loop, the signal gain around said feedback loop being adequate to cause as oscillatory sinusoidal signal voltage to be generated therein substantially at the resonant frequency of said crystal; and voltage limiting means connected to the output terminals of said amplifier, said voltage limiting means being adapted to remain nonconductive until the voltage thereacross falls to a substantially constant predetermined level exceeding that corresponding to saturation of any of said transistors and then conducts to prevent that voltage from falling below said predetermined level so as to prevent them from saturating; whereby the wave form of the signal voltage across the input terminals of the last transistor in said amplifier remains sinusoidal at said resonant frequency in spite of variations in the current gain factors of any of said transistors and in the signal attenuation caused by said crystal.

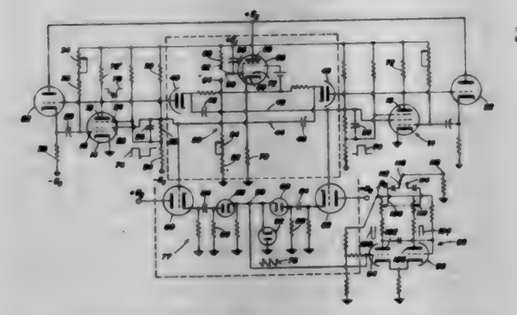


2,980,866
FUNCTION OSCILLATOR
Joseph B. Naines, Jr., Skokie, Ill., assignor to Research Corporation, New York, N.Y., a corporation of New York
Filed Jan. 7, 1958, Ser. No. 707,540
1 Claim. (Cl. 331—135)



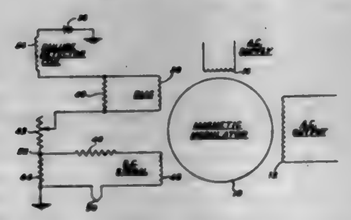
Apparatus for generating sustained square and triangular wave forms comprising a noise generator having an input and an output for producing periodic random pulses of positive and negative potential, first circuit means having an input and an output and including a voltage limited differentiating means producing a substantially square wave output, second circuit means having an input and an output including a voltage limited integrating means producing a substantially triangular wave output, circuit elements coupling the output of said first circuit means to the input of the second circuit means, and circuit elements including said noise generator connected between the output of said second circuit means and the input of said first circuit means whereby energy pulses from the output of said second circuit means are fed back to the input of said first circuit means through said noise generator to provide periodic random pulses of positive and negative potential to the input of said first circuit means thereby to sustain the operation of the apparatus.

2,980,867
LOGARITHMICALLY SWEEPING PULSE OSCILLATOR
Gordon E. Nelson, Windsor, Conn., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed May 16, 1958, Ser. No. 735,718
2 Claims. (Cl. 331—152)



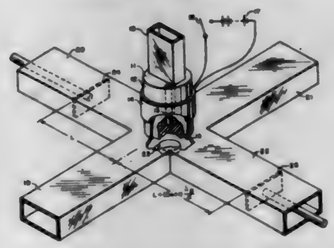
1. An oscillator producing a logarithmically increasing frequency of precise accuracy and including a pair of phantastron circuits each of which has a plate catching diode the plate of which is connected with the plate of the phantastron tube and the cathode of which is connected to ground through a resistor whereby the starting voltage of tthe plate of each phantastron tube is regulated, said pair of circuits being cross-coupled for sustained oscillation, with this cross coupling being effected by capacitively coupling the cathode of the plate catching diode of each circuit with the suppressor of the phantastron tube of the other circuit, means operative to produce a logarithmically decaying voltage including a resistance-capacitance circuit, means operative to control the charging and discharging actions of the capacitor, said resistance being connected between the capacitor and ground so that a logarithmically decaying voltage is developed across the resistor on one of said actions with relation to the capacitor, a cathode follower the cathode of which is coupled to the cathodes of the plate catching diodes and is connected to ground through a suitable resistor and the control grid of which varies with the voltage across said resistor of the resistance-capacitance circuit whereby the starting voltage of the plates of phantastron circuits decrease logarithmically producing a logarithmically increasing frequency of oscillation.

2,980,868
FAIL-SAFE MODULATION CIRCUIT
Charles B. Brahm, Rockville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 7, 1959, Ser. No. 804,799
13 Claims. (Cl. 332—51)



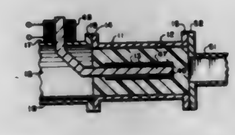
1. A magnetic modulator having an output winding, a supply voltage winding, a bias winding and a signal winding, a source of voltage supplying current to said bias winding and supplying a reference voltage for said signal winding, error signal producing means for varying the voltage drop across said signal winding in response to varying operating conditions, and means connecting said error signal producing means with said signal winding and said bias winding for rendering said magnetic modulator inoperative upon failure of said error signal producing means.

2,980,869
MICROWAVE SWITCH
John C. Rolfs, White Plains, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Jan. 19, 1960, Ser. No. 3,294
2 Claims. (Cl. 333—7)



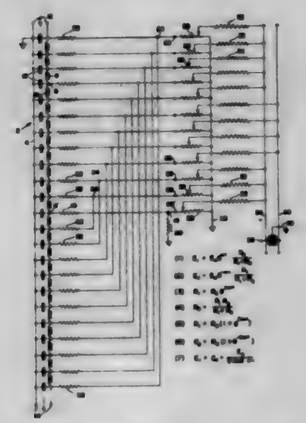
1. A phase reversing microwave switch comprising, four rectangular waveguide sections orthogonally joined together at a common junction with broad sides thereof lying in a common plane providing two pairs of collinearly disposed arms positioned in cruciform orientation, a round waveguide section joined to said rectangular waveguide sections at said common junction and extending in a direction normal to said common plane, reflective terminations for each of the arms of one pair of collinearly disposed arms, the distance from one of said reflective terminations to said common junction exceeding the distance between said common junction and the other reflective termination by an odd number of quarter wavelengths of energy in said waveguide sections, means for introducing linearly polarized energy into said round waveguide section with an orientation such that the E-vectors thereof extend in a direction parallel to the longitudinal axis of one of the pairs of collinearly disposed arms, and means for rotating the orientation of said linearly polarized energy through an angle of 90°.

2,980,870
MICROWAVE FIELD ROTATOR
John F. Zaleski, Valhalla, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Original application Feb. 15, 1954, Ser. No. 410,154. Divided and this application Feb. 20, 1957, Ser. No. 641,300
8 Claims. (Cl. 333—7)



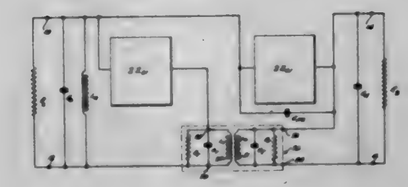
1. A microwave polarization rotator comprising, a circular waveguide, said waveguide comprising a hollow cylindrical conductive pipe open at both ends and capable of transmitting microwave energy therethrough in the axial direction, a ferrite tube within said waveguide and coaxial therewith, a solenoid located outside said waveguide, and a ferromagnetic rod projecting into the interior of said solenoid and extending into but substantially magnetically insulated from said tube for substantially the entire length thereof.

2,980,871
ELECTRICAL WAVE FILTER
William H. Cox, Beaumont, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Aug. 5, 1957, Ser. No. 676,680
4 Claims. (Cl. 333—28)



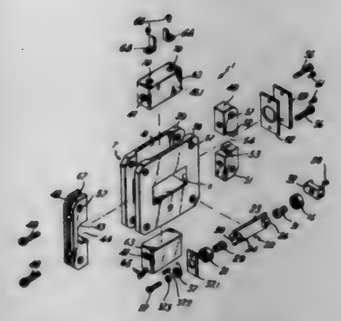
1. In combination, a delay line comprising sections connected at taps, said delay line being of a type to provide delay of signals introduced thereto without substantial distortion of the wave shape thereof, and said delay line being symmetrical with respect to its center, a terminal corresponding to each pair of taps disposed symmetrically with respect to the center of the delay line, and resistors connecting each of said terminals with the two taps, and only to the two taps, to which it corresponds, said resistors constituting means for substantially compensating for attenuation in the delay line so that the output signal components at each terminal originating at its corresponding taps are substantially equal for a given event of a wave traversing the delay line, and an adjustable voltage divider connected to each of said terminals and receiving signals therefrom.

2,980,872
BANDPASS FILTERS
Leo Storch, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed June 13, 1958, Ser. No. 741,798
10 Claims. (Cl. 333—72)



1. A bandpass wave filter having a predetermined angular bandwidth with a mean angular frequency and a predetermined fractional bandwidth, Δ, said filter including a pair of input terminals, a pair of output terminals, and at least first and second impedance branches connected between said pairs of input and output terminals to form a symmetrical lattice type network, said first impedance branch comprising a first plurality of impedances including, respectively, a first plurality of piezo-electric crystal elements connected in parallel combination for producing a corresponding first plurality of critical frequencies defining resonances in the immediate vicinity of said mean angular frequency, and a first capacitor and a first inductor adapted to produce antiresonance at said mean angular frequency connected in parallel with said first plurality of impedances, said first inductor having a Q_1 this is less than said mean angular frequency divided by said predetermined angular bandwidth thereby to produce critical frequencies defined by first and second anti-resonant frequencies disposed above and below said first plurality of critical frequencies, respectively, and spaced from said mean angular frequency by an interval that is greater than one-half said predetermined bandwidth and substantially equal to one-half said angular bandwidth divided by $\sqrt{Q_1\Delta}$ radians; said second impedance branch comprising a second plurality of impedance including, respectively, a second plurality of piezo-electric crystal elements for producing a corresponding second plurality of critical frequencies defining a resonant frequency intermediate each successive pair of said first plurality of critical frequencies defining resonances, and a second capacitor and a second inductor adapted to produce anti-resonance at said mean angular frequency connected in parallel with said second plurality of impedances, said second inductor having a Q_2 substantially equal to said Q_1 of said first inductor thereby to produce critical frequencies defined by third and fourth anti-resonant frequencies that are coincident with said first and second anti-resonant frequencies, respectively.

2,980,873
WAVEGUIDE SWITCH DEVICE
Richard M. Walker, Boston, Bernard D. Berkowitz, Waltham, Arthur A. Blaisdell, Natick, and Vincent J. Mistretta, Framingham, Mass., assignors to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts
Filed Dec. 29, 1958, Ser. No. 783,520
5 Claims. (Cl. 333—98)



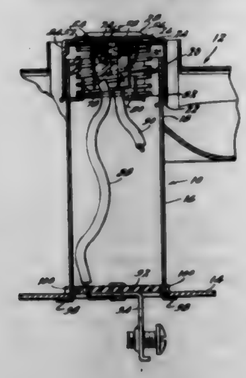
1. Waveguide switch apparatus comprising: a straight rectangular waveguide section of substantially uniform internal cross section throughout its length; a substantially flat rectangular metallic shutter vane having a thickness which is a minor fraction of any internal cross-sectional dimension of said waveguide section, said vane being dimensioned in the length and width directions perpendicular to its thickness dimension evectively to fill the internal transverse cross section of said waveguide without touching any of the walls thereof; means for mounting the shutter vane for rotation within said guide section, about an axis of symmetry of the guide section and the vane, to each of two fixed positions, one of which is a closed position transversely of the guide section and the other of which is an open position parallel to the guide section axis; and metallic bodies of substantially cylindrical cross section permanently affixed to each narrow side edge of said vane concentric with the rotational axis thereof, each of said bodies presenting a substantially circular surface adjacent and spaced from the confronting narrow wall portions, respectively, of the waveguide section, said bodies being dimensioned and located to constitute axially symmetrical lumped inductance elements for matching the capacitive reactance across the waveguide section introduced by the vane in the open position.

2,980,874
ELECTRIC WINDING
John W. Tarbox, 6725 Zumirez Drive, Malibu, Calif.
Filed Sept. 16, 1957, Ser. No. 684,191
8 Claims. (Cl. 336—192)



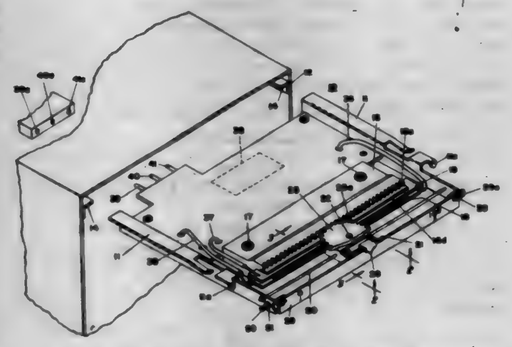
1. An electric winding, comprising in combination a plurality of axially aligned spiral coils each having an interior terminal and an exterior terminal, and connecting means for interconnecting given terminals of said coils, in the form of an insulating sheet arcuately disposed continguous to said coils and having a plurality of conducting strips thereon in physical and electrical contact with said given terminals of said coils.

2,980,875
THERMO-RESPONSIVE DEVICE
Emil E. Sivacek, Ann Arbor, Mich., assignor to King-Seeley Corporation, Ann Arbor, Mich., a corporation of Michigan
Filed Aug. 20, 1956, Ser. No. 604,917
22 Claims. (Cl. 338—25)



1. In a temperature sensing device, a pair of substantially parallel metal plates one of which has an aperture therein, a shank secured to the other one of said plates and extending through and beyond the aperture in said one plate, a shoulder on one of said plates having a diameter greater than the diameter of said shank and greater than the diameter of said aperture; and an insulated wire having a substantial temperature coefficient of resistance sandwiched between said plates and coiled around said shoulder, and means for securing said plates together.

2,980,876
CONTROL SETTER
Siegfried W. Larson, Havertown, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1959, Ser. No. 837,412
8 Claims. (Cl. 338—183)



1. A device for setting electrical control apparatus comprising rack means supported in fixed position, gear means adapted to cooperate with said rack means and movable therealong, slidewire means supported in fixed relation with said rack means and extending lengthwise thereof, a track extending parallel to said rack means and said slidewire means and supported in fixed relation therewith, a carrier disposed on said track, a shaft carried by said carrier and extending through the center of said gear means, contact structure carried by said carrier and engageable with said slidewire means, a scale disposed parallel to said slidewire means and supported in fixed relation therewith, and an indicator supported on said carrier for cooperation with said scale, said gear means being relatively movable to said rack means to effect movement of said contact structure along said slidewire means a distance equal to one-half the distance moved by operating means applying a force tangentially to the periphery of said gear means and parallel to said rack and scale.

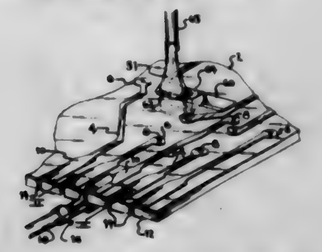
2,980,877
HIGH TEMPERATURE RESISTOR
August O. Llermann and Charles W. Heath, Auburn, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 13, 1957, Ser. No. 683,751
4 Claims. (Cl. 338—258)



1. A high temperature ambient resistor comprising a hollow open ended ceramic body having a coating on the interior surface thereof forming a predetermined electrical resistance between the ends thereof, metal end caps for sealing the open ends of the ceramic body,

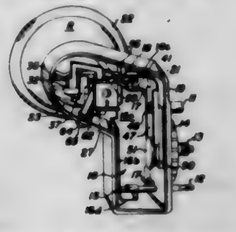
metal leads for connecting the resistor thus formed in electrical circuit relationship, and metal lead caps alloyed to the end caps and to the leads, the lead caps having an embossment therein for receiving and sealing the ends of the leads, said end caps and said lead caps each comprising a pair of discs, one of said discs consisting essentially of a metal selected from the group consisting of titanium, zirconium, hafnium, thorium, tantalum and alloys of these elements with one another and the other of said discs consisting essentially of a metal selected from the group consisting of copper, nickel, iron, molybdenum, chromium, platinum, cobalt and alloys of these elements with one another.

2,980,878
CLIP CONNECTOR FOR PRINTED CIRCUIT BOARD
Robert C. Swengel, Hellam, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 11, 1957, Ser. No. 639,461
13 Claims. (Cl. 339—17)



5. A sheet metal terminal for frictionally engaging the conductive ribbon of a printed circuit panel having a slot adjacent the ribbon comprising a coupling portion for connecting the terminal to electrical circuitry external of the circuit panel, and an integral channel-shaped clip portion having a base and a pair of lateral arms extending from opposite sides of said base, said arms providing spring means and at least one contact element, the channel of said clip being adapted to receive an edge portion of the panel as defined by one side of the slot with said spring means resiliently urging said contact element into engagement with the ribbon, and inflexible strain relieving means including opposed portions of the base spaced approximately the thickness of the panel and arranged to engage opposite sides of the panel for isolating said spring means from lateral stresses in excess of the elastic limit thereof.

2,980,879
LAMP SOCKET FOR PHOTOFLASH UNITS
Clifford G. Vroom, Edmund F. Deffenbaugh, and Charles E. Main, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 26, 1959, Ser. No. 836,183
2 Claims. (Cl. 339—45)



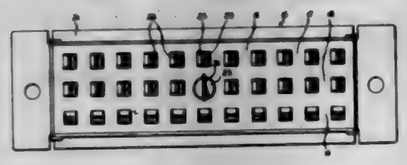
1. A lamp socket adapted to releasably retain a flash lamp having a flattened base including a first transverse retaining recess in the first flat side thereof, a second transverse retaining recess opposite said first recess in the second flat side thereof, a first electrical terminal located on the end of said base and a second terminal located on said end of said base and spaced from said first terminal, said socket comprising a housing provided with an opening in the front surface thereof adapted to accommodate the flattened base of said flash lamp when said lamp is inserted axially thereinto, a first stationary socket member formed from a single piece of sheet metal and so located within said housing as to be adjacent and parallel to said first flat side of said base when said base is located in said socket, said first member including a first projection thereon adapted to engage said first transverse retaining recess when said base is so located and a resilient contact strap adapted to engage and to exert an axial thrust against said first terminal when said base is so located, a second socket member comprising a leaf spring, within said housing, one end of said spring being fixedly attached to said housing, the opposite free end of said spring including a second projection thereon adapted to engage said second transverse retaining recess in said base when so located, said arm being biased toward a first position wherein said second projection is in engagement with said second transverse retaining recess in said base when so located and being movable to a second position wherein said second projection is spaced from said first projection by a distance greater than the thickness of said flattened base, a resilient contact strap formed as an integral part of said spring and adapted to engage and to exert an axial thrust against said second terminal when said base is so located, and means associated with said spring and accessible from outside said housing to move said free end of said spring from said first position to said second position to release said base so located in said socket.

2,980,880
WIRING DEVICE
Frederic C. Winkler and George J. Picha, Cleveland, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 27, 1956, Ser. No. 612,480
3 Claims. (Cl. 339—50)



2. A wiring device comprising a two-part housing formed from insulating material, one of said parts having an open sided chamber extending inwardly from one side thereof, a contact located in said chamber, the other of said housing parts located to engage said one side of said one housing part to enclose the open side of said chamber, said one housing part having an opening extending entirely therethrough aligned with a corresponding opening in the other of said housing parts, a unitary fastening member having a shoulder formed thereon spaced from one end thereof, said fastening member being located in said aligned openings with said shoulder engaging an outwardly facing surface of one of said housing parts, said one end of said fastening member being deformed to engage an outwardly facing surface of the other of said housing parts so that said housing parts are secured together and are fixedly secured to said fastening member, said fastening member at its other end including integral resilient means for latching with a mounting plate adapted to receive said resilient means.

2,980,881
CONNECTOR AND SNAP-IN CONTACT THEREFOR
William H. McKee, Prospect Heights, Ill., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Filed Apr. 14, 1958, Ser. No. 728,463
11 Claims. (Cl. 339—192)



1. In a connector socket assembly, a casting of insulating material provided with a plurality of generally rectangular openings extending therethrough, each opening being provided intermediate its ends with a pair of cams disposed adjacent diagonally opposite corners of said opening, and a contact for each of said openings and equipped with a pair of outwardly biased spring legs each having a recess along diagonally opposed edges thereof, said recesses being respectively alignable with said cams for seating the same therein, said cams being effective to rotate said contact to a generally diagonal orientation within said opening during insertion of the contact thereinto, the biasing force of said spring legs being effective to return the contact to its prerotated position when said recesses are aligned with said cams to snappingly seat the cams therein.

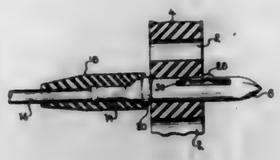
2,980,882
METER SOCKET
Flavius E. Davis III, Manchester, N.H., assignor, by mesne assignments, to Basic Products Corporation, West Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 25, 1959, Ser. No. 842,476
6 Claims. (Cl. 339—192)



1. A meter socket comprising front and back sheets of insulating material secured together in superposition, the margin of the back sheet extending beyond the edge of the front sheet, pairs of meter jaws mounted on said sheets, each pair comprising inner and outer jaws having opposing faces on their free ends to contact the opposite sides of a meter blade, said faces being disposed in a plane intersecting said margin of the back sheet beyond said edge of the front sheet, said outer jaw extending outwardly along the front of the front sheet to said edge, thence rearwardly substantially to the back sheet, thence outwardly along said margin, and thence to said free end, whereby the meter blade may be inserted beyond the plane of the front sheet.

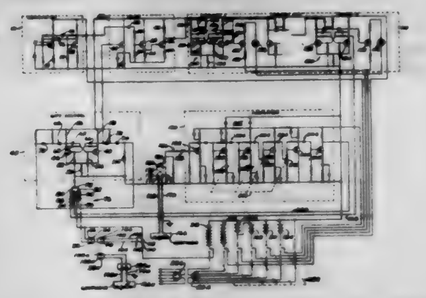
2,980,883
PLUG CONTACTOR
Wilfred R. Scheller, New Cumberland, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 17, 1959, Ser. No. 793,750
2 Claims. (Cl. 339—252)

1. In a plug contactor for insertion in an aperture in a plugboard, a hollow cylindrical sheet metal sleeve, a pair of longitudinally extending slots circumferentially spaced approximately 90° in said sleeve, said slots releasing therebetween a spring beam integrally anchored at each end to said sleeve, a detent boss intermediate the length of said beam and projecting outwardly from the sleeve surface, a section of said beam being flattened



to define a plane approximately tangential to the sleeve circumference for providing a take-up means resiliently biasing the plug contactor laterally against the aperture sidewalls on insertion.

2,980,884
APPARATUS FOR MEASURING THE TIME BETWEEN SEISMIC EVENTS WITH A COUNTER
Robert A. Kaasa, Hopkins, Minn., assignor to Geophysical Specialties Company, Hopkins, Minn., a corporation of Minnesota
Filed Nov. 1, 1957, Ser. No. 694,033
16 Claims. (Cl. 340—15)

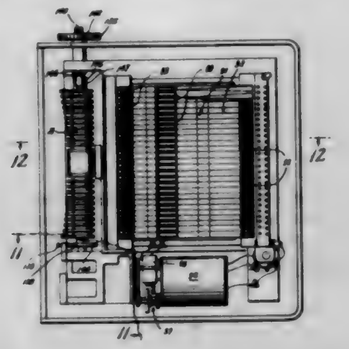


1. Seismic apparatus comprising counting means, means for feeding a constant frequency signal to said counting means when seismic vibrations are present at one locus, and means for discontinuing the feeding of said constant frequency signal to said counting means upon the receipt of said seismic vibrations at a different locus, whereby said counting means will register a total count representative of the time taken by said seismic vibrations in travelling between said loci.

2,980,885
SEISMIC RECORDING AND PLAYBACK APPARATUS
Doyle D. Mize, Peter C. Sandt, and Marvia A. Drews, Houston, Tex., assignors to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan
Filed Nov. 25, 1957, Ser. No. 698,766
5 Claims. (Cl. 340—15)

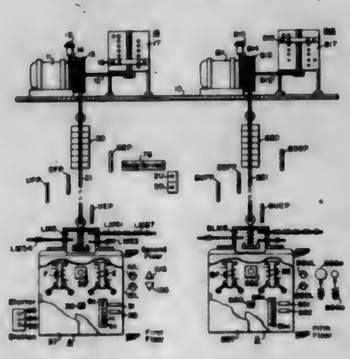
1. In an apparatus for dynamic correction for time variations between traces in the simultaneous playing back of a plurality of magnetic traces laterally disposed on magnetic tape by means of a plurality of cams mounted on a cam shaft with each cam moving one pickup head in accordance with a dynamic correction function expresed in its shape, the combination for rotating said camshaft comprising a constant speed motor, a worm member of a worm gear driven by said motor, a worm wheel engaged by said worm and driven by said camshaft, spring drive means tending to drive said camshaft in the same direction as, but at a faster rate than, said motor and worm, said spring drive means being

restrainable by said worm, whereby said motor and worm limit the rotation of said worm wheel and camshaft



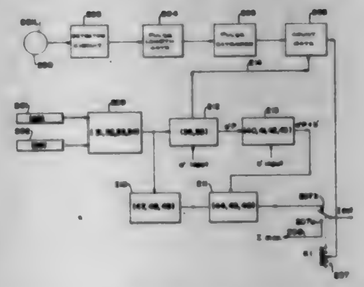
under the drive of said spring drive means to a substantially constant speed.

2,980,886
ELEVATOR SYSTEMS HAVING AUDIBLE CAR-DIRECTION SIGNALS
Glen E. Yeakley, Westfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 14, 1956, Ser. No. 609,846
10 Claims. (Cl. 340—19)



4. In an elevator system, a structure having a plurality of floors, an elevator car, means mounting the elevator car for movement relative to the structure in up and down directions to serve the floors, control means operable for stopping the elevator car at selected floors and for starting the elevator car from each floor at which the car stops, and audible signal means for audibly indicating at a floor the direction in which the elevator car will leave the floor, said audible signal means comprising sound generating mechanism operable for generating an inarticulate sound free of language meaning and having first and second components which occur in succession, said first component being clearly identifiable as of lower pitch and said second component being clearly identifiable as of higher pitch, and operating means responsive to each stopping operation of the elevator car at one of the floors from which the elevator car is set to start in the up direction for operating the sound generating mechanism to produce said sound with said first component earliest in said succession and said second component latest in said succession, said operating means being ineffective for operating the sound generating means to produce said sound with said first component earliest and said second component latest in said succession when the elevator car is set to start in the down direction.

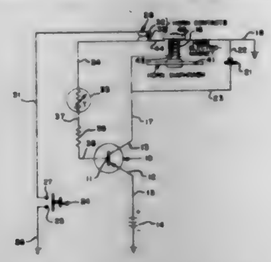
2,980,887
AUTOMATIC TRAFFIC CONTROL
John W. Soderberg, Niantic, Conn. (Box 604, Hudson, N.Y.), assignor of one-fourth to Robert P. Strakos, one-fourth to John Malasky, and one-fourth to John F. Kearney, all of Hudson, N.Y.
Filed May 22, 1957, Ser. No. 660,932
2 Claims. (Cl. 340—40)



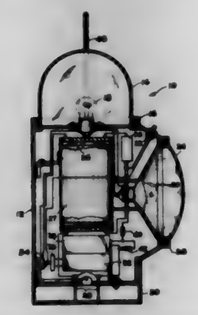
1. Apparatus for controlling the flow of vehicular traffic in a flow path, which comprises spaced detecting means actuable upon the passage of a vehicle thereby to detect the passage of said vehicle and the speed of movement thereof, first circuit means providing an electrical signal which is a function of the number of vehicles passing said detecting means in a unit of time, second circuit means providing an electrical signal which is an inverse function of the speed of vehicles passing said detecting means, means to interrelate the factors of passage and speed thus detected comprising third circuit means for, at least in effect, multiplying said electrical signals to provide a control signal which is a function of vehicular congestion level in the flow path, means for, at least in effect, comparing said control signal with a predetermined congestion level, artificial signal producing means, associated with said speed detecting means and responsive to the sustained presence of a vehicle in a predetermined area adjacent said speed detecting means, to impart, to said means for comparing, an artificial control signal corresponding to a control signal regularly generated in response to maximum moving vehicular congestion, and traffic directive means positioned in proximity to said flow path and controlled, at least in part, by said means to interrelate.

2,980,888
VEHICLE WARNING SYSTEM
Clarence E. Hothem, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 8, 1958, Ser. No. 766,118
7 Claims. (Cl. 340—62)

7. A motor vehicle warning system comprising, a vibrating sound generating member, an electrical means driving said vibrating sound generating member, a source of electrical energy, a transistor comprising a base, an emitter electrode and a collector electrode, the source of electrical energy being connected to one of said electrodes and the electrical means connected to the other of said electrodes, the flow of current through said transistor being controlled by an input circuit connected to the base, a pair of contacts positioned in the input circuit of said transistor, means connected to said vibrating sound generating member and operable by said electrical means for opening and closing said contacts in synchronism with the vibrations of said vibrating sound generating member, and a negative temperature coefficient resistance member positioned in the input circuit of said transistor for varying the resistance of the input circuit as an inverse function of the time said input circuit is energized.



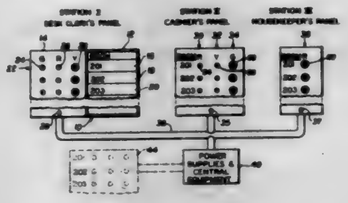
2,980,889
PORTABLE EMERGENCY LIGHT
Willi G. Meissner, Lynbrook, N.Y., assignor to Emanuel Lewinstein and Martin Senft
Filed Jan. 19, 1959, Ser. No. 787,574
4 Claims. (Cl. 340—81)



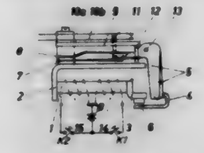
1. A portable emergency light comprising, in combination, a housing, a set of charged cells mounted within said housing, a blinker lamp mounted in one side of said housing connected in electrical circuit relationship with said cells, a switch interposed between said cells and said lamp, said switch being in a normally closed position, and means automatically opening said switch in response to connection of a source of electrical energy to said cells to deenergize said blinker lamp during the charging of said cells, said means for automatically opening said switch comprising a normally energized relay connected to and maintaining said switch in a closed position, and contacts energizing said relay in response to the connection of the source to said cells.

2,980,890
SIGNALING SYSTEMS
Raymond J. States, Port Washington, N.Y., assignor, by mesne assignments, to The Transvox Corporation, Washington, N.Y., a corporation of New York
Filed Mar. 10, 1959, Ser. No. 798,543
14 Claims. (Cl. 340—153)

1. A signaling system for a plurality of separate stations at each of which a distinct manually initiated operation is performed; said signaling system being adapted to report and direct the performance of said operations at the respective stations in a predetermined sequential order and comprising: an indicator associated with each station, a manually operable switch associated with each station, a central selector device, and means intercoupling said indicators, switches and selector device so that only one indicator can be actuated by the selector device at a time, and actuation by the selector device of an indicator associated with one station is acompanied by simultaneous conditioning of the switch associated with that station so that subsequent operation of the switch causes operation of the selector device to actuate the indicator and condition the switch associated with the next succeeding station in said sequence.



2,980,891
ELECTROMAGNETIC IMPULSE COUNTER
Heinz Steinbach, Kornwestheim, Wurttemberg, and Rudolf Scheidig, Stuttgart-Feuerbach, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1955, Ser. No. 534,322
Claims priority, application Germany Sept. 24, 1954
1 Claim. (Cl. 340—168)

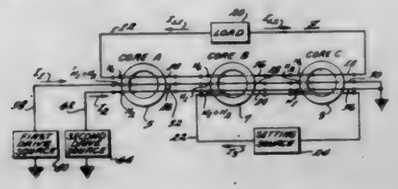


A magnetic counting device including a pole structure and means for transmitting a series of magnetizing impulses thereto, a plurality of armatures associated with said pole structure, means for successively advancing said armatures to an intermediate position in the effective operating field of said pole structure during the counting operation, in timed sequence with said magnetizing impulses, a contact spring set associated with each armature comprising first and second contact springs overlying one another and having contact carrying portions which are off-set in different directions with respect to one another and positioned so that a contact of said first spring is separately associated with a contact of a spring of the preceding spring set and a contact of said second spring is operatively associated with a contact of a spring of the next succeeding spring set, and means for actuating each said spring set responsive to a further movement of its associated armature, the said last-mentioned means comprises a pin one end of which engages said armature, the other end of which engages a surface of one of said first and second contact carrying springs, and which passes through and is secured to the other of said first and second contact carrying springs.

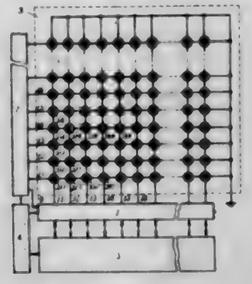
2,980,892
MAGNETIC SWITCHING SYSTEMS
Hewitt D. Crane, Menlo Park, Calif., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 27, 1956, Ser. No. 594,176
16 Claims. (Cl. 340—174)

1. A magnetic system for producing successive symmetrical signals of opposite polarities comprising mag-

netic material having apertures and having three flux paths in said magnetic material, said flux paths each being taken about a different aperture in said material, the material of a first and a second of said three paths having a substantially rectangular hysteresis loop and having two remanent states, means to set the flux in both said first and second paths to one of said remanent states, an output circuit linking all said paths such that said output circuit has a signal produced therein only when the flux in said first and second paths are separately driven from one to another of said states, a first means linking each of said three paths for driving the flux in said first path from a first remanent state to the other remanent state, said first means causing a cancelling voltage to be produced in said output circuit as a result of a flux change in said third path, and a second means linking each of said three paths for driving said second path from said one remanent state to the other remanent state, said second means causing a cancelling voltage to be produced in said output circuit as a result of a flux change in said first path.

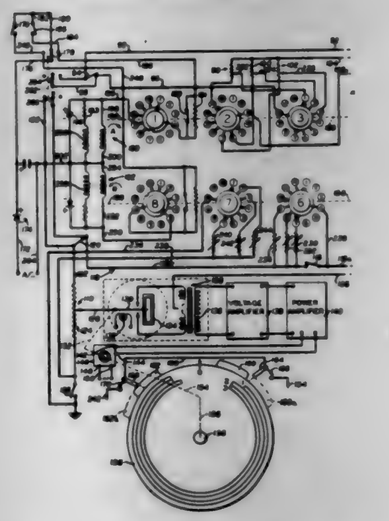


2,980,893
MEMORY SYSTEM FOR ELECTRIC SIGNAL
Suburo Muroga, Tokyo, Japan, assignor to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan, a corporation of Japan
Filed Aug. 21, 1956, Ser. No. 605,282
3 Claims. (Cl. 340—174)



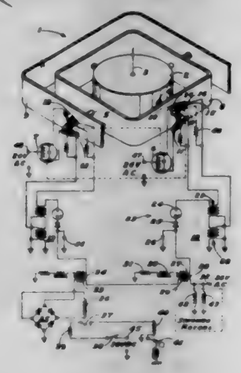
1. In a memory system of the type having a plurality of toroids coupled and arranged in columns and rows which intersect and in which each of said toroids have a substantially square hysteresis loop and are capable of assuming stable remanence conditions, means to apply to separate rows of toroids separate first alternating current signals representative of binary numbers to be stored in the memory system and having the same frequency and two opposite phases, the first signals consisting of signals having a first phase and other of said first signals having a second phase displaced 180 degrees from the first phase, the first phase signal being representative of the binary digit "0" and the second phase signals being representative of the binary digit "1" means to impress on separate rows of toroids a second alternating current signal, of lower frequency than the first signals, simultaneously with said first signals and in combination with third signals substantially corresponding in phase, amplitude and frequency to the first signals with the first phase signals thereof in correspondence during the positive half cycle of the second signal and the second phase signals thereof in correspondence during the negative half cycle of the second signal thereby to generate a resultant signal on each of selected toroids corresponding to the points of intersection of the columns and rows to which said first, second and third signals are applied, and the resultant signal being representative of the digit to be memorized and stored by a given toroid in a given row and polarizing the given toroid in a direction corresponding to the binary digit to be memorized.

2,980,894
PLURAL RANGE INDICATING INSTRUMENTS
Robert E. Lindemann, North Plainfield, N.J., assignor to David M. Potter, Warren Township, N.J.
Filed Dec. 6, 1956, Ser. No. 626,636
9 Claims. (Cl. 340—187)



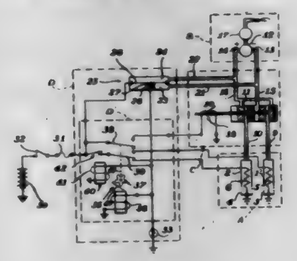
1. A plural range instrument for continually indicating a rate or condition throughout one after another of a succession of progressively higher ranges which jointly form a continuous, comprehensive field, comprising, in combination, stationary and movable indicator members which include a pointer and a dial, the latter having differently graduated scales provided upon it side by side for cooperating with the pointer, the scales reading in the same direction, and covering the respective ranges, primary sensor means responsive to the rate or condition to be measured and indicated, means constructed and arranged to be responsive to the sensor means for deriving from the sensor means D.C. signal voltages proportional to the condition or rate to be indicated, means for supplying a D.C. reference voltage of a predetermined magnitude which is independent of the magnitude of the signal voltage, a balancing potentiometer connected to the reference voltage supply means and to the signal voltage deriving means, in such manner that the reference and signal voltages are compared through the potentiometer, said potentiometer including a balancing motor electrically connected to operate in response to out of balance of the potentiometer and mechanically connected, through such operation to adjust the potentiometer in a direction to restore balance, means connecting the movable indicator member for operation by the balancing motor, signal-control-resistors of appropriate set values arranged to be selectively included in circuit between the signal voltage deriving means and the potentiometer for selecting input signal ratios to the potentiometer which are to be effective throughout the respective ranges, separate electrical range indicator means for selectively indicating the scale to be referred to at any given time and circuit means including switching means constructed and arranged to be responsive to the balancing motor at an upper limit of each range other than the highest range, automatically to effectuate appropriate signal-control-resistor selection for the signal circuit throughout the next higher range, and automatically to effect activation of the range indicator required to be made effective throughout operation in such range, said circuit means also including switching means constructed and arranged to be responsive to the balancing motor at a lower limit of each range other than the lowest range, automatically to effectuate appropriate signal-control-resistor selection for the signal circuit throughout the next lower range, and automatically to effect activation of the range indicator required to be made effective throughout operation in such range.

2,980,895
GYROSCOPE MONITORING ALARM SYSTEM
Ilmar Luik, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 22, 1958, Ser. No. 782,046
3 Claims. (Cl. 340—213)



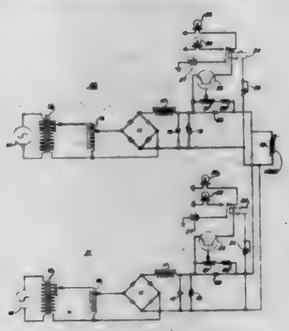
1. A failure alarm for a gyroscope, said gyroscope being of the type having a rotor with a spin axis oriented in a predetermined attitude, a plurality of electrical switches, an erection motor, each of said switches being connected in series in an operating circuit for said motor, different ones of said switches being operable from a normal closed position in response to departure of said spin axis in different directions about an axis of said rotor to open said respective operating circuit, said failure alarm comprising an alarm signaling device, a capacitor, means responsive to all of said operating circuits of said motor being normally closed for applying across said capacitor direct-current voltage higher than a first predetermined voltage, means responsive to any of said motor operating circuits being opened for removing said direct-current voltage in order to allow discharge of said capacitor, said signaling device being disabled for indicating alarm by the presence across said capacitor of voltage higher than a second predetermined voltage which is lower than said first predetermined voltage, said signaling device after an interval that is determined by the discharge rate of said capacitor operating to indicate faulty operation of said gyroscope, and said signaling device continuing to be disabled to prevent an alarm indication in response to all of said operating circuits being normally completed during said interval.

2,980,896
ICING DETECTORS
Ernest O. Robertson, James R. Stallabrass, and Donald L. Bailey, Ontario, Canada, assignors to National Research Council, Ottawa, Ontario, Canada, a body corporate of Canada
Filed Oct. 30, 1958, Ser. No. 770,811
Claims priority, application Canada May 22, 1958
8 Claims. (Cl. 340—234)



1. An icing detector comprising: two orifice type icing detector probes adapted to be progressively blocked by ice when air from ice-producing atmosphere is sucked in through the orifices thereof; a heater associated with each of said probes, and adapted to be energised to de-ice the probes; air pump means having inlet and outlet ports; means for connecting one of said probes to the inlet port and the other of said probes to the outlet port; means for reversing the said connections; and pressure differential sensitive means adapted, when the pressure differential between said connecting means has increased to a predetermined value, to cause reversal of the connections and to energise an indicating device and the heater of the probe connected to the inlet port prior to said reversal.

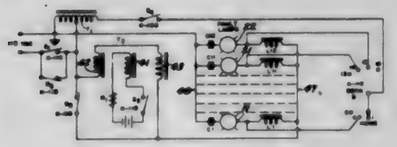
2,980,897
CURRENT SUPPLY APPARATUS
George W. Meszaros, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 8, 1957, Ser. No. 677,030
3 Claims. (Cl. 340—248)



1. In a current supply apparatus, a source of direct current, a load, an asymmetrically conducting device having a relatively low resistance to current transmitted therethrough in a forward direction, said asymmetrically conducting device being disposed between said direct-current source and said load in such manner as to permit

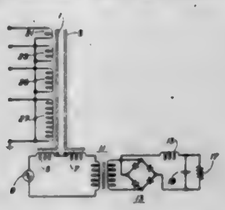
current to flow from said source to said load, switch means, a current conducting path connected across said load, said path including said switch means, biasing means for said switch means connected across said asymmetrically conducting device, said switch means being connected to said biasing means in such manner as to be responsive thereto to close said current conducting path only when current is transmitted through said asymmetrically conducting device in a forward direction, current flow indicating means, said indicating means being responsive to current flowing through said current conducting path.

2,980,898
FAULT LOCATION SYSTEM
Roger H. Mason, Dallas, and Edward J. Raits, Irving, Tex., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 20, 1957, Ser. No. 685,256
3 Claims. (Cl. 340—253)



1. A system for locating specific types of faults sensed by plural fault-sensing means at a particular communicated relay station in a two-way relay network, said relay station comprising a plurality of bistable devices at said relay station connected respectively to and actuated by said fault-sensing means, each bistable device capable of providing first and second output states indicating the existence or non-existence respectively of said specific types of faults, an interrogation sequence assigned to said bistable devices, with their fault status recognized from their position in said sequence, a stepping switch having plural stator contacts connected respectively to said bistable devices in the order of said interrogation sequence, a fault-tone oscillator, and a no-fault-tone oscillator, double-throw switching means having an input and two alternate outputs, with its input connected to the output of said stepping switch, and the outputs of said switching means connected respectively to said fault-tone oscillator tuating said fault-tone oscillator when receiving the first and said no-fault-tone oscillator, said switching means acoutput state from any connected one of said bistable devices and actuating said no-fault-tone oscillator when receiving the second output state from any connected one of said bistable devices.

2,980,899
DIGITAL TO ANALOG CONVERTER
David Katz, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 5, 1957, Ser. No. 650,922
5 Claims. (Cl. 340—347)



2. A circuit for converting a digitally coded signal into analog form comprising a plurality of said input signal sources, one for each digital K_x of said coded signal, a plurality of magnetic amplifiers each having at least one magnetic core with signal and load windings linked thereby, said core having a correspondent in each of the several amplifiers, the load windings of the corresponding cores being series connected and the products of the cross sectional areas A_x and the number of load winding turns M_x of the several corresponding cores being variously selected in accord with the relationship

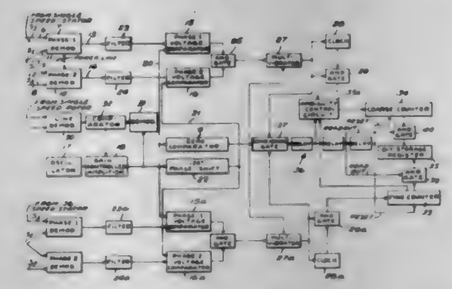
$$M_x A_x = B^x$$

for which B is the radix of said coded signal and x is the denominational order of said digit in said code, direct connections between signal windings of individual ones of said amplifiers and individual ones of said signal sources, coupling means, an alternating current source connected in series with said coupling means and the series connected load windings of said amplifiers, a load, and rectifying means connected between said load and said coupling means whereby a direct current, which is the analog of said coded signal, flows in said load in proportion to

$$\sum_{0}^{X} K_x B^x$$

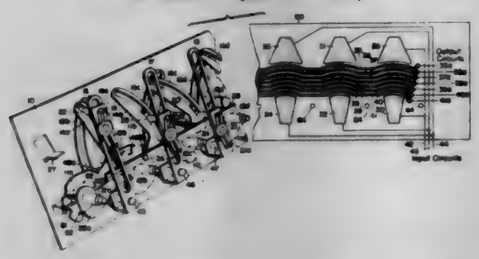
where X is the highest order of said digits.

2,980,900
SYNCHRO ENCODER
Richard Rabin, Stamford, Conn., assignor to Sperry Rand Corporation, Ford Instrument Company Division, Long Island City, N.Y., a corporation of Delaware
Filed Aug. 21, 1957, Ser. No. 679,427
5 Claims. (Cl. 340—347)



1. A synchro to digital converter having a voltage comparison and pulse counting section comprising three stator lines, one of said stator lines being adapted to convey one phase of a synchro stator output, the second stator line being adapted to convey a second phase of a synchro stator output and the third stator line being adapted to convey the third phase of a synchro stator output, a pair of demodulators, one of said demodulators being connected to said one stator line and said second stator line and the other of said demodulators being connected to said second stator line and said third stator line, a first voltage comparator connected to one of said demodulators, a second voltage comparator connected to the other demodulator, an oscillator circuit, said first comparator being connected to said oscillator circuit, a phase shifter connected to said oscillator circuit, the second voltage comparator being connected to the output of said phase shifter, an "and" gate connected to said voltage comparators and adapted to yield a pulse when voltage coincidence simultaneously occurs in said voltage comparators, a zero comparator connected to said oscillator, a two-state device connected to said "and" gate and to said zero comparator and adapted to be in one state when a pulse is received from said zero comparator and to be in its second state when a pulse is received from said "and" gate, a gated clock device controlled by said two-state device, a pulse counter responsive to said clock device and an indicator responsive to said pulse counter.

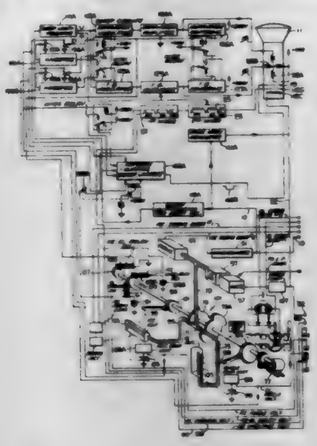
2,980,901
SUBSCRIPTION TELEVISION ENCODING APPARATUS
George V. Morris and Louis Terek, Chicago, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware
Filed Feb. 23, 1955, Ser. No. 490,078
22 Claims. (Cl. 340—365)



1. An encoding apparatus for a subscription television system comprising: a plurality of code-determining devices individually having a plurality of operating conditions; an actuator coupled to an assigned one of said code-determining devices and including a plurality of independently movable intersecting control members for establishing said assigned device in one of its operating conditions as determined by the instantaneous intersection point of said control members; a plurality of independently adjustable indexing mechanisms individually mechanically coupled to an assigned one of said intersecting control members to establish the position thereof for conjointly determining the intersection point of said control members and the operating condition of said assigned code-determining device; and means including at least a part of one of said indexing mechanisms for determining the operating condition of another of said code-determining devices.

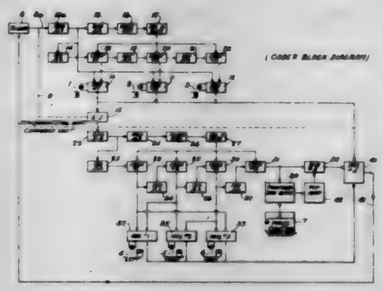
2,980,902
AUTOMATIC GROUND CONTROLLED APPROACH SYSTEMS
Homer G. Tasker, Van Nuys, Alvin Guy Van Alstyne, Los Angeles, David J. Green, Pacific Palisades, Dallas V. Franke, Redondo Beach, William T. O'Neil, La Crescenta, Raymond Cecil Dye, Los Angeles, Robert W. Landee, Santa Monica, Robert H. Cother, Fullerton, and James R. Deen, Los Angeles, Calif., and David Clement Arnold, Cedar Rapids, Iowa, assignors to Gilfillan Bros. Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 15, 1953, Ser. No. 398,288
9 Claims. (Cl. 343—7)

1. In a system of the character described, ground-based apparatus including search means which is normally effective, tracking means which is normally ineffective, control means which is normally ineffective to develop error signals representative of the deviation of the aircraft from a predetermined flight path, means deriving control signals in accordance with said error signals, first ground-based means normally effective for transmitting signals of interrogation to an aircraft, means scanning an approach zone for aircraft to develop a radar echo signal from an aircraft in said approach zone, means automatically operated upon development of said radar echo signal for rendering said search means ineffective and for rendering said tracking means effective, and for rendering said transmitting means effective to transmit interrogation signals to said aircraft, means in said aircraft for receiving said interrogation signals and for transmitting a confirmation signal, land-based means for receiving said confirmation signal and for



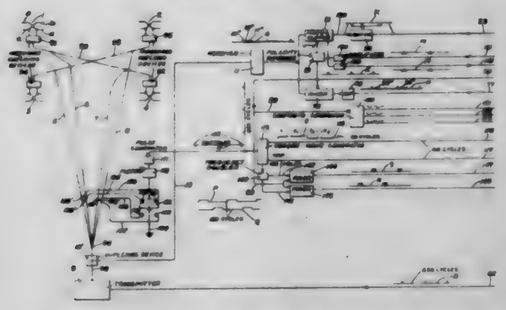
rendering said control means effective and second land-based means for transmitting said control signals to said aircraft, and means on said aircraft for receiving said control signals and for causing said aircraft to fly along said predetermined flight path.

2,980,903
RADAR-COMMAND SYSTEM OF TIME CODED PULSES
Jacob J. Hagopian, Hollywood, Calif., and Douglas G. Trego, Akron, Ohio, assignors to Goodyear Aircraft Corporation, Akron, Ohio, a corporation of Delaware
Filed Mar. 19, 1948, Ser. No. 15,766
6 Claims. (Cl. 343—7.6)



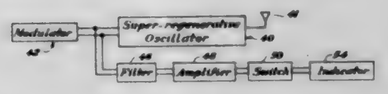
1. Remote control apparatus comprising a radar transmitter and echo receiver, a coder including a synchronizing unit for modulating the transmitted radar wave with any selected set of a plurality of sets of differently time-separated pulses, a decoder carried by the body being controlled, and including a synchronizing unit responding to only one selected set of time-separated pulses, a command unit in the coder for modulating the transmitted radar wave with any selected set of a plurality of sets of differently time-separated pulses, a command unit in the decoder responding to any selected command accepted by the synchronizing unit of the decoder for establishing electric current flow to operate controls on the body, and a beacon transmitter triggered by the decoder for transmitting a beacon signal to the radar echo receiver.

2,980,904
CATHODE RAY APPARATUS
Donald E. Norgaard, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 8, 1942, Ser. No. 446,231
14 Claims. (Cl. 343—11)



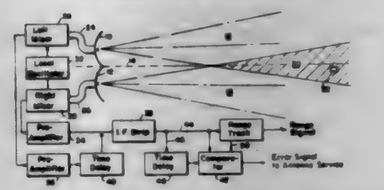
1. The combination, in a radio echo apparatus, of means to transmit a radio pulse and to receive echoes thereof, a cathode ray device having a viewing screen, means to supply to said cathode ray device two pulses, one shorter than the other and both shorter than the interval over which echoes are received, means to deflect the beam of said device across a predetermined path on said screen during the longer of said pulses and to deflect it from said path during the shorter of said pulses, and means responsive to a received echo during said longer pulse to vary the intensity of said beam thereby to vary the intensity of illumination of said path at the point corresponding to the time of reception of said echo.

2,980,905
RADIO RANGING DEVICE
Joseph W. Gratian and Anne C. Gratian, Rochester, N.Y., Robert T. Nieset, New Orleans, La., Marian E. Bourns, Altadena, Calif., and Horace R. Crane, Ann Arbor, Mich., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 16, 1948, Ser. No. 65,697
6 Claims. (Cl. 343—13)



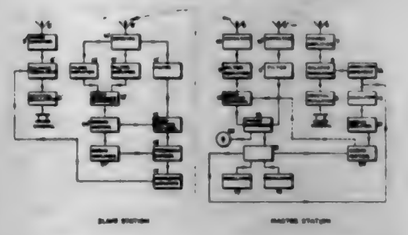
1. A radio ranging device comprising means adapted to radiate short bursts of radio frequency energy and to indicate the receipt of radio frequency energy, means for rendering said first mentioned means normally quiescent, modulator means for activating said first mentioned means in successively alternate modes, one of said modes being two activations with an intervening ranging time interval equal substantially to twice the selected ranging distance divided by the velocity of light and the second mode being the repetition of said two activations with a time interval longer than said first time interval; said modulator means comprising a relaxation oscillator including a gas tube having at least a cathode and an anode, and a tank circuit; said relaxation oscillator having a normally quiescent period equal to the aforementioned longer time interval, said tank circuit having a period equal to the aforesaid ranging time interval and being coupled to the said cathode whereby it is shock excited at its natural period, said tank circuit being coupled to the first mentioned means whereby said first mentioned means is activated by the positive half cycles of the excitations in said tank circuit.

2,980,906
MONO-PULSE RADAR SYSTEM
Cyril E. McClellan, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 19, 1954, Ser. No. 444,057
3 Claims. (Cl. 343—16)



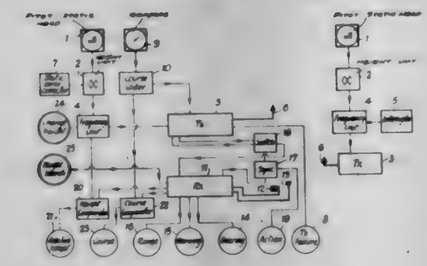
1. In a radar system of the type which determines target aspect by comparing the target returns of pulsed signals which are simultaneously radiated from two antennas spaced from each other a predetermined distance and having overlapping patterns of radiation, the combination of a wave guide for each of said antennas, means connected to said wave guides for heterodyning the signals received at said antennas to a new frequency, means for delaying the heterodyned signals emanating from one of said antennas, a single receiver device for detecting the delayed and undelayed signals in succession, a pair of electron paths connected to the output of said detecting means so that the detected signals will appear in both of said paths, means included in one of said paths for delaying the signals appearing therein by an amount equal to the time delay effected by the first of said delaying means, and a comparator for comparing the phase differences of signals in the respective paths to thereby produce an output signal whose magnitude and polarity depends upon the relative phases of the compared signals.

2,980,907
LONG-RANGE NAVIGATION SYSTEM
Wijnand Langeraar, C.S. Marine, Amsterdam, Netherlands
Filed Feb. 16, 1955, Ser. No. 488,689
Claims priority, application Netherlands Feb. 27, 1954
6 Claims. (Cl. 343—105)



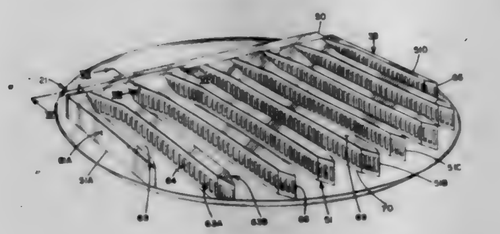
1. A radio navigation system comprising a master station and a plurality of slave stations; said master station being adapted to transmit a normal transmission of first and second frequencies differing in frequency by a low frequency f and being further adapted to transmit a signal modulated on said normal transmission; each of said slave stations comprising a receiver adapted to receive said first and second frequencies transmitted by said master station and derive therefrom a beat frequency, a transmitter adapted to utilize a division of said beat frequency to modulate a predetermined generated frequency to produce a third and a fourth frequency, said third and fourth frequencies differing in frequency by said low frequency f, and means controlling the phase of said beat frequency in response to said signal modulated on the normal transmission of the master station transmitter.

2,980,908
METHODS AND APPARATUS FOR DATA EXCHANGE
John Vielle, Tangier, Morocco, assignor to Avel Corporation Geneva, Geneva, Switzerland
Filed Oct. 15, 1957, Ser. No. 690,377
Claims priority, application Great Britain Oct. 24, 1956
34 Claims. (Cl. 343—112)



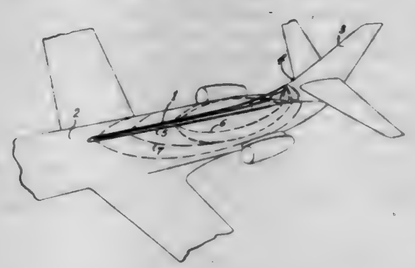
1. A co-operative method of exchanging data comprising the steps of generating a radio frequency carrier; modulating such carrier with a modulating frequency characteristic of a first data item; pulse modulating such modulating frequency by pulses of a length characteristic of a second data item and transmitting such pulsing modulated carrier in an interrupted manner, the interval between transmissions being independent of the length of a pulse transmitted during a transmission; and receiving, demodulating and decoding such transmission.

2,980,909
REDUCED-HEIGHT RADOME-ANTENNA
James D. Clanton, Jr., Arlington, and Earl H. Flath, Jr., and Edwin G. Keiffer, Dallas, Tex., assignors to Chance Vought Corporation, a corporation of Delaware
Filed Dec. 3, 1956, Ser. No. 626,802
19 Claims. (Cl. 343—705)



1. An apparatus for transmitting and receiving high-frequency electromagnetic energy comprising: an elongated, hollow, two-ended waveguide of rectangular cross-section and closed at both ends, said waveguide having a wall; radiating means spaced along said wall and operative for radiating electromagnetic energy from said waveguide; feed means for propagating high-frequency electromagnetic energy in said guide; and an array of horns made of conductive material and individually fed by respective ones of said radiating means, said horns having substantially vertical lateral sides and being open along substantially the entire lengths of their upper and lower sides, said lateral sides including wave-retarding surfaces characterized by surface discontinuities.

2,980,910
AIRCRAFT AERIAL FOR DECAMETRIC-WAVES
Marc Camille Alexandre Fourcade, Toulouse, France, assignor to Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France
Filed Aug. 16, 1957, Ser. No. 678,668
Claims priority, application France Nov. 14, 1956
6 Claims. (Cl. 343—705)



1. In an aerial structurally incorporated into an aircraft, for operating at decametric waves and of the kind comprising a profiled longitudinal insulating support mounted on the structure of the aircraft and a metallic element secured on said support, grounded at its rear end and fed substantially in its center region, the aggregate of insulating support and metallic element being profiled to ensure continuity of shape between said aerial and said aircraft structure; the improvement according to which the profiled longitudinal insulating support is constituted by series of elements of insulating material comprising transverse supports fixed on the transverse structural ribs of aircraft fuselage and longitudinal panels of insulating material fixed on said transverse supports and ensuring the connection of the shapes of the aerial to those of the structure of the aircraft.

2,980,911
DUOMODE MICROWAVE RADIATION SYSTEM
Stanley M. Kerber, Fullerton, and Grant M. Randall and Donald F. Zemke, Whittier, Calif., assignors to North American Aviation, Inc.
Filed Apr. 5, 1957, Ser. No. 651,105
4 Claims. (Cl. 343—779)



1. Microwave radiation and receiving apparatus for transmitting and receiving electromagnetic energy in two modes of transmission comprising a parabolic reflector, a pair of contiguous wave guides projecting through said reflector at its axis of symmetry, said guides tapering in height dimension to a minimum in the region of the focal point of said parabolic reflector, a circularly bent rectangular wave guide connected to each said contiguous guide for directing said microwave generally at said reflector, each said circularly bent wave guide having a portion bent more than 180 degrees and a reverse bend portion, a slot aperture at the end of each said bent guides for illuminating said reflector with said microwaves, and a series of small rectangular stepped discontinuities joining said bent guides and said slots for matching the impedance of said guides to the impedance of free space whereby said reflector may be properly and efficiently illuminated.

2,980,912
TELEVISION ANTENNA HAVING MULTI-BAND ELEMENTS
Warner H. Anderson, Hamilton County, Ill., assignor, by mesne assignments, to Channel Master Corporation, Ellenville, N.Y., a corporation of New York
Filed Apr. 22, 1955, Ser. No. 503,275
6 Claims. (Cl. 343—802)

1. A collector system for an all-channel television antenna comprising a plurality of dipole sections, each section comprising substantially parallel arms extending outward from the midpoint thereof and joined at their outer ends, at least one of said sections being shorted by respective conductors connected between the substantially parallel arms at substantially corresponding points on both sides of the mid-point of said section and a phasing section connecting said sections; the ratio of the distance between the center of each dipole and its shorting conductors to the distance between the center of the dipole and the end thereof being substantially less than the ratio of the velocity constant of the dielectric between parallel arms



of the folded dipole relative to the velocity constant of air.

DESIGNS

APRIL 18, 1961

190,111
NOVELTY HAT
Frances Anthony Greenwald, Washington, D.C., assignor of one-third to Robert J. Patch, Chevy Chase, Md.
Filed May 20, 1959, Ser. No. 55,985
Term of patent 14 years
(Cl. D3—13)



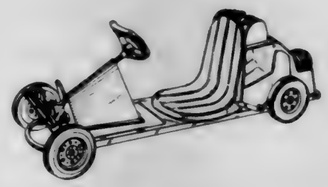
190,112
COMBINATION FOAM AND VACUUM CLEANER
William L. Petersen, Muskegon, Mich., assignor to Clarke Floor Machine Company, Muskegon, Mich., a corporation of Michigan
Filed Jan. 18, 1960, Ser. No. 59,080
Term of patent 14 years
(Cl. D9—2)



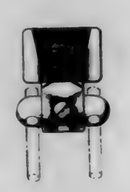
190,113
RUG CLEANER CASING OR THE LIKE
Robert A. Yonkers, Henry T. Rosendall, Jr., and Henry T. Lathrop, all of Grand Rapids, Mich., assignors to Bissell, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Oct. 26, 1959, Ser. No. 58,057
Term of patent 14 years
(Cl. D9—2)



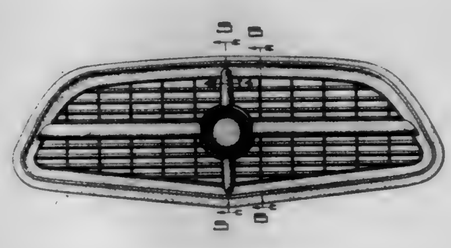
190,114
GO-CART
Ellsworth H. Baxter, Carl Merl, and Laurie Jay Campbell, Erie, Pa., assignors to Louis Marx & Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 7, 1960, Ser. No. 62,047
Term of patent 14 years
(Cl. D14—3)



190,115
CURB FEELER BRACKET
Edwin L. Schwartz, 2429 Guthrie Drive, and Einar Wilk, 4159 W. 4th St., both of Los Angeles, Calif.
Filed July 22, 1960, Ser. No. 61,490
Term of patent 14 years
(Cl. D14—6)



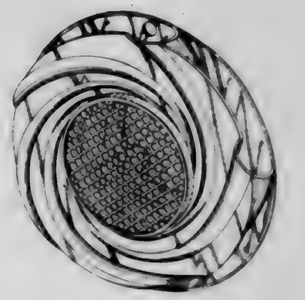
190,116
GRILLE FOR AN AUTOMOBILE
Frederick Reynolds and William B. Pratt, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 2, 1960, Ser. No. 60,414
Term of patent 7 years
(Cl. D14—18)



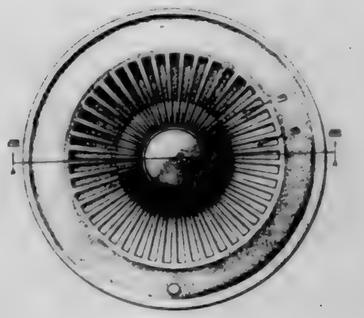
190,117
HUB CAP
John J. Palotsee, 330 E. Front St., Youngstown, Ohio
Filed Mar. 15, 1960, Ser. No. 59,735
Term of patent 14 years
(Cl. D14—30)



190,118
HUB CAP
John J. Palotsee, 330 E. Front St., Youngstown, Ohio
Filed Mar. 15, 1960, Ser. No. 59,736
Term of patent 14 years
(Cl. D14—30)



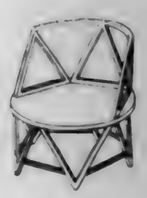
190,119
AUTOMOBILE WHEEL COVER
Allan E. Kornmiller, Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 27, 1960, Ser. No. 60,773
Term of patent 7 years
(Cl. D14—30)



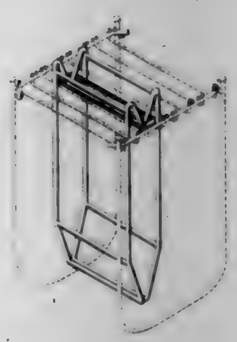
190,120
CHAIR
Jehu D. Paulson, 2705 Everett St., Raleigh, N.C.
Filed May 16, 1960, Ser. No. 60,592
Term of patent 14 years
(Cl. D15—1)



190,121
CHAIR
Jehu D. Paulson, 2705 Everett St., Raleigh, N.C.
Filed May 16, 1960, Ser. No. 60,594
Term of patent 14 years
(Cl. D15—1)



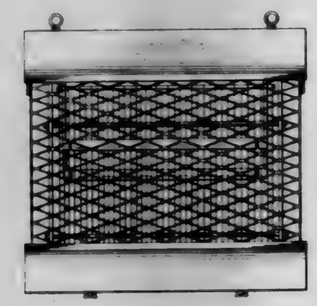
190,122
RACK AND FRAME COMBINATION FOR SUPPORTING PAPER STRIPS IN DESCENDING CHROMATOGRAPHY
Horatio Gorman Balkie, 5628 Grove St., Oakland, Calif.
Filed Sept. 15, 1959, Ser. No. 57,558
Term of patent 14 years
(Cl. D16—2)



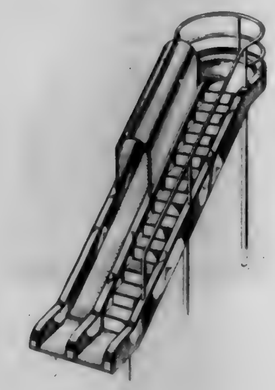
190,123
DEVICE FOR ENGAGING AND PULLING SLIDE FASTENERS
Leo Papagna, 2938 Dearborn St., Youngstown, Ohio
Filed Sept. 12, 1960, Ser. No. 62,115
Term of patent 14 years
(Cl. D17—3)



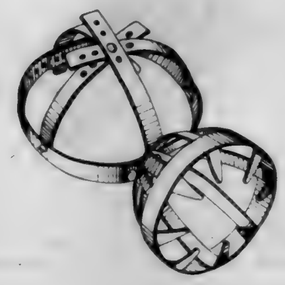
190,124
INSECT ELECTROCUTING TRAP
Allan W. Houghton, 1116 S. Alfred St., Alexandria, Va.
Filed May 10, 1960, Ser. No. 60,517
Term of patent 14 years
(Cl. D31—3)



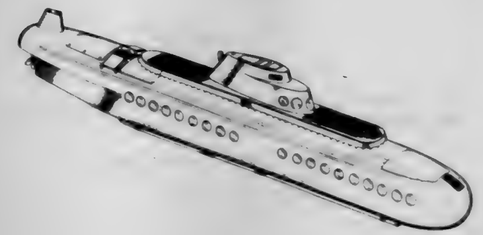
190,125
TUNNEL SLIDE OR THE LIKE
Claude W. Ahrens, P.O. Box 275, Grinnell, Iowa
Filed Mar. 28, 1960, Ser. No. 59,895
Term of patent 14 years
(Cl. D34—5)



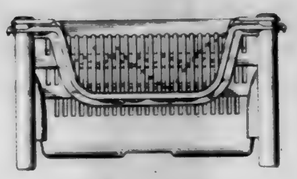
190,126
BALL CATCHING BASKET
William J. Miller, 1270 Syracuse St., Denver, Colo.
Filed Mar. 28, 1960, Ser. No. 59,906
Term of patent 14 years
(Cl. D34—5)



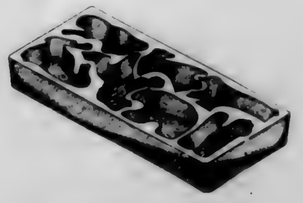
190,127
AMUSEMENT RIDE CAR
Joseph W. Fowler, Corona Del Mar, Calif., assignor to Disneyland, Inc., Anaheim, Calif., a corporation of California
Filed Mar. 21, 1960, Ser. No. 59,812
Term of patent 14 years
(Cl. D34—15)



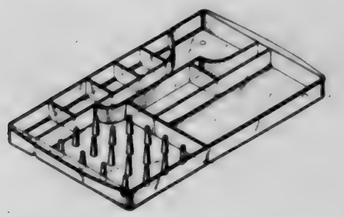
190,128
VEGETABLE BIN OR SIMILAR ARTICLE
Charles O. Bliss, P.O. Box 47607, Los Angeles, Calif.
Filed June 10, 1960, Ser. No. 60,909
Term of patent 14 years
(Cl. D44—1)



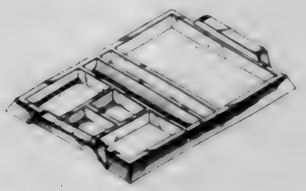
190,129
FIGURE TRAY
John A. Resch, 416 E. North St., Lima, Ohio
Filed July 14, 1958, Ser. No. 51,759
Term of patent 14 years
(Cl. D44—10)



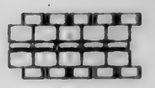
190,130
TRAY
David Traum, Purchase, N.Y., assignor to David Traum, Incorporated, New York, N.Y., a corporation of New York
Filed June 1, 1960, Ser. No. 60,807
Term of patent 14 years
(Cl. D44—10)



190,131
TRAY
Aaron Traum, New York, N.Y., assignor to David Traum, Incorporated, New York, N.Y., a corporation of New York
Filed June 1, 1960, Ser. No. 60,811
Term of patent 14 years
(Cl. D44—10)



190,132
LINK CHAIN FOR A BRACELET OR THE LIKE
Emil Rodriguez, New York, N.Y., assignor to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York
Filed Feb. 23, 1960, Ser. No. 59,467
Term of patent 7 years
(Cl. D45—4)



190,133
LINK CHAIN FOR A BRACELET OR THE LIKE
Emil Rodriguez, New York, N.Y., assignor to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York
Filed Feb. 23, 1960, Ser. No. 59,469
Term of patent 7 years
(Cl. D45—4)



190,134
COMBINED CANDLE LAMP AND ASH TRAY
Lavelle D. Barber, 4756 Don Miguel Drive, and Bert L. Ruttman, 10330 Keswick Ave., both of Los Angeles, Calif.
Filed Nov. 28, 1960, Ser. No. 63,004
Term of patent 14 years
(Cl. D48—2)



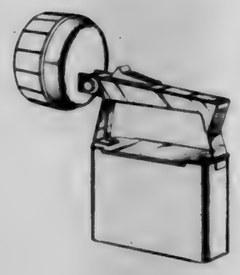
190,135
LIGHTING FIXTURE GLOBE
David Glen Cameron, Rte. 1, Beaver, Pa.
Filed Feb. 12, 1960, Ser. No. 59,374
Term of patent 14 years
(Cl. D48—16)



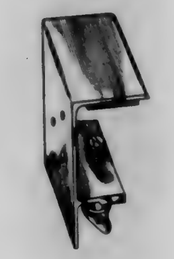
190,136
COMBINED ASH TRAY AND SERVICE LIGHT FOR RESTAURANTS OR THE LIKE
Jerome T. Miller, 2938 St. Elmo Ave. NE., Canton, Ohio
Filed Mar. 21, 1960, Ser. No. 59,798
Term of patent 14 years
(Cl. D48—20)



190,137
ELECTRIC LANTERN OR SIMILAR ARTICLE
Fredrick J. Kirkman, Freeport, Ill., assignor to Servel, Inc., Evansville, Ind., a corporation of Delaware
Filed Jan. 7, 1960, Ser. No. 58,955
Term of patent 14 years
(Cl. D48—24)



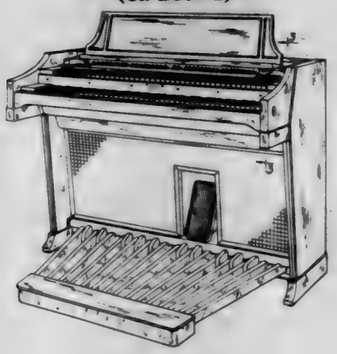
190,138
CLAMP
William Noga and John T. Chase, Van Nuys, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed May 10, 1956, Ser. No. 41,444
Term of patent 14 years
(Cl. D54—13)



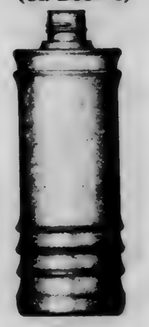
190,139
TANK FOR HOLDING REFLECTIVE-GRANULES FOR A HIGHWAY CENTER-LINE MARKING MACHINE
Rufus W. Wilson, Huntingdon, Pa., assignor to Wald Industries, Inc., Huntingdon, Pa., a corporation of Pennsylvania
Filed Nov. 9, 1959, Ser. No. 58,284
Term of patent 14 years
(Cl. D55—1)



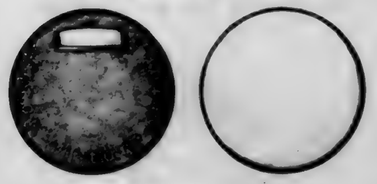
190,140
ELECTRIC ORGAN
Joseph Palma, Jr., Wheaton, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 25, 1959, Ser. No. 57,688
Term of patent 14 years
(Cl. D56—2)



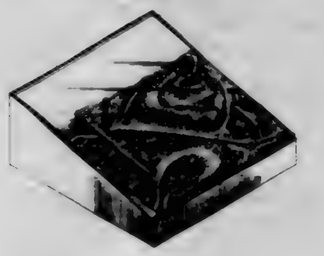
190,141
BOTTLE
Brooks D. Fuerst, Sylvania, and Harry M. Sinclair, Jr., Port Clinton, Ohio; said Fuerst assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio, and said Sinclair assignor to The Sinclair Manufacturing Company, Toledo, Ohio, a partnership
Filed July 19, 1960, Ser. No. 61,535
Term of patent 14 years
(Cl. D58—8)



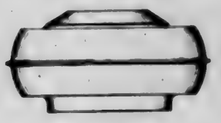
190,142
BOX FOR TABLETS OR THE LIKE
Minoru Meshino, Tennojicho, Abeno-ku, Osaka, Japan, assignor to Morishita Jintan Co., Ltd., Osaka, Japan
Filed Feb. 23, 1960, Ser. No. 59,486
Term of patent 14 years
(Cl. D58—11)



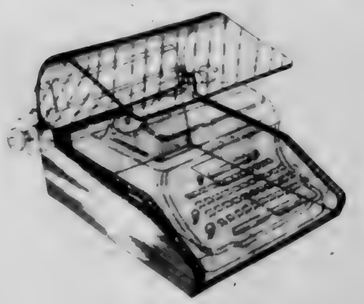
190,143
DISPLAY BOX
Lewis Douglas Young, 13 Laurel St., Providence, R.I.
Filed Sept. 16, 1957, Ser. No. 47,756
Term of patent 14 years
(Cl. D58—12)



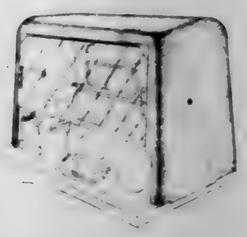
190,144
ROOF VENTILATOR
George M. Breidert, 11250 Zelzall Ave., Granada Hills, Calif.
Filed Apr. 19, 1960, Ser. No. 60,250
Term of patent 14 years
(Cl. D62—3)



190,145
SOUND ABSORBING CABINET FOR TABLE MODEL BUSINESS MACHINES
George A. Reed and Dexter Rosen, Williamsville, N.Y., assignors to Gates Acoustinet, Inc., Tonawanda, N.Y., a corporation of New York
Filed May 19, 1960, Ser. No. 60,656
Term of patent 3½ years
(Cl. D64—11)



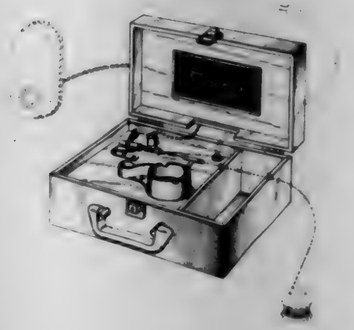
190,146
SOUND ABSORBING CABINET FOR TABLE MODEL BUSINESS MACHINES
George A. Reed and Dexter Rosen, Williamsville, N.Y., assignors to Gates Acoustinet, Inc., Tonawanda, N.Y., a corporation of New York
Filed May 19, 1960, Ser. No. 60,657
Term of patent 14 years
(Cl. D64—11)



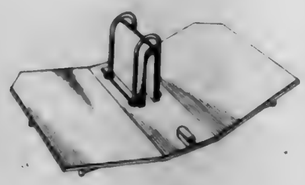
190,147
WATER COOLER
Robert R. Fink, Chicago, Ill., assignor to General Electric Company, a corporation of New York
Filed Aug. 29, 1960, Ser. No. 61,923
Term of patent 14 years
(Cl. D67—4)



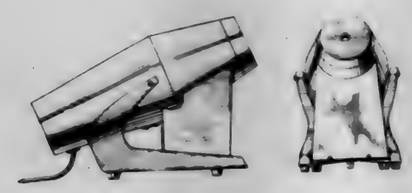
190,148
PORTABLE WARNING UNIT
Samuel Reuben, Jr., 515 Jackson Ave., Glencoe, Ill.
Filed Mar. 25, 1959, Ser. No. 55,168
Term of patent 14 years
(Cl. D72—1)



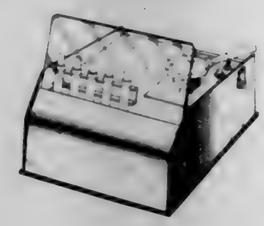
190,149
DESK CALENDAR BASE
Leslie L. De Mathe, Seattle, Wash., assignor to De Mathe-Walker, Seattle, Wash., a corporation of Washington
Filed Oct. 28, 1960, Ser. No. 62,662
Term of patent 14 years
(Cl. D74—5)



190,150
PENCIL SHARPENER
Hachiro Ogawa, 20 Ichiban-cho, Chiyoda-ku, Tokyo, Japan
Filed Aug. 8, 1960, Ser. No. 61,669
Term of patent 14 years
(Cl. D74—21)



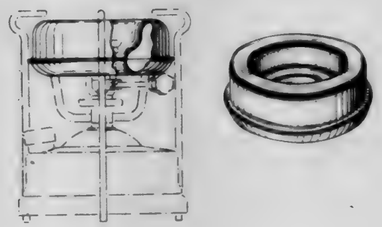
190,151
STAND FOR MAKING AND DISPLAYING CUSTOM-MADE LIPSTICKS
Joseph A. Danilek, Garden City, N.Y., assignor to Mary Chess, Incorporated, New York, N.Y., a corporation of Delaware
Filed Nov. 25, 1959, Ser. No. 58,464
Term of patent 14 years
(Cl. D80—9)



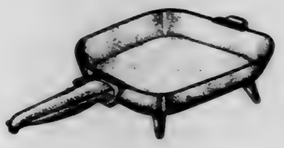
190,152
DISPLAY CARD FOR A JUMPING BEAN GAME
Clifford M. Irvin, Jr., 6017 Fandango, El Paso, Tex.
Filed Oct. 5, 1959, Ser. No. 57,804
Term of patent 3½ years
(Cl. D80—9)



190,153
PRESSURE STOVE
John A. Bullen, 314 Hunstanton, corner Twist and Kotze Sts., Hillbrow, Johannesburg, Union of South Africa
Filed May 23, 1958, Ser. No. 51,060
Term of patent 14 years
(Cl. D81—10)



190,154
ELECTRIC FRYING PAN
Donal William Morphy, Chiselhurst, England, assignor to Morphy-Richards Limited, Kent, England
Filed Oct. 14, 1958, Ser. No. 52,978
Term of patent 14 years
(Cl. D81—10)



190,155
TIRE
Charles C. Custer, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Mar. 31, 1959, Ser. No. 55,276
Term of patent 14 years
(Cl. D90—20)



190,156
CHAIN SAW ENGINE UNIT
Gordon W. Florian, 97 Argonne, Fairfield, Conn.
Filed Aug. 31, 1959, Ser. No. 57,381
Term of patent 14 years
(Cl. D93—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 18TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Adams-Millis Corp.: *See*—
Getaz, James L. Re. 24,971.
Faust, Martin H.: *See*—
Halliday, John E., Jr., and Faust. Re. 24,970.
Getaz, James L., 75% to United States Trust Co. of New York, and 25% to Adams-Millis Corp. Method of closing toe of circular knit hose. Re. 24,971, 4–18–61, Cl. 66—172.
Golding, Frank E., to Toledo Scale Corp. Weighing scale. Re. 24,969, 4–18–61, Cl. 177—200.
Halliday, John E., Jr., and M. H. Faust. Method of knitting combination pantie girdle. Re. 24,970, 4–18–61, Cl. 66—177.
Hubley Mfg. Co., The: *See*—
Weimer, John H. Re. 24,967.
Klingener, Harry F., to Sonotone Corp. Phonograph pick-ups. Re. 24,968, 4–18–61, Cl. 177—100.41.
Raven Industries, Inc.: *See*—
Yost, Paul E. Re. 24,966.
Sonotone Corp.: *See*—
Klingener, Harry F. Re. 24,968.
Toledo Scale Corp.: *See*—
Golding, Frank E. Re. 24,969.
United States Trust Co. of New York: *See*—
Getaz, James L. Re. 24,971.
Weimer, John H., to The Hubley Mfg. Co. Toy cap revolver with ejector. Re. 24,967, 4–18–61, Cl. 42—58.
Yost, Paul E., to Raven Industries, Inc. Balloon system. Re. 24,966, 4–18–61, Cl. 244—24.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Kim Bros., d.b.a. Reedley Nursery. Plum tree. 2,049, 4–18–61, Cl. 47—62.
Booy, Peter J., to P. J. Booy, Rose Nursery. Rose plant. 2,047, 4–18–61, Cl. 47—61.
Booy, Peter J., Rose Nursery: *See*—
Booy, Peter J. 2,047.
Campbell Soup Co.: *See*—
Robbins, Wayne A. 2,050.
Kim Bros., d.b.a. Reedley Nursery: *See*—
Anderson, Frederic W. 2,049.
Patterson & Hale: *See*—
Sherrill, Lewis B. 2,048.
Robbins, Wayne A., to Campbell Soup Co. Mushroom plant. 2,050, 4–18–61, Cl. 47—59.
Schenkel, H. R., Inc.: *See*—
Schenkel, Herman R., Sr. 2,046.
Schenkel, Herman R., Sr., to H. R. Schenkel, Inc. Rose plant. 2,046, 4–18–61, Cl. 47—61.
Sherrill, Lewis B., 75% to Patterson & Hale. Peach tree. 2,048, 4–18–61, Cl. 47—62.

LIST OF DESIGN PATENTEES

Ahrens, Claude W. Tunnel slide or the like. 190,125, 4–18–61, Cl. D34—5.
Baikie, Horatio G. Rack and frame combination for supporting paper strips in descending chromatography. 190,122, 4–18–61, Cl. D16—2.
Barber, Lavelle D., and B. L. Ruttman. Combined candle lamp and ash tray. 190,134, 4–18–61, Cl. D48—2.
Baxter, Ellsworth H., C. Meri, and L. J. Campbell, to Louis Marx & Co., Inc. Go-cart. 190,114, 4–18–61, Cl. D14—3.
Bissell, Inc.: *See*—
Yonkers, Robert A., Rosendall, and Lathrop. 190,113.
Bliss, Charles O. Vegetable bin or similar article. 190,128, 4–18–61, Cl. D44—1.
Breidert, George M. Roof ventilator. 190,144, 4–18–61, Cl. D62—3.
Bullen, John A. Pressure stove. 190,153, 4–18–61, Cl. D81—10.
Cameron, David G. Lighting fixture globe. 190,135, 4–18–61, Cl. D48—16.
Campbell, Laurie J.: *See*—
Baxter, Ellsworth H., Meri, and Campbell. 190,114.
Chase, John T.: *See*—
Noga, William, and Chase. 190,138.
Chess, Mary, Inc.: *See*—
Danilek, Joseph A. 190,151.
Chrysler Corp.: *See*—
Kornmiller, Allan E. 190,119.
Reynolds, Frederick, and Pratt. 190,116.
Clarke Floor Machine Co.: *See*—
Petersen, William L. 190,112.
Custer, Charles C., to The B. F. Goodrich Co. Tire. 190,155, 4–18–61, Cl. D90—20.
Danilek, Joseph A., to Mary Chess, Inc. Stand for making and displaying custom-made lipsticks. 190,151, 4–18–61, Cl. D80—9.
De Mathe, Leslie L., to De Mathe-Walker. Desk calendar base. 190,149, 4–18–61, Cl. D74—5.
De Mathe-Walker: *See*—
De Mathe, Leslie L. 190,149.
Disneyland, Inc.: *See*—
Fowler, Joseph W. 190,127.
Fink, Robert R., to General Electric Co. Water cooler. 190,147, 4–18–61, Cl. D67—4.
Florian, Gordon W. Chain saw engine unit. 190,156, 4–18–61, Cl. D93—3.
Fowler, Joseph W., to Disneyland, Inc. Amusement ride car. 190,127, 4–18–61, Cl. D34—15.
Fuerst, Brooks D., and H. M. Sinclair, Jr.; said Fuerst assor. to Owens-Illinois Glass Co., and said Sinclair assor. to The Sinclair Mfg. Co. Bottle. 190,141, 4–18–61, Cl. D58—8.
Gates Acoustinet, Inc.: *See*—
Reed, George A., and Rosen. 190,145.
Reed, George A., and Rosen. 190,146.
General Electric Co.: *See*—
Fink, Robert R. 190,147.
Goodrich, B. F., Co., The: *See*—
Custer, Charles C. 190,155.
Greenwald, Frances A., ¼ to R. J. Patch. Novelty hat. 190,111, 4–18–61, Cl. D3—13.
Hammond Organ Co.: *See*—
Palma, Joseph, Jr. 190,140.
Houghton, Allan W. Insect electrocuting trap. 190,124, 4–18–61, Cl. D31—3.
Irvin, Clifford M., Jr. Display card for a jumping bean game. 190,152, 4–18–61, Cl. D80—9.
Jacoby-Bender, Inc.: *See*—
Rodrigues, Emil. 190,132.
Rodriguez, Emil. 190,133.
Kirkman, Fredrick J., to Servel, Inc. Electric lantern. 190,137, 4–18–61, Cl. D48—24.
Kornmiller, Allan E., to Chrysler Corp. Automobile wheel cover. 190,119, 4–18–61, Cl. D14—30.
Lathrop, Henry T.: *See*—
Yonkers, Robert A., Rosendall, and Lathrop. 190,113.
Lockheed Aircraft Corp.: *See*—
Noga, William, and Chase. 190,138.
Marx, Louis, & Co., Inc.: *See*—
Baxter, Ellsworth H., Meri, and Campbell. 190,114.
Meri, Carl: *See*—
Baxter, Ellsworth H., Meri, and Campbell. 190,114.
Meshino, Minoru, to Morishita Jintan Co., Ltd. Box for tablets or the like. 190,142, 4–18–61, Cl. D58—11.
Miller, Jerome T. Combined ash tray and service light for restaurants or the like. 190,136, 4–18–61, Cl. D48—20.
Miller, William J. Ball catching basket. 190,126, 4–18–61, Cl. D34—5.
Morishita Jintan Co., Ltd.: *See*—
Meshino, Minoru. 190,142.
Morphy, Donal W., to Morphy-Richards Ltd. Electric frying pan. 190,154, 4–18–61, Cl. D81—10.
Morphy-Richards Ltd.: *See*—
Morphy, Donal W. 190,154.
Noga, William, and J. T. Chase, to Lockheed Aircraft Corp. Clamp. 190,138, 4–18–61, Cl. D54—13.
Ogawa, Hachiro. Pencil sharpener. 190,150, 4–18–61, Cl. D74—21.
Owens-Illinois Glass Co.: *See*—
Fuerst, Brooks D., and Sinclair. 190,141.
Palma, Joseph, Jr., to Hammond Organ Co. Electric organ. 190,140, 4–18–61, Cl. D56—2.
Palotsee, John J. Hub cap. 190,117, 4–18–61, Cl. D14—30.
Palotsee, John J. Hub cap. 190,118, 4–18–61, Cl. D14—30.
Papagna, Leo. Device for engaging and pulling slide fasteners. 190,123, 4–18–61, Cl. D17—3.
Patch, Robert J.: *See*—
Greenwald, Frances A. 190,111.
Paulson, Jehu D. Chair. 190,120, 4–18–61, Cl. D15—1.
Paulson, Jehu D. Chair. 190,121, 4–18–61, Cl. D15—1.
Petersen, William L., to Clarke Floor Machine Co. Combination foam and vacuum cleaner. 190,112, 4–18–61, Cl. D0—2.

Pratt, William B.: *See*—
Reynolds, Frederick, and Pratt. 190,116.
Reed, George A., and D. Rosen, to Gates Acoustinet, Inc. Sound absorbing cabinet for table model business machines. 190,145, 4–18–61, Cl. D64—11.
Reed, George A., and D. Rosen, to Gates Acoustinet, Inc. Sound absorbing cabinet for table model business machines. 190,146, 4–18–61, Cl. D64—11.
Rench, John A. Figure tray. 190,129, 4–18–61, Cl. D44—10.
Reuben, Samuel, Jr. Portable warning unit. 190,148, 4–18–61, Cl. D72—1.
Reynolds, Frederick, and W. B. Pratt, to Chrysler Corp. Grille for an automobile. 190,116, 4–18–61, Cl. D14—18.
Rodriguez, Emil, to Jacoby-Bender, Inc. Link chain for a bracelet or the like. 190,132, 4–18–61, Cl. D45—4.
Rodriguez, Emil, to Jacoby-Bender, Inc. Link chain for a bracelet or the like. 190,133, 4–18–61, Cl. D45—4.
Rosen, Dexter: *See*—
Reed, George A., and Rosen. 190,145.
Reed, George A., and Rosen. 190,146.
Rosendall, Henry T., Jr.: *See*—
Yonkers, Robert A., Rosendall, and Lathrop. 190,113.
Ruttman, Bert L.: *See*—
Barber, Lavelle D., and Ruttman. 190,134.
Schwartz, Edwin L., and E. Wilk. Curb feeler bracket. 190,115, 4–18–61, Cl. D14—6.
Servel, Inc.: *See*—
Kirkman, Fredrick J. 190,137.
Sinclair, Harry M., Jr.: *See*—
Fuerst, Brooks D., and Sinclair. 190,141.
Sinclair Mfg. Co., The: *See*—
Fuerst, Brooks D., and Sinclair. 190,141.
Traum, Aaron, to David Traum, Inc. Tray. 190,131, 4–18–61, Cl. D44—10.
Traum, David, to David Traum, Inc. Tray. 190,130, 4–18–61, Cl. D44—10.
Traum, David, Inc.: *See*—
Traum, Aaron. 190,131.
Traum, David. 190,130.
Wald Industries, Inc.: *See*—
Wilson, Rufus W. 190,139.
Wilk, Einar: *See*—
Schwartz, Edwin L., and Wilk. 190,115.
Wilson, Rufus W., to Wald Industries, Inc. Tank for holding reflective-granules for a highway center-line marking machine. 190,139, 4–18–61, Cl. D55—1.
Yonkers, Robert A., H. T. Rosendall, Jr., and H. T. Lathrop, to Bissell, Inc. Rug cleaner casing or the like. 190,113, 4–18–61, Cl. D9—2.
Young, Lewis D. Display box. 190,143, 4–18–61, Cl. D58—12.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 18TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMP Inc.: *See*—
Scheller, Wilfred R. 2,980,883.
Swengel, Robert C. 2,980,878.
Aagaard, Bernhard M. Method and apparatus for the grading of coffee beans. 2,980,265, 4–18–61, Cl. 209—427.
Abbott, Horace P., to Lever Bros. Co. Carton board adhesion tester. 2,979,944, 4–18–61, Cl. 73—150.
Abbott Laboratories: *See*—
Weston, Arthur W. 2,980,672.
Zaugg, Harold E., Weston, Freifelder, and Michaels. 2,980,683.
Ablow, Clarence M., and G. Brigham, to Boeing Airplane Co. Analog programming system. 2,980,330, 4–18–61, Cl. 235—184.
Abramitis, Walter W., and E. A. Tehle, Jr., to Armour & Co. of Delaware. Method of combating plant-attacking fungus. 2,980,578, 4–18–61, Cl. 167—22.
Accumulatoren-Fabrik A.G.: *See*—
Peters, Freimut. 2,980,745.
Achilich, John H., to United States of America, Navy. Instrument lighting device. 2,980,056, 4–18–61, Cl. 116—129.
Adams, Clark E., and C. N. Kimberlin, Jr., to Esso Research and Engineering Co. Hydrocracking catalyst and process for hydrocracking shale oils. 2,980,604, 4–18–61, Cl. 208—111.
Adams, Richard E. Bag. 2,980,314, 4–18–61, Cl. 229—65.
Adelman, Barnet E., to Phillips Petroleum Co. Ignition of solid rocket propellants. 2,980,021, 4–18–61, Cl. 102—70.2.
Adox Kamerawerk G.m.b.H.: *See*—
Kopp, Wilhelm, and Ploss. 2,980,000.
Aerodex, Inc.: *See*—
Larson, Carl R. 2,980,593.
Aerojet-General Corp.: *See*—
Royer, Thurber W. 2,979,904.
Aeroquip Corp.: *See*—
Elsner, Edwin C. 2,980,037.
Agon, Michel A.: *See*—
Bongrain, Herve L. E. M., and Agon. 2,980,799.
Ahlborn, John C.: *See*—
Dille, Roger M., Chapman, and Ahlborn. 2,980,523.
Ahlen, Karl G., to Svenska Rotor Maskiner Aktiebolag. Heat transfer. 2,980,403, 4–18–61, Cl. 257—241.
Aikins, Warren A.: *See*—
Walker, Dale R., and Aikins. 2,979,740.
Akehurst, Kenneth S., to Noll Mfg. Co. Cap assembly. 2,980,008, 4–18–61, Cl. 98—46.
Akin, George H., to Eastman Kodak Co. Five component photographic objective of the modified Gauss type. 2,979,988, 4–18–61, Cl. 88—57.
Akron Standard Mold Co., The: *See*—
Deibel, Mason J. 2,980,160.
Aktiebolaget Akerlund & Rausing: *See*—
Embring, Paul G. 2,980,248.
Aktiebolaget Astra, Apotekarnes Kemiska Fabriker: *See*—
Lundgren, Rudolf A. I. 2,980,275.
Aktiebolaget Atomenergi: *See*—
Martensson, Karl M., Löfman, and Eriksson. 2,980,532.
Aktiebolaget Industrikompaniet: *See*—
Joelson, Karl-Evert A. 2,980,079.
Joelson, Karl-Evert A. 2,980,080.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
Wiedemann, Eugen. 2,980,564.
Wohlfahrt, Otto, and Michel. 2,980,566.
Aladdin Industries, Inc.: *See*—
Mason, Francis G. 2,980,796.
Alberti, Carlo G., and A. Vercellone, to Societa Farmaceutici Italia. Diaminonitropropiophenones and process of preparation. 2,980,674, 4–18–61, Cl. 260—247.2.
Albertson, Noel F., to Sterling Drug Inc. 3-indolemethanephosphonic acid and its salts and preparation thereof. 2,980,692, 4–18–61, Cl. 260—319.
Albrecht, Alberta M.: *See*—
Broquist, Harry P., Albrecht, and Stiffey. 2,980,590.
Alexander, Jack E., to Xela Corp. Knee vanity. 2,979,990, 4–18–61, Cl. 88—101.
Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli, S.p.A. Pneumatic braking equipment with multiple sections particularly for vehicles. 2,980,468, 4–18–61, Cl. 303—2.
Alheritiere, Louis, and J. Mercier, to Les Usines de Melle (Societe Anonyme). Process for contacting solid and liquid phases. 2,980,731, 4–18–61, Cl. 260—488.
Allegany Instrument Co., Inc.: *See*—
Harrison, George W. 2,979,807.
Allen, Arthur N., Jr., and L. L. Gaubis, to United Aircraft Corp. Combined feathering and pitch lock system. 2,980,188, 4–18–61, Cl. 170—160.2.
Allen Electric & Equipment Co.: *See*—
Allen, Gerald H. 2,979,942.
Allen, Gerald H., to Allen Electric & Equipment Co. Acceleration tester. 2,979,942, 4–18–61, Cl. 73—117.
Allen, Robert W., to Henry Simon, Ltd. Air filters. 2,980,207, 4–18–61, Cl. 183—57.
Allis-Chalmers Mfg. Co.: *See*—
Coombs, Chadwick A. 2,980,667.
Dreisin, Alexander, and Kapian. 2,980,092.
Kececioglu, Dimitri B., Baugh, and Hoffmann. 2,980,345.
Scranton, Charles J. 2,979,877.
Almor Corp.: *See*—
Foster, Allan D. 2,980,212.
Amatel, Harold, to Westinghouse Electric Corp. Article packing and dispensing carton. 2,980,240, 4–18–61, Cl. 206—45.14.
Am-Bol Corp.: *See*—
Bolsey, Jacques. 2,979,985.
American Bosch Arma Corp.: *See*—
Million, John W., Jr. 2,980,797.
American Brake Shoe Co.: *See*—
Boron, Frank J. 2,980,349.
Hoyer, Llewellyn E., and Gorcyca. 2,980,470.
Johnson, Oscar H. 2,980,352.
Wilson, Rosser L., Herlihy, and Wood. 2,979,793.
American Can Co.: *See*—
Baselt, Frederick C. 2,980,311.
American Cyanamid Co.: *See*—
Broquist, Harry P., Albrecht, and Stiffey. 2,980,590.
De Grunigen, Alfred C. 2,980,589.
Frank, Simon, and Gagliardi. 2,980,723.
Gentile, Anthony J., and Porter. 2,980,554.
House, Ronald R., and Moore. 2,980,609.
Malley, Thomas J., Schindler, Pennell, and Innes. 2,980,632.
Sheers, Edward H., and Chamberlain. 2,980,715.
American Machine & Foundry Co.: *See*—
Sanders, Milton, and Halpern. 2,980,424.
Zaander, Carl J. 2,980,425.
American Metal Products Co. (Davis Engineering Division): *See*—
Thompson, William H. 2,980,172.
American Metallurgical Products Co.: *See*—
Knapp, William E., and Bolkcom. 2,980,529.
American MonoRail Co., The: *See*—
McEachern, Loyd R. 2,980,340.
American Radiator & Standard Sanitary Corp.: *See*—
Cooper, Lemuel B. 2,980,133.
Millerwise, Carl H. 2,980,774.
American Saw and Tool Co.: *See*—
Cowley, William E. 2,979,742.
American Steel Foundries: *See*—
Lindstrom, George A. 2,979,906.
American Viscose Corp.: *See*—
Fry, Horace P., Jr. 2,979,767.
McDermott, Henry J. 2,980,493.
Ampex Corp.: *See*—
Ehret, Robert J. 2,980,768.
Amundsen, Paul to Fendall Co. Goggles. 2,979,728, 4–18–61, Cl. 2—14.
Andersen, Carl P., J. C. Richardson, and V. E. First, to Union Carbide Corp. Heat exchange device. 2,980,404, 4–18–61, Cl. 257—248.
Anderson Brass Co.: *See*—
Anderson, Ervin R., and Kass. 2,980,390.
Anderson Co., The: *See*—
Diebold, Alfred J. 2,979,965.
Krohm, Fred A. 2,979,752.
Martens, Jack E. 2,979,966.
Anderson, Ervin R., and G. H. Kass, to Anderson Brass Co. Rotary valve. 2,980,390, 4–18–61, Cl. 251—181.
Anderson, Hiram D., Jr. Animated artificial bait. 2,979,849, 4–18–61, Cl. 43—42.02.
Anderson, J. Roland, and L. Clothesline attachment. 2,980,383, 4–18–61, Cl. 248—317.
Anderson, John W. Device for a windshield wiper blade and arm assembly. 2,979,750, 4–18–61, Cl. 15—250.
Anderson, Lenore: *See*—
Anderson, J. Roland, and L. 2,980,383.
Anderson, Raymond J.: *See*—
Wheaton, Robert M., and Anderson. 2,980,498.
Anderson, Warner H., to Channel Master Corp. Television antenna having multi-band elements. 2,980,912, 4–18–61, Cl. 343—802.
Andrew, Eugene A., to Olin Mathieson Chemical Corp. Pelleting apparatus. 2,979,764, 4–18–61, Cl. 18—2.7.
Andrew, Eugene A., to Olin Mathieson Chemical Corp. Lacquer treatment apparatus. 2,979,769, 4–18–61, Cl. 18—12.
Anetsberger Brothers, Inc.: *See*—
Anetsberger, Frank A. and R. J. 2,980,101.
Anetsberger, Frank A. and R. J., to Anetsberger Brothers, Inc. Cooking device. 2,980,101, 4–18–61, Cl. 126—41.
Anetsberger, Richard J.: *See*—
Anetsberger, Frank A. and R. J. 2,980,101.
Ankenbrock, Charles A.: *See*—
Dunn, William J., Ankenbrock, and Rabb. 2,980,821.
Ansai, Shoji. Mechanism of iris stop for camera. 2,980,002, 4–18–61, Cl. 95—42.
Arbogast, Duane J., to Dover Corp. Fluid control means. 2,980,073, 4–18–61, Cl. 121—46.4.

Arbour Box Co.: *See*—
Arbour, Foy A. 2,980,151.
Arbour, Foy A., to Arbour Box Co., and Brunswick Corp. Machine for cutting billets from a block. 2,980,151, 4–18–61, Cl. 143—85.
Armco Steel Corp.: *See*—
Long, Spencer W. 2,980,400.
Armour & Co. of Delaware: *See*—
Abramitis, Walter W., and Tehle. 2,980,578.
Armour, Donald F., to Plax Corp. Liquid spray dispenser. 2,980,342, 4–18–61, Cl. 239—327.
Armstrong Cork Co.: *See*—
Bushnell, Collins E., and Parker. 2,980,642.
Luecders, Robert W. 2,980,279.
Arneson, Edwin L., to Federal Paper Board Co., Inc. Collapsible tray. 2,980,310, 4–18–61, Cl. 229—35.
Arnold, David C.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.
Ash, Alvin G.: *See*—
Rasmussen, William B. 2,980,302.
Ashenfelter, William K. Scaffold horse. 2,980,201, 4–18–61, Cl. 182—184.
Astatic Corp., The: *See*—
Jacque, James M. 2,980,811.
Atchison, Byron L. Portable shelter. 2,980,124, 4–18–61, Cl. 135—1.
Atchison, Leonard W., to General Electric Co. Room air conditioner condensate disposal arrangement. 2,979,918, 4–18–61, Cl. 62—275.
Atkinson, George H., to Pittsburgh Plate Glass Co. Production of calcium silicate. 2,980,644, 4–18–61, Cl. 260—41.5.
Atlas Pipe Inc.: *See*—
Taylor, William B., and Griffin. 2,980,451.
Auto Specialists Mfg. Co.: *See*—
Lucker, Millard B. 2,980,397.
Avel Corp. Geneva: *See*—
Vielle, John. 2,980,908.
Ayers, David T., Jr.: *See*—
Steiner, William, and Ayers. 2,980,066.
Azon Corp.: *See*—
Beese, William C. A., and Bergmann. 2,980,356.
Babcock & Wilcox Co., The: *See*—
Campbell, John, Jr. 2,980,179.
Koch, Paul H., and Fink. 2,980,084.
Bachli, Herman, and H. S. Shapiro, to Chicago Specialty Mfg. Co. Adjustable wrenches. 2,979,977, 4–18–61, Cl. 81—129.
Back, Leonard: *See*—
Bergstein, Frank D., and Back. 2,979,995.
Baer, Ralph S., to N. P. Greller. Garment rack. 2,980,438, 4–18–61, Cl. 280—79.3.
Bagdon, Richard J., and R. Warren, to Luminated Shim Co., Inc. Method of making a shim. 2,980,572, 4–18–61, Cl. 154—116.
Bailey, Donald L.: *See*—
Robertson, Ernest O., Stallabrass, and Bailey. 2,980,896.
Bailey, William F., R. J. Farber, and J. J. Mazzochi, to Hazeltine Research, Inc. Autodyne converter. 2,980,795, 4–18–61, Cl. 250—20.
Baio, George A. Furniture construction. 2,980,482, 4–18–61, Cl. 312—257.
Baird and Tatlock (London) Ltd.: *See*—
Bracey, Ronald J., and Rigby. 2,980,802.
Bakarich, Michael. Hair shaper attachment. 2,979,818, 4–18–61, Cl. 30—30.
Baker, J. T., Chemical Co.: *See*—
Ham, George E. 2,980,658.
Baker, Melvin C., T. C. Bissot, and J. Rowbottom, to E. I. du Pont de Nemours and Co. Catalyst recovery. 2,980,630, 4–18–61, Cl. 252—414.
Baldoni, Emil, to Traficante, Inc. Movable converter for the bass mechanism of an accordion. 2,979,980, 4–18–61, Cl. 84—376.
Baldwin-Lima-Hamilton Corp.: *See*
White, Ira M. 2,980,388.
Wu, Henry H. 2,980,837.
Ball, Guy M. Intake manifold. 2,980,087, 4–18–61, Cl. 123—52.
Balogh, Stephen, to General Electric Co. Refrigerating system composed of dissimilar metals. 2,979,924, 4–18–61, Cl. 62—511.
Bamberger, Julien G., to Masco Corp. Barbecue grills. 2,980,100, 4–18–61, Cl. 126—25.
Bancroft-Brillotex International S.A.: *See*—
Boer, Arpad. 2,979,782.
Banks, Waldo H.: *See*—
Thibault, Harrison N., and Banks. 2,979,881.
Barber-Colman Co.: *See*—
Mason, Harrison G. 2,980,354.
Bardach, Martin, D. H. Field, K. E. Gooden, and W. J. Hood, to Hughes Aircraft Co. Apparatus for applying insulating material about electrical devices. 2,980,565, 4–18–61, Cl. 154—2.26.
Barenyi, Bela, to Daimler-Benz Aktiengesellschaft. Load-carrying compartment for passenger cars. 2,980,466, 4–18–61, Cl. 296—24.
Barker, Clifford L., to Walker, Crosweller & Co. Ltd. Fluid mixing devices. 2,980,333, 4–18–61, Cl. 236—14.
Barnard, Robert D.: *See*—
Davis, Clyde W., Ehlers, and Barnard. 2,980,635.
Barta, Joseph A. Hoop rolling device. 2,979,860, 4–18–61, Cl. 46—220.
Bartlett, Jeffrey H.: *See*—
Morway, Arnold J., and Bartlett. 2,980,615.
Bartlett, Philip L., to E. I. du Pont de Nemours and Co. Inhibiting gel formation in fuel oils. 2,980,518, 4–18–61, Cl. 44—66.
Baselt, Frederick C., to American Can Co. Container. 2,980,311, 4–18–61, Cl. 229—37.
Basic Products Corp.: *See*—
Davis, Flavius E., III. 2,980,882.
Bass, David H. Device for use in installing fluorescent
Davis, Flavius E., III. 2,980,882.
Baudhuin, George J., and A. C. Petersen, to Drott Mfg. Corp. Fluid driving system for vehicles. 2,980,193, 4–18–61, Cl. 180—6.48.
Bauerlein, Carl C., to The Dole Valve Co. Pneumatic timer. 2,980,393, 4–18–61, Cl. 251—262.
Baugh, Robert T.: *See*—
Kececioglu, Dimitri B., Baugh, and Hoffmann. 2,980,345.
Baumann, Arthur N., to International Minerals & Chemical Corp. Preparation of potassium compounds from potassium sulfate. 2,980,504, 4–18–61, Cl. 23—63.
Bausch & Lomb Optical Co.: *See*—
Brumley, Corwin H., and Clark. 2,979,987.
Bauwin, George R., and F. X. Grossi, to Union Starch and Refining Co., Inc. Soil conditioning with quaternary nitrogen salt. 2,979,863, 4–18–61, Cl. 47—58.
Bean, Robert S.: *See*—
Cavanagh, George C., and Bean. 2,980,718.
Beard, Richard B., to Minneapolis-Honeywell Regulator Co. Apparatus for controlling case hardening action. 2,980,415, 4–18–61, Cl. 266—5.
Bearfoot Sole Co., Inc., The: *See*—
White, Benjamin D. 2,979,775.
Bearinger, Van W., and F. J. Larsen, to Minneapolis-Honeywell Regulator Co. Electrostrictive vibrator. 2,980,841, 4–18–61, Cl. 321—2.
Beatty, Guy M. Soap bar with scrubbing bristles. 2,979,748, 4–18–61, Cl. 15—122.
Beauchamp, Wilfred A., to The Youngstown Steel Door Co. Railway box cars. 2,979,786, 4–18–61, Cl. 20—22.
Beaver, Edward J. Grinder and attachment therefor. 2,979,867, 4–18–61, Cl. 51—125.
Bechtold, Friedrich W., to The S. S. White Dental Mfg. Co. Rotating chair arm structure. 2,980,170, 4–18–61, Cl. 155—198.
Beck, Alfred. Apparatus for cutting uniform pitch threads on a blank of cylindrical and conical configuration. 2,979,741, 4–18–61, Cl. 10—105.
Beck, John M. Precision seed planter. 2,980,043, 4–18–61, Cl. 111—77.
Beck, Leonard R., to Studebaker Hydraulic Products Co. Air-hydraulic apparatus. 2,979,903, 4–18–61, Cl. 60—54.5.
Beckers, Hans, to W. Reiners. System for testing and sorting coil cores. 2,980,250, 4–18–61, Cl. 209—75.
Beech Aircraft Corp.: *See*—
Holben, Clair D. 2,980,448.
Beese, William C. A., and H. E. Bergmann, to Azon Corp. Non-stop winding of continuous web into successive rolls. 2,980,356, 4–18–61, Cl. 242—56.
Bell, Alan, W. M. Gearhart, and J. W. Tamblyn, to Eastman Kodak Co. Stabilized poly-a-olefin compositions. 2,980,648, 4–18–61, Cl. 260—45.85.
Bell & Gossett Co.: *See*—
Gardner, Donald B. 2,979,915.
Main, Leo E., Piper, and Smith. 2,979,947.
Bell, Lewis W.: *See*—
Eager, William A., and Bell. 2,980,433.
Bell Telephone Laboratories, Inc.: *See*—
Goidey, James M. 2,980,810.
Hussey, Luther W. 2,980,863.
Kats, David. 2,980,899.
Meszaros, George W. 2,980,897.
Bellinger, Ronald, to Strachan & Henshaw Ltd. Apparatus for turning and radiusing an adjustable chute. 2,980,221, 4–18–61, Cl. 193—30.
Bellis, Paul, to The Landmark Corp. Food container display device. 2,979,841, 4–18–61, Cl. 40—126.
Belsinger, Samuel P. Shipping container. 2,980,239, 4–18–61, Cl. 206—7.
Bemis Bros. Bag Co.: *See*—
Quinn, James L. 2,980,313.
Bendix Corp., The: *See*—
Eastman, James M. 2,979,952.
Haase, Elmer A., and Werts. 2,979,895.
Hurtle, James E., Eastman, and Kitchen. 2,979,889.
Perkey, Russell C. 2,980,173.
Price, Earl R. 2,979,907.
Rogers, Francis R. 2,980,174.
Rosback, Richard H. 2,980,455.
Spencer, Glenn S. 2,979,961.
Sutton, Robert W., Woodward, and Hartman. 2,980,090.
Werts, Wayne E. 2,980,065.
Widell, George M. 2,979,891.
Zeisloft, Harry C. 2,979,894.
Benkovich, John A.: *See*—
Bohde, Robert L., and Benkovich. 2,979,815.
Bennett, Michael, to The United Kingdom Atomic Energy Authority. Apparatus for the exchange of heat between fluids. 2,980,081, 4–18–61, Cl. 122—7.
Benson, James M., to Mollenberg-Betz Machine Co. Fluid operated chuck. 2,980,432, 4–18–61, Cl. 279—4.
Bentzen, Arthur R., to General Electric Co. Faceplate design with removable inserts. 2,980,283, 4–18–61, Cl. 220—24.2.
Benyak, John B., to The Osborn Mfg. Co. Rotary brush. 2,979,749, 4–18–61, Cl. 15—179.
Berg, Rudolph G., and G. D. Laubach, to Chas. Pfizer & Co., Inc. Fluorinated corticosteroids. 2,980,670, 4–18–61, Cl. 260—239.55.
Bergmann, Herbert E.: *See*—
Beese, William C. A., and Bergmann. 2,980,356.
Bergreen, Weldon O.: *See*—
Studhalter, Walter R., Miller, and Bergreen. 2,979,897.
Bergstein, Frank D., and L. Back, to Bergstein Packaging Trust. Apparatus for closing and sealing lined containers. 2,979,995, 4–18–61, Cl. 93—44.
Bergstein Packaging Trust: *See*—
Bergstein, Frank D., and Back. 2,979,995.

Berkowitz, Bernard D.: *See*—
Walker, Richard M., Berkowitz, Blaisdell, and Mistretta. 2,980,873.
Berry, Kenneth L., to E. I. du Pont de Nemours and Co. Preparation of fibrous titanium dioxide. 2,980,510, 4–18–61, Cl. 23—202.
Bertin, Jean H.: *See*—
Salmon, Benjamin, and Bertin. 2,979,899.
Bertsch, Marguerite. Retractor lens. 2,979,997, 4–18–61, Cl. 95—1.
Best Plastics Corp.: *See*—
Lattuca, Sam T. 2,979,844.
Beteiligungs-und Patentverwaltungsgesellschaft mit beschrankter Haftung: *See*—
Bruderlein, Ernst J., and Rohr. 2,980,254.
Bethea, Barron. Dead end cable clamp. 2,980,378, 4–18–61, Cl. 248—63.
Beurer, Frederick C., to United Aircraft Corp. Power transmission system. 2,979,908, 4–18–61, Cl. 74—665.
Bevarly, Henry W., to Chemetron Corp. Method for producing and molding plastic materials having a gaseous ingredient. 2,980,539, 4–18–61, Cl. 99—118.
Bigelow, Bertha: *See*—
Bigelow, Merle E. 2,979,854.
Bigelow, Merle E., deceased, by B. Bigelow, administratrix. Animal traps. 2,979,854, 4–18–61, Cl. 43—90.
Billetter, Halton A., and W. W. Stevens, to The McKay Machine Co. Coil peeler. 2,980,360, 4–18–61, Cl. 242—78.8.
Bily, Peter J., to Chiksan Co. Fluid conveying apparatus. 2,980,150, 4–18–61, Cl. 141—387.
Birleson, Stanley R., H. H. Campbell, and H. R. Dobb, to The Kaydon Engineering Corp. Control system for grinding machines. 2,979,869, 4–18–61, Cl. 51—165.
Birum, Gail H., and J. L. Dever, to Monsanto Chemical Co. Carboxy phosphates. 2,980,722, 4–18–61, Cl. 260—461.
Bissot, Thomas C.: *See*—
Baker, Melvin C., Bissot, and Rowbottom. 2,980,630.
Bittenfield, Morris. Spotting composition. 2,980,621, 4–18–61, Cl. 252—97.
Bjoeraanesset, Harald: *See*—
Mokiebust, Olav, and Bjoeraanesset. 2,980,508.
Black, Sivalls & Bryson, Inc.: *See*—
Coffman, Robert S. 2,980,286.
Blaisdell, Arthur A.: *See*—
Walker, Richard M., Berkowitz, Blaisdell, and Mistretta. 2,980,873.
Blashewski, Eugene A., to Jensen Industries, Inc. Stylus mounting for phonograph pickup. 2,980,428, 4–18–61, Cl. 274—37.
Bliss, E. W., Co.: *See*—
Schlos, Arthur H., and Steele. 2,979,975.
Bloch, Herman S., to Universal Oil Products Co. Preparation of aromatic amines. 2,980,735, 4–18–61, Cl. 260—578.
Block & Anderson Ltd.: *See*—
Bonsch, Francois R. 2,980,014.
Bloom, Aaron, to Sierra Engineering Co. Elbow locking mechanism for an artificial limb. 2,979,730, 4–18–61, Cl. 3—12.3.
Bloom, Frederick S.: *See*—
Furczyk, Alfons A., Henwood, Bloom, and Hovis. 2,980,171.
Bloom, Barry M.: *See*—
Buck, Carl J., and Bloom. 2,980,728.
Boeing Airplane Co.: *See*—
Ablow, Clarence M., and Brigham. 2,980,330.
Boer, Arpad, to Bancroft-Brillotex International S.A. Machine and process for cleaning wood and other textile fibres. 2,979,782, 4–18–61, Cl. 19—67.
Boggs, Richard L.: *See*—
Zenter, Thomas G., and Boggs. 2,980,015.
Bok, Edward: *See*—
Bok, Hendrik F. and E. 2,980,339.
Bok, Hendrik F. and E. Paint spraying apparatus. 2,980,339, 4–18–61, Cl. 239—135.
Bolding, Hubert V., to Standard Packaging Corp. Method of manufacture of box and structure thereof. 2,980,308, 4–18–61, Cl. 229—31.
Bolinger, George N., to Sta-Rite Ginnie Lou, Inc. Curl clip. 2,980,118, 4–18–61, Cl. 132—48.
Bolkcom, Wilbur T.: *See*—
Knapp, William E., and Bolkcom. 2,980,529.
Bollman, Geo. W., & Co., Inc.: *See*—
Reider, Malcolm J. 2,979,781.
Bolsey, Jacques, to Am-Bol Corp. Film counter and spring tension indicators. 2,979,985, 4–18–61, Cl. 88—16.
Bolstad, Luther L., to Minneapolis-Honeywell Regulator Co. Molding apparatus. 2,979,773, 4–18–61, Cl. 18—34.
Bongrain, Herve L. E. M., and M. A. Agon. Radiation meter incorporating a radioactive element. 2,970,799, 4–18–61, Cl. 250—83.5.
Bonsch, Francois R., to Block & Anderson Ltd. Hectographic duplicating machines. 2,980,014, 4–18–61, Cl. 101—91.
Bookout, Floyd V., T. L. Hanson, and D. W. McBride, to The Vendo Co. Coin actuated operating mechanism for vending machines. 2,980,224, 4–18–61, Cl. 194—13.
Booth, Peter H., to Orenda Engines Ltd. Method and apparatus for securing skin to a core. 2,979,808, 4–18–61, Cl. 29—156.8.
Boots Pure Drug Co. Ltd.: *See*—
Stevenson, Herbert A., Marshall, and Hams. 2,980,668.
Borden Co., The: *See*—
Hale, James F., Klein, and Bradway. 2,980,543.
Wolf, Raymond B. 2,980,538.
Borg, Arthur C., and R. H. Leet, to Standard Oil Co. Lithium hydroxystearate thickened grease having both short and metastable soap microfibers and process for forming same. 2,980 614, 4–18–61, Cl. 252—41.
Borg-Warner Corp.: *See*—
Haberland, Fred C., and Moore. 2,979,902.
Prijatel, Edward A., and Campbell. 2,980,132.
Snoy, Joseph B. 2,979,963.
Turechek, George F. 2,980,018.
Wahlmark, Gunnar A. 2,980,025.
Boron, Frank J., to American Brake Shoe Co. Furnace chunk breaker. 2,980,349, 4–18–61, Cl. 241—67.
Boros, Steve, to General Electric Co. Apparatus for loading lamp mounts. 2,980,266, 4–18–61, Cl. 214—1.
Boudreau, Arthur P.: *See*—
Hunter, Edwin L., and Boudreau. 2,980,788.
Bouillot, Paul: *See*—
Bouvier, Jean, Bouillot, and Bourgouin. 2,979,913.
Boulton Paul Aircraft Ltd.: *See*—
Millard, Dennis J. 2,980,067.
Bourgois, Jean. Moulded saddles for cycles, motor-cycles, scooters and the like. 2,980,162, 4–18–61, Cl. 155—5.23.
Bourgouin, Jacques: *See*—
Bouvier, Jean, Bouillot, and Bourgouin. 2,979,913.
Bourns, Marian E.: *See*—
Gratian, Joseph W., and A. C., Nieset, Bourns, and Crane. 2,980,905.
Bouvier, Jean, P. Bouillot, and J. Bourgouin, to Société Anonyme dite: Enterprise Fougerolle pour Travaux Publics. Devices for casting concrete under water. 2,979,913, 4–18–61, Cl. 61—63.
Bowsher, Lewis. Minnow trap. 2,979,855, 4–18–61, Cl. 43—100.
Bracey, Ronald J., and D. L. Rigby, to Baird and Tatlock (London) Ltd. Photo electronic system. 2,980,802, 4–18–61, Cl. 250—218.
Bracken, Garland C., to Dollar Electric Co. Welding electrode holders. 2,980,790, 4–18–61, Cl. 219—120.
Bradley, Walter W., to J. W. Knox. Egg incubator. 2,980,059, 4–18–61, Cl. 119—37.
Bradway, Elizabeth M.: *See*—
Hale, James F., Klein, and Bradway. 2,980,543.
Braendle, Harold A., to Columbian Carbon Co. Rubber compounding. 2,980,639, 4–18–61, Cl. 260—27.
Brahm, Charles B., to United Aircraft Corp. Fail-safe modulation circuit. 2,980,868, 4–18–61, Cl. 332—51.
Bramble, John H.: *See*—
Ford, James G., Murrin, and Bramble. 2,980,561.
Brander, Arthur, to The British Steel Piling Co. Ltd. Pile extractors. 2,980,061, 4–18–61, Cl. 121—26.
Brauchler, Chandis H., and F. J. Welchner, to The Canton Drop Forging & Mfg. Co. Method of making hard-faced extrusion dies. 2,979,973, 4–18–61, Cl. 76—107.
Brauer, Edwin H., Jr., to The Osborn Mfg. Co. Work conveying and brushing machine. 2,979,747, 4–18–61, Cl. 15—21.
Bray, Walter E., and R. E. Stilwell, to Food Machinery and Chemical Corp. Fruit grading machine. 2,980,252, 4–18–61, Cl. 209—121.
Brech, Hubertus J. M. C.: *See*—
Nieuwenhoven, Hendricus, J. C., Monte, and Brech. 2,980,006.
Breidert, G. C., Co., The: *See*—
Breidert, George M. 2,980,007.
Breidert, George M., to The G. C. Breidert Co. Roof ventilator. 2,980,007, 4–18–61, Cl. 98—43.
Breig, Franz. L., and G. Arrangement for preventing motor vehicles from skidding. 2,980,197, 4–18–61, Cl. 180—82.
Breig, Gunther: *See*—
Breig, Franz. L., and G. 2,980,197.
Breig, Ingo: *See*—
Breig, Franz. L., and G. 2,980,197.
Brett, Riley J., to Sampson Motors, Inc. Precision rolling support. 2,980,435, 4–18–61, Cl. 280—6.
Breuning, Karl. Cashier and teller's protective window. 2,980,040, 4–18–61, Cl. 109—19.
Bridge, Edmund T.: *See*—
Hauser, Ralph L., and Bridge. 2,979,957.
Briggs, Joseph A., Jr., and R. L. Gardner, to The Chemstrand Corp. Melt-spinning apparatus. 2,979,766, 4–18–61, Cl. 18—8.
Brigham, Georges: *See*—
Ablow, Clarence M., and Brigham. 2,980,330.
Brinkman, William C. Mixing valve. 2,980,141, 4–18–61, Cl. 137—637.2.
Brinn, Lawrence E.: *See*—
Sappey, Harold and M. 2,980,113.
British Dielectric Research Ltd.: *See*—
Plessner, Karl W., and West. 2,980,546.
British Insulated Callender's (Submarine Cables): *See*—
Fairfield, Ronald M., and Davey. 2,980,755.
British Nylon Spinners Ltd.: *See*—
Goddard, Sidney. 2,980,362.
British Steel Piling Co. Ltd., The: *See*—
Brander, Arthur. 2,980,061.
British Telecommunications Research Ltd.: *See*—
Holloway, Dennis G. 2,980,765.
British Timken Ltd.: *See*—
Gargan, Ernest R. 2,980,474.
Broadbent, Stanley, to Yarrows Ltd. Sluice gate. 2,979,909, 4–18–61, Cl. 61—28.
Broeke, Jan T.: *See*—
Chemerda, John M., Tristram, Hinkley, and Broeke. 2,980,713.
Broeke, Jan T., to Phillips Petroleum Co. Process dead time simulator. 2,980,126, 4–18–61, Cl. 137—85.
Broerman, Arthur B., to Phillips Petroleum Co. Process dead time simulator. 2,980,126, 4–18–61, Cl. 137—85.
Broers, Gerard H. J. Fuel cell and method of producing electrodes for such a cell. 2,980,749, 4–18–61, Cl. 136—86.
Bromley, James E., and D. J. Lamb, to The Chemstrand Corp. Method and apparatus for stretching and twisting continuous filament yarn. 2,979,882, 4–18–61, Cl. 57—55.5.
Brooks, E. J., Co.: *See*—
Brooks, Winfred M. 2,980,461.
Moberg, Sigurd M. 2,980,462.

Brooks, Lorimer P.: *See*—
Goha, Howard C., and Brooks. 2,980,784.
Brooks, Robert A., to E. I. du Pont de Nemours and Co. Halogenated metal-phthalocyanine precursors. 2,980,691, 4–18–61, Cl. 260—314.5.
Brooks, Winfred M., to E. J. Brooks Co. Foldable, hasp-locking seal. 2,980,461, 4–18–61, Cl. 292—307.
Broquist, Harry P., A. M. Albrecht, and A. V. B. Stiffey, to American Cyanamid Co. Production of lysine. 2,980,500, 4–18–61, Cl. 195—29.
Bronillette, Joseph W., Jr., and C. W. Johnson, to General Electric Co. Electronic curve follower and analog computer. 2,980,332, 4–18–61, Cl. 235—189.
Broussard, Robert: *See*—
Toce, Charles A., and Broussard. 2,980,751.
Toce, Charles A., and Broussard. 2,980,752.
Brown, Carl F., Jr., and R. G. Corbin, to John R. Weld Co., Inc. Coating apparatus. 2,980,057, 4–18–61, Cl. 118—223.
Brown, Donald J., to Morehouse Industries, Inc. High production grinding mill. 2,980,353, 4–18–61, Cl. 241—259.
Brown, Emory L., to Vulcan-Hart Mfg. Co., Inc. Apparatus for storing stacked articles. 2,980,479, 4–18–61, Cl. 312—71.
Brown Engine Products, Inc.: *See*—
Schneider, Kenneth C. 2,980,032.
Brown, George P., Jr., and N. W. Franke, to Gulf Research & Development Co. Purification process for obtaining dibasic acids free of metal impurities. 2,980,720, 4–18–61, Cl. 260—452.
Bruderlein, Ernst J., and W. H. Rohr, to Beteiligungs-und Patentverwaltungsgesellschaft mit beschrankter Haftung. Resonant oscillatory screening device. 2,980,254, 4–18–61, Cl. 209—339.
Bruene, Warren B., to Collins Radio Co. Linear low-input R.F. impedance amplifier. 2,980,862, 4–18–61, Cl. 330—76.
Bruma, Marc, to Centre National de La Recherche Scientifique. Machining devices making use of intermittent electrical discharges. 2,980,787, 4–18–61, Cl. 219—69.
Brumfield, Richard S., and W. R. Ferguson. Surgical splint and bandage. 2,980,110, 4–18–61, Cl. 128—87.
Brumley, Corwin H., and J. A. Clark, to Bausch & Lomb Optical Co. Projection apparatus. 2,979,987, 4–18–61, Cl. 88—28.
Brundige, William L., and R. M. Kane, to Westinghouse Electric Corp. Filament support for an electric lamp or similar device. 2,980,820, 4–18–61, Cl. 313—279.
Bruning, Charles, Co. Inc.: *See*—
Tregay, John L., and Schulze. 2,980,834.
Brunswick Corp.: *See*—
Arbour, Foy A. 2,980,151.
Buck, Carl J., and B. M. Bloom, to Chas. Pfizer & Co., Inc. N-(alkyl, aryl and heterocyclic)-β-(carboalkoxy and carboaryloxy) alkanoyl amides. 2,980,728, 4–18–61, Cl. 260—471.
Buckholdt, Robert E., to Seins Corp. of America. Strip threading device. 2,980,411, 4–18–61, Cl. 263—3.
Buckner Mfg. Co., Inc.: *See*—
Royer, John A., Kimbro, and Jacoby. 2,980,341.
Bucyrus-Erie Co.: *See*—
Skarie, Donald P. 2,980,219.
Bull Dog Lock Co.: *See*—
Waller, Arthur, and Isensee. 2,980,155.
Bullock, Melvin G. Device for portraying speed, time, distance, and reaction measurements as related to vehicle driving. 2,979,831, 4–18–61, Cl. 35—11.
Burch, Oren P. Method of preparing plywood planking for compound bending. 2,980,153, 4–18–61, Cl. 144—324.
Buret, Raymond, to UCLAF. Process of producing esters of methylene bis-thioglycolic acid. 2,980,729, 4–18–61, Cl. 260—481.
Burgess Vibrocrafters, Inc.: *See*—
Rohde, Robert L., and Benkovich. 2,979,815.
Burmeister, Robert E.: *See*—
Van Krevelen, Edward R., and Burmeister. 2,980,956.
Burney, Donald E.: *See*—
Twaddle, Warren W., Myerholtz, and Burney. 2,980,661.
Burns, Jerome G., to International Resistance Co. Revolution indicating dial. 2,980,055, 4–18–61, Cl. 116—115.
Burroughs Corp.: *See*—
Le Gendre, Victor J. 2,980,244.
Burt, Donald A., and J. W. Cook, to Westinghouse Electric Corp. Control system for a load positioning device. 2,980,264, 4–18–61, Cl. 212—132.
Bury, Harry, to The General Electric Co. Ltd. Refrigerating systems. 2,979,923, 4–18–61, Cl. 62—476.
Buschers, Herbert H., P. C. Medina, and R. W. Wilson, to The Martin Co. Rapid firing recoilless bomb projecting device. 2,979,991, 4–18–61, Cl. 89—1.5.
Bushnell, Collins E., and J. A. Parker, to Armstrong Cork Co. Color stable lacquer comprising vinyl chloride resin and 1,3-butylene adipate. 2,980,642, 4–18–61, Cl. 260—31.6.
Buttery, Kenneth T., and T. Vander Lugt, Jr., to KVP Sutherland Paper Co. Carton. 2,980,316, 4–18–61, Cl. 229—87.
Cahill, Richard T., and E. J. Kujawa, to Chicago Rawhide Mfg. Co. End face sealing unit. 2,980,452, 4–18–61, Cl. 286—11.
Calder, Walter L., Jr. Adjustable panoramic auto rear view mirror. 2,979,989, 4–18–61, Cl. 88—87.
Caldwell, John R., and R. Gilkey, to Eastman Kodak Co. Fusible but insoluble high-melting, fiber-forming polyesters. 2,980,649, 4–18–61, Cl. 260—47.
Calhoun, Frank B.: *See*—
Goldwater, Robert, and Calhoun. 2,980,758.
California Research Corp.: *See*—
Balls, Jack W. 2,980,660.
Calkins, Russel C.: *See*—
Mock, Richard A., Calkins, and Marshall. 2,980,607.
Calumet Mfg. Co., Inc.: *See*—
Leshin, Joseph. 2,980,246.
Camco Inc.: *See*—
Daffin, Douglas E. 2,980,185.
Machlan, Hamilton A., and Terral. 2,980,076.
Campbell, Donald M.: *See*—
Seeloff, Melvin M., and Campbell. 2,980,074.
Campbell, Henry H.: *See*—
Prijatel, Edward A., and Campbell. 2,980,132.
Campbell, Hugh H.: *See*—
Birleson, Stanley R., Campbell, and Dobb. 2,979,869.
Campbell, John, Jr., to The Babcock & Wilcox Co. Cyclone evaporator for residual liquor. 2,980,179, 4–18–61, Cl. 159—4.
Campbell, Paul F. Combined seat cover and lap protector. 2,980,169, 4–18–61, Cl. 155—182.
Campbell, Ronald W., to Hancock Industies, Inc. Door latch. 2,980,460, 4–18–61, Cl. 292—280.
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Moody, Norman F. 2,980,805.
Thompson, Philip M., and Franklin. 2,980,845.
Cannings, Frederick G., to International Computers and Tabulators Ltd. Tape-feeding apparatus. 2,980,355, 4–18–61, Cl. 242—55.12.
Canterino, Peter J.: *See*—
Jones, Rufus V., and Canterino. 2,980,656.
Canton Drop Forging & Mfg. Co., The: *See*—
Brauchler, Chandis H., and Weichner. 2,979,973.
Capitol Equipment Inc.: *See*—
Fina, Fil L., Jr. 2,980,443.
Capital Products Corp.: *See*—
Royer, Wayne H. 2,980,038.
Carlson, Bernard E., to The Colson Corp. Incubator. 2,980,106, 4–18–61, Cl. 128—1.
Carlzen, Carl F., and W. L. Lehner, to Sylvania Electric Products Inc. Electronics component assembly apparatus. 2,979,726, 4–18–61, Cl. 1—323.
Carmack, Marvin, D. Shew, and L. M. Weinstock. Thiadiazole-dicarboxylates. 2,980,687, 4–18–61, Cl. 260—299.
Carr, Ralph L., and C. R. Dulany, to Olin Mathieson Chemical Corp. Process for purifying spent mercerization caustic. 2,980,501, 4–18–61, Cl. 23—49.
Carrigan, Tracy, to Food Machinery and Chemical Corp. Headlamp testing apparatus. 2,979,983, 4–18–61, Cl. 88—14.
Carter, Sidney T., to Geo. J. Meyer Mfg. Co. Article-dividing conveyor apparatus. 2,980,229, 4–18–61, Cl. 198—31.
Carter, Sidney T., to Geo. J. Meyer Mfg. Co. Bottle spotting apparatus for labeling machines. 2,980,278, 4–18–61, Cl. 216—13.
Casler, Roger H.: *See*—
Eames, James O. 2,980,220.
Castel, Jacques H., to PGAC Development Co. Perforating devices. 2,980,017, 4–18–61, Cl. 102—20.
Caudill, Howard F. Pile and pile driving apparatus. 2,979,912, 4–18–61, Cl. 61—53.72.
Cavalla, John F., to Parke, Davis & Co. Esters of substituted benzilic acids and methods for producing same. 2,980,693, 4–18–61, Cl. 260—326.3.
Cavanagh, George C., and R. S. Bean, to Ranchers Cotton Oil. Method of degumming soybean oil. 2,980,718, 4–18–61, Cl. 260—428.5.
Central Farmers Fertilizer Co.: *See*—
Pircon, Ladislav J. 2,979,951.
Centre National de La Recherche Scientifique: *See*—
Bruma, Marc. 2,980,787.
Guillaud, Charles L., and Vautier. 2,980,618.
Romand, Jacques L., and Vodar. 2,980,798.
Cessna Aircraft Co.: *See*—
Krehbiel, Robert D. 2,980,136.
Chamberlain, Ralph J.: *See*—
Sheers, Edward H., and Chamberlain. 2,980,715.
Chamberlin, Earl M., to Merck & Co., Inc. Allopregnane-3β,17α-diol-11,20-dione and the preparation thereof. 2,980,712, 4–18–61, Cl. 260—397.45.
Chamberlin, Reginald H. D., R. E. Morris, A. L. Davies, and A. L. R. Fletcher, to D. Napier & Son Ltd. Rocket-turbo engine convertible to a ramjet engine. 2,979,892, 4–18–61, Cl. 60—35.6.
Chance Vought Corp.: *See*—
Clanton, James D., Jr., Flath, and Keiffer. 2,980,900.
Channel Master Corp.: *See*—
Anderson, Warner H. 2,980,912.
Chapman, Ronald W.: *See*—
Dille, Roger M., and Chapman. 2,980,522.
Dille, Roger M., Chapman, and Ahlborn. 2,980,523.
Charlton, Alexander E., to Photoceramics, Inc. Translucent objects decorated with designs or images. 2,980,533, 4–18–61, Cl. 96—34.
Chausson, Andre, to Societe Anonyme des Usines Chausson. Device particularly for calibrating equipment for detecting leaks and similar purposes. 2,979,937, 4–18–61, Cl. 73—1.
Chemerda, John M., E. W. Tristram, D. F. Hinkley, and J. T. Brocke, to Merck & Co., Inc. 16-methyl-3α,17α-dihydroxy steroids of the pregnane series. 2,980,713, 4–18–61, Cl. 260—397.45.
Chemetron Corp.: *See*—
Bevarly, Henry W. 2,980,539.
Briggs, Joseph A., Jr., and Gardner. 2,979,766.
Bromley, James E., and Lamb. 2,979,882.
Cox, Paul R., Jr. 2,980,641.
Cherry-Burrell Corp.: *See*—
Perry, Joseph A., Jr., and Haselton. 2,980,414.
Chicago Railway Equipment Co.: *See*—
Soddy, Thomas C. 2,979,787.
Chicago Rawhide Mfg. Co.: *See*—
Cahill, Richard T., and Kujawa. 2,980,452.
Chicago Specialty Mfg. Co.: *See*—
Bachli, Herman, and Shapiro. 2,979,977.
Chiksan Co.: *See*—
Billy, Peter J. 2,980,150.

Chilton, Robert C. Drying attachment for spray gun. 2,980,786, 4–18–61, Cl. 219—39.
Choice, Frank C., to United Shoe Machinery Corp. Fastener inserting mechanisms. 2,979,723, 4–18–61, Cl. 1—5.
Christiansen, William, Jr. Electromagnetic safety system for firearms. 2,979,845, 4–18–61, Cl. 42—70.
Ciba Ltd.: *See*—
Zuppinger, Paul, and Fisch. 2,980,676.
Ciba Pharmaceutical Products Inc.: *See*—
Druey, Jean, Isler, and Schenker. 2,980,685.
Druey, Jean, and Schmidt. 2,980,669.
Druey, Jean, and Schmidt. 2,980,677.
Geyer, Ulrich, Spillmann, Stalder, and Tagmann. 2,980,737.
Hoffmann, Karl, Hunger, Kebrle, and Rossi. 2,980,690.
Citizens Trust Co. of Harrisburg: *See*—
Witmor, William N. 2,980,401.
Claes, Georg, to Firma Gebr. Hischmann, Maschinenfabrik. Apparatus for hard disintegrating and sifting. 2,980,347, 4–18–61, Cl. 241—34.
Clanton, James D., Jr., E. H. Flath, Jr., and E. G. Keiffer, to Chance Vought Corp. Reduced-height radome-antenna. 2,980,909, 4–18–61, Cl. 343—705.
Clark, Alfred S., to United Shoe Machinery Corp. Machines for fabricating ribbed insoles for welt shoes. 2,979,744, 4–18–61, Cl. 12—20.
Clark, James A.: *See*—
Brumley, Corwin H., and Clark. 2,979,987.
Claydon, Roy, to The General Electric Co. Ltd. Manufacture of thermoelectric devices. 2,980,746, 4–18–61, Cl. 136—4.
Clemens, John E., H. W. Dean, E. R. Thomas, and W. S. Touchman, to A. Kimball Co. Portable record sensing and recording apparatus. 2,980,319, 4–18–61, Cl. 234—30.
Cleveland Trencher Co., The: *See*—
Raymond, David L., and Hoover. 2,979,838.
Clewlow, Geoffrey G.: *See*—
Strong, Edward W., Pappas, Losey, and Clewlow. 2,980,186.
Clifford, Burton K., to Union Bag-Camp Paper Corp. Ventilated honeycomb. 2,980,573, 4–18–61, Cl. 154—118.
Clurman, Stanley P. Magnetic accelerometer. 2,979,959, 4–18–61, Cl. 73—516.
Coast Paint and Lacquer Co.: *See*—
Meigs, Archibald V. 2,980,601.
Coats & Clark Inc.: *See*—
Morin, Louis H. 2,979,796.
Cochran, Kenneth W., ½ to Tubular Inspection Co., Inc., and ½ to R. C. Heldenbrand, d.b.a. Heldenbrand Tubular Service. Electro-magnetic pipe inspecting apparatus. 2,980,850, 4–18–61, Cl. 324—37.
Coffman, Robert S., to Black, Sivalls & Bryson, Inc. Safety pressure relief device support. 2,980,286, 4–18–61, Cl. 220—89.
Coggeshall, Almy D., and H. R. Shirk, to General Electric Co. Spacing means for electrical devices. 2,980,757, 4–18–61, Cl. 174—138.
Cohr's, Carl M., Solvvarefabriker A/S: *See*—
Herlow, Erik. 2,980,280.
Colby, Richard H., to United States of America, Army. Reversible feeding mechanism. 2,979,992, 4–18–61, Cl. 89—33.
Cole, George W., and E. Falagrady, said Cole assor. to said Falagrady, J. Pompia, and T. Naglich. Car re-railer. 2,980,035, 4–18–61, Cl. 104—273.
Collette, Floyd E. Drive and track assembly for flexible belt carrier. 2,980,258, 4–18–61, Cl. 211—1.5.
Collin, Marcel: *See*—
Funchion, John W. L., and Ginn. 2,979,802.
Collins & Aikman Corp.: *See*—
Keen, William R. 2,979,803.
Collins Radio Co.: *See*—
Bruene, Warren B. 2,980,862.
Grondin, George F., and Royer. 2,980,858.
Hill, John D., III. 2,980,827.
Jacobson, Herbert P., and Williams. 2,980,328.
Luik, Ilmar. 2,980,895.
Mason, Roger H., and Raits. 2,980,898.
Colson Corp., The: *See*—
Carlson, Bernard E. 2,980,106.
Colton, Frank B., to G. D. Searle & Co. 6-methylene-steroids and process. 2,980,711, 4–18–61, Cl. 260—397.4.
Columbian Carbon Co.: *See*—
Braendle, Harold A. 2,980,630.
Havard, Robert H. 2,980,511.
Combustion Engineering, Inc.: *See*—
Firl, Arthur C. 2,980,082.
Nelson, Gordon E. 2,980,867.
Witzke, Ernest C. 2,980,083.
Compagnie de Construction de Gros Materiel Electro-Mecanique: *See*—
Schlumberger, Francois. 2,980,206.
Compagnie Generale de Telegraphie Sans Fil: *See*—
Mazond, Marceline, and Youssov. 2,980,597.
Comptometer Corp.: *See*—
Walker, Emil C., Jr. 2,980,322.
Conger, Channing C., and J. C. Laurence, to The Controllix Corp. Voltage regulator for generators. 2,980,843, 4–18–61, Cl. 322—28.
Congoleum-Nairn Inc.: *See*—
Hansen, Herman E. 2,980,477.
Petry, Robert K. 2,980,575.
Conover, Ernest R., Jr., to Master Power Corp. Reversing pneumatic motor. 2,980,078, 4–18–61, Cl. 121—87.
Consolidated Electronics Industries Corp.: *See*—
Kalish, David. 2,980,267.
Container Corp. of America: *See*—
Paige, Richard E. 2,980,249.
Continental Elastic Corp., The: *See*—
O'Neill, Harry T. 2,980,146.
Controllix Corp., The: *See*—
Conger, Channing C., and Laurence. 2,980,843.
Conway, George E. Electrolytic reduction furnace constructions and method. 2,980,596, 4–18–61, Cl. 204—67.
Cook, John W.: *See*—
Burt, Donald A., and Cook. 2,980,264.
Cook, Wayne S., and F. J. Hormuth; said Cook assor. to Sackner Products, Inc. Padding unit. 2,980,570, 4–18–61, Cl. 154—53.6.
Coombs, Chadwick A., to Allis-Chalmers Mfg. Co. Rotating fuel element reactor pump. 2,980,667, 4–18–61, Cl. 200—193.2.
Cooper-Bessemer Corp., The: *See*—
Hines, John D. 2,980,088.
Cooper, Lemuel B., to American Radiator & Standard Sanitary Corp. Multi-purpose diaphragm gas valve. 2,980,133, 4–18–61, Cl. 137—495.
Corbin, Robert G.: *See*—
Brown, Carl F., Jr., and Corbin. 2,980,057.
Cotchett, Louis M., to Machinecraft, Inc. Top rolls for spinning frames. 2,979,784, 4–18–61, Cl. 19—142.
Cother, Robert H.: *See*—
Tasker, Homer G., Van Alystyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.
Cotter, Robert J.: *See*—
Sauers, Carol K., and Cotter. 2,980,694.
Sauers, Carol K., and Cotter. 2,980,701.
Cottrell Co., The: *See*—
Luehrs, Hans J. 2,980,016.
Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. 2-haloandrost-1-ene-3,17-diones. 2,980,710, 4–18–61, Cl. 260—397.3.
Counts, Leslie. Combination liquid level gauge and filling device. 2,979,949, 4–18–61, Cl. 73—317.
Couturier, Marcel P. H. Rotary vane-type hydraulic machine. 2,980,030, 4–18–61, Cl. 103—139.
Cowles, Warren H.: *See*—
Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,980,069.
Cowley, William E., to American Saw and Tool Co. Threading tool holder with slidable cover on hollow handle. 2,979,742, 4–18–61, Cl. 10—148.
Cox, Paul R., Jr., to The Chemstrand Corp. Solutions of polypyrrolidone in aqueous phytic acid and process for making same. 2,980,641, 4–18–61, Cl. 260—29.2.
Cox, William H., to Sun Oil Co. Electrical wave filter. 2,980,871, 4–18–61, Cl. 333—28.
Cragg, Thomas W. Baseball game. 2,980,427, 4–18–61, Cl. 273—90.
Craig, Donald. Boring tool. 2,979,974, 4–18–61, Cl. 77—58.
Craig, Louis E., to General Aniline & Film Corp. Brightening of fine fabrics. 2,980,549, 4–18–61, Cl. 117—33.5.
Craig, Robert G., and D. H. Stevenson, to Houdry Process Corp. Regeneration of noble metal catalysts. 2,980,631, 4–18–61, Cl. 252—419.
Crain, Chester R. Magnetic stick high water detector. 2,980,775, 4–18–61, Cl. 200—84.
Crake, Wilfred S., to Shell Oil Co. Offshore platform structure and method of erecting same. 2,979,910, 4–18–61, Cl. 61—46.
Crane, Carl J., to C. M. Masser and B. Moore. Remote control strip stamp dispensing device. 2,980,307, 4–18–61, Cl. 226—135.
Crane, Hewitt D., to Radio Corp. of America. Magnetic switching systems. 2,980,892, 4–18–61, Cl. 340—174.
Crane, Horace R.: *See*—
Gratian, Joseph W. and A. C. Nieset, Bourns, and Crane. 2,980,905.
Crawford, Edward C., to Electric & Musical Industries Ltd. Automatic gain control circuits in television receivers. 2,980,764, 4–18–61, Cl. 178—7.5.
Critchfield, Clarence R., to Overly Mfg. Co. Door construction. 2,979,785, 4–18–61, Cl. 20—16.
Crome, Lester C., to The Dayton Malleable Iron Co. Method of producing nodular iron. 2,980,530, 4–18–61, Cl. 75—130.
Crome, Lester C., to The Dayton Malleable Iron Co. Production of nodular iron. 2,980,531, 4–18–61, Cl. 75—130.
Crompton & Knowles Corp.: *See*—
Herard, Archibald J., Jr., Kronoff, and Sepavich. 2,980,145.
Herard, Archibald J., Jr., and Sepavich. 2,980,147.
Crooke, Raymond E., to Sperry Rand Corp., Ford Instrument Co. Division. Counter speed limiter. 2,980,326, 4–18–61, Cl. 235—91.
Crosby, Peter F., to Lamson Corp. Escapement mechanism for gravity conveyor. 2,980,222, 4–18–61, Cl. 193—35.
Crosman Arms Co., Inc.: *See*—
Merz, Rudolf. 2,980,096.
Crounse, Nathan M., to Sterling Drug Inc. Dispersions of benzimidazolystilbene whitening and brightening agents and production thereof. 2,980,625, 4–18–61, Cl. 252—152.
Croy, Friedrich. Intimate mixtures of pitch dust with other materials and method of providing same. 2,980,516, 4–18–61, Cl. 44—19.
Cuccia, Carmen L.: *See*—
Larky, Norbert D., and Cuccia. 2,980,760.
Culbertson, Harry M., and B. L. Williams, Jr., to Monsanto Chemical Co. Coating compositions comprising an oil-modified alkyd resin and an etherified melamine-formaldehyde resin. 2,980,636, 4–18–61, Cl. 260—21.
Culbertson, Harry M., and B. L. Williams, Jr., to Monsanto Chemical Co. Coating compositions containing aminoplast resins. 2,980,637, 4–18–61, Cl. 260—21.
Cunningham, Arthur R., to Cunningham & Sons. Tedder and windrow attachment. 2,979,880, 4–18–61, Cl. 56—372.
Cunningham, Edwin A., Jr., to Hagan Chemicals & Controls, Inc. Diaphragm equalizing means and valve assemblies for totalizers. 2,980,075, 4–18–61, Cl. 121—48.
Cunningham & Sons: *See*—
Cunningham, Arthur R. 2,979,880.

Curtis Automotive Devices, Inc.: *See*—
Curtis, Russell R. 2,979,901.
Curtis, Russell R., to Curtis Automotive Devices, Inc. Pulse jet engine. 2,979,901, 4–18–61, Cl. 60—39.77.
Curtiss-Wright Corp.: *See*—
Goodwin, Roscoe H. 2,979,833.
Hungerford, Philip C., Jr. 2,979,925.
Moulton, Lloyd J., and Dangler. 2,980,029.
Cutten, William K., and J. McNutt, to J. Lees and Sons Co. All purpose carpet dye kettle. 2,979,934, 4–18–61, Cl. 68—177.
Cutter Laboratories, Inc.: *See*—
Hidalgo, John, Williams, and Halverstadt. 2,980,673.
Cutting Room Appliances Corp.: *See*—
Deichmann, Walter. 2,980,421.
Czajkowski, Norman: *See*—
Leaman, Audley B., and Czajkowski. 2,980,773.
DAP, Inc.: *See*—
Richardson, Leonard E. 2,979,788.
D'Adrian, Vincent L. D., to Flex-O-Lite Mfg. Corp. High refractive index glass beads. 2,980,547, 4–18–61, Cl. 106—47.
Daffin, Douglas E., to Camco Inc. Retrievable well tool hanger. 2,980,185, 4–18–61, Cl. 166—211.
Daimler-Benz Aktiengesellschaft: *See*—
Barenyi, Bela. 2,980,466
Müller, Alfred H. 2,980,086.
Müller, Alfred H. 2,980,094.
Daley, John L. S., to Union Carbide Corp. Sealed nickel cadmium cell. 2,980,747, 4–18–61, Cl. 136—6.
Damewood, Glenn, and M. T. Hanchett, to Southern Gas Association. Method for measuring forces within a system. 2,979,940, 4–18–61, Cl. 73—71.4.
Dangler, Robert L.: *See*—
Moulton, Lloyd J., and Dangler. 2,980,029.
Daniel, Donald B., to Electronic Safety Engineering Co. Restricted range radio transmitting system. 2,980,793, 4–18–61, Cl. 250—4.
Danly, James C., to Danly Machine Specialties, Inc. Readily adjustable electric indexing apparatus. 2,979,972, 4–18–61, Cl. 74—821.
Danly Machine Specialties, Inc.: *See*—
Danly, James C. 2,979,972.
Dann, Otto. Benzothiophene compounds. 2,980,697, 4–18–61, Cl. 260—330.5.
Darash, Nicholas P., to The Warner & Swasey Co. Power indexed machine tool turret. 2,979,971, 4–18–61, Cl. 74—820.
Datt, Paul L., W. J. Warren, and R. B. Willoughby, to Shell Oil Co. Weld seam testing apparatus. 2,980,848, 4–18–61, Cl. 324—24.
Datt, Paul L., W. J. Warren, and R. B. Willoughby, to Shell Oil Co. Sensing head for weld seam testing apparatus. 2,980,849, 4–18–61, Cl. 324—37.
Daven Co., The: *See*—
Nabstedt, Elmer J. 2,980,770.
Davey, Edward L.: *See*—
Fairfield, Ronald McL., and Davey. 2,980,755.
Davies, Alan L.: *See*—
Chamberlin, Reginald H. D., Morris, Davies, and Fletcher. 2,979,892.
Davis, Clyde W., F. A. Ehlers, and R. D. Barnard, to The Dow Chemical Co. Ion-exchange articles and method of manufacture from acrylonitrile polymer aquagels. 2,980,635, 4–18–61, Cl. 260—2.1.
Davis, Flavius E., III, to Basic Products Corp. Meter socket. 2,980,882, 4–18–61, Cl. 339—192.
Davis, Pearl C., to Westinghouse Electric Corp. Adjustable shelf structure for refrigerator cabinet or the like. 2,980,483, 4–18–61, Cl. 312—271.
Day, William M.: *See*—
Patrick, Malcolm W., and Day. 2,980,104.
Daystrom, Inc.: *See*—
Langford, Robert C. 2,980,857.
Dayton Malleable Iron Co., The: *See*—
Crome, Lester C. 2,980,530.
Crome, Lester C. 2,980,531.
Dean, Hubert W.: *See*—
Clemens, John E., Dean, Thomas, and Touchman. 2,980,319.
De Bartolo, Francis. Wire or cable bundle tie. 2,979,794, 4–18–61, Cl. 24—17.
Decker, Johannes B., to Klockner-Humboldt-Deutz Aktiengesellschaft. Roller press for the briquetting of ore, coal or similar material. 2,979,799, 4–18–61, Cl. 25—77.
Dectrow, Tefius X., and H. C. Sundby, to Minneapolis-Honeywell Regulator Co. Support apparatus. 2,980,381, 4–18–61, Cl. 248—223.
Deen, James R.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.
Deering Milliken Research Corp.: *See*—
La Fleur, Kermit S., and Greene. 2,980,557.
Deering, Roland F., R. O. Dhondt, J. R. Hunt, A. E. Kelley, and C. J. Welsh, to Union Oil Co. of California. Retorting process and apparatus. 2,980,592, 4–18–61, Cl. 202—6.
Deffenbaugh, Edmund F.: *See*—
Vroom, Clifford G., Deffenbaugh, and Main. 2,980,879.
De Gorter, Benjamin, to Riker Laboratories, Inc. Metering valve for aerosol container. 2,980,301, 4–18–61, Cl. 222—394.
De Grunigen, Alfred C., to American Cyanamid Co. Process for producing anhydrous granulation of a medicinally active water-labile powder. 2,980,589, 4–18–61, Cl. 167—82.
Deibel, Mason J., to The Akron Standard Mold Co. Tire building drum. 2,980,160, 4–18–61, Cl. 154—9.
Deichmann, Walter, to Cutting Room Appliances Corp. Turntable spreading machines. 2,980,421, 4–18–61, Cl. 270—31.
De Koning, Edwin W. Lumber feeder mechanism. 2,980,234, 4–18–61, Cl. 198—34.
Delbag-Luftfilter G.m.b.H.: *See*—
Neumann, Gerhard M. 2,980,208.
Delk, James E., Sr. Warming rack for toasters. 2,980,011, 4–18–61, Cl. 99—339.
De Lorean, John Z.: *See*—
Timpner, Fred F., De Lorean, and Miller. 2,980,441.
Dempey, Donald F., and J. M. Rule, to E. I. du Pont de Nemours & Co. Process of impregnating paper with silica sols. 2,980,558, 4–18–61, Cl. 117—152.
Dempster Bros., Inc.: *See*—
Dempster, George R., Jones, and Herpich. 2,980,268.
Dempster, George R., H. W. Jones, and W. A. Herpich, said Jones and said Herpich assors. to Dempster Bros., Inc. Transporting and dumping equipment. 2,980,268, 4–18–61, Cl. 214—75.
Dennis, Leonard J., to D. Napier & Son Ltd. Method of making hollow turbine blades. 2,979,809, 4–18–61, Cl. 29—156.8.
Dennis, Samuel S., 3rd., Trustee: *See*—
Thaden, Herbert V. 2,980,454.
De Ridder, Ernst J., to Reynolds Metals Co. Structure for detachably mounting articles to be exhibited. 2,979,842, 4–18–61, Cl. 40—156.
De Saedeleer, Albert L. Equipment for moistening plants, especially tobacco. 2,980,117, 4–18–61, Cl. 131—134.
Deselaers, Kurt: *See*—
Hass, Karl, and Deselaers. 2,980,505.
Detweiler, James L., F. O. Rick, Jr., and D. G. Thompson, to Lockheed Aircraft Corp. Controllable rate valve. 2,980,138, 4–18–61, Cl. 137—624.13.
Deutsch, Fritz A., and M. E. Henes, to Monroe Calculating Machine Co. Constant factor mechanism. 2,980,324, 4–18–61, Cl. 235—79.
Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Renner, Hermann. 2,980,514.
Schwarze, Werner. 2,980,675.
Deutsche Telephonwerke und Kabelindustrie, Aktiengesellschaft (De Te We): *See*—
Schrimpf, Theodor. 2,980,321.
Dever, James L.: *See*—
Birum, Gail H., and Dever. 2,980,722.
Devlin, Lloyd J. Safety valve. 2,980,387, 4–18–61, Cl. 251—149.
De Witte, John T., and C. H. Wurtz, to General Motors Corp. Refrigerating apparatus. 2,979,922, 4–18–61, Cl. 62—447.
Dhondt, Roland O.: *See*—
Deering, Roland F., Dhondt, Hunt, Kelley, and Welsh. 2,980,592.
Diamond National Corp.: *See*—
Wells, Roger. 2,980,183.
Zenter, Thomas G., and Boggs. 2,980,015.
Di Bella, Eugene P.: *See*—
Girard, Theodore A., Di Bella, and Sidi. 2,980,732.
Dick, A. B., Co.: *See*—
Shoemaker, Clarence J. 2,980,545.
Dickey, Joseph B.: *See*—
Hawk, James P., Towne, and Dickey. 2,980,724.
Diebold, Alfred J., to The Anderson Co. Motion-transmitting device. 2,979,965, 4–18–61, Cl. 74—424.8.
Di Galbo, Vincent J.: *See*—
Intagliata, Salvatore J., Hildebrandt, Yerks, Di Galbo, and Hall. 2,980,225.
Di Giantomasso, Robert R. Butter holder and dispenser. 2,980,247, 4–18–61, Cl. 206—56.
Dille, Roger M., and R. W. Chapman, to Texaco Inc. Carbon separation process. 2,980,521, 4–18–61, Cl. 48—196.
Dille, Roger M., and R. W. Chapman, to Texaco Inc. Carbon separation process. 2,980,522, 4–18–61, Cl. 48—196.
Dille, Roger M., and R. W. Chapman, and J. C. Ahlborn, to Texaco Inc. Production of carbon monoxide and hydrogen. 2,980,523, 4–18–61, Cl. 48—215.
Distillers Co. Ltd., The: *See*—
Dobson, Kenneth R. 2,980,730.
Lachowicz, Stefan Kazimierz. 2,980,663.
Dobb, Harold R.: *See*—
Birleson, Stanley R., Campbell, and Dobb. 2,979,869.
Doberstein, George H. Programing device. 2,980,772, 4–18–61, Cl. 200—33.
Dobson, Kenneth R., to The Distillers Co. Ltd. Production of ethyl acrylate. 2,980,730, 4–18–61, Cl. 260—486.
Doetsch, Hans P. Self-adjusting hydraulic shock absorber. 2,980,418, 4–18–61, Cl. 267—34.
Dole Valve Co., The: *See*—
Bauerlein, Carl C. 2,980,303.
Doll, Adalbert, to Vossloh-Werke G.m.b.H. Rail attachment means for use in railway tracks. 2,980,336, 4–18–61, Cl. 238—349.
Dollar Electric Co.: *See*—
Bracken, Garland C. 2,980,790.
Donaldson, Robert M., to Newport News Shipbuilding and Dry Dock Co. Rotary pressure vessels. 2,979,830, 4–18–61, Cl. 34—124.
Donelson, Harlan J., Jr. Material spreader for confined areas. 2,980,009, 4–18–61, Cl. 98—55.
Dormeyer Corp.: *See*—
Schwaneke, Fred C. 2,980,405.
Douglas Aircraft Co., Inc.: *See*—
Klemperer, Wolfgang B. 2,979,832.
Dover Corp.: *See*—
Arbogast, Duane J. 2,980,073.
Dow Chemical Co., The: *See*—
Davis, Clyde W., Ehlers, and Barnard. 2,980,635.
Goodenough, Robert D., and Stenger. 2,980,497.
Goodenough, Robert D., and Stenger. 2,980,499.
Goodenough, Robert D., and Stenger. 2,980,502.
McMaster, Elmer L., and Glesmer. 2,980,721.
Mock, Richard A., Calkins, and Marshall. 2,980,607.
Wheaton, Robert M., and Anderson. 2,980,498.
Whitby, Lawrence. 2,980,559.

Downey, Aspasia: *See*—
Downey, Richard V. 2,980,262.
Downey, Richard V., deceased; A. Downey, executrix. Knock-down display rack. 2,980,262, 4–18–61, Cl. 211—148.
Doxford, William, & Sons (Engineers) Ltd.: *See*—
Jackson, Percy. 2,979,967.
Doyle, Richard H.: *See*—
Wandel, Oscar A., and Doyle. 2,979,725.
Draghi, Robert A., and C. Mayblom, said Mayblom assor. to said Draghi. Camera shutter. 2,980,003, 4–18–61, Cl. 95—63.
Draper Corp.: *See*—
Thibault, Harrison N., and Banks. 2,979,881.
Dreisin, Alexander, and L. G. Kaplan, to Allis-Chalmers Mfg. Co. Fuel injection pump. 2,980,092, 4–18–61, Cl. 123—139.
Dresser Industries, Inc.: *See*—
Dunton, John T. 2,980,449.
Drews, Marvin A.: *See*—
Mize, Doyle D., Sundt, and Drews. 2,980,885.
Drift-A-Lure, Inc.: *See*—
Fitzsimons, Ogden. 2,979,778.
Drott Mfg. Corp.: *See*—
Baudhuin, George J., and Petersen. 2,980,193.
Druey, Jean, and P. Schmidt, to Ciba Pharmaceutical Products Inc. Methylene bis sulfonamido pyrazoles. 2,980,669, 4–18–61, Cl. 260—239.9.
Druey, Jean, and P. Schmidt, to Ciba pharmaceutical Products Inc. New pyrazolo-pyrimidines. 2,980,677, 4–18–61, Cl. 260—256.4.
Druey, Jean, H. Isler, and K. Schenker, to Ciba Pharmaceutical Products Inc. Pyridine carboxylic acid derivatives. 2,980,685, 4–18–61, Cl. 260—295.5.
Dulaney, Richard O. Fluid pressure oil well pump. 2,980,027, 4–18–61, Cl. 103—46.
Dulany, Charles R.: *See*—
Carr, Ralph L., and Dulany. 2,980,501.
Dunlop, Andrew P., and D. S. P. Eftax, to Quaker Oats Co. 2,2-bis-(hydroxymethyl)-3,4-dihydropyran and derivatives thereof and processes for their preparation. 2,980,703, 4–18–61, Cl. 260—345.9.
Dunn, Jesse T., and D. T. Manning, to Union Carbide Corp. Process for dehydrogenating alkyl pyridines. 2,980,684, 4–18–61, Cl. 260—290.
Dunn, William J., C. A. Ankenbrock, and M. Rabb, to Fairchild Camera and Instrument Corp. Display system. 2,980,821, 4–18–61, Cl. 315—24.
Dunne, John P.: *See*—
Johnson, Paul V., Taylor, and Dunne. 2,980,265.
Dunton, John T., to Dresser Industries, Inc. Self-sealing pipe coupling. 2,980,449, 4–18–61, Cl. 285—110.
Du Pont de Nemours, E. I., and Co.: *See*—
Baker, Melvin C., Bissot, and Rowbottom. 2,980,630.
Bartlett, Philip L. 2,980,518.
Berry, Kenneth L. 2,980,510.
Brooks, Robert A. 2,980,691.
Dempey, Donald F., and Rule. 2,980,558.
Farago, John. 2,980,651.
Farlow, Mark W. 2,980,739.
Gill, James M., and Hildebrand. 2,980,284.
Goldman, Max. 2,979,777.
Gulledge, Hugh C. 2,980,489.
Gulledge, Hugh C. 2,980,490.
Hasek, William R., and Haven. 2,980,740.
Haslam, John H. 2,980,719.
Heckert, Richard E., and Middleton. 2,980,698.
Jamieson, William H., and Reese. 2,980,492.
Johnson, William G. 2,980,726.
Johnson, William G. 2,980,727.
Keats, John L. 2,980,582.
Middleton, William J. 2,980,695.
Moore, Charles B. 2,980,855.
Noddin, George A. 2,980,019.
Osborne, Allan G. 2,980,623.
Scribner, Richard M. 2,980,738.
Summerill, Robert J. 2,980,487.
Swindells, Frank E. 2,980,627.
Umberger, Jacob Q., and Wayrynen. 2,980,626.
Waltz, Joseph E. 2,979,883.
Durant Mfg. Co.: *See*—
Hoffmann, Walter W. 2,980,329.
Durgin, Louis A.: *See*—
Hargreaves, William V., and Durgin. 2,980,794.
Duval, Bruce: *See*—
Waddington, Rogor S., and Duval. 2,980,033.
Waddington, Rogor S., and Duval. 2,980,300.
Dye, Raymond C.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.
E. Leybe'd's Nachfolger: *See*—
Reich, Gunter. 2,980,317.
Eager, William A., and L. W. Bell, to Star Precision Devices, Inc. Interchangeable drill chuck and handle. 2,980,433, 4–18–61, Cl. 279—9.
Eagle-Picher Co., The: *See*—
Edwards, Cyril J., Jr., and Winegar. 2,980,144.
Eames, James O.: *See*—
Eames, James O. 2,980,220.
Eames, James O., to R. S. Sanford, W. A. Eaton, E. D. Sedergren, R. H. Casler, and J. O. Eames. Liquid cooled frictional mechanism. 2,980,220, 4–18–61, Cl. 192—113.
East Coast Millwork Co., Inc.: *See*—
Greenstein, Alexander, and N. 2,980,181.
Eastman, Howard W., to Eastman Tag & Label Co. Tags. 2,979,840, 4–18–61, Cl. 40—2.
Eastman, James M., to The Bendix Corp. Pneumatic temperature indicator. 2,979,952, 4–18–61, Cl. 73—363.3.
Eastman, James M.: *See*—
Hurtle, James E., Eastman, and Kitchen. 2,979,889.
Eastman Kodak Co.: *See*—
Aklin, George H. 2,979,988.
Bell, Alan, Gearhart, and Tamblyn. 2,980,648.
Caldwell, John R., and Gilkey. 2,980,649.
Hawk, James P., Towne, and Dickey. 2,980,724.
Lappin, Gerald R. 2,980,646.
Lappin, Gerald R. 2,980,647.
Newland, Gordon C., and Tamblyn. 2,980,645.
Scribner, Kenneth R., and Sabath. 2,980,103.
Vroom, Clifford G., Deffenbaugh, and Main. 2,980,879.
Eastman Tag & Label Co.: *See*—
Eastman, Howard W. 2,979,840.
Eaton Mfg. Co.: *See*—
Winther, Jerrold B. 2,980,812.
Eaton, Wilfred A.: *See*—
Eames, James O. 2,980,220.
Ebersole, Elbert H. Chart holder. 2,980,115, 4–18–61, Cl. 129—4.
Eberts, Helmut: *See*—
Sauer, Edgar, and Eberts. 2,980,001.
Eccleston, Russel R.: *See*—
Mosshart, Crockett, Edgerly, Eccleston, and Sear. 2,980,571.
Eckel, Oliver C. Assembly of sound absorbing members. 2,980,198, 4–18–61, Cl. 181—33.
Eckels, George H.: *See*—
Troche, Herman J., and Eckels. 2,980,263.
Ecker, Mario E., to Radio Corp. of America. Deflection yoke assembly for cathode ray tubes. 2,980,815, 4–18–61, Cl. 313—76.
Edelman, Leonard E., and J. W. Forbes, to Westinghouse Electric Corp. Plastisol composition comprising a thermoplastic vinyl resin and filter cake. 2,980,643, 4–18–61, Cl. 260—31.8.
Edelstein, Albert L., and J. Glickstein, to Syncro-Mist Controls, Inc. Valve actuating assembly for aerosol containers. 2,980,296, 4–18–61, Cl. 222—70.
Edgerly, Gerald O.: *See*—
Mosshart, Crockett, Edgerly, Eccleston, and Sear. 2,980,571.
Edvar, Torsten F. A., to Selas Corp. of America. Web heating furnace. 2,980,410, 4–18–61, Cl. 263—3.
Edwards, Cyril J., Jr., and R. E. Winegar, to The Eagle-Picher Co. Flexible hose construction. 2,980,144, 4–18–61, Cl. 138—109.
Edwards, Russell G.: *See*—
Harrison, Raymond B., and Edwards. 2,980,552.
Edwards, William V., and D. L. Lorenz, to Thompson Ramo Wooldridge Inc. Gear pump journal and face lubrication. 2,980,028, 4–18–61, Cl. 103—126.
Eftax, Daniel S. P.: *See*—
Dunlop, Andrew P., and Eftax. 2,980,703.
Egger, Emile. Impeller pump. 2,980,406, 4–18–61, Cl. 259—9.
Eggers, Preben, to United States of America, Navy. Diode spider assembly. 2,980,828, 4–18–61, Cl. 317—234.
Ehlers, Forrest A.: *See*—
Davis, Clyde W., Ehlers, and Barnard. 2,980,635.
Ehret, Robert J., to Ampex Corp. Magnetic recording system. 2,980,768, 4–18–61, Cl. 179—100.2.
Eisenhauer, Leigh E.: *See*—
Stover, Ancil C. 2,980,128.
Eisenhauer Mfg. Co., The: *See*—
Stover, Ancil C. 2,980,128.
Eisenhauer, William A.: *See*—
Stover, Ancil C. 2,980,128.
Electric Auto-Lite Co., The: *See*—
Herbst, Howard D. 2,980,195.
Electric & Musical Industries Ltd.: *See*—
Crawford, Edward C. 2,980,764.
Hathaway, Kenneth W. 2,980,836.
Electro-Acid Corp. of Nevada: *See*—
Toce, Charles A., and Broussard. 2,980,751.
Toce, Charles A., and Broussard. 2,980,752.
Electronic Safety Engineering Co.: *See*—
Daniel, Donald B. 2,980,793.
Elliott, David, and R. P. Gibbens, said Elliott assor., to S. Elliott. Aircraft carrier. 2,980,270, 4–18–61, Cl. 214—85.
Elliott, Suzanne: *See*—
Elliott, David, and Gibbens. 2,980,270.
Ellwood, William P.: *See*—
Stover, Ancil C. 2,980,128.
Elslager, Edward F.: *See*—
Short, Franklin W., and Elslager. 2,980,681.
Elsner, Edwin C., to Aeroquip Corp. Self-locking bar attachment. 2,980,037, 4–18–61, Cl. 105—369.
Elwert, Otto: *See*—
Homola, Friedrich, Oberländer, and Elwert. 2,979,887.
Embring, Paul G., to Aktiebolaget Akerlund & Rausing. Medicament mold. 2,980,248, 4–18–61, Cl. 206—63.2.
Emeis, Reimer, to Siemens-Schuckertwerke Aktiengesellschaft. Lapping device for semiconductor wafers. 2,979,868, 4–18–61, Cl. 51—131.
En Dean, Howard J., J. D. Jones, and E. Topanelian, Jr., to Gulf Research & Development Co. Pipeline surveying. 2,980,854, 4–18–61, Cl. 324—72.
Endrezze, Ann E.: *See*—
Endrezze, William E. 2,980,053.
Endrezze, William E., to Endrezze, Ann E. Gas vented firing chamber for firing tubes, firing jet propelled torpedo, missiles. 2,980,053, 4–18–61, Cl. 114—238.
Engelhard Industries, Inc.: *See*—
Toft, Robert W. 2,980,743.
Engis Equipment Co.: *See*—
Morton, John S. 2,980,524.
English Electric Co. Ltd., The: *See*—
Magill, George M. M. 2,980,077.

Englund, Ernest. Tubular interlocking joint. 2,980,215, 4–18–61, Cl. 189—34.

Ensinger, Raymond L.: *See*—
Smith, John E., and Ensinger. 2,980,023.

Epstein, Arnold S., to Monsanto Chemical Co. Point contact rectifier device. 2,980,833, 4–18–61, Cl. 317—236.

Erickson, George E. Churn pot. 2,979,853, 4–18–61, Cl. 43—44.99.

Eriksson, Erik I.: *See*—
Martensson, Karl M., Löfman, and Eriksson. 2,980,532.

Esso Research and Engineering Co.: *See*—
Adams, Clark E., and Kimberlin. 2,980,604.
Morway, Arnold J., and Bartlett. 2,980,615.
Ross, James F., Tegge, and Kenyon. 2,980,742.

Etheridge, Oliver R., to A. E. Staley Mfg. Co. Method of cooking starch. 2,980,376, 4–18–61, Cl. 162—175.

Etling, Harold A., to Weather-Seal, Inc. Metal door construction. 2,980,217, 4–18–61, Cl. 189—46.

Eureka Specialty Printing Co.: *See*—
Schneider, Kurt R. 2,980,350.

Evans Products Co.: *See*—
Krokos, Raymond M., and Kostrewa. 2,980,442.

Fabbrica Italiana Magneti Marelli, S.p.A.: *See*—
Alfieri, Giuseppe. 2,980,468.

Fabriques de Produits Chimiques de Thann et de Mulhouse: *See*—
Frey, Walter. 2,980,500.

Fahrni, Fred. Method and device for the formation of a stream of particles of constant layer thickness. 2,980,290, 4–18–61, Cl. 222—1.

Fairchild Camera and Instrument Corp.: *See*—
Dunn, William J., Ankenbrock, and Rabb. 2,980,821.
Hargreaves, William V., and Durgin. 2,980,794.

Fairchild Data Devices Corp.: *See*—
Sullivan, Charles F. 2,980,306.

Fairfield, Ronald M., and E. L. Davey, to British Insulated Callender's (Submarine Cables) Ltd. Electric cables. 2,980,755, 4–18–61, Cl. 174—24.

Falagrady, Ernest: *See*—
Cole, George W., and Falagrady. 2,980,035.

Farago, John, to E. I. du Pont de Nemours and Co. Polyureylenes. 2,980,651, 4–18–61, Cl. 260—77.5.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Petersen, Otto. 2,980,512.
Schrader, Gerhard. 2,980,581.

Farber, Richard J.: *See*—
Bailey, William F., Farber, and Mazzochi. 2,980,795.

Farlow, Mark W., to E. I. due Pont de Nemours and Co. Preparation of fluorocarbons. 2,980,739, 4–18–61, Cl. 260—653.3.

Fastener Corp.: *See*—
Wandel, Oscar A., and Doyle. 2,979,725.

Fear, James V., to Sun Oil Co. Producing oxidation resistant lubricants. 2,980,603, 4–18–61, Cl. 208—80.

Feaster, Gene R., to Westinghouse Electric Corp. Thermal energy converter. 2,980,819, 4–18–61, Cl. 313—212.

Federal Paper Board Co., Inc.: *See*—
Arneson, Edwin L. 2,980,310.

Fehlner, Leo F. Paravane. 2,980,052, 4–18–61, Cl. 114—235.

Feldmuehle Papier-und Zellstoffwerke A.G.: *See*—
Hass, Karl, and Deselaers. 2,980,505.
Schroeter, Gustav-Adolf. 2,980,535.

Felske, Albert: *See*—
Schinke, James W., and Felske. 2,979,852.

Fendall Co.: *See*—
Amundsen, Paul. 2,979,728.

Ferguson, William R.: *See*—
Brumfield, Richard S., and Ferguson. 2,980,110.

Ferro Stamping Co.: *See*—
Pickles, Joseph. 2,980,163.

Fichter, Ludwig J., to Oak Mfg. Co. Change speed gearing. 2,979,969, 4–18–61, Cl. 74—750.

Field, Dale H.: *See*—
Bardach, Martin, Field, Gooden, and Hood. 2,980,565.

Fierce, William L., and W. J. Sandner, to The Pure Oil Co. Process for the preparation of nitriles form alcohols and phenols. 2,980,725, 4–18–61, Cl. 260—465.

Fina, Fil L., Jr., to Capitol Equipment Inc. Steering mechanism for vehicle attached tool. 2,980,443, 4–18–61, Cl. 280—467.

Fink, Judson J.: *See*—
Koch, Paul H., and Fink. 2,980,084.

Finney, Rex G., to The Ryan Aeronautical Co. Constant discreeing means for parachutes. 2,980,371, 4–18–61, Cl. 244—152.

Firl, Arthur C., to Combustion Engineering, Inc. Method of operating a steam generator. 2,980,082, 4–18–61, Cl. 122—459.

Firma Gebr. Hischmann, Maschinenfabrik: *See*—
Claes, Georg. 2,980,347.

Firma Gustav Zimmermann Maschinenfabrik G.m.b.H.: *See*—
Ohle, Norbert. 2,980,062.

First, Vincent E.: *See*—
Andersen, Carl P., Richardson, and First. 2,980,404.

Fisch, Willy: *See*—
Zuppinger, Paul, and Fisch. 2,980,676.

Fischer, H. G., & Co.: *See*—
Kosinski, Joseph. 2,980,337.
Kosinski, Joseph. 2,980,338.

Fisher, James G., to Fisher Mfg. Co., Inc. Lock-down floating platform mechanism for spooler troughs and doff trucks. 2,980,287, 4–18–61, Cl. 220—93.

Fisher, James G., to Fisher Mfg. Co., Inc. Doff truck boxes and the like having rub guards and bumpers. 2,980,437. 4–18–61, Cl. 280—79.2.

Fisher, James G., to Fisher Mfg. Co., Inc. Spooler trough. 2,980,481, 4–18–61, Cl. 312—250.

Fisher Mfg. Co., Inc.: *See*—
Fisher, James G. 2,980,287.
Fisher, James G. 2,980,437.
Fisher, James G. 2,980,481.

Fisher, Norman B.: *See*—
George, Hayden R., and Fisher. 2,980,045.

Fitzsimons, Ogden, 75% to Drift-A-Lure, Inc. Method of making a fishing lure. 2,979,778, 4–18–61, Cl. 18—58.

Flath, Earl H., Jr.: *See*—
Clanton, James D., Jr., Flath, and Keiffer. 2,980,900.

Fleming, Robert S.: *See*—
Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,980,-000.

Fletcher, Alan L. R.: *See*—
Chamberlain, Reginald H. D., Morris, Davies, and Fletcher. 2,979,892.

Flex-O-Lite Mfg. Corp.: *See*—
D'Adrian, Vincent L. D. 2,980,547.

Flexonics Corp.: *See*—
Salmon, Clarence P. 2,980,335.

Flightex Fabrics, Inc.: *See*—
Tibbetts, Willis F. 2,979,945.

Flodell, Stig A. Bearing, especially for perspective windows. 2,979,761, 4–18–61, Cl. 16—140.

Fontvieille, Jean, to Manufacture Francaise d'Armes & Cycles de Saint-Etienne. Protecting guide for repeating sporting guns. 2,979,846, 4–18–61, Cl. 42—71.

Food Machinery and Chemical Corp.: *See*—
Bray, Walter E., and Stilwell. 2,980,252.
Carrigan, Tracy. 2,979,983.
Galloway, Robert K. 2,979,873.
Galloway, Robert K. 2,979,876.
Puccinelli, Sylvio. 2,980,233.
Skog, Henry A. 2,980,232.
Verrinder, Ernest A. 2,979,872.

Forbes, James W.: *See*—
Edelman, Leonard E., and Forbes. 2,980,643.

Ford, James G., T. J. Murrin, and J. H. Bramble, to Westinghouse Electric Corp. Method of producing improved magnetic steel strip. 2,980,561, 4–18–61, Cl. 148—6.15.

Ford Motor Co.: *See*—
Hothem, Clarence E. 2,980,888.

Formwork Patents Ltd.: *See*—
Richards, Guy. 2,980,216.

Foster, Allan D., to Almor Corp. Self-unloading checkout counter. 2,980,212, 4–18–61, Cl. 186—1.

Foster, Karl: *See*—
Pavlovic, Dusan, and Foster. 2,980,563.

Fourcade, Marc C. A., to Sud-Aviation Societe Nationale de Constructions Aeronautiques. Aircraft aerial for decametric-waves. 2,980,910, 4–18–61, Cl. 343—705.

Fowlds, Clinton H., to S. & F. Mfg. Co., Inc. Display and dispensing racks. 2,980,259, 4–18–61, Cl. 211—49.

Fowler, George W., to Union Carbide Corp. Separation of isopropanolamine from dimethylpyrazines and dimethylpiperazines. 2,980,680, 4–18–61, Cl. 260—268.

Fowler, George W., to Union Carbide Corp. Liquid phase dehydration of isopropanolamine. 2,980,682, 4–18–61, Cl. 260—268.

Fox Products Co.: *See*—
Medlar, Lewis A. 2,980,842.

Frachon, Marc. Time switches and the like. 2,980,825, 4–18–61, Cl. 317—141.

Franck, George E., to The Imperial Eastman Corp. Plier-type tube bending tool. 2,979,976, 4–18–61, Cl. 81—15.

Frank, Simon, and G. N. Gagliardi, to American Cyanamid Co. Process for reducing objectionable odor of phosphorodithioate compounds. 2,980,723, 4–18–61, Cl. 260—461.

Franke, Dallas V.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.

Franke, Norman W.: *See*—
Brown, George P., Jr., and Franke. 2,980,720.

Franklin, Colin A.: *See*—
Thompson, Philip M., and Franklin. 2,980,845.

Freifelder, Morris: *See*—
Zaugg, Harold E., Weston, Freifelder, and Michaels. 2,980,653.

Frey, Walter, to Fabriques de Produits Chimiques de Thann et de Mulhouse. Vapor phase process for the production of titanium dioxide. 2,980,500, 4–18–61, Cl. 23—202.

Frick Co.: *See*—
Garland, Milton W. 2,979,914.

Froncsak, Ernest T.: *See*—
Martinek, Thomas W., Froncsak, and Remes. 2,980,611.

Fronk, Wilbert L., to United States of America, Navy. Capsule assembly gage. 2,979,827, 4–18–61, Cl. 33—174.

Fry, Horace P., Jr., to American Viscose Corp. Filament film spinning and processing machine. 2,979,767, 4–18–61, Cl. 18—8.

Fulham, John P.: *See*—
Grant, Allen F., and Fulham. 2,980,125.

Funchion, John W. L., and C. M. Glan, to M. Collin. Hosiery trimmer. 2,979,802, 4–18–61, Cl. 26—7.

Furcsyk, Alfons A., J. B. Henwood, F. S. Bloom, and J. E. Hovis, to Selas Corp. of America. Gas and oil burner. 2,980,171, 4–18–61, Cl. 158—11.

Gagliardi, George N.: *See*—
Frank, Simon, and Gagliardi. 2,980,723.

Gaino, Joseph. System for treating a continuously moving flexible web. 2,979,933, 4–18–61, Cl. 68—22.

Gaiser, Romey A., to Libbey-Owens-Ford Glass Co. Electroluminescent structure. 2,980,817, 4–18–61, Cl. 313—108.

Galis Electric & Machine Co.: *See*—
Pyles, Harley G. 2,980,373.

Gallo, Charles J., Jr. Retractable stop attachment for sliding drawer for furniture. 2,980,485, 4–18–61, Cl. 312—348.

Galloway, Robert K., to Food Machinery and Chemical Corp. Machine for inserting articles into cartons. 2,979,873, 4–18–61, Cl. 53—261.

Galloway, Robert K., to Food Machinery and Chemical Corp. Carton closing mechanism. 2,979,876, 4–18–61, Cl. 53—374.

Gang, Herman, to Monroe Calculating Machine Co. Quotient registration means for calculating machines. 2,980,323, 4–18–61, Cl. 235—79.

Gans, Frederick M., Jr., and D. E. Otermat, to Tidy Chemical Co. Hanging device and container. 2,980,277, 4–18–61, Cl. 215—100.

Garbuny, Max, to United States of America, Air Force. Photothermionic apparatus. 2,980,813, 4–18–61, Cl. 313—65.

Garden City Plating & Mfg. Co.: *See*—
McLean, James. 2,979,866.

Gardner, Donald B., to Bell & Gossett Co. Off season liquid chiller control device. 2,979,915, 4–18–61, Cl. 62—132.

Gardner, Robert L.: *See*—
Briggs, Joseph A., Jr., and Gardner. 2,979,766.

Gargan, Ernest R., deceased; L. L. Gargan, executrix, to British Timkin Ltd. Shafts for carrying interference-fitted members thereon. 2,980,474, 4–18–61, Cl. 308—236.

Gargan, Lilian L.: *See*—
Gargan, Ernest R. 2,980,474.

Garland, Milton W., to Frick Co. Product chiller. 2,979,914, 4–18–61, Cl. 62—64.

Garrett Corp., The: *See*—
Mason, John L. 2,979,916.
Rowlett, Beb H., and Silver. 2,980,394.

Garwin, Leo, to Kerr-McGee Oil Industries, Inc. Process for fractionating asphaltic bituminous materials utilising aromatic hydrocarbons of less than ten carbon atoms. 2,980,602, 4–18–61, Cl. 208—45.

Gasmire, Richard C., to Owens-Illinois Glass Co. Method of making reinforced cast shapes. 2,979,801, 4–18–61, Cl. 25—154.

Gaubis, Leonard L.: *See*—
Allen, Arthur N., Jr. and Gaubis. 2,980,188.

Gauthier, Alfred, G.m.b.H.: *See*—
Rentschler, Waldemar T. 2,979,998.
Rentschler, Waldemar T. 2,979,999.
Rentschler, Waldemar T. 2,980,005.

Gayer, John D.: *See*—
Spitler, Clem H., and Gayer. 2,979,996.

Gearhart, William M.: *See*—
Bell, Alan, Gearhart, and Tamblyn. 2,980,648.

Gehm, Rudolph P.: *See*—
Sladky, Alexander C., and Gehm. 2,979,760.

General Aniline & Film Corp.: *See*—
Craig, Louis E. 2,980,549.
Miller, John P., III. 2,980,624.
Perry, William M. 2,980,654.
Randall, David I., Taras, and Martin. 2,980,709.

General Dynamics Corp.: *See*—
Ottestad, Jack B. 2,979,938.
Ottestad, Jack B. 2,980,071.

General Electric Co.: *See*—
Atchison, Leonard W. 2,979,918.
Balogh, Stephen. 2,979,924.
Bentsen, Arthur R. 2,980,283.
Borcs, Steve. 2,980,266.
Brouillette, Joseph W., Jr., and Johnson. 2,980,332.
Coggeshall, Almy D., and Shirk. 2,980,757.
Gerry, Otto F. 2,979,817.
Houser, Philip H., and Shelton. 2,979,936.
Hughes, Philip G. 2,979,932.
Johnston, George F. 2,980,792.
Liermann, August O., and Heath. 2,980,877.
Meagher, George L. 2,979,917.
Movsesian, Edward N. 2,980,396.
Norgaard, Donald E. 2,980,904.
Peaslee, Lawrence R. 2,980,844.
Polovina, Walter. 2,980,638.
Rediger, Alvin L. 2,980,157.
Rosen, Edgar R. 2,979,984.
Schneider, Harold N. 2,980,782.
Schumacher, Walter C. 2,980,791.
Staak, Louis E. 2,979,779.
Stoddard, Edgar S. 2,980,598.
Woehrle, Harry G. 2,980,478.

General Electric Co. Ltd., The: *See*—
Burr, Harry. 2,979,923.
Claydon, Roy. 2,980,746.

General Mills, Inc.: *See*—
Van Krevelen, Edward R., and Burmeister. 2,980,856.

General Motors Corp.: *See*—
De Witte, John T., and Wurts. 2,979,922.
Harris, Edward P., and Wall. 2,980,167.
Jacobs, James W. 2,980,120.
Jacobs, James W., and Harnish. 2,980,480.
Matter, Robert C., and Landon. 2,980,562.
Short, Brooks H. 2,980,093.
Short, Brooks H. 2,980,822.
Short, Brooks H. 2,980,823.
Timpner, Fred F., De Loreau, and Miller. 2,980,441.
Wening, Herman E. 2,980,569.
Wolfe, John S. 2,980,475.
Ziegler, Eugene R. 2,979,751.

General Precision, Inc.: *See*—
Opocensky, Willard J. 2,980,827.
Rolfe, John C. 2,980,869.
Zaleski, John F. 2,980,670.

Geniesse, Donald J., to Sun Oil Co. Damper control system for process heaters. 2,980,334, 4–18–61, Cl. 236—14.

Gentile, Antheny J., and C. Porter, to American Cyanamid Co. Non-fibrous regenerated cellulose film containing anchoring-plasticising agent. 2,980,554, 4–18–61, Cl. 117—76.

Geolograph Co., The: *See*—
Melton, James O. 2,980,486.

Geophysical Specialties Co.: *See*—
Kassa, Robert A. 2,980,884.

George, Hayden R., and N. B. Fisher. Sewing machine stand. 2,980,045, 4–18–61, Cl. 112—258.

Gerry, Otto F., to General Electric Co. Electric can opener with control interlock. 2,979,817, 4–18–61, Cl. 30—4.

Gevaert Photo-Producten N.V.: *See*—
Nys, Jean M., and Ghys. 2,980,671.

Gever, Gabriel, to The Norwich Pharmacal Co. Nitrate and iodide esters of 5-nitro-2-furfuryl alcohol and preparation of the iodide. 2,980,704, 4–18–61, Cl. 260—346.1.

Geyer, Ulrich, M. Spillmann, A. Stalder, and E. Tagmann, to Ciba Pharmaceutical Products Inc. Process for obtaining pure polyalkylene glycol ethers. 2,980,737, 4–18–61, Cl. 260—616.

Ghys, Theofiel H.: *See*—
Nys, Jean M., and Ghys. 2,980,671.

Gibbens, Roy P.: *See*—
Elliott, David, and Gibbens. 2,980,270.

Gibson, Robert L. Article supporting ladder attachment. 2,980,380, 4–18–61, Cl. 248—211.

Giles, Walter W. Indexing devices. 2,979,834, 4–18–61, Cl. 35—73.

Gilfillan Bros, Inc.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.

Gilkey, Russell: *See*—
Caldwell, John R., and Gilkey. 2,980,649.

Gill, James M., and C. L. Hildebrand, to E. I. du Pont de Nemours and Co. Self-sealing gasket. 2,980,284, 4–18–61, Cl. 220—46.

Ginn, Clarence M.: *See*—
Funchion, John W. L., and Ginn. 2,979,802.

Girard, Theodore A., E. P. Di Bella, and H. Sidi, to Heyden Newport Chemical Corp. Production of trichlorobenzoic acid. 2,980,732, 4–18–61, Cl. 260—623.

Gittinger, Edgar A., Jr.: *See*—
McNeil, Homer C. 2,980,164.

Gittinger, Ted: *See*—
Jones, Clyde R., Steckelmeyer, Priest, Schoening, Ohlenburger, and Gittinger. 2,979,919.

Gittins, William G. Plastic faced building units and process for manufacturing same. 2,979,780, 4–18–61, Cl. 18—61.

Given Machinery Co.: *See*—
Jordan, Hans. 2,980,348.

Glasrock Products, Inc.: *See*—
North, John W. 2,979,791.

Glass, John A., and J. F. Jones, to The B. F. Goodrich Co. Polymerization process. 2,980,655, 4–18–61, Cl. 260—80.3.

Glasson, William J., to Hughes Aircraft Co. Expulsion-bag tank for liquid propellant. 2,980,177, 4–18–61, Cl. 158—50.1.

Glesner, William K.: *See*—
McMaster, Elmer L., and Glesner. 2,980,721.

Glickstein, Joseph: *See*—
Edelstein, Albert L., and Glickstein. 2,980,296.

Goddard, Sidney, to British Nylon Spinners Ltd. Thread package wound from continuous filaments of a synthetic linear polymer. 2,980,362, 4–18–61, Cl. 242—176.

Goetze, Albert F., Inc.: *See*—
Mahaffy, Reid A., and Harder. 2,980,231.

Gohs, Howard C., and L. P. Brooks, to Trine Mfg. Corp. Illuminated push button switch. 2,980,784, 4–18–61, Cl. 200—159.

Goldberg, Harold D. Bed rail. 2,979,738, 4–18–61, Cl. 5—331.

Goldey, James M., to Bell Telephone Laboratories, Inc. Two-terminal semiconductive switch having five successive zones. 2,980,810, 4–18–61, Cl. 307—88.5.

Goldfus, Samuel M., to Motorola, Inc. Detachable supporting rack. 2,980,379, 4–18–61, Cl. 248—206.

Goldman, Max, to E. I. du Pont de Nemours and Co. Tubular film stretching process. 2,979,777, 4–18–61, Cl. 18—57.

Goldschmidt, The., A.G.: *See*—
Rossmy, Gerd. 2,980,507.

Goldwater, Robert, and F. B. Calhoun, to Safeway Stores, Inc. Store ordering system and apparatus. 2,980,758, 4–18–61, Cl. 178—4.

Gooden, Kenneth E.: *See*—
Bardach, Martin, Field, Gooden, and Hood. 2,980,565.

Goodenough, Robert D., and V. A. Stenger, to The Dow Chemical Co. Recovery of lithium from lithium aluminate complex. 2,980,497, 4–18–61, Cl. 23—25.

Goodenough, Robert D., and V. A. Stenger, to The Dow Chemical Co. Recovery of lithium from lithium bearing ores. 2,980,499, 4–18–61, Cl. 23—32.

Goodenough, Robert D., and V. A. Stenger, to The Dow Chemical Co. Strontium chromate from brine. 2,980,502, 4–18–61, Cl. 23—56.

Goodrich, B. F., Co., The: *See*—
Glass, John A., and Jones. 2,980,655.
Hasselquist, Victor H. 2,979,978.

Goodrich, Ross H., to Joy Mfg. Co. Coal cutting, drilling and loading machine. 2,980,409, 4–18–61, Cl. 262—9.

Goodwin, Roscoe H., to Curtiss-Wright Corp. Aircraft training apparatus for simulating the propeller system of turbo-propeller aircraft. 2,979,833, 4–18–61, Cl. 35—12.

Goodyear Aircraft Corp.: *See*—
Hagopian, Jacob J., and Trego. 2,980,903.

Goodyear Tire & Rubber Co., The: *See*—
Ruof, Edgar J. 2,980,369.
Stoker, Carl B., Jr. 2,980,245.

Gorcyca, Edward R.: *See*—
Hoyer, Llewellyn E., and Gorcyca. 2,980,470.

Gordon, Maurice. Menstrual cycle indicating mechanism. 2,979,884, 4–18–61, Cl. 58—5.

Gould, Jack U., to Ferdinand Gutmann & Co. Safety bottle closure. 2,980,274, 4–18–61, Cl. 215—9.

Gould, William. Shopping bag and handle structure therefor. 2,980,312, 4–18–61, Cl. 229—54.

Graco Metal Products, Inc.: *See*—
Saint, David, and Reed. 2,979,734.

Grant, Allen F., and J. P. Fulham. Fire hydrant and valve therefor. 2,980,125, 4–18–61, Cl. 137—68.

Gratian, Anne C.: *See*—
Gratian, Joseph W. and A. C., Nieset, Bourns, and Crane. 2,980,905.

Gratian, Joseph W. and A. C., R. T. Nieset, M. E. Bourns, and H. R. Crane, to United States of America, Atomic Energy Commission. Radio ranging device. 2,980,905, 4–18–61, Cl. 343—13.

Gray, Clinton W.: *See*—
Norden, Carl J., Jr., and Gray. 2,980,580.

Green, David J.: *See*—
Tasker, Homer G., Van Alystyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.

Greene, Edwin J.: *See*—
La Fleur, Kermit S., and Greene. 2,980,557.

Greene, John P., to National Rubber Machinery Co. Waste disposer and splash guard therefor. 2,980,351, 4–18–61, Cl. 241—100.5.

Greene, Kenneth F., and W. L. Stafford, to Johns-Manville Corp. Molding press and method of molding. 2,979,770, 4–18–61, Cl. 18—16.7.

Greene, Kermit, to Sherman Paper Products Corp. Apparatus for applying flat strips to corrugated paper. 2,980,159, 4–18–61, Cl. 154—1.6.

Greenstein, Alexander and N., to East Coast Millwork Co., Inc. Window structure. 2,980,181, 4–18–61, Cl. 160—091.

Greenstein, Neil: *See*—
Greenstein, Alexander and N. 2,980,181.

Greenwood, Eugene C. Combination metering and shut-off valve. 2,980,392, 4–18–61, Cl. 251—210.

Greller, Nelson P.: *See*—
Baer, Ralph S. 2,980,438.

Grewell, Glenwood, and K. J. Jones, to United States of America, Air Force. Variable frequency pulse generator. 2,980,771, 4–18–61, Cl. 200—24.

Griffin, Wilber H.: *See*—
Taylor, William B., and Griffin. 2,980,451.

Groetzinger, Gerhart K., P. Schwed, and L. Witten, to The Martin Co. Bistable electrical circuit. 2,980,807, 4–18–61, Cl. 307—88.5.

Grondin, George F., and R. N. Royer, to Collins Radio Co. Digital synchronization circuit operating by inserting extra pulses into or delaying pulses from clock pulse train. 2,980,858, 4–18–61, Cl. 328—63.

Grossi, Frank X.: *See*—
Bauwin, George R., and Grossi. 2,979,863.

Gruber, Warren M., and B. T. Svihel, to Tinius Olsen Testing Machine Co. Determination of dynamic unbalance. 2,980,331, 4–18–61, Cl. 235—189.

Grundmann, Christoph J.: *See*—
Ratz, Rudi F. W., and Grundmann. 2,980,495.

Gualtieri, Angelo, to D. Napier & Son Ltd. Transmission gearing including means for measuring torque. 2,979,943, 4–18–61, Cl. 73—136.

Guilland, Charles L., and R. Vautier, to Centre National de la Recherche Scientifique. Ferromagnetic material for gyromagnetic effect. 2,980,618, 4–18–61, Cl. 252—62.5.

Gulf Research & Development Co.: *See*—
Brown, George P., Jr., and Franke. 2,980,720.
En Dean, Howard J., Jones, and Topanelian. 2,980,854.
Kukin, Ira, and Spiegler. 2,980,517.
Rocchini, Albert G., and Trautman. 2,979,890.
Thayer, Helen I. 2,980,520.

Gulledge, Hugh C., to E. I. du Pont de Nemours and Co. Process of making wool-like cellulosic textile materials. 2,980,489, 4–18–61, Cl. 8—117.

Gulledge, Hugh C., to E. I. du Pont de Nemours and Co. Process of making wool-like cellulosic textile materials. 2,980,490, 4–18–61, Cl. 8—117.

Gunderson, Ralph R. Foldable warning signal. 2,980,375, 4–18–61, Cl. 248—33.

Günschel, Karl, to VEB Ketten- und Nagelwerke. Shoe-end lasting machine with common drive for the feeding and closing motion of pivoted wipers. 2,979,743, 4–18–61, Cl. 12—12.3.

Gunston, Robert C. Clothesline cleaner. 2,979,753, 4–18–61, Cl. 15—256.6.

Gustin-Bacon Mfg. Co.: *See*—
Stephens, Frederick N., Perkins, and Love. 2,979,765.

Guterman, Sadia S., to Raytheon Co. Intelligence control systems. 2,980,803, 4–18–61, Cl. 307—88.

Gutmann, Ferdinand, & Co.: *See*—
Gould, Jack U. 2,980,274.

Gwathmey, Edward S., to Specialties, Inc. Fluid flow meter. 2,979,948, 4–18–61, Cl. 73—223.

Gyrodyne Co. of America, Inc.: *See*—
Strong, Edward W., Pappas, Losey, and Clewlow. 2,980,186.

Hanse, Elmer A., and W. E. Werts, to The Bendix Corp. Pressure ratio computer. 2,979,895, 4–18–61, Cl. 60—39.28.

Haberland, Fred C., and E. A. Moore, to Borg-Warner Corp. Jet engine nozzle area control system. 2,979,902, 4–18–61, Cl. 60—52.

Habernickel, Valentin, and A. Koster, to Henkel & Cie. G.m.b.H. Nitrogen-phosphoric acid compounds containing active chlorine. 2,980,506, 4–18–61, Cl. 23—85.

Hackmann, Johannes T., and P. Ten Haken, to Shell Oil Co. Method for combating undesirable plant life. 2,980,525, 4–18–61, Cl. 71—2.7.

Haeussermann, Walter, to United States of America, Army. Electric motor. 2,980,839, 4–18–61, Cl. 318—138.

Hagan Chemicals & Controls, Inc.: *See*—
Cunningham, Edwin A., Jr. 2,980,075.
Hatch, George B. 2,980,620.
Mrvosh, Michael, Jr. 2,980,070.
Williams, Ray S. 2,980,835.

Hagen, William F., to The Union Stock Yard and Transit Co. of Chicago. Method for tenderizing meats. 2,980,537, 4–18–61, Cl. 99—1.7.

Hagopian, Jacob J., and D. G. Trego, to Goodyear Aircraft Corp. Radar-command system of time coded pulses. 2,980,903, 4–18–61 Cl. 343—7.6.

Hainy, Rudolf, to VEB Kamera-und Kinowerke Dresden. Film spool coupling for photographic cameras. 2,980,358, 4–18–61, Cl. 242—71.3.

Hale, James F., R. A. Klein, and E. M. Bradway, to The Borden Co. Process for preparing instant potato. 2,980,-543, 4–18–61, Cl. 99—207.

Hall, Wayne P.: *See*—
Intagliata, Salvatore J., Hildebrandt, Yerks, Di Galbo, and Hall. 2,980,225.

Halverstadt, Isaac F.: *See*—
Hidalgo, John, Williams, and Halverstadt. 2,980,673.

Ham, George E., to J. T. Baker Chemical Co. Copolymer of an alkyl methacrylate and an alpha-acyloxystyrene, and method for preparing same. 2,980,658, 4–18–61, Cl. 260—86.1.

Hammer, Henry F., to Chas. Pfizer & Co., Inc. Parenteral magnesium oxytetracycline acetic or lactic acid carboxamide vehicle preparation. 2,980,584, 4–18–61, Cl. 167—65.

Hammon, Henry G.: *See*—
Wilson, Christopher L., and Hammon. 2,980,650.

Hampton, Archie L., to United States Gypsum Co. Plaster composition. 2,980,548, 4–18–61, Cl. 106—111.

Hams, Anthony F.: *See*—
Stevenson, Herbert A., Marshall, and Hams. 2,980,668.

Hanchett, Miles T.: *See*—
Damewood, Glenn, and Hanchett. 2,979,940.

Hancock Industries, Inc.: *See*—
Campbell, Ronald W. 2,980,460.

Handley, John. Type printing apparatus. 2,980,227, 4–18–61, Cl. 197—20.

Handschin, Walter. Lighting and signalling installation, in particular for motor vehicles. 2,980,783, 4–18–61, Cl. 200—156.

Hannagan, Gerald C., of small percentages to various assignees. Crop thinner. 2,980,190, 4–18–61, Cl. 172—58.

Hansen, Friedrich. Rotating bands for projectiles and methods for making the same. 2,979,810, 4–18–61, Cl. 29—182.

Hansen, Herman E., to Congoleum-Nairn Inc. Form piece for countertop back splash. 2,980,477, 4–18–61, Cl. 311—107.

Hanson, J. C. Material dispensing apparatus. 2,980,208, 4–18–61, Cl. 222—182.

Hanson, Theodore L.: *See*—
Bookout, Floyd V., Hanson, and McBride. 2,980,224.

Harder, John R.: *See*—
Mahaffy, Reid A., and Harder. 2,980,231.

Hardy Spicer Ltd.: *See*—
Rabson, Edward J. 2,980,209.

Hargreaves, William V., and L. A. Durgin, to Fairchild Camera and Instrument Corp. Automatic tone decoder. 2,980,794, 4–18–61, Cl. 250—6.

Harke, Otto. Mixing valve. 2,980,130, 4–18–61, Cl. 137—315.

Harkenrider, Robert J., to Gladys D. Miller. Lubricating wick and method of making same. 2,980,471, 4–18–61, Cl. 308—132.

Harkenrider, Robert J., to Gladys D. Miller. Lubricator for traction motor suspension bearings. 2,980,472, 4–18–61, Cl. 308—132.

Harnish, Kenneth A.: *See*—
Jacobs, James W., and Harnish. 2,980,480.

Harper, Philip S., to Harper-Wyman Co. Indicating means for gas valves. 2,980,134, 4–18–61, Cl. 137—556.

Harper-Wyman Co.: *See*—
Harper, Philip S. 2,980,134.
Sears, Arthur H. 2,980,178.

Harrington, Russell, Cutlery Co.: *See*—
Thompson, John A. 2,979,820.

Harris, Charles R., to Pneumafil Corp. Pneumatic waste collection apparatus for textile frames. 2,979,754, 4–18–61, Cl. 15—301.

Harris, Edward P., and J. R. Wall, to General Motors Corp. Seat construction. 2,980,167, 4–18–61, Cl. 155—179.

Harris, Frederick F. Pipe clamp. 2,980,143, 4–18–61, Cl. 138—99.

Harris-Intertype Corp.: *See*—
Royer, Arthur G., and Watts. 2,980,422.

Harris, Joseph M., and R. F. Scoledge, to Sylvania Electric Products Inc. Projection lamp. 2,980,818, 4–18–61, Cl. 313—113.

Harrison, George W., to Allegany Instrument Co., Inc. Method of making a strain gage. 2,979,807, 4–18–61, Cl. 29—155.62.

Harrison, Henry: *See*—
Harrison, Henry C. and H. 2,980,476.

Harrison, Henry C. and H., to Ingersoll-Rand Co. Compressor piston. 2,980,476, 4–18–61, Cl. 309—14.

Harrison, Raymond B., and R. G. Edwards, to Stedfast Rubber Co., Inc. Sheet material for stiffening shoe uppers. 2,980,552, 4–18–61, Cl. 117—68.

Harrow, Edward L. Air compression type flush tanks. 2,979,732, 4–18–61, Cl. 4—26.

Hartman, Curtis A.: *See*—
Sutton, Robert Winfield, Woodward, and Hartman. 2,980,090.

Harty, Ralph V. Operating mechanism for cover device. 2,980,034, 4–18–61, Cl. 104—31.

Hasek, William R., and A. C. Haven, Jr., to E. I. du Pont de Nemours and Co. *a,a,a*-trihydroperfluoroalkanes. 2,980,-740, 4–18–61, Cl. 260—653.8.

Haselton, William M.: *See*—
Perry, Joseph A., Jr., and Haselton. 2,980,414.

Haskings, Donald W.: *See*—
Perkins, Harold E., Jr., and Haskings. 2,979,896.

Haslam, John H., to E. I. du Pont de Nemours and Co. Reaction of titanium esters with acid anhydrides. 2,980,-719, 4–18–61, Cl. 260—429.5.

Hass, Karl, and K. Deselaers, to Feldmuehle Papier-und Zellstoffwerke A.G. Process of producing alkali metal salts of urea. 2,980,505, 4–18–61, Cl. 23—75.

Hasselquist, Victor H., to The B. F. Goodrich Co. Bias cutter conveyor control comprising linkage means to maintain distance between cutter and stop. 2,979,978, 4–18–61, Cl. 83—209.

Hatch, George B., to Hagan Chemicals & Controls, Inc. Method of inhibiting ice melting salts and products for use in ice melting. 2,980,620, 4–18–61, Cl. 252—70.

Hathaway, Kenneth W., to Electric & Musical Industries Ltd. Servomotor automatic control system especially for machine tools. 2,980,836, 4–18–61, Cl. 318—28.

Hauser, Ralph I., and E. T. Bridge, to United States of America, Navy. Dynamic balancing technique. 2,979,957, 4–18–61, Cl. 73—466.

Havard, Robert H., to Columbian Carbon Co. Carbon black manufacture. 2,980,511, 4–18–61, Cl. 23—209.4.

Haven, Alfred C., Jr.: *See*—
Hasek, William R., and Haven. 2,980,740.

Hawk, James P., E. B. Towne, and J. B. Dickey to Eastman Kodak Co. Preparation of dialkyl phosphoric acids. 2,980,724, 4–18–61, Cl. 260—461.

Hayes, C. I., Inc.: *See*—
Westeren, Herbert W. 2,979,828.

Hays, Charles E., to H. D. Hudson Mfg. Co. Hand sprayer. 2,980,343, 4–18–61, Cl. 239—331.

Hazeltine Research, Inc.: *See*—
Bailey, William F., Farber, and Mazzochi. 2,980,795.
Hilbourne, Robert A. 2,980,865.

Heald Machine Co., The: *See*—
Pollard, Harry, and Yingst. 2,979,870.

Healy, Thomas V., to The United Kingdom Atomic Energy Authority. Method of producing caesium carbonate and caesium sulphate from aqueous nitric acid solution of fission products. 2,980,503, 4–18–61, Cl. 23—63.

Hearden, Lester C., and E. Meyer, to Sterling Pulp & Paper Co. Roll cutting device and the like. 2,979,979, 4–18–61, Cl. 83—407.

Heath, Charles W.: *See*—
Llermann, August O., and Heath. 2,980,877.

Heckert, Richard E., and W. J. Middleton, to E. I. du Pont de Nemours and Co. Dicyanoketene cyclic acetals and process for preparation. 2,980,698, 4–18–61, Cl. 260—340.7.

Heddon's, James, Sons: *See*—
Lund, Trygve C. 2,979,850.

Hedström, Frits U., to Sandvikens Jernverks Aktiebolag. Rock drill bit and method of manufacturing same. 2,979,-993, 4–18–61, Cl. 90—11.42.

Heida, Robert W., to Sylvania Electric Products Inc. Terminal inserter. 2,979,721, 4–18–61, Cl. 1—1.

Heidenbrand, Russell C.: *See*—
Cochran, Kenneth W. 2,980,850.

Heidenbrand Tubular Service: *See*—
Cochran, Kenneth W. 2,980,850.

Helger, Roland: *See*—
Thesing, Jan, and Helger. 2,980,702.

Helmer, Norman D. Power-operated device for reciprocating a bassinet. 2,979,735, 4–18–61, Cl. 5—109.

Helmig, Willem H. T.: *See*—
Reumerman, Theodorus, and Helmig. 2,980,901.

Hendrickson Mfg. Co.: *See*—
Miller, R. Earl. 2,980,439.

Henes, Martin E.: *See*—
Deutsch, Fritz A., and Henes. 2,980,324.

Henkel & Cie. G.m.b.H.: *See*—
Habernickel, Valentin, and Koster. 2,980,506.

Henning, George E., to Western Electric Co., Inc. Apparatus for testing insulated conductors. 2,980,851, 4–18–61, Cl. 324—52.

Henning, Robert W.: *See*—
Pfaff, Elmer F., and Henning. 2,979,724.

Henschen, Erwin, and P. F. Laukhuf, to Walter Ziehr. Recording compression gauge. 2,979,954, 4–18–61, Cl. 73—391.

Henwood, James B.: *See*—
Furczyk, Alfons A., Henwood, Bloom, and Hovis. 2,980,171.

Herard, Archibald J., Jr., C. R. Kronoff, and V. F. Sepavich, to Crompton & Knowles Corp. Selective shedding mechanism for looms. 2,980,145, 4–18–61, Cl. 139—80.

Herard, Archibald J., Jr., and V. F. Sepavich, to Crompton & Knowles Corp. Electrically indicating weft detector for loom. 2,980,147, 4–18–61, Cl. 139—273.

Herbst, Howard D., to The Electric Auto-Lite Co. Mechanical holding means for batteries. 2,980,195, 4–18–61, Cl. 180—68.5.

Hercules Powder Co.: *See*—
Lambert, Charles M. 2,980,629.

Herlihy, Francis B.: *See*—
Wilson, Rosser L., Herlihy, and Wood. 2,979,793.

Herløw, Erik, to Carl M. Cohr's Solvvarefabriker A/S. Hollow ware service set. 2,980,280, 4–18–61, Cl. 220—17.

Herpich, William A.: *See*—
Dempster, George R., Jones, and Herpich. 2,980,268.

Heyden Newport Chemical Corp.: *See*—
Girard, Theodore A., Di Bella, and Sidi. 2,980,732.

Hiawatha Metalcraft, Inc.: *See*—
Schwans, Donald E., and Sturman. 2,980,459.

Hickle, Clyde S., and P. B. Hover, to Ranco Inc. Motor protector. 2,980,779, 4–18–61, Cl. 200—113.

Hidalgo, John, A. R. Williams, and I. F. Halverstadt, to Cutter Laboratories, Inc. Bis-quaternary ammonium esters of amino-carboxylic acids and amino-alcohols. 2,980,673, 4–18–61, Cl. 260—247.2.

Hilbourne, Robert A., to Hazeltine Research, Inc. Stabilized transistor oscillator. 2,980,865, 4–18–61, Cl. 331—116.

Hildebrand, Cleveland L.: *See*—
Gill, James M., and Hildebrand. 2,980,284.

Hildebrandt, William J.: *See*—
Intagliata, Salvatore J., Hildebrandt, Yerks, Di Galbo, and Hall. 2,980,225.

Hilker, Eugene B., W. H. Cowles, G. B. Stroh, and R. S. Fleming, to Holley Carburetor Co. Mechanical computing device. 2,980,069, 4–18–61, Cl. 121—41.

Hill, John D., III, to Collins Radio Corp. Voice-operated relay system. 2,980,827, 4–18–61, Cl. 317—148.5.

Hill, Robert A., to Waterous Co. Solenoid operated priming valve. 2,980,391, 4–18–61 Cl. 251—210.

Hines, John D., to The Cooper-Bessemer Corp. Internal combustion engine. 2,980,088, 4–18–61, Cl. 123—65.

Hinkley, David F.: *See*—
Chemerda, John M., Tristram, Hinkley, and Broeke. 2,980,713.

Hirschmann, Jack B., Jr. Goggle. 2,979,729, 4–18–61, Cl. 2—14.

Hitchcock, Eugene B Can divider. 2,980,230, 4–18–61, Cl. 198—31.

Hoag, Charles R. Target trap. 2,980,095, 4–18–61, Cl. 124—8.

Hodges Research and Development Co.: *See*—
Williams, Beverly E. 2,980,010.

Hoffman, Frederick C., and R. B. Scott, to Lockheed Aircraft Corp. Method and apparatus for stretch shaping panels. 2,980,156, 4–18–61, Cl. 153—2.

Hoffman, Max, to The Oster Mfg. Co. Work holding and centering chuck. 2,980,434, 4–18–61, Cl. 279—106.

Hoffman, Roy D. Animal cot with electrically heated pad. 2,980,058, 4–18–61, Cl. 119—1.

Hoffmann, Karl, A. Hunger, J. Kebrle, and A. Rossi, to Ciba Pharmaceutical Products Inc. New basically substituted benzyl-benzimidazoles. 2,980,690, 4–18–61, Cl. 260—309.2.

Hoffmann, Thomas R.: *See*—
Kececioglu, Dimitri B., Baugh, and Hoffmann. 2,980,345.

Hoffmann, Walter W., to Durant Mfg. Co. Counter resetting means. 2,980,329, 4–18–61, Cl. 235—139.

Hohenemser, Kurt H., to McDonnell Aircraft Corp. Horizontal tail control system for rotary wing aircraft. 2,980,364, 4–18–61, Cl. 244—17.11.

Holan Corp.: *See*—
Troche, Herman J., and Eckels. 2,980,263.

Holben, Clair D. to Beech Aircraft Corp. Connector for joining pipelines having outer jacket insulation in continuously insulated relation. 2,980,448, 4–18–61, Cl. 285—47.

Holcomb, Donald E., Jr.: *See*—
Kline, Joseph D., and Holcomb. 2,980,853.

Holley Carburetor Co.: *See*—
Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,980,069.
Marsee, Frederick J. 2,980,408.
Smith, John E., and Ensinger. 2,980,023.

Holloway, Dennis G., to British Telecommunications Research Ltd. Transmission of television signals. 2,980,765, 4–18–61, Cl. 178—43.5.

Holman, Edward W., Jr. Toy. 2,979,858, 4–18–61, Cl. 46—52.

Holzboog, Walter H.: *See*—
Reinhart, Harold C., and Holzboog. 2,980,386.

Homola, Friedrich, G. Oberländer, and O. Elwert, to Klockner-Humboldt-Deutz Aktiengesellschaft. Turbocharged four stroke cycle fuel injection engine. 2,979,887, 4–18–61, Cl. 60—13.

Hood, William J.: *See*—
Bardach, Martin, Field, Gooden, and Hood. 2,980,565.

Hoover Co., The: *See*—
Seck, Werner G. 2,980,205.

Hoover, Harold H.: *See*—
Raymond, David L., and Hoover. 2,979,838.

Hopper, Clyde R. Can puncturing apparatus. 2,979,816, 4–18–61, Cl. 30—4.

Hopper, Philip S., to United Aircraft Corp. Ducted fan flameholder. 2,979,900, 4–18–61, Cl. 60—39.72.

Horecky, Stanley V.: *See*—
Hubbard, James R., and Horecky. 2,979,931.

Horizons Inc.: *See*—
Steinberg, Morris A. 2,979,813.
Steinberg, Morris A. 2,979,814.

Hormuth, Frank J.: *See*—
Cook, Wayne S., and Hormuth. 2,980,570.

Horner, John F., and L. T. Wright, to Standard Oil Co. Reaction chamber. 2,980,515, 4–18–61, Cl. 23—288.

Horton, William F., to Lear, Inc. Time delay relay device. 2,980,826, 4–18–61, Cl. 317—148.5.

Hosansky, Norman: *See*—
Smith, Eric, and Hosansky. 2,980,699.

Hothem, Clarence E., to Ford Motor Co. Vehicle warning system. 2,980,888, 4–18–61, Cl. 340—62.

Houdaille Industries, Inc.: *See*—
Schott, Arthur K., and Wilson. 2,979,905.

Houdry Process Corp.: *See*—
Craig, Robert G., and Stevenson. 2,980,631.

House, Ronald R., and S. T. Moore, to American Cyanamid Co. Clarification of industrial waters. 2,980,609, 4–18–61, Cl. 210—54.

Houser, Philip H., and W. L. Shelton, to General Electric Co. Treating agent dispenser system for washing machines. 2,979,936, 4–18–61, Cl. 68—207.

Hover, Paul B.: *See*—
Hickle, Clyde S., and Hover. 2,980,779.

Hovis, James E.: *See*—
Furczyk, Alfons A., Henwood, Bloom, and Hovis. 2,980,-171.

Howard, Frank A. Continuous mechanized production of tubeless tire safety rings. 2,980,161, 4–18–61, Cl. 154—14.

Howard, Stanley R., to Pneumatic Scale Corp., Ltd. Weighing machine. 2,980,251, 4–18–61, Cl. 209—121.

Howell, Chester E., Jr., and H. S. Taylor, Jr., to F. M. Howell & Co. Box. 2,980,241, 4–18–61, Cl. 206—46.19.

Howell, F. M., & Co.: *See*—
Howell, Chester E., Jr., and Taylor. 2,980,241.

Howell, Hugh A., and J. L. Jedd, to Oak Mfg. Co. Magnet control apparatus. 2,980,777, 4–18–61, Cl. 200—87.

Howell, William L.: *See*—
Hurley, Charles W., and Howell. 2,980,107.

Hoyer, Llewellyn E., and E. R. Gorcyca, to American Brake Shoe Co. Journal lubricator. 2,980,470, 4–18–61, Cl. 308—88.

Hubbard, James R., and S. V. Horecky, to Philco Corp. Washing machine with washing-aid dispenser. 2,979,931, 4–18–61, Cl. 68—12.

Hudson Foam Plastics Corp.: *See*—
Wilson, Christopher L., and Hammon. 2,980,650.

Hudson, H. D., Mfg. Co.: *See*—
Hays, Charles E. 2,980,343.

Hugger, Norbert J. Tool support for tractor. 2,979,839, 4–18–61, Cl. 37—144.

Hughes Aircraft Co.: *See*—
Bardach, Martin, Field, Gooden, and Hood. 2,980,565.
Glasson, William J. 2,980,177.
Storch, Leo. 2,980,872.

Hughes, Philip G., to General Electric Co. Clothes washer having means for pretreating the clothes. 2,979,932, 4–18–61, Cl. 68—18.

Hunciker, Karl, to The Mercoid Corp. Plunger type mercury switch. 2,980,778, 4–18–61, Cl. 200—712.

Hunger, Alfred: *See*—
Hoffmann, Karl, Hunger, Kebrle, and Rossi. 2,980,690.

Hungerford, Philip C., Jr., to Curtiss-Wright Corp. Flexible shaft couplings. 2,979,925, 4–18–61, Cl. 64—15.

Hunt Heater Corp.: *See*—
Vaughn, Charles O. 2,980,102.

Hunt, James R.: *See*—
Deering, Roland F., Dhondt, Hunt, Kelley, and Welsh. 2,980,592.

Hunter, Charley W., to The Vendo Co. Mechanism for vending cylindrical containers disposed in staggered stack arrangement. 2,980,288, 4–18–61, Cl. 221—67.

Hunter, Edwin J., and L. A. Richards. Remote control valve. 2,980,385, 4–18–61, Cl. 251—25.

Hunter, Edwin J. Ditch digging machine. 2,979,837, 4–18–61, Cl. 37—94.

Hunter, Edwin L., and A. P. Boudreau. Welding process. 2,980,788, 4–18–61, Cl. 219—78.

Hupp Corp.: *See*—
Patrick, Malcolm W., and Day. 2,980,104.

Hurley, Charles W., and W. L. Howell. Recording sphygmomanometer. 2,980,107, 4–18–61, Cl. 128—205.

Hurtle, James E., J. M. Eastman, and A. N. Kitchen, to The Bendix Corp. Temperature-modified exhaust nozzle-scheduling controller for a gas turbine engine. 2,979,889, 4–18–61, Cl. 60—35.6.

Hussey, Luther W., to Bell Telephone Laboratories, Inc. Ringing tone generator. 2,980,863, 4–18–61, Cl. 331—56.

Hycon Mfg. Co.: *See*—
Prentice, Russell E. 2,980,004.

Hydraulic Unit Specialties Co.: *See*—
Tennis, Francis H. 2,980,135.

Hymer, Donald L. Gauge for measuring the outlet diameter of internally tapered elements. 2,979,824, 4–18–61, Cl. 33—143.

Ichikawa, Kaname. Lighter. 2,979,929, 4–18–61, Cl. 67—7.1.

Ichiwaka, Kaname. Lighter. 2,979,930, 4–18–61, Cl. 67—7.1.

Ideal Industries, Inc.: *See*—
Whitehurst, Marcus G. 2,979,783.

Imperial Chemical Industries Ltd.: *See*—
Langley, Bernard W. 2,980,665.
Langley, Bernard W. 2,980,678.

Imperial Eastman Corp., The: *See*—
Franck, George E. 2,979,976.

Imperial Electronics, Inc.: *See*—
Schein, Henry. 2,980,109.

Incar, Inc.: *See*—
Sanicky, Marilyn K. 2,980,595.

Indiana General Corp.: *See*—
Ireland, James R. 2,980,617.

Ingersoll-Rand Co.: *See*—
Harrison, Henry C., and Harrison. 2,980,476.

Innes, William B.: *See*—
Malley, Thomas J., Schindler, Pennell, and Innes. 2,980,632.

Inoue, Takayasu. Pocket size check writer. 2,980,226, 4–18–61, Cl. 197—6.4.

Intaglista, Salvatore J., W. J. Hildebrandt, R. W. Yerks, V. J. Di Galbo, and W. P. Hall, to Underwood Corp. Apparatus to produce printed and control records and to utilise the latter for automatic control purposes. 2,980,225, 4–18–61, Cl. 197—1.6.

International Business Machines Corp.: *See*—
Johnson, George W. 2,979,960.
Litz, Frank A. 2,980,063.

International Computers and Tabulators Ltd.: *See*—
Cannings, Frederick G. 2,980,555.

International Minerals & Chemical Corp.: *See*—
Baumann, Arthur N. 2,980,504.

International Resistance Co.: *See*—
Burns, Jerome G. 2,980,955.

International Standard Electric Corp.: *See*—
Mittag, Fritz, and Lindner. 2,980,235.
Steinbach, Heinz, and Scheidig. 2,980,891.
Wlodarczak, Heinz. 2,980,228.

Ireland, James R., to Indiana General Corp. Ferrite compositions and method of making same. 2,980,617, 4–18–61, Cl. 252—62.5.

Isensee, Otto, Jr.: *See*—
Waller, Arthur, and Isensee. 2,980,155.

Isler, Hans: *See*—
Druey, Jean, Isler, and Schenker. 2,980,685.

Jaccard, René P., to Samuel Jack Kaufman. Automatically variable alarm for timepiece. 2,979,885, 4–18–61, Cl. 58—21.12.

Jackson, Martin A.: *See*—
Van Zelm, Willem D., and Jackson. 2,980,213.

Jackson, Percy, to William Doxford & Sons (Engineers) Ltd. Piston engines. 2,979,967, 4–18–61, Cl. 74—579.

Jacobs, James W., to General Motors Corp. Variable spray device for dishwasher. 2,980,120, 4–18–61, Cl. 134—57.

Jacobs, James W., and K. A. Harnish, to General Motors Corp. Domestic appliance. 2,980,480, 4–18–61, Cl. 312—111.

Jacobs, Paul. Rock digger and picker. 2,980,180, 4–18–61, Cl. 171—63.

Jacobson, Donald A. Flexible closure for dispensers. 2,980,303, 4–18–61, Cl. 222—507.

Jacobson, Herbert P., and W. F. Williams, to Collins Radio Co. Counter mechanism. 2,980,328, 4–18–61, Cl. 235—136.

Jacoby, Harry D.: *See*—
Royer, John A., Kimbro, and Jacoby. 2,980,341.

Jacque, James M., to The Astatic Corp. Ceramic transducer elements. 2,980,811, 4–18–61, Cl. 310—9.4.

Jacuzzi Bros., Inc.: *See*—
Nash, Floyd M. 2,980,256.

Jagenberg-Werke Akt. Ges.: *See*—
Welsch, Hans. 2,979,994.

Jakimiuk, Wsiewolod J., and R. G. Scoasec, to Sud-Aviation Societe Nationale de Constructions Aeronautiques. Devices for the take-off and landing of aircraft. 2,980,368, 4–18–61, Cl. 244—102.

Jamieson, William H., and C. E. Reese, to E. I. du Pont de Nemours and Co. Process for preparing textile yarns. 2,980,492, 4–18–61, Cl. 18—54.

Jaruselski, John J., and W. E. Smith, Jr., to United States Steel Corp. 2,7-diisocyanatodibenzofuran and method of making it. 2,980,705, 4–18–61, Cl. 260—346.2.

Jedd, Jerry L.: *See*—
Howell, Hugh A., and Jedd. 2,980,777.

Jenkins, Arthur C., A. H. Malik, and R. L. Pruett, to Union Carbide Corp. Method of decomposing ozone. 2,980,404, 4–18–61, Cl. 23—4.

Jenner, Robert K., Jr.: *See*—
Schaefer, Hans F., Jr., and Jenner. 2,979,745.

Jensen Industries, Inc.: *See*—
Blashewski, Eugene A. 2,980,428.

Jernigan, Roscoe E. Boat trailer. 2,980,273, 4–18–61, Cl. 214—505.

Jeal, James L., to Sun Oil Co. Manufacture of olefin polymers. 2,980,662, 4–18–61, Cl. 260—93.7.

Joelson, Karl-Evert A., to Aktiebolaget Industrikompaniet. Vibrator. 2,980,079, 4–18–61, Cl. 121—164.

Joelson, Karl-Evert A., to Aktiebolaget Industrikompaniet. Vibrator. 2,980,080, 4–18–61, Cl. 121—164.

Johannesen, Harry A. Gaseous fuel economising and improving device for internal combustion engines. 2,980,091, 4–18–61, Cl. 123—124.

Johns-Manville Corp.: *See*—
Greene, Kenneth F., and Stafford. 2,979,770.

Johnson, Charles W.: *See*—
Brouillette, Joseph W., Jr., and Johnson. 2,980,332.

Johnson, Clifford S. Device for bowlers. 2,980,426, 4–18–61, Cl. 273—54.

Johnson, George B. Cut-off tool. 2,979,805, 4–18–61, Cl. 29—95.

Johnson, George W., to International Business Machines Corp. Acceleration measuring means. 2,979,960, 4–18–61, Cl. 73—517.

Johnson, John H., to Monsanto Chemical Co. Manufacture of low molecular weight olefin/maleic anhydride copolymers. 2,980,653, 4–18–61, Cl. 260—78.5.

Johnson, Justin O., Jr., and K. H. Stokes, to Minneapolis-Honeywell Regulator Co. Ambient temperature compensating means for capillary tubing. 2,979,953, 4–18–61, Cl. 73—368.4.

Johnson, Oscar H., to American Brake Shoe Co. Grinding mills. 2,980,352, 4–18–61, Cl. 241—163.

Johnson, Paul A.: *See*—
Stephens, William R., and Johnson. 2,980,180.

Johnson, Paul V., R. B. Taylor, and J. P. Dunne, to Structural Clay Products Research Foundation. Transfer crane. 2,980,265, 4–18–61, Cl. 214—1.

Johnson, Tegner A., to United States Steel Corp. Method of flocculating suspended solids. 2,980,608, 4–18–61, Cl. 210—52.

Johnson, William G., to E. I. du Pont de Nemours and Co. Acrylonitrile extraction process. 2,980,726, 4–18–61, Cl. 260—465.9.

Johnson, William G., to E. I. du Pont de Nemours and Co. Acrylonitrile extraction process. 2,980,727, 4–18–61, Cl. 260—465.9.

Johnston, George F., to General Electric Co. Lighting fixture. 2,980,792, 4–18–61, Cl. 240—51.11.

Johnston, J. Ford, and E. E. Postel, to Lockheed Aircraft Corp. Linked inertial balance for tab. 2,980,367, 4–18–61, Cl. 244—75.

Jolly, Rosa T. Frozen confection. 2,980,039, 4–18–61, Cl. 107—19.

Jones, Clyde R., H. J. Steckelmeyer, G. E. Priest, Jr., M. A. Schoening, N. Ohlenburger, and T. Gittinger. Vapor cooling systems. 2,979,919, 4–18–61, Cl. 62—314.

Jones, Harry W.: *See*—
Dempster, George R., Jones, and Herpich. 2,980,268.

Jones, John D.: *See*—
En Dean, Howard J., Jones, and Topanelian. 2,980,454.

Jones, John F.: *See*—
Glass, John A., and Jones. 2,980,655.

Jones, Kenton J.: *See*—
Grewell, Glenwood, and Jones. 2,980,771.

Jones, Leonard S., and S. Kowalyshyn, to United States of America, Navy. Torpedo depth steering control. 2,980,048, 4–18–61, Cl. 114—25.

Jones, Ronald: *See*—
Rubbra, Arthur A., and Jones. 2,980,395.

Jones, Rufus V., and P. J. Canterino, to Phillips Petroleum Co. Method for production of soluble chlorinated polymers. 2,980,656, 4–18–61, Cl. 260—85.1.

Jordan, Claude W., to The United Gas Improvement Co. Apparatus for filtering gas. 2,980,204, 4–18–61, Cl. 183—45.

Jordan, Hans, to Given Machinery Co. Rotary grind table with trailing impellers having plural cutting edges. 2,980,348, 4–18–61, Cl. 241—46.

Joy Mfg. Co.: *See*—
Goodrich, Ross H. 2,980,409.
Snyder, Lenard D., and Throne. 2,979,926.

KVP Sutherland Paper Co.: *See*—
Buttery, Kenneth T., and Vander Lugt. 2,980,316.

Kaasa, Robert A., to Geophysical Specialties Co. Apparatus for measuring the time between seismic events with a counter. 2,980,684, 4–18–61, Cl. 340—15.

Kalish, David, to Consolidated Electronics Industries Corp. Aligning machine. 2,980,267, 4–18–61, Cl. 214—1.

Kane, Raymond M.: *See*—
Brundige, William L., and Kane. 2,980,820.

Kapff, Sixt F., to Standard Oil Co. Combustibles-in-air instrument. 2,980,513, 4–18–61, Cl. 23—255.

Kaplan, Louis G.: *See*—
Dreisin, Alexander, and Kaplan. 2,980,092.

Kapostas, Louis J. Rotary mower for producing scalloped cutting effect. 2,979,878, 4–18–61, Cl. 56—25.4.

Kardos, Peter, to Morrison Products, Inc. Thermostat device. 2,980,780, 4–18–61, Cl. 200—138.

Karmas, George, to Ortho Pharmaceutical Corp. Acetylated aldehyde adducts of 2-amino-5-nitrothiazole. 2,980,688, 4–18–61, Cl. 260—306.6.

Kass, Gerald H.: *See*—
Anderson, Ervin R., and Kass. 2,980,390.

Katakura, Sampei, and K. Tachiki. Process for the manufacture of rustless iron. 2,980,528, 4–18–61, Cl. 75—28.

Katz, Avrum S., to Sterling Industries, Inc. Door closer. 2,979,759, 4–18–61, Cl. 16—66.

Katz, David, to Bell Telephone Laboratories, Inc. Digital to analog converter. 2,980,899, 4–18–61, Cl. 340—347.

Kaufman, Samuel J.: *See*—
Jaccard, René P. 2,979,885.

Kauppi, Walter A., to United States Steel Corp. Pouring ladle nozzle seat and method of making it. 2,979,792, 4–18–61, Cl. 22—200.

Kay Mfg. Corp.: *See*—
Krakauer, Daniel. 2,979,739.

Kaydon Engineering Corp., The: *See*—
Birleson, Stanley R., Campbell, and Dobb. 2,979,869.

Kazmierowicz, Constantine A. Plastic pipe covering. 2,980,568, 4–18–61, Cl. 154—44.

Kearney, John F.: *See*—
Soderberg, John W. 2,980,887.

Keats, John L., to E. I. du Pont de Nemours and Co. Aerosols. 2,980,582, 4–18–61, Cl. 167—39.

Kebrle, Jindrich: *See*—
Hoffmann, Karl, Hunger, Kebrle, and Rossi. 2,980,690.

Kececioglu, Dimitri B., R. T. Baugh, and T. R. Hoffmann, to Allis-Chalmers Mfg. Co. Ultrasonic apparatus and methods of comminution. 2,980,345, 4–18–61, Cl. 241—1.

Keen, John M. S., to Rolls-Royce Ltd. Variable area jet propulsion nozzles. 2,980,199, 4–18–61, Cl. 181—41.

Keen, William R., to Collins & Aikman Corp. Fur-effect fabrics and method of making same. 2,979,803, 4–18–61, Cl. 28—72.

Keiffer, Edwin G.: *See*—
Clanton, James D., Jr., Flath, and Keiffer. 2,980,909.

Kelleher, John E. Electrical outlet leveler. 2,980,756, 4–18–61, Cl. 174—57.

Kelley, Arnold E.: *See*—
Deering, Roland F., Dhondt, Hunt, Kelley, and Welsh. 2,980,592.

Kelley, Arnold E., to Union Oil Co. of California. Process and apparatus for bituminous sand treatment. 2,980,600, 4–18–61, Cl. 208—11.

Kelsey-Hayes Co.: *See*—
Stelzer, William. 2,980,068.
Stelzer, William. 2,980,469.
Stelzer, William, and Ayers. 2,980,066.

Kemlite Corp.: *See*—
Menser, Alfred B. 2,980,574.

Kemman, Roger A. Spread holder. 2,979,736, 4–18–61, Cl. 5—320.

Kennedy, Raymond A. Tire and wheel imbalance calculator. 2,979,958, 4–18–61, Cl. 73—483.

Kent, Raymond: *See*—
Nielsen, Olaf, Viola, and Kent. 2,980,377.

Kenyon, Leon C., Jr.: *See*—
Ross, James F., Tegge, and Kenyon. 2,980,742.

Kerber, Stanley M., G. M. Randall, and D. F. Zemke, to North American Aviation, Inc. Duomode microwave radiation system. 2,980,911, 4–18–61, Cl. 343—779.

Kerr-McGee Oil Industries, Inc.: *See*—
Garwin, Leo. 2,980,602.

Kibby, William A. Combination handtruck and ladder. 2,980,200, 4–18–61, Cl. 182—16.

Kieckhefer, Herbert M., to Weyerhaeuser Co. Method of banding cardboard cartons. 2,979,871, 4–18–61, Cl. 53—3.

Kimball, A., Co.: *See*—
Clemens, John E., Dean, Thomas, and Touchman. 2,980,319.

Kimberlin, Charles N., Jr.: *See*—
Adams, Clark E., and Kimberlin. 2,980,604.

Kimble Glass Co.: *See*—
McCloy, Arthur L., Jr. 2,980,237.
Pinotti, Alfred D. 2,979,864.

Kimbro, William S.: *See*—
Royer, John A., Kimbro, and Jacoby. 2,980,341.

Kimura, Shuji, and J. N. Stich, to Norton Chemical Co. Photographic shortstop compositions. 2,980,536, 4–18–61, Cl. 96—62.

King, Donald M. Chains for conveyors. 2,980,236, 4–18–61, Cl. 198—189.

King-Seeley Corp.: *See*—
Sivacek, Emil E. 2,980,875.

Kirby, Wilfred: *See*—
Nasmith, John L., and Kirby. 2,979,722.

Kitchen, Asa N.: *See*—
Hurtle, James E., Eastman, and Kitchen. 2,979,889.

Klein, Ralph A.: *See*—
Hale, James F., Klein, and Bradway. 2,980,543.

Kleinman, Jacob L. Cushioning shaving head units for shaving implements. 2,979,810, 4–18–61, Cl. 30—43.

Klemm, William F. Moistening and heating device. 2,980,099, 4–18–61, Cl. 126—20.

Klemperer, Wolfgang B., to Douglas Aircraft Co., Inc. Visual simulator for flight training device. 2,979,832, 4–18–61, Cl. 35—12.

Klettke, Walter G., to The Upjohn Co. Bottle stoppering apparatus. 2,979,875, 4–18–61, Cl. 53—320.

Klimstra, Paul D.: *See*—
Counsell, Raymond E., and Klimstra. 2,980,710.

Kline, Joseph D., and D. E. Holcomb, Jr., to Ryan Aeronautical Co. Component output characteristic tracer. 2,980,853, 4–18–61, Cl. 324—57.

Klockner-Humboldt-Deutz Aktiengesellschaft: *See*—
Decker, Johannes B. 2,979,799.
Homola, Friedrich, Oberlinder, and Elwert. 2,979,887.

Klomparens, William, to The Upjohn Co. Cycloheximide acetate horticultural fungicidal composition and method of use. 2,980,580, 4–18–61, Cl. 167—53.

Knapp, William E., and W. T. Bolleom, to American Metallurgical Products Co. Method of making aluminum killed steel. 2,980,529, 4–18–61, Cl. 75—57.

Knowles, Edwin C. N. R. Odell, and J. F. Lyons, to Texaco Inc. Soap thickened lubricating grease containing formamide. 2,980,610, 4–18–61, Cl. 252—42.1.

Knox, John W.: *See*—
Bradley, Walter W. 2,980,059.

Kobryner, Herman H., to Murray Mfg. Corp. Load distributing arrangement. 2,980,824, 4–18–61, Cl. 317—116.

Koch, Paul H., and J. J. Fink, to The Babcock & Wilcox Co. System for burning low volatile fuels. 2,980,084, 4–18–61, Cl. 122—480.

Koehler, James O., and H. Lamprey, to Union Carbide Corp. Carbon and graphite articles. 2,980,633, 4–18–61, Cl. 252—507.

Koerner, Hans, to Selas Corp. of America. Rotary furnace. 2,980,412, 4–18–61, Cl. 263—12.

Kokoruda, Michael, to Wyandotte Chemicals Corp. Method of bleaching cotton fabrics with tetrachloro-malonamides. 2,980,488, 4–18–61, Cl. 8—108.

Kopp, Wilhelm, and H. Ploss, to Adox Kamerawerk G.m.b.H. Cameras. 2,980,000, 4–18–61, Cl. 95—31.

Koppers Co., Inc.: *See*—
Shoemaker, William E., and Macdonald. 2,980,640.

Körbl, Jiří. Phthalein and fluorescein derivatives. 2,980,696, 4–18–61, Cl. 260—327.

Korganoff, Alexandre, and H. H. Schlung. Submarine vessel equipped with hydrofoil assembly. 2,980,047, 4–18–61, Cl. 114—16.

Kosach, John J. Single wheel skate. 2,980,436, 4–18–61, Cl. 280—11.24.

Kosmin, Milton, to Monsanto Chemical Co. Thiopseudoures derivatives. 2,980,734, 4–18–61, Cl. 260—564.

Koster, Alfred: *See*—
Habernickel, Valentin, and Koster. 2,980,506.

Kostrewa, John J.: *See*—
Krokos, Raymond M., and Kostrewa. 2,980,442.

Kowalyshyn, Stephen: *See*—
Jones, Leonard S., and Kowalyshyn. 2,980,048.

Kozinski, Joseph, to H. G. Fischer & Co. Paint spraying system. 2,980,337, 4–18–61, Cl. 239—15.

Kozinski, Joseph, to H. G. Fischer & Co. Electrostatic paint spraying system. 2,980,338, 4–18–61, Cl. 239—15.

Krakauer, Daniel, to Kay Mfg. Corp. Mattress, cushion or the like. 2,979,739, 4–18–61, Cl. 5—345.

Krehbiel, Robert D., to Cessna Aircraft Co. Hydraulic flow control system and valve with anti-cavitation feature. 2,980,136, 4–18–61, Cl. 137—622.

Kring, Peder L.: *See*—
Ten Ham, Evert J., and Kring. 2,980,587.

Krohm, Fred A., to The Anderson Co. Windshield wiper arm assembly. 2,979,752, 4–18–61, Cl. 15—250.21.

Krokos, Raymond M., and J. J. Kostrewa, to Evans Products Co. Hitch assembly. 2,980,442, 4–18–61, Cl. 280—204.

Kronoff, Clarence R. *See*—
Herard, Archibald J., Jr., Kronoff, and Sepavich. 2,980,145.

Kubes, John P. Shipping container assembly apparatus. 2,979,727, 4–18–61, Cl. 1—146.

Kujawa, Edmund J.: *See*—
Cahill, Richard T., and Kujawa. 2,980,452.

Kukin, Ira, and K. S. Spiegler, to Gulf Research & Development Co. Stabilization of fuel oils. 2,980,517, 4–18–61, Cl. 44—62.

Labrie, Charles. Guide for the engagement of stud carrying collars on a grooved shaft. 2,980,357, 4–18–61, Cl. 242—68.1.

Lachowicz, Stefan K., to The Distillers Co. Ltd. Polymerisation process. 2,980,663, 4–18–61, Cl. 260—93.7.

La Fleur, Kermit S., and E. J. Greene, to Deering Milliken Research Corp. Non-felting wool and methods for preparing the same. 2,980,557, 4–18–61, Cl. 117—141.

Lake, Harry F.: *See*—
Schuricht, Henry A., Lake, and Smith. 2,980,121.

Lakins, Franklin D., and G. B. Lanphere, to Lipe-Rollway Corp. Stock pusher. 2,979,804, 4–18–61, Cl. 20—93.

Lamb, Douglas J.: *See*—
Bromley, James E., and Lamb. 2,979,882.

Lambert, Charles M., to Hercules Powder Co. Gel-free rosin soap and method of preparing same. 2,980,629, 4–18–61, Cl. 252—309.

Laminated Shim Co., Inc.: *See*—
Bagdon, Richard J., and Warren. 2,980,572.

Lamprey, Headlee: *See*—
Koehler, James O., and Lamprey. 2,980,693.

Lamson Corp.: *See*—
Crosby, Peter F. 2,980,222.

Landee, Robert W.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.

Landmark Corp., The: *See*—
Bellis, Paul. 2,979,841.

Landon, Ira T.: *See*—
Matter, Robert C., and Landon. 2,980,562.

Langeraar, Wijnand, Long-range navigation system. 2,980,907, 4–18–61, Cl. 343—105.

Langford, Robert C., to Daystrom, Inc. Dual magnet electrical instrument. 2,980,857, 4–18–61, Cl. 324—150.

Langley, Bernard W., to Imperial Chemical Industries Ltd. Pyrimidines. 2,980,665, 4–18–61, Cl. 260—154.

Langley, Bernard W., to Imperial Chemical Industries Ltd. Pyrimidines. 2,980,678, 4–18–61, Cl. 260—256.4.

Langman, David. Leg bandage. 2,980,111, 4–18–61, Cl. 128—165.

Lanphere, Gerald B.: *See*—
Lakins, Franklin D., and Lanphere. 2,979,804.

Laperouse, Edward J. Adjustable metallic awning. 2,979,789, 4–18–61, Cl. 20—57.5.

Lapointe, Lloyd J., to Royal McBee Corp. Combination punch and reader units. 2,980,320, 4–18–61, Cl. 234—41.

Lappin, Gerald R., to Eastman Kodak Co. Stabilized polyethylene. 2,980,646, 4–18–61, Cl. 260—45.85.

Lappin, Gerald R. to Eastman Kodak Co. Polyethylene stabilized with 3 hydroxyl 4-(phenylcarbonyl) phenyl esters. 2,980,647, 4–18–61, Cl. 260—45.85.

Larde, Raymond, to Les Laboratoires Francais de Chimiotherapie. Multivitamin preparation and method of making same. 2,980,588, 4–18–61, Cl. 167—81.

Larky, Norbert D., and C. L. Cuccia, to Radio Corp. of America. Automatic gain control of demodulating signals. 2,980,760, 4–18–61, Cl. 178—5.4.

Larsen, Finn J.: *See*—
Bearinger, Van W., and Larsen. 2,980,841.

Larson, Carl R., to Aerodex, Inc. Method of treating chromium plated cylinders. 2,980,593, 4–18–61, Cl. 204—26.

Larson, Siegfried W., to Leeds and Northrup Co. Control setter. 2,980,876, 4–18–61, Cl. 338—183.

Lasser, Marvin E., to Philco Corp. Image transducing system. 2,980,763, 4–18–61, Cl. 178—6.8.

Latinca, Sam T., to Best Plastics Corp. Plastic party favor basket construction. 2,979,844, 4–18–61, Cl. 41—10.

Laubach, Gernald D.: *See*—
Berg, Rudolph G., and Laubach. 2,980,670.

Laukhuf, Paul F.: *See*—
Henschen, Erwin, and Laukhuf. 2,979,954.

Laurence, James C.: *See*—
Conger, Channing C., and Laurence. 2,980,843.

Lawsine, Leo, D. A. McIver, and J. W. Taylor, Jr., to Westinghouse Electric Corp. Bidirectional multiplex transistor communication apparatus. 2,980,769, 4–18–61, Cl. 179—170.

Lawson, Basil V., to Philco Corp. Crystal-support assembly and method of forming same. 2,980,829, 4–18–61, Cl. 317—234.

Leading Engineering and Mfg. Co.: *See*—
Schuricht, Henry A., Lake, and Smith. 2,980,121.

Leaman, Audley B., and N. Czajkowski, to United States of America, Navy. Lateral acceleration switch. 2,980,773, 4–18–61, Cl. 200—61.51.

Lear, Inc.: *See*—
Horton, William F. 2,980,826.

Lechene, Leo L. Method of making bristles for street sweeping brooms. 2,980,467, 4–18–61, Cl. 300—21.

Leeds and Northrup Co.: *See*—
Larson, Siegfried W. 2,980,876.

Lees, James, and Sons Co.: *See*—
Cutten, William K., and McNutt. 2,979,934.

Leet, Richard H.: *See*—
Borg, Arthur C., and Leet. 2,980,614.

Leete, David L., to National Research Development Corp. Position control servosystem. 2,980,838, 4–18–61, Cl. 318—28.

Le Gendre, Victor J., to Burroughs Corp. Package. 2,980,244, 4–18–61, Cl. 206—46.

Legg, Duncan, and A. F. B. Young, to A. Reyrolle & Co. Ltd. High voltage electric circuit-breakers of the air-breakers type. 2,980,781, 4–18–61, Cl. 200—144.

Lehner, William L.: *See*—
Carlsen, Carl F., and Lehner. 2,979,726.

Lehovec, Kurt, and R. Zuleeg, to Sprague Electric Co. Means for reducing surface recombination. 2,980,831, 4–18–61, Cl. 317—235.

Leitte, Eldon H. Fumigant applicator. 2,980,293, 4–18–61, Cl. 222—39.

Lejeune, Emile J. A. Fibre disintegrating apparatus. 2,980,350, 4–18–61, Cl. 241—73.

Lemelson, Jerome H. Ultrasonic apparatus. 2,980,123, 4–18–61, Cl. 134—184.

Le Nobel, Jacobus W.: *See*—
Van Beest, Adolf C., and Le Nobel. 2,980,606.

Leonard, Henderson G. Scaffold hanger. 2,980,384, 4–18–61, Cl. 248—324.

Leone, Otto J. Dew point indicator. 2,979,950, 4–18–61, Cl. 73—336.5.

Leshin, Joseph, to Calumet Mfg. Co., Inc. Container-dispenser for cosmetics in solid stick form. 2,980,246, 4–18–61, Cl. 206—56.

Les Laboratoires Francais de Chimiotherapie: *See*—
Larde, Raymond. 2,980,588.

Les Laboratoires Francais de Chimiotherapie: *See*—
Muller, Georges, and Stefanovic. 2,980,714.

Les Usines de Melle (Societe Anonyme): *See*—
Alberitiere, Louis, and Mercier. 2,980,731.

Letzler, George D. Vehicle with telescoping shelter and drawer-type bed. 2,980,465, 4–18–61, Cl. 296—23.

Lever Bros. Co.: *See*—
Abbott, Horace P. 2,979,944.
Rebstock, Fred R. 2,980,119.

Levy, Lester. Wide band, low distortion, high efficiency amplifier. 2,980,840, 4–18–61, Cl. 320—121.

Lewinstein, Emanuel: *See*—
Meissner, Willi G. 2,980,889.

Leyse Aluminum Co.: *See*—
Sladky, Alexander C., and Gehm. 2,979,760.

Libbey-Owens-Ford Glass Co.: *See*—
Gaiser, Romey A. 2,980,817.

Liberman, Arie. Carrier communication apparatus. 2,980,767, 4–18–61, Cl. 179—15.5.

Liermann, August O., and C. W. Heath, to General Electric Co. High temperature resistor. 2,980,877, 4–18–61, Cl. 338—258.

Lifka, Charles G. Connector fittings for small size flexible conduit. 2,980,450, 4–18–61, Cl. 285—161.

Lifland, Philip P., and A. E. Potas, to Socony Mobil Oil Co., Inc. Correcting activation or deactivation of platinum-type reforming catalyst. 2,980,605, 4–18–61, Cl. 208—138.

Lilly, Eli, and Co.: *See*—
Probst, Gerald W. 2,980,700.

Lindemann, Robert E., to D. M. Potter. Plural range indicating instruments. 2,980,894, 4–18–61, Cl. 340—187.

Lindner, Jürgen: *See*—
Mittag, Fritz, and Lindner. 2,980,235.

Lindstrom, George A., to American Steel Foundries. Brake cylinder. 2,979,906, 4–18–61, Cl. 60—54.6.

Lipe-Rollway Corp.: *See*—
Lakins, Franklin D., and Lanphere. 2,979,804.

Little, Charles H. Drafting board. 2,979,823, 4–18–61, Cl. 33—79.

Littlefield, Kendall M. Flow propelled sewer or pipe threader. 2,980,399, 4–18–61, Cl. 254—134.4.

Litton Systems, Inc.: *See*—
Ort, Donald L. 2,980,806.

Litz, Frank A., to International Business Machines Corp. Cylinder adder. 2,980,063, 4–18–61, Cl. 121—38.

Loberger, Joseph A.: *See*—
Page, Reuben F. 2,980,457.

Lockheed Aircraft Corp.: *See*—
Detweiler, James I., Riek, and Thompson. 2,980,138.
Hoffman, Frederick C., and Scott. 2,980,156.
Johnston, J. Ford, and Postel. 2,980,367.
McGregor, Clifton P., and Ryon. 2,980,046.

Loeb, Leopold: *See*—
Segal, Leon, Loeb, Takemura, and Philips. 2,980,491.

Löfman, Claes P.: *See*—
Martensson, Karl M., Löfman, and Eriksson. 2,980,532.

Long, Spencer W., to Armco Steel Corp. Hook-block assembly. 2,980,400, 4–18–61, Cl. 254—192.

Longbotham, Thomas. Base leveling device. 2,979,857, 4–18–61, Cl. 45—139.

Lorens, Donald L.: *See*—
Edwards, William V., and Lorens. 2,980,028.

Losey, Arthur M.: *See*—
Strong, Edward W., Pappas, Losey, and Clewlow. 2,980,186.

Lossev, Maria. Eye actuating device for toys with movable eyes. 2,979,850, 4–18–61, Cl. 46—135.

Love, Tom J., Jr.: *See*—
Stephens, Frederick N., Perkins, and Love. 2,979,765.

Lubalin, Irwin J., to Shaw Process Development Corp. Molds. 2,979,790, 4–18–61, Cl. 22—129.

Lucker, Millard B., to Auto Specialties Mfg. Co. Lifting jack. 2,980,397, 4–18–61, Cl. 254—99.

Ludwig Drum Co.: *See*—
Ludwig, William F. 2,979,981.

Ludwig, William F., to Ludwig Drum Co. Drumhead construction. 2,979,981, 4–18–61, Cl. 84—411.

Luedera, Robert W., to Armstrong Cork Co. Insulated structures. 2,980,279, 4–18–61, Cl. 220—9.

Luehrs, Hans J., to The Cottrell Co. Blanket clamping assemblies for web off set rotary printing presses, or letter presses. 2,980,016, 4–18–61, Cl. 101—415.1.

Luer Packing Co.: *See*—
MacDonald, Norman A. 2,980,541.

Lulk, Ilmar, to Collins Radio Co. Gyroscope monitoring alarm system. 2,980,895, 4–18–61, Cl. 340—213.

Lund, Tryggve C., to James Heddon's Sons. Artificial fish lure. 2,979,850, 4–18–61, Cl. 43—42.24.

Lundgren, Rudolf A. I., to Aktiebolaget Astra, Apotekarnes Kemiska Fabriker. Screw cap locking device for jars. 2,980,275, 4–18–61, Cl. 215—43.

Lundstrum, Allan W. Base-board radiators. 2,980,402, 4–18–61, Cl. 257—133.

Luscombe, Arthur J. Bearing protective structure for the auger of a feed mixer. 2,980,407, 4–18–61, Cl. 259—97.

Lutke, Peter E. Choke filter. 2,980,203, 4–18–61, Cl. 183—44.

Lynn, Lawrence B., to Westinghouse Electric Corp. Two-way valve. 2,980,139, 4–18–61, Cl. 137—625.5.

Lyons, Joseph F.: *See*—
Knowles, Edwin C., Odell, and Lyons. 2,980,616.

Macdonald, James R., to Texas Instruments Inc. Hall effect device. 2,980,860, 4–18–61, Cl. 330—6.

MacDonald, Norman A., to Luer Packing Co. Method of packaging bacon. 2,980,541, 4–18–61, Cl. 99—174.

Macdonald, Roger: *See*—
Shoemaker, William R., and Macdonald. 2,980,640.

Machinecraft, Inc.: *See*—
Cotchett, Louis M. 2,979,784.

Machinery Center, Inc.: *See*—
O'Leary, Paul C. 2,980,372.

Machlan, Hamilton A., and B. D. Terral, to Cameo, Inc. Pneumatic stroke motor. 2,980,076, 4–18–61, Cl. 121—48.

Machlett Laboratories, Inc., The: *See*—
Steen, Gottfrid W. 2,980,800.

Macomber, Inc.: *See*—
Macomber, Stanley. 2,979,806.

Macomber, Stanley, to Macomber, Inc. Method of making laminated tubular section structural members. 2,979,805, 4–18–61, Cl. 29—155.

Magid, Jerome C.: *See*—
Zabler, Erwin E., and Magid. 2,979,826.

Magill, George M. M., to The English Electric Co. Ltd. Hydraulic devices. 2,980,077, 4–18–61, Cl. 121—62.

Mahaffy, Reid A., and J. R. Harder, to Albert F. Goetze, Inc. Automatic switching and storage conveyor. 2,980,231, 4–18–61, Cl. 198—31.

Main, Charles E.: *See*—
Vroom, Clifford G., Deffenbaugh, and Main. 2,980,879.

Main, Leo E., J. R. Piper, and L. J. Smith, to Bell & Gossett Co. Flow meter with cylindrical spring restriction. 2,979,947, 4–18–61, Cl. 73—207.

Malasky, John: *See*—
Soderberg, John W. 2,980,887.

Malik, Adam H.: *See*—
Jenkins, Arthur C., Malik, and Pruett. 2,980,494.

Malley, Thomas J., H. D. Schindler, J. D. Pennell, Jr., and W. B. Innes, to American Cyanamid Co. Alumina of controlled density and catalysts prepared therefrom. 2,980,632, 4–18–61, Cl. 252—465.

Mandrel Industries, Inc.: *See*—
Mize, Doyle D., Sundt, and Drews. 2,980,885.

Manning, David T.: *See*—
Dunn, Jesse T., and Manning. 2,980,684.

Manufacture Francaise d'Armes & Cycles de Saint-Etienne: *See*—
Fontvieille, Jean. 2,979,846.

Maraseo, Paul B. Aspirator means. 2,980,344, 4–18–61, Cl. 259—338.

Marsee, Frederick J., to Holley Carburetor Co. Nozzle baffle. 2,980,408, 4–18–61, Cl. 261—61.

Marsh, Clifford J. Device for holding sheep. 2,980,060, 4–18–61, Cl. 119—103.

Marshall, Charles A.: *See*—
Mock, Richard A., Calkins, and Marshall. 2,980,607.

Marshall, John R.: *See*—
Stevenson, Herbert A., Marshall, and Hams. 2,980,668.

Martens, Jack E., to The Anderson Co. Emergency release of power-drive drawer. 2,979,966, 4–18–61, Cl. 74—424.8.

Martenson, Karl M., C. P. Löfman, and E. I. Eriksson, to Aktiebolaget Atomienergi. Method of producing permeable membranes. 2,980,532, 4–18–61, Cl. 75—205.

Martin Co., The: *See*—
Buschers, Herbert H., Medina, and Wilson. 2,979,991.
Groetzinger, Gerhart K., Schwed, and Witten. 2,980,807.
Morse, Jerome G. 2,980,599.

Martin, Tellis A.: *See*—
Randall, David I., Taras, and Martin. 2,980,700.

Martinek, Thomas W., E. T. Froncsak, and N. L. Remes, to The Pure Oil Co. Silica-thickened grease containing acid amide dispersant. 2,980,611, 4–18–61, Cl. 252—28.

Masco Corp.: *See*—
Ramberger, Julien G. 2,980,100.

Mason, Francis G., to Aladdin Industries, Inc. Radio-frequency tuner. 2,980,796, 4–18–61, Cl. 250—40.

Mason, Harrison G., to Barber-Colman Co. Thread winder. 2,980,354, 4–18–61, Cl. 242—18.

Mason, John L., to The Garrett Corp. Humidity control system. 2,979,916, 4–18–61, Cl. 62—172.

Mason, Roger H., and E. J. Raits, to Collins Radio Co. Fault location system. 2,980,898, 4–18–61, Cl. 340—253.

Masser, Charles M.: *See*—
Crane, Carl J. 2,980,307.

Master Power Corp.: *See*—
Conover, Ernest R., Jr. 2,980,078.
Young, Charles H. 2,980,218.

Master Vibrator Co.: *See*—
Spitler, Clem H., and Gayer. 2,979,996.

Matter, Robert C., and I. T. Landon, to General Motors Corp. Method of soldering and flux therefor. 2,980,562, 4–18–61, Cl. 148—23.

Mats, Norman, to Thompson Ramo Wooldridge Inc. Nutating disc gas compressor or motor. 2,980,318, 4–18–61, Cl. 230—148.

Mayblom, Carl: *See*—
Draghi, Robert A., and Mayblom. 2,980,003.

Mazond, Marceline, and G. Youssov, to Compagnie Generale de Telegraphie Sans Fil. Surface treatment of lead alloyed semi-conductor elements. 2,980,597, 4–18–61, Cl. 204—141.

Mazzochi, Joseph J.: *See*—
Bailey, William F., Farber, and Mazzochi. 2,980,795.

McBride, Donald W.: *See*—
Bookout, Floyd V., Hanson, and McBride. 2,980,224.

McCarthy, Joseph F., to Minneapolis-Honeywell Regulator Co. Conductive fluid pump. 2,980,022, 4–18–61, Cl. 103—1.

McCaskill, Louie M. Central vacuum system for homes. 2,979,755, 4–18–61, Cl. 15—314.

McClellan, Cyril E., to Westinghouse Electric Corp. Monopulse radar system. 2,980,906, 4–18–61, Cl. 343—16.

McClelland, Charles P., to Union Carbide Corp. Sizing of textile yarn. 2,980,556, 4–18–61, Cl. 117—138.8.

McCloy, Arthur L., Jr., to Kimble Glass Co. Helix conveyor. 2,980,237, 4–18–61, Cl. 198—213.

McCollum, Burton. Method for planting seismic detectors. 2,980,042, 4–18–61, Cl. 111—5.

McConnell, Charles L. Barbless fish hook. 2,979,848, 4–18–61, Cl. 43—37.

McCormick, Beatrice L.: *See*—
Witmer, William N. 2,980,401.

McDermott, Henry J., to American Viscose Corp. Method of operating a tow machine. 2,980,493, 4–18–61, Cl. 19—54.

McDonnell Aircraft Corp.: *See*—
Hohensemser, Kurt H. 2,980,364.

McEachern, Loyd R., to The American MonoRail Co. Air stream oscillating device. 2,980,340, 4–18–61, Cl. 239—337.

McElroy Co.: *See*—
Sherman, William R. 2,980,129.

McGraw-Edison Co.: *See*—
Petersen, Clifford W. 2,980,214.

McGregor, Clifton P., and W. H. Ryon, to Lockheed Aircraft Corp. Draw dies for multiple action press. 2,980,044, 4–18–61, Cl. 113—40.

McIver, Donald A.: *See*—
Lawsine, Leo, McIver, and Taylor. 2,980,769.

McKay Machine Co., The: *See*—
Billetter, Halton A., and Stevens. 2,980,360.
Nilsson, Einar W. 2,980,236.

McKee, William H., to United-Carr Fastener Corp. Connector and snap-in contact therefor. 2,980,881, 4–18–61, Cl. 339—192.

McKinney, William E. Releasing device for snagged fishing lines. 2,979,847, 4–18–61, Cl. 43—17.2.

McLean, James, to Garden City Plating & Mfg. Co. Detachable hanger for supporting panels. 2,979,806, 4–18–61, Cl. 50—405.

McMaster, Elmer L., and W. K. Glasmer, to The Dow Chemical Co. Vinylbenzyl dialkyl phosphonates and preparation thereof. 2,980,721, 4–18–61, Cl. 260—461.

McMillan, Charles D. Liquid mixing valve structure. 2,980,140, 4–18–61, Cl. 137—337.

McMullin, Earl L. Telescoping pole. 2,980,456, 4–18–61, Cl. 287—58.

McNeil, Homer C., 50% to Edgar A. Gittinger, Jr. Hand powered swing. 2,980,164, 4–18–61, Cl. 188—65.

McNeil Laboratories, Inc.: *See*—
Plampin, James N. 2,980,688.

McNeill, William M.: *See*—
Reilly, Thomas A., and McNeill. 2,980,754.

McNutt, John: *See*—
Cutten, William K., and McNutt. 2,979,934.

Meagher, George L., to General Electric Co. Cooling arrangement for hermetically sealed refrigerant compressor. 2,979,917, 4–18–61, Cl. 62—196.

Medina, Pedro C.: *See*—
Buschers, Herbert H., Medina, and Wilson. 2,979,991.

Medlar, Lewis A., to Fox Products Co. Battery charging apparatus. 2,980,842, 4–18–61, Cl. 321—27.

Meigs, Archibald V., to Coast Paint and Lacquer Co. Coal tar modified amine type curing agent for polyepoxides. 2,980,601, 4–18–61, Cl. 208—44.

Meissner, Willi G., to E. Lewinstein and M. Senft. Portable emergency light. 2,980,889, 4–18–61, Cl. 340—81.

Melamed, Sidney, to Rohm & Haas Co. Quaternary ammonium compounds of polymers of aminoalkyl vinyl ethers. 2,980,634, 4–18–61, Cl. 260—2.1.

Melamed, Sidney, and L. C. Souder, to Rohm & Haas Co. Unsaturated derivatives of N-(omega-aminoalkyl)-1,3-cyclodiazolidin-2-ones and copolymers thereof. 2,980,652, 4–18–61, Cl. 260—77.5.

Melamed, Sidney, to Rohm & Haas Co. Quaternary ammonium compounds of polymers of acrylamido type and methods for making them. 2,980,657, 4–18–61, Cl. 260—86.1.

Mell, Thomas L. Impedance measuring networks. 2,980,852, 4–18–61, Cl. 324—57.

Melton, James O., to The Geolograph Co. Recorder. 2,980,486, 4–18–61, Cl. 346—33.

Menser, Alfred B., to Kemlite Corp. Plastic sheet material. 2,980,574, 4–18–61, Cl. 154—128.

Mercier, Jules: *See*—
Alberitiere, Louis, and Mercier. 2,980,731.

Merck & Co., Inc.: *See*—
Chamberlin, Earl M. 2,980,712.
Chemerda, John M., Tristram, Hinkley, and Brooks. 2,980,713.

Merck, E., Aktiengesellschaft: *See*—
Thesing, Jan, and Helger. 2,980,702.

Mercoid Corp., The: *See*—
Hunciker, Karl. 2,980,778.

Merian, Ernest, and B. J. R. Nicolaus, to Sandoz Ltd. Azo dyestuffs of low solubility in water. 2,980,666, 4–18–61, Cl. 260—158.

Mers, Rudolf, to Crosman Arms Co., Inc. Gas powered revolver. 2,980,096, 4–18–61, Cl. 124—11.

Messaros, George W., to Bell Telephone Laboratories, Inc. Current supply apparatus. 2,980,807, 4–18–61, Cl. 340—248.

Mettler, John D., Jr., to Union Carbide Corp. Process for purifying fluoride-contaminated columbium and tantalum compounds. 2,980,496, 4–18–61, Cl. 23—16.

Meyer, Ely: *See*—
Hearden, Lester C., and Meyer. 2,979,979.

Meyer, Fred J. Irradiating apparatus. 2,980,202, 4–18–61, Cl. 183—7.

Meyer, Geo. J., Mfg. Co.: *See*—
Carter, Sidney T. 2,980,229.
Carter, Sidney T. 2,980,278.

Meyer, Leonard S., to Parallel Products Co. Method and mold for producing an archery bow. 2,980,158, 4–18–61, Cl. 154—1.

Meyer, Robert E., to United Aircraft Corp. Thrust reverser. 2,979,893, 4–18–61, Cl. 60—35.54.

Meyers, Douglas C., to Shell Oil Co. Variable averaging meter. 2,979,946, 4–18–61, Cl. 73—194.

Michaels, Raymond J., Jr.: *See*—
Zaugg, Harold E., Weston, Freifelder, and Michaels. 2,980,683.
Michel, Kurt: *See*—
Wohlfahrt, Otto, and Michel. 2,980,566.
Microwave Associates, Inc.: *See*—
Walker, Richard M., Berkowitz, Blaisdell, and Mistretta. 2,980,873.
Middleton, William J.: *See*—
Heckert, Richard E., and Middleton. 2,980,698.
Middleton, William J., to E. I. du Pont de Nemours and Co. Polyfluoro-1,3-dithientanes and their preparation. 2,980,695, 4–18–61, Cl. 260—327.
Millard, Dennis J., to Boulton Paul Aircraft Ltd. Hydraulic actuator system with feedback. 2,980,067, 4–18–61, Cl. 121—41.
Miller, Carl J.: *See*—
Timpner, Fred F., De Lorean, and Miller. 2,980,441.
Miller, Gladys D.: *See*—
Harkenrider, Robert J. 2,980,471.
Harkenrider, Robert J. 2,980,472.
Miller, Herbert, to Monsanto Chemical Co. Method for the preparation of semiconductor cadmium compounds. 2,980,500, 4–18–61, Cl. 23—50.
Miller, Jack M., to Paromel Electronics Corp. Picture projecting device. 2,979,986, 4–18–61, Cl. 88—24.
Miller, James S., to The Procter & Gamble Co. Open faced cartons for collapsible tubes. 2,980,242, 4–18–61, Cl. 206—45.31.
Miller, John P., III, to General Aniline & Film Corp. Dry cleaning compositions. 2,980,624, 4–18–61, Cl. 252—152.
Miller, Lowell M.: *See*—
Studhalter, Walter R., Miller, and Bergreen. 2,979,897.
Miller, R. Earl, to Hendrickson Mfg. Co. Resilient suspension system and stress absorbing units therefor. 2,980,439, 4–18–61, Cl. 280—109.5.
Millerwise, Carl H., to American Radiator & Standard Sanitary Corp. Snap switch. 2,980,774, 4–18–61, Cl. 200—67.
Million, John W., Jr., to American Bosch Arma Corp. Variable tuner. 2,980,797, 4–18–61, Cl. 250—40.
Mills, Charles L., Jr., to Monsanto Chemical Co. Battery separators. 2,980,750, 4–18–61, Cl. 136—145.
Mills, Clarence A., to Reflectotherm, Inc. Method of heating meat. 2,980,544, 4–18–61, Cl. 99—229.
Miner, Leonard F., to D. E. Zimmer. Envelope adapted to be routed to several destinations. 2,980,315, 4–18–61, Cl. 229—73.
Minneapolis-Honeywell Regulator Co.: *See*—
Beard, Richard B. 2,980,415.
Bearinger, Van W., and Larsen. 2,980,841.
Bolstad, Luther L. 2,979,773.
Doctrow, Tefus X., and Sundby. 2,980,381.
Johnson, Justin O., Jr., and Stokes. 2,979,953.
McCarthy, Joseph F. 2,980,022.
Popowsky, William J. 2,980,861.
Minnesota Mining and Mfg. Co.: *See*—
Thomsen, Donald L. 2,980,551.
Miner, Harry B.: *See*—
Nixon, Alan C., and Minor. 2,980,519.
Mistretta, Vincent J.: *See*—
Walker, Richard M., Berkowitz, Blaisdell, and Mistretta. 2,980,873.
Mittag, Fritz, and J. Lindner, to International Standard Electric Corp. Arrangement to produce electrical signals in belt conveyors using containers. 2,980,235, 4–18–61, Cl. 198—38.
Mize, Doyle D., P. C. Sundt, and M. A. Drews, to Mandrel Industries, Inc. Seismic recording and playback apparatus. 2,980,885, 4–18–61, Cl. 340—15.
Moberg, Sigurd M., to E. J. Brooks Co. Hand-closable dual seal. 2,980,462, 4–18–61, Cl. 292—315.
Mock, Richard A., R. C. Calkins, and C. A. Marshall, to The Dow Chemical Co. Treatment of aqueous liquid solutions of chelate-forming metal ions with chelate exchange resins. 2,980,607, 4–18–61, Cl. 210—31.
Mohawk Sporting Equipment Co.: *See*—
Rothgery, Harold F. 2,980,097.
Moklebust, Olav, to R-N Corp. Process for dressing ores. 2,980,346, 4–18–61, Cl. 241—14.
Moklebust, Olav, and H. Bjoeraanesset, to National Lead Co. Oxidation of trivalent titanium compounds contained in solid titaniferous materials. 2,980,508, 4–18–61, Cl. 23—202.
Mollenberg-Betz Machine Co.: *See*—
Benson, James M. 2,980,432.
Moloney, Herbert J. Power generating device. 2,979,888, 4–18–61, Cl. 60—23.
Monolith Portland Cement Co.: *See*—
Schoonover, Paul L. 2,980,413.
Monroe Calculating Machine Co.: *See*—
Deutsch, Fritz A., and Henes. 2,980,324.
Gang, Herman. 2,980,323.
Monsanto Chemical Co.: *See*—
Birum, Gail H., and Dever. 2,980,722.
Culbertson, Harry M., and Williams. 2,980,636.
Culbertson, Harry M., and Williams. 2,980,637.
Epstein, Arnold S. 2,980,833.
Johnson, John H. 2,980,653.
Kosmin, Milton. 2,980,784.
Miller, Herbert. 2,980,500.
Mills, Charles L., Jr. 2,980,750.
Nielsen, Morris L. 2,980,577.
Printy, John O., and Wagner. 2,980,534.
Ruehrwein, Robert A. 2,980,610.
Symes, William F. 2,980,622.
Zeiss, Harold H., and Tsutsui. 2,980,741.
Monte, George L. A.: *See*—
Nieuwenhoven, Hendricus J. C., Monte, and Brech. 2,980,006.
Montecatini Societa General per l'Industria Mineraria e Chimica: *See*—
Rusignolo, Vinceazo. 2,979,774.
Montoya, Joseph P. Woman's undergarment of the girdle type. 2,980,114, 4–18–61, Cl. 128—523.
Moody, Norman F., to Her Majesty the Queen in the right of Canada, as represented by the Minister of National Defence. Two-state apparatus. 2,980,805, 4–18–61, Cl. 307—88.5.
Moore, Britt.: *See*—
Crane, Carl J. 2,980,307.
Moore, Charles B., to E. I. du Pont de Nemours and Co. Coulometer. 2,980,855, 4–18–61, Cl. 324—72.
Moore, Eugene A.: *See*—
Haberland, Fred C., and Moore. 2,979,902.
Moore, Sewell T.: *See*—
House, Ronald R., and Moore. 2,980,609.
Morehouse Industries, Inc.: *See*—
Brown, Donald J. 2,980,353.
Morin, Louis H. Method of making burr elements of separable fasteners. 2,979,776, 4–18–61, Cl. 18—56.
Morin, Louis H., to Coats & Clark Inc. Wear resistant surface covered separable fasteners. 2,979,796, 4–18–61, Cl. 24—205.1.
Morris, George V., and L. Terek, to Zenith Radio Corp. Subscription television encoding apparatus. 2,980,901, 4–18–61, Cl. 340—365.
Morris, Ronald E.: *See*—
Chamberlin, Reginald H. D., Morris, Davies, and Fletcher. 2,979,892.
Morrison, Louis H.: *See*—
Oliver, Joseph J., and Morrison. 2,980,859.
Morrison Products, Inc.: *See*—
Kardos, Peter. 2,980,780.
Morse, Jerome G., to The Martin Co. Moderator composition. 2,980,590, 4–18–61, Cl. 204—154.2.
Mortenson, Magne. Flotation processes. 2,980,253, 4–18–61, Cl. 209—160.
Morton, John S., to Engis Equipment Co. Abrasive compositions. 2,980,524, 4–18–61, Cl. 51—293.
Morway, Arnold J., and J. H. Bartlett, to Esso Research and Engineering Co. Lubricants thickened with metal salts of half esters of substituted dicarboxylic acids. 2,980,615, 4–18–61, Cl. 25—41.
Mosio, Ernest P. Plasticising head. 2,979,772, 4–18–61, Cl. 18—30.
Moss, Jack. Business form assembly. 2,980,446, 4–18–61, Cl. 282—22.
Mosshart, Crockett, G. O. Edgerly, R. B. Eccleston, and A. W. Sear, to United States Rubber Co. Method of making a diaphragm for fluid spring. 2,980,571, 4–18–61, Cl. 154—81.
Motorola, Inc.: *See*—
Goldfus, Samuel M. 2,980,379.
Moulton, Lloyd J., and R. L. Dangler, to Curtiss-Wright Corp. Rotary vane type pump. 2,980,029, 4–18–61, Cl. 103—136.
Movsesian, Edward N., to General Electric Co. Stator construction for turbine engines. 2,980,396, 4–18–61, Cl. 253—78.
Mrvosh, Michael, Jr., to Hagan Chemicals & Controls, Inc. High-speed pneumatic power cylinders. 2,980,070, 4–18–61, Cl. 121—41.
Müller, Alfred H., to Daimler-Benz Aktiengesellschaft. Free-piston-type engine. 2,980,086, 4–18–61, Cl. 123—46.
Müller, Alfred H., to Daimler-Benz Aktiengesellschaft. Combustion chamber for piston-type internal combustion engines. 2,980,094, 4–18–61, Cl. 123—191.
Muller, Georges, and M. Stefanovic, to Les Laboratoires Francais de Chimiotherapie. 20-keto-16a-lower-alkoxymethylated steroids and process for their preparation. 2,980,714, 4–18–61, Cl. 260—397.45.
Muroga, Saburo, to Nippon Telegraph and Telephone Public Corp. Memory system for electric signal. 2,980,893, 4–18–61, Cl. 340—174.
Murphy, Howard J., to United-Carr Fastener Corp. Fastener for securing anchorage in a hole. 2,979,797, 4–18–61, Cl. 24—221.
Murray Corp. of America, The: *See*—
Oles, Joseph F. 2,979,935.
Murray Mfg. Corp.: *See*—
Kobryner, Herman H. 2,980,824.
Murray, William. Boat anchor. 2,980,050, 4–18–61, Cl. 114—208.
Murrin, Thomas J.: *See*—
Ford, James G., Murrin, and Bramble. 2,980,561.
Musser, C. Walton, to United Shoe Machinery Corp. Microlinear actuator. 2,979,964, 4–18–61, Cl. 74—424.8.
Myerholtz, Ralph W., Jr.: *See*—
Twaddle, Warren W., Myerholtz, and Burney. 2,980,061.
N.V. Optische Industrie "De Oude Delft": *See*—
Nieuwenhoven, Hendricus J. C., Monte, and Brech. 2,980,006.
Nabstedt, Elmer J., to The Daven Co. Miniature switch. 2,980,770, 4–18–61, Cl. 200—11.
Nachtrieb, Paul W. Casting fishing reel. 2,980,361, 4–18–61, Cl. 242—84.3.
Naglich, Tom: *See*—
Cole, George W., and Falagrady. 2,980,035.
Naines, Joseph B., Jr., to Research Corp. Function oscillator. 2,980,866, 4–18–61, Cl. 331—135.
Napier, D., & Son Ltd.: *See*—
Chamberlin, Reginald H. D., Morris, Davies, and Fletcher. 2,979,892.
Dennis, Leonard J. 2,979,809.
Gualtieri, Angelo. 2,979,943.
Nash, Floyd M., to Jacuzzi Bros., Inc. Swimming pool filtering and vacuum cleaning system. 2,980,256, 4–18–61, Cl. 210—169.

Nasmith, John I., and W. Kirby, to Vickers-Armstrongs (Engineers) Ltd. Wire stitching or stapling machines and the formation of wire staples. 2,979,722, 4–18–61, Cl. 1—2.
National Lead Co.: *See*—
Moklebust, Olav, and Bjoeraanesset. 2,980,508.
National Research Council: *See*—
Robertson, Ernest O., Stallabrass, and Bailey. 2,980,-590.
National Research Development Corp.: *See*—
Leete, David L. 2,980,838.
National Rubber Machinery Co.: *See*—
Greene, John P. 2,980,351.
National Steel Corp.: *See*—
Strassburger, Julius H. 2,980,416.
Uhleen, Arthur E. 2,979,829.
National Twist Drill & Tool Co.: *See*—
Toney, Lawrence B. 2,979,811.
Neatway Products, Inc.: *See*—
Pinkerton, William S. 2,980,243.
Nelson, Gordon E., to Combustion Engineering, Inc. Logarithmically sweeping pulse oscillator. 2,980,867, 4–18–61, Cl. 331—152.
Nesson, Israel, to M. Zaiger. Arm coupling for windshield wiper arms. 2,980,453, 4–18–61, Cl. 287—53.
Netschert, Frans J.: *See*—
Russell, Fred J., and Netschert. 2,980,463.
Neumann, Gerhard M., to Delbag-Luftfilter G.m.b.H. Filter element for extremely fine dust. 2,980,208, 4–18–61, Cl. 183—71.
Newland, Gordon C., and J. W. Tamblyn, to Eastman Kodak Co. Ultraviolet light protected poly-a-olefin compositions. 2,980,645, 4–18–61, Cl. 260—45.75.
Newman, William, and Sons Ltd.: *See*—
Shead, Herbert C. 2,979,758.
Newport News Shipbuilding and Dry Dock Co.: *See*—
Donaldson, Robert M. 2,979,830.
New York Air Brake Co., The: *See*—
Pachunder, Ralph J. 2,980,026.
Nichols, George B., ¼ to R. F. Schenee. Apparatus for extrusion of plastics. 2,979,768, 4–18–61, Cl. 18—12.
Nicolaus, Bruno J. R.: *See*—
Merian, Ernest, and Nicolaus. 2,980,666.
Nielsen, Morris L., to Monsanto Chemical Co. Nematocide. 2,980,577, 4–18–61, Cl. 167—22.
Nielsen, Olaf, J. V. Viola, deceased, D. J. Viola, executrix, and R. Kent. Tree stand. 2,980,377, 4–18–61, Cl. 248—44.
Nielsen, Robert. Apparatus for planting seedlings. 2,980,041, 4–18–61, Cl. 111—3.
Nieset, Robert T.: *See*—
Gratian, Joseph W. and A. C., Nieset, Bourns, and Crane. 2,980,905.
Nieuwenhoven, Hendricus J. C. M., G. L. A. Monte, and H. J. M. C. Brech, to N.V. Optische Industrie "Du Oude Delft." Automatic processing device for cut photographic films. 2,980,006, 4–18–61, Cl. 95—90.
Nilsson, Einar W., to The McKay Machine Co. Draw buggy. 2,980,238, 4–18–61, Cl. 205—3.
Nindel, John E. Percussion attachments for rotary drills. 2,979,962, 4–18–61, Cl. 74—22.
Nippon Telegraph and Telephone Public Corp.: *See*—
Muroga, Saburo. 2,980,893.
Nixon, Alan C., and H. B. Minor, to Shell Oil Co. Gasoline fuel compositions. 2,980,519, 4–18–61, Cl. 44—69.
Nixon, Frank: *See*—
Pope, Joseph A., and Nixon. 2,979,941.
Noddin, George A., to E. I. du Pont de Nemours and Co. Electric initiator. 2,980,019, 4–18–61, Cl. 102—28.
Noll Mfg. Co.: *See*—
Akehurst, Kenneth S. 2,980,008.
Nolter, George L., to Westinghouse Electric Corp. Battery contact assembly. 2,980,753, 4–18–61, Cl. 136—173.
Norden, Carl J., Jr., and C. W. Gray, to Norden Laboratories, Inc. Method of producing swine erysipelas vaccine. 2,980,-586, 4–18–61, Cl. 167—78.
Norden Laboratories, Inc.: *See*—
Norden, Carl J., Jr., and Gray. 2,980,586.
Nordin, Robert W., to Teletype Corp. Motor control. 2,980,-759, 4–18–61, Cl. 178—4.1.
Norgaard, Donald E., to General Electric Co. Cathode ray apparatus. 2,980,904, 4–18–61, Cl. 343—11.
North American Aviation, Inc.: *See*—
Kerber, Stanley M., Randall, and Zemke. 2,980,911.
Studhalter, Walter R., Miller, and Bergreen. 2,979,897.
Triman, Eugene L. 2,979,843.
North American Philips Co., Inc.: *See*—
Ten Ham, Evert J., and Kring. 2,980,587.
North, John W., to Glasrock Products, Inc. Molds and methods of forming. 2,979,791, 4–18–61, Cl. 22—193.
Norton Chemical Co.: *See*—
Kimura, Shuji, and Stich. 2,980,536.
Norton, Douglas E.: *See*—
Norton, Henry, H. V., L. B., and E. E. 2,980,064.
Norton, Henry, H. V., L. B., and D. E., to Norton Tool Co. Ltd. Control units for hydraulic rams. 2,980,064, 4–18–61, Cl. 121—38.
Norton, Hubert V.: *See*—
Norton, Henry, H. V., L. B., and D. E. 2,980,064.
Norton, Leslie B.: *See*—
Norton, Henry, H. V., L. B., and D. E. 2,980,064.
Norton Tool Co. Ltd.: *See*—
Norton, Henry, H. V., L. B., and D. E. 2,980,064.
Norwich Pharmacal Co., The: *See*—
Gever, Gabriel. 2,980,704.
Nulton, John H., Jr., and J. R. Shoaf, II, to Radio Corp. of America. Balance indicator for stereophonic sound systems. 2,980,766, 4–18–61, Cl. 179—1.
Nusbaum, Daniel D., to L. D. Schreiber & Co., Inc. Cheese treatment. 2,980,542, 4–18–61, Cl. 99—178.
Nys, Jean M., and T. H. Ghys, to Gevaert Photo-Producten N.V. Monomethine cyanine dyes and method for preparing them. 2,980,671, 4–18–61, Cl. 260—240.7.
Oak Mfg. Co.: *See*—
Fichter, Ludwig J. 2,979,969.
Howell, Hugh A., and Jedd. 2,980,777.
Oberlander, Georg: *See*—
Homola, Friedrich, Oberlander, and Elwert. 2,979,887.
Odell, Norman R.: *See*—
Knowles, Edwin C., Odell, and Lyons. 2,980,616.
Ohle, Norbert, to Firma Gustav Zimmermann Maschinenfabrik G.m.b.H. Control device for influencing the rocking movement of machine parts in foundry machines. 2,980,062, 4–18–61, Cl. 121—38.
Ohlenburger, Norman: *See*—
Jones, Clyde R., Steckelmeyer, Priest, Schoening, Ohlenburger, and Gittinger. 2,979,919.
O'Leary, Paul C., to Machinery Center, Inc. Support for rock drill. 2,980,372, 4–18–61, Cl. 248—2.
Oles, Joseph F., to The Murray Corp. of America. Centerpost dispenser. 2,979,935, 4–18–61, Cl. 68—207.
Olin Mathieson Chemical Corp.: *See*—
Andrew, Eugene A. 2,979,764.
Andrew, Eugene A. 2,979,769.
Carr, Ralph L., and Dulany. 2,980,501.
Perkins, Harold E., Jr., and Hastings. 2,979,896.
Periman, David. 2,980,591.
Pfaff, Elmer F., and Henning. 2,979,724.
Rätz, Rudi F. W., and Grundmann. 2,980,495.
Schur, Milton O. 2,980,116.
Thomas, Robert M. 2,980,736.
Oliver, Joseph J., and L. H. Morrison, to Raytheon Co. Electrical circuits for pulse generation. 2,980,859, 4–18–61, Cl. 328—258.
Omikron-gagliardi Societa di Fatto: *See*—
Pala, Gianfranco. 2,980,679.
O'Neil, William T.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.
O'Neill, Harry T., to The Continental Elastic Corp. High speed loom. 2,980,146, 4–18–61, Cl. 139—124.
Opocensky, Willard J., to General Precision Inc. Mechanical counter having a positive shaft lock. 2,980,327, 4–18–61, Cl. 235—130.
Orenda Engines Ltd.: *See*—
Booth, Peter H. 2,979,808.
Ort, Donald L., to Litton Systems, Inc. Corrected diode. 2,980,806, 4–18–61, Cl. 307—88.5.
Ortho Pharmaceutical Corp.: *See*—
Karmas, George. 2,980,688.
Osborn Mfg. Co., The: *See*—
Benyak, John B. 2,979,749.
Brauer, Edwin H., Jr. 2,979,747.
Osborne, Allan G., to E. I. du Pont de Nemours and Co. Composition and process for whitening fibers. 2,980,623, 4–18–61, Cl. 252—117.
Oster Mfg. Co., The: *See*—
Hoffman, Max. 2,980,434.
Otermat, Don E.: *See*—
Gans, Frederick M., Jr., and Otermat. 2,980,277.
Ottestad, Jack B., to General Dynamics Corp. Actuator. 2,979,938, 4–18–61, Cl. 73—12.
Ottestad, Jack B., to General Dynamics Corp. Deceleration carriage apparatus. 2,980,071, 4–18–61, Cl. 121—46.
Overhead Door Corp.: *See*—
Stroup, Earl L. 2,980,182.
Overly Mfg. Co.: *See*—
Critchfield, Clarence R. 2,979,785.
Ovshinsky, Stanford R., to Tann Corp. Electric control device. 2,980,776, 4–18–61, Cl. 200—87.
Owens-Illinois Glass Co.: *See*—
Gasmire, Richard C. 2,979,801.
Ringel, Walter J., and Wheaton. 2,979,874.
Rough, Robert B. 2,979,865.
PGAC Development Co.: *See*—
Castel, Jacques H. 2,980,017.
Pacific Pulp Molding Co.: *See*—
Pick, Charles O. 2,980,289.
Page, Reuben F., ½ to J. A. Loberger. Handle for squeegees, brushes, and other implements. 2,980,457, 4–18–61, Cl. 287—86.
Paige, Richard E., to Container Corp. of America. Carrier for containers. 2,980,249, 4–18–61, Cl. 206—65.
Pala, Gianfranco, to Omikron-gagliardi Societa di Fatto. Process for preparing heterocyclic sulfonamides. 2,980,-679, 4–18–61, Cl. 260—256.5.
Pankove, Jacques I., to Radio Corp. of America. Methods of making semi-conductor devices. 2,980,594, 4–18–61, Cl. 204—32.
Papas, Louis A. Shadow box. 2,980,309, 4–18–61, Cl. 229—34.
Pappas, Alexander J.: *See*—
Strong, Edward W., Pappas, Losey, and Clewlow. 2,980,186.
Parallel Products Co.: *See*—
Meyer, Leonard S. 2,980,158.
Parke, Davis & Co.: *See*—
Cavalla, John F. 2,980,693.
Short, Franklin W., and Eislager. 2,980,681.
Parker, John A.: *See*—
Bushnell, Collins E., and Parker. 2,980,642.
Parkhurst, Robert D. Skipping device. 2,980,423, 4–18–61, Cl. 272—74.
Paromel Electronics Corp.: *See*—
Miller, Jack M. 2,979,986.
Parry, Frank, to The Singer Mfg. Co. Loose stitching mechanisms for single needle lock stitch machines. 2,980,044, 4–18–61, Cl. 112—154.
Parsons, George B., to Skydyne, Inc. Case construction. 2,980,285, 4–18–61, Cl. 220—84.

Paton, Sidney F. Device for maintaining quality of lubricating oil. 2,980,257, 4–18–61, Cl. 210—223.

Patrick, Malcolm W., and W. M. Day, to Hupp Corp. Radiant heaters. 2,980,104, 4–18–61, Cl. 126—271.2.

Pavlovic, Dusan, and K. Foster, to Westinghouse Electric Corp. Low remanence high aluminum-iron. 2,980,563 4–18–61, Cl. 148—121.

Payne, Elmer C., to Sylvania Electric Products Inc. Electroluminescent lamp. 2,980,816, 4–18–61, Cl. 313—108.

Payne, George B., to Shell Oil Co. Epoxy esters and preparation thereof. 2,980,706, 4–18–61, Cl. 260—348.

Payne, George B., to Shell Oil Co. Epoxy nitrile process. 2,980,708, 4–18–61, Cl. 260—348.

Peaks, William O. Apparatus for semifreezing beverages. 2,979,920, 4–18–61, Cl. 62—342.

Peaslee, Lawrence R., to General Electric Co. Automatic control system. 2,980,844, 4–18–61, Cl. 322—28.

Pence, Roscoe O. Overload support for vehicles. 2,980,417, 4–18–61, Cl. 267—33.

Penick, S. B., and Co.: *See*—
Smith, Eric, and Hosansky. 2,980,699.

Pennell, John D., Jr.: *See*—
Malley, Thomas J., Schindler, Pennell, and Innes. 2,980,632.

Perkey, Russell C., to The Bendix Corp. Starting control for gas turbine engines. 2,980,173, 4–18–61, Cl. 158—36.3.

Perkins, Carl C., Jr.: *See*—
Stephens, Frederick N., Perkins, and Love. 2,979,765.

Perkins, Harold E., Jr., and D. W. Hankins, to Olin Mathieson Chemical Corp. Power unit. 2,979,896, 4–18–61, Cl. 60—39.47.

Perlman, David, to Olin Mathieson Chemical Corp. Preparation of cobalamins. 2,980,591, 4–18–61, Cl. 195—65.

Perry, Joseph A., Jr., and W. M. Haselton, to Cherry-Burrell Corp. Compression bracket. 2,980,414, 4–18–61, Cl. 177—211.

Perry, William M., to General Aniline & Film Corp. Copolymers of N-vinylpyrrolidones with dialkyl maleates or fumarates. 2,980,654, 4–18–61, Cl. 260—78.5.

Peters, Freimut, to Accumulatoren-Fabrik A.G. Counter-electromotive-force cell. 2,980,745, 4–18–61, Cl. 136—1.

Peters & Russell, Inc.: *See*—
Russell, Linus E. 2,980,031.

Petersen, Arnold C.: *See*—
Baudhuin, George J., and Petersen. 2,980,193.

Petersen, Clifford W., to McGraw-Edison Co. Brace assembly. 2,980,214, 4–18–61, Cl. 189—33.

Petersen, Otto, to Farbenfabriken Bayer Aktiengesellschaft. Continuously working plant colorimeter. 2,980,512, 4–18–61, Cl. 23—253.

Petry, Robert K., to Congoleum-Nairn Inc. Resilient surface covering and process therefor. 2,980,575, 4–18–61, Cl. 154—138.

Pfaff, Elmer F., and R. W. Henning, to Olin Mathieson Chemical Corp. Tool shield. 2,979,724, 4–18–61, Cl. 1—44.5.

Pfizer, Chas., & Co., Inc.: *See*—
Berg, Rudolph G., and Laubach. 2,980,670.
Buck, Carl J., and Bloom. 2,980,728.
Hammer, Henry F. 2,980,584.

Philco Corp.: *See*—
Hubbard, James R., and Horecky. 2,979,931.
Lasser, Marvin E. 2,980,763.
Lawson, Basil V. 2,980,829.
Vasilevskis, Henry S. 2,980,814.

Philips, Frederick J.: *See*—
Segal, Leon, Loeb, Takemura, and Philips. 2,980,491.

Phillips Petroleum Co.: *See*—
Adelman, Barnet R. 2,980,021.
Broerman, Arthur B. 2,980,126.
Jones, Rufus V., and Canterino. 2,980,656.
Wilson, Joseph F. 2,980,526.
Witt, Donald R. 2,980,659.

Photoceramics, Inc.: *See*—
Charlton, Alexander E. 2,980,533.

Picha, George J.: *See*—
Winkler, Frederic C., and Picha. 2,980,880.

Pick, Charles O., to Pacific Pulp Molding Co. Molded pulp tray dispenser. 2,980,289, 4–18–61, Cl. 221—279.

Pickles, Joseph, to Ferro Stamping Co. Adjustable seat support mechanism. 2,980,163, 4–18–61, Cl. 155—14.

Pierre, Gerald J. Sheet holder. 2,979,737, 4–18–61, Cl. 5—320.

Pifer, Marion J., to Sylvania Electric Products Inc. Cabinet structure. 2,980,484, 4–18–61, Cl. 312—319.

Pillsbury Co., The: *See*—
Turpin, Charles H. 2,980,540.

Pinkerton, William S., to Neatway Products, Inc. Plastic display basket for tomatoes and the like with integral interconnecting means. 2,980,243, 4–18–61, Cl. 206—45.33.

Pinotti, Alfred D., to Kimble Glass Co. Apparatus and method for producing glass tubing. 2,979,864, 4–18–61, Cl. 49—17.1.

Piper, Jack R.: *See*—
Main, Leo E., Piper, and Smith. 2,979,947.

Pircon, Ladislav J., to Central Farmers Fertiliser Co. Temperature sensing apparatus. 2,979,951, 4–18–61, Cl. 73—351.

Piroux, Jean. Sealed alkaline accumulator. 2,980,748, 4–18–61, Cl. 136—29.

Pisarra, Francis J. Device for indicating rhythmic cycle. 2,980,325, 4–18–61, Cl. 235—86.

Pittsburgh Plate Glass Co.: *See*—
Atkinson, George H. 2,980,644.

Plampin, James N., to McNeil Laboratories, Inc. 2-amino-5-chloro-6-bromobenzoxazole and pharmaceutically acceptable salts. 2,980,689, 4–18–61, Cl. 260—307.

Plax Corp.: *See*—
Armour, Donald F. 2,980,342.

Plessner, Karl W., and R. West, to British Dielectric Research Ltd. Ceramic dielectric materials. 2,980,546, 4–18–61, Cl. 106—39.

Ploss, Hermann: *See*—
Kopp, Wilhelm, and Ploss. 2,980,000.

Pneumatil Corp.: *See*—
Harris, Charles R. 2,979,754.

Pneumatic Scale Corp., Ltd.: *See*—
Howard, Stanley R. 2,980,251.

Pollard, Harry, and C. S. Yingst, to The Heald Machine Co. Grinding machine. 2,979,870, 4–18–61, Cl. 51—215.

Polovina, Walter, to General Electric Co. Aluminum-containing non-leafing alkyd resin protective coating. 2,980,638, 4–18–61, Cl. 260—22.

Poly-Seal Corp., The:
Robineau, Doria N. 2,980,276.

Pompis, Joe: *See*—
Cole, George W., and Falagrady. 2,980,035.

Ponting, James D., to United States of America, Agriculture. Attractants for fruit flies. 2,979,856, 4–18–61, Cl. 43—132.

Pope, Joseph A., and F. Nixon, said Nixon assor. to Rolls-Royce Ltd. Apparatus for testing or stretching rotor discs or the like. 2,979,941, 4–18–61, Cl. 73—92.

Pope, Joseph A., ½ to Rolls-Royce Ltd. Variable-delivery positive displacement pump. 2,980,024, 4–18–61, Cl. 103—37.

Popowsky, William J., to Minneapolis-Honeywell Regulator Co. Switching systems. 2,980,861, 4–18–61, Cl. 330—10.

Porsche, Ferdinand. Air-cooled internal combustion engine. 2,980,194, 4–18–61, Cl. 180—54.

Porter, Clemmon: *See*—
Gentile, Anthony J., and Porter. 2,980,554.

Postel, Edward E.: *See*—
Johnston, J. Ford, and Postel. 2,980,367.

Potas, Anthony E.: *See*—
Liliand, Philip P., and Potas. 2,980,605.

Poteet, Dallas A. Fishing tool. 2,980,484, 4–18–61, Cl. 294—86.

Potter, David M.: *See*—
Lindemann, Robert E. 2,980,894.

Potter, Ralph A., to Union Oil Co. of California. Water-resistant non-soap greases. 2,980,612, 4–18–61, Cl. 252—28.

Prentice, Russel E., to Hycon Mfg. Co. Camera shutter mechanism. 2,980,004, 4–18–61, Cl. 95—63.

Price, Earl R., to The Bendix Corp. Double barrel master cylinder and actuating mechanism. 2,979,907, 4–18–61, Cl. 60—54.6.

Price, James H. Cylinder generating machine and method of generation. 2,979,798, 4–18–61, Cl. 25—1.

Priest, George E., Jr.: *See*—
Jones, Clyde R., Steckelmeyer, Priest, Schoening, Ohlenburger, and Gittinger. 2,979,919.

Prijatel, Edward A., and H. H. Campbell, to Borg-Warner Corp. Safety relief valve. 2,980,132, 4–18–61, Cl. 137—469.

Printy, John O., and E. W. Wagner, to Monsanto Chemical Co. Photographic compositions and photographic elements. 2,980,534, 4–18–61, Cl. 96—35.

Pritchard, Dalton H., and A. C. Schroeder, to Radio Corp. of America. Color television receiver matrix. 2,980,761, 4–18–61, Cl. 178—5.4.

Probst, Gerald W., to Eli Lilly and Co. Process of gibberellic acid purification. 2,980,700, 4–18–61, Cl. 260—343.3.

Procter & Gamble Co., The: *See*—
Miller, James S. 2,980,242.

Pruett, Roy L.: *See*—
Jenkins, Arthur C., Malik, and Pruett. 2,980,494.

Pschunder, Ralph J., to The New York Air Brake Co. Variable displacement pump. 2,980,026, 4–18–61, Cl. 103—42.

Puccinelli, Sylvio, to Food Machinery and Chemical Corp. Apparatus for handling fruit. 2,980,233, 4–18–61, Cl. 198—33.

Pulsnation Enterprises, Inc.: *See*—
Scott, David J. 2,980,108.

Pure Oil Co., The: *See*—
Pierce, William L., and Sandner. 2,980,725.
Martinek, Thomas W., Fronczak, and Remes. 2,980,611.

Purifoy, George R., to Westinghouse Electric Corp. Traction-motor acceleration and dynamic-braking control. 2,980,036, 4–18–61, Cl. 105—61.

Pyles, Harley G., to Galis Electric & Machine Co. Shock absorbing mount. 2,980,873, 4–18–61, Cl. 248—15.

Quaker Oats Co.: *See*—
Dunlop, Andrew P., and Eftax. 2,980,703.

Quinn, James L., to Bemis Bro. Bag Co. Bag. 2,980,313, 4–18–61, Cl. 229—63.

R-N Corp.: *See*—
Moklebust, Olav. 2,980,346.

Rabb, Martin: *See*—
Dunn, William J., Ankenbrock, and Rabb. 2,980,821.

Rabin, Richard, to Sperry Rand Corp., Ford Instrument Co. Division. Synchro encoder. 2,980,900, 4–18–61, Cl. 340—347.

Rabson, Edward J., to Hardy Spicer Ltd. Change-speed gears. 2,980,209. 4–18–61. Cl. 184—11.

Radio Corp. of America: *See*—
Crane, Hewitt D. 2,980,892.
Ecker, Mario E. 2,980,815.
Larky, Norbert D., and Cuccia. 2,980,760.
Nuiton, John H., Jr., and Shoaf. 2,980,766.
Pankove, Jacques I. 2,980,594.
Pritchard, Dalton H., and Schroeder. 2,980,761.
Sonnenfeldt, Richard W. 2,980,762.
Steele, Martin C. 2,980,808.
Weiser, Kurt. 2,980,560.

Radzyner, Samuel M. Memorandum device. 2,980,444, 4–18–61, Cl. 281—11.

Raffaeta, Renato. Continuous purification and decolorizing of oils. 2,980,717, 4–18–61, Cl. 260—428.

Raits, Edward J.: *See*—
Mason, Roger H., and Raits. 2,980,698.

Ralls, Jack W., to California Research Corp. Polymerisation of olefins. 2,980,660, 4–18–61, Cl. 260—93.5.

Ramirez, Miguel A., Sr. Machine for processing dough products. 2,980,012, 4–18–61, Cl. 99—353.

Ranchers Cotton Oil: *See*—
Cavanagh, George C., and Bean. 2,980,718.

Ranco Inc.: *See*—
Hickle, Clyde S., and Hover. 2,980,779.

Randall, David I., J. Taras, and T. A. Martin, to General Aniline & Film Corp. Preparation of grey to black dyestuffs. 2,980,709, 4–18–61, Cl. 260—354.

Randall, Grant M.: *See*—
Kerber, Stanley M., Randall, and Zemke. 2,980,911.

Raney, William E., and M. J. Siebert. Fish tape leader. 2,980,398, 4–18–61, Cl. 254—134.3.

Rasmussen, William B., ¼ to Alvin G. Ash. Metering liquid dispenser. 2,980,302, 4–18–61, Cl. 222—453.

Ratz, Rudi F. W., and C. J. Grundmann, to Olin Mathieson Chemical Corp. Method of preparing polymeric phosphonitrilic fluoride. 2,980,495, 4–18–61, Cl. 23—14.

Rausch, Curtis D., to Savage Industries, Inc. Voltage controlled oscillator. 2,980,864, 4–18–61, Cl. 331—109.

Raymond, David L., and H. H. Hoover, to The Cleveland Trencher Co. Excavating machine. 2,979,838, 4–18–61, Cl. 37—97.

Raymond, Francois H., to Societe d'Electronique et d'Automatisme. Binary coded information processing devices. 2,980,804, 4–18–61, Cl. 307—88.

Raytheon Co.: *See*—
Guterman, Sadia S. 2,980,803.
Oliver(Joseph J., and Morrison. 2,980,859.

Rebstock, Fred R., to Lever Brothers Co. Toothbrush vial. 2,980,119, 4–18–61, Cl. 132—84.

Red Jacket Mfg. Co.: *See*—
Shuh, Lewis M. 2,979,939.

Rediger, Alvin L., to General Electric Co. Apparatus and method for forming winding end turns of a dynamoelectric machine. 2,980,157, 4–18–61, Cl. 153—54.

Reed, Calvin L.: *See*—
Saint, David, and Reed. 2,979,734.

Reed, Davis W., to Shell Oil Co. Method and apparatus for producing wells. 2,980,184, 4–18–61, Cl. 166—57.

Reed, Lester J., to Research Corp. Method for preparing 6,8-dihalo-octanoic esters. 2,980,716, 4–18–61, Cl. 260—408.

Reese, Cecil E.: *See*—
Jamieson, William H., and Reese. 2,980,492.

Reese, Floyd B. Circular arrow quiver. 2,980,305, 4–18–61, Cl. 224—1.

Reetz, James E. Water closet. 2,979,731, 4–18–61, Cl. 4—13.

Reflectotherm, Inc.: *See*—
Mills, Clarence A. 2,980,544.

Reich, Gunter, to E. Leybold's Nachfolger. Vacuum device. 2,980,317, 4–18–61, Cl. 230—69.

Reider, Malcolm J., to Geo. W. Bollman & Co., Inc. Apparatus for providing long, soft vegetable fibers. 2,979,781, 4–18–61, Cl. 19—7.

Reilly, Thomas A., and W. M. McNeill, to Union Carbide Corp. Cell exhaustion indicator. 2,980,754, 4–18–61, Cl. 136—182.

Reiners, Walter: *See*—
Beckers, Hans. 2,980,250.

Reinhart, Harold C., and W. H. Holsboog. Thermostatic gas valve control. 2,980,386, 4–18–61, Cl. 251—96.

Remes, Nathaniel L.: *See*—
Martinek, Thomas W., Fronczak, and Remes. 2,980,611.

Renner, Hermann, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Apparatus for fractionated partition and separation of dissolved substances between two liquid phases. 2,980,514, 4–18–61, Cl. 23—270.5.

Rentschler, Waldemar T., to Alfred Gauthier, G.m.b.H. Photographic camera with coupled exposure meter. 2,979,998, 4–18–61, Cl. 95—10.

Rentschler, Waldemar T., to Alfred Gauthier, G.m.b.H. Photographic camera. 2,980,005, 4–18–61, Cl. 95—64.

Rentschler, Waldemar T., to Alfred Gauthier, G.m.b.H. Photographic intra-lens shutter with a delayed action device and contact arrangement for flash release. 2,979,999, 4–18–61, Cl. 95—11.5.

Research Corp.: *See*—
Naines, Joseph B., Jr. 2,980,866.
Reed, Lester J. 2,980,716.

Reumerman, Theodorus, and W. H. T. Helmig. Translation of symbols into electric signals. 2,980,801, 4–18–61, Cl. 250—106.

Reynolds, Joe C. and W. M. Reel mower with mulching means. 2,979,879, 4–18–61, Cl. 56—26.

Reynolds Metals Co.: *See*—
De Ridder, Ernst J. 2,979,842.

Reynolds, William M.: *See*—
Reynolds, Joe C. and W. M. 2,979,879.

Reyrolle, A., & Co. Ltd.: *See*—
Legg, Duncan, and Young. 2,980,781.

Richards, Guy, to Formwork Patents Ltd. Constructional metalwork. 2,980,216, 4–18–61, Cl. 189—37.

Richards, Lorenzo A.: *See*—
Hunter, Edwin J., and Richards. 2,980,385.

Richardson, John C.: *See*—
Andersen, Carl P., Richardson, and First. 2,980,404.

Richardson, Leonard E., to DAP, Inc. Window blocks. 2,979,788, 4–18–61, Cl. 20—56.4

Richer, Irving. Hanger lock for garment shipping containers. 2,980,240 4–18–61, Cl. 211—124.

Richter, Sidney B., and H. J. Wahlborg, to Velsicol Chemical Corp. Acylimino-2,2,4,4,5-pentachlorocyclo pentanones as nematecides and fungicides. 2,980,579, 4–18–61, Cl. 167—30.

Richter, Walter H. General merchandise self-service store. 2,980,211, 4–18–61, Cl. 186—1.

Rick, Forest O., Jr.: *See*—
Detweiler, James L., Rick, and Thompson. 2,980,186.

Rigby, Donald L.: *See*—
Bracey, Ronald J., and Rigby. 2,980,802.

Riker Laboratories, Inc.: *See*—
De Gorter, Benjamin. 2,980,301.

Ringel, Walter J., and J. M. Wheaton, to Owens-Illinois Glass Co. Container closing apparatus. 2,979,874, 4–18–61, Cl. 53—317.

Ringelman, John F., to Westinghouse Electric Corp. Impedance controlled magnetic amplifier. 2,980,846, 4–18–61, Cl. 323—89.

Robbins, William K. Chain link having two-piece spacing stud. 2,979,886, 4–18–61, Cl. 59—85.

Robertson, Ernest O., J. R. Stallabrass, and D. L. Bailey, to National Research Council. Icing detectors. 2,980,896, 4–18–61, Cl. 340—234.

Robineau, Doria N., to The Poly-Seal Corp. Bottle closure. 2,980,276, 4–18–61, Cl. 215—56.

Robinson, Richard A., to G. D. Searle & Co. 9-(N-substituted-ω-aminoalkyl)-pyrid [3,4-b] indoles and intermediate. 2,980,686, 4–18–61, Cl. 260—296.

Rocchini, Albert G., and C. E. Trautman, to Gulf Research & Development Co. Residual fuels. 2,979,890, 4–18–61, Cl. 60—35.6.

Rogers, Francis R., to The Bendix Corp. Fuel control for gas turbine engine. 2,980,174, 4–18–61, Cl. 158—36.3.

Rohde, Robert L., and J. A. Benkovich, to Burgess Vibrocrafters, Inc. Electric can opener. 2,979,815, 4–18–61, Cl. 30—4.

Rohm & Haas Co.: *See*—
Melamed, Sidney. 2,980,634.
Melamed, Sidney. 2,980,657.
Melamed, Sidney, and Souder. 2,980,652.

Rohr, Wilhelm H.: *See*—
Bruderlein, Ernst J., and Rohr. 2,980,254.

Rolfs, John C., to General Precision, Inc. Microwave switch. 2,980,869, 4–18–61, Cl. 333—7.

Rolls-Royce Ltd.: *See*—
Keen, John M. S. 2,980,199.
Pope, Joseph A. 2,980,024.
Pope, Joseph A., and Nixon. 2,979,941.
Rubbra, Arthur A., and Jones. 2,980,395.

Romand, Jacques L., and B. Vodar, to Centre National de la Recherche Scientifique. Spectrum analysis apparatus. 2,980,798, 4–18–61, Cl. 250—83.3.

Rosback, Richard H., to The Bendix Corp. Detent mechanism. 2,980,455, 4–18–61, Cl. 287—58.

Rosen, Edgar R., to General Electric Co. Shutter for pinhole detectors. 2,979,984, 4–18–61, Cl. 88—14.

Rosen, Stanley: *See*—
Swick, Joseph S., and Rosen. 2,980,013.

Ross, James F., B. R. Teare, and L. C. Kenyon, Jr., to Esso Research and Engineering Co. Process for the purification of 2,4-diketone chelating agent-contaminated polymerization hydrocarbon diluents. 2,980,742, 4–18–61, Cl. 260—674.

Ross, Robert H. Molded base unit for furniture. 2,980,168, 4–18–61, Cl. 155—181.

Rossi, Alberto: *See*—
Hoffmann, Karl, Hunger, Kebrle, and Rossi. 2,980,690.

Rossmy, Gerd, to Th. Goldschmidt A.G. Process for preparing zirconium oxide. 2,980,507, 4–18–61, Cl. 23—140.

Rothgery, Harold F., to Mohawk Sporting Equipment Co. Arrow support. 2,980,097, 4–18–61, Cl. 124—41.

Rough, Robert R., to Owens-Illinois Glass Co. Method of producing color-controlled vitreous materials. 2,979,865, 4–18–61, Cl. 49—77.

Rouverol, William S. Variable speed transmission. 2,979,970, 4–18–61, Cl. 74—79.6.

Rowbottom, Jack: *See*—
Baker, Melvin C., Bissot, and Rowbottom. 2,980,630.

Rowlett, Beb H., and A. Silver, to The Garrett Corp. Temperature responsive variable means for controlling flow in turbomachines. 2,980,394, 4–18–61, Cl. 253—52.

Royal McBee Corp.: *See*—
Lapointe, Lloyd J. 2,980,320.

Royer, Arthur G., and S. S. Watts, to Harris-Intertype Corp. Pile elevating mechanism. 2,980,422, 4–18–61, Cl. 271—69.

Royer, John A., W. S. Kimbro, and H. D. Jacobr, to Buckner Mfg. Co., Inc. Rotary sprinkler swivel with thrust bearing assembly. 2,980,341, 4–18–61, Cl. 239—261.

Royer, Richard N.: *See*—
Grondin, George F., and Royer. 2,980,858.

Royer, Thurber W., to Aerojet-General Corp. Booster device for operating well tools. 2,979,904, 4–18–61, Cl. 60—54.5.

Royer, Wayne H., to Capitol Products Corp. Level loader and unloader for baking oven. 2,980,038, 4–18–61, Cl. 107—57.

Rubbra, Arthur A., and R. Jones, to Rolls-Royce Ltd. Rotor with pivoted blades for compressors and turbines. 2,980,395, 4–18–61, Cl. 253—77.

Rue, Howard M., to Sun Oil Co. Sulfur-containing lubricant inhibited against staining. 2,980,613, 4–18–61, Cl. 252—34.7.

Ruehrewein, Robert A., to Monsanto Chemical Co. Process for treating water. 2,980,610, 4–18–61, Cl. 210—58.

Rule, Joseph M.: *See*—
Dempey, Donald F., and Rule. 2,980,558.

Ruof, Edgar J., to The Goodyear Tire & Rubber Co. Anti-skid system electric circuit. 2980,360, 4–18–61, Cl. 244—111.

Rusignolo, Vincenzo, to Montecatini Societa General per l'Industria Mineraria e Chimica. Method for obtaining shaped thermoplastic articles having improved mechanical properties 2,979,774, 4–18–61, Cl. 18—48.

Russell, Fred J. Method of forming cylinder lock housing of strip material. 2,979,812, 4–18–61, Cl. 29—463.

Russell, Fred J. Sliding door latch with dead lock. 2,980,458, 4–18–61, Cl. 292—113.

Russell, Fred J., and F. J. Netschert, said Netschert assor.: to said Russell. Tilting latch face. 2,980,463, 4–18–61, Cl. 292—337.

Russell, Linus E., to Peters & Russell, Inc. Pump. 2,980,031, 4–18–61, Cl. 103—150.

Ryan Aeronautical Co.: *See*—
Kline, Joseph D., and Holcomb. 2,980,853.

Ryan Aeronautical Co., The: *See*—
Finnery, Rex G. 2,980,371.

Ryon, William H.: *See*—
McGregor, Clifton P., and Ryon. 2,980,046.

S. & F. Mfg. Co., Inc.: *See*—
Fowlds, Clinton H. 2,980,259.

Sabath, Martin C.: *See*—
Scribner, Kenneth R., and Sabath. 2,980,103.

Sacco, James: *See*—
Sacco, Victor. 2,980,294.
Sacco, Victor. 2,980,295.

Sacco, Victor, ½ to J. Sacco. Liquid-delivering -and-metering apparatus and method. 2,980,294, 4–18–61, Cl. 222—66.

Sacco, Victor, ½ to J. Sacco. Liquid-pumping apparatus and method. 2,980,295, 4–18–61, Cl. 222—66.

Sackner Products, Inc.: *See*—
Cook, Wayne S., and Hormuth. 2,980,570.

Safeway Stores, Inc.: *See*—
Goldwater, Robert, and Calhoun. 2,980,758.

Saint, David, and C. L. Reed, to Graco Metal Products, Inc. Motor driven cradles and the like. 2,979,734, 4–18–61, Cl. 5—109.

Saint Clair, Maurice W., and R. S. Spencer, Swimming pool cleaning method and apparatus. 2,979,733, 4–18–61, Cl. 4—172.

Salmon, Benjamin, and J. H. Bertin, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Flame spreading device for combustion equipments. 2,979,899, 4–18–61, Cl. 60—39.72.

Salmon, Clarence P., to Flexonics Corp. Pressure-insensitive automotive thermostat valve. 2,980,335, 4–18–61, Cl. 236—34.

Sampietro, Achilles C., to Thompson Ramo Wooldridge Inc. Vapor compression apparatus. 2,979,921, 4–18–61, Cl. 62—428.

Sampietro, Achilles C., to Thompson Ramo Wooldridge Inc. Valve operating means and control. 2,980,089, 4–18–61, Cl. 123—90.

Sampson Motors, Inc.: *See*—
Brett, Riley J. 2,980,435.

Sanders, Deonard J. Amphibious vehicle. 2,980,054, 4–18–61, Cl. 115—1.

Sanders, Milton, and H. S. Halpern, to American Machine & Foundry Co. Automatic pin spotter control mechanism. 2,980,424, 4–18–61, Cl. 273—43.

Sandner, Walter J.: *See*—
Fierce, William L., and Sandner. 2,980,725.

Sandos Ltd.: *See*—
Merian, Ernest, and Nicolaus. 2,980,606.

Sandvikens Jernverks Aktiebolag: *See*—
Hedström, Fritz U. 2,979,993.

Sanford, Roy S.: *See*—
Eames, James O. 2,980,220.

Sanicky, Marilyn K., to Incar, Inc. Bright nickel plating. 2,980,395, 4–18–61, Cl. 204—49.

Sappey, Harold and M., L. E. Brinn, executor of said H. Sappey, to M. Sappey. Nursing nipples. 2,980,113, 4–18–61, Cl. 128—252.

Sappey, Mary: *See*—
Sappey, Harold and M. 2,980,113.

Sassmann, Arthur E. Soil turning device for plows. 2,980,191, 4–18–61, Cl. 172—164.

Sauer, Edgar, and H. Eberts, to Zeiss Ikon A.G. Single objective mirror reflex cameras. 2,980,001, 4–18–61, Cl. 95—42.

Sauers, Carol K., and R. J. Cotter, to Union Carbide Corp. Process for the preparation of maleimides. 2,980,694, 4–18–61, Cl. 260—326.5.

Sauers, Carol K., and R. J. Cotter, to Union Carbide Corp. Process for the preparation of isomaleimides. 2,980,701, 4–18–61, Cl. 260—343.6.

Savage Industries, Inc.: *See*—
Rausch, Curtis D. 2,980,864.

Schaefer, Hans F., Jr., and R. K. Jenner, Jr., to United Shoe Machinery Corp. Work feeding and guiding means. 2,979,745, 4–18–61, Cl. 12—55.

Scheidig, Rudolf: *See*—
Steinbach, Heins, and Scheidig. 2,980,891.

Schein, Henry, to Imperial Electronics, Inc. Vibratory passive exerciser. 2,980,109, 4–18–61, Cl. 128—63.

Scheller, Wilfred R., to AMP Inc. Plug contactor. 2,980,883, 4–18–61, Cl. 339—252.

Schenee, Robert F.: *See*—
Nichols, George B. 2,979,768.

Schenker, Karl: *See*—
Druey, Jean, Isler, and Schenker. 2,980,685.

Schindler, Harvey D.: *See*—
Malley, Thomas J., Schindler, Pennell, and Innes. 2,980,632.

Schinke, James W., and A. Feiske; said Feiske assor. to said Schinke. Fish hook structure. 2,979,852, 4–18–61, Cl. 43—43.16.

Schlos, Arthur H., and N. O. Steele, to E. W. Bliss Co. Knuckle joint press. 2,979,975, 4–18–61, Cl. 78—41.

Schlumberger, Francois, to Compagnie de Construction de Gros Materiel Electro-Mecanique. Gas scrubber. 2,980,206, 4–18–61, Cl. 183—52.

Schlumberger Well Surveying Corp.: *See*—
Shepler, Paul R. 2,979,955.

Schlung, Hans H.: *See*—
Korganoff, Alexandre, and Schlung. 2,980,047.

Schmidt, Paul: *See*—
Druey, Jean, and Schmidt. 2,980,669.
Druey, Jean, and Schmidt. 2,980,677.

Schneider, Harold N., to General Electric Co. Vacuum type circuit interrupter. 2,980,782, 4–18–61, Cl. 200—144.

Schneider, John A., to United States of America, Army. Rotary thruster. 2,980,085, 4–18–61, Cl. 123—24.

Schneider, Kenneth C., to Brown Engine Products, Inc. Fuel pump. 2,980,032, 4–18–61, Cl. 103—150.

Schneider, Kurt R., to Eureka Specialty Printing Co. Roll holder and web feeder. 2,980,359, 4–18–61, Cl. 242—75.3.

Schoening, Melvin A.: *See*—
Jones, Clyde B., Steckelmeyer, Priest, Schoening, Ohlenburger, and Gittinger. 2,979,919.

Scholl Mfg. Co., Inc., The: *See*—
Scholl, William M. 2,979,836.

Scholl, William M. Foot cushioning device. 2,979,835, 4–18–61, Cl. 36—44.

Scholl, William M., to The Scholl Mfg. Co., Inc. Foot cushioning device for use in articles of footwear. 2,979,836, 4–18–61, Cl. 36—71.

Schonstedt, Erick O., to United States of America, Navy. Fluid gyroscope for indicating orientation of a spinning missile. 2,980,363, 4–18–61, Cl. 244—14.

Schoonover, Paul L., to Monolith Portland Cement Co. Rotary kilns. 2,980,413, 4–18–61, Cl. 263—32.

Schott, Arthur K., and C. E. Wilson, to Houdaille Industries, inc. Press clutch. 2,979,906, 4–18–61, Cl. 60—54.5.

Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Thiophosphoric acid esters and process for their manufacture. 2,980,581, 4–18–61, Cl. 167—33.

Schreiber, L. D., & Co., Inc.: *See*—
Nusbaum, Daniel D. 2,980,542.

Schrimpf, Theodor, to Deutsche Telephonwerke und Kabelindustrie, Aktiengesellschaft (De Te We). Shifting device for sliding carriages in office machines. 2,980,321, 4–18–61, Cl. 235—60.

Schroeder, Alfred C.: *See*—
Pritchard, Dalton H., and Schroeder. 2,980,761.

Schroeter, Christa B. E.: *See*—
Schroeter, Gustav-Adolf. 2,980,535.

Schroeter, Gustav-Adolf, deceased, C. B. E. Schroeter, widow and heir, and legal representative of U., I., J. K., and S. Schroeter, to Feldmühle Papier- und Zellstoffwerke Aktiengesellschaft. Light sensitive layers of synthetic materials. 2,980,535, 4–18–61, Cl. 96—35.

Schroeter, Ivo: *See*—
Schroeter, Gustav-Adolf. 2,980,535.

Schroeter, Jonke K.: *See*—
Schroeter, Gustav-Adolf. 2,980,535.

Schroeter, Silvelin: *See*—
Schroeter, Gustav-Adolf. 2,980,535.

Schroeter, Udo: *See*—
Schroeter, Gustav-Adolf. 2,980,535.

Schuerger, Thomas R., to United States Steel Corp. Method and apparatus for compounding sinter feed. 2,980,291, 4–18–61, Cl. 222—11.

Schuls, Frank J. H. Cattle slaughtering chute unit. 2,979,762, 4–18–61, Cl. 17—1.

Schulze, John J.: *See*—
Tregay, John L., and Schulze. 2,980,834.

Schumacher, Walter C., to General Electric Co. Auto map light. 2,980,791, 4–18–61, Cl. 240—8.14.

Schur, Milton O., to Olin Mathieson Chemical Corp. Cigarette. 2,980,116, 4–18–61, Cl. 131—9.

Schuricht, Henry A., H. F. Lake, and L. H. Smith, ⅓ to Whizzer Industries, Inc., and ⅓ to Leading Engineering and Mfg. Co. Device for storing, treating and transferring parts. 2,980,121, 4–18–61, Cl. 134—83.

Schwaneke, Fred C., to Dormeyer Corp. Ejector beater. 2,980,405, 4–18–61, Cl. 259—1.

Schwanz, Donald E., and V. L. Sturman, to Hiawatha Metalcraft, Inc. Push-released door latch. 2,980,459, 4–18–61, Cl. 292—122.

Schwarze, Werner, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for the production of thiophosphoric esters of symmetrical triazines. 2,980,675, 4–18–61, Cl. 260—248.

Schwed, Philip: *See*—
Groetzinger, Gerhart K., Schwed, and Witten. 2,980,807.

Scoazec, Roger G.: *See*—
Jakimiuk, Wslewolod J., and Scoazec. 2,980,368.

Scoledge, Robert F.: *See*—
Harris, Joseph M., and Scoledge. 2,980,818.

Scott, David J., to Pulsnation Enterprises, Inc. Pulsating mattress. 2,980,108, 4–18–61, Cl. 128—33.

Scott, Reed B.: *See*—
Hoffman, Frederick C., and Scott. 2,980,156.

Scott & Williams, Inc.: *See*—
Wakefield, Frank W. 2,979,927.

Scranton, Charles J., to Allis-Chalmers Mfg. Co. Corn harvester and threshing unit therefor. 2,979,877, 4–18–61, Cl. 56—18.

Scribner, Kenneth R., and M. C. Sabath, to Eastman Kodak Co. Apparatus for vaporization of liquids. 2,980,103, 4–18–61, Cl. 126—263.

Scribner, Richard M., to E. I. du Pont de Nemours and Co. Process for preparing hydrates of aliphatic fluorooxocarbonyl compounds. 2,980,738, 4–18–61, Cl. 260—633.

Sear, Alfred W.: *See*—
Mosshart, Crockett, Edgerly, Eccleston, and Sear. 2,980,571.

Searle, G. D., & Co.: *See*—
Colton, Frank B. 2,980,711.
Counsell, Raymond E., and Kilmetra. 2,980,710.
Robinson, Richard A. 2,980,686.

Sears, Arthur H., to Harper-Wyman Co. Pilot burner. 2,980,178, 4–18–61, Cl. 158—115.

Seats, Peter, to Thomas Electronics, Inc. Evaporated phosphor screen. 2,980,550, 4–18–61, Cl. 117—33.5.

Seck, Werner G., to The Hoover Co. Suction cleaners. 2,980,205, 4–18–61, Cl. 183—51.

Sedergren, Erling D.: *See*—
Eames, James O. 2,980,220.

Seeloff, Melvin M., and D. M. Campbell, to The Taylor-Winfield Corp. Fluid drive means for indexing apparatus and the like. 2,980,074, 4–18–61, Cl. 121—48.

Segal, Leon, L. Loeb, K. H. Takemura, and F. J. Philips, to United States of America, Agriculture. Textile fibers comprising perfluoroalkanoyl esters of cellulose and process of making the same. 2,980,491, 4–18–61, Cl. 8—120.

Segbezzi, Hans. High-stretch knitted fabric. 2,979,928, 4–18–61, Cl. 60—196.

Selas Corp. of America: *See*—
Buckholdt, Robert E. 2,980,411.
Edvar, Torsten F. A. 2,980,410.
Furcsyk, Alfons A., Henwood, Bloom, and Hovis. 2,980,171.
Koerner, Hans. 2,980,412.

Selwood, George, to Wilmot-Breeden Ltd. Fluid control valves having rectilinearly slidable parts within ported hollow bodies. 2,980,137, 4–18–61, Cl. 137—622.

Senft, Martin: *See*—
Meissner, Willi G. 2,980,889.

Sepavich, Victor F.: *See*—
Herard, Archibald J., Jr., Kronoff, and Sepavich. 2,980,145.

Sepavich, Victor F.: *See*—
Herard, Archibald J., Jr., and Sepavich. 2,980,147.

Seymour Foods, Inc.: *See*—
Willsey, Charles H. 2,979,746.

Shapiro, Harry S.: *See*—
Bachli, Herman, and Shapiro. 2,979,977.

Shaw Process Development Corp.: *See*—
Lubalin, Irwin J. 2,979,790.

Shead, Herbert C., ½ to William Newman and Sons Ltd. Floor spring assemblies. 2,979,758, 4–18–61, Cl. 16—55.

Sheers, Edward H., and R. J. Chamberlain, to American Cyanamid Co. Production of hydroxylated higher fatty acid esters. 2,980,715, 4–18–61, Cl. 260—406.

Shell Oil Co.: *See*—
Crake, Wilfred S. 2,979,910.
Datt, Paul L., Warren, and Willoughby. 2,980,848.
Datt, Paul L., Warren, and Willoughby. 2,980,849.
Hackmann, Johannes T., and Ten Haken. 2,980,525.
Meyers, Douglas C. 2,979,946.
Nixon, Alan C., and Minor. 2,980,519.
Payne, George B. 2,980,706.
Payne, George B. 2,980,708.
Reed, Davis W. 2,980,184.
Van Reest, Adolf C., and Le Nobel. 2,980,606.
Williams, Paul H., and Sullivan. 2,980,707.

Shelton, Winston L.: *See*—
Houser, Philip H., and Shelton. 2,979,936.

Shepler, Paul R., to Schlumberger Well Surveying Corp. Pressure responsive systems. 2,979,955.

Sherman Paper Products Corp.: *See*—
Greene, Kermit. 2,980,159.

Sherman, William E., to McEvoy Co. Sealing groove. 2,980,129, 4–18–61, Cl. 137—238.

Shew, Daniel: *See*—
Carmack, Marvin, Shew, and Weinstock. 2,980,687.

Shirk, Harold R.: *See*—
Coggeshall, Almy D., and Shirk. 2,980,757.

Shockley, William. Junction transistor. 2,980,830, 4–18–61, Cl. 317—235.

Shoemaker, Clarence J., to A. B. Dick Co. Water base stencil duplicating ink. 2,980,545, 4–18–61, Cl. 106—22.

Shoemaker, William E., and R. Macdonald, to Koppers Co., Inc. Polymeric compositions. 2,980,640, 4–18–61, Cl. 260—28.5.

Shook, William M., to The Warner & Swasey Co. Hydraulic control systems. 2,979,908, 4–18–61, Cl. 60—97.

Short, Brooks H., to General Motors Corp. Electronic ignition. 2,980,093, 4–18–61, Cl. 123—148.

Short, Brooks H., to General Motors Corp. Ignition system. 2,980,822, 4–18–61, Cl. 315—180.

Short, Brooks H., to General Motors Corp. Low voltage electric ignition system. 2,980,823, 4–18–61, Cl. 315—180.

Short, Franklin W., and E. F. Elslager, to Parke, Davis & Co. Salt of piperazine and 2,4,5-trichlorophenol. 2,980,681, 4–18–61, Cl. 260—268.

Shuford Mills, Inc.: *See*—
Weitzel, Edward W. 2,979,982.

Shuh, Lewis M., to Red Jacket Mfg. Co. Leak detection device. 2,979,939, 4–18–61, Cl. 73—40.

Sidi, Henri: *See*—
Girard, Theodore A., Di Bella, and Sidi. 2,980,732.

Siebert, Milan J.: *See*—
Raney, William E., and Siebert. 2,980,398.

Siemens-Schuckertwerke Aktiengesellschaft: *See*—
Emeis, Reimer. 2,979,868.

Sierra Engineering Co.: *See*—
Bloom, Aaron. 2,979,730.

Silver, Alexander: *See*—
Rowlett, Beb H., and Silver. 2,980,394.

Simon, Henry, Ltd.: *See*—
Allen, Robert W. 2,980,207.

Simms, Paul R., to Teletype Corp. Lubricating device. 2,980,210, 4–18–61, Cl. 184—102.

Singer Mfg. Co., The: *See*—
Parry, Frank. 2,980,044.

Sisco, Richard. Paperboard fluid container. 2,980,304, 4–18–61, Cl. 222—566.

Sivacek, Emil E., to King-Seeley Corp. Thermo-responsive device. 2,980,875, 4–18–61, Cl. 338—25.

Skarie, Donald P., to Bucyrus-Erie Co. Actuating and torque-sustaining structure for clutches and brakes. 2,980,219, 4–18–61, Cl. 192—85.

Skog, Henry A., to Food Machinery and Chemical Corp. Fruit orienting machine. 2,980,232, 4–18–61, Cl. 198—33.

Skydyne, Inc.: *See*—
Parsons, George B. 2,980,285.

Sladky, Alexander C., and R. F. Gehm, to Leyse Aluminum Co. Utensil handle construction. 2,979,760, 4–18–61, Cl. 16—110.

Slavin, Edwin. Undertable mounting for portable power tool. 2,980,152, 4–18–61, Cl. 143—132.

Smith, A. O., Corp.: *See*—
Sullivan, James D. 2,980,553.

Smith, Eric, and N. Hosansky, to S. B. Penick and Co. Dihydropyranocoumarin derivatives and process for their production. 2,980,699, 4–18–61, Cl. 260—343.2.

Smith, John E., and R. L. Ensinger, to Holley Carburetor Co. Fluid pumps. 2,980,023, 4–18–61, Cl. 103—6.

Smith, Lawrence J.: *See*—
Main, Leo E., Piper, and Smith. 2,979,947.

Smith, Marvin A., to Universal Oil Products Co. Apparatus for the manufacture of spherical particles. 2,980,628, 4–18–61, Cl. 252—359.

Smith, Norman. Weed-killer applicator. 2,979,757, 4–8–61, Cl. 15—569.

Smith, Robert A., ½ to said R. A. Smith, and ½ to H. B. Whitehouse. Closure actuator. 2,980,299, 4–18–61, Cl. 222—182.

Smith, Thomas C., to United States of America, Navy. Condition responsive fusing system. 2,980,020, 4–18–61, Cl. 102—70.2.

Smith, Wayne E., Jr.: *See*—
Jaruselski, John J., and Smith. 2,980,705.

Smyth-Davila, Rodrigo M. Helicopter. 2,980,187, 4–18–61, Cl. 170—135.24.

Snoy, Joseph B., to Borg-Warner Corp. Hydraulic clutch control. 2,979,963, 4–18–61, Cl. 74—364.

Snyder, Charles E. Oxygen door. 2,980,112, 4–18–61, Cl. 128—191.

Snyder, Lenard D., and R. E. Throne, to Joy Mfg. Co. Split kelly driver. 2,979,926, 4–18–61, Cl. 64—23.6.

Societa Farmaceutici Italia: *See*—
Alberti, Carlo G., and Vercellone. 2,980,674.

Societe Anonyme des Usines Chausson: *See*—
Chausson, Andre. 2,979,937.

Societe Anonyme dite: Enterprise Fougerolle pour Travaux Publics: *See*—
Bouvier, Jean, Bouillot, and Bourgouin. 2,979,913.

Societe d'Electronique et d'Automatisme: *See*—
Raymond, Francois H. 2,980,804.

Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See*—
Salmon, Benjamin, and Bertin. 2,979,899.

Socony Mobil Oil Co., Inc.: *See*—
Lifland, Philip P., and Potas. 2,980,605.

Soddy, Thomas C., to Chicago Railway Equipment Co. Railway car flush door structure. 2,979,787, 4–18–61, Cl. 20—23.

Soderberg, John W., ¼ to R. P. Strakos, ¼ to J. Malasky, and ¼ to J. F. Kearney. Automatic traffic control. 2,980,887, 4–18–61, Cl. 340—40.

Soltis, John E., to United States Steel Corp. Dual beam balance scale. 2,980,192, 4–18–61, Cl. 177—25.

Sonnenfeldt, Richard W., to Radio Corp. of America. Color television receiver color demodulation apparatus. 2,980,762, 4–18–61, Cl. 178—5.4.

Sorensen, Roy T. Loose leaf binder and supporting structure therefor. 2,980,445, 4–18–61, Cl. 281—33.

Souder, Louis C.: *See*—
Melamed, Sidney, and Souder. 2,980,652.

Southern Gas Association: *See*—
Damewood, Glenn, and Hanchett. 2,979,940.

Sowa, Frank J. Coordination complexes of urea and boron trifluoride and methods of producing the same. 2,980,733, 4–18–61, Cl. 260—555.

Specialties, Inc.: *See*—
Gwathmey, Edward S. 2,979,948.

Spencer, Glenn S., to The Bendix Corp. Engine starter drives. 2,979,961, 4–18–61, Cl. 74—7.

Spencer, Robert S.: *See*—
Saint Clair, Maurice W., and Spencer. 2,979,733.

Sperry Rand Corp., Ford Instrument Co. Division: *See*—
Crooke, Raymond E. 2,980,326.
Rabin, Richard. 2,980,900.

Spiegler, Kurt S.: *See*—
Kukin, Ira, and Spiegler. 2,980,517.

Spillmann, Max: *See*—
Geyer, Ulrich, Spillmann, Stalder, and Tagmann. 2,980,737.

Spitler, Clem H., and J. D. Gayer, to Master Vibrator Co. Troweling machine. 2,979,996, 4–18–61, Cl. 94—45.

Sprague Electric Co.: *See*—
Lehovec, Kurt, and Zuleeg. 2,980,831.

Spühl, Walter. Clamping device. 2,980,149, 4–18–61, Cl. 140—92.8.

Staaf, Harry R. Magnetic toy device. 2,979,861, 4–18–61, Cl. 46—239.

Stank, Louis E., to General Electric Co. Improved method of providing a bearing lubricating structure. 2,979,779, 4–18–61, Cl. 18—59.

Stabryla, Leon. Fish handling and scaling clamps. 2,979,763, 4–18–61, Cl. 17—8.

Stafford, William L.: *See*—
Greene, Kenneth F., and Stafford. 2,979,770.

Stainless Metal Products, Inc.: *See*—
Young, Ira B., Jr. 2,980 261.
Young, Ira B., Jr. 2,980,282.

Stalder, Arnold: *See*—
Geyer, Ulrich, Spillmann, Stalder, and Tagmann. 2,980,737.

Staley, A. E., Mfg. Co.: *See*—
Etheridge, Oliver R. 2,980,576.

Stallabrass, James R.: *See*—
Robertson, Ernest O., Stallabrass, and Bailey. 2,980,806.

Stambul, Joseph, deceased; R. Stambul, administratrix. Controlling the blood cholesterol level by administration of diiodotyrosine polypeptide. 2,980,585, 4-18-61, Cl. 167—65.

Stambul, Rae: *See*—
Stambul, Joseph. 2,980,585.

Standard Oil Co. (Indiana): *See*—
Borg, Arthur C., and Leet. 2,980,614.
Horner, John F., and Wright. 2,980,515.
Kapff, Sixt F. 2,980,513.
Twaddle, Warren W., Myerholtz, and Burney. 2,980,661.

Standard Packaging Corp.: *See*—
Bolding, Hubert V. 2,980,308.

Sta-Rite Ginnie Lou, Inc.: *See*—
Boiinger, George N. 2,980,118.

Star Precision Devices, Inc.: *See*—
Eager, William A., and Bell. 2,980,433.

Staten, Raymond J., to The Transvox Corp. Signaling systems. 2,980,890, 4-18-61, Cl. 340—153.

Steatite Research Corp.: *See*—
Wetzel, Kurt. 2,980,619.

Steckelmeyer, Henry J.: *See*—
Jones, Clyde R., Steckelmeyer, Priest, Schoening, Ohlenburger, and Gittinger. 2,979,919.

Stedfast Rubber Co., Inc.: *See*—
Harrison, Raymond B., and Edwards. 2,980,552.

Steel, John P. Louvered screen and method of making the same. 2,980,567, 4-18-61, Cl. 154—2.65.

Steele, Martin C., to Radio Corp. of America. Switching circuit comprising temperature controlled semiconductive device. 2,980,808, 4-18-61, Cl. 307—88.5.

Steele, Norman O.: *See*—
Schlos, Arthur H., and Steele. 2,979,975.

Steen, Gottfrid W., to The Machlett Laboratories, Inc. X-ray units. 2,980,800, 4-18-61, Cl. 250—90.

Stefanovic, Milutin: *See*—
Muller, Georges, and Stefanovic. 2,980,714.

Stein, Frank S., and E. W. Torok, to Westinghouse Electric Corp. High current NPNP switch. 2,980,832, 4-18-61, Cl. 317—235.

Steinbach, Heins and R. Scheidig, to International Standard Electric Corp. Electromagnetic impulse counter. 2,980,891, 4-18-61, Cl. 340—168.

Steinberg, Morris A., to Horizons, Inc. Joining of graphite members. 2,979,813, 4-18-61, Cl. 29—470.

Steinberg, Morris A., to Horizons Inc. Joining of graphite members. 2,979,814, 4-18-61, Cl. 29—470.

Stelzer, William, and D. T. Ayers, Jr., to Kelsey-Hayes Co. Booster mechanism. 2,980,066, 4-18-61, Cl. 121—41.

Stelzer, William, to Kelsey-Hayes Co. Motor mechanism. 2,980,068, 4-18-61, Cl. 121—41.

Stelzer, William, to Kelsey-Hayes Co. Tractor-trailer brake system. 2,980,469, 4-18-61, Cl. 303—29.

Stenger, Vernon A.: *See*—
Goodenough, Robert D., and Stenger. 2,980,497.
Goodenough, Robert D., and Stenger. 2,980,499.
Goodenough, Robert D., and Stenger. 2,980,502.

Stephens, Frederick N., C. C. Perkins, Jr., and T. J. Love, Jr., to Gustin-Bacon Mfg. Co. Rotary oven. 2,979,765, 4-18-61, Cl. 18—4.

Stephens, William R., and P. A. Johnson. Foldable awning. 2,980,180, 4-18-61, Cl. 160—62.

Sterling Drug Inc.: *See*—
Albertson, Noel F. 2,980,692.
Crounse, Nathan M. 2,980,625.

Sterling Industries, Inc.: *See*—
Katz, Avrum, S. 2,979,759.

Sterling Pulp & Paper Co.: *See*—
Hearden, Lester C., and Meyer. 2,979,979.

Stevens, William W.: *See*—
Billetter, Halton A., and Stevens. 2,980,360.

Stevenson, Donald H.: *See*—
Craig, Robert G., and Stevenson. 2,980,631.

Stevenson, Herbert A., J. R. Marshall, and A. F. Hams, to Boots Pure Drug Co. Ltd. New organic sulphonamido isothiocyanates. 2,980,668, 4-18-61, Cl. 260—239.8.

Stewart, Frederick P. Waste basket and mounting. 2,980,281, 4-18-61, Cl. 220—18.

Stich, Jules N.: *See*—
Kimura, Shuji, and Stich. 2,980,536.

Stidham, James F. Object depository monitor. 2,980,223, 4-18-61, Cl. 194—4.

Stiffey, Arthur V. B.: *See*—
Broquist, Harry P., Albrecht, and Stiffey. 2,980,590.

Stilwell, Robert E.: *See*—
Bray, Walter E., and Stilwell. 2,980,252.

Stine, Carl A. Adjustable tray. 2,980,165, 4-18-61, Cl. 155—128.

Stoddard, Edgar S., to General Electric Co. Water demineralizing methods and systems. 2,980,598, 4-18-61, Cl. 204—151.

Stoker, Carl B., Jr., to The Goodyear Tire & Rubber Co. Container, package, and manufacture of package. 2,980,246, 4-18-61, Cl. 206—46.

Stokes, Konrad H.: *See*—
Johnson, Justin O., Jr., and Stokes. 2,979,953.

Storch, Leo, to Hughes Aircraft Co. Bandpass filters. 2,980,872, 4-18-61, Cl. 333—72.

Story, Donald B. Saw-a-horse. 2,980,420, 4-18-61, Cl. 269—141.

Stover, Ancil C., to W. A. Eisenhauer, W. P. Ellwood, and L. E. Eisenhauer, d.b.a. The Eisenhauer Mfg. Co. Hydraulic fluid system. 2,980,128, 4-18-61, Cl. 137—198.

Strachan & Henshaw Ltd.: *See*—
Beilinger, Ronald. 2,980,221.

Strakos, Robert P.: *See*—
Soderberg, John W. 2,980,887.

Strang, Robert W. Method and apparatus for producing ore sinter. 2,980,527, 4-18-61, Cl. 75—5.

Strassburger, Julius H., to National Steel Corp. Apparatus for operating metallurgical furnaces. 2,980,416, 4-18-61, Cl. 266—30.

Stroh, George B.: *See*—
Hilker, Eugene B., Cowles, Stroh, and Fleming. 2,980,060.

Strong, Edward W., A. J. Pappas, A. M. Losey, and G. G. Clewlow, to Gyrodyne Co. of America, Inc. Rotor control system for helicopter. 2,980,186, 4-18-61, Cl. 170—135.26.

Stroup, Earl L., to Overhead Door Corp. Upwardly acting doors and roller spindle supports therefor. 2,980,182, 4-18-61, Cl. 160—201.

Structural Clay Products Research Foundation: *See*—
Johnson, Paul V., Taylor, and Dunne. 2,980,265.

Stuart, Archibald P., to Sun Oil Co. Polymerization of olefins. 2,980,664, 4-18-61, Cl. 260—93.7.

Stuart, John W., to Westinghouse Electric Corp. Switching apparatus for magnetic amplifiers. 2,980,847, 4-18-61, Cl. 323—89.

Studebaker Hydraulic Products Co.: *See*—
Beck, Leonard R. 2,979,903.

Studhalter, Walter R., L. M. Miller, and W. O. Bergreen, to North American Aviation, Inc. Ullage compensators for pressurizing systems. 2,979,897, 4-18-61, Cl. 60—39.46.

Sturman, Vernon L.: *See*—
Schwanz, Donald E., and Sturman. 2,980,459.

Sud-Aviation Société Nationale de Constructions Aéronautiques: *See*—
Fourcade, Marc C. A. 2,980,910.
Jakimiuk, Wsiewolod J., and Scoasec. 2,980,368.

Sullivan, Charles F., to Fairchild Data Devices Corp. High speed motion picture camera. 2,980,306, 4-18-61, Cl. 226—86.

Sullivan, James D., to A. O. Smith Corp. Glass coated steel article and method of making the same. 2,980,553, 4-18-61, Cl. 117—70.

Sullivan, William J.: *See*—
Williams, Paul H., and Sullivan. 2,980,707.

Summerill, Robert J., to E. I. du Pont de Nemours and Co. Printing paste for textile fabric. 2,980,487, 4-18-61, Cl. 8—70.

Sun Oil Co.: *See*—
Cox, William H. 2,980,871.
Fear, James V. D. 2,980,603.
Geniesse, Donald J. 2,980,334.
Jesl, James L. 2,980,662.
Rue, Howard M. 2,980,613.
Stuart, Archibald P. 2,980,664.
Volts, Sterling E. 2,980,744.

Sundby, Harold C.: *See*—
Dectrow, Tellus X., and Sundby. 2,980,381.

Sundt, Peter C.: *See*—
Mize, Doyle D., Sundt, and Drews. 2,980,885.

Sutton, John R. Offshore equipment supports and methods of operating same. 2,979,911, 4-18-61, Cl. 61—46.5.

Sutton, Robert W., S. G. Woodward, and C. A. Hartman, to The Bendix Corp. Fuel injection system. 2,980,090, 4-18-61, Cl. 123—119.

Svenska Rotor Maskiner Aktiebolag: *See*—
Ahlen, Karl G. 2,980,403.

Svihel, Bernard T.: *See*—
Gruber, Warren M., and Svihel. 2,980,331.

Swengel, Robert C., to AMP Inc. Clip connector for printed circuit board. 2,980,878, 4-18-61, Cl. 339—17.

Swick, Joseph S., and S. Rosen, to Tronomatic Machine Mfg. Corp. Hydraulic press apparatus. 2,980,013, 4-18-61, Cl. 100—257.

Swindells, Frank E., to E. I. du Pont de Nemours and Co. Electro-luminescent zinc sulfide iodide fluxed phosphors, and method for their preparation. 2,980,627, 4-18-61, Cl. 252—301.6.

Sylvania Electric Products Inc.: *See*—
Carlsen, Carl F., and Lebner. 2,979,726.
Harris, Joseph M., and Scoledge. 2,980,818.
Helda, Robert W. 2,979,731.
Payne, Elmer C. 2,980,816.
Pifer, Marion J. 2,980,484.

Symes, William F., to Monsanto Chemical Co. Stabilized trichlorocyanuric acid compositions. 2,980,622, 4-18-61, Cl. 252—99.

Synchro-Mist Controls, Inc.: *See*—
Edelstein, Albert L., and Glickstein. 2,980,296.

Szydlowski, Joseph. Device for controlling the acceleration time of turbojet engines. 2,980,175, 4-18-61, Cl. 158—36.4.

Taber, Ralph F. Plastic draw press. 2,979,771, 4-18-61, Cl. 18—19.

Taceran, Santiago C. Girdling tool. 2,979,862, 4-18-61, Cl. 47—1.

Tachiki, Kenkichi: *See*—
Katakura, Sampei, and Tachiki. 2,980,528.

Tagmann, Eugen: *See*—
Geyer, Ulrich, Spillmann, Stalder, and Tagmann. 2,980,737.

Takacs, Francisco. Flying body for supersonic speed. 2,980,370, 4-18-61, Cl. 244—130.

Takemura, Kazuo H.: *See*—
Segal, Leon, Loeb, Takemura, and Philips. 2,980,401.

Tamblyn, John W.: *See*—
Bell, Alan, Gearhart, and Tamblyn. 2,980,648.
Newland, Gordon C., and Tamblyn. 2,980,645.

Tania, Mariyn D. Surface tension bearing. 2,980,473, 4-18-61, Cl. 308—161.

Tann Corp.: *See*—
Ovshinsky, Stanford R. 2,980,776.

Tanner, Herbert G. Coordination compounds and uses thereof. 2,980,583, 4-18-61, Cl. 167—58.

Tan-Sad Chair Co. (1931) Ltd., The: *See*—
Thompson, Stanley H. A. 2,980,166.

Taras, John: *See*—
Randall, David I., Taras, and Martin. 2,980,709.

Tarbox, John W. Electric winding. 2,980,874, 4-18-61, Cl. 336—192.

Tasker, Homer G., A. G. Van Alstyne, D. J. Green, D. V. Franke, W. T. O'Neil, R. C. Dye, R. W. Landee, R. H. Cother, J. R. Deen, and D. C. Arnold, to Gilfillan Bros. Inc. Automatic ground controlled approach systems. 2,980,902, 4-18-61, Cl. 343—7.

Taylor, Harwood S., Jr.: *See*—
Howell, Chester E., Jr., and Taylor. 2,980,241.

Taylor, John W., Jr.: *See*—
Lawaine, Leo, McIver, and Taylor. 2,980,769.

Taylor, Robert B.: *See*—
Johnson, Paul V., Taylor, and Dunne. 2,980,265.

Taylor, Robert B. Proportioning and metering device for liquids. 2,980,292, 4-18-61, Cl. 222—36.

Taylor, William B., and W. H. Griffin, to Atlas Pipe Inc. Threaded pipe joint having an extrudable generally non-resilient sealing means. 2,980,451, 4-18-61, Cl. 285—332.3.

Taylor-Winfield Corp., The: *See*—
Seeloff, Melvin M., and Campbell. 2,980,074.

Tegge, Bruce R.: *See*—
Ross, James P., Tegge, and Kenyon. 2,980,742.

Tehle, Edward A., Jr.: *See*—
Abramitis, Walter W., and Tehle. 2,980,578.

Teletype Corp.: *See*—
Nordin, Robert W. 2,980,759.
Simms, Paul R. 2,980,210.

Telford, Caryle O. Controlled depth trolling device. 2,979,851, 4-18-61, Cl. 43—43.13.

Tengwall, Goran A. Plotting device intended for continuous analysis of radar indications aboard ships. 2,979,821, 4-18-61, Cl. 33—1.

Ten Haken, Pieter: *See*—
Hackmann, Johannes T., and Ten Haken. 2,980,525.

Ten Ham, Evert J., and P. L. Kring, to North American Philips Co., Inc. Dry stable vitamin A and/or D-preparation and methods of producing same. 2,980,587, 4-18-61, Cl. 167—81.

Tennis, Francis H., to Hydraulic Unit Specialties Co. Hydraulically controlled apparatus. 2,980,135, 4-18-61, Cl. 137—621.

Terek, Louis: *See*—
Morris, George V., and Terek. 2,980,901.

Terral, Ben D.: *See*—
Machlan, Hamilton A., and Terral. 2,980,076.

Tessner, Stanislas. Semi-conductor devices for rectifying and clipping large electrical currents. 2,980,809, 4-18-61, Cl. 307—88.5.

Texaco Inc.: *See*—
Dille, Roger M., and Chapman. 2,980,521.
Dille, Roger M., and Chapman. 2,980,522.
Dille, Roger M., Chapman, and Ahlborn. 2,980,523.
Knowles, Edwin C., Odell, and Lyons. 2,980,616.

Texas Instruments Inc.: *See*—
Macdonald, James R. 2,980,860.

Thaden, Herbert V., to Samuel S. Dennis, 3rd., trustee. Chair frame structure. 2,980,454, 4-18-61, Cl. 287—54.

Thayer, Helen L., to Gulf Research & Development Co. Gasoline motor fuel. 2,980,520, 4-18-61, Cl. 44—69.

Thesing, Jan, and R. Helger, to E. Merck, Aktiengesellschaft. Heat resistant derivatives of L-ascorbic acid. 2,980,702, 4-18-61, Cl. 260—343.7.

Thevenas, Louis, to Thorens S.A. Driving device of the turntable of a speaking machine. 2,980,429, 4-18-61, Cl. 274—39.

Thibault, Harrison N., and W. H. Banks, to Draper Corp. Bunch building mechanism. 2,979,881, 4-18-61, Cl. 57—54.

Thomas, Edward R.: *See*—
Clemens, John E., Dean, Thomas, and Touchman. 2,980,819.

Thomas Electronics, Inc.: *See*—
Seats, Peter. 2,980,550.

Thomas, Heinrich. Hydraulic valving device. 2,980,072, 4-18-61, Cl. 121—46.4.

Thomas, Robert M., to Olin Mathieson Chemical Corp. Preparation of dichloroacetaldehyde, chloral and chloral hydrate from beta,beta'-dichlorodiethyl ether. 2,980,736. 4-18-61, Cl. 260—601.

Thompson, Douglas G.: *See*—
Detweiler, James I., Rick, and Thompson. 2,980,138.

Thompson, John A., to Russell Harrington Cutlery Co. Skinning knife. 2,979,820, 4-18-61, Cl. 30—215.

Thompson, Philip M., and C. A. Franklin, to Her Majesty the Queen in the Right of Canada as represented by the Minister of National Defence. Current overload protective circuits. 2,980,845, 4-18-61, Cl. 323—22.

Thompson Ramo Wooldridge Inc.: *See*—
Edwards, William V., and Lorens. 2,980,028.
Mats, Norman. 2,980,318.
Sampietro, Achilles C. 2,979,921.
Sampietro, Achilles C. 2,980,080.

Thompson, Stanley H. A., to The Tan-Sad Chair Co. (1931) Ltd. Adjustable back rests for seats. 2,980,166, 4-18-61, Cl. 155—157.

Thompson, William H., to American Metal Products Co. (Davis Engineering Division). Oil heater. 2,980,172, 4-18-61, Cl. 158—36.

Thomsen, Donald L., to Minnesota Mining and Mfg. Co. Method of making a heat-sensitive copy-sheet and resultant article. 2,980,551, 4-18-61, Cl. 117—36.

Thorens S.A.: *See*—
Thevenas, Louis. 2,980,429.

Throne, Robert E.: *See*—
Snyder, Lenard D., and Throne. 2,979,926.

Tibbetts, Willis F., to Flightex Fabrics, Inc. Apparatus for measuring the dead space travel in servo valves. 2,979,945, 4-18-61, Cl. 73—168.

Tidy Chemical Co.: *See*—
Gans, Frederick M., Jr., and Otermat. 2,980,277.

Timpner, Fred F., and J. Z. De Lorean, and C. J. Miller, to General Motors Corp. Fluid suspension unit. 2,980,441, 4-18-61, Cl. 280—124.

Tinius Olsen Testing Machine Co.: *See*—
Gruber, Warren M., and Svihel. 2,980,331.

Toce, Charles A., and R. Broussard, to Electro-Acid Corp. of Nevada. Electric storage battery and case. 2,980,751, 4-18-61, Cl. 136—166.

Toce, Charles A., and R. Broussard, to Electro-Acid Corp. of Nevada. Electric storage battery. 2,980,752, 4-18-61, Cl. 136—166.

Toft, Robert W., to Engelhard Industries, Inc. Treatment of gases. 2,980,743, 4-18-61, Cl. 260—677.

Tone, Richard N.: *See*—
Wilbur, Warren D., and Tone. 2,979,800.

Toney, Lawrence B., to National Twist Drill & Tool Co. Cemented carbide body having wettable surface and method of producing same. 2,979,811, 4-18-61, Cl. 29—182.7.

Topanelian, Edward, Jr.: *See*—
En Dean, Howard J., Jones, and Topanelian. 2,980,854.

Torell, Bruce N., to United Aircraft Corp. Fail-safe afterburner fuel control. 2,980,176, 4-18-61, Cl. 158—36.4.

Torok, Elmer W.: *See*—
Stein, Frank S., and Torok. 2,980,832.

Touchman, William S.: *See*—
Clemens, John E., Dean, Thomas, and Touchman. 2,980,819.

Towne, Edmund B.: *See*—
Hawk, James P., Towne, and Dickey. 2,980,724.

Traficante, Inc.: *See*—
Baldoni, Emil. 2,979,980.

Transvox Corp., The: *See*—
Staten, Raymond J. 2,980,890.

Trautman, Charles E.: *See*—
Rocchini, Albert G., and Trautman. 2,979,890.

Tregay, John L., and J. J. Schulze, to Charles Bruning Co. Inc. Charging of photo-conductive insulating material. 2,980,834, 4-18-61, Cl. 317—262.

Trego, Douglas G.: *See*—
Hagopian, Jacob J., and Trego. 2,980,903.

Trias, Rafael S. Curtain and shade support. 2,980,382, 4-18-61, Cl. 248—265.

Triman, Eugene L., to North American Aviation, Inc. Etch rate compensated process timer. 2,979,843, 4-18-61, Cl. 41—9.

Trine Mfg. Corp.: *See*—
Gohs, Howard C., and Brooks. 2,980,784.

Tristram, Edward W.: *See*—
Chemerda, John M., Tristram, Hinkley, and Broeke. 2,980,713.

Troche, Herman J., and G. H. Eckels, to Holan Corp. Derrick. 2,980,263, 4-18-61, Cl. 212—8.

Tronomatic Machine Mfg. Corp.: *See*—
Swick, Joseph S., and Rosen. 2,980,013.

Tsutsui, Minoru: *See*—
Zeiss, Harold H., and Tsutsui. 2,980,741.

Tubular Inspection Co., Inc.: *See*—
Cochran, Kenneth W. 2,980,850.

Tucci, Anthony. Soap dispenser. 2,980,207, 4-18-61, Cl. 222—158.

Turak, Anthony. Plural dispensing valve. 2,980,142, 4-18-61, Cl. 137—637.3.

Turechek, George F., to Borg-Warner Corp. Well perforator shaped charge. 2,980,018, 4-18-61, Cl. 102—20.

Turpin, Charles H., to The Pillsbury Co. Dough mix package. 2,980,540, 4-18-61, Cl. 99—172.

Twaddle, Warren W., R. W. Myerholtz, Jr., and D. E. Burney, to Standard Oil Co. Production of polystyrene from styrene-in-hydrocarbon solution. 2,980,661, 4-18-61, Cl. 260—93.5.

Ty-Sa-Man Machine Co.: *See*—
Wayland, Hubert E. 2,980,096.

UCLAF: *See*—
Buret, Raymond. 2,980,729.

Uhleen, Arthur E., to National Steel Corp. Roller and apparatus for transporting strip material. 2,979,829, 4-18-61, Cl. 34—90.

Ulinski, Bronislaus L., to The Yale & Towne Mfg. Co. Lifting mechanism for industrial truck. 2,980,271, 4-18-61, Cl. 214—140.

Umberger, Jacob Q. and R. E. Wayrynen, to E. I. du Pont de Nemours and Co. Preparation of a zinc chalcogenide phosphor of improved thermal stability. 2,980,626, 4-18-61, Cl. 252—301.6.

Underwood Corp.: *See*—
Intaglista, Salvatore J., Hildebrandt, Yerks, Di Galbo, and Hall. 2,980,225.

Union Bag-Camp Paper Corp.: *See*—
Clifford, Burton K. 2,980,573.

Union Carbide Corp.: *See*—
Andersen, Carl P., Richardson, and First. 2,980,404.
Daley, John L. S. 2,980,747.
Dunn, Jesse T., and Manning. 2,980,684.
Fowler, George W. 2,980,680.
Fowler, George W. 2,980,682.
Jenkins, Arthur C., Malik, and Pruett. 2,980,494.
Koehler, James O., and Lamprey. 2,980,633.
McClelland, Charles P. 2,980,556.
Mettler, John D., Jr. 2,980,496.
Reilly, Thomas A., and McNeill. 2,980,754.
Sauers, Carol K., and Cotter. 2,980,694.
Sauers, Carol K., and Cotter. 2,980,701.

Union Oil Co. of California: *See*—
Deering, Roland F., Dhondt, Hunt, Kelley, and Welsh. 2,980,592.
Kelley, Arnold E. 2,980,600.
Potter, Ralph A. 2,980,612.

Union Starch and Refining Co., Inc.: *See*—
Bauwin, George R., and Grossi. 2,979,863.
Union Stock Yard and Transit Co. of Chicago, The: *See*—
Hagen, William F. 2,980,537.

United Aircraft Corp.: *See*—
Allen, Arthur S., Jr., and Gaubis. 2,980,188.
Beurer, Frederick C. 2,979,968.
Brahm, Charles B. 2,980,868.
Hopper, Philip S. 2,979,900.
Meyer, Robert E. 2,979,893.
Torell, Bruce N. 2,980,176.
Ward, Leslie A. 2,979,898.

United-Carr Fastener Corp.: *See*—
McKee, William H. 2,980,881.
Murphy, Howard J. 2,979,797.

United Gas Improvement Co., The: *See*—
Jordan, Claude W. 2,980,204.

United Kingdom Atomic Energy Authority, The: *See*—
Bennett, Michael. 2,980,081.
Healy, Thomas V. 2,980,503.

United Shoe Machinery Corp.: *See*—
Choice, Frank C. 2,979,723.
Clark, Alfred S. 2,979,744.
Musser, C Walton. 2,979,964.
Schaefer, Hans F., Jr., and Jenner. 2,979,745.

United States Gypsum Co.: *See*—
Hampton, Archie L. 2,980,548.

United States of America
Agriculture: *See*—
Ponting, James D. 2,979,856.
Segal, Leon, Loeb, Takemura, and Phillips. 2,980,491.
Air Force: *See*—
Garbuny, Max. 2,980,813.
Grewell, Glenwood, and Jones. 2,980,771.
Army: *See*—
Colby, Richard H. 2,979,992.
Haeussermann, Walter. 2,980,839.
Schneider, John A. 2,980,085.
Atomic Energy Commission: *See*—
Gratian, Joseph W. and A. C., Nieset, Bourns, and Crane. 2,980,905.
Navy: *See*—
Achilich, John H. 2,980,056.
Eggers, Preben. 2,980,828.
Fronk, Wilbert L. 2,979,827.
Hauser, Ralph L., and Bridge. 2,979,957.
Jones, Leonard S., and Kowalyshyn. 2,980,048.
Leaman, Audley B., and Czajkowski. 2,980,773.
Schonstedt, Erick O. 2,980,363.
Smith, Thomas C. 2,980,020.

United States Rubber Co.: *See*—
Mosshart, Crockett, Edgerly, Eccleston, and Sear. 2,980,571.

United States Steel Corp.: *See*—
Jaruzelski, John J., and Smith. 2,980,705.
Jounson, Tegner A. 2,980,608.
Kauppi, Walter A. 2,979,792.
Schuerger, Thomas R. 2,980,291.
Soltis, John E. 2,980,192.

Universal Oil Products Co.: *See*—
Bloch, Herman S. 2,980,735.
Smith, Marvin A. 2,980,628.

Upjohn Co., The: *See*—
Kiettke, Walter G. 2,979,875.
Klomparens, William. 2,980,580.

VEB Kamera-und Kinowerke Dresden: *See*—
Hainy, Rudolf. 2,980,358.

VEB Ketten- und Nagelwerke: *See*—
Günschel, Karl. 2,979,743.

Van Alstyne, Alvin G.: *See*—
Tasker, Homer G., Van Alstyne, Green, Franke, O'Neil, Dye, Landee, Cother, Deen, and Arnold. 2,980,902.

Van Beest, Adolf C., and J. W. Le Nobel, to Shell Oil Co. Hydrocarbon refining to reduce sulfur, nitrogen and naphthenic acid content. 2,980,606, 4–18–61, Cl. 208—254.

Van der Brugghen, Joan, to Van Doorne's Automobielfabriek N.V. Motor vehicle provided with swinging axles. 2,980,196, 4–18–61, Cl. 180—73.

Van der Lely, Ary: *See*—
Van der Lely, Cornelis and A. 2,980,430.

Van der Lely, C., N.V.: *See*—
Van der Lely, Cornelis and A. 2,980,430.

Van der Lely, Cornelis. Spreading devices. 2,980,431; 4–18–61, Cl. 275—8.

Van der Lely, Cornelis and A., to C. van der Lely, N.V. Device for spreading strewable material during travelling. 2,980,430, 4–18–61, Cl. 275—7.

Vander Lugt, Thomas, Jr.: *See*—
Buttery, Kenneth T., and Vander Lugt. 2,980,316.

Van Doorne's Automobielfabriek N.V.: *See*—
Van der Brugghen, Joan. 2,980,196.

Vang, Alfred. ½ to Alfred Vang, trustee, and ½ to Anna Vang. Welding apparatus. 2,980,789, 4–18–61, Cl. 219—114.

Vang, Anna: *See*—
Vang, Alfred. 2,980,789.

Van Krevelen, Edward R., and R. E. Burmeister, to General Mills, Inc. Photoelectronic counter. 2,980,856, 4–18–61, Cl. 324—74.

Van Zelm Associates Inc.: *See*—
Van Zelm, Willem D., and Jackson. 2,980,213.

Van Zelm, Willem D., and M. A. Jackson; said Jackson assor. to Van Zelm Associates Inc. Energy absorption unit. 2,980,213, 4–18–61, Cl. 188—1.

Vasilevskis, Henry S., to Philco Corp. Combined magnetic shielding and beam centering assembly for cathode-ray tubes or the like. 2,980,814, 4–18–61, Cl. 313—73.

Vaughn, Charles O., to Hunt Heater Corp. Food flavoring cartridge. 2,980,102, 4–18–61, Cl. 126—39.5.

Vautier, Roger: *See*—
Guillaud, Charles L., and Vautier. 2,980,618.

Velsicol Chemical Corp.: *See*—
Richter, Sidney B., and Wahlborg. 2,980,379.

Vendo Co., The: *See*—
Bookout, Floyd V., Hanson, and McBride. 2,980,224.
Hunter, Charley W. 2,980,288.

Vercellone, Alberto: *See*—
Alberti, Carlo G., and Vercellone. 2,980,674.

Verrinder, Ernest A., to Food Machinery and Chemical Corp. Method of and apparatus for loading pallets. 2,979,872, 4–18–61, Cl. 53—28.

Vickers-Armstrongs (Aircraft) Ltd.: *See*—
Wallis, Barnes N. 2,980,366.

Vickers-Armstrongs (Engineers) Ltd.: *See*—
Nasmith, John I., and Kirby. 2,979,722.

Vielle, John, to Avel Corp. Geneva. Methods and apparatus for data exchange. 2,980,908, 4–18–61, Cl. 343—112.

Viola, Dorothy J.: *See*—
Nielsen, Olaf, Viola, and Kent. 2,980,377.

Viola, Joseph V.: *See*—
Nielsen, Olaf, Viola, and Kent. 2,980,377.

Vodar, Boris: *See*—
Romand, Jacques L., and Vodar. 2,980,798.

Voltz, Sterling E., to Sun Oil Co. Preparation of viscous polymers. 2,980,744, 4–18–61, Cl. 260—683.15.

Vossloh-Werke G.m.b.H.: *See*—
Doll, Adalbert. 2,980,336.

Vroom, Clifford G., E. F. Deffenbaugh, and C. E. Main, to Eastman Kodak Co. Lamp socket for photoflash units. 2,980,879, 4–18–61, Cl. 339—45.

Vulcan-Hart Mfg. Co., Inc.: *See*—
Brown, Emory L. 2,980,479.

Waddington, Rogor S., and B. Duval. Fluid handling devices. 2,980,033, 4–18–61, Cl. 103—262.

Waddington, Rogor S., and B. Duval. Fluid handling devices. 2,980,300, 4–18–61, Cl. 222—361.

Wagner, Edward W.: *See*—
Printy, John O., and Wagner. 2,980,534.

Wahlborg, Harold J.: *See*—
Richter, Sidney B., and Wahlborg. 2,980,579.

Wahlmark, Gunnar A., to Borg-Warner Corp. Wobble plate pump. 2,980,025, 4–18–61, Cl. 103—38.

Wakefield, Frank W., to Scott & Williams, Inc. Knitting machine. 2,979,927, 4–18–61, Cl. 66—14.

Wald, John R., Co., Inc.: *See*—
Brown, Carl F., Jr., and Corbin. 2,980,057.

Walker, Brooks. Variable displacement hydraulic system with resilient means for variable-valve auxiliary vehicle suspension. 2,980,440, 4–18–61, Cl. 280—124.

Walker, Dale R., and W. A. Aikins. Miniature life preserver. 2,979,740, 4–18–61, Cl. 9—316.

Walker, Emil C., Jr., to Comptometer Corp. Decimal point indicator mechanism for registers. 2,980,322, 4–18–61, Cl. 235—61.

Walker, Richard M., B. D. Berkowitz, A. A. Blaisdell, and V. J. Mistretta, to Microwave Associates, Inc. Waveguide switch device. 2,980,873, 4–18–61, Cl. 333—98.

Wall, James R.: *See*—
Harris, Edward P., and Wall. 2,980,167.

Walker, Crosweller & Co. Ltd.: *See*—
Barker, Clifford L. 2,980,333.

Waller, Arthur, and O. Isensee, Jr., to Bull Dog Lock Co. Hardware for mirrors. 2,980,156, 4–18–61, Cl. 151—68.

Wallis, Barnes N., to Vickers-Armstrongs (Aircraft) Ltd. Variable sweepback airplane. 2,980,366, 4–18–61, Cl. 244—46.

Wallis, George H. Wax spreader. 2,979,756, 4–18–61, Cl. 15—546.

Waltz, Joseph E., to E. I. du Pont de Nemours & Co. Composite yarn and process of producing bulked fabric therefrom. 2,979,883, 4–18–61, Cl. 57—140.

Wandel, Oscar A., and R. H. Doyle, to Fastener Corp. Fastener driving apparatus. 2,979,725, 4–18–61, Cl. 1—106.

Wanless, Earl S. Condensate collecting apparatus. 2,980,105, 4–18–61, Cl. 126—382.

Ward, Leslie A., to United Aircraft Corp. Hooded crossover tube. 2,979,898, 4–18–61, Cl. 60—39.66.

Ward, Milton H.: *See*—
Ward, William W. and M. H. 2,980,049.

Ward, William W. and M. H. Boat hull keel construction. 2,980,049, 4–18–61, Cl. 114—140.

Warner & Swasey Co., The: *See*—
Darash, Nicholas P. 2,979,971.
Shook, William M. 2,979,908.

Warren, Fred H. Fluid sampler. 2,979,950, 4–18–61, Cl. 73—422.

Warren, Raymond: *See*—
Bagdon, Richard J., and Warren. 2,980,572.

Warren, William J.: *See*—
Datt, Paul L., Warren, and Willoughby. 2,980,848.
Datt, Paul L., Warren, and Willoughby. 2,980,849.

Waterous Co.: *See*—
Hill, Robert A. 2,980,391.

Watts, Sherman S.: *See*—
Boyer, Arthur G., and Watts. 2,980,422.

Wayland, Hubert E., to Ty-Sa-Man Machine Co. Grinding wheels. 2,980,098, 4–18–61, Cl. 125—3.

Wayrynen, Robert E.: *See*—
Umberger, Jacob Q., and Wayrynen. 2,980,626.

Weather-Seal, Inc.: *See*—
Etling, Harold A. 2,980,217.

Wedensky, Alexander V. Hamper receiving and squaring apparatus. 2,980,272, 4–18–61, Cl. 214—307.

Weger, Ronald E. Manifold violation and complaint form. 2,980,447, 4–18–61, Cl. 282—22.

Weinstock, Leonard M.: *See*—
Carmack, Marvin, Shew, and Weinstock. 2,980,687.

Weiser, Kurt, to Radio Corp. of America. Methods of making semiconductor devices. 2,980,560, 4–18–61, Cl. 148—1.5.

Weitzel, Edward W., to Shuford Mills, Inc. Buoyant cordage. 2,979,982, 4–18–61, Cl. 87—6.

Welchner, Frank J.: *See*—
Brauchler, Chandis H., and Welchner. 2,979,973.

Wells, Roger, to Diamond National Corp. Expandable transfer head for pulp molding machine. 2,980,183, 4–18–61, Cl. 162—416.

Welsch, Hans, to Jagenberg-Werke Akt. Ges. Assembly for pressing the upper end or lower margins of a container. 2,979,994, 4–18–61, Cl. 93—36.

Welsh, Charles J.: *See*—
Deering, Roland F., Dhondt, Hunt, Kelley, and Welsh. 2,980,592.

Wening, Herman E., to General Motors Corp. Table top construction material. 2,980,569, 4–18–61, Cl. 154—45.9.

Werts, Wayne E.: *See*—
Haase, Elmer A., and Werts. 2,979,895.

Werts, Wayne E., to The Bendix Corp. Servo motor and control apparatus therefor. 2,980,065, 4–18–61, Cl. 121—41.

West, Charles D. Adaptable molding fastener. 2,979,795, 4–18–61, Cl. 24—73.

West, Roger: *See*—
Plessner, Karl W., and West. 2,980,546.

Westbrook, William E. Pipe and tube gauge. 2,979,825, 4–18–61, Cl. 33—148.

Westeren, Herbert W., to C. I. Hayes, Inc. Atmosphere drying chamber. 2,979,828, 4–18–61, Cl. 34—68.

Westerfield, James G. Self-supporting tripod mast. 2,980,376, 4–18–61 Cl. 248—44.

Western Electric Co., Inc.: *See*—
Henning, George E. 2,980,851.

Westinghouse Electric Corp.: *See*—
Amatel, Harold. 2,980,240.
Brundige, William L., and Kane. 2,980,820.
Burt, Donald A., and Cook. 2,980,264.
Davis, Pearl C. 2,980,483.
Edelman, Leonard E., and Forbes. 2,980,643.
Feaster, Gene R. 2,980,819.
Ford, James C., Murrin, and Bramble. 2,980,561.
Lawsine, Leo, McIver, and Taylor. 2,980,769.
Lynn, Lawrence B. 2,980,139.
McClellan, Cyril E. 2,980,906.
Nolter, George L. 2,980,753.
Pavlovic, Dusan, and Foster. 2,980,563.
Purifoy, George R. 2,980,036.
Ringelman, John F. 2,980,846.
Stein, Frank S. and Torok. 2,980,832.
Stuart, John W. 2,980,847.
Winkler, Frederic C., and Picha. 2,980,880.
Yeakley, Glen E. 2,980,886.

Weston, Arthur W.: *See*—
Zaugg, Harold E., Weston, Freifelder, and Michaels. 2,980,683.

Weston, Arthur W., to Abbott Laboratories. Phenothiazine thiocarboxylates. 2,980,672, 4–18–61, Cl. 260—243.

Wetzel, Kurt, to Steatite Research Corp. Manganese zinc ferrite containing tungstic oxide. 2,980,619, 4–18–61, Cl. 252—62.5.

Weyerhaeuser Co.: *See*—
Kieckhefer, Herbert M. 2,979,871.

Wheaton, Jack M.: *See*—
Ringel, Walter J., and Wheaton. 2,979,874.

Wheaton, Robert M., and R. J. Anderson, to The Dow Chemical Co. Recovery of lithium from lithium bearing ores. 2,980,498, 4–18–61, Cl. 23—32.

Wheeler, Timothy H. Boat anchor with releasable flukes. 2,980,051, 4–18–61, Cl. 114—208.

Whitby, Lawrence, to The Dow Chemical Co. Pickling of magnesium alloys 2,980 559, 4–18–61, Cl. 134—41.

White, Benjamin D., to The Bearfoot Sole Co., Inc. Method of manufacturing cellular products. 2,979,775, 4–18–61, Cl. 18—53.

White, Ira M., to Baldwin-Lima-Hamilton Corp. Butterfly valve. 2,980,388, 4–18–61, Cl. 251—175.

White, S. S., Dental Mfg. Co., The: *See*—
Bechtold, Friedrich W. 2,980,170.

Whitehouse, Harvey B.: *See*—
Smith, Robert A. 2,980,299.

Whitehurst, Marcus G., to Ideal Industries, Inc. Clearer assembly for drafting rolls. 2,979,783, 4–18–61, Cl. 19—139.

Whitney, Nicholas E., Jr., to N. E. Whitney, Sr. Electric heating. 2,980,785, 4–18–61, Cl. 219—34.

Whitney, Nicholas E., Sr.: *See*—
Whitney, Nicholas E., Jr. 2,980,785.

Whizzer Industries, Inc.: *See*—
Schuricht, Henry A., Lake, and Smith. 2,980,121.

Widell, George M., to The Bendix Corp. Thrust control apparatus for liquid propellant rocket engines. 2,979,891, 4–18–61, Cl. 60—35.6.

Wiedemann, Eugen, to Aktiengesellschaft Brown, Boveri & Cie. Method of wrapping windings of electric machines. 2,980,564, 4–18–61, Cl. 154—2.26.

Wilbur, Warren D., and R. N. Tone. Pilaster-form and clamp. 2,979,800, 4–18–61, Cl. 25—131.

Wilkerson, Edward D. Headlight testing method and apparatus. 2,979,822, 4–18–61, Cl. 33—46.

Williams, Arthur R.: *See*—
Hidalgo, John, Williams, and Halverstadt. 2,980,673.

Williams, Beverly E., to Hodges Research and Development Co. Electric cooking device. 2,980,010, 4–18–61, Cl. 99—337.

Williams, Byron L., Jr.: *See*—
Culbertson, Harry M., and Williams. 2,980,636.
Culbertson, Harry M., and Williams. 2,980,637.

Williams, Charles B. Tank temperature equalizer. 2,980,181, 4–18–61, Cl. 137—334.

Williams, John L. Stock valve having yieldable gate engaging elements. 2,980,389, 4–18–61, Cl. 251—175.

Williams, Paul H., and W. J. Sullivan, to Shell Oil Co. 2,3,4,5-diepoxy compounds. 2,980,707, 4–18–61, Cl. 260—348.

Williams, Ray S., to Hagan Chemicals & Controls, Inc. Mechanically rebalanced linear motor servosystem. 2,980,835, 4–18–61, Cl. 318—22.

Williams, Winston F.: *See*—
Jacobson, Herbert P., and Williams. 2,980,328.

Williamson, James W. Sledge hammers. 2,980,154, 4–18–61, Cl. 145—29.

Willoughby, Richard B.: *See*—
Datt, Paul L., Warren, and Willoughby. 2,980,848.
Datt, Paul L., Warren, and Willoughby. 2,980,849.

Willsey, Charles H., to Seymour Foods, Inc. Egg washing machine. 2,979,746, 4–18–61, Cl. 15—3.13.

Wilmot-Breeden Ltd.: *See*—
Selwood, George. 2,980,137.

Wilson, Charles E.: *See*—
Schott, Arthur K., and Wilson. 2,979,905.

Wilson, Christopher L., and H. G. Hammon, to Hudson Foam Plastics Corp. Preparing polymers under vacuum. 2,980,650, 4–18–61, Cl. 260—75.

Wilson, Joseph F., to Phillips Petroleum Co. Preparation of mixed fertilizers. 2,980,526, 4–18–61, Cl. 71—32.

Wilson, Roger W.: *See*—
Buschers, Herbert H., Medina, and Wilson. 2,979,991.

Wilson, Rosser L., F. B. Herlihy, and T. J. Wood, to American Brake Shoe Co. Cast iron. 2,979,793, 4–18–61, Cl. 22—215.

Winegar, Rollin E.: *See*—
Edwards, Cyril J., Jr., and Winegar. 2,980,144.

Winkler, Frederic C., and G. J. Picha, to Westinghouse Electric Corp. Wiring device. 2,980,880, 4–18–61, Cl. 339—50.

Winther, Jerrold B., to Eaton Mfg. Co. Dynamometer. 2,980,812, 4–18–61, Cl. 310—93.

Wiseman, Fred B. Loom stop motions. 2,980,148, 4–18–61, Cl. 139—337.

Witmor, Beatrice L.: *See*—
Witmor, William N. 2,980,401.

Witmor, William N., deceased (by Citizens Trust Co. of Harrisburg, executor), to B. L. Witmor, now by change of name B. L. McCormick. Cable block. 2,980,401, 4–18–61, Cl. 254—196.

Witt, Donald R., to Phillips Petroleum Co. Copolymerization process. 2,980,659, 4–18–61, Cl. 260—88.2.

Witten, Louis: *See*—
Groetzinger, Gerhart K., Schwed, and Witten. 2,980,807.

Witzke, Ernest C., to Combustion Engineering, Inc. Heat exchange organization. 2,980,083, 4–18–61, Cl. 122—477.

Wladarczak, Heinz, to International Standard Electric Corp. Selective blocking device for office typewriter keyboard. 2,980,228, 4–18–61, Cl. 197—107.

Woehrle, Harry G., to General Electric Co. Cabinet structure. 2,980,478, 4–18–61, Cl. 312—7.

Wohlfahrt, Otto, and K. Michel, to Aktiengesellschaft Brown, Boveri & Cie. Method for the production of high-voltage insulation, and insulation produced by this method. 2,980,566, 4–18–61, Cl. 154—2.27.

Wolf, Raymond B., to The Borden Co. Process and apparatus for washing curd for cottage cheese. 2,980,538, 4–18–61, Cl. 99—116.

Wolfe, John S., to General Motors Corp. Lubricant system. 2,980,475, 4–18–61, Cl. 308—240.

Wood, Thomas J.: *See*—
Wilson, Rosser L., Herlihy, and Wood. 2,979,793.

Woodward, Stephen G.: *See*—
Sutton, Robert W., Woodward, and Hartman. 2,980,090.

Workman, Ernest R. Valve drive system. 2,980,127, 4–18–61, Cl. 137—115.

Wright, Lawrence T.: *See*—
Horner, John F., and Wright. 2,980,515.

Wu, Henry H., to Baldwin-Lima-Hamilton Corp. Position and stress controlling servosystem. 2,980,837, 4–18–61, Cl. 318—28.

Wurtz, Clifford H.: *See*—
De Witte John T., and Wurtz. 2,979,922.

Wyandotte Chemicals Corp.: *See*—
Kokoruda, Michael. 2,980,488.

Xela Corp.: *See*—
Alexander, Jack E. 2,979,990.

Yale & Towne Mfg. Co., The: *See*—
Ulinski, Bronislaus I. 2,980,271.

Yarrows Ltd.: *See*—
Broadbent, Stanley. 2,979,909.

Yeakley, Glen E., to Westinghouse Electric Corp. Elevator systems having audible car-direction signals. 2,980,886, 4–18–61, Cl. 340—19.

Yerks, Richard W.: *See*—
Intaglata, Salvatore J., Hildebrandt, Yerks, Di Galbo, Hall. 2,980,225.

Yingst, Cyrus S.: *See*—
Pollard, Harry, and Yingst. 2,979,870.

Yohe, Lester N. Aircraft with rotary lifting airfoils. 2,980,365, 4–18–61, Cl. 244—23.

Young, Austin F. B.: *See*—
Legg, Duncan, and Young. 2,980,781.

Young, Charles H., to Master Power Corp. Torque control for impact tool. 2,980,218, 4–18–61, Cl. 192—30.5.

Young Ira B., Jr., to Stainless Metal Products, Inc. Revolvable article support. 2,980,261, 4–18–61, Cl. 211—131.

Young, Ira B., Jr., to Stainless Metal Products, Inc. Milk case. 2,980,282, 4–18–61, Cl. 220—19.

Young, Loyd. Resilient support for chain saws. 2,980,374, 4–18–61, Cl. 248—18.

Youngstown Steel Door Co., The: *See*—
Beauchamp, Wilfred A. 2,979,786.

Youssov, Georges: *See*—
Mazond, Marceline, and Youssov. 2,980,597.

Zaander, Carl J., to American Machine & Foundry Co. Control mechanism for bowling pin spotting machines. 2,980,425, 4–18–61. Cl. 273—43.

Zabler, Erwin E., and J. C. Magid. Micrometer gauge. 2,979,826, 4–18–61. Cl. 33—164.

Zaiger, Max: *See*—
Nesson, Israel. 2,980,453.

Zaleski, John F., to General Precision, Inc. Microwave field rotator. 2,980,870, 4–18–61. Cl. 333—7.

Zaugg, Harold E., A. W. Weston, M. Freifelder, and R. J. Michaels, Jr., to Abbott Laboratories. Process for preparing β-substituted-ethyl piperazines. 2,980,683, 4–18–61. Cl. 260—268.

Zeisloft, Harry C., to The Bendix Corp. Fuel feed and power control system for gas turbine engines having a proportional by-pass fluid control. 2,979,894, 4–18–61. Cl. 60—39.28.

Zeiss, Harold H., and M. Tsutsui, to Monsanto Chemical Co. Di-valent nickel acetylene reactions. 2,980,741, 4–18–61. Cl. 260—668.

Zeiss, Ikon A.G.: *See*—
Bauer, Edgar, and Eberts. 2,980,001.

Zemke, Donald F.: *See*—
Kerber, Stanley M., Randall, and Zemke. 2,980,911.

Zenith Radio Corp.: *See*—
Morris, George V., and Terek. 2,980,901.

Zenter, Thomas G., and R. L. Boggs, to Diamond National Corp. Rotogravure printing of paperboard. 2,980,015. 4–18–61. Cl. 101—170.

Ziegler, Eugene R., to General Motors Corp. Windshield cleaning system. 2,979,751, 4–18–61. Cl. 15—250.02.

Ziehr, Walter: *See*—
Henschen, Erwin, and Laukhuf. 2,979,954.

Zimmer, David E.: *See*—
Miner, Leonard P. 2,980,315.

Zimmerman, Leonard R. Elevating and handling means for self-loading vehicle. 2,980,269, 4–18–61. Cl. 214—75.

Zuleeg, Rainer: *See*—
Lehovec, K., and Zuleeg. 2,980,831.

Zuppinger, Paul, and W. Fisch, to Ciba Ltd. Glycidyl ethers of N-methylolamino-1:3:5-triazines. 2,980,676, 4–18–61. Cl. 260—249.6.

Zylstra, Fred. Milking equipment washer. 2,980,122, 4–18–61. Cl. 134—169.

CLASSIFICATION OF PATENTS

ISSUED APRIL 18, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 1: 2,979,721
2: 2,979,722
5: 2,979,723
44.5: 2,979,724
106: 2,979,725
146: 2,979,727
323: 2,979,726
2— 14: 2,979,728
2,979,729
3— 12.3: 2,979,730
4— 13: 2,979,731
26: 2,979,732
172: 2,979,733
5— 109: 2,979,734
2,979,735
320: 2,979,736
2,979,737
331: 2,979,738
345: 2,979,739
8— 70: 2,980,487
108: 2,980,488
117: 3,980,489
2,980,490
120: 2,980,491
9— 316: 2,979,740
10— 105: 2,979,741
148: 2,979,742
12— 12.3: 2,979,743
20: 2,979,744
55: 2,979,745
15— 3.13: 2,979,746
21: 2,979,747
179: 2,979,749
250: 2,979,750
250.02: 2,979,751
250.21: 2,979,752
256.6: 2,979,753
301: 2,979,754
314: 2,979,755
546: 2,979,756
709: 2,979,757
605: 2,979,748
16— 55: 2,979,758
86: 2,979,759
110: 2,979,760
140: 2,979,761
17— 1: 2,979,762
8: 2,979,703
18— 2.7: 2,979,764
4: 2,979,765
8: 2,979,766
2,979,767
12: 2,979,768
2,979,769
16.7: 2,979,770
19: 2,979,771
30: 2,979,772
34: 2,979,773
46: 2,979,774
53: 2,979,775
54: 3,980,492
2,980,493
56: 2,979,776
57: 2,979,777
58: 2,979,778
59: 2,979,779
61: 2,979,780
19— 7: 2,979,781
67: 2,979,782
139: 2,979,783
142: 2,979,784
20— 16: 2,979,785
22: 2,979,786
23: 2,979,787
56.4: 2,979,788
57.5: 2,979,789
22— 129: 2,979,790
193: 2,979,791
200: 2,979,792
215: 2,979,793
23— 4: 2,980,494
14: 3,980,495
16: 2,980,496
25: 2,980,497
32: 2,980,498
2,980,499
49: 2,980,501
50: 2,980,500
56: 2,980,502
63: 2,980,503
2,980,504
75: 2,980,505
85: 2,980,506
140: 2,980,507
202: 2,980,508
2,980,509
2,980,510
23—209.4: 2,980,511
253: 2,980,512
255: 2,980,513
270.5: 2,980,514
288: 2,980,515
24— 17: 2,979,794
73: 2,979,795
206.1: 2,979,796
221: 2,979,797
25— 1: 2,979,798
77: 2,979,799
131: 2,979,800
154: 2,979,801
26— 7: 2,979,802
28— 72: 2,979,803
29— 95: 2,979,805
155: 2,979,806
155.62: 2,979,807
156.8: 2,979,808
2,979,809
182: 2,979,810
182.7: 2,979,811
463: 2,979,812
470: 2,979,813
2,979,814
30— 4: 2,979,815
2,979,816
2,979,817
30: 2,979,818
43: 2,979,819
215: 2,979,820
33— 1: 2,979,821
46: 2,979,822
79: 2,979,823
143: 2,979,824
148: 2,979,825
164: 2,979,826
174: 2,979,827
34— 68: 2,979,828
90: 2,979,829
124: 2,979,830
35— 11: 2,979,831
12: 2,979,832
2,979,833
73: 2,979,834
36— 44: 2,979,835
71: 2,979,836
37— 94: 2,979,837
97: 2,979,838
144: 2,979,839
40— 2: 2,979,840
128: 2,979,841
156: 2,979,842
41— 9: 2,979,843
10: 2,979,844
42— 58: Re.24,967
70: 2,979,845
71: 2,979,846
43—17.2: 2,979,847
37: 2,979,848
42.02: 2,979,849
42.24: 2,979,850
42.13: 2,979,851
42.16: 2,979,852
44.99: 2,979,853
90: 2,979,854
100: 2,979,855
132: 2,979,856
44— 19: 2,980,516
62: 2,980,517
66: 2,980,518
69: 2,980,519
2,980,520
45— 139: 2,979,857
46— 52: 2,979,858
135: 2,979,859
220: 2,979,860
229: 2,979,861
47— 1: 2,979,862
58: 2,979,863
59: P.P.2,050
61: P.P.2,046
P.P.2,047
62: P.P.2,048
P.P.2,049
48— 196: 2,980,521
2,980,522
218: 2,980,523
49—17.1: 2,979,864
77: 2,979,865
50— 406: 2,979,866
51— 126: 2,979,867
131: 2,979,868
165: 2,979,869
215: 2,979,870
343: 2,980,524
53— 3: 2,979,871
26: 2,979,872
251: 2,979,873
317: 2,979,874
320: 2,979,875
374: 2,979,876
56— 18: 2,979,877
25.4: 2,979,878
26: 2,979,879
372: 2,979,880
57— 54: 2,979,881
55.5: 2,979,882
140: 2,979,883
58— 5: 2,979,884
21.12: 2,979,885
59— 85: 2,979,886
60— 13: 2,979,887
23: 2,979,888
35.54: 2,979,893
35.6: 2,979,889
2,979,890
2,979,891
2,979,892
39.28: 2,979,894
2,979,895
39.47: 2,979,896
39.48: 2,979,897
39.66: 2,979,898
39.72: 2,979,899
2,979,900
39.77: 2,979,901
52: 2,979,902
54.5: 2,979,903
2,979,904
2,979,905
54.6: 2,979,906
2,979,907
97: 2,979,908
61— 28: 2,979,909
46: 2,979,910
46.5: 2,979,911
53.72: 2,979,912
63: 2,979,913
62— 64: 2,979,914
132: 2,979,915
172: 2,979,916
196: 2,979,917
275: 2,979,918
314: 2,979,919
342: 2,979,920
428: 2,979,921
447: 2,979,922
476: 2,979,923
511: 2,979,924
64— 15: 2,979,925
23.6: 2,979,926
66— 14: 2,979,927
172: Re.24,971
177: Re.24,970
196: 2,979,928
67— 7.1: 2,979,929
2,979,930
68— 12: 2,979,931
18: 2,979,932
22: 2,979,933
177: 2,979,934
207: 2,979,935
2,979,936
71— 2.7: 2,980,525
32: 2,980,526
73— 1: 2,979,937
12: 2,979,938
40: 2,979,939
71.4: 2,979,940
92: 2,979,941
117: 2,979,942
136: 2,979,943
150: 2,979,944
168: 2,979,945
194: 2,979,946
207: 2,979,947
228: 2,979,948
317: 2,979,949
336.5: 2,979,950
351: 2,979,951
363.3: 2,979,952
368.4: 2,979,953
391: 2,979,954
398: 2,979,955
422: 2,979,956
466: 2,979,957
483: 2,979,958
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37: 2,980,849
2,980,850
52: 2,980,851
87: 2,980,852
2,980,853
72: 2,980,854
2,980,855
74: 2,980,856
150: 2,980,857
328— 53: 2,980,858
258: 2,980,859
330— 6: 2,980,860
10: 2,980,861
70: 2,980,862
121: 2,980,840
331— 56: 2,980,863
109: 2,980,864
116: 2,980,865
135: 2,980,866
152: 2,980,867
332— 51: 2,980,868
333— 7: 2,980,869
2,980,870
28: 2,980,871
72: 2,980,872
98: 2,980,873
336— 192: 2,980,874
338— 25: 2,980,875
183: 2,980,876
258: 2,980,877
339— 17: 2,980,878
45: 2,980,879
50: 2,980,880
192: 2,980,881
2,980,882
282: 2,980,883
340— 15: 2,980,884
2,980,885
19: 2,980,886
40: 2,980,887
62: 2,980,888
81: 2,980,889
153: 2,980,890
198: 2,980,891
174: 2,980,892
2,980,893
187: 2,980,894
213: 2,980,895
224: 2,980,896
348: 2,980,897
253: 2,980,898
347: 2,980,899
2,980,900
365: 2,980,901
343— 7: 2,980,902
7.6: 2,980,903
11: 2,980,904
13: 2,980,905
16: 2,980,906
105: 2,980,907
112: 2,980,908
705: 2,980,909
2,980,910
779: 2,980,911
802: 2,980,912
346— 33: 2,980,466

D 3— 13: 190,111
D 9— 2: 190,112
190,113
D14— 3: 190,114
6: 190,115
18: 190,116
30: 190,117
190,118
D14— 190,119
D15— 1: 190,120
190,121
D16— 2: 190,122
D17— 3: 190,123
D31— 3: 190,124
D34— 5: 190,125
190,126
D34— 15: 190,127
D44— 1: 190,128
10: 190,129
190,130
D45— 4: 190,132
D48— 2: 190,134
D48— 16: 190,135
20: 190,136
24: 190,137
D54— 13: 190,138
D55— 1: 190,139
D56— 2: 190,140
D58— 8: 190,141
11: 190,142
D58— 12: 190,143
D62— 3: 190,144
D64— 11: 190,145
190,146
D67— 4: 190,147
D72— 1: 190,148
D74— 5: 190,149
21: 190,150
D80— 9: 190,151
190,152
D81— 10: 190,153
190,154
D90— 20: 190,155
D93— 3: 190,156

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

April 18, 1961 Volume 765 Number 3

TRADEMARKS

NOTICES

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 24, 1961, through October 28, 1961.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 86,340 (HOYO DE MONTERREY), L. G. y Seycher, Cigars; **Reg. No. 111,305** (BELINDA AND DESIGN), M. L. Fernandez, same; **Reg. No. 236,515** (BELINDA HABANA AND DESIGN), Fernandez, Palicio y Cia. S. en C., same; **Reg. No. 261,304** (PUNCH ETC. AND DESIGN), same; **Reg. No. 307,755** (BELINDA), same, filed Mar. 8, 1961, D.C., S.D.N.Y., Doc. 61/869, *F. Palicio y Compania, S.A. v. Dunhill International, Inc. et al.*

Reg. No. 89,518 (H. UPMANN AND DESIGN), Cigars, filed Feb. 8, 1961, D.C., S.D.N.Y., Doc. 61/472, *Alonso Menendez et al. v. Faber, Coe-Gregg, Inc.* Same; **Reg. No. 332,324** (MONTE CRISTO HABANA AND DESIGN), Particulares, S.A., Cigars, cigarettes and cut tobacco, filed Mar. 7, 1961, D.C., S.D.N.Y., Doc. 61/849, *Alonso Menendez v. Dunhill International, Inc. et al.*

Reg. No. 111,305. (See Reg. No. 86,340.)

Reg. No. 215,230 (MODESS), Chicopee Manufacturing Corporation, Sanitary napkins; **Reg. No. 407,156** (MEDS), Personal Products Corporation, Tampons; **Reg. No. 411,169** (CO-ETS), same, Small pads of cotton used primarily for cleansing, or the application of cosmetics, medicaments, and toiletries; **Reg. No. 525,046** (MODESS), same, Sanitary belts; **Reg. No. 547,889** (JOHNNY-MOP), D. F. Rodgers, Disposable cleaning swab pads and handles and holders therefor; **Reg. No. 639,639** (SERENA), Personal Products Corporation, Sanitary napkins; **Reg. No. 645,185** (MODESS), same, Tampons, filed Mar. 6, 1961, D.C., N.D.N.Y. (Utica), Doc. 8502, *Personal Products Corporation v. Busy Bargain Center, Inc.*

Reg. No. 236,515. (See Reg. No. 86,340.)

Reg. No. 324,667 (TRAV-LER AND DESIGN), Trav-ler Manufacturing Corporation, Radio receiving sets and loop aerials; **Reg. No. 622,161** (TRAV-LER), Trav-ler Radio Corporation, Television receivers, radio receivers, combination radio receivers and phonograph record players, etc., filed Feb. 27, 1961, D.C., S.D.N.Y., Doc. 61/746, *The Soundscriber Corporation v. Trav-ler Radio Corporation.*

Reg. No. 240,574 (RAMON ALLONES), Cifuentes Pego y Compania, Cigars, cigarettes and smoking tobacco; **Reg. No. 256,751** (PARTAGAS), same, Cigars; **Reg. No. 440,217** (FLOR DE TOBACOS), Cifuentes y Compania, Cigars, cigarettes and cut tobacco; **Reg. No. 529,453** (RAMON ALLONES), same, Cigars; **Reg. No. 534,700**, same; **Reg. No. 543,257** (DESIGN OF LABEL), same; **Reg. No. 544,230** (PARTAGAS), same; **Reg. No. 545,830** (EXPOSITION UNIVERSELLE AND DESIGN), same, filed Mar. 7, 1961, D.C., S.D.N.Y., Doc. 61/848, *Rafael Cifuentes et al. v. DunHill International, Inc. et al.*

Reg. No. 256,751. (See Reg. No. 240,570.)

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,477
Date of oldest new application	August 22, 1960
Date of oldest amended application	September 1, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 39, 40, 41, 42, 43, 44, 50	8-22-60	10-10-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	9-13-60	9-1-60
Renewals (All Classes)	2-1-61	-------
Sec. 12 (c) Publications (All Classes)	2-8-61	-------

Applications filed during the month of February 1961—1799

Registrations Issued	264—No. 714,012 to No. 714,275
Renewals Issued	75

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Reg. No. 391,254 (STRATOSPHERE RAPPEPORT CHICAGO AND DESIGN), R. E. Rappeport, Luggage and leather goods, overnight cases, traveling bags and trunks, etc., filed Mar. 31, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c503, *R. E. Rappeport & Sons, Inc.* v. *Shelby Products et al.* Order of dismissal without prejudice (notice Mar. 2, 1961).

Reg. No. 391,779 (UNISTRUT), Deceleco, Inc., Sectional metallic building units adapted to serve as framing and supporting members for temporary and permanent construction of buildings and other structures, etc.; 2,345,650, C. W. Attwood, Skeletonized structure; 2,696,139, same, Nut for locking engagement with Unistrut, filed July 13, 1959, C.C.A., 1st Cir., Cross-Appeals, Docs. 5441 and 5442, *Unistrut Corporation et al.* v. *James P. Power et al.* Patent 2,345,650 held not infringed by defendants; Patent 2,696,139 held invalid; complaint dismissed as to plaintiff Attwood. Registered Trademark Unistrut held not infringed; complaint dismissed as to plaintiff Unistrut Corporation Feb. 13, 1961.

Reg. No. 407,188. (See Reg. No. 215,220.)

Reg. No. 411,169. (See Reg. No. 215,220.)

Reg. No. 440,517. (See Reg. No. 356,751.)

Reg. No. 330,971 (GLOVER'S IMPERIAL), H. Clay Glover, Inc., Mange medicine, antiseptic medicated ointment used for the treatment of the human scalp and hair, and for a preparation for dressing the hair; **Reg. No. 604,649** (IMPERIAL), same, Ointment for sarcoptic mange, dog and puppy capsules, and tapeworm capsules, filed Sept. 4, 1959, D.C., S.D.N.Y., Doc. 150/140, *H. Clay Glover Co., Inc.* v. *Pharmaceuticals, Inc.* Stipulation and order of dismissal Feb. 28, 1961.

Reg. No. 525,046. (See Reg. No. 215,220.)

Reg. No. 525,469 (CLINTON), Clinton Watch Company, Watches and watch movements, filed June 19, 1959, D.C., N.D. Ill. (Chicago), Doc. 59c079, *Clinton Watch Company* v. *Hilton Watch Company.* Dismissed for want of prosecution Jan. 18, 1961.

Reg. No. 543,257. (See Reg. No. 356,751.)

Reg. No. 544,739. (See Reg. No. 356,751.)

Reg. No. 545,520. (See Reg. No. 356,751.)

Reg. No. 547,889. (See Reg. No. 215,220.)

Reg. No. 566,534 (LANOLIN PLUS), Lanolin Plus Cosmetics, Inc., Toilet soap; **Reg. No. 621,439**, same, Saint Cornelius The Centurion Chapel of Valley Forge Military Academy, Cosmetic cream oil lotion for the face, hands and body, etc., filed Apr. 19, 1960, D.C.N.J. (Newark), Doc. 365/60, *Lanolin Plus, Inc.* v. *Sanitary Soap Co., Inc. et al.* Stipulation and order of dismissal Mar. 9, 1961.

Reg. No. 567,102 (RAPIDOBALL), Koh-I-Noor Pencil Company, Inc., Fountain pens; **Reg. No. 613,177** (RAPIDOGRAPH), Riepe-Werke, Ballpoint pens, fountain pens and mechanical pencils, filed Feb. 20, 1961, D.C., S.D.N.Y., Doc. 61/642, *Koh-I-Noor, Inc.* v. *Arthur Brown & Bro., Inc.*

Reg. No. 606,720 (SUPREME), Supreme Products, Inc., Chucks and parts thereof, chuck key and chuck adaptor, filed July 1, 1959, D.C., S.D.N.Y., Doc. 147/389, *Supreme Products Corporation* v. *Steelcraft Tool Corporation et al.* Order of dismissal for lack of prosecution Mar. 8, 1961.

Reg. No. 613,177. (See Reg. No. 567,102.)

Reg. No. 621,439. (See Reg. No. 566,534.)

Reg. No. 626,161. (See Reg. No. 234,087.)

Reg. No. 629,629. (See Reg. No. 215,220.)

Reg. No. 645,165. (See Reg. No. 215,220.)

Reg. No. 664,649. (See Reg. No. 520,971.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 105,650. Metal & Thermit Corporation, Woodbridge Township, Middlesex County, N.J. Filed Oct. 3, 1960.

MILLTROX

For Milled Zircon Used in Manufacturing Refractories.
First use on or about June 24, 1960.

Class 2—Receptacles

SN 91,113. Pro-Phy-Lac-Tic Brush Company, Florence, Mass. Filed Feb. 17, 1960.

FARM-IN-THE-DELL

For Plastic Dinner Hollow Ware.
First use Nov. 10, 1959.

SN 91,114. Pro-Phy-Lac-Tic Brush Company, Florence, Mass. Filed Feb. 17, 1960.

PROLONWARE

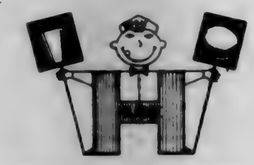
Owner of Reg. Nos. 384,669, 587,677, and others.
For Plastic Dinner Hollow Ware.
First use May 17, 1951.

SN 91,115. Pro-Phy-Lac-Tic Brush Company, Florence, Mass. Filed Feb. 17, 1960.

SAN MARINO

For Plastic Dinner Hollow Ware.
First use Oct. 6, 1959.

SN 94,648. Thomas Carvel, Yonkers, N.Y. Filed Apr. 8, 1960.



For Containers Made of Cardboard, Paper, or Plastic, for the Reception of Foods Products.
First use April 1960.

SN 101,649. Specialty Sheet Metal Manufacturing Co., d.b.a. Speco Products, Chicago, Ill. Filed July 28, 1960.

KRESTLINE

For Household Storage and Dispensing Containers—Namely, Bread Cabinets, Condiment Cabinets, Canister Sets, and Dispensers for Rolled Materials Such as Paper Towels, Aluminum Foil, Wax Paper, and Plastic Wrappings.
First use Jan. 17, 1958.

SN 105,694. United Laboratories Co., Linden, N.J. Filed Oct. 3, 1960.

WEARAWAY

For Polyethylene Bags Used for Packaging Purposes.
First use Feb. 17, 1958.

SN 106,065. Diamond National Corporation, New York, N.Y. Filed Oct. 10, 1960.

PILLOPOST

For Egg Cartons, Said Egg Cartons Being Sold Empty.
First use on or about Oct. 12, 1959.

SN 106,346. Reliance Products Sales Corp., Woonsocket, R.I. Filed Oct. 13, 1960.

PROTECT-O

For Plastic Baby Products—Namely, Training Cups, Feeding Dishes and Teething Play Chips.
First use Sept. 23, 1957.

SN 106,984. Glenn M. Chambers, d.b.a. Glenn M. C. Co., Longview, Wash. Filed Oct. 24, 1960.

FizzNik

For Container Attachment for Soft Drink Bottles for Containing and Dispensing Ice Cream and Crushed Ices and for Dispensing Contents of the Bottle Through the Latter.
First use Feb. 17, 1960.

SN 107,001. Forbes Lithograph Manufacturing Co., Boston, Mass. Filed Oct. 24, 1960.

AD-VISE

For Bottle Carriers Made of Cardboard.
First use on or about Oct. 5, 1960.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 81,935. Pioneer Industries, Inc., Darby, Pa. Filed Sept. 23, 1959.

THE MARK OF A MAN

Owner of Reg. No. 384,564.
For Suit Cases, Pocket Secretaries, Travel Kits, Toilet Kits, Shaving Kits, Calling-Card Cases, Pass-Card Cases, Fitted Travel Cases, Wallets, Bill-Folds, Key-Containers, Manicure Sets, Shoe-Shine Kits, Jewelry Boxes, and Cigarette Cases.
First use Nov. 3, 1950.

Class 4 — Abrasives and Polishing Materials

SN 95,057. Certified Laboratories, Inc., Fort Worth, Tex. Filed Apr. 14, 1960.



The drawing is lined for red, the said color being part of the mark.

For Snow Plow Wax; Automobile Wax; Self-Polishing Wax for Use on Asphalt Tile, Linoleum, Rubber Tile, Terrazo, Composition, and Finished Wood Floors; Water Emulsion Floor Wax; Slip-Proof Wax; and Non-Wax Floor Finish.

First use Nov. 13, 1956.

Class 5 — Adhesives

SN 95,774. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed Apr. 25, 1960.

FORM-A-BOND

For Base Coating for Rubber-to-Metal Adhesion.
First use June 19, 1959.

SN 95,775. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed Apr. 25, 1960.

BOND-O-LOK

Owner of Reg. No. 634,508.
For Base Coat for Metals to Which Is Bonded a Subsequently Applied Coating.
First use Aug. 19, 1959.

Class 6 — Chemicals and Chemical Compositions

SN 77,753. Lewis Knox, d.b.a. Knox Soap Company, Chicago, Ill. Filed July 15, 1959.

STA-BIL

For Chemical Additive to Gasoline To Prevent Formation of Gum and Varnish in Fuel Systems, Sold in Dispenser Containers.
First use on or about Sept. 2, 1958.

SN 94,196. Sincat Soc. Industriale Catanese S.p.A., Palermo, Italy. Filed Apr. 1, 1960.

SINCAT

Owner of Italian Reg. No. 146,430, dated Dec. 1, 1959.
For Organic and Inorganic Chemical Products for Industrial, Scientific and General Laboratory Purposes—Namely, Organic and Inorganic Acids and Their Salts, Nitrogenous Products, More Particularly, Ammonia, Urea, Hydrazine, and Ammonium Salts Such as Ammonium Sulphate, Ammonium Nitrate, Ammonium Chloride and Ammonium Phosphate; Potassium Salts; Chlorine and Chlorine-Containing Products Such as Calcium Chloride; Soda, Potash, Caustic Soda and Caustic Potash; Oxygen-Containing Products, More Particularly, Metal Oxides Such as Magnesium Oxides, Peroxides Such as Metal Peroxides and Hydrogen Peroxide, and Persalts Such as Persulphates and Perborates; and Halogen Acids Such as Hydrochloric Acid; Chlorinated Hydrocarbons and Solvents; Petroleum Derivatives—Namely, Propane, Butane, Butene, Ethylene and Their Derivatives, More Particularly, Dimers, Trimers, and Tetramers of Saturated and Unsaturated Hydrocarbons and Their Polymers and Copolymers; Plasticizers and Stabilizers; Catalysts and Activators; and Suspending Agents.

SN 95,163. General Aniline & Film Corporation, New York, N.Y. Filed Apr. 15, 1960.

PARAMOUNT

For Pigments.
First use Sept. 3, 1958.

SN 96,097. Columbian Carbon Company, New York, N.Y. Filed Apr. 29, 1960.

ALCOBLAK

Owner of Reg. Nos. 313,047, 650,334, and others.
For Colloidal Dispersions of Carbon Black Having General Utility in the Industrial Arts.
First use Mar. 24, 1960.

SN 96,346. Morningstar-Paisley, Inc., New York, N.Y. Filed May 3, 1960.

TEXTARCH

For Cold Water Additive Laundry Starch.
First use Apr. 17, 1959.

SN 98,549. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed June 6, 1960.

BOOTH-TONE

For Water Soluble Deflocculating Agent for Addition to Circulating Water in Water-Wash Paint Spray Booths.
First use Apr. 4, 1956.

SN 102,357. Virginia-Carolina Chemical Corporation, Richmond, Va. Filed Aug. 9, 1960.

CEFRO

For Rat, Mouse, Rabbit Repellent.
First use May 11, 1960.

SN 105,151. E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Sept. 26, 1960.

ZACLON

For Galvanizing Fluxes.
First use Aug. 1, 1960.

Class 10 — Fertilizers

SN 94,197. Sincat Soc. Industriale Catanese S.p.A., Palermo, Italy. Filed Apr. 1, 1960.

SINCAT

Owner of Italian Reg. No. 146,430, dated Dec. 1, 1959.
For Fertilizers.

SN 107,428. Fieldcrest Fertilizer Co., Madison, Minn. Filed Oct. 31, 1960.

FIELDCREST

For Commercial Fertilizer.
First use Mar. 1, 1955.

Class 11 — Inks and Inking Materials

SN 91,073. Columbia Ribbon & Carbon Manufacturing Company, Inc., Glen Cove, N.Y. Filed Feb. 17, 1960.

COMMANDER

Owner of Reg. No. 501,083.
For Typewriter Ribbons.
First use on about Feb. 1, 1958.

SN 93,676. Ennis Business Forms, Inc., Ennis, Tex. Filed Mar. 25, 1960.

Ennis

Owner of Reg. No. 555,933.
For Carbon Paper and Typewriter Ribbons.
First use March 1959; 1909 as to "Ennis."

Class 12 — Construction Materials

SN 61,077. Plywall Products Co., Inc., Fort Wayne, Ind. Filed Oct. 21, 1958.

POLY-CLAD

For Prefinished Plywood.
First use Sept. 8, 1958.

SN 83,910. Bill Russell, Inc., Austin, Tex. Filed Oct. 23, 1959.

SPRING-WELL

For Diving Boards.
First use Sept. 8, 1959.

SN 93,775. Duracrete Block Co., Inc., Manchester, N.H. Filed Mar. 28, 1960.

GLAZON

For Masonry Blocks Having a Resin Coating Bonded to One or More Faces Thereof.
First use Feb. 29, 1960.

SN 94,756. Fenestra Incorporated, Detroit, Mich. Filed Apr. 11, 1960.

RE FORM

For Reinforcing Forms for Concrete Roofs or Floor Slabs and Forms for Concrete Roofs or Floor Slabs.
First use Oct. 16, 1959.

SN 94,757. Fenestra Incorporated, Detroit, Mich. Filed Apr. 11, 1960.

ELECT RE FORM

For Cellular Metal Floor or Roof Panels and Concrete Reinforcing Panels for Use With Under Floor or Roof Wiring Systems.
First use Oct. 16, 1959.

SN 95,142. Continental Aluminum Products Company, Chicago, Ill. Filed Apr. 15, 1960.

AWN-JAL

For Awning Type Windows.
First use Apr. 1, 1960.

SN 95,323. Silence Inc., Farmingdale, N.Y. Filed Apr. 18, 1960.

SILENTROOM

For Prefabricated Soundproof Rooms.
First use June 13, 1959.

SN 96,348. National Automotive Wholesalers Association, Atlanta, Ga. Filed May 3, 1960. COLLECTIVE MARK.

UDS

For Plastic Filler for the Repair of Automobiles and Similar Types of Repair Work.
First use Mar. 2, 1960.

SN 98,243. Stran-Steel Corporation, Ecorse, Mich. Filed June 1, 1960.

GRAIN-MASTER

For Readily Erectable Buildings, Knock-Down Buildings, Prefabricated Buildings and Structural Parts and Elements for Building Construction.
First use Apr. 13, 1960.

SN 104,268. Arthur A. Hundley, Creve Coeur, Ill. Filed Sept. 12, 1960.

KWIKLUX

For Metal Shingles.
First use Dec. 17, 1958.

SN 104,287. Marsh Homes, Inc., Indianapolis, Ind. Filed Sept. 12, 1960.

MARSH

For Manufactured or Prefabricated Houses.
First use Apr. 29, 1960.

SN 104,457. William S. Kalmanson, d.b.a. Faserit of America and as Manson Company, Miami, Fla. Filed Sept. 14, 1960.

Faserit

For Composition of Powdered Material Used as a Plastering Material and Paint Substitute.
First use Aug. 4, 1960.

SN 105,842. Security Aluminum Company, Detroit, Mich. Filed Sept. 13, 1960.

MARATHON

For Aluminum Siding.
First use Feb. 16, 1960.

SN 107,072. Sylvan Pools, Inc., Doylestown, Pa. Filed Oct. 24, 1960.

UNIPOUR

For Swimming Pools.
First use on or about Feb. 28, 1960.

SN 107,704. Rockwell-Standard Corporation, Coraopolis, Pa. Filed Nov. 2, 1960.

MOD-U-LOK

For Modular Steel Floor Plate for Use in Structural Installations.
First use June 17, 1960.

SN 107,948. Keystone Steel & Wire Company, Peoria, Ill. Filed Nov. 7, 1960.

KEYSTRIP

For Lathing Reinforcing Strips.
First use March 1959.

SN 107,949. Keystone Steel & Wire Company, Peoria, Ill. Filed Nov. 7, 1960.

KEYDECK

For Wire Fabric Reinforcement for Roof Decks.
First use May 14, 1958.

SN 107,950. Keystone Steel & Wire Company, Peoria, Ill. Filed Nov. 7, 1960.

KEYCORNER

For Corner Lathing Strips.
First use May 8, 1951.

SN 107,951. Keystone Steel & Wire Company, Peoria, Ill. Filed Nov. 7, 1960.

KEYWALL

For Masonry Reinforcing Strips.
First use July 29, 1955.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 93,115. Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Braunau am Inn, Upper Austria, Austria. Filed Mar. 14, 1960.

ROSTFREI STAINLESS BERNDORF AUSTRIA

The words "Rostfrei," "Stainless," and "Austria" are disclaimed apart from the mark as shown. Owner of Austrian Reg. No. 42,763, dated Jan. 15, 1960.
For Metal Receptacles and Hollow Ware—Namely, Jugs, Pitchers, Dishes, Vases, Trays, Pots and Other Table Utensils.

SN 93,116. Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Braunau am Inn, Upper Austria, Austria. Filed Mar. 14, 1960.

ALPACCA BERNDORF AUSTRIA

The words "Alpacca," "Berndorf," and "Austria" are disclaimed apart from the mark as shown. Owner of Austrian Reg. No. 42,762, dated Jan. 15, 1960.
For Metal Receptacles and Hollow Ware—Namely, Jugs, Pitchers, Dishes, Vases, Trays, Pots and Other Table Utensils.

SN 93,117. Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Braunau am Inn, Upper Austria, Austria. Filed Mar. 14, 1960.

NICRO STAINLESS BERNDORF AUSTRIA

The words "Stainless," "Berndorf," and "Austria" are disclaimed apart from the mark as shown. Owner of Austrian Reg. No. 42,764, dated Jan. 15, 1960.
For Metal Receptacles and Hollow Ware—Namely, Jugs, Pitchers, Dishes, Vases, Trays, Pots and Other Table Utensils.

SN 104,804. Cameron Iron Works, Inc., Houston, Tex. Filed Sept. 20, 1960.

Cameron

Owner of Reg. No. 560,168.
For Valves, Including Automatic Safety Valves, Relief Valves, Gate Valves, Plug Valves, Check Valves, and Ball Valves.
First use 1951 on gate valves, plug valves, and check valves.

SN 106,501. The H. B. Ives Company, New Haven, Conn. Filed Oct. 17, 1960.

MIGHTY-MITE

For Catches for Cupboard Doors or the Like.
First use Sept. 27, 1960.

SN 106,801. Foster Aluminum Alloy Products Corporation, Forestville, N.Y. Filed Oct. 20, 1960.

ChefMaster GLEAM-WARE

For Aluminum Cook Ware.
First use on or about June 1, 1960.

SN 107,161. Twentieth Century Products Corporation, Denver, Colo. Filed Oct. 25, 1960.

20th CENTURY

For Plumbing Fixtures—Namely, Toilet Tank Supply Valves and Supply Line Connectors.
First use June 15, 1960.

SN 107,162. Twentieth Century Products Corporation, Denver, Colo. Filed Oct. 25, 1960.

20th CP

For Plumbing Fixtures—Namely, Toilet Tank Supply Valves and Supply Line Connectors.
First use June 15, 1960.

SN 107,205. National Fittings Company of New York, Inc., Brooklyn, N.Y. Filed Oct. 26, 1960.

NAFCO

For Pipe Fittings, Pipe Nipples, and Gray Iron Castings.
First use 1915.

SN 107,286. Reliable Electric Company, Franklin Park, Ill. Filed Oct. 27, 1960.

WIREVISE

Owner of Reg. No. 561,307.
For Deadend Devices for Communications Wires.
First use Aug. 3, 1954.

SN 107,853. Georgia Sanitary Pottery, Inc., Atlanta, Ga. Filed Nov. 4, 1960.

DIXIE

For Plumbing Fixtures of Vitreous China, Enameled Iron, Enameled Steel, or the Like.
First use Sept. 15, 1947.

Class 14—Metals and Metal Castings and Forgings

SN 94,028. Trierer Walzwerk AG., Wuppertal-Langerfeld, Germany. Filed Mar. 30, 1960.

PLATAL

Owner of German Reg. No. 440,525, dated Dec. 15, 1931.
For Steel Sheets and Strips.

SN 103,495. U.S. Magnet & Alloy Corporation, Bloomfield, N.J. Filed Aug. 26, 1960.

ZEMO

For High Integrity Alloys and Castings.
First use Mar. 12, 1960.

Class 15—Oils and Greases

SN 83,976. Kayo Oil Company, Chattanooga, Tenn. Filed Oct. 26, 1959.



The drawing is lined for red.
For Gasoline and Lubricating Oils.
First use in 1952.

SN 94,198. Sincat Soc. Industriale Catanese S.p.A., Palmero, Italy. Filed Apr. 1, 1960.

SINCAT

Owner of Italian Reg. No. 146,430, dated Dec. 1, 1959.
For Hydrocarbon Lubricants and Gasoline.

SN 105,256. Bardahl Manufacturing Corporation, Seattle, Wash. Filed Sept. 27, 1960.

GEDOL

For Additive Motor Oil and Additive Top Oil.
First use Sept. 2, 1960.

SN 106,854. R. L. Spillman Company, Columbus, Ohio. Filed Oct. 20, 1960.

SWISS

For Form Oil Used in Metal Molds for Concrete Products and Concrete Forms.
First use in 1956.

SN 107,503. The Ohio Oil Company, Findlay, Ohio. Filed Oct. 31, 1960.

MARALUBE

Owner of Reg. Nos. 97,301, 656,696, and others.
For Lubricants for Use in Farm and Industrial Machinery.
First use Sept. 23, 1960.

SN 107,600. The Standard Oil Company, Cleveland, Ohio. Filed Nov. 1, 1960.

TRILON

For Gasoline.
First use Oct. 20, 1960.

SN 107,601. The Standard Oil Company, Cleveland, Ohio. Filed Nov. 1, 1960.

SOLAR

Owner of Reg. No. 621,647.
For Gasoline.
First use Oct. 20, 1960; prior to 1904 in connection with lubricating oil.

SN 107,914. Consolidated Research and Manufacturing Corporation, New Haven, Conn. Filed Nov. 7, 1960.

BUTYLUBE

For All Purpose Rubber Lubricant and Cleaner.
First use Aug. 29, 1960.

SN 108,088. Shell Oil Company, New York, N.Y. Filed Nov. 8, 1960.

GREEN STREAK

For Motor Fuels and Lubricants.
First use Oct. 28, 1960.

SN 108,089. Shell Oil Company, New York, N.Y. Filed Nov. 8, 1960.

TARGET

For Motor Fuels and Lubricants.
First use Oct. 28, 1960.

SN 108,090. Shell Oil Company, New York, N.Y. Filed Nov. 8, 1960.

SILVER FLASH

Owner of Reg. No. 136,987.
For Motor Fuels and Lubricants.
First use Oct. 28, 1960.

Class 16—Protective and Decorative Coatings

SN 90,541. Master-Krete, Inc., Kansas City, Mo. Filed Feb. 8, 1960.

MASTER-KRETE

For Asphaltic Product for Surface Coating Tennis Courts, Patios, Play Grounds, and Industrial Floors.
First use January 1951.

SN 90,543. Master-Krete, Inc., Kansas City, Mo. Filed Feb. 8, 1960.

MASTER-FLEX

For Asphaltic Product for Surface Coating Tennis Courts, Patios, Play Grounds, and Industrial Floors.
First use January 1951.

SN 106,176. Arvon Products Co. Inc., Philadelphia, Pa. Filed Oct. 11, 1960.

ARVONWOOD

Owner of Reg. Nos. 293,022, 609,631, and others.
For Ready Mixed Paint.
First use on or about Aug. 25, 1960.

SN 106,459. American Home Products Corporation, d.b.a. Boyle-Midway, New York, N.Y. Filed Oct. 17, 1960.

AERO SNOW

Owner of Reg. No. 581,188.
For Pressure Propelled Paint Containing Acryloid Resins of Different Colors for Decorative Purposes.
First use Sept. 16, 1952.

SN 106,524. Nu-Color Corp. of America, Los Angeles, Calif. Filed Oct. 17, 1960.

Vp

For Plastic Coating Compositions Sold in Pressurized Containers for Spray Application.
First use Aug. 16, 1960.

Class 17—Tobacco Products

SN 106,520. N.V. Tabaksfabriek Franciscus Lieftinck, d.b.a. Franciscus Lieftinck Ltd., Groningen, Netherlands. Filed Oct. 17, 1960.

NAUTIC

For Smoking Tobacco.
First use 1935; in commerce June 23, 1960.

Class 18—Medicines and Pharmaceutical Preparations

SN 95,576. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories, Stamford, Conn. Filed Apr. 22, 1960.

STAMICOL

For Pharmaceutical Preparation Used for the Relief of Common Cold Symptoms.
First use Mar. 25, 1960.

SN 95,743. Marion Laboratories, Inc., Kansas City, Mo. Filed Apr. 25, 1960.

Capre'

For Multivitamin Dietary Supplement.
First use Mar. 17, 1960.

SN 96,205. M. G. Farnsworth, Chicago, Ill. Filed May 2, 1960.

AFACO

For Tablets for Dissolving and Used in the Treatment of Cataracts of the Eye.
First use Dec. 11, 1959.

SN 100,818. Stiefel Laboratories, Inc., Oak Hill, N.Y. Filed July 13, 1960.

SHAL-LUBE

For Pharmaceutical Preparation Consisting of a Tar Bath Concentrate for the Treatment of Skin Diseases by Sitz Bath.
First use May 10, 1960.

SN 102,167. American Cyanamid Company, New York, N.Y. Filed Aug. 8, 1960.

ARISTOSOL

Owner of Reg. Nos. 653,318, 694,472, and others.
For Steroid Preparation.
First use June 27, 1960.

SN 105,783. Albert Monk, d.b.a. Associated Research, Frederick, Md. Filed Sept. 29, 1960.

PAROX-EASE

For Preparation for the Treatment of Bronchial Asthma, Nasal Congestion Due to Hay Fever and Nasal Congestion Due to Sinusitis.
First use about January 1935.

SN 106,675. Dr. Katherene Jones, Baltimore, Md. Filed Oct. 6, 1960.

DR. JONES

For Powder Used for Acne, Sunburn, Cuts, Burns, Eczema, Athlete's Foot, Etc.
First use Oct. 16, 1938.

SN 106,877. American Home Products Corporation, d.b.a. Wyeth Laboratories, New York, N.Y. Filed Oct. 21, 1960.

PROKETAZINE

For Psychotropic Agent.
First use Sept. 16, 1960.

SN 106,926. Merck & Co., Inc., Rahway, N.J. Filed Oct. 21, 1960.

ALDOMET

For Medicinal Preparation for Use in the Treatment of Hypertension.
First use Sept. 29, 1960.

SN 110,632. Spencer Laboratories Incorporated, Morristown, N.J. Filed Dec. 21, 1960.

NORMIC

For Tranquilizer.
First use Nov. 3, 1960.

SN 110,646. American Pharmaceutical Company, New York, N.Y. Filed Dec. 22, 1960.

NITE-REST

For Anti-Insomnia Preparation.
First use at least as early as January 1958.

SN 110,767. Johnson & Johnson, New Brunswick, N.J. Filed Dec. 23, 1960.

MEDANE

For Topical Antiseptic.
First use Nov. 29, 1960.

SN 110,768. Johnson & Johnson, New Brunswick, N.J. Filed Dec. 23, 1960.

DIQUATRIN

For Topical Antiseptic.
First use Nov. 29, 1960.

SN 110,770. Johnson & Johnson, New Brunswick, N.J. Filed Dec. 23, 1960.

MICRIDIUM

For Topical Antiseptic.
First use Nov. 29, 1960.

SN 110,797. Syntex Laboratories, Inc., New York, N.Y. Filed Dec. 23, 1960.

ANADROL

For Steroid Hormones.
First use Nov. 21, 1960.

SN 110,798. Syntex Laboratories, Inc., New York, N.Y. Filed Dec. 23, 1960.

ANAPRIME

For Steroid Hormones.
First use Nov. 21, 1960.

SN 110,799. Syntex Laboratories, Inc., New York, N.Y. Filed Dec. 23, 1960.

MASTERONE

For Steroid Hormones.
First use Nov. 21, 1960.

SN 110,963. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 28, 1960.

THI-CIN

For Mouth Wash and Gargle Preparation.
First use May 3, 1938.

SN 110,965. The Warren-Teed Products Company, Columbus, Ohio. Filed Dec. 28, 1960.

DI-O-CHROME

For Antiseptic Solution Usable as a Gargle and Mouth Wash.
First use June 22, 1931.

SN 111,148. Armour and Company, Chicago, Ill. Filed Jan. 3, 1961.

DAYCIFY

For Central Nervous System Preparations.
First use Dec. 5, 1960.

SN 111,149. Armour and Company, Chicago, Ill. Filed Jan. 3, 1961.

FERMEL

For Hematinic Preparations.
First use Dec. 5, 1960.

SN 111,150. Armour and Company, Chicago, Ill. Filed Jan. 3, 1961.

PROMA

For Protein Supplement.
First use Dec. 5, 1960.

SN 111,151. Armour and Company, Chicago, Ill. Filed Jan. 3, 1961.

DAYPOSE

For Central Nervous System Preparations.
First use Dec. 5, 1960.

SN 111,280. Merck & Co., Inc., Rahway, N.J. Filed Jan. 4, 1961.

DECARAM

For Steroid Preparation.
First use Aug. 4, 1960.

SN 111,626. Syntex Laboratories, Inc., New York, N.Y. Filed Jan. 10, 1961.

ANOVULE

For Steroid Hormones.
First use Dec. 13, 1960.

SN 111,788. Chesebrough-Pond's Inc., New York, N.Y. Filed Jan. 13, 1961.

NYDRI 24

For Preparation for the Treatment of Sinus Congestion, Colds and Hay Fever.
First use Jan. 11, 1961.

SN 111,798. International Pharmaceutical Corporation, Philadelphia, Pa. Filed Jan. 13, 1961.

Debrox

For Antifungal, Wide Spectrum, Anti-Bacterial Agent, With a Marked Cleansing Action, for Aural Use and for the Treatment of Minor Cuts, Burns and Abrasions.
First use Aug. 23, 1960.

SN 111,945. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 17, 1961.

EGACOREN

For Cardiotonic Preparation.
First use Nov. 25, 1960.

SN 111,946. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 17, 1961.

EGAMIREN

For Antispasmodic Preparation.
First use Nov. 29, 1960.

Class 19—Vehicles

SN 84,590. Bölkow-Entwicklungen Kommanditgesellschaft, Ottobrunn, near Munich, Germany. Filed Sept. 8, 1960.

HELI-TRAINER

Owner of German Reg. No. 732,338, dated Mar. 17, 1959.
For Helicopters, in Particular for Training Student Pilots.

SN 86,651. Freezer-Fresh Mobile Units, Inc., East Riverton, N.J. Filed Dec. 4, 1959.

FREEZER-FRESH

For Mobile Truck Units Used in the Manufacture of Dairy Products.
First use February 1958.

SN 89,992. Automatic Brake Inc., Los Angeles, Calif. Filed Feb. 1, 1960.

BRAK-O-MATIC

For Accelerator Actuated Decelerator for Motor Vehicles.
First use Aug. 6, 1948.

SN 90,485. Beacon Cycle and Supply Co., Milwaukee, Wis. Filed Feb. 8, 1960.

FLYING-JET

For Bicycles.
First use on or about Feb. 18, 1955.

SN 105,180. Michigan Wheel Company, Grand Rapids, Mich. Filed Sept. 26, 1960.

SUPER-JET

Owner of Reg. No. 646,755.
For Marine Propellers.
First use Sept. 19, 1960.

SN 106,733. MacGregor-Comarain, Paris, France. Filed Oct. 19, 1960.



Owner of French Reg. No. 488,054, dated May 10, 1960 (Seine); Natl. Inst. No. 144,268.
For Watertight and Not Watertight Movable Covers, Doors or Traps for Railway Cars, Motor Trucks, and Other Cargo-Carrying Vehicles.

SN 107,459. Kit Manufacturing Company, Long Beach, Calif. Filed Oct. 31, 1960.

EXTEND-A-ROOM

For House Trailers.
First use Oct. 24, 1960.

SN 107,901. Armstrong Cork Company, Lancaster, Pa. Filed Nov. 7, 1960.

AUTOCORD

For Floor Covering for Vehicles.
First use Oct. 28, 1960.

SN 107,953. Laurel Corporation, Shippensville, Pa. Filed Nov. 7, 1960.

LAUREL

For Boats.
First use December 1959.

SN 108,242. The Yale & Towne Manufacturing Company, New York, N.Y. Filed Nov. 10, 1960.

YALE

Owner of Reg. Nos. 63,654, 664,624, and others.
For Brake Shoes, Hydraulic Brake Cylinders and Brake Cups.
First use at least as early as 1953.

SN 108,699. Kenwray Products, Inc., Minneapolis, Minn. Filed Nov. 18, 1960.

NORTH STAR FLYER

For Motor Scooters.
First use Sept. 1, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 82,374. Waring Products Corporation, New York, N.Y. Filed Sept. 10, 1959.



For Electrical Disintegrators and Mixers for Producing Fluid Substances From Solid Foods and Other Organic Matter and for Intermixing Fluids, for Use in Homes, Restaurants, Laboratories, for Industrial Use, and for Electrical Steam Irons.
First use Nov. 1, 1945.

SN 82,893. Foster Aluminum Alloy Products Corporation, Forestville, N.Y. Filed Oct. 8, 1959.

ChefMaster

For Electrical Appliances—Namely, Skillets, Sauce Pans, Griddles, Can Openers, Dutch Ovens, Etc., and Controls Therefor.
First use December 1946.

SN 93,305. Genge Industries, Inc., Glendale, Calif. Filed Mar. 21, 1960.

filtronair

For Air Conditioning Electrostatic Filters.
First use in July 1959.

SN 95,587. General Radio Company, West Concord, Mass. Filed Apr. 22, 1960.

DURATRAK

For Variable Ratio Autotransformer Contact Surfaces.
First use in or about December 1953.

SN 98,556. U.S. Semiconductor Products, Inc., Phoenix, Ariz., assignee of United Industrial Corporation, Phoenix, Ariz. Filed June 6, 1960.

SEMCOR

For Electronic Components—Namely, Capacitors, Transistors, Solid State Diodes, Solid State Rectifiers and Solid State Reference Elements.
First use July 1957.

SN 101,165. Fuse Indicator Corporation, Rockville, Md. Filed July 20, 1960.

BLOWGLOW

Owner of Reg. No. 379,790.
For Electrical Fuse Holders of Both the Indicating and Non-Indicating Type and Indicators for Fuses.
First use Oct. 28, 1938.

SN 103,279. Jerclaydon, Inc., Clifton, N.J. Filed Aug. 23, 1960.

GLAMORENE

Owner of Reg. Nos. 564,603, 698,138, and others.
For Electric Brush for Use in Cleaning Rugs, Carpets, Upholstery and Similar Items.
First use at least as early as Apr. 1, 1959.

SN 105,221. Sprague Electric Company, North Adams, Mass. Filed Sept. 26, 1960.

TANTAPAK

Owner of Reg. No. 592,160.
For Capacitor Assemblies.
First use in August 1958.

SN 105,249. Jose Mora Riera, Gibraleon, Huelva, Spain. Filed Sept. 21, 1960.

AROM CORTACIR

Owner of Spanish Reg. No. 259,284, dated Apr. 20, 1960.
For Electrical Switches.

SN 105,833. Ronson Corporation, Woodbridge, N.J. Filed Oct. 5, 1960.

ROTO-SHINE

For Electrically Powered Shoe Polishers.
First use September 1958.

SN 105,935. Union Carbide Corporation, New York, N.Y. Filed Oct. 6, 1960.

UNION CARBIDE

Owner of Reg. No. 668,230.
For Electric Welding Machines and Electric Welding Torches.
First use on or about Jan. 13, 1950, on electric welding torches.

SN 105,939. West Bend Aluminum Co., West Bend, Wis. Filed Oct. 6, 1960.

LEKTRO MAID

For Electric Skillet.
First use June 1, 1960.

SN 106,157. Triple-A Specialty Company, Chicago, Ill. Filed Oct. 10, 1960.

TRIFLEX

For Plastic Insulated Automotive Wire.
First use June 7, 1949.

SN 106,158. Triple-A Specialty Company, Chicago, Ill. Filed Oct. 10, 1960.

TRIPRENE

For Electric Cables.
First use June 28, 1946.

SN 106,228. The Soundscriber Corporation, North Haven, Conn. Filed Oct. 11, 1960.

SOUNDSCRIBER

Owner of Reg. Nos. 557,861, 685,953, and others.
For Sound Recording and Reproducing Systems and Apparatus, Including Business Communicating Equipment, Electric Recording and Reproducing Apparatus, Tape Recorders, Dictating Machines, Sound Transducers, Parts and Associated Equipment Therefor.
First use on or about Jan. 1, 1936.

SN 106,295. Wilbur B. Driver Company, Newark, N.J. Filed Nov. 14, 1960.

NIAL

For Nickel-Aluminum Alloy Used for the Negative Leg of Type "K" Thermocouples.
First use Oct. 27, 1960.

SN 106,296. Wilbur B. Driver Company, Newark, N.J. Filed Nov. 14, 1960.

TOPHEL

For Nickel-Chromium Alloy Used for the Positive Leg of Type "K" Thermocouples.
First use Oct. 27, 1960.

SN 106,720. Technical Exhibits Corporation, Chicago, Ill. Filed Nov. 18, 1960.

HEARPHONE

For Sound Producing Apparatus, Particularly a Speaker.
First use Sept. 13, 1960.

SN 106,808. National Silver Company, New York, N.Y. Filed Nov. 21, 1960.

VALIANT

For Transistor Radios.
First use July 15, 1960.
Subj. to Intf. with SN 109,300.

SN 109,017. AMP Incorporated, Harrisburg, Pa. Filed Nov. 25, 1960.

AMP

Owner of Reg. Nos. 405,714, 702,856, and others.
For Patchcord Programming Systems, Patchcords, Patchboards, Patchcord Permanent Rear Boards, Patchcord Contact Springs, and Patchcord Programming Panels.
First use Feb. 15, 1954, on patchcord programming systems.

SN 109,300. Chrysler Corporation, Highland Park, Mich. Filed Nov. 30, 1960.

VALIANT

For Radio for Automotive Vehicles.
First use Oct. 1, 1959.
Subj. to Intf. with SN 106,808.

SN 109,812. Preservaline Manufacturing Company, Flemington, N.J. Filed Dec. 7, 1960.

PRESCO PORTA-STUN

For Device for Electrically Stunning Animals, Prior to Slaughtering.
First use Oct. 19, 1960.

SN 111,633. AMP Incorporated, Harrisburg, Pa. Filed Jan. 11, 1961.

AMP

Owner of Reg. Nos. 405,714, 706,917, and others.
For Electronic Module Circuit Assemblies.
First use Jan. 22, 1960.

Class 22 — Games, Toys, and Sporting Goods

SN 95,384. Oklahoma Tire & Supply Company, Tulsa, Okla. Filed Apr. 19, 1960.

FLYING-O

For Gym Sets for Children's Outdoor Play, Children's Bicycles, Tricycles, Wagons, Juvenile Cars, Sleds and Water Skis.
First use June 20, 1958.

SN 99,830. Andrew C. Watson, d.b.a. Bathurst Products, Toronto, Ontario, Canada. Filed June 27, 1960.



For Pucks for Floor Hockey.
First use January 1958; in commerce January 1958.

SN 101,114. John W. Lewis, Glendora, N.J. Filed July 19, 1960.

LULURES

For Fish Lures.
First use June 13, 1960.

SN 101,671. Clement Esty, d.b.a. C & D Sportswear Company, Newton Centre, Mass. Filed July 29, 1960.

PROS REMINDASLEEVE

The word "Pros" is disclaimed.
For Golfing Practice Aids, More Particularly Devices Worn Near the Elbow of a Golfer To Aid the Golfer in Keeping the Arm Straight While Swinging.
First use on or before Feb. 6, 1960.

SN 104,931. Otto Maier Verlag, Ravensburg, Germany. Filed Sept. 21, 1960.

BARRIKADE

Priority claimed under Sec. 44(d) on German application filed Mar. 24, 1960; Reg. No. 738,157, dated July 11, 1960.
For Toys and Game Equipment—Namely, Educational and Craft Toys, Cards, Dice, and Boards for Playing Games of Skill, Card Games, Craft Games, Board Games, and Games of Chance.

SN 104,980. Aurora Plastics Corporation, West Hempstead, N.Y. Filed Sept. 22, 1960.

MODEL MOTORING

Applicant disclaims any exclusive right to the use of the word "Model" except as in the mark as shown.
For Toy Model Automobiles and Speedways Made of Plastic, Wood or Other Materials.
First use Aug. 12, 1960.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 71,924. Warner Electric Brake & Clutch Company, South Beloit, Ill. Filed Apr. 20, 1959.

ELECTRO-CAM

For Electrically Controlled Multiple Disk Friction Brakes and Clutches.
First use as early as July 1958.

SN 85,500. International Harvester Company, Chicago, Ill. Filed Nov. 17, 1959.

FIRE CRATER

For Pistons.
First use Sept. 15, 1959.

SN 91,249. Equipment Development Company, Inc., Montclair, N.J. Filed Feb. 19, 1960.

EDCO ROTO-PLUG

For Apparatus for Filtering and Thickening Sludge.
First use in May 1955.

SN 91,398. E. Leybold's Nachfolger, Cologne-Bayenthal, Germany. Filed Feb. 23, 1960.

LEYBOLD

Owner of German Reg. No. 639,810, dated June 13, 1953.
For Vacuum Pumping Apparatus and Component Parts Thereof, High-Vacuum Impregnation Apparatus, Diffusion Pumps, Steam Jet Suction Pumps, Vapor Jet Suction Pumps, Steam Ejectors With Brackets, Vacuum Depositing Apparatus for Applying Metallic Coatings.

SN 91,400. E. Leybold's Nachfolger, Cologne-Bayenthal, Germany. Filed Feb. 23, 1960.



Owner of German Reg. No. 642,564, dated Aug. 12, 1953.
For Vacuum Pumping Apparatus and Component Parts Thereof, High-Vacuum Impregnation Apparatus, Diffusion Pumps, Steam Jet Suction Pumps, Vapor Jet Suction Pumps, Steam Ejectors With Brackets, Vacuum Depositing Apparatus for Applying Metallic Coatings.

SN 92,840. Andrew O. Wisti, d.b.a. Star Machine & Tool Co., Minneapolis, Minn. Filed Mar. 14, 1960.



The drawing is lined for red and gray.
For Brake Service Tools and Equipment and Hydraulic Cranes.
First use Feb. 16, 1959.

SN 94,050. Chrysler Corporation, Highland Park, Mich. Filed Mar. 31, 1960.

AMPLEX

For Bearings, Friction Discs, and Finished Machine Parts Made of Powdered Metal Such as Gears, Cams, Ball Bearing Retainers, Auto Body Hardware and the Like.
First use Feb. 26, 1960.

SN 97,413. Parker-Hannifin Corporation, Cleveland, Ohio. Filed May 18, 1960.

KLOSKUT

For Hand Operated Tube Cutter.
First use Apr. 29, 1960.

SN 99,822. Werner Machinery Company, Grand Rapids, Mich. Filed June 27, 1960.

MILK VEYOR

Applicant disclaims any rights to the term "Milk."
For Milk Dumping and Vacuum Operated Transporting Unit for Use in Dairy Barns.
First use Dec. 11, 1957.

SN 103,053. Sellers Injector Corporation, Philadelphia, Pa. Filed Aug. 19, 1960.

SELLERS "SUPER BOOSTER"

For High Pressure Hot Water Hose Type Hydraulic Cleaner for Use in Industrial Cleaning.
First use January 1959.

SN 103,561. Alvin G. Griffin, d.b.a. Griff Machine Products Co., Pittsburgh, Pa. Filed Aug. 29, 1960.

Griff Grips

Applicant, for the purpose of registration, hereby disclaims the word "Grips" apart from the mark as shown.
For Gripping or Wedge Blocks and Inserts Therefor Used in Connection With Physical Pull Testing Machines.
First use Aug. 27, 1959.

SN 104,805. Cameron Iron Works, Inc., Houston, Tex. Filed Sept. 20, 1960.

Cameron

Owner of Reg. No. 525,597.
For Blowout Preventers, Flow Controllers, Chokes and Wellhead Equipment.
First use 1951.

SN 105,306. Quillot Limited, Tolworth, Surrey, England. Filed Sept. 27, 1960.

QUILLOT

Owner of British Reg. Nos. 752,143 and 794,373, dated Mar. 21, 1956 and Aug. 12, 1959, respectively.
For Apparatus for Distributing Fertilisers, Seeds, and the Like on Land, and for Soil Working and Treating, and Including Agricultural Implements and Machines.

SN 106,131. Oneida Ltd., Oneida, N.Y. Filed Oct. 10, 1960.

REPOSE

For Stainless Steel Flat Tableware.
First use Sept. 13, 1960.

SN 106,134. Pitman Manufacturing Company, Grandview, Mo. Filed Oct. 10, 1960.

POLECAT

For Vehicle Mounted Post Hole Digging and Pole Pulling Apparatus.
First use May 21, 1960.

SN 106,304. American Drill Bushing Co., Los Angeles, Calif. Filed Oct. 13, 1960.

DELTA-GRIP

For Drill Bushings.
First use Jan. 1, 1954.

SN 106,449. Wallace Silversmiths, Inc., Wallingford, Conn. Filed Oct. 14, 1960.

NORTH SHORE

For Stainless Steel Flatware.
First use July 20, 1960.

SN 106,572. American Can Company, New York, N.Y. Filed Oct. 18, 1960.

CANCO

Owner of Reg. Nos. 92,935, 708,267, and others.
For Equipment Used for Filling, Closing, Opening, Treating and Handling Cans and Other Containers—Namely, Can Closing Machines, Double Seamers, Container Seaming and Sealing Machines, Can Clinching Machines, Can Opening Machines, Container Filling Machines, Filled Container Weighing Machines, Container Marking Machines; Container Vacuumizing and Gassing Machines; Ham Can Presses; and Container Depalletizing Machines.

SN 106,700. The De Laval Separator Company, Poughkeepsie, N.Y. Filed Oct. 19, 1960.

DE LAVAL

Owner of Reg. Nos. 52,583, 668,363, and others.
For Centrifugal Cream Separators, Centrifugal Whey Separators, Centrifugal Clarifiers, Industrial Centrifuges, Mixers and Centrifugal Pumps Used in Conjunction With Industrial Centrifuges, Vacuum Pumps, Milk Pumps, Milking Machines, Teat Cups, and Parts Thereof.
First use Sept. 1, 1960.

SN 106,962. Wheel Trueing Tool Company, Detroit, Mich. Filed Oct. 21, 1960.

TRUCO

Owner of Reg. Nos. 402,353, 553,007, and 602,353.
For Portable Drilling Machines and Truck Mounted Drilling Machines.
First use Dec. 19, 1955.

SN 106,969. Aircraft Precision Products, Inc., Oak Park, Mich. Filed Oct. 24, 1960.

SONON

For Marine Muffler.
First use May 6, 1960.

SN 107,058. Robineo New York, Inc., New York, N.Y. Filed Oct. 24, 1960.

COMET

For Typewriters.
First use August 1960.

SN 107,663. Master Power Corporation, Solon, Ohio. Filed Nov. 2, 1960.

MP

For Power-Driven Tools, Machinery, and Parts Thereof, Comprising: Drills; Screw Drivers, Nut Setters, and Clutches and Angle Drives Therefor; Impact Wrenches; Hammers, Including Chipping Hammers, Scaling Hammers, and Chisels Therefor; Sand Rammers, Including Bench, Floor and Core Rammers; Grinders, Including Vertical Grinders, Horizontal Grinders, Die Grinders, Midget Pencil Grinders, and Grinding Wheels, Adapters, Abrasive Points, and Rotary Files Therefor; Sanders, Buffers, and Sanding Pads and Discs Therefor; Wirebrushing Tools and Wire Brushes Therefor; Hoists and Accessories Therefor; Balance Reels; Air Line Lubricators, Filters, and Regulators; and Associated Accessories for Pneumatically-Operated Tools and Machinery.
First use Oct. 10, 1960.

SN 108,421. Viber Company, Burbank, Calif. Filed Nov. 14, 1960.

HIVIBER

Owner of Reg. Nos. 297,997, 689,848, and others.
For Machines for Vibrating, Placing and Packing Unset Concrete Mixture in Forms and Molds.
First use on or about Oct. 27, 1960.

SN 108,465. Cummins Engine Company, Inc., Columbus, Ind. Filed Nov. 15, 1960.

ACCROLOY

For Injector Cups for Injectors for Diesel Engines.
First use Sept. 14, 1960.

SN 108,637. International Harvester Company, Chicago, Ill. Filed Nov. 17, 1960.

CADET

For Tractors.
First use Aug. 18, 1960.
Subj. to Intf. with SN 112,251.

SN 108,703. Georg Neidl, Berlin, Germany. Filed Nov. 18, 1960.

GORATOR

Owner of German Reg. No. 730,981, dated Nov. 12, 1959.
For Machines and Equipment for Pulverising, Shredding, Crushing, Homogenising, Kneading, Mixing, Milling, and Centrifuging Gaseous, Dry, Doughy, Liquid, Viscous or Solid Materials in Powder, Flakey, or Granular Form (in the Form of Either Small Pieces or Large Pieces), or Mixtures of Individual Items Among These Materials With Each Other, for the Waste-Water Industry, the Food Industry, Especially the Chocolate-, Paste-, and Noodle-Manufacturing Industry and the Sugar-Industry; for the Chemical Industry, Likewise the Milling- and Paper-Industry; Pump Type Conveyors for the Aforementioned Goods and Branches of Industry.

SN 108,753. Dana Corporation, Toledo, Ohio. Filed Nov. 21, 1960.

Spicer

Owner of Reg. Nos. 432,306, 679,554, and 688,178.
For Power Transmission Mechanisms—Namely, Gears and Gear Boxes, Power Take-Offs, Hydraulic Torque Converters, Clutches, Universal Joints, Propeller Shafts and Axles, and Parts Thereof.
First use on or about Feb. 1, 1931.

SN 108,860. Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. Filed Nov. 22, 1960.

ADLER

Owner of German Reg. No. 730,457, dated Oct. 29, 1959.
For Office Machines—Namely, Typewriters, Electric Typewriters and Accessories, Copying and Duplicating Machines, Electric Devices for Typing on Ledger Cards, Labels, Checks and Journal Sheets, Colored Caps for Typewriter Keys for Practicing Touch Typing.

SN 109,751. Wood Brothers Manufacturing Company, Oregon, Ill. Filed Dec. 6, 1960.

CADET

For Rotary Mowers.
First use Apr. 27, 1960.
Subj. to Intf. with SN 112,251.

SN 112,251. Gilson Bros. Co., Plymouth, Wis. Filed Jan. 23, 1961.

CADET

For Rotary Garden Tillers.
First use Jan. 7, 1957.
Subj. to Intf. with SN 108,637.

Class 26—Measuring and Scientific Appliances

SN 85,265. Aerojet-General Corporation, Azusa, Calif. Filed Nov. 16, 1959.

AETRON

For Control Consoles for: Static Test Firing of Rocket Engines and Missiles, Missile Launch Facilities, Chemical Process Instrumentation and Controls; Instrumentation Bays and Racks Containing Recording Devices, Amplifiers, Patching, and Switching Systems; Data Acquisition Systems Containing Filters, Ranging Components, and Analog-Digital Equipment; Racks and Bays Containing Data Reduction Equipment, Such as Visual Reduction Equipment, Automatic Frequency Analysis Equipment, and Data Tabulation Equipment; Controls and Equipment for Reactor Rod Control (Magnetic Amplifier Circuitry); Equipment for Missile Range Monitoring, Such as Range Safety Systems and Telemetry, Fixed and Mobile; Timing Systems; Equipment and Controls for Area Warning; Telephone and Intercommunication Networks; Modules of Strain Gauge, Thermocouple, Flow, Speed and Trace Systems for Calibration, Indication and Control;

Terminal, Receptacle and Relay Boxes, Racks and Cabinets for Control and Instrumentation Systems; Airborne Amplifiers, Rectifiers, and Sequence Equipment; Special Cables, Extension Leads and Patch Cords; Pneumatic Instrumentation and Control Equipment.

First use on or about Oct. 8, 1959, on a control console used for the operation and control of an upper atmosphere sounding rocket.

SN 91,397. E. Leybold's Nachfolger, Cologne-Bayenthal, Germany. Filed Feb. 23, 1960.

LEYBOLD

Owner of German Reg. No. 639,810, dated June 13, 1953.

For Testing, Demonstrating, and Measuring Apparatus for Teaching Physics, Chemistry, and Like Sciences, and Testing and Measuring Apparatus for Laboratory Use; High-Vacuum Measuring Instruments.

SN 91,633. Svenska Aeroplan Aktiebolaget, Linkoping, Sweden. Filed Feb. 25, 1960.

SAAB

For Apparatus and Instruments for Measuring Accuracy in Target Firing, Bomb Sights and Related Equipment.

First use Aug. 1, 1942; in commerce Oct. 18, 1947.

SN 92,068. Wilhelm Anger OHG., Traun, Austria. Filed Mar. 3, 1960.

VIENNALINE

For Spectacles and Spectacle Frames, Especially Those Made of Plastic.

First use on or about Jan. 1, 1956; in commerce on or about Jan. 1, 1958.

SN 97,766. Industrial Marking Equipment Company, Inc., Brooklyn, N.Y. Filed May 24, 1960.

FLEXO-PRESS

For Identifying, Marking, Dating, and Coding Machinery Utilizing Flexographic Printing Principle.

First use Nov. 2, 1959.

SN 104,970. Societa Applicazioni Gomma Antivibranti "Saga" S.p.A., Milan, Italy. Filed May 5, 1960.

SAGA

Owner of Italian Reg. No. 140,548, dated Dec. 22, 1958.

For Spring Suspension and Anti-Vibratory Mountings for Use on Scientific Instruments Such as Radio Direction Finders, Oscillographs, Portable Sound Level Meters.

SN 107,168. Alderson Research Laboratories, Inc., Long Island City, N.Y. Filed Oct. 26, 1960.

REMAB

For Dummies for Testing Radiation Effects.

First use Apr. 12, 1959.

SN 107,169. Alderson Research Laboratories, Inc., Long Island City, N.Y. Filed Oct. 26, 1960.

REMCAL

For Dummies for Testing Radiation Effects.

First use Apr. 12, 1959.

SN 107,718. Universal Controls, Inc., New York, N.Y. Filed Oct. 31, 1960.



Owner of Reg. No. 384,396.

For Coin Receiving and Registering Apparatus, and Particularly Fare Collecting Devices Both Hand Operated and Automatic, and Counter Collector and Register for Cafeterias and Similar Establishments.

First use on or about Jan. 1, 1919.

SN 108,143. Statmaster Corporation, New York, N.Y. Filed Nov. 9, 1960.

Modiflex

For Combination Camera and Darkroom.

First use about Apr. 1, 1960.

SN 108,454. Clay-Adams, Inc., New York, N.Y. Filed Nov. 15, 1960.

CYCLO-MIXER

For Laboratory Liquid Test Tube Mixer.

First use on or about Sept. 14, 1960.

SN 108,461. C. G. Conn, Ltd., Elkhart, Ind. Filed Nov. 15, 1960.

DYNALEVEL

For Instrument for Indicating Loudness of Sound.

First use Jan. 18, 1960.

SN 108,480. Grant Photo Products, Incorporated, Lakewood, Ohio. Filed Nov. 15, 1960.

SEISMATRACE

For Photosensitive Materials—Namely, Photographic Papers.

First use Oct. 20, 1960.

SN 108,673. Verena L. Schaufelberger, Zurich, Switzerland. Filed Nov. 17, 1960.

TIMERINA

Owner of Swiss Reg. No. 182,232, dated Aug. 17, 1960.

For Parking-Timer.

SN 108,695. Eastman Kodak Company, Rochester, N.Y. Filed Nov. 18, 1960.

DACOMATIC

For Sensitized Photographic Film.

First use Feb. 26, 1959.

SN 109,018. AMP Incorporated, Harrisburg, Pa. Filed Nov. 25, 1960.

AMP

Owner of Reg. Nos. 405,714, 706,629, and others.

For Multiaperture Devices, Employing Magnetic Memory Elements, Which Are Adaptable to Uses in Computing and Control Equipment.

First use May 15, 1959.

Class 27 — Horological Instruments

SN 102,962. The United States Time Corporation, Waterbury, Conn. Filed Aug. 18, 1960.

TIMEX 100

Owner of Reg. No. 417,113.

For Watches and Watch Parts.

First use Mar. 10, 1958.

Class 28 — Jewelry and Precious-Metal Ware

SN 80,685. Pioneer Industries, Inc., Darby, Pa. Filed Sept. 1, 1959.

THE MARK OF A MAN

For Necktie-Bars, Cuff-Links, Collar-Pins, Cigarette Cases, Key-Chains, Key-Rings, Necktie-Chains, Money-Clips, Shirt-Studs, Collar-Buttons, Lapel-Chains, Watches, Wrist-Bands, Watch-Bands, Wrist-Watch Straps, and Nail-Clippers.

First use Nov. 3, 1950.

SN 88,840. Bennett Brothers, Inc., Chicago, Ill. Filed Jan. 12, 1960.

VENUS BLUE RIBBON

For Diamonds and Diamond Rings.

First use Nov. 14, 1959.

Subj. to Intf. with SN 93,661.

SN 93,661. Brier Manufacturing Company, Providence, R.I. Filed Mar. 25, 1960.



For Jewelry for Personal Wear—Namely, Brooches, Bracelets, Finger Rings, Earrings, Dress Ornaments, Hair Ornaments, Tie Ornaments, Cuff Links, Key Chains, Necklaces, Charms, Charm Bracelets, Pendants, Lockets; Religious Articles for Personal Use—Namely, Crucifixes, Crosses, Rosaries, Medals, Emblems; and Hair Goods—Namely, Barrettes, Combs, Bob Pins, Bandeaux, Curlers, When Made in Whole or in Part of, or Plated With, Precious Metals.

First use June 24, 1958.

Subj. to Intf. with SN 88,840.

Class 29 — Brooms, Brushes, and Dusters

SN 101,616. General Mills, Inc., Minneapolis, Minn. Filed July 28, 1960.

PLASTIFOAM

Owner of Reg. No. 639,171.

For Scouring Pads, Sponges, and Brushes for General Cleaning Purposes.

First use June 23, 1960.

Class 31 — Filters and Refrigerators

SN 101,615. General Mills, Inc., Minneapolis, Minn. Filed July 28, 1960.

PLASTIFOAM

Owner of Reg. No. 639,171.

For Filters for Gases.

First use June 23, 1960.

SN 104,701. The Ebco Manufacturing Company, Columbus, Ohio. Filed Sept. 19, 1960.

AQUARIUS

Owner of Reg. No. 643,274.

For Electrically Refrigerated Water Coolers or Drinking Fountains.

First use Aug. 10, 1960.

Class 32 — Furniture and Upholstery

SN 92,254. Guardian Corporation, Quincy, Mass. Filed Mar. 7, 1960.

GUARDIAN

Owner of Reg. No. 393,058.

For Collapsible Bed Rails.

First use Nov. 4, 1955.

SN 101,618. General Mills, Inc., Minneapolis, Minn. Filed July 28, 1960.

PLASTIFOAM

Owner of Reg. No. 639,171.

For Cushioning Material for Furniture.

First use June 23, 1960.

SN 106,349. Henry W. Shaw, d.b.a. Sound-Craft Systems, Morrilton, Ark. Filed Oct. 13, 1960.

LECTERNETTE

For Portable Lecterns.
First use on or about Aug. 1, 1958.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 91,390. E. Leybold's Nachfolger, Cologne-Bayenthal, Germany. Filed Feb. 23, 1960.

LEYBOLD

Owner of German Reg. No. 639,810, dated June 13, 1953.
For Freeze-Drying Apparatus for Drying Heat-Sensitive Substances, Such as Blood Plasma or Serum, Pharmaceuticals, Foodstuffs, and the Like; and Surface Distillation Apparatus Suitable for Operation Under Medium-High or High Vacuum Conditions, Such as for Distilling Hydrocarbons, Chlorination Products, Plasticizers, Esters, Polymerizates, Vegetable and Animal Oils and Fats, and the Like.

SN 91,401. E. Leybold's Nachfolger, Cologne-Bayenthal, Germany. Filed Feb. 23, 1960.



Owner of German Reg. No. 642,564, dated Aug. 12, 1953.
For Freeze-Drying Apparatus for Drying Heat-Sensitive Substances, Such as Blood Plasma or Serum, Pharmaceuticals, Foodstuffs, and the Like; and Surface Distillation Apparatus Suitable for Operation Under Medium-High or High Vacuum Conditions, Such as for Distilling Hydrocarbons, Chlorination Products, Plasticizers, Esters, Polymerizates, Vegetable and Animal Oils and Fats, and the Like.

SN 105,253. Arrow Louver and Damper Corp., Brooklyn, N.Y. Filed Sept. 27, 1960.



For Automatic Dampers.
First use Sept. 2, 1960.

SN 105,584. Wilco Machine Works, Inc., Memphis, Tenn. Filed Sept. 30, 1960.

THE WILCO TEPEE

For Refuse Burner.
First use Sept. 6, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 78,745. United States Rubber Company, New York, N.Y. Filed July 30, 1959.



For Pneumatic Tires.
First use July 8, 1959.

SN 95,445. M & M Hose Co., North Hollywood, Calif. Filed Apr. 20, 1960.

Bronz-Flex



The lining represents actual lines appearing on the mark and does not represent color.
For Sewage Hose for House Trailers.
First use February 1959.

SN 102,413. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Aug. 10, 1960.

BANJ O SEAL

The term "Seal" is disclaimed apart from the mark.
For Sealing Washers Made of Rubber and Metal.
First use in April 1954.

SN 103,916. Felt Products Manufacturing Company, Skokie, Ill. Filed Sept. 6, 1960.

SHIM-BESTOS

For Gaskets and a Gasket Material.
First use Aug. 25, 1960.

SN 106,120. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Oct. 10, 1960.

THERMO-FAX

Owner of Reg. Nos. 560,098 and 686,868.
For Belts for Use on Copying Machines.
First use Dec. 31, 1959.

SN 107,884. South Florida Plastics, Inc., Hialeah, Fla. Filed Nov. 4, 1960.

KLALOK

For Resilient Pipe Joint for Joining Clay Sewer Pipe.
First use Feb. 20, 1959.

SN 108,258. John S. Bates Co., Berkeley, Calif. Filed Nov. 14, 1960.

"SURETITE"

For Pipe-Joint Gaskets.
First use Feb. 8, 1956.

SN 108,282. Dayco Corporation, Dayton, Ohio. Filed Nov. 14, 1960.

TWIN-FLEX

For Hose.
First use July 30, 1959.

SN 108,283. Dayco Corporation, Dayton, Ohio. Filed Nov. 14, 1960.

THORO-FLO

Owner of Reg. Nos. 151,732, 706,659, and others.
For Hose.
First use Sept. 24, 1959.

SN 108,285. Dayco Corporation, Dayton, Ohio. Filed Nov. 14, 1960.

DAY-CON

Owner of Reg. Nos. 297,677, 687,226, and others.
For Hose.
First use July 2, 1959.

Class 36 — Musical Instruments and Supplies

SN 89,716. Winter & Company, Inc., New York, N.Y. Filed Jan. 26, 1960.

Geo P. Bent Co.

For Pianos.
First use on or about Dec. 1, 1958.

SN 93,410. Charles Edward Barrett and Ellis George Starr (joint owners), d.b.a. Vaca Records, Tulsa, Okla. Filed Mar. 22, 1960.

VACA

For Musical Phonograph Records.
First use Jan. 15, 1960.

SN 107,121. Euphonics Corp., Rio Piedras, Puerto Rico. Filed Oct. 25, 1960.

EUPHONICS

For Phonograph Cartridges and Components Thereof.
First use Aug. 15, 1959.

SN 108,861. Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. Filed Nov. 22, 1960.

ADLER



Owner of German Reg. No. 730,457, dated Oct. 29, 1959.
For Dictating Machines and Record Changers.

Class 37 — Paper and Stationery

SN 47,968. Old Town Corporation, Brooklyn, N.Y. Filed Mar. 18, 1958.

cbp

For Spirit Duplicating Materials—Namely, Master Units and Dry Ink-Bearing Sheets.
First use Aug. 8, 1957.

SN 93,174. H. A. Friend & Company, Zion, Ill. Filed Mar. 18, 1960.

LAWMARK

Owner of Reg. Nos. 544,450 and 655,848.
For Bond Papers.
First use Feb. 24, 1960.

SN 93,252. American Business Systems, Inc., Philadelphia, Pa. Filed Mar. 21, 1960.

TABSETS

For Continuous Business Forms for Record Sheets Interleaved With Carbon Paper, All Fastened Together at One or More Margins.
First use in or about December 1952.

SN 95,250. Car-Wel Corporation, Phoenix, N.Y. Filed Apr. 18, 1960.

CHILD-IDENT

For Printed Certificates.
First use Apr. 11, 1960.

SN 95,943. A. J. Siris Products Corp., New York, N.Y. Filed Apr. 27, 1960.

"STRICTLY PERSONAL"

For Zipper Binders, Loose Leaf Binders, Diaries, Telephone Pads, Autograph Books, Photograph Albums, Scrapbooks, Memo Books, Book Covers, Utility Pockets for Loose Leaf Binders, Pencil Bags.
First use Apr. 19, 1960.

SN 106,371. Yard-O-Led Pencil Company Limited, London, England. Filed Oct. 13, 1960.

YARD-O-LED

Owner of British Reg. No. 751,821, dated Mar. 13, 1956.
For Propelling Pencils and Refills Therefor.

SN 107,665. Fort Howard Paper Company, Green Bay, Wis. Filed Nov. 2, 1960.

SOFNAP

For Paper Napkins.
First use Jan. 11, 1960.

SN 107,668. Fort Howard Paper Company, Green Bay, Wis. Filed Nov. 2, 1960.

RITENAP

For Paper Napkins.
First use Jan. 11, 1960.

SN 107,670. Fort Howard Paper Company, Green Bay, Wis. Filed Nov. 2, 1960.

SIRNAP

For Paper Napkins.
First use Jan. 11, 1960.

Class 38 — Prints and Publications

SN 69,882. Fairmont Foods Company, Omaha, Nebr. Filed Mar. 19, 1959.

DIAL A SALAD

For Recipe Dial.
First use on or about Jan. 28, 1959.

SN 80,155. Pierre Edmond Michel Bonnot, Paris, France. Filed Aug. 25, 1959.



Owner of French Reg. No. 480,986, dated June 11, 1959 (Seine); Natl. Inst. No. 127,393.
For Printed Studies Resulting From Research Projects of Applicant in Economic, Social, and Maritime Fields.

SN 92,732. Garry E. Devareaux, d.b.a. Garry Edwards, Kansas City, Kans. Filed Mar. 14, 1960.



For Pet Information Column Appearing in Printed Publications.
First use Feb. 14, 1960.

SN 100,293. Francis Roberts Agency, Inc., d.b.a. Repetatur, New York, N.Y. Filed July 5, 1960.

REPETATUR

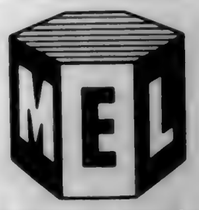
For Periodical, Issued Monthly, Containing Information About Drugs and Their Effects.
First use June 20, 1960.

SN 100,660. The Trustees of the University of Pennsylvania, Philadelphia, Pa. Filed July 11, 1960.

American Quarterly

For Scholarly Publication.
First use January 1949.

SN 102,853. Magnesium Elektron Limited, Clifton Junction, near Manchester, England. Filed Aug. 17, 1960.



The lining on the drawing is part of the mark and does not represent color.
For Books, Leaflets and Pamphlets, Describing the Mechanical and Physical Properties of Magnesium Alloys.
First use Mar. 14, 1960; in commerce Mar. 14, 1960.

Class 39 — Clothing

SN 59,889. Figure Flattery Brassiere Co., Inc., New York, N.Y. Filed Oct. 1, 1958.

EXPAND-O BRA

Applicant disclaims the term "Bra."
For Brassieres.
First use July 17, 1958.

SN 69,118. Robert Bruce, Inc., Philadelphia, Pa. Filed Mar. 9, 1959.



Applicant disclaims the phrase "Assurance of Quality" alone and apart from the mark as shown. Owner of Reg. Nos. 333,418, 537,606, and 634,870.
For Knitwear—Namely, Sport Shirts and Swimwear for Men, Youths and Junior Boys.
First use Oct. 28, 1958.

SN 76,829. Research Associates, Inc., Linden, N.J. Filed June 30, 1959.

R A POLY-GLOVES

Applicant disclaims any exclusive right to the phrase "Poly-Gloves" apart from the mark as shown.
For Plastic Gloves.
First use Mar. 2, 1959.

SN 81,936. Pioneer Industries, Inc., Darby, Pa. Filed Sept. 23, 1959.

THE MARK OF A MAN

Owner of Reg. Nos. 52,371, 113,425, and 353,797.
For Suspenders, Braces, Garters, Armbands, Belts, Belt-Buckles, Socks, Neckties, Handkerchiefs, Pajamas, Gloves, Slippers, and Sport-Lanyards.
First use Nov. 3, 1950.

SN 84,018. Atlas Plywood Corporation, Schuylkill Haven, Pa., assignee of Rohrer Knitting Mills, Inc., Orwigsburg, Pa. Filed Oct. 26, 1959.

RO-KNIT JR.

For Boys' Underwear and T-Shirts.
First use October 1947.

SN 85,291. Bettee Hosiery Mills, Inc., San Mateo, Calif. Filed Nov. 16, 1959.



Owner of Reg. No. 532,439.
For Women's Clothing—Namely, Hosiery and Panties.
First use in or about October 1955.

SN 86,826. Pied Piper Products, Ltd., New York, N.Y. Filed Dec. 7, 1959.

GOLDEN PIPER

For Swim Suits.
First use Nov. 6, 1959.

SN 89,170. The H. T. Johnson Company, Boston, Mass. Filed Jan. 18, 1960.

Pleasure-Knit

For Lingerie.
First use in or about October 1959.

SN 90,689. Lu Wane Products Company, Bakersfield, Calif. Filed Feb. 10, 1960.

MAGIC TURBAN

Applicant disclaims the word "Turban" apart from the mark as illustrated.
For Ladies' Turbans To Keep Hair in Place When at Work, Play or Sleep.
First use Dec. 12, 1959.

SN 91,019. Manufacturas del Vestido S.A., Madrid, Spain. Filed Feb. 16, 1960.



For Men's, Women's and Children's Apparel—Namely, Raincoats, Overcoats, and Reefer Jackets.
First use Sept. 1, 1958; in commerce Sept. 1, 1958.

SN 91,128. Supreme Infant Wear, Inc., New York, N.Y. Filed Feb. 17, 1960.

SUPER-FILL

For Man-Made Synthetic Fabrics Made Up Into Infants' Bathrobes, Buntings, and Jackets.
First use Apr. 30, 1958.

SN 91,776. Essex Master Mold Company, Inc., Essex, Conn. Filed Feb. 29, 1960.



No claim is made for the word "Brand" apart from the mark as shown.
For Waterproof Footwear—i.e., Shoes and Overshoes of Rubber, Plastic or Other Waterproof Material.
First use Feb. 8, 1960.

SN 91,951. Lenoir Hosiery Mills, Inc., Lenoir, N.C. Filed Mar. 1, 1960.

PINK STRIPE

For Ladies' Hosiery.
First use Jan. 29, 1960.

SN 92,093. Salvatore Ferragamo, Florence, Italy. Filed Mar. 3, 1960.



No claim is made to the word "Creations" apart from the mark as shown.
For Footwear for Men, Women and Children—Namely, Shoes, Slippers, Mules and Sandals; and Scarves, Belts and Hosiery.
First use 1927 on women's shoes; in commerce 1927; in 1915 as to "Ferragamo."

SN 92,216. Sue Brett, Inc., New York, N.Y. Filed Mar. 7, 1960.

MR. BRETT

Owner of Reg. No. 524,422.
For Women's and Misses' Dresses.
First use Feb. 4, 1960.

SN 92,461. The Glemby Company, Inc., New York, N.Y. Filed Mar. 9, 1960.

Staz-on

Owner of Reg. No. 395,500.
For Hair-Setting and Sleeping Nets.
First use Feb. 20, 1941.

SN 92,810. Robert Hosiery Mills, Inc., Collegeville, Pa. Filed Mar. 14, 1960.

SLIPLETS

For Foot Socks.
First use Mar. 7, 1960.

SN 93,212. Siari Originals, Inc., New York, N.Y. Filed Mar. 18, 1960.

"ORIENTALE"

For Ladies' Coats and Suits.
First use Jan. 5, 1960.

SN 93,604. Lewel Manufacturing Company, Inc., New York, N.Y. Filed Mar. 25, 1960.

NON-SKID

For Girdles.
First use Feb. 8, 1960.

SN 96,395. Cole of California, Inc., Los Angeles, Calif. Filed May 4, 1960.

MISS INTERNATIONAL

For Women's Swim-Suits.
First use Mar. 16, 1960.

SN 102,364. The Alligator Company, St. Louis, Mo. Filed Aug. 10, 1960.

SAMTHUR

Owner of Reg. No. 355,613.
For Raincoats, Water Repellent Coats, Topcoats, Coats With Zip-In Warmers, Suburban Coats, and Fabrics Sold Only in Such Wearing Apparel.
First use Oct. 21, 1937.

SN 104,172. Jennings B. Long, d.b.a. J. B. Long Company, Raleigh, N.C. Filed Sept. 9, 1960.

BRYAN LONG

"Bryan Long" is the middle name and last name of the applicant.
For Shoes for Men, Women, Boys and Girls.
First use in October 1959.

SN 104,232. Harold Cohen, New York, N.Y. Filed Sept. 12, 1960.

mr. harold

For Ladies', Misses' and Girls' Skirts, Sweaters, Blouses, Shirts, Shorts, Slacks, Dresses, Slips, Pajamas and Nightgowns; and Men's and Boys' Shirts, Sport Shirts, and Slacks.
First use May 5, 1960, on ladies' skirts and blouses.

SN 104,235. Cosmopolitan Manufacturing Company, Boston, Mass. Filed Sept. 12, 1960.

Scott Allen

For Men's Wool Jackets and Topcoats.
First use Feb. 23, 1954.

SN 104,460. G. R. Kinney Corporation, New York, N.Y. Filed Sept. 14, 1960.

DEL CINO

For Men's Shoes.
First use June 4, 1960.

SN 105,094. Ogden Utah Knitting Co., Ogden, Utah. Filed Sept. 23, 1960.

Cats PAJAMAS

No registration rights are claimed for the word "Pajamas" apart from the mark shown in the drawing, but the applicant waives none of its common law rights in the mark shown in the drawing or any features thereof. The drawing is lined for the color blue, but color is not claimed as a feature of the mark.
For Women's and Misses' Pajamas, Nightgowns and Sleep Sets.
First use June 28, 1939, on pajamas.

SN 105,520. Robert Hall Clothes, Inc., New York, N.Y. Filed Sept. 30, 1960.

ROBERT HALL WESTERFIELD

For Men's Suits.
First use on or about Sept. 12, 1960.

SN 106,231. Twinbrook Sportswear, Inc., Boston, Mass. Filed Oct. 11, 1960.

Twinbrook

For Skirts, Blouses, Shorts and Slacks.
First use Sept. 6, 1960.

SN 106,581. Breier of Amsterdam, Inc. Amsterdam, N.Y. Filed Oct. 18, 1960.

VAPION

For Men's, Women's, and Children's Rainwear.
First use Sept. 21, 1960.

SN 106,582. Brown Shoe Company, Inc., St. Louis, Mo. Filed Oct. 18, 1960.

TOE-TELLERS

For Children's Shoes.
First use Aug. 4, 1960.

SN 106,731. Lawson Products, Inc., Pawtucket, R.I. Filed Oct. 19, 1960.



For Bathing Suits, Elasticized Underwear and Foundation Garments, Consisting of Girdles and the Like.
First use May 31, 1957.

SN 107,228. V.I. Blouse Corp., New York, N.Y. Filed Oct. 26, 1960.

v traveler dress i

Applicant disclaims the words "Traveler Dress" apart from the mark as shown.
For Ladies' and Girls' Dresses.
First use Sept. 7, 1960.

SN 109,429. Peter Pan Swimwear International, Inc., New York, N.Y. Filed Dec. 1, 1960.



For Swimwear.
First use Nov. 4, 1960.

SN 109,481. Elaine of Hollywood Brassiere Co., Los Angeles, Calif. Filed Dec. 2, 1960.

PLUS'N MINUS

For Brassieres.
First use on or about Oct. 31, 1960.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 107,003. J. P. Frank Chemical & Plastic Corp., New York, N.Y. Filed Oct. 24, 1960.

VEROLENE

For Polyethylene Film for Use in Making Curtains, Draperies, Packaging Bags, Rain Bonnets, Table Covers, and the Like.
First use Oct. 1, 1960.

SN 107,885. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 4, 1960.

ROSEBOWER

Owner of Reg. No. 52,685.
For Cotton Sheets and Pillow Cases.
First use Sept. 9, 1960.

SN 107,887. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 4, 1960.

BEAUTY ROSE

Owner of Reg. Nos. 287,585 and 647,168.
For Cotton Sheets and Pillow Cases.
First use Sept. 9, 1960.

SN 109,363. Tanbro Fabrics Corporation, New York, N.Y. Filed Nov. 30, 1960.

POMPEII

For Cotton Fabrics.
First use Aug. 25, 1960.

SN 109,479. Dyersburg Cotton Products, Inc., Dyersburg, Tenn. Filed Dec. 2, 1960.

Plush-lon

For Knitted Pile Fabric.
First use on or about Nov. 1, 1959.

Class 43 — Thread and Yarn

SN 84,868. Deering Milliken, Inc., Wilmington, Del., by merger and change of name from Deering, Milliken & Co. Inc., New York, N.Y. Filed Nov. 9, 1959.

BLAZON

For Textured Nylon Yarn.
First use on or about Oct. 1, 1958.

Class 44 — Dental, Medical, and Surgical Appliances

SN 85,234. Paul Meminger, d.b.a. Memco Products, Alhambra, Calif. Filed Nov. 13, 1959.

DRIORWET

For Electrotherapy Pads Used in Galvanic Treatment of the Body by the Passage of Electric Current Through Portions of the Body.
First use Oct. 19, 1959.

SN 86,279. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed Nov. 30, 1959.

SEAL-A-WAVE

For Home Permanent Wave Kit Containing Waving Lotion and End Tissues.
First use Nov. 25, 1958.

SN 88,155. Globe Industries, Inc., Dayton, Ohio. Filed Dec. 29, 1959.

GLOBE

For Portable Breathing Equipment.
First use on or about Nov. 25, 1959.

SN 95,886. Engelhard Hanovia, Inc., Newark, N.J. Filed Apr. 27, 1960.

National

The star in the drawing is lined for red.
For Therapeutic, Diagnostic and Optical Instruments—Namely, Ophthalmoscopes, Otoscopes, Nasopharyngoscopes, Cautery Sets, Cystoscopes, Surgeon's Head Lights, Specula, Proctoscopes, Hysteroscopes; and Accessories and Parts Therefor.
First use about Jan. 1, 1951.

SN 106,145. Samuel Bonat & Bro., Inc., West Paterson, N.J. Filed Oct. 10, 1960.

GENTLE BREEZE

For Hair Dryer.
First use Sept. 7, 1960.

SN 106,167. Westward Dental Products Co., San Francisco, Calif. Filed Oct. 10, 1960.

PROSPAK

For Dental Cement for Use in Immediate Dentures, Impressions, Temporary Rebases, and Similar Uses.
First use in or about the year 1938.

SN 106,168. Westward Dental Products Co., San Francisco, Calif. Filed Oct. 10, 1960.

TEMPAK

For Dental Cement for Temporary Stopping, Jacket Crowns, Cementing Inlays, Bridges, and Similar Uses.
First use in or about the year 1938.

SN 106,243. The Burdick Corporation, Milton, Wis. Filed Oct. 12, 1960.

BURDICK

Owner of Reg. Nos. 512,694, 516,353, and 613,637.
For Electrocardiographs, Cardiac Monitors, Reflex Recording Apparatus, Equipment for Producing Ultrasonic Waves for Therapeutic Uses, Short Wave and Microwave Diathermy Apparatus, Low Voltage Units for Delivering Galvanic and Faradic Currents, Venous Occlusion Apparatus, Quartz Ultraviolet Lamps, Infra-Red Lamps, Electric Light Bath Cabinets, Electrosurgical Apparatus, Electric Bakers, and Parts Thereof and Accessories Therefor.
First use December 1923.

SN 106,329. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 13, 1960.

SUPREME

For Sanitary Napkins.
First use Oct. 4, 1960.

SN 106,502. Katz Drug Company, Kansas City, Mo. Filed Oct. 17, 1960.

Eugenia

For Sanitary Napkins.
First use Feb. 28, 1958.

SN 107,059. Royal Industries, Inc., Los Angeles, Calif. Filed Oct. 24, 1960.

IMPERIAL

For Hearing Aids and Combination Hearing Aids and Spectacles.
First use Sept. 19, 1960.

SN 107,075. Underwood Products Corporation, Grand Prairie, Tex. Filed Oct. 24, 1960.

NESTLE · NURSER

For Baby Bottle Holders.
First use Aug. 30, 1960.

SN 107,111. Carmen Commodities Corporation, Lincolnwood, Ill. Filed Oct. 25, 1960.

URI-CUP

For Medical Appliance for Women, Designed To Avoid the Effects of Involuntary Urination.
First use Sept. 6, 1960.

SN 107,279. Minnesota Electronics Company, Minneapolis, Minn. Filed Oct. 27, 1960.

INTERPRETER

For Hearing Aids.
First use Oct. 4, 1960.

SN 107,324. The Dentists' Supply Company of New York, York, Pa. Filed Oct. 28, 1960.

DAUPHIN

For Artificial Teeth.
First use Oct. 21, 1960.

SN 107,426. Federal Prosthetics, Inc., Brooklyn, N.Y. Filed Oct. 31, 1960.

FEDAPOR

For Dental Restorations of Porcelain and Precision Metals.
First use at least as early as Oct. 13, 1960.

Class 45—Soft Drinks and Carbonated Waters

SN 103,607. Consolidated Foods Corporation, Chicago, Ill., assignee of The Shasta Water Company, San Francisco, Calif. Filed Aug. 29, 1960.

TIKI

For Soft Drinks.
First use Aug. 25, 1960.

Class 46—Foods and Ingredients of Foods

SN 18,468. Case-Swayne Co., Inc., Santa Ana, Calif., assignee of Smokey-Joe's Foods Co., Los Angeles, Calif. Filed Oct. 30, 1956.

SMOKEY-JOE'S

For Canned Green Beans, Barbecue Sauce, Barbecued Beans, and Pork and Beans, Frozen Barbecued Meat Sandwiches.
First use Apr. 1, 1953.

SN 92,883. Hung's Food Products, Inc., Boston, Mass. Filed Mar. 15, 1960.

Hung's

Owner of Reg. No. 381,574.
For Chicken Chow Mein, Mushroom Chow Mein, Shrimp Chow Mein, Chicken Chop Suey, Shrimp Chop Suey, Fried Rice With Chicken, Chow Mein Noodles, Bean Sprouts, Egg Rolls, Soy Sauce, Duck Sauce and Mustard Sauce.
First use June 1930.

SN 93,502. The Creamette Company, Minneapolis, Minn. Filed Mar. 23, 1960.

SPAGH ETTES

Owner of Reg. Nos. 90,907, 678,575, and others.
For Dry Macaroni Products.
First use Feb. 26, 1960.

SN 93,963. The Acerola Corporation, Sabana Seca, Puerto Rico. Filed Mar. 30, 1960.

C-ROLA

Owner of Reg. Nos. 621,873, 682,987, and others.
For Canned Pineapple Food Drink.
First use Feb. 29, 1960.

SN 93,966. The Acerola Corporation, Sabana Seca, Puerto Rico. Filed Mar. 30, 1960.

A-CERO

Owner of Reg. Nos. 627,502 and 627,503.
For Canned Pineapple Food Drink.
First use Feb. 29, 1960.

SN 94,068. Instant Foods of California, Inc., Modesto, Calif. Filed Mar. 31, 1960.

GuesTime

For Food Dip Seasonings.
First use Nov. 25, 1959.

SN 94,594. Leaf Brands, Inc., Chicago, Ill. Filed Apr. 7, 1960.

GOOD GUYS & BAD GUYS

For Chewing Gum.
First use Apr. 1, 1960.

SN 98,837. The Acerola Corporation, Sabana Seca, Puerto Rico. Filed June 13, 1960.

C 100

For Food Drink Comprised of Concentrated Grape Juice and Lesser Ingredients.
First use May 28, 1960.

SN 102,437. Sun Valley Bakeries, Inc., Chicago, Ill. Filed Aug. 10, 1960.

SUN VALLEY

For Cookies.
First use in or about November 1955.

SN 105,817. Louis Johnson, d.b.a. Johnson Seafood Company, and Miss Lou Ala Foods Company, Biloxi, Miss. Filed Oct. 5, 1960.

SURF MAID

For Canned Shrimp and Canned Oysters.
First use Mar. 15, 1925.

SN 105,818. Louis Johnson, d.b.a. Johnson Seafood Company, and Miss Lou Ala Foods Company, Biloxi, Miss. Filed Oct. 5, 1960.

OLD SPANISH TRAIL

For Canned Shrimp.
First use in or about the year 1946.

SN 105,823. Mars, Incorporated, Chicago, Ill. Filed Oct. 5, 1960.

ALMONETS

Owner of Reg. No. 308,958.
For Candy.
First use June 1, 1938.

SN 107,316. Enoch S. Christoffersen, d.b.a. Christoffersen Poultry, Egg & Feed Market, Turlock, Calif. Filed Oct. 28, 1960.

GOLD-COIN

For Fresh Frozen Turkeys.
First use Sept. 6, 1960.

Class 47 — Wines

SN 105,735. E. & J. Gallo Winery, Modesto, Calif. Filed Oct. 4, 1960.

KONA

For Wines.
First use Sept. 13, 1960.

Class 48 — Malt Beverages and Liquors

SN 90,622. Cerveceria India, Inc., Mayaguez, Puerto Rico. Filed Mar. 14, 1960.



For Beer and Nonalcoholic Cereal Beverage Brewed From Malt.
First use Apr. 18, 1956, on cereal beverage.

SN 100,187. The Lion Inc., Wilkes-Barre, Pa. Filed July 1, 1960.

GIBBONS

For Beer and Ale in Containers.
First use in the year 1937 on beer.

SN 104,173. Lucky Lager Brewing Company, San Francisco, Calif. Filed S.R. Sept. 9, 1960; Am. P.R. Feb. 23, 1961.



The drawing is lined for gold. Applicant claims no exclusive rights in the word "Ale" as the name of the goods identified. Owner of Reg. Nos. 304,778, 696,859, and others.
For Ale.
First use July 14, 1959.

Class 49 — Distilled Alcoholic Liquors

SN 91,390. Kansas Distributors, Inc., d.b.a. Jeb Stuart Distilling Co., Kansas City, Kans. Filed Feb. 23, 1960.

JEB STUART

For Whiskey.
First use Nov. 5, 1959.

SN 91,391. Kansas Distributors, Inc., d.b.a. Stovak Vodka Company, Kansas City, Kans. Filed Feb. 23, 1960.

STOVAK

For Vodka.
First use June 20, 1958.

Class 50 — Merchandise Not Otherwise Classified

SN 65,325. Orimco Incorporated, Detroit, Mich. Filed Jan. 5, 1959.

ORIMCO

For Figurines.
First use Nov. 10, 1958.

SN 80,802. Edward Jacobs, Baltimore, Md. Filed Sept. 8, 1959.

GROOM SERVICE

For Kits Containing Varying Combinations of Toilet Articles, Cosmetic Goods and Simple Non-Ethical Medicines Such as Aspirin.
First use Aug. 21, 1959.

SN 93,789. G.M. Adhesive Metal Nameplate, Inc., Seattle, Wash. Filed Mar. 28, 1960.

Color-Cal

For Adhesive Metal Nameplates.
First use Mar. 28, 1958.

SN 96,978. Peerless Plastics Co., Inc., Butler, Wis. Filed May 12, 1960.

FOREST FRESH

Owner of Reg. No. 587,422.
For Christmas Tree Stand.
First use Nov. 8, 1950.

SN 103,815. Constance Spry, Incorporated, New York, N.Y. Filed Sept. 1, 1960.

Constance Spry

For Artificial Flowers, Plants, and Foliage.
First use Jan. 7, 1950.

SN 104,698. Domestic & Foreign Associates, Inc., Jacksonville, Fla. Filed Sept. 19, 1960.

DOFOR

For Door Mats.
First use in May 1960.

SN 105,731. Equine Products Company, Racine, Wis. Filed Oct. 4, 1960.

EQUINE

Applicant disclaims any exclusive right to use of the representation of a horse or pony shoe apart from the mark as shown.
For Horse Shoes and Pony Shoes for Use in Making Useful and Decorative Articles and for Playing Games.
First use at least as early as June 10, 1960.

SN 107,047. Payne-Jones, Inc., Lowville, N.Y. Filed Oct. 24, 1960.

COVERLEX

For Coated Paper Product Adapted for Use as a Leather Substitute.
First use prior to Jan. 17, 1947.

SN 107,954. Leslynn Products Corp., Long Island City, N.Y. Filed Nov. 7, 1960.

STERLON

For Shoe Lasts, Shoe Last Components, Plastic Shoe Lasts, Plastic Shoe Last Components, and Plastic Shoe Trees.
First use June 27, 1960.

SN 108,043. James S. Hardigg, d.b.a. Hardigg Industries, South Hadley Falls, Mass. Filed Nov. 8, 1960.

HARDI-PAD

For Shock and Vibration Absorbing Cushions for Use in Shipping and the Like.
First use Dec. 1, 1959.

SN 108,094. Superior Rubber Manufacturing Company, Chicago, Ill. Filed Nov. 8, 1960.

NO-TRAX

For Mats and Matting.
First use in September 1946.

SN 108,140. Spanjer Brothers, Inc., Chicago, Ill. Filed Nov. 9, 1960.

GOLD SEAL

For Letters of Wood, Metal or Plastic.
First use on or about Nov. 6, 1960.

SN 108,187. Cy Martin, Douglaston, N.Y. Filed Nov. 10, 1960.

BRIDAL SHOWER

For Confetti.
First use Oct. 10, 1960.

Class 51 — Cosmetics and Toilet Preparations

SN 53,392. Helene Curtis Industries, Inc., d.b.a. Lentheric, Chicago, Ill. Filed June 12, 1958.

RIPPLE

Owner of Reg. No. 404,433.
For Colognes.
First use on or about Apr. 25, 1958.

SN 79,842. Ursul R. Dixon, d.b.a. Robert Dixon and Son, Oklahoma City, Okla. Filed Aug. 19, 1959.

CLINI-CLEAN

For Hair and Scalp Cleaner.
First use Aug. 11, 1959.

SN 80,920. Pioneer Industries, Inc., Darby, Pa. Filed Sept. 4, 1959.

MARK OF A MAN

Owner of Reg. No. 384,564.
For Cologne, Deodorant, Perfume, Hair-Tonic, Talcum-Powder, After-Shave Lotion and Pre-Electric Shave Lotion.
First use Nov. 3, 1950.

SN 82,517. Lucente Enterprises, Inc., Youngstown, Ohio. Filed Oct. 1, 1959.

ORBIT

For Children's Dental Cream.
First use June 15, 1959.

SN 86,175. The Mennen Company, Morris Township, Morris County, N.J. Filed Nov. 27, 1959.

DATE-LINE

Owner of Reg. No. 692,932.
For Hand Lotion.
First use Oct. 2, 1959.

SN 87,129. The Mennen Company, Morris Township, Morris County, N.J. Filed Dec. 11, 1959.

DATE-LINE

Owner of Reg. No. 692,932.
For Acne Blemish Care Cream.
First use Oct. 2, 1959.

SN 88,893. Alfred A. Anthony, Westport, Conn. Filed Jan. 13, 1960.



For Hair Tonic, Hair Dressing, Hair Conditioner, Deodorant, Cologne, Body Rub, Pre-Shave Lotion, After Shave Lotion, Shampoo, Shaving Soap, Tooth Paste and Mouth Wash.
First use June 1959.

SN 90,055. E. A. Ghazal, Mullins, S.C. Filed Feb. 1, 1960.

BALDEEN

For Non-Alcoholic Scalp and Hair Lotion.
First use Dec. 30, 1959.

SN 91,105. Nutrilite Products, Inc., Buena Park, Calif. Filed Feb. 17, 1960.

PAVAN

For Cologne and Perfume.
First use Sept. 22, 1959.

SN 91,815. Lucky Tiger Manufacturing Company, Kansas City, Mo. Filed Feb. 29, 1960.

TanGam

The term "Tan" is disclaimed apart from the mark.
For Tanning Lotion.
First use Feb. 5, 1960.

SN 92,594. Clairol Incorporated, New York, N.Y. Filed Mar. 11, 1960.

BYE BYE GRAY

Applicant disclaims the word "Gray" apart from the mark as shown.
For Hair Tinting, Dyeing and Coloring Preparations.
First use Nov. 24, 1959.

SN 93,868. Mary Sherman, Inc., St. Louis, Mo. Filed Mar. 28, 1960.

Mary Sherman

Owner of Reg. No. 663,575.
For Cosmetic Preparation for Perfuming and Softening Bath Water.
First use Dec. 28, 1959.

SN 93,930. Richard Hudnut, Morris Plains, N.J. Filed Mar. 29, 1960.

EYE CRAFT

For Eye Cream.
First use Feb. 23, 1960.

SN 98,252. Wildroot Company, Inc., Buffalo, N.Y. Filed June 1, 1960.

VILRUT

Owner of Reg. Nos. 84,528, 136,261, and 299,653.
For Hair Preparations, Particularly Hair Tonic.
First use Oct. 8, 1959.

SN 100,431. Howard W. Dodson, Springfield, Pa. Filed July 7, 1960.

TANADAY

For Suntan Lotion.
First use May 2, 1960.

SN 104,816. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 20, 1960.

BIRDS IN GILDED CAGE

For Cologne.
First use on or about Aug. 12, 1960.

SN 104,950. Quality Products Co., Inc., Brooklyn, N.Y. Filed Sept. 21, 1960.

DRYFAST

For Hair Waving Lotions.
First use July 1929.

Class 52 — Detergents and Soaps

SN 94,355. Edwin E. Schaefer, d.b.a. Schaefer Chemical Products Company, Saginaw, Mich. Filed Apr. 4, 1960.

Skipper's Aide

For Cleaning Compound for Removing Dirt, Oil, and Grease, Particularly From the Decks, Hulls, and Bilges of Boats.
First use Mar. 23, 1959.

SN 96,032. The Procter & Gamble Company, Cincinnati, Ohio. Filed Apr. 28, 1960.

FORTUNE

For Synthetic Detergent for Household Cleaning and Laundry Use.
First use Mar. 4, 1960.

SN 98,548. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed June 6, 1960.

WHIT-KLEEN

For Detergent Cleaner Solution for General Maintenance Cleaning of Painted Metallic or Ceramic Surfaces.
First use Aug. 13, 1956.

SN 103,313. A. L. Wilson Chemical Company, Kearny, N.J. Filed Aug. 23, 1960.

ReddyGo

Owner of Reg. Nos. 585,488, 590,427, and 592,035.
For Lipstick Remover for Use by Professional Drycleaners.
First use July 7, 1960.

SN 105,527. MacDermid Incorporated, Waterbury, Conn. Filed Sept. 30, 1960.

MacDermid ...right to the Finish!

For Metal Cleaners.
First use Aug. 1, 1957.

SN 106,119. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Oct. 10, 1960.

THERMO-FAX

Owner of Reg. Nos. 560,098, 685,362, and 696,204.
For Liquid Useful for Cleaning Copying Machines.
First use Dec. 11, 1959.

SERVICE MARKS

Class 100 — Miscellaneous

SN 90,765. Gerald P. Kent, d.b.a. G. P. Kent & Associates, Birmingham, Mich. Filed Feb. 11, 1960.

LEGACY

For Packaging and Cleaning Bridal Gowns.
First use May 1, 1959.

SN 92,080. Bonewitz Chemicals, Inc., Burlington, Iowa. Filed Mar. 3, 1960.

BONEWITZ

For Instructing Personnel of Others in Proper Techniques of Sanitizing Dairy and Food-Processing Equipment.
First use in 1939.

Class 101 — Advertising and Business

SN 98,020. Nugents-American Contractors, Inc., Chicago, Ill. Filed May 27, 1960.

NUGENT

Applicant disclaims any right to registration of the word "Services" apart from the mark.
For Employment Services—Namely, Furnishing Temporary Help.
First use June 1957.

Class 103 — Construction and Repair

SN 98,612. Acme Associates, Inc., Chicago, Ill. Filed June 8, 1960.

ACME

The drawing is lined for the color red.
For Leasing and Rental of All Types of Equipment and Machinery.
First use Mar. 20, 1960.

Class 107 — Education and Entertainment

SN 96,111. Family Service Association of America, New York, N.Y. Filed Dec. 27, 1960.

PLAYS FOR LIVING

For Creating, Producing and Presenting for Other Organizations Educational Plays Depicting in Dramatic Form Aspects of Family Living and Mental and Emotional Health.
First use at least as early as Jan. 1, 1959.

SN 97,336. Springfield Television Broadcasting Corp., Springfield, Mass. Filed May 17, 1960.

For Television Broadcasting Services.
First use Mar. 1, 1953.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 98,197. Asociacion Escuela Cientifica Basilio, Buenos Aires, Argentina. Filed June 1, 1960.



For Indicating Membership in the Association.
First use 1952; in commerce 1952.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

714,012. STAPON. A. E. Staley Manufacturing Company. SN 92,319. Pub. 1–31–61. Filed 3–7–60.

Class 2—Receptacles

714,013. ACROSEAL. Joseph L. Hassmer, d.b.a. Hassmer Brothers. SN 90,332. Pub. 1–31–61. Filed 2–4–60.

714,014. HH. The Mead Corporation. SN 90,544. Pub. 1–31–61. Filed 2–8–60.

714,015. PROFILM. Protective Lining Corporation. SN 97,869. Pub. 11–22–60. Filed 5–25–60.

714,016. POLY-RACK-PACK PRP. M. Korn Packaging Co. Inc. SN 90,334. Pub. 1–31–61. Filed 6–20–60.

714,017. CX. Illinois Tool Works. SN 100,452. Pub. 1–31–61. Filed 7–7–60.

714,018. K SYMBOL. Specialty Sheet Metal Manufacturing Co., d.b.a. Speco Products. SN 101,650. Pub. 1–31–61. Filed 7–28–60.

714,019. PLAN O BANS. Plan-O-Bans Corporation, assignee of Columbia Basin Plastics Company. SN 104,233. Pub. 1–31–61. Filed 9–12–60.

714,020. TREZUR CHEST. The Heekin Can Company. SN 104,525. Pub. 1–31–61. Filed 9–15–60.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

714,021. "TRAVEL-AIRE." Wallace M. L. Johnson, d.b.a. Kennel-Aire Mfg. Co. SN 102,248. Pub. 1–31–61. Filed 8–8–60.

Class 4—Abrasives and Polishing Materials

714,022. S.O.S. General Foods Corporation. SN 89,571. Pub. 1–31–61. Filed 1–25–60.

714,023. UNIMATIC. Unimatic Manufacturing, Inc. SN 103,227. Pub. 1–31–61. Filed 8–22–60.

714,024. FLEX-I-GRIT. Raybestos-Manhattan, Inc. SN 103,482. Pub. 1–31–61. Filed 8–26–60.

714,025. VINAFLOS. Armstrong Cork Company. SN 103,698. Pub. 1–31–61. Filed 8–31–60.

Class 5—Adhesives

714,026. FIELD-STIK SEALING PROCESS ETC. AND DESIGN. Field Paper Box Co. SN 97,470. Pub. 1–31–61. Filed 5–19–60.

714,027. REDCO-STIK-TITE AND DESIGN. Ernst C. Redmond, Jr., d.b.a. Mickey Redmond & Co. SN 100,931. Pub. 1–31–61. Filed 7–15–60.

714,028. METLHESIVE. Hiller Aircraft Corporation. SN 104,999. Pub. 1–31–61. Filed 9–22–60.

Class 6—Chemicals and Chemical Compositions

714,029. VICTAMIDE. Stauffer Chemical Company, assignee of Victor Chemical Works. SN 77,875. Pub. 1–31–61. Filed 7–16–59.

714,030. SORBITOL DR. HEFTI AG AND DESIGN. Dr. Hefti, Aktiengesellschaft. SN 86,484. Pub. 1–31–61. Filed 12–2–59.

714,031. ACRAMIN. Farbenfabriken Bayer Aktiengesellschaft. SN 86,710. Pub. 11–15–60. Filed 11–10–59.

714,032. TERPOX. Heyden Newport Chemical Corporation. SN 91,794. Pub. 1–31–61. Filed 2–29–60.

714,033. DAWSON AND DESIGN. Ferguson Fumigants, Inc. SN 92,455. Pub. 1–31–61. Filed 3–9–60.

714,034. NO-REZ. Industrial Chemical Products Co. SN 92,769. Pub. 1–31–61. Filed 3–14–60.

Class 7—Cordage

714,035. N. Norcross, Inc. SN 97,239. Pub. 1–31–61. Filed 5–16–60.

Class 8—Smokers' Articles, Not Including Tobacco Products

714,036. JD AND DESIGN. Philip J. Desjardins, d.b.a. Philip Desjardins & Son. SN 91,922. Pub. 1–31–61. Filed 3–1–60.

Class 9—Explosives, Firearms, Equipments, and Projectiles

714,037. LA SALLE. Firearms International Corporation. SN 66,540. Pub. 1–31–61. Filed 1–27–59.

714,038. LANCER. "Star" Bonifacio Echeverria, S.A. SN 76,026. Pub. 1–31–61. Filed 6–18–59.

714,039. PROCORE. Intermountain Research & Engineering Company. SN 87,681. Pub. 10–18–60. Filed 12–21–59.

Class 10—Fertilizers

714,040. GERMAIN'S. Germain's, Inc. SN 96,114. Pub. 1–31–61. Filed 4–29–60.

714,041. TRYLONE. Societe des Usines Chimiques Rhone-Poulenc. SN 96,816. Pub. 1–31–61. Filed 5–10–60.

Class 12—Construction Materials

714,042. SPEE-DEE. Clipco, Inc. SN 77,075. Pub. 1–31–61. Filed 7–6–59.

714,043. SLATILE. Theodore Pafundi, d.b.a. Ted Pafundi. SN 77,221. Pub. 1–31–61. Filed 7–7–59.

714,044. SEAWAY. Globe Roofing Products Co., Inc. SN 88,663. Pub. 1–31–61. Filed 1–8–60.

714,045. UNITILE. United States Ceramic Tile Company. SN 89,098. Pub. 1–31–61. Filed 1–15–60.

714,046. ALUMA-VUE ETC. AND DESIGN. Aluma-Vue Company. SN 89,240. Pub. 1–31–61. Filed 1–19–60.

714,047. NITREX. General Refractories Company. SN 89,669. Pub. 1–31–61. Filed 1–26–60.

714,048. FERROX. General Refractories Company. SN 89,671. Pub. 1–10–61. Filed 1–26–60.

714,049. OKLAHOMA AND DESIGN. Oklahoma Cement Company. SN 90,267. Pub. 1–31–61. Filed 2–3–60.

714,050. HARBOR. Aberdeen Plywood and Veneers, Inc., assignee of Harbor Plywood Corporation. SN 91,257. Pub. 1–31–61. Filed 2–19–60.

714,051. SAFE-TEE-FOLD. Kinkead Industries, Incorporated. SN 91,607. Pub. 1–31–61. Filed 2–25–60.

714,052. SILVARA. Shakertown Corporation. SN 92,653. Pub. 1–31–61. Filed 3–11–60.

714,053. GLAZ-MATIC. The Gibson-Homans Company. SN 99,055. Pub. 1–31–61. Filed 6–15–60.

714,054. VISCOUNT. Viscount Supply Co., Limited. SN 101,358. Pub. 1–31–61. Filed 7–22–60.

714,055. L 1–11. Douglas Fir Plywood Association. SN 101,380. COLLECTIVE MARK. Pub. 1–31–61. Filed 7–25–60.

714,056. DAMPA AND DESIGN. Detfyenske Traelastkompagni Aktieselskab. SN 101,758. Pub. 1–31–61. Filed 8–1–60.

714,057. MAGWAL. H. K. Porter Company, Inc. SN 101,811. Pub. 1–31–61. Filed 8–1–60.

714,058. PORCO. H. K. Porter Company, Inc. SN 101,812. Pub. 1–31–61. Filed 8–1–60.

714,059. KROMWAL. H. K. Porter Company, Inc. SN 101,813. Pub. 1–31–61. Filed 8–1–60.

714,060. KOLORLUM. National Metal Products Company. SN 102,410. Pub. 1–31–61. Filed 8–10–60.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

714,061. SLIMSERT. Rosán Engineering Corp. SN 88,179. Pub. 1–31–61. Filed 12–29–59.

714,062. MISCELLANEOUS DESIGN. Bauer & Schaurte. SN 92,952. Pub. 1–31–61. Filed 3–16–60.

714,063. VERBUS. Bauer & Schaurte. SN 92,953. Pub. 1–31–61. Filed 3–16–60.

714,064. TIARA. Elkay Manufacturing Company. SN 101,317. Pub. 1–31–61. Filed 7–22–60.

714,065. FIELDLINK. La Favorite Rubber Manufacturing Company. SN 101,402. Pub. 1–31–61. Filed 7–25–60.

714,066. HAMMERTROL. American Tube Products Inc. SN 101,596. Pub. 1–31–61. Filed 7–28–60.

714,067. ELKAY. Elkay Manufacturing Company. SN 101,766. Pub. 1–31–61. Filed 8–1–60.

714,068. USS. United States Steel Corporation. SN 101,987. Pub. 1–31–61. Filed 8–3–60.

Class 14—Metals and Metal Castings and Forgings

714,069. NASTAN. National-Standard Company. SN 100,382. Pub. 1–31–61. Filed 7–6–60.

714,070. WISIL. Alfried Krupp von Bohlen und Halbach, d.b.a. Fried. Krupp. SN 103,233. Pub. 1–31–61. Filed 8–22–60.

Class 16—Protective and Decorative Coatings

714,071. CORR-PREV. Chase and Sons, Inc. SN 86,931. Pub. 1–31–61. Filed 12–9–59.

714,072. E-KOTE. Joseph Waldman & Sons. SN 88,114. Pub. 1–31–61. Filed 12–28–59.

Class 18—Medicines and Pharmaceutical Preparations

714,073. NUTRI-PAK. Nutri-Bio Corporation. SN 50,174. Pub. 1–31–61. Filed 4–22–58.

714,074. PANALBA DROPS. The Upjohn Company. SN 91,719. Pub. 1–31–61. Filed 2–26–60.

714,075. BACID. U.S. Vitamin & Pharmaceutical Corporation. SN 94,528. Pub. 1–31–61. Filed 4–6–60.

714,076. VIOL. Viobin Corporation. SN 100,825. Pub. 1–31–61. Filed 7–13–60.

714,077. HEPROFAX. The Stuart Company. SN 103,220. Pub. 1–31–61. Filed 8–22–60.

714,078. TRAVASE. Baxter Laboratories, Inc. SN 106,466. Pub. 1–31–61. Filed 10–17–60.

714,079. PENSTAPHOCIDE. Bristol-Myers Company. SN 106,471. Pub. 1–31–61. Filed 10–17–60.

714,080. TRANFUSAN. Pharmacal Products, Inc. SN 106,628. Pub. 1–31–61. Filed 10–18–60.

714,081. MARBLEN. Fleming and Company, Pharmaceuticals. SN 106,798. Pub. 1–31–61. Filed 10–20–60.

714,082. CAPROCID. Merck & Co., Inc. SN 106,925. Pub. 1–31–61. Filed 10–21–60.

714,083. CHYTRYP. B. F. Ascher & Company, Inc. SN 106,975. Pub. 1–31–61. Filed 10–24–60.

714,084. FLUORABON. Perry Medical Products, Inc. SN 107,051. Pub. 1–31–61. Filed 10–24–60.

714,085. EVAZOL. Ravensberg GmbH Chemische Fabrik. SN 107,056. Pub. 1–31–61. Filed 10–24–60.

Class 19—Vehicles

714,086. TAXI VISION AND DESIGN. Prospector Aktiebolag, assignee of Björn Wilhelm Holmström and Göran Anders Folke Arbenius (joint owners). SN 62,556. Pub. 1–31–61. Filed 11–17–58.

714,087. REAR-VUE. General Motors Corporation. SN 89,575. Pub. 1–31–61. Filed 1–25–60.

714,088. GENRL AND DESIGN. General Foundry & Mfg. Co. SN 92,610. Pub. 1–31–61. Filed 3–11–60.

714,089. CADDY CAR. Kysor Heater Company, d.b.a. Powered Products of Texas, Incorporated. SN 95,444. Pub. 11–22–60. Filed 4–20–60.

714,090. DURALAST. The Hamilton Caster & Mfg. Co. SN 100,408. Pub. 1–31–61. Filed 7–1–60.

714,091. LEXCO MOTELLER. Lexco Engineering & Manufacturing Corporation. SN 100,618. Pub. 1–31–61. Filed 7–11–60.

714,092. ARCTIC. The Goodyear Tire & Rubber Company. SN 102,654. Pub. 1–31–61. Filed 8–15–60.

Class 20—Linoleum and Oiled Cloth

714,093. CASTILIAN. Armstrong Cork Company. SN 103,434. Pub. 1–31–61. Filed 8–26–60.

Class 21—Electrical Apparatus, Machines, and Supplies

714,094. HY-ARC. Hy-Arc, Inc. SN 88,917. Pub. 1–31–61. Filed 1–13–60.

714,095. STEREOSCOPE. Electric & Musical Industries Limited. SN 89,903. Pub. 1–31–61. Filed 1–29–60.

714,096. LUMACRYL. Habitat, Inc. SN 99,428. Pub. 1–31–61. Filed 6–21–60.

714,097. QUADRUS. Habitat, Inc. SN 99,429. Pub. 1–31–61. Filed 6–21–60.

714,098. LECTRA FLARE. Geico Enterprises. SN 99,931. Pub. 1–31–61. Filed 6–29–60.

714,099. ARCOLYTICS. Arco Electronics, Inc. SN 99,996. Pub. 1–31–61. Filed 6–30–60.

714,100. CHIPPEWA. Daystrom, Incorporated. SN 100,103. Pub. 1–31–61. Filed 7–1–60.

714,101. LEGATO. Daystrom, Incorporated. SN 100,104. Pub. 1–31–61. Filed 7–1–60.

714,102. ELECTRIMATIC. Engelhard Hanovia, Inc. SN 100,117. Pub. 1–31–61. Filed 7–1–60.

714,103. CRESTLINE AND DESIGN. Canton-Son, Inc. SN 105,954. Pub. 1–31–61. Filed 10–7–60.

Class 22—Games, Toys, and Sporting Goods

714,104. AMF. American Machine & Foundry Company. SN 96,824. Pub. 1–31–61. Filed 5–11–60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

714,105. PHONIX. Holstein & Kappert Maschinenfabrik "Phonix" G.m.b.H. SN 66,888. Pub. 1–31–61. Filed 2–2–59.

714,106. SPAFFLES. Dakota Aviation Company. SN 75,068. Pub. 1–31–61. Filed 6–4–59.

714,107. BUSCHMASTER. Timberline Equipment Company. SN 80,283. Pub. 1–31–61. Filed 8–26–59.

714,108. 3–D. The Cleveland Mixer Company. SN 87,477. Pub. 1–31–61. Filed 12–17–59.

714,109. BUILDING BLOCK. The Cleveland Mixer Company. SN 87,478. Pub. 1–31–61. Filed 12–17–59.

714,110. CAP AND DESIGN. Clemco Aero Products, Inc., assignee of J. W. Clement Co. SN 89,741. Pub. 10–25–60. Filed 1–27–60.

714,111. BUSHMAN. Edsbyns Industri Aktiebolag. SN 91,924. Pub. 1–31–61. Filed 3–1–60.

714,112. MISCELLANEOUS DESIGN. Bauer & Schaurte. SN 91,994. Pub. 1–31–61. Filed 3–2–60.

714,113. VERBUS. Bauer & Schaurte. SN 91,996. Pub. 1–31–61. Filed 3–2–60.

714,114. ROTAFIX. Gunther Wagner. SN 93,921. Pub. 1–31–61. Filed 3–29–60.

714,115. GOLDEN BOBBIN BY WHITE AND DESIGN. White Sewing Machine Corporation. SN 94,214. Pub. 1–31–61. Filed 4–1–60.

714,116. CRESCENT. Nymanbolagen AB. SN 94,911. Pub. 1–31–61. Filed 4–12–60.

714,117. MULTI-TYPE. Bishop Spools, Inc. SN 95,807. Pub. 1–31–61. Filed 4–26–60.

714,118. HOT ROLL AND DESIGN. Ellis Manufacturing & Distributing Company, d.b.a. Ellis Mfg. Co. SN 97,188. Pub. 1–31–61. Filed 5–16–60.

714,119. HOT SHOT. Richard C. Bradley, d.b.a. Plastic Engineering and Chemical Co. SN 99,198. Pub. 1–31–61. Filed 6–17–60.

714,120. HOOVER. Hoover Ball and Bearing Company. SN 100,253. Pub. 1–31–61. Filed 7–5–60.

714,121. SALEM AND DESIGN. The Salem Tool Company. SN 100,468. Pub. 1–31–61. Filed 7–7–60.

714,122. SALEM. The Salem Tool Company. SN 100,469. Pub. 1–31–61. Filed 7–7–60.

714,123. MOLDMASTER. Herman Pneumatic Machine Company. SN 100,514. Pub. 1–31–61. Filed 7–8–60.

714,124. UNI-GRIP. Whiting Corporation. SN 101,066. Pub. 1–31–61. Filed 7–18–60.

714,125. MISCELLANEOUS DESIGN. All-O-Matic Manufacturing Corporation. SN 101,728. Pub. 1–31–61. Filed 8–1–60.

714,126. SILVER TRITON. Clayton Mark & Company. SN 102,126. Pub. 1–31–61. Filed 8–5–60.

714,127. VISCOUNT. Ekco Products Company. SN 102,629. Pub. 1–31–61. Filed 8–15–60.

714,128. FERRO-DAMP. Ferro Powdered Metals, Inc. SN 102,641. Pub. 1–31–61. Filed 8–15–60.

714,129. THIXO. The Eimco Corporation. SN 102,717. Pub. 1–31–61. Filed 8–5–60.

714,130. FLOTATOR. Process Engineers, Inc. SN 102,719. Pub. 1–31–61. Filed 8–12–60.

714,131. MICROFLEX. Crest Engineering Company. SN 104,695. Pub. 1–31–61. Filed 9–19–60.

Class 26—Measuring and Scientific Appliances

714,132. ALAN-LEA AND DESIGN. Alan-Lea International Inventions Corp. SN 101,072. Pub. 1–31–61. Filed 7–19–60.

Class 27—Horological Instruments

714,133. "IT'S ABOUT TIME" ETC. AND DESIGN. John P. Brondello, d.b.a. Time Equipment Company. SN 80,633. Pub. 10–18–60. Filed 9–1–59.

714,134. CHARM. Hamilton Watch Company. SN 103,926. Pub. 1–31–61. Filed 9–6–60.

714,135. "880." Jefferson Electric Company. SN 104,392. Pub. 1–31–61. Filed 9–13–60.

Class 29—Brooms, Brushes, and Dusters

714,136. NOODLE. H. Hertzberg & Son Inc. SN 100,363. Pub. 1–31–61. Filed 7–6–60.

714,137. RED TIGER. Edward Don & Company. SN 100,585. Pub. 1–31–61. Filed 7–11–60.

Class 31—Filters and Refrigerators

714,138. SCHUMACHER. Schumacher'sche Fabrik. SN 87,284. Pub. 1–31–61. Filed 12–14–59.

714,139. MAGNA KOLD AND DESIGN. Sprague Engineering Corporation. SN 87,830. Pub. 1–31–61. Filed 12–22–59.

714,140. POLY ICE. Fritz Feller. SN 100,508. Pub. 1–31–61. Filed 7–8–60.

Class 32—Furniture and Upholstery

714,141. DREAMWOOD. The I-XL Furniture Co., Inc. SN 91,945. Pub. 1–31–61. Filed 3–1–60.

714,142. RAVAL. United States Rubber Company. SN 99,468. Pub. 1–31–61. Filed 6–21–60.

714,143. SPACE-KING. Duo-Bed Corporation (Delaware corporation), assignee of Duo-Bed Corporation (Nevada corporation). SN 100,693. Pub. 1–17–61. Filed 7–12–60.

714,144. UNI-FRAME. Scroll, Inc. SN 105,103. Pub. 1–31–61. Filed 9–23–60.

714,145. SPACE MAGIC. Danbar Enterprises Limited. SN 105,422. Pub. 1–31–61. Filed 9–29–60.

714,146. RELAX-A-RESTER. Futorian-Stratford Furniture Company. SN 105,432. Pub. 1–31–61. Filed 9–29–60.

714,147. TELESPARE. Jason Industries Limited. SN 106,102. Pub. 1–31–61. Filed 10–10–60.

714,148. FUTURAMA. McKinney Bedding Co. SN 106,267. Pub. 1–31–61. Filed 10–12–60.

714,149. PINNACLE. Drexel Furniture Company. SN 106,314. Pub. 1–31–61. Filed 10–13–60.

714,150. WINCRAFT FURNITURE AND DESIGN. Bill Karpen Winberg and Co. SN 106,328. Pub. 1–31–61. Filed 10–13–60.

Class 33 — Glassware

714,151. THERMOTEST. ABC Affiliated Distributors, Inc. SN 101,726. Pub. 1–31–61. Filed 8–1–60.

Class 34 — Heating, Lighting, and Ventilating Apparatus

714,152. REDLINE. Bell & Gossett Company. SN 72,993. Pub. 1–31–61. Filed 5–6–59.

714,153. LOUISVILLE. General American Transportation Corporation. SN 98,647. Pub. 1–31–61. Filed 6–8–60.

Class 36 — Musical Instruments and Supplies

714,154. 1ST COMPONENT SERIES. Audio Fidelity, Inc., by change of name from Audiofidelity, Inc. SN 64,676. Pub. 1–31–61. Filed 12–22–58.

714,155. MECOTAPE. Modern Electronics Manufacturing Company. SN 93,831. Pub. 1–31–61. Filed 3–28–60.

714,156. LAUREL. William Lewis and Son. SN 103,031. Pub. 1–31–61. Filed 8–19–60.

714,157. STENOPACK. Thomas H. Moore, d.b.a. Stenopack Business Machines. SN 103,181. Pub. 1–31–61. Filed 8–22–60.

714,158. TIMBRE AND DESIGN. Henry O. Weeth, d.b.a. Timbre Recordings. SN 103,630. Pub. 1–31–61. Filed 8–29–60.

714,159. CHAMPLAIN. The Fred. Gretsch Mfg. Co. SN 103,750. Pub. 1–31–61. Filed 8–31–60.

Class 37 — Paper and Stationery

714,160. APECO ELECTRO-STAT AND DESIGN. American Photocopy Equipment Company. SN 75,683. Pub. 1–31–61. Filed 6–15–59.

714,161. ANITA LEWIS QUALITY AND DESIGN. Neisner Brothers, Inc. SN 82,278. Pub. 1–31–61. Filed 9–28–59.

714,162. ULTRAGRAPH. Ropex Co., Inc. SN 90,782. Pub. 8–23–60. Filed 2–11–60.

714,163. CONTEMPORARY. Western Tablet & Stationery Corporation. SN 92,418. Pub. 5–17–60. Filed 3–10–60.

714,164. TEEN-MATES. A. J. Siris Products Corp. SN 92,555. Pub. 10–25–60. Filed 3–10–60.

714,165. ADLER AND DESIGN. Adlerwerke vorm. Heinrich Kleyer A.G. SN 98,048. Pub. 1–31–61. Filed 4–29–60.

Class 38 — Prints and Publications

714,166. CONSTRUCTION BY ADHESION. Miracle Adhesives Corporation. SN 67,560. Pub. 1–31–61. Filed 2–11–59.

714,167. MASS PRODUCTION. Bramson Publishing Co. SN 82,077. Pub. 1–31–61. Filed 9–25–59.

714,168. IVC. Institute of Visual Communication, Inc. SN 84,141. Pub. 1–31–61. Filed 10–28–59.

714,169. 3C PULSE. Computer Control Company, Inc. SN 89,745. Pub. 1–31–61. Filed 1–27–60.

714,170. BRIDGE. Credit Union National Association, Inc. SN 90,150. Pub. 1–31–61. Filed 2–2–60.

714,171. METRO-GOLDWYN-MAYER. Metro-Goldwyn-Mayer Inc., by change of name from Loew's Incorporated. SN 90,849. Pub. 1–31–61. Filed 2–12–60.

714,172. THE WORD OF FAITH WHICH WE PREACH ETC. AND DESIGN. Pilgrim Holiness Church Corp. SN 92,194. Pub. 1–31–61. Filed 1–18–60.

714,173. I CAN READ IT ALL BY MYSELF ETC. AND DESIGN. Random House, Inc., by merger from Beginner Books, Inc. SN 93,487. Pub. 1–3–61. Filed 3–23–60.

714,174. OFFICE HOURS. The Hearst Corporation. SN 95,081. Pub. 1–31–61. Filed 4–14–60.

714,175. CONTINENTAL KEY. AB Bonnierforetagen. SN 95,815. Pub. 1–31–61. Filed 4–26–60.

714,176. GOOD LIVING. Edwards & Deutsch Lithographing Company. SN 96,950. Pub. 1–31–61. Filed 5–12–60.

714,177. N. Norcross, Inc. SN 97,236. Pub. 1–31–61. Filed 5–16–60.

714,178. COLLINS. Collins Radio Company. SN 98,438. Pub. 1–31–61. Filed 6–6–60.

714,179. BROILER BUSINESS. Watt Publishing Company. SN 98,558. Pub. 1–31–61. Filed 6–6–60.

714,180. NEW YORK CITIZEN-CALL. Citizen's Publishing Corporation. SN 98,776. Pub. 1–31–61. Filed 6–10–60.

714,181. THE NATIONAL KEY-WAY. The National Key Company. SN 98,808. Pub. 1–31–61. Filed 6–10–60.

714,182. CHAIN GAGS BY MR. KEY AND DESIGN. The National Key Company. SN 99,166. Pub. 1–31–61. Filed 6–16–60.

714,183. ARTOPAGES. Alton A. Weigel, d.b.a. Artopages. SN 100,199. Pub. 1–31–61. Filed 7–1–60.

714,184. BUCK ROGERS. John F. Dille Co. SN 100,230. Pub. 1–31–61. Filed 7–5–60.

714,185. SUNBURST DESIGN. Vintage Books, Inc. SN 100,322. Pub. 1–31–61. Filed 7–5–60.

714,186. DESIGN COMPOSED OF FOUR H'S. Frank Holmes Laboratories, Inc. SN 100,364. Pub. 1–31–61. Filed 7–6–60.

714,187. WORLD VISION. World Vision, Inc. SN 100,407. Pub. 1–31–61. Filed 7–6–60.

Class 39 — Clothing

714,188. PRIDE O'GLEN MATCH BOX ETC. AND DESIGN. Maurice Goldstone. SN 45,876. Pub. 1–31–61. Filed 2–14–58.

714,189. CLIMATIZED. Sheffield Hosiery Mills, Inc. SN 69,996. Pub. 1–31–61. Filed 3–20–59.

714,190. HIS TIGHTS INC. AND DESIGN. His-Tights, Inc. SN 87,802. Pub. 1–31–61. Filed 12–22–59.

714,191. STACCATOS AND DESIGN. Wolff Shoe Manufacturing Co. SN 92,841. Pub. 1–31–61. Filed 3–14–60.

714,192. SCASINI ORIGINALS AND DESIGN. C. H. Baker Corporation. SN 95,235. Pub. 1–31–61. Filed 4–18–60.

714,193. NEWBELLE. J J Newberry Co. SN 98,122. Pub. 1–31–61. Filed 5–31–60.

714,194. WESTERN RIDER. Continental Manufacturing Co. SN 98,206. Pub. 12–6–60. Filed 6–1–60.

714,195. "BOLERO SANDALS." A. S. Beck Shoe Corporation. SN 98,263. Pub. 1–31–61. Filed 6–2–60.

714,196. ORTHO-VENT. Ortho-Vent Shoe Company, Inc. SN 98,390. Pub. 1–31–61. Filed 6–3–60.

714,197. ARTHURJAY. Arthur Jay Company, Inc. SN 98,655. Pub. 1–31–61. Filed 6–8–60.

714,198. MELLOWMOOD. The Great Atlantic & Pacific Tea Company, Inc. SN 99,254. Pub. 1–31–61. Filed 6–17–60.

714,199. TELEPHONE AND GRAPH DESIGN. Joseph H. Cohen & Sons, Inc. SN 100,353. Pub. 1–31–61. Filed 7–6–60.

714,200. COVERETTES. Century Glove Corporation. SN 100,687. Pub. 1–31–61. Filed 7–12–60.

714,201. MODERN HEIRS. McCrary Hosiery Mills, Inc. SN 100,713. Pub. 1–31–61. Filed 7–12–60.

714,202. MAYO SPRUCE AND DESIGN. Washington Mills Company. SN 100,955. Pub. 1–31–61. Filed 7–15–60.

714,203. CURL COVER. Cathy J. Gobins. SN 101,169. Pub. 1–31–61. Filed 7–20–60.

714,204. V-ACTIVE. Glamorise Foundations, Inc. SN 101,389. Pub. 1–31–61. Filed 7–25–60.

714,205. STATION WAGON. Spatz Bros., Inc. SN 101,435. Pub. 1–31–61. Filed 7–25–60.

714,206. V-LASTIC. Kent Scott, Inc. SN 101,706. Pub. 1–31–61. Filed 7–29–60.

714,207. DUBL-PUFFS. Easy Walker Shoe Company. SN 103,712. Pub. 1–31–61. Filed 8–31–60.

714,208. TOWN TALK. Kresge-Newark, Inc. SN 103,861. Pub. 1–31–61. Filed 9–2–60.

714,209. PAULETTE. Saks & Company. SN 103,967. Pub. 1–31–61. Filed 9–6–60.

714,210. TWO-FOLD. Poirette Corsets, Inc. SN 104,187. Pub. 1–31–61. Filed 9–9–60.

714,211. AIR BABY AND DESIGN. Air Baby Incorporated. SN 104,220. Pub. 1–31–61. Filed 9–12–60.

714,212. LIGANTI. Haymaker Sports, Inc. SN 104,262. Pub. 1–31–61. Filed 9–12–60.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

714,213. VARI-VOGUE CLOTH. Wm. Simpson, Sons & Co., Inc. SN 94,923. Pub. 1–31–61. Filed 4–12–60.

714,214. QUICKSILVER. J. P. Stevens & Co., Inc. SN 95,857. Pub. 1–31–61. Filed 4–26–60.

714,215. TRIPLE EEE FABRICS. Midwest Textiles and Flameproofing Co., Inc. SN 100,141. Pub. 1–31–61. Filed 7–1–60.

714,216. WHITE SHIELD AND DESIGN. Jolo Plastics Corporation. SN 101,875. Pub. 1–31–61. Filed 8–2–60.

714,217. TELEXTRA. A. Gagniere & Company Limited. SN 103,717. Pub. 1–31–61. Filed 8–31–60.

714,218. FABRIC-ELLE. M. Lowenstein & Sons, Inc. SN 104,039. Pub. 1–31–61. Filed 9–7–60.

714,219. POPS. Daido Keori Kabushiki Kaisha, d.b.a. Daido Worsted Mills Ltd. SN 104,073. Pub. 1–31–61. Filed 9–8–60.

714,220. WINDROW. The Millville Manufacturing Company. SN 104,293. Pub. 1–31–61. Filed 9–12–60.

Class 43 — Thread and Yarn

714,221. EXPRESS. Spinnerin Yarn Co., Inc. SN 102,273. Pub. 1–31–61. Filed 8–8–60.

Class 44 — Dental, Medical, and Surgical Appliances

714,222. VELKET. Propper Manufacturing Company, Inc. SN 104,949. Pub. 1–31–61. Filed 9–21–60.

714,223. MEDIC AIR. Kidde Manufacturing Company, Inc. SN 105,007. Pub. 1–31–61. Filed 9–22–60.

Class 46 — Foods and Ingredients of Foods

714,224. TA CHUNG AND CHINESE LETTERS AND DESIGN. Ta Chung Co., Inc. SN 66,507. Pub. 1–31–61. Filed 1–26–59.

714,225. PAN-CA-LETT. Richard Spencer, d.b.a. 30th Century Food Products. SN 89,608. Pub. 1–31–61. Filed 1–25–60.

714,226. AIR SPUN. General Mills, Inc. SN 95,270. Pub. 1–31–61. Filed 4–18–60.

714,227. EUCLID GOLD. Euclid Citrus Association. SN 97,295. Pub. 1–31–61. Filed 5–17–60.

714,228. GREEN KING. Montalvo Farms. SN 97,507. Pub. 1–31–61. Filed 5–19–60.

714,229. KORNEY KROWS AND DESIGN OF TWO CROWS. Leonard J. Vilutis, d.b.a. Lenvil & Co. SN 97,592. Pub. 1–31–61. Filed 5–20–60.

714,230. N AND DESIGN. Norman Steak Co. SN 98,515. Pub. 1–31–61. Filed 6–6–60.

714,231. PAN PACIFIC. Pan Pacific Fisheries, Inc. SN 99,001. Pub. 11–22–60. Filed 6–14–60.

714,232. SPEAR AND DESIGN. Wm. Wrigley Jr. Company. SN 99,111. Pub. 1–31–61. Filed 6–15–60.

714,233. "HOTREATS." Quality Bakers of America Cooperative, Inc. SN 99,432. COLLECTIVE MARK. Pub. 1–31–61. Filed 6–21–60.

714,234. SNACK TIME. Sachs Nut Inc. SN 100,394. Pub. 1–31–61. Filed 7–6–60.

714,235. SUNNY SEAS. Wilbur-Ellis Company. SN 100,874. Pub. 12–13–60. Filed 7–14–60.

Class 47 — Wines

714,236. VALLEY ROAD. United American Company, d.b.a. Vintage Wine Co. SN 100,821. Pub. 1–31–61. Filed 7–13–60.

Class 48 — Malt Beverages and Liquors

714,237. THE COLT AND DESIGN. The National Brewing Co. SN 101,695. Pub. 1–31–61. Filed 7–29–60.

Class 49 — Distilled Alcoholic Liquors

714,238. SUMMUM. Compania "Ron Bacardi," S.A. SN 70,186. Pub. 1–31–61. Filed 3–25–59.

714,239. WABASH VALLEY. Merchants Distilling Corporation. SN 100,714. Pub. 1–31–61. Filed 7–12–60.

Class 50 — Merchandise Not Otherwise Classified

714,240. FLIP MAT. Marjorie P. Baird, d.b.a. Century Laminating Company. SN 84,380. Pub. 1–31–61. Filed 11–2–59.

714,241. MOTHER'S ANGEL. John Franklin Farr. SN 102,463. Pub. 1–31–61. Filed 8–11–60.

714,242. ROUGHNECK. John Franklin Farr. SN 102,464. Pub. 1–31–61. Filed 8–11–60.

714,243. CHILD KEEPER. John Franklin Farr. SN 102,465. Pub. 1–31–61. Filed 8–11–60.

Class 51 — Cosmetics and Toilet Preparations

714,244. ANITA LEWIS QUALITY AND DESIGN. Neisner Brothers, Inc. SN 82,276. Pub. 1–31–61. Filed 9–28–59.

Class 52 — Detergents and Soaps

714,245. ALNATE. Wyandotte Chemicals Corporation. SN 90,127. Pub. 1–31–61. Filed 2–1–60.

714,246. LESTOIL WASH'N BLEACH. Lestoil Products, Inc., assignee of Adell Chemical Co. SN 95,669. Pub. 1-31-61. Filed 4-25-60.

Service Marks

Class 100 — Miscellaneous

714,247. FABRI-TEK. Fabri-Tek Company, Inc. SN 84,879. Pub. 1-31-61. Filed 11-9-59.

714,248. GARDEN CLINIC. Richard C. Duval, d.b.a. Garden Clinic. SN 88,739. Pub. 1-31-61. Filed 1-11-60.

714,249. DESIGN OF A KING ON A BUN. Burger King of Florida, Inc. SN 98,428. Pub. 1-31-61. Filed 6-6-60.

Class 102 — Insurance and Financial

714,250. WIRETAPS. Gregory & Sons. SN 97,652. Pub. 1-31-61. Filed 5-23-60.

714,251. O-T-C COUNTERPOINTS AND DESIGN. Gregory & Sons. SN 97,653. Pub. 1-31-61. Filed 5-23-60.

Class 103 — Construction and Repair

714,252. TOASTMASTER. McGraw-Edison Company. SN 72,220. Pub. 1-31-61. Filed 4-24-59.

714,253. FOLEY AND DESIGN. The Howard P. Foley Company. SN 88,378. Pub. 1-31-61. Filed 1-4-60.

Class 105 — Transportation and Storage

714,254. HERTZ RENT A PLANE AND DESIGN. Hertz Rent A Plane System, Inc. SN 55,794. Pub. 1-31-61. Filed 7-22-58.

714,255. CAR-FAX. Chicago and North Western Railway Company. SN 80,636. Pub. 1-31-61. Filed 9-1-59.

714,256. CAR-FAX AND DESIGN. Chicago and North Western Railway Company. SN 80,637. Pub. 1-31-61. Filed 9-1-59.

714,257. UPS AND DESIGN. United Parcel Service of America, Inc. SN 91,885. Pub. 1-31-61. Filed 2-29-60.

714,258. CARGO TRUCK LEASING INC. AND DESIGN. Cargo Truck Leasing Inc. SN 95,558. Pub. 1-31-61. Filed 4-22-60.

714,259. REPRESENTATION OF A BALLOON AND GONDOLA. Walker-Wilson Travel, Ltd. SN 96,229. Pub. 1-31-61. Filed 5-2-60.

714,260. ZIPPY ZERO AND DESIGN. Watkins Motor Lines, Inc. SN 96,823. Pub. 1-31-61. Filed 5-10-60.

714,261. BELAIR TOURS. Belair Tours, Inc. SN 97,981. Pub. 1-31-61. Filed 5-27-60.

Class 106 — Material Treatment

714,262. BZB. The Howard Company, Inc. SN 90,515. Pub. 1-31-61. Filed 2-8-60.

714,263. REPRESENTATION OF A BEE HOLDING ROLLS OF FILM. The Howard Company, Inc. SN 90,516. Pub. 1-31-61. Filed 2-8-60.

Class 107 — Education and Entertainment

714,264. ANATO WIND AND DESIGN. Joseph C. Simmons, d.b.a. Anatowind Clinic. SN 85,408. Pub. 1-31-61. Filed 11-16-59.

Collective Membership Mark

Class 200

714,265. ASSOCIATION OF REGULAR ARMY SERGEANTS. Association of Regular Army Sergeants. SN 91,224. Pub. 1-31-61. Filed 2-19-60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 4 — Abrasives and Polishing Materials

714,266. Hollywood Shoe Polish Inc., Richmond Hill, N.Y. SN 88,757. Filed P.R. 1-11-60; Am. S.R. 1-30-61.

SANI-IZE

WITH SANI-WHITE

For Shoe Polish.
First use Dec. 4, 1959.

Class 12 — Construction Materials

714,267. Granit-Bronz, Inc., Cold Spring, Minn. SN 107,335. Filed 10-28-60.

MOONLIGHT GRAY

For Cut Stone for Structural and Monumental Use.
First use 1953.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

714,268. Nuts & Bolts (Darlaston) Limited, Darlaston, England. SN 84,555. Filed P.R. 11-3-59; Am. S.R. 11-28-60.

EVERTITE

Owner of British Reg. No. B605,208, dated Mar. 10, 1939.
For Locknuts.

Class 15 — Oils and Greases

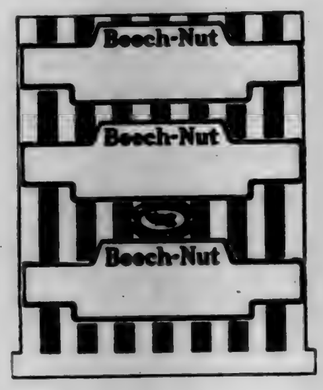
714,269. Continental Oil Company, Ponca City, Okla. SN 54,011. Filed P.R. 6-23-58; Am. S.R. 11-10-60.

HOTTEST BRAND GOING

For Petroleum Products—Namely, Gasoline and Lubricating Oils.
First use January 1958.

Class 18 — Medicines and Pharmaceutical Preparations

714,270. Beech-Nut Life Savers, Inc., Port Chester, N.Y. SN 108,742. Filed 11-21-60.



For Cough Drops.
First use July 16, 1958; Sept. 30, 1932, as to "Beech-Nut" in a different display.

Class 39 — Clothing

714,271. Superba Cravats, Inc., Rochester, N.Y. SN 81,598. Filed P.R. 9-17-59; Am. S.R. 2-6-61.

ENGLISH SHOP

For Neckties.
First use May 23, 1938.

714,272. Helen R. Bush, Mount Vernon, N.Y. SN 82,815. Filed P.R. 10-7-59; Am. S.R. 8-24-60.

Tennistyled

For Tennis Dresses.
First use Dec. 20, 1957.

714,273. Mr. Spence Incorporated, Philadelphia, Pa. SN 90,934. Filed P.R. 2-15-60; Am. S.R. 2-8-61.

MR. SPENCE

For Women's Blouses.
First use Jan. 4, 1960.

714,274. J. Bernstein's Sons, Gloversville, N.Y. SN 92,076. Filed P.R. 3-3-60; Am. S.R. 2-6-61.

FINGER FASHIONS

For Gloves for Men, Boys, Youths, Misses, and Women.
First use Sept. 7, 1955.

Class 40 — Fancy Goods, Furnishings, and Notions

714,275. Ben-Hur Products, Inc., New York, N.Y. SN 88,007. Filed P.R. 12-28-59; Am. S.R. 12-23-60.

Beauty in your Hair

For Hair Combs, Head Bands, Barrettes, Chignon Rings, and Hair Ornaments in the Nature of a Combined Frame and Stick, the Frame and Stick Being Made of Plastic.
First use July 1958.

TRADEMARK REGISTRATIONS RENEWED

139,012. SOLARITE. Cl. 16. 2-8-21.
139,613. LUMNITE. Cl. 16. 2-8-21.
139,653. LORD BALTIMORE LINEN. Cl. 37. 2-8-21.
139,654. SYMPHONY CHARME. Cl. 37. 2-8-21.
139,910. WESTERN ELECTRIC. Cl. 6. 2-22-21.
140,015. C/P AND DESIGN. Cl. 6. 3-1-21.
140,456. CASCADE LINEN. Cl. 37. 3-15-21.
141,099. CORO. Cl. 28. 4-12-21.
141,981. SUN RAY DESIGN. Cl. 46. 5-3-21.
142,347. WESTERN AND DESIGN. Cl. 9. 5-10-21.
142,353. WINCHESTER. Cl. 9. 5-10-21.
142,549. GOLD CROSS AND DESIGN. Cl. 39. 5-17-21.
142,585. ORACLE. Cl. 46. 5-17-21.
143,119. DAILY NEWS. Cl. 38. 5-24-21.
143,338. VELANGORA. Cl. 42. 5-31-21.
143,435. VITAPLASTIC. Cl. 12. 5-31-21.
143,598. PRESTIGE. Cl. 37. 6-7-21.
143,607. SILKOLAINE. Cl. 42. 6-7-21.
143,657. THE J. P. KING MFG. CO. Cl. 42. 6-7-21.
143,951. PIQUETINE. Cl. 42. 6-21-21.
144,010. MORLEY. Cl. 40. 6-21-21.
144,207. 4711. Cl. 51. 6-28-21.
144,565. ACCURACY TETCO AND DESIGN. Cl. 26. 7-12-21.
145,062. R. KING. Cl. 23. 7-26-21.
145,388. ISMERTA. Cl. 46. 8-2-21.
145,425. STERLING AND DESIGN. Cl. 1. 8-2-21.
383,038. HESPERIN. Cl. 18. 11-19-40.
384,289. NAVIGATOR. Cl. 21. 1-14-41.
384,805. ENZENTRATE. Cl. 46. 2-4-41.
384,811. Q-OATS. Cl. 46. 2-4-41.
384,971. TINY. Cl. 45. 2-11-41.
385,055. PILLSBURY'S BEST XXXX FLOUR AND DESIGN. Cl. 46. 2-11-41.
385,110. KLAVER AND DESIGN. Cl. 48. 2-18-41.
385,142. M-OATS. Cl. 46. 2-18-41.
385,305. EAGLE DESIGN. Cl. 15. 2-25-41.
385,311. TI-OPAKE. Cl. 37. 2-25-41.
385,376. WHISALARM. Cl. 26. 2-25-41.
385,509. 3-R. Cl. 11. 3-4-41.
385,510. THRIFT. Cl. 11. 3-4-41.
385,511. UTILITY. Cl. 11. 3-4-41.
385,627. RHYTHM STEP STOPPERS AND DESIGN. Cl. 39. 3-11-41.
385,638. SNUGL. Cl. 19. 3-11-41.
385,749. SU-Z-Q. Cl. 46. 3-18-41.
385,793. BLUE SEAL. Cl. 28. 3-18-41.
385,915. TEEL. Cl. 51. 3-25-41.
385,931. KODAK. Cl. 21. 3-25-41.
386,130. AIRWAY. Cl. 39. 3-25-41.

386,165. BALD-AID. Cl. 51. 3-25-41.
386,227. PROM. Cl. 39. 4-1-41.
386,340. DOWNS. Cl. 39. 4-1-41.
386,376. BLUE CARNATION. Cl. 52. 4-8-41.
386,552. BEL PAESE CHEESE AND DESIGN. Cl. 46. 4-15-41.
386,567. SIGRENS. Cl. 44. 4-15-41.
386,585. ZEPHYRSPUN. Cl. 42. 4-15-41.
386,600. AVIMAL. Cl. 18. 4-15-41.
386,869. MOD-VAL. Cl. 42. 4-22-41.
387,084. TERMCO. Cl. 6. 4-29-41.
387,350. MOUNTCREST AND DESIGN. Cl. 46. 5-13-41.
387,756. DYAL. Cl. 1. 5-27-41.
387,757. DYPHENITE. Cl. 1. 5-27-41.
387,767. CLAIROL AND DESIGN. Cl. 51. 5-27-41.
387,966. TRITZELS. Cl. 46. 6-10-41.
388,031. UNITEXT. Cl. 38. 6-10-41.
388,054. ROW-PETERSON AND DESIGN. Cl. 38. 6-10-41.
388,428. THERMODUCT. Cl. 13. 6-24-41.
388,773. NATIONAL AND DESIGN. Cl. 26. 7-8-41.
388,923. DRYLAN. Cl. 42. 7-15-41.
388,998. GRIPTEX. Cl. 35. 7-22-41.
389,068. NATIONAL. Cl. 26. 7-22-41.
389,167. VIBOSAGE. Cl. 44. 7-29-41.
389,179. FLUTE POSITION MARKER. Cl. 36. 7-29-41.
389,351. ACE AND DESIGN. Cl. 25. 8-5-41.
389,357. I'LL DIE FOR S. L. COWLEY AND DESIGN. Cl. 6. 8-5-41.
389,479. PANTHOLIN. Cl. 18. 8-5-41.
389,501. ROYLAN. Cl. 42. 8-5-41.

TRADEMARK REGISTRATIONS CANCELED

Section 8

154,114. THE STEEL HEART OF PLASTER AND DESIGN. Cl. 12. 4-4-22.
226,254. WINDSOR AND DESIGN. Cl. 12. 4-5-27.
232,949. STEELHART AND HEAVY UNDERLINE. Cl. 12. 9-20-27.
254,160. STEEL-STRENGTHENED PLASTERING AND DESIGN. Cl. 12. 3-12-29.
280,220. STAR-RITE MAGIC MAID. Cl. 21. 2-10-31.
311,561. COGNAC ETC. AND DESIGN. Cl. 49. 3-27-34.
319,419. METRO-MODE ETC. Cl. 39. 11-27-34.
387,315. BEN HUR SEASON-ALL. Cl. 46. 5-13-41.
432,557. WO & FC. Cl. 2. 9-2-47.
438,023. GOLDEN WEST. Cl. 1. 4-6-48.
439,150. SOUND BUSINESS. Cl. 38. 6-8-48.
442,853. McCULLOUGH'S WILD BIRD SEED ETC. AND DESIGN. Cl. 46. 6-7-49.

The following registrations issued Mar. 1, 1955

602,555. PINE TREE FORMATEX AND DESIGN. Cl. 1.
602,557. SHURE-REAL. Cl. 1.
602,558. QUEEN OF THE FIELD. Cl. 1.
602,560. LAY FLAT. Cl. 1.
602,562. PORT-ZITE AND DESIGN. Cl. 1.
602,565. CYANOCEL. Cl. 1.
602,567. PAPERCELL. Cl. 1.
602,570. TUBOPLAST. Cl. 2.
602,575. PIERCENE. Cl. 2.
602,589. CEDAROMA AND DESIGN. Cl. 6.
602,590. HOUSWEET AND DESIGN. Cl. 6.
602,591. PFUME. Cl. 6.
602,593. PURR-FECTION AND REPRESENTATION OF CAT WITHIN CIRCLE. Cl. 6.
602,598. AMAZO. Cl. 6.
602,599. FLY-CHARMER. Cl. 6.
602,602. GLMITE. Cl. 9.
602,603. REPRESENTATION OF A BISON. Cl. 9.
602,610. SPAN-A-FORM. Cl. 12.
602,611. VEE BREEZE AND DESIGN. Cl. 12.
602,613. STEPATIME AND DESIGN. Cl. 12.
602,614. GENERAL FLAGCRETE AND DESIGN. Cl. 12.
602,617. BARKTEX. Cl. 12.
602,622. AIRO-PANEL. Cl. 12.
602,624. WESCO. Cl. 12.
602,633. STACOAT. Cl. 16.
602,639. NEOMITE. Cl. 16.
602,643. AQUA-HYDRO. Cl. 16.
602,645. GALVAPERM YOUR SHIELD AND DESIGN. Cl. 16.
602,646. VAC-DIP. Cl. 16.
602,647. SKY SPAR. Cl. 16.
602,651. WRICCOFLEX. Cl. 16.
602,653. ONEIDA. Cl. 19.
602,654. JET. Cl. 19.
602,655. DUTCHBOY COACHES AND DESIGN. Cl. 19.
602,656. FEN-PAK. Cl. 19.
602,667. TANGLEFREE. Cl. 22.
602,668. LUNKER LURES. Cl. 22.
602,670. THOMAS SPINNING LURES AND DESIGN. Cl. 22.
602,673. "INDIANAPOLIS 500 WINNERS." Cl. 22.
602,674. TRI-RODS. Cl. 22.
602,675. MILL AND DESIGN. Cl. 22.
602,680. GLOWMETER CORP. AND DESIGN. Cl. 26.
602,681. GLOWMETER. Cl. 26.
602,685. GLOWARNING. Cl. 26.
602,692. EXO-KETON. Cl. 26.
602,694. NEWAGE. Cl. 26.
602,700. H.I.T AND DESIGN. Cl. 26.
602,701. MELCO MIDGET. Cl. 26.
602,704. KITCHEN QUEEN. Cl. 27.
602,707. SANDALLOY QUALITY AND DESIGN. Cl. 27.
602,708. GOLDEN CRESCENT AND DESIGN. Cl. 28.
602,709. DIAMONDS WITH LOVE. Cl. 28.
602,711. MOP-Z. Cl. 29.
602,712. MEND-MASTER MAGIC BRUSH. Cl. 29.
602,716. HARD LIFE-LONG HARD MFG. CO. AND DESIGN. Cl. 32.
602,718. CHANGE-A-FRAME AND DESIGN. Cl. 32.
602,722. "SOFT S'NAP." Cl. 32.
602,735. AMERICAN EXPORTER'S AUTOMOTIVE WORLD AND DESIGN. Cl. 38.
602,736. EL EXPORTADOR AMERICANO AUTOMOVILISMO. Cl. 38.
602,738. RANGE PALS. Cl. 39.
602,741. "BEAUTIES IN BATISTE" ETC. AND DESIGN. Cl. 39.
602,743. PROFESSIONETTE. Cl. 39.
602,744. PAPOOSE LITTLE INDIAN JEANS AND DESIGN. Cl. 39.
602,751. TOPMATES. Cl. 39.
602,756. ZIP-IT. Cl. 40.
602,757. NEVA-TARE. Cl. 40.
602,761. BUTTERFLY NEEDLES AND DESIGN. Cl. 40.
602,764. EMBROCADE. Cl. 42.
602,766. FLANNELAIRE. Cl. 42.
602,769. CYANOCEL. Cl. 43.
602,771. FOREMOST. Cl. 43.
602,772. FORWARD. Cl. 43.
602,775. TAPE-TITE. Cl. 44.
602,776. HYP-O-SPONGE AND DESIGN. Cl. 44.
602,777. GOLD ANCHOR BRAND AND REPRESENTATION OF ANCHOR. Cl. 44.
602,780. DARI-KING AND DESIGN. Cl. 46.
602,784. JOHN'S. Cl. 46.
602,786. COLUMBIA GEM AND DESIGN. Cl. 46.
602,788. DIN-R-EDDY. Cl. 46.
602,790. MORBLOOM. Cl. 46.
602,793. KID SIZE. Cl. 46.
602,795. WALDARK. Cl. 46.
602,808. CHAIRMAN'S CHOICE. Cl. 49.
602,811. THE OLD SHIELING. Cl. 49.
602,814. MB CO. AND DESIGN. Cl. 50.
602,815. DURAPLASTIC. Cl. 50.
602,816. KORO-FERN. Cl. 50.
602,818. HOBBY TIME. Cl. 50.
602,820. MULTIPLEX. Cl. 50.
602,825. MAGIC LANOLIN AND DESIGN. Cl. 51.
602,829. NU-BEAUTY. Cl. 51.
602,835. LORD BALTIMORE. Cl. 103.
602,836. PAUL PLATTER. Cl. 104.
602,837. CURMAR. Cl. 106.

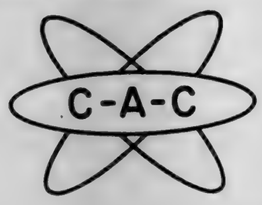
602,838. OFF THE RECORD. Cl. 107.
602,840. TACK-HEAD. Cl. 13.
602,842. WESLEY. Cl. 13.
602,843. PRESTO SPRAY. Cl. 16.
602,844. GRIP-KOTE. Cl. 16.
602,850. RIGHT TOY AT THE RIGHT TIME. Cl. 22.
602,853. BESTASTER. Cl. 46.
602,854. DUTCH SPRITS. Cl. 46.
602,855. REAL GOOD. Cl. 46.
602,856. MINTIT AND DESIGN. Cl. 46.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

313,262. OLD SHERIFF AND DESIGN. Cl. 49. 5-22-34. J. B. Sherriff & Co., Limited. David Sandeman and Son Limited, Glasgow, Scotland. Amended: In the statement, column 1, lines 19 and 20 are deleted, and the drawing is amended to appear:



610,604. C-A-C AND DESIGN. Cl. 21. 8-16-55. Communications Accessories Company, Lee's Summit, Mo. Amended: In the statement, column 1, line 3, after "Mo." , *now located at Lee's Summit, Mo.* is inserted, and the drawing is amended to appear:



613,017. VERSATOOL. Cl. 23. 9-27-55. Shelton Products, Incorporated, Shelton, Conn. Corrected: In the certificate, lines 3, 4 and 15 and in the statement, column 1, line 1, "Shelton Plane and Tool Manufacturing Company" should be deleted and *Shelton Products, Incorporated* should be inserted.

687,882. JIFFY. Cl. 23. Jiffy Products Co., Inc., Dallas, Tex. Corrected: In the statement, column 2, after line 4, *Restricted to the entire United States except the States of California, Nevada, Oregon, Idaho, Washington, Utah and Arizona.* should be inserted.

707,800. ROTEX. Cl. 31. 11-29-60. The Orville Simpson Company, Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, after "Simpson" *Company* should be inserted.

709,412. CONSORT. Cl. 46. 1-3-61. Seymour Foods, Inc., Topeka, Kans. Corrected: In the statement, column 2, line 2, "yokes" should be deleted and *yolks* should be inserted.

710,449. ATROPISOL. Cl. 18. 1-31-61. The Iso-Sol Company, Inc., Lindenhurst, N.Y. Corrected: In the statement, column 2, line 2, "hydriatics" should be deleted and *mydriatics* should be inserted.

711,129. MONASE. Cl. 18. 2-14-61. The Upjohn Company, Kalamazoo, Mich. Corrected: In the statement, column 2, line 1, "energic" should be deleted and *energiser* should be inserted.

711,821. AGA. Cl. 26. 2-28-61. Svenska Aktiebolaget Gasaccumulator, Stockholm-Lidingo, Sweden. Corrected: In the statement, column 1, line 14, after "glasses," *spectacles,* should be inserted.

INDEX OF REGISTRANTS

APRIL 18, 1961

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

AB Bonnierforetagen, Stockholm, Sweden. 714,175, pub. 1–31–61. Cl. 38.

AEC Affiliated Distributors, Inc., Chicago, Ill. 714,151, pub. 1–31–61. Cl. 33.

Aberdeen Plywood and Veneers, Inc., from Harbor Plywood Corp., Aberdeen, Wash. 714,050, pub. 1–31–61. Cl. 12.

Adell Chemical Co. : *See*—
Lestoil Products, Inc.

Adlerwerke vorm. Heinrich Kleyer A.G., Frankfurt am Main, Germany. 714,165, pub. 1–31–61, Cl. 37.

Air Baby Inc., Englewood, N.J. 714,211, pub. 1–31–61. Cl. 39.

Alan-Lea International Inventions Corp., New York, N.Y. 714,132, pub. 1–31–61. Cl. 26.

Alexander Bros. Co., Savannah, Ga. 602,744, canc. Cl. 39.

Alfried Krupp von Bohlen und Halbach, d.b.a. Fried. Krupp, Essen, Germany. 714,070, pub. 1–31–61. Cl. 14.

All-O-Matic Mfg. Corp., New Hyde Park, N.Y. 714,125, pub. 1–31–61. Cl. 23.

Aluma-Vue Co., Milford, Mich. 714,046, pub. 1–31–61. Cl. 12.

American Cyanamid Co., New York, N.Y. 602,565, canc. Cl. 1.

American Cyanamid Co., New York, N.Y. 602,769, canc. Cl. 43.

American Machine & Foundry Co., New York, N.Y. 714,104, pub. 1–31–61. Cl. 22.

American Motors Corp. : *See*—
Hudson Motor Car Co.

American Oil Co., The : *See*—
Lord Baltimore Filling Stations, Inc.

American Photocopy Equipment Co., Evanston, Ill. 714,160, pub. 1–31–61. Cl. 37.

American Tube Products Inc., West Warwick, R.I. 714,066, pub. 1–31–61. Cl. 13.

Ames Jewelry : *See*—
Ames, Mildred C.

Ames, Mildred C., d.b.a. Ames Jewelry, Idaho Falls, Idaho. 602,709, canc. Cl. 28.

Anatowind Clinic : *See*—
Simmons, Joseph C.

Anchor Rubber Co., The, Orange, Conn. 602,777, canc. Cl. 44.

Aqua-Hydro Co. : *See*—
Gerber, Morris S.

Arco Electronics, Inc., New York, N.Y. 714,099, pub. 1–31–61. Cl. 21.

Argus Chemical Corp., Brooklyn, N.Y. 602,593, canc. Cl. 6.

Ark-Homa Farms Frozen Foods, Inc., Fort Smith, Ark. 602,795, canc. Cl. 46.

Armstrong Cork Co., Lancaster, Pa. 714,025, pub. 1–31–61. Cl. 4.

Armstrong Cork Co., Lancaster, Pa. 714,093, pub. 1–31–61. Cl. 20.

Arthur Jay Co., Inc., Milwaukee, Wis. 714,197, pub. 1–31–61. Cl. 39.

Artopages : *See*—
Weigel, Alton A.

Ascher, B. F., & Co., Kansas City, Mo. 714,083, pub. 1–31–61. Cl. 18.

Association of Regular Army Sergeants, Washington, D.C. 714,265, pub. 1–31–61. Cl. 200.

Audiofidelity, Inc. : *See*—
Audio Fidelity, Inc.

Audio Fidelity, Inc., by change of name from Audiofidelity, Inc., New York, N.Y. 714,154, pub. 1–31–61. Cl. 36.

Ault & Wiborg Carbon & Ribbon Co., Inc., Cincinnati, Ohio, and New York, N.Y., to Interchemical Corp., New York, N.Y. 385,509–11, ren. 4–18–61. Cl. 11.

Baird, Marjorie P., d.b.a. Century Laminating Co., La Grange, Ill. 714,240, pub. 1–31–61. Cl. 50.

Baker, C. H., Corp., Los Angeles, Calif. 714,192, pub. 1–31–61. Cl. 39.

Bathey Mfg. Co., Plymouth, Mich. 602,814, canc. Cl. 50.

Bauer & Schaurte, Neuss (Rhine), Germany. 714,062–3, pub. 1–31–61. Cl. 13.

Bauer & Schaurte, Neuss (Rhine), Germany. 714,112–13, pub. 1–31–61. Cl. 23.

Baxter Laboratories, Inc., Morton Groove, Ill. 714,078, pub. 1–31–61. Cl. 18.

Bear Brand Hosiery Co., Chicago, Ill. 386,130, ren. 4–18–61. Cl. 39.

Beauty Appliance Corp., Racine, Wis. 389,167, ren. 4–18–61. Cl. 44.

Beaver Art Metal Corp., Ellwood City, Pa. 602,613, canc. Cl. 12.

Beck, A. S., Shoe Corp., New York, N.Y. 714,195, pub. 1–31–61. Cl. 39.

Beech-Nut Life Savers, Inc., Port Chester, N.Y. 714,270. Cl. 18.

Beginner Books, Inc. : *See*—
Random House, Inc.

Bel Paese Sales Co. Inc., New York, N.Y. 386,552, ren. 4–18–61. Cl. 46.

Belair Tours, Inc., New York, N.Y. 714,261, pub. 1–31–61. Cl. 105.

Bell & Gossett Co., Morton Grove, Ill. 714,152, pub. 1–31–61. Cl. 34.

Ben-Hur Products, Inc. : *See*—
Coffee Products of America, Inc., Ltd.

Ben-Hur Products, Inc., New York, N.Y. 714,275. Cl. 40.

Bernstein's, J., Sons, Gloversville, N.Y. 714,274. Cl. 39.

Best Plastics Corp., Brooklyn, N.Y. 602,673, canc. Cl. 22.

Bestframe Co., The : *See*—
Salfield, Alfred.

Bishop Spools, Inc., New York, N.Y. 714,117, pub. 1–31–61. Cl. 23.

Bjorn Wilhelm Holmstrom & Goran Anders Folke Arbenius : *See*—
Prospector Aktiebolag.

Bley, William G., Southampton, Pa. 602,743, canc. Cl. 39.

Borden Co., The, New York, N.Y. 384,805, ren. 4–18–61. Cl. 46.

Bradley, Richard C., d.b.a. Plastic Engineering and Chemical Co., Fort Lauderdale, Fla. 714,119, pub. 1–31–61. Cl. 23.

Bramson Publishing Co., Birmingham, Mich. 714,167, pub. 1–31–61. Cl. 38.

Bristol-Myers Co., New York, N.Y. 714,079, pub. 1–31–61. Cl. 18.

Brondello, John P., d.b.a. Time Equipment Co., Seattle, Wash. 714,133, pub. 10–18–60. Cl. 27.

Brown, Andrew, Co., Los Angeles, Calif. 602,647, canc. Cl. 16.

Burch, Donald J., d.b.a. Colorado Steel Sash Co., Denver, Colo. 602,639, canc. Cl. 16.

Burger King of Florida, Inc., Jacksonville, Fla. 714,249, pub. 1–31–61. Cl. 100.

Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 386,600, ren. 4–18–61. Cl. 18.

Bush, Helen R., Mt. Vernon, N.Y. 714,272. Cl. 39.

CSW Plastic Types, Inc., Rocky Hill, Conn. 602,815, canc. Cl. 50.

California Chemical Co. : *See*—
California Spray-Chemical Corp.

California Spray-Chemical Corp., Wilmington, Del., and Richmond, to California Chemical Co., Richmond, Calif. 387,084, ren. 4–18–61. Cl. 6.

Canton-Son, Inc., New York, N.Y. 714,103, pub. 1–31–61. Cl. 21.

Car-Freshner Co. : *See*—
Samann, Julius.

Cargo Truck Leasing Inc., Atlanta, Ga. 714,258, pub. 1–31–61. Cl. 105.

Case, W. A., and Son Mfg. Co., Buffalo, N.Y. 602,842, canc. Cl. 13.

Century Laminating Co. : *See*—
Baird, Marjorie P.

Century Glove Corp., Newark, N.J. 714,200, pub. 1–31–61. Cl. 39.

Ch. Takeda & Co., Ltd., to Takeda Pharmaceutical Industries, Ltd., Osaka, Japan. 383,038, ren. 4–18–61. Cl. 18.

Chase and Sons, Inc., North Quincy, Mass. 714,071, pub. 1–31–61. Cl. 16.

Chemical and Metallurgical Products, Ltd., New York, N.Y. 602,645, canc. Cl. 16.

Chicago Lock Co., Chicago, Ill. 389,351, ren. 4–18–61. Cl. 25.

Chicago and North Western Railway Co., Chicago, Ill. 714,255–6, pub. 1–31–61. Cl. 105.

Childhood Interests, Inc., Roselle Park, N.J. 602,850, canc. Cl. 22.

Citizen's Publishing Corp., New York, N.Y. 714,180, pub. 1–31–61. Cl. 38.

Clairol, Inc., Stamford, Conn., to Clairol Inc., New York, N.Y. 387,767, ren. 4–18–61. Cl. 51.

Clayton Mark & Co., Evanston, Ill. 714,126, pub. 1–31–61. Cl. 23.

Clemco Aero Products, Inc., Compton, Calif., from J. W. Clement Co., Buffalo, N.Y. 714,110, pub. 10–25–60. Cl. 23.

Clement, J. W., Co. : *See*—
Clemco Aero Products, Inc.

Cleveland Mixer Co., The, Bedford Heights, Ohio. 714,108–9, pub. 1–31–61. Cl. 23.

Clipco, Inc., Los Angeles, Calif. 714,042, pub. 1–31–61. Cl. 12.

Cluett, Peabody & Co., Inc., New York, N.Y. 386,227, ren. 4–18–61. Cl. 39.

Cluett, Peabody & Co., Inc., New York, N.Y. 386,340, ren. 4–18–61. Cl. 39.

Cody Mfg. Corp., West Springfield, Mass. 602,603, canc. Cl. 9.

Coffee Products of America, Inc., Ltd., now by change of name Ben Hur Products, Inc., Los Angeles, Calif. 387,315, canc. Cl. 46.

Cohen, Joseph H., & Sons, Inc., New York, N.Y. 714,199, pub. 1–31–61. Cl. 39.

Cohn & Rosenberger, Inc., to Coro, Inc., New York, N.Y. 141,099, ren. 4–18–61. Cl. 28.

Collings Radio Co., Cedar Rapids, Iowa. 714,178, pub. 1–31–61. Cl. 38.

Collins Co., The, Collinsville, Conn. 145,062, ren. 4–18–61. Cl. 23.

Colorado Steel Sash Co. : *See*—
Burch, Donald J.

Columbia Basin Plastics Co.: *See*—
Plan-O-Bans Corp.
Columbia Packing Co., Boston, Mass. 602,786, canc. Cl. 46.
Communications Accessories Co., Lee's Summit, Mo. 610,-604. Am. 7(d). Cl. 21.
Compania "Ron Bacardi," S.A., Santiago de Cuba, Cuba. 714,238, pub. 1–31–61. Cl. 49.
Computer Control Co., Inc., Framingham, Mass. 714,160, pub. 1–31–61. Cl. 38.
Consolidated Foods Corp.: *See*—
Royal Blue Stores, Inc.
Continental Car-Na-Var Corp., Brazil, Ind. 602,844, canc. Cl. 16.
Continental Mfg. Co., Oskaloosa, Iowa. 714,194, pub. 12–6–60. Cl. 39.
Continental Oil Co., Ponca City, Okla. 714,269. Cl. 15.
Coro, Inc.: *See*—
Cohn & Rosenberger, Inc.
Cowley Mfg. Co.: *See*—
Cowley, Simpson L.
Cowley, S. L., & Sons Mfg. Co.: *See*—
Cowley, Simpson L.
Cowley, Simpson L., d.b.a. Cowley Mfg. Co., to S. L. Cowley & Sons Mfg. Co., Hugo, Okla. 389,357, ren. 4–18–61. Cl. 6.
Credit Union National Association, Inc., Madison, Wis. 714,-170, pub. 1–31–61. Cl. 38.
Crest Engineering Co., Minneapolis, Minn. 714,131, pub. 1–31–61. Cl. 23.
Daido Keori Kabushiki Kaisha, d.b.a. Daido Worsted Mills Ltd., Chiyoda-ku, Tokyo-to, Japan. 714,219, pub. 1–31–61. Cl. 42.
Daido Worsted Mills Ltd.: *See*—
Daido Keori Kabushiki Kaisha.
Dakota Aviation Co., Huron, S. Dak. 714,106, pub. 1–31–61. Cl. 23.
Danbar Enterprises Ltd., Toronto, Ontario, Canada. 714,-145, pub. 1–31–61. Cl. 32.
Dan River Mills, Inc.: *See*—
Riverside & Dan River Cotton Mills, Inc.
Dari-King System, Kansas City, Mo. 602,780, canc. Cl. 46.
Daystrom, Inc., Murray Hill, N.J. 714,100–1, pub. 1–31–61. Cl. 21.
Desjardins, Philip J., d.b.a. Philip Desjardins & Son, Fall River, Mass. 714,036, pub. 1–31–61. Cl. 8.
Desjardins, Philip, & Son: *See*—
Desjardins, Philip J.
Detfyenske Traelastkompagni Aktieselskab, Odense, Denmark. 714,056, pub. 1–31–61. Cl. 12.
Dilie, John F., Co., Chicago, Ill. 714,184, pub. 1–31–61. Cl. 38.
Don, Edward, & Co., Chicago, Ill. 714,137, pub. 1–31–61. Cl. 20.
Douglas Fir Plywood Association, Tacoma, Wash. 714,055, pub. 1–31–61. Cl. 12.
Dover, John E., Erie, Pa. 602,775, canc. Cl. 44.
Drexel Furniture Co., Drexel, N.C. 714,149, pub. 1–31–61. Cl. 32.
Duo-Bed Corp., from Duo-Bed Corp., Los Angeles, Calif. 714,143, pub. 1–17–61. Cl. 32.
Dupli-Color Products Co., Inc., Chicago, Ill. 602,712, canc. Cl. 29.
Duval, Richard C., d.b.a. Garden Clinic, San Antonio, Tex. 714,248, pub. 1–31–61. Cl. 100.
Eastern Resin-Kote Corp., Boston, Mass. 602,646, canc. Cl. 16.
Eastman Kodak Co., Rochester, N.Y. 385,931, ren. 4–18–61. Cl. 21.
Easy Walker Shoe Co., Wilkes-Barre, Pa. 714,207, pub. 1–31–61. Cl. 39.
Eau de Cologne & Parfumerie-Fabrik, Glockengasse No. 4711, Gegenuber Der Pferdepost Von Ferd. Mulhens: *See*—
Mulhens & Kropff, Inc.
Edsbyns Industri Aktiebolag, Edsbyns, Sweden. 714,111, pub. 1–31–61. Cl. 23.
Edwards & Deutsch Lithographing Co., Chicago, Ill. 714,176, pub. 1–31–61. Cl. 38.
Elmco Corp., The, Salt Lake City, Utah. 714,129, pub. 1–31–61. Cl. 23.
Elco Products Co., Chicago, Ill. 714,127, pub. 1–31–61. Cl. 23.
Electric & Musical Industries Ltd., Hayes, England. 714,-095, pub. 1–31–61. Cl. 21.
Electric Tachometer Corp., The, Philadelphia, Pa. 144,565, ren. 4–18–61. Cl. 26.
Elkay Mfg. Co., Chicago, Ill. 714,064, pub. 1–31–61. Cl. 13.
Elkay Mfg. Co., Chicago, Ill. 714,067, pub. 1–31–61. Cl. 13.
Ellis Mfg. Co.: *See*—
Ellis Mfg. & Distributing Co.
Ellis Mfg. & Distributing Co., d.b.a. Ellis Mfg. Co., Liberty, Mo. 714,118, pub. 1–31–61. Cl. 23.
Engelhard Hanovia, Inc., Newark, N.J. 714,102, pub. 1–31–61. Cl. 21.
Esleeck Mfg. Co., Turners Falls, Mass. 143,598, ren. 4–18–61. Cl. 37.
Euclid Citrus Association, Porterville, Calif. 714,227, pub. 1–31–61. Cl. 46.
Fabri-Tek Co., Inc., Minneapolis, Minn. 714,247, pub. 1–31–61. Cl. 100.
Fallenberg, Robert B., d.b.a. R B F Chemical Co., Glendale, Calif. 386,165, ren. 4–18–61. Cl. 51.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 714,031, pub. 11–15–60. Cl. 6.
Farr, John F., Anderson, S.C. 714,241–3, pub. 1–31–61. Cl. 50.
Feller, Fritz, Berne, Switzerland. 714,140, pub. 1–31–61. Cl. 31.
Fenn Mfg. Co., The, Newington, Conn. 602,656, canc. Cl. 19.
Ferdinand Mulhens: *See*—
Mulhens & Kropff, Inc.
Ferguson Fumigants, Inc., Haslewood, Mo. 714,033, pub. 1–31–61. Cl. 6.
Ferro Powdered Metals, Inc., Salem, Ind. 714,128, pub. 1–31–61. Cl. 23.
Field Paper Box Co., Chicago, Ill. 714,026, pub. 1–31–61. Cl. 5.
Firearms International Corp., Washington, D.C. 714,037, pub. 1–31–61. Cl. 9.
Fitzgerald Mfg. Co., The, Torrington, Conn. 280,220, canc. Cl. 21.
Fleming and Co., St. Louis, Mo. 714,081, pub. 1–31–61. Cl. 18.
Floral Arts Studios: *See*—
Ramont, Ramond E.
Foley, Howard P., Co., The, Washington, D.C. 714,253, pub. 1–31–61. Cl. 103.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,338, ren. 4–18–61. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,607, ren. 4–18–61. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 143,951, ren. 4–18–61. Cl. 42.
Fowler, W. F., d.b.a. Logan-Fowler Co., Paola, Kans. 602,-855, canc. Cl. 46.
Freeman, Louis H., d.b.a. Stacoat Paint & Varnish Co., Los Angeles, Calif. 602,633, canc. Cl. 16.
Fried. Krupp: *See*—
Alfried Krupp von Bohlen und Halbach.
Futorian-Stratford Furniture Co., Chicago, Ill. 714,146, pub. 1–31–61. Cl. 32.
Gagniere, A., & Co. Ltd., London, England. 714,217, pub. 1–31–61. Cl. 42.
Garden Clinic: *See*—
Duval, Richard C.
Geico Enterprises, Redwood City, Calif. 714,098, pub. 1–31–61. Cl. 21.
Gemex Co., Newark, N.J., to Gemex Precision Metals, Inc., Union, N.J. 385,793, ren. 4–18–61. Cl. 28.
Gemex Precision Metals, Inc.: *See*—
Gemex Co.
General American Transportation Corp., Chicago, Ill. 714,-153, pub. 1–31–61. Cl. 34.
General Carpet Supply Co. Inc., New York, N.Y. 602,756, canc. Cl. 40.
General Concrete Products Inc., Van Nuys, Calif. 602,614, canc. Cl. 12.
General Foods Corp., White Plains, N.Y. 714,022, pub. 1–31–61. Cl. 4.
General Foundry & Mfg. Co., Flint, Mich. 714,086, pub. 1–31–61. Cl. 19.
General Mills, Inc., Minneapolis, Minn. 714,226, pub. 1–31–61. Cl. 46.
General Motors Corp., Detroit, Mich. 714,087, pub. 1–31–61. Cl. 19.
General Refractories Co., Philadelphia, Pa. 714,047–8, pub. 1–31–61. Cl. 12.
General Shale Products Corp., Johnson City, Tenn. 602,617, canc. Cl. 12.
General Shoe Corp., Nashville, Tenn. 602,738, canc. Cl. 39.
Gerber, Morris S., d.b.a. Aqua-Hydro Co., New York, N.Y. 602,643, canc. Cl. 16.
Germain Seed and Plant Co., Los Angeles, Calif. 438,023, canc. Cl. 1.
Germain's, Inc., Los Angeles, Calif. 714,040, pub. 1–31–61. Cl. 10.
Gibson-Homans Co., The, Cleveland, Ohio. 714,053, pub. 1–31–61. Cl. 12.
Glamorise Foundations, Inc., New York, N.Y. 714,204, pub. 1–31–61. Cl. 39.
Glimite Corp., Stamford, Conn. 602,602, canc. Cl. 9.
Globe Roofing Products Co., Inc., Whiting, Ind. 714,044, pub. 1–31–61. Cl. 12.
Glowmeter Corp., Buffalo, N.Y. 602,685, canc. Cl. 26.
Glowmeter Corp., North Tonawanda, N.Y. 602,680—1, canc. Cl. 26.
Gobins, Cathy J., Phoenix, Ariz. 714,203, pub. 1–31–61. Cl. 39.
Goldstone, Maurice, Vancouver, Canada. 714,188, pub. 1–31–61. Cl. 39.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 714,092, pub. 1–31–61. Cl. 19.
Gordon Broadcasting Co., Cincinnati, Ohio. 602,836, canc. Cl. 104.
Granit-Bronz, Inc., Cold Spring, Minn. 714,267. Cl. 12.
Great American Knitting Mills, Inc., New York, N.Y. 142,549, ren. 4–18–61. Cl. 39.
Great Atlantic & Pacific Tea Co., Inc., The, New York, N.Y. 714,198, pub. 1–31–61. Cl. 39.
Gregory & Sons, New York, N.Y. 714,250–1, pub. 1–31–61. Cl. 102.
Gretsch, Fred, Mfg. Co., The, Brooklyn, N.Y. 380,179, ren. 4–18–61. Cl. 36.
Gretsch, Fred, Mfg. Co., The, Brooklyn, N.Y. 714,159, pub. 1–31–61. Cl. 36.
Habitat, Inc., New York, N.Y. 714,096–7, pub. 1–31–61. Cl. 21.
Hamilton Caster & Mfg. Co., The, Hamilton, Ohio. 714,090, pub. 1–31–61. Cl. 19.
Hamilton Watch Co., Lancaster, Pa. 714,134, pub. 1–31–61. Cl. 27.
Harbor Plywood Corp.: *See*—
Aberdeen Plywood and Veneers, Inc.
Hard Mfg. Co., Buffalo, N.Y. 602,716, canc. Cl. 32.
Harville Rose Service, Tyler, Tex. 602,558, canc. Cl. 1.
Hassmer Brothers: *See*—
Hassmer, Joesph L.
Hassmer, Joseph L., d.b.a. Hassmer Brothers, Chicago, Ill. 714,013, pub. 1–31–61. Cl. 2.
Haymaker Sports, Inc., New York, N.Y. 714,212, pub. 1–31–61. Cl. 39.

Hearst Corp., The, New York, N.Y. 714,174, pub. 1–31–61. Cl. 38.
Heekin Can Co., The, Cincinnati, Ohio. 714,020, pub. 1–31–61. Cl. 2.
Hefti, Dr., Aktiengesellschaft, Zurich, Switzerland. 714,030, pub. 1–31–61. Cl. 6.
Herman Pneumatic Machine Co., Pittsburgh, Pa. 714,123, pub. 1–31–61. Cl. 23.
Hertz Rent a Plane System, Inc., Chicago, Ill. 714,254, pub. 1–31–61. Cl. 105.
Hertzberg, H., & Son Inc., Middletown, N.Y. 714,136, pub. 1–31–61. Cl. 29.
Heyden Newport Chemical Corp., New York, N.Y. 714,032, pub. 1–31–61. Cl. 6.
Hiller Aircraft Corp., San Carlos, Calif. 714,028, pub. 1–31–61. Cl. 5.
His-Tights, Inc., New York, N.Y. 714,190, pub. 1–31–61. Cl. 39.
Holiday Co., Inc., Bedford, Va. 602,829, canc. Cl. 51.
Hollywood Shoe Polish Inc., Richmond Hill, N.Y. 714,266. Cl. 4.
Holmes, Frank, Laboratories, Inc., San Fernando, Calif. 714,186, pub. 1–31–61. Cl. 38.
Holstein & Kappert Maschinenfabrik "Phonix" G.m.b.H., Dortmund, Germany. 714,105, pub. 1–31–61. Cl. 23.
Hoover Ball and Bearing Co., Ann Arbor, Mich. 714,120, pub. 1–31–61. Cl. 23.
Howard Co., Inc., The, Fort Wayne, Ind. 714,262–3, pub. 1–31–61. Cl. 106.
Hubbs Corp., New York, N.Y. 602,692, canc. Cl. 26.
Hudson Motor Car Co., now by merger and change of name American Motors Corp., Detroit, Mich. 602,654, canc. Cl. 19.
Huff, John P., Cedar Falls, Iowa. 602,610, canc. Cl. 12.
Hy-Arc, Inc., Detroit, Mich. 714,094, pub. 1–31–61. Cl. 21.
Hypo-Sponge Co.: *See*—
Lorant, Aladar.
I-XL Furniture Co., Inc., The, Goshen, Ind. 714,141, pub. 1–31–61. Cl. 32.
Illinois Tool Works, Chicago, Ill. 714,017, pub. 1–31–61. Cl. 2.
Industrial Chemical Products Co., Detroit, Mich. 714,034, pub. 1–31–61. Cl. 6.
Institute of Visual Communication, Inc., New York, N.Y. 714,168, pub. 1–31–61. Cl. 38.
Interchemical Corp.: *See*—
Ault & Wiborg Carbon & Ribbon Co., Inc.
Interchemical Corp., New York, N.Y. 602,555, canc. Cl. 1.
Intermountain Research & Engineering Co., Salt Lake City, Utah. 714,039, pub. 10–18–60. Cl. 9.
International Paper Co., New York, N.Y. 385,311, ren. 4–18–61. Cl. 37.
International Paper Co., New York, N.Y. 602,567, canc. Cl. 1.
International Shoe Co., St. Louis, Mo. 319,419, canc. Cl. 39.
Ismert-Hincke Milling Co., Kansas City, Kans., and Kansas City, Mo., to Seaboard Allied Milling Co., Kansas City, Mo. 141,981, ren. 4–18–61. Cl. 46.
Ismert-Hincke Milling Co., Kansas City, Kans., and Kansas City, Mo., to Seaboard Allied Milling Co., Kansas City, Mo. 142,585, ren. 4–18–61. Cl. 46.
Ismert-Hincke Milling Co., Kansas City, Kans., and Kansas City, Mo., to Seaboard Allied Milling Co., Kansas City, Mo. 145,388, ren. 4–18–61. Cl. 46.
Iso-Sol Co., Inc., The, Lindenhurst, N.Y. 710,449, cor. Cl. 18.
Jason Industries Ltd., Welshpool, Australia. 714,147, pub. 1–31–61. Cl. 32.
Jefferson Electric Co., Bellwood, Ill. 714,135, pub. 1–31–61. Cl. 27.
Jiffy Products Co., Inc., Dallas, Tex. 687,882, cor. Cl. 23.
John, H. P., Food Products Co.: *See*—
John, Harris P.
John, Harris P., d.b.a. H. P. John Food Products Co., Crowley, La. 602,784, canc. Cl. 46.
Johnson, Stephens and Shinkle Shoe Co., St. Louis, Mo. 385,627, ren. 4–18–61. Cl. 39.
Johnson, Wallace M. L., d.b.a. Kennel-Aire Mfg. Co., St. Paul, Minn. 714,021, pub. 1–31–61. Cl. 3.
Johnston Export Publishing Co., New York, N.Y. 602,735–6, canc. Cl. 38.
Jolo Plastics Corp., New York, N.Y. 714,216, pub. 1–31–61. Cl. 42.
Jones, Paul, Inc.: *See*—
Jones, Paul D., Inc.
Jones, Paul D., Inc., d.b.a. Paul Jones, Inc., Hollandale, Minn. 602,853, canc. Cl. 46.
Kennel-Aire Mfg. Co.: *See*—
Johnson, Wallace M. L.
Kenrich House, Inc., Texarkana, Ark. 602,589, canc. Cl. 6.
Kent Scott, Inc., Easton, Pa. 714,206, pub. 1–31–61. Cl. 39.
Kidde Mfg. Co., Inc., Bloomfield, N.J. 714,223, pub. 1–31–61. Cl. 44.
King, John P., Mfg. Co., The, Augusta, Ga. 143,657, ren. 4–18–61. Cl. 42.
Kinkead Industries, Inc., Chicago, Ill. 714,051, pub. 1–31–61. Cl. 12.
Klaver Brewery: *See*—
N.V. Phoenix Brouwerij.
Klaver Holland Beer Brewery: *See*—
N.V. Phoenix Brouwerij.
Korn, M., Packaging Co. Inc., New York, N.Y. 714,016, pub. 1–31–61. Cl. 2.
Kreisler, Jacques, Mfg. Corp., North Bergen, N.J. 602,708, canc. Cl. 28.
Kresge-Newark, Inc., Newark, N.Y. 714,208, pub. 1–31–61. Cl. 39.
Kysor Heater Co., d.b.a. Powered Products of Texas, Inc., Cadillac, Mich. 714,089, pub. 11–22–60. Cl. 19.
La Favorite Rubber Mfg. Co., Hawthorne, N.J. 714,065, pub. 1–31–61. Cl. 13.
Lehman Bros. Corp.: *See*—
Quality Brands Co., The.
Lenvil & Co.: *See*—
Vilutis, Leonard J.
Lestoil Products, Inc., from Adell Chemical Co., Holyoke, Mass. 714,246, pub. 1–31–61. Cl. 52.
Lewis, William, and Son, Chicago, Ill. 714,156, pub. 1–31–61. Cl. 36.
Lexco Engineering & Mfg. Corp., Souderton, Pa. 714,091, pub. 1–31–61. Cl. 19.
Lilly, Eli, and Co., Indianapolis, Ind. 389,479, ren. 4–18–61. Cl. 18.
Linen Thread Co., Inc., The, New York, N.Y. 602,771–2, canc. Cl. 43.
Loew's Inc.: *See*—
Metro-Goldwyn-Mayer Inc.
Logan-Fowler Co.: *See*—
Fowler, W. F.
Lorant, Aladar, d.b.a. Hypo-Sponge Co., Elmhurst, N.Y. 602,-776, canc. Cl. 44.
Lord Baltimore Filling Stations, Inc., to The American Oil Co., Baltimore, Md. 602,835, canc. Cl. 103.
Lowenstein, M., & Sons, Inc., New York, N.Y. 714,218, pub. 1–31–61. Cl. 42.
Manhattan Cloth Finishing Co., Inc., New York, N.Y. 602,-837, canc. Cl. 106.
McCrary Hosiery Mills, Inc., Asheboro, N.C. 714,201, pub. 1–31–61. Cl. 39.
McGraw-Edison Co., Elgin, Ill. 714,252, pub. 1–31–61. Cl. 103.
McCullough, J. Chas., Seed Co., The, Cincinnati, Ohio. 442,-853, canc. Cl. 46.
McKinney Bedding Co., Springfield, Mo. 714,148, pub. 1–31–61. Cl. 32.
Mead Corp., The, Dayton, Ohio. 714,014, pub. 1–31–61. Cl. 2.
Meat Industry Suppliers, Inc., Chicago, Ill. 602,790, canc. Cl. 46.
Melchioe Armstrong, Dessau Co. of Delaware, Inc., Ridgefield, N.J. 602,701, canc. Cl. 26.
Merchants Distilling Corp., Terre Haute, Ind. 714,239, pub. 1–31–61. Cl. 49.
Merck & Co., Inc., Rahway, N.J. 714,082, pub. 1–31–61. Cl. 18.
Metro-Goldwyn-Mayer Inc., by change of name from Loew's Inc., New York, N.Y. 714,171, pub. 1–31–61. Cl. 38.
Midwest Textiles and Flameproofing Co., Inc., Chicago, Ill. 714,215, pub. 1–31–61. Cl. 42.
Mill Brewery: *See*—
N.V. Phoenix Brouwerij.
Miller Mfg. Corp., Middlebury, Ind. 602,655, canc. Cl. 19.
Mills, Claude W., d.b.a. Snugl Wheel Weight Mfg. Co., Kokomo, Ind. 385,638, ren. 4–18–61. Cl. 19.
Millville Mfg. Co., The, Philadelphia, Pa. 714,220, pub. 1–31–61. Cl. 42.
Miracle Adhesives Corp., Bellmore, N.Y. 714,166, pub. 1–31–61. Cl. 38.
Mr. Spence Inc., Philadelphia, Pa. 714,273. Cl. 39.
Modern Curtain Co. Inc., Boston, Mass. 386,869, ren. 4–18–61. Cl. 42.
Modern Electronics Mfg. Co., San Antonio, Tex. 714,155, pub. 1–31–61. Cl. 36.
Montalvo Farms, Montalvo, Calif. 714,228, pub. 1–31–61. Cl. 46.
Moore, Gordon C., Lynchburg, Va. 602,674, canc. Cl. 22.
Moore, Thomas H., d.b.a. Stenopack Business Machines, San Francisco, Calif. 714,157, pub. 1–31–61. Cl. 36.
Morley Button Mfg. Co., Boston, Mass., to The Morley Co., Portsmouth, N.H. 144,010, ren. 4–18–61. Cl. 40.
Morley Co., The: *See*—
Morley Button Mfg. Co.
Mulhens & Kropff, Inc., New York, N.Y., to Ferdinand Mulhens d.b.a. Eau de Cologne & Parfumerie-Fabrik Glockengasse No. 4711, Gegenuber Der Pferdepost Von Ferd. Mulhens, Cologne, Germany. 144,207, ren. 4–18–61. Cl. 51.
N. V. Phoenix Brouwerij, d.b.a. Klaver Brewery, Mill Brewery and Klaver Holland Beer Brewery, Amersfoort, Netherlands. 385,110, ren. 4–18–61. Cl. 48.
National Brewing Co., The, Baltimore, Md. 714,237, pub. 1–31–61. Cl. 48.
National Cash Register Co., The, Dayton, Ohio. 388,773, ren. 4–18–61. Cl. 26.
National Cash Register Co., The, Dayton, Ohio. 389,068, ren. 4–18–61. Cl. 26.
National Key Co., The, Cleveland, Ohio. 714,181–2, pub. 1–31–61. Cl. 38.
National Metal Products Co., Pittsburgh, Pa. 714,060, pub. 1–31–61. Cl. 12.
National-Standard Co., Niles, Mich. 714,089, pub. 1–31–61. Cl. 14.
Needle Industries Ltd., Birmingham, England. 602,761, canc. Cl. 40.
Neff Athletic Lettering Co., The: *See*—
Neff, Merle R.
Neff, Merle R., d.b.a. The Neff Athletic Lettering Co., Greenville, Ohio. 602,757, canc. Cl. 40.
Neisner Brothers, Inc., Rochester, N.Y. 714,161, pub. 1–31–61. Cl. 37.
Neisner Brothers, Inc., Rochester, N.Y. 714,244, pub. 1–31–61. Cl. 51.
Newage International, Inc., New York, N.Y. 602,694, canc. Cl. 26.
Newberry, J. J., Co., New York, N.Y. 714,193, pub. 1–31–61. Cl. 39.
Newell, Carl W., d.b.a. Carl W. Newell Mfg. Co., Glendale, Calif. 602,667, canc. Cl. 22.
Newell, Carl W., Mfg. Co.: *See*—
Newell, Carl W.
News Syndicate Co., Inc., New York, N.Y. 143,119, ren. 4–18–61. Cl. 38.

Norcross, Inc., New York, N.Y. 714,035, pub. 1–31–61. Cl. 7.
Norcross, Inc., New York, N.Y. 714,177, pub. 1–31–61. Cl. 38.
Norman Steak Co., Philadelphia, Pa. 714,230, pub. 1–31–61. Cl. 46.
Norstone Productions, Inc., Beverly Hills, Calif. 602,838, canc. Cl. 107.
North Western Expanded Metal Co., Chicago, Ill. 232,949, canc. Cl. 12.
North Western Expanded Metal Co., Chicago, Ill. 254,160, canc. Cl. 12.
Northrup, King & Co., Minneapolis, Minn. 145,425, ren. 4–18–61. Cl. 1.
Northwest Pre-Pak Co., Wenatchee, Wash. 602,793, canc. Cl. 46.
Northwestern Expanded Metal Co., Chicago, Ill. 154,114, canc. Cl. 12.
Nutri-Bio Corp., Beverly Hills, Calif. 714,073, pub. 1–31–61. Cl. 18.
Nuts & Bolts (Darlaston) Ltd., Darlaston, England. 714,268. Cl. 13.
Nymanbolagen AB., Uppsala, Sweden. 714,116, pub. 1–31–61. Cl. 23.
O-Cedar Corp'n, Chicago, Ill. 602,711, canc. Cl. 29.
Ocoma Foods Co.: *See*—
Omaha Cold Storage Co., The.
Oklahoma Cement Co., Tulsa, Okla. 714,049, pub. 1–31–61. Cl. 12.
Olin Mathieson Chemical Corp.: *See*—
Western Cartridge Co.
Winchester Repeating Arms Co.
Omaha Cold Storage Co., The, to Ocoma Foods Co., Omaha, Nebr. 387,350, ren. 4–18–61. Cl. 46.
Oneida Ltd., Sherrill, N.Y. 602,653, canc. Cl. 19.
Ortho-Vent Shoe Co., Inc., Salem, Va. 714,196, pub. 1–31–61. Cl. 39.
Pachter, David A., to Zenith Radio Corp., Chicago, Ill. 384,289, canc. Cl. 21.
Pafundi, Ted: *See*—
Pafundi, Theodore.
Pafundi, Theodore, d.b.a. Ted Pafundi, Granville, N.Y. 714,043, pub. 1–31–61. Cl. 12.
Pan Pacific Fisheries, Inc., Terminal Island, Calif. 714,231, pub. 11–22–60. Cl. 46.
Panbrook Mills, Inc., New York, N.Y. 602,766, canc. Cl. 42.
Perfect Foods, Inc., Lansdale, Pa. 387,966, ren. 4–18–61. Cl. 46.
Perry Medical Products, Inc., Portland, Oreg. 714,084, pub. 1–31–61. Cl. 18.
Peters Food Stores Ltd., Harrow, England. 602,816, canc. Cl. 50.
Pfume: *See*—
Zaretsky, Frank.
Pharmacal Products, Inc., Miami, Fla. 714,080, pub. 1–31–61. Cl. 18.
Pierre Chabanneau & Co., Bordeaux and Cognac, France. 311,561, canc. Cl. 49.
Pilgrim Holiness Church Corp., Indianapolis, Ind. 714,172, pub. 1–31–61. Cl. 38.
Pillsbury Co., The: *See*—
Pillsbury Flour Mills Co.
Pillsbury Flour Mills Co., to The Pillsbury Co., Minneapolis, Minn. 385,055, ren. 4–18–61. Cl. 46.
Pioneer Coffee Co., Detroit, Mich. 602,818, canc. Cl. 50.
Pittsburgh Coke & Chemical Co., Pittsburgh, Pa. 602,599, canc. Cl. 6.
Plan-O-Bane Corp., Belmont, Calif., from Columbia Basin Plastics Co., Hawthorne, Calif. 714,019, pub. 1–31–61. Cl. 2.
Plastic Engineering and Chemical Co.: *See*—
Bradley, Richard C.
Plax Corp., West Hartford, Conn. 602,560, canc. Cl. 1.
Poirette Corsets, Inc., New York, N.Y. 714,210, pub. 1–31–61. Cl. 39.
Porter, H. K., Co., Inc., Pittsburgh, Pa. 714,057–9, pub. 1–31–61. Cl. 12.
Portland Quartzite Co., Inc., Waterloo, Wis. 602,562, canc. Cl. 1.
Powered Products of Texas, Inc.: *See*—
Kysor Heater Co.
Process Engineers, Inc., San Mateo, Calif. 714,130, pub. 1–31–61. Cl. 23.
Procter and Gambie Co., The, Cincinnati, Ohio. 140,015, ren. 4–18–61. Cl. 6.
Procter & Gambie Co., The, Cincinnati, Ohio. 385,915, ren. 4–18–61. Cl. 51.
Propper Mfg. Co., Inc., Long Island City, N.Y. 714,222, pub. 1–31–61. Cl. 44.
Prospector Aktiebolag, from Bjorn Wilhelm Holmstrom & Goran Anders Folke Arbenius, Stockholm, Sweden. 714,086, pub. 1–31–61. Cl. 19.
Protective Lining Corp., Brooklyn, N.Y. 714,015, pub. 11–22–60. Cl. 2.
Quaker Oats Co., The, Chicago, Ill. 384,811, ren. 4–18–61. Cl. 46.
Quaker Oats Co., The, Chicago, Ill. 385,142, ren. 4–18–61. Cl. 46.
Quality Bakers of America Cooperative, Inc., New York, N.Y. 714,233, pub. 1–31–61. Cl. 46.
Quality Brands Co., The, Cleveland, Ohio, to Lehman Bros. Corp., Jersey City, N.J. 143,435, ren. 4–18–61. Cl. 12.
R B F Chemical Co.: *See*—
Fallenberg, Robert B.
Ramont, Ramond E., d.b.a. Floral Arts Studios, Yucaipa, Calif. 602,557, canc. Cl. 1.
Random House, Inc., by merger from Beginner Books, Inc., New York, N.Y. 714,173, pub. 1–3–61. Cl. 38.
Ravensberg G.m.b.H. Chemische Fabrik, Konstanz, Germany. 714,085, pub. 1–31–61. Cl. 18.
Raybestos-Manhattan, Inc., Passaic, N.J. 714,024, pub. 1–31–61. Cl. 4.
Reardon Co., The, St. Louis, Mo. 139,612–13, ren. 4–18–61. Cl. 16.
Redmond, Ernst C., Jr., d.b.a. Mickey Redmond & Co., Dallas, Tex. 714,027, pub. 1–31–61. Cl. 5.
Redmond, Mickey & Co.: *See*—
Redmond, Ernst C., Jr.
Renfro Hosiery Mills Co., Mount Airy, N.C. 602,751, canc. Cl. 39.
Revere, Ann, Lingerie, Inc., New York, N.Y. 602,741, canc. Cl. 39.
Rexall Drug and Chemical Co.: *See*—
United Drug Co.
Richfield Oil Corp., Los Angeles, Calif. 385,305, ren. 4–18–61. Cl. 15.
Riverside & Dan River Cotton Mills, Inc., Danville, and New York, N.Y., to Dan River Mills, Inc., Danville, Va. 386,585, ren. 4–18–61. Cl. 42.
Roger & Gallet, New York, N.Y. 386,376, ren. 4–18–61. Cl. 52.
Ronor Corp., The, Cleveland, Ohio. 602,843, canc. Cl. 16.
Ropex Co., Inc., New York, N.Y. 714,162, pub. 8–23–60. Cl. 37.
Rosan Engineering Corp., Newport Beach, Calif. 714,061, pub. 1–31–61. Cl. 13.
Row, Peterson & Co., Evanston, Ill. 388,031, ren. 4–18–61. Cl. 38.
Row, Peterson & Co., Evanston, Ill. 388,054, ren. 4–18–61. Cl. 38.
Royal Blue Stores, Inc., to Consolidated Foods Corp., Chicago, Ill. 385,749, ren. 4–18–61. Cl. 46.
Rye Oldfarms Co., Rye, N.Y. 602,856, canc. Cl. 46.
Sachs Nut Inc., Minneapolis, Minn. 714,234, pub. 1–31–61. Cl. 46.
Saks & Co., New York, N.Y. 714,209, pub. 1–31–61. Cl. 39.
Salem Tool Co., The, Salem, Ohio. 714,121–2, pub. 1–31–61. Cl. 23.
Salfield, Alfred, d.b.a. The Bestframe Co., Dallas, Tex. 602,718, canc. Cl. 32.
Samann, Julius, d.b.a. Car-Freshner Co., Watertown, N.Y. 602,590, canc. Cl. 6.
Sandeman, David, and Son Ltd.: *See*—
Sherriff, J. B., & Co., Ltd.
Sandvik Steel, Inc., New York, N.Y. 602,707, canc. Cl. 27.
Schaper, W. H., Mfg. Co. Inc., Minneapolis, Minn. 602,675, canc. Cl. 22.
Schnier, I. F., Co., Inc., San Francisco, Calif. 602,820, canc. Cl. 50.
Schumacher'Sche Fabrik, Bietigheim, Wurttemberg, Germany. 714,138, pub. 1–31–61. Cl. 31.
Scroll, Inc., Miami, Fla. 714,144, pub. 1–31–61. Cl. 32.
Scully Signal Co., Melrose, Mass. 385,376, ren. 4–18–61. Cl. 26.
Seaboard Allied Milling Co.: *See*—
Ismert-Hincke Milling Co.
Ismert-Hincke Milling Co., The.
Seymour Foods, Inc., Topeka, Kans. 709,412, cor. Cl. 46.
Shakertown Corp., Cleveland, Ohio. 714,052, pub. 1–31–61. Cl. 12.
Sharp & Son, Detroit, Mich. 602,598, canc. Cl. 6.
Sheffield Hosiery Mills, Inc., New York, N.Y. 714,189, pub. 1–31–61. Cl. 39.
Shelton Products, Inc., Shelton, Conn. 613,017, cor. Cl. 23.
Sherriff, J. B., & Co., Ltd. David Sandeman and Son Ltd., Glasgow, Scotland. 313,262. Am. 7(d). Cl. 49.
Sherwin-Williams Co., The, Cleveland, Ohio. 387,756–7, ren. 4–18–61. Cl. 1.
Simmons, Joseph C., d.b.a. Anatowind Clinic, Beloit, Wis. 714,264, pub. 1–31–61. Cl. 107.
Simpson, Orville, Co., The, Cincinnati, Ohio. 707,800, cor. Cl. 31.
Simpson, Wm., Sons & Co., Inc., New York, N.Y. 714,213, pub. 1–31–61. Cl. 42.
Siris, A. J., Products Corp., New York, N.Y. 714,164, pub. 10–25–60. Cl. 37.
Smith, Robert E., Hollywood, Calif. 602,825, canc. Cl. 51.
Snug! Wheel Weight Mfg. Co.: *See*—
Mills, Claude W.
Societe des Usines Chimiques Rhone-Poulenc, Paris, France. 714,041, pub. 1–31–61. Cl. 10.
Southern Biscuit Co.: *See*—
Weston Biscuit Co., Inc.
Spats Bros., Inc., New York, N.Y. 714,205, pub. 1–31–61. Cl. 39.
Specialty Sheet Metal Mfg. Co., d.b.a. Speco Products, Chicago, Ill. 714,018, pub. 1–31–61. Cl. 2.
Speco Products: *See*—
Specialty Sheet Metal Mfg. Co.
Spencer, Richard, d.b.a. 30th Century Food Products, Chicago, Ill. 714,225, pub. 1–31–61. Cl. 46.
Spinnerin Yarn Co., Inc., South Hackensack, N.J. 714,221, pub. 1–31–61. Cl. 43.
Spotnails, Inc., Evanston, Ill. 602,840, canc. Cl. 13.
Sprague Engineering Corp., Gardena, Calif. 714,139, pub. 1–31–61. Cl. 31.
Stackpole Carbon Co., St. Marys, Pa. 388,428, ren. 4–18–61. Cl. 13.
Stacoat Paint & Varnish Co.: *See*—
Freeman, Louis H.
Staley, A. E., Mfg. Co., Decatur, Ill. 714,012, pub. 1–31–61. Cl. 1.
"Star" Bonifacio Echeverria, S.A., Eibar, Guipuzcoa, Spain. 714,038, pub. 1–31–61. Cl. 9.
Stauffer Chemical Co., New York, N.Y., from Victor Chemical Works, Chicago, Ill. 714,029, pub. 1–31–61. Cl. 6.
Stenopack Business Machines: *See*—
Moore, Thomas H.
Stevens, J. P., & Co., Inc.: *See*—
Forstmann & Huffmann Co.
Vandam, Albert H., Co., Inc.

Stevens, J. P., & Co., Inc., New York, N.Y. 714,214, pub. 1–31–61. Cl. 42.
Stevenson, Robert L., Kansas City, Mo. 602,668, canc. Cl. 22.
Stuart Co., The, Pasadena, Calif. 714,077, pub. 1–31–61. Cl. 18.
Superba Cravats, Inc., Rochester, N.Y. 714,271. Cl. 39.
Svenska Aktiebolaget Gasaccumulator, Stockholm-Lidingo, Sweden. 711,821, cor. Cl. 26.
Ta Chung Co., Inc., San Francisco, Calif. 714,224, pub. 1–31–61. Cl. 46.
Takeda Pharmaceutical Industries, Ltd.: *See*—
Ch. Takeda & Co., Ltd.
Taylor, R. Stevenson, and Co. Ltd., Glasgow, Scotland. 602,811, canc. Cl. 49.
Thabet Mfg. Co., Toledo, Ohio. 602,611, canc. Cl. 12.
Thayer, Inc., Gardner, Mass. 602,722, canc. Cl. 32.
30th Century Food Products: *See*—
Spencer, Richard.
Thomas Spinning Lures, Inc., New York, N.Y. 602,670, canc. Cl. 22.
Thompson, Homer I., d.b.a. Thompson's, San Fernando, Calif. 602,700, canc. Cl. 26.
Thompson's: *See*—
Thompson, Homer I.
Timberline Equipment Co., Bradley, Ill. 714,107, pub. 1–31–61. Cl. 23.
Timbre Recordings: *See*—
Weeth, Henry O.
Time Equipment Co.: *See*—
Brondello, John P.
Tiny Beverages, Inc., Richmond, Va. 384,971, ren. 4–18–61. Cl. 45.
Tuboplast S.A., Vevey, Switzerland. 602,570, canc. Cl. 2.
Unimatic Mfg., Inc., Bay City, Mich. 714,023, pub. 1–31–61. Cl. 4.
United American Co., d.b.a. Vintage Wine Co., Frankfort, Ky. 714,236, pub. 1–31–61. Cl. 47.
United Drug Co., Boston, Mass., to Rexall Drug and Chemical Co., Los Angeles, Calif. 139,653–4, ren. 4–18–61. Cl. 37.
United Drug Co., Boston, Mass., to Rexall Drug and Chemical Co., Los Angeles, Calif. 140,456, ren. 4–18–61. Cl. 37.
United Parcel Service of America, Inc., New York, N.Y. 714,257, pub. 1–31–61. Cl. 105.
United States Ceramic Tile Co., Canton, Ohio. 714,045, pub. 1–31–61. Cl. 12.
United States Gypsum Co., Chicago, Ill. 226,254, canc. Cl. 12.
United States Gypsum Co., Chicago, Ill. 439,150, canc. Cl. 38.
United States Rubber Co., New York, N.Y. 714,142, pub. 1–31–61. Cl. 32.
United States Steel Corp., Pittsburgh, Pa. 714,068, pub. 1–31–61. Cl. 13.
U.S. Vitamin & Pharmaceutical Corp., New York, N.Y. 714,075, pub. 1–31–61. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 711,129, cor. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 714,074, pub. 1–31–61. Cl. 18.
Van Munching Imports, Inc., New York, N.Y. 602,808, canc. Cl. 49.
Vandam, Albert H., Co., Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 388,923, ren. 4–18–61. Cl. 42.
Vandam, Albert H., Co., Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 389,501, ren. 4–18–61. Cl. 42.
Victor Chemical Works: *See*—
Stauffer Chemical Co.
Vilutis, Leonard J., d.b.a. Lenvil & Co., Chicago, Ill. 714,229, pub. 1–31–61. Cl. 46.
Vintage Books, Inc., New York, N.Y. 714,185, pub. 1–31–61. Cl. 38.
Vintage Wine Co.: *See*—
United American Co.
Viobin Corp., Monticello, Ill. 714,076, pub. 1–31–61. Cl. 18.
Viscount Supply Co., Ltd., Burlington, Ontario, Canada. 714,054, pub. 1–31–61. Cl. 12.
Wagner, Gunther, Hannover, Germany. 714,114, pub. 1–31–61. Cl. 23.
Waldman, Joseph, & Sons, Irvington, N.J. 714,072, pub. 1–31–61. Cl. 16.
Waldron, John, Corp., Highland Park, N.J. 602,764, canc. Cl. 42.
Walker-Wilson Travel, Ltd., Baltimore, Md. 714,259, pub. 1–31–61. Cl. 105.
Washington Mills Co., Winston-Salem, N.C. 714,202, pub. 1–31–61. Cl. 39.
Watkins Motor Lines, Inc., Thomasville, Ga. 714,260, pub. 1–31–61. Cl. 105.
Watt Publishing Co., Mt. Morris, Ill. 714,179, pub. 1–31–61. Cl. 38.
Weedsport Mfg. Corp., Weedsport, N.Y. 602,704, canc. Cl. 27.
Weeth, Henry O., d.b.a. Timbre Recordings, Seattle, Wash. 714,158, pub. 1–31–61. Cl. 36.
Weigel, Alton A., d.b.a. Artopages, Woodville, Ohio. 714,183, pub. 1–31–61. Cl. 38.
Weisberg-Baer Co., The, Long Island City, N.Y. 602,622, canc. Cl. 12.
West Coast Metal Products, Inc., Edmonds, Wash. 602,624, canc. Cl. 12.
Western Cartridge Co., to Olin Mathieson Chemical Corp., East Alton, Ill. 142,347, ren. 4–18–61. Cl. 9.
Western Electric Co., Inc., New York, N.Y. 139,910, ren. 4–18–61. Cl. 6.
Western Oil and Fuel Co., Minneapolis, Minn. 432,557, canc. Cl. 2.
Western Tablet & Stationery Corp., Dayton, Ohio. 714,163, pub. 5–17–60. Cl. 37.
Weston Biscuit Co., Inc., d.b.a. Southern Biscuit Co., Richmond, Va. 602,854, canc. Cl. 46.
White, S. S., Dental Mfg. Co., The, Philadelphia, Pa. 386,567, ren. 4–18–61. Cl. 44.
White Sewing Machine Corp., Lakewood, Ohio. 714,115, pub. 1–31–61. Cl. 23.
Whiting Corp., Harvey, Ill. 714,124, pub. 1–31–61. Cl. 23.
Wilbur-Ellis Co., San Francisco, Calif. 714,235, pub. 12–13–60. Cl. 46.
Wilson Products Co., Salt Lake City, Utah. 602,788, canc. Cl. 46.
Winberg, Bill Karpen and Co., City of Industry, Calif. 714,150, pub. 1–31–61. Cl. 32.
Winchester Repeating Arms Co., New Haven, Conn., to Olin Mathieson Chemical Corp., East Alton, Ill. 142,353, ren. 4–18–61. Cl. 9.
Windsor-Lloyd Products, Inc., Philadelphia, Pa. 388,098, ren. 4–18–61. Cl. 35.
Winesett Bag Co.: *See*—
Winesett, Franklin P.
Winesett, Franklin P., d.b.a. Winesett Bag Co., Oakland, Calif. 602,575, canc. Cl. 2.
Wolff Shoe Mfg. Co., St. Louis, Mo. 714,191, pub. 1–31–61. Cl. 39.
World Vision, Inc., Pasadena, Calif. 714,187, pub. 1–31–61. Cl. 38.
Wricco Distributors, Inc., Lockport, N.Y. 602,651, canc. Cl. 16.
Wrigley, Wm., Jr. Co., Chicago, Ill. 714,232, pub. 1–31–61. Cl. 46.
Wyandotte Chemicals Corp., Wyandotte, Mich. 714,245, pub. 1–31–61. Cl. 52.
Zaretsky, Frank, d.b.a. Pfume, Chicago, Ill. 602,591, canc. Cl. 6.
Zenith Radio Corp.: *See*—
Pachter, David A.

U.S. GOVERNMENT PRINTING OFFICE: 0—1961

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

April 25, 1961 Volume 765 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1961

Examiner affirmed	198
Examiner affirmed in part	39
Examiner reversed	57
Total	294

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from May 1, 1961, through October 28, 1961.

Executive Order 10930

ABOLISHING THE GOVERNMENT PATENTS BOARD AND PROVIDING FOR THE PERFORMANCE OF ITS FUNCTIONS

By virtue of the authority vested in me as President of the United States, it is ordered as follows:

SECTION 1. The Government Patents Board, established by section 3(a) of Executive Order No. 10096 of January 23, 1950, and all positions established thereunder or pursuant thereto are hereby abolished.

SEC. 2. All functions of the Government Patents Board and of the Chairman thereof under the said Executive Order No. 10096, except the functions of conference and consultation between the Board and the Chairman, are hereby transferred to the Secretary of Commerce, who may provide for the performance of such transferred functions by such officer, employee, or agency of the Department of Commerce as he may designate.

SEC. 3. The Secretary of Commerce shall make such provision as may be necessary and consonant with law for the disposition or transfer of property, personnel, records, and funds of the Government Patents Board.

SEC. 4. Except to the extent that they may be inconsistent with this order, all determinations, regulations, rules, rulings, orders, and other actions made or issued by the Government Patents Board, or by any Government agency with respect to any function transferred by this order, shall continue in full force and effect until amended, modified, or revoked by appropriate authority.

SEC. 5. Subsections (a) and (c) of section 3 of Executive Order No. 10096 are hereby revoked, and all other provisions of that order are hereby amended to the extent that they are inconsistent with the provisions of this order.

JOHN F. KENNEDY.

THE WHITE HOUSE,
March 24, 1961.

[F.R. Doc. 61-2767; Filed, Mar. 27, 1961; 10:10 a.m.]

Published in 26 F.R. 2583, Mar. 28, 1961

Amendments Under Rule 312

In recent years the number of amendments under Rule 312 has risen sharply, many of which seek to broaden claims. The consideration of these amendments imposes a great burden on the examining corps. To alleviate this burden, the applicant should do everything possible to establish that the proposed amendment is justified, proper and can be passed on without taking too much of the examiner's time. At this stage, the applicant is clearly not entitled to a re-examination nor should the examiner be put to the necessity of making an extensive study of the record or the prior art to determine if entry of the amendment should be recommended. Section 714.16 of the Manual, last two paragraphs, are therefore rewritten to read as follows:

NOT TO BE USED FOR CONTINUED PROSECUTION

Rule 312 was never intended to provide a way for the continued prosecution of an application after it has been passed for issue. When the recommendation is against entry, a detailed statement of reasons is not necessary in support of such recommendation. The simple statement that the proposed claim is not obviously allowable and briefly the reason why is usually adequate. Where appropriate, any one of the following reasons is considered sufficient: (1) an additional search is required, or (2) more than a cursory review of the record is necessary, or (3) the amendment would involve materially added work on the part of the Office, e.g., checking excessive editorial changes in the specification or claims.

Where claims added by amendment under Rule 312 are all in the form of dependent claims, some of the usual reasons for non-entry are less likely to apply although questions of new matter, sufficiency of disclosure, or undue multiplicity of claims could arise.

M. C. ROSA,

Apr. 6, 1961. *Director, Patent Examining Operation.*

Erratum

All references to Patent No. 2,980,555 to Ludwig Tritsch, assignor to The Kendall Company, for Pressure-Sensitive Adhesive Tape, appearing in the OFFICIAL GAZETTE of April 18, 1961, should be deleted as the application was withdrawn from issue and the patent was not issued.

Disclaimers

2,774,193.—*Charles J. Thatcher*, New York, N.Y., and *Benson Carlin*, Fairlawn, N.J. TOOLS FOR ULTRASONIC CUTTING. Patent dated Dec. 18, 1956. Disclaimer filed Mar. 15, 1961, by the assignee, *Ultrasonic Tools, Inc.*

Hereby enters this disclaimer to claims 5, 6, 7, 9, 10, 11, and 15 of said patent.

New Applications Received During February 1961

Patents	5,913
Designs	327
Plant Patents	1
Reissues	18
Total	6,259

Issue

Patents	1041—	No. 2,980,913 to No.	2,981,953, incl.
Designs	62—	No. 190,157 to No.	190,218, incl.
Plant Pats	4—	No. 2,051 to No.	2,054, incl.
Reissues	4—	No. 24,972 to No.	24,975, incl.
Total	1111		

2,840,800.—*William H. Chester*, North Hollywood, Calif. FREQUENCY ERROR COMPENSATION IN F.M. SYSTEMS. Patent dated June 24, 1958. Disclaimer filed Feb. 23, 1961, by the inventor; the assignee, *The Bendix Corporation*, assenting.

Hereby enters this disclaimer to claims 2, 3, 4, 7, and 8 of said patent.

Classification Order No. 317

The following transfers are hereby ordered to take effect on Monday, April 3, 1961:

From Division 4 to Division 28
- Class 186, STORE SERVICE
- Class 187, ELEVATORS
  - Subclasses 1 through 28
  - Subclasses 30 through 98
- Class 193, CONVEYERS, CHUTES, SKIDS, GUIDES AND WAYS
- Class 212, TRAVERSING HOISTS
- Class 243, PNEUMATIC DISPATCH

From Division 4 to Division 18
- Class 198, CONVEYERS, POWER-DRIVEN

M. C. ROSA,
Director, Patent Examining Operation.

Patents Available for Licensing or Sale

2,633,140. Dishwashing Machine (Liquid Dispersing Means). John O. Wagner, Palisade, N.J. Correspondence to: Charles F. Krause, 342 Madison Ave., New York, N.Y.

2,714,433. Luggage. George W. Wilson, 5042 13th St., N.E., Washington 17, D.C.

2,902,400. Motor Compressor. Rudolf Hintze, Neuenhain, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

2,965,111. Apparatus for Cleaning and Drying Paint Brushes and Rollers. Samuel Feigelman, 2901 Gainesville St., S.E., Washington 20, D.C.

2,972,346. Vacuum Massager. James Rubel Eddings. 3014 N. Vernon St., Amarillo, Tex.

The following 2 patents are offered by: Vyzkumny a skusebni letecky ustav, Letnany, Czechoslovakia.
Correspondence should be directed to: Richard Low, 1060 Broad St., Newark 2, N.J.

2,971,584. Devices for Stabilizing Helicopter Aircraft (and Preventing Loss of Rotational Speed of Lifting Rotor).

2,971,586. Rotor Hub for Helicopter Aircraft.

General Electric Company is prepared to grant non-exclusive licenses under the following 10 patents upon reasonable terms.

Applications for license may be addressed to: General Electric Company, X-Ray Department, 4855 Electric Ave., Milwaukee 1, Wis.

2,380,209. Positioning Means.

2,400,331. Electron Lens System.

2,408,287. Electron Microscope.

2,420,514. Electron Lens Structure.

2,420,561. Electron Microscope Structure.

2,526,879. Table Construction.

2,552,856. Serialographic Apparatus and X-Ray Equipment Embodying Same.

2,700,735. Tiltable Cantilever X-Ray Table.

2,723,350. Apparatus for Determining the Mass per Unit Area Characteristics of Materials.

2,810,838. Beam Current Stabilization Circuit for X-Ray Tubes.

CONDITION OF PATENT APPLICATIONS AS OF FEBRUARY 28, 1961

Total number of pending applications (excluding Designs)	191,475
Total number of pending Design applications	5,539
Total number of applications awaiting action (excluding Designs)	89,577
Total number of Design applications awaiting action	1,618
Date of oldest new application	October 2, 1959
Date of oldest amended application	October 2, 1959

M. C. ROSA, Director, Patent Examining Operation

PATENT EXAMINING GROUPS AND SUPERVISORY EXAMINERS	DIVISIONS
(I) STONE, I. G., CHEMICAL AND RELATED ARTS	6, 31, 38, 48, 46, 50, 56, 59, 60, 63, 64.
(II) EVANS, N. H., COMMUNICATIONS, RADIANT ENERGY AND ELECTRICAL ARTS	16, 26, 37, 41, 42, 44, 48, 51, 54, 65.
(III) YUNG KWAI, B., MECHANICAL MANUFACTURING, MACHINE ELEMENTS AND DESIGNS	2, 12, 13, 14, 21, 24, 57, 58, 61, 81, 83.
(IV) SPINTMAN, S., MATERIAL HANDLING AND TREATING, OPTICS, RAILWAYS AND AMUSEMENT DEVICES.	7, 11, 17, 27, 34, 35, 39, 53, 62.
(V) HULL, J. S., STATIC STRUCTURES AND INSTRUMENTS OF PRECISION	5, 8, 20, 29,33, 36, 40, 52, 66.
(VI) MURPHY, T. F., AGRICULTURE, CALCULATORS, PUMPS AND MOTORS, TRANSPORTATION	1, 4, 9, 10, 18, 22, 23, 28, 45, 47.
(VII) KAUFFMAN, H. E., HEATING AND COOLING, PLASTIC SHAPING AND COATING, SEPARATION AND MIXING, BODY TREATMENT AND CARE.	3, 15, 19, 25, 30, 32, 40, 55, 67.
(CLASS.) GORECKI, G. A., ARTS UNDERGOING RECLASSIFICATION AS LISTED UNDER CLASSIFICATION DIVISIONS.	91, 92, 93, 94, 95.

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application: New	Oldest Application: Amended
1. (VI) GOLDBERG, A. J., Brakes; Planting; Plant Husbandry; Scattering Unloaders; Earth Working	8-5-60	7-25-60
2. (III) STONE, A., Fishing, Trapping and Vermin Destroying; Presses; Tobacco; Textile Wringers; Buckles, Buttons and Clasps	8-15-60	7-29-60
3. (VII) MARMELSTEIN, N. (WINDHAM, R., acting), Metal Founding and Treatment; Metallurgy (Process and Apparatus); Alloy Electrical Resistors	7-11-60	6-3-60
4. (VI) FALLER, E. A., Hoists; Power Driven Conveyors; Handling Apparatus; Elevators; Pneumatic Dispatch; Store Service; Conveyors, Chutes, Skids, Guides and Ways	5-16-60	5-19-60
5. (V) ROBINSON, C. W., Harvesters; Unearthing Objects; Threshing; Knotters; Animal Husbandry; Bee Culture; Dairy; Butchering; Vegetable and Meat Cutters and Comminutors; Fences; Gates; Music; Signals and Indicators; Acoustics	1-25-60	1-25-60
6. (I) LIDOFF, H. J., Carbon Chemistry (part), e.g., Heterocyclic, General Organic Processes, Amides	5-17-60	5-24-60
7. (IV) ANDERSON, E. G., Optics	5-16-60	6-7-60
8. (V) BREHM, G. L., Beds; Chairs and Seats; Cabinets; Tables; Miscellaneous Furniture; Fire Escapes; Ladders; Deposit and Collection Receptacles; Scaffolds	5-4-60	8-5-60
9. (VI) BRANSON, J. H., Pumps; Fans; Turbines	7-5-60	7-25-60
10. (VI) BOYD, S. (HORTON, A. M., acting), Firearms; Ordnance; Ammunition; Explosive Charge Making	6-24-60	6-17-60
11. (IV) BENHAM, E. V., Boots, Shoes and Leggings; Shoe and Leather Manufacture; Button, Eyelet and Rivet Setting; Nailing, Stapling and Clip Clenching; Card, Picture and Sign Exhibiting; Cutlery; Pipes and Tubular Conduits	5-2-60	5-4-60
12. (III) DURHAM, B. G., Machine Elements; Engine Starters; Interrelated Clutch and Motor Controls	5-16-60	5-2-60
13. (III) BEALL, T. E., Gear Cutting; Electric Lamp and Tube Manufacture; Needle and Pin Making; Metal Working (part), e.g. Special Work, Forging, Plastic Working, Drawing, Sawing, Milling, Planing, Turning	5-4-60	5-5-60
14. (III) WILTZ, W. A., Metal Working (part) e.g. Sheet Metal; Metal Bending, Miscellaneous Processes, Assembly and Disassembly Apparatus; Wire Fabrics	3-29-60	2-11-60
15. (VII) BRINDISI, M. V., Plastics; Plastic Block and Earthenware Apparatus	9-16-60	9-2-60
16. (II) ANDRUS, L. M., Telephony; Recorders (part)	1-4-60	1-25-60
17. (IV) LEIGHEY, R. A., Packaging; Typewriters; Printing; Type Casting and Setting; Sheet Material Associating or Folding; Sheet Feeding or Delivering	5-11-60	5-12-60
18. (VI) BLUM, A. (LEVINE, S. acting), Power Plants; Fluid Transmissions; Servomotor Systems; Jet Motors; Combustion Turbines; Measuring Speed or Acceleration	9-6-60	9-2-60
19. (VII) PATRICK, P. L., Stoves and Furnaces; Boilers; Fluid Fuel Burners; Heating Systems; Miscellaneous Heating; Automatic Temperature and Humidity Regulation; Illuminating Burners	5-20-60	6-17-60
20. (V) SEERS, J. D., Miscellaneous Hardware; Closure Fasteners; Locks; Safes; Bank Protection; Bread, Pastry and Confection Making; Tents and Canopies; Umbrellas; Canes; Undertaking; Electrical Connectors	9-6-60	9-6-60
21. (III) MADER, R. C., Textiles	6-30-60	6-3-60
22. (VI) BUCHLER, M. B., Aeronautics; Boats; Buoys; Ships; Marine Propulsion; Propellers; Windmills; Fluid Diaphragms and Bellows	5-6-60	5-2-60
23. (VI) SMILOW, L., Data Processors; Digital and Analog Computers; Calculators; Bookkeeping Machines; Cash and Fare Registers; Voting Machines; Counters	10-2-59	10-2-59
24. (III) HICKEY, T. J., Apparel (except Corsets and Brassieres); Apparel Apparatus; Sewing Machines; Textiles, Ironing or Smoothing; Clutches and Power-Stop Control; Work Holders	6-28-60	7-15-60
25. (VII) NEVIUS, R. D., Coating—Processes, Miscellaneous Products and Apparatus; Distillation; Wood Treating Apparatus; Paper Making	5-10-60	5-9-60
26. (II) RADER, O. L., Electricity—Generation, Motive Power, Transmission Systems, Voltage and Phase Control Systems, Furnaces, Battery Charging and Discharging, Arc Lamps, Prime Mover Dynamo Plants; Elevators (part), e.g. Miscellaneous Electric Control Mechanisms; Inductors; Transformers	5-2-60	4-18-60
27. (IV) JAMES, S., Brushing, Scrubbing and General Cleaning; Brush, Broom and Mop Making; Textiles, Fluid Treating Apparatus; Cleaning and Liquid Contact With Solids	7-5-60	5-25-60
28. (VI) BRAUNER, R. H., Internal Combustion Engines; Expansible Chamber Motors; Fluid Servomotors; Spring, Weight and Animal Powered Motors; Cylinders; Pistons; Drive Shafts; Flexible-Shaft Couplings; Chucks or Sockets; Fluid Current Conveyors; Pressure Modulating Relays; Wheel Substitutes	7-22-60	5-19-60
29. (V) FRITZ, M. M., Tools; Woodworking; Button, Barrel and Wheel Making; Baggage; Cloth, Leather and Rubber Receptacles; Package and Article Carriers; Valved Pipe Couplings; Rod Joints; Tool-Handling Fastenings	6-6-60	6-7-60
30. (VII) O'LEARY, R. A., Comminutors; Refrigeration; Fluid Sprinkling, Spraying and Diffusing, Separating and Assorting Solids (part)	8-15-60	8-1-60

DIVISIONS, EXAMINERS, AND SUBJECTS OF INVENTION (Roman numerals in parentheses indicate Examining Group)	Oldest Application	
	New	Amended
31. (I) BOETTCHER, A. M. (SULLIVAN, A. D., acting), Carbon Chemistry (part), e.g., Urea Adducts, Silicon Containing Carbon Compounds, Hydrogenation of Carbon Oxides, Partial Oxidation of Non-Aromatic Hydrocarbon Mixtures, Hydrocarbons, Halogenated Hydrocarbons; Synthetic Resins (part) (e.g., Oil-Modified; Stabilized); Mineral Oils	6-15-60	6-9-60
32. (VII) MARTIN, H. L., Gas and Liquid Contact Apparatus; Heat Exchange; Agitation; Fire Extinguishers; Centrifugal Bowl Separators; Liquid Separation or Purification (part)	7-5-60	6-23-60
33. (V) MUSHAKE, W. L., Bridges; Hydraulic and Earth Engineering; Roads and Pavements; Building Structures	4-11-60	4-14-60
34. (IV) QUACKENBUSH, L., Railways—Draft Appliances, Switches and Signals, Surface Track, Rolling Stock, Track Sanders; Electricity, Transmission to Vehicles; Dumping Vehicles; Vehicle Fenders; Hand and Hoist Line Implements	5-4-60	5-3-60
35. (IV) DEMBO, L. J., Dispensing; Filling Receptacles; Toilet; Severing by Tearing or Breaking; Coin Controlled Apparatus; Dispensing Cabinets; Article Dispensing; Coin Handling	7-5-60	7-1-60
36. (V) EVANS, R. L., Measuring and Testing (part)	5-6-60	4-25-60
37. (II) LEVY, M. L., Electricity—Switches, Welding, Heating, Photo-Cell Circuits	4-6-60	4-13-60
38. (I) PARKER, C. B., Carbon Chemistry (part), e.g., Azo, Carbocyclic or Acyclic Compounds (part), e.g., Anthrones, Triarylmethanes, Esters, Acids, Ketones, Aldehydes, Ethers, Phenols, Alcohols, Proteins, Amines, Natural Resins	4-4-60	4-6-60
39. (IV) WEIL, I., Fluid-Pressure Regulators; Valves; Fluid Handling (except Pressure Modulating Relays, Float Valves, Diaphragms and Bellows)	6-10-60	6-17-60
40. (V) DRUMMOND, E. J., Receptacles—Metallic, Paper, Wooden, Glass; Special Receptacles and Packages	8-1-60	8-1-60
41. (II) LOVEWELL, N. N., Recorders (part); Sound Recording; Television; Telegraphy (part)	4-1-60	4-20-60
42. (II) REYNOLDS, E. R., Electric Signaling; Telegraphy (part)	5-25-60	5-25-60
43. (I) KNIGHT, W. B. (WOLK, M. O., acting), Medicines, Poisons, Cosmetics; Sugar and Starch; Skins and Leathers; Preserving, Sterilizing and Disinfecting (except Wood Treatment Apparatus); Bleaching, Dyeing, Fluid Treatment of Textiles	1-2-60	1-25-60
44. (II) JUSTUS, C. L., Directive Radio Systems; Nuclear Batteries; Nuclear Resonant Devices; Radar; Sonar; Torpedoes	11-30-59	12-23-59
45. (VI) MANIAN, J. A., Wheels, Tires and Axles; Railway Wheels and Axles; Lubrication; Bearings and Guides; Belt and Sprocket Gearing; Spring Devices; Animal Draft Appliances; Excavating	8-2-60	8-1-60
46. (I) WILES, W. G. (CAMPBELL, R. L., acting), Actinide Series (e.g., Fissionable) Compounds; Sintered Metal Stock; Explosives; Power Plants (part); Metallurgy (part); Radioactive Medicines; Nuclear Reactions; Carbon Chemistry (part)	2-5-60	5-27-60
47. (VI) ARNOLD, P., Mining, Quarrying, and Ice Harvesting; Motor Vehicles; Land Vehicles; Education	8-12-60	8-2-60
48. (II) BERNSTEIN, S., Electricity—Conversion Systems, Protective Systems; Measuring and Testing (except Meters); Switchboards, Relays, Magnets, Condensers, Transistors, Barrier Layer Rectifiers	4-12-60	4-13-60
49. (VII) BENDETT, B., Drying and Gas or Vapor Contact With Solids; Ventilation; Wells; Concentrating Evaporators; Earth Boring	5-25-60	5-10-60
50. (I) ARNOLD, D., Carbon Chemistry (part), e.g., Synthetic Resin Compositions (part), Synthetic Rubber Compositions, Natural Rubber	3-28-60	3-28-60
51. (II) WESTBY, G. N., Modulators; Piezoelectric Devices; Antennas; Oscillators; Miscellaneous Electron Space Discharge Device Systems; Radio Detectors	4-20-60	4-11-60
52. (V) LE ROY, C. A., Supports and Racks; Separating and Assorting Solids (part)	5-24-60	8-19-60
53. (IV) NINAS, G. A., Label Pasting and Paper Hanging; Books and Book Making; Manifolding; Printed Matter; Stationery; Paper Files and Binders; Flexible or Portable Closures or Partitions; Doors, Windows, Awnings, and Shutters; Harness; Whip Apparatus; Food Apparatus; Closure Operators; Illumination	8-4-60	8-5-60
54. (II) NILSON, R. G., Electric Lamps; Electronic Tubes; Miscellaneous Discharge Devices; Lamp, Cathode Ray and Gas Discharge Device Circuits; Ray Energy (e.g., X-Ray, Ultraviolet, Radioactive) Applications; Mass Spectrometers	4-25-60	6-1-60
55. (VII) WHITMORE, H. B., Surgery; Dentistry; Artificial Body Members	6-2-60	5-27-60
56. (I) SPECK, J. R., Abrading Compositions; Batteries; Coating or Plastic Compositions; Electrical and Wave Energy Chemistry	5-17-60	5-10-60
57. (III) MILLER, A. B. (TOMLIN, C. W., acting), Bolt, Nut, Rivet, Nail, Screw, Chain, and Horseshoe Making; Driven and Screw Fastenings; Nut and Bolt Locks; Jewelry; Pipe Joints or Couplings; Cutting	5-2-60	4-15-60
58. (III) BRONAUGH, F. H. (BAILEY, F. E., acting), Rolls and Rollers; Making Metal Tools and Implements; Stone Working; Abrading Processes and Apparatus; Baths, Closets, Sinks, and Spittoons; Boring and Drilling; Paper Manufactures; Selective Cutting	7-1-60	7-12-60
59. (I) BRINDISI, M. A., Inorganic Chemistry; Fertilizers; Gas, Heating and Illuminating	2-24-60	2-4-60
60. (I) MANGAN, P. E., Carbon Chemistry (part), e.g., Synthetic Resins (part); Miscellaneous Polymers (e.g., Vinyl Polymers); Synthetic Resin Compositions (part), Synthetic Rubber; Photographic Processes and Products	6-2-60	6-6-60
61. (III) STRIZAK, J. P., Winding and Reeling; Pushing and Pulling; Horology; Railway Mail Delivery; Feeding of Indefinite Lengths	7-20-60	7-13-60
62. (IV) LOWE, D. B. (FULLER, E. E., acting), Games; Toys; Amusements and Exercising Devices; Mechanical Guns and Projectors; Photographic Apparatus	5-9-60	5-5-60
63. (I) WINKELSTEIN, A. H., Foods and Beverages; Fermentation; Carbon Chemistry (part), e.g., Lignins, Carbohydrate Derivatives, Fats, Sulfurized Compounds; Heavy Metal Compounds	5-9-60	4-5-60
64. (I) GREENWALD, J., Fuels; Miscellaneous Compositions	5-7-60	4-1-60
65. (II) SAX, E. J., Wave Guides; Electric Meters; Conductors; Insulators; Amplifiers	5-6-60	6-9-60
66. (V) LISANN, L., Geometric Instruments; Measuring and Testing (part)	2-1-60	1-8-60
67. (VII) KRAFFT, C. F., Liquid Separation or Purification (part); Laminated Fabrics	6-1-60	5-19-60
81. (III) MONCURE, J. A., Industrial Arts	12-2-60	12-12-60
82. (III) HUNTER, E. H., Household, Personal and Fine Arts	12-12-60	12-16-60
91. BAILEY, J. S. (KENT, A. P., acting), Ornamentation; Glass	7-5-60	7-5-60
92. GAUSS, H., Radio Transmitters, Receivers and Tuners	9-7-60	10-11-60
93. WAHL, R. A., Wire Working	9-7-60	10-5-60
94. BERLOWITZ, W., Gas Separation	5-24-60	8-15-60
95. ANGEL, C. D., Metallic Building Structures; Packed Rod Joints; Joint Packings	6-1-60	6-1-60
M. E. DIV. A (I) GASTON, L. H., Carbon Chemistry (part), e. g., Steroids; Synthetic Resins (part), i. e., Polyethylenes—Butadiene	5-23-60	5-10-60

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during April 1961, except those which may have been extended under the provisions of the Veterans Patent Extension Act (54 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1955*.

Patents ..... Numbers 2,945,550 to 2,947,630, inclusive
Plant Patents ..... Numbers 622 to 625, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

Commissioner's Decision

IN RE W. D. ALLEN MANUFACTURING CO.

Decided December 6, 1960

APPLICATION—ACCESS—35 U.S.C. 122.

Section 122 of Title 35 United States Code enjoins the Patent Office to keep applications for patents in confidence, except under certain special circumstances. That section codified the established practice of the Patent Office. Use of an application for patent to interfere with the business of others may be considered such special circumstances, as pointed out in Ex parte Bonnie-B Co. Inc., 1923 C.D. 42. However, the fact that one notifies specific individuals or concerns that there is a pending patent application which may cover the product which that party makes, uses, or sells, is not considered to be such interference as to warrant waiver of the secrecy guaranteed by the statute and by Rule 14 of the Rules of Practice. The letter which petitioner states was received by him is no more than a notice of such pending application and of the owner's intent to enforce its rights, when and if a patent is granted. There is nothing in that letter which would indicate that petitioner's customers have been threatened. Under these circumstances no legal justification exists for granting access.

ON PETITION, for access to "Application for Trimless Cabinets."

DENIED.

Marzall, Johnston, Cook & Root for W. D. Allen Manufacturing Co.

Fulwider, Mattingly & Huntley for applicant.

CROCKER, *First Assistant Commissioner:*

W. D. Allen Manufacturing Co., through counsel petitions for access to the patent application identified as above, and which is said to be owned by Standard Fire Hose Company. Petitioner asserts that, on the basis of a letter dated April 28, 1960 from the president of Standard, Standard is interfering with its business and its customers. It is the petitioner's contention that said letter, in addition to stating that Standard's attorneys are of the opinion that "Trimless Cabinets" manufactured by the petitioner are an infringement of the claims of an application which Standard has pending, implies "that petitioner's customers will be sued for infringement and enjoined from continued use of any cabinet which infringes a patent maturing from their pending application." The access requested is said to be necessary to enable petitioner to immediately determine its probable future liabilities. Photocopies of the offending letter, and two pages of Standard catalogue which was received with the letter to identify the trimless cabinet allegedly manufactured by Standard, accompany the petition.

Applicant's attorneys oppose the petition stating that no threats or statements concerning infringement were made to any of petitioner's customers or potential customers; that there has been no interference with petitioner's business since only the petitioner, and not his customers, was warned of possible infringement; that it is clear from petitioner's reply to the offending letter, a copy of which is attached to the letter in opposition, that the offending letter was recognized as a warning only; that if the access requested is granted it would permit petitioner either to attempt to "design around" Standard's potential patent protection, or to determine how long it may safely copy the design before the patent may issue; and that the offending letter did no more than to say expressly what is reasonably and properly inferred from the notice "Patent Pending" placed on articles covered by a pending application. A copy of the letter in opposition is said to have been sent to petitioner.

Section 122 of Title 35 United States Code enjoins the Patent Office to keep applications for patents in confidence, except under certain special circumstances. That section codified the established practice of the Patent Office. Use of an application for patent to interfere with the business of others may be considered such special circumstances, as pointed out in Ex parte Bonnie-B Co. Inc., 1923 C.D. 42. However, the fact that one notifies specific individuals or concerns that there is a pending patent application which may cover the product which that party makes, uses, or sells, is not considered to be such interference as to warrant waiver of the secrecy guaranteed by the statute and by Rule 14 of the Rules of Practice. The letter which petitioner states was received by him is no more than a notice of such pending application and of the owner's intent to enforce its rights, when and if a patent is granted. There is nothing in that letter which would indicate that petitioner's customers have been threatened. Under these circumstances no legal justification exists for granting access.

The petition is denied without prejudice to its renewal if accompanied by proof that petitioner or petitioner's customers are being threatened and that petitioner's business has suffered because of those threats.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,410,793, Winnek and Roblin, Jr., Sulfonamido pyrimidines, **filed** Nov. 21, 1960, D.C.N.J. (Newark), Doc. 992/60, *American Cyanamid Company* v. *Caesar Bottone et al.* Consent judgment; Patent held valid and infringed; injunction granted Mar. 1, 1961. **Same, filed** Mar. 6, 1961, D.C.N.J. (Trenton), Doc. 166/61, *American Cyanamid Company* v. *Edgar Ostrander Company*.

2,510,438, K. M. Tuohy, Contact lens, **filed** Nov. 9, 1959, D.C., S.D., Calif. (Los Angeles), Doc. 1159/59-WM, *Solex Laboratories, Inc.* v. *Leo C. Patterson*. Consent decree; Patent held valid and infringed; all counter-claims and pending motions dismissed (notice Mar. 1, 1961).

2,558,467, B. P. Solomon, Pleating device, **filed** Dec. 3, 1958, D.C., E.D. Mich. (Detroit), Doc. 18/630, *Pleatmaster, Inc.* v. *The Stanley Works*. Stipulation and order of dismissal with prejudice Mar. 1, 1961.

2,563,704, Rickes and Wood, Vitamin B_{12}; **2,703,803**, same, Vitamin B_{12}-active composition and process of preparing same, **filed** Feb. 6, 1961, D.C.N.J. (Newark), Doc. 87/61,

Merck & Co., Inc. v. *Caesar C. Bottone et al.* Patents held valid and infringed; injunction granted Mar. 6, 1961.

2,967,845, N. Sperber et al., Aryl (2 pyridyl)-aminoalkanes and their production, filed Oct. 12, 1960, D.C., E.D. Pa. (Philadelphia), Doc. 28/685, *Schering Corporation* v. *Philadelphia Ampoule Laboratories, Inc.* Consent decree; patent held valid and infringed; injunction granted Oct. 12, 1960.

2,988,366, E. C. Leach et al., Silo unloader, filed Feb. 13, 1961, D.C., W.D. Wis. (Madison), Doc. 3416, *Elbert C. Leach* v. *Rockwood & Co.*

2,647,378, L. Ferro, Piercing ear-rings, filed Mar. 14, 1961, D.C.R.I. (Providence), Doc. 2766, *Ferro Novelty Company, Inc.* v. *Pinto-Products, Inc. et al.*

2,689,389, A. S. Schmidt, Rotary disk slicer for slicing a plurality of rows of buns, filed Sept. 13, 1955, D.C.N.J. (Trenton), Doc. 857/55, *Alto Company* v. *Fish Manufacturing Co., Inc.* Judgment in favor of the plaintiff Mar. 9, 1961.

2,763,892. (See 2,563,794.)

2,799,885, Larsen and Groome, Process for bonding hydraulic cementitious materials, filed Sept. 19, 1958, D.C. Md. (Baltimore), Doc. 10/916, *Larsen Products Corporation et al.* v. *Perfect Paint Products, Inc.* All claims of patent held invalid; complaint dismissed; plaintiffs enjoined (notice Mar. 4, 1961).

2,813,257, E. S. Cornell, Jr., Socket connector, filed Feb. 20, 1961, D.C., S.D.N.Y., Doc. 61/637, *Burndy Corporation* v. *U.S. Components, Inc.*

2,836,468, A. J. Pritchard, Idler arm conversion kit, filed May 28, 1959, D.C., W.D. Okla. (Oklahoma City), Doc. 8454, *W. A. Rowlett doing business as Safe-T-Lign Company* v. *Franklin Oliver Machine Company.* Notice of dismissal Feb. 27, 1961.

2,875,768, A. M. Lobbenberg, Foundation garments, filed July 9, 1959, D.C., S.D.N.Y., Doc. 148/101, *Peter Pan Manufacturing Corporation* v. *Comfort Soubrette Foundations, Inc.* Order of dismissal for lack of prosecution Mar. 8, 1961.

2,883,654, J. Bauer, Jr., Horn-light combination, filed Feb. 27, 1961, D.C., S.D.N.Y., Doc. 60/731, *Bert Scheuer, Inc.* v. *G. Joannou Cycle Co., Inc.*

2,990,340, F. S. Macklem, Theater lighting control system, filed Mar. 14, 1961, D.C., E.D. Mich. (Detroit), Doc. 21/018, *Kliegel Bros. Universal Electric Stage Lighting Co., Inc.* v. *Vickers, Inc.*

2,930,412, W. Mitchell, Washable rug, filed Nov. 15, 1960, D.C., S.D.N.Y., Doc. 60/4485, *Mitchell Accessories, Inc.* v. *Princeton Knitting Mills, Inc. et al.* Notice of dismissal under Rule 41 Mar. 3, 1961.

2,934,452, A. G. Sternberg, Resurfaced concrete structure, filed Mar. 9, 1961, D. C. Mass. (Boston), Doc. 61/171–W, *Steelcote Manufacturing Company* v. *Epoxy-Cote.*

2,949,488, J. T. Andreadis, Dihydroxy-acetone compositions for tanning the human epidermis, filed Aug. 17, 1960, D.C.N.J. (Newark), Doc. 716/60, *John T. Andreadis et al.* v. *Chemway Corporation.* Consent order of dismissal Mar. 8, 1961.

2,950,726, H. Y. Kuhl et al., Egg washer and egg holding tray, filed Mar. 2, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 216/61–MC, *Henry Y. Kuhl et al.* v. *Richard Cramer.*

Re. 23,849 (of 2,437,015), W. Baltz, Suspended horse, filed Dec. 16, 1954, D.C., N.D. Ill. (Chicago), Doc. 54c1880, *William Baltz et al., co-partners doing business as Wonder Products Company* v. *Tremco Industries, Inc.* Patent and Reissue thereof held valid and Claims 1 and 2 held infringed Feb. 28, 1961.

Des. 176,691, R. L. Doerfler, Spoon or other similar article of flatware, filed Dec. 14, 1956, D.C., S.D.N.Y., Doc. 115/351, *The International Silver Company* v. *Julis Pomerants, Inc.* Consent decree; defendant enjoined Mar. 2, 1961.

Des. 181,148, K. C. Hoffman, Textile fabric or similar article, filed Apr. 29, 1959, D.C., S.D.N.Y., Doc. 145/321, *Ostow & Jacobs, Inc.* v. *Morgan-Jones Inc. et al.* Consent stipulation and order of discontinuance Mar. 3, 1961.

Des. 184,270, A. Winkler, Watch case, filed Nov. 30, 1959, D.C., S.D.N.Y., Doc. 153/198, *Hilton Watch Co., Inc.* v. *Louvic Watch, Inc.* Consent judgment; Patent held infringed; injunction granted Feb. 21, 1961.

Des. 188,491, R. F. Green, Ceiling tile or the like, filed Mar. 9, 1961, D.C. Del. (Wilmington), Doc. 2308, *Armstrong Cork Company* v. *National Gypsum Company.*

Des. 188,978, H. K. Loeb, Blouse or the like, filed Oct. 28, 1960, D.C., S.D.N.Y., Doc. 60/4241, *H. K. Loeb & Co., Inc.* v. *Suzette Blouse Co., Inc.* Consent judgment; defendant enjoined Mar. 2, 1961.

REISSUES

APRIL 25, 1961

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

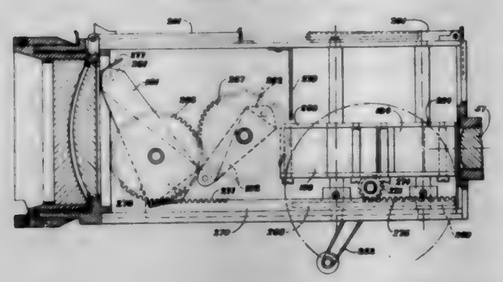
24,972

PRISM-LENS OPTICAL SYSTEMS OF VARIABLE FOCAL LENGTH AND INCLUDING TWO ANAMORPHOTIC PRISMATIC SYSTEMS

Benjamin E. Luboshez, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Original No. 2,828,670, dated Apr. 1, 1958, Ser. No. 453,092, Aug. 30, 1954. Application for reissue July 3, 1958, Ser. No. 746,567

12 Claims. (Cl. 88—57)



8. An anamorphotic optical system, comprising two members, each consisting of two refracting prism components having their generators parallel to one another wherein in an operative plane at right angles to such generators one component will deviate an incident ray in one sense and the other component will deviate such ray in the opposite sense, the prism generators in one member being arranged at right angles to those of the other member, the first member having its axial direction (that is the direction of an axial incident ray which emerges from the member substantially parallel to its direction of incidence) substantially parallel to the axial direction of the second member, and a collimating lens having spherical surfaces located in front of the two members.

24,973

HAY CRUSHING ROLLS WITH SPIRAL GROOVES

Leland R. Griffiths, Phoenix, Ariz., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Original No. 2,957,292, dated Oct. 25, 1960, Ser. No. 733,394, May 6, 1958. Application for reissue Nov. 3, 1960, Ser. No. 67,140

4 Claims. (Cl. 56—1)



1. In a hay conditioning device of the class described, upper and lower substantially cylindrical hay conditioning rolls, at least one roll having a body of elastomer material, said rolls being *substantially* engaged with each other [under pressure deforming the body portions thereof to provide a wide area of engagement with the hay and developing an intake for receiving hay therebetween], *said rolls adapted to receive hay therebetween causing deformation of the elastomer body and thereby providing opposed wide areas of pressure engagement for the hay,* at least said one roll having spiral grooves in the periphery of the body portion thereof, and the peripheries of said rolls being substantially coincidental at their [area of contact] *opposed areas.*

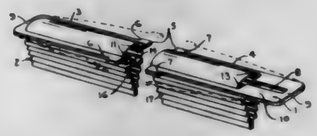
24,974

WINDSHIELD WIPER BLADE ASSEMBLY AND PRESSURE DEVICE THEREFOR

Fred A. Krohm, Hobart, Ind., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana

Original No. 2,782,445, dated Feb. 26, 1957, Ser. No. 404,052, Jan. 14, 1954. Application for reissue Feb. 17, 1959, Ser. No. 793,942

30 Claims. (Cl. 15—250.42)



26. A windshield wiper blade comprising an elongated resilient wiping element and a resiliently flexible support for said element, said support having reduced longitudinally extending extremities for reducing the resistance of said extremities to flexure, and a pressure device having pressure-distributing means freely slidable on said extremities.

24,975

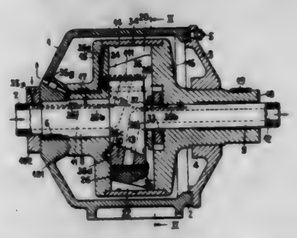
ROTARY MACHINE

Hedwig Alice Wallimann, née Hunziker, Zurich, Switzerland

Original No. 2,796,837, dated June 25, 1957, Ser. No. 428,056, May 6, 1954. Application for reissue June 23, 1959, Ser. No. 822,405

Claims priority, application Switzerland May 16, 1953

15 Claims. (Cl. 103—121)



1. A rotary machine, comprising in combination: a stationary [outer mantle, a closure lid fixedly attached to said mantle] *structure,* a rotatable casing [arranged inside the said mantle and] journaled therein [and in the said closure lid], a *stationary* guide drum [stationarily secured to said mantle] *mounted on said structure* and arranged inside the said rotatable casing eccentri-

cally with clearance from the inner wall surface thereof even at the nearest point, shaft portions extending axially from both ends of said stationary drum through the said rotatable casing, an inlet duct and a discharge duct being provided in said shaft portions and communicating with an inlet part and a discharge part, respectively, issuing from said drum into the eccentrical annular space between the said rotatable casing and stationary drum, [at the points of maximum and minimum clearances, respectively,] at least one pair of diametrically opposite vanes slidably guided in radial slots in the inner circumference of said rotatable casing, a bridge piece for each pair of vanes, said bridge pieces rigidly connecting the vanes of the co-ordinate pairs, respectively, with one another and going with ample clearance round the adjacent shaft portion extending from said stationary drum, and inserts fulcrumed in the end faces of said vanes for rocking motions about axes parallel to the axis of the said rotatable casing and contacting the circumference of the said drum, the said eccentrical annular space being divided into separate compartments sealed from one another by the said sliding vanes and inserts thereof, and, upon rotation of the said casing *periodically increasing and decreasing as to their capacities* [first increasing in volume from the said inlet part onwards, and then decreasing in volume towards the said discharge part], the said drum having a substantially elliptical cross section with the major axis at right angles to the eccentrical offset of the said stationary drum with respect to the said rotary casing and the sealing faces of the said inserts *where* contacting the surface of the said stationary drum, *having* in any position at least [with] a multiple line contact, [the] *any* gap between the said sealing faces and the surface of the drum being everywhere smaller than the thickness of the film of lubricant applied to it.

PLANT PATENTS

GRANTED APRIL 25, 1961

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,051
PECAN TREE
Edward Harris, Gunnison, Miss., assignor to Simpson Nursery Company, Monticello, Fla., a partnership
Filed Apr. 4, 1960, Ser. No. 19,973
1 Claim. (Cl. 47—62)

A new and distinct variety of pecan tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a heavy bearing habit, large size and distinctive form of the nuts which have a long point on one end, very thin nut shells resulting in easy separability of the shell and partitions from the nut kernels, plump, well-filled kernels comparable to those of the variety "Schley" (unpatented), but not as smooth as the latter, the abundance of oil in the nut kernels, but not as oily as those of "Schley," an attractive light amber color of the kernels, and very good resistance to pecan scab.

2,052
TAXUS PLANT
Richard M. Wyman, Jr., Wellesley Hills, Mass., assignor, by mesne assignments, to Wyman's Framingham Nurseries, Inc., Natick, Mass., a corporation of Massachusetts
Filed May 5, 1960, Ser. No. 27,232
1 Claim. (Cl. 47—59)

A new and distinct variety of Taxus plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of exceptionally uniform, relatively slow-growing, low-growing, nearly horizontally branching, full-centered, and dense habits of growth, a flattish oblong-elliptical silhouette, with a moderately convex top, a habit of producing lower branchlets and twigs which meet the ground over the entire area and providing a solid broad base, a habit of producing many buds on both old and new wood, which buds break with great uniformity, thereby producing current growth of many overlapping frond-like branchlets instead of single shoots, a somewhat recurving habit of the branchlets which gives an arching and drooping appearance to much of the new growth, exceptionally good winter-hardiness, relative ease of propagation, and the absence of "blind" wood.

2,053
ROSE PLANT
Letcher A. Dean, Tyler, Tex., assignor, by mesne assignments, to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania
Filed June 28, 1960, Ser. No. 39,419
1 Claim. (Cl. 47—61)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by being generally similar to its parent variety "Peace" (Plant Patent No. 591), but being distinguished therefrom by a Primrose Yellow general color tonality of the flower petals and their picotee-like margins ranging in color from Spinel Red to Neyron Rose.

2,054
PEAR TREE
Frank C. Reimer, 436 N. Holly St., Medford, Oreg.
Filed July 5, 1960, Ser. No. 40,980
1 Claim. (Cl. 47—62)

A new and distinct variety of pear tree, as illustrated and described, which bears white-fleshed fruit having a yellow ground color substantially overspread with red, characterized—in comparison to the Max Red Bartlett—by a materially later harvest and which on the average exceeds three weeks; by very fine grained flesh which is sweeter, more juicy, and entirely free of stone cells; and by a longer shelf life, keeping in cold storage fully a month longer.

PATENTS

GRANTED APRIL 25, 1961

GENERAL AND MECHANICAL

2,980,913
CLAMPING TOOL
Maurice H. Vollans, Forest Woods, R.R. 3, Orillia, Ontario, Canada
Filed Sept. 17, 1958, Ser. No. 761,520
1 Claim. (Cl. 1—260)



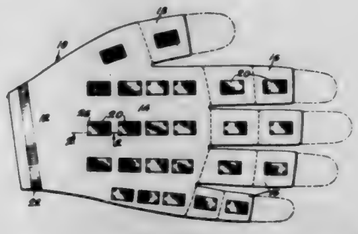
A device for positioning for stapling the flaps of a carton having a pair of folded end flaps spaced from each other in a first plane and a pair of folded side flaps substantially meeting along a line, in a second plane immediately overlying said first plane, comprising a straight inflexible blade member having a support portion and a lever portion and a cross bar centrally fixed to said blade member at right angles thereto between said portions thereof, said support portion being insertable between said side flaps along said line without causing permanent deformation thereof.

2,980,914
COMBINED HEADGEAR AND EYESHIELD
Henry Philip Heisig, Solana Beach, and Everett R. Price, Escondido, Calif., assignors to Bill Jack Scientific Instrument Co., Solana Beach, Calif., a corporation of California
Filed June 3, 1959, Ser. No. 817,844
11 Claims. (Cl. 2—10)



1. A combined headgear and eye shield comprising a head covering having a longitudinal axis extending from the front to the rear of the covering and covering substantially the entire head of a wearer except for a facial, front opening therein in a plane generally normal to the longitudinal axis, an eye shield, having a curved contour generally complementary to the contour of the covering, and a mounting means securing said shield to said covering, said mounting means including a base plate secured to the covering, a first pivot means positioned normally to the plate and to the covering and located in a vertical plane through longitudinal axis of the covering so that the eye shield may be moved about the first pivot means in a plane transverse to said vertical plane, a first movable plate mounted in sliding contact with the base plate for rotary movement about said first pivot means, a second movable plate, means connecting the eye shield to said second movable plate, second pivot means connecting said second movable plate to said first movable plate so that the eye shield may be moved about said second pivot means in a plane transverse to movement of said shield about said first pivot means, locking lug means between said second movable plate and said base plate, biasing means to normally urge disengagement of said locking lug means, and releasable locking means to hold said locking lug means engaged to prevent movement of either of said movable plates.

2,980,915
FISHING GLOVE
Julius P. Peterson, 544 Raleigh St., Denver, Colo.
Filed Aug. 3, 1959, Ser. No. 831,263
10 Claims. (Cl. 2—159)



1. In a glove of the type having a palm, fingers and a thumb, the improvement which comprises a plurality of small individual mesh elements attached to the palm, thumb and fingers on those portions thereof lying only between the joints of the hand, said mesh elements being adapted to provide a secure grip to a slipping surface when the hand and glove are clenched thereabout.

2,980,916
DRESS-SUPPORTING FORM
Leona M. Lennemann, 2115 Pennsylvania Ave. NW., Washington, D.C.
Filed Sept. 29, 1959, Ser. No. 843,202
3 Claims. (Cl. 2—215)



1. A dress-supporting form for use by pregnant women comprising a pleated band of flexible material having

sufficient stiffness to hold outer garments away from the wearer's body, and a relatively narrow attaching member secured to the longitudinal midsection of said band and maintaining it in its pleated state, said attaching band having end portions extending beyond the ends of the band to be passed about a wearer's body to secure the band thereto, said band, when secured relatively tightly against a wearer's body, having the portions thereof at each side of said securing member diverging outwardly from said securing member in a generally V-shaped formation.

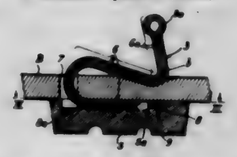
2,980,917
CIRCULAR KNIT HOSIERY AND METHOD OF CLOSING THE TOE THEREOF
John C. Slane, High Point, N.C., assignor, by mesne assignments, to The United States Trust Company of New York, New York, N.Y., a corporation of New York
Filed June 22, 1959, Ser. No. 821,852
7 Claims. (Cl. 2—239)

1. A circular knit stocking having a toe opening defined by opposing cut fabric edges disposed in abutting relation in substantially the same plane, said opening being closed by a seam composed of two needle threads anchored by a single looper thread, the needle threads being disposed in two rows of fabric penetrating loops on each side of the toe opening, the individual loops of each of the two outermost rows of needle thread loops



generally passing through different courses of the knitted fabric than the next adjacent loops of the next adjacent inner row of needle thread loops, the two outermost rows of needle thread loops being connected together to form plural stitches of one needle thread and the two inner rows of needle thread loops being connected together to form plural stitches of the other needle thread.

2,980,918
BELT WITH CLOSING DEVICE
Patrice Marie Bayon, 55 Rue Desjardins, Angers, France
Filed Feb. 7, 1958, Ser. No. 713,989
Claims priority, application France Feb. 18, 1957
1 Claim. (Cl. 2—321)



A belt with closing device, comprising: a first belt end portion having a front face and a rear face and formed with at least one perforation, a loop at the end of said first belt end portion; a second belt end portion having a front face and a rear face and having a hole, said second belt end portion being adapted to be passed through said loop, with the rear face of said second belt end portion overlying the front face of said first belt end portion; a hook member consisting of a substantially S-shaped strip forming a first hook portion and a second hook portion, the latter having a front free end; a base member fastened to said free end; said second hook portion forming a clip for detachably fastening said hook member on said second belt end portion by passage of said hook member through said hole in such a manner that said base member is exposed on the front face of said second belt end portion and that said first hook portion projects beyond the rear face of said second belt end portion, said second hook portion being then engaged through said hole and clasping said second belt end portion, said first hook portion then projecting beyond the rear face of said second belt end portion being adapted to engage said perforation of said first belt end portion, upon translation of said second belt end portion through said loop onto and over said first belt end portion, to close the belt; said hook member being invisible from the front face of said second belt end portion.

2,980,919
TOILET BOWL WITH URINAL ATTACHMENT
Constance H. Otto and Jeanette M. Swann, both of 502 5th Ave., Leavenworth, Kans.
Filed Oct. 2, 1957, Ser. No. 687,697
4 Claims. (Cl. 4—1)



4. The combination of a toilet bowl having a continuous rim at the top thereof, and a urinal attachment for use by a person standing in front of said bowl, said attachment comprising a curved upstanding shield having a lower edge portion disposed within said rim and extending along the rear and fully along the sides of the rim, said shield having an open front whereby the sides of the shield terminate in opposed edges completely free of each other and spaced apart transversely of the front of the bowl leaving the front of the bowl unobstructed by the shield, and a laterally outwardly projecting flange provided on the lower edge portion of said shield and seated on the upper edge of said rim.

2,980,920
BALL VALVE FOR FLUSH TANK
Samuel Lieberman, 42 Oak Hill St., Newton Center 69, Mass.
Filed Apr. 22, 1960, Ser. No. 24,097
1 Claim. (Cl. 4—56)



In a ball valve for a flush tank, a hollow rubber ball, a stem screw-threaded at one end, a conical block

threaded to said stem in axial alignment therewith, said block having two vertical grooves in its sides and a horizontal bore therethrough opening into said grooves, a portion of each groove below the opening of the bore therein being wider than the diameter of the bore, and a link member having an anchoring portion within the ball and a U-shaped exterior portion, said U-shaped portion comprising a horizontal part extending loosely through said bore and depending parts loosely disposed in said grooves respectively, whereby to limit in all directions the rocking movements of said ball relative to the axis of said stem.

2,980,921
SWIMMING POOL COVER
Edgar Bartolucci, 16 E. 96th St., New York, N.Y.
Filed May 26, 1959, Ser. No. 815,842
4 Claims. (Cl. 4—172)

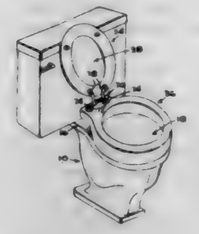
1. A cover for a swimming pool having a surrounding apron, said cover comprising a pair of upstanding panels disposed in facing spaced relation and adapted to extend along the apron on one side of a pool, one of said panels being an outer panel remote from the pool and the other panel being an inner panel interposed between the outer panel and pool, an additional panel connecting together the upper edge regions of said panels for relative swinging movement between their facing spaced relation and a substantially coplanar relation, said additional panel combining with said upstanding panels to define a cabana, journal means on the lower region of the outer panel remote from the swimming



pool to mount said outer panel on the apron for swinging movement between its upstanding position and a generally horizontal position overlying the pool, and rolling means carried on the lower region of the inner panel adjacent to the pool and adapted for rolling engagement with the apron toward and away from said journal means, whereby said inner and outer panels are movable simultaneously between their upstanding facing relation on one side of the pool and their generally coplanar relation overlying the pool with said additional panel interposed between and in generally coplanar relation with said pair of panels.

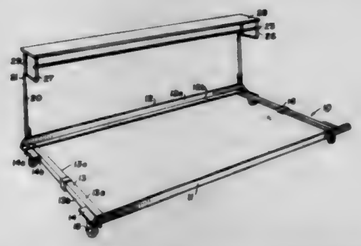
2,980,922
TOILET SEAT ELEVATOR
Homer H. Taylor, 31 Fairground Ave., Sylacauga, Ala.
Filed Apr. 8, 1960, Ser. No. 20,958
4 Claims. (Cl. 4—235)

1. In combination, a toilet bowl having a top opening, a horizontal upper surface surrounding said opening, and a rearward extension, a spacer normally resting upon said upper surface, said spacer having an opening registered with the bowl opening, said spacer having a rearward extension overlying and spaced above the bowl extension, first hinge means connected to and extending between the bowl extension and a rear part of the spacer and hinging the spacer to swing upwardly away from the toilet bowl, second hinge means comprising fixed leaf means fixed upon the spacer extension and upper and lower swingable leaf means, a toilet seat normally resting upon said spacer and fixed to the lower swingable leaf means, and a toilet seat cover normally resting upon said seat



and fixed to the upper swingable leaf means, said spacer being hollow and comprising a bottom wall to which the first hinge means is secured, upstanding outer and inner sidewalls, and a top wall.

2,980,923
DIVAN-BED
Melvin E. Roche, Berea, and Hillard J. Sands, Cleveland, Ohio, assignors to Harvard Manufacturing Company
Filed May 14, 1956, Ser. No. 584,870
6 Claims. (Cl. 5—59)

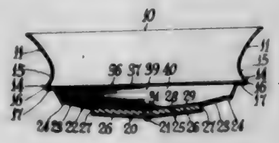


5. In a swing back divan-bed combination, frame means for said divan-bed comprising a front and a rear rail and cross rails forming a rectangular unit, said rear rail and front rail combining to define a plane, a pair of back rest bracket means carried by spaced rear portions of said frame means and extending vertically thereof, said back rest bracket means having sections movable to and from operative position with relation to said framing means, connecting means carried by and extending between the movable sections of said back rest bracket means to provide a bolster support for the divan-bed combination, said cross rails each include pairs of parallel members and a spacer secured between portions of said parallel members, said bracket means each have an arm extending forwardly therefrom and received between said pairs of parallel members for pivotal movement therebetween, and means securing spaced portions of each of said arms to said cross rails to position said bracket means operatively.

2,980,924
MOLDED SPEED BOAT HULL
Henry Donald Canazzi, 178 Jewett Parkway, Buffalo, N.Y.
Filed Nov. 6, 1958, Ser. No. 772,351
7 Claims. (Cl. 9—6)

1. A unitary V-bottom type of speed boat hull molded of resin impregnated fibre glass comprising a pair of side walls each formed with an integral outwardly projecting chine-like hollow rib located above the junction of the side wall with a bottom wall and extending along its side wall from the stern end of the hull forwardly for the major portion of its length, each of said ribs being

formed with a relatively flat lower surface serving as a slow speed planing surface during slow forward speed of the hull; and a bottom wall integrally formed with a longitudinally central hollow keel portion extending downwardly therefrom; a medium speed planing surface and a high speed planing surface; said medium speed planing surface being formed of a pair of upwardly and outwardly extending angularly related wall sections each having their outer side adjoined to one side of the forward portion of the keel and extending to the stern end of the hull, the angular relation of said wall sections being progressively increased from the bow rearwardly to said stern end, whereby at medium forward speeds the hull



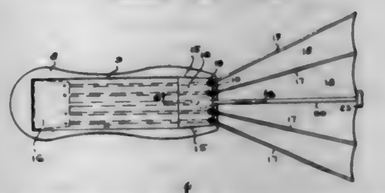
planes on said medium speed planing surfaces; and said high speed planing surface being located at the rear half of the hull and formed of a pair of substantially flat upwardly and outwardly extending angularly related wall sections having a combined surface area approximating one half the area of the bottom wall, and each having their inner side adjoined to one side of the keel, their outer side adjoined in downwardly offset relation to the associated medium speed surface by an upright wall and their forward ends faired into said associated surface, whereby at high forward speeds the hull planes on said high speed planing surface substantially independently of the other surfaces and attains a higher top speed from a given amount of power.

2,980,925
HAND SWIM FIN
Louis Wolshin, 684 SE. 9th Ave., Hialeah, Fla., assignor of fifty percent to Stanley Axelrod, Miami Beach, Fla.
Filed Sept. 5, 1958, Ser. No. 759,205
1 Claim. (Cl. 9—308)



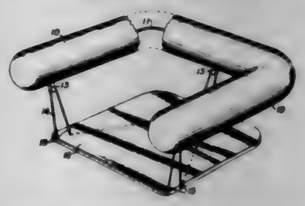
A hand swim fin of the character described that is integrally formed from rubber or similar flexible material, comprising a fan-shaped web portion having an intermediate slightly upstanding reinforcing rib, a hollow thumb receiving receptacle carried by the web and spaced slightly inwardly from one free edge of the web, the receptacle being closed at its outer end, a relatively stiff radial rib carried by the web portion adjacent the opposite edge of the web and extending for the major length of the web, the last named rib being T-shaped in cross section having an upstanding wall and a relatively wide head, the wall upon opposite sides being arcuately formed and increasing in thickness forwardly whereby to engage between the first and second fingers of the user, the wall at its inner end being relatively thin to permit the engagement of the rib up to the joint between the first and second fingers and a resilient band connected to the web portion adjacent the receptacle for engagement about the wrist of the user for retaining the fin upon the hand, the thumb and the first and second fingers when moved apart serving to extend the web.

2,980,926
FIN SHOE
Louis Wolshin, 684 SE. 9th Ave., Hialeah, Fla., assignor of fifty percent to Stanley Axelrod, Miami Beach, Fla.
Filed Sept. 5, 1958, Ser. No. 759,207
4 Claims. (Cl. 9—309)



1. A swimming aid of the character described that is in the form of footwear of the sandal type, the sandal having a flat insole and a flat parallel outsole, the soles being spaced apart by a filler, the filler being recessed for its major length and with the recess opening through the toe portion of the sandal, a block slidable in the recess, wedging means carried by the filler which limit a forward sliding movement of the block, a relatively flexible fin device that is connected to the block and movable therewith, the fin device being movable forwardly through the toe opening of the sandal to be laterally extended to a fan-shape, cam means formed in the toe opening to force the fin to the fan-shape as it is shifted outwardly and means to reinforce the fin.

2,980,927
WATER CHAIR
Noble R. Waters, Sr., 2713 Quinn, Fort Worth, Tex.
Filed July 14, 1959, Ser. No. 827,083
1 Claim. (Cl. 9—347)

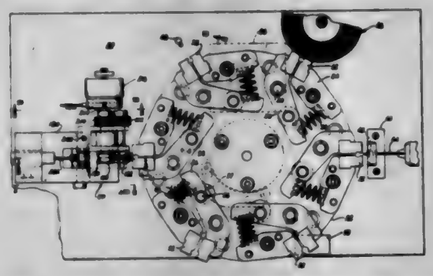


A water chair comprising an elongate float having at least three sides, said float being of foam synthetic resin, a rod embedded in and extending substantially the length of said float along the axial center thereof, a seat generally conforming with the inner dimensions of said float, and spaced therefrom, depending hangers directly connected with said rod at spaced intervals thereon, and flexible supporting means connecting said seat with said hangers.

2,980,928
APPARATUS FOR APPLYING LOCKING PLUGS OF PLASTIC MATERIAL TO THREADED ARTICLES
Richard B. Wallace, Birmingham, and Robert J. Ebbert, Rochester, Mich., assignors, by direct and mesne assignments, to The Oakland Corporation, Birmingham, Mich., a corporation of Michigan
Filed Aug. 27, 1956, Ser. No. 606,321
4 Claims. (Cl. 10—2)

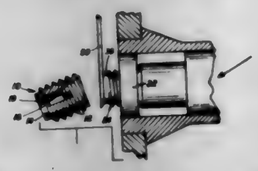
1. Mechanism for applying solid plastic plugs to threaded work pieces comprising, a stationary frame, a rotary

work table on said frame, a work clamp on said table, means for effecting index rotation of said table to position a work piece held by said clamp successively at a plurality of stations, a recessing tool at one station movable radially toward and away from said table to provide a radial recess of a predetermined diameter in the work piece at said one station, a plug inserting device at another station comprising a tubular cutter mounted on said frame, said cutter having a cutting diameter slightly larger than the diameter of said recess to cut a circular solid plug from a strip of plastic material, said plug having a diameter somewhat greater than the diameter of the aforesaid recess, a guide on said frame independent of said work clamp for guiding said plug into said recess, said guide including a tapered guide passage which has its smallest end directly opposite said radial recess, the smallest end of said guide passage having a diameter lightly smaller than the diameter of said recess and being shaped to compress the solid plastic plug to a



diameter smaller than the diameter of said recess, a plunger coaxially mounted in the interior of said cutter, the leading end of said plunger having a diameter slightly smaller than the diameter of the smallest end of said guide passage, both said cutter and said plunger being movable radially toward and away from the work piece at said last-mentioned station, means for feeding in predetermined increments the strip of plastic material in a direction across the path of said cutter, means for moving the cutter in its cutting stroke to cut a cylindrical solid plug from said plastic material, and means operable after advancement of said cutter for moving said plunger forwardly in timed sequence to the operation of said cutter to force the solid plug through said guide passage so as to compress the solid plug to a diameter less than the diameter of the recess and then insert the compressed plug into said recess, said last means being effective to apply pressure against the outer end of said plug after it has seated in said recess to assist in radial expansion of said plug.

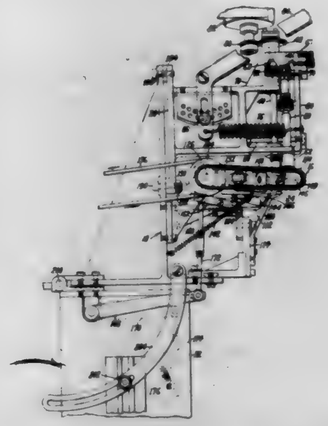
2,980,929
PROCESS FOR MANUFACTURING INSERTS
Louis A. Cummaro, Monterey, Mass., assignor to Phillips Screw Company, New York, N.Y., a corporation of New York
Filed Oct. 28, 1957, Ser. No. 692,710
7 Claims. (Cl. 10—10)



1. The method of manufacturing a threaded metal article comprising the steps of forming a blank having an enlarged cylindrical head and a cylindrical shank of reduced diameter, threading said shank, shaving said head concentrically with said threads feeding said blank through the use of said head to different successive operational stations, supporting said blank by means of said head in certain of said stations while machining operations are performed upon said shank, and finally severing the machined shank from said head.

2,980,930
LASTING MACHINES
Ralph E. Pearsall, Gloucester, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Mar. 27, 1959, Ser. No. 802,348
4 Claims. (Cl. 12—1)

1. A machine for lasting shoes having a pair of driven rotary members mounted on axes which lie in a common plane for engaging between their peripheral surfaces the opposite sides of the lasting margin of stock to be lasted, means associated with said members for so guiding a shoe relatively thereto that frictional forces are exerted on the lasting margin by said rotary members in a direction tending to tension the stock heightwise of the shoe and in a direction tending to feed the shoe along, the peripheral surface of one of said rotary members which engages the inside of the lasting margin being roughened to augment its frictional action and the peripheral surface of the other of said rotary members being provided with sharpened teeth for abrading the outside surface

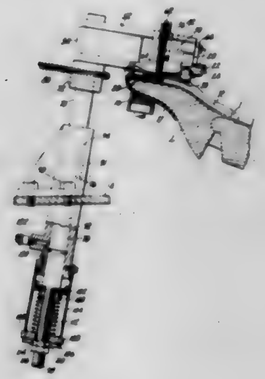


of said lasting margin throughout substantially its entire width, means for driving said first-mentioned rotary member at a predetermined speed, means for driving the second-mentioned rotary member at a considerably higher speed than the other said rotary member, and means adjacent to said rotary members for wiping the roughened lasting margin of the tensioned stock inwardly over and for pressing it against the bottom of the shoe.

2,980,931
HOLDDOWNS FOR LASTING MACHINES
Andrew J. Gilbride, Swampscott, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Aug. 20, 1959, Ser. No. 835,037
6 Claims. (Cl. 12—14.2)

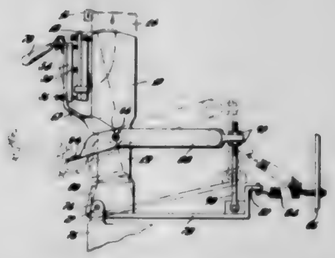
1. In a machine for lasting the toe end of a shoe having toe wipers and a support for the toe end of a shoe comprising an upper and an insole assembled on a last, a holddown member for engaging the bottom of the insole to hold the insole on the last and to clamp the toe

end of the shoe against said support, means for mounting said holddown for manual movement from an idle position, offset vertically and laterally from the toe end of a shoe on the support, to a position in engagement with



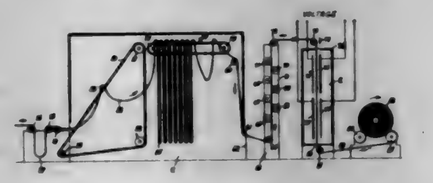
the bottom of the insole at the toe end of the shoe, and fluid pressure operated means for thereafter forcing said holddown firmly against the insole to clamp the shoe against said support.

2,980,932
LOADER FOR COUNTER MOLDING APPARATUS
Henry G. Scammon, % Gould & Scammon, Inc., 207 Court St., Auburn, Maine
Filed Jan. 26, 1959, Ser. No. 789,085
10 Claims. (Cl. 12—66)



1. In a counter molding machine having spaced male and female mold members movable into engagement to impart a shape to a counter blank placed therebetween corresponding to the back part of a shoe, a loader upon which the counter blank may be mounted and held in a shape to be placed astride the male mold, comprising a support mounting spaced pairs of fingers between which the wings of the counter blank may be inserted with the central portion arched across the space between the fingers, gauge means adjustable lengthwise of the fingers for engagement with the ends of the blank to control the position of the blank on the mount, means mounting the support for movement from a loading position up to the face of the male mold, and means adjacent the members operable, as the mold members are moved into engagement, to move the gauge means from the ends of the counter blank to permit retraction of the loader without damage to said ends of the counter.

2,980,933
STATIC CLEANING AND DUST AND PARTICLE REMOVAL
Samuel M. Schwartz, Paterson, N.J., and Daniel Gross, Passaic, N.J. (both % Velveray Corporation, Brighton Ave. and Walnut St., Clifton, N.J.)
Filed Nov. 8, 1955, Ser. No. 545,684
6 Claims. (Cl. 15—1.5)



1. A static cleaner for removing dirt, dust, lint and loose fibrous material from webs, fabric and sheets of natural and synthetic materials comprising an enclosed chamber, means for guiding the object to be cleaned through said chamber, means for successively applying opposite static electrical charges to the object to be cleaned as it passes through said chamber, said latter means including a first electrode pair having a static electrical charge thereon and a second electrode pair in linear alignment with said first electrode pair along the path of said object to be cleaned through said chamber and having an opposite static electrical charge thereon, each of said electrode pairs comprising a solid plate electrode and an electrode containing a plurality of closely spaced bars extending transversely to the path of said object through said chamber, and means for blowing air across said electrode pairs.

2,980,934
SEDIMENT EDUCTORS FOR SETTLING CHAMBERS
Robert T. Steindorf, Milwaukee, Wis., assignor to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 12, 1956, Ser. No. 590,939
3 Claims. (Cl. 15—1.7)

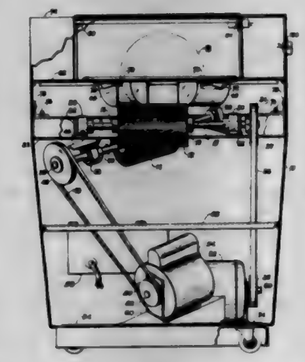


1. A sediment eduction tube for substantially horizontal disposition adjacent and unidirectional movement over the floor of a sedimentation chamber, said tube being of a quadrilateral cross section providing a pair of downwardly divergent sediment deflecting upper walls, and an inclined forward wall which is provided with sediment admission ports adjacent its lower edge and with a longitudinal flange projecting forwardly below said ports.

2,980,935
BOWLING BALL CLEANING AND POLISHING APPARATUS
William R. Bogard and George A. Gruss, Shelby, Ohio, assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Dec. 3, 1956, Ser. No. 626,000
10 Claims. (Cl. 15—21)

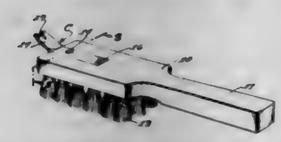
1. In a ball cleaning and polishing apparatus, in combination, a frame, a ball supporting and rotating device

comprising a pair of spaced generally cylindrical brushes, said brushes being constructed and arranged to support a ball resting thereon for cleaning and polishing, a shaft mounting each of said brushes, means mounted on said frame and spaced from said brushes constraining a ball supported on said brushes in substantially linearly stationary position thereon, means for rotating one of said shafts and the brush mounted thereon continuously in



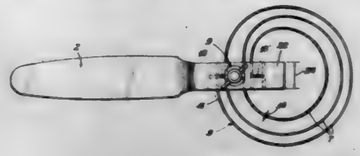
one direction and means for rotating the other of said shafts and the brush mounted thereon intermittently in the direction opposite to the rotation of said continuously rotated shaft, the intermittent rotation of said last-named brush being operaitve to turn a ball supported on said brushes relative to said continuously driven brush and thereby insure complete cleaning and polishing of said ball.

2,980,936
GOLF SHOE CLEANER
Quentin L. Snow and John T. Weiller, both of 230 Termino Ave., Long Beach, Calif.
Filed July 27, 1959, Ser. No. 829,911
1 Claim. (Cl. 15—113)



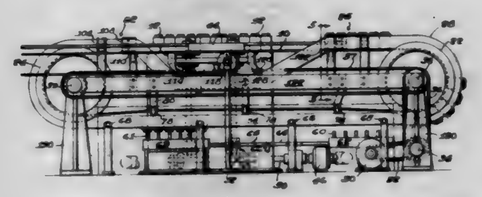
A cleaning device for removing mud and grass from the spiked cleats and soles of a golf shoe, comprising: a rigid elongated, horizontal member formed at its rear portion with a handle and at its front portion with a widened support, said handle extending to a location remote from said widened support; bristle means projecting vertically from one side of said support; and a rigid cleat cleaner on the opposite side of the front portion of said support, said cleat cleaner including a mounting portion attached to said support at the longitudinal centerline thereof and a lip inclined away from said horizontal member, said lip being narrower than the distance separating the spikes of the cleats of said golf shoe, the free end of said lip being formed with a cleat spike-receiving notch whereby said notch may be positioned in encompassing relationship with the base of a cleat to be cleaned with the front end of said bristle means in engagement with the sole of said golf shoe whereafter said handle is manipulated to urge said lip along the length of the spike of the cleat being cleaned and force said bristle means over the portion of said sole on either side of said last-mentioned cleat in a uni-directional movement, with said handle remaining spaced from said cleat and sole during said movement.

2,980,937
SCRAPING IMPLEMENT
Ernest William Defries, Toledo, Ohio, assignor to The Siegler Corporation, Centralia, Ill., a corporation of Delaware
Filed Mar. 4, 1959, Ser. No. 797,220
3 Claims. (Cl. 15—236)



1. A coil-type scraping and cleaning implement suitable for engaging contoured and irregular surfaces comprising a tough flexible blade coiled into a spiral and having its ends bent at approximately right angles, a wedge-shaped securing block with multiple grooves into which the loops of said blade are press fitted, said grooves consisting of multiple parallel grooves for supporting said loops and maintaining them in spaced relation and a groove extending transversely to said parallel grooves for accommodating the bent ends of said blade, a handle suitable for gripping which has a mating wedge-shaped recess at its inner end which receives the wedge-shaped securing block in snug but readily removable wedged engagement, and readily removable means for locking said block in said recess, said loops being held so that the portions thereof held in the said block are maintained in fixed relation to the said handle.

2,980,938
CONTAINER CLEANING MACHINE
James P. Whelan, Quincy, Mass., assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass., a corporation of Massachusetts
Filed May 17, 1956, Ser. No. 585,542
6 Claims. (Cl. 15—304)

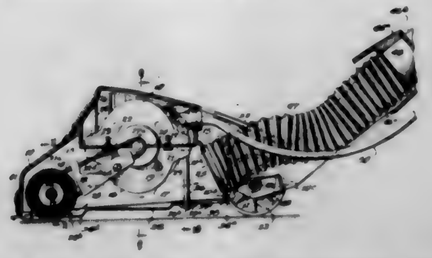


1. In a container cleaning machine, in combination, means for supporting and continuously moving successive open mouthed containers in a line in spaced relation and in an inverted position, and cleaning means for directing a stream of cleaning fluid into the open mouthed containers while supported and continuously moved in an inverted position comprising a plurality of stationary spaced air discharge nozzles, each nozzle comprising a flexible and resilient air nozzle with its upper end extended above the plane of the mouths of the inverted containers, said nozzles being engaged by and flexed into and out of the mouths of the inverted containers during the cleaning operation.

2,980,939
VACUUM CLEANER
Charles H. Sparkin, Chicago, and Emery L. Hall, Hinsdale, Ill., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Nov. 18, 1957, Ser. No. 697,239
1 Claim. (Cl. 15—377)

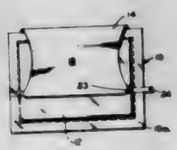
A vacuum cleaner nozzle structure, comprising: a casing; a movable brush mounted on said casing; a motor for

moving said brush; means mounting said motor within the casing, the motor mounting means including an air barrier on which the motor is supported substantially horizontally, the air barrier dividing the casing into first and second air chambers isolated from each other on opposite sides of said barrier; motor cooling means including said first chamber; means defining a dirt laden air passage in-



cluding said second chamber, the dirt laden air passage having an exit from said casing; means forming a first portion of said motor extending into the first chamber; and means forming a dirt impermeable second portion of said motor extending into said second chamber and restricting the cross-sectional area of said dirt laden air passage immediately beneath said motor and forwardly of said passage exit.

2,980,940
DEVICE FOR THE REMOVAL OF NAIL POLISH
Alberta M. Crowe, 2230 Turk St., San Francisco, Calif.
Filed Sept. 4, 1958, Ser. No. 759,052
2 Claims. (Cl. 15—506)



1. A device to facilitate the removal of nail polish without smearing, comprising in combination: a rectangular absorbent pad saturated with a nail polish remover containing volatile solvents, a sealed vapor proof envelope having linear lines of weakness providing a tear strip surrounding said pad, and a resilient substantially U-shaped holder having spaced apart planar sides adapted to receive a portion of said envelope and pad therebetween, the sides of said holder corresponding in width to a dimension of said pad from one edge thereof to said tear strip, the length of said sides being less than that of the pad, each of said sides having a substantially linear free edge portion of greater dimension than adjacent portions of said sides, said edge portions terminating in rounded corners which cooperate to facilitate manipulation of the saturated pad when exposed by removal of said tear strip, whereby said envelope and pad can be firmly grasped in one hand to permit smear proof exposure and use of the pad to remove polish from the finger-nails of the other hand.

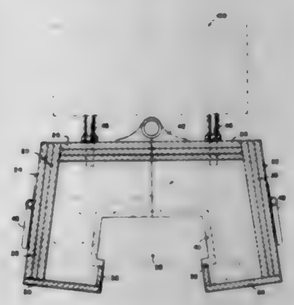
2,980,941
CLEANING SHEET
Robert E. Miller, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Dec. 8, 1958, Ser. No. 778,643
8 Claims. (Cl. 15—506)

1. As an article of manufacture, a cleaning sheet, including an absorbent fabric web provided with a profusion of minute pressure-rupturable capsules, each capsule containing a liquid soil remover, and further provided with particles of adsorbent material for adsorbing the liquid and soil removed thereby, the cleaning sheet by being rubbed against the surface of an article to be



cleaned, resulting in the rupture of the capsules, thus releasing the liquid to remove the soil from the object to be cleaned, the liquid and included soil being adsorbed on the adsorbent particles and absorbed by the fabric web.

2,980,942
LUBRICATING AND COATING SLIPPER
Ward Dabney, Jr., Tamuning, Guam, Marianas Islands, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 1, 1959, Ser. No. 856,626
5 Claims. (Cl. 15—512)
(Granted under Title 35, U.S. Code (1952), sec. 266)

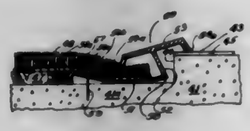


1. A headed rail lubricating device comprising a pair of identical complemental box inclosure like halves having end walls, forming internal cavities facing each other, spongy absorbent material filling each cavity, hinge means connecting the two halves together along one edge, said end walls having complemental rail receiving openings therein contoured for receiving a headed rail therein to be lubricated, said spongy absorbent material in each half having complemental headed rail receiving opening therethrough from one end wall to the other end wall, to match the contour of the headed rail to be lubricated, handle means on the outer sides of said complemental halves remote from said hinge means to facilitate the opening of said complemental halves about said hinge means to receive a headed rail in said headed rail receiving openings in said end walls and in said absorbent material and additional means separably connected between said complemental end walls to positively lock said complemental halves together around a headed rail to be lubricated.

2,980,943
CARPET-HARD FLOOR JOINT COVER
Myron H. Barnes, 2923 Kelvin St., and Joseph D. Calandro, 10524 Allyson St., both of Baton Rouge, La.
Filed May 23, 1960, Ser. No. 30,909
3 Claims. (Cl. 16—7)

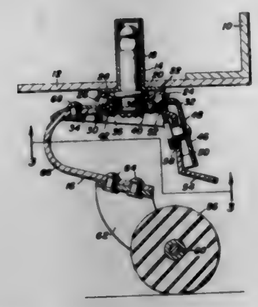
3. An elongated cover structure for covering a joint of a pad-supported carpet on a sub-floor and a hard surface flooring, having an upper surface elevated above said sub-floor, comprising a base member having an edge for positioning adjacent the margin of said hard surface

flooring, an upstanding web member attached to said edge, and having a connection to a top member spaced apart from said base member, said connection being intermediate the edges of said top member, the top member having one edge projecting beyond the edge of the base member for overlapping the hard surface flooring, and a second edge for resiliently engaging a carpet as hereafter described, and further having marginal downwardly extending portions terminating in said edges, the base member including a portion extending beyond the edge of the top member, said portion including at least a part bent upwardly to provide an edge elevation to approximately the thickness of a carpet pad and hav-



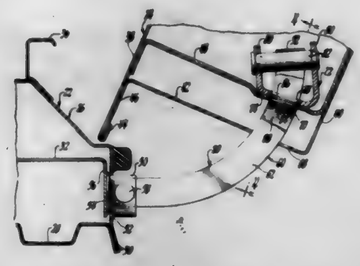
ing connected thereto a downwardly extending edge flange for support thereof, said upwardly bent part having carpet anchoring tack means associated therewith, the top member position being alterable with respect to the base member by pressure deformation of the web member to cause engagement of one edge of the top member with the upper surface of the hard flooring and resilient engagement of the other edge with a portion of a carpet boundary extending beyond the carpet anchoring tack means toward the edge of the base member whereby traffic pressure on said top member causes engaging pressure of the carpet on said anchoring tack means.

2,980,944
WHEEL AND SWIVEL BRAKE DEVICE
Donald B. Bolinger, 305 Normal Ave., Normal, Ill.
Filed Sept. 24, 1957, Ser. No. 685,884
4 Claims. (Cl. 16—35)



1. In a wheel assembly the combination of a spindle which is adapted to be fixed in place, a mounting plate, means including bearings mounting said mounting plate for rotation on said spindle, a first brake member attached to said spindle, a second brake member connected with said mounting plate and engageable with said first brake member to prevent said mounting plate from rotation with respect to said spindle, a wheel, resilient means mounting said wheel for deflection with respect to said spindle, and said second brake member engageable with said wheel to prevent said wheel from rotating when said spring is deflected and simultaneously move said second brake member against said first brake member as aforesaid.

2,980,945
DOOR CHECK AND HOLD OPEN
Arthur W. Hollar, Jr., Grosse Pointe, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 16, 1958, Ser. No. 735,811
6 Claims. (Cl. 16—85)



1. In a vehicle body member having a closure member swingably mounted thereon for movement between open and closed positions, a closure check and hold open comprising, in combination, a pair of laterally spaced spring arms joined at one end thereof, means swingably mounting the other end of each arm on one of said members, stop means on the other of said members movable between said arms and into engagement with the joined ends thereof upon movement of said closure to open position to provide a positive check, a pair of projections on said arms adjacent said joined ends thereof, and means on said other of said members yieldingly held in engagement with said projections by engagement of said stop means with said joined ends to releasably hold and locate said closure in open position without rattling.

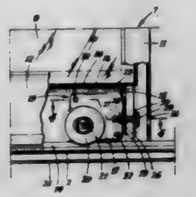
2,980,946
DRAPERY HARDWARE
Gordon P. Del Faro, 4011 Hollyline Drive, Sherman Oaks, Calif.; Robert E. Moline, North Hollywood, Calif.; and James M. Conaway, 13039 Chase St., Pacoima, Calif.; said Moline assignor to said Del Faro
Filed July 30, 1956, Ser. No. 600,920
3 Claims. (Cl. 16—87.8)



1. In apparatus for supporting a plurality of drapery hooks and a drape supported by said hooks, the combination of: an elongated horizontal track having a vertical front wall and an upper horizontal wall flanged rearwardly therefrom; and a plurality of carriers, each having a rigid elongate strip that extends downwardly below said track and is formed at its lower end with a drapery hook receiving-hole, a rearwardly projecting pin affixed to the upper end of said strip, a wheel that rides on the upper surface of said upper track wall rotatably supported by said pin rearwardly of said strip, and a retainer arm pivotally supported by said pin rearwardly of said wheel, said retainer arm extending downwardly from said pin and being formed at its lower portion with a forwardly extending element that underlies the underside of said upper track wall a distance greater than the

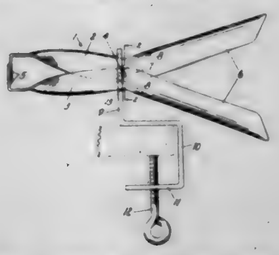
space between said strip and said vertical front wall to normally prevent said carrier from being displaced forwardly from said track, with said strip and said retainer arm being relatively pivotable about said pin to permit said carrier to be engaged with said track at any point along the length of said track.

2,980,947
ROLLER UNIT FOR SLIDING DOOR PANELS
David Jordan Rust, San Leandro, and Jack H. Jensen, Danville, Calif., assignors to Rylock Company, Ltd., San Leandro, Calif., a corporation of California
Filed Oct. 16, 1959, Ser. No. 846,864
4 Claims. (Cl. 16—105)



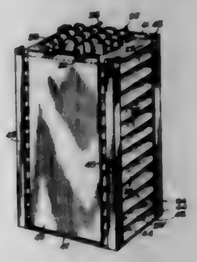
4. In a sliding door assembly which includes a sill having a longitudinal rail and a sliding door panel which includes a bottom bar of inverted channel form above the sill and a closure member for one end of the bar, a yoke in the bar adjacent said one end thereof and movable vertically relative thereto, a transverse-axis rail-engaging roller mounted in the yoke adjacent the end thereof furthest from the member, said member having a vertical slot therethrough and the yoke adjacent said member having a transverse cross plate rigid therewith and engaging the member, a headed tension screw projecting through the slot and threaded into the cross plate, and rounded ears on the yoke adjacent the cross plate projecting upwardly from the yoke into rockable engagement, lengthwise of the yoke and bar, with the top of said bar.

2,980,948
HOLDER FOR SCALING FISH
Homer Ivy McCain, 423 5th St., Traverse City, Mich.
Filed May 7, 1959, Ser. No. 811,698
2 Claims. (Cl. 17—8)



1. Means for holding fish for facilitating the scaling thereof comprising a supporting bracket adapted to be fixedly mounted on a support and including a rigid arm projecting outwardly from the support on which the bracket is mounted, said arm having a gripper receiving opening therein, and a gripper comprising a pair of oppositely angled gripper members of inwardly facing channel cross section disposed with the side members thereof in overlapping relation at the angles thereof, a pivot disposed through the overlapping side members at the angle thereof and projecting laterally from both sides of the gripper members, a spring supportedly mounted on said pivot within said gripper members and terminating at its ends in arms housed within and engaging said gripper members, the gripper members at one side of the pivot constituting hand pieces and terminating at their other ends in inwardly projecting opposed gripper jaws, the gripper being freely rotatable and tiltable within the opening in said supporting bracket, the pivot projecting laterally from the gripper members at both sides thereof to such degree that it engages the supporting bracket in any rotated position of movement or adjustment of the gripper within the said supporting bracket.

2,980,949
APPARATUS FOR MAKING SKINLESS COCKTAIL SAUSAGES
William P. Stroh, 28—25 34th St., Long Island City, N.Y.
Original application Feb. 18, 1954, Ser. No. 411,089. Divided and this application June 6, 1957, Ser. No. 668,009
3 Claims. (Cl. 17—34)

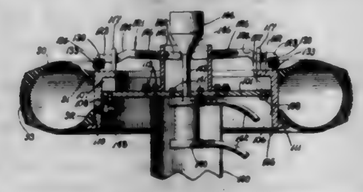


1. An apparatus for forming sausages comprising a base, laterally spaced vertical guide members extending upwardly from the base, sausage carrier plates adapted to be stacked one upon the other and upon said base and guided when being placed upon one another by said vertically extending guide members and each having end depending brackets, each of said carrier plates having laterally spaced brackets with narrowing notches adapted to form and support a casing having sausage material to provide container portions between the brackets, end brackets disposed respectively at the opposite ends of the plate to receive the casing upon the same being curved and distributed upon the notches of the first mentioned brackets, said latter brackets being similarly provided with narrowing notches, said first mentioned brackets being formed of spaced plates, the end depending brackets upon said carrier plate having a narrowing notch and adapted to extend into the space between the plates of the first mentioned brackets whereby to further confine the casing and to shape the container portions, the first mentioned brackets of the one carrier plate cooperating with the depending brackets of the superimposed carrier plate, and vertically extending end plates having inwardly extending brackets with narrowing notches cooperating with the end brackets of the respective carrier plates to form the end turns of the casing.

2,980,950
TIRE CHUCK
James A. Smyser, 207 Harrison St., Kern, Calif.
Filed Aug. 18, 1958, Ser. No. 755,466
11 Claims. (Cl. 18—2)

5. A tire chuck comprising an annular rim concentric to an axis therefor and having an outwardly disposed surface; first and second flanges mounted on the rim in substantially air-tight association therewith in spaced relation axially of the rim, the first flange being extended outwardly from the rim, the second flange being elastic, being contractible radially inwardly under its own elasticity and being expansible outwardly to an outer position

extended outwardly from the rim presentinng a continuous air-tight barrier in spaced opposing relation to said first flange, the rim and the flanges when the second flange is in outer position providing a substantially air-tight tire-



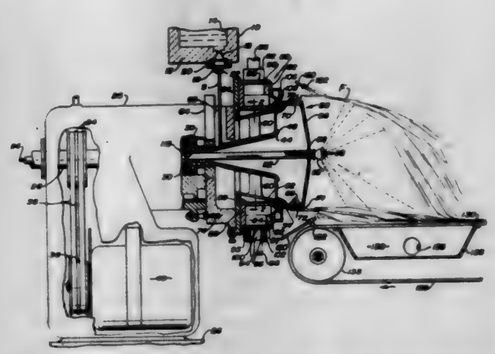
holding channel; and means operably associated with said second flange for expanding said second flange to its outer position and releasing said second flange for contraction under its own elasticity to its inner position.

2,980,951
MOLD OPENER
David C. Brown, Sierra Madre, Calif., assignor to Sierra Engineering Co., Sierra Madre, Calif., a corporation of California
Filed Sept. 8, 1958, Ser. No. 759,799
1 Claim. (Cl. 18—2)



A mold device comprising a support frame, a lower mold platen and an upper mold platen, the platens having complementary mold surfaces and each having opposite end edges and opposite side edges, the upper platen extending beyond the corresponding side edges of the lower platen, the platens being adapted to fit against each other at their mold surfaces and the platens being adapted to be separated, retainers on the frame engageable with the lower platen for releasably securing the lower platen in fixed position in the frame, platen separating assemblies adjacent respective side edges of the lower platen, each assembly comprising a beam extending parallel to a side edge of the lower platen and a pair of parallel spaced apart links, each link being pivotally connected to the frame and to said beam, the links being of a common length between their respective beam and frame connections whereby the frame, links and beam are pivotally connected together in a parallelogram arrangement, and as the links are swung on their frame pivots the beam will move between two extreme parallel positions from proximate the frame to more remote the frame, a lever arm interconnecting said assemblies whereby the assemblies move in unison, a plurality of rollers on each beam extending upwardly beyond the beams, said rollers being engaged against the under surfaces respectively of the side extension of the upper platen to separate the platens when the lever arm is operated to move the beams from said proximate position toward said remote position, and hinge elements operatively connected to the platens adjacent one end edge of each platen for pivotally interconnecting the platens, the hinge element for one platen comprising a lug, said lug having an elongate slot of uniform width formed therein and extending in a direction perpendicular to said mold surfaces, the hinge element for the other platen comprising a pin slidable longitudinally in said slot, said pin having a dimension measured transversely of the slot which is substantially equal to the width of the slot whereby the platens are restrained against relative movement in a direction parallel to said mold surfaces.

2,980,952
APPARATUS FOR FORMING FIBERS
Charles J. Stalego, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 28, 1955, Ser. No. 543,555
1 Claim. (Cl. 18—2.5)



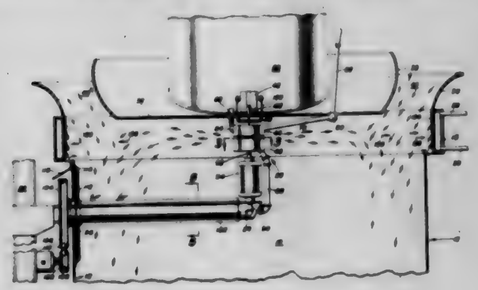
Apparatus of the character disclosed, in combination, a hollow rotor formed with a frusto-conically shaped surface and a circular cylindrical surface of larger diameter than the frusto-conically shaped surface and arranged for rotation about a substantially horizontal axis, said cylindrical surface being provided with circumferentially spaced orifices, means for delivering heat-softened mineral material onto a region of small diameter of the frusto-conically shaped surface, means for rotating the rotor about the axis of the surfaces whereby the material is advanced along the frusto-conically shaped surface and discharged radially therefrom into engagement with the interior of the cylindrical surface and through the orifices by centrifugal forces of rotation, means for establishing a high velocity, annularly shaped gaseous blast concentric with and exteriorly of the cylindrical surface with the gases of the blast moving in directions normal to the streams of material delivered through the orifices and engaging the material of the streams to attenuate the material to fibers, a tube extending through the hollow rotor and forwardly of the cylindrical surface adapted to convey fiber coating material, and nozzle means mounted by said tube for spraying coating material onto the fibers while in flight in the blast.

2,980,953
APPARATUS AND PROCESS FOR PRODUCING MINERAL FIBERS
Bruce A. Graybeal, Box 217, Sussex Turnpike, R.D. 2, Dover N.J.
Filed Dec. 6, 1957, Ser. No. 701,260
6 Claims. (Cl. 18—2.5)

1. A process for making mineral wool fibers from molten slag-like material which comprises introducing a stream of liquefied slag-like material onto the concave upper face of a distributing rotor turning about a substantially vertical axis, tangentially discharging a layer of fine molten slag-like particles from the outer edge of the concave face portion of the distributing rotor in a

horizontal plane, and concurrently directing outwardly converging steam blasts onto the discharging layer of molten slag-like particles immediately adjacent the outer periphery of the distributing rotor to cool and fiberize the particles of the molten layer.

5. Apparatus for making mineral wool fibers comprising a generally vertical wall forming a chamber, means for supplying molten slag-like material positioned immediately above the chamber, a rotary cup-shaped distributing member positioned within the chamber below the molten material source, said rotary distributing member being adapted to receive the molten material and disperse it in the form of a horizontal layer of fine molten



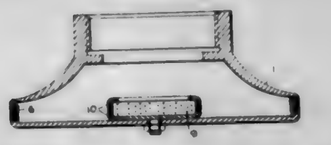
particles, a pair of steam rings concentrically disposed with respect to the rotary distributing member above and below the annular particle layer for radially discharging converging annular blasts of steam onto said layer to fiberize the particles, means for displacing one ring with respect to the other to provide an increased space between confronting faces of the steam rings in order that unmelted particles of relatively large size may pass therebetween, a circular deflector extending around and spaced outwardly from the chamber wall and having a portion extending above the upper end of said wall, said deflector being adapted to deflect the unfiberized particles radially projected by the distributing member and drop them down outside the chamber wall.

2,980,954

APPARATUS FOR PRODUCING FIBERS FROM THERMOPLASTIC MATERIAL

Marcel Levecque, Saint-Gratien, and Paul Plot, Deuil, France, assignors to Societe Anonyme des Manufactures des Glaces & Produits Chimiques de Saint-Gobain, Chauny & Cirey, Paris, France, a corporation of France

Filed Feb. 21, 1956, Ser. No. 567,024
Claims priority, application France Feb. 28, 1955
7 Claims. (Cl. 18—2.6)



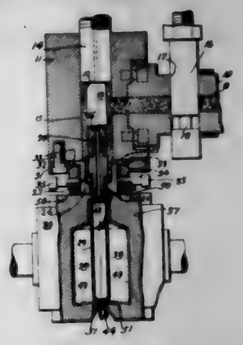
1. In apparatus for manufacturing glass fibers from molten vitreous material, the combination of an annular body having a peripheral wall of substantial height provided with a plurality of rows of orifices therein for the discharge of molten material under the action of centrifugal force upon the rotation of said body at sufficient speed, a rotary distributor within said annular body having a substantial height of the order of that of the peripheral wall, with the discharge areas of said distributor being spaced a substantial distance from said peripheral wall and being disposed substantially at an intermediate level of said superposed rows of orifices therein, to receive a supply stream of molten material from above and project successive portions of said stream outwardly toward and into contact with the entire inner peripheral surface of the centrifugal body and which strikes substantially simultaneously and uniformly the plurality of rows of orifices therein, said discharge areas of said distributor having a surface component on its exterior surface parallel to the rotary axis thereof to initiate the last-mentioned projected portions of said stream from a band of substantial height, and means for rotating said annular body at a speed sufficient to discharge fibers from the rows of orifices therein.

2,980,955

APPARATUS FOR FORMING HOLLOW ARTICLES FROM THERMOPLASTIC MATERIAL

Daniel C. Sanko, 215 A St., Boston 10, Mass., assignor of one-half to Leslie J. Kovach, Brookline, Mass.

Filed Jan. 26, 1959, Ser. No. 789,135
1 Claim. (Cl. 18—5)



A machine for molding hollow articles from thermoplastic material, said machine comprising a body member having a chamber to receive thermoplastic material, a tubular element secured to the lower end of said body member with the opening therethrough communicating with said chamber, a mandrel extending axially through both said chamber and said tubular member and forming with the latter an extrusion opening, said mandrel having at its lower end a cylindrical tip portion of reduced diameter which is smaller than the extrusion opening and which extends from a point above the bottom face of and within said tubular member to a point below and beyond said bottom face, a two-part mold beneath said extrusion opening, each part of said mold having a mold cavity and said mold parts being movable relative to each other to open and close the mold, means to extrude thermoplastic material from said chamber through said opening to produce a tubular preform and deliver it into an open mold, means to move said mold parts to closed position with the two adjacent faces of said mold parts in contact, each of said faces having a vertical recess extending from the top of the corresponding mold part to the mold cavity therein, said recesses being of a size and shape and situated to fit around the bottom part of said tip portion which projects below the said tubular element when the mold is closed and also being of a length to extend a distance below the lower end of said tip portion, whereby when the mold is closed the upper portion of said recesses cooperate with the projecting end of the tip portion to cut off the extruded preform in the space between the bottom of said tubular element and the bottom of said tip portion and the lower part of said recesses engage and contract the top end of the cut-

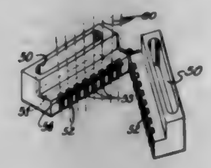
off preform to form a short tubular neck portion, and means to deliver compressed air into the tubular preform through said tip portion and said neck thereby to expand such preform against the bottom, side, and top walls of the mold cavity to form a hollow article having a shape determined by the contour of the mold cavity and which has a short neck extending from its upper end.

2,980,956

METAL APPLICATORS FOR GLASS FILAMENTS

Harry B. Whitehurst, William H. Otto, and William P. Warthen, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Dec. 21, 1953, Ser. No. 399,239
2 Claims. (Cl. 18—8)



2. Apparatus for coating a glass filament with metal comprising a pair of opposed metal-containing applicators, said applicators having similar applicator faces arranged for establishment of a confronting matched relationship, each applicator having a metal containing portion connected by a horizontal slot to its respective face for supply of molten metal to its face, each said face having grooves therein extending generally perpendicularly to its respective horizontal slot, the slot in each face being sufficiently narrow that the metal will not flow therefrom when said applicator portions are in unmatched open relation, said grooves in each face being oriented for matched relationship with grooves in the other face to form channels through each of which a fiber can be freely drawn when said faces are in confronting matched relation, said grooves being sufficiently small in width however to permit a widthwise bridging therein of metal supplied from said applicators and also to prevent free flow of metal from the channel when a fiber is being drawn therethrough.

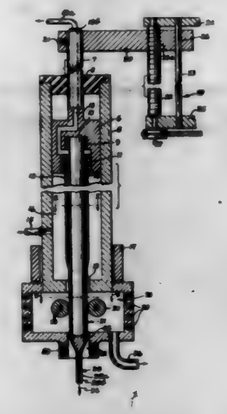
2,980,957

METHOD AND APPARATUS FOR USE IN THE FABRICATION OF LIGHT-CONDUCTING DEVICES

John W. Hicks, Jr., Fiskdale, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association

Filed Aug. 11, 1958, Ser. No. 754,255
6 Claims. (Cl. 18—8)

3. Apparatus of the character described comprising a housing having an opening at one end thereof, holding means for supporting a tubular member of heat-softenable material longitudinally within said housing and for simultaneously supporting a smaller rod-like member of heat-softenable material centrally within said tubular member with its side surfaces substantially equally spaced from the inner side walls of said tubular member, means for creating a relatively high vacuum between said rod and tubular members and for creating a relatively low vacuum between said housing and tubular member, heating means adapted to heat said rod and tubular members to fusible temperatures while in said housing, means for progressively moving said rod and tubular members endwise outwardly of said housing through said opening therein, temperature-conditioning means adapted to receive said members from said housing and condition the same for re-shaping, shaping rollers within said temperature-conditioning means having precontrolled shape characteristics adapted to receive said rod and tubular members from said temperature-conditioning means and shape



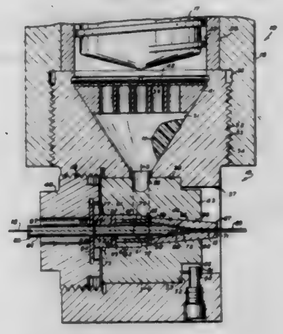
the same in accordance with the shape characteristics of said rollers and heating means into which said members are passed from said rollers and heated to a fiber-drawing viscosity.

2,980,958

SELF-CENTERING DEFLECTABLE CORE TUBE

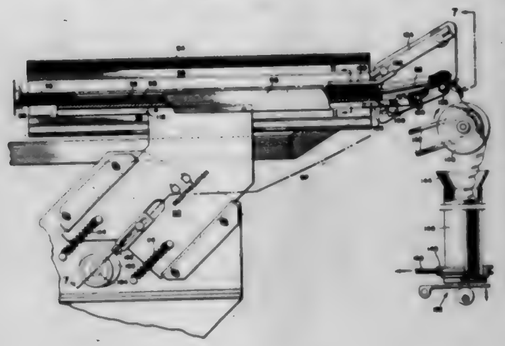
Benjamin C. Ellis, Jr., Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 2, 1957, Ser. No. 669,586
1 Claim. (Cl. 18—13)



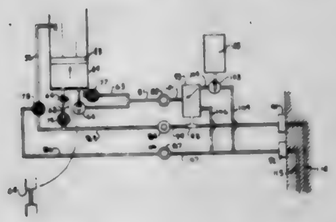
An apparatus for extruding plastic material on an advancing core, which comprises an extrusion bore through which a plastic material is advanced under pressure, an extrusion head secured to the delivery end of said bore, an extrusion die having an extrusion orifice mounted adjacent to one end of the extrusion head, and a resilient, beryllium copper core tube having a solid annular cross section positioned longitudinally in the extrusion head, one end of which is positioned deflectably adjacent to the extrusion die and within the orifice thereof so as to equalize the forces of the plastic material circumferentially around said core tube and thus the core as the core and the plastic material passes through the die orifice, whereby equal volumetric flow of the plastic material circumferentially of the advancing core is obtained.

2,980,959
CURLING FIBERS
Anthony L. Genovese, Odenton, Md., assignor, by mesne assignments, to The National Plastic Products Company, Odenton, Md., a corporation of Maryland
Filed Jan. 17, 1958, Ser. No. 709,504
11 Claims. (Cl. 18—19)



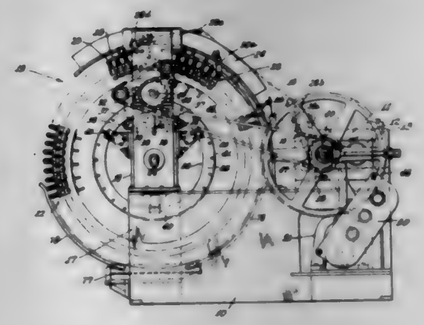
1. A device for curling filamentary material comprising a rotating flier, a stationary mandrel assembly, means for rotating said flier with respect to said mandrel whereby filamentary material passing through said flier is continuously wrapped about said mandrel assembly in helical form and is moved therealong, said mandrel assembly comprising a mandrel portion at one end thereof adapted to receive said filamentary material, a relatively long mandrel extension attached to said mandrel portion, a reciprocating trough located immediately below said mandrel extension and extending the length thereof, means for reciprocating said trough to and from said mandrel extension whereby said trough is brought into contact with the lower surfaces of said helical shaped filamentary material with each reciprocation of said trough, and a heating means surrounding said mandrel assembly whereby said filamentary material is heated while travelling along said mandrel assembly in helical form.

2,980,960
ROTARY HYDRAULIC PRESS
David Cropp, Warren, Pa., assignor to Warren Components Division of El-Tronics, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed May 27, 1957, Ser. No. 661,959
7 Claims. (Cl. 18—20)



1. In a molding machine having a rotatable turret, a plurality of molding units disposed radially about said turret, hydraulically operated mechanism for closing and opening the molding elements of each of said units, an external source of high pressure fluid entering said turret, an accumulator in said turret providing fluid under low pressure, a cylinder having a piston therein joined to one of the elements of each of said units, a valve for each of said units interposed between said cylinder and lines from said high pressure source and said accumulator, said valve having two sets of passageways, one of said sets being connected with said cylinder, the other of said sets being connected with said sources of fluid under high and low pressure, a rotatable shaft in said valve, further passageways in said shaft, said shaft being rotatable to connect certain passageways of said sets whereby to selectively present high pressure fluid to the top and bottom of said piston and to at all times present low pressure fluid to the bottom of said piston during operation of said machine.

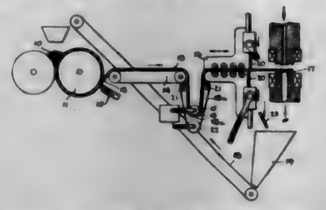
2,980,961
MOLDING APPARATUS
Henry Z. Gora, Stratford, Conn., assignor to The Eagle-Picher Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 4, 1958, Ser. No. 771,863
12 Claims. (Cl. 18—21)



1. An apparatus for molding a continuous succession of articles comprising a stationary frame; a vertically disposed rotatable annular frame, said annular frame including a circular internal track concentric therewith; bearing means on said stationary frame adapted to operably engage the upper portion only of said track so that said annular frame is suspended for rotation therefrom; means including means on the stationary frame for rotating said annular frame; and a plurality of molding units mounted on said rotatable annular frame around the periphery thereof, said units each including a pair of axially aligned relatively movable die members, and means including means mounted on the stationary frame for moving said members horizontally and axially between separated and engaged position for molding an article therebetween.

2,980,962
METHOD FOR AUTOMATIC MOLDING
John H. Swartz, Gladwyne, Pa., assignor to Linear Incorporated, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 16, 1958, Ser. No. 748,859
3 Claims. (Cl. 18—47.5)

1. The process of continuously molding heat hardenable plastic material into desired articles comprising milling and forming ingredients of a source mix of homogeneous, heat hardenable, moldable composition into strip form and passing said strip in desired condition from said milling step and varying the said feed of said strip and intermittently delivering end increments thereof in plastic condition to a molding operation, and separately and correspondingly successively operating on said end increments of said strip to molding of the desired article formation therefrom by separately shaping and molding material of each increment within die surfaces applied directly to said material for the corresponding article and forming the article from said material as distinguished from the remainder of the said increment, and during said shaping and molding of the article separating the entire unmolded remainder of each end increment in piece form from the corresponding article formation within the die and from said strip by withdrawing unmolded remainder from around the dies by rearward movement of the end of the strip, said unmolded



remainder being separated in piece form from said strip by cutting therefrom, and heating the material of the article while within the die surfaces and while forthwith returning each of said separated pieces of said remainder material directly to the said source mix ingredients, and continuing, and completing the treatment of the corresponding molded articles to final form for delivery.

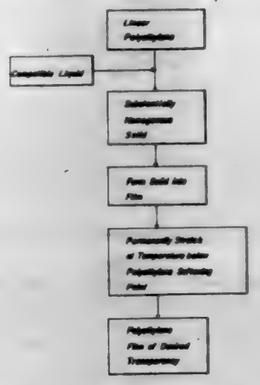
2,980,963
METHOD OF PRODUCING PLASTIC CONTAINERS
Alexander George Makowski, Fayville, Mass., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 31, 1959, Ser. No. 803,251
3 Claims. (Cl. 18—47.5)



1. A method of producing a plurality of decorated thermoplastic containers of substantially uniform finished length which comprises forming a plurality of finish diameter thermoplastic tubes each open at both ends by a process including an extrusion forming step whereby residual stresses remain in the tube walls rendering them subject to unpredictable axial shrinkage as a result of subsequently applied heat, placing the tubes on smooth, snugly fitting rotatable mandrels, decorating each tube by a rotary printing process wherein the mandrel backs up the tube during printing and is thus conducive to uniform imprints of high quality, removing the tubes from the mandrels and passing them through a drying zone at elevated temperature to set the imprints and incidentally cause variable axial shrinkage of the tubes due to their residual stresses, thereafter placing each tube on a snugly fitting molding mandrel with one end against a stop, and injection molding a head on each tube at a predetermined uniform distance from the stop whereby each of the completed, decorated containers has the same axial length regardless of the degree of shrinkage experienced.

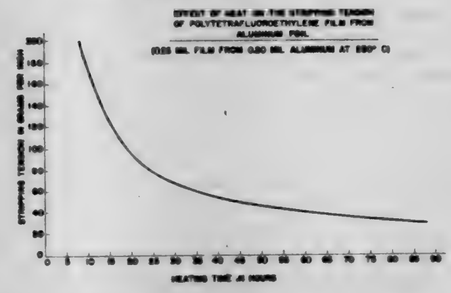
2,980,964
LINEAR POLYETHYLENE FILMS OF IMPROVED TRANSPARENCY AND METHOD OF MAKING SAME
Max Henry Dilke, Coulsdon, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
Filed Jan. 2, 1957, Ser. No. 632,003
Claims priority, application Great Britain Jan. 14, 1956
6 Claims. (Cl. 18—57)

1. A process for the production of a linear polyethylene film of good transparency which comprises mixing linear polyethylene, having a density of at least 0.95, with a compatible inert transparent liquid to form a solid, substantially homogeneous composition, forming the homogeneous composition into a film and permanently stretching the film at a temperature below the softening point of the polyethylene to give the desired transparency.



6. A transparent film consisting of a permanently stretched substantially homogeneous solid composition, said composition consisting essentially of linear polyethylene having a density of at least 0.95 and an inert liquid which is compatible with said polyethylene.

2,980,965
METHOD OF MAKING PLASTIC FILM
Joseph R. Infantino, Chappaqua, N.Y., and Donald A. Savitz, Stamford, Conn.; said Infantino assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 28, 1958, Ser. No. 718,220
5 Claims. (Cl. 18—57)



5. A method of making polytetrafluoroethylene film comprising in combination the steps of coating an aluminum surface with a dispersion of polytetrafluoroethylene in a liquid, drying and sintering said dispersion to form a film and thereafter heating said film coated aluminum surface to reduce film adhesion to said aluminum surface and peeling said film from said surface.

2,980,966
METHOD OF MOLDING A GEAR FINISHING TOOL
Walter S. Praeg, Detroit, Mich., assignor to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Sept. 29, 1958, Ser. No. 764,098
5 Claims. (Cl. 18—59)

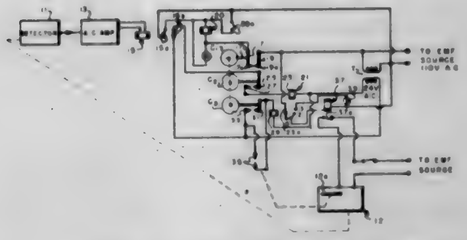
1. The method of making a gear finishing tool which comprises positioning a core of circular cross-section in centered and radially spaced relation in a generally cylin-

drical internally toothed mold, providing the core with a continuous circumferentially extending outwardly concave channel along its edge confronting the toothed surface of said mold, filling the annular space between the



core and mold with a resin compound which shrinks on curing, curing the compound to cause the compound to shrink away from said mold to produce teeth having longitudinally concave sides.

2,980,967
DETECTING AND CONTROL ARRANGEMENT
Robert E. Munford and Philip N. Smith, Clemson, S.C., and Charles E. Graham, Greensboro, N.C., assignors to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed May 29, 1959, Ser. No. 816,940
25 Claims. (Cl. 19—70)



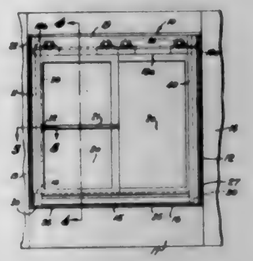
1. A repetitive phenomena detecting and analyzing arrangement comprising means for detecting repetitive occurrences of a selected intermittent phenomenon expected by means other than said detecting and analyzing arrangement, time interval indicating means yielding an indication of a selected time interval, means for comparing the time interval between repetitive occurrences of said phenomenon with a selected predetermined time interval indicated by said time interval indicating means, and means for initiating a control phenomenon in response only to a selected repetition at a selected time interval of said selected intermittent phenomenon.

2,980,968
METHOD OF ENLARGING A WOOD HOUSE
Ellis Jones, 1105 28th St., Galveston, Tex.
Filed June 10, 1960, Ser. No. 35,239
5 Claims. (Cl. 20—.5)



1. The method of enlarging a house constructed of wood and including a side wall and a gable roof which comprises separating the ceiling joists and the floor joists inwardly of and adjacent said sidewall and the roof at the apex point to form a separated unitary sidewall and roof section, attaching a brace structure to the under face of said roof section, movably supporting said brace structure on the ceiling joists, placing a floor joist extension structure so that one end abuts the severed end of said floor joists and projects laterally outwardly from said side wall, movably supporting said side wall on said floor joist extension structure, shifting said section with the attached brace structure outwardly along said joist extension structure to a point adjacent the other end thereof, connecting the apex point of said separated roof section with the severed apex point of said roof, eliminating the movable support of said brace structure on the ceiling joist and of said side wall on said floor joist extension structure, and filling in the space between said unitary side wall and roof section and said house with siding.

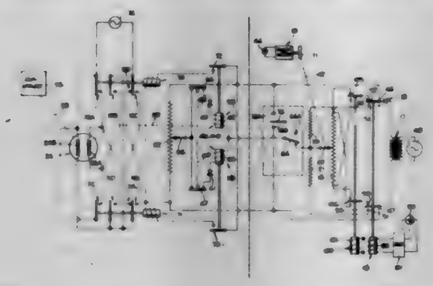
2,980,969
SHOWER AND BATHTUB ENCLOSURES
Lionel Tinfow, 53 S. Ridgewood Road, South Orange, N.J.
Filed Apr. 30, 1959, Ser. No. 810,126
9 Claims. (Cl. 20—11)



1. A supporting structure for an enclosure for a showering area having side walls disposed opposite one another, said supporting structure comprising two side-jambs, each of said side-jambs being vertically disposed in continuous contact with a different one of said side-walls, and a plurality of elongated horizontal members having end portions, each of said side-jambs engaging one end portion of each of said horizontal members, at least one of said side-jambs resiliently tending to form a simple longitudinal curve concave away from said contacted side-wall, said horizontal members being in compression between said side-jambs, whereby said side-jambs are securely held in contact with said side walls along substantially the entire length of the side jambs.

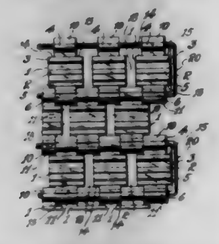
2,980,970
REMOTE CONTROL FOR VANE POSITIONER
Horace Dickinson, South Gate, Calif., assignor to Lemlar Manufacturing Company, Inc., Gardena, Calif., a corporation of California
Filed May 5, 1958, Ser. No. 733,061
4 Claims. (Cl. 20—62)

1. A vane positioner for movable vanes of a jalousie comprising: a jalousie including a plurality of movable vanes; an electric motor arranged to drive a vane positioning shaft said vane positioning shaft being operably connected to said vanes; a bridge circuit including a pair of adjustable potentiometers; clock means arranged to movably adjust the wiper of the first potentiometer; means driven by said motor for movably adjusting the wiper of the second potentiometer; an electric circuit including said bridge, a source of direct current, a starting relay and a reversing relay; said circuit being operable upon imbalance in said bridge to energize said motor in a direction to move the wiper of said second potentiometer towards balancing position, whereby said vanes are positioned in accordance with the setting of said clock means; a pair of fixed resistances in series one on each side of the wiper of said first potentiometer and means for substituting said fixed resistances in said bridge where-



by said vanes are driven to a position determined by the values of said fixed resistances, said last-mentioned means including a photoelectric cell and a relay operated by said cell when the light thereon falls below a set value to cause said substitution.

2,980,971
FLOOR MAT AND ELEMENT THEREOF
Samuel Furiness, 436 Clark Place, Union, N.J., assignor of one-half to Joseph B. King, Chicago, Ill.
Filed Aug. 30, 1957, Ser. No. 681,271
2 Claims. (Cl. 20—78.6)

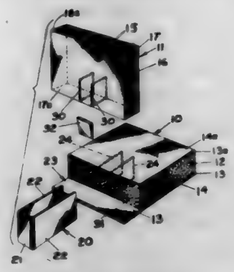


1. A floor mat of the type wherein a series of parallel rows of flat elements are mounted by rods inserted alternately through end portions of adjacent row elements thereof comprising elements having a single narrow portion on each end and a wider body portion between said end portions, said end portions being disposed tightly against each other, the width of the end portions being about 60% to 70% of the width of the body portions and the body portions being disposed about one-fourth inch away from each other.

2,980,972
JOINT FOR LOW DENSITY LAMINATED SYNTHETIC RESIN PANELS
George E. Kloote, Grand Rapids, Joseph A. Potchen, Marne, and George D. Meier, Grand Rapids, Mich., assignors, by mesne assignments, to Evans Products Company, Plymouth Township, Mich., a corporation of Delaware
Filed Feb. 2, 1956, Ser. No. 562,994
4 Claims. (Cl. 20—92)

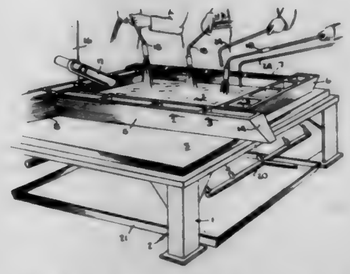
1. A joint for a pair of panels each having a low density synthetic resin core and a pair of facing sheets, one on each of the surfaces of said core which comprises a U-shaped spline, the free ends of said spline being embedded in and adhesively secured to the core of one of said panels, said spline projecting from one edge of said panel, a pair of parallel slots through the core and facing

sheets of the other of said panels, the portions of said legs exterior of said one panel being received into said slots



in said second panel and adhesively secured to the walls of said slots.

2,980,973
METHOD FOR MAKING LEAD SHIELDS
Victor E. Knapp, Roslyn, N.Y., and Otto F. Schmidt, Wilmington, Del., assignors to Knapp Mills Incorporated, Long Island City, N.Y., a corporation of New York
Filed May 5, 1958, Ser. No. 733,085
4 Claims. (Cl. 22—212)



1. The method of forming a lead shield of substantially uniform density comprising flowing molten lead into an enclosure having an open top and closed bottom and side walls to form a layer of molten metal, applying a cooling medium to the under surface of said bottom wall to cause solidification of said molten metal to advance upwardly through said layer, inserting a probing rod into said layer from the upper surface thereof at a plurality of selected points to determine the rate of advancement of the solid-liquid interface upwardly through said layer, and applying a flame to portions of the upper surface of said layer directly over those areas of the interior of the layer in which the solid-liquid interface is advancing more rapidly.

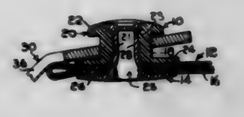
2,980,974
CABLE TENSIONER
Joseph De Santis, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 21, 1958, Ser. No. 736,784
6 Claims. (Cl. 24—68)



1. In a cable tensioner, a sleeve, a rod slidable in the sleeve and having a projecting end, a spring within the

sleeve urging the rod axially into the sleeve, a lever mounted on said rod and having a cable attachment thereon, said lever being operable to effect a selected decrease in the length of the tensioner, said lever being adapted to extend over a portion at ler t of said sleeve, a projection on said lever and an opening in said sleeve engageable by said projection to prevent axial movement of the rod and lever when said opening and projection are in engagement.

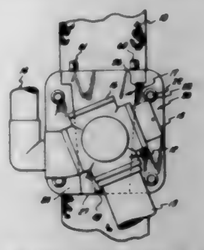
2,980,975
FASTENING DEVICE
Ernest E. Jones, Melrose, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Delaware
Filed Sept. 28, 1956, Ser. No. 612,703
2 Claims. (Cl. 24—90)



2. In a stud assembly mounted on a supporting sheet including a stud and an eyelet in association therewith, securing same to a supporting sheet, the improvement of a plastic stud mounted on said supporting sheet, and a metal eyelet retaining said stud on said supporting sheet in a water-impervious state, said stud including a flat planar base portion positioned against one face of said supporting sheet, a neck portion integrally secured in transverse relationship to said base portion and extending outwardly therefrom, said base portion and said neck portion having a centrally positioned axially extending bore therein, and a head portion integrally secured to the opposite end of said neck in transverse relationship thereto and in spaced parallel relationship to said base portion, the diameter of said head portion being greater than that of said neck portion but less than that of said base portion, said head portion having a central bore therein in axial alignment with but of a diameter greater than that of the central bore of said neck portion forming a circumferential, outwardly extending shoulder portion lying in transverse relationship to said neck portion, said metal eyelet including a base portion positioned against the opposite face of said supporting sheet, and a hollow shank portion extending through an opening in said supporting sheet into the bore of said base portion and said neck portion, the upper free end of said shank portion being closed and outwardly flared and in tight engagement with the circumferential shoulder portion of said head portion, thereby retaining the stud in a water-impervious state with respect to the supporting sheet.

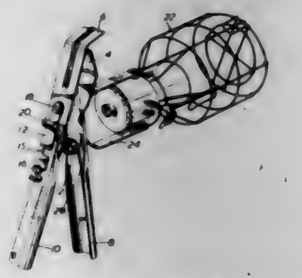
2,980,976
MANIFOLD SLIDE DISCONNECT ASSEMBLY
Richard K. Coulter, Denver, Colo., assignor to Sierra Engineering Co., Sierra Madre, Calif., a corporation of California
Filed Feb. 17, 1958, Ser. No. 715,647
5 Claims. (Cl. 24—223)

1. A release connection comprising a base plate having a wedge-shaped channel therein having a relatively wider open end, a wedge-shaped carrier plate having a relatively wider end corresponding to the relatively wider end of said channel, means forming a land on the base plate at each side of the relatively wider end of the channel extending transversely relative to the channel, a projection at each side edge of the carrier plate at the relatively wider end forming a relatively fixed shoulder extending transversely relative to the carrier plate, said shoulder having in assembled position an engagement with the respective land, transversely movable latch bolt means in the relatively wider end of one of said plates normally spring biased to latched position, bolt receiving



means in the relatively wider end of the other of said plates, and outwardly extending bolt releasing means on said latch bolt means whereby to enable manual release of said latch bolt means.

2,980,977
SPRING-LOADED CLAMPS
Charles G. Hefford, Caerphilly, South Wales, assignor to Stadium Limited, Enfield, Middlesex, England, a British company
Filed Dec. 16, 1957, Ser. No. 702,927
2 Claims. (Cl. 24—253)

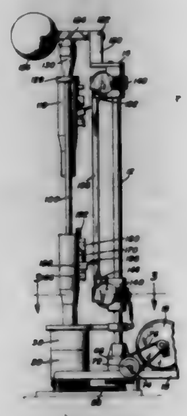


1. A clamp comprising two arms pivoted together, each of said arms having a handle at one end and a jaw at the other end, said handles being opposed to one another, a spring acting on said arms to urge said jaws toward one another, the jaw of one of said arms being pivoted to the handle of said one arm and said one arm having means for securing its jaw rigidly at any one of a plurality of angular positions with respect to said handle of said one arm, and in which said securing means comprises a pin on the handle of said one arm and a hasp, said hasp being pivoted to said jaw of said one arm and including a hinge and being formed with two notches therein whereby said movable jaw can be secured in either of two angular positions with respect to said handle by the engagement of said pin in alternative notches in said hasp.

2,980,978
APPARATUS FOR MECHANICALLY COMPACTING PAVING MIXTURES AND OTHER MATERIALS
Bruce G. Marshall, 1127 Fairmont Ave., Jackson, Miss.
Filed May 8, 1956, Ser. No. 583,492
3 Claims. (Cl. 25—41)

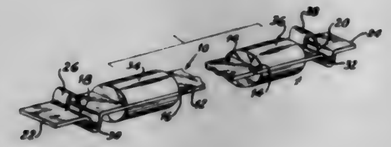
1. An apparatus for producing from paving material test samples of uniform and controlled density comprising: a mold for receiving and confining material for a sample, an impact member for compacting material in said mold, mounting means for retraining said impact member in continuous uninterrupted contact with the top

surface of the material in said mold, a hammer weight for striking said impact member, lift means for raising said hammer weight and means for releasing said hammer weight from said lift means, said impact member having its surface which is in contact with said material inclined relative to the path of travel of said hammer weight, the lowermost portion of the inclined surface of the impact member being disposed in closest proximity to the wall of said mold whereby to exert greater compacting force



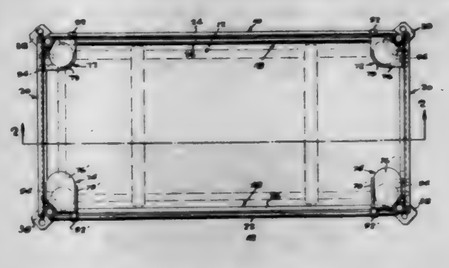
adjacent said wall and thereby overcome resistance to compaction and obtain more uniform densification of said material, means for rotating said mold about an axis displaced from the path of travel of said hammer weight whereby said impact member will successively progress over the entire surface of the material in said mold and thereby effect uniform compaction therein, connecting means operatively connected to said lifting means and said mold rotating means for effecting a fixed timed relation of operation thereof.

2,980,979
CONCRETE TIE ROD
John Novelo, 129—17 Rockaway Beach Blvd., Belle Harbor, N.Y.
Filed Feb. 9, 1959, Ser. No. 792,117
2 Claims. (Cl. 25—131)



1. A concrete tie rod comprising an elongated bar of substantially flat rectangular cross section, said bar having spaced pairs of opposed slots therein spaced from the ends of said bar substantially reducing the cross sectional dimension of said bar at said slots, and fittings secured on said bar outwardly of said slots and forming cylindrical bearings for facilitating twisting of the ends of said bar to break said bar at said slots, each of said fittings being formed of a cylinder of a smooth, slightly compressible synthetic plastic material, said cylinder having a notch of wedge shape formed therein, said cylinder receiving said bar in said notch and clampingly engaged said bar.

2,980,980
STAND FOR CASKET LOWERING DEVICES
Marvin E. Goetzinger, 4838 Pierce St., Omaha, Nebr., and Paul A. Head, 2508 Madison St., Bellevue, Nebr.
Filed Apr. 15, 1960, Ser. No. 22,549
5 Claims. (Cl. 27—26)



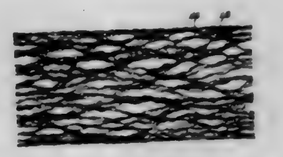
1. A stand for a casket lowering device having corner blocks, comprising a pair of similar and reversed side frames, a pair of similar and reversed end frames, ground-engaging foot assemblies on said side frames at their ends, said end frames extending between the side frames at related ends of the side frames, means removably and supportably mounting the end frames at their ends on related ends of the side frames, and support means on the frames at the corners of the stand upon which corner blocks of a lowering device are adapted to severally rest, said support means comprising horizontal plates mounted on the end frames at the ends thereof, said mounting means comprising vertical end bars on the end frames, vertical sleeve brackets on the side frames in which the end bars are inserted downwardly, and hooks on the end frames engaged over portions of the side frames.

2,980,981
LADIES' STOCKINGS
John Maurice Reymes Reymes-Cole, Blaby, and Bernard Thornton Reymes Reymes-Cole, Burbage, near Hinckley, England, assignors, by mesne assignments, to Singer-Fidelity, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Nov. 19, 1956, Ser. No. 623,005
7 Claims. (Cl. 28—72)



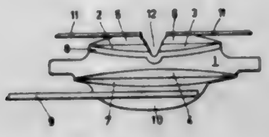
2. A method for the production of a ladies' stocking which comprises knitting the foot and leg from a thermoplastic yarn by rotational knitting in the form of a tube having the same number of wales throughout, forming the toe end of the foot of the stocking by cutting and seaming together the tubular fabric to a tapering shape along a curved line extending across the course lines between the centre line of the sole of the foot and the toe extremity, forming a small tuck in the fabric at the toeward end of the line of seaming, subsequently stretching the heel part to a pouch shape at least partially by drawing the fabric tube on to a form having the desired contour, and afterwards setting the heel part to the shape dictated by the form by the application of heat.

2,980,982
FIBROUS ARTICLE
John E. Costa and Edgar W. Le Boeuf, Midland, and Lloyd E. Lefevre, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application May 27, 1954, Ser. No. 432,826, now Patent No. 2,853,741, dated Sept. 30, 1958. Divided and this application Feb. 6, 1958, Ser. No. 713,672
5 Claims. (Cl. 28—78)



1. A continuous, coherent, fibrous article produced from an oriented film composed essentially of a normally crystalline polymer, said article being a longitudinally fibrillated fibrous web, the fibroid segments forming said web being in random coherent association.

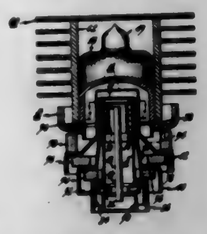
2,980,983
METHOD OF MAKING SEMICONDUCTOR DEVICE
Julian Robert Anthony Beale, Reigate, and Andrew Francis Beer, Downside, Epsom, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 22, 1959, Ser. No. 828,777
Claims priority, application Great Britain July 29, 1959
3 Claims. (Cl. 29—25.3)



1. A method for the manufacture of a semi-conductor device comprising a semi-conductive body having two adjacent, spaced, conductive projections, comprising the steps of connecting a common conductor of a length substantially greater than the spacing between the said projections to and across the said projections such that the common conductor forms a connecting part between said projections and forms extensions over a substantial length beyond each of said projections and thereafter severing the connecting part of the common conductor between said projections to obtain the said extensions of said common conductor as separate current supply conductors for each of said projections.

2,980,984
ART OF FABRICATING ELECTRON TUBES
Merrald B. Shrader, Mount Joy, and Fred G. Block and Morris R. Weingarten, Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Aug. 19, 1957, Ser. No. 678,790
6 Claims. (Cl. 29—25.14)

1. The method of fabricating an electron tube subassembly comprising the steps of first mounting in fixed relation to each other a plurality of relatively thin electrode blanks having imperforate longitudinal portions in parallel, facing and spaced relationship and in register along a line passing through their thin dimensions, and then cutting apertures simultaneously in said imperforate portions of said blanks in a direction normal to said line and longitudinally of said blanks in a single continuous operation by successively removing particles from said



portions of such small size as to be substantially free from exerting a deformative force an said blanks.

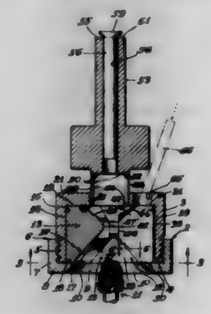
2,980,985
MILLING CUTTER
Real Paquin, Rosemount, Quebec, Canada, assignor to Ferro Technique Ltd., Montreal, Quebec, Canada, a body corporate and politic
Filed Oct. 28, 1958, Ser. No. 770,147
4 Claims. (Cl. 29—103)



1. A staggered tooth side-milling cutter wherein each tooth comprises a peripheral cutting edge and an adjacent front face inclined to the axis of the cutter and an adjacent peripheral cylindrical face of radius equal to the radius of the cutter, the axis of said cylindrical face lying in a plane parallel to the axis of the cutter, and being inclined towards the trailing end of said cutting edge at an angle proportional to the angle said front face makes with the axis of the cutter, the intersection of the axis of said cylindrical face with the central plane of the cutter being offset from the axis of the cutter by an angle equal to a predetermined required clearance angle of said peripheral face.

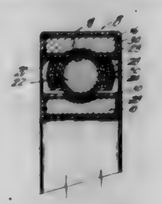
2,980,986
CUTTER HEAD FOR PLATING RACKS
Stephen Gryglas, 1874 Fenton Lane, Park Ridge, Ill.
Filed Nov. 12, 1958, Ser. No. 773,415
9 Claims. (Cl. 29—105)

1. A cutter head comprising a socket portion open at one end and having a wall at the other end and an axial stem projecting from the wall, an annular series of combination blade holder and separator members mounted in said socket portion, retainer means connected to said portion and securing said members within said portion between the same and said wall, each member having a radially extending trailing side and a leading side generally parallel to and opposing the trailing side of the adjacent member and circumferentially spaced therefrom, a shoulder on the radially inner end of each member projecting circumferentially thereof from said trailing face toward the adjacent member and having an outwardly facing seat, blades interposed between said members in engagement with the trailing and leading faces thereof and having inner edges partially seated upon the seat and having an edge projecting outwardly from the seat into a central sizing opening, each member having a segmental conical forward face, said conical faces collectively defining a cavity for admitting a work-piece



therein, said blades having forward diagonal sides converging toward said sizing opening and having radial cutting edges projecting forwardly of said faces, said forward sides sloping circumferentially from said radial edges toward respective conical faces and merging thereinto.

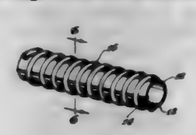
2,980,987
METHOD OF LUBRICATING ANTI-FRICTION BEARINGS
Edward R. Lamson, Greentree Road, Box 88, R.D. 4, Sewell, N.J., and Martin J. Devine, 2560 Prescott Road, Havertown, Pa.
Original application Apr. 16, 1958, Ser. No. 729,040. Divided and this application Oct. 27, 1958, Ser. No. 769,956
25 Claims. (Cl. 29—148.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of lubricating an anti-friction bearing comprising applying a coating of non-ferrous metal to the unassembled components of said bearing, coating the metal-covered and unassembled components of the bearing with a comminuted solid lubricant suspended in a thermosetting composition, heating the coated unassembled components to harden the thermosetting composition and thereby tightly bond the comminuted lubricant to the unassembled components, and assembling the components of said bearing into an operative unit to thereby provide an anti-friction bearing having a solid lubricant bonded on the coacting surfaces of the components thereof.

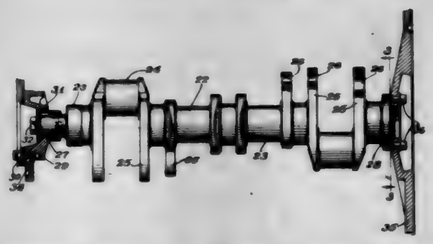
2,980,988
METHOD OF FABRICATING TUBES
Charles L. Vice, Pasadena, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 5, 1959, Ser. No. 785,072
7 Claims. (Cl. 29—155.59)

2. A method of fabricating an accurately shaped and dimensioned transducer in the form of a tube of ferromagnetic material with a longitudinal gap in the magnetic material, including the steps of: providing two blanks for half cylinders, each of said blanks being of greater thickness than the desired thickness of the wall of the tube, each of said blanks being cylindrically curved with an inside radius of curvature less than the inside radius of curvature of the desired tube and an outside radius of curvature greater than the outside radius of curvature of the desired tube, each of said sections being of greater than 180° in circumferential extent; removing material from the longitudinal edges of each of said blanks to form longitudinal edge faces in diametrical planes and to



convert the blanks into half cylinders; placing the two half cylinders in edge to edge relationship with a thin spacer strip of non-magnetic material of uniform thickness between one pair of the matching edges to form a composite cylinder; holding the parts of the composite cylinder together under pressure to form a uniform gap between the two half cylinders at the spacer strip; bonding the parts of the composite cylinder together to form a unified cylinder; removing the holding pressure on the composite cylinder after the bonding operation; removing material from the interior and exterior of the unified cylinder to produce the desired inside and outside diameters of the transducer.

2,980,989
PROCESS FOR CONSTRUCTING AND BALANCING ENGINES
Robert H. Malcolm, Fort Wayne, Ind., assignor to International Harvester Company, a corporation of New Jersey
Filed Dec. 20, 1956, Ser. No. 629,745
1 Claim. (Cl. 29—156.4)



A process for constructing engines, a first engine having pistons of certain displacement, and a second engine having pistons of greater displacement, the pistons including connecting rod assemblies, and the pistons and connecting rod assemblies of the first engine having a mass less than the second engine, comprising constructing a first crankshaft for the first engine, the said first crankshaft being statically and dynamically unbalanced, constructing a second crankshaft for the second engine, said first and second crankshafts including cheeks and journals and being initially identical and dynamically unbalanced to such a degree that when assembled with substantially identical pulley hubs and flywheels, and said connecting rod assemblies and pistons of greater mass within the engine block of the engine of greater piston displacement that the whole assembly will be in dynamic balance, removing portions of said first crankshaft by drilling holes in said cheeks to lighten the same whereby said first crankshaft is of lighter weight than said

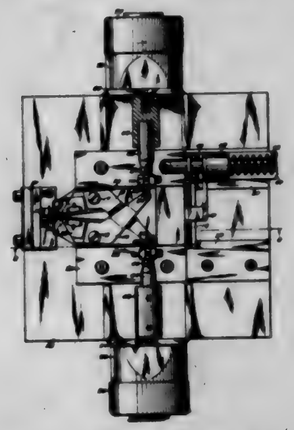
second crankshaft, said second crankshaft thereby being of different construction than said first crankshaft and statically and dynamically unbalanced, to such a degree that when assembled with the substantial identical pulley hubs and flywheels and said connecting rod assemblies and pistons of less mass within the engine block of the engine of less piston displacement, that the whole assembly will be in dynamic balance.

2,980,990
SPIRAL BLOWER WHEEL
Lowell E. Sprouse, Columbus, Ind., assignor to Vernco Corporation, Columbus, Ind., a corporation of Indiana
Filed Jan. 22, 1957, Ser. No. 635,388
3 Claims. (Cl. 29—156.8)



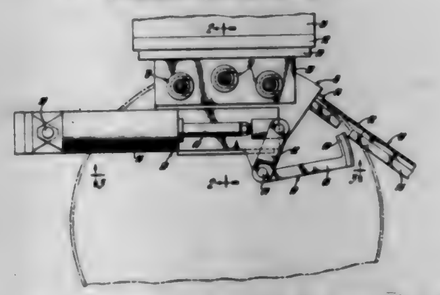
1. The method of forming a high efficiency blower wheel which comprises slitting a strip on concave lines thereacross between land portions along the strip edges and forming concave blades out of the strip portion lying between the slits, each blade being concave along one slit edge and convex along its other slit edge with a constant distance between said edges linearly of the strip; rolling the strip into cylindrical wheel shape with the blade concave edges inside and the convex edges outside.

2,980,991
WIRE SPACING DEVICE
Gerard A. Frank, Allentown, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 26, 1958, Ser. No. 763,655
3 Claims. (Cl. 29—203)



1. An apparatus for spacing free ends of pairs of wires held short of the free ends initially parallel with each other in relatively movable jaws of holders, the apparatus comprising a body, members mounted on the body to support and removably locate the holders successively at a given position, a feeler of conductive material of a thickness and having opposite sides spaced distances equal to the desired spacing of the free ends of the wires in each pair, means fixedly mounted on the body and electrically insulated therefrom to support the feeler at a position where the free ends of each pair of wires will be located on their respective sides of the feeler, a drivable unit for each jaw supported by the body and located normally at a starting position to engage its respective jaw of the holder supported by the members, a reversible motor energizable to drive each unit forwardly from and reversely back to the starting position, forward and reverse circuits for the motors, means to close the forward circuits to cause the motors to drive the units forwardly to move the jaws to move the free ends of their respective wires toward and to electrical contact with their sides of the feeler, and controls in electrical circuits respectively including each wire and the feeler to open each forward circuit and close each reverse circuit to thereby stop movement of each jaw the instant its wire electrically contacts the feeler and cause the motors to drive the units back to their starting positions.

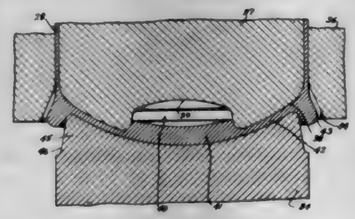
2,980,992
BALANCING APPARATUS
Sanford R. Black, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 7, 1958, Ser. No. 746,847
5 Claims. (Cl. 29—208)



1. Wheel balancing apparatus including means for supporting a wheel on a fixed axis, a plurality of radially extending weight positioners arranged circumferentially about said axis, weight holding means on the radially outward end of each positioner for supporting a balance weight, means for feeding balancing weights into said weight holding means, said weights having retaining means thereon arranged to grip the rim of said wheel, biasing means urging said positioners radially outward from said axis, a plurality of weight apply means slidably mounted for reciprocation parallel to said axis and having portions thereon arranged to contact said work positioners to move the same radially inward against said biasing means, means carried by said weight apply means arranged to contact the balancing weights supported by said weight holding means to force the retaining means on said balancing weights on the rim of a wheel supported on said apparatus, and means for individually reciprocating each of said weight apply means.

2,980,993
METHOD OF AND APPARATUS FOR FORMING FLANGED CASING BOTTOM
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed Aug. 10, 1956, Ser. No. 603,326
5 Claims. (Cl. 29—534)

1. A method of drawing metallic type casings, comprising initially cupping a metal blank from an at least marginally flat condition into an elongated tubular walled shell to a point short of the marginal extremity of the blank but turning said marginal extremity into a flaring mouthed undrawn collar, then drawing the tubular wall of the cupped blank to elongate the casing while maintaining said undrawn margin collar in the substantially original thickness of the same as turned into said flaring mouthed condition, thereafter substantially straightening said flaring mouthed collar longitudinally of said elongated tubular wall, pressing longitudinally downwardly from within the casing against the inside curved surface of the curved bottom, internally backing up the periphery of the internal curved surface of the curved bottom while



pressing upwardly against the curved bottom from the exterior thereof and pressure relieving the internal central area of the curved surface to simultaneously flow the metal of the curved bottom radially outwardly of the cylindrical wall and then axially away from the curved bottom into a thickened annular rib extending radially and axially away from its junction with the casing wall while at the same time displacing the central area of the internal curved surface forming an internally located thickened button disposed at the central area of the curved bottom of the casing, and wiping said rib to form an annular skirt by radially inwardly displacing and axially downwardly elongating the rib thereby aligning the radial surface of the annular skirt with the casing wall.

2,980,994
VACUUM OPERATED HAIR CLIPPER
Joseph A. Stachon, 2795 Redwood Road, Napa, Calif.
Filed Jan. 4, 1960, Ser. No. 101
9 Claims. (Cl. 30—133)



1. A vacuum operated hair clipping implement comprising, in combination, a housing forming a branched air duct having spaced apart separate inlet passages converging to an outlet passage, said housing having provision for connecting said outlet passage with a partial vacuum generating device, a perforate stationary shear plate disposed across the end of a first of said inlet passages, a bladed rotary shear mounted within said first inlet passage against said stationary shear plate, a vaned turbine element mounted in the second of said inlet passages for rotation therein, and a drive rod linking said rotary shear with said turbine element, said inlet passages having a common axis in oblique relation to the axis of the outlet passage and in such manner that an obtuse angle is provided between the axis of the outlet passage and the axis of the inlet passage in which the shear is mounted, the portion of the housing in which said outlet passage is disposed being in the form of a handle for the clipper.

2,980,995
PRUNER
Lendon W. Booth, 943 Semmes, Memphis, Tenn.
Filed Oct. 13, 1959, Ser. No. 846,093
6 Claims. (Cl. 30—144)

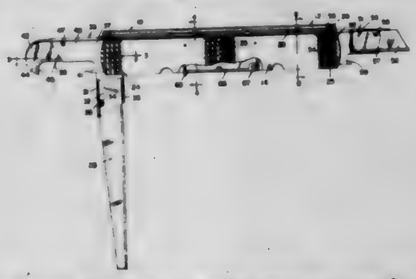


1. A pruner for cutting branches and the like comprising a substantially circular first plate, a substantially circular second plate of substantially the same diameter as said first plate and in substantially flat face-to-face sliding engagement therewith, means mounting said first and second plates for substantially free rotation relative to one another, said first plate being provided with a first pair of spaced and substantially circular cut-out portions adjacent the forward part thereof, said first plate having a forwardly directed pointed portion between said first pair of cut-out portions for guiding a branch into one of said cut-out openings, said first plate being provided with a second pair of spaced and substantially circular cut-out portions adjacent the rearward part thereof, said second plate being provided with a plurality of substantially circular cut-out portions, each of said cut-out portions in said first and second plates extending through the periphery of its related plate and defining an area greater than half of a circle to provide at least one hooked portion of the plate adjacent each of said circular cut-out portions, said first and second plates having cooperating sharpened edges adjacent said cut-out portions adapted for cutting branches and the like, a pair of elongated handles respectively fixedly attached to said first and second plates and respectively extending rearwardly therefrom whereby said handles are adapted to be swung to rotate said first and second plates, said first and second plates being relatively rotatable by said handles to carry any selected one of said cut-out portions in said first plate into a substantially aligned position with at least one of the cut-out portions in said second plate to form an aligned opening adapted to receive a branch, subsequent movement of said handles in either direction from a position in which said plates form said aligned opening being effective to carry the cooperating edges of said first and second plates adjacent said aligned opening into a selected one of a pair of cutting positions relative to the branch whereby said pruner is adapted to cut in both directions of movement of said handles, said cut-out portions of said first plate being so positioned relative to the cut-out portions in said second plate that when at least one of the cut-out portions in said first plate is in alignment with one of the cut-out portions in said second plate other portions of said first and second plates are in a cutting position, whereby said pruner is adapted to cut and at the same time receive branches for cutting.

2,980,996
SHEATHED TOOL WITH DETACHABLE BLADE
Rudolph F. Beran, 304 E. Ave. A, Temple, Tex.
Filed May 8, 1958, Ser. No. 733,881
2 Claims. (Cl. 30—157)

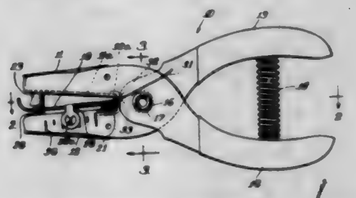
1. A tool comprising an elongate substantially flat handle body comprising at least two spaced parallel

plates, a spring leaf extending longitudinally between and secured intermediate its ends to said plates and forming with adjacent edges of the plates the back of the handle body, said plates forming a slot longitudinally of the body and open along the front side of the body, a flat member in each end of the slot between and separating said plates, a pivot pin extending transversely through each flat member and into the plates on opposite sides thereof, said flat members being rotatable on their respective pivot pins and having turning bearing on one edge against an end of the adjacent spring leaf, each of said flat members including an elongate portion of reduced width and having a socket formed therein from its outer end and terminating in a closed bottom at its inner



end short of the pivot pin, said elongate portion having a back edge and a front edge and having its free outer end formed oblique to its length whereby said back edge is of greater length than the front edge, said back edge being flush with said one edge of the member, an elongate work implement having a back edge and a front edge and an end adapted for insertion into the socket of a member with the back edge of the work implement against the long back edge side of the socket, said work implement having a recess formed transversely of the back edge, and a securing element removably extended transversely of and through the socket for engagement in the recessed edge of the work implement therein, said work implement having a major portion of the said front edge formed for the performance of a work operation.

2,980,997
HAND PUNCH WITH GAUGE
James C. Hendricks, Marengo, Ill., assignor to McGill Metal Products Company, Marengo, Ill., a corporation of Illinois
Filed July 3, 1958, Ser. No. 746,363
3 Claims. (Cl. 30—363)



1. A punch including in combination, a pair of jaw members, a pintle connecting said jaw members, a tongue extending between said jaw members and connected at one end thereto, a gauge member having a forward stop portion including a pair of turned-over ears, said stop portion fitting over said tongue with said ears engaging opposite sides of one of said jaw members so that said gauge is slidable along said tongue toward and away from said pintle, said gauge member further including a rearwardly extending flexible tab bearing against the surface of said pintle to provide pressure tending to seat said stop portion in positions along said one jaw member.

2,980,998
DENTAL PROSTHESIS AND METHOD OF MANUFACTURE
Richard L. Coleman, West Hartford, Conn., Paul S. Cecil, Newark, N.J., and Julius A. Kerpel, Flushing, N.Y., assignors to The J. M. Ney Company, Hartford, Conn., a corporation of Connecticut
Filed Feb. 4, 1957, Ser. No. 638,121
5 Claims. (Cl. 32—12)



1. A dental prosthetic device comprising a casting of a gold alloy consisting essentially of 70 to 90 parts gold, 3 to 12 parts of one or more metals selected from the group consisting of platinum and palladium, 5 to 10 parts copper, and 0.5 to 4 parts of one or more deoxidizing metals selected from the group consisting of zinc, indium and tin, and a porcelain facing fired on and directly bonded to a surface of the casting comprising a first layer consisting essentially of the following composition:

	Parts by weight
K_2O	2.0–3.5
Na_2O	7.0–9.0
CaO	0.2–1.0
BaO	0.0–0.2
Al_2O_3	3.0–5.0
B_2O_3	6.0–7.5
P_2O_5	0.2–1.5
SiO_2	60.0–67.0
TiO_2	9.0–12.0
F_2	0.0–2.5

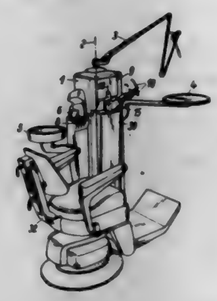
and a second layer consisting essentially of the following composition:

	Parts by weight
K_2O	1.5–2.5
Na_2O	6.0–8.0
CaO	0.5–1.5
BaO	0.1–0.2
Al_2O_3	2.0–3.0
B_2O_3	3.0–4.5
SiO_2	72.0–80.0
TiO_2	4.0–6.0
F_2	0.0–0.2

2,980,999
DENTAL INSTRUMENT STAND HAVING A HANDPIECE HOLDER UNIT
Ernst August Behne and Wilhelm Ohlrogge, Erlangen, Germany, assignors to Siemens-Reiniger-Werke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Nov. 26, 1956, Ser. No. 624,336
11 Claims. (Cl. 32—22)

1. In a supporting device for hand pieces of dental apparatus, the combination of a supporting structure, an instrument holder unit carried by said supporting structure, means on said supporting structure pivotally supporting said holder unit for pivotal movement on a vertical axis through an arc greater than 90°, said instrument holder unit having a plurality of instrument holders therein, each operative to receive the hand piece of a dental instrument, said instrument holders being disposed on said instrument holder unit to position the respective

hand pieces of instruments supported in said holders at different elevations with respect to the horizontal to facili-



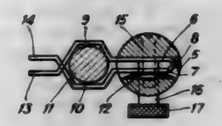
tate removal of a hand piece without interference from an adjacent handpiece.

2,981,000
SURVEYOR STAKE
George E. Long, 16041 33rd NE., Seattle, Wash.
Filed Aug. 22, 1957, Ser. No. 679,595
4 Claims. (Cl. 33—1)



1. A surveyor's stake comprising a straight rigid shaft adapted to be driven into the ground, a rigid line arm, first clamp means rotatably and slidably movable on said shaft for operatively securing said line arm in adjusted position on said shaft with the line arm extending substantially normally to said shaft, said line arm being mounted in said first clamp means for longitudinal adjustment relative to the clamp, said first clamp including means for locking the clamp and line arm in any desired vertical position along the shaft and any desired position of rotation around the longitudinal axis of the shaft, a rigid grade arm, second clamp means rotatably and slidably movable along said shaft for operatively securing said grade arm in adjusted position on said shaft with the grade arm extending substantially normally to said shaft, said second clamp including means for locking the clamp and grade arm in any desired vertical position along the shaft and any desired position of rotation around the longitudinal axis of the shaft, whereby the line arm may be adjusted to determine the point of line and station, and the grade arm may be independently adjusted to establish a grade line in reference to the line and station point without moving the line arm.

2,981,001
BLACKBOARD COMPASS
Carl T. Schnell, Herrgardsgatan 65A, Motala, Sweden
Filed Aug. 6, 1959, Ser. No. 832,035
1 Claim. (Cl. 33—27)



In a holder for a marking element two separate lengthened holder halves arranged opposite each other and hingedly connected together at the one end, seats for said marking element being made in the intermediary part of the halves perpendicular to their length direction, spring means for pressing the one half against the other, thereby clamping said marking element between them, and grips at the other end of said holder halves for manually separating said halves from each other against the spring pressure to loosen said marking element, a transverse pivot being provided near the hinge end of said holder halves for enabling a turning movement of the holder to various rotational positions, locking means arranged coaxially to said pivot and passing freely through the one of said holder halves to engage the other of said halves, said locking means apt to hold said last mentioned half to lock the holder in the rotational position to which it has been brought.

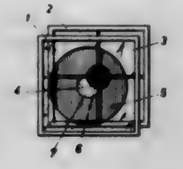
2,981,002
SCRIBING OR ENGRAVING INSTRUMENT FOR MAP MAKING
Harold K. Adams, Riverdale, Md. (% Universal Instrument Co., 3809 Bunker Hill Road, Brentwood, Md.)
Filed July 27, 1959, Ser. No. 829,664
6 Claims. (Cl. 33—32)



1. An engraving hand tool or instrument of the character set forth comprising an elongated body having a substantially flat bottom to slide on a coated map sheet and being of a size to be held between the fingers of the user's hand, said body having in its top a longitudinal guide channel which opens through the front end of the body and has parallel vertical side walls rising from a flat bottom, a removable cover plate on said body closing the top of said channel and formed with a longitudinal slot disposed above said channel and spaced from the front end of the cover plate, an elongated slide of rectangular shape in cross section disposed in said channel and having its front end projecting outwardly from the body and provided with means for mounting an engraving tool, said slide being of less vertical thickness than the height of said side walls of the channel, whereby the slide is mounted for free longitudinal sliding movement and for limited vertical movement between said cover plate and the bottom of said channel, an upright fingerpiece fixed to a portion of said slide within said channel and movable in said slot in the cover plate, a slidable stop member longitudinally adjustable in the rear portion of said channel and engageable by said slide to limit the rearward movement of the slide, spring means interposed between said slide and said stop member to urge said slide out-

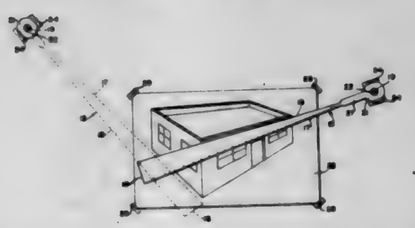
wardly and normally hold said finger-piece at the closed front end of said slot in the cover plate, and other spring means normally holding said slide in an elevated position.

2,981,003
AIMING DEVICE FOR CAMERAS AND THE LIKE
Torsten Gunnar Lindberg, Goteborg, Sweden, assignor to Fritz Victor Hasselblad, Goteborg, Sweden
Filed Aug. 24, 1959, Ser. No. 835,597
Claims priority, application Sweden Aug. 27, 1958
1 Claim. (Cl. 33—46)



An aiming device for cameras and the like comprising a pair of members each having a sighting hole therethrough with the sighting hole of one member being relatively larger than the sighting hole of the other member and facing the objects to be received, said members being fixedly mounted in parallel planes extending at right angles to the line of sight through said sighting holes and spaced apart a given distance whereby said holes appear to coincide to the eye of a viewer sighting through the smaller of said holes from a side thereof opposite to the other of said sighting holes, a light polarizing film extending completely across one of said sighting holes, a second light polarizing film surrounding the other of said sighting holes and having a direction of polarization perpendicular to the direction of polarization of said first-mentioned film whereby said device is in alignment with the objects being viewed when the sighting hole film extending across one of said openings appears to the eye to coincide with the other of said sighting holes and out of alignment when the sighting hole film extending across one of said holes appears to overlap the film surrounding the other of said sighting holes.

2,981,004
DRAFTSMAN'S PERSPECTIVE INSTRUMENT
George E. Edlund, 727½ Main St., Deadwood, S. Dak.
Filed Mar. 16, 1959, Ser. No. 799,656
1 Claim. (Cl. 33—77)



A draftsman's perspective instrument comprising a substantially thin flat blade having longitudinal edges converging toward one another and a vanishing point at one end of the blade but terminating short of said vanishing point, scales inscribed along such edges, a substantially thin flat neck integral with the narrow end of the blade and of substantially the same thickness thereof but wider than the narrow end of the blade, a substantially thin flat disc integral with and extending from said neck and having an aperture substantially centrally therethrough coinciding at its center with such vanishing point, a disc-like base plate adapted to rest on a drawing surface, gummed tapes extending across the base plate and affixed to the drawing surface, and an upstanding trunnion substantially secured centrally to the base plate for receiving the aperture of the disc with the disc resting on the base plate and rotatable thereon, one of said converging edges of the blade extending uninterruptedly to the aperture in the disc along an unwavering convergent line, said disc having a slot extending to the apereure, one side of the slot being formed by a portion of the extended convergent edge, said neck extending wholly to the side opposite the extended convergent edge, said base plate and its trunnion cut away segmentally and adapted to register with the said slot.

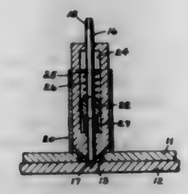
2,981,005
BOLT GAUGE
Walter W. Moe, 718 N. 1st St., Montevideo, Minn.
Filed Feb. 11, 1958, Ser. No. 714,537
2 Claims. (Cl. 33—178)



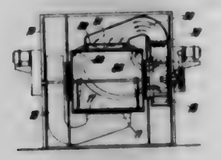
2. A bolt gauge comprisihg a rigid sheet adapted to rest upon a flat supporting surface, an upstanding plate extending along the entire length of one end of said sheet, said plate having a plurality of recesses extending inwardly from the upper end and terminating at points spaced from the lower end thereof, each of said recesses being of a size corresponding to a predetermined diameter of a bolt shank, all of said recesses being of different sizes, said sheet having a length measuring scale on the upper face and extending along one of the side edges from said plate to the other end of said sheet, said plate adjacent each of said recesses having a diameter indicium corresponding to the size thereof, the other of the side edges of said sheet being uniformly stepped and graduated, the risers of the steps indicating length increments.

2,981,006
PUNCH DEVICE
Daniel A. Kekilian, 202 Connolly Drive, Burke City, St. Louis County 35, Mo.
Filed Aug. 3, 1959, Ser. No. 831,127
3 Claims. (Cl. 33—191)

1. A punch comprising a body having a conical end, a rod slidably mounted in said body along a longitudinal axis through the center of said conical end, a sleeve slidably mounted on said body, a key fixed to and carried by said sleeve and extending into said body, the rod slidably extending through said key to hold the key in assembly with the rod yet enable relative sliding movement incident to reciprocation of either the rod or the sleeve, a spring on one side of said key engaging said key and said rod tending to hold the rod retracted in said conical end, the sleeve including an abutment arranged at a right angle to the said longitudinal axis and adapted to engage the reference work piece when said sleeve is moved toward the conical end, and another spring on the opposite side of said key engaging said key and said body tending to hold the sleeve away from the conical end.



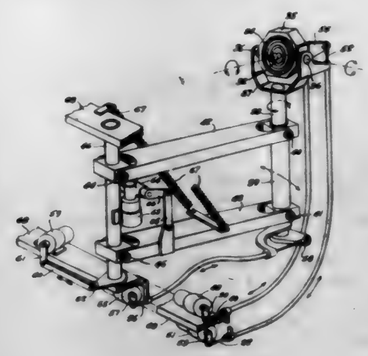
2,981,007
WILLOW DRIER
Johann Edmund Fleissner, Egelsbach, near Offenbach (Main), Germany, assignor to Fleissner & Sohn Maschinenfabrik, Egelsbach, Germany, a firm of Germany
Filed Oct. 21, 1957, Ser. No. 691,504
Claims priority, application Germany Nov. 23, 1956
1 Claim. (Cl. 34—115)



A sieve drum drier for drying material substantially impervious to air comprising a rotatable drum having a peripheral wall adapted to carry the material to be dried, a plurality of open ended air channels covering substantially one-half of the outer periphery of the drum and having a longitudinal length less than the axial length of the drum and substantially equal to the width of the material to be dried on said drum, said wall having in sequence a first set of apertures coextensive with the length of said channels, imperforate wall portions on each side of said first set of apertures and a second set of apertures between said imperforate portions, respectively, and each end of said drum, a cover plate inside said drum and extending over the half of the drum not covered by said air channels, a suction fan at one end of said drum for drawing air through said apertures into the interior of said drum, and conduit means for recycling the air from said fan into said air channels and against said material.

2,981,008
VISUAL APPARATUS FOR A FLIGHT TRAINER
Ward D. Davis, Fairfax, Va., and Stephen du Pont, Westport, Richard J. Zeitler, Danbury, William R. Batesole, Ridgefield, and Arthur R. Tucker and Leif W. Hanson, Danbury, Conn., assignors to Dalto Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1959, Ser. No. 788,355
1 Claim. (Cl. 35—12)

A visual apparatus for a pilot trainer comprising a fixed frame, an endless belt having airfield markings, means mounting the endless belt on the frame, and means for driving said belt longitudinally along said frame; camera mounting mechanism including a camera post, a camera frame mounting the camera post at the end of the belt for vertical, lateral, and rotary movement, a horizontal laterally extending gimbal pivot carried by the post, a gimbal member mounted on the gimbal pivot, and camera mounting means carried by the gimbal member to mount a television camera and rotatable on the gimbal member about the optical axis of the television camera.



2,981,009
EDUCATIONAL BUILDING BLOCK SET
Nora Lindquist, 201 N. 15th St., Fort Smith, Ark.
Filed June 12, 1959, Ser. No. 819,906
3 Claims. (Cl. 35—17)



1. An educational block set adapted to simulate the spinal column of the human body comprising a base block member representing the sacrum base with coccyx; a first group of block members vertically superposed on said base block member and representing the lumbar vertebrae; a second group of block members of smaller size than said first group vertically superposed on said first group and representing the dorsal vertebrae; a third group of block members of smaller size than said second group vertically superposed on said second group and representing the cervical vertebrae; said base block member and the individual block members of said first, second, and third groups respectively including planar parallel faces; at least one block member of each pair of facing block members having a rabbeted portion of reduced cross section in facing relation to the other block member of the pair to thereby simulate a spinal disc between adjacent block members; a spherical member vertically superposed on said third group and representing the human head; and means interlocking adjacent members to each other to maintain said members in assembled relation to simulate the spinal column.

2,981,010
AIR-FILLED SANDALS
Helmer Aaskov, 8053 S. Orange Ave., Fresno, Calif.
Filed May 13, 1960, Ser. No. 29,023
2 Claims. (Cl. 36—11.5)



1. An article of footwear comprising a main body of resilient flexible material shaped to receive a wearer's foot, said main body comprising a hollow sole portion, a concave hollow upper portion at the forward end of said sole portion and sealed therefrom, and a concave hollow heel-receiving portion at the rear end of said sole portion and sealed therefrom, said hollow portions being each provided with a plurality of spaced apertured internal partition walls, and respective air valves in the edges of said sole portion, upper portion, and heel-receiving portion, whereby said portion may be independently inflated with air.

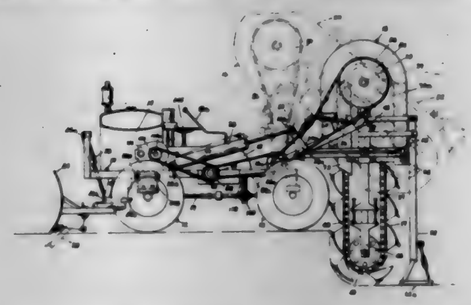
2,981,011
SOLE FOR SHOES, NOT SLIPPERY, PARTICULARLY RUBBER-MADE
Pietro Lombardo, Via Savona 38, Padova, Italy
Filed Oct. 31, 1958, Ser. No. 771,149
1 Claim. (Cl. 36—59)



A shoe sole having an under surface provided with triangulated ribs contained in two groups on the sole, one of the groups being in the form of a marginal edge strip extending at least partly around the edge of the sole, and the other group being a central group located between parts of the edge group, each of the ribs in both groups presenting an inclined contacting surface toward the ground when the sole is attached to a shoe, the inclined surfaces in the ribs in one group extending in a direction opposite to the direction of the inclined surfaces of the ribs in the other group, the ribs in one of the groups being depressed rearwardly and the ribs in the second group being depressed forwardly under the weight of the wearer, whereby resistance to slippage both forwardly and rearwardly is obtained.

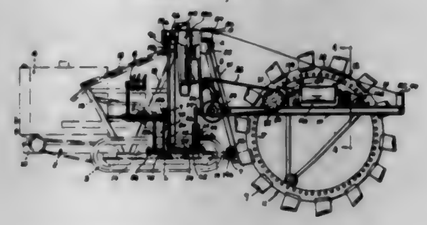
2,981,012
MOBILE DITCHING MACHINE
Henry L. Meyer, Cleveland Heights, Ohio, assignor to The Cleveland Trencher Company, Cleveland, Ohio, a corporation of Ohio
Filed May 28, 1959, Ser. No. 816,436
9 Claims. (Cl. 37—86)

1. In a mobile ditching vehicle, a frame, traction mechanism supporting said frame for movement along the ground, an internal combustion main power plant on said frame, a digging unit pivotally mounted on one end of said frame for movement in a generally vertical plane, means for selectively pivoting said digging unit into and out of digging position, means for selectively coupling said power plant to said digging unit for driving the latter at a speed determined by the speed of said power plant, geared transmission means including a multiple speed main section and an auxiliary coupling section supported on said frame, means for selectively changing the speed gear ratio of said main section, said auxiliary section comprising a shiftable coupling element operatively connected to said main section for actuation of the latter, means connecting said main section to said traction mechanism for driving the latter, means coacting between said power plant and said auxiliary section for selectively coupling said power plant to said element for driving of the latter and thus actuating said main section, a fluid powered motor unit, a variable volume source of pressurized fluid, valve means for controlling



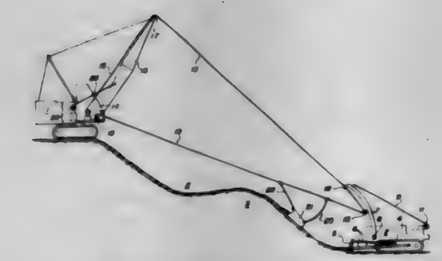
the volume of fluid applied to said motor unit to thereby selectively control the speed of said motor unit, means for translating the actuation of said valve means into a corresponding control signal for automatically adjusting the output of said source in coordination with the actuation of said valve means so that no waste pressurized fluid is produced by said source, and means coacting between said motor unit and said auxiliary section for selectively coupling said motor unit to said element when the latter is shifted out of coupled relation with said power plant.

2,981,013
EXCAVATING MACHINE
Albert R. Askue, Euclid, Ohio, assignor to The Cleveland Trencher Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 12, 1957, Ser. No. 677,453
5 Claims. (Cl. 37—94)



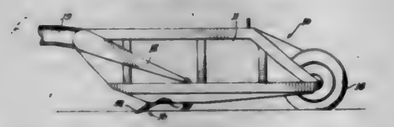
1. In an excavating machine, a supporting frame, stationary mast structure fixed to said frame, movable mast structure supported by said stationary mast structure for travel transversely thereof, means for shifting said movable mast structure transversely of said stationary mast structure, means including a reciprocable hydraulic motor unit for actuating said first mentioned means, an excavating unit carried by said movable mast structure, a power unit mounted on said supporting frame, a countershaft assembly mounted on said frame so as to extend generally longitudinally thereof and operatively connected to said power unit, a differential transmission unit mounted on said movable mast structure and being drivingly connected to said excavating unit for actuating the latter, an endless drive chain extending transversely with respect to said supporting frame and drivingly connecting said counter-shaft assembly with said differential unit to drive the latter, chain tensioning means mounted on said supporting frame and coacting with said drive chain to take up slack in the latter, said tensioning means comprising at least one arm element pivotally mounted on said supporting frame and including an eccentric portion at its pivotal connection to said frame, a plurality of generally vertically spaced sprocket wheels rotatably mounted on said arm, said drive chain being looped about said sprocket wheels, a resilient unit extending diagonally between said eccentric portion and said supporting frame and connected thereto for pivoting said arm to move said sprocket wheels into tensioning engagement with said chain, said resilient unit being connected to said eccentric portion so as to equalize the tension applied by said tensioning means to said drive chain, the effective moment arm of said eccentric decreasing as the tension in said resilient unit increases during transverse movement of said movable mast structure.

2,981,014
EARTH MOVING SYSTEM
Earl C. Doyen, 9 High St., Littleton, N.H.
Filed Nov. 6, 1958, Ser. No. 772,299
8 Claims. (Cl. 37—116)



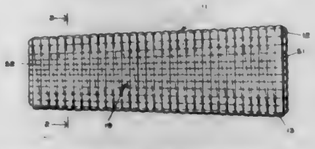
1. An earth excavating system comprising a crane having a boom, a first winch and a second winch, a bulldozer having a pulley mechanism secured thereto, a cable extending from said first winch around said pulley mechanism on said bulldozer and back to said second winch independently of the boom, an earth accumulator secured to said cable, said crane and said bulldozer being positionable on opposite sides of a region to be excavated.

2,981,015
CUTTING BLADE ASSEMBLY FOR SCRAPERS
Edward D. Duke, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 29, 1959, Ser. No. 809,681
1 Claim. (Cl. 37—141)



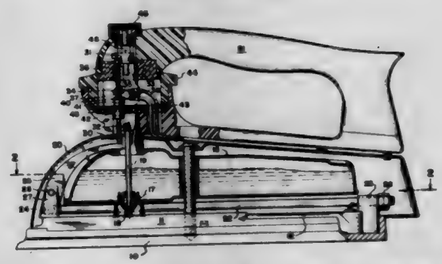
An earth cutting assembly for a scraper comprising a base plate, said base plate having a center section having a projecting portion and side sections disposed laterally outwardly from said center section; blade locating means on said plate sections, said locating means being a first row of laterally spaced substantially vertical holes extending in transversely aligned relation across said center and side sections, a second row of laterally spaced substantially vertical holes in said projecting portion, said second row being parallel to said first row and longitudinally aligned with holes of said first row, a third row of vertical holes in said side sections, said holes of said third row being parallel to said first row; a plurality of identical blades, at least one for each section, said blades each having opposed transversely extending cutting edges, each blade having one row of substantially vertical transversely extending holes parallel to one of said cutting edges and being positioned equidistant from said cutting edges, certain of said holes of said blades registering with certain of said holes of said blade locating means whereby a certain cutting configuration is obtained, and means attaching and aligning said blades to said base plate whereby either of said cutting edges of each blade may be placed in operative position at the same location in said configuration to maintain said cutting configuration, and whereby each blade may be adjustably attached in at least two operating positions relative to said base plate.

2,981,016
PRESSING PADS
Robert F. Seelenbinder, Springfield, Ohio, assignor to International Steel Wool Corporation, Springfield, Ohio, a corporation of Ohio
Filed June 18, 1958, Ser. No. 742,819
4 Claims. (Cl. 38—66)



2. A shaped substantially flat pressing pad of metal fabric comprising a substantially flat core formed by a metallic ribbon wound in laterally aligned juxtapositioned spiral convolutions and a cover for said core formed by a metallic ribbon wound around said core in laterally aligned juxtapositioned spiral convolutions having its strands directed perpendicularly to the direction in which the strands of the metallic ribbon of the core are wound, the loops of the windings forming relatively smooth edges at both the ends and the sides.

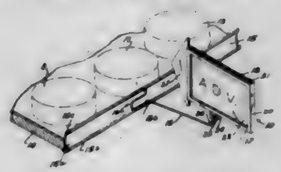
2,981,017
AUTOMATIC WATER METERING FOR STEAM IRON
Edward G. Tesmer, St. Petersburg, and James A. Shephard, Treasure Island, Fla., assignors, by mesne assignments, to Merrill M. Kistner, St. Petersburg, Fla.
Filed Aug. 20, 1959, Ser. No. 834,966
4 Claims. (Cl. 38—77)



1. In an electric steam iron comprising a sole-plate having a steam-generating chamber, steam delivery channels in the sole-plate for directing steam formed in the generating chamber to openings in the lower face of the sole-plate, a water reservoir mounted above the sole-plate, and a water-control valve adapted to control the flow of water from the reservoir to the steam-generating chamber, the improvement which comprises a mechanical

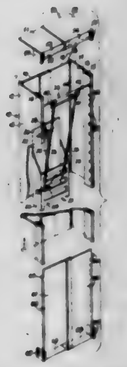
linkage interconnecting two portions of the sole-plate spaced a substantial distance apart, one end of the mechanical linkage being anchored on the sole-plate and the other end being movably mounted with respect to the sole-plate, the coefficient of expansion of the mechanical linkage being different than that of the sole-plate so that relative movement of one with respect to the other occurs as the temperature of the sole-plate changes, and connecting means operatively engaging the movably-mounted end of the mechanical linkage for translating to the water-control valve said movement of the mechanical linkage relative to the sole-plate so that the water-control valve is opened to deliver water to the steam-generating chamber only when the relative movement between the sole-plate and the mechanical linkage has reached a predetermined amount.

2,981,018
ITEM INDICATING DEVICE
Philip Hopp, New York, N.Y., and Harry Henrik Lutz, Haworth, N.J., assignors to The Hopp Press, Inc., New York, N.Y., a corporation of New York
Filed Sept. 22, 1958, Ser. No. 762,347
3 Claims. (Cl. 40—16)



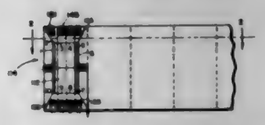
1. An item indicating device including in combination a body portion formed in the configuration of an arrow with a pointing head portion, a frictional surface of said body portion, a second frictional surface of said body portion spaced from said first surface an axial member supported at its ends at said frictional surfaces, a resilient mounting wire, a portion of said mounting wire surrounding said axial member for pivotal movement thereabout, a second portion of said mounting wire in frictional engagement with said first portion and a third portion of said mounting wire in frictional engagement with said second frictional surface whereby the mounting wire is prevented from rotating about the axial member.

2,981,019
CARD RACK
Robert C. Baird, 1036 S. Geyer Road, Kirkwood 22, Mo.
Filed June 1, 1959, Ser. No. 817,356
18 Claims. (Cl. 40—124)



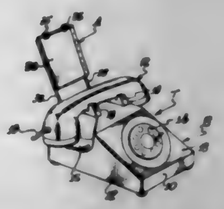
1. In a card rack, a frame including spaced side walls, and flanges extending from said side walls in overlaping relation, means interconnecting said flanges for adjusting the width of said frame, a bracket attached to said frame and disposed between said side walls, and a plurality of card holders attached to said frame and to said bracket, said card holders being arranged in stacked, spaced relationship between said side walls to provide pockets between said card holders, each of said card holders including adjustably connected portions for selectively expanding and contracting the width.

2,981,020
ALPHABETICAL READ-OUT DEVICE
Frederick P. Brooks, Jr., Clinton Corners, N.Y., assignor to North American Aviation, Inc.
Filed Aug. 30, 1956, Ser. No. 607,219
3 Claims. (Cl. 40—130)



1. A digital information display device comprising the combination of a plurality of plates each of which is cut into a plurality of coplanar fragments, each with a separate character element therein, each with independent illuminating means at the edge thereof, the confronting edges of the fragments being opaque to prevent transmission of light from one fragment to another to provide independent control of character element illumination of different fragments.

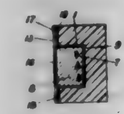
2,981,021
TELEPHONE ATTACHMENT
Ashford James Clark, 11419 Hemlock St., El Monte, Calif.
Filed June 1, 1959, Ser. No. 817,288
5 Claims. (Cl. 40—336)



1. An attachment applicable to the base of a telephone receiver set having a top with a downwardly inclined rear section and a rearwardly opening finger receiving socket with a top wall having a downwardly projecting lip extending transversely thereof at the forward end of the said rear section including, a unitary element formed of a length of wire having a transverse front portion to extend into the socket and establish hooked engagement with the lip therein, a pair of intermediate portions projecting rearwardly from the ends of the front portion and engaging said rear section and rear sections projecting rearwardly and upwardly from the intermediate portions.

2,981,022
SPECTACLE FRAMES
Wilhelm Anger, Jr., Traun, Austria
Filed Oct. 20, 1958, Ser. No. 768,105
1 Claim. (Cl. 41—30)

A spectacle frame of substantially high temperature polymerizing base material having recesses in at least some of its front portions, decorative parts arranged in said recesses, said recesses having walls following substantially the contours of said portions and being substantially larger than said decorative parts so as to permit said parts to be arranged in said recesses spaced from said walls, a filling holding said parts suspended of low temperature polymerizing substantially transparent material arranged substantially flush with said front portions, a protective sheeting on top of said recesses of a thickness



which is small compared to the thickness of the frame, and which is relatively transparent at the points of the recesses, and less transparent at the points surrounding said recesses where it is attached to said frame, said protective sheeting being coated on its bottom with a substantially translucent layer and is semitransparent throughout the rest of the layer at the portions surrounding said recesses, and said sheeting at the portions covering the recesses being substantially transparent.

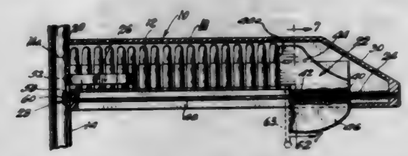
2,981,023
SEALING OF REVOLVER FIRING CHAMBER
Dimitry B. Sergay, Clawson, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 22, 1959, Ser. No. 821,816
2 Claims. (Cl. 42—59)



1. In a revolver-type gun, a drum having a firing chamber extending longitudinally therethrough, a gun barrel axially adjacent one end of the drum and having a bore, said drum being rotatable to a position of alignment of said chamber with said bore, an anvil axially adjacent the opposite end of the drum and closing the chamber at said opposite end when the drum is rotated to said position, said chamber being of larger diameter than said bore, and two axially adjacent annular sleeves lining the chamber, said sleeves each having its internal diameter substantially equal to the diameter of said bore and each having an axially extending skirt portion at its end inwardly of the chamber, said skirt portions being of greater internal diameter than the remainder of the sleeves and of the same external diameter, the opposite ends of said sleeves being in axial abutment with the barrel and anvil, respectively, and the extended ends of said skirt portions being slightly spaced from each other, whereby the combustion gases developed in the chamber during firing of the gun react over the entire cross-sectional area of the sleeves for forcing them against the barrel and anvil.

2,981,024
CARTRIDGE LOADER FOR A TUBULAR MAGAZINE
Eugene Skoff, 3531 S. 57th Court, Cicero, Ill.
Filed Oct. 22, 1959, Ser. No. 847,980
9 Claims. (Cl. 42—87)

1. A device for loading cartridges into an elongate tubular magazine, said device comprising an elongate hollow container having an open end and having a guideway therein adapted to slidably accommodate a column of generally parallel cartridges, a guide rod mounted within said container and extending substantially the length of the container parallel to said guideway, a cartridge-engaging follower mounted for longitudinal movement within said guideway toward and away from said open end, a compression spring coiled about said guide rod and acting between a portion of said container opposite said open end and said follower to urge said follower



toward said open end, manually operable means mounted adjacent the open end of said container and movable into and out of the path of said follower to regulate the discharge of cartridges from said container, and means on said container adjacent said open end for removably attaching said container to the magazine, whereby the cartridges may be sequentially discharged from the container into the magazine.

2,981,025
APPARATUS AND METHOD FOR TERMITE ELIMINATION
Billy J. Woodson, R.R. 1, Box 396, Colton, Calif.
Filed June 19, 1957, Ser. No. 666,742
12 Claims. (Cl. 43—124)



1. A device for use in dispensing fluid in a relatively inaccessible location, comprising an elongated pipe having a plurality of aligned apertures along the length thereof, a hook rotatably mounted on said pipe intermediate its ends, and means carried by the pipe for selectively restricting rotation of said hook, whereby said hook may be engaged with a supporting member without rotation and whereby said pipe is rotatable after said engagement with said supporting member.

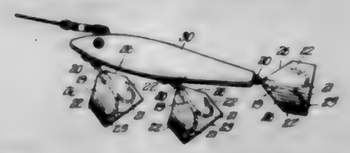
2,981,026
UNDERWATER WEAPON
Edwin J. Wedrall, 570 E. Church Hill Road, La Habra, Calif.
Filed Feb. 10, 1959, Ser. No. 792,423
5 Claims. (Cl. 43—6)



4. An underwater weapon comprising a hollow sectional handle, a replaceable cartridge of pressurized fluid having a rupturable end, means detachably interconnecting the sections of the handle for permitting replacement of the cartridge, a longitudinally extending tapered movable member longitudinally mounted on said handle, resilient means urging the movable member away from the handle, said tapered member terminating in an outer pointed end, and means movably mounted on the handle and engageable by the movable member for movement thereby when the movable member moves inwardly in

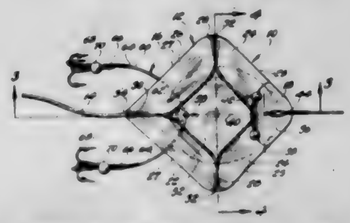
response to force exerted when the pointed end is forced into an underwater creature, said means including a puncture element for rupturing the end of the cartridge, said movable member including passage means communicating the exterior surface of the movable member with the rupturable end of the cartridge for inflating the animal.

2,981,027
WEEDLESS FISHHOOKS
Peter J. Dewyer, Box 272, Libertyville, Ill.
Filed Apr. 1, 1958, Ser. No. 725,704
4 Claims. (Cl. 43—42.1)



1. In combination with a triple-barbed fishhook, a rearwardly shiftable, protective shroud longitudinally enclosing the hook to normally prevent entanglement of the barbs thereof with weeds, said shroud being formed of three symmetrical sections of water-resistant, membrane-like material having edge portions sealed to each other to form a three-sided shroud, each of the barbs being disposed in a corner of the shroud defined by the sealed edges of a pair of adjacent sections, said sealed edges extending in front of the barbs and being pierceable by the barbs to permit exposure thereof when a fish strikes and shifts the shroud rearwardly.

2,981,028
ARTIFICIAL FISH BAIT
Joseph F. Winhoven, 31571 Lonnie Drive, Garden City, Mich.
Filed July 15, 1959, Ser. No. 827,367
6 Claims. (Cl. 43—42.48)



1. An artificial fish bait comprising a bait body of approximately diamond-shaped form having forward, rearward and lateral corners and top and bottom surfaces, a line attachment element secured to said body near said forward corner, a hook holder connected to said body rearwardly of said line attachment element, and a fish hook connected to said hook holder, said body having a concave recess in said bottom surface.

2,981,029
CONNECTING DEVICE
Leo Markoff-Moghadam, 2938 Newark St. NW., Washington, D.C.
Filed June 10, 1959, Ser. No. 819,256
11 Claims. (Cl. 43—44.95)

5. A fishing tackle device for attachment to an intermediate part of a fishing line, comprising, an element, wire strands secured to and extending from said element, said strands being twisted around each other and resiliently biased toward each other except at their free ends where the strands diverge as an open fork, the twists of said strands adjacent said element being inseparable and the remainder of said twists being of a



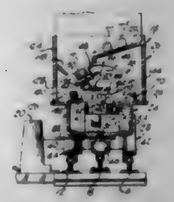
size to receive therebetween and clampingly engage a fishing line introduced between the strands from the forked end.

2,981,030
EASELS
Victor R. Knop, 11 Vermont Ave., Binghamton, N.Y.
Filed June 30, 1958, Ser. No. 745,606
5 Claims. (Cl. 45—129)



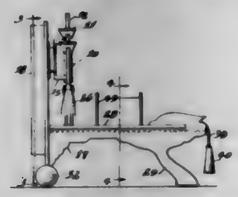
1. In a drawing-board type easel for classroom use having a drawing board and spaced supporting legs, a tray structure affixed to and extending horizontally between the legs at a level below the drawing board, said structure comprising fixed back, bottom and end walls which together and of themselves are adapted to form an article receiving and/or drip catching shelf disposed beneath said board, and top and front walls coacting in an active position thereof with the aforesaid fixed walls to form a tray closed top and front but being movable individually of and together with one another to an inactive position in which the tray is open at the top or at its front or is fully open top and front, said top wall being provided with a longitudinal series of holes for the reception of paint jars.

2,981,031
AUTOMATIC TIE-DUMPING SYSTEM
Joseph L. Bonanno, South Orange, N.J., assignor to The Lionel Corporation, New York, N.Y., a corporation of New York
Filed Sept. 9, 1957, Ser. No. 682,943
10 Claims. (Cl. 46—40)



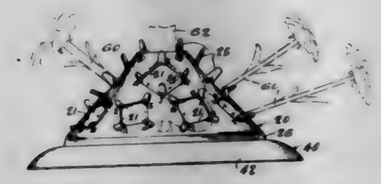
1. A wheeled toy rail car for automatically dumping ties progressively along the path of travel of said car comprising a frame, means for storing ties on said frame, power means supported on said frame connected to said wheels, a tie-dumping assembly connected to said power means on said car including a movable member adjacent said tie-dumping assembly, effective to engage each tie in succession to move the tie laterally to dump it from said car when said car moves in the path of travel of said car, power transmitting means on said frame connected to said power means and to said tie-dumping assembly for operating the latter, and control means on said frame operatively connected with said power transmitting means and including a displaceable force transmitting member transversely attached to said frame for engaging a fixed abutment during movement of the car along its path of travel for activating said tie-dumping assembly.

2,981,032
WESTERN-STYLE TOY
William H. Montgomery, Hotel Plaza, 59 W. North Ave., Chicago 10, Ill.
Filed Sept. 12, 1958, Ser. No. 760,765
5 Claims. (Cl. 46—127)



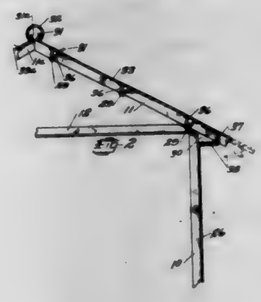
2. A western-style toy comprising a supporting base, an animal body simulating a bucking bronco pivotally mounted adjacent the rear of the base and a saddle on the body of said animal, front and rear legs freely pivoted upon the body of said animal, a removable rider adapted to be seated in the saddle of said animal, actuating means for oscillating said animal about a fixed pivot to cause the animal to follow a bucking motion with the legs free to swing in said motion, said actuating means including a cord which when pulled rotates the animal body in one direction and means placed under tension when the cord is pulled for returning the animal body to its original position upon release of the cord, whereby repeatedly pulling on and releasing said cord causes the animal body to oscillate back and forth and to simulate the movements of a bucking animal, and means tending to retain the rider upon said animal body during said bucking motion but permitting said rider to be dislodged and ejected upon repeated operation of said actuating means.

2,981,033
FLOWER HOLDER
John E. Cheetwood, 333 N. Main St., Bowling Green, Ohio
Filed Aug. 19, 1957, Ser. No. 678,858
5 Claims. (Cl. 47—41)



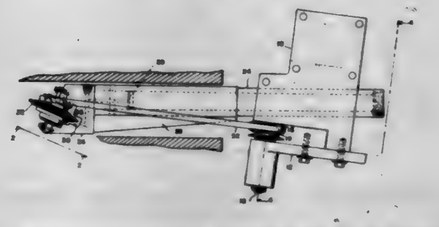
1. A decorative holder comprising: a hollow dome type member having apertures therein, a plurality of spaced rigid trough shaped guides each having a width less than that of an aperture and projecting from the edge of each aperture outwardly away from the surface of said dome, a deformable porous material in said dome for supporting stems of flowers placed therein, whereby flower stems or the like placed through the apertures in the dome and into said material are guided along said guides to give a pre-determined angle to the position of their stems extending from said holder.

2,981,034
METAL BUILDING EAVE BOX RETURN
Kermit H. Bargin, R.R. 1, Whitestown, Ind.
Filed Apr. 14, 1958, Ser. No. 728,360
1 Claim. (Cl. 50—51)



In a building structure, a side wall comprising a side panel; a flange outturned from the top end of said panel at substantially a right angle thereto; an inclined roof frame sloping upwardly from said side wall; a roof panel slidable up and down said roof frame; a member L-shaped in cross-section and fixed to and depending from a lower end portion of the roof panel, said member comprising a face downwardly extending from the roof panel a distance to a lower edge portion and a second face turned approximately horizontally from said first face toward said side wall panel; said horizontal face being carried toward and below and engaging under said flange upon moving the roof panel up said roof frame; said flange being spaced below said roof panel a distance corresponding to the height of said member first face, the two faces of said member defining an eave closed box trim with said flange bearing on the said face thereof; the free interengaging of said second face with said flange retaining said roof panel lower end portion on said roof frame.

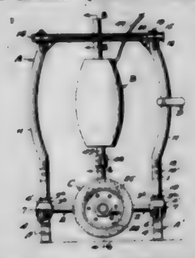
2,981,035
GRINDER
Max B. Mentley, David W. Daniel, and Zenon Kokorzycki, Detroit, Mich., assignors to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Nov. 24, 1958, Ser. No. 775,883
4 Claims. (Cl. 51—166)



1. A grinder for grinding helical teeth at the interior of elongated tubular broaches, comprising an elongated rigid bar dimensioned to be received in the interior of the tubular broach only when positioned substantially parallel thereto, a rotatable grinding wheel carried in fixed position at one end of said bar, a driven sheave fixed

to said wheel for rotation therewith, said wheel having its axis inclined obliquely to the longitudinal axis of said bar at an angle complementary to the required helix angle of the teeth to be ground on said broach, a drive sheave on said bar spaced from said one end thereof by the amount which said wheel is required to move into the broach, the axis of said drive sheave being inclined at an angle to the longitudinal axis of said bar in the same direction as the inclination of the axis of said wheel, a belt connecting said sheaves, and power means for driving said drive sheave.

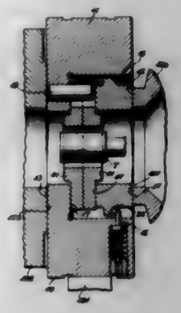
2,981,036
MOWER SECTION GRINDER
Peter A. Konzak, Brinsmade, N. Dak.
Filed June 4, 1959, Ser. No. 818,070
1 Claim. (Cl. 51—173)



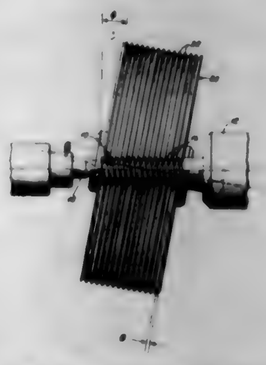
A portable, hand operable grinder for sharpening a cutting instrument having a plurality of angularly disposed cutting edges, comprising a grinding wheel having a peripheral grinding surface, a motor, and a normally upstanding, substantially rectangular frame, comprising two generally vertical side members, a lower horizontal bar and an upper horizontal member, the latter member comprising two substantially parallel spaced plates jointly defining a laterally extending rectangular opening, said horizontal member being provided with a laterally extending rack, each end of said horizontal member being affixed to the upper end portion of one said vertical side members, a plurality of laterally spaced feet having openings to receive adjustable attaching means, forwardly extending members provided with respective enlarged portions, each of said enlarged portions being swivelly connected with the lower portions of each of said vertical side members, a substantially vertical motor shaft extending through and beyond each side of said motor, the upper extension of said shaft bearing a coaxial rotable guide member engaging the rectangular opening and bearing a toothed pinion engaging the rack in said upper horizontal member, the lower extension of said motor shaft being provided with a spur gear, said grinding wheel being mounted on a shaft journalled in a carrier member provided with a laterally extending bore for slidably receiving said horizontal bar, said grinding wheel shaft being disposed at right angles to said motor shaft, said grinding wheel shaft being provided with a crown gear meshing with said spur gear, whereby said grinding wheel and said motor may be moved in a lateral direction within said frame, and said frame together with said grinding wheel and motor may be tilted manually with respect to a particular cutting edge of said cutting instrument.

2,981,037
WORKHOLDER AND METHOD FOR INTERNAL GRINDING
Charles J. Terp, Springfield, Vt., assignor to Bryant Chucking Grinder Company
Filed Apr. 17, 1958, Ser. No. 729,126
10 Claims. (Cl. 51—237)

1. A device for holding a workpiece which may have an irregular outside configuration for handling and grinding in a centric internal grinding machine of the type having a driving spindle with a work driving face normal to the rotative axis thereof and radial work supports determining the rotative axis of a workpiece, the device comprising; a portable annular body having a completely cylindrical predetermined outer periphery adapted to be frictionally contacted by the radial work supports during a grinding operation, one end face of the body being normal to the axis thereof to be driven by the driving face of the driving spindle, the body also having a workpiece containing counterbore extending thereinto from the end face opposite the normal end face, the end of said counterbore defining a shoulder parallel to the normal end face to thereby reference the end face of a workpiece held thereagainst to the driving face of the driving spindle, and means within the body for radially referencing an annular workpiece held therein to the cylindrical periphery thereof and hence to the work supports, an annular pressure plate loosely contained within the counterbore and adapted to retain a workpiece between its inner end face and the shoulder of the counterbore during handling thereof and adapted to axially and rigidly hold the workpiece in the body when an outside clamping force is applied to the normal end face and the pressure plate during the grinding operation, and detent means for holding the pressure plate within the counterbore.



2,981,038
METHOD OF GRINDING HELICAL FORMS
Ernest V. Flanders, Springfield, Vt., assignor to Jones and Lamson Machine Company, a corporation of Vermont
Filed Mar. 17, 1959, Ser. No. 799,936
6 Claims. (Cl. 51—288)



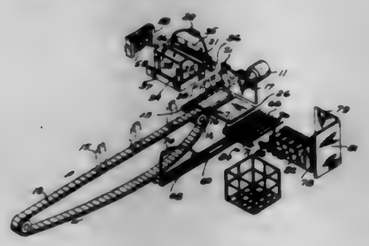
1. A method for grinding a helical form in a work piece comprising: contacting the work piece with a grinding wheel, the plane of the wheel being set at the helix angle of the desired helical form to be ground in the work piece, said grinding wheel having a helical form dressed into the surface thereof, the helical form in the periphery of the wheel having the same pitch as the helical form to be ground on the work piece, the diameter of the wheel being sufficiently large with respect to the diameter of the work piece that the helix angle of the helical form on the periphery of the wheel is negligible, rotating the work piece and the wheel at the same angular velocity, and moving said work piece and wheel relative to each other only in a direction substantially radially of the work piece to simultaneously grind the threads of the work piece by the wheel.

2,981,039
TRAY PACKAGE AND METHOD OF PACKAGING
Ernest F. Pohl, 39—25 51st St., Woodside, N.Y.
Filed Jan. 26, 1956, Ser. No. 561,527
2 Claims. (Cl. 53—29)



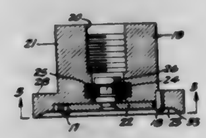
1. In the method of making tray packages for packaging individual serving containers in lot packages, the step of supplying a stack of package tray blanks folded flat, making said blanks of usual box form folded flat across its diagonal side corners and having openings in the top panel for holding said containers, and ends with end flaps extending from said top panel, unfolding a package tray blank, folding its side flaps inwardly, folding said ends downwardly, and slipping the end flaps into the bottom of the box under the lower edges of said side flaps to form a rigid box tray, feeding individual containers to each opening in said trays, and after filling and sealing said containers, providing a stack of cover blanks having substantially the same form and dimensions as said tray blanks minus the bottom panel, and having wider side and end panels to accommodate the protruding tops of the containers in said openings, placing a cover blank over said package tray, folding down the side panels and folding the side flaps over the ends of the tray, then folding down the ends and inserting the end flaps into the bottom of the box under the lower edges of said side flaps and under the end flaps of the box, and pushing said cover end flaps fully in to hold the cover firmly in place over the top of said containers.

2,981,040
AUTOMATIC CARTON CASER
Leslie A. Mapes, 9 Drury Lane, Palisade, N.J.
Filed Feb. 20, 1959, Ser. No. 794,546
21 Claims. (Cl. 53—62)



1. A container handling apparatus comprising, in combination, a case elevator adapted to elevate a case from a lower position to a higher position to receive a group of said containers and to move said case containing said containers to said lower position where discharge of the filled case takes place, a horizontally reciprocable supporting member movable from a first position to one side of said case on said case elevator to a second position above said case on said case elevator, means for moving a group of containers onto said supporting member when in position above said case, means for engaging the side walls of containers in said group and exerting a holding pressure on said group of containers while on said supporting member, in said second position, means for moving said supporting member to said first position while said containers are so held, means for raising said case elevator with the case thereon into position to receive said group of containers, means for releasing the holding pressure on said group of containers, means for lowering the case with said containers therein, and means for effecting the discharge of the filled case.

2,981,041
APPARATUS FOR DATING CLOSURE MEMBERS IN CODED FORM
John B. Melville, 20301 S. Western Ave., Torrance, Calif.
Filed Nov. 19, 1957, Ser. No. 697,498
5 Claims. (Cl. 53—131)

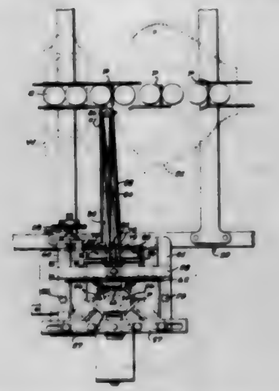


1. A pressure foot for use in producing coded indentations in a deformable closure member while the same is being secured to a container comprising in combination a member, means on said member for releasably securing the same in a mechanism for securing said closure member to said container, a disc, said disc having a shaft extending therefrom, a resilient O-ring between said shaft and said member in which said disc is rotatably and resiliently mounted, a projection extending outwardly from said disc for producing an indentation in said closure member, said disc having a series of peripheral notched portions, and a second projection on said member, for producing an indentation in said closure member, and being engageable with a selected one of said notched portions to maintain said disc in a selected indexed position.

2,981,042
MEANS FOR PLACING INSERTS BETWEEN CONTINUOUSLY TRAVELING ARTICLES DURING PACKAGING THEREOF
Hermond G. Gentry, Atlanta, Ga., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Aug. 21, 1958, Ser. No. 756,364
6 Claims. (Cl. 53—157)

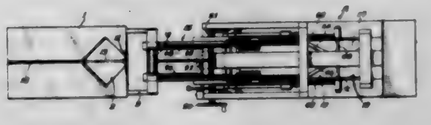
1. Apparatus for packaging articles in wrapper blanks comprising means for maintaining said articles traveling continuously in successive package groups of the size to be packaged in said wrapper blanks, and means for placing inserts transversely between articles of each of said continuously traveling package groups prior to wrapping said blanks thereon, said last mentioned means including a delivery conveyor operating sidewise of said continuously traveling package groups for placing said inserts upon delivery in transverse separating relation between articles thereof, a hopper feeder arranged to transfer said

inserts serially from a supply thereof to said delivery conveyor, and means for operating said hopper feeder



and delivery conveyor in timed relation to the continuous travel of said package groups.

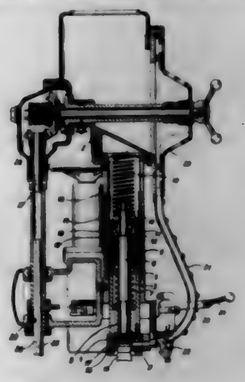
2,981,043
WRAPPING MACHINE
Bengt A. Arvidson, Chicago, Ill., assignor to Miller Wrapping & Sealing Machine Co., a corporation of Illinois
Filed Feb. 26, 1957, Ser. No. 642,526
6 Claims. (Cl. 53—206)



1. A wrapping machine for making corner wraps in a thin wrapping material such as cellophane or the like banded about an article and having corner flaps extending from the opposite ends thereof, comprising, means for making a narrow tack in each extended corner flap primary to plow operations for completing the wrap comprising means for advancing an article to a tack station, a plow adjacent each end of the article for placing a tuck in the leading edge of the corner flaps as the article is advanced to the station, means operative upon the article when at the station to place tucks in the trailing edges of the corner flaps, and means for heat sealing a portion of the extended corner flaps including the tucked portions while engaged by the plows and the tuck placing means to make a tack to strengthen the extended corner flaps and to avoid drag-back thereof in succeeding plow operations.

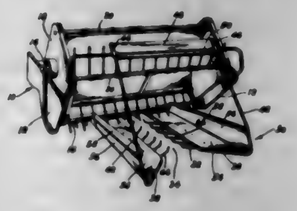
2,981,044
BOTTLE CLOSING MACHINE
Erich Müller, Rothenbach Pegnitz, Germany, assignor to Keller & Romer G.m.b.H., Nurnberg, Germany, a firm
Filed Feb. 18, 1959, Ser. No. 794,074
6 Claims. (Cl. 53—310)

1. In a bottle closing machine, in combination, a head comprising a reciprocating support; a spring-loaded tubular closure member resiliently and movably mounted on said support, and including a throat portion for receiving a crown cap and formed with an opening matching the neck of a bottle so that said closure member resiliently yields when engaging a misaligned bottle neck; a plunger movably mounted in said tubular closure member and having an end portion located in said throat portion aligned with said opening to abut a crown cap on a bottle neck located in said opening; spring means between said plunger and said tubular closure member whereby said closure member moves relative to said plunger when the same is stopped by the bottle neck; and coupling means for rigidly coupling said closure member with said sup-



port, said coupling means being operatively connected to said plunger and actuated by the same during said relative movement to first rigidly couple said closure member with said support until the crown cap is attached by said crown throat and to then move to a releasing position.

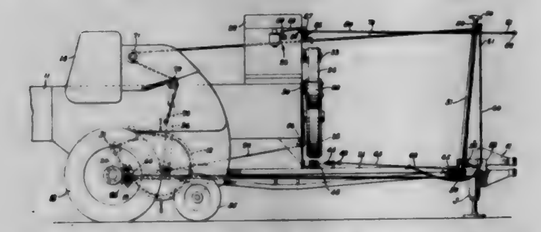
2,981,045
ROW CROP ATTACHMENT FOR FORAGE HARVESTER
Allison W. Blanshine, Lititz, and Robert L. Steely, Denver, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Oct. 29, 1958, Ser. No. 770,438
9 Claims. (Cl. 56—99)



1. A row crop attachment for use with a sickle-type harvester comprising a frame, a plurality of laterally arranged sickle guards on said frame, a cross-bar on said frame above said guards, and a pair of laterally spaced crop dividers each having an upper portion having selective engagement with said cross-bar and each of said dividers having a lower portion having engagement with at least a selected one of said guards, whereby said dividers may be adjustably positioned laterally of said frame of said harvester.

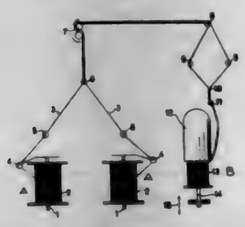
2,981,046
PICK-UP AND BALER CONTROL MEANS
James H. Hollyday, New Holland, and Robert G. Young, Bird in Hand, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Feb. 2, 1959, Ser. No. 790,664
3 Claims. (Cl. 56—341)

1. In an automatic, engine mounted hay baler having a wheel supported frame, a pick-up, means mounting said pick-up on said frame for vertical adjustment relative thereto, a fore-and-aft extending tongue pivotally connected adjacent its rear end to said frame and having a hitch at its forward end connectable to a vehicle for towing the baler, means latching said tongue to said baler in pivotally adjusted position, a motor mounted on said baler, a throttle controlling the speed of said motor, a baler drive mechanism, means including an endless belt drivingly connecting said motor to said baler drive mechanism, and a tightener supported on said baler and swingable toward and away from said belt to tighten and loosen same, the combination of a control stand extending upwardly from said tongue and having a section within reach of the vehicle operator, means connecting the lower end of said control stand to said tongue for



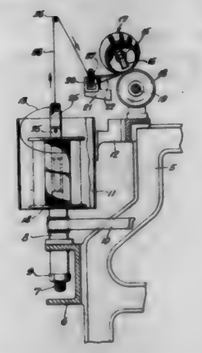
adjustment relative thereto whereby the position of said stand section can be varied according to the desire of the operator, means connected to said pick-up and extending therefrom to said stand section for vertically adjusting the pick-up, operating means connected to said tongue latching means and extending therefrom to said stand section for operating the tongue latching means, control means connected to said throttle and extending therefrom to said stand section for controlling said throttle, and means connected to said belt tightener and extending therefrom to said stand section for moving said tightener toward and away from said belt.

2,981,047
METHOD AND DEVICE FOR MANUFACTURING A TIRE CORD CONSISTING OF TWO ELEMENTS
Hubertus V. P. Heukensfeldt Jansen, Nijmegen, Netherlands, assignor to Kunstzijdespinnerij Nyma N.V., Nijmegen, Netherlands, a limited-liability company of the Netherlands
Filed June 3, 1957, Ser. No. 663,160
2 Claims. (Cl. 57—60)



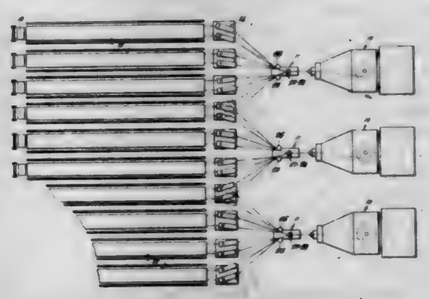
1. A method of manufacturing tire cord which comprises subjecting at least two filaments to the action of twisting instrumentalities; jointly advancing the filaments from the twisting instrumentalities without changing their twisted condition; subjecting the filaments to the spreading action of separate guide members; directing the filaments to a twisting point and simultaneously untwisting the filaments; and twisting the filaments into a cord by subjecting the filaments to the action of a cap twisting apparatus in such manner that the cord defines one leg of a Y and the filaments between their guide members and the twisting point define other legs of the Y, the cap twisting apparatus imparting to the filaments a twist in a direction opposite to that imparted to said filaments by the twisting instrumentalities.

2,981,048
YARN CONTROL DEVICE FOR UPTWISTERS
David G. Burnell, Lexington, Va., assignor to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed July 28, 1959, Ser. No. 830,130
2 Claims. (Cl. 57—62)



1. In an uptwister having a rotating vertical spindle, a frame in which said spindle is journaled, a cylindrical balloon guide concentric with and surrounding the upper part of said spindle, a horizontal take-up spindle, a builder cylinder for driving a yarn package on said take-up spindle, and a builder motion for traversing the twisted yarn across the periphery of said builder cylinder, the improvement which comprises a stationary yarn guide mounted above the builder motion, and a twist block mounted on the upper end of the spindle in substantial vertical spaced relation above the top of the balloon guide.

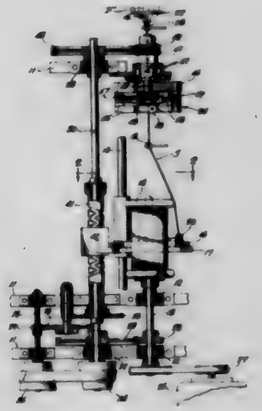
2,981,049
APPARATUS FOR MAKING MULTI-UNIT CABLE
Charles H. Crosby, Cranford, William T. Hicks, Glen Rock, Axel C. Nystrom, Rutherford, and Roger R. Wahlberg, Bloomfield, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 13, 1959, Ser. No. 826,717
5 Claims. (Cl. 57—66.5)



1. An apparatus for manufacturing cables comprising a plurality of supply stands having parallel rows of supporting units for strand supply reels, spaced take-up units including core trucks driven about their axes to take-up thereon cable cores formed of groups of the strands and rotated about axes at right angles to the core truck axes to put twists in the cables, core binders mounted in advance of the take-up units to bind cable units formed of the strands into the cable cores, unit binders for the groups of strands of their respective rows of supply reels, and means to rockably support the unit binders for di-

rection of their cable units in like and varied numbers to the core binders for stranding cable units and forming cable cores of like and variable sizes thereof simultaneously.

2,981,050
TWISTING MACHINES
William Dewhirst, Philadelphia, Pa., assignor to Haskell-Dawes Machine Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed May 20, 1958, Ser. No. 736,608
8 Claims. (Cl. 57—75)



8. For a ring twister operable to produce a given twist in a strand and having a vertically disposed take-up spindle, a vertically reciprocable ring surrounding said spindle, a traveler on said ring, and means to supply a plurality of strands to said traveler; a compressor intermediate said supply and said traveler to receive said plurality of strands and compact the same into a single strand; a flyer assembly intermediate said compressor and said traveler, said flyer assembly comprising a flyer head, means to rotate said flyer head about its axis, a drive capstan for the compacted strand, an elongated rotary hollow socket mounting said capstan coaxially within said head, means to rotate said socket and capstan, a twisting pulley mounted in said head tangentially in spaced alignment with the bore of said socket to receive the strand passing from said compressor through the bore of said socket, and guide means to direct the yarn from said twisting pulley around said capstan to be advanced thereby and back over said twisting pulley, whereby said pulley forms a twisted strand at said compressor; and drive means for said flyer-head rotating means to rotate the head at a speed and direction to twist the strand at said compressor in the same direction and approximately the same number of turns as the given twist produced by the said ring twister.

2,981,051
SPINDLE BEARING ARRANGEMENT
Eugen Maurer, Panoramaweg 13, Murrhardt, Württemberg, Germany
Filed Feb. 13, 1958, Ser. No. 715,080
Claims priority, application Germany Apr. 30, 1957
11 Claims. (Cl. 57—134)

11. In a spindle bearing arrangement, in combination, an elongated tubular housing having an elongated lower portion of a smaller diameter than an elongated upper portion in the interior of the housing, said housing having in its interior an upwardly directed annular shoulder located between said upper and lower interior portions thereof; a spindle extending substantially coaxially along the interior of said housing in said upper and lower portions thereof; a bearing sleeve surrounding said spindle with clearance and also located in said upper and lower interior portions of said housing; a bearing head fixed to a portion of said bearing sleeve in said upper interior portion of said housing, said bearing head being made from non-corroding material; a bushing engaging the exterior surface of said bearing head and also engaging said shoulder so that said bearing sleeve is supported through said bushing and bearing head on said shoulder and so that said bearing head is separated from said shoulder by said bushing; a thrust bearing carried by said bearing sleeve at a bottom end portion thereof and engaging the bottom end of said spindle for supporting said spindle for rotation at its bottom end; a roller bearing located in said housing over said bearing sleeve and engaging said spindle for supporting the same for rotation in said upper portion of said housing, said roller bearing having an outer race ring fixed immovably with said



housing; a brake ring carried by the exterior of said bearing sleeve in said lower portion of said housing adjacent the bottom end of said bearing sleeve; a damping sleeve surrounding said bearing sleeve and having a bottom end engaging a top end of said brake ring; spring means located in said lower portion of said housing and being in the form of a coil spring surrounding said bearing sleeve and acting downwardly on said damping sleeve for urging the latter toward said brake ring, said coil spring having an upper end bearing against said bushing which engages said shoulder; a pair of bearing cover rings respectively engaging upper and lower faces of said roller bearing; a coil spring surrounding said spindle, engaging said bearing head engaging said shoulder, and engaging the lower of said bearing cover rings for urging the latter upwardly against said roller bearing; and additional spring means located in said housing over the upper one of said bearing cover rings for urging the latter downwardly against said roller bearing.

2,981,052
TWINE
Richard MacHenry, Prospect Park, Pa., assignor to American Viscose Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 22, 1957, Ser. No. 698,102
4 Claims. (Cl. 57—154)



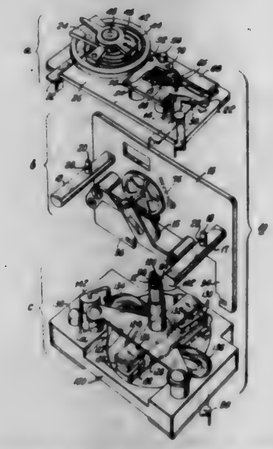
1. A twine especially adapted for binding bales of green hay and the like comprising a plurality of individual bundles of continuous rayon filaments and a plurality of separate, individual continuous strips of flexible sheet material, said bundles and strips being twisted together.

2,981,053
STEEL WRAP METHOD FOR BOWSTRING LOOPS
Steele Harrison, 1–15 Berdan Ave., Fairlawn, N.J.
Filed Mar. 1, 1960, Ser. No. 12,089
3 Claims. (Cl. 57—160)



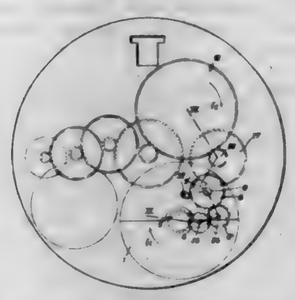
1. The method of wrapping a bowstring loop comprising the steps of: singly wrapping a first portion, forming said wrapped first portion into a loop having a bight and a pair of sides, applying a securement wrap to said sides of said loop to maintain said loop in proper form, wherein said securement wrap is applied first at a position spaced from said sides of said loop and wound in a direction away from said bight a short distance and then toward said bight to form a first overwrap, and wherein said securement wrap is terminated by a second overwrap at the ends of said sides of said loop.

2,981,054
TIME-PIECE
Frederic Marti and Georges Braunschweig, both of 165 Rue Numa-Droz, La Chaux-de-Fonds, Switzerland
Filed Jan. 27, 1959, Ser. No. 789,391
12 Claims. (Cl. 58—28)



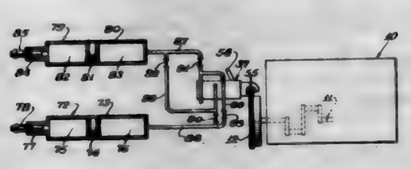
1. An improved time-piece having great accuracy and efficiency, comprising: a mechanically oscillatable member, a pivoted impulse lever, spring means biasing said lever in one direction, magnetic latch means for holding said lever in cocked condition against the action of said spring means, said oscillatable member being adapted periodically to contact said lever and un-latch it to receive an impulse of energy stored in said spring means, a gear train adapted to drive time-indicating hands, a continuously rotating motor, and clutch means for periodically during a short instant coupling said motor to said gear train and for re-cocking said lever, said clutch means being timed in operation by said oscillatable member, whereby the accuracy of said time-piece is independent of the speed of said motor over a wide range.

2,981,055
SELF-WINDING TIME-PIECE
Jean-Michel Froidevaux and Fred Landi, Geneva, Switzerland, assignors to Manufacture des Montres Universal Perret Freres, Geneva, Switzerland, a Swiss firm
Filed May 28, 1956, Ser. No. 587,771
Claims priority, application Switzerland May 27, 1955
4 Claims. (Cl. 58—82)



1. In a self-winding substantially round watch, the combination of a barrel including a mainspring, a balance wheel, a movement operatively connecting the balance wheel with the barrel, a rocking weight freely revoluble round an axis eccentric with reference to that of the watch and adapted to turn in an unlimited manner round said axis in both directions, a wind up gearing extending in superposed relationship with reference to the rocking weight, controlled by the latter and adapted to drive the barrel and wind the spring in the latter upon rotation of the weight in either direction and a plate arrangement carrying the system constituted by said barrel, movement and balance wheel and the further system constituted by said superposed rocking weight and wind-up gearing, said systems lying in side-by-side relationship and having substantially the same total height.

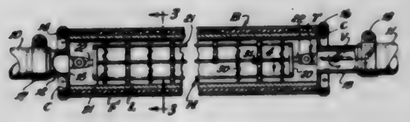
2,981,056
APPARATUS FOR STARTING INTERNAL COMBUSTION ENGINES
Adna R. Clark, Clarendon Hills, and George E. Coleman, Elmhurst, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 7, 1958, Ser. No. 719,868
4 Claims. (Cl. 60—17)



1. Apparatus for starting an internal combustion engine having a crankshaft, the apparatus comprising a pair of accumulators and each of the accumulators including a cylinder and a free piston in the cylinder dividing the cylinder into a pair of chambers and a cartridge disposed in one chamber adjacent one end of the cylinder and a firing mechanism mounted on said one end of the cylinder and the other chamber containing a fluid, a fluid motor having an inlet and an outlet and having a shaft operatively connected to the crankshaft of the engine, the other chamber of one accumulator being in communication with the inlet of the fluid motor and the outlet of the fluid motor being in communication with the other chamber of the other accumulator and said other chamber of said other accumulator being in communication with the inlet of the fluid motor and the outlet of the fluid motor being in communication with said other

chamber of said one accumulator, and one way check valve means between the other chamber of each accumulator and the motor directing the fluid to the motor and then to each of the other chambers, the cartridge in said one accumulator being fired causing the piston to move fluid out of said other chamber into the inlet of the fluid motor through the fluid motor to crank the engine and out the outlet of the fluid motor into said other chamber of said other accumulator with the cartridge and the firing mechanism removed that said one chamber of said other accumulator is open to the atmoshpere and the next time the engine is started the cartridge and the firing mechanism in said other accumulator being again disposed in said one chamber and fired so that its piston moves fluid out of said other chamber into the inlet of the fluid motor and through the fluid motor to crank the engine and out the outlet of the fluid motor into said other chamber of said one accumulator with the firing mechanism removed that said one chamber of said one accumulator is open to the atmosphere.

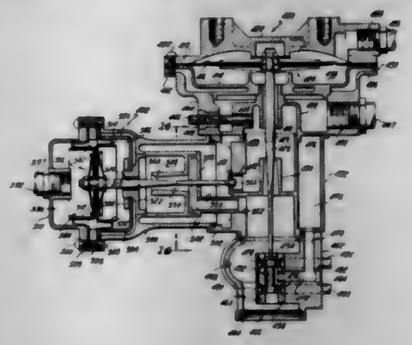
2,981,057
COMBINATION MUFFLER AND AFTER BURNER
John Allen Buttler, 1601 Venice Blvd., Los Angeles, Calif.
Filed Aug. 20, 1959, Ser. No. 835,072
9 Claims. (Cl. 60—29)



1. A combined auto exhaust muffler and after burner structure, including, an elongate, tubular body, closures at the ends of the body and inlet and outlet tubes carried by the closures and adapted to engage with the header and tail pipes of an auto exhaust system, a plurality of longitudinally spaced baffle screens in the body, an elongate heater element of resistance rod extending through and supported by the baffle screens and electrical contact posts supported on the body and having inner ends connected with the heater element and outer ends connected with the electrical system of the auto to which the structure is related.

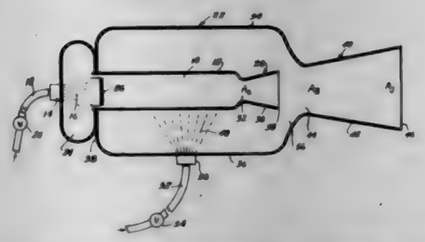
2,981,058
MULTIPLE PRESSURE SENSING, INDICATING AND CONTROL APPARATUS
Wendell E. Reed, Chula Vista, Calif., assignor to Solar Aircraft Company, San Diego, Calif., a corporation of California
Filed Sept. 16, 1955, Ser. No. 534,862
5 Claims. (Cl. 60—35.6)

5. A differential pressure responsive unit for maintaining a ratio between a first variable pressure source and a second variable pressure source as a function of the ratio between the pressure at said first variable source and pressure at a third variable source comprising, a pair of independent pressure responsive elements; means forming independent static pressure chambers at one side of each of said elements; means forming independent flow chambers at the opposite side of each of said elements; means forming an inlet orifice and an outlet orifice in series in each of the respective chambers at one side of each of said pressure responsive elements; means for connecting each of said inlet orifices to said first pressure source; means for connecting each of said outlet orifices to a relatively low pressure area; means for connecting one of said static pressure chambers to said second pressure source; means for connecting the other of said static chambers to said third pressure source; a first control needle movable with one of said pressure responsive elements and having tapered control portions extending through and controlling the effective area of an orifice of one of said flow chambers and an orifice in the other of said flow chambers; a second control needle movable with the other pressure responsive element having a tapered control portion ex-



tending through and controlling the effective area of an orifice in the other flow chamber; a control element attached to and movable with said second control needle externally of said chambers; and means responsive to the movement of said element to control the magnitude of the pressure at at least one of said first and second sources.

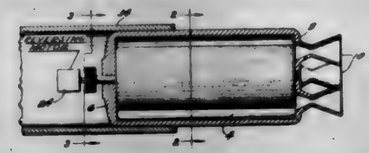
2,981,059
DUAL THRUST CHAMBER ROCKET
John W. Horner, Whittier, and Arthur J. Rothenberg, Culver City, Calif., assignors to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed Feb. 4, 1958, Ser. No. 713,240
3 Claims. (Cl. 60—35.6)



1. A propulsion mechanism for jet propelled aircraft or the like wherein sustaining and boost levels of thrust are obtained for high altitude and low altitude flight comprising a thrust sustaining gas generating chamber, means for continuously delivering sustaining fuel to said sustaining chamber, a flight sustaining nozzle connected to said sustaining chamber, a boost gas generating chamber, means for delivering boost fuel to said boost chamber during boost periods of flight, and a boost nozzle connected to the boost chamber and positioned coaxial with the sustaining nozzle and with its throat spaced downstream from the end thereof forming an annular boost gas flow space at the end of the sustaining nozzle leading to the boost nozzle, the inner diverging surface of said boost nozzle sufficiently spaced axially from the sustaining nozzle to accommodate a flow of gas and forming a substantially parallel continuation of the inner diverging surface of the sustaining nozzle with substantially the same rate of expansion so that both nozzles will act as a single nozzle during sustaining flight and there is no base drag from an inoperative boost nozzle during the sustaining portion

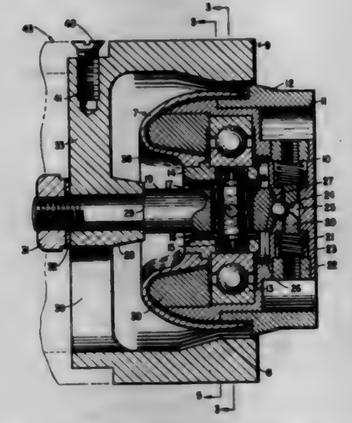
of flight with a high nozzle area ratio for high altitude sustaining flight and so that the boost nozzle alone will have a relatively low nozzle area ratio for boost gases for low altitude flight.

2,981,060
ROCKET CONSTRUCTION
Gilbert C. Barnes, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 25, 1959, Ser. No. 801,900
4 Claims. (Cl. 60—35.6)



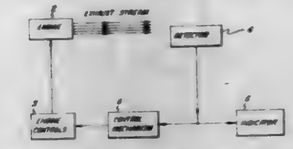
1. A solid fuel rocket including a combustion chamber, at least one thrust nozzle for said chamber, a plurality of solid propellants in said chamber, one of which alone will not support combustion but which together in close proximity will support combustion and means for varying the effective distance between the solid propellants.

2,981,061
GYROSCOPIC STABILIZER FOR ROCKET
Robert W. Lilligren, 111 Eucalyptus Drive, El Segundo, Calif.
Filed July 3, 1959, Ser. No. 824,820
5 Claims. (Cl. 60—35.55)



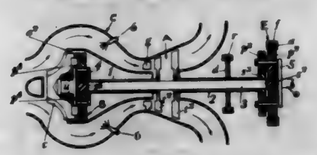
1. In a gyroscopic stabilizer for rockets and the like, in combination: an annular housing constituting the exhaust end of a rocket and having an internal wall coaxial with the major longitudinal axis of said rocket; a gyroscopic rotor disposed at least partially within said housing with its external wall spaced radially inwardly from said internal wall to constitute therewith an annular nozzle for exhaust of propellant gas from the rocket, an annular exhaust orifice being defined between the periphery of said rotor and said internal wall at the rear end of said nozzle, said rotor having on its periphery a multiplicity of turbine vanes responsive to the flow of gas through said nozzle to effect gyroscopic rotation of said rotor; and universally pivotal and rotatable bearing means carried by said housing and supporting said rotor for such gyroscopic rotation on a gyroscopic axis normally coincident with said rocket axis, said housing mounting said bearing means for universally pivotal movement about a center located on said axis, said rotor having an external wall so contoured as to vary said orifice in response to angular deviation of said rocket axis from said gyroscopic axis, by enlarging said orifice on the side toward which the nose end of the rocket has deviated, whereby to enlarge the exhaust and consequently augment the thrust at that side with a resultant turning movement correcting the deviation.

2,981,062
METHOD AND APPARATUS FOR SAFE OPERATION OF ENGINES
Keith G. Zelden, Los Angeles, Calif., assignor to Arnoux Corporation, Los Angeles, Calif., a corporation of California
Filed May 21, 1957, Ser. No. 660,555
7 Claims. (Cl. 60—39.09)



1. An alarm system for indicating hazardous operation of internal combustion aircraft engines and the like comprising means positioned in the exhaust stream of the engine for detecting the products of internal deterioration of the engine parts in the form of solid particulate matter in the engine exhaust, means for sensing the amount of such solid particulate matter in the exhaust stream, and means responsive to said detecting and sensing means for generating an alarm signal when the amount of solid matter detected in the exheaust stream exceeds a predetermined limit.

2,981,063
VARIABLE SPEED POWER TRANSMISSION MECHANISMS
Axel Charles Wickman, 14 S. Hibiscus Drive, Hibiscus Island, Miami Beach, Fla.
Filed June 16, 1958, Ser. No. 742,176
Claims priority, application Great Britain June 17, 1957
3 Claims. (Cl. 60—39.16)

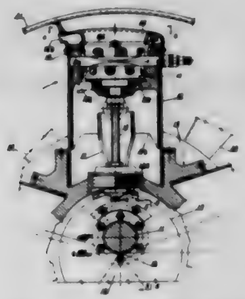


1. An automatically variable power transmission mechanism comprising in combination, a gas turbine having at least two independently rotatable rotors arranged in series, an output shaft, a rotary air compressor, a combustion chamber from which motive gas is supplied to the turbine under the action of the air compressor, a first epicyclic mechanism connecting at least one of the turbine rotors to the output shaft, and a second epicyclic overdrive mechanism connecting another of the turbine rotors to the air compressor, the second epicyclic mechanism having a reaction member connected to the first epicyclic mechanism.

2,981,064
ENGINE OF THE EXPANSION-REACTION TYPE
Leslie W. Beaven, 44 E. Washington St., Palatine, Ill.
Filed Mar. 11, 1957, Ser. No. 645,225
3 Claims. (Cl. 60—39.34)

1. In a heat engine of the expansion-reaction type employing an elastic motivating fluid, said engine com-

prising a cylinder and a piston forming an expansion chamber, a crank-throw and connecting-rod means interconnecting said piston and crank-throw, and wherein said cylinder is power-rotated about said crank-throw, said cylinder having an exhaust orifice for the escape of the exhaust gases therefrom, after a primary expansion phase therein, said orifice being directed to discharge said gases contraspinwise, in relation to the rotation of said orifice, in a secondary expansion phase to add boosting reaction power to the power rotation of said cylinder, valve means for periodically opening and closing said



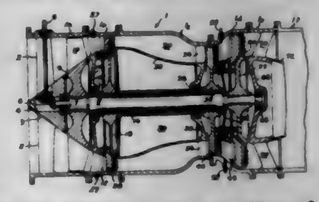
expansion chamber, a throttle for said engine, a design throttle setting of said throttle, said setting establishing roughly seven-tenths of full throttle opening, said cylinder being provided with a bore and said piston with a stroke, such as to handle, at said design throttle setting, its most efficient work load, known as design throttle rating of power, said engine being so proportioned as to bore to stroke ratio, that a condition of exhaust stasis of said gases prevails at said exhaust orifice, while said engine thus loaded and thus throttled, is maintained in established operation.

2,981,065
RAMJET DEVICE
David H. Sloan, Berkeley, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 26, 1951, Ser. No. 207,948
4 Claims. (Cl. 60—39.72)



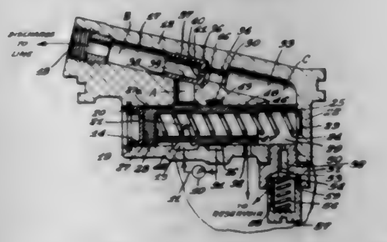
1. In an aerial missile of the ramjet type, a combustion chamber for the passage of an air-fuel mixture including an inner cylindrical member mounted in said chamber in the longitudinal direction of said missile, a plurality of substantially concentric duct-like members defining a plurality of annular chambers about said inner cylindrical member, said duct-like members terminating in axially spaced relationship to propagate flame successively to adjacent chambers, a shroud-like member in one of said duct-like members which substantially closes said one duct-like member so that a small quantity of said air-fuel mixture may pass behind said shroud into a protected area in said one duct-like member, at least one igniter in said protected area of said one duct-like member to ignite the air-fuel mixture contained in said protected area therein, the combustion of said air-fuel mixture in said shrouded duct-like member heating the duct wall thereof to communicate heat to the air-fuel mixture in the adjacent chamber, and means in the downstream end of said combustion chamber and located between said inner cylindrical member and the end of the duct-like member which terminates the furtherest downstream to restrict the flow of the air-fuel mixture and products of combustion in order to produce high pressure in the upstream chambers and extreme turbulence in the downstream portion of the commingled air-fuel streams.

2,981,066
TURBO MACHINE
Elmer G. Johnson, 54 N. Grand Ave., Fairborn, Ohio
Filed Apr. 12, 1956, Ser. No. 577,982
14 Claims. (Cl. 60—39.74)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In an axial flow gas turbine machine of the character described, means for introducing fuel into the air stream flowing through said machine for combustion therein comprising a bladed rotor, at least one stage of the blades on said rotor being adapted for transonic and supersonic flow, the blades of said stage defining a cascade having fluid flow passages therebetween effective to alter the rotational component of the fluid flow therethrough, the blades of said rotor stage having their maximum thickness adjacent the exit ends of the flow passages and of the order of one-third the blade spacing, the blade thickness decreasing abruptly from the point of maximum thickness so as to produce a divergent flow with large wakes behind the blades at the point of flow separation substantially equal to the maximum blade thickness and a means for spraying fuel into the zones of the wakes formed in the flow behind the blades of the rotor.

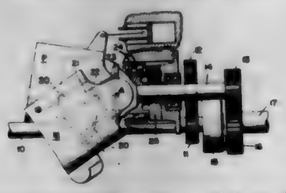
2,981,067
FLOW REGULATOR
Hubert M. Clark, Bloomfield Township, Oakland County, Mich., and William T. Livermore, Phoenix, Ariz.; said Clark assignor to Thompson Ramo Wooldridge Inc., a corporation of Ohio
Filed July 6, 1959, Ser. No. 825,317
8 Claims. (Cl. 60—52)



1. A flow regulator apparatus, comprising a pump for discharging a stream of pressurized fluid, means forming a valve body having a movable spool valve therein, said valve body forming an annular discharge recess around said spool valve having an annular peripheral recess formed therein in register therewith to receive the stream of fluid discharged by said pump, said spool valve having a front motive surface at the end of said valve subject to fluid at pump discharge pressure, means forming a first orifice through which the stream of fluid is passed, said spool valve having

a back motive surface means, a coil spring bottomed against said back surface means and against said valve body to bias said spool valve in one direction, said body having an annular bypass recess spaced axially from said discharge recess, means forming a pressure chamber behind said back motive surface of said spool valve, means forming a second orifice through which said pressure chamber communicates with said stream downstream of said first orifice, said spool valve responding to a predetermined pressure differential between said discharge recess and said pressure chamber and movable against the bias of the spring in a shifted position whereupon said spool valve recess bridges said discharge recess and bypass recess.

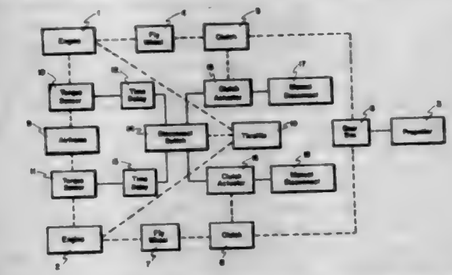
2,981,068
HYDROSTATIC TRANSMISSION WITH SLEWABLE PUMP AND MOTOR AGGREGATE
Hans-Joachim M. Foerster, Stuttgart-Bad Cannstatt, and Fritz G. Grabow, Stuttgart-Unterturkheim, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Aug. 13, 1956, Ser. No. 616,670
Claims priority, application Germany Aug. 16, 1955
9 Claims. (Cl. 60—53)
(Filed under Rule 47(a) and 35 U.S.C. 116)



1. A hydrostatic transmission comprising a driving shaft and a driven shaft, a pump unit and a motor unit, said pump unit comprising a structure including a first set of cylinders and pistons disposed in a first rotatable drum, said motor unit comprising a structure including a second set of cylinders and pistons disposed in a second rotatable drum, said structures being integrally joined and slewable about a common axis, said pistons of said pump and said motor units having variable stroke lengths, means for slewing said structures about said axis, a driving disk operatively connected to said first rotatable drum, a driven disk operatively connected to said second rotatable drum, a first shaft connected to said driving disk, a second shaft connected to said driven disk, the axis of said first rotatable drum being disposed at a first variable angle to the axis of said first shaft, the axis of said second rotatable drum being disposed at a second variable angle to the axis of said second shaft, the stroke lengths of the pistons of said first set of cylinders and pistons being determined by the extent of said first variable angle, and the stroke lengths of the pistons of said second set of cylinders and pistons being determined by the extent of said second variable angle, said angles being unequal and varying in accordance with the slewing of said integrally formed structures about said axis, gearing connecting said driving shaft and said first shaft, and gearing connecting said second shaft and said driven shaft, said common axis and said disk lying in a common plane transverse to said shafts.

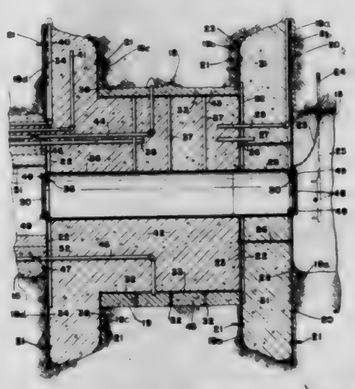
2,981,069
TWIN-ENGINE AIRCRAFT PROPELLER DRIVE
William P. Lear, Pacific Palisades, Calif., assignor to Lear, Incorporated
Filed May 1, 1958, Ser. No. 732,393
2 Claims. (Cl. 60—97)

1. Means for propelling an aircraft with improved dependability, comprising a propeller, two engines mounted in said aircraft, clutch means drivingly connecting each of said engines independently to said propeller, an individual actuator for actuating each said clutch means, throttle means for controlling the power produced by said engines, means for sensing the magnitude and direction of torque reaction between each said engine and said



aircraft, means for controlling said actuator means for the said clutch for each said engine in delayed response to its respective said torque reaction sensing means, and means responsive to said throttle control means for rendering said actuator controlling means inoperative for throttle setting corresponding to less than a predetermined percentage of rated output of said engines.

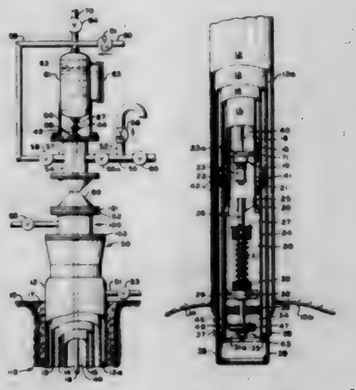
2,981,070
SEAL STRUCTURE FOR UNDERGROUND LIQUID STORAGE FACILITY
Dwight H. Seely, Jr., Oklahoma City, Okla., assignor to Sohio Petroleum Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 31, 1955, Ser. No. 531,689
3 Claims. (Cl. 61—.5)



1. In combination with an underground storage cavern, a passage communicating with the cavern having a pair of spaced-part lateral enlargements in the wall thereof forming continuous trenches of appreciable depth and limited axial extent in the material bounding the passage, the side walls of said trenches being substantially normal to the axis of the passage and the extent of the latter between the trenches also being enlarged with respect to the normal cross-section of the passage but to a lesser extent than the trenches, a pair of metal bulkheads of considerably larger area than the passage disposed in one of said trenches with their peripheral portions respectively against the side walls of said one trench, whereby said bulkheads extend in substantially parallel axially spaced relation transversely of the passage and substantially into the boundary material beyond the wall of the passage, a first mass of substantially incompressible set material com-

pletely filling said one trench between the peripheral portions of the bulkheads therein and against the bottom of the trench, said first mass further extending inwardly between the bulkheads well beyond the thus embedded peripheral portions of the same, a second mass of substantially incompressible material extending along the wall of the passage between the two trenches and filling the other of said trenches, the second mass also extending inwardly over the length thereof well beyond the portions thereof embedded in the boundary material between the trenches and in said other trench, said pair of metal bulkheads and first and second masses of substantially incompressible material together forming an embedded seal structure of general spool shape in the passage, and sealing compound disposed under substantial pressure between the outer periphery of the intermediate portion of said structure, between the relatively enlarged ends thereof defined by the trenches, and the boundary material surrounding said intermediate portion to form a tight bond therewith.

2,981,071
SAFETY APPARATUS FOR UNDERGROUND PRESSURE FLUID STORAGE
Carl T. Brandt, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 12, 1958, Ser. No. 734,630
6 Claims. (Cl. 61—.5)



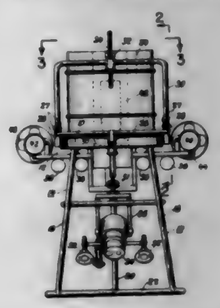
1. A system for storing a fluid under a superatmospheric pressure comprising in combination a subterranean container having enclosing side, bottom and top walls for holding a fluid under superatmospheric pressure, a first tubular member extending from aboveground through said top wall and terminating at a level adjacent said top wall, a second tubular member disposed within said first tubular member and extending from aboveground to a level above the bottom end of said first tubular member, said first and second tubular members being so disposed as to provide a first annulus therebetween, a slip-joint means supported at the upper end of said first tubular member, said slip-joint means being affixed fluid-tight with respect to said first and second tubular members, means sealing the lower end portion of said second tubular member fluid-tight to said first tubular member, stop means supported by said first tubular member limiting downward movement of said second tubular member when said second tubular member is installed in said first tubular member, a normally closed foot valve intermediate the lower ends of said first and second tubular members, a foot valve opening means supported by the lower end portion of said second tubular member, said foot valve opening means bearing against said foot valve thereby biasing said foot valve open when said second tubular member is disposed against said stop means, a normally closed hydraulically operable motor valve supported in said second tubular near its lower end but above said foot valve opening member, a third tubular member operatively communicating with said motor valve and extending from said motor valve through said slip-joint means to a level thereabove, said second and third tubular members being so disposed as to provide a second annulus therebetween, means sealing the upper end of said second annulus fluid-tight, a conduit communicating said second annulus with said third tubular member and means sealing said first tubular member fluid-tight to the earth intermediate the ground level and said subterranean container.

2,981,072
DRAIN PIPE JOINT
Philip J. Brewington, 4204 Alice Ave., Austin 5, Tex.
Filed Feb. 21, 1957, Ser. No. 641,528
3 Claims. (Cl. 61—11)



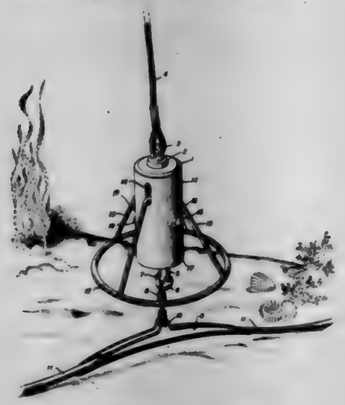
3. A drainage system including a plurality of telescoping cylindrical, larger and smaller tiles, each larger tile being an integral piece of the same length as the alternate smaller diameter tile, each larger tile having a smooth cylindrical interior surface fairly snugly receiving telescopically at each end, a portion of each of the proximate smaller tiles, so that the major portions of the larger tiles form reservoirs of water to be leaked out of the system, each smaller tile having equally spaced grooves proximate its telescoped portion and parallel to the longitudinal axis of the tile, each of the groove ends changing direction as they approach the telescoped end of the tile, two of said grooves meeting near the tile end and merging to form a single groove at the top of the tile at each end, parallel to the longitudinal axis of the tile and a groove forking to form two grooves diverging toward each of the two ends of the tile at the bottom of the tile so as to become generally parallel to the two nearest groove ends, whereby water leaving the system will drive dirt, tending to enter the system, in a downward direction out of the system.

2,981,073
UNDERWATER CRAFT
Jack D. Robinson, Jr., Norwalk, Conn., assignor to American Machine and Foundry Company, a corporation of New Jersey
Filed July 27, 1956, Ser. No. 600,603
6 Claims. (Cl. 61—69)



1. An underwater craft comprising a frame, a buoyant tank mounted on said frame, a track mounted around the circumference of the tank at the lower portion thereof, said track being located substantially on a horizontal plane passing through the center of resistance of the craft, a ring carrying rollers which are engaged within said track, a yoke pivotally secured to said ring, a cable connector secured to the center of said yoke and a control cable connected to said cable connector.

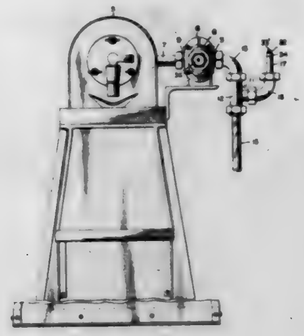
2,981,074
UNDERWATER LOWERING DEVICE
Leslie N. Wilder, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 29, 1959, Ser. No. 830,344
4 Claims. (Cl. 61—72)



1. A device for lowering an object to the bed of a body of water, said device comprising holding means for retaining an object during the underwater lowering process, releasing means for effecting the termination of the retention of an object by said holding means, said releasing means including a slidable plunger operating means adapted to be normally actuated by contact with the bed of a body of water for operating said releasing means, said operating means including a plurality of arms having their lower portions protruding beneath the bottom of said device, means in said device for supporting the upper portions of said arms for movement thereof in response to contact with the bed of said body of water, said operating means further including an instrumentality adapted to operate said plunger, said instrumentality being linked to said arms for movement therewith, and control means for normally rendering premature actuation of said operating means ineffectual to accomplish the operation of said releasing means, said control means including a rod interposed between said instrumentality and said plunger, and limiting means for terminating the control normally exercised by said control means over the premature actuation of said operating means, said limiting means including a hydrostatically operated member responsive to the completion of only a selected partial extent of said underwater lowering process for withdrawing said rod from interposition between said instrumentality and said plunger.

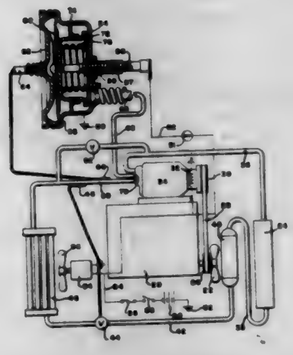
2,981,075
APPARATUS AND METHOD FOR MANUFACTURING SOFT ICE CREAM
Henry C. Duke and Gene S. Duke, both of 623 15th Ave., East Moline, Ill.
Filed June 17, 1954, Ser. No. 437,476
7 Claims. (Cl. 62—62)

3. Apparatus for manufacturing soft ice cream comprising a freezing machine, a mix receptacle and a pump operatively connected, said pump being normally adapted to suction the mix from the mix receptacle to the freezing machine, and a vented cover connected with said pump



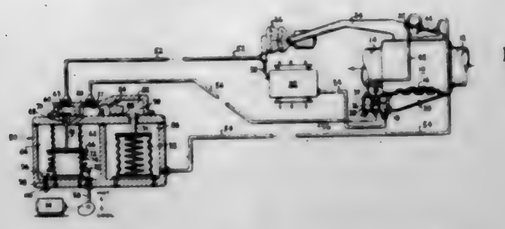
for diverting the mix from the freezing machine and maintaining a predetermined pressure within the latter, when the freezing machine is full.

2,981,076
REFRIGERATING APPARATUS
Richard S. Gangler, Dayton, Earl S. Schlotterbeck, Lewisburg, and Raymond F. Schultz, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 30, 1958, Ser. No. 745,596
3 Claims. (Cl. 62—208)



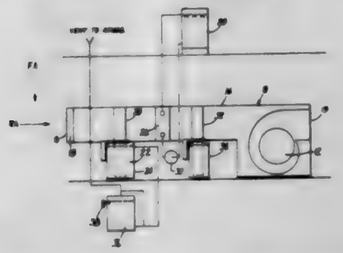
1. Refrigerating apparatus containing a refrigerant and including a compressor, a condenser connected to the compressor, a flow control device and an evaporator connected to said condenser, a suction line connecting said evaporator and said compressor, means for driving said compressor, an electrically operated clutch connecting said driving means and said compressor, a fuse connected in electrical series circuit with and having one terminal connected to one terminal of said electrically operated clutch, a source of electrical energy connected to a second terminal of said fuse and a second terminal of said electrical device, switch means connected in parallel circuit with said electrically operated clutch having one electrical connection to said source and one electrical connection to said one terminal of said fuse, and means responsive to excessive superheat of the refrigerant in said suction line for closing said switch means for blowing said fuse to declutch said compressor from said driving means.

2,981,077
MANUALLY OPERATED SUPERHEAT CONTROL
Thomas P. Farkas, Bloomfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 26, 1958, Ser. No. 783,966
11 Claims. (Cl. 62—210)



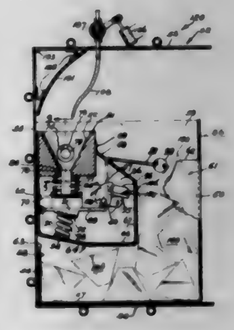
1. In a closed vapor cycle refrigerating system having a compressor, a condenser, an expansion valve and an evaporator, a superheat control device to selectively supplement the normal closing bias on the expansion valve in said system, said device comprising a casing having a chamber for connection to compressor discharge pressure between the compressor and the condenser, and a second chamber for connection to compressor inlet pressure, a flow passage connecting said chambers, said passage having a fixed orifice, a pressure take-off port communicating with said passage on the compressor discharge side of said fixed orifice, variable valve means in said passage between said first-mentioned chamber and said take-off port, means for selectively varying said variable valve means to select a pressure at said take-off port intermediate that existing in said chambers and means for applying the pressure so selected to the normal closing bias of the expansion valve.

2,981,078
HUMIDITY CONTROL AND COOLING SYSTEM
John K. Fairbairn, 1011 Crain St., Evanston, Ill.
Filed July 7, 1958, Ser. No. 746,838
1 Claim. (Cl. 62—271)



A humidity control and cooling system comprising in combination a conduit having an inlet and an outlet, a first foraminous wheel rotatably mounted partially within said conduit and adjacent said inlet, means holding hygroscopic solution, said wheel extending partially into said hygroscopic solution, boiler means connected to said means holding hygroscopic solution to regenerate the solution and dissipate water collected by said foraminous wheel, a cooling coil in said conduit on the side of said wheel opposite said inlet for serially treating air dehumidified by said wheel to remove heat of condensation therefrom, a water tower connected to said cooling coil, a second foraminous wheel extending partially into said conduit on the other side of said cooling coil from said first foraminous wheel, means partially immersing said second wheel in water to serially rehumidify air passing from said first wheel and said cooling coil and blower means in said conduit for forcing air through said conduit from said inlet to said outlet, said conduit passing the air serially past said first wheel, said cooling coil and said second wheel for successive treatment thereof.

2,981,079
ICE BODY MAKERS AND EJECTORS
Robert W. Fink, Evansville, Ind., assignor to Whirlpool Corporation, Evansville, Ind., a corporation of Delaware
Filed Sept. 13, 1956, Ser. No. 609,623
4 Claims. (Cl. 62—353)

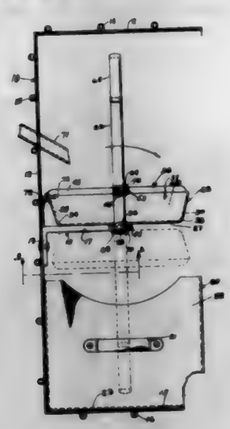


1. Ice molding and ejecting apparatus, comprising: a mold having a plurality of upwardly opening frustoconical cavities; means for ejecting ice bodies formed in said cavities comprising a plurality of plungers associated one each with said cavities, each plunger being movable through and normally closing the lower, small diameter end of the associated cavity; a plurality of elements associated one each with the respective plungers for delivering an impact force to each plunger causing the plunger to break the ice body free of the wall of the cavity and eject it upwardly through the upper, large diameter end of the cavity; a bin for receiving and storing the ice bodies ejected from said cavities; a plurality of level detecting devices operated seriatim with the operation of each element to detect the level of ice bodies in said bin subsequent to each ejection; and means associated with the detecting device for precluding further operation of the ejecting means when the level of ice bodies in the bin becomes greater than a preselected level.

2,981,080
ICE CUBE EJECTORS
Alan J. Koch, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Feb. 18, 1957, Ser. No. 640,846
5 Claims. (Cl. 62—365)

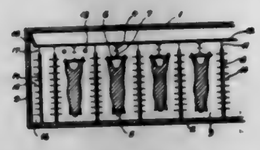
1. In an ice cube ejector assembly, the combination of a support having a wall, a rectangular ice tray carried by said wall, and having a bottom secured to a shaft extending longitudinally of the bottom, generally midway between the lateral edges of the tray, a pair of shelf brackets carried by said wall, each shelf bracket having a bearing at its end rotatably supporting the ends of said shaft, a handle lever pivoted transversely on the forward end of said shaft and extending upwardly in front of said tray, a connecting strip pivotally connected to said lever and extending horizontally over said ice tray, and a multiplicity of transverse inclined webs located in said tray and dividing the tray into transversely extending ice cube pockets, and said connecting strip having lugs projecting into engagement with the webs, a lateral revolving

motion of the lever about the shaft axis pivoting the tray from upright position to inverted position about said



axis, and pivoting of the lever moving the webs and releasing the ice between the webs.

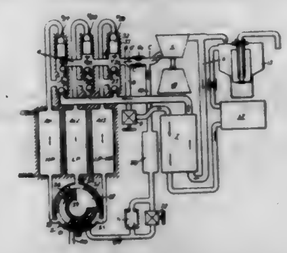
2,981,081
APPARATUS FOR COOLING VEGETABLE AND ANIMAL PRODUCTS
Hans Christian Larsen, Kongens Lyngby, Denmark, assignor to Aktieselskabet Thomas Ths. Sabroe & Co., Aarhus, Denmark, a limited-liability company of Denmark
Filed Dec. 16, 1955, Ser. No. 553,614
5 Claims. (Cl. 62—378)



1. A cooling plant for cooling moisture-containing products comprising, in combination, a cooling chamber, cooling members extending substantially vertically within said chamber, product supporting means disposed in said chamber to expose at least part of each unit of product to said cooling members, and means to suppress convection adjacent the products, said last-named means comprising a plurality of vertically spaced-apart braking strips extending away from the cooling members and substantially at right angles to the direction of the natural convection circulation of air in said chamber.

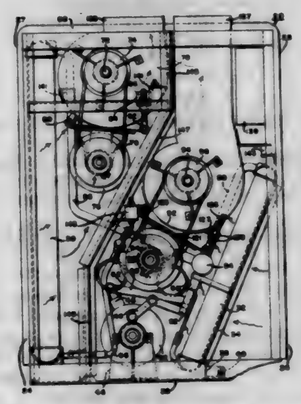
2,981,082
HEAT EXCHANGERS
Herbert Sixsmith, Reading, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Aug. 25, 1958, Ser. No. 756,963
Claims priority, application Great Britain Sept. 5, 1957
4 Claims. (Cl. 62—401)

1. A regenerative heat exchanger for connection to a source of high pressure gas and to apparatus capable of receiving gas at high pressure and supplying gas at low pressure, the heat exchanger having at least three chambers each filled with heat-absorbing packing and arranged for sequential operation under the control of a distributor valve which communicates with one end of each chamber, the other end being provided with a pressure-controlled valve, and in which, when the heat exchanger is connected so as to provide the necessary gas flow, the distributor valve, in conjunction with the pressure-controlled valves, operates in such a way that during each stage of operation one chamber has its packing warmed by extraction of heat from gas from the high pressure source at a relatively high pressure and temperature, a second chamber has its packing cooled by means of a smaller quantity of heat absorbed by gas from the low pressure source at a relatively low pressure and low temperature while a third chamber has its packing cooled by recirculation of gas which has passed through the first chamber, the heat absorbed by the gas in this chamber being such that during each stage there is substantial balance in the total quantity of heat extracted from and



absorbed by the gas in all the chambers, the heat exchanger also including means whereby, at the beginning of a stage of operation, a proportion of the gas leaving the first chamber may flow through the distributor valve to produce a temporary reverse flow and thus build up pressure in the third chamber at a rate determined by a flow-control valve, with the result that the pressure-controlled valve at the opposite end of the third chamber from the distributor valve is opened at a point in the stage of operation depending on the setting of the flow-control valve and the initial mean temperature of the third chamber, after which the gas flowing through the third chamber enters by the pressure-controlled valve and leaves by the distributor valve so as to cool the packing of the chamber.

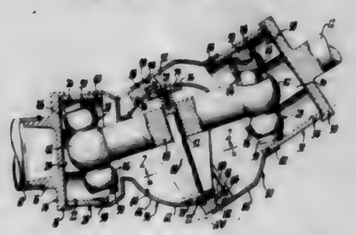
2,981,083
AIR CONDITIONER
James L. Miller, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 20, 1957, Ser. No. 697,576
7 Claims. (Cl. 62—428)



1. A compact air conditioning unit including a box shaped cabinet having outdoor and room air inlets in opposite faces of the cabinet, a thin outdoor coil of ex-

tensive area located in series with and adjacent to and being substantially coextensive with the outdoor air inlet and an indoor coil located in series with the room air inlet, a compressor and a refrigerant expansion device within the lower portion of said cabinet connecting said coils in operative refrigerant circuit, a set of two axially aligned centrifugal blowers located side by side above said compressor substantially parallel and adjacent to one end of one of said coils having means for discharging air through one of the faces of said cabinet transverse to said opposite faces, and a partition wall extending from said one face between said blowers and the other of said coils to divide the interior of the cabinet into a room air compartment and an outdoor air compartment.

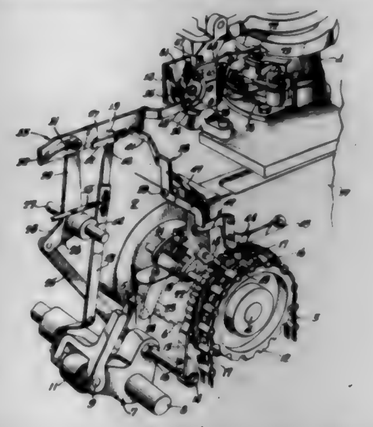
2,981,084
UNIVERSAL JOINT
Earl W. Glover, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 16, 1960, Ser. No. 15,487
10 Claims. (Cl. 64—21)



1. A universal joint comprising a pair of pot members disposed in spaced relation to and opening toward each other, a shaft having a trunnion and bearing assembly secured in each end thereof extending into and between said pot members and being movable therein, an inner housing extending from one of said pot members and enclosing a portion of said shaft, said inner housing having a spherical portion disposed between said pot members, an outer housing extending from the other of said pot members and enclosing said inner housing, ring means between said inner housing and said outer housing to locate said outer housing with respect to said inner housing for permitting relative axial movement of said outer housing and said other pot member with respect to said inner housing and said shaft and said one pot member, and means for axially locating said shaft member with respect to one of said pot members to prevent axial movement thereof and permit substantially constant velocity torque transmission through said universal joint.

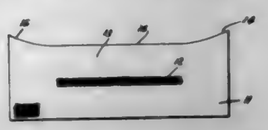
2,981,085
LOOSE COURSE ATTACHMENT FOR KNITTING MACHINES
Peter A. Mahler, Philadelphia, and Paul J. Haas, Willow Grove, Pa., assignors, by mesne assignments, to Singer-Fidelity, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Apr. 23, 1957, Ser. No. 654,534
6 Claims. (Cl. 66—54)

1. In a knitting machine comprising a rotary cylinder, needles in said cylinder, a cam for actuating the needles to form yarn into inter-knitted loops and adjustable to vary the length of said loops, a pattern drum for controlling operations of the machine and means for indexing the drum, a pattern chain having cams controlling the actuations of the drum indexing means and mechanism for indexing the chain in timed relation to the rotary movements of the cylinder, and mechanism for adjusting the needle cam including a primary actuating element movable in synchronism with the chain indexing mechanism, transmission means for operatively interconnecting said actuating element with the cam needle, means for normally uncoupling the actuating element from the



transmission means and means responsive to the movements of the chain for intermittently coupling the actuating element to the transmission means.

2,981,086
SHAPED KNITTED COLLARS AND METHODS OF MANUFACTURE THEREOF
Saul Ludwig, 12 S. Mountain Ave., Montclair, N.J.
Filed Nov. 17, 1959, Ser. No. 853,485
5 Claims. (Cl. 66—172)



1. A shaped knitted fabric collar comprising a plurality of courses of yarn, each having face and back wales, and including a neck band portion comprising a number of courses, each course comprising held loops in each of said face and back wales, an integral roll welt comprising a number of courses of held loops in said face wales for each course of loops in said back wales, said roll welt extending through from ¼ to ¾ the number of said back wales, and an integral cape portion comprising a number of courses of held loops in each of said face and back wales, said cape portion contracted transversely of said collar in the region of said roll welt by the held loops of said back wales of said roll welt.

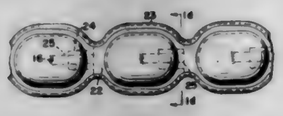
2,981,087
CANDLE HOLDER
Marcus A. Peiser, Chicago, Ill.
(1110 Hull Terrace, Evanston, Ill.)
Filed Sept. 9, 1959, Ser. No. 839,026
7 Claims. (Cl. 67—23)



1. A candle holder comprising a body in the form of an axially upright vertically split annulus the vertical

edges of which are separated to form a vertical slot, a pair of axially upright semi-annular feet having their corresponding ends spaced to define a substantially vertical slot aligned with the first-mentioned slot, a neck joining said feet to said body, said feet being separated by a slot extending into said neck, and a plurality of slots in said feet extending upwardly from their lower edges.

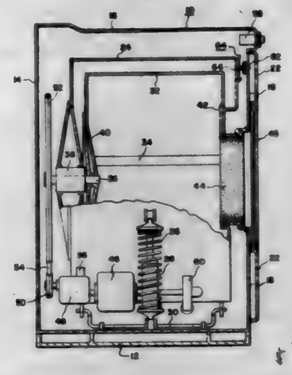
2,981,088
MULTIPLE PHOTOFLASH LAMP ARRANGEMENT
Edward K. Kaprelian, Plainville, Conn., assignor to The Kalart Company Inc., Plainville, Conn.
Filed Nov. 12, 1954, Ser. No. 468,407
3 Claims. (Cl. 67—31)



1. A multiple photoflash arrangement comprising two strips of gas impermeable transparent material, each of said strips including longitudinally spaced complementary bulbous portions, a gasket strip coextensive in length with said strips and including longitudinally spaced openings corresponding in spacing and outline to the outlines of said bulbous portions at the open side thereof, said two strips and said gasket strip being sealed together in superimposed relationship with the open side of the bulbous portions facing each other and the gasket strip sandwiched between said two strips to form a plurality of sealed individual envelopes joined by easily severable superimposed strip portions between each two envelopes, combustible light producing material disposed in each of said envelopes, electrically actuable ignition means for igniting said material mounted within each envelope upon the gasket strip portion therein, and a contact means for each of said envelopes, each of said contact means including two wires outwardly protruding in the same direction from the respective ignition means through the respective envelope into the adjacent joining strip portions substantially parallel to the plane thereof, the protruding end portions of each pair of wires being bent within the strip material transversely of the length of the strips and protruding laterally therefrom on opposite longitudinal sides of the strips, said envelopes constituting a coherent strip of individually ignitable flash bulbs and the protruding wire ends forming two parallel longitudinal rows of contact terminals.

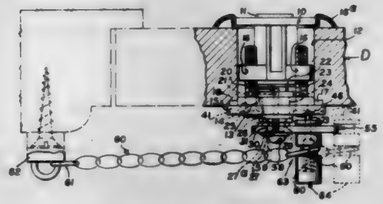
2,981,089
POWER DRIVE APPARATUS
George A. Neyhouse and Jack W. Savage, Dayton, and Ralph K. Shewmon, Centerville, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 6, 1959, Ser. No. 804,371
10 Claims. (Cl. 68—24)

1. In combination, a machine having a rotatable container adapted to be driven at a low speed and at a higher speed, an electric motor having a predetermined speed, two speed transmission means connected between said motor and container having a low speed output and a higher speed output, means for causing said container to be driven at said low speed including means for causing said motor to be energized while said transmission means is set in its low output speed mode of operation, and means for causing said container to rotate at said higher speed, said last named means including means for causing said motor to be energized and for shifting of said transmission means to its high speed output mode of operation, and speed responsive mean for causing said motor to become de-energized at a predetermined rotational speed of said container following shifting of said transmission means to said higher speed output setting,



said rotational speed corresponding to a motor speed that is less than the rated running speed of the motor.

2,981,090
CHAIN FASTENER DEVICE
George P. Patriquin, Gardner, and Norman R. Adler, Fitchburg, Mass., assignors to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts
Filed Jan. 16, 1959, Ser. No. 787,157
9 Claims. (Cl. 70—93)



1. A door chain fastener having a key operable cylinder plug assembly arranged to be mounted on a door or the like, said fastener including a keyway extending to one side of the door and a back plate member situated on the other side of the door, said back plate having a cam seat portion on its rearward face, a cylinder plug, a clevis plate coupled to said plug in proximate, rearwardly spaced relation from said back plate formed with walls defining a slot extending inwardly from the periphery of said plate, said slot being positioned on said plate to register with said cam seat portion in locked position of said plug, a chain having one end adapted to be anchored to a door frame and having at its other end a clevis pin, with a retaining portion of a size to be slidably engaged within said slot, and a spring loaded detent normally extending from said pin a distance effective to project said detent into said cam seat portion when said retaining portion of said pin is engaged with said slot in the locked position of said plug.

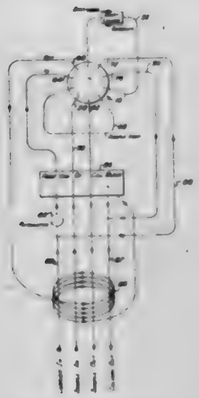
2,981,091
LEAK STANDARD
John A. Roberts, Lynnfield, Mass., assignor to General Electric Company, a corporation of New York
Filed July 11, 1957, Ser. No. 671,265
10 Claims. (Cl. 73—1)

1. A standard leak assembly comprising a conduit, a capillary tube having its discharge end located in said conduit, means for supplying gas at an adjustable and

substantially constant pressure to the other end of said capillary tube, means for filtering air to remove said gas therefrom and for supplying said filtered air at a desired rate through said conduit past the discharge end of said capillary tube such that the air acts as a carrier for said gas to the exit end of said conduit, the internal dimensions of said capillary and said pressure being related such that the mass rate of flow of said gas may be accurately varied by adjusting the magnitude of said pressure, and means responsive to said pressure, said responsive means being calibrated to provide an indication related to the mass rate of flow of said gas.

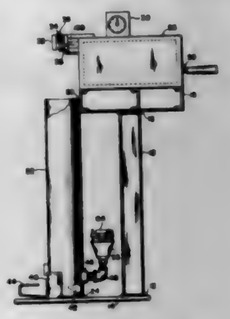


2,981,892
CHROMATOGRAPHIC SAMPLING VALVE
Monte L. Marks, Pasadena, Calif., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Nov. 25, 1957, Ser. No. 698,775
2 Claims. (Cl. 73—23)



1. A sampling device comprising a first body having a smooth surface and a plurality of spaced ports each opening at an inner end out of the smooth surface and at an outer end at another part of the first body, a preliminary chromatographic column connected at opposite ends to the outer ends of a first pair of first and second ports in the first body, a source of a fluid carrier stream connected to the outer end of a third port in the first body, a sample chamber connected at opposite ends to a second pair of fourth and fifth ports in the first body, a source of a sample stream connected to the outer ends of a pair of sixth and seventh ports and a pair of eighth and ninth ports in the first body, a secondary chromatographic column connected at one end to a tenth port in the first body, a second body having a smooth surface held in sliding contact with the smooth surface of the first body, the second body having ports in its smooth surface spaced and disposed for selectively connecting the sample chamber to the sample stream and for selectively flowing the carrier stream through the preliminary column in one direction when the second body is in one position with respect to the other, and means for sliding the bodies with respect to each other to a second position to connect the sample chamber in series with the carrier stream, and to flow the sample and carrier through the preliminary column in the opposite direction.

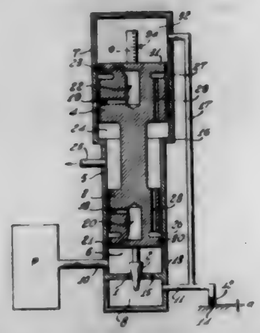
2,981,893
FUSE-TESTING MACHINE
Wilson A. Rhea, Saltsburg, Pa., assignor to Federal Laboratories, Inc., Saltsburg, Pa., a corporation of Pennsylvania
Filed July 11, 1956, Ser. No. 597,199
11 Claims. (Cl. 73—35)



1. A machine having releasable jaw mechanism effective to tightly hold explodable fuses, starting mechanism operative to set a fuse burning while held in said jaw mechanism, jaw release means having an operative connection to said starting mechanism to release the jaw mechanism substantially simultaneously for the removal and bodily transfer of the fuse to a remote point, means for guiding the fuse while burning, to said remote point, and means at said remote point to sense the resulting explosion, said last named means comprising an enclosure aligned with the path of and adapted to take the impact of the fuse so as to capture the fuse in motion while still burning, an actuator comprising a vibratible device in communication with said enclosure so that each explosion in the latter will rattle the former, and control circuit means operated by said actuator and having means of connection to a control indicator device whereby said control circuit automatically institutes a change evidenced by said indicator device in response to each explosion.

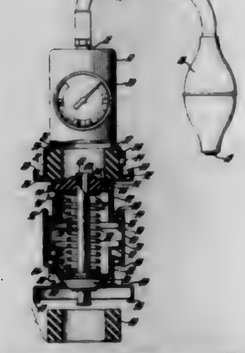
2,981,894
PNEUMATIC INSTRUMENT FOR LINEAR MEASUREMENT
Rudolf Lehmann, Berlin-Grunau, Arthur Wiemer, Schulzendorf, Teltow, and Heinz Voigt, Berlin-Lichtenberg, Germany, assignors to Deutsche Akademie der Wissenschaften zu Berlin, Berlin-Odlersbof, Germany
Filed July 24, 1958, Ser. No. 750,645
Claims priority, application Germany July 29, 1957
7 Claims. (Cl. 73—37.5)

1. A pneumatic instrument for linear measurements connected to a measuring nozzle at its outlet and a source of pressurized gas at its inlet, for measuring distances between said measuring nozzle and a surface, comprising in combination, a container, a partition in said container for separating the same into two separate compartments, inlet means for directing gas under pressure to one of said compartments, measuring nozzle means for discharging gas from the other of said compartments, an automatically adjustable head nozzle supported by said partition for passing gas therethrough from one compartment to the other, adjusting means connected to said head nozzle for automatically keeping the pressure drop between said source of pressurized gas and the outlet of said measuring nozzle constant, said adjusting means having a portion in pneumatic communication with one of said compartments and a portion in



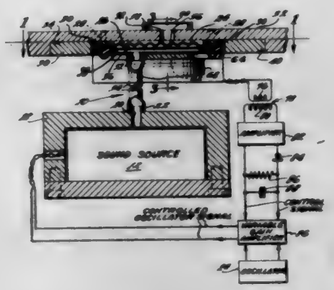
communication with the other of said compartments, said adjusting means being movable by variations in pressure within said compartments to adjust said head nozzle, and indicating means operatively connected to said adjusting means.

2,981,895
PRESSURE TESTING APPARATUS
Jesse E. Eshbaugh, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 28, 1957, Ser. No. 649,220
2 Claims. (Cl. 73—40)



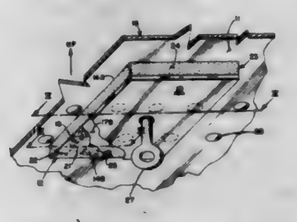
1. Pressure testing apparatus comprising an accumulator chamber, pump and gage means connected to said chamber for supplying air thereto under pressure, two oppositely disposed adapter cups defining through-passages and simulating radiator necks, one of said adapter cups being sealed to and communicating with said chamber, the other of said adapter cups having means for detachably affixing it to a radiator neck, a main adapter removably and coaxially connecting said adapter cups and including a central tube giving communication through said adapter cups, opposed valve discs and inner cups coaxial with and slidable on said tube, spring means under compression urging said inner cups and valve discs into positions closing said through-passages, each of said inner cups extending into one of said adapter cups and having an enlarged portion outside and between said adapter cups, and a sleeve slidably retaining said enlarged portion of each adapter cup and detachably joined to said adapter cups, the arrangement being such that said sleeve is placed in tension by said spring.

2,981,896
ACOUSTICAL IMPEDANCE METER
Ross M. Carrell, Audubon, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 14, 1956, Ser. No. 628,411
5 Claims. (Cl. 73—67.1)



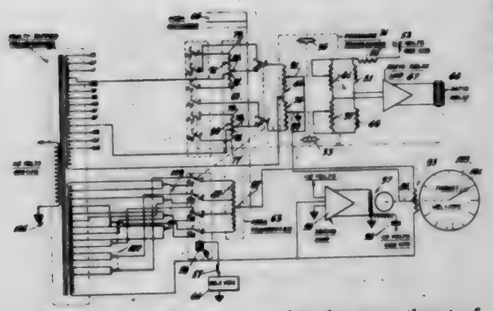
1. Apparatus for measuring the acoustical impedance of a component comprising a source of volume current, monitoring means responsive to said volume current, a plate formed with two adjacent through openings therein, degenerative feedback means connected between said monitoring means and said source of volume current to regulate said source and to maintain said volume current constant, means for introducing said volume current through one of said openings into a cavity defined, in part, by said component and a portion of said plate including said openings, and means including the other of said openings for measuring the acoustical pressure developed within said cavity.

2,981,897
LOAD APPLICATION UNIT
Frank L. Lane and Harold D. Roberts, Dallas, Tex., assignors to Chance Vought Corporation, a corporation of Delaware
Filed Oct. 18, 1957, Ser. No. 690,939
1 Claim. (Cl. 73—88)



Means for connecting a pulling load to a body having a surface for structural testing of said body, said means comprising: a felted cloth pad having an opposed pair of load-bearing faces and a peripheral surface connecting said load-bearing faces; mechanical fastening means stitched through said pad between said load-bearing faces at a plurality of places distributed substantially evenly throughout said load-bearing faces of said pad; a plate having a face approximately equal in area to the area of at least one of said load-bearing faces; adhesive means for attaching approximately all the area of said one of said load-bearing faces to said plate and approximately all the area of the other of said load-bearing faces to said surface of said body; and attachment means provided on said plate for the connection to the latter of a load tending to move said plate and pad away from said body, said mechanical fastening means comprising staples affixed at intervals through said pad.

2,981,098
THRUSTMETER
Spyridon P. Antippas, New York, and Harold S. Koletsky, Westbury, N.Y., assignors to Avien, Inc., Woodside, N.Y.
Filed Oct. 9, 1957, Ser. No. 689,175
14 Claims. (Cl. 73—116)



1. A thrustmeter for instrumenting the gross thrust of a turbo-jet engine, the said engine having a turbine outlet, an afterburner which is adapted to having its on and off status established selectively, and a nozzle of selectively variable area, the said thrustmeter comprising: ambient pressure sensitive means, turbine outlet pressure sensitive means, nozzle outlet area sensitive means, afterburner status switch means for producing an afterburner status signal; Wheatstone bridge means responsive to the ambient pressure sensitive means and the turbine outlet pressure sensitive means, said Wheatstone bridge means being balanced at a preselected critical ratio and producing a polarity directed unbalance signal at other ratios, computer means responsive to the ambient pressure sensitive means, the turbine outlet pressure sensitive means, the nozzle outlet area sensitive means and the afterburner switch signal for producing a signal analogous to the gross thrust according to the formula:

$$F_g = \frac{A_7 B}{P_0}[P_{t5}(1+.5B) - P_{am}SB]$$

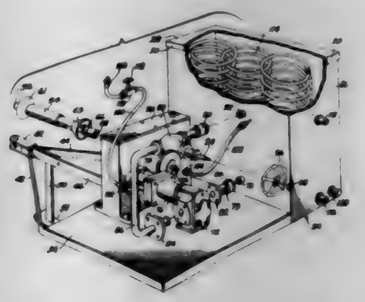
where,

A_7 is the exhaust nozzle cross-section in square inches as obtained by said nozzle outlet area sensitive means;
P_0 is the standard atmospheric pressure in p.s.i.;
P_{t5} is the absolute turbine outlet pressure in p.s.i. as obtained by said turbine outlet pressure sensitive means;
S is a variable determined by the ratio P_{t5}/P_{am};
P_{am} is the absolute ambient pressure in p.s.i. as obtained by said ambient pressure sensitive means; and B is a variable which is equal to A_7, with the afterburner in "off" condition and a constant with the afterburner in "on" condition;

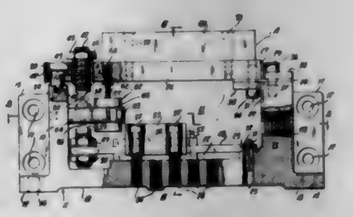
said afterburner status switch means being effective to vary the response of said computer so as to make the value B equal to A_7 with the afterburner in "off" condition and equal to a constant with the afterburner in "on" condition, said Wheatstone bridge means being effective to vary the response of the computer so as to determine the value of S by the ratio P_{t5}/P_{am}; and servomechanism indicator means responsive to the computer signal for indicating gross thrust.

2,981,099
HYDRA-GAUGE DYNAMOMETER
Ellsworth W. Lapp, Box 64, Anchor, Ill., assignor to Melvin E. Bonomo and Elmo R. Meiness
Filed Apr. 17, 1957, Ser. No. 653,354
4 Claims. (Cl. 73—134)

1. A dynamometer assembly for testing and measuring characteristics of an engine comprising a housing having positioned therewithin a fixed displacement hydraulic pump including a rotor and a casing, fastening means affixing said casing in stationary position on said housing, driving means coupling the rotor of said pump to a power take-off shaft on the engine, a hydraulic fluid reservoir, conduit means connecting said hydraulic fluid reservoir with said hydraulic pump whereby said fluid is circulated in the hydraulic circuit including the reservoir and the pump when the rotor is driven by the engine, selectively controllable valve means in said conduit means at the discharge end of said pump for selectively varying the load placed on the engine, and gauge means connected to said conduit means between the pump and said valve means for providing a direct indication of the horsepower of the engine under test, said gauge means comprising a dial having indicia for enabling measurement of the hydraulic fluid pressure in said conduit means and of the engine horsepower, said pressure and horsepower indicia on said dial being correlated at a predetermined engine speed, and tachometer means coupled to said power take-off shaft for providing an indication of the speed of the engine power take-off shaft.

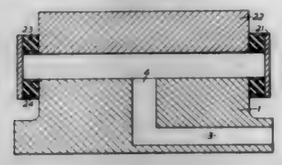


2,981,100
FORCE MEASURING INSTRUMENT
Clarence Johnson, 1804 Green Road, South Euclid 21, Ohio
Filed Dec. 12, 1956, Ser. No. 627,776
17 Claims. (Cl. 73—142)



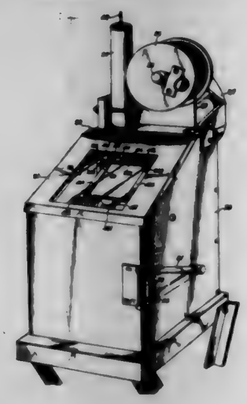
1. A force measuring instrument comprising a base, a platform yieldingly pivotally connected to said base, means for resisting pivotal movement of said platform with respect to said base comprising a resilient member extending parallel to said platform, force transmission means comprising laterally disposed flexure pivot means positively interconnecting said resilient member and said platform, and means for adjustably fixing said resilient member to said base at varying distances from said force transmission means to vary the effective length of said resilient member so as to establish the operative range of said instrument.

2,981,101
HYDRAULIC LOAD CELL
Leon Edwin Buck, Gillingham, England, assignor to Winget Limited, Rochester, Kent, England
Filed May 23, 1957, Ser. No. 661,255
Claims priority, application Great Britain May 25, 1956
8 Claims. (Cl. 73—141)



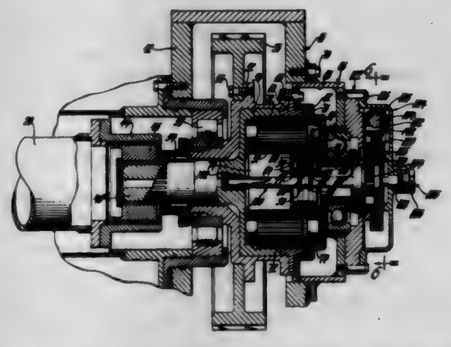
1. A hydraulic load cell, comprising a support, at least one load-supporting member movable vertically relatively to said support, and means operatively connecting said load supporting member to said support and comprising a floating annular sleeve of greater diameter than and overlapping and encircling said load-supporting member and said support, at least one elastic, fluid-impervious ring carried by said load-supporting member and said floating sleeve, and at least one other elastic, fluid-impervious ring carried by said floating sleeve and said support, said supporting member and said support being disposed in spaced relationship, whereby when the load cell is assembled, a fluid-containing chamber is formed between said movable load-supporting member, said support, said elastic rings and said floating sleeve, said support having at least one duct formed therein and connecting said chamber to the exterior of the load cell, said elastic rings being in shear when loaded and deflecting without their deformation affecting the displacement of said chamber.

2,981,102
WELL DEPTH RECORDER
James O. Melton, Norman, Okla., assignor to The Geolograph Company, Oklahoma City, Okla., a partnership
Filed Mar. 23, 1956, Ser. No. 573,515
2 Claims. (Cl. 73—151.5)



1. A recorder comprising a frame, a main shaft journalled in said frame, a measuring wheel freely rotatably mounted on said main shaft and adapted to be driven by a cable, clutch means drivingly connected to said shaft, a lost motion means drivingly connecting said wheel and said clutch means, a collar including projecting parts fixed to said main shaft, a star wheel mounted for free rotation in a position to be driven by said projecting parts, a selective transmission drivingly connected with said star wheel, a chart movable over a predetermined path within said recorder, a guide rail extending transversely over said chart path, a block slidingly received on said guide rail, a recording element mounted in said block and adapted to operatively engage said chart located in the chart path and mark a record thereon, a spring biased tape connected at one end of said frame and connected at the other end to said block for urging said block towards one edge of said chart path, means driven by said selective transmission for moving said chart over said chart path, a rack attached to one end of said block and extending parallel with said guide rail, a timing gear engaging with said rack, a timer drivingly connected with said timing gear for moving said block in a direction away from said one edge of said chart path, a pivotally mounted operator bar connected with said timing gear, a cam cooperating with said operator bar to disengage said timing gear from said rack at least once per revolution of said cam, and means drivingly connecting said cam with said star wheel.

2,981,103
TORQUE APPLYING DEVICE
William G. Livezey, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 28, 1957, Ser. No. 643,085
31 Claims. (Cl. 73—162)

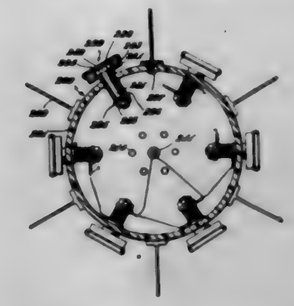


1. A torque applying device comprising, in combination, input and output members, a plurality of interconnected planetary gear sets interposed between the input and output members, one of the gear sets having reaction elements, brake means selectively operable for holding the reaction elements and varying temporarily the drive ratio between the input and output members so as to impose a torque load therebetween in a forward direction when one reaction element is held and in a reverse direction when the other reaction element is held, and clutch means coacting with one of said plurality of planetary gear sets for maintaining the torque load imposed by the brake means.

2,981,104
FLOW MEASURING SYSTEM
Diana J. Auger, Malden, and Harold J. Graham, Boston, Mass. (1541 E. 8 Mile Road, Ferndale, Mich.)
Filed June 24, 1954, Ser. No. 439,004
19 Claims. (Cl. 73—189)

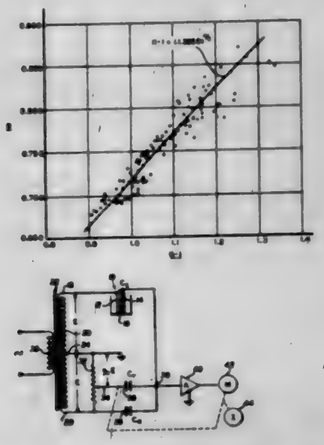
1. The telemetering system for remotely indicating the angular position of a force subject to rotation in a plane comprising, an even number of temperature-sensitive electrical resistors angularly spaced at equal intervals around a circle in said plane, angle discriminating means arranged so that the temperature and hence the electrical resistance of selected ones of said resistors corresponding in position to the instantaneous angular

position of the force to be indicated are altered, oppositely disposed pairs of said resistors being connected as adjacent resistance legs in an electrical bridge circuit, a source of electric current connected to energize said bridge circuit, means for mounting said resistors on said angle discriminating means in essentially heat insulating relation thereto, and remote indicating means responsive to the electric current flow for unbalance of said bridge



circuit including a plurality of impedances each connected with a respective resistor, the configuration of said impedances being such that the impedances bear the same angular relationship as their correlated resistors thereby to remotely indicate the altered resistance of the selected ones of said resistors corresponding in position to the instantaneous angular position of the force to be indicated.

2,981,105
CAPACITANCE TYPE FLUID MEASURING APPARATUS
Frederick L. Ryder, Lynbrook, N.Y., assignor to Simmonds Precision Products, Inc., a corporation of New York
Filed June 2, 1958, Ser. No. 739,337
8 Claims. (Cl. 73—304)



8. Capacitance type fluid measuring apparatus for indicating the quantity of fluid in a container when the relationship between the volume (V) and height (H) of the fluid being measured in the container is defined by the equation

$$V=|f(H)|$$

where f represents any function of H, comprising a measuring condenser having spaced electrodes immersible in the fluid in the container, said electrodes being constructed and arranged such that the effective cooperating width versus height characteristic of the electrodes is represented by the equation

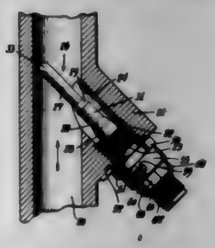
$$A'\alpha\frac{d|f(H)|^n}{dH}$$

where A' is the cooperating width at any height H, and n is a constant other than 0 or 1 determined by the exponential equation

$$K-1=(bD)^n$$

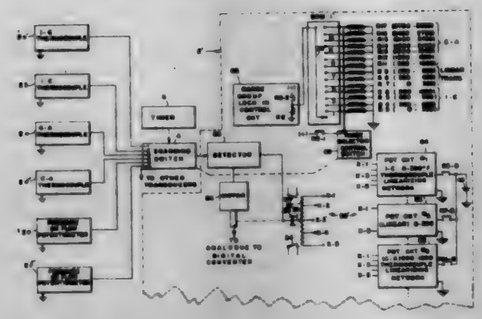
defining within predetermined tolerable limits the relationship between the dielectric constant (K) and the density (D) of the fluid being measured for the range of fluids to be measured where b is also a constant.

2,981,106
PYROMETER BULB
Knud J. Knudsen, Middlebury, and Clarence I. McCall, Waterbury, Conn., assignors to Lewis Engineering Company, Naugatuck, Conn., a corporation of Connecticut
Filed Oct. 8, 1957, Ser. No. 688,944
4 Claims. (Cl. 73—339)



1. In combination, a pyrometer bulb structure for disposition in fluids contaminated with radioactivity, comprising an elongate tubular body closed at one end and open at the other end with an outturned flange at said other end, all portions of said body being integral with each other; a tubular connector shell adapted to coact with a cooperable electrical fitting, said shell having an inwardly disposed end and an outwardly disposed end, and containing electrical connector pins, the inwardly disposed end of the shell abutting the said open end of the bulb body, both said abutting ends being welded and fused together and constituting a junction devoid of cracks, said shell being externally threaded for accommodating a threaded fitting collar and the other end of the shell having an annular, perfectly flat sealing surface adapted to seal against a similar surface, said outwardly disposed end having an internal, inwardly extending projection formed integral therewith for keying purposes adjacent the said sealing surface, and the latter being continuous and unbroken; a mounting bushing adapted to receive and support said bulb body, said bushing having an internal annular abutment shoulder for positioning said body; a resilient sealing washer engaged with the said flange and annular abutment shoulder; and a turnable locking collar insertable in said bushing and adapted to receive through it the said connector shell for securing the same in said bushing without requiring turning of the shell and body, said locking collar having a pair of oppositely disposed bayonet projections and said bushing having a pair of cooperable bayonet slots for receiving said projections, thereby to establish a quick-acting locking and releasing connection between the bushing on the one hand and the bulb body, shell and collar on the other hand.

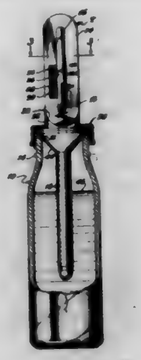
2,981,107
AUTOMATIC RANGE CHANGE CIRCUIT
Ralph A. Anderson, Chicago, Ill., assignor, by mesne assignments, to Information Systems, Inc., Skokie, Ill., a corporation of Illinois
Filed Dec. 28, 1955, Ser. No. 555,872
16 Claims. (Cl. 73—341)



4. In a system including a number of non-linear thermocouples of a given type associated with temperature variables whose values may fall within a wide range of temperatures, digital recording apparatus for measuring the output of said thermocouples and recording data of the temperatures of the variables, said recording apparatus including measuring means having a movable element whose position is responsive to the magnitude of the variable being measured thereby, an analogue to digital converter responsive to said movable element and a digital recorder responsive to said converter, scanning means for sequentially feeding the voltage outputs of said thermocouples to said measuring means, respective compensating impedance means for compensating for the non-linearity of said thermocouples within different limited ranges of temperature values which together included all temperatures within said wide range of temperature values, upper and lower limit switch means operative respectively when said movable element reaches the opposite limits of a given range of deflection thereof, means responsive to the operation of said upper limit switch means for inserting into said system the compensating impedance means corresponding to the next higher temperature range for modifying the operation of said measuring means so that said movable element operates within said range of deflection for the next higher temperature range, and for modifying the connection between the output of said converter and the digital recorder to record directly numerical datum in said higher range, and means responsive to the operation of said lower limit switch means for inserting into said system the compensating impedance means corresponding to the next lower temperature range for modifying the operation of said measuring means so that said movable element operates within said range of deflections for the next lower temperature range, and for modifying the connections between the output of said digital converter and said recorder to record directly numerical datum in said lower range.

2,981,108
THERMOMETER ASSEMBLY FOR NURSING BOTTLES
Arnold K. Andersen, 16518 Tulsa St., Granada Hills, Calif., and Charles A. Rife, 4310 Eve Road, Santa Susana, Calif.
Filed Oct. 24, 1957, Ser. No. 692,088
9 Claims. (Cl. 73—343)

8. A thermometer assembly for use with a nursing bottle to ascertain the temperature of a liquid confined therein, said bottle being equipped with a removable centrally apertured cap to press the peripheral portion of a nipple member into sealing contact with the rim of the bottle mouth, said assembly including: a tubular thermometer; a body partially enclosing the upper portion of the thermometer to protect its upper portion and to serve as a handle for the thermometer, the upper portion of the thermometer being exposed along at least a portion of said body, said body having a circumferential



flange below the exposed portion of the thermometer; a sheath of rubber-like material removably mountable on the lower portion of the thermometer in position completely encasing the lower end of the thermometer, said sheath having an upper enlargement of rubber-like material to extend between said flange and the rim of the bottle whereby said cap may be mounted on the rim of the bottle against said flange to clamp said enlargement of the sheath against the rim of the bottle to seal off the interior of the bottle from the thermometer.

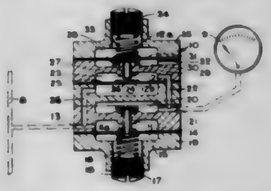
2,981,109
TEMPERATURE-RESPONSIVE TRANSDUCER
Knud J. Knudsen, Middlebury, Conn., assignor to Lewis Engineering Company, Naugatuck, Conn., a corporation of Connecticut
Filed Oct. 27, 1958, Ser. No. 769,739
13 Claims. (Cl. 73—362)



3. A rapid-response, low-temperature, vibration-and-acceleration-resistant rigid temperature-responsive type transducer comprising a fitting having means for rigidly securing it to a supporting structure; a long and slender, relatively thin, metallic tubular body carried by said fitting, said body having a thin-walled end part of relatively small mass the side walls of which have a multiplicity of perforations; a sensing element disposed within and carried by said end part of the body, said sensing element comprising a relatively thick walled tubular support of appreciable mass and a wire coil wound tightly in a helix about said tubular support and carried thereby, said support having carrier portions of thicker wall section projecting radially beyond the said coil for engagement with the inside of the said perforated end part to space the coil from the inner surfaces of said part, said tubular coil support being loosely carried by and closely fitting in the said end part of the body and having limited axial movement in said body and relatively large areas of contact therewith whereby the support and body part may have

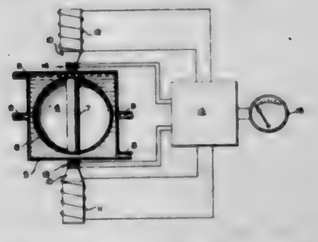
relative lateral movement and different amplitudes and rates of vibration, said support constituting a damping means for said body and body part to reduce the amplitude of vibration thereof when the transducer fitting is subjected to vibratory forces; and means in said body, engaging the body and the said tubular support, yieldably holding the latter against unrestricted axial movement, said means comprising a bowed ring engaging one end of the tubular support and said body having an inturned flange engaged by the said bowed ring.

2,981,110
PRESSURE FLUID SYSTEMS
Arthur George Fenn, 156 Badminton Road, Bristol, England, and Reginald James Hunt, Rose Cottage, Tockington, England
Filed Apr. 26, 1956, Ser. No. 580,880
Claims priority, application Great Britain Apr. 28, 1955
5 Claims. (Cl. 73—389)



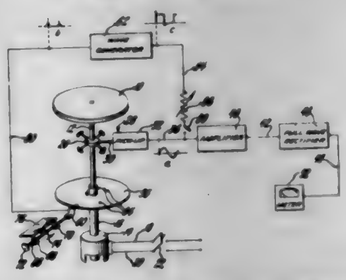
1. Release valve means for a pressure fluid system comprising a pressure gauge, a supply line to said pressure gauge, and a cut-off valve in the supply line to the pressure gauge and actuated, when the fluid pressure reaches a predetermined value, to discontinue the supply of fluid to the pressure gauge, said release valve means comprising a hollow body divided into two closed chambers each having a wall comprising a resilient diaphragm, one of the chambers being connectable with the supply of pressure fluid and the other chamber being connectable with said pressure gauge downstream of the cut-off valve, and a normally closed valve for venting said other chamber and said pressure gauge, said normally closed valve being opened by deflection of the diaphragm forming the wall of said one chamber due to the fluid pressure in that chamber reaching a predetermined value.

2,981,111
INSTRUMENT FOR INDICATING FLUID DENSITY
Charles G. McIlwraith, Rancho Santa Fe, John B. Breazeale, Solana Beach, and Edward N. Dacus, Rancho Santa Fe, Calif., assignors to Bill Jack Scientific Instrument Co., Solana Beach, Calif., a corporation of California
Filed Feb. 28, 1957, Ser. No. 643,138
3 Claims. (Cl. 73—453)



1. An instrument for detecting and indicating changes in density of a fluid sample comprising, in combination, a fluid sample chamber, a ferromagnetic float element immersed in the fluid within said chamber, means for directing a continuous flow of sample fluid through said chamber, electromagnetic float positioning means to maintain said float positioned in equilibrium against the combined forces of gravity and buoyancy of the fluid sample, said positioning means comprising a pair of aligned electromagnetic coils mounted in substantially vertical alignment above and below said chamber, sensing means to detect changes in float position due to changes in density of said fluid sample, said sensing means comprising a pair of electrical coil members positioned above and below the chamber in substantially coaxial alignment with said positioning electromagnetic coils, each said sensing coil being positioned between an electromagnetic coil and the chamber, means interconnecting the sensing means and positioning means to cause the latter means to generate forces to reposition said float to its equilibrium position upon said changes in fluid density, and continuous density indicating means responsive solely to the repositioning forces generated by said electromagnetic float positioning means.

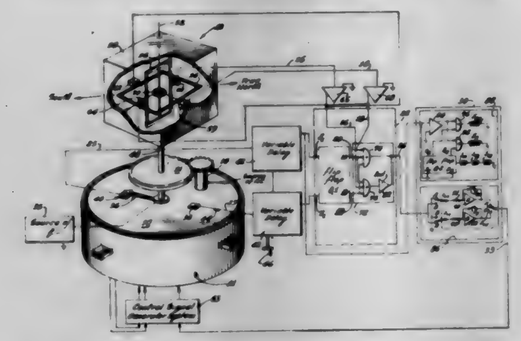
2,981,112
UNBALANCE MEASURING APPARATUS
Joseph F. Lash, Ferndale, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1955, Ser. No. 550,035
2 Claims. (Cl. 73—462)



2. An unbalance indicating system for determining the unbalance in a workpiece, said system comprising means for rotatably driving said workpiece and including a phase disk driven in synchronous relation to said workpiece, an unbalance pickup responsive to vibrations from said workpiece to produce an unbalance signal indicative of the amplitude of the unbalance and having a predetermined phase relationship to the angular position of said unbalance, said disk having a spirally arranged reference marker, emanating radially outward from the center thereof, the radial location of any point on said marker having a predetermined relationship to the angular location thereof with respect to a fixed point on said disk, a radially movable reference pickup for radially scanning said phase disk and cooperating with said marker to produce a reference signal having a phase relationship with respect to said fixed point dependent on the radial position of said reference pickup, means for comparing said unbalance signal and said reference signal to determine the phase relationship between said signals, and means for indicating the radial position of said reference pickup when said signals have a predetermined phase relation.

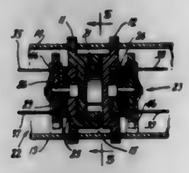
2,981,113
PRECISION DIRECTIONAL REFERENCE
Harold F. Erdley, Los Angeles, Calif., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Nov. 19, 1958, Ser. No. 774,985
13 Claims. (Cl. 74—5.4)

1. In a precision directional reference system azimuthally aligning a horizontally stabilized platform to a predetermined azimuth rotation, the combination comprising: a gyro having a spin axis, said gyro including a case, a rotor, means for spinning said rotor about said spin axis and pick-off means for generating an output signal representative of the rotation of said case with respect to said rotor about a predetermined axis; coupling means for rotatably coupling said gyro to a stabilized platform; rotation means for rotating said gyro case with respect to said platform to generate from said pick-off means said output signal having a wave form with a predetermined period; synchronous rectification means



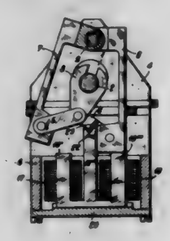
for operating on said output signal to generate a partially inverted signal having substantially the predetermined period, said partially inverted signal being representative of said output signal with reversed polarity for half of each period; summation means responsive to said partially inverted signal for generating a torquing signal whose magnitude is proportional to the integrated value of said partially inverted signal over an interval substantially equal to the predetermined period; and means for applying said torquing signal to the stabilized platform to rotate the platform in azimuth.

2,981,114
DRIVE SYSTEM FOR TUNING ASSEMBLY
Hermann E. F. C. Lingenbrink, Hilltown, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1958, Ser. No. 731,831
1 Claim. (Cl. 74—10)



In a pocket broadcast receiver: an enclosure which has front and rear walls, so closely spaced that one hand can span both of said walls; a receiver set in said enclosure; a tuning device comprising a pair of friction wheels, each being rigid and coaxial with one circuit tuner element which forms part of the receiver set, said wheels being coaxial one with the other, both being pivoted in said enclosure, each having a segmental portion projecting through said front wall and a segmental portion projecting through said rear wall, the segmental portions projecting through each of said walls being spaced apart not substantially more widely than the width of a finger; and a coupling, comprising jaw means on each of the two wheels, within said enclosure, each of said jaw means being rigidly, peripherally formed on one of said wheels and being adapted to engage and rotate the jaw means of the other wheel, subject to lost rotary motion, so that conjoint as well as relative rotation of said pair of tuner elements can be effected by each of two fingers of said one hand.

2,981,115
DEVICE FOR CONVERTING ELECTRIC SIGNALS INTO MECHANICAL DISPLACEMENTS
René Beguin, Geneva, Switzerland, assignor to Mefina S.A., Fribourg, Switzerland, a firm
Filed Dec. 3, 1959, Ser. No. 857,215
Claims priority, application Switzerland Dec. 3, 1958
7 Claims. (Cl. 74—25)

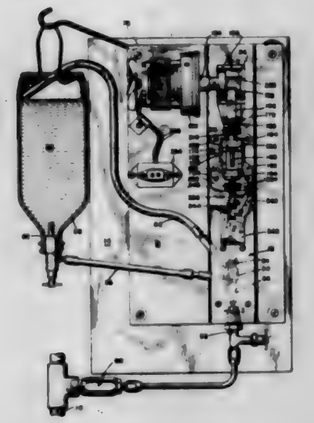


1. In a device for converting electric signals into corresponding mechanical displacements of a controlled member, a rotative drive shaft and eccentric means, a series of juxtaposed wedges, means for maintaining the wedges of said series constantly one against the other, said controlled member being movable by said wedges and said wedges being slidable transversely of said drive shaft whereby each relative displacement of one end element of said series of wedges with respect to the other end element transversely of said elements produces a corresponding displacement of said controlled member, a connecting rod for each wedge pivotally connected to said eccentric means, a pair of levers for each wedge and the levers of each of said pairs being adapted to rock in a plane perpendicular to said shaft in driving engagement with the corresponding wedge, a link for each of said levers connecting same to the corresponding rod, and electric signal responsive means for locking one of said levers of each pair against rocking movement so that the remaining lever of each pair can rock and produce a single displacement of the corresponding wedge in response to rotation of said drive shaft.

2,981,116
MOTION TRANSMITTING APPARATUS FOR PUMP PLUNGERS AND THE LIKE
Axel R. Scholin, 4820 N. Paulina St., Chicago 40, Ill.
Filed May 20, 1957, Ser. No. 660,120
2 Claims. (Cl. 74—44)

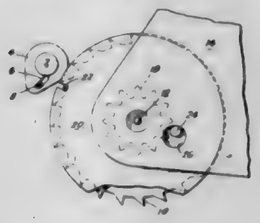
1. Apparatus for transmitting reciprocal motion to a pump plunger or the like, said apparatus comprising a reciprocable carriage adapted to be connected to the outer end of said plunger for movement in unison therewith between corresponding retracted and advanced positions and presenting first and second opposed abutments respectively arranged in spaced relationship, an electric motor having an output shaft, an eccentric crank arm extending between said abutments and mounted on said shaft for revolution about the axis of the shaft upon rotation of the latter, a follower pivoted to the crank arm at one end and having a portion thereof slidably guided in said first abutment, said follower having a contact surface thereon designed for camming engagement with said second carriage abutment for moving the carriage to its retracted position and a second contact

surface thereon designed for engagement with said first abutment for moving the carriage to its advanced position, and means for adjustably moving one of said contact surfaces relative to the other contact surface to vary



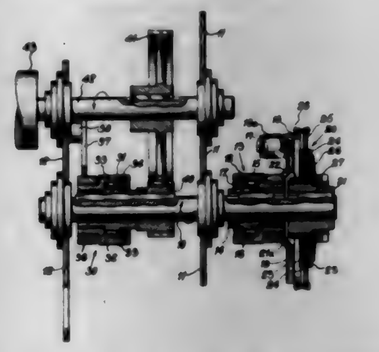
the distance between the contact surfaces whereby varying degrees of lost motion may be attained between said contact surfaces and the abutments with which they are respectively engageable.

2,981,117
INDEXING MECHANISM FOR ELECTRICAL TIMEPIECES
Philip A. Studer, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 8, 1960, Ser. No. 20,981
7 Claims. (Cl. 74—126)



1. An indexing mechanism for a timepiece, comprising a balance staff mounted for oscillatory motion, a toothed index wheel mounted for rotation adjacent said balance staff, an indexing element carried by said balance staff and engaging said index wheel to drive said index wheel upon movement of said balance wheel in one direction, an auxiliary index member mounted for oscillatory movement about the axis of rotation of said index wheel, said auxiliary index member having a peripheral edge interposed in the path of radial movement of said indexing element to the teeth of said index wheel, said auixilary index member having a slot extending radially inwardly from said peripheral edge to admit said indexing element into driving engagement with a tooth of said index wheel, said slot having an initial position located in substantially the same radial plane as the tooth of said index wheel which is to be indexed, whereby the slot of said auxiliary index member is indexed along with said index wheel on the indexing stroke of said indexing element and is returned to said initial position on the backswing motion of said indexing element.

2,981,118
STEP-BY-STEP FEED MECHANISM
Frank B. Morrill, North Adams, Mass., assignor to James Hunter Machine Company, North Adams, Mass., a corporation of Massachusetts
Filed Sept. 25, 1958, Ser. No. 763,401
4 Claims. (Cl. 74—142)



1. In a step-by-step feed mechanism, the combination of an oscillating driving member having advance and return strokes, a rotatable shaft, a one-way clutch, means connecting the oscillating member to the shaft through said one-way clutch and through which said member is operable in its advance stroke to rotate the shaft in one direction, the clutch disconnecting the shaft from the oscillating member in its return stroke, a friction clutch connecting the oscillating member to the shaft independently of the one-way clutch, whereby said member in its return stroke is operable through the friction clutch to arrest inertial rotation of the shaft in said one direction, an anchoring stop, and a one-way engaging device connecting the shaft to the anchoring stop and forming with said anchoring stop a backstopping device operable to prevent rotation of the shaft in the direction opposite to said one direction and permit rotation of the shaft in said one direction, whereby the friction clutch is inoperable to drive the shaft in said opposite direction during said return stroke of the oscillating driving member.

2,981,119
VARIABLE SPEED TRANSMISSION
Ralph E. Brown, Los Angeles, Calif., assignor to Genisco, Incorporated, Los Angeles, Calif., a corporation of California
Filed Sept. 28, 1959, Ser. No. 842,768
15 Claims. (Cl. 74—198)



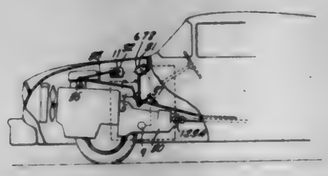
1. A power transmission comprising: a drive disc; a driven disc, one of said two discs being of less than half the diameter of the other disc and being positioned wholly within the circumference of the other disc with its axis on a given radius from the axis of the other disc; a plurality of balls interposed between the two discs in tangential rolling contact with both discs; and a rotary cage maintaining the balls in a cluster substantially smaller in diameter than the smaller disc and wholly within the circumference of the smaller disc, said rotary cage having its axis of rotation on said given radius; and control means to shift said rotary cage along said given radius within the circumference of the smaller disc to vary the speed ratio between the two discs.

2,981,120
SHEET METAL PULLEY WITH DRAWN HUB
Edward H. Schultz, Jr., Chicago, Ill., assignor to The Nagel-Chase Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 2, 1959, Ser. No. 784,603
4 Claims. (Cl. 74—230.8)



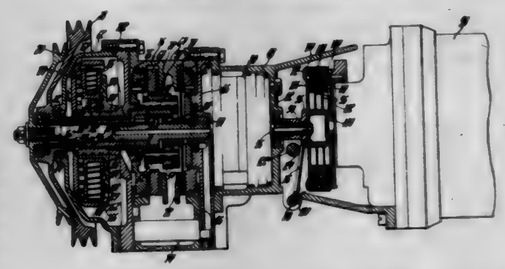
1. A pulley comprising: a first and a second annular sheet material member, said members being securely coupled together adjacent their outer peripheries and with the central portions thereof spaced apart and perforated to define a central bore; and a central hub member having a radially extending flange provided with interfitting means meshing with corresponding means on said first sheet material member, said interfitting means non-rotatably mounting said coupled sheet material members to said hub member, said hub member further having an annular groove spaced apart from said flange for fixedly engaging said second sheet material member, said second sheet material member including a centrally disposed neck portion of cylindrical configuration for engaging said annular groove and further including a flat annular washer secured to said second sheet material member to circumscribe said neck portion preventing distortion thereof, whereby said coupled sheet material members are mechanically keyed to said hub member.

2,981,121
AUTOMATIC CONTROL DEVICES FOR CHANGE-SPEED GEARS
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Aug. 4, 1958, Ser. No. 752,945
Claims priority, application France Aug. 22, 1957
11 Claims. (Cl. 74—365)



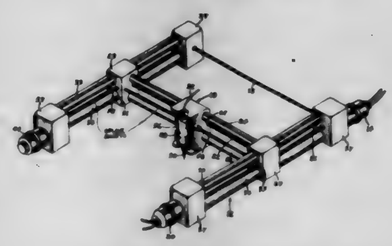
1. In combination with a power transmission system having an automatic change-speed gear box provided with means for changing gear ratios and a driven output shaft, an automatic control device responsive to the speed of rotation of said output shaft comprising, a source of direct current, first electro-responsive means for actuating said means for changing gear ratios, normally open electrical contacts between the source of direct current and the first electro-responsive means, a source of pulsating direct current operationally connected to said output shaft and adapted to produce pulsating direct current proportional to the speed of rotation of said shaft, second electro-responsive means for closing said normally open contacts at a selected value of pulsating direct current and holding said contacts closed until said current value falls to a lesser selected value than that selected for closing, whereby said first electro-responsive means are energized when said normally open contacts are closed and de-energized when said contacts are open.

2,981,122
ACCESSORY DRIVES
Oliver K. Kelley, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 7, 1953, Ser. No. 384,665
17 Claims. (Cl. 74—472)



1. In combination, an engine having an output shaft and having fuel supply mechanism, and an accessory drive transmission, said transmission comprising a driving shaft and a driven shaft, means driven by said output shaft for driving said driving shaft at a fixed speed ratio, change speed ratio gearing between said driving and driven shafts, and governor means responsive to speed of rotation of said driving shaft for automatically changing the ratio between driving and driven shafts at predetermined rotative speeds of said driving shaft, said governor means controlling the supply of hydraulic force to said fuel supply mechanism.

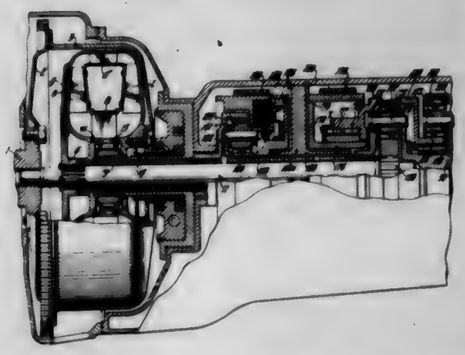
2,981,123
COORDINATE POSITIONER
John B. McHugh, Philadelphia, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 26, 1958, Ser. No. 776,650
3 Claims. (Cl. 74—665)



1. A coordinate positioner comprising first, second, third and fourth corner supports, first bearing shaft means joining the first and second of said corner supports, second bearing shaft means joining the third and fourth corner supports, first and second carriages having openings therein and slidable on each of said bearing shaft means, third bearing shaft means coupling said carriages, positionable means having openings therein and slidable

on said third bearing shaft means, a first lead screw rotatably supported by said first and second corner supports, a second lead screw rotatably supported by said third and fourth corner supports, said first and second lead screws being screwably retained in one of said first and second carriage openings respectively, a first drive means operable with said first and second lead screws, a third lead screw rotatably supported by said carriage and screwably retained in one of said positionable means openings, and a second drive means operable with said third lead screw.

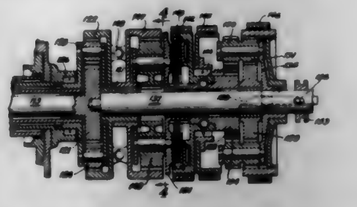
2,981,124
FOUR PHASE CONVERTER DRIVE
Oliver K. Kelley, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Application Aug. 5, 1953, Ser. No. 372,564, now Patent No. 2,803,974, dated Aug. 27, 1957, which is a continuation of application Ser. No. 41,767, July 31, 1948. Divided and this application Apr. 25, 1957, Ser. No. 655,041
3 Claims. (Cl. 74—677)



1. A transmission having an input shaft, an output shaft, and torque transmitting means connecting said shafts, said torque transmitting means including a hydraulic torque converter and a plurality of planetary gear sets, said converter having an impeller element connected to said input shaft and a plurality of relatively rotatable turbine elements, each of said planetary gear sets having a plurality of rotatable members including ring gear, sun gear and planet carrier members, the carriers of each of said gear sets being connected together and to said output shaft, the first of said turbine elements being operably connected with the sun gear of a first of said gear sets, a second of said turbine elements being connected to the ring gear of a second of said gear sets, means for holding the ring gear of said first gear set and the sun gear of said second gear set against reverse rotation for drive of said output shaft at reduction ratios by said turbine elements, and means for compelling the members of said second of said gear sets to rotate in unison for direct drive of said output shaft by said second turbine element.

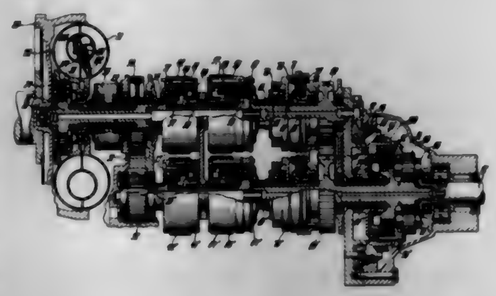
2,981,125
TRANSMISSION
Adiel Y. Dodge, % A. Y. Dodge Co., 206 S. Main St., Rockford, Ill.
Filed Dec. 22, 1958, Ser. No. 781,967
6 Claims. (Cl. 74—688)

6. A transmission comprising a hydraulic torque converter having a vaned driving impeller, a pair of vaned driven rotors receiving liquid in sequence from the impeller, a vaned stator, and a one way brake to hold the stator against reverse rotation, a first differential gear set having two input members and an output member, means connecting the input members to the rotors respectively, means to hold the input member connected to the second rotor in the series against reverse rotation, a second differential gear set having two sun gears, a planet carrier, and pinions on the carrier meshing directly with one of



the sun gears and through idlers with the other sun gear, means to connect the carrier to a load, means to connect one of the sun gears to the output member, one way brake means to hold the other sun gear against reverse rotation, and means responsive to the speed of the output member and the torque on said other sun gear to drivably connect said other sun gear to the output member.

2,981,126
POWER SHIFTING MULTI-STEP TRANSMISSIONS
Oliver K. Kelley, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 23, 1952, Ser. No. 327,568
29 Claims. (Cl. 74—731)



1. A transmission for a vehicle having a source of motive power, said transmission comprising a plurality of plural step-ratio change mechanisms having their outputs connected together in a predetermined speed relation, and means for connecting the inputs of said mechanisms to said source of motive power to be simultaneously differentially driven thereby in a predetermined torque relation, and means for causing the ratio of each of said mechanisms to be changed independently of the other while the inputs thereof are being driven.

2,981,127
DRILL WITH CHIP REMOVER
Robert B. Ransom, Westerly, R.I., assignor to Norfolk Products Corporation, a corporation of Connecticut
Filed Sept. 23, 1959, Ser. No. 841,760
1 Claim. (Cl. 77—67)

A drill having a lengthwise extending shank with a cutting end, a guide path formed by a reduction in the full diameter of the shank providing a flat surface extending from said end lengthwise of said shank along which chips formed at the cutting end may pass, and an abutment raised from and interrupting the surface of the guide path and extending across the full width thereof to provide a point of holding for accumulated chips for



withdrawal of the chips when the drill is withdrawn from the hole.

2,981,128
PROCESS AND LUBRICANT COMPOSITION FOR ROLLING ALUMINUM
Cecil D. Flemming, New York, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Mar. 7, 1957, Ser. No. 644,468
12 Claims. (Cl. 80—60)

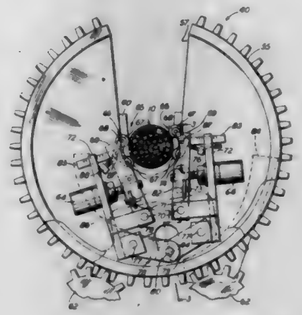
1. A soluble oil, non-staining to aluminum, consisting essentially of: (*a*) from about 1 to about 20 percent by weight of a mixture of alkyl esters of mixed, high molecular weight acids obtained by controlled oxidation of liquid petroleum fractions; (*b*) from about 1 to about 10 percent by weight of a fatty acid ester of a hexitol anhydride, said fatty acid having at least six carbon atoms and said fatty acid ester ranging from a mono to a triester; (*c*) from about 1 to about 10 percent by weight of a polyoxyalkylene derivative of a fatty acid ester of a hexitol anhydride, said fatty acid having at least six carbon atoms and said fatty acid ester ranging from a mono to a triester; (*d*) from about 0.5 to about 5 percent by weight of an aluminum stearate; and (*e*) from about 96.5 to about 55 percent by weight of a hydrocarbon fraction having a viscosity of 1.4 centistokes to 65 centistokes at 100° F.

6. A water-in-oil emulsion, non-staining to aluminum, consisting essentially of: (*a*) from about 3 to about 6 percent by weight of a mixture of alkyl esters of mixed, high molecular weight acids obtained by controlled oxidation of liquid petroleum fractions; (*b*) from about 0.8 to about 1.6 percent by weight of a fatty acid ester of a hexitol anhydride, said fatty acid having at least six carbon atoms and said fatty acid ester ranging from a mono to a triester; (*c*) from about 0.8 to about 1.6 percent by weight of a polyoxyalkylene derivative of a fatty acid ester of a hexitol anhydride, said fatty acid having at least six carbon atoms and said fatty acid ester ranging from a mono to a triester; (*d*) from about 0.3 to about 0.6 percent by weight of an aluminum stearate; (*e*) from about 35 to about 60 percent by weight of a mineral oil having a viscosity of 1.4 centistokes to 65 centistokes at 100° F.; and (*f*) from about 25 to about 60 percent by weight of water.

11. In the rolling of aluminum wherein a strip of the metal is passed through the bit of a plurality of rolls to reduce the strip to a metal sheet of desired lesser thickness, and wherein a coolant-lubricant is applied to the working roll, the improvement which comprises: applying to the working roll an emulsion defined by claim 6.

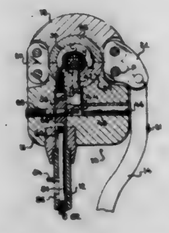
2,981,129
CABLE COILING, CUTTING, AND STRIPPING APPARATUS
George P. Adams, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 20, 1959, Ser. No. 807,603
3 Claims. (Cl. 81—9.51)

1. In apparatus including means for coiling a sheathed cable containing a core, means for shearing the sheath and cable core, and means for stripping a portion of the sheath from the cable adjacent to one end thereof, an improved means for cutting the sheath circumferentially, which comprises a pair of pivotally mounted bars having free ends thereof adjustable toward and away from each other and a portion of the cable positioned therebetween, said bars being designed to be revolved around the cable, a pair of arms, the arms being mounted pivotally at an intermediate portion thereof adjacent to the free ends of the bars, cutting rollers mounted rotatably adjacent to each end of each of the pivoted arms adjacent to the sheath to be cut and on opposite sides thereof, weights secured to the arms to cause adjacent



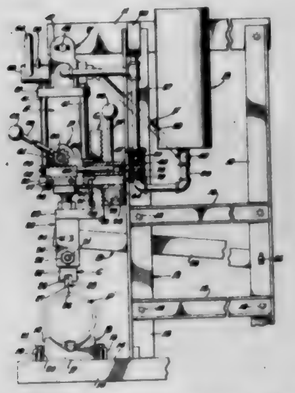
ends thereof to move apart to permit insertion of the cable therebetween, a toggle joint mechanism connected arms and the cutting rollers around the portion of the cable therebetween, a toggle point mechanism connected adjacent to the opposite ends of the bars, and cam means for causing the arms to pivot with a snapping toggle action during a portion of the revolution of the cutting rollers around the cable so that the cutting rollers sever the cable sheath and are retracted therefrom in a single revolution of the cutting rollers around the cable.

2,981,130
TOOL FOR EXPLOSIVELY CRIMPING ELECTRICAL CONNECTORS
William F. Broske, Camp Hill, Pa., and William E. Jaycox, Bel Air, Md., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Apr. 17, 1958, Ser. No. 729,103
9 Claims. (Cl. 81—15)



1. A hand tool for crimping electrical connectors comprising a body member, said body member comprised of two mating sections, a hinge relatively pivoting said sections, whereby the tool may be opened or closed, a chamber formed in said body member by said mating surfaces, a U-shaped charge disposed in one of the mating surfaces and a die member in the other mating surface, means for detonating said charge whereby a connector with a conductor therein may be inserted in the tool and the sections closed to cause the die to partially crimp the connector to the conductor thus locking the conductor and connector in the tool and the explosive charge detonated to complete the crimped connection.

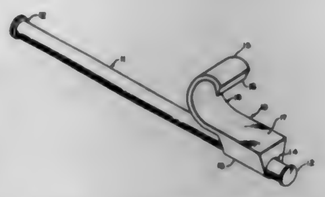
2,981,131
HYDRAULIC PIPE VISE
Malcolm E. Mitchell, 120 E. 109th Place, Los Angeles, Calif.
Filed Oct. 15, 1959, Ser. No. 846,695
8 Claims. (Cl. 81—17.2)



1. A vise of the character referred to including, a frame having an elongate, horizontally disposed base with front and rear ends, a pair of laterally spaced vertically disposed standards at the rear end of the base, a second pair of laterally spaced, vertically disposed standards at the central portion of the base, an elongate, horizontally disposed header fixed to the upper ends of the pairs of standards and overlying the base, a fixed jaw secured to the forward portion of the base and having an upwardly opening pipe receiving trough extending transversely of the base, an elongate arm having an end pivotally supported between the pair of standards at the rear of the base and projecting forwardly between the second pair of standards to be guided thereby, a movable jaw spaced above and opposing the fixed jaw, a yoke pivotally carried by the arm and pivotally connected with the movable jaw on axes extending transversely of the base, a cylinder and piston unit including a cylinder sleeve with upper and lower heads, a piston in the sleeve, a rod on the piston projecting through the lower head and connected with the yoke, said upper head having a clevis thereon and pivotally connected to the header, a fluid reservoir, manually operable pump means connected with and receiving fluid from the reservoir and connected with the upper head of the cylinder and piston unit to deliver fluid into the cylinder under pressure, a return pipe extending from the upper cylinder head to the reservoir, manually operable valve means in the upper cylinder head and operable to selectively establish communication between the cylinder and pump means and between the cylinder and the return pipe, and manually operable shifting means operable to shift the movable jaw into and out of engagement with a pipe engaged in the fixed jaw preparatory to or subsequent to operation of the pump means.

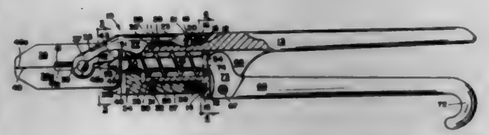
2,981,132
SPANNER-TYPE WRENCH HAVING REVERSIBLE HANDLE LEVER
Lucian W. Gaskins, Linworth, Ohio (4425 Sandy Lane Drive, Columbus 24, Ohio)
Filed Feb. 12, 1960, Ser. No. 8,337
1 Claim. (Cl. 81—90)

A spanner-type wrench comprising a tool head of integral, one piece construction including a body portion formed with a longitudinally extending, open-ended, handle-receiving bore and a flat, work-engaging surface disposed in spaced parallel relation to the axis of said bore, and a claw-like hook portion extending outwardly from one end of said body portion in generally transversely offset relation thereto, said hook portion being formed with a smooth, continuously curved, work-engaging inner wall formed as a smooth continuation of the flat, working-engaging surface of said body portion and terminating in an inwardly turned, pointed end extremity disposed in relatively spaced relation to the work-engaging surface of said body portion, the inner wall of said



hook portion having progressively diminishing radii of curvature from the work-engaging surface of said body portion to the pointed end extremity of said hook portion and defining on said tool head an undercut, work-receiving socket adapted to accommodate workpieces of varying diameters; and a straight elongated handle lever slidably shiftable in the bore of said body portion between opposite, longitudinally extended positions with respect to said tool head.

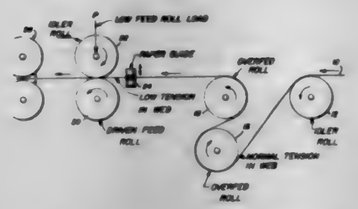
2,981,133
RATCHETING PLIERS
Allen E. Campman, 13115 Grant Ave., Paramount, Calif., and Wallace S. Campman, 506 E. El Segundo Blvd., Compton, Calif.
Filed Jan. 5, 1959, Ser. No. 784,981
6 Claims. (Cl. 81—349)



1. A pliers comprising: a tubular member having a first handle extending rearwardly therefrom; a sleeve coaxially surrounding said tubular member; a plurality of teeth upon one end of said sleeve; ratchet means reciprocally mounted upon said tubular member and including teeth engageable with said teeth upon said sleeve; bearing means disposed between and retaining said sleeve axially while allowing relative rotation with respect to said tubular member; a pair of normally open clampable jaws pivotally attached to a forward portion of said sleeve; a reciprocating pin member extending through said tubular member and said sleeve into sliding contact with said jaws; a second handle pivotally attached to said first handle; and means upon said second handle to reciprocate said pin and close said jaws when said second handle is pivoted toward said first handle.

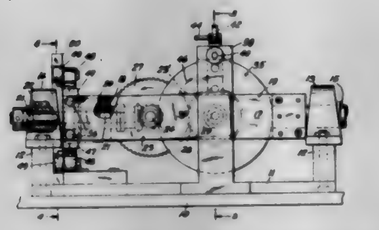
2,981,134
METHOD FOR WEB FEEDING AND CUTTING
Oliver D. Johnson, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1957, Ser. No. 705,896
2 Claims. (Cl. 83—18)

1. The method of cutting sheets of variable length from a continuously moving web of flexible material comprising the steps of providing a moving web having substantially no longitudinal tension therein such that the surface fibers on both surfaces of the web are under no appreciable longitudinal stress, passing the web between the nip of a driven feed roll and a backing idler roll with said rolls exerting a low pressure on the web, the pressure being incapable of indenting the surfaces of the web but sufficient to prevent slippage between the web and said rolls, cutting sheets from the portion of the



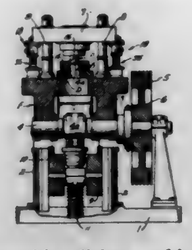
web leaving the feed roll at a rate which has a fixed time relationship to the speed of the feed roll, and determining the length of each sheet cut from the web by selectively varying the amount of web wrap-around said rolls at the input side thereof whereby said rolls will cause a stress in the surface layers of the web and the amount of web fed per revolution of the driven feed roll will vary with the amount of wrap-around.

2,981,135
APPARATUS INCLUDING A SWINGING FRAME FOR INTERMITTENTLY CUTTING ELONGATED WORKPIECES
Samuel N. Small, Valley Stream, N.Y., assignor to Julius Duberstein, New York, N.Y.
Filed June 26, 1958, Ser. No. 744,850
5 Claims. (Cl. 83—310)



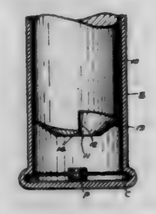
1. An apparatus for intermittently performing operations upon a continuously fed elongated workpiece along a given path, a main frame rotatable about a single axis, a supplemental frame extending the major portion of the length of and arranged outwardly of and swingably mounted in the main frame on a pivot axis arranged transversely of and supported in said main frame, a transverse shaft supported in one end portion of the supplemental frame and spaced with respect to said pivot axis, a tool fixed to said shaft, means driving said pivot axis, means comprising gears on the pivot axis of said swinging frame and on said shaft for rotating the tool, the axis center of said tool being normally substantially in alinement with the center of the axis of rotation of the main frame, and means, at the other end portion of the swinging frame, for intermittently imparting swinging movement to the supplemental swinging frame in movement of said transverse shaft out of said alinement and in movement of the tool into said path into operative engagement with a workpiece while fed through the apparatus and immediately withdrawing the tool from the path of movement of the workpiece.

2,981,136
APPARATUS FOR MODULATING PUNCH AND DIE
Elmer E. Legge, West Hartford, Conn., assignor, by mesne assignments, to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 18, 1955, Ser. No. 501,835
8 Claims. (Cl. 83—632)



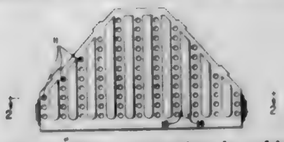
1. In combination with a dieing machine or the like having a base and a tool secured to a cross head which is driven through a work stroke and a return stroke relative to the base, a hydraulically cushioned cell for loading the machine to the end of the work stroke concurrently with loading of the machine by a work piece engaged by the tool and for thereafter progressively unloading the machine on the back or return stroke so as to prevent overtravel of the tool, said loading cell including members relatively movable toward each other on the work stroke and away from each other on the return stroke, said members having confronting surfaces relatively movable toward and away from each other within a liquid medium and from between which the medium is discharged through a progressively smaller orifice to the end of the work stroke, and means adjustably secured to the cross head and movable therewith into engagement with one of said movable members to force the engaged member toward the other of said members and wherein the other of said members is fixed to said base.

2,981,137
SPINNING PUNCH
Richard A. Sahlin, Fairfield, Conn., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed Mar. 13, 1958, Ser. No. 721,267
9 Claims. (Cl. 86—32)



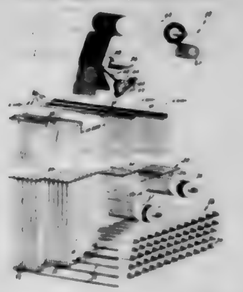
1. A spinning centrifugal dispensing impeller tool for distributing a measured charge of a moist and pulverulent initiating explosive composition into an annular cavity of a cartridge case having a continuous open mouth of predetermined width facing said tool; said tool comprising a cylindrical shank and a tip comprising an end face in a plane substantially perpendicular to the axis of said shank and a plurality of cut-outs intersecting said end face and the periphery of said shank, each cut-out comprising an end wall in a plane substantially parallel to said axis, and a spiral floor disposed at an angle of not less than 15° to said end face, the said tool adapted to rotate in use in a direction such that the end wall is the leading portion of the turning cut-out and the spiral floor is the trailing portion of the turning cut-out.

2,981,138
PRIMER MAGAZINE COVER FOR PRIMER INSERT MACHINE
Reed E. Donnard, 7809 Fillmore St., Philadelphia 11, Pa.
Filed May 8, 1958, Ser. No. 734,064
1 Claim. (Cl. 86—38)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A cover for a primer magazine in which explosion sensitive type primers are arranged in rows, said cover being provided on an inner surface with elongated projections forming guideways or channels along which primers are moved from a magazine in single file to a transfer belt of a primer insert machine, said cover being vented to reduce the danger of mass detonation in event one primer might be accidentally fired, said cover being for small arms primers having a diameter of .210 inch, the base of each guideway or channel being vented throughout its length by substantially uniformly spaced holes and each hole having a diameter of about .156 inch, with the spacing between these holes between centers being about .25 inch whereby one primer may be fired without danger of other primers being ignited thereby.

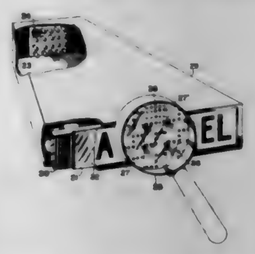
2,981,139
LACE FABRIC AND METHOD OF MAKING THE SAME
Elliot Sutter, Baldwin, and Herbert Rubin, East Meadow, N.Y., assignors to Native Laces & Textiles, Incorporated, New York, N.Y., a corporation of New York
Filed July 22, 1959, Ser. No. 828,898
11 Claims. (Cl. 87—4)



1. A lace fabric, comprising a pillar layer having a series of warp threads spaced across the width of the fabric and extending lengthwise thereof, and another layer disposed at the back of said pillar layer to provide a backing layer for said fabric, said backing layer comprising threads interconnected with said pillar layer throughout the entire extent thereof so that said backing layer is integral with said fabric throughout the entire length and width thereof, said threads comprising said backing layer being arranged to provide a smooth hand for said fabric at the back thereof and thereby provide a fining background for said fabric, the number of threads comprising said backing layer being equal to the number of warp threads in said pillar layer.

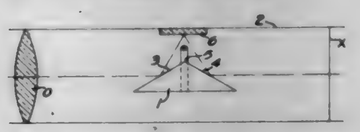
2,981,140
MULTIPLE IMAGE DISPLAY SYSTEM
James A. Ogle, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 24, 1956, Ser. No. 580,381
4 Claims. (Cl. 88—1)

1. An optical display system comprising in combination an array of separately controllable small-area light sources distributed along two-dimensional first axes; a light refractive lens system comprising an array distributed along two-dimensional second axes of light-converging refractive elements; each of said refractive elements having the properties of an imperfect converging lens which focuses each said small-area light source into a central spot with concentrations of aberrant light extending radially therefrom at azimuthal angles determined by the azimuthal angles of the said two-dimensional second axes; a mask located in the plane where said central spots are focused, the total surface area of said mask being divided into a plurality of substantially uniform



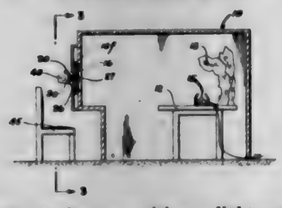
contiguous surface areas, each of said contiguous areas comprising a recording zone surrounded by an opaque interstitial region, each recording zone being noncontiguous to any other recording zone, said mask containing in its recording zones the elements of a multiplicity of images, said recording zones being either opaque or transparent in accordance with the elements of the images stored thereby, the illumination of a given light source resulting in the impingement of a plurality of central spots on selected recording zones associated with a single one of said images, said opaque interstitial regions surrounding said selected recording zones associated with said single image tending to prevent the scattering of said aberrant light into non-selected recording zones.

2,981,141
OPTICAL COMPENSATOR AND TILT DETECTOR
John Argent Armstrong, Wembley Park, and Douglas William Berry, Grove Park, London, England, assignors to Hilger & Watts Limited, London, England, a corporation of the United Kingdom
Filed Jan. 16, 1958, Ser. No. 709,263
Claims priority, application Great Britain Jan. 16, 1957
15 Claims. (Cl. 88—1)



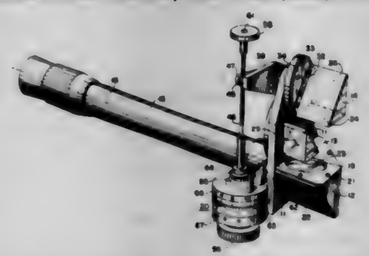
1. A device for providing optical compensation for tilt of a viewing instrument comprising a reflecting unit component suspended pendulously within the body of the instrument and having at least one reflecting surface, and a reflecting means component secured to the instrument body so as to move therewith when the instrument is tilted and having at least one reflecting surface, there being at least three of said reflecting surfaces provided by said reflecting unit component and said reflecting means component considered together, a reflecting surface of one of said components being disposed in the path of light through the instrument, the reflecting unit component and the reflecting means component being so disposed relative to each other and the path of light through the instrument that an incoming ray of light incident upon said one of said components is subjected to a sequence of reflections between the reflecting surfaces of said components whereby the ray emergent after the reflection from the last of said reflecting surfaces upon which the ray is incident is turned through an angle which is an even integral multiple, greater than two, of the angle at which the instrument body is tilted.

2,981,142
PRISM ART DEVICE
Leo E. Wendland, 4420 Admiral Way, Seattle, Wash.
Filed June 16, 1958, Ser. No. 742,260
1 Claim. (Cl. 88—1)



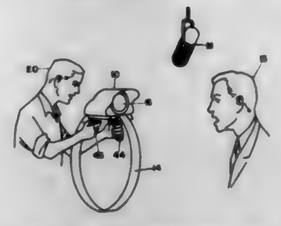
A prism art device comprising a light-proof enclosure, said enclosure including an end wall having an opening formed therethrough, a base plate disposed in overlying relationship to said opening, means supporting said base plate on said end wall for vertical adjustment relative to said opening, said base plate including a hood having a viewing slot formed therethrough through which a person may look to view the interior of said enclosure, means supported by said end wall and engaging a portion of said base plate for selectively manually adjusting the vertical position of said base plate and hood, a prism rotatably supported within said hood adjacent said slot and extending substantially parallel to said slot, and means extending outwardly of said hood and connected with said prism for selectively rotatably adjusting the position of said prism to different viewing positions, an article support means disposed within said housing, an article to be viewed supported on said article support means, said article to be viewed including an irregular surface presented toward said viewing slot such that different portions of the viewed surface of the article are disposed at varying distances from said viewing slot, and illuminating means for illuminating the viewed surface of the article within said enclosure whereby a viewer looking through the viewing slot perceives a scene within the enclosure having unusual color effects and assorted designs, the scenes having a depth which adds to their beauty.

2,981,143
DIP ANGLE MEASURING DEVICE
Boris J. Gavrisheff, 1718 35th St., Washington 7, D.C.
Filed Mar. 1, 1957, Ser. No. 643,484
4 Claims. (Cl. 88—2.4)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An instrument for determining dip angles which comprises an astronomical telescope, a stationary main prism, a stationary right angular totally reflecting prism, and a rotatable right angular totally reflecting prism mounted onto an adjustable housing, said stationary and rotatable right angular prisms being mounted relative to said main prism in optical alignment with said telescope, said rotatable prism being rotatably mounted on said housing and secured in one of two positions requiring a 90 degree rotation of said rotatable prisms between each position relative to said housing and rotatable with said housing relative to said stationary prisms, one of said positions facing said rotatable prism in the same direction as said stationary right angular prism and the other of said positions facing said rotatable prism in a direction opposite to said stationary right angular prism whereby light rays incident on said right angular prisms will be reflected onto said main prism and subsequently reflected by the latter along the axis of said telescope, adjusting means for rotatably adjusting said housing and said rotatable prism with respect to light rays incident thereon and means for indicating in minutes of a degree the amount of rotation of said rotatable right angular prism required to reflect said light rays in coincidence with light rays reflected by said stationary right angular prism along the axis of said telescope.

2,981,144
PROMPTING SYSTEM
Joseph Florian De Frenes, 100 Broadview Road, Springfield, Pa., and Horace Ludington Roberts, Port Chester, N.Y. (Contoocook, N.H.)
Filed Sept. 6, 1957, Ser. No. 682,333
5 Claims. (Cl. 88—16)

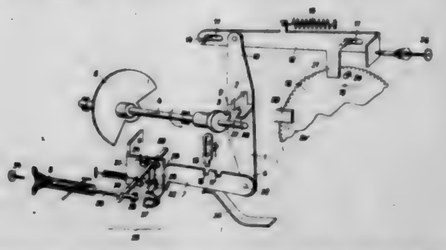


1. A prompting device of light weight and adapted to be hand-held for ease in movement to follow performers about the stage, said device comprising a lightweight frame having guides forming a path for transport of a strip of material having written matter thereon, a mirror carried by said frame and angularly disposed above said strip, illuminating means carried by said frame for directing light onto said strip for producing an image of the printed matter by said mirror, a lens positioned in front of said mirror for producing a magnification of said image produced by said mirror, a motor carried by said frame for driving said strip, handle means extending outwardly from said frame and for support thereof, and means associated with said motor for controlling its operation in driving the strip along the guides of said frame to change as may be desired the average speed at which the printed material appears in said mirror.

2,981,145
MOTION PICTURE CAMERA CONTROL MECHANISM
Georg Malek, Vienna, Austria, assignor, by mesne assignments, to Alois Handler and Karl Vockenhuber, Vienna, Austria
Filed Sept. 30, 1957, Ser. No. 687,176
Claims priority, application Austria Sept. 28, 1956
4 Claims. (Cl. 88—16)

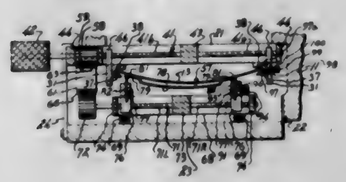
1. In a motion picture camera the combination comprising a film advancing and shutter rotating mechanism including a spring motor, a rotative shutter, a rotative stop coupled to said rotative shutter, a locking member cooperating with said rotation stop intercepting said shutter in its closed position when said mechanism is stopped, a lever connected to said locking member, a first and a

second control member cooperating with said locking member and releasing said film advancing and shutter rotating mechanism for multiple exposures and stopping said mechanism respectively, said first control member being manually operable, an automatic spring motor drive



arresting means for operating said second control member after a predetermined unwinding of said spring motor, both control members being connected to said lever by hinges, spaced from each other and from said locking member, said two control members being movable essentially normally to said lever, said lever being mounted to rotate in one plane about points defined by said hinges of the control members on said lever.

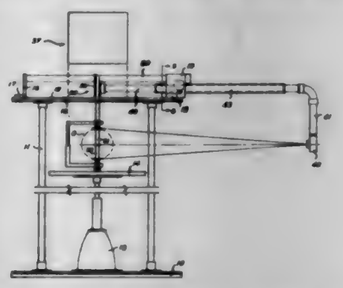
2,981,146
CURVED SCREEN MOTION PICTURE FILM GATE
Vernon L. Kipping, 540 Melrose Ave., San Francisco 12, Calif.
Filed July 22, 1957, Ser. No. 673,229
3 Claims. (Cl. 88—17)



1. A device for curving a moving film about an axis parallel to the direction of movement comprising an apertured plate, a pair of side edge guides on opposite sides of the aperture in said plate and shaped to receive the edges of film, means mounting said side edge guides on said plate for movement toward and away from each other, means for moving said side edge guides toward and away from each other to vary curvature of film passing therebetween, the areas of contact of said side edge guides with the film being remote from the central portion of said film, and in which at least one of said means mounting said side edge guides includes means for holding said one side edge guide in at least two positions, one of said two positions being closer to said apertured plate than the other said position, whereby to shift the crest of film arc laterally to compensate for the presence or absence of sound track on the film.

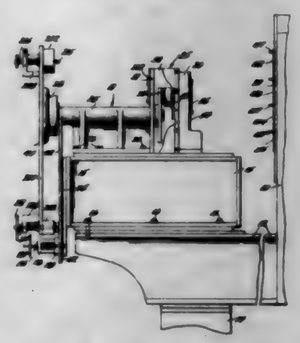
2,981,147
APPARATUS FOR FORMING CONTOUR LINES
Willis M. Carter and Karl O. Lange, Lexington, Ky., assignors to Lange Instrument Company, Lexington, Ky., a corporation of Kentucky
Filed June 2, 1955, Ser. No. 512,783
5 Claims. (Cl. 88—24)

1. In an apparatus for forming and recording the configuration of a closed contour line of the surface of a three-dimensional object, the combination comprising, means for supporting said object with the portion of its surface to be inspected in visible relation to a camera, a light-projecting assembly disposed adjacent and on opposite sides of said supported object and adapted to direct a sheet of collimated light against the surface of said object thereby to form a closed contour line of said surface at the intersection of said sheet of light with said surface, said assembly including a pair of bifurcated parallel opaque plates spaced from each other and having a slit of substantially uniform thickness therebetween, said slit extending from a first edge of said plates confronting said object to a second edge of said plates disposed a sufficient distance from said first edge to effect a collimation of light rays passing through said slit and



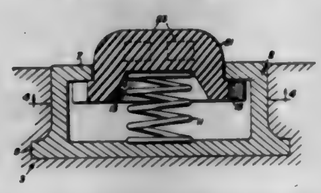
with said second edge at a greater distance from said object than said first edge, a stroboscope light tube disposed in said assembly outwardly of said second edge of said plates and adapted to direct light in said slit for collimation upon passage along said slit, a power supply for intermittently actuating said tube, a camera spaced from the plane of said sheet of light and with the focal axis of said camera being substantially perpendicular to the plane of said sheet of light, said camera being adapted for recording the contour line produced upon said object, and means for actuating said power supply to cause an electrical discharge through said tube.

2,981,148
PHOTOGRAPHIC DEVICES FOR TYPOGRAPHY
George J. H. Sausele, New Providence, N.J., assignor to American Type Founders Co., Inc., Elizabeth, N.J., a corporation of Delaware
Filed Aug. 14, 1959, Ser. No. 833,829
12 Claims. (Cl. 88—24)



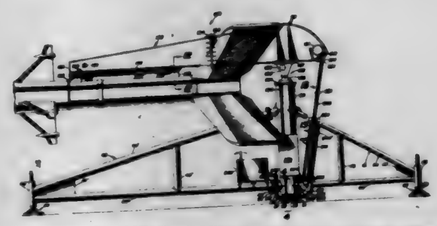
1. A camera device particularly adapted for the accurate reproduction of a predetermined pattern of images at intervals about circular film with fixed predetermined angular displacement, said camera device comprising, in combination, a rigid supporting frame, a copyboard at one end of said frame, means for removably supporting matrices of said images upon said copyboard, a light-tight camera housing carried upon said frame, a lens adjustably disposed in said housing and directed toward said copyboard, a shutter device on said housing for controlling the exposure, a rotary adjustable film support disposed within said housing, means for rotating said film support from without said housing, and indexing means for setting the rotating means at selected initial points for the respective first exposures of various images and for moving said rotating means and thus the film support through fixed predetermined angular displacements for repeating the exposures of the same image as selected by the initial setting at precise intervals about the film, said indexing means comprising a gauging member, means for fixing said gauging member with respect to said frame adjacent said film support rotating means, and a rotatable indexing member carried by said rotating means, engaging elements on said rotatable member at exactly spaced intervals around it corresponding to the desired angular spacing of said image reproductions, and a cooperating element on said fixed gauging member adapted to be successively engaged by said engaging elements for successive exposures of a given repeated image, and an index plate carried by said frame adjacent said gauging member, said index plate carrying a plurality of stop elements arranged in a similar pattern to the desired pattern of images to be imposed upon the film, and each representing a different selectable image, the means for fixing said gauging member being adjustable to fixedly engage selected ones of said stop elements, the successive engagements of the elements of said rotatable indexing member and said gauging means serving to set the film for successive exposures of the selected images for each setting of the gauging member.

2,981,149
HIGHWAY MARKER
Gregory Stolarczyk, 6208 Vandalia Ave., and Jerry Stolarczyk, 2822 Park Drive, both of Cleveland, Ohio
Filed Oct. 28, 1957, Ser. No. 692,614
5 Claims. (Cl. 88—79)



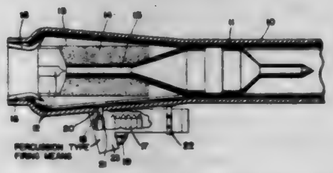
1. A light reflective road marker comprising a hollow casing having bottom and side walls and a flat top with an opening therein, said top including lateral flanges projecting inwardly into said opening whereby said casing may be recessed into a highway with said flanges and top flush with the highway surface, a body received in said casing having side walls and a top surface and slidable through said opening and having outwardly projecting flanges engageable with the undersides of said inwardly projecting flanges and normally preventing removal of said body from said casing, spring means in said casing engaging said bottom wall and said body and yieldingly urging the body into a position protruding upwardly through said opening, flat rectangular reflectors recessed and secured in said body at the junction of the side walls and top surface of the latter and inclined to both said last mentioned side walls and top surface and having reflecting surfaces inclined upwardly and rearwardly from the body side walls to catch and reflect light rays from the headlights of automobiles approaching upon a highway, and wherein the outwardly projecting flanges of said body are of a resilient deformable material and have peripherally recessed portions enabling the outwardly projecting flanges to be deformed sufficiently to enable passage of said body through said opening.

2,981,150
LAUNCHER
Arthur H. Miller, Jr., Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 15, 1954, Ser. No. 437,016
4 Claims. (Cl. 89—1.7)



1. In a launcher for an aerial vehicle, a central column having a base at the lower end thereof, supporting legs projecting from said column generally resembling that of a tripod and including a relatively long forwardly extending leg and two relatively short rearwardly extending legs, each of said legs being formed of a simple truss, each of said legs being provided with an adjustable foot at its outer end, a boom pivotally mounted on the upper end of said central column, a pair of spaced plates attached to the underside of said boom, each of said plates being provided with notches along its edges, a pair of spaced track assemblies, means interconnecting said track assemblies, pivotal means carried by said means interconnecting said track assemblies and adapted to engage in said notches, rails carried by said track assemblies and adapted to releasably receive mating parts on said aerial vehicle, means between said boom and column for elevating said boom about its pivot including a hydraulic actuator having a cylinder attached at one end to said central column and a piston rod working in said cylinder, said rod being attached to one end of said boom, a stop rod slideably carried in said cylinder and having one end pivotally connected to said boom, and adjustable stop members carried in said stop rod.

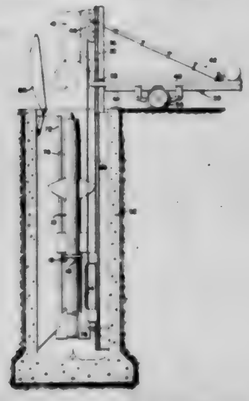
2,981,151
IGNITION SYSTEM FOR CASELESS ROUNDS IN OPEN BREECH TYPE GUNS
Thomas Stevenson, 1039 Arthur Ave., Huntingdon Valley, Pa.
Filed Nov. 18, 1958, Ser. No. 774,790
5 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In an open breech type of recoilless gun having a chamber for reception of a caseless solid propellant in a rear portion of said gun, a second chamber for reception of a main body portion of a projectile in front of the first mentioned chamber, means for holding a round in said gun to prevent it from falling out by gravity when a muzzle of the gun has been elevated, and means for firing a caseless solid propellant in the first mentioned chamber of said gun, the combination therewith of the improvement in said firing means whereby the time consuming tedium of making electrical connections in all kinds of weather and firing a propellant through current

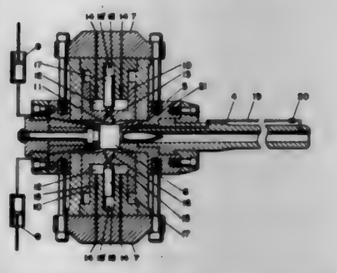
supplied by said connections extending through an open breech may be eliminated, said firing means improvement including a substantially straight enclosed flame passageway directed laterally through a side wall of said gun and into said chamber for caseless propellant, means for positioning a blank cartridge in alinement with said passageway, a trigger operated percussion type firing mechanism for a cartridge positioned at said passageway, and a plurality of blank cartridges some of which are distinctively different by having different types of explosives in cartridge cases of the same diameter may be selectively presented to said passageway for directing initiator flames of different available temperatures to compensate for wide ranges of ambient temperature and whereby a faster rate of firing said recoilless gun is obtainable than is possible with the use of electrical connections entering through the open breech type of such guns.

2,981,152
MISSILE HANDLING AND LAUNCHING DEVICE
Arthur H. Miller, Jr., and Victor J. Dietz, Silver Spring, and Donald M. Shipley, Hyattsville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 5, 1959, Ser. No. 797,552
5 Claims. (Cl. 89—1.7)



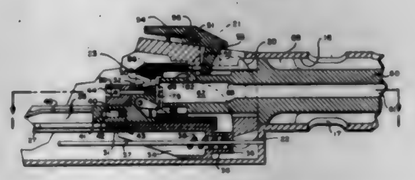
1. In an underground missile launching system including a missile having a plurality of pairs of flanged launching shoes thereon, a tube vertically disposed in the ground for launching said missile, said tube having a launching rail therein and engageable with one pair of said launching shoes, said launching system also including a vehicle for transporting and loading said missile into said tube; the combination therewith of an improvement, comprising, a dolly for carrying said missile and having a support rail fixed thereon, said support rail being engageable with another pair of said launching shoes to secure said dolly and missile in lateral locked relationship, releasable clamping means on said dolly for controlling longitudinal movement of said missile relative to said dolly, wheels on said dolly, handling tracks on said vehicle and engageable with said dolly wheels to maintain said vehicle and dolly in lateral locked relationship, said tracks being pivotable into a vertical attitude, restraining means on said vehicle and engageable with said dolly to control longitudinal movement of said dolly relative to said handling tracks, second handling tracks in said tube and engageable with said first handling tracks in aligned relationship, said second handling tracks also being engageable with said dolly wheels in the same manner as said first handling tracks, and means in said tube and engageable with said releasable clamping means to release said dolly for longitudinal movement relative to said missile.

2,981,153
FUEL INJECTION DEVICE
Elwood J. Wilson, Jr., and Bernard A. Niemeier, Richmond, Va., assignors to Texaco Experiment Incorporated, a corporation of Virginia
Filed Nov. 14, 1952, Ser. No. 320,438
14 Claims. (Cl. 89—7)



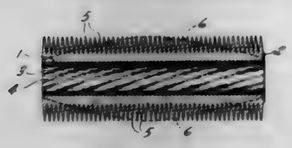
1. A liquid fuel gun comprising a combustion chamber, a fuel chamber, a differential area piston transmitting pressure from the combustion chamber to the fuel chamber to effect injection of fuel from the fuel chamber into the combustion chamber, and valve means between the fuel chamber and the combustion chamber normally urged into closed position and actuated into open position by movement of the differential area piston in response to pressure in the combustion chamber.

2,981,154
SAFETY INTERLOCK FOR MACHINE GUN BARREL
Patrick E. Sweeney, Baltimore County, Md., assignor to Aircraft Armaments, Inc., Cockeysville, Md., a corporation of Maryland
Filed Jan. 7, 1960, Ser. No. 1,066
5 Claims. (Cl. 89—14)



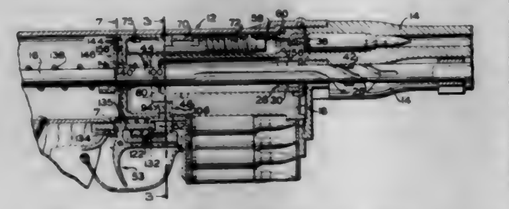
1. In a machine gun having a gun barrel connected to one end of a barrel extension slideably mounted in a receiver so that the chamber of the barrel is adjacent said one end, a bolt assembly mounted on said barrel extension for reciprocatory movement thereon from one terminal position adjacent said one end of the barrel extension to another terminal position remote from said one end, said bolt assembly having a firing pin thereon for contacting and firing a cartridge in the chamber when the bolt assembly moves to said one terminal position; a safety interlock for attaching the barrel to the barrel extension comprising: means to effect insertion of said barrel into said barrel extension only at a given angular position of the barrel relative to the barrel extension, means to effect rotation of said barrel after insertion and prevent its withdrawal from the barrel extension, stop means to limit rotation of the barrel so that after its insertion and rotation the barrel has another angular position different from said given angular position, movable means on said barrel extension positioned in the path of said bolt assembly for preventing movement of the latter to said one terminal position, and means on said barrel for camming said movable means out of the path of said bolt assembly upon rotation of said barrel to the limit determined by said stop means.

2,981,155
COMPOSITE GUN BARRELS
Conrad Anthony Parianti, 34 W. Hill Road, Herne Bay, Kent, England
Filed Mar. 4, 1953, Ser. No. 340,198
4 Claims. (Cl. 89—16)



1. A gun barrel comprising a relatively thin cylindrical shell of steel, the inside surface of said shell having rifle grooves and lands formed therein, the inside diameter of said shell being greatly in excess of the wall thickness thereof, and an outside casing of metal containing not less than 70% aluminum surrounding said shell and in direct, fixed contact therewith throughout substantially its entire length, said outside casing having a thickness substantially greater than the thickness of said shell of steel.

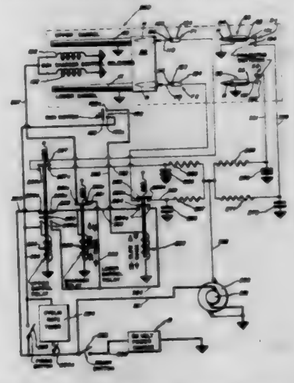
2,981,156
FIRING MECHANISM FOR A SALVO GUN
David C. Fletcher, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 9, 1956, Ser. No. 621,486
9 Claims. (Cl. 89—127)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. For a rifle having a plurality of barrels, a bolt having a breech closure portion with a firing pin for each of the barrels and a feed rotor rotated responsive to the firing of the barrel, a firing mechanism including strikers spring-biased from a cock position into contact with the firing pins for actuation thereof to fire the rifle, cocking means simultaneously engageable with said strikers, cam means for converting rotation of the rotor to linear movement of said cocking means against said strikers for simultaneous retraction thereof to their cock positions, sear means for releasably holding said strikers in their cock positions, and means for actuating said sear means to release said strikers for simultaneous contact with the firing pins.

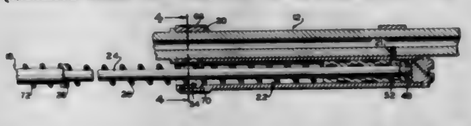
2,981,157
ELECTRICAL CONTROL SYSTEM
Frank R. Marquardt, Alexandria, Va.
Original application Apr. 18, 1950, Ser. No. 156,641, now Patent No. 2,972,286, dated Feb. 21, 1961. Divided and this application June 25, 1957, Ser. No. 667,999
4 Claims. (Cl. 89—135)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An electrical firing and operational control system for a two barrel gun comprising a gun charger solenoid including an operating circuit therefore, a relay included in said charger solenoid circuit, a normally open first barrel firing circuit, a normally open second barrel firing circuit, a relay included in said first barrel firing circuit, contact elements in said first barrel firing circuit, a contact controlled by said relay in the first barrel firing circuit and movable into engagement with said contact elements in the first barrel firing circuit as said relay therein is energized for closing said firing circuit, means including a source of electrical energy for energizing said relay in the first firing circuit, a relay included in said second barrel firing circuit, contact elements in said second barrel firing circuit, a contact controlled by said relay in the second barrel firing circuit and movable into engagement with said contact elements in the second barrel firing circuit as said relay therein is energized for closing the second firing circuit, means responsive to the recoil action of the gun and operatively



connected to the relay of said second barrel circuit for causing energization of the relay in the second barrel firing circuit, a normally charged condenser included in the second firing circuit for rendering the second firing circuit effective as the contact of the second firing circuit is moved into engagement with the contact elements of said second firing circuit, additional contact means movable by the relay in said first firing circuit into engagement with complementary means connected to the relay of said charger circuit as the relay in the first firing circuit is energized for causing de-energization of the relay in the charger circuit, a switch device controlled by the relay in said charger circuit, complementary means included in said charger circuit and engageable by said switch device for closing the charger circuit as the relay therein is de-energized, and means connected to said switch device for moving said switch device into engagement with said complementary means in the charger circuit as the relay of the charger circuit is de-energized.

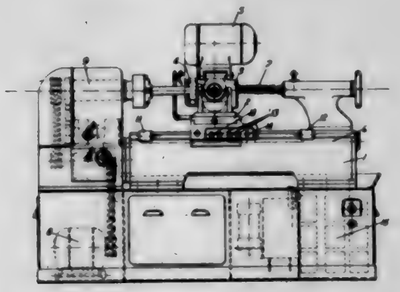
2,981,158
POWER SYSTEM FOR FIREARMS
David C. Fletcher, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 7, 1956, Ser. No. 627,081
5 Claims. (Cl. 89—192)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. A power system for a firearm having a barrel with a bore, said power system including a gas cylinder having

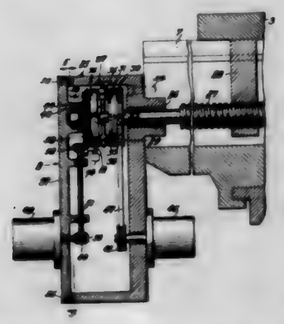
communication with the bore, an operating rod mounted for slidable reciprocation in said gas cylinder, a compressible coil spring carried by said operating rod and anchored at one end thereto, means actuatable by gases bled from the bore to said gas cylinder for compressibly energizing said spring, a head member disposed on said operating rod for cooperation with the gases bled to said cylinder to hold said operating rod against displacement during the compression of said spring, and means for connecting the opposite end of said spring to the gas cylinder after said spring is compressed and the gas pressure is relieved in said gas cylinder for transferring the energy of said compressed spring to said operating rod for actuation thereof.

2,981,159
THREAD PEELING MACHINE
Ernst Linsinger, Steyrermuhl, Austria
Filed Sept. 18, 1957, Ser. No. 685,060
3 Claims. (Cl. 90—11.42)



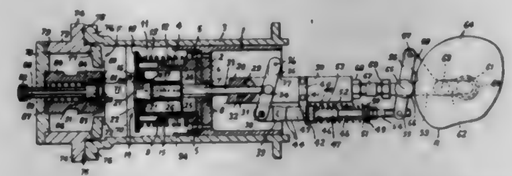
2. The method of cutting outside surfaces such as threads with cutting means surrounding the work-piece and having an axis eccentric relatively to the work-piece axis, characterized by arranging the edge front means of the cutting means to define, in a plane transverse to said axis, a flying circle whose diameter is smaller than the outside diameter of the surface to be cut, whereby a sickle-shaped chip of optimal area can be separated from the work-piece.

2,981,160
TRAVERSING MECHANISM FOR MACHINE TOOLS
William B. Herbert, Yantacaw Brook Road, Montclair, N.J.
Filed May 28, 1956, Ser. No. 587,725
17 Claims. (Cl. 90—22)



1. In a machine tool having a frame and separate elements for mounting a tool and workpiece, respectively, traversing mechanism acting between the frame and one of said elements for moving said element relative to the other element to accurately position the tool with respect to the workpiece comprising an abutment for producing a reactive force, a force applying member engaging said abutment in end to end relationship driving mechanism for relatively moving the abutment and force-applying member to move the movable element to a predetermined position, and said driving mechanism including means to move said abutment from physical engagement with the force applying means to relieve the stress therein and thereby prevent the element from creeping.

2,981,161
BOTTLE CAP FORMING APPARATUS
Geoffrey Ewart Ford and Bertram George Poynton, Bedford, England, assignors to Fords (Finsbury) Limited, Bedford, England, a British company
Filed Jan. 23, 1958, Ser. No. 710,722
Claims priority, application Great Britain Jan. 24, 1957
8 Claims. (Cl. 93—1.3)

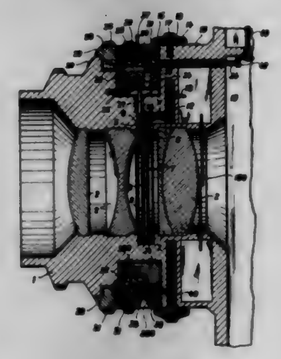


1. Apparatus for forming a pleated metal foil cap for a bottle from a circular disc blanked from a strip of metal foil, comprising male and female tools including complementarily ribbed and grooved former bodies of similar diameter and of annular shape, means for holding said blank between said former bodies, means for effecting relative movement between said male and female former bodies under crimping pressure to form radial pleats in the outer part of said blank corresponding to the said ribs and grooves on said former bodies, a forming plunger, means for moving said forming plunger through the annulus of the female former body when said former bodies are closed together for drawing the centre portion of said blank into a central conical shape, means for preventing forward movement of said plunger beyond a point where an appreciable portion of said disc is still remaining between said annular former bodies, to form a brim extending radially outwards from said conical centre portion, means for releasing the pressure between said former bodies, means for separating said former bodies, means for retaining the formed cap on one of said former bodies, and means for ejecting the formed cap after complete separation of said male and female tools.

2,981,162
SOIL STABILIZATION WITH AN ORGANIC DERIVATIVE OF AMMONIA AND AN ACRYLATE POLYMER
Donald T. Davidson, Ames, Iowa, and Robert L. Nicholls, Belvidere, Ill., assignors to Iowa State College Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
No Drawing. Filed Apr. 23, 1958, Ser. No. 730,267
7 Claims. (Cl. 94—25)

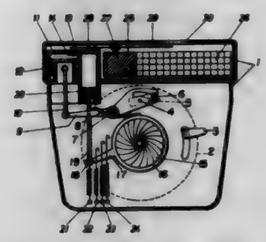
1. The method of stabilizing soil containing negatively-charged mineral particles, comprising applying to said soil in an aqueous carrier an organic derivative of ammonia having soil stabilization properties, said ammonia derivative providing at least one cation-active nitrogen group and containing at least one aliphatic group having from at least 8 to about 18 carbon atoms, said ammonia derivative being brought into contact with said mineral particles to coat the surfaces thereof and being applied in the proportions of from about .05 to 2 parts of said ammonia derivative per 100 parts of soil being coated, also applying to said coil in an aqueous carrier a water-soluble acrylate polymer providing a plurality of anion-active carboxyl groups and having an average molecular weight of at least 50,000, said polymer being brought into contact with the coated surfaces of said mineral particles for cross-linking reaction with the said ammonia derivative and being applied in the proportions of from about .1 to 5 parts of said polymer per 100 parts of soil which has been coated with said ammonia derivative, and thereafter compacting said soil.

2,981,163
PHOTOGRAPHIC CAMERA PROVIDED WITH A SHUTTER AND DIAPHRAGM
Richard Sommer and Paul Greger, Braunschweig, Germany, assignors to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed July 8, 1958, Ser. No. 747,298
Claims priority, application Germany July 10, 1957
3 Claims. (Cl. 95—10)



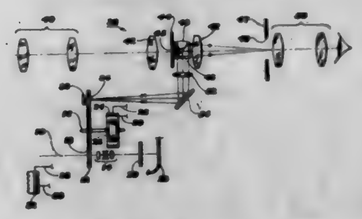
1. In a still photographic camera having an objective, a shutter, a bladed iris diaphragm, and an exposure meter built into the body of the camera: the combination comprising a first diaphragm mounting ring mounted for angular displacement coaxially of the optical axis of the objective; a shutter speed setting ring mounted for angular displacement coaxially with said diaphragm ring; means coupling said rings for conjoint rotation; a second diaphragm mounting ring mounted for angular displacement coaxially with said first diaphragm ring and formed with a groove facing the latter; the iris diaphragm blades each having a pair of oppositely projecting radially spaced pins respectively engaged in holes in said first diaphragm ring and the groove in said second diaphragm ring; a diaphragm setting ring mounted for angular displacement coaxially with said second diaphragm mounting ring and coupled for rotation therewith; a further setting ring mounted for angular displacement in the objective about the optical axis thereof; a disengageable coupling interconnecting said diaphragm setting ring and said further setting ring whereby the latter may be displaced relative to said diaphragm setting ring with relation to a film sensitivity scale; a cam ring mounted for angular adjustment about the optical axis and having a cam surface facing the camera body; means adjustably coupling said cam ring to said further setting ring; a relatively elongated feeler pin mounted for movement parallel to the optical axis and having its outer end engaging said cam surface; and mechanism in the camera body including a component engaging in the inner end of said pin and operating a follow-up index arm movable into registry with a movable indicator incorporated in said exposure meter.

2,981,164
AUTOMATIC EXPOSURE REGULATING DEVICE
Julius Durst, Bressanone, Italy, assignor to Julius Durst and Durst Soc. p.A., Fabbrica Macchine ed Apparecchi Fototecnici, Bolzano, Italy
Filed June 29, 1959, Ser. No. 823,462
Claims priority, application Italy July 7, 1958
14 Claims. (Cl. 95—10)



1. An exposure-regulating device for a photographic camera having a shutter comprising a shutter-retarding device, exposure-measuring means for determining the degree of ambient illumination, transmission means operatively connecting said exposure-measuring means with said shutter-retarding device to permit the retarding effect of said shutter-retarding device to be regulated in accordance with the degree of ambient illumination, a connecting means coupling said shutter-retarding device with said shutter, an adjustable diaphragm disposed in the path of light rays passing into the aperture of said camera, actuating means connected to said adjustable diaphragm for moving said adjustable diaphragm throughout its operative range, coupling means operatively connecting said actuating means with said shutter-retarding means for applying an actuating force which is a function of the retarding effect exerted by said retarding device to cause said actuating means to provide decreasing apertures as the shutter speed is allowed to increase by adjustment of said shutter-retarding means, variable impedance means being connected to said actuating means for imposing varying impedances upon said actuating means over its range of movement to properly coordinate said opening of said diaphragm with various phases of speed of said shutter, and a cycle of shutter speed and aperture setting being provided by said variable impedance means which follows a pattern wherein adjustment of aperture opening varies incrementally over the range of shutter speeds.

2,981,165
VIEWFINDER SIGNAL FOR PHOTOGRAPHIC CAMERAS
Cameron B. Estes, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 29, 1959, Ser. No. 849,685
6 Claims. (Cl. 95—10)



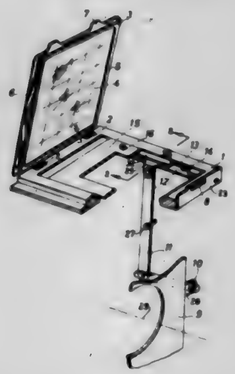
1. In a camera having a finder for receiving scene light and an automatic exposure control system for regulating the exposure of film in said camera, the combination comprising: means including a beam splitter located in

said finder for transmitting a beam of scene light from said finder through a path outside of said finder; modulating means controlled by said exposure control system and movable thereby into and out of said path for modulating said beam as a function of scene brightness; and means for transmitting said modulated beam back to said beam splitter for reflection by said beam splitter rearwardly in said finder.

2,981,166
TWIN LENS REFLEX CAMERA WITH PARALLAX COMPENSATION

Joachim Mädge, Braunschweig, Germany, assignor to Franke & Heidecke, Fabrik Photographischer Präzisions-Apparate, Braunschweig, Germany, a firm of Germany

Filed July 2, 1958, Ser. No. 746,262
Claims priority, application Germany July 11, 1957
6 Claims. (Cl. 95—44)



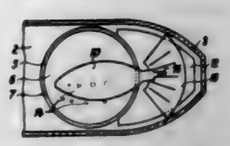
1. A reflex camera comprising a housing having a focusing chamber and an objective support movable relative to said chamber in the direction of an optical axis for purposes of focusing, a rectangular frame secured to the top of said housing above said focusing chamber, a focusing frame hinged to said rectangular frame and movable between an open position and a closed position overlying said rectangular frame, a focusing screen, spring means mounting said screen on said focusing frame whereby said screen is held tightly in the focusing plane when said focusing frame is moved to said closed position, a hollow rectangular slide, means on said rectangular frame for slidably receiving said slide, means for connecting said objective support and slide whereby movement of said objective support along the optical axis positions said slide in dependence on the amount of parallax compensation to be applied, recess means on the top of said rectangular frame adapted to slidably receive a format mask, and coupling means adapted to couple said slide and mask for conjoint movement.

2,981,167
PNEUMATIC EXPOSURE REGULATING DEVICE FOR PHOTOGRAPHIC CAMERAS

Friedrich Biedermann, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany, a corporation of Germany

Filed Aug. 2, 1957, Ser. No. 675,893
Claims priority, application Germany Sept. 25, 1956
5 Claims. (Cl. 95—53)

1. A pneumatic exposure regulating device for photographic cameras comprising a flow-obstructing member, a pneumatic shutter retarding mechanism incorporating a perforated valve disc traversed by said flow-obstructing member, said flow-obstructing member comprising a relatively thin, highly flexible, flat sheet of a synthetic plastic



material and at least one of the flat surfaces of said flow-obstructing member being coated with a layer of electrically conductive material.

2,981,168
EXPOSURE REGULATING DEVICE FOR PHOTOGRAPHIC CAMERAS

Friedrich Biedermann and Anton Zinkl, both of Unterhaching, near Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany, a corporation of Germany

Filed Aug. 2, 1957, Ser. No. 675,894
Claims priority, application Germany Oct. 5, 1956
5 Claims. (Cl. 95—53)



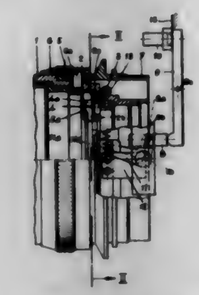
1. In combination with a photographic camera including a shutter, an exposure regulating device comprising a cylinder, a cylinder head, a flexible diaphragm mounted within said cylinder, connecting means coupling said diaphragm to a movable element of said shutter, said movable element being characterized in that the exposure time provided by said shutter is a function of the speed of movement of said element to permit said diaphragm to retard said shutter, a perforated valve plate including orifices connected to said cylinder head, the inside surface of the head of said cylinder being constructed and arranged in a concave form, the outer edge of said flexible diaphragm being secured to said cylinder where said head joins said cylinder, and the area of said flexible diaphragm being substantially equal to that of said concave surface to cause it to move into intimate contact with said cylinder head at the extremity of travel of said diaphragm corresponding to the tensioned position of said shutter thereby providing a minimum space between said diaphragm and said concave surface of said cylinder head at this condition.

2,981,169
DIAPHRAGM PRESELECTOR FOR PHOTOGRAPHIC OBJECTIVES

Karl Heinz Schütz, Kreuznach, Rhineland, Germany, assignor to Jos. Schneider & Co., Optische Werke, Kreuznach, Rhineland, Germany, a corporation of Germany

Filed May 8, 1958, Ser. No. 733,937
Claims priority, application Germany June 8, 1957
2 Claims. (Cl. 95—64)

1. In a photographic objective, in combination, a housing, a control ring rotatably positioned on said housing, a rotatable cam disk in said housing coupled with said control ring for entrainment thereby, a setting ring coaxial with said cam disk and rotatably positioned in said housing, an iris diaphragm in said housing comprising a plurality of leaves pivotally connected with said housing and in positive engagement with said setting ring for movement between different positions corresponding to various diaphragm apertures, a projection on one of said leaves, said cam disk having a contoured periphery adjacent said projection, spring means connected with said setting ring and with said housing for rotating said setting ring in a sense urging said projection away from said periphery and tending to maintain said leaves in an extreme position corresponding to maximum diaphragm opening, and operating means on said housing for rotating said setting ring against the force of said spring means until said projection engages said periphery, thereby limiting the extent of diaphragm-closing movement of

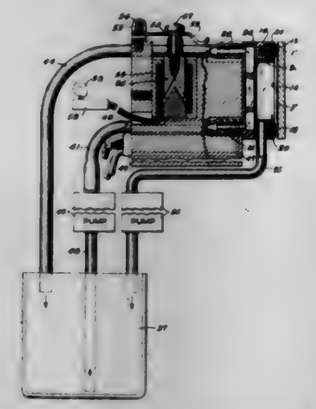


said leaves, said operating means comprising a bell-crank lever swingable in a plane substantially parallel to the axis of rotation of said setting ring and an actuating element displaceable in a direction substantially parallel to said axis, said lever having a shorter arm engaged by said actuating element and a longer arm engaging said setting ring whereby a relatively small axial displacement of said element causes a relatively large angular displacement of said setting ring.

2,981,170
FILM DEVELOPING AND FIXING MECHANISM

Andre R. Brault, Merrick, N.Y., assignor to OPTOmechanisms, Inc., Mineola, N.Y., a corporation of New York

Filed Jan. 6, 1959, Ser. No. 785,253
13 Claims. (Cl. 95—89)

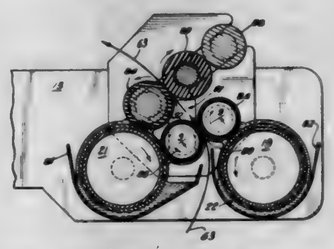


1. A developing and fixing mechanism for film comprising a body, film guide means carried by the body including a film track; and film treating means of at least one unit, each unit including a spray chamber in the film guide means and open at the film track, an outlet at the bottom of the spray chamber, the body having a fluid chamber for each spray chamber in alignment with the spray chamber and having an inlet line and an outlet line, one line being connected on one side and the other on the opposite side of the fluid chamber, a flexible membrane separating the fluid chamber and the spray chamber and having perforations therein which open upon halting of liquid flow in the outlet line, a valve in the outlet line solely, and valve operating means to open and close the valve in timed sequence.

2,981,171
DEVELOPER PROCESS AND APPARATUS

Joseph Hruby, Deerfield, Paul B. Streich, Sr., Fox Lake, and John L. Tregay, Broadview, Ill., assignors to Charles Bruning Company, Inc., Mount Prospect, Ill., a corporation of Delaware

Filed Mar. 6, 1958, Ser. No. 719,619
9 Claims. (Cl. 95—94)

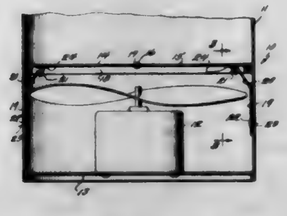


5. Developer apparatus for applying developer solution to photoprints, in combination, a pair of applicator rollers arranged to rotate in peripheral contact with each other, means for continuously applying developer solution to said applicator rollers to form and continuously maintain in the bite between said rollers a pool of developer solution, means to pass the photoprints through said pool, a pair of wringer rollers spaced from said applicator rollers to provide in such space a soaking zone and means for rotating said applicator rollers and said wringer rollers to move the photoprints through said pool of developer solution, said applicator rollers, said soaking zone and said wringer rollers, which wringer rollers effect removal of excess solution so that each photoprint leaving said wringer rollers has the developer solution uniformly applied thereto and has substantially the same amount of developer solution applied thereto per unit area of the photoprint.

2,981,172
UPDRAFT VENTILATOR AND MAGNETIC DAMPER CATCH THEREFOR

John S. Kalman, 3375 E. Lunham Ave., Cudahy, Wis.

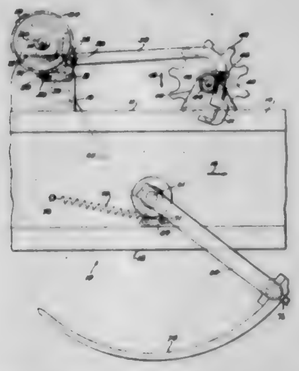
Filed Jan. 22, 1959, Ser. No. 788,297
1 Claim. (Cl. 98—116)



In combination with an exhaust system of the type including a vertically positioned conduit, an exhaust fan horizontally mounted in said conduit, a pair of gravity actuated damper blades hingedly secured together in said conduit above said exhaust fan, a rubber rest ring secured in said conduit for supporting the semi-circular edges of said damper blades, a damper catch for said blades comprising a pair of oppositely disposed elongated brackets secured to the inner wall of said conduit below said rubber rest ring in oppositely disposed relation, one

adjacent the free semi-circular edge of each damper blade, each bracket having an angularly offset free end portion extending upwardly and inwardly toward the center of the conduit, a magnet secured to the offset end portion of each bracket, a metallic member on each damper blade cooperating with its adjacent magnet for maintaining that damper blade in closed position, each bracket having an elongated slot therein and a screw extending through said slot and fixed in the wall of said conduit for varying the position of the associated bracket and magnet relative to the adjacent metallic member.

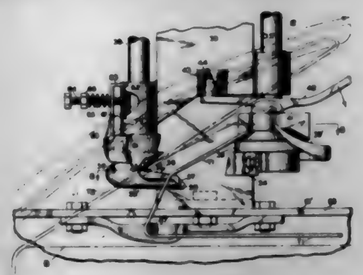
2,981,173
HAY BALER
Edwin B. Nolt, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,492
6 Claims. (Cl. 100—19)



1. An improvement in a hay baler having a bale case, a needle mounted on said bale case for movement relative thereto, said needle having a position of rest at one side of said bale case, and means for moving said needle in one direction to project the needle across said bale case to the side thereof opposite said one side, for allowing said needle to dwell in projected position, and then for moving the needle in the opposite direction to return it to said position of rest, the improvement residing in said moving means which comprises a drive member, lost-motion connection means between said drive member and said needle, said drive member providing the initial movement of said needle in said one direction, and secondary means operable subsequent to said initial movement for driving the needle to overrun said drive member when the needle is moving in said one direction.

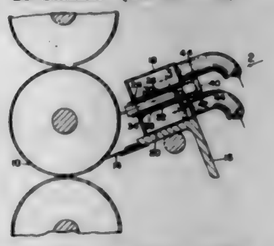
2,981,174
AUTOMATIC BALE TYING DEVICE
Percy F. Freeman, 4061 SW. Greenleaf Drive, Portland, Oreg.
Filed July 29, 1957, Ser. No. 674,750
1 Claim. (Cl. 100—21)

In a baler of the character described having a supply source of bale-tying twine together with a twine-carrying needle and power-driven means causing the needle to move up and down at intervals through the material being baled, a pair of twine-engaging members at the top of the baler arranged consecutively along the path of the needle and rotated intermittently on substantially vertical axes, one of said members having an extending lower jaw and a hinged upper jaw, the other of said members located nearer the upper terminus of the needle path than the first mentioned member and having a peripherally and upwardly extending hook for engaging the twine loop carried by said needle, a twine-clamping element mounted above said other member, a pressure bar engaging said element for pressing said element down into clamping position onto said other member, a lever arm operating said pressure bar, a cam rotated by the needle-driving means operating said lever arm so as to cause said element to be pressed into clamping position on said



other member after said other member is given predetermined rotation, a knife secured on the underside of said other member so positioned as to engage and sever the twine passing under said other member from the inner end of said hook to said first mentioned member, and means operated by said needle-driving means for intermittently rotating each of said members at related intervals synchronized with the movement of said needle.

2,981,175
SHEET CALIPER CONTROL DEVICE FOR PAPER MAKING
Francis H. Goyette, Worcester, Mass., assignor to Lodding Engineering Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Nov. 6, 1957, Ser. No. 694,886
10 Claims. (Cl. 100—93)

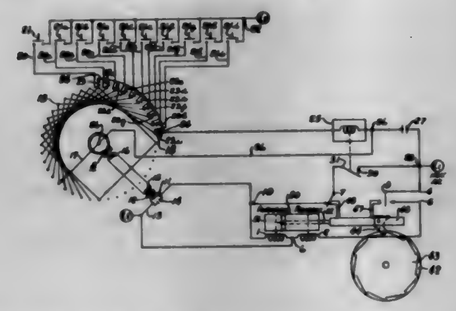


1. In a paper-making machine having a roll over which the paper in process passes and a doctor and doctor frame for the roll, that improvement which comprises a pair of fluid chests mounted on the doctor frame, a source of heated fluid connected to one chest, a source of cooled fluid connected to the other chest, a series of valves for the chests, said valves extending in mutually spaced relation longitudinally along the roll, means to direct fluid from each chest to each valve to the roll surface, and means to open and close each valve independently for selective cooling or heating of the roll surface at selected points.

2,981,176
PRODUCTION MACHINE CONTROL CIRCUITS
Frank D. Gross, Pine Township, Allegheny County, Pa., assignor to The Pannier Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1959, Ser. No. 848,067
12 Claims. (Cl. 101—18)

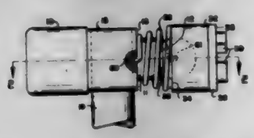
1. A control circuit for a changer in a marking machine having a marking wheel comprising a step contactor

means having an operating coil and a circular series of independent contacts with a sweep contacting member, a resistance connected to each contact, an independent initiator means connected to each contact for providing an impulse from one side of a line source of supply to said contact which retains its impulse giving position until its contact has been engaged by said sweep contacting member, an impulse operated marker actuating means to step the marker wheel through its series of positions, a relay having one end of its operating coil connected to



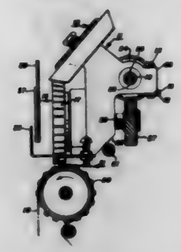
the other end of all of said resistances and the other end connected to the other side of the line source of supply, a contact actuated by said relay to be closed when said relay is energized to close a circuit and energize said stepper operating coil and said marker actuating means, said sweep contacting member engaging each contact in turn and connected to said other end of said relay operating coil to shunt out the same and release said relay when said sweep contacting member engages the contact energized by said initiator means.

2,981,177
UNIVERSAL-HEADED HAMMER
Duncan G. McRae, 3569 E. Georgia St., Vancouver, British Columbia, Canada
Filed July 21, 1958, Ser. No. 749,872
6 Claims. (Cl. 101—28)



1. A universal-headed hammer comprising a shank, a ball larger than and secured to an end of the shank aligned with the latter on the longitudinal axis thereof, a head having inner and outer surfaces, a socket formed in the head and opening out through the inner surface thereof in which most of the ball movably fits, said socket being of such size and shape as just slidably to fit around the ball, at least one groove formed in the ball and extending substantially parallel with the shank axis, a flange for each groove formed on the head at the inner surface thereof and extending into the socket opening towards the shank axis, said flange being shaped to move through the ball groove when the head is moved on to the ball and overlapping the ball when the head is rotated around the shank axis to retain said head on the ball while permitting the head to swing universally around said ball, and resilient means on the shank fixed at one end thereto and bearing at its opposite end against the inner surface of the head urging said head outwardly from the shank and normally retaining the outer head surface substantially normal to the longitudinal axis of the shank.

2,981,178
PRINT WHEEL STOP
Frederick M. Bender, Poughkeepsie, N.Y., assignor to Daystrom, Incorporated, Murray Hill, N.J., a corporation of New Jersey
Filed Mar. 7, 1958, Ser. No. 719,895
3 Claims. (Cl. 101—94)

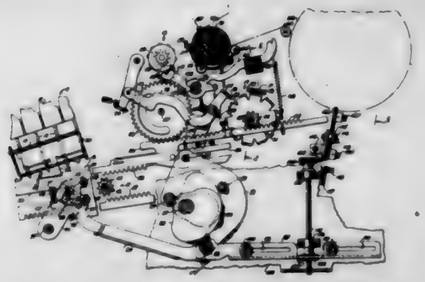


1. In a multipoint recorder of the type including a frame, a chart-supporting drum rotatably connected to said frame, a movable carriage connected to said frame for reciprocatory movement along an axis parallel to and at a higher elevation than the axis of rotation of said drum, said carriage being also pivotally movable about said axis of longitudinal movement and having its center of gravity displaced herefrom, a print wheel rotatably connected to said carriage for rotation about an axis lying in a plane normal to the axis of said drum, said print wheel having a plurality of closely-spaced printing characters disposed along the peripheral surface thereof, means rotating said print wheel to bring a selected printing character into a printing position relative to the drum, support means normally supporting said carriage in a pivotally elevated position over said drum, and means for periodically removing said support means from said carriage whereby said carriage will be pivoted by gravity downwardly toward said drum to cause the selected printing character thereon to contact said record-carrying drum; the improvement which comprises means reducing the kinetic energy of said carriage and printing wheel immediately prior to printing impact between said wheel and said drum as said carriage and said printing wheel pivotally fall by gravity in the printing direction toward said drum upon removal of said support means comprising a resilient member carried by said carriage and normally spaced from said drum, said resilient member being arranged to engage said drum prior to contact of said selected printing character therewith.

2,981,179
PRINTER
Fred N. Schwend, El Monte, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed June 18, 1959, Ser. No. 821,261
3 Claims. (Cl. 101—96)

1. In a machine of the class described, the combination with a plurality of denominationally arranged differential actuators, means for advancing and retracting said actuators, means for differentially controlling the extent of movement of said actuators, a platen for supporting a record medium, a print control shaft, arms on said shaft, and type wheels carried by said arms and operatively connected to said actuators; of code printing wheels having code printing characters thereon, means operatively connecting said code printing wheels to said actuators, means for guiding an elongate record member endwise past said code printing wheels, platen means carried by said shaft, and means operable after advancement and before retraction of said actuators for rocking said shaft

whereby to cause said type wheels to transfer an impression thereof to said record medium and to cause said



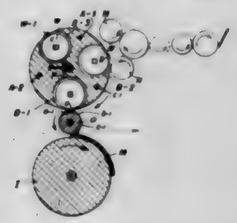
platen means to transfer an impression from said code printing wheels to said record member.

2,981,180
INKING AND DAMPENING APPARATUS FOR PRINTING PRESS
Robert J. Crissy, 23 Lee Drive, West Caldwell, N.J.
Filed July 15, 1958, Ser. No. 748,659
5 Claims. (Cl. 101—147)



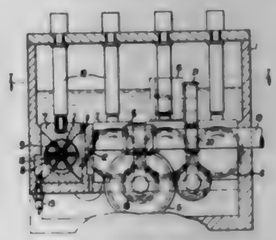
1. In a lithographic printing press having a cylinder provided with a printing segment and a non-ink receptive non-printing segment, means for dampening said non-printing segment only, and an inking member which subsequently contacts both the thus pre-dampened non-printing segment and said printing segment, whereby ink and water are simultaneously applied to said printing segment.

2,981,181
PRINTING MACHINES
Jack R. Levien, Box 5353, Richmond, Va.
Filed Sept. 14, 1959, Ser. No. 839,657
9 Claims. (Cl. 101—217)



1. In a printing machine, the combination of a rotatable printing cylinder having a peripheral set of gear teeth; a plurality of sets of type wheels symmetrically disposed about the axis of said cylinder, each of said sets being adapted to be set up to form a line of type projecting from the periphery of said cylinder, said lines being symmetrically disposed on the circumference of said cylinder; and a rotatable off-set cylinder having a peripheral set of gear teeth intermeshing with the teeth on said printing cylinder, said off-set cylinder being so disposed relative said printing cylinder that said lines of type produce impressions which are symmetrically disposed on the circumference of said off-set cylinder when both cylinders are rotated, the numbers of gear teeth of said sets being such that each rotation of said printing cylinder causes a plurality of rotations of said off-set cylinder, and said lines of type being in such a plurality of positions that they are caused to produce a corresponding number of spaced impressions on said off-set cylinder by a corresponding number of rotations of said off-set cylinder, all of said impressions being imprinted on a sheet of paper fed to said off-set cylinder, on completion of said impressions, by a single rotation of said off-set cylinder.

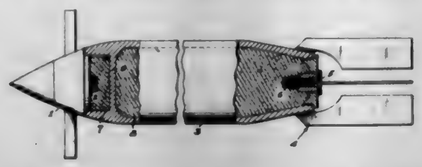
2,981,182
LEVERLESS INKING MECHANISM FOR ROTARY PRINTING MACHINES
Paul Dietrich, Augsburg, Germany, assignor to Maschinenfabrik Augsburg-Nurnberg A.G., Augsburg, Germany
Filed Apr. 10, 1957, Ser. No. 652,065
Claims priority, application Germany Dec. 8, 1954
5 Claims. (Cl. 101—366)



1. In the combination of an ink pumping mechanism for a rotary printing press having an ink reservoir, a plurality of parallel rows of ink pumps mounted in said reservoir and separated by parallel partitions, the improvement comprising each ink pump being a variable capacity vane pump having an independently adjustable housing with a cylindrical opening therein, a rotor eccentrically mounted in said housing, a common drive shaft extending through the centers of all the rotors in a row of pumps, a wall common to each pair of adjacent pumps and extending between parallel partitions for forming a bearing for said shaft and a side for each independently adjustable housing, slots in said rotor, vanes slidably mounted in said slots, grooves in said vanes forming passages for liquids from the periphery of said rotor to the spaces beneath the bases of said vanes, and springs seated on the bottoms of said slots and bearing on said vanes to urge the latter outwardly of said rotor and into engagement with the wall of said cylindrical opening.

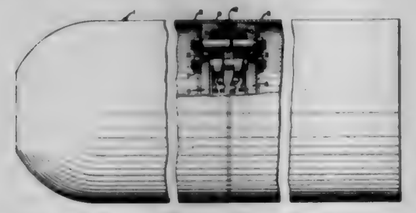
2,981,183
TAIL INITIATION WITH NOSE FUZES
Theodore B. Godfrey, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 22, 1951, Ser. No. 217,045
1 Claim. (Cl. 102—4)
(Granted under Title 35, U.S. Code (1952), sec. 266)

In a bomb having a main explosive charge therein extending from the tail end of the bomb for a substantial distance along the bomb body, means for producing tail initiation of said main explosive charge at a predetermined distance from the target, said means comprising in combination: a proximity fuze mounted in the nose of the bomb, a barrier formed in the forward end of the bomb body intermediate said main explosive charge and said proximity fuze, a propelling charge filling the volume between said barrier and said proximity fuze, a detonator connected to said proximity fuze and fixed in said propelling charge, said detonator being adapted to fire said propelling charge when said fuze functions, the firing of said propelling charge causing said proximity fuze to be forwardly ejected from said bomb, a decelerative force thereby being transmitted to said bomb by the explosive force of said propelling charge exerted on the forward



side of said barrier, said barrier serving to prevent the explosive force of said propelling charge from setting off said main explosive charge, a booster charge located in the tail of the missile, and a deceleration-sensitive base fuze also located in the tail of the missile and attached to said booster charge, said base fuze being adapted to function and activate said booster charge in response to said decelerative force, the activation of said booster thereby causing tail initiation of said main explosive charge.

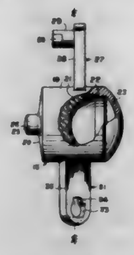
2,981,184
EDDY CURRENT DETECTOR
John M. Kennel, P.O. Box 63, Downey, Calif., and Myron Miller, 2919 Wilton Ave., Silver Spring, Md.
Filed July 16, 1952, Ser. No. 299,325
5 Claims. (Cl. 102—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)



5. An underwater ordnance detecting device comprising a two-section casing, insulating means separating the sections of said casing at the junctures thereof, detecting means responsive to eddy currents flowing in said casing mounted internally of the casing, said detecting means including a plurality of toroidal coils wound on annular laminated structures, conducting cores encircled by said coils arranged internally of said casing and connecting the sections thereof at said junctures whereby currents flowing in the casing flow through said cores and induce a potential in said coils.

2,981,185
WELL PERFORATING APPARATUS
Blake M. Caldwell, Fort Worth, Tex., assignor to Jet Research Center, Inc., Arlington, Tex., a corporation of Texas
Filed Apr. 3, 1957, Ser. No. 650,334
3 Claims. (Cl. 102—20)

1. Shaped explosive charge well perforating apparatus adapted to be passed through small diameter tubing having relatively sharp bends comprising: a plurality of vertically aligned well perforating units, each unit including a pressure resistant, frangible container having a shaped explosive charge therein adapted upon detonation to project an explosive jet outwardly through a wall of the container and having a vertical axis intersecting the axis of the explosive jet at a substantial angle, the vertical axes of said units being in alignment to define the vertical axis of the well perforating apparatus; the container of each unit having a sole upstanding and a sole depending arm; one of said arms having a terminal planar face containing the vertical axis of said unit; a cylindrical pin fixed to said one arm, said pin extending from said terminal face and having its axis intersecting the vertical axis of said unit at right angles; a key carried by said pin, said key extending radially from said pin at right angles to the vertical axis of said unit and being spaced from said terminal face; the other of said arms having a terminal planar face containing the vertical axis of said unit, the planes of said terminal faces being rotated at a substantial angle to each other about the vertical axis of said unit, said other arm providing a cylindrical hole therethrough having its axis intersecting the vertical axis of said unit at right angles and

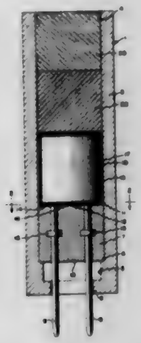


providing a keyway therethrough communicating with said hole and extending radially from said hole along the vertical axis of said unit, the transverse sectional outlines of said hole and keyway conforming in shape to and being slightly larger than the transverse sectional outline of said pin and key, the radius of said key being greater than the radius of said hole, and the thickness of said other arm axially of said hole and adjacent thereto being slightly less than the spacing between said key and the terminal face of said one arm; said perforating units being linked together to form a chain wherein the pin on one of the arms of one of said units is received in the hole in the other of the arms of an adjacent unit, the terminal faces of said arms are in abutment, and said key overlies the arm of said adjacent unit opposite its terminal face and is out of registry with the keyway, each unit being readily detachable from an adjacent unit by rotating the unit about the axis of the pin to align the key with the keyway and withdrawing the pin from the hole.

2,981,186
ELECTRIC DETONATOR
Richard H. F. Stresau, Washington Grove, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 15, 1954, Ser. No. 456,342
11 Claims. (Cl. 102—28)
(Granted under Title 35, U.S. Code (1952), sec. 266)

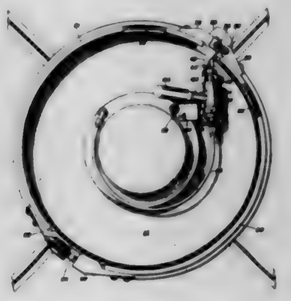
1. An electrical detonator comprising a cylindrical casing having a bore formed axially therein, a second bore of less diameter than the first named bore formed in an end portion of said casing to provide an annular shoulder therebetween, a ceramic plug disposed within said first named bore in abutting engagement with said shoulder, a pair of metallic electrodes molded within said plug in mutually spaced relation, one end of each of said electrodes projecting beyond said casing and the other end thereof being flush with the end of said plug, a fine bridge wire interconnecting said electrodes at the inner end surface of said plug, a coating of spray metal securing the bridge wire to said electrodes, said spray metal being applied to the end of the plug in a manner to form

a narrow diametrical slot transverse to said bridge wire and a thin annular portion about the periphery thereof in communication with said slot in a manner whereby the bottom portions of said slot and annular portion are free of spray metal, a quantity of finely divided explosive powder disposed within said slot in intimate contact with said bridge wire and sufficient to fill the slot, a second cylindrical plug of ceramic material of a diameter corresponding to the diameter of said coating of



spray metal and disposed within said first named bore in abutting relation with said spray metal surface and concentric therewith, an intermediate explosive charge filling the annular recess between said second plug and the first named bore and covering said second plug, said intermediate explosive being cast in place and in contact with said ignition charge, and a base charge arranged within said first named bore and tightly pressed into contact with said intermediate charge.

2,981,187
PNEUMATIC MECHANISM FOR BOOSTER CLAMP RING RELEASE
Hugh E. Riordan and Serge N. Samburoff, Silver Spring, and John E. Baughman, West Hyattsville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 10, 1958, Ser. No. 773,119
8 Claims. (Cl. 102—49)

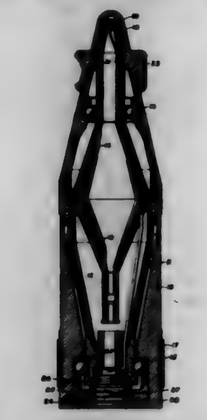


8. In combination with a missile and a booster and a releasable clamping ring coupling said missile and booster in tandem relationship, a release mechanism for effecting in-flight release of said clamping ring, comprising, a keeper engageable with said clamping ring to restrain release of said clamping ring, a sensing and actuating assembly mounted on the booster and including a cylinder, said cylinder being adapted at one end thereof to receive pressure from said booster, means for transmitting booster pressure from said booster to said cylinder, a first and second limiting means in said cylinder, a piston in said cylinder and movable within said first and second limiting means, said piston having structure engageable with the inner wall of said cylinder to define a first effective area and being responsive to said booster pressure acting on said first effective area to move from said first limiting means to said second limiting means, said piston being slidably engageable with said keeper and having clutching means thereon for effecting a locked relationship with said keeper, said locked relationship including a small amount of free travel between said keeper and piston, said clutching means being operable upon response of said piston to said booster pressure, second structure on said piston and engageable with said second limiting means to define a second effective area, a small groove in the inner wall of said cylinder and extending between said first and second limiting means for permitting gradual equalization of pressure on the opposite sides of said first effective area when said piston is against said second limiting means, a source of high pressure gas in said sensing and actuating assembly and communicable with said first and second effective areas in said cylinder, sealing means in said assembly for preventing the flow of said high pressure gas into said cylinder, and puncturing means in said assembly for rendering said sealing means ineffective to permit said high pressure gas to act initially on said second effective area, said puncturing means being operable by the final movement of said piston toward said second limiting means, whereby, upon launching of said missile and booster, pressure from said booster acts on said first effective area to move said piston from said first limiting means to said second limiting means, thereby establishing said second effective area, said movement of said piston also causing said piston to be engaged in said locked relationship with said keeper, said movement also causing release of said high pressure gas into said cylinder to act on said second effective area, so that when said booster pressure subsides to a predetermined value, indicating the end of the boost phase, said high pressure gas overcomes the force of said booster pressure to move said piston slightly away from said second limiting means in an amount allowed by said free travel to disestablish said second effective area, whereupon, said high pressure gas is suddenly applied to said first effective area to provide a sudden step increase in force, thereby moving said piston rapidly towards said first limiting means to cause a sudden withdrawal of said keeper from engagement with said clamping ring.

2,981,188
SPIN-STABILIZED PROJECTILE WITH NON-ROTATING SHAPED CHARGE
Henry S. Lipinski, Trenton, N.J., and Stanley Dubroff, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 10, 1955, Ser. No. 539,706
9 Claims. (Cl. 102—56)
(Granted under Title 35, U.S. Code (1952), sec. 266)

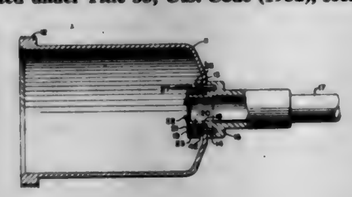
1. A projectile having inner and outer casings, ball bearings between forward and rear portions of said casings, a nose portion secured to and carried by said inner casing, fins carried by said nose portion on its outer surface to oppose rotation of said inner casing, an explosive charge carried by said inner casing and shaped to enhance penetration of armor, a rotating band carried by said outer casing having at least partially pre-cut lands and grooves therein to reduce the stresses incident to forming such lands and grooves in said band entirely on firing said projectile from a gun, and a rear end portion of said inner casing being exposed to pressure of a propelling charge in a gun on firing to reduce the force of

set back on said ball bearings, the spacing between said casings around said exposed portion of the inner casing



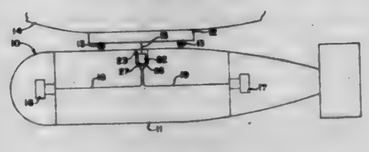
being provided with connected grooves for reducing the pressure of gas successively passing said grooves.

2,981,189
FUZE WELL ASSEMBLY AND TOOL
Frank C. Pars, Pocomoke City, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 13, 1958, Ser. No. 715,163
3 Claims. (Cl. 102—70)
(Granted under Title 35, U.S. Code (1952), sec. 266)



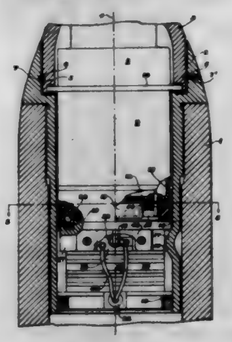
1. A charging plug retaining clip in combination with a tool for installing said charging plug retaining clip onto a nut having sloping outer walls including a pair of diametrically opposed notches and an annular groove formed therein, while the nut is secured to a charging tube fitting within a substantially cylindrical fuze liner, said clip comprising; an annular member haivng a pair of diametrically opposed aligning recesses formed therein, a plurality of resilient fingers integral with said member and projecting interiorly thereof, said fingers being bent in a direction away from the plane of said annular member to define a charging plug engaging portion, a plurality of exteriorly projecting nut engaging prongs integral with said member and bent oppositely to the direction of the bend of said fingers, and an exteriorly extending aligning prong formed integral with said ring, said tool comprising; a shaft having a tapered end; a threaded reduced portion disposed in adjacency to said tapered end and together therewith defining a finger receiving groove at one end of the reduced portion, said reduced portion together with said shaft also defining a plate receiving shoulder at its opposite end, a tool aligning plate disposed about said reduuced portion, said plate being shaped generally as a sector of a circular disc of diameter slightly less than the diameter of the fuze liner to align the tool within the liner, a pin block threadedly secured to the reduced portion of said shaft and urging said plate into positive contact with the shoulder on said shaft, a pair of aligning pins fixed into said block for engagement with the notches in the nut, whereby the plug retaining clip may be positioned on the tool preparatory to installing the clip on the nut, and said clip may be sealed onto the nut within the fuze liner.

2,981,190
BOMB FUZE
Albert S. Will, University Park, Renato Bianchi, Laurel, and Norman C. Butler, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 24, 1953, Ser. No. 382,227
13 Claims. (Cl. 102—70.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a bomb adapted to be released from an aircraft in flight comprising a fuze, means for maintaining the fuze in a safe condition until the bomb is released from said aircraft, means responsive to an electrical impulse for arming said fuze in time delayed relation with respect to the release of the bomb from said aircraft, generating means operated by the movement of said bomb away from said aircraft for generating said impulse, an electroresponsive detonator in said fuze, and means responsive to impact of the bomb with a target for generating sufficient electrical energy to fire said detonator thereby to explode the bomb.

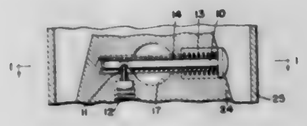
2,981,191
SAFETY MECHANISM FOR ELECTRICALLY DETONATED PROJECTILES
John C. Kopec, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 6, 1956, Ser. No. 602,476
2 Claims. (Cl. 102—70.2)



1. Safety mechanism for an electrically detonated ordnance projectile having an electrically ignited detonator and electrical pulse generating means for causing ignition of said detonator, said projectile including coaxially arranged first and second conductive body members electrically contacting one another and selectively adjustable relative to one another about their common axis, a timing device including a clock mechanism rigidly carried by said first member and adapted to be rendered operative upon firing of said projectile, said clock mechanism including a timing shaft electrically connected to

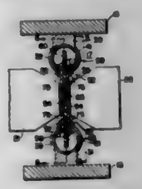
said body member and rotatable from a predetermined initial position in response to operation of said clock mechanism, a primary safety switch mechanism carried by said first member and comprising a conductive sleeve extending generally radially of said axis and spaced outwardly therefrom, said sleeve being insulated from said first member, a switch contact insulated from said first member and said sleeve and mounted opposite the outer end of said sleeve, means for establishing electrical connections from one side of said pulse generating means to said contact and from the other side thereof to said body members, electrical connections from one side of said detonator to said conductive sleeve and from the other side thereof to said clock shaft, a conductive plug slidable in said sleeve between inwardly retracted position spaced from said contact and an outwardly active position engaging said contact, a conductive arm carried by said shaft adapted, when said shaft is in said initial position, to engage said plug and retain it in said retracted position whereby said sleeve, plug and arm establish a primary short circuit across said detonator, said arm being adapted upon a predetermined movement of said shaft from said initial position to disengage said plug whereupon the latter will be free to move by centrifugal action into engagement with said contact to complete the electrical connection from said pulse generating means to said detonator, a normally closed switch carried by said second body member, having one terminal insulated from said body member and electrically connected to said one side of said pulse generating means and the other terminal being electrically connected to said second body member whereby to normally form a secondary short circuit directly across the output of said pulse generating means, switch actuating means carried by said shaft, means rendering said actuating means inoperative until said shaft has rotated into a predetermined relationship relative to said switch, said actuating means thereupon being responsive to centrifugal force to cause opening of said switch.

2,981,192
EXTENSIBLE BORE SAFETY PIN
Andrew J. Grandy, North Hills, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed June 19, 1959, Ser. No. 821,613
3 Claims. (Cl. 102—78)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A projectile mechanism for controllably increasing the time interval between the launching and arming of a projectile, said mechanism comprising in combination a bore safety pin transversely mounted within a fuze of the projectile, said fuze having a peripheral cut-away portion intermediate its ends, said safety pin having: a head at an outer end disposed generally outside the peripheral cut-away portion and an abutment at its inner end and a longitudinal slot contacting the abutment and extending outwardly along the safety pin and a recess near its abutment end spaced from said longitudinal slot; said fuze having a bore therein generally parallel with the axis of the fuze, a locking pin partially disposed and axially movable within said bore, a first helical spring seated in said bore and contacting the locking pin to urge said locking pin into said safety pin recess, a tube assembly generally concentrically telescopically mounted about said safety pin, a second helical spring having an outer end contacting the head of the bore safety pin and an inner end contacting an inner portion of said peripheral cut-away portion and surrounding a portion of said telescoping tube assembly, said telescoping tube assembly having an opening intermediate its ends, forwardly of said safety pin longitudinal slot and inwardly from said peripheral cut-away portion, a releasable locking ball mounted within said opening, an arming slide within said fuze operable in response to ejection of said bore safety pin and telescoping tube assembly whereby upon the firing of the projectile, said locking pin is caused to be withdrawn from said locking pin recess to permit the outward movement of said safety pin by said first helical spring and said releasable locking ball is caused to engage said safety pin longitudinal slot for contacting the safety pin abutment to lock said outwardly moving safety pin to said telescoping tube assembly.

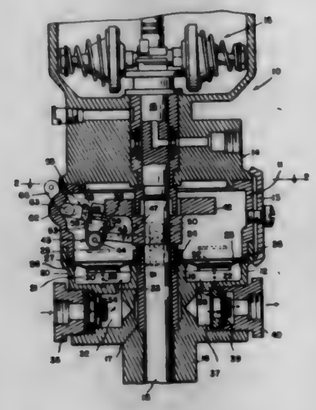
2,981,193
ELECTROMAGNETIC PUMP
William L. Carlson, Jr., Bloomington, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 9, 1957, Ser. No. 689,116
7 Claims. (Cl. 103—1)



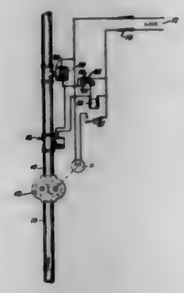
1. A pump of the class described wherein a liquid metal is propelled by, and mutually perpendicular to, an electric current and a magnetic field to which the liquid metal is subjected: an inlet manifold and an outlet manifold of tubular copper in parallel spaced relationship; a flat duct of high electrical resistance metal intermediate to and joining said manifolds in a fluid tight relationship; a pair of copper electrodes inserted in said duct and each electrode extending into one of said manifolds; said electrodes further being separated in a parallel spaced relationship in said duct to form a pumping channel; and each said electrode having passage means joining one end of the channel and a single said manifold; said manifolds and said electrodes defining a liquid metal flow path through said pump; said field being perpendicular to said duct while said current passes through said manifolds and said liquid metal to said electrodes to react with the field in said channel to propel said liquid metal in the channel from said inlet manifold to said outlet manifold.

2,981,194
COMBINATION DISTRIBUTOR AND SELECTIVELY OPERATED VACUUM OR LIKE PUMP
Eugene C. Bettoni, Birmingham, Mich., assignor to Holley Carburetor Company, Van Dyke, Mich., a corporation of Michigan
Filed Aug. 12, 1957, Ser. No. 677,719
5 Claims. (Cl. 103—23)

1. A pumping unit for use in combination with a rotatively driven electrical distributor unit, comprising an operating cam having means to mount the same for rotation coaxially of the axis of rotation of said distributing unit and means to drivingly connect said operating cam with said distributor unit for rotation in predetermined speed relation thereto, housing means including a pumping diaphragm defining a pumping chamber substantially centered on the axis of rotation of said operating cam, said pumping diaphragm acting in the direction of said last named axis to pump fluid, means operatively connecting said pumping diaphragm and operating cam for driving actuation of the former in response to rotation of the latter, and manually operable means to interrupt and restore said operative driving connection.

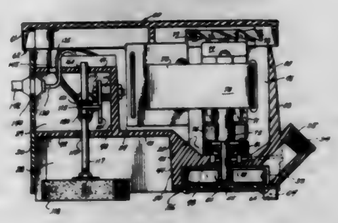


2,981,195
FLUID FLOW MOTOR CONTROL
William H. Payne II and William Harvey Payne, both of Laurelwood, Pine Hall, N.C.
Filed July 8, 1957, Ser. No. 670,520
2 Claims. (Cl. 103—25)



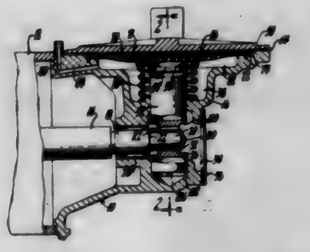
1. The combination of a pipe, a pump pumping a fluid through said pipe, a motor driving said pump, an energizing circuit for said motor, switch means, a pressure responsive device in fluid communication with said pipe and controlling said switch means, said switch means being actuated in the circuit closing direction when the pressure responsive device detects a fall in pressure in said pipe to a predetermined value and said switch means including a main switch in said motor energizing circuit, a cutout combination including a heater circuit in series with a switch of said switch means, and a heater, a bimetal heated by said heater, a safety switch in controlling relationship to said motor energizing circuit and opened by said bimetal when heated to a critical temperature; a vane-type flow responsive circuit-maintaining means associated with said pipe and responsive to a predetermined flow therein, said heater circuit causing said bimetal to open said safety switch a predetermined time after the closing of said switch means, and thereby causing interruption of said motor energizing circuit, except when said circuit-maintaining means is flow-actuated, said circuit-maintaining means including a circuit so connected with said cutout combination as to prevent the effective opening of said safety switch when the circuit-maintaining means is flow-actuated.

2,981,196
CONDENSATE PUMP AND CONTROL MEANS
Frederick N. Zimmermann and Willy E. Zimmermann, Chicago, Ill., assignors to March Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed Apr. 27, 1959, Ser. No. 809,263
4 Claims. (Cl. 103—26)



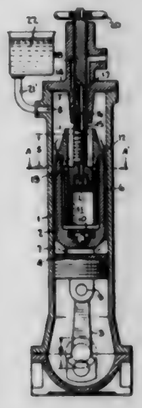
3. In a device of the kind described for use with a drip pan for collecting and holding a body of water concentrate; a portable pump for discharging water concentrate from any drip pan in order to obtain a substantially dry condition within said pan; said pump comprising a housing and housing cover, said housing having a pumping chamber, a motor chamber, a switch chamber and a float chamber; said motor chamber being located above said pumping chamber and arranged in one end of said housing; said switch chamber arranged above said float chamber at the opposite end of said housing; said float chamber open at its lower end and substantially closed by a shelf at its upper end which forms the base of said switch chamber; a second shelf substantially closing said switch chamber at its upper end; a motor supported within said motor chamber, a vertical impeller shaft depending from said motor, said motor for driving said vertical impeller shaft extending downwardly therefrom and extending into said pump chamber; said housing cover being wider and longer than said supporting housing, said motor chamber being open to the atmosphere effected by the perimeter of the housing cover being spaced at a distance from the entire top peripheral edge portion of said supporting housing, an impeller mounted on the lower end of said shaft and rotatable therewith in said pumping chamber; a movable float and vertical supporting rod arranged within said float chamber, vertically aligned openings in said shelves, said rod extending upwardly through said vertically aligned opening in the first and second shelf; stop means assembled upon said rod within said switch chamber for controlling an arm-type lever pivotally mounted upon an integral hub formed on the transverse vertical wall of said switch chamber; a circuit embodying normally open mercury switch connected to said motor; said switch supported upon said arm-type lever; one end of said arm-type lever and said switch being moved upwardly to close the switch when said float and rod are elevated incident to rising liquid in said reservoir and surrounding the base of said housing, said switch again becoming open when the float and rod lower incident to the declining level of liquid around said housing; and a fan connected to the upper end of said impeller shaft and rotatable therewith above said motor in said motor chamber; whereby the air is circulated and the motor cooled by said air when said switch is closed in said circuit.

2,981,197
VARIABLE STROKE DIAPHRAGM PUMP WITH ECCENTRIC DRIVE
John Dolza, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 11, 1957, Ser. No. 702,131
1 Claim. (Cl. 103—38)



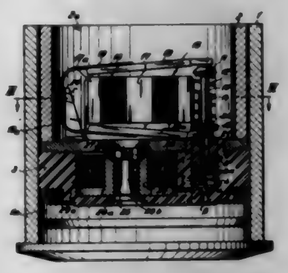
A pump with a variable pumping stroke, said pump having a main body with an inlet and an outlet, a diaphragm reciprocable in said main body to effect pumping action, a sheet metal disc in said main body and cooperating with said diaphragm to define a pumping chamber, reed type valves integral with said disc to control said inlet and outlet, an eccentric drive including a crosshead linearly slidable in said body and fixed to said diaphragm for movement with the latter, a rotatable power shaft having crankpin means, an opening in said crosshead receiving said crankpin means and having cross sectional dimensions giving open clearance to permit relative linear and rotative motion of said crankpin means and crosshead, an arcuate surface on said crosshead partially defining said opening and arranged to contact said crankpin means with pressure during a suction stroke, and a spring surrounding said crosshead and arranged to urge said diaphragm in a direction for resiliently varying said pressure because of said relative linear and rotative motion within the range of said clearance.

2,981,198
RECIPROCATING VARIABLE DELIVERY PUMP
Frederick Nettel, 173 Chapel Road, Manhasset, N.Y.
Filed Aug. 12, 1958, Ser. No. 754,613
5 Claims. (Cl. 103—41)



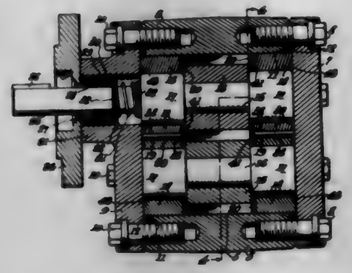
1. In a reciprocating, constant speed, variable delivery pump for handling media such as fluids, gases or vapors comprising a source of such media, the combination of a primary cylinder, a primary piston disposed to operate reciprocably within said primary cylinder, a secondary cylinder centrally disposed and axially extending within said primary piston, a secondary piston extending into said primary cylinder in axial alignment with said secondary cylinder, said secondary cylinder disposed to operate reciprocably relative to said secondary piston, first conduit means for connecting the source of medium with the primary cylinder, an aperture between said primary and secondary cylinders, second conduit means for connecting said primary and secondary cylinders, a check valve interposed in said second conduit means permitting flow of medium from the primary cylinder into the secondary cylinder on movement of the secondary cylinder away from said secondary piston, an axial passage in the secondary piston extending through it and connecting the secondary cylinder with the outside, a check valve interposed in said passage permitting flow of medium from said secondary cylinder to the outside on movement of said secondary cylinder toward said secondary piston, said secondary piston being adjustable relative to said secondary cylinder for controllably opening said aperture between said primary and secondary cylinders at freely selectable points in the stroke of the secondary cylinder, the amount of medium displaced from said secondary cylinder to the outside during its movement toward said secondary piston being determined by specific position of adjustment of the latter.

2,981,199
FLUID PUMPS
Léon Weissmann and Ludger Volpert, Dusseldorf, Germany, assignors to Becorit Grubenausbau G.m.b.H., Recklinghausen, Germany
Filed June 26, 1957, Ser. No. 668,239
Claims priority, application Germany June 28, 1956
2 Claims. (Cl. 103—53)



1. In a two-stage pressure fluid pump particularly for fluid pressure actuated apparatus such as pit props, the improvement comprising in combination a cylinder; a closure member on one end of said cylinder; a high pressure piston reciprocable in said cylinder; said closure member and said high pressure piston defining a high pressure chamber; a cylindrical boring in said high pressure piston extending at least substantially in the direction of the axis of said cylinder; a low pressure piston slidably mounted in said boring for reciprocating movement therein; an electric vibratory motor actuating said low pressure piston; a control valve in said high pressure piston connecting said boring and said high pressure chamber; said control valve comprising a nozzle of small effective flow section whereby, when the low pressure piston is operated at a high rate of reciprocation and a small pressure differential arises between the two sides of the nozzle, the latter allows pressure fluid to flow only to said pressure chamber whilst, in the event of a large pressure differential between the two sides of the nozzle and when the pump is arrested, the nozzle allows pressure fluid to flow in either direction.

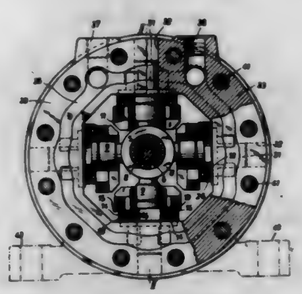
2,981,200
GEAR PUMP STRUCTURE
William T. Stephens, Painesville, Ohio, assignor to The Parker Appliance Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 5, 1956, Ser. No. 614,312
27 Claims. (Cl. 103—126)



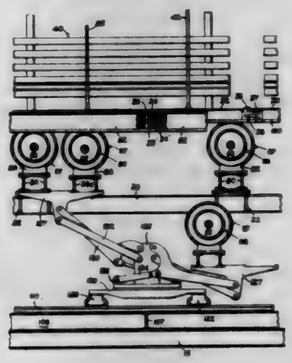
1. In a pump structure of the character described, a housing having an 8-shaped chamber therein composed of two part-cylindrical chamber portions intersecting at a median line, an impeller gear rotatable in each chamber portion, said gears intermeshing across said median line, a shaft carrying each gear, two bearing units surrounding and supporting each shaft one thereof being disposed immediately at each end of the respective gear, a bearing retainer slidably received in each part-cylindrical chamber portion endwise of a gear and supporting one of the bearing units, the two bearing retainers at each end of the 8-shaped chamber comprising a set and contacting at said median line, an 8-shaped wear plate floatably mounted in each end of the 8-shaped chamber between the bearing retainer set and the gear ends at the particular end and traversing and sealing the contacting bearing retainer parts at said median line, said wear plates having apertures therein encircling the bearing units, the length of each bearing unit being substantially equal to the combined length of its associated bearing retainer, and the thickness of its associated wear plate, whereby a maximum support is provided for each bearing retainer and its associated shaft, and said bearing retainer directly abutting said wear plates, said housing having an inlet chamber and an inlet port opening thereinto at the inlet side and a discharge chamber and a port leading out therefrom at the discharge side, and there being included a removably mounted end closure at at least one end of said housing.

2,981,201
PISTON MACHINE
Simeon Holdener, 3 Postgasse, Wolfhausen, Switzerland
Filed Aug. 27, 1958, Ser. No. 757,565
Claims priority, application Switzerland Sept. 10, 1957
5 Claims. (Cl. 103—163)

1. A piston machine for use as a pump or motor, comprising a rotatable shaft having an eccentrically disposed crank pin, a non-rotatable eccentric ring mounted on said crank pin, at least two radially outward directed pistons fixed on said eccentric ring, cylinders in which the said pistons are slidable, an annular body positioned outwardly of said cylinders, cover plates arranged on both front sides of the annular body, guiding supports secured between the cover plates for guiding the cylinders so as to be tangentially displaceable, means carried by said annular body having control openings for cooperation with the cylinders, an annular channel formed in each of the two opposite front sides of the annular body and communicating with said control openings, a pressure medium inlet communicating with the annular channel in one front side of said annular body and a pressure medium outlet communicating with the annular channel in the opposite front side of said annular body and packing means between the front sides of said annular body and the insides of the cover plates for sealing said annular channels.

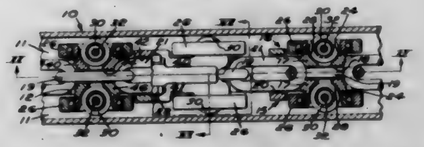


2,981,202
MASS TRANSPORTATION SYSTEMS
Stephen H. Turner, Sr., 719 Grand Ave., Dayton, Ohio
Filed Apr. 16, 1959, Ser. No. 806,808
12 Claims. (Cl. 104—25)



4. Mass transportation apparatus comprising a substantially continuous housing divided into upper and lower levels, a plurality of sets of wheels, each said set including a common shaft and a plurality of pairs of wheels of different diameters, means within said housing providing releasable mountings for each said set intermediate said levels at regularly spaced positions along said housing providing space in said upper level for a continuous passenger and cargo compartment and also providing maintenance space in said lower level, a plurality of cars connected serially into a number of trains equal to the number of pairs of wheels in each set, said cars extending in each train in substantially continuous relation to provide a continuous movable platform upon which passengers and/or cargo may be carried, means providing a drive for some of said sets of wheels to propel said trains at different linear velocities related in accordance with the diameter ratios of the pairs of wheels in each set, a trackway extending along said lower level parallel to said sets of wheels, and a maintenance car on said trackway including lift means capable of moving a selected set of wheels toward and away from its associated mountings and supporting said selected set while said trains are maintained in continuous motion.

2,981,203
CONVEYOR POWER CHAIN
Humphrey F. Parker, Buffalo, and Erford E. Robins, North Tonawanda, N.Y., assignors to Columbus McKinnon Chain Corporation, Tonawanda, N.Y.
Filed Jan. 5, 1959, Ser. No. 784,975
5 Claims. (Cl. 104—94)



1. A wheeled carriage for attachment to a welded link conveyor power chain comprising a pair of complementary cast metal body portions recessed vertically into their complementary surfaces to each accommodate one-half of a vertically disposed link of the welded link chain and horizontally to accommodate part of a horizontally disposed link of said chain, each body portion having a stub axle portion cast integrally therewith and extending outwardly therefrom and in the region of said body portions within which the vertical recesses are contained, wheels carried upon said axle portions, said wheels being of a diameter to project below said body portions to provide rolling support therefor, said body portions being provided with horizontal complemental bores therethrough in the region thereof containing said horizontally recessed portions thereof, and detachable assembly means within said bores holding said body portions clamped around said vertically disposed link of said chain.

2,981,204
POWERIZED STORAGE RAIL FOR CONVEYOR SYSTEMS
William H. Devonshire, Williamsville, N.Y., assignor to Columbus McKinnon Chain Corporation, Tonawanda, N.Y.
Filed June 29, 1959, Ser. No. 823,732
7 Claims. (Cl. 104—162)



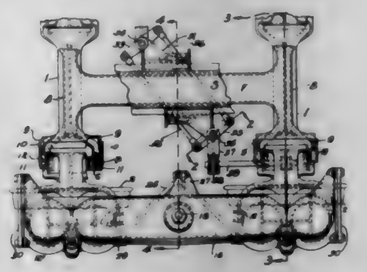
1. A powerized storage rail unit for use in conjunction with a conveyor trolley system, said unit including a storage track portion and a powerized storage track portion disposed therebetween, said powerized storage track portion including a free track section adapted to accommodate in tandem relation therein a plurality of conveyor trolleys, a trolley pusher device comprising a strut extending alongside and substantially parallel to said track section, means mounting said strut to be free to reciprocate in directions longitudinally of said track portion, power means coupled to said strut and operable to cause the latter to reciprocate relative to said track portion in response to control of said power means, trolley engagement means carried by said strut, said engagement means including an arm pivotally mounted upon said strut to extend laterally therefrom, relatively stiff spring means connecting said strut and said arm and operable to relatively stiffly bias said arm to remain laterally extended when said arm is bearing against a trolley standing in said storage track portion to move in the direction of intended advancement of said trolley, and relatively pliant spring means interconnecting said strut and said arm and arranged to relatively softly bias said arm to remain in extended position when the strut is moving in reverse direction, said pliant spring means being adapted to "give" whenever said arm comes in contact with a trolley during return motions of said strut.

2,981,205
TRAMWAY
Gordon H. Bannerman, San Mateo, and Thomas L. Harp, San Francisco, Calif., and Sepp Ruschp, Stowe, Vt., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Aug. 25, 1955, Ser. No. 530,563
2 Claims. (Cl. 104—173)



1. An aerial tramway comprising an endless rope, a wheel at each end of said tramway for supporting said rope, the axes of said wheels being substantially vertical, the tramway having two generally parallel runs of said rope in different vertical planes, a plurality of pairs of chairs suspended from said rope, a station adjacent each end of the tramway adjacent one of said runs of said rope for loading and unloading passengers, and means adjacent the entry end of at least one of said stations for elevating the other of said runs of said rope a sufficient distance above the said run of rope at the said station to permit passage of passengers below chairs on the said other of said runs.

2,981,206
RAILWAY TRUCK
Richard L. Lich, Ferguson, Mo., assignor to General Steel Castings Corporation, Granite City, Ill., a corporation of Delaware
Filed Feb. 27, 1956, Ser. No. 567,872
6 Claims. (Cl. 105—182)

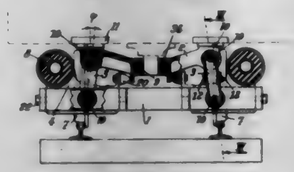


1. In a railway vehicle truck structure, axles spaced lengthwise of the truck with individual wheels and journal boxes, framing positioning said axles relative to each other lengthwise of the truck, individual spring units carried on said journal boxes independently of said axle-positioning framing, a common spring cap at each side of the truck separate from said framing and extending between and carried by the spring units at each side of the truck, and means carried on said spring caps midway of the ends of the truck and forming the sole support for the end of a vehicle body carried by the truck.

2,981,207
RAILWAY TRUCKS AND SIMILAR CARRIAGES
Jean Felix Paulsen, Paris, France, assignor to Societe Luxembourgeoise de Brevets et de Participations, Luxembourg, a Luxembourg society
Filed June 18, 1958, Ser. No. 742,886
Claims priority, application France June 18, 1957
7 Claims. (Cl. 105—187)

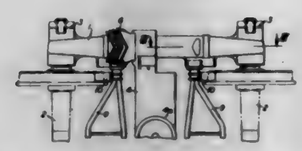
1. A truck which comprises, in combination, two pairs of wheels, axles mounted on said wheels, bearings mounted to support said axles, a frame unit supported by

said bearings so as to be fixed in the transverse direction with respect thereto, a bolster unit, two links of fixed length located on opposite sides respectively of the longitudinal vertical middle plane of said frame unit for directly connecting said bolster unit with said frame unit, each of said links having its lower part pivoted to said frame unit about a longitudinal axis and its upper part



pivoted to said bolster unit about a longitudinal axis, said links constituting the only weight transmitting means between said bolster unit and said frame unit, and return means interposed between at least one of said links and that of said two units to which it is pivoted for resiliently urging said links toward symmetrical positions with respect to said longitudinal middle plane.

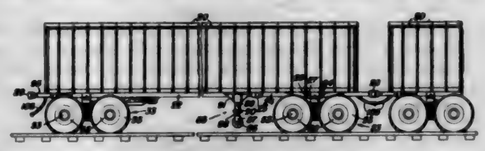
2,981,208
BOGIE TRUCKS FOR RAIL VEHICLES
Frederick William Sinclair, Gloucester, England, assignor to Gloucester Railway Carriage and Wagon Company Limited, Gloucester, England
Filed May 1, 1959, Ser. No. 810,348
7 Claims. (Cl. 105—197)



1. A bogie truck for a rail vehicle comprising a pair of rigid side frames, front and rear axles extending between the side frames and being interconnected solely by said side frames, each side frame having a generally U-shaped notch in its upper edge between the axles, each notch providing front and rear abutments, a transverse member extending between the side frames and having end portions at least partly received in the notches, front and rear abutments on said end portions opposed respectively to the front and rear abutments provided by the notches so that each two opposed abutments form a spaced pair of abutments, and blocks of resilient material interposed between and secured to the abutments of each pair, said transverse member providing the sole connection between the side frames except for the axles so that the side frames are resiliently connected together.

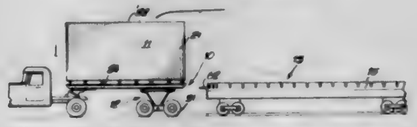
2,981,209
COMBINATION RAIL-HIGHWAY FREIGHT AND AUTO TRANSPORT
Walter J. Flemming, Hilton, N.Y.
(51 Oakman St., Rochester 5, N.Y.)
Filed Nov. 8, 1955, Ser. No. 545,623
9 Claims. (Cl. 105—215)

1. A convertible highway-railroad vehicle, comprising a semi-trailer including a frame, a beam extending centrally, longitudinally of said trailer beneath said frame and on which said frame is supported, an axle for carrying at opposite ends selectively a pair of flanged railroad wheel rims and a pair of highway-type pneumatic tire holding rims, means connecting said axle to said beam adjacent the rear of said vehicle for pivotal movement about a vertical axis, and means connecting said trailer selectively to a highway tractor and to a railroad wheel truck adjacent the front end of the vehicle for pivotal



movement also about a vertical axis, and means for locking said axle against pivotal movement relative to said beam.

2,981,210
SYSTEM OF TRANSPORT FOR TRAILERS
Arthur P. Krueger, Chicago, Ill.
(Rte. 1, Box 339, Bristol, Wis.)
Filed Nov. 23, 1956, Ser. No. 624,026
7 Claims. (Cl. 105—368)



2. A system of highway and railway transport for trailers, comprising in combination, a trailer body having inner and outer pairs of parallel rails mounted on the underside thereof, a removable wheel and axle assembly for highway transport of the trailer body, means for fastening said wheel and axle assembly to the inner pair of rails, a railroad flat car having parallel upwardly facing open channels defining ways spaced to receive the outer pair of trailer body rails for sliding the trailer body onto the flat car, and means including a plurality of crossbolts connected between the opposite walls of each of said channels and rigidly fastened to the associated rail for interlocking the ways and rails against relative sidewise and vertical movement and securing the trailer body on the flat car during railway transport.

2,981,211
FOOD-PRODUCT FORMING MACHINE
Manuel K. Emerzian, P.O. Box 327, Parlier, Calif.
Filed July 17, 1958, Ser. No. 749,199
2 Claims. (Cl. 107—14)

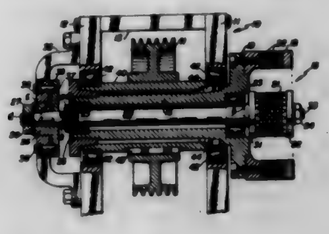


1. In a food-product forming machine, an extrusion cylinder into which dough is fed under pressure, the cylinder having an elongated slot in the bottom for extrusion of the dough, and a movable gate in the cylinder to cut off the dough moving through the slot at the bore of the cylinder; the side walls of the slot flaring out relative to each other from said bore and one such wall being adjustable toward and from the other wall.

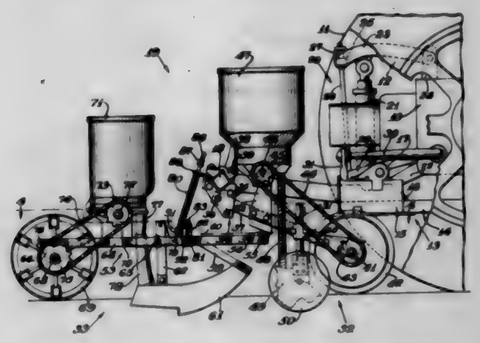
2,981,212
QUICK CHANGE ROLLER DIE ASSEMBLY
Harvey S. Landers, 207 E. Broadway, Fort Worth, Tex.
Filed Jan. 19, 1959, Ser. No. 787,596
3 Claims. (Cl. 107—14)

1. In a pellet mill, spaced front and rear supports, a driven outer sleeve rotatably mounted in said spaced

supports, an inner drive sleeve received within and extending through said outer sleeve, a shaft extending through said inner sleeve, a cylindrical die mounted on an extending end of said inner sleeve, rollers mounted on said shaft and in turning contact with the inner surface of said cylindrical die, means securing said inner sleeve and said outer sleeve against relative rotation, a nut having an elongate body threaded on said inner sleeve opposite said die and engaging said outer sleeve at the end thereof opposite said rollers for detachably securing said inner sleeve in said outer sleeve, a nut on said shaft opposite said rollers and engaging said inner sleeve, and detachable means securing said shaft against rotation and whereby said shaft, said inner sleeve, said die and said rollers may be removed from said outer sleeve as a unit.

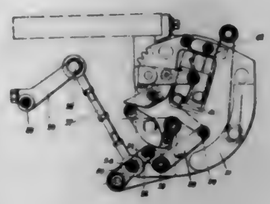


2,981,213
FLEXIBLE PLANTER UNIT
Gordon R. O'Neil, Canton, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 13, 1958, Ser. No. 741,771
3 Claims. (Cl. 111—64)



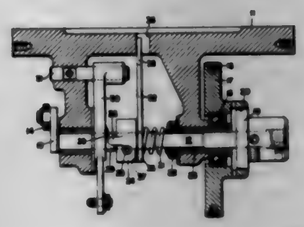
1. In a planter attachment for a tractor having rear drive wheels, power lifting means and a transverse tool bar connected to the tractor and to the lifting means to be raised and lowered thereby, a planter unit mounted on the tool bar comprising a first ground-engaging section ahead of the tool bar and a second ground-engaging section rearwardly thereof, said first section including a gauge wheel, an arm pivotally connected at its rear end to the tool bar and carrying the gauge wheel at its forward end for vertical swinging with the arm in response to changes in ground contour, and said second section including a frame, a furrow opener mounted on the frame, and means pivotally connecting said frame to said arm medially of its ends for vertical swinging relative thereto and to accommodate vertical movement of the forward end of the frame with said arm and at a lower rate of speed than said gauge wheel.

2,981,214
STITCHING APPARATUS AND PARTICULARLY SEWING MACHINES
Henri Judet, Paris, France, assignor to Société d'Applications Générales d'Electricité et de Mécanique SAGEM, Paris, France
Filed Jan. 3, 1956, Ser. No. 557,209
Claims priority, application France Jan. 10, 1955
4 Claims. (Cl. 112—58)



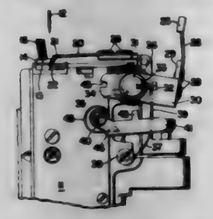
1. In a sewing machine having a clutch and a brake operating control connected to a shaft and means operable on actuation of said control for operating the stitching elements of the machine, a thread measuring mechanism comprising means connected to said control for storing a length of thread on release of said clutch and operation of said brake at the end of a stitching operation and means for releasing said length of thread on operation of said clutch and release of said brake at the start of a stitching operation.

2,981,215
POWER CONTROL UNIT FOR SEWING MACHINES
Richard P. Graham, Stratford, William L. Herron, Bridgeport, and Stanley J. Ketterer, Stratford, Conn., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed July 20, 1959, Ser. No. 828,110
3 Claims. (Cl. 112—76)



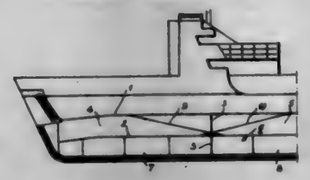
1. A sewing machine work clamp opening device having a frame, a shaft journaled in said frame for turning and axial sliding movement, means responsive to the angular position of said shaft for opening a sewing machine work clamp, a rotary drive member journaled relatively to said frame coaxially of said shaft, axially disengageable clutch means carried on said shaft and on said rotary drive member, interengaging means carried on said shaft and on said frame for automatically separating said clutch means by shifting said shaft axially in the angular position of said shaft corresponding to the opened position of said sewing machine work clamp, operator influenced means for separating said interengaging means to re-establish engaged relation of said clutch means, a spring means arranged to act between said shaft and said frame for biasing said clutch means axially into engaged position, and means responsive to the angular position of said shaft for reducing the spring pressure in the opened position of said sewing machine work clamp.

2,981,216
EDGE GUIDES FOR SEWING MACHINES
Carl R. Tillstrom, Easton, Conn., assignor to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 31, 1958, Ser. No. 724,984
3 Claims. (Cl. 112—136)



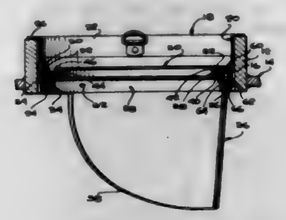
1. A work guiding device for a sewing machine having a work supporting bed, comprising a work guiding member, means for pivotally supporting said work guiding member on said sewing machine bed for turning movement of said work guiding member into and out of an operative position on said bed, a torsion spring encircling said pivotal supporting means, means for securing said spring to said work guiding member, means for securing said spring to said sewing machine bed in stressed relation biasing said work guiding member out of said operative position, and a stop means formed on said spring and located in the path of swing out movement of said work guiding member to define a predetermined inoperative position of said work guiding member.

2,981,217
SHIPS OF THE HORIZONTAL HANDLING TYPE
Jacques Delsuc, 11 Rue de Siam, Paris, France
Filed Oct. 8, 1957, Ser. No. 688,943
Claims priority, application France Mar. 19, 1957
2 Claims. (Cl. 114—78)



1. In a ship of the horizontal-handling type having at least an upper and lower loading deck and a plurality of transverse water-tight bulkheads vertically disposed between the decks and dividing the lower deck into separate, water-tight compartments; the improvement comprising a plurality of ramps sloping downwardly from the upper deck to the lower deck and affording access to the lower deck, the number of ramps being equal to the number of compartments served, said ramps being disposed in the compartments adjoining the ones with which they communicate and being inaccessible from the compartments within which they are disposed, a water-tight casing including each ramp separating the space enclosed by each casing from the compartment in which it is disposed with the space enclosed by each casing forming part of the compartment which is communicated with the ramp and adjoins the compartment in which the ramp is disposed, each casing being composed of two vertical bulkhead elements and the ramp disposed therebetween, the ramp being disposed in the longitudinal axial plane of the ship to traverse one of the transverse water-tight bulkheads, said vertical elements being bulkheads perpendicular to the transverse water-tight bulkhead and secured thereto, said vertical elements connecting each extremity of the ramp to a part of the hull of the ship.

2,981,218
COMBINATION PORT HOLE SCREEN AND WIND SCOOP
Earl L. Milan, 5101 Broadway, Galveston, Tex.
Filed Nov. 6, 1959, Ser. No. 851,406
4 Claims. (Cl. 114—177)



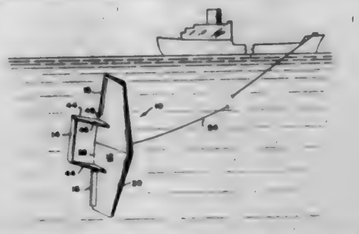
1. A port hole screen and wind scoop comprising an annular frame having a peripheral wall having forward and rear ends, and outer and inner surfaces, said outer surface being diametered for a frictional fit in a port hole, an annular extension fixed on the inner side of said peripheral wall, said extension having a rearwardly facing screen edge receiving channel, a flexible disc screen extending across the frame behind said screen channel and having a peripheral edge portion deformed into the screen channel and a removably resilient spline ring securably engaged in the screen channel behind and removably clamping the free edge portion of the screen in the screen channel, said extension having a forwardly facing scoop receiving channel, a circular scoop having a free rear edge removably engaged in the scoop channel, and fastening means securing the scoop in place.

2,981,219
BALANCED SAFETY ANCHOR
Charles A. Winslow, Oakland, Calif.
(205 Martinique Ave., Paradise Cay, Tiburon, Calif.)
Filed Feb. 15, 1957, Ser. No. 640,392
8 Claims. (Cl. 114—208)



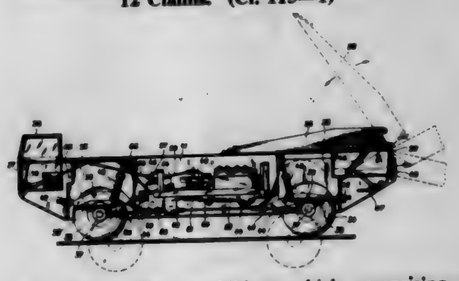
1. In an anchor, a shaft, twin flukes carried by said shaft with crowns positioned near the corners of the lower edges of said flukes, a shank pivotally supported relative to said flukes by said shaft between said twin flukes and spaced therefrom, a pair of opposed inverted Y-formed spacers between said flukes and said shank with limiting stop members on the lower points of the Y engaging portions of said flukes in their extreme positions and a shear-pin through said shank and the upper ends of the Y-spacers securing the shank and the pair of spacers together and serving to control the normal angle of said shank with relation to said flukes until said shear-pin is broken, said shank then being free to move beyond the normal angle.

2,981,220
PARAVANE
Leo F. Fehlner, Bethesda, Md.
Original application July 27, 1954, Ser. No. 446,185, now Patent No. 2,960,960, dated Nov. 22, 1960. Divided and this application Oct. 22, 1959, Ser. No. 854,992
11 Claims. (Cl. 114—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)



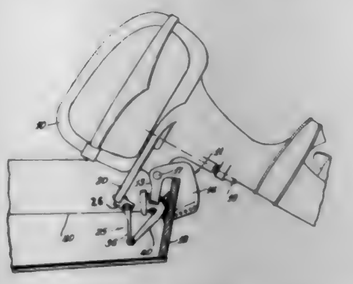
1. A paravane to be towed through water, comprising a streamlined body, a cambered paravane wing secured to an end of said streamlined body, the longitudinal axis of said streamlined body coinciding in direction with a center line of said paravane wing, stability means fixed to said wing and extending perpendicularly therefrom, adjustable fluid flow control means at said streamlined body for controlling the position of said paravane in the water, a depth control device secured within said streamlined body, and having a pressure sensitive device responsive to hydrostatic pressure changes at a point of said paravane, said depth control device including operable means for adjusting said control means, said operable means being operable in accordance with hydrostatic pressure responses of said pressure sensitive device.

2,981,221
SELF PROPELLED AMPHIBIOUS VEHICLES
Jean Gillois, Rastatt, and Hermann Walter Gehlen, Kaiserslautern, Pfalz, Germany, assignors, by mesne assignments, to Dipl. Ing. Hermann Walter Gehlen, Kaiserslautern, Pfalz, Germany
Filed June 3, 1957, Ser. No. 666,261
Claims priority, application Germany June 4, 1956
12 Claims. (Cl. 115—1)



1. A self propelled amphibious vehicle comprising, in combination, a buoyant body constituting a ferry having retractable land propulsion means and a source of power therefor, a broad platform supported atop said body defining a laterally unobstructed loading surface and a drive-on ramp connected by hinge means to one end of said platform and disposed in its inoperative position with its ramp surface on said platform, said body defining at its bottom portion a plurality of inverted air-tight chambers, adapted to be closed at the bottom by water, for the floating condition of said vehicle, and adapted to receive said retractable land propulsion means, and power actuated rods extending between said body and said ramp adapted to swing said ramp about said hinge means into operative position at predetermined angles of inclination and back to inoperative position.

2,981,222
STEERING DEVICE FOR OUTBOARD MOTOR
Donald Dick Canefare, 120 S. Edgewood Ave., Lombard, Ill.
Filed Jan. 14, 1958, Ser. No. 708,858
16 Claims. (Cl. 115—18)



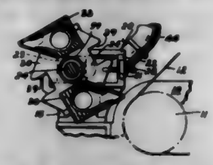
1. In combination, a boat having a transom, an outboard motor having a drive portion, supporting means releasably securable to said transom, means pivotally mounting said drive portion on said supporting means for movement of said drive portion between an inboard position and an outboard position, and a steering arm secured to said drive portion and arranged to lie inboard of said transom, and a steering bracket including a clamping member having means for releasably securing it to said steering arm, an arm member, and means pivotally connecting one end of said arm member to said clamping member, whereby said arm member may hang downwardly when said drive portion of said outboard motor is in either its inboard or outboard position, said connecting means restraining said arm member from pivotal movement toward said transom beyond a substantially vertical position when said drive portion of said outboard motor is in its outboard position and restraining said arm member from lateral displacement relatively to said clamping member in all positions of said arm member, the other end of said arm member having means at a fixed distance from said pivot means for connecting a steering cable to said arm member.

13. A steering bracket for attachment to the steering arm of an outboard motor, said bracket comprising a clamping member having an open, trough-shaped recess extending from side to side thereof for receiving a steering arm, an arm member, and means pivotally connecting said arm member at one end to said clamping member on the opposite side from said recess whereby said clamping member is positioned with said recess opening upwardly, said arm member depends vertically from said clamping member, and is swingable in a vertical plane, said clamping member and said arm member having mutually engaging stop means for halting the pivotal movement of said arm member in one direction at a substantially vertical position when said clamping member is positioned with said recess opening upwardly and said arm having means at a fixed distance from said pivot means for attaching a remote control steering cable thereto.

2,981,223
DUAL AIR DOCTOR FOR PAPER COATING MACHINES
Edward P. Olszowka, St. Catharines, Ontario, Canada, assignor to Howard Smith Paper Mills Limited, Montreal, Quebec, Canada
Filed Mar. 31, 1960, Ser. No. 18,975
8 Claims. (Cl. 118—63)

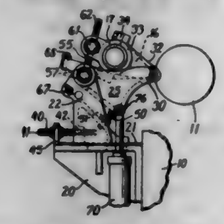
3. In a paper coating machine having a breast roll for supporting a moving paper web of substantial width, in combination: a bearing block mounted at each end of

said roll, saddles for slidably mounting said blocks for movement towards and away from said paper web, a shaft rotatably mounted in said bearing blocks, pinions secured to said shaft at either end thereof, racks fixed with respect to said machine and meshing with said pinions whereby rotation of said shaft causes parallel movement of said bearing blocks, a carrier fixed to said shaft adjacent each bearing block, a pair of air doctors mounted between said carriers, symmetrically with respect



to the axis of said shaft, a pair of slots on each carrier symmetrical with the axis of said shaft, a tenon at each end of said roll fixed with respect to said machine and engageable with the slots of the corresponding carrier by sliding movement of said bearing means to secure said carriers in two predetermined angular diametrically opposite positions with respect to said machine, each position corresponding to the engagement of corresponding slots of each pair by said tenons.

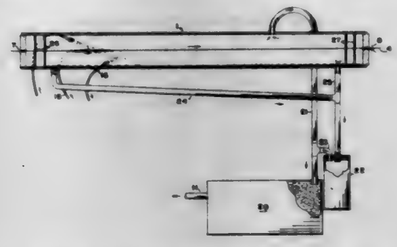
2,981,224
ADJUSTABLE MOUNTING FOR AIR DOCTOR
Richard W. Phelps, Fulton, N.Y., assignor to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Jan. 13, 1958, Ser. No. 708,479
3 Claims. (Cl. 118—63)



3. An adjustable mounting assembly for supporting an air doctor having a discharge lip in operative relation with a backing roll, comprising a carriage, means for mounting said carriage for generally horizontal movement with respect to said roll, a bracket mounted on said carriage for generally vertical movement with respect to said carriage, a supporting arm secured at one end to said doctor, means forming a pivotal connection between the other end of said arm and said bracket on an axis substantially coinciding with said lip, means for selectively adjusting said carriage with respect to said roll and said bracket with respect to said carriage to vary the relative positions of said lip and said roll, and means for effecting controlled movement of said arm on said pivot axis to vary the angle of impingement between said roll and the air discharged by said doctor without changing the relative positions of said lip and said roll.

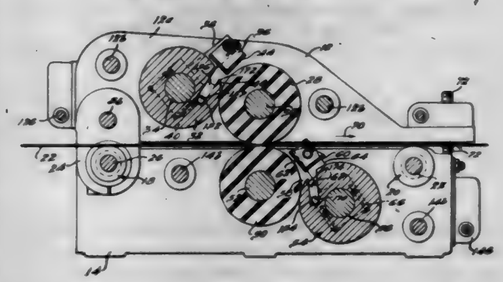
2,981,225
WIRE INSULATION COLORING APPARATUS
David E. Vatt, Moline, and Edward C. Dyer, Rock Island, Ill., and William L. Thompson, Bettendorf, Iowa, assignors, by mesne assignments, to The Gamewell Company, Newton, Mass., a corporation of Delaware
Filed Jan. 22, 1959, Ser. No. 788,428
3 Claims. (Cl. 118—65)

1. A wire insulation color spraying and drying chamber consisting of a tube having an air tight cylindrical wall and removable rubber end caps, said end caps effectively sealing the ends of said tube, a centrally located hole in each end cap, a plurality of pins affixed to each said end cap and extending into said tube, a plurality of disc-like baffles affixed to said pins in each end cap and fixedly spaced from each said cap, a centrally located hole in each said baffle all of said centrally located holes in line, means for moving an insulation covered wire through said holes, a pressurized color spraying system having a plurality of



nozzles inserted through the wall of said tube near the inlet end, said nozzles arranged in a helical pattern and aimed toward the insulated wire and in the direction of travel thereof, a vacuum scavenging system having at least two inlets located at the bottom of each end of said tube near said baffles connected to remove excess color from said tube, and a vacuum drying system having one or more inlets in the top of said tube to remove vapors released from the sprayed color.

2,981,226
ROLLER COATER MACHINE
Ernest E. Murray, 2545 W. Maple, Birmingham, Mich.
Filed Apr. 27, 1960, Ser. No. 24,979
8 Claims. (Cl. 118—227)

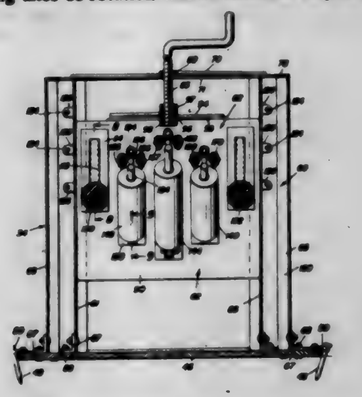


1. In liquid coating apparatus, a rotatable applicator roll, a doctor member mounted adjacent said roll so as to form therebetween a cavity adapted to contain a pool of liquid coating material, said doctor member having an upper overflow edge defining the upper limit of said pool, and means adjustably mounting said doctor member in said apparatus so that the position of said edge is vertically adjustable to adjust the size of said pool.

2,981,227
HOG EXERCISING APPARATUS
Harry H. Schwendemann, 47555 N. Gratiot Ave., Mount Clemens, Mich.
Filed May 20, 1959, Ser. No. 814,421
10 Claims. (Cl. 119—1)

1. Hog exercising apparatus adapted to be installed adjacent to and in alignment with an opening through which hogs pass, said apparatus including at least one unit having a base, a main frame attached to said base and having guide rails whose upper ends are attached to an upper part of said main frame, an operating unit

mounted between said guide rails and including a plurality of rollers, at least one of said rollers being approximately horizontal, the frame having sides defining the sides of a passageway through which the hog must pass, said one of said rollers extending transversely across said passageway, others of said rollers arranged in pairs and having axes of rotation which define an angle, means



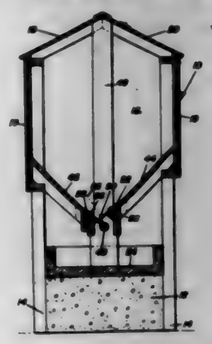
pivotally mounting the outer ends of said last mentioned rollers, resilient means connecting together the inner confronting ends of said other rollers whereby said other rollers are capable of deflecting up and down to change said angle as the hog moves through said passageway and rubs against said other rollers, and means connected with said main frame for raising and lowering all of said rollers in unison.

2,981,228
DISPLAY TANK FOR SHELLFISH
Giuseppe Brandano, 1403 River St., Haverhill, Mass.
Filed Apr. 13, 1959, Ser. No. 806,148
6 Claims. (Cl. 119—2)



1. In a tank for displaying and maintaining shellfish, such as lobsters, in healthy condition, the combination of an upper compartment for containing water and displaying the shellfish, a lower compartment for containing water, a wall having an opening therein and separating said upper and lower compartments, gravitational fluid flow means in said opening for communicating between said upper and lower compartments, said lower compartment having sufficient volumetric capacity to hold the normal supply of water for both upper and lower compartments, whereby the upper compartment water may be readily emptied into the lower compartment to provide access to said fluid flow means for replacement thereof, a standpipe extending above the normal water level of said upper compartment and through said wall for supplying air to said lower compartment, and a water circulating system including a pump, a water intake for said pump in said lower compartment and a water output for said pump above the water level of said upper compartment, the volumetric capacity of said upper and lower compartments and the rate of said pump being so related to maintain an air space in said lower compartment, whereby the water in said lower compartment is at a level below said means and is therefore capable of absorbing air as the water gravitationally flows from said means to said lower compartment, which air absorbed in the water is adapted to be introduced with the water into the upper compartment to maintain the oxygen content therein at a value to enable the shellfish to be maintained in a healthy condition.

2,981,229
TIME CONTROLLED FEED BUNKER
Oscar D. Brown, 2829 N. Broad St., Fremont, Nebr.
Filed Jan. 28, 1959, Ser. No. 787,951
4 Claims. (Cl. 119—56)



1. A time controlled feed bunker comprising a base, said base including a feeding trough, a storage portion disposed above said base, said storage portion having side and end walls and downwardly directed and inwardly convergent longitudinally extending bottom walls each having a plate mounted thereon whose lower edge extends below the lower edge of the corresponding bottom wall, the lower edges of said plates being spaced apart and defining an opening therebetween, a longitudinally extending generally cylindrical delivery shaft mounted in said bunker for rotation about a horizontal axis disposed below and extending the entire length of said opening, operating means connected to said shaft for effecting rotation thereof, said plates lying in planes intersecting each other along a line generally paralleling, above and to one side of the axis of rotation of said shaft and spaced outwardly of the outermost surfaces of said shaft, the plane containing one of said plates passing through said shaft below the upper surface thereof and the plane containing the other plate passing through said one plate, the lower edge of said one plate disposed immediately adjacent the outermost surfaces of said shaft and means mounting at least said other plate for adjustable movement toward and away from said opening whereby one longitudinal edge of said opening may be adjusted in order that feed disposed in said opening and resting on said one plate and the upper surfaces of said shaft may have its angle of repose adjusted to lie on a chord of said shaft whereby feed will be dispensed from said bunker only upon rotation of said shaft.

2,981,230
ANIMAL TETHER ASSEMBLY
Theo O. Putnam, Fringer Road, Upperco, Md.
Filed Nov. 7, 1958, Ser. No. 772,439
2 Claims. (Cl. 119—117)

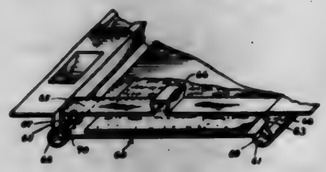
1. An animal tether assembly comprising a standard having the lower end adapted to be mounted in a ground surface, a collar circumposed about and secured to said standard inwardly of and spaced from the upper end, an upstanding sleeve circumposed about the portion of said upper section above said collar and having the lower end rotatably supported on said collar, a horizontally-disposed arm having one end fixedly secured to said

sleeve for movement therewith, a brace member extending from said arm to said sleeve and attached to said arm and sleeve, a flexible tether of a length less than said arm having one end secured to attaching means



on the other end of said arm and having the other end adapted to be detachably secured to an animal to be tethered, and lost-motion stop means on said collar and sleeve for limiting the rotary movement of said sleeve.

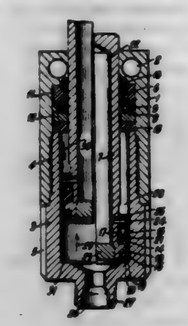
2,981,231
PORTABLE, COLLAPSIBLE EASEL
Mary E. Howard, 823 Harmon Drive, Mamaroneck, N.Y.
Filed Oct. 1, 1957, Ser. No. 687,514
2 Claims. (Cl. 120—33)



1. An easel for supporting copy to be transcribed by a stenographer comprising a single planar sheet of material suitable for fabrication, such sheet being formed to have a generally rectangular configuration having parallel channels along two parallel sides, said sides defining a planar surface to face an operator, said channels being open with respect to said planar surface, means on said planar surface for supporting copy resting against the face thereof, and a line guide for finding and following a single horizontal line of copy when it is supported on said planar surface, said parallel channels having lateral sides and said line guide being adapted to abut against the said lateral sides, and spring means forming part of the said line guide for providing for frictional engagement of said straightedge line guide with sides of said channels to hold it in place.

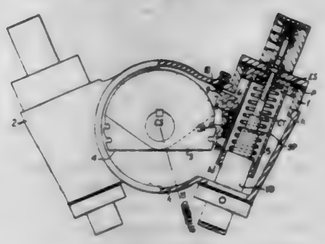
2,981,232
DIFFERENTIAL PRESSURE PNEUMATIC JACKS ADAPTED FOR AUTOMATIC RETURN TO INITIAL POSITION
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France, a French works
Filed Apr. 1, 1958, Ser. No. 725,619
Claims priority, application France Apr. 10, 1957
11 Claims. (Cl. 121—38)

1. A differential-pressure pneumatic jack having a movable rod forming a piston reciprocatable in a cylinder and comprising a single air inlet for the delivery of compressed air on a first side of the movable piston to subject said first side to the driving pressure, said rod being formed with a cavity defining a chamber in permanent communication with the side of the piston opposite said first side, a packing of the unidirectional sealing type fixedly mounted on said piston and formed with a passage which permits flow of compressed air to the side of the piston opposite said first side which is subjected to said driving pressure, said jack including a deformable resilient portion and said portion being formed with expansible channel means defining a dilatable orifice which opens in response to a predetermined



minimum fluid pressure to create on said opposite side a fluid leakage slower than the air flow upon venting the pressure-receiving side of the piston to the atmosphere, whereby the air introduced to the side opposite the side receiving the driving pressure is adapted to drive the movable rod back to its initial position with a substantially counterbalanced expansion force.

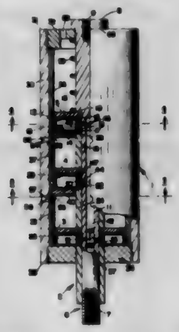
2,981,233
IMPROVEMENT IN AND RELATING TO PNEUMATIC MOTOR SUITABLE FOR ELECTRIC TRACTION CONTROL SYSTEMS
Gordon Collins and John Hudson Graves, Rugby, England, assignors to The British Thomson-Houston Company Limited, London, England, a British company
Filed May 5, 1958, Ser. No. 733,000
Claims priority, application Great Britain May 14, 1957
3 Claims. (Cl. 121—38)



2. A motor including a pair of reciprocating engines of the pneumatic piston and cylinder kind, means including a toothed wheel for transmitting power strokes from said engines to a driven member for rotation in opposite directions respectively by said two engines, each of said engines having a pawl drivingly connected to the piston of its respective engine for operating said toothed wheel in one direction, adjustable stop means for adjusting the inoperative position of each pawl and for independently varying the operating stroke thereof, a valve for each engine controlled by pressure medium for admitting pressure medium to only one end of the cylinder of its respective engine at one side of the piston of said engine, means for biasing said piston for the return stroke thereof, said valve comprising a stationary valve body with an axial recess at one end thereof, a valve sleeve having an open end and a substantially closed end and being reciprocable in said axial recess in the valve body, and a center tube

fixed to said piston and extending through said open end of said valve sleeve to provide a communication between the interior of the valve sleeve and the space at the said end of the cylinder, said center tube having an external shoulder to close the cylindrical space between the outer wall of said tube and the wall of said recess in which said valve sleeve reciprocates, the valve sleeve and body having separate passages and ports to direct and control the flow of a pressure medium into and out of said cylinder, the cylindrical outer wall of said center tube having a recess therein for directing pressure medium to control the reciprocating movement of said valve sleeve in such manner that for a power stroke of the piston the pressure medium is first supplied to the space between the closed end of said valve body opposite said recessed end and that closed end of said valve sleeve which forms a plunger end in said valve body end, thereby to move the valve sleeve towards the open end of the valve body recess and to cause opening of one of said ports for supplying pressure medium to said cylinder space whereupon said piston and said valve sleeve move in the direction towards the closed end of the valve body recess to interrupt first the pressure medium supply to the space between the valve body and sleeve ends, then to interrupt the pressure medium supply to said cylinder, and thereafter to open a port for the escape of the pressure medium from said cylinder.

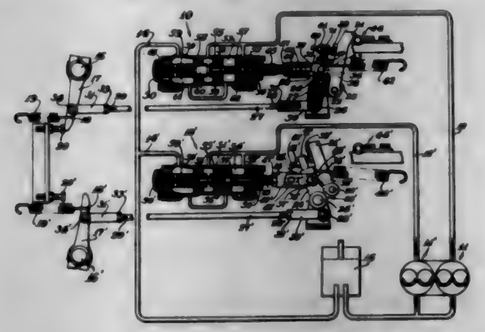
2,981,234
MULTIPLE PISTON POWER CYLINDER
Joe S. Appleton, 1420 W. 132nd St., Gardena, Calif.
Filed June 4, 1959, Ser. No. 818,095
8 Claims. (Cl. 121—38)



1. A power cylinder comprising a tubular member, a plurality of axially spaced annuli defining cylinder heads therein, a piston rod coaxial with said tubular member and axially movable relative thereto, a plurality of axially spaced radially projecting pistons interposed between said cylinder heads and carried by and movable with said rod for defining with said cylinder heads a plurality of pressure chambers, a distensible hollow receptacle in each of said pressure chambers, each of said receptacles having a free edge portion, means securing said free edge portions against movement, and means for introducing pressurized fluid into said receptacles for causing distension thereof and relative movement between said cylinder and said rod.

2,981,235
HYDRAULICALLY POWERED STEERING CONTROLS FOR STEERING-BY-DRIVING VEHICLES
Thomas R. Seddon, Roselle, Ill., assignor to International Harvester Company, a corporation of New Jersey
Filed May 29, 1956, Ser. No. 588,005
9 Claims. (Cl. 121—41)

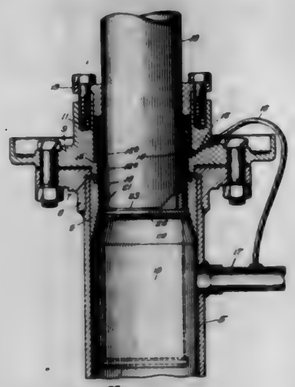
1. A fluid operated servo-motor comprising a casing, a reciprocable work member including a piston disposed in the rearward portion of said casing, a front cylinder chamber and a rear cylinder chamber disposed in the rearward portion of said casing, a front end wall and a rear end wall disposed in said casing, one end of said work member projecting through said rear end wall, a first bore axially disposed in said front end wall, a bushing disposed in said first bore, an inlet chamber disposed in said casing, said inlet chamber being positioned adjacent to and forwardly of said front end wall, a sleeve member disposed in said casing and adapted for slidable movement axially in said bushing, said sleeve member being provided with internal fluid passage means extending longitudinally therethrough, a plurality of transverse holes disposed in the rearward portion of said sleeve member, a valve seat disposed forwardly of said holes in said sleeve member, a ball disposed in said sleeve member and adapted for seating against said valve seat for restricting the flow of fluid through said internal passage, at least one of said holes being positioned for selective registration with said inlet chamber and said front cylinder chamber, the rearward end of said sleeve member being adapted for engagement in abutting relation with said work member, a second bore axially disposed in said casing adjacent to and forwardly of said inlet chamber, a receptacle member disposed in said second bore, the rearward end portion of said receptacle member being provided with a recessed portion adapted to receive the forward end portion of said sleeve member,



a compartment disposed in the forward portion of said casing, conduit means disposed in said receptacle member communicatively connecting said inlet chamber with said compartment, a relief valve interposed in said conduit means, said relief valve being adapted to open for discharging fluid from said inlet chamber to said compartment when fluid pressure in said inlet chamber exceeds a predetermined value, a source of fluid under pressure including fluid return means, a fluid discharge conduit communicatively connecting said compartment with said fluid return means of said source of fluid under pressure, an open fluid pressure conduit communicatively connecting said inlet chamber and said rear cylinder chamber with said source of fluid under pressure, an open tube communicatively connecting said front cylinder chamber with said compartment, a third bore axially disposed in said work member, an externally mounted manually operable control lever, a valve control member slidably disposed in said third bore, one end of said valve control member projecting rearwardly of said work member and engageable for axial movement in a forward direction with said control lever, the other end of said valve control member being positioned to engage said ball in abutting relation for seating said ball in said valve seat of said sleeve member responsive to forward movement of said control lever and said valve control member to restrict flow of fluid thereby for urging said sleeve member and work member forwardly

until at least one of said holes in said sleeve member communicatively registers with said inlet chamber to re-establish fluid communication between said inlet chamber and said front cylinder chamber thereby snubbing the forward movement of said work member and alternately disengaging said ball from said valve seat of said sleeve member to re-establish fluid flow thereby to de-energize said work member when rearward movement of said valve control member is unrestrained.

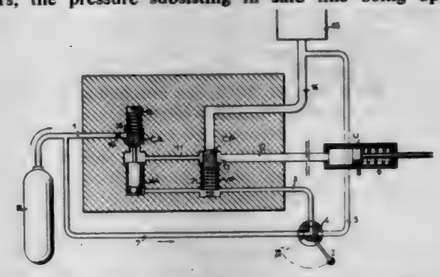
2,981,236
HYDRAULIC ELEVATOR SAFETY DEVICE
Carl Brandon, Detroit, Mich., assignor to Montgomery Elevator Company, a corporation of Delaware
Filed Aug. 22, 1958, Ser. No. 756,654
6 Claims. (Cl. 121—46)



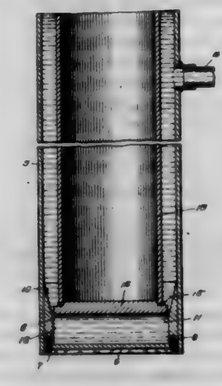
1. In a hydraulic elevator system: a cylinder; a ram reciprocable in said cylinder; means including an inlet pipe supplying liquid under pressure for reciprocating said ram; an inwardly extending safety ring mounted in the upper end of the cylinder; a bushing immediately adjacent that end of the safety ring which is nearer the upper end of the cylinder, said bushing being provided with a fine outlet bore of substantially smaller diameter than the inlet pipe, and the clearance between said bushing and the ram being extremely small; packing above the bushing in sealing contact with the ram; bleed means connecting said outlet bore with the hydraulic means outside the cylinder; an an outwardly extending cushion ring which is positioned on the ram to move into the area surrounded by the safety ring as the ram approaches the top limit of its travel, the maximum diameter of the cushion ring being slightly less than the minimum diameter of the safety ring, and one of said rings having a surface which is so tapered that the clearance between the rings decreases as the cushion ring moves within the safety ring, whereby an increasing back pressure is exerted on the cushion ring to prevent overtravel of the ram at the top of the cylinder, and liquid between the cushion ring and the safety ring is forced out of the cylinder through the outlet bore in the bushing to prevent liquid from being forced past the packing.

2,981,237
HYDRAULIC ACTUATOR CONTROL
Jean Louis Gratzmuller, 66 Blvd. Maurice Barres, Neuilly-sur-Seine, France
Filed Oct. 14, 1958, Ser. No. 767,146
Claims priority, application France Oct. 23, 1957
11 Claims. (Cl. 121—46)

1. Hydraulic control apparatus, for selectively connecting a controlled hydraulic actuator to a source of hydraulic pressure and to exhaust respectively, and comprising an admission duct connecting the said source to said actuator, an exhaust duct connected to said actuator, an admission valve including a valve seat in said admission duct and a movable valve member cooperating with said seat, spring means operative to seat said movable member of the admission valve, a reciprocable valve actuating member associated with said movable member of the admission valve and operative to unseat it, an exhaust valve including a movable valve member controlling the connection of said actuator with the exhaust duct, a reciprocable valve actuating member associated with said movable member of the exhaust valve and operative to seat the same, a combined feed and exhaust line common to both said valve actuating members, the pressure subsisting in said line being operative on said valve actuating members for unseating said movable member of the admission valve and seating said movable member of the exhaust valve respectively, a controllable device for selectively connecting said common feed and exhaust line to exhaust and to a source of hydraulic pressure respectively, means operative to equilibrate hydraulic pressures acting on the valve actuating member of the admission valve when the admission valve is open and no flow through it is taking place, thus allowing said spring to re-seat said movable member of the admission valve, and said valve actuating member of the exhaust valve having a form such that the pressure subsisting in the actuator acts thereon to unseat the movable member of the exhaust valve thereby causing it to be unseated as soon as the said common line is connected to exhaust.



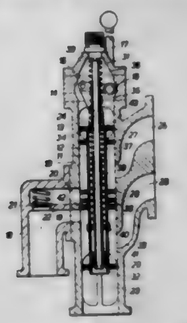
2,981,238
HYDRAULIC ELEVATOR SAFETY DEVICE
Carl Brandon, Detroit, Mich., assignor to Montgomery Elevator Company, a corporation of Delaware
Filed Aug. 19, 1959, Ser. No. 834,886
6 Claims. (Cl. 121—46)



1. In a hydraulic elevator system: a cylinder which has a tapered lower end portion and an imperforate lower

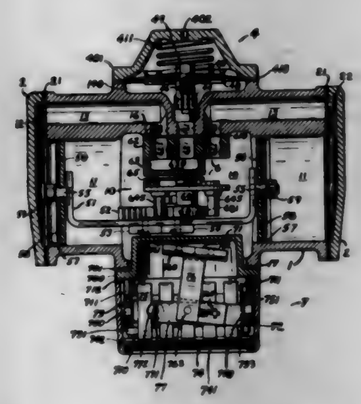
end; a ram reciprocable in said cylinder, the diameter of said ram being substantially less than the diameter of the cylinder but only very slightly less than the minimum diameter of said tapered portion of the cylinder, and said ram having a generally planar, imperforate base; and means including a supply pipe communicating with the upper portion of said cylinder to supply liquid under pressure for reciprocating said ram, movement of the base of the ram into said tapered lower end portion of the cylinder causing a rapid decrease in the rate of escape of liquid from beneath the ram to the supply pipe, whereby the ram is prevented from seating forcefully on the bottom of the cylinder.

2,981,239
CONTROL VALVES FOR HYDRAULIC TRANSMISSION SYSTEMS FOR WINCHES
Hans Hildre, Brattvaag, Norway, assignor to Hydraulik A/S, Brattvaag, Norway
Filed Mar. 20, 1959, Ser. No. 800,817
3 Claims. (Cl. 121—46.4)



1. A manually operated control valve for hydraulic transmission systems, comprising a housing having a valve chamber, a supply conduit coupled to said housing and adapted for conveying pressure fluid from a fluid source to said valve chamber, a conduit coupled to said housing and adapted for conveying discharge fluid back to said fluid source from said valve chamber, conduits coupled to said housing and adapted for supplying and discharging hydraulic fluid to and from a hydraulic motor means from and to said valve chamber, all of said conduits opening into said valve chamber at spaced positions, a slide member displaceably mounted within said valve chamber, said slide member including flanges for dividing the valve chamber into communication spaces for setting up desired flow paths for the hydraulic fluid from one conduit to another within said valve chamber, a manually operable control handle, said control handle being connected to the slide member whereby movement of said control handle to and from a central position into one of two opposite directions will move the slide member so as to shift the flow paths of said valve chamber, said central position representing a stop position of said motor means whereas the movement into a respective one of said opposite directions is adapted to set up flow paths to drive the hydraulic motor means in a respective one of opposite directions, means for resiliently urging said control handle towards its central position, and means for dampening the return movement to said central position as a result of a manual displacement therefrom and subsequent release of said control handle, said valve further comprising two compression springs arranged to urge the slide member towards a stop position in counteracting arrangement, one of said compression springs being arranged to receive and counteract the weight of the slide member.

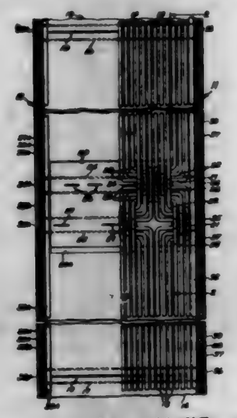
2,981,240
FLUID FLOW METERS
Robert E. Nelson, Willow Springs, Rosamond, Calif., and George E. Tench, South Pasadena, Calif.; said Tench assignor to said Nelson
Filed Jan. 29, 1960, Ser. No. 5,488
7 Claims. (Cl. 121—164)



2. The fluid flow meter having positive displacement reversing flow measuring means, a cycling valve therefor including a valve base having a ported valve face, a valve plate adapted to bear against said valve face and to determine by its position thereon the registry of the porting thereof, two carrying posts rigidly secured to said base and placed substantially apart and perpendicular to the valve face thereof, a dependent escapement arm rockably mounted upon one of said posts and adapted to transfer its motion to said valve plate, a primary escapement arm rockably mounted upon the other of said posts, means for rockably actuating said primary arm in response to the motion of said flow measuring means, loading means responsive to the motion of said flow measuring means and adapted to urge said dependent arm in a direction to reverse the position of said valve, and cooperating means associated with said primary and dependent arms for first preventing said dependent arm from following the urging of said loading means but subsequently releasing said dependent arm to move in a valve-reversing direction.

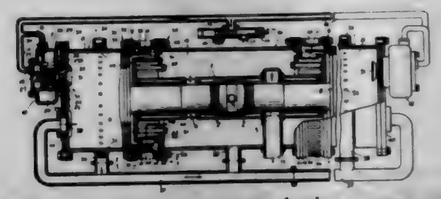
2,981,241
RADIANT WALL CONSTRUCTION FOR VAPOR GENERATOR
Francis M. Barton, St. Albans, N.Y., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Aug. 14, 1958, Ser. No. 755,863
12 Claims. (Cl. 122—6)

1. In a vapor generator having at least one vapor-cooled wall in combination with liquid-cooled walls, the vapor-cooled wall comprising at least one bank of vapor-cooled tubular members with the said tubular members thereof being arranged in parallel relationship to each other, each of said vapor-cooled tubular members having at least one loop portion disposed between the opposite ends of the tubular members, means for fixedly securing each of said tubular members at the loop portion against movement relative to said liquid-cooled walls, second means for fixedly securing each of said vapor-cooled tubular members at each side of the loop portion thereof against movement relative to said liquid-cooled walls whereby differential linear expansion between the vapor-cooled tubular members and the liquid-cooled walls compresses said loop portions of the vapor-cooled tubular



members an amount equal to said differential linear expansion.

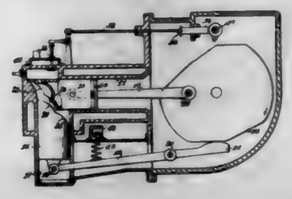
2,981,242
FREE PISTON GAS GENERATOR
John G. Macdonald, P.O. Box 476, Bayfield Road, Goderich, Ontario, Canada
Filed Mar. 2, 1959, Ser. No. 796,535
2 Claims. (Cl. 123—46)



1. In a free piston gas generator having a power cylinder containing opposed power pistons, compressor pistons operating in compressor cylinders at opposite ends of said power cylinder, the outer portion of said compressor cylinders defining bounce chambers in which air is adapted to be compressed on the outward piston stroke to store energy to return the pistons on the inward stroke, the inner end of said compressor cylinders defining air compressors adapted to deliver air into an airbox for scavenging the power cylinder, a piston stroke control comprising openings through the side wall of each of said compressor cylinders, one-way check valves opposite said openings to permit escape of air out of the respective bounce chamber into the airbox only when the respective compressor piston has moved past said openings on the inward stroke, said respective compressor piston being adapted to close said openings on the outward stroke to trap air in said respective bounce chamber, another opening within said respective bounce chamber having one-way check valves opening into said respective bounce chamber to permit air from the airbox to flow into said bounce chamber so that the minimum pressure of air in the bounce chambers is maintained approximately the same as the prevailing pressure in the airbox.

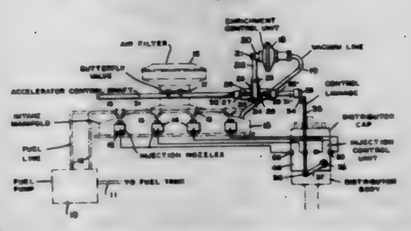
2,981,243
TORQUE IMPROVED INTERNAL COMBUSTION ENGINE
Arthur Hugo Arndt, Box 428, Magrath, Alberta, Canada
Filed Feb. 16, 1960, Ser. No. 9,123
5 Claims. (Cl. 123—78)

1. An internal combustion engine comprising a crank case, a crank shaft positioned in the crank case, a power cylinder aligned with the axis of the crank shaft and extended from one side of the crank case, a power piston having concave surfaces in the outer end positioned in the power cylinder, a cam in the crank case and mounted on the crank shaft, a piston rod pivotally connected to the piston and eccentrically connected to the cam, an auxiliary cylinder extended at a right angle from the outer end of the power cylinder, an auxiliary piston having



convex surfaces on the outer end mounted in the auxiliary cylinder and positioned whereby the convex surfaces co-act with the concave surfaces of the power piston to seal the area between the pistons, and a lever pivotally mounted in the crank case and positioned with one end pivotally connected to the auxiliary piston and the opposite end positioned to engage the surface of the cam of the crank shaft.

2,981,244
FUEL INJECTION CARBURETION SYSTEM
Ralph G. Hendrickson, 823 Dale Road, Glen Burnie, Md.
Filed July 15, 1958, Ser. No. 748,663
9 Claims. (Cl. 123—119)

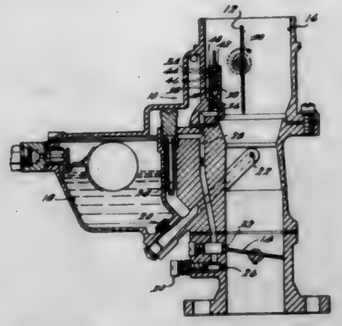


1. For use with a fuel injection carburetion system having a series of injection nozzles, a manual fuel feed control and an automatic enrichment control for the ratio of fuel and air, mechanism for controlling the duration of the injection of the fuel, said mechanism including a body having a cylindrical chamber, a series of curved tapered contact segments within said chamber, a cooperative rotatable contact for engaging said segments and movable axially of said cylinder for varying the duration of engagement between said contact with said contact segments, said contact segments being connected to said injection nozzles of the system in a manner to control the operation thereof, and means for moving said rotatable contact relative to said contact segments subject to the operation of said manual fuel feed control and said automatic enrichment control.

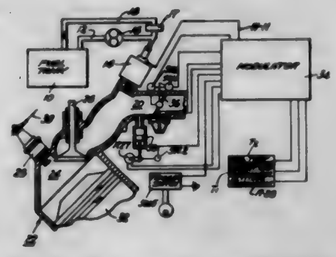
2,981,245
CARBURETOR IDLE FUEL CONTROL MEANS
Jorma O. Sarto, Orchard Lake, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 7, 1959, Ser. No. 804,831
8 Claims. (Cl. 123—119)

1. In a carburetor having a main air intake passage, a thermostatically actuated choke blade pivotally mounted in said passage, a fuel source connected through an idle fuel conduit means to an idle fuel port in said passage,

idle fuel control means operatively connected with said idle fuel conduit means and said choke blade and responsive to movement of said choke blade to regulate the vacuum condition in said idle fuel conduit means.



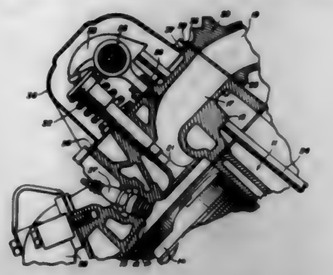
2,981,246
FUEL SUPPLY SYSTEM
Stephen G. Woodward, Elmira, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 14, 1959, Ser. No. 826,962
3 Claims. (Cl. 123—119)



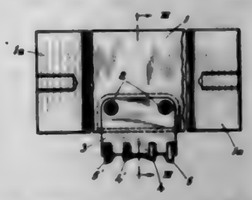
1. In a fuel supply system for a multicylinder internal combustion engine having a source of fuel and a source of electric power, a nozzle for each of said cylinders, conduit means connecting said nozzles to said source of fuel, a valve in each of said nozzles, a circuit connected to said source of power, a solenoid for each of said valves energizable to open said valves, said solenoids being connected to said circuit in parallel for simultaneous energization, an electronic timing device in said circuit being energizable to pass current for controlled time duration whereby said solenoids will be energized to open said valves for a corresponding time duration, and means actuable as a function of engine speed for periodically energizing said timing device.

2,981,247
LOCATING MEANS FOR INTERNAL COMBUSTION ENGINE CYLINDER HEAD COVER GASKET
Joe V. Gaebler, Indianapolis, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed June 29, 1959, Ser. No. 823,682
10 Claims. (Cl. 123—193)

7. In an internal combustion engine, a gasket mounting comprising the combination of a cylinder head having a pair of intersecting, substantially flat exposed surfaces disposed substantially at right angles with respect to each other; an intake manifold gasket mounted on one of said exposed surfaces having a longitudinal edge thereof adjacent the intersection of said exposed surfaces; a valve cover gasket; and tab means integrally formed with said intake manifold and extending parallel to said one exposed surface from said longitudinal edge of said intake manifold gasket adjacent the intersection of said exposed surfaces, said tab means projecting through projections carried by said valve cover gasket.

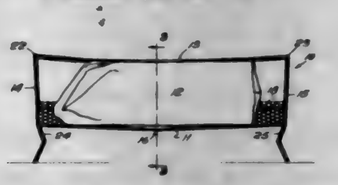


2,981,248
SAW BLADES FOR STONE SAWING MACHINES PROVIDED WITH HARD METAL CUTTERS
Sven Axel Mattsson, Goteborg, and Arnold Valfrid Karlsson, Lysekil, Sweden, assignors to Skandinaviska Granit Aktiebolaget, Goteborg, Sweden
Filed Mar. 2, 1959, Ser. No. 796,434
1 Claim. (Cl. 125—18)



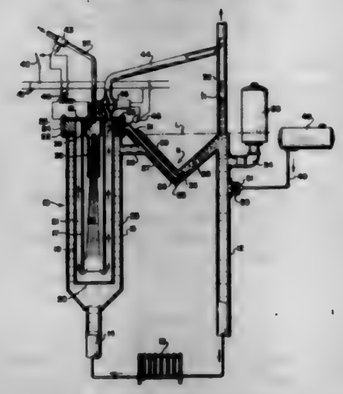
A stone saw comprising a blade having a working edge and sides contiguous with said edge, said blade having a recess in one of said sides opening in said working edge, said blade recess being defined by undercut inner edges and a bottom, said working edge having a bevelled portion adjacent said recess extending from said recess bottom to the other side of said blade, a cutter plate having a thick and a thin portion with said thin portion mating within said recess, said plate having a portion between said thick and thin portions providing an undercut shoulder mating with said blade working edge bevelled portion, means retaining said plate thin portion fixedly connected to said blade and metal cutters carried by said blade thick portion.

2,981,249
PORTABLE DISPOSABLE STOVE OR GRILL
Edward W. C. Russell, 2601 Foxhall Road NW., and Stanley F. Reed, 3269 M St. NW., both of Washington, D.C.
Filed May 17, 1957, Ser. No. 659,981
3 Claims. (Cl. 126—25)



1. A cooking unit composed of a body section and a fuel tray section each formed from a single blank piece of metallic mesh material, the body section being shaped as a substantially level area providing a cooking platform, the ends of said body section being downwardly bent to form a pair of supporting legs of substantially equal length, the fuel tray being formed with a length substantially equal to the length of the cooking platform, each of said legs being sufficiently bent in the direction of the other leg to exert a compressive spring action on the ends of the fuel tray when said fuel tray is placed between said legs, the legs thus supporting said fuel tray therebetween.

2,981,250
SUBMERGED COMBUSTION HEATING APPARATUS
Richard M. Stewart, Irvington, N.Y. (Central Road, Middlebury, Conn.)
Filed Feb. 7, 1958, Ser. No. 713,901
12 Claims. (Cl. 126—360)



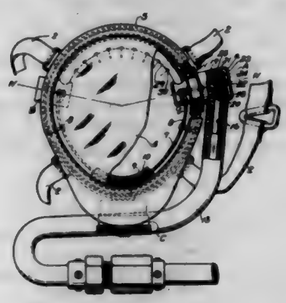
1. In submerged combustion heating apparatus comprising a combustion chamber having an ignition zone adjacent one end thereof and a combustion zone of substantial length extending therefrom, means for introducing and burning fuel in said combustion chamber, a heating chamber for containing a liquid to be heated, and a combustion gas delivery conduit for delivering hot combustion gas from said combustion chamber to beneath the surface of liquid in the heating chamber, the improvement comprising a combustion gas cooling chamber surrounding both the ignition and combustion zones of said combustion chamber over substantially their entire lengths and defining a passage through which combustion gas flows from the combustion chamber to said combustion gas delivery conduit, and a liquid preheating jacket surrounding said gas cooling chamber in heat exchange relation therewith over substantially its entire length and communicating with said heating chamber, whereby said combustion gas cooling chamber insulates the combustion chamber from cooling to below an efficient combustion temperature yet whereby the combustion gas is partially cooled and the liquid is preheated out of contact with each other preliminary to final heating of the liquid by direct contact with the combustion gas in said heating chamber.

2,981,251
INFLATABLE BLOOD PRESSURE CUFF
Robert A. Berman, Far Rockaway, N.Y., assignor to Medical Plastics, Inc., Jamaica, N.Y., a corporation of New York
Filed Mar. 11, 1957, Ser. No. 645,196
1 Claim. (Cl. 128—2.05)

An inflatable blood pressure cuff with an elongated wrap around portion having a centrally positioned coiled up thin strip of resilient metal extending substantially the full length thereof and embedded therein and an inflatable base portion, both portions being formed of two equally dimensioned sheets of a thermoplastic transparent sheet material heat-sealed together at locations to form said inflatable base and embed said strip and said wrap around portion having longitudinally extending reinforcing ribs at the edges thereof and adjacent each edge of the metal strip, said base portion having a circular cup mounted on and projecting outwardly from said base portion on the side thereof opposite said ribs, said cup having an opening in the wall thereof, a tubular element extending laterally from said opening communicating with the interior of said cup, a flexible tube enveloping the end of said tubular element, and a rigid member engaging the other end of said tube and having a knurled nut positioned thereon adapted to connect said cup to a stethoscope tube, said cup having an open face adapted to directly engage the flesh of a patient.



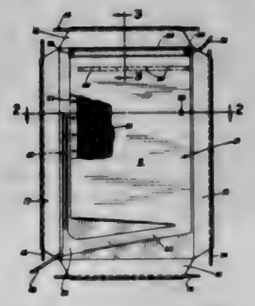
2,981,252
DIVING MASK
Kenshun Sato, 2 Higashi Jujo 4-chome, Tokyo, and Kumaki Asari, 28 Minatomachi Osawa, Hachinohe, Japan
Filed Dec. 29, 1958, Ser. No. 783,471
Claims priority, application Japan December 28, 1957
1 Claim. (Cl. 128—142)



A diving mask for persons to wear when engaging in underwater work comprising; a face-engaging means having a rear portion for fluid tightly engaging the face and a front portion having upper and lower corrugations forming a bellows, the lower corrugation being larger and thinner, for greater and easier expansion and contraction, than the upper corrugation; a transparent plate means sealed fluid-tightly to the bellows front portion of the face engaging means, said plate means being swingable about a transverse axis between the upper corrugation and the more easily expandable lower corrugation when said bellows is expanded and contracted; valve means mounted in the upper part of the face engaging means and fluid tightly extending therethrough for admission and cut-off of fresh air to said mask; a fresh air inlet pipe means connected to the valve means for providing fresh air to said valve means; a bail lever having upper and lower parts, pivotally mounted between said parts on a transverse axis in said face engaging means and having said lower part biased against the lower part of the swingable plate means and the upper part operatively connected to the valve means for opening said valve means when the bellows is contracted and closing said valve means when the bellows

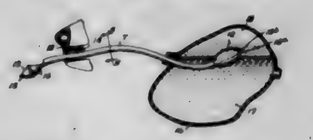
is expanded, whereby air is admitted and cut off in said mask when the person wearing the mask inhales and exhales to contract and expand said bellows, thereby swinging said plate means and said bail means to operate said valve means.

2,981,253
OXYGENATOR
Richard A. De Wall, Minneapolis, and Clarence Walton Lillehei, St. Paul, Minn., assignors to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota
Filed July 17, 1957, Ser. No. 672,438
11 Claims. (Cl. 128—214)



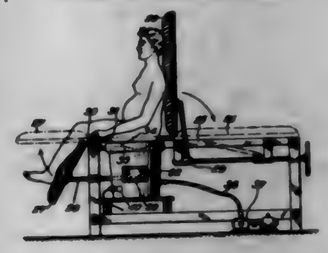
1. A blood oxygenator comprising a pair of parallel spaced apart foraminous blood filming elements enclosed within an envelope, inlet means for introducing oxygen into said envelope on one side of said pair of filming elements, gas discharge means for venting gases from said envelope on the other side of said pair of filming elements, blood inlet means for introducing blood to be oxygenated between said pair of filming elements, said blood inlet means comprising a perforated manifold tube disposed adjacent to the top of said oxygenator envelope and between said pair of blood filming elements, and outlet means for discharging oxygenated blood from said envelope.

2,981,254
APPARATUS FOR THE GAS DEFLATION OF AN ANIMAL'S STOMACH
Edwin G. Vanderbilt, Severy, Kans.
Filed Nov. 12, 1957, Ser. No. 695,749
1 Claim. (Cl. 128—350)



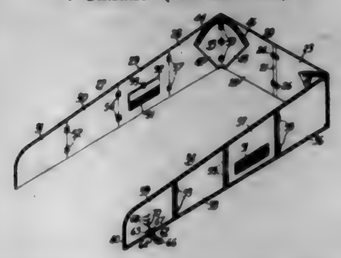
A stomach deflating device for animals; said device having a flexible bi-tubular element; one of said tubes being larger in diameter than the other; inflatable float means; said inflatable float means being attached to one end of the bi-tubular element and being connected with the smaller of the said tubes for inflation and deflation purposes to raise and lower the adjacent end of the larger of said tubes above the liquid level in an animal's stomach; and pump means on the other end of the smaller of said tubes for inflating and deflating the said inflatable and deflatable float means; valve means on the larger of said tubes and adjacent the said float means; said valve means being operable to open and close the larger of said tubes by the movement of said float device upon the inflation and deflation thereof.

2,981,255
METHOD AND APPARATUS FOR FACILITATING THE PROCESSES OF PARTURITION
Ockert S. Heyns, Medical School, Hospital St., Johannesburg, Transvaal, Union of South Africa
Filed Jan. 9, 1957, Ser. No. 633,335
Claims priority, application Union of South Africa Jan. 14, 1956
2 Claims. (Cl. 128—361)



1. Apparatus to facilitate and quicken the second and third stages of labour in childbirth, consisting in a bed having its head and foot zones hinged to its medial zone, means adjustably to raise the head zone to form a back rest, means to lower the foot end, a hole in the medial zone, a decompression chamber detachably secured to the bed and with a port registering with the hole, means to seal the chamber with the body of a patient on the bed around the pelvic outlet, a vacuum pump connected to the chamber through a valve, a window in the chamber, and a shutter to occlude the hole in the medial zone of the bed.

2,981,256
PROTECTIVE AND REFLECTIVE DEVICE
Gerald A. Besnah, 3633 N. 23rd St., Milwaukee, Wis.
Filed June 8, 1956, Ser. No. 590,255
7 Claims. (Cl. 128—372)

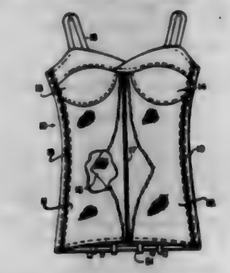


1. A protective and reflective device constructed for placement on the ground comprising a plane surface reflective front wall having a predetermined length, a pair of side walls, each of said side walls being connected to hinged corner portions connecting said side walls and said front wall, said side walls extending outwardly from said front wall along the ground, said corner portions located at the intersection of said walls and having hinge connections, each of said portions having slots formed therein, and means mounted on said walls for selective engagement with said slots for determining the pitch of said walls relative to the ground, said walls being hinged in sections and arranged to collapse upon themselves to form a compact portable unit.

2,981,257
FOUNDATION GARMENT
Herman Kress, 139 E. 33rd St., New York, N.Y.
Filed Aug. 11, 1959, Ser. No. 833,058
2 Claims. (Cl. 128—432)

1. A foundation garment of two way stretch elastic fabric, comprising a front section composed of a plurality

of panels and a rear section composed of a plurality of panels, the panels of said front and rear sections extending vertically the length of the garment, the outer longitudinal edges of said front panels at the upper portion thereof having a concave arc, said edges continuing downwardly and forming a convex arc, the inner longitudinal edges of said front panels generally assuming a concave arc, the outer and inner longitudinal edges of said rear



panels being convex in the lower portion thereof, said longitudinal inner edges of said front panels being joined to form a contoured seam at the front of the garment, said longitudinal inner edges of said rear panels being joined to form a contoured seam at the rear of the garment, said longitudinal outer edges of said front and rear panels being joined to form a contoured seam at the side of said garment whereby a form-fitting body encircling garment is formed.

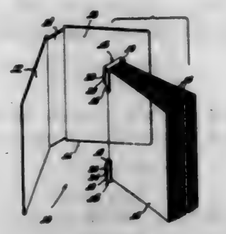
2,981,258
MATERNITY GIRDLE
Ria Moellendorf, North Hollywood, Calif., assignor to Nu-Lift Co., Inc., Hollywood, Calif., a corporation of California
Filed Apr. 30, 1957, Ser. No. 656,089
2 Claims. (Cl. 128—527)



1. A girdle comprising an elastic, tubular sleeve, an elastic belt member attached to the rear of said sleeve, an elastic tape attached to said sleeve in front adjacent to and above the crotch of the wearer, a non-elastic tape attached to said sleeve and to the lower edge of said elastic tape, and adjustable connecting means secured at each end of said elastic tape and adapted to connect said elastic tape and said elastic belt.

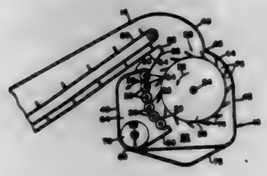
2,981,259
BINDER
Thomas R. Smith, 16 Elm St., Dighton, Mass., and William Jamieson, 320 Ryegate Terrace, Stratford, Conn.
Filed July 18, 1958, Ser. No. 749,410
4 Claims. (Cl. 129—40)

1. A binder for magazines, brochures or the like folded elements comprising a pair of binder members and means for supporting said members in spaced relation relative one another; said members each including a supporting block, a plurality of engaging prongs formed integral with said block for removable insertion in the folds of adjacent elements to retain the same in position with respect to said block, an arm connected parallel with said block and forming therebetween a channel for removably



receiving a portion of said supporting means and protrusions extending into said channel for frictionally engaging said supporting means so that said member is removably connected thereto.

2,981,260
CORN HUSKER
Howard C. Hadley, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Sept. 5, 1958, Ser. No. 759,291
9 Claims. (Cl. 130—5)

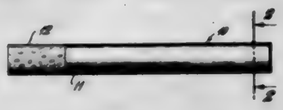


1. A corn husker, comprising: a support means including a pair of upright fore-and-aft laterally spaced apart side members; a husking drum of relatively large diameter journaled between the side members on a transverse axis; a plurality of pairs of parallel transverse husking rolls of relatively small diameter journaled by the members directly ahead of the drum and arranged on an arc concentric with the drum and confined to an angular area on the order of approximately 50° to 120° as measured about the drum axis; means for rotating the drum so that its periphery travels downwardly past the rolls; means for rotating the rolls in pairs so that the rolls of each pair turn forwardly toward each other to present an inlet bite facing the drum and to discharge husks forwardly; and corn ear inlet means at the top of said structure and so constructed as to feed corn ears directly downwardly to the top of the drum to be carried forwardly to and downwardly over the rolls, whereby the husked ears are discharged downwardly past the lowermost of the rolls and the husks are discharged forwardly of the rolls.

2,981,261
CIGARETTE
John Peter Rupert, Toronto, Ontario, Canada (Thibault St., Mostertsdrif, Stellenbosch, Cape Province, Union of South Africa)
Filed Feb. 9, 1959, Ser. No. 791,854
Claims priority, application Canada Oct. 23, 1958
5 Claims. (Cl. 131—9)

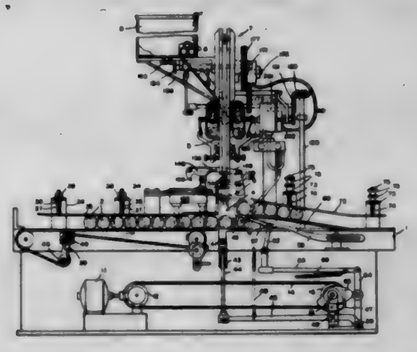
1. A cigarette including a fibrous wrapper enclosing a quantity of tobacco, said wrapper having a plurality of closely spaced studs projecting outwardly from the surface of the wrapper, said studs being distributed over substantially the entire area of said wrapper, first portions of said wrapper being of higher resistance to air flow and

being formed as a part of said studs, and second portions of said wrapper of lower resistance to air flow separating



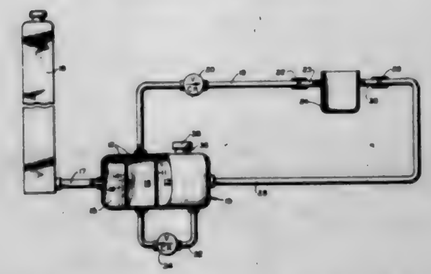
and intermediate said first portions, said wrapper thereby having increased porosity without puncturing the wrapper.

2,981,262
CIGAR TIPPING MACHINES
Francis Farkas, 95 Sheppard Ave. W., Willowdale, Ontario, Canada
Filed Feb. 26, 1958, Ser. No. 717,735
38 Claims. (Cl. 131—88)



2. A machine for applying tips or the like to cigars comprising cigar feeding means to periodically deliver a cigar to a tipping station, a stationary cigar tip magazine having a terminal point located to be in alignment with a cigar at said tipping station, rotary means for delivering tips to said magazine, means for feeding tips in said magazine to said terminal point, and means for periodically advancing a cigar tip from said terminal point onto the end of a cigar at said tipping station while imparting rotational movement to the tip.

2,981,263
EXTINGUISHERS
Arthur C. Elswood, 5221 Hemlock St., Sacramento 21, Calif.
Filed Apr. 13, 1959, Ser. No. 805,920
5 Claims. (Cl. 131—256)



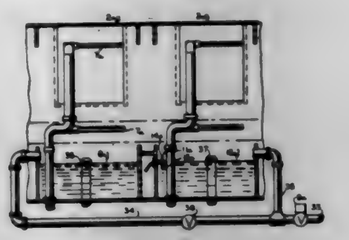
5. A liquid-filled extinguishing system for an automobile having a water-filled radiator, the system comprising a reservoir adapted to hold a liquid, a liquid-impermeable baffle disposed in the reservoir to divide it into first and second chambers, a liquid-impermeable and flexible diaphragm disposed in the first chamber to divide it into first and second compartments, a fluid line connected to the first compartment and the automobile radiator, a supply line connected to the second compartment and to the container, an overflow line connected to the container and the second chamber, a return line connected to the second compartment and second chamber, a first check valve in the supply line for permitting flow through the line only in the direction from the second compartment to the container, and a second check valve in the return line to permit liquid flow through the line only in the direction from the second chamber to the second compartment.

2,981,264
DENTAL CLEANER MASSAGER
Aurelius F. De Felice, 126 Melrose Ave., San Francisco 17, Calif.
Filed June 22, 1959, Ser. No. 822,036
2 Claims. (Cl. 132—91)



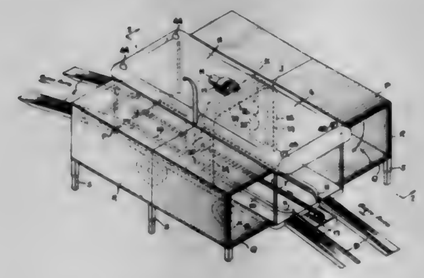
1. An oral hygiene device comprising a flexible elongated multi-fiber floss adapted to be easily slipped into the space between two teeth, and at least one pair of resilient massager means coaxially secured upon said floss for simultaneously cleaning and massaging the gingival area surrounding the space between said teeth as said elongated floss is longitudinally reciprocated, said massager means comprising resilient elastomeric cones, which cones are spaced apart in mirror relationship on said floss, the apex ends of said cones terminating in cross sectional dimensions which are substantially the same as the dimensions of said floss.

2,981,265
MULTIPLE COMPARTMENT DISHWASHER HAVING A LIQUID LEVEL CONTROL
Frederick W. Robson and Thomas R. Seaman, Rochester, N.Y., assignors to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Aug. 5, 1958, Ser. No. 753,362
3 Claims. (Cl. 134—57)



1. A dishwasher comprising, in combination, a plurality of compartments, conveying means for carrying articles to be cleaned through the compartments, tanks located one within each of the compartments for the purpose of maintaining a supply of liquid, means communicating with the tanks for recirculating liquid from the tanks and for spraying the articles in the compartments with such liquid, a main water inlet pipe communicating with a first one of the tanks, the main inlet pipe being connected to a source of fresh water, a branch water inlet pipe communicating with a second one of the tanks and being connected to the main inlet pipe, overflow means within the second tank, an electromagnetically operated valve in the main inlet pipe located in the system between the source of fresh water and the connection of the branch inlet pipe with the main inlet pipe, and an electrode type level control within the first tank that operates the electromagnetically operated valve according to the level of the liquid in the first tank, whereby the level of the liquid in the first tank is confined between predetermined limits and fresh water is supplied to the second tank through the branch inlet pipe whenever fresh water is supplied to the first tank, said overflow means within the second tank functioning to control the level of liquid in the second tank should such level rise above a predetermined limit.

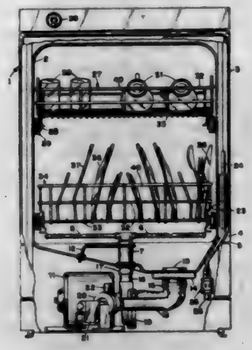
2,981,266
MOBILE CAR WASHING SYSTEM
Michael Tamburri, 451 S. 17th St., Newark, N.J.
Filed May 15, 1958, Ser. No. 735,412
2 Claims. (Cl. 134—72)



1. A mobile car washer unit for location at a place where there are substantial requirements for car washing facilities and for movement from place to place without permanent installation comprising a transportable bed, a roof supported above said bed, water wash and drying units on said bed, side walls movable into open and closed positions and means to move said car through said unit and over said bed, said last mentioned means consisting of a continuous chain having sprockets at each end of the bed and wheels along said bed to enable said bed to be moved from place to place, said washing and drying units consisting of inverted U-shaped conduits extending the full height and width of the mobile unit and in close juxtaposition to one another and remote from the ends of said bed.

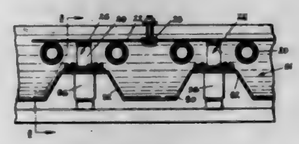
2,981,267
APPARATUS AND METHOD FOR SANITIZING TABLEWARE
Edgar S. Stoddard, Oak Park, Ill., assignor to General Electric Company, a corporation of New York
Filed Oct. 25, 1957, Ser. No. 692,441
10 Claims. (Cl. 134—95)

1. In a tableware washing machine of the type having a cabinet with an access opening, a control system for actuating tableware washing and drying operations, a tub within said cabinet, means to introduce and distribute washing liquids within said tub, and means to remove said liquids and soil from said machine, the improvement comprising; a tableware rack having a multiplicity of beta ray emitting structural members for supporting said tableware during said operations within said machine, said rack disposing said beta ray emitting members in positions whereby substantially all surfaces of said tableware from which foods are eaten or drunk are within the transmission range of said beta rays and, therefore, are exposed



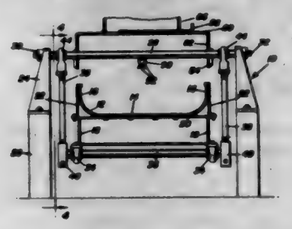
to direct contact by said beta rays, thereby rendering harmless organisms on the surfaces of said tableware.

2,981,268
VIBRATORY TREATING APPARATUS
James W. McAuley and William E. McCown, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed May 17, 1957, Ser. No. 659,934
9 Claims. (Cl. 134—122)



1. Apparatus for cleaning the underside of substantially horizontally disposed sheet glass, comprising a tank having a bottom wall and side walls and adapted to contain a supply of a liquid vibratory energy transmitting medium, said bottom wall having raised portions spaced from one another, a conveyor for carrying the sheet glass along a definite path with at least the underside of said sheet glass being in contact with said liquid medium, and vibration generating means located in the raised portions of said bottom wall and including vibrating faces disposed within said liquid medium and positioned to direct vibratory energy onto the underside of said sheet glass as it moves along said path.

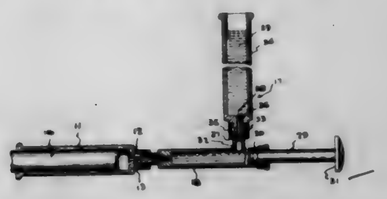
2,981,269
MATERIAL HANDLING AND COOLING CONVEYOR
Leroy C. Trumbo, 1106 Kansas Ave., Memphis, Tenn.
Filed Dec. 22, 1958, Ser. No. 782,246
5 Claims. (Cl. 134—153)



1. A material handling cooling conveyor comprising an elongated bed for supporting and transporting material

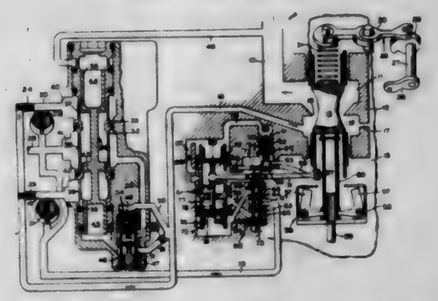
longitudinally thereof, means supporting said bed for swinging movement in a longitudinal direction about horizontal axes disposed transversely of said bed, actuating means connected to said bed for imparting oscillatory movement to said bed about said axes, said supporting means including axles mounted above and extending transversely of said bed, a hood disposed above said bed and in closely spaced relation to the sides thereof for collecting fumes rising from the material being transported by the conveyor, said hood comprising an inverted U-shaped housing, including a pair of side walls, notches defined in the lower edges of said side walls removably receiving and resting upon said axles.

2,981,270
SYRINGE RELEASING DEVICE
Samuel L. Chapman, Sr., Columbus, Ohio (3228 Little St., Port Huron, Mich.)
Filed Aug. 7, 1959, Ser. No. 832,369
3 Claims. (Cl. 134—169)



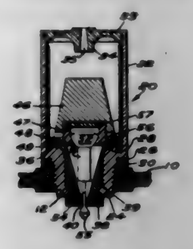
1. A syringe releasing device of the character described comprising an elongated tubular chamber, means embodying locking lugs on the forward end of said chamber lockingly engageable with the end of a syringe in place of the syringe needle, a water reservoir communicatively connected to the intermediate portion of said chamber, a piston slidably and sealingly engaged in the chamber, and a piston rod connected to said piston and slidably and sealingly extending through the rear end of said chamber.

2,981,271
GAS TURBINE ISOCHRONOUS GOVERNOR
Warren H. Cowles, Detroit, James D. Pembleton, Oak Park, and John O'Shaughnessey, Detroit, Mich., assignors to Holley Carburetor Company, Detroit, Mich., a corporation of Michigan
Filed June 1, 1954, Ser. No. 433,676
5 Claims. (Cl. 137—26)



1. A fuel control system for a fuel burning engine comprising a spring loaded governor valve, speed responsive means connected to said valve so as to apply a valve closing force thereto dependent on engine speed, resilient biasing means connected to said valve, servo means directly operated by movement of said valve to apply force to operate said biasing means in a sense which assists said valve movement, and means continually dissipating the force applying effect of said servo means so that the biasing effect is a function of the rate of change of engine speed.

2,981,272
BATTERY NON-SPILL VENT PLUG
Nicholas J. Jammal, Ashtabula, Ohio, assignor to Gould National Batteries, Inc., St. Paul, Minn.
Filed Apr. 2, 1959, Ser. No. 803,765
5 Claims. (Cl. 137—43)

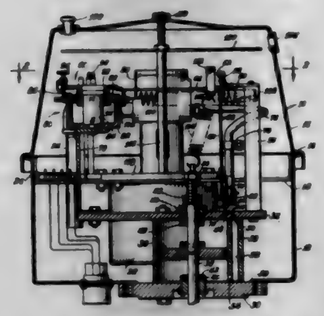


1. A non-spill battery cell vent plug for a cell having a cover and holding electrolyte which evolves gas under cell operating conditions, said plug comprising a rigid tubular housing having a shouldered internal bore open at the inner end of the housing, a soft resilient lining within said housing shaped to complement and cover the internal shoulder thereof and extending through the opening at the inner end of said housing and beyond and being formed at its extreme inner end portion with a reduced size bore terminating in a valve seat, a topple member disposed within the housing and normally resting on the lining portion covering said housing shoulder and adapted to tilt within the housing toward the side wall thereof when the housing is inclined beyond a certain angle from the vertical; and a valve stem having a lost motion connection with the topple member and extending through the valve seat and having at its bottom end a valve head facing the valve seat, whereby tilting of the housing beyond said certain angle causes the topple member to pull upon said stem to move the valve head into vent closing position against said valve seat, and whereby return of the housing toward vertical position causes the topple member to move again to first release said stem and them to knock against the stem to break the seal between the valve head and the valve seat and to move said valve head to vent open position.

2,981,273
ELECTRO-HYDRAULIC CONTROL DEVICE
Bernard L. Callender, Harvey, Thomas F. Graffy, Chicago, and Werner G. Holzbock and Kenneth O. Rockey, Evanston, Ill., assignors to Gpe Controls, Inc., a corporation of Illinois
Filed June 24, 1958, Ser. No. 744,255
5 Claims. (Cl. 137—83)

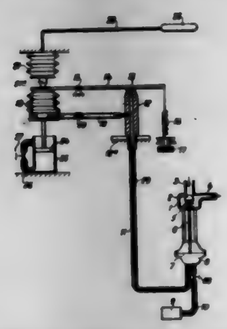
1. A control device having elements including a cylinder and a piston slidably mounted in the cylinder, a jet pipe having a discharge orifice and movable in a predefined path, conduit means for delivering fluid under pressure to said jet pipe for discharge through said orifice, distributor means provided with a pair of receiver ports in the path of movement of said jet pipe orifice, one of said ports being connected via passageway means to one end of said cylinder the other of said ports being connected via passageway means to the other end of said cylinder, electromotive means to cause movement of said jet pipe in response to an electrical signal transmitted from outside the control device, resilient means to urge said jet pipe orifice to neutral position between the receiver ports when the forces on the piston are balanced,

a housing for enclosing said elements, and a baffle plate arranged in the housing to dampen movement of liquid



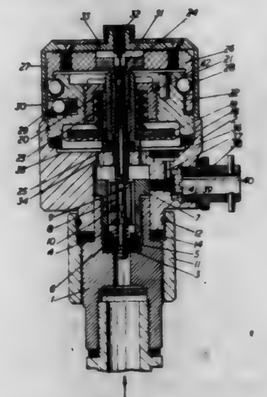
contained within the housing, said jet pipe being flexible and being formed of a corrugated metal tube.

2,981,274
APPARATUS FOR CONTROLLING A VARIABLE QUANTITY SUCH AS TEMPERATURE OR PRESSURE
Fritz Johan Wennerberg, Lund, and Knut Bonde Hansen, Malmo, Sweden, assignors to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden
Filed Nov. 20, 1957, Ser. No. 697,579
Claims priority, application Sweden Nov. 22, 1956
9 Claims. (Cl. 137—85)



1. In apparatus for controlling a variable quantity and having a control element movable to vary said quantity, a pneumatic system connected to said element for moving the same to vary said quantity with variations of the pressure in said system, and a first actuator responsive to variations in said quantity, the combination of an oscillatory valve member operatively connected to the pneumatic system for varying the pressure therein, the valve member being movable in one direction to increase said quantity through movement of the control element by variation of said pressure and being movable in the opposite direction to decrease said quantity, means connected to the pneumatic system and operable by said pressure to oscillate the valve member periodically, the oscillating means including a nozzle connected to the pneumatic system and positioned to exert on the oscillatory valve member a sucking action which increases as the distance between said member and the nozzle orifice decreases, said means also including a pneumatic actuator connected to said system and operable in response to variation of said pressure in one direction to move the valve member to vary said pressure in the opposite direction, said valve member, nozzle and pneumatic actuator forming a self-oscillating means, and an operating connection between said oscillating means and the first actuator and through which the first actuator urges the valve member in the direction to decrease said quantity in response to an increase in said quantity.

2,981,275
VALVES FOR REDUCING GASEOUS PRESSURE
David Herbert Young, Eastcote, and Laurence Arthur Clay-Smith, Northolt, England, assignors to The Walter Kidde Company Limited, Greenford, England, a British company
Filed Jan. 18, 1957, Ser. No. 633,419
Claims priority, application Great Britain Jan. 12, 1956
12 Claims. (Cl. 137—116.5)

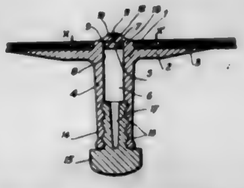


1. A reducing valve structure comprising a body having a chamber defined therein, a flexible diaphragm extending across said chamber, said chamber having gas inlet and outlet passages communicating therewith on one side of the diaphragm, an internally threaded member carried by said diaphragm, an abutment in said body on the opposite side of the diaphragm from the gas inlet and outlet passages, a coil spring arranged between said diaphragm and said abutment, a valve control member extending through said internally threaded member and in threaded engagement therewith, a valve member and a valve seat therefor located in the gas inlet passage and coaxial with said valve control member, spring means weaker than said coil spring and biasing said valve member towards a closed position and said valve control member being adapted to hold said valve member away from the closed position, a manually operable rotatable member which is substantially immovable in the axial direction thereof, said manually operable rotatable member being mounted on said body and positioned over the outer end of the valve control member, a sliding coupling means connecting the cover and the valve control member for conjoint rotation to enable the longitudinal position of the valve control member relative to said diaphragm to be adjusted during operation, and means limiting the movement of said manually operable member to less than one complete turn.

2,981,276
VALVE FOR CHAMBERS UNDER PRESSURE AND ESPECIALLY FOR PNEUMATIC TIRES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France, a French Government works
Filed June 18, 1957, Ser. No. 666,301
Claims priority, application France June 28, 1956
3 Claims. (Cl. 137—223)

3. A pneumatic valve for an inflatable member comprising, a valve body having a longitudinally extending

portion defining a hollow valve stem portion and a flange extending radially outwardly of the valve stem for mounting said valve, an annular, inner flange cooperating with said valve stem to seat thereon and extending in a direction radially inwardly of the valve stem and disposed in a direction corresponding to a downstream direction of the valve stem, the inner flange having a portion defining a normally closed air channel, the inner flange having



arcuate seat surfaces defining concentric recesses on at least one side of said seat surfaces, and the inner flange having an annular recess in an annular zone adjacent the inner wall of the valve stem portion defining an annular surface seatable on the valve stem portion when the valve is closed and subject to pneumatic pressure thereby to maintain the valve closed in the absence of a downstream pressure exceeding the pressure acting in an upstream direction.

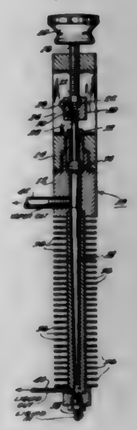
2,981,277
SET PRESSURE HOLDING DEVICE
Roger Gilmont, Douglaston, and Isadore Gepner, Elmont, N.Y., assignors to Manostat Corporation, New York, N.Y., a corporation of New York
Filed July 25, 1957, Ser. No. 674,173
5 Claims. (Cl. 137—270)



1. In a device whereby a selected level of absolute pressure is maintained in an operating system by the rise or fall of a gas bell float responsive respectively to a decrease or increase in pressure on its top and with its lower end submerged in a liquid mercury seal and its top serving as a closure cooperable with an orifice above it communicating with a vacuum or pressure source depending respectively on whether the operating system is under vacuum or pressure, the improvement which comprises means for eliminating friction from retarding the ready rise and fall of the float, which means includes a float guide depending vertically from the top of the float and longitudinally axially movable within linear ball-bearing bushings spaced about said float guide.

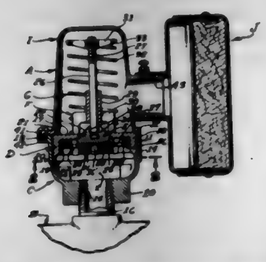
4. In a device whereby a selected level of absolute pressure is maintained in an operating system by the rise or fall of a gas bell float responsive respectively to a decrease or increase in pressure on its top and with its lower end submerged in a liquid mercury seal and its top serving as a closure cooperable with an orifice in a conduit rising above it and communicating with a vacuum or pressure source depending respectively on whether the operating system is under vacuum or pressure, the improvement which comprises a division of said conduit at said orifice end thereof into two branches and providing in each such branch an orifice so positioned as to the other that both orifices are co-axially vertically spaced apart from one another, and a spindle extending upwardly from the float and carrying co-axially vertically spaced apart from one another orifice-seals to close off simultaneously the branched orifices, under the influence of changes in the difference in pressure above and below the float; and means for equalizing the pressure in the zone above the float with that of the gas trapped under the float by the mercury seal, which means comprises a housing enclosing said float and at least part of said conduit, a second conduit which is enclosed within said housing and interconnects both sides of said bell float, and means whereby communication through said second conduit with both sides of the float can be cut off.

2,981,278
VAPORIZING VALVE
Gustav Bergson, Jenkintown, Pa. (York Road and Sunset Lane, Hatboro, Pa.)
Filed May 2, 1958, Ser. No. 732,583
5 Claims. (Cl. 137—340)



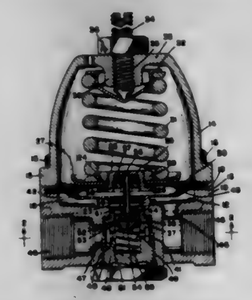
5. A vaporizing valve system adapted to vaporize liquids which vaporize at temperatures higher than room temperature comprising a vaporizing valve including a bonnet having a stem threadedly received therein and extending along the axis of said bonnet, a handwheel secured to one end of said stem and an elongated tapered valve seating member extending axially out of said bonnet secured to the other end of said stem, a main valve body portion affixed to said bonnet and having a tapered bore for receiving said valve seating member, said valve seating member and said bore providing an adjustable orifice near an end of said main valve body portion remote from said bonnet, the adjustment of said orifice being effected by rotation of said handwheel to move said stem and said seating member axially with respect to said bonnet and said main valve body portion, means providing liquid inlet and outlet ports in said main valve body portion near said end thereof, a vapor outlet port communicating with said bore through one side of said main body portion near the end thereof affixed to said bonnet, heating means associated with said main body portion, and an inlet conduit for liquids to be vaporized connected with said inlet port and in intimate thermal contact with said heating means.

2,981,279
VACUUM RELEASE VALVE
Rudolph C. Beck, Arcadia, Calif. (Die Cast Products, Inc., 621 W. Rosecrans Ave., Gardena, Calif.)
Filed Sept. 20, 1957, Ser. No. 685,143
9 Claims. (Cl. 137—480)



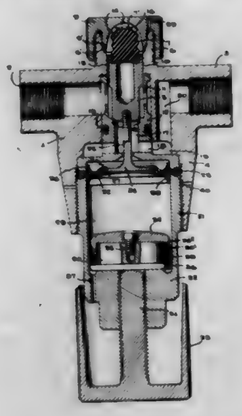
1. A vacuum release valve of the character referred to including, an elongate, vertically disposed upwardly opening cup-shaped base having an outlet opening in its bottom, a valve seat in the base in spaced relationship from the bottom thereof and having a downwardly opening bore and a central vertical inlet opening of reduced diameter, a vertically shiftable valve member having a primary portion engageable in the inlet opening of the valve seat and a secondary portion with flow control ports therein engageable in the bore, a closure shiftably carried by the valve member and having ports to be shifted into and out of register with the ports in the valve member to vary the effective area of the valve member, and spring means normally yieldingly urging the valve member upwardly with the primary portion thereof in seated engagement in the inlet opening.

2,981,280
PRESSURE REGULATING VALVES
Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 3, 1958, Ser. No. 712,895
2 Claims. (Cl. 137—505.26)



1. In a valve mechanism comprising a valve body, a diaphragm of flexible material carried thereby, a mounting carried by said diaphragm, a spring acting between said valve body and mounting and urging said mounting for movement in one direction, means forming in said body a pressure chamber adjacent said diaphragm and a valve chamber, means forming a passageway in said body communicating with said pressure chamber and said valve chamber, a valve seat in said valve chamber encircling said passageway and spaced from said mounting, an inlet and an outlet in said body, one communicating with said pressure chamber and the other with said valve chamber, a valve head in said valve chamber adapted to seat against said valve seat, a valve stem acting between said mounting and valve head and serving to unseat said valve head upon movement of said diaphragm in the direction urged by said spring, the combination of an attaching member of resilient material secured to said mounting and engaging said valve stem at one end, a centering guide of resilient material encircling said valve stem at a locality removed from said attaching member and closely engaging said valve stem and guiding said valve stem for sliding longitudinal movement, means for supporting said guide in fixed relation relative to said body, said guide normally holding said valve stem in centric position and being yieldable radially to accommodate swinging movement of said valve stem about a center substantially at its locality of issuance from said mounting, said stem extending through said passageway and fitting loosely therein.

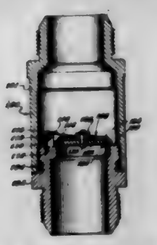
2,981,281
PRESSURE-REDUCERS
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Aug. 4, 1958, Ser. No. 752,913
Claims priority, application France Aug. 19, 1957
1 Claim. (Cl. 137—505.37)



In a fluid flow control device, a body having opposing inlet and outlet passages, said body having a bore perpendicularly formed between the passages, said bore having inner and outer ends, a member disposed in the inner end of the bore and defining a valve seat, a movable valve member cooperating with the seat and interposed between the passages, a cap member closing off the outer end of the bore, a deformable elastic biasing member interposed between the valve and the cap member to urge the valve member into engagement with the valve seat, said valve member being exteriorly formed with a passage communicating the inlet passage with a space between the check member and the cap member whereby the pressure of the fluid of the inlet passage will act on the check member to assist in seating the valve, passage means communicating the valve seat behind the valve member with the outlet passage, a cylinder having opposing inner and outer ends and secured at its inner end to the body and disposed in axial alignment with the valve member, a deformable elastic diaphragm, means sealingly securing the diaphragm between the valve seat forming member and the inner end of the cylinder with the diaphragm defining an inner transverse end wall for cylinder, a rigid stem member axially extending between and connecting the diaphragm and the valve member, a piston workably disposed in the cylinder, packing means interposed between the piston and the wall of the cylinder,

said packing means being formed to provide a uni-directional fluid tightness at the cylinder end opposite to the inner end of the cylinder provided with the diaphragm, air passage means through the outer end of the cylinder in communication with the atmosphere, a control handle carried by the outer end of the cylinder and having an operating portion disposed through the outer end and in engagement with the piston for moving the piston toward the diaphragm, said piston and the diaphragm defining an air chamber in the cylinder, said packing having peripheral notches formed therein for allowing atmospheric air to enter said air chamber through the passage in the end wall of the cylinder whereby said chamber encloses an air cushion and the piston when moved toward the diaphragm gradually increases the pressure of the air cushion to unseat the valve.

2,981,282
VALVE DEVICE
James F. Mack, Santa Barbara, Calif., assignor to Mack Company, Goleta, Calif., a copartnership
Filed Sept. 12, 1958, Ser. No. 760,637
18 Claims. (Cl. 137—516.29)



1. In a valve for closing action in response to a light operating force, the combination of: a first valve means forming an annular valve seat of hard unyielding material; a second valve means providing an annular valve element of resilient plastic material yieldingly deformable to conform to minor irregularities in the surface of the valve seat, said valve element having a leading edge formed by two surfaces converging at an acute angle, said edge being substantially sharper than an edge having a radius of 5000 microinches said two valve means being movable towards each other in a given direction for closing action, the surface of said valve seat being perpendicular to a line substantially within said acute angle and said given direction also being substantially within said acute angle whereby said valve element closes edgewise against said valve seat with substantially edgewise compression of the valve element.

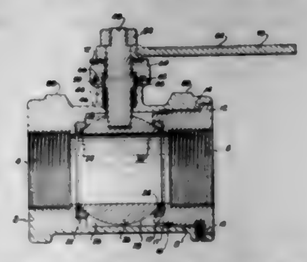
2,981,283
AUTOMATIC DUMP DRAIN VALVE
Elwood H. Willetts, 320 Kenmore Road, Douglaston, N.Y., and Carl B. Ingram, El Monte, and Luke E. Watson, San Gabriel, Calif.; said Ingram and said Watson assignors to said Willetts
Original application Nov. 2, 1954, Ser. No. 466,412, now Patent No. 2,889,993, dated June 9, 1959. Divided and this application Apr. 8, 1957, Ser. No. 652,079
1 Claim. (Cl. 137—517)

In combination, a cylindrical shaped pipe having a bottom drain hole intermediate its length and an outer semi-cylindrical surface surrounding the drain hole, a valve body having a top cylinder surface corresponding to the cylindrical surface of the pipe to receive the pipe surface, said valve body having a central opening lying beneath the pipe drain hole with a top conical surface extending thereabout, said valve body further having drain openings extending radially from the central opening and beneath the conical surface, a flexible returnable rubber element having a central opening of less diameter than the bottom drain hole of the cylindrical pipe and concentrically underlying the bottom drain hole while overlying the conical surface of the valve body, means securing the valve body and the rubber valve element to the pipe in tight flush sealing engagement with the outer semi-cylindrical surface of the pipe and about the drain hole, said flexible returnable rubber valve element having a central sleeve portion depending through the central opening



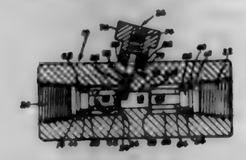
of the valve body to close the radially-extending drain opening of the valve body when depressed, said valve body having a centrally located seat surface against which the lower end of the depending sleeve portion engages upon the valve element being deflexed under the pressure of liquid within the pipe, said valve body having a groove immediately surrounding the outer periphery of the conical surface and said rubber valve element having a depending bead fitted in the groove of the valve body whereby the rubber valve element will be held against radially inward collapse.

2,981,284
BALL VALVE
Joseph L. Putnam, Houlton, Maine, assignor to The J. L. Putnam Company, Inc., Houlton, Maine, a corporation of Maine
Filed July 24, 1959, Ser. No. 829,441
10 Claims. (Cl. 137—556.3)



1. A ball valve comprising a valve body having a cylindrical passage extending longitudinally through the body, an enlarged recess in said body midway of said passage, circular seal seats formed on opposite sides of said recess coaxial with said passage, resilient seals in said seats, a spherical ball in said recess engaging said resilient seals and having an opening therethrough of the same diameter as said passage, an opening in said body concentric with said ball, a circular bonnet surrounding and of greater diameter than said opening and integral with said body, a valve stem in said bonnet and projecting through said opening into engagement with said ball, a flange shoulder on said stem within said bonnet, inner and outer box ring bearings on said stem on opposite sides of said shoulder, at least three O-ring stem seals spaced by flat circular separators surrounding said stem and filling the space between said body and the inner box ring bearing, a bonnet cap secured to said bonnet and pressing upon said outer box ring bearing, and a nut on said stem and applying pressure against said bonnet cap for exerting an outward pressure on said stem seals.

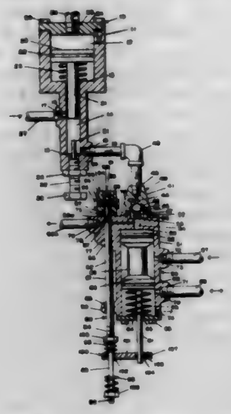
2,981,285
FLUID VALVE WITH INLET AND OUTLET VALVE CAGES
Dominick J. Nilo, Somerville, Mass. (79 Bow St., Everett, Mass.), assignor of one-half to Sebastian C. Gaeta, Medford, Mass.
Filed May 25, 1959, Ser. No. 815,497
2 Claims. (Cl. 137—614.21)



1. A valve device comprising a body embodying a restricted, intermediate portion, said body having an inlet passage and an outlet passage and said restricted portion having a passage between and in communication with said inlet and outlet passages and having a seat at each end thereof, a cage extending into said inlet passage and another cage extending into said outlet passage, each said cage having a passage therethrough embodying a solid, peripheral outer end, a plurality of wall portions extending therefrom towards said restricted portion and spaced laterally apart, two ball valves one each movably extending into each said cage and adapted to seat on said restricted portion seats when in closed position, said cage wall portions having a seat spaced from said solid outer end, said ball valves adapted to seat on said latter seats and thereby permit fluid to flow over said ball valves and into said spaces between said walls and beyond said cage, said restricted portion having two screw-threaded openings extending from the exterior thereof and communicating with said restricted portion passage, and two control screws one each of which extends into and screw-threadedly connects with a said restricted portion opening and adapted, upon being moved to closed position, to enter said restricted portion passage and contact a said ball valve and move it away from a said restricted portion seat, one said control screw extending diagonally inward towards said inlet passage and the other control screw extending diagonally inward towards said outlet passage.

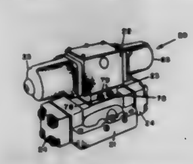
2,981,286
FLUID DEVICE
Roy B. Smith, Union Township, Fayette County, Ohio (Rte. 5, Washington Court House, Ohio), assignor to William E. Knepper, as trustee
Filed Aug. 29, 1957, Ser. No. 681,089
5 Claims. (Cl. 137—620)

1. A timing apparatus comprising a casing having a passageway; a fluid metering pump means for pumping fluid through said passageway and having an actuating cylinder, a piston reciprocable within said actuating cylinder, a pump cylinder, a plunger in driven engagement with said piston and at times reciprocable thereby within said pump cylinder; a check valve past which fluid may flow in only one direction positioned in said passageway for controlling the passage of fluid through said passageway; a three-way fluid valve means actuated by the passage of fluid through said passageway and through said check valve and having a valve cylinder of greater cross-sectional area than said pump cylinder, a piston valve reciprocable within said valve cylinder in response to relative pressures within said valve cylinder and formed with a laterally disposed concavity registrable at times with a plurality of lateral passages of said valve cylinder, and a piston rod secured to said valve piston and reciprocable therewith; toggle means actuated at times by said piston rod; and means comprising a flow control valve in communication with the passageway and the valve cylinder and actuated by said toggle means for releasing



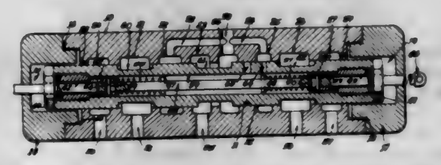
fluid from said passageway and from a portion of said valve cylinder.

2,981,287
PILOT OPERATED VALVE MECHANISM
Joseph H. Caslow, Columbus, Ohio, assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Nov. 14, 1958, Ser. No. 774,040
12 Claims. (Cl. 137—622)



1. Pilot operated valve mechanism including means forming a main valve; a pressure chamber; means in said pressure chamber operative in response to pressure therein for changing the condition of said main valve; a pilot valve for admitting pressure to said pressure chamber, said pilot valve including seal means; passageway forming means connecting said pilot valve and said pressure chamber; an exhaust conduit means, and pressure responsive valve means connecting said passageway forming means and said exhaust conduit means, said pressure responsive valve means being connected and arranged to check the flow of fluid from said pressure chamber and said exhaust conduit means to said pilot valve and the seal means thereof and from said pilot valve to said exhaust conduit means.

2,981,288
HYDRAULIC CONTROL VALVES
Don S. Strader, Mount Prospect, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois
Filed July 15, 1959, Ser. No. 827,215
4 Claims. (Cl. 137—622)

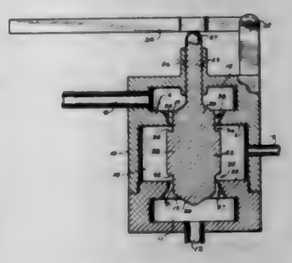


1. In a hydraulic fluid valve having a valve body, a valve bore formed in said valve body, a valve spool slid-

ably carried in said valve bore, each end of said valve bore being formed to define a chamber with the cooperating end of said valve spool, a servo valve chamber formed in said valve spool longitudinally thereof and being connected into said chambers at each end of said valve bore, a valve seat formed in said servo valve chamber at each end thereof, a control rod slidably carried in said hydraulic fluid valve and positioned to extend through said valve body, said valve bore, and said servo valve chamber of said valve spool, a pair of valve heads, each of said valve heads positioned on said control rod in said servo valve chamber and each being formed to seat on one of said valve seats to prevent any hydraulic fluid flow from said servo valve chamber to the ends of said valve bore, means operatively connecting said valve heads to said control rod so that when said control rod is moved toward one end of said servo valve chamber, the valve head at that one end remains seated while the valve head at the other end thereof is moved from the cooperating valve seat thereof and movement of said control toward the other end of said servo valve chamber will move the valve head at said one end of said servo valve chamber from the cooperating valve seat while the valve head at said other end remains seated.

2,981,289
HOIST
Henry F. Martin, Centerline, Mich., assignor to Detroit Hoist and Machine Co., Detroit, Mich., a corporation of Michigan
Filed July 22, 1959, Ser. No. 828,791
11 Claims. (Cl. 137—622)





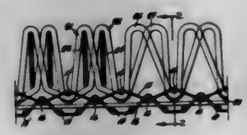
1. In a pneumatic motor control a pair of main valves connected to opposite sides of said motor, each of said valves being movable between a supply and an exhaust position, means urging each of said valves to its exhaust position, a pilot valve for each of said main valves, a manually grippable housing for said pilot valves, independently movable operating elements for each of said pilot valves accessible to the hand of an operator gripping said housing, and means responsive to variable opening of either of said pilot valves for causing its corresponding main valve to move to variable supply positions, said last-mentioned means including a restricted orifice adjacent each of said main valves, each orifice being connectable to the outlet of its corresponding pilot valve in response to movement of the main valve to a position immediately adjacent its supply position.

2,981,290
VALVE CONSTRUCTION
Adolph F. Meyer, St. Paul, Minn., assignor to Thomas B. Meyer, Minneapolis, Minn.
Filed Apr. 16, 1957, Ser. No. 653,202
1 Claim. (Cl. 137—625.5)

In a valve construction, a hollow member having a chamber to be supplied with fluid from a source under constant pressure, there being a first opening to the chamber from said source with a second opening from said chamber, opposingly situated, substantially parallel lower and upper valve seats within the chamber having interior margins thereof in bounding relationship to said first and second openings, respectively, a conduit leading from said chamber at a location between the first and second openings, a guided valve member having a central cylindrical portion, a first cylinder at the lower end of and of smaller diameter than said central cylindrical portion providing a lower cylindrical surface at all times within said first opening in spaced, concentric relationship to said interior margin of said lower valve seat, a second cylinder at the upper end of and of smaller diameter than the central cylindrical portion providing an upper cylindrical surface at all times within said second opening in spaced, concentric relationship to said interior margin of said upper valve seat, a lower annular shoulder surface in spaced relationship with and parallel to said lower valve seat extending outwardly of the upper end of said lower cylindrical surface toward the circumference of said center cylindrical portion, said lower cylindrical surface being situated at substantially right angles to said lower annular shoulder surface, an upper annular shoulder surface in facing relationship with and parallel to said upper valve seat extending outwardly of the lower end of said upper cylindrical surface toward the circumference of the center cylindrical portion, said lower cylindrical surface and the inner boundaries of said lower valve seat together defining an annular inlet opening, said lower annular shoulder surface and said lower valve seat together defining a horizontal inlet opening situated at substantially right angles to said annular inlet opening, said upper cylindrical surface and the inner boundaries of said upper valve seat together defining an annular outlet opening, said upper annular shoulder surface and said upper valve seat together defining a horizontal outlet opening situated at substantially right angles to said annular outlet opening, said annular openings having a minimum cross sectional area less than the minimum cross sectional area of their associated horizontal openings with the upper and lower annular shoulder surfaces spaced equal distances from their respective valve seats, said annular opening defining surfaces being of configuration to cause said annular openings to remain substantially constant in cross sectional area and said horizontal opening defining surfaces being of configuration to cause said horizontal openings to substantially change in cross sectional area as said guided valve member moves alternately toward and away from said upper and lower valve seats, and means for moving said guided valve member alternately toward and away from said upper and lower valve seats.

2,981,291
METHOD OF WEAVING
Raymond B. Patterson and Harry J. Smiley, Glasgow, Va., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Delaware
Filed June 22, 1960, Ser. No. 37,978
7 Claims. (Cl. 139—39)

1. The method of weaving a two shot multi-frame velvet pile fabric having pile warps, filling wefts, and chain warps which comprises the steps of maintaining a chain warp in a bottom shed position, raising one frame of pile warps to a top shed position, raising another frame of pile warps to a mid shed position, maintaining another chain warp in a mid shed position, inserting a pile wire between the pile warp frames, simultaneously inserting a filling weft between the chain warps, reversing the chain warps, inserting a second filling weft between the chain



warps and under both pile warp frames, reversing the chain warps, reversing the pile warp frames, inserting a second pile wire between the pile warp frames, simultaneously inserting a third filling weft between the chain warps, maintaining the chain warps in the last position, lowering both pile warp frames to a bottom shed position, and inserting a fourth filling weft over both pile warp frames and one chain warp.

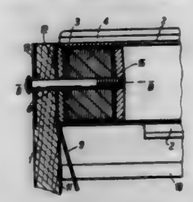
2,981,292
WEAVING WITH DOUBLE WIRE MOTION
Frank W. E. Hoeselbarth, Carlisle, Pa., assignor to C. H. Masland & Sons, Carlisle, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1958, Ser. No. 718,309
11 Claims. (Cl. 139—39)



1. The process of weaving a pile fabric, which comprises interweaving together binder warp ends, stuffer warp ends and pile warp ends with wefts at least some of which are binding wefts, inserting a wire with each binding weft and inserting a wire between binding wefts, raising one set of pile warp ends in a particular pattern area over each of the wires inserted between binding wefts and binding them beneath adjoining binding wefts on opposite sides of such wire, raising a second group of pile warp ends in the same pattern area over alternate wires inserted with binding wefts and binding them beneath alternate binding wefts on either side of such wires, and raising a third group of pile warp ends in the same pattern area over intervening alternate wires inserted with binding wefts and binding them beneath intervening alternate binding wefts on opposite sides of such wires, whereby a sequence of pile projections in staggered relation is formed consisting of a first pile projection, a second pile projection, a first pile projection and a third pile projection and then a repeat.

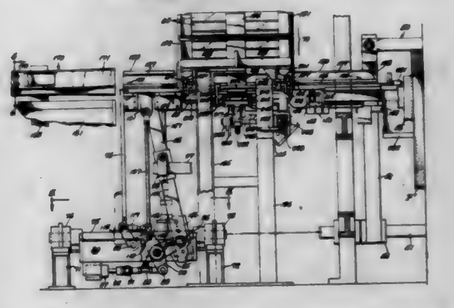
2,981,293
HARNESS FRAME
Eugen Nussbaum, Muhlehorn, Switzerland, assignor to E. Frohlich A.G., Muhlehorn, Switzerland
Filed Oct. 10, 1958, Ser. No. 766,581
11 Claims. (Cl. 139—91)

6. A harness frame having hollow carrier rods and side stays comprising corner connections for the rods and stays, clamping means for each corner connection between the carrier rods and the side stays and consisting of independent and elastically yieldable elements which are insertable in the corresponding hollow spaces of the carrier rods, straining means to press the elements against the interior wall of said hollow spaces, said straining means comprising at least one threaded bolt supported on said stays and passing through said element, and a rigid counterplate having threaded bores into which said bolt is engaged in threaded contact and tightened to upset said element and press it against the



inside wall of said rods, the counterplate being so formed that the clamping action of the clamping element mainly takes place at the outermost points of said hollow space, and the counterplate has a recess on the side adjacent the clamping element.

2,981,294
SHUTTLE CHANGER FOR FABRIC LOOM
Harry J. Smiley, Glasgow, Harry A. Batty, Lexington, and Theodore W. Jones, Buena Vista, Va., assignors to James Lees and Sons Company, Bridgeport, Pa., a corporation of Pennsylvania
Filed Dec. 10, 1959, Ser. No. 858,790
15 Claims. (Cl. 139—239)

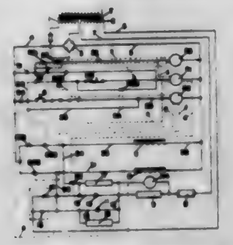


1. An automatic shuttle changer assembly for textile looms having an oscillating lay, which comprises a lateral extension for said lay, walls defining a shuttle box in said extension, a picker defining one end of the shuttle box, a picker stick operatively connected to the picker, means for lowering the picker and picker stick below the bottom plane of the shuttle box, a feed plate forming the normal bottom for the shuttle box, means for raising and lowering said feed plate, a false bottom movable transversely into said shuttle box to provide a guide for carrying an exhausted shuttle over the feed plate when it is lowered, means mounted on the loom for detecting an exhausted filling condition in a shuttle, and cyclically actuated means responsive to said detecting means for sequentially operating the picker and picker stick actuating means, the feed plate actuating means and the false bottom actuating means.

2,981,295
STOPPING MECHANISM FOR LOOM
Frederick W. Paul, Holden, and Victor F. Sepavich, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Apr. 24, 1958, Ser. No. 730,588
8 Claims. (Cl. 139—336)

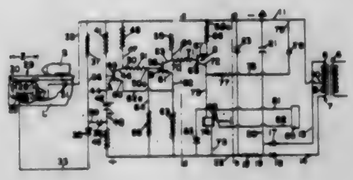
1. In a loom provided with electromagnetic driving clutch means and electromagnetic brake means, two elec-

tric switches one or the other of which must be closed for continued loom operation, electric circuit means including both switches and said clutch and brake means effective when the loom is runing to cause a low voltage direct current to flow in one direction through the clutch means and cause deenergization of the brake means but effective when both switches are open to disconnect the low voltage from the clutch means and impress thereon



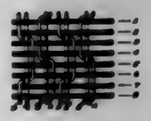
a reverse high voltage direct current to dissipate residual magnetism and also energize the brake means with high voltage direct current to stop the loom, one of said switches opening at a given time in each cycle of the loom and the other switch being normally closed, said other switch being openable by the weaver at any time in a cycle of the loom and if maintained open through said given time causing both switches to be open to effect loom stoppage.

2,981,296
ELECTRIC PROTECTION FOR LOOM
Frederick W. Paul, Holden, and David G. Willard, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Nov. 12, 1959, Ser. No. 852,490
9 Claims. (Cl. 139—341)



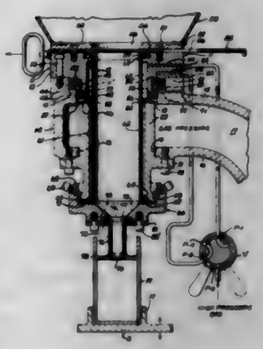
1. In protection means for a loom having a normally closed timer switch which opens at regular intervals during loom operation and having also a shuttle which when running properly generates an impulse in the coil located along the path thereof just prior to each interval, the loom having a relay which if energized during said intervals permits continued loom operation, positive and negative electric power source lines, a polarized condenser between two resistances connected in series therewith across said lines, a transistor between and connected in series with two other resistances across said lines, the base of the transistor being connected to the negative side of the condenser, a second transistor connected across said lines and in series with the aforementioned relay, the condenser normally being in a steady state of charge and maintaining the base of the first transistor sufficiently negative with respect to the emitter thereof to permit current to flow from said lines through said first transistor, the second transistor being normally nonconducting, electric connections between the coil and the condenser effective when an impulse is generated in the coil by the shuttle to alter the charge of the condenser in such manner as to change the electric potential of the base of the first transistor to prevent the latter from conducting, a diode in said electric connections preventing flow of electric current if below a given voltage and electric means connected between the transistors effective when the first transistor is prevented from conducting current to enable the second transistor to conduct current and thereby energize the relay, the condenser and the first two named resistances cooperating thereafter to restore the condenser to the normal steady state of charge thereof, thereby enabling the first transistor again to conduct, and electric means preventing conduction through the second transistor when the first transistor again conducts, the time required for the condenser to be restored to the normal steady state of charge thereof being equal at least to the duration of said interval.

2,981,297
NAPPED LENO FABRIC
John Howard Rogers, Black Mountain, N.C., assignor to Beacon Manufacturing Company, a corporation of Delaware
Filed Mar. 14, 1958, Ser. No. 721,524
2 Claims. (Cl. 139—391)



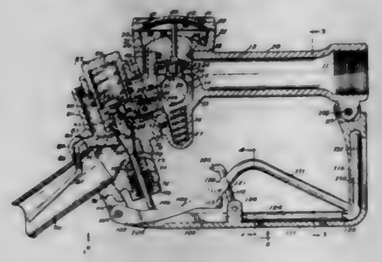
1. A napped fabric comprising a relatively coarse soft twisted filling and pairs of hard twisted warp ends substantially finer than said filling, said filling being regularly and tightly woven with said pairs of warp ends and substantially disposed at the face of the fabric, said pairs of warp ends being woven with said filling, with the warp ends alternately lenoed warpwise in a leno pattern that is staggered fillingwise, both ends of each warp pair remaining always at one face of said filling except at two successive filling picks in each repeating pattern where one warp end of said pair rises over said two successive filling picks while crossing under the other warp end of said pair therebetween.

2,981,298
METHOD AND EQUIPMENT FOR FILLING OPEN MOUTH RECEPTACLES WITH PULVERULENT MATERIAL
Clarence W. Vogt, Weston, Conn.
(P.O. Box 232, Westport, Conn.)
Filed July 21, 1958, Ser. No. 749,866
22 Claims. (Cl. 141—5)



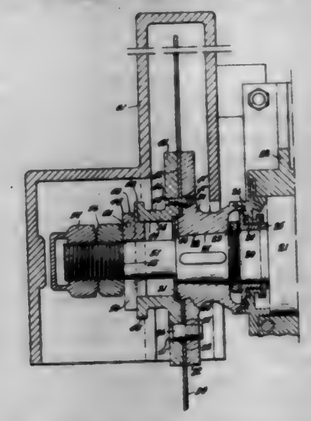
1. The method of filling pulverulent material into a receptacle which comprises positioning the receptacle with its mouth in communication with the outlet nozzle of a magazine containing such material, applying a gas under pressure greater than atmosphere against the material in the magazine which is filled sufficiently, to at least completely cover the inlet to such outlet nozzle, with a quantity of such material greater than that required to fill the receptacle, thereby to force some of the material downwardly through such outlet nozzle into the receptacle, and simultaneously venting gas from the material through the nozzle wall to the exterior of the receptacle during the course of the travel of the material through the outlet nozzle into the receptacle whereby the material charged into the receptacle will be in compacted form.

2,981,299
AUTOMATIC DISPENSING NOZZLE
Nelson B. Henry, Decatur, Ga., assignor, by mesne assignments, to Cydel Feldser, Atlanta, Ga.
Filed Mar. 15, 1957, Ser. No. 646,283
16 Claims. (Cl. 141—209)



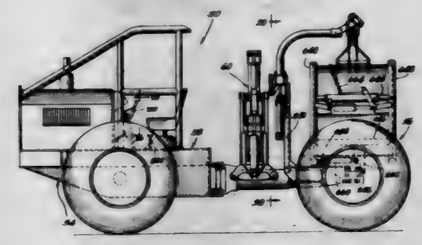
1. A liquid dispensing nozzle including a manually operable main valve closing in the direction of fluid flow, a ball movable in the path of fluid flow in advance of said valve, a flow restraining seat for said ball, means normally urging said ball against said seat and in a direction to restrain fluid flow to said valve, and means restraining said ball from movement to terminate fluid flow to said valve.

2,981,300
SAW BLADE MOUNTING
Edward C. Peterson, Douglassville, and Walter C. Updegrave, Birdsboro, Pa., assignors to Birdsboro Corporation, Birdsboro, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1960, Ser. No. 16,712
7 Claims. (Cl. 143—155)



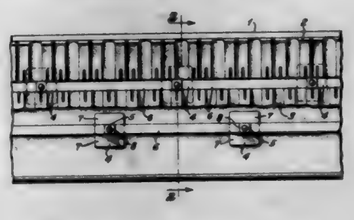
1. In a saw blade mounting, a rotatable saw arbor, an inner washer secured to and rotatable with the saw arbor and having a radial flange adapted to engge one side of the saw blade, a saw blade engaging said one side of the inner washer, an outer washer engaging the other side of the saw blade, a horseshoe retainer surrounding the arbor on the outside of the outer washer and engaging the outer end of the outer washer, and a nut threaded to the arbor and engaging the outer side of the horseshoe retainer, the inside diameter and the outer washer and the inside diameter of the saw blade being larger than the nut, and the outer washer and saw blade being removable without removing the nut.

2,981,301
METHOD AND APPARATUS FOR HARVESTING TREES
Thomas N. Busch, Daphne, Ala.; David W. Jasper, 247 E. Chestnut, Chicago, Ill.; and Benjamin E. Jasper, 9 Market Lane, Kankakee, Ill.
Filed Aug. 29, 1957, Ser. No. 681,044
36 Claims. (Cl. 144—3)



5. An apparatus for harvesting trees comprising a mobile unit, means mounted on said unit and selectively positionable for severing a standing tree and for severing sections from a fallen tree, said unit including means for receiving and retaining a plurality of tree sections, substantially horizontally reciprocable means for feeding a fallen tree to position successive sections of said fallen tree to be severed by said severing means, means mounting said feeding means on said unit, said mounting means including means for raising and lowering said feeding means to facilitate feeding of a fallen tree to the severing means, and means on said unit for loading a tree section substantially as it is severed onto said receiving and retaining means of the unit.

2,981,302
PNEUMATIC TIRE WITH SEPARATE TREAD RINGS AND INSERTABLE METALLIC ELEMENTS
Carlo Barassi, Milan, Italy, assignor to Pirelli S.p.A., Milan, Italy
Filed Oct. 19, 1959, Ser. No. 847,186
Claims priority, application Italy May 13, 1959
5 Claims. (Cl. 152—211)



1. In a pneumatic tire having a carcass and a separate tread mounted thereon, said tread being composed of a plurality of rings provided with resistance elements which render said rings substantially inextensible in the

longitudinal direction, said carcass having a plurality of longitudinal peripheral ridges, said ridges being spaced from one another in lateral direction so as to form longitudinal grooves for receiving said tread rings, the improvement comprising a plurality of metallic elements having a T-shaped section, said metallic elements being separated both from the carcass and the tread rings and being inserted in interruptions provided in said ridges of the carcass, said interruptions having a length corresponding to the length of the metallic elements, each of said metallic elements being held in place against the carcass by two adjacent rings which bear against the two arms of the T, each metallic element being provided with a point projecting outwardly beyond said tread rings.

2,981,303
TRACTION ATTACHMENT FOR AN AUTOMOBILE WHEEL
Grant Bernard Hayes, 202 W. Main St., La Crosse, Ind.
Filed Jan. 15, 1960, Ser. No. 2,771
3 Claims. (Cl. 152—228)



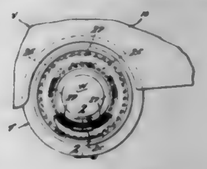
1. A traction attachment for automobile wheels comprising two elongated bar members of the same size arranged so that they criss-cross each other at the mid-portions, means embodying a pivot bolt extending through the criss-cross point connecting the bar members for movement from the criss-cross position to a position in which the bar members are in abutting position, and means embodying a thumb nut on said bolt releasably securing said bar members in the criss-cross or abutting positions, the opposed ends of each of said bar members being provided with a portion conformably shaped to extend about and embrace the tread and adjacent side portions of an automobile wheel, each of said portions having the part extending over the tread of said wheel provided with traction means.

2,981,304
PNEUMATIC TIRE
Bernard C. Barton, Clifton, and Henry E. Haxo, Jr., Bloomfield, N.J., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 31, 1955, Ser. No. 498,427
25 Claims. (Cl. 152—330)



2. A pneumatic tire capable of delivering high road mileage and characterized by exceptionally high resistance to abrasive tread wear and by freedom from tread separation, comprising a fabric carcass rubberized with a carcass stock comprising a rubber selected from the group consisting of Hevea rubber, butadiene:styrene copolymer rubber containing 20 to 40% of styrene, mixtures of Hevea rubber and said butadiene:styrene copolymer rubber, and rubbery copolymer of an isoolefin having from 4 to 7 carbon atoms with 0.5 to 10% of a multi-olefinic unsaturate having from 4 to 14 carbon atoms, and a tread comprising carbon black and a rubbery interpolymer of 15 to 30 parts of a meta-vinylpyridine and correspondingly 85 to 70 parts of butadiene, and an under-tread portion comprising a rubber selected from the group consisting of Hevea rubber, butadiene:styrene copolymer rubber, mixtures of Hevea rubber and said butadiene: styrene copolymer rubber, and rubbery copolymer of an isoolefin having from 4 to 7 carbon atoms with 0.5 to 10% of a multi-olefinic unsaturate having from 4 to 14 carbon atoms disposed between said tread and carcass and integrally united therewith, the said tread being so compounded as to have stress-strain characteristics similar to those of a butadiene:styrene copolymer rubber tread.

2,981,305
VARIABLE PRESSURE PNEUMATIC VEHICLE TIRE
Thomas S. Reed, Pontiac, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Oct. 6, 1958, Ser. No. 765,426
11 Claims. (Cl. 152—330)

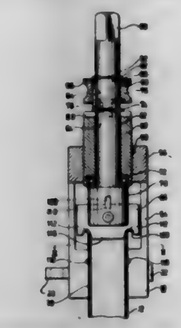


1. In combination with a pneumatic tire casing having an interior pressurized air chamber extending circumferentially thereof, a flexible diaphragm arranged radially inwardly of and extending circumferentially about said casing air chamber and adapted to be expanded radially outwardly into said casing air chamber, weight means engaged with said diaphragm and automatically actuable under the influence of centrifugal force during rotation of the casing at normal vehicle road speeds to expand said diaphragm radially outwardly into said casing air chamber to reduce the effective volume thereof, and valve means connected to the casing air chamber to provide for air supply thereto.

2,981,306
APPARATUS FOR PRODUCING TURNED OVER FLANGE ON THE END OF A PIPE
Karl Johan William Ahlberg, Alvagen 57, and Karl Einar Andersson, Alvagen 18, both of Sollentuna 3, Sweden
Filed Sept. 26, 1958, Ser. No. 763,663
6 Claims. (Cl. 153—81)

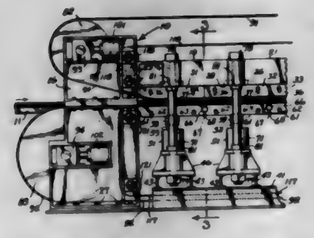
1. An apparatus for producing an outwardly-turned flange on the end of a pipe comprising, a clamp having a pair of arcuate jaws between which the pipe to be flanged is held, a spindle carrying a flanging tool, a support for the spindle and in which the spindle is rotative, the support being adjustable to and from the end of the pipe, a slidable collar mounted on the spindle forwardly of the rear end thereof so that a portion of the spindle extends rearwardly beyond the collar, the collar being non-rotative relatively to the spindle, interengaging clutch elements carried by the collar and support for coupling the spindle to the support so that rotative movement of the spindle will move the support in a direction toward

the end of the pipe, the collar being capable of movement on the spindle in a manner to permit of disengagement of the clutch elements to thereby allow rotative



movement of the spindle without axially moving the spindle or its support, and locking means carried by the collar and engaging against the spindle for holding the collar in disengaged position.

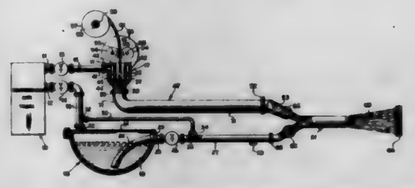
2,981,307
PRESS MACHINE
Neil Malarkey, Jr., Portland, Oreg.
(Rte. 2, Box 2551, Bainbridge Island, Wash.)
Filed June 24, 1957, Ser. No. 667,639
10 Claims. (Cl. 154—1)



1. In a press machine, a frame, a belt mounted for movement in said frame and providing a pressure surface for compressing material treated in said press, stationary pressure means having a flat bearing surface portion for urging said belt against said material, and an imperforate sliding, antifriction band having a planar face presented to said bearing surface portion interposed between said belt and said pressure means and slidable relative to said pressure means and movable through said press together with said belt.

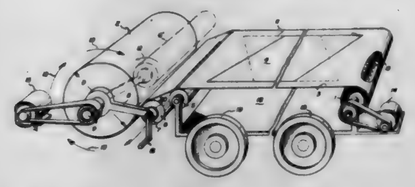
2,981,308
APPARATUS FOR PRODUCING REINFORCED PLASTIC, RESINOUS OR LIKE STRUCTURAL BODIES, FORMS, LININGS AND COATINGS
Frederick C. Thompson, Washington, D.C., assignor, by direct and mesne assignments, of sixty percent to George F. Shea, Washington, D.C., thirty-five percent to Januarius A. Mullen, Grosse Pointe, Mich., and five percent to J. Matthews Neale, Chevy Chase, Md.
Original application Mar. 31, 1953, Ser. No. 345,762, now Patent No. 2,850,421, dated Sept. 2, 1958. Divided and this application Jan. 31, 1958, Ser. No. 714,456
9 Claims. (Cl. 154—1)

1. Apparatus for producing an article composed of reinforcing fibers and suitable binding material comprising an air tight tank for receiving a supply of suitable fluid binding material and having a removable top cover and an inlet opening to the interior at a point normally above the level of binder material therein and an outlet through which said binder material may flow; a hose line connected at one end to said outlet and adapted at its other end for connection to a discharge nozzle; a second hose line terminating at one end in a receiving opening and adapted at its other end for connection to a discharge nozzle; a source of compressed air connected to said tank inlet and to said one end of said second hose line and adapted to respectively place the contents of said tank under pressure to force said binder material in the form of a stream out of said tank outlet and along said first mentioned hose line from said one end to said other end and to create a flow of air through said second hose



line from said one end to said other end; means for introducing individual fiber strands of uniform length into said receiving end of said second hose at a controlled rate thereby forming a stream of flowing fiber ladened air in said second hose; and a three way nozzle having one passage connected to said first hose line and a second passage connected to said second hose line and arranged at an angle to said first passage so as to merge said fiber ladened stream and said stream of binder material together in the nozzle precoating the fibers and forming a fiber interspersed stream of binder material to be discharged from said third nozzle passage to be deposited in any desired manner to form a fiber interlaced binder material which will set or cure into a homogeneous structurally reinforced product.

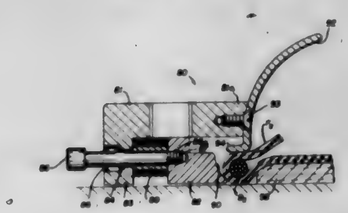
2,981,309
FEEDING DEVICE FOR TIRE BUILDING DRUMS
Adolf Loges, Hannover, Germany, assignor to Continental Gummiwerke Aktiengesellschaft, Hannover, Germany
Filed Oct. 11, 1956, Ser. No. 615,339
Claims priority, application Germany Oct. 11, 1955
6 Claims. (Cl. 154—9)



1. For use with tire manufacturing machines, the combination of a tire building drum, a drum shaft, a longitudinally movable finite conveyor belt extending transversely to the axis of said drum carrying sheets of fabric for building a tire therefrom, torsion spring urged means for coiling up said conveyor belt, said means being spaced from said drum and adapted for stretching said belt, and moving means for moving said conveyor belt longitudinally into contact with the tire building drum and winding said conveyor belt circumferentially about said drum so as to coil said sheets of fabric therearound, said moving means comprising a rigid roll rotatable about its own axis so as to advance the forward portion of the fabric sheet around said drum into contact with the

end portion of said sheet, and a pair of levers mounted on said drum shaft for carrying said rigid roll on their free ends in a position parallel to said drum.

2,981,310
TURNOVER RING FOR PNEUMATIC TIRE BUILDING MACHINE
Adolf Fröhlich and Edward J. Harris, Akron, Ohio, assignors to The Cleveland Trust Company, Cleveland, Ohio
Filed Apr. 19, 1956, Ser. No. 579,404
8 Claims. (Cl. 154—10)



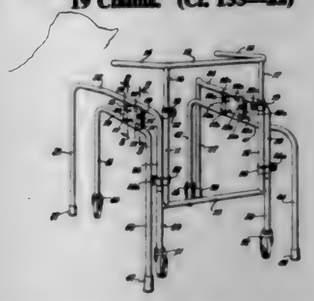
1. A pneumatic tire machine of the character described, comprising; a building drum having a ply receiving surface; an endless turnover ring concentrically aligned with said drum in close adjacency to the exterior surface thereof; means for moving said ring axially of said drum, whereby said ring encircles said drum; and means on said turnover ring progressively removing fabric ply from said ply receiving surface and folding the same on itself; said progressive removal and folding over commencing at one axial edge of a ply received on said ply receiving surface and progressing towards the medial portion thereof.

2,981,311
CONVERTIBLE SEATING INSTALLATION FOR MOTOR VEHICLES
Walter E. Häcker, Aidlingen, Kreis Boeblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed July 8, 1958, Ser. No. 747,261
Claims priority, application Germany July 26, 1957
21 Claims. (Cl. 155—6)



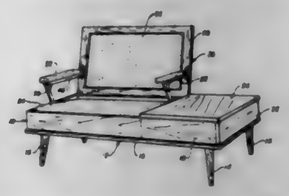
1. An installation for adjusting a seat adapted to be converted into a bed comprising seat frame means adapted to be moved in the longitudinal direction including lateral guide rail means on each side of said frame means, an adjustable back rest for said seat, first means pivotally connecting said back rest to said seat frame means, a relatively stationary vehicle part disposed below said seat, second means pivotally connecting the forward end of said guide rail means with said relatively stationary part, means for pivotally connecting the rear part of said displaceable seat frame means together with said adjustable back rest with said relatively stationary part, and means for adjustably securing said seat frame means in a plurality of longitudinally spaced positions.

2,981,312
ORTHOPEDIC WALKING APPLIANCE
Ollo M. Sundberg, 2730 Peck Ave., San Pedro, Calif.
Filed May 20, 1957, Ser. No. 660,338
19 Claims. (Cl. 155—22)



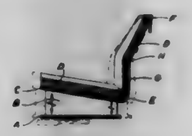
19. An appliance for supporting a person in a walking position: a frame structure having wheels thereon rollable along a supporting surface; said structure including brake means pivotally mounted on at least a part of said frame structure and adapted to engage the supporting surface; spring means engaging said part of said structure and brake means to normally retain said brake means elevated above the supporting surface; and means mounting said spring means for shifting along said brake means and said part of said structure to vary the distance of said spring means from the pivot axis of said brake means on said structure.

2,981,313
COMBINATION SEAT AND COFFEE TABLE OR THE LIKE
Albert S. Odell, 1712 NW. 8th, Oklahoma City, Okla., assignor of forty-nine percent to Doyle Adams, Oklahoma City, Okla.
Filed July 3, 1959, Ser. No. 824,873
4 Claims. (Cl. 155—43)



1. A combination seat and table, comprising a rectangularly-shaped housing having a bottom and open along its top, said housing also having a forward wall and a rear wall, a cover pivotally secured to the rear wall of the housing for manual pivoting movement upwardly and downwardly to alternately form a back rest and the top of a table, a pair of arm rests, each of said arm rests having a forward end and a rear end and being pivotally connected at its rear end to one end of the cover to extend forwardly over the housing inwardly of the respective end of the housing, a seating member in the housing having a forward edge and a rear edge and being pivotally secured at its rear edge to the housing, said seating member having a vertical thickness less than the height of the forward wall of the housing, and means connecting the forward end of each arm rest to the seating member and to the housing for raising the forward edge of the seating member above the forward wall of the housing when the cover is raised and for lowering the forward edge of the seating member below the top of the forward wall of the housing when the cover is lowered.

2,981,314
CAR SEATINGS AND CARS PROVIDED WITH SUCH SEATINGS
Gunnar Eklöf, Stockholm, and Bengt Valdemar Åkerblom, Malexander, Sweden, assignors to Aktiebolaget Akerblomstolen, Stockholm, Sweden
Filed Aug. 25, 1958, Ser. No. 756,980
Claims priority, application Sweden Sept. 12, 1957
4 Claims. (Cl. 155—53)



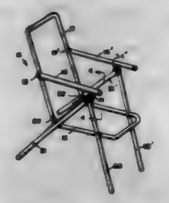
1. A car seat comprising, a supporting frame structure, a seat back component, a seat bottom component, means for tiltably connecting said seat back component to the rear edge of said seat bottom component, means for slidably guiding said seat bottom component for horizontal movement in said frame structure in the longitudinal direction of the car, means for slidably guiding said frame structure for movement in the longitudinal direction of the car, substantially vertically extending guide means acting between the upper portion of said seat back component and said frame structure for directing the movement of said seat back with respect to said frame structure and means for supporting said bottom and back seat components in said frame structure by common resilient bumper means providing for joint movement of said bottom and back seat components up and down without alteration of their location relative to each other, said seat back component as viewed in vertical section being formed with a curved bent profile with the apex thereof directed toward the lumbar-dorsal portion of the occupant of the seat.

2,981,315
RESILIENT CHAIR
Harvey Schafer, 1800 Blue Heights Drive, Los Angeles, Calif.
Filed June 15, 1956, Ser. No. 591,589
2 Claims. (Cl. 155—54)



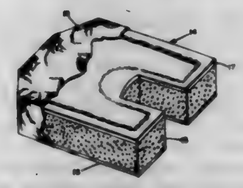
1. A folding chair including seat and back rest frames pivotally connected together, a pair of side legs each having a ground-engaging portion extending fore and aft of the chair and having a smooth curve at one end merging with an upwardly extending portion, the longitudinal axes of the upwardly extending portions being spaced apart and defining one plane, each said upwardly extending portion at the upper end thereof being connected to the back rest frame and each being rotatable about its longitudinal axis to move the ground-engaging portions toward said plane to a folded position approximately paralleling said plane, said seat frame being movable from an unfolded position at a substantial angle to said plane to a folded position substantially paralleling said plane, and means for rotating said upwardly extending portions about their longitudinal axes to bring the ground-engaging portions to their folded positions in response to movement of the seat to its folded position.

2,981,316
CHAIRS WITH ADJUSTABLE BACKS
Walter Goebel, Newburgh, N.Y., assignor to Gersten Bros., Inc., New York, N.Y., a corporation of New York
Filed Sept. 25, 1959, Ser. No. 842,254
14 Claims. (Cl. 155—159)



1. In a chair structure or the like, a seat member, a back member swingably mounted on said structure so that the angle between said members can be altered upon movement of said back member, a tubular arm rest having a lengthwise slot; said arm rest being pivotally mounted at its rear end to said back member, a support member forwardly of the back member and adjacent said arm rest, a tubular member fixed within the hollow of the arm rest and having a lengthwise slot in registry with the slot in the arm rest; said inner tubular member having a plurality of spaced openings therealong in a zone parallel to said slots and the wall of said inner tubular member being bent inwardly so that said openings are in planes which are in angular relation to the longitudinal axis of such inner tubular member; all such openings being enterable from inside said inner tubular member, an arm extending from said support member through said slots and into said inner tubular member, a finger extending laterally from said arm along said inner tubular member; the arm rest being adapted to be moved so that said finger can be entered into any of said openings in the inner tubular member and removed therefrom and an element extending laterally from said arm within said inner tubular member, adapted to contact the inner surface of said inner tubular member while said finger is wholly within such inner tubular member and said arm rest is swung upwards; said element serving as a stop means to maintain the finger within said inner tubular member.

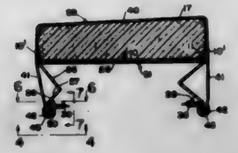
2,981,317
SHOCK ABSORBING SAFETY SEAT
Edwin O. Cartwright, Jr., Harold H. Edwards, Jr., and Samuel F. Held, Dallas, Tex., assignors to Chance Vought Corporation, a corporation of Delaware
Filed Nov. 22, 1957, Ser. No. 698,100
6 Claims. (Cl. 155—178)



1. A safety seat having a bottom, energy absorbing means in said bottom, said energy absorbing means comprising means for absorbing shock forces due to acceleration of said seat in a direction substantially normal to said bottom of said safety seat, said energy absorbing means comprising a seat cushion, said seat cushion comprising a seat cushion comprising a block of crushable non-elastic material, said crushable non-elastic material being a solid block extending over a majority of the horizontal area of the seat cushion, a rigid metal plate secured to the bottom

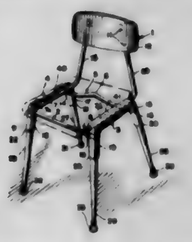
of said block, a compressible pad secured to the top of said block, said compressible pad having a slow spring-back, and a cover of flexible material enclosing said seat cushion.

2,981,318
SPRING CUSHION
John C. Lincoln, Cleveland, Ohio, assignor, by mesne assignments, to Hoover Ball and Bearing Company, Bedford, Ohio, a corporation of Michigan
Filed Sept. 6, 1957, Ser. No. 682,374
8 Claims. (Cl. 155—179)



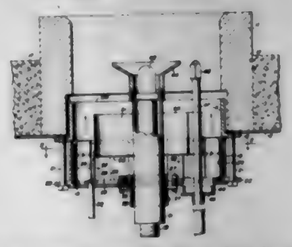
1. A seat cushion comprised of a block of foamed plastic material, a fabric layer attached to the lower surface of said block, spring members extending across the entirety of the lower surface of said fabric and having integral spring members depending from the opposite ends thereof, a frame member connected to the lower ends of said depending portions, a fabric covering over the upper surface of said block and having depending portions extending to said frame and means fastening the lower edges of said fabric to said frame.

2,981,319
CHAIRS
Charles F. Close, Arlington Heights, Ill., assignor to Arlington Seating Co., Arlington Heights, Ill., a corporation of Illinois
Filed June 5, 1958, Ser. No. 740,034
4 Claims. (Cl. 155—194)



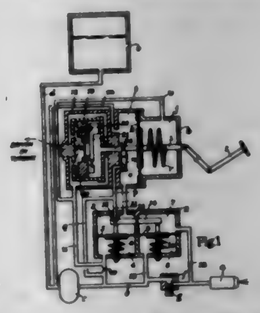
1. A chair comprising a pair of seat-supporting side rails held in spaced apart essentially parallel relation by a front rung and a rear rung, each of said side rails terminating at their free ends in downwardly depending legs, a pair of L-shaped members the horizontal free ends of which originate in spaced apart and rigid attachment at said front rung and the vertical free ends of which terminate above said seat support in attachment to a chair back-rest, said rear rung member also providing supporting means for the horizontal legs of the L-shaped back-rest supporting elements and having centrally disposed therein an upwardly directed offset, and a seat capable of limited downward deflection secured to the upper surfaces of said seat-supporting side rails adapted to rest thereon with the rear underside of said seat adapted to tangential contact with said offset due to said downward deflection when said chair is in use, there being a free space between the underside of said seat and the top of said offset when said chair is not in use.

2,981,320
AIR REGISTER FOR FUEL BURNER
Robert D. Reed, Tulsa, Okla., assignor to John Zink Company, Tulsa, Okla., a corporation of Delaware
Filed Sept. 23, 1957, Ser. No. 685,468
3 Claims. (Cl. 158—1.5)



2. An air register assembly for a fuel burner comprising, a wall having an opening therethrough, an annular thimble extending into said opening and secured to said wall, a disc-shaped element spaced from an outer end of said thimble, a first cylindrical flange between said element and the outer end of said thimble, said element having a plurality of generally sector-shaped openings therethrough, said first flange having a plurality of circumferentially spaced openings therethrough staggered with respect to the openings in said element, a disc-shaped member mounted inside said element in face-to-face relationship therewith, a second cylindrical flange carried by said member arranged within the first cylindrical flange, said member having substantially sector-shaped openings therethrough, said second cylindrical flange having circumferentially spaced openings therethrough staggered with respect to the openings in said member, a burner head arranged at the axis of said thimble, a pipe extending through said element and said member supporting the burner head, said member and said second cylindrical flange being rotatable as a unit about said pipe so that the openings therein may register with openings in said element and the openings in said first cylindrical flange, a generally cylindrical shaped baffle of smaller diameter than the thimble supported on said member with the upstream end of the baffle spaced from said member, and said baffle extending into said thimble and terminating upstream of said burner head.

2,981,321
MEANS LIMITING THE RATE OF CHANGE OF FUEL FLOW TO GAS TURBINES
Frank G. Freeman, Solihull, and Eugene H. Warne, Olton, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Feb. 8, 1954, Ser. No. 408,964
2 Claims. (Cl. 158—36.4)



1. Means for preventing the supply of an excess of liquid fuel to an engine consisting at least in part of a gas turbine, comprising in combination a liquid fuel supply

duct for conducting liquid fuel to the engine, a restriction in said duct for creating a fuel pressure difference therein, means forming a region of low pressure relatively to the fuel pressures in said duct, a by-pass leading from a part of said duct at the upstream side of said restriction to said region of low pressure, a valve arranged between said by-pass and low pressure region to serve, when opened, for permitting fuel flow from said duct through said by-pass, a lever for actuating said valve, a first pressure-responsive member arranged to exert pressure on said lever in the direction for closing said valve, a second pressure-responsive member arranged to exert pressure on said lever in the direction for opening said valve, means for subjecting said lever through said first pressure-responsive member to a liquid pressure related to and variable with the speed of the engine, and means for subjecting said second pressure-responsive member at opposite sides respectively to the fuel pressures in said duct at the upstream and downstream sides of said restriction, so that increase in fuel flow through said duct is accompanied by an increase in the difference between the fuel pressures acting on opposite sides of said second pressure-responsive member, and thereby causes opening movement of said valve, if the latter is permitted to open by said first pressure-responsive member, in order to reduce said increase of fuel flow until said valve is reclosed by increase of the liquid pressure acting on said first pressure-responsive member.

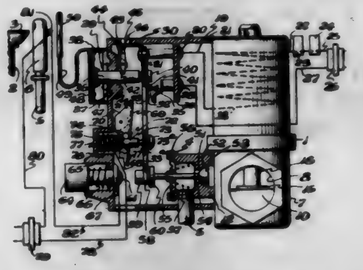
2,981,322
AUXILIARY LIQUID FUEL SUPPLY SYSTEM FOR OUTBOARD MOTORS AND THE LIKE
Henry C. Schum, 28 Westville Ave., Danbury, Conn.
Filed Sept. 23, 1959, Ser. No. 841,891
3 Claims. (Cl. 158—36.6)



1. In an auxiliary liquid fuel supply system, a liquid fuel operated motor, a carburetor forming a part of said motor, a tubular fuel supply means connected to said carburetor including a coupling member provided with a projecting pin having an inlet opening and a passage from the opening to the tubular means, an auxiliary liquid fuel container provided with a filling opening, a closure for said opening including an outwardly extending pin provided with a vent opening outside the container and a passage leading from this opening to the inside of the container, means for removably mounting the container on the motor at a level above that of the carburetor, a flexible hose connection from the lower part of the container, a connector connected to the free end of said hose comprising a hollow body provided with a valve controlled exit opening adapted to receive the vented pin of either the tank closure or the coupling, and a spring-biased valve normally closing said valve opening to self-seal it and retractable by insertion of either of said pins to place the hose in communication with either the container or the carburetor.

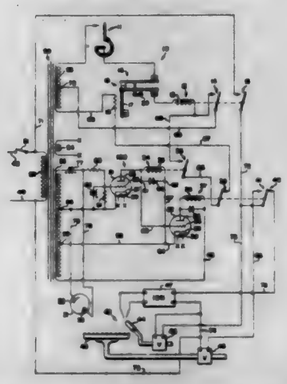
2,981,323
IGNITION AND CONTROL SYSTEM
Alexander Ashton Marks, 6676 Lincoln Drive, Philadelphia 19, Pa.
Filed Dec. 10, 1952, Ser. No. 325,164
7 Claims. (Cl. 158—123)

1. An ignition and control system for a main burner and a pilot burner, comprising an igniter for igniting fuel emitted from such pilot burner, a main valve for controlling fuel flow to said main burner, an auxiliary valve for controlling flow to said pilot burner, a manually closable latching mechanism for closing a switch in an electric circuit for energizing said igniter, means including a fluid expansible device responsive to a heating



element in said electric circuit operatively associated with said latching mechanism for opening said auxiliary valve, and means including a second fluid expansible device actuating a rocking member in the path of said latching mechanism for releasing said latching mechanism, holding said auxiliary valve and opening said main valve.

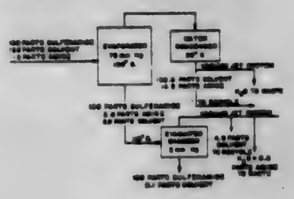
2,981,324
BURNER CONTROL APPARATUS
Fred T. Deziel, Bloomington, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Oct. 23, 1958, Ser. No. 769,153
5 Claims. (Cl. 158—125)



1. An electronic flame detector comprising; flame sensing means arranged to be positioned to sense the presence or absence of flame in a given area, a first electron discharge device having an input circuit and output circuit, circuit means including said input circuit connected to said flame sensing means to thereby control said first discharge device in accordance with the presence or absence of flame at the given area, a first flame relay having a winding connected in the output circuit of said first discharge device and having switch means, a second electron discharge device having an input circuit and an output circuit, means connecting the output circuit of said first discharge device in controlling relation to the input circuit of said second discharge device to thereby control said second discharge device in accordance with the presence or absence of flame in the given area, the operation of said second discharge device also being dependent upon proper operation of said first discharge device, a second flame relay having a winding connected in the output cir-

cuit of said second discharge device and having switch means, and control circuit means jointly controlled by the switch means of said first and second relays to perform a control function only upon said first and second flame relays jointly detecting the presence or absence of flame in the given area.

2,981,325
PREPARATION OF SULFENAMIDES
Robert C. Kinstler, Middlesex, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Nov. 5, 1957, Ser. No. 694,624
3 Claims. (Cl. 159—47)



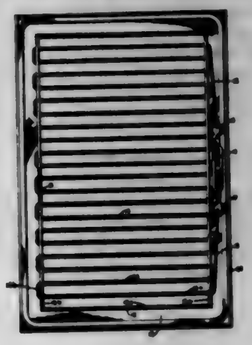
1. In a process for producing a sulfenamide wherein a solution comprising said sulfenamide in an organic solvent is obtained and said solution is subjected to reduced pressure at a temperature above the atmospheric pressure boiling point of said solvent for sufficient time to reduce the residual solvent content to below about 1.0% but above 0.5% and resultant material is cooled to below its solidification temperature at atmospheric pressure whereby a solid product is obtained, the improved method of isolating said sulfenamide which comprises: under an operating pressure below atmospheric but above said reduced pressure, heating said solution to a temperature above the boiling point of the solvent at the operating pressure but below the normal atmospheric boiling point of said solvent; maintaining said temperature and pressure only for sufficient time to remove from about 95% to not more than 99% of said solvent; then, in an enclosed space, subjecting resultant molten sulfenamide-solvent mixture to a lower pressure less than said reduced pressure; maintaining said lower pressure for sufficient time to reduce the solvent content in said resultant molten sulfenamide-solvent mixture to below about 0.5%; and removing so-treated molten sulfenamide-solvent mixture from said enclosed space.

2,981,326
HYDRAULICALLY-OPERATED SHIPS' HATCH COVERS
Joseph MacGregor, Monkseaton, Whitley Bay, England, assignor to MacGregor & Company (Naval Architects) Limited and MacGregor-Comarain
Filed Aug. 11, 1959, Ser. No. 832,930
Claims priority, application Great Britain Sept. 23, 1958
1 Claim. (Cl. 160—188)



Hatch cover arrangement on board ships, railway wagons and the like comprising at least two hatch cover sections having two adjacently located edges, a free space between the adjacent edges of said sections, protruding extensions fixedly provided on the adjacent edges of said sections facing each other and extending into said space, circular practically identical toothed edge portions on said extensions in mutual continuous meshing engagement, the centers of the circles corresponding to said circular edge portions being situated on said respective extensions, pivot pins located on said extensions centrally with respect to said toothed edge portions, a connecting link forming member pivotally mounted on said two pivots, an arm forming extension on said link member and jack means with a jack rod pivotally mounted on one of said sections and having its jack rod pivotally connected to said arm forming extension to bring said section in the hatch closing and the hatch opening positions.

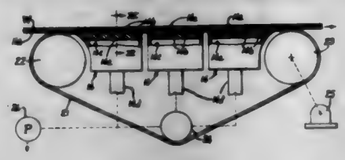
2,981,327
OPENING GRILL
Ben Cones, 5130 Pleasant Run, Parkway, North Drive, Indianapolis 19, Ind.
Filed Aug. 24, 1959, Ser. No. 835,734
1 Claim. (Cl. 160—378)



A protective grill comprising a rigid unitary frame having a border face with an opening therethrough, and a flange extending rearwardly from and around the margin of said opening, said flange having a plurality of holes therethrough in two opposing sides thereof; a flexible cable threaded back and forth through said openings starting from one cable end portion through the first hole in one side across the grill opening through the first hole in the other flange side, along the outerside of said other side to and through the second hole therein, across the grill opening to and through the second hole in said one side, thence along the outside of the one side and through the second hole in said one side and back and forth through the other holes in the two sides to emerge finally from the last hole in said one side by the other cable end portion; said two portions extending along the outer side of said one side; and a turnbuckle interconnecting said two cable ends for pulling on those ends to tighten the entire cable length.

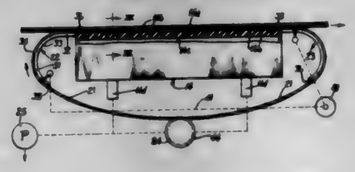
2,981,328
METHOD AND APPARATUS FOR REDUCING POWER REQUIRED BY MOVING SUCTION BOX COVER
Edgar J. Justus, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Jan. 14, 1958, Ser. No. 708,878
5 Claims. (Cl. 162—367)

1. An improved suction box structure for dewatering a web on a traveling wire, comprising a suction box having a generally flat top with drain perforations therein and land areas intermediate the perforations of substantially greater total area than the total area of said perforations, an endless flexible perforate belt covering the suction box top and adapted to support and engage the bottom side of the wire, means for distributing a fluid lubricant between the land area and said belt, said means comprising passages extending through the land area and spaced within said lands to maintain said lubricant be-



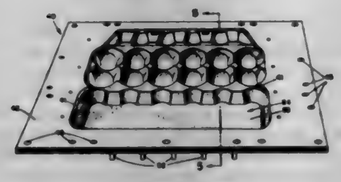
tween said belt and said land areas, and means connected to a source of fluid lubricant under pressure communicating with the passages for flowing fluid film in opposite transverse directions across the land areas and toward the drain perforations between the bottom side of the belt and the suction box top to lubricate the same.

2,981,329
FLUID FLOATED BELT FOR SUCTION BOXES
Edgar J. Justus, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Nov. 3, 1958, Ser. No. 771,546
10 Claims. (Cl. 162—367)



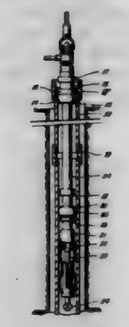
1. In a paper machine which includes a suction box, a traveling wire and an endless perforated belt of generally the same width as the box movable by said wire over said box, the improvement which comprises stationary support means forming the loop of the endless belt and extending essentially entirely across the width thereof, said support means being passaged to provide a lubricating groove opening toward the endless belt, and means for supplying lubricant to said groove.

2,981,330
PULP MOLDING DIE
Wendell H. Stickney, Wilbraham, Mass., and Richard F. Reifers, Lincolnwood, Ill., assignors to Diamond National Corporation, a corporation of Delaware
Filed Dec. 20, 1956, Ser. No. 629,495
9 Claims. (Cl. 162—411)



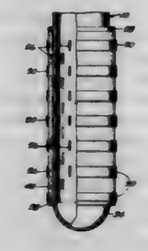
1. A pulp molding die having an exterior, open-faced, contoured molding surface provided with a peripheral portion, said molding surface comprising a porous structure of a plurality of small spherical bodies sintered together by a phenolic resin, said spherical bodies having a diameter of approximately 3 to 50 mils and being made of a material which is hard, non-porous and stable at the curing temperatures of said phenolic resin.

2,981,331
METHOD AND APPARATUS FOR TESTING TUBING AND FOR SCRAPING MATTER FROM THE INNER WALL THEREOF
Bryant P. Arterbury, % Cavins Corp., 8701 Gulf Freeway, Houston, Tex., assignor of thirty-three and one-third percent to Roy L. Arterbury, Houston, Tex.
Filed Jan. 9, 1957, Ser. No. 633,243
3 Claims. (Cl. 166—4)



1. The method of testing tubing as it is being made up and lowered into a well and in scraping matter from the inner surface thereof which comprises the steps of establishing vertical spaced packers in the tubing with the upper packer carrying a scraper thereabove, supporting the lower packer within the tubing into position below a stand thereof to be tested, applying fluid pressure to the space between packers to move the upper packer to test position at the top of the stand to be tested, the scraper thereby scraping matter from the inner surface of the stand while in transit, and thereafter applying measurable fluid pressure to the space between packers and observing whether the pressure decreases due to leakage and if the tubing tested does not leak attaching an additional stand of tubing to the string in the well, lowering the string and attached stand while the packers remain supported in the string, and drawing the packers upwardly into a position to test the attached stand, and repeating the test.

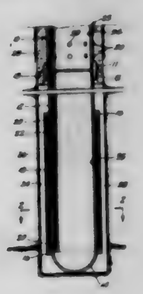
2,981,332
WELL SCREENING METHOD AND DEVICE THEREFOR
Montgomery K. Miller, Pasadena, Calif. (2404 W. 7th St., Los Angeles, Calif.), and William L. Kumler, 1104 Pacific Mutual Bldg., Los Angeles 14, Calif.
Filed Feb. 1, 1957, Ser. No. 637,687
15 Claims. (Cl. 166—12)



1. A device for insertion in a well bore, which comprises a perforated tube, an expansible resilient screening element mounted on and surrounding said tube, and a constricting means maintaining said screening element in

compression, said constricting means being removable while said element is in said well bore, said element being expandable radially a relatively substantial amount on removal of said constricting means and means securely holding said screening element on said tube after said constricting means is removed.

2,981,333
WELL SCREENING METHOD AND DEVICE THEREFOR
Montgomery K. Miller, Pasadena, Calif. (2404 W. 7th St., Los Angeles, Calif.), and William L. Kumler, 1104 Pacific Mutual Bldg., Los Angeles 14, Calif.
Filed Oct. 8, 1957, Ser. No. 689,002
16 Claims. (Cl. 166—12)

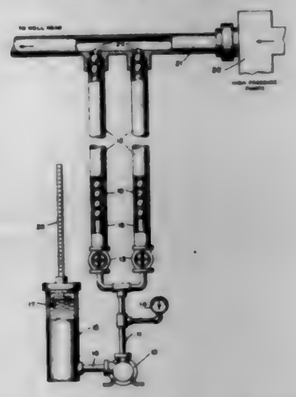


1. A process which comprises introducing into a well bore a tube having disposed about its outer periphery an expansible resilient foraminous fluid screening medium carrying a constricting element holding said medium under compression, said screening medium being composed of a material having multidirectional expansion characteristics, perforating said tube and screening medium, removing said constricting element and causing said screening medium to expand laterally into contact with the wall of the bore, and in a direction perpendicular to the direction of said lateral expansion to substantially fill the perforations formed in said screening medium.

2,981,334
CONSOLIDATING PLASTIC COATED PARTICULATE SOLIDS
Hobart W. Powell, Jr., Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 13, 1958, Ser. No. 766,702
6 Claims. (Cl. 166—12)

1. A composition for admixture with an acid in situ to provide a fluid-permeable barrier in an oil well consisting of (1) a resin-coated particulate material prepared by heating a mixture consisting of a partially condensed thermoplastic-thermosetting resin and a particulate material inert to said resin having a particle size of between 10 and 100 mesh at a temperature between 120° and 250° F. until a viscosity of between 30 and 40 centipoises as measured at 200° F. is attained, slurrying said admixture with a petroleum oil at a temperature between 180° F. and 210° F. until the resin forms a dry, hard coating on the particles upon being cooled to room temperature, (2) between 3 and 20 percent by weight of said resin-coated particulate composition of a 4 to 100 mesh particulate metal selected from the class consisting of magnesium, zinc, and aluminum and, (3) a fluid vehicle selected from the class consisting of petroleum oil and water in an amount sufficient to form a pumpable slurry.

2,981,335
METHOD AND APPARATUS FOR INTRODUCING SEALING ELEMENTS INTO WELL CASINGS
Billy J. Bacy and Charles M. Simmons, Midland, Tex., assignors to The Western Company of North America, a corporation of Delaware
Filed June 26, 1957, Ser. No. 668,157
4 Claims. (Cl. 166—75)



1. Apparatus for injecting well-casing perforation sealing elements into a well during the treatment of said well with fluid under pressure, which comprises at least one injector tube adapted to contain a plurality of well-casing perforation sealing elements, said injector tube communicating with a well treatment means at one end and with a source of fluid under pressure at the other end, said injector tube being equipped with resilient restraining means adjacent said well-treatment means which restraining means is capable of being displaced when pressure is exerted upon it to permit the escape of said well-casing perforation sealing elements into the well-treatment means, a fluid reservoir means containing hydraulic fluid, said reservoir and fluid being independent of the well and well-treatment means, said source of fluid under pressure comprising a pumping means communicating with said reservoir and said injector tube, a free piston means slidably mounted in said injector tube capable of being acted upon by said fluid under pressure and capable of ejecting said well-casing perforation sealing elements through said restraining means.

2,981,336
JAR
William K. Ansite, Glendale, Calif., assignor to Johnston Testers, Inc., Houston, Tex., a corporation of Texas
Filed Oct. 10, 1956, Ser. No. 615,062
9 Claims. (Cl. 166—178)

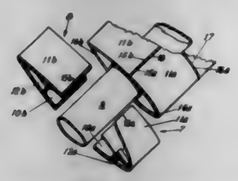
1. A well jar comprising an annular housing member and a tubular mandrel concentrically mounted therein, said housing member and said mandrel being movable longitudinally relative to each other between a collapsed relation and an extended relation, said housing member and said mandrel being adapted for connection in a pipe string above an object stuck in a well bore, upper and lower seal means for sealing between said housing member and said mandrel to form a closed fluid chamber with said mandrel extending completely through said closed chamber, said housing member having two adjacent portions of unequal diameter, a piston formed on said mandrel, said piston being in sealing engagement with the portion of said housing member of smaller diameter when said housing member and said mandrel are in collapsed relation and having a longitudinal passage providing fluid communication through said piston from one end of said chamber to the other end of said chamber, an annular

valve member carried on said mandrel and slidable toward and away from said passage, means to urge said valve member towards said passage, means at one end of said piston for preventing said valve member from completely covering said passage whereby said valve member and said piston are adapted to allow a restricted fluid flow through said passage in one direction and to allow an unrestricted fluid flow through said passage in the other direction, an



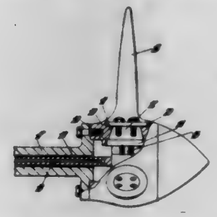
anvil formed on said mandrel, said anvil and said housing member having co-acting impact faces adapted to contact when said mandrel and said housing member move to extended position, said mandrel having different cross-sectional areas opposite said upper and lower seal means, the seal means for the smaller area being slidable relative to said mandrel and housing member and having a face directed away from said chamber and exposed to pressure external to said housing member.

2,981,337
PROPELLER BLADE
Joseph Stuart III, Palo Alto, Calif., assignor, by mesne assignments, to Hiller Aircraft Corp., Palo Alto, Calif., a corporation of California
Filed Sept. 8, 1959, Ser. No. 838,515
6 Claims. (Cl. 170—159)



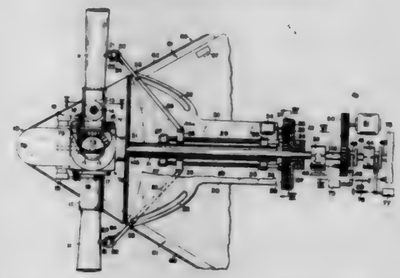
1. A light weight propeller blade capable of withstanding repeated flapwise and chordwise bending loads applied thereto during use, comprising an elongated hollow tubular structural core, and a segmented airfoil skin resiliently bonded to said core and surrounding the same, said skin being segmented in both the flapwise and chordwise directions of said blade and comprising a plurality of discrete skin sections each of which comprises a pair of discrete contoured blade leading edge and trailing edge segments, each of said skin sections being spaced longitudinally from an adjacent skin section in the flapwise direction by a chordwise peripheral gap, the leading edge segment of each skin section being spaced from its associated trailing edge segment by longitudinally extending flapwise gaps on opposite sides of said structural core, and a strip of resilient cushioning material filling each of said peripheral and flapwise gaps and cooperating with said sections in providing a substantially smooth and continuous airfoil surface, each of said skin sections being resiliently bonded to said structural core by a layer of elastic, flexible bonding material, whereby said skin sections are resiliently spaced from said core and are movable relative thereto and relative to each other.

2,981,338
LOCKING DEVICE FOR PROPELLER BLADES
Thomas Hindmarch, Lindo Lodge, Stanley Ave., Chesham, England
Filed Apr. 14, 1958, Ser. No. 728,310
Claims priority, application Great Britain Apr. 15, 1957
7 Claims. (Cl. 170—160.6)



1. In a variable pitch propeller for marine vessels, a hub, at least one blade having a root mounted for rotation in said hub, and immobilizing means to prevent unintentional movement of said blade relative to the hub, said immobilizing means including a friction brake member in said hub, a friction brake member on said root, and means to introduce fluid under pressure into the hub to force said members into braking engagement.

2,981,339
RETRACTABLE PROPELLER
Allan G. Kaplan, 861 E. 27th St., Paterson, N.J.
Filed May 12, 1960, Ser. No. 28,765
8 Claims. (Cl. 170—160.12)



6. In an aircraft, in combination, a thrust engine adapted to power the aircraft in flight, a propeller shaft provided with a hub, a plurality of blade supports extending laterally from said hub in a common plane transverse to the shaft axis, said supports being rotatable about respective radial axes, pitch-control means coupled with said supports for rotating same in unison about said radial axes, a plurality of propeller blades respectively mounted on said supports with freedom of swinging movement in respective axial planes of said shaft, said pitch-control means being adapted to rotate all of said blades in unison into a feathered position, locking means at each of said supports normally positioned to maintain said blades radially erect on said shaft but positionable to clear said blades for said swinging movement in the feathered positions thereof, each of said blades being provided with a projection facing rearwardly in the feathered position thereof,

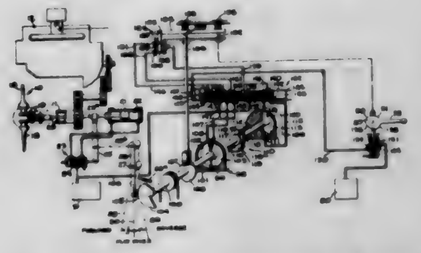
a plurality of gripper arms mounted rearwardly of said hub for reversible movement along said shaft axis and adapted releasably to engage the projections on said blades upon alignment of the latter with said arms for withdrawing said blades into substantial parallelism with said shaft axis, reciprocating means for so moving said gripper arms, drive means for rotating said shaft, coupling means selectively operable to connect said drive means with said shaft, indexing means engageable with said shaft upon disconnection thereof from said drive means for aligning said projections with said arms, and mechanism for actuating, in a reversible sequence, said indexing means, said reciprocating means, said locking means, said pitch-control means and said coupling means for temporarily rendering said blades effective to propel the aircraft.

2,981,340
CONTROL FOR CONTROLLABLE PITCH PROPELLERS

Sidney Lockwood Gillespie, Rockford, Ill., assignor to Woodward Governor Company, Rockford, Ill., a corporation of Illinois

Original application Feb. 24, 1954, Ser. No. 412,324, now Patent No. 2,878,880, dated Mar. 24, 1959. Divided and this application Apr. 17, 1958, Ser. No. 729,163

4 Claims. (Cl. 170—160.32)



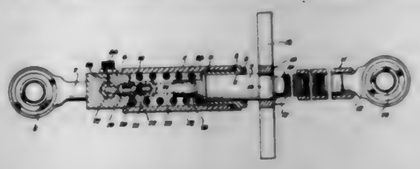
3. The combination of, an adjustable pitch propeller, a servo having a driven element movable in opposite directions away from a flat pitch position through forward and reverse pitch ranges, means controlled by said element for maintaining said propeller at zero pitch when the element is in said flat pitch position and for increasing the pitch in forward and reverse directions respectively and in proportion to the movements of said element in opposite directions away from said flat pitch position, stop means for limiting the movement of said driven element a distance corresponding to the length of one of said pitch ranges, a support carrying said stop means and movable between two positions in one of which the movement of said element is confined to said forward range and in the other of which the element movement is limited to said reverse range, and a second servo energizable selectively to move said support from one of said positions to the other and holding the selected position against the force of said first servo.

2,981,341
MEANS FOR EFFECTING LOAD TRANSFER IN TRACTOR IMPLEMENT ASSEMBLIES

Victor William Dilworth, Northampton, England, assignor to International Harvester Company, Chicago, Ill.

Filed Mar. 29, 1957, Ser. No. 649,454
Claims priority, application Great Britain Apr. 3, 1956
7 Claims. (Cl. 172—2)

1. In implement attaching apparatus of the three-point type for a tractor having a source of fluid under pressure and a power cylinder receiving fluid from the source to lift the implement, the combination with a pair of lower draft links between the tractor and implement of an extensible and contractable upper link unit comprising relatively slidable telescopic parts, one of which is connected to the tractor and the other to the implement, feed conduit means connected between said source and said link unit and between said link unit and said power cylinder for feeding fluid from the source through said link unit to the power cylinder, return conduit means

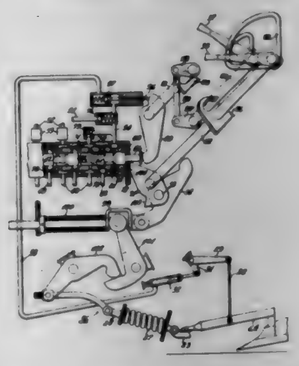


connected between said link unit and said source for returning the fluid to the source, a valve in said link unit between said feed conduit means and said return conduit means normally accommodating a flow of fluid from the feed conduit to the return conduit, and means responsive to the extension and contraction of said link unit and cooperative with said valve to increase and restrict the flow of fluid through the valve.

2,981,342
CONTROL MECHANISM FOR TRACTOR HYDRAULIC SYSTEM

Walter F. Strehlow, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Mar. 3, 1958, Ser. No. 718,714
3 Claims. (Cl. 172—8)



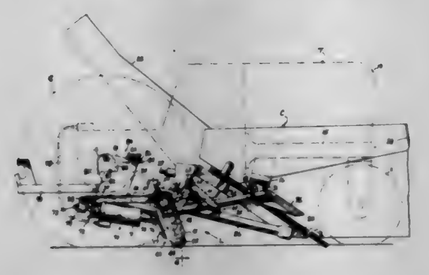
1. In a hydraulic system for a farm tractor of the type having means for connecting an implement in draft transmitting relation to the tractor, a fluid responsive motor for raising and lowering the implement, a fluid sump, and a fluid pump for supplying pressure fluid to the motor, a control mechanism for the hydraulic system comprising: a first valve controlling the flow of fluid from said pump to said motor and from said motor to said sump, said first valve being shiftable to implement raising and implement lowering positions; a second valve movable to a position preventing fluid flow from said motor and to a position permitting fluid flow to and from said motor; said valves being connected in series between said pump and motor with said first valve being intermediate said pump and second valve; a first member supported on said tractor for movement to an implement raising position in which it causes said first valve to occupy its raising position, to an implement holding position in which it permits said first valve to occupy its lowering position and said second valve to occupy its position preventing fluid flow from said motor, and to

an implement lowering position in which said first valve is permitted to occupy its lowering position and said second valve is moved to its position permitting fluid flow from said motor; a second member mounted on said tractor independently of said first member operable to move said first valve to its raising position upon movement in one direction and permitting said first valve to occupy its lowering position upon movement in the opposite direction; means biasing said first valve toward its lowering position; means connecting said second member to said implement for transposing a change in draft on said implement into movement of said second member; a first manual control movably supported on said tractor and connected to said first member to selectively move the latter to its raising, hold and lowering positions; and a second manual control independent of said first manual control movably supported on said tractor and connected to said second member whereby movement of second manual control changes the extent to which said second valve means is moved by said second member by a predetermined draft on said implement.

2,981,343
IMPLEMENT MOUNTING DEVICE

Richard K. Berky, Lancaster, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed May 31, 1956, Ser. No. 588,390
14 Claims. (Cl. 172—274)



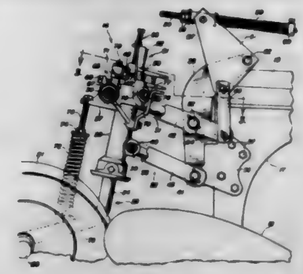
1. A device for mounting an implement on a tractor wherein said tractor has a rear axle and a fixed member disposed forwardly and spaced from said rear axle, and said implement has a frame including a cross-bar which extends parallel to said rear axle and about the axis of which the implement is pivotal, said device comprising a jack frame extending radially of said cross-bar and pivotal thereon, said jack frame when pivoted in one direction being engageable with the ground for elevating said implement to a desired height relative to the tractor, means at the forward and rear ends of said device connectable to said fixed member and said rear axle, respectively, when said implement is elevated to said desired height, said jack frame when pivoted in a direction opposite to said one direction, after said connecting means has been connected to the tractor, being engageable with said frame to pivot said implement about said cross-bar.

2,981,344
PLOW FURROW WHEEL

Raymond F. Roberson, Canton, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Mar. 10, 1959, Ser. No. 798,433
2 Claims. (Cl. 172—386)

1. In a furrow wheel assembly for a plow having a frame, an axle carrying a wheel in alinement with the direction of travel, a pair of vertically spaced generally parallel links pivotally connected at one end to the frame for vertical swinging between positions corresponding to operating and transport positions of the plow, a transverse shaft forming part of one of said links, a generally vertically extending housing pivotally mounted on said shaft and adapted to rotatably receive said wheel-carrying axle to accommodate castering thereof in the transport position of the plow, a member having a recess therein secured to said axle, a projection on said shaft in alinement with said axle and movable into said

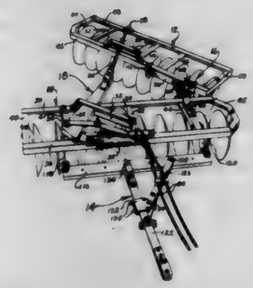


recess by the relative pivoting of said links and said housing when the links are pivoted to lower the plow, said projection in said recess being adapted to hold the axle against rotation and prevent castering of the wheel and said projection being movable out of said recess when the plow is raised, and means for laterally adjusting the position of the projection on said shaft out of alinement with said axle, whereby, upon receipt of said projection in said recess the axle is angularly adjusted and the wheel is angled relative to the line of travel.

2,981,345
DISK HARROW CONSTRUCTION

Matthew E. Hamilton, Stockton, Calif., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

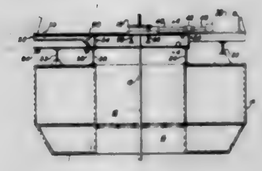
Filed Jan. 3, 1957, Ser. No. 632,372
5 Claims. (Cl. 172—597)



1. In a disk harrow of the type having a pair of gangs hinged together, the combination of a front gang including a frame having a rear frame bar extending longitudinally of said frame and transversely of the direction of movement of the harrow, and a strut transverse to said rear frame bar, a rear gang having a frame including a front frame bar, and means for hinging the gangs together comprising a rearwardly open yoke including an upper and a lower leg and a connecting portion, said legs being rigidly connected with said strut forwardly of said rear frame bar and disposed in spaced relation to said rear frame bar, a clamping portion including a spacer lying along said front frame bar, a first flange plate at one end

of said spacer providing vertically spaced holes, a U bolt engaged in the holes in the first flange plate and disposed about said front frame bar, a second flange plate at the other end of said spacer providing vertically spaced holes, a U bolt engaged in the holes in the second flange plate and disposed about the front frame bar, a tubular arm extending forwardly from said spacer, a first hinge element on said arm connected with the first flange plate, a hinge element on said yoke engaged with the first hinge element for swinging the rear gang relative to the front, a first pivot element secured to said connecting portion and extending toward said rear frame bar, a second pivot element on said rear frame bar engaged with the first-mentioned pivot element for guiding said yoke in its vertical position in relation to said bar and said upper and lower legs being of a length to be yieldable for limited twisting of said yoke with rotation about said pivot elements for limiting controlled misalignment of said gangs.

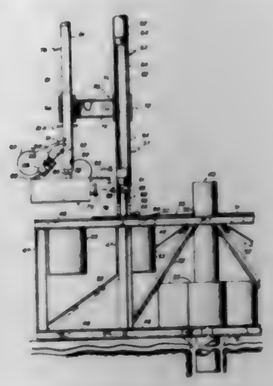
2,981,346
ROTARY DRILLING TABLE MOUNTING
Robert F. Bauer, Whittier, and Hal Stratton, Pasadena, Calif., assignors to Shell Oil Company and Continental Oil Company, both of Los Angeles, Calif., corporations of Delaware, and The Superior Oil Company and Union Oil Company of California, both of Los Angeles, Calif., corporations of California
Filed Aug. 30, 1957, Ser. No. 681,269
10 Claims. (Cl. 175—5)



1. Apparatus for drilling an underwater well comprising a floating vessel having a cellar opening out of its bottom, a rotary drilling rig derrick frame mounted around the cellar, an elongated track mounted on the derrick frame adjacent the cellar, a movable carriage mounted on the track, a rotary drilling table mounted on the carriage and adapted to extend over the cellar, a power unit mounted on the vessel for the rotary table, the track extending away from the cellar and power unit, coupling means for connecting the power unit to and disconnecting it from the rotary table so the carriage can be moved on the track to carry the rotary table toward and away from the cellar and the power unit.

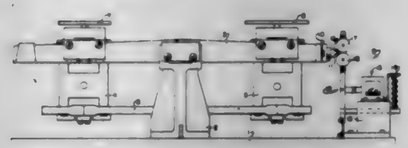
2,981,347
UNDERWATER INSPECTION APPARATUS
Robert F. Bauer, Whittier, and Hal Stratton, La Habra, Calif., assignors to Shell Oil Company and Continental Oil Company, both corporations of Delaware, The Superior Oil Company and Union Oil Company of California, both corporations of California, all of Los Angeles, Calif.
Filed Nov. 16, 1956, Ser. No. 622,665
8 Claims. (Cl. 175—7)

1. Apparatus for observing an underwater location in a body of water overlying an earth formation, the apparatus including an upwardly extending guide member attached at its lower end of the formation adjacent the underwater location, a bracket guide sleeve disposed about the guide member and slidable up and down on it, a camera boom sleeve attached to the guide sleeve, a camera boom disposed through the boom sleeve, a camera, means including a horizontal pivot for securing the camera to the boom, and means for aiming the camera



about the pivot by remote control from the surface of the water.

2,981,348
BEAMLOCKS
Harlan A. Hadley, Toledo, Ohio, assignor, by mesne assignments, to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Aug. 23, 1957, Ser. No. 679,932
3 Claims. (Cl. 177—157)

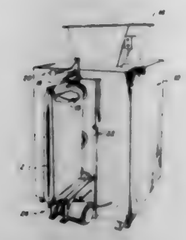


1. In a weighing scale having a movable member, a lock for holding the movable member against oscillation while the scale is being loaded and unloaded and for freeing the movable member during weighments, the lock comprising, in combination, a latch unit and a keeper unit, the latch unit including a conical detent and resilient means for mounting the conical detent upon the movable member, the keeper unit including a keeper member, at least one flexure plate for pivotally mounting the keeper member, a pair of rollers carried by the keeper member at a point remote from the flexure plate and shiftable into and out of embracing engagement with the conical detent, resilient means operatively connected to the keeper member at a point intermediate the flexure plate and the rollers for urging the rollers toward the conical detent, and selectively operated means for retracting the rollers in opposition both to the flexure plate and the resilient means from such embracing engagement.

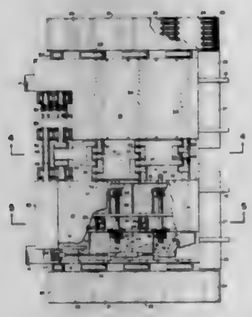
2,981,349
SHAKERS FOR PACKING MATERIAL IN CONTAINERS
Edwin J. Douglas, Whittier, Calif., assignor to H. L. Stoker Company, Claremont, Calif., a corporation of California
Filed Apr. 5, 1957, Ser. No. 650,945
8 Claims. (Cl. 177—264)

1. Apparatus for use in packing material in a container comprising a weighing mechanism, means for supporting the container on the weighing mechanism including a reciprocating support for supporting the lower end of the container, the reciprocating support being

substantially balanced so that the reciprocating action does not cause the shaker to vibrate the weighing mechanism appreciably, and the support reciprocating a distance along the vertical direction and at a speed to cause the lower end of the container as it is being packed to be suspended so that the container does not follow the full up and down movement of the support.

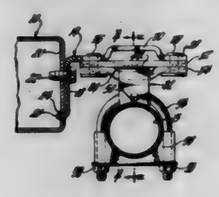


2,981,350
IN-HOLD CARGO HANDLING DEVICE
Robert L. Zouck, Ruxton, and Irwin R. Barr, Kingsville, Md., assignors to Aircraft Armaments, Inc., Cockeysville, Md., a corporation of Maryland
Filed July 25, 1958, Ser. No. 750,999
7 Claims. (Cl. 180—9.2)



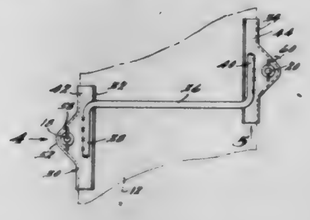
1. A cargo handling device of the type having a platform movable to different levels of elevation, ground engaging track means, a suspension and elevation system on said platform operable upon said track means for selectively moving said platform to said different levels, resilient means connecting said track means with said system, means to resiliently hold said platform at an upper elevation, and stop means to limit resilient movement between said track means and said system, characterized by the provision of track idler means for maintaining said track means in operative engagement with said suspension and elevation system during movement of said platform to all levels of elevation, comprising wheel means engaged with said track means and movable from a retracted position occupied when said platform is substantially at its lowest level to a fully extended position when said platform is substantially at its highest level, said wheel means being movable to an intermediate position when said platform is resiliently held at an intermediate level by said suspension and elevation system upon placing a load on said platform, first means responsive to elevation of said platform from said lowest level to substantially said intermediate level for holding said track means in operative engagement with said suspension and elevation system, and second means then made effective only throughout movement of said platform from said substantially intermediate level to substantially said highest level to maintain a constant track tension regardless of resilient movement between said track means and said system.

2,981,351
EXHAUST SYSTEM SUPPORT
Robert H. Knickerbocker, Detroit, and Harry L. Redding, Pontiac, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 11, 1959, Ser. No. 839,433
6 Claims. (Cl. 180—64)



1. A vehicle tail pipe supporting device including in combination a vehicle frame, a bracket member supported upon said frame and including an arm portion extending therefrom, resilient insulating means secured to said arm, said means including an opening extending longitudinally of said frame through the insulating means, a strap member including a first leg extending through said opening and freely slidable relative thereto, said strap including means for limiting axial movement of the strap relative to the insulating means, said strap including a second leg spaced from the first leg and also extending longitudinally of said frame, said second leg having an arcuate cross section, a tail pipe adapted to be supported from said second strap leg, and means for clamping said tail pipe to the second leg of said strap.

2,981,352
BATTERY HOLD DOWN DEVICE
Lewis F. Jilbert, Clawson, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Nov. 5, 1957, Ser. No. 694,631
2 Claims. (Cl. 180—68.5)

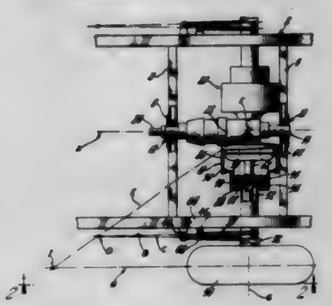


1. A device adapted to hold down a battery of generally box-like configuration having protrusions extending upwardly from the top surface of said battery, comprising first and second brackets of L-shaped cross sectional configuration engageable with opposite edges of said battery, wherein each bracket has an upper surface engageable with a portion of the upper surface of said battery, and a rod having elongated, angularly offset end portions secured lengthwise of the upper surfaces of said brackets and an intermediate portion adapted to extend across the upper surface of said battery, said intermediate portion being raised relative to the upper surface of said brackets to facilitate clearance with respect to the protrusions on the upper surface of said battery.

2,981,353
SWING AXLE REAR SUSPENSION

Johannes Rosenkrands, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 26, 1959, Ser. No. 795,675
8 Claims. (Cl. 180—73)

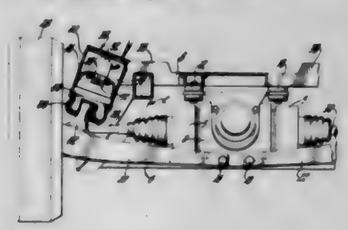


1. Independent suspension for a vehicle driving wheel comprising, a frame, a swing axle assembly pivoted to said frame on a longitudinal axis, said assembly including an inner and an outer housing rotatable relative to each other about a common transverse axis, driving means for said wheel extending through said housings, said driving means including torque multiplying means associated with said housings so that driving torque reaction is taken partly by said inner housing and partly by said outer housing, and means interconnecting said outer housing and said frame effective to utilize torque reaction of the former to resist vehicle acceleration squat.

2,981,354
PNEUMATIC VEHICLE SUSPENSION WITH TORQUE RESPONSIVE PITCH CONTROL

Albert E. Roller, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 15, 1959, Ser. No. 806,485
9 Claims. (Cl. 180—73)



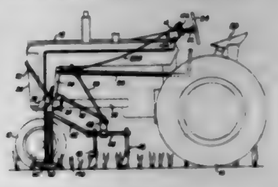
1. In combination with a vehicle having dual chambered air springs disposed between the sprung and unsprung mass, valve means between said chambers movable from an open position to a closed position preventing communication between said chambers, a differential structure yieldably supported on said sprung mass, and means actuated responsive to torque reaction of said differential for moving said valve means to said closed position.

2,981,355
AUTOMATIC CONTROL STEERING UNIT FOR TRACTORS

Frank M. Rabuse, Hillsdale, Kans.

Filed Dec. 1, 1958, Ser. No. 777,295
10 Claims. (Cl. 180—79.1)

1. An assembly for automatically turning the steering column controlled front wheels of a tractor to guide the latter in a field having means on the terrain thereof defining a pair of spaced, substantially parallel lines between which the front wheels are to move as the tractor travels over the ground, said assembly comprising a pair of units adapted to be secured to the tractor in horizontally spaced relationship and at substantially the same height relative to the ground; feeler means pivotally mounted on each of the units for movement relative to the latter, each of said feeler means including a first portion extending into a corresponding unit, and a second outer portion disposed to engage respective line defining means on the ground, said second portions of the feeler means normally being spaced apart a distance somewhat less than that between said lines whereby the feeler means are alternately engageable with respective adjacent line defining means for indicating when the front

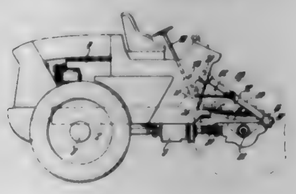


wheels are in closer proximity to a corresponding adjacent line defining means than to the other line defining means; power operated means adapted to be operably connected to said steering column of the tractor for rotating the same in opposite directions; and means for controlling operation of said power operated means including structure within each of said units and actuatable by said first portions of the feeler means for activating said power operated means to rotate the steering column in one direction when a corresponding second portion of a respective feeler means engages an adjacent line defining means on the ground to effect pivoting of the respective feeler means relative to the tractor whereby the front wheels of the tractor are maintained substantially equidistant from said opposed line defining means as the tractor travels over the field.

2,981,356
POWER STEERING FOLLOW-UP CONTROL

Ralph J. Bernotas, South Euclid, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 13, 1959, Ser. No. 812,930
7 Claims. (Cl. 180—79.2)



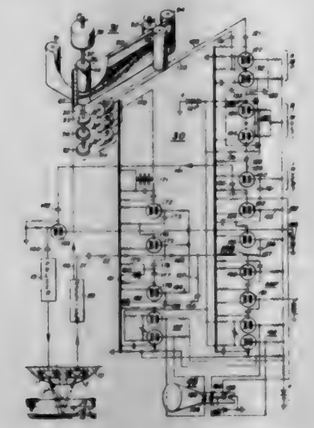
7. A steerable vehicle comprising a main frame, an auxiliary frame, wheel means non-dirigibly mounted on each of said frames, a first ball joint connection between adjacent ends of said frames, a rigid link having one end connected to said main frame by a second ball joint connection at a point spaced vertically above said first ball joint connection, said rigid link extending forwardly and downwardly from said second connection and having its other end connected to said auxiliary frame by a third ball joint connection at a point spaced horizontally forwardly of said first ball joint connection, said first and second ball joint connections defining a vertically extending axis of relative frame articulation through the

centers of the ball elements of said first and second ball joint connections, said first and third ball joint connections defining a horizontally longitudinally extending axis of relative frame oscillation through the centers of the ball elements of said first and third ball joint connections with said frames steered in a straight-ahead direction, a fluid power steering gear on said main frame including engaged driving and driven gear means, a manually rotatable steering shaft, means rotatably drivingly connecting said steering shaft to said driving means for relative axial movement therebetween, valve means for controlling the flow of fluid pressure to said steering jack, linkage means connecting said driving means to said valve means to position the latter in response to relative axial movement between said driving means and steering shaft, and a follow-up rod having one end operatively connected to said driven means and the other end pivotally connected to said rigid link intermediate the ends of the latter and in a vertical plane through said horizontal axis of relative frame oscillation.

2,981,357
SUBMERGED STRATA ACOUSTIC PROBE SYSTEM

William B. Huckabay and Carroll D. McClure, Dallas, Tex., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Feb. 1, 1955, Ser. No. 485,559
5 Claims. (Cl. 181—.5)

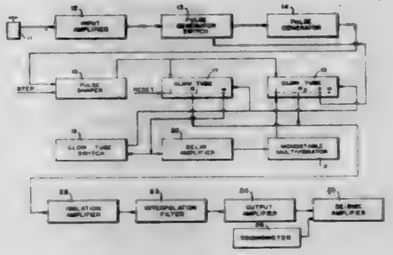


1. A liquid coupled seismic surveying system comprising a recorder having a recording element adapted cyclically to scan a recording chart, synchronous means coupled to said element for producing a control pulse at the instant in each scanning cycle when said recording element is at a datum on said recording chart, a capacitive element and a power source interconnected for charging said capacitive element, a discharge circuit for said capacitive element including transducer means, a control system connected between said synchronous means and said discharge circuit for closing said discharge circuit in response to each said control pulse, means for supporting said transducer means within a liquid disposed over the area seismically to be explored and oriented to direct energy to and receive energy reflected from submerged acoustic interfaces below the bed of said liquid, and a signal channel connected to said transducer means for applying electrical signals to said recorder corresponding in time with the arrival at said transducer means of said reflected energy, said signal channel including non-linear attenuating means responsive to variations in instantaneous values of said electrical signals substantially logarithmically to reduce the amplitudes of said reflected energy for recordation thereof.

2,981,358
SIGNAL GENERATOR

Raymond G. Piety, Bartlesville, Okla., and Ross S. Marsden, Jr., Idaho Falls, Idaho, assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 16, 1955, Ser. No. 547,189
7 Claims. (Cl. 181—.5)

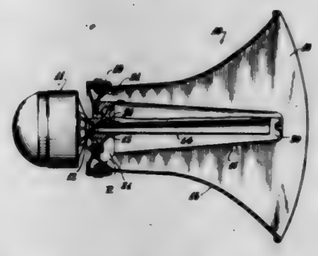


5. Apparatus for generating an electrical signal which varies in amplitude with respect to time in a predetermined manner comprising a glow transfer tube having an anode, a plurality of cathodes, and guide electrode means to transfer a discharge between adjacent cathodes and said anode, a plurality of potentiometers; means connecting the end terminals of each of said potentiometers to a respective one of said cathodes and to a reference potential, respectively; and means connecting the contactors of said potentiometers in an output circuit so that the sequential potentials in the output circuit are determined by the settings of the contactors of the individual potentiometers as the discharge is transferred to the associated cathodes.

2,981,359
REFLEX HORN LOUDSPEAKER

Richard W. Carlisle, Elmsford, N.Y., assignor, by mesne assignments, to Ling-Temco Electronics, Inc., Dallas, Tex., a corporation of Delaware

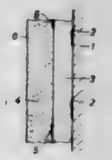
Filed Mar. 5, 1958, Ser. No. 719,250
6 Claims. (Cl. 181—27)



1. In a loudspeaker of the reflex type having a continuous sound channel expanding in area at a substantially uniform and predetermined rate and being substantially reversed at least twice to form two or more bends in the sound channel, the outer wall of the inlet and outlet portion of the first bend being smoothly curved, the radius of said first bend being smaller than one-quarter the wavelength of the highest frequency sound desired to be reproduced, and the radius of said second or subsequent bends being larger than one-quarter the wavelength of the highest frequency sound desired to be reproduced, the improvement which consists of interrupting the expansion of the sound channel area only in the outlet portion of the second or subsequent bends by reducing slightly the cross-sectional area only in the outlet portion of the second or subsequent bends through the

provision of a conoidal surface in the outer wall of said outlet portion, the inlet portion of said second or subsequent bends being smoothly curved.

2,981,360
SOUND-ABSORBING SYSTEMS
Ulrich Fritze, Koln-Stammheim, Rudolf Müller, Leverkusen, and Hans-Willi Paffrath, Koln-Deutz, Germany, assignors, by direct and mesne assignments, of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 17, 1955, Ser. No. 488,962
Claims priority, application Germany Feb. 18, 1954
2 Claims. (Cl. 181—33)



1. A sound-proofing system comprising in combination with a wall a sound absorbing structure comprising a plurality of elastic polyurethane foam mats of different porosity bonded together in the form of a composite unit, the mat with the largest pores being attached to the wall surface and the mat with the finest pores facing the air space.

2,981,361
CABINET CONSTRUCTION
Cecil Schofield, Lakewood, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Apr. 12, 1956, Ser. No. 577,684
15 Claims. (Cl. 181—33)



1. A sound-deadening adhesive composition comprising an asphalt base cement in a proportion of at least 60% by weight and a reclaimed rubber base adhesive mixed therewith which is capable of forming a structurally coherent member, said reclaimed rubber base adhesive constituting from 19% to 37% by weight of said composition and consisting of reclaimed rubber in the range of about 35% to 50% by weight, a resin selected from the group consisting of cumar, rosin, glycerol esters of rosin and pentaerythritol esters of hydrogenated rosin in the range of about 12% to 35% by weight and a solvent selected from the group consisting of aliphatic petroleum solvents, toluol, ethyl alcohol, and methyl alcohol in the range of about 30% to 38% by weight.

2,981,362
VEHICLE LADDER APPARATUS
Herman J. Troche, Fairview Park, Ohio, assignor to Holan Corporation, Cleveland, Ohio, a corporation of Ohio
Filed May 11, 1959, Ser. No. 812,244
8 Claims. (Cl. 182—46)

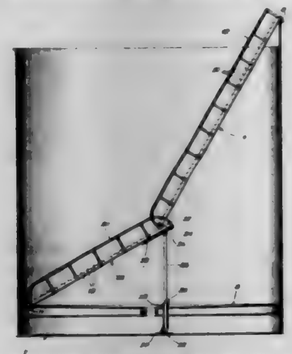


5. In a tiltable and extensible ladder assembly for mounting on a utility class of vehicle and including a base ladder section and an extensible fly ladder section, each of said ladder sections having a pair of parallel side structure members interconnected by a plurality of rungs, the dimension between the side structure members of said base section being greater than the same dimension of said fly section to permit nesting and telescoping relation of the fly section between the side structure members of said base section, said side structure members of said ladder sections being comprised of electrical insulating, relatively high strength material, such as fiberglass in combination with a suitable resin, each of said side structure members defining a lower side rail portion and an upper hand rail portion integrally formed with said side rail portion as a unit, said side rail portion being of an inwardly facing channel-shaped configuration in vertical section and said hand rail portion being of an outwardly facing channel-shaped configuration in vertical section, said hand rail portion being superimposed in integrally formed relation on said side rail portion whereby one of said members of each of said ladder sections is of generally S shaped configuration and the other member is of reversed S shaped configuration in vertical section, looking in the same direction, said rungs extending between and being connected to the side rail portions of the respective of said ladder sections, said fly ladder section engaging and being supported on at least certain of the rungs of said base ladder section, said side rail portions of said fly ladder section being disposed in closely spaced, parallel extending relation to the inner face of the respective of said hand rail portions of said base ladder section, whereby said fly ladder section is guided in its telescoping movement with respect to said base ladder section by said hand rail portions of said base ladder section, each of said channel-shaped hand rail portions of said fly ladder section providing an upwardly facing lengthwise extending trackway thereon, and roller means rotatably mounted on said base ladder section and coacting with said trackway on the adjacent of said hand rail portions of said fly ladder section to maintain said ladder sections in assembled, telescoping relation.

2,981,363
LADDER ARRANGEMENT FOR FLOATING ROOF STORAGE TANK
William R. Ward, Gary, and Kestutis S. Sidabras, Highland, Ind., assignors, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Jan. 20, 1958, Ser. No. 709,949
9 Claims. (Cl. 182—84)

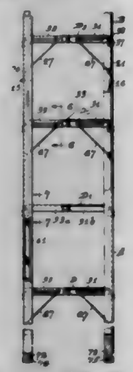
1. In a ladder arrangement, the combination with a field storage tank and a roof arranged to float on product

therein; of a first stairway movably connected to the tank adjacent the upper edge thereof, a second stairway operatively connected to the roof, means interconnecting adjacent ends of the stairways to accommodate relative movement therebetween, and supporting means movably



secured to said roof and including an upper portion operatively connected to at least one of the ends of the adjacent ends of said stairways and the lower end portion engageable with the floor of said tank to support the adjacent ends of said stairways.

2,981,364
FOLDING LADDER
Jack Webber, 1620 Clark St., Montreal, Quebec, Canada
Filed July 13, 1959, Ser. No. 826,648
13 Claims. (Cl. 182—159)



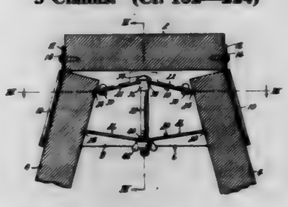
1. A folding ladder comprising in combination a pair of flanged channel members constituting uprights, a plurality of steps each made up of a pair of channel members and each having a terminal inner flange abutting the flange of the other member and means pivoting the inner flanges together, the other end of each of said step channel members being hinged to a rocker arm pivotally mounted on said upright, movement of said rocker arm being restricted to the range from a substantially horizontal position to an angle therefrom corresponding substantially to the inclination of the ladder away from vertical when in operational position, each of said channel members being related to a strut having a fork with ends engaging in a slot in the flange of the channel member and a leg having an end adapted to engage in an opening in the rear flange of one of the uprights, a link extending longitudinally inside the front flange and having spaced-apart openings engaging the end of the hinge connected to each of said step members, spring means normally pulling the said link in a direction to pull the legs perpendicular to the flanges of the uprights, the link being adapted to be moved against the spring means when downward pressure is applied to a step whereby all the steps are brought into diagonal relationship to the uprights and the supports engage in said supporting openings in the rear flange.

2,981,365
SCAFFOLD PLANK CONNECTOR
Orville V. Olsen, 1414 6th St. W., Williston, N. Dak.
Filed June 29, 1959, Ser. No. 823,647
5 Claims. (Cl. 182—223)



1. A scaffold plank connector comprising: a metallic sleeve of rectangular cross-section for the reception of an end portion of the plank, said sleeve including a top plate, side plates and a bottom plate, said side plates having longitudinal slots therein, screws mounted in the longitudinal edges of the plank and engaged in the slots for adjustably securing the sleeve on said plank, an arcuate tongue on the outer end of the sleeve integral with the bottom plate, an arcuate tongue on the outer end of the sleeve integral with the top plate, the second-named tongue overlying the first-named tongue and being affixed thereto and providing, in conjunction therewith, a hook engageable over a support for mounting the plate thereon.

2,981,366
LEG BRACKET FOR SAWHORSES, TABLES, AND THE LIKE
Robert D. Gutting, 831 W. 35th St., Topeka, Kans., assignor of fifteen percent to Clovis W. Bowen, Topeka, Kans.
Filed June 6, 1958, Ser. No. 740,256
3 Claims. (Cl. 182—224)



1. A bracket for attaching legs to an object to be supported, said bracket comprising a hollow, box-like housing open at the bottom and being adapted to be secured at its top to said object, said housing being generally rectangular in horizontal contour and having side and end walls, and being adapted to receive the upper end portions of a pair of legs therein in contact respectively with the inner surfaces of said side walls, upper and lowers clamp plates extending generally horizontally between said legs within said housing, the portions of said plates intermediate their ends being bowed resiliently away from each other, and means interconnecting the central portions of said plates and operable to draw them closer together, whereby opposite edges of said clamp plates are forced outwardly into clamping engagement with said legs.

2,981,367
SNAP FILTER FRAME
Verner E. Sprouse, Columbus, Ind., assignor to Vernco Corporation, Columbus, Ind., a corporation of Indiana
Filed Oct. 30, 1959, Ser. No. 849,814
3 Claims. (Cl. 183—44)

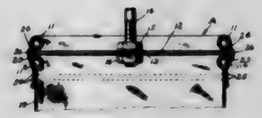
1. The combination with a compressible, resilient filter medium, of a holding frame comprising medium encircling angle members each consisting of a leg defining

an area within which said medium may be received, and a foot extending from the leg, upon which foot the medium bears by a marginal portion, a plurality of barbs each spaced apart from the others around said foot and extending therefrom diagonally toward said leg, and a plurality of fingers spaced apart around said leg above said foot directed theretoward and diagonally from the leg; a subframe comprising a leg encircling the periphery of said medium and telescoping within the leg of said holding frame, a flange extending around said subframe leg lapping over a marginal portion of the medium, said flange having a plurality of openings therethrough ad-



jacent the leg of the subframe spaced in accordance with the spacing of said fingers; said subframe being presented to said holding frame with said flange being spaced from said foot by said medium; said medium normally being of a thickness exceeding the height of the subframe leg, and upon pressing the subframe against said medium about its marginal portion within the holding frame, said fingers being pushed from said subframe leg and springing back over said openings when the legs clear the finger ends allowing the fingers to spring back and be received therein upon removal of the pressing force under the resiliency of the medium.

2,981,368
FILTER TUBE
Anthony L. Johnson, 4611 Lakeview Drive, Edina, Minn.
Filed June 8, 1959, Ser. No. 818,901
2 Claims. (Cl. 183—73)



1. In a tubular filter bag, a single flexible tubular porous body member, a pair of yieldable rings secured to the upper end of said tubular body in close spaced relation, a circular flat plate member having a diameter greater than the inside diameter of said rings and adapted to be held therebetween, and means for connecting said plate to a support to support the bag from the upper end in an elongated depending open extended position.

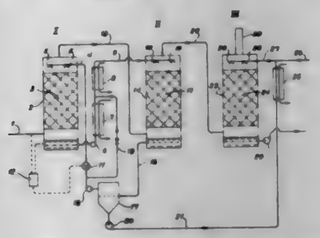
2,981,369
VORTICAL WHIRL SEPARATOR
John I. Yellott, New York, N.Y., and Peter R. Broadley, Elizabeth, N.J., assignors to Bituminous Coal Research, Inc., Washington, D.C., a corporation of Delaware
Filed Nov. 23, 1951, Ser. No. 257,702
1 Claim. (Cl. 183—85)

A reverse flow vortical whirl separator comprising a flat-bottomed, cylindrical casing having an inlet for particle-laden gasiform fluid and an axial outlet for cleaned gasiform fluid at the same end, together with an axially apertured diaphragm skimmer plate at the other end; a discharge or secondary separator chamber in both



peripheral and axial fluid communication with the casing through said diaphragm; a tangential blowdown line at the base of the secondary separator; and an abrasion guard at the axis of said base.

2,981,370
METHOD OF RECOVERING HEAT AND CHEMICAL PRODUCTS IN FLUE GASES FROM THE COMBUSTION OF LIQUORS FROM THE MANUFACTURE OF CELLULOSE PULP
Claes-Wilhelm Pilo, 2 Lovisagatan, Stockholm, Sweden
Filed Dec. 30, 1957, Ser. No. 705,838
3 Claims. (Cl. 183—115)

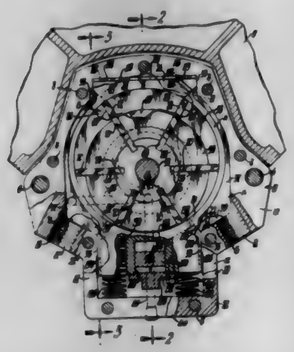


1. The method for recovering chemical substances for reuse in producing cellulose and at the same time also heat from moist flue gas resulting from the combustion of cellulose waste liquors which comprises, cooling said moist flue gas in a first stage to a temperature slightly above the water dew point by bringing said gas into heat exchange engagement with a non aqueous cooling liquid not dissolving water to any appreciable extent to extract heat from said gas without condensing the moisture contained therein, heating said cooling liquid in the cooling of said gas, entrapping solid substances from said gas in said cooling liquid, further cooling said already cooled gas in a second stage to a temperature below the dew point by bringing said cooled gas into heat exchange engagement with cooling liquid at a lower temperature than in said first stage to condense the moisture in said gas to an aqueous condensate, bringing said entrapped solid particles together with cooling liquid from the first and second stages into contact with and dissolving them at least partly in said aqueous condensate, separating said aqueous condensate from said cooling liquid.

2,981,371
COMBINED VARIABLE DISPLACEMENT PUMPING MECHANISM
Earl R. Pierce, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 28, 1955, Ser. No. 504,527
16 Claims. (Cl. 184—6)

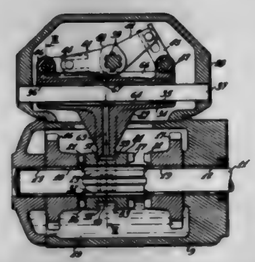
1. A fluid transmitting device comprising, in combination, a casing having two chambers therein, a driving

shaft rotatably mounted in said casing and extending through said chambers, a variable displacement vane-type rotary pump mounted within each of said chambers and including a rotor body mounted on said driving shaft, a cylinder mounted within its respective casing chamber for movement transversely of the axis of said shaft between a maximum displacement position and a minimum displacement position, and a plurality of vanes reciprocably mounted in said rotor body and working against said cylinder to divide each pump into a plurality of pumping compartments, said casing and each of said cylinders defining an inlet passage and an outlet passage for each of said pumps, spring means interposed between said casing and each of said cylinders to normally bias



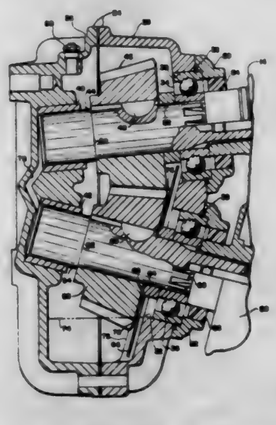
said cylinders toward one of their extreme positions, said casing and each of said cylinders defining expansible chamber means therebetween connected to the outlet passage of the same one of said pumps and operable in response to the discharge pressure of said same one pump to shift each of said cylinders toward the other of said extreme positions in opposition to said biasing spring means thereby varying the relative pumping displacement of each pump proportionally with respect to the other of said pumps, and said casing and each of said cylinders defining secondary expansible chamber means therebetween, each of said secondary expansible chamber means being connected to the inlet passage of its respective pump.

2,981,372
LUBRICATION SYSTEM FOR A SHIFTER ASSEMBLY
Gene C. Naumer, Ezu Gallie, Fla., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 9, 1959, Ser. No. 819,125
14 Claims. (Cl. 184—6)



1. A shifter assembly comprising: a collar having an annular groove, means for rotationally and axially shiftably mounting said collar on a support; a shifter fork means for axially shifting said collar, said shifter fork means having a bifurcated end complementary to and received in said annular groove; and a lubrication system including a pressure chamber formed by the circumferential space between the inner surface of said bifurcated end and the peripheral walls of said groove, an oil collecting surface presented by one of the walls of said groove, said collecting surface being adapted to run in an oil bath, a portion of said bifurcated end having contact with the peripheral walls of said groove such that oil adhering to said oil collecting surface is wiped off and collected in said pressure chamber, and fluid passage means for distributing oil from said pressure chamber, rotation of said collar being effective to build up pressure in said pressure chamber and force oil through said passage means.

2,981,373
GEAR DRIVE
Cornelius W. Van Ranst, 15692 Woodland Drive, Dearborn, Mich.
Filed Nov. 5, 1958, Ser. No. 772,138
3 Claims. (Cl. 184—11)



1. In a gear drive for operatively connecting drive and driven shafts which are in a common vertical plane and angularly disposed to one another, the lower shaft being inclined upwardly and the upper shaft being inclined downwardly toward a common point, a gear housing in which said shafts are journaled with the adjacent shaft ends terminating in bearings in the one wall of said housing, said one wall having an oil passageway therein communicating between the terminal ends of said shafts, bevel gears on said shafts in mesh with one another, a disk carried on said lower shaft adjacent the lower side of the lower gear and extending radially beyond the teeth of such gear, said housing being closed so that lubricating oil can be filled therein to the lower bevel gear and on rotation of said shafts oil will be lifted by said disk to upper portions of said housing and splashed onto the upper shaft, and oil passing through the upper bearing will flow through said passageway to the lower bearing.

2,981,374
HAND TRUCK WITH LIFTING AND LOWERING MECHANISM
Charles H. Holsclaw, 408 N. Willow Road, Evansville, Ind.
Filed Jan. 19, 1959, Ser. No. 787,501
4 Claims. (Cl. 187—10)

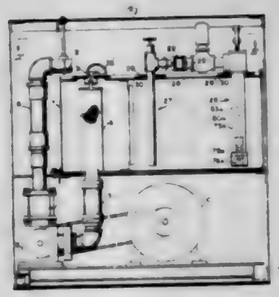
4. A lifting and lowering mechanism for use with a material handling device having a generally upright frame, said mechanism comprising, in combination, a

pair of laterally spaced longitudinal tracks adapted to be mounted upon the frame, a platform having a pair of laterally spaced arms rigid therewith, a pair of rollers journalled upon each of said arms and engaging said tracks for guiding movement of said platform therealong, a shaft extending transversely between said tracks adjacent the upper ends thereof, a cable drum fixed to said shaft, a cable secured at one end to said platform and at the other to said drum, a torsion spring mounted



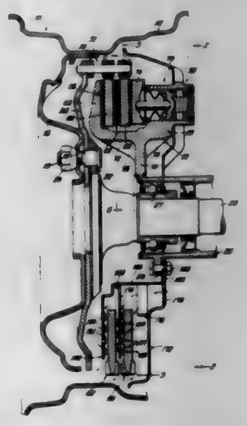
upon said shaft and having one end thereof fixed with respect to said shaft, a collar having the other end of said torsion spring fixed thereto and mounted upon said shaft for independent rotation with respect thereto to effect initial adjustment of spring tension, and means for holding said collar stationary with respect to said tracks, said spring being further tensioned as said cable is unwound from said cable drum upon downward movement of said platform along said tracks under a load placed thereon.

2,981,375
HYDRAULIC ELEVATORS
Joseph H. Borden, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Aug. 12, 1959, Ser. No. 833,203
38 Claims. (Cl. 187—28)



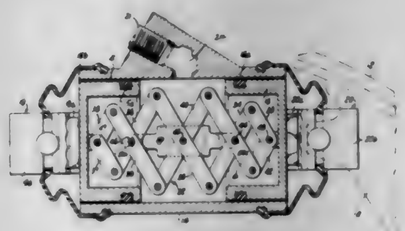
1. In a hydraulic elevator system, in combination, a hydraulic cylinder, a reservoir containing a hydraulic medium, conduit means connecting the cylinder and the reservoir, pumping mechanism in the conduit means for transferring hydraulic medium from the reservoir to the cylinder to provide elevator up travel, a first return conduit between the cylinder and the reservoir for returning hydraulic medium to the reservoir to provide elevator down travel under the influence of gravity, a second return conduit between the cylinder and the pumping mechanism for returning hydraulic medium to the reservoir during elevator up travel, and a variable flow control valve operable through a continuous range in each of the return conduits for controlling the flow of the hydraulic medium through the return conduits and thus for controlling the flow of the hydraulic medium into and out of the cylinder.

2,981,376
DISC BRAKE
Reinhold C. Zeidler, Detroit, Mich., assignor to Borg-Warner Corporation, a corporation of Illinois
Filed Jan. 27, 1958, Ser. No. 711,521
9 Claims. (Cl. 188—73)



1. A vehicle brake comprising a ring adapted to be secured to a wheel for rotation therewith, a pair of annular discs mounted on said ring for relative axial movement with respect thereto, a friction assembly operable upon actuation to engage both sides of each of said discs, and stationary panels arranged adjacent said discs, said panels having a plurality of openings defined by flanges projecting into limited spaced relation to said discs for turbulizing the air at the surfaces thereof, said panels being further operative to absorb heat from said disc by radiation.

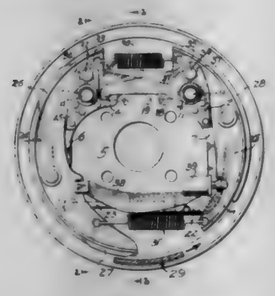
2,981,377
BRAKE CONTROL MECHANISM
Louis Charles Brisson, 8 Rue de la Duchesse de Chartres, Oise, France
Filed Apr. 4, 1958, Ser. No. 726,381
13 Claims. (Cl. 188—78)



1. In a brake, a brake plate, a pair of brake shoes to engage a rotatable brake drum, actuating means for urging said shoes into engagement with the drum, and connecting means including reversibly symmetrical levers between said shoes having a fulcrum reaction against said brake plate and directly acting upon one of said shoes in

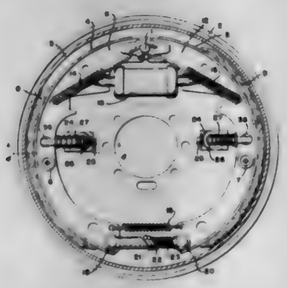
a direction away from said drum upon the application of a reaction pressure between the drum and the other of said shoes for one direction of rotation of said drum.

2,981,378
SERVO TYPE BRAKE WITH SELF REGULATION
Louis C. Brisson, Le Vieux Logis, Vineuil St. Firman, Oise, France
Filed Sept. 11, 1957, Ser. No. 683,262
11 Claims. (Cl. 188—78)



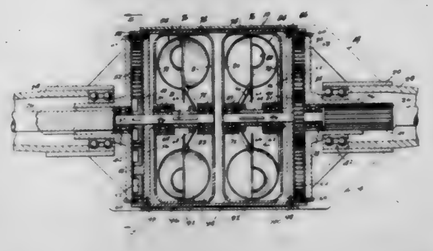
1. In a brake, a brake plate, a pair of levers pivotally mounted thereon, a pair of brake shoes each pivotally connected to a different one of said levers, a brake drum surrounding said shoes, a compression link connection between said shoes, means for swinging said levers about their pivotal connections to said brake plate for urging said shoes into engagement with said drum, one of said levers having a lever arm extending therefrom and in engagement with the other of said levers at a point on the opposite side of the pivot for said other lever from the brake shoe connected therewith so that said last-mentioned lever is urged in one direction upon the application of a rotating force on the other lever in an opposite direction.

2,981,379
AUTOMATIC VEHICLE BRAKE ADJUSTER
Frank C. Burrell, Orchard Lake, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 9, 1958, Ser. No. 740,893
5 Claims. (Cl. 188—79.5)



1. A brake adjusting means for use with a vehicle drum brake comprising in combination, a backing plate, an anchor pin connected to said backing plate, a brake drum mounted adjacent said backing plate and concentric therewith, brake shoes for frictionally engaging said brake drum, said brake shoes having cooperatively adjacent ends, two of said cooperatively adjacent ends expanded by means of a hydraulic cylinder, return springs for contracting said adjacent ends and returning said adjacent ends to a rest position on said anchor pin, the brake adjusting means comprising a self-adjusting spacing means connected to the central portion of each of said brake shoes including a bracket adapted for mounting on said backing plate, a link member extending through a perforation on said bracket, an oversized opening in the webbing of said brake shoe for reception of said link, an offset portion connected to the main portion of said link extending through said opening with an end portion extending beyond said opening, a spring and locking member carried on said link to lock said link in an extended position, a self-adjusting strut member connecting two of the opposite adjacent cooperative ends of said brake shoes comprising, a sleeve member connected to one of the opposite ends of said brake shoes, a rod member connected to the other opposite end of said brake shoe to be received within said sleeve member, a spring and lock member carried on said rod member to provide automatic locking of said rod and sleeve member in an extended position, said adjustable spacing member and said self-adjusting strut member thereby providing brake adjustment when excessive clearance is present between said brake shoes and said drum.

2,981,380
HYDRAULIC BRAKING APPARATUS
Oswald E. Lessly, 466 Giano Ave., La Puente, Calif.
Filed Feb. 26, 1960, Ser. No. 11,319
3 Claims. (Cl. 188—90)



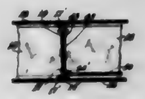
1. A torque brake for a vehicle having a pair of coaxially aligned dual axles, said torque brake comprising a cylindrical end plate for each of said axles, means connecting one end of said axles with its said associated end plate centrally of the latter for rotation therewith, each of said end plates having an internal gear ring fixedly secured thereto adjacent the outer marginal edge thereof, a shaft for each of said end plates, said shaft having one of its ends journalled for rotation in said end plate and in coaxial relation with the adjacent one of said axles, a discoidal member mounted on each of said shafts, said shafts being rotatable with and relative to said discoidal members, a spur gear mounted on each of said shafts and disposed in concentric relation relative to the adjacent ring gear and surrounded thereby in spaced relation relative thereto, a plurality of stub shafts projecting laterally from each of said discoidal members towards the adjacent one of said end plates, a plurality of idler gears mounted for free rotation, respectively, on said stub shafts and meshing with said spur gears and said ring gears, a torque converter mounted on each of said shafts for rotation therewith or relative thereto, said torque converters each having its rotor side keyed to its associated shaft for rotation therewith, a drum fixedly connected to and surrounding said torque converters and being fixedly connected to said discoidal members, a split cylindrical shoe surrounding said drum in normally spaced relation relative thereto, and means selectively operable to tighten said shoe against said drum to brake said axle through said torque converter.

2,981,381
SELF-ADJUSTING MEANS FOR BRAKE OR CLUTCH ASSEMBLIES
John F. Swift, Fort Wayne, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 12, 1957, Ser. No. 702,296
9 Claims. (Cl. 188—196)



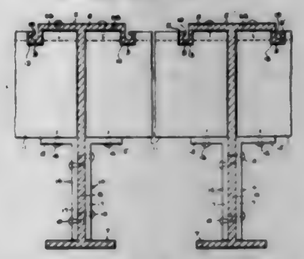
1. In a vehicle brake operating linkage comprising a pivotally mounted control lever; a sleeve-like member pivotally mounted on one end of said lever; a pull rod having one end adapted to be operatively connected to the brake and its opposite end threaded, said pull rod extending loosely through said sleeve-like member; an annular abutment having internal threading engageable with said threaded end of said pull rod; spring means urging one end of said sleeve-like member into abutting engagement with said abutment; a ratchet wheel concentric with and fixed to said abutment having ratchet teeth formed on its periphery; and means normally out of operative engagement with said ratchet wheel, said means operatively engaging said ratchet wheel automatically upon a predetermined movement of said lever in one direction whereby movement of said lever in the opposite direction effects rotation of said ratchet wheel one tooth length with respect to said rod.

2,981,382
LIGHT-DIFFUSING STRUCTURAL PANELS
Robert R. Keller, 150 Milford St., Manchester, N.H.
Filed Sept. 7, 1956, Ser. No. 608,505
9 Claims. (Cl. 189—34)



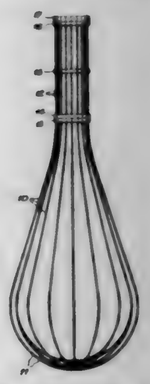
1. A building panel comprising two light-transmitting facing sheets of synthetic resinous material and between said facing sheets a rigid core to which each of said facing sheets is bonded, said core including an assembly of core-frame members defining a plurality of chambers having opposite ends abutting against said facing sheets, the core-frame member portions defining two opposed sides of at least one of said chambers being provided with flange portions extending inwards of said chamber adjacent one end thereof, outer surfaces of said flanges being bonded to the corresponding facing sheet, a light-influencing sheet insert member extending across said chamber with edge margins engaged upon corresponding inner surfaces of said flanges, and securing means cooperating with said inner flange surfaces holding said insert member in place thereupon, said light-transmitting facing sheets and said insert member cooperating to create a decorative appearance when light is passed through said panel, providing an improved panel suitable for use in the construction of a building to define both the inside and outside walls thereof.

2,981,383
INTERLOCKING I-BEAM FOR ROOF AND SIDE WALL STRUCTURE
Harold S. Dunn, 163 Fiesta Way, Fort Lauderdale, Fla.
Filed May 23, 1960, Ser. No. 31,114
4 Claims. (Cl. 189—36)



1. An interlocking structural device for forming roof and sidewall supporting members to be covered by insect screen panels, comprising extruded I-beams that constitute roof rafters and also roof supporting columns that are disposed in spaced apart parallel relation, the I-beams having a relatively wide head portion, a base and a connecting web, the head portion along its marginal edges being downwardly flanged, the flanges being relatively thick transversely and with the flanges being provided with upwardly opening spline grooves to receive the marginal edges of insect screen panels, means for bracing the I-beams against lateral twisting that comprises extruded hollow purlins that extend between adjacent beams, the purlins being provided upon their upper edges with upwardly opening spline grooves to receive the edges of the screen panels, each of the purlins adjacent their opposite ends being transversely slotted across their tops and with the slots corresponding in width to the transverse thickness of the flanges, the purlins being interlocked with the flanges of adjacent beams through the medium of the engagement of the slots with the flanges, the spline grooves of the beams and the purlins being disposed at an identical elevation to receive the marginal edges of the panels and bracket means connected with the bottom of the purlins and with the web of the beams to prevent movement of the purlins downwardly from their interlocked engagement with the flanges.

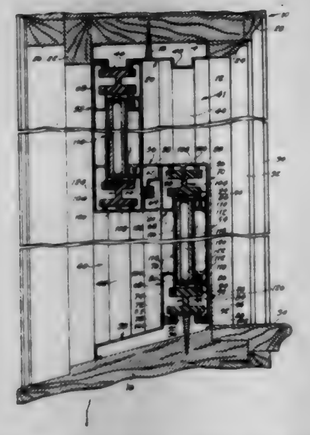
2,981,384
STIRRING WHIP HANDLES
Lawrence E. Egedal, 2580 N. Frederick Ave., Milwaukee, Wis.
Filed Jan. 29, 1959, Ser. No. 789,942
5 Claims. (Cl. 189—36)



1. In a wire structure, a group of parallel wires with their axes arranged in a generally cylindrical pattern, and

retainer members each having a circular series of bores in which the wires extend and are secured, a pair of said retainer members being in axial abutment in the direction of said wires with their axes colinear and having their corresponding wire-receiving bores offset in a radial direction in an amount slightly greater than the difference between the bore diameter and the wire diameter to provide a pinching and locking action where the wires pass through said abutting retainer members.

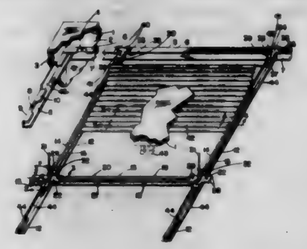
2,981,385
INSULATED METAL-FRAMED WINDOW SASH
Fred Charles Osten, Sr., 14500 Abingdon Ave., Detroit, Mich.
Filed Apr. 9, 1959, Ser. No. 805,311
9 Claims. (Cl. 189—76)



1. An insulated metal-framed window sash comprising a pair of open-centered outer and inner hollow metal sash frame components of approximately C-shaped cross-section, said sash frame components having interrupted internal walls facing one another in spaced parallel relationship with gaps in the internal walls having spaced edges, said sash frame components having external walls interconnecting their respective internal walls, an open-centered insulating structure of heat-insulating material disposed in the space between said outer and inner sash frame components, said insulating structure being of approximately H-shaped cross-section with spaced substantially parallel outer and inner flanges and a web interconnecting said flanges, said insulating structure being disposed in the gaps in said internal walls in engagement with said internal wall edges, said insulating structure being spaced apart from said external walls and cooperating therewith to provide voluminous dead air insulating chambers, and a window pane structure disposed in the space between said components.

2,981,386
ILLUMINATION SYSTEM
Richard F. Reske and Lawrence I. Siegel, Shaker Heights, Ohio, assignors, by mesne assignments, to Federal Lighting Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 8, 1955, Ser. No. 533,107
1 Claim. (Cl. 189—85)

In an illumination system of the character described, a framework consisting of members disposed perpendicularly to each other to form intersecting joints, said members being of I-beam cross-section having horizontally-disposed spaced upper and lower flanges, a single bracket connected to the upper flanges of all of the members at each joint, said bracket comprising a member formed of sheet metal having a central flat body portion and arms coplanar with said body portion and extending therefrom, said arms having flanges embracing only the upper flanges of said framework members, screws extending vertically



through said arms and into threaded relation with said framework members, said body portion having a lug stamped from said body portion and extending upwardly from said body portion, and means connecting each bracket lug directly to a ceiling for supporting the framework in spaced relation to said ceiling.

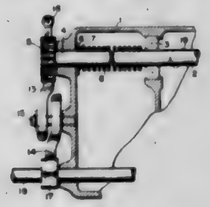
2,981,387
CLIP
Victor H. Dutchik, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 18, 1958, Ser. No. 755,587
2 Claims. (Cl. 189—88)



1. In a clip for holding a flanged molding to a pinchweld, a clip body having a center section and two side sections integrally formed therewith and extending downwardly therefrom to provide a generally channel like cross section, said body center section having apertures formed therethrough for receiving a clip-holding tab formed on the pinchweld, a pair of generally parallel and coplanar clip-positioning terminal legs integrally formed on each end of said body and downwardly bent to extend transversely thereto and downwardly beyond said clip body, a first pair of flanges integrally formed with and positioned centrally of said body and extending first downwardly and inwardly toward the vertically disposed longitudinal center plane of said body and then extending downwardly and outwardly therefrom and having aligned apertures formed therethrough for receiving clip anchor means, a second pair of flanges integrally formed with one of said clip body side sections and positioned adjacent either end thereof, each flange of said second flanged pair extending first outwardly and downwardly and then inwardly and downwardly relative to said clip body a distance vertically less than the length of said terminal legs and a distance laterally greater than the overall width of said terminal legs, said second flange pair springingly engaging and holding one side of the flanged molding in position, and a third pair of flanges integrally formed with one of said clip body side sections and positioned centrally of said clip body and extending downwardly and outwardly relative to said body and having a molding flange engaging end formed there-

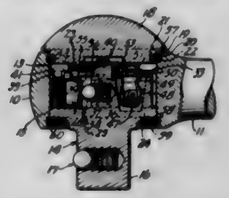
on for engaging and springingly holding the flanged moldin to the pinchweld, said third pair of flanges extending outwardly beyond and vertically below said terminal legs.

2,981,388
ANTI-BACKING DEVICES FOR VEHICLES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France, a French works
Filed Jan. 29, 1959, Ser. No. 789,963
Claims priority, application France Feb. 5, 1958
5 Claims. (Cl. 192—4)



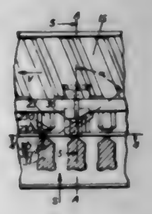
1. Anti-backing device for vehicles, of the unidirectional coupling type permitting the free rotation of a transmission shaft rotating bodily with the output shaft of a clutch only in the direction in which this transmission shaft rotated when it is driven from the engine, comprising a shaft coupled to the output shaft of the clutch, a freely rotatable shaft, a unidirectional resilient means coupling said shaft and said rotatable shaft, a peripherally notched disc fixed to said rotatable shaft, stationary ball guide means, ball means engaging said notched disc and supported in said stationary guide means, a pair of jaw-forming levers operatively coupled to said ball means, a tension spring urging said pair of levers together to force said ball means toward the center of said notched disc, driver-actuated control means operatively coupled to said levers to move said ball means in said guide means away from said disc against the resistance of said spring to permit backward movement of the vehicle without disengaging the transmission shaft from the engine.

2,981,389
RATCHET MECHANISM
Luther E. Kilness, Buffalo Gap, S. Dak., assignor to The New Britain Machine Company
Filed July 5, 1957, Ser. No. 670,191
17 Claims. (Cl. 192—45.1)



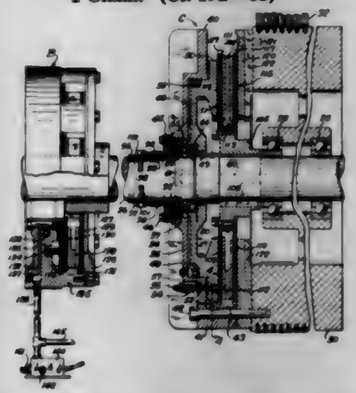
1. In a ratchet mechanism, the combination of a driving member having a cylindrical opening with a plurality of inwardly extending teeth, distributed around said opening, a work-turning member rotatably mounted in the cylindrical opening, said work-turning member having a recess at the periphery with at least two angularly spaced sides, a toothed pawl contained by the recess and of smaller size than the recess to permit radial withdrawal of the pawl from the teeth in the cylindrical opening, a control member pivotally mounted with respect to said work-turning member and having abutment means cooperating with said pawl for locating said pawl in a selected position predominantly to one angular side of said recess adjacent the nearby side wall of said recess and spaced from the opposite side wall of said recess, and spring means reacting between said work-turning member and said control member, and resiliently urging the same in said predominant direction.

2,981,390
TRANSMISSION CLUTCH SHIFT FACILITATION DEVICE
Alfred Doerper, Ruesselsheim (Main), Hessen, Germany, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 31, 1958, Ser. No. 725,197
Claims priority, application Germany Apr. 11, 1957
21 Claims. (Cl. 192—67)



1. In a transmission device, a rotatable selective speed driving member and a coaxial slidable clutch driven member, one of said members having external clutch teeth and the other member having co-operating internal clutch teeth, only one of the clutch teeth on one of said members constituting a movable pilot tooth, means movably mounting said one of the clutch teeth on said one of said members for movement from a normal position out of pitch with the remaining clutch teeth to a position in pitch with the remaining clutch teeth, and biasing means to normally urge said one clutch tooth from said position in pitch to said normal position.

2,981,391
CLUTCH
Alfred W. Schultz, Cleveland Heights, Ohio, assignor to The Cleveland Crane & Engineering Company, Wickliffe, Ohio, a corporation of Ohio
Filed Aug. 20, 1959, Ser. No. 834,990
1 Claim. (Cl. 192—85)



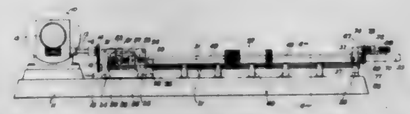
In a press or the like, a shaft having an internal aperture opening into its circumference intermediate its ends, a drive element rotatably supported on said shaft, fluid operated clutch means to drivingly connect said shaft and drive element and comprising a cylinder concentric with said shaft and connected to said drive element for rotation therewith, a piston reciprocable in and rotatable with said cylinder, said piston and an end wall of said cylinder having axial openings through which said shaft extends, spaced annular concentric abutment means on said shaft at opposite sides of said opening of said aperture into the circumference of said shaft, a pair of sealing members concentric with said shaft and disposed between said abutment means, means mounting said sealing members on said piston and cylinder respectively for movement axially of said shaft and forming fluid-tight seals between said piston and cylinder and the respective sealing members supported thereby, said abutment means and said sealing members having cooperating annular faces concentric to said shaft adapted to sealingly engage and provide spaced fluid seals between said piston and said shaft and said cylinder and said shaft at opposite sides of said opening of said aperture into the circumference of said shaft, circumferentially spaced axially extending projections on said sealing members interdigitated with one another and having peripheral grooves in substantial alignment with one another to form an annular groove, and an annular extension spring disposed in said annular groove for maintaining said sealing members in assembled relation and resiliently biasing them toward one another.

2,981,392
CLUTCHES ACTUATED BY HYDRAULIC CONTROL MEANS
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France, a French works
Filed Jan. 29, 1959, Ser. No. 789,955
Claims priority, application France Feb. 18, 1958
3 Claims. (Cl. 192—106)



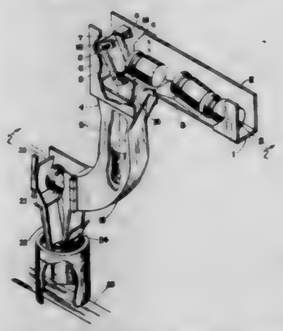
1. A hydraulic-control clutch comprising an input shaft, an output shaft coaxially mounted with respect to said input shaft, an end plate fixed to said input shaft, a fluid chamber provided on said end plate and having a resilient deformable diaphragm forming the end closure thereof, a clutch plate coupled to said end plate for rotation therewith and disposed adjacent said diaphragm, first spring means biasing said clutch plate against said diaphragm, a plurality of lever support means fixed to said end plate, a fulcrumed swinging lever pivotally mounted on each of said lever support means, said lever having a lever end bearing against said clutch plate and an adjacent integral lever heel, a movable plate rotatably driven from said end plate and contacted by said lever heel, second spring means operatively coupled to said movable plate to urge it against said lever heel, a ring connected to said end plate and axially spaced from said movable plate, whereby said movable plate is adapted to axially move toward said ring against said second spring means in a clutch engaging position, a dry friction disk connected to said output shaft and located between said movable plate and said ring adapted to be clamped therebetween, each of said levers having an integral inertia weight extension at the opposite end from said lever end and lever heel.

2,981,393
DEVICE FOR ORIENTING APERTURED PLATES
George S. Gunnison, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 16, 1951, Ser. No. 206,135
3 Claims. (Cl. 193—43)



1. In apparatus for orienting thin noncircular apertured disc-shaped members having a number of indentations along the outer circumference thereof, in combination, a noncircular shaft extending through the apertures in the members with the maximum radius of the shaft less than the minimum radius of the apertures whereby the members are free to rotate on the shaft, a number of parallel horizontal driving rods of substantially the same diameter as the width of the indentations and spaced along an arc of substantially the same radius as the members with substantially the same angular displacement between the driving rods as between the indentations, the number of driving rods corresponding to the number of indentations, means for supporting said driving rods, means for supporting the shaft parallel to and at a greater distance above the driving rods than the width of the annulus of the members but with the width of the annulus plus the diameter of the aperture greater than the distance between the effective top of the shaft and the driving rods, means for imparting linear axial reciprocating motion to the shaft, and means for imparting rotary motion to said driving rods whereby rotary motion will be transmitted by friction to said members until said indentations are disposed adjacent to said driving rods and said members settle in desired oriented position.

2,981,394
BOTTLE ORIENTING DEVICE
Edward J. Stecher, Nanuet, N.Y., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed June 24, 1959, Ser. No. 822,507
3 Claims. (Cl. 193—43)



1. In a bottle-orienting apparatus, the combination with a substantially horizontal trough and a substantially vertical chute below and adjacent the delivery end of said trough, of a bottle-orienting trapeze comprising a pair of L-shaped suspending members parallel to but spaced

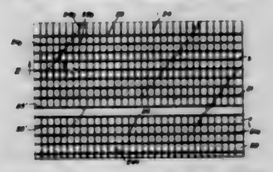
from each other, means for rigidly connecting the suspending members mounted upon and between the lower portions of the vertical sections of the suspending members and adapted to prevent the body of a bottle from passing between the lower portions of the vertical sections of the suspending members, and a pair of inwardly opposed members mounted on the end portions of the horizontal sections of the suspending members, the ends of said inwardly opposed members being spaced apart so as to permit the neck but not the body of said bottle to pass between the ends of said inwardly opposed members, and said trapeze being swingingly mounted above said chute and adjacently spaced from the delivery end of said trough.

2,981,395

OPERATOR MECHANISM FOR THE CONTROL OF THE AUTOMATIC OPERATION OF A SERIES OF SUCCESSIVE INDIVIDUALLY SELECTED OPERATIONAL STEPS IN BUSINESS, CALCULATING AND SIMILAR MACHINES

Charles H. Gibson, New York, N.Y.
(High Point Lane, Scarsdale, N.Y.)

Filed July 9, 1957, Ser. No. 670,710
15 Claims. (Cl. 197—19)



1. An electric control system for automatically controlling the stepwise operation of operating circuits servicing an apparatus, the operational steps of which are selectable by means of preformed connections, comprising a group of insulating sheets each provided with independent series of unconnected printed conductors, one series being printed on one side of the sheet and another series being printed on the other side of the sheet with the conductors on the two opposite sides of the sheet crossing each other, connection means piercing the sheet inserted at selected crossing points of the printed conductors on the two sides of the insulating sheet produce a connection between printed conductors on different sides of the insulating sheet, means for making connections between printed conductors of a series and operating apparatus that is to be controlled, a movable contact arm adapted to move automatically from one contact position to another contact position, thus producing operative connection of the contact arm with the printed conductors of a series on one side of the insulating sheet in each position of the contact arm, a relay controlling the connection between printed conductors of a series and operating apparatus circuit to be controlled, associated with each insulating sheet, and manually controlled energizing circuits for said relays, the manual control operating a relay associated with an insulating sheet provided with preformed connections between printed conductors, thus selecting one preformed connection out of a group of such connections.

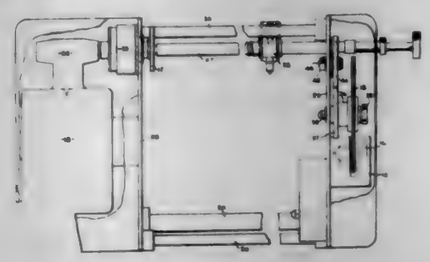
2,981,396

FEED DEVICE FOR RECORD CONTROLLED ADDRESSING MACHINES AND LIKE MACHINES

Henry R. A. Lane, Codsall, England, assignor to Graphic Technology Limited, Bilston, England, a British company

Filed May 8, 1959, Ser. No. 811,951
6 Claims. (Cl. 197—133)

1. A control device for an addressing machine of the type specified comprising a pair of spaced apart parallel side plates, a main paper feed shaft supported in and extending between said side plates, a driving motor for said shaft mounted on one of said side plates, a solenoid-operated clutch on said shaft for coupling same to said motor, a solenoid-operated brake on said shaft, a photo-electric cell detector head having two light-sensitive cells, a source of illumination operatively associated with said detector head, a programme control member having transparent parts and opaque parts arranged to constitute a set of programme selection means for head data and list data, gearing between said shaft and said programme control member for moving same in synchronism with the feed of paper through the machine in a path which passes between said source of illumination and said light-sensitive cells, said detector head, programme control member and gearing being mounted on the other of said side plates, an electronic switching device, independent channels electrically connecting said switching device



to each of said light-sensitive cells, an electrical relay connected between said switching device and said clutch and brake, said relay functioning, when the switching device is operated, to disengage the clutch and apply the brake, means operable by the passage of record devices through the machine to render operative the appropriate channel according to the particular data classification of a record device, so that such channel is in condition to be operated by the next following one of the set of programme selection means of the corresponding data classification, each one of the set of programme selection means being operable, when passing between the source of illumination and the detector head, to initiate the operation of the switching device through the appropriate operative channel to halt the paper in the required position, and a trigger switch device operated in synchronism with the cycle of the machine to restart the paper feed after printing has taken place.

2,981,397

MOVING STAIRWAY

Hans E. Hansen, Staten Island, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 13, 1957, Ser. No. 683,773
49 Claims. (Cl. 198—16)



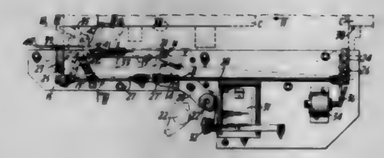
1. In a moving stairway extending from a lower landing to an upper landing, a comb disposed at each landing and a plurality of similar steps, including first and second adjacent steps, disposed to travel between said landings, each step having a riser part and a tread part, each tread part being provided with a plurality of tread cleats and grooves therebetween for meshing with the teeth of said comb, said tread cleats and grooves extending in the direction of stairway travel, the tread cleats and grooves of each step being aligned with those of each of the other steps, one end of each of the tread cleats provided for said first step extending into an oppositely disposed vertically extending riser groove in the face of the riser part of said second step throughout the travel of said first and second steps between said lower and upper landings, each of said riser grooves being aligned with a separate one of said tread cleats of said second step and terminating substantially below the upper surface of the tread part of said second step.

2,981,398

AUTOMATIC POSITIONING DEVICES FOR WORK-PIECES

Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, Seine, France, a French works

Filed July 19, 1957, Ser. No. 672,910
Claims priority, application France Aug. 10, 1956
6 Claims. (Cl. 198—19)



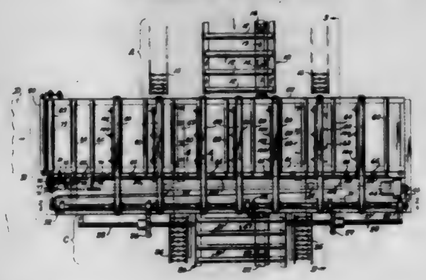
1. In combination with a driven supply conveyor operable to transport unfinished workpieces thereon to a plurality of machines arranged for operating in parallel and a driven discharge conveyor operable to transport finished workpieces away from the machines, the supply conveyor having a plurality of zones spaced along the conveyor each corresponding to an input station for a respective machine and the discharge conveyor having a plurality of zones spaced along the discharge conveyor each corresponding to an output station for a respective machine, an automatic system for controlling the positioning of workpieces at the input and output stations of the individual machines and for insuring transportation of the workpieces in proper spaced relationship comprising, for each input station upstream of a final downstream station a linkage system operable to a first operative position in readiness to engage workpieces when they enter one-by-one the zone corresponding to the station and operable to a second operative position by each successive individual workpiece when it enters the station, a pair of spaced stops operably connected to the linkage system and operable to a lowered position when the linkage is in its first operative position and operable to a raised position when linkage system is in its second operative position, one of the stops being disposed for stopping a workpiece in the input station when in a raised position and the second stop being disposed to stop a next successive workpiece upstream of the station outside of the station, means operably connected to the linkage system for constantly biasing it to its first operative position and operative to return the linkage system to said first position when the individual workpiece in the station is alternatively removed from the input stations and when it is transported past a predetermined point on the linkage system, means under control of the machine associated with the station for rendering said biasing means ineffective thereby to cause the linkage system to remain in its second operative position holding the two stops in upstanding position so that workpieces stopped thereby are held stationary only until the workpiece at an input station to a respective machine is transferred out of the station on to the respective machine, means at said final station for holding a workpiece in said final station in readiness for transfer to a machine associated with said final station and means for holding upstream workpieces outside of said final station until the station is free of a workpiece and for allowing the workpieces to enter the station one-by-one as needed at the machine to which the final station belongs, for each output station downstream of a first output station which is upstream of all other output stations means under control of a respective machine for precluding entry of upstream workpieces into the station when the respective machine is ready to have a finished workpiece transferred from it on to its respective station on the discharge conveyor, and for said first output station means to prevent transfer of a finished workpiece from its associated machine on to the station unless the station is free of workpieces.

2,981,399

APPARATUS FOR HANDLING RIGID SHEET MATERIAL

Clarence E. Parker, deceased, late of Painesville, Ohio, by Frieda Parker, executrix, Painesville, Ohio, assignor to The Coe Manufacturing Company, Painesville, Ohio, a corporation of Ohio

Filed Feb. 26, 1958, Ser. No. 717,733
4 Claims. (Cl. 198—31)



1. In a material-handling apparatus of the character referred to a frame, a plurality of generally horizontal parallel lever-like members, means pivotally connecting said members to said frame for oscillation about a generally horizontal, axis, each of said members having a conveyor belt connected thereto with its upper reach above the upper side of the respective member with which it is associated, means for driving said belts in a direction such that their upper reaches travel toward the pivoted ends of said members, each of said lever members comprising a plurality of rollers spaced lengthwise therealong and supported for rotation about axes parallel to the length thereof, means for supporting said rollers for movement between positions above and below the upper reaches of said belts, means for moving said rollers from one of said positions to the other, and means underneath said members and connected thereto adjacent to their pivoted ends for oscillating said members.

2,981,400

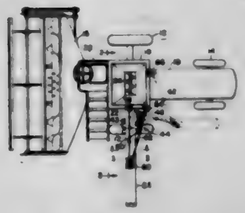
FOLDABLE CONVEYOR

Glen W. Rohweder, Moline, Ill., assignor, by mesne assignments, to Deere & Company, a corporation of Delaware

Filed July 17, 1958, Ser. No. 749,202
12 Claims. (Cl. 198—64)

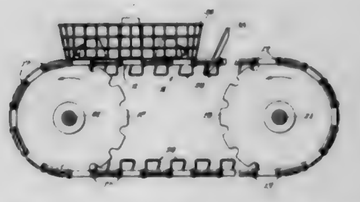
1. In material-handling apparatus of the class described, the combination of: a first conveyor housing having an outer terminal end; a second conveyor housing having an inner terminal end and normally positioned in alined end-to-end relation to and as an extension of

the first housing; and means interconnecting the two housings at said ends, including a hinge having a pivot offset laterally to one side of the alined housings and about which the second housing is swingable to a folded position in which the inner end of the second housing is laterally clear of but offset outwardly beyond the outer



end of the first housing, and said interconnecting means including a support carrying the folded second housing for shifting inwardly lengthwise of and relative to the first housing so that said inner end of the folded second housing moves inwardly of and alongside the outer end of the first housing.

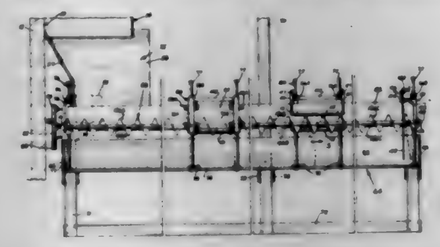
2,981,401
CONVEYOR FOR DISHWASHING MACHINES
John Cumming, River Forest, Ill., assignor to G. S. Blakeslee & Co., Cicero, Ill., a corporation of Illinois
Filed Jan. 19, 1959, Ser. No. 787,599
1 Claim. (Cl. 198—131)



In an endless conveyor for dish washing machines in which the articles to be washed are subjected to liquid sprays projected upward thereagainst from beneath the upper run of the conveyor, said conveyor having an upper run and a lower run and comprising side driving chains extending lengthwise of said conveyor, parallel rods connecting said chains and extending transversely of said conveyor and spaced apart lengthwise thereof, and a plurality of links of substantially U-shape lengthwise of said conveyor disposed between each two adjacent rods and spaced apart transversely of said conveyor, said links extending inwardly between said runs with their leading arms pivoted on one of said two adjacent rods and their following arms pivoted on the other of said two adjacent rods, said links being open and unobstructed at their sides for downward insertion thereinto of dishes at the upper run of said conveyor, said rods being substantially in a common plane at the upper run of said conveyor.

2,981,402
AUTOMATIC FEEDING APPARATUS
Wesley C. Cleaveland, Maple Plain, Minn., assignor, by mesne assignments, to Vandale Corporation, Long Lake, Minn., a corporation of Minnesota
Filed May 21, 1956, Ser. No. 586,114
9 Claims. (Cl. 198—213)

1. In a conveyor for conveying ensilage or the like adapted to be positioned in an elongated bunk comprising a plurality of vertical supporting frames, a pair of spaced planar members forming vertical risers secured to and supported by said supporting frames, each of said supporting frames in turn supported upon vertical risers for upward and downward movement, at least two of said supporting frames being positioned in juxtaposition



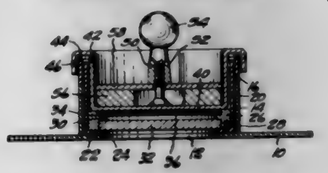
and joined by intermediate stiffening members and a plurality of rollers extended therebetween and journalled for rotation therein for supporting a portion of a helical flight.

2,981,403
CONVEYING APPARATUS
Ross H. Goodrich, Claremont, N.H., assignor to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 15, 1957, Ser. No. 652,835
5 Claims. (Cl. 198—213)



4. Conveying apparatus comprising, an elongated spiral flight portion having a continuous material conveying skirt portion extending laterally outwardly from the outer edge of said flight portion at an acute angle for at least the greater portion of the length of said spiral conveyor with the free edge thereof spaced from said flight portion in a direction opposite that in which material is transported by said flight portion.

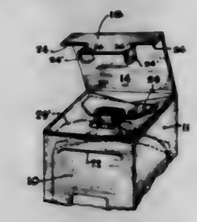
2,981,404
LUNETTE
Robert Gervase Carrico, German Township, Marshall County, Ind. (R.R. 1, Bremen, Ind.)
Filed Mar. 14, 1960, Ser. No. 14,632
8 Claims. (Cl. 206—19)



1. A lunette comprising a hollow holder for a wafer, a lid for said holder, a magnet carried by said lid and fitting within said holder when said lid closes said holder,

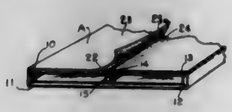
and a mounting ring freely receiving said holder, said holder and a portion of said mounting ring spaced from the edge of the ring being formed of material susceptible to magnetic attraction.

2,981,405
SHIPPING AND/OR STORING CONTAINER
William P. Grasty, Zion, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
Filed Sept. 20, 1957, Ser. No. 685,172
2 Claims. (Cl. 206—46)



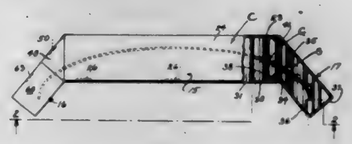
1. A shipping container comprising a fluid-filled, flexible bag having a cylindrical neck portion of relatively small diameter in proportion to said bag, a cap engaged on said neck portion, said cap having a diameter larger than said neck portion, and an outer cardboard carton having oppositely hinged overlapped supporting flaps forming the top of said carton, each of said supporting flaps having an opening therein in a position to be approximately in the center of the top of the carton, each of said openings being substantially rectangular and of a size to be received about the neck portion of the bag and smaller than the diameter of the cap, each of said supporting flaps having a narrow cut substantially smaller in width than the size of said neck portion, said cut extending from said opening to the far edge of the supporting flap opposite the hinged edge of the flap, said bag being positioned within said carton with the neck portion thereof positioned uprightly within the rectangular openings of the overlapped flaps with the weight of the filled bag supported by the pressure of the cap against the edges of the overlapped flaps adjacent to the rectangular openings in said flaps.

2,981,406
CLOTH REEL
Alexander B. Clark, Jr., Greenville, S.C. (Rte. 4, Box 2012, Hendersonville, N.C.)
Filed Mar. 16, 1960, Ser. No. 15,311
2 Claims. (Cl. 206—50)



1. A cloth reel including, a single rectangular section of cardboard having fluting, a first pair of scored portions parallel to each other and transverse to said fluting, a second pair of scored portions parallel to each other and transverse to said fluting, the portion of said section between said first pair of scored portions and the portion of said section between said second pair of scored portions forming the sides of the reel, the portion of said section between said first pair of scored portions and said second pair of scored portions forming the bottom of the reel, a 90° slit score spaced from one free edge of the blank the thickness of the reel and transverse to the fluting forming a longitudinal rib with vertical fluting in the intermediate portion of said reel, and an adhesive medium securing the free edge of said rib to the intermediate portion of said section and securing the remaining free edge adjacent the upper portion of said rib forming the top of the reel having a substantially continuous surface.

2,981,407
CONTOUR CARTON FOR WRAPAROUND WINDSHIELDS
Arthur W. Gaulke and Charles R. Hutchinson, Milwaukee, Wis., assignors to Vanant Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 27, 1959, Ser. No. 795,973
8 Claims. (Cl. 206—62)



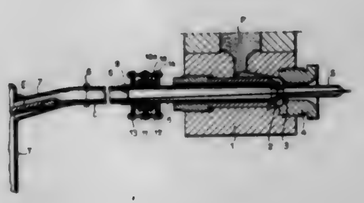
1. A carton for shipping and storing curved automobile glass of the type including a central portion and curved back diverging terminals, comprising a straight body portion and laterally extending diverging wings defining a carton of a substantially U-shape in plan, the body portion and wings being formed from independent blanks, the wing blanks having inwardly extending securing tabs on their inner ends extending into the terminals of the straight body portion and secured thereto, at least one of said tabs being folded back on itself to form a supporting post.

2,981,408
DISPENSER FOR PAPER SHEETS
Charles B. Gamble, 1st National Bldg., Birmingham, Ala.
Filed Feb. 6, 1959, Ser. No. 791,726
4 Claims. (Cl. 206—73)



1. A dispenser for a stack of paper sheets comprising a bottom support member on which the sheets are supported, a pair of side supports extending upwardly from said bottom support member and adapted to receive the paper sheets therebetween, a rear positioning member inclined forwardly relative to the bottom support member and engaging the rear edge of said stack of sheets, a front positioning member inclined forwardly at about the same inclination as the rear positioning member and engaging the front edge of said stack of sheets to maintain said stack in the shape of a parallelogram as viewed in side elevation, said bottom support member having a depressed inner surface extending the width thereof and positioned intermediate the length of said stack, and means mounted on said dispenser and movable in a generally vertical direction, said means being positioned adjacent the top of said stack over the depressed surface whereby upon a downward pressure exerted on said means an intermediate portion of said stack is pushed downwardly in said depressed surface thereby separating the forward edges of the sheets to permit the uppermost sheet to be easily grasped between the thumb and forefinger.

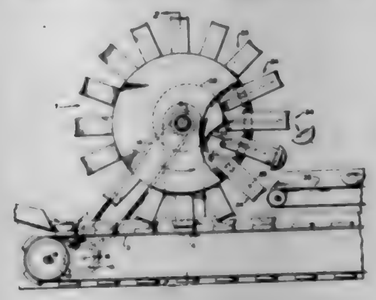
2,981,409
SEALING DEVICE FOR LEAD PRESS
Giovanni Colleoni, Milan, Italy, assignor to Pirelli Società per Azioni, Milan, Italy
Filed Jan. 17, 1958, Ser. No. 709,702
Claims priority, application Italy Apr. 13, 1957
1 Claim. (Cl. 207—4)



In an apparatus for lead-sheathing electric cables, a drying and impregnating tank having an outwardly extending metallic tube for conveying an electric cable therefrom, a lead-extruding press having an extrusion chamber and a pair of cooperating annular dies mounted axially in said extrusion chamber, one of said dies being fixedly mounted, means to secure the other die in spaced cooperative relation with said one of said dies, a cable feed tube peripherally secured to said other die and extending outwardly from said press, a tubular conduit member rigidly connected to said metallic tube and extending adjacent the outer end of said cable feed tube in axial alignment therewith, a sleeve fixedly secured on said conduit member and movably receiving the outer end portion of said cable feed tube so that an expansion space is provided between said conduit member and said cable feed tube, a flanged ring surrounding the outer junction of said sleeve and said cable feed tube and having an inwardly projecting rib disposed about and engaging the end of said sleeve, respective packings surrounding the sleeve and the cable feed tube adjacent and on opposite sides of said rib, respective thrust rings surrounding the sleeve and the cable feed tube on opposite sides of said flanged ring and having annular portions engaging the respective packings, and means to urge the thrust rings towards each other and to peripherally push said annular portions against said packings, whereby to define an expansion joint between said conduit member and said cable feed tube.

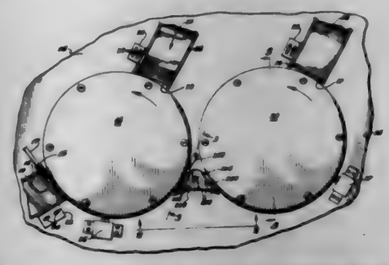
2,981,410
APPARATUS FOR SORTING PIT CARRYING DRUPE HALVES FROM PIT FREE DRUPE HALVES
Joseph Perrelli, Richmond, Calif., assignor to Filper Corporation, Richmond, Calif.
Filed Feb. 5, 1957, Ser. No. 638,382
4 Claims. (Cl. 209—72)

1. Apparatus for sorting drupe halves having pits or pit halves therein from drupe halves that are free therefrom comprising; a plurality of equally spaced supports in a row each adapted to support a drupe half therein with its cut face directed upwardly, pit detector means over said row for detecting the pits or pit halves in drupe halves when the latter are on said supports as distinguished from the drupe halves that are free from such pits or pit halves, means actuated by said pit detector means for removing from said supports only the drupe halves containing pits or pit halves while permitting drupe halves free from pits or pit halves therein to remain on said supports, and means for causing said supports to move to and past said pit detector means and



for causing said pit detector means to move into pit detecting relation with each drupe carried on each support as each support arrives at said pit detector means.

2,981,411
CARD PROCESSING APPARATUS
Eric Azari, Pacific Palisades, Calif., assignor to The Magnavox Company, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 28, 1958, Ser. No. 731,413
22 Claims. (Cl. 209—72)

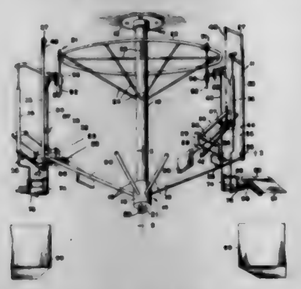


1. In a combination for use in apparatus for processing data on a plurality of information storage cards, guide means for transporting the information storage cards including a guiding surface on which the information cards are to be moved, pneumatic means disposed in coupled relationship to the guide means for creating a force to retain the cards on the guiding surface and to move the cards along the guiding surface, a second member for obtaining a movement of the cards, transducing means disposed in cooperative relationship with the cards for processing particular information on the cards, and means disposed in cooperative relationship with the guide means and the second member for obtaining a transfer of cards between the guide means and the second member in accordance with such processed information.

2,981,412
MACHINE FOR FACILITATING SORTING OR SIZING OF COMMODITIES, SUCH AS POULTRY, ACCORDING TO WEIGHT
Franklin F. McQueen, 102 S. Ohio, Tuscola, Ill.; Edward S. Morrissette, Cullom, Ill.; and Ernest R. Hoke, 706 E. Scott St., Tuscola, Ill.
Filed Sept. 3, 1958, Ser. No. 758,797
12 Claims. (Cl. 209—121)

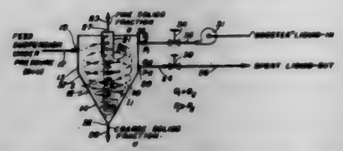
1. Apparatus for sizing bodies according to weight comprising, in combination, a plurality of arms mounted for movement in a fixed horizontal path, a plurality of spaced trip members supported in a line paralleling said

path and each having an adjusted working position, a weighing mechanism carried by each arm for movement thereby in said fixed path, each mechanism including an elongate member, a resilient weight determining means suspending such elongate member for longitudinal reciprocation in an up-and-down path, means forming an operative coupling between the elongate member and



the carrying arm therefor for holding said elongate member to said longitudinal reciprocation in said up-and-down path, means carried upon the lower end of said elongate member for receiving a body to be weighed, and means forming a part of and movable with the mechanism for engagement with and actuation by an adjusted trip member whereby to effect removal of a body from said body receiving means.

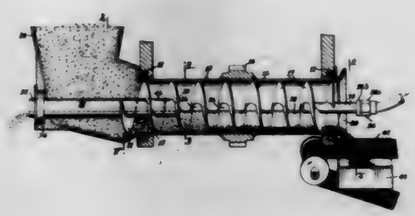
2,981,413
PROCESS FOR SEPARATING SOLIDS IN LIQUID SUSPENSION
Elliot B. Fitch, Westport, Conn., assignor to Dorr-Oliver Incorporated, a corporation of Delaware
Filed Nov. 30, 1953, Ser. No. 395,017
7 Claims. (Cl. 209—211)



7. Method of operating a hydrocyclone classifier having a body of liquid rapidly rotating within a casing which is provided with axial overflow and underflow outlets at opposite ends of said casing, and in which a liquid suspension is continually tangentially and forcibly fed to said body at one end of said casing at a velocity sufficient to rapidly rotate the body to cause solids therein to develop centrifugal settling forces of a magnitude sufficiently great to substantially render the settling force of gravity ineffective, continually discharging a coarse solids fraction of said suspension from said underflow and a fine solids fraction of said suspension from said overflow outlets; characterized by the steps comprising continually and simultaneously forcibly introducing a volume of booster liquid tangentially to the infeed end of said body and in the direction of rotation thereof, and continually discharging from outside the inner portion of said body a volume of liquid equal to said booster volume.

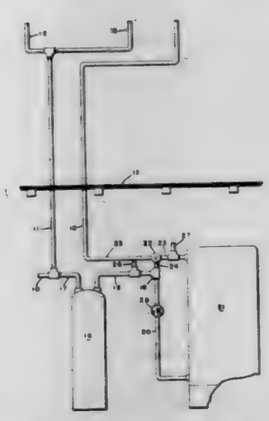
2,981,414
METHOD AND APPARATUS FOR SEPARATING FINE MATERIAL FROM COARSE MATERIAL
Charles Eugene Neisler, Jr., Kings Mountain, N.C.
Filed Aug. 8, 1958, Ser. No. 754,026
3 Claims. (Cl. 209—452)

1. Apparatus for separating mixed coarse and fine material, comprising rotary drum means having an inlet end and a discharge end, bin means having an opening communicating with the inlet end of said drum means for supplying material to said drum means, a screw conveyor mounted within said drum means in watertight connection therewith along the internal surface thereof, said screw conveyor extending into said bin through the opening in the latter for moving material from said bin means through said drum means, said conveyor means having axially aligned openings throughout its length, said open-



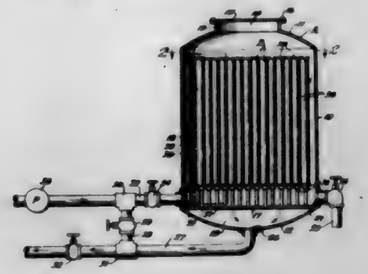
ings at the inlet end of said drum means comprising mounting means for a discharge pipe, said openings at the discharge end of said drum means comprising mounting means for a fluid inlet tube, said pipe and said tube being fastened to said mounting means in a watertight connection thereto and extending into said drum means for preventing intermingling of said mixed coarse and fine material with fluid from said inlet tube being discharged through said discharge pipe.

2,981,415
SOFT-WATER SYSTEM
Gerald Emery White, 747 South Shore Drive, Holland, Mich.
Filed July 1, 1957, Ser. No. 668,947
2 Claims. (Cl. 210—149)



1. A system for supplying soft water in a building having a water supply and a water heater, and having a dual pipe installation extending in the wall structure of said building, comprising: means connecting one pipe of said dual pipe system directly to said water supply; water softener means having the inlet thereof connected to said water supply, the outlet of said water softener being connected to the inlet of said water heater; thermostatically-controlled mixing valve means having inlet branches respectively connected to the outlet of said hot water heater and to the outlet of said water softener means; and means connecting the outlet of said mixing valve means to the second pipe of said dual pipe system.

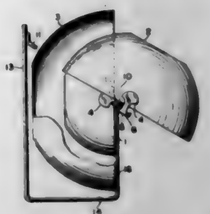
2,981,416
APPARATUS FOR THE CLEANING OF FILTERING EQUIPMENT
Joseph P. Lawlor, Ames, Iowa, assignor to General Filter Company, Ames, Iowa, a corporation of Iowa
Filed Oct. 23, 1957, Ser. No. 691,827
2 Claims. (Cl. 210—333)



1. In a diatomite filter adapted for filtering water, a vertically-extending tank, a plate mounted in the lower portion of said tank and extending transversely thereacross, said plate providing a substantially flat upper surface, a plurality of vertically-extending tubular filter elements adapted to receive a coating of diatomite on the exterior surfaces thereof, said filter elements being positioned side-by-side within said tank above said plate and the lower end of each of said filter elements terminating at a spaced distance above said plate, a vertically-extending tube interposed between said plate and the lower end of each of said filter elements for supporting the filter elements on the plate and providing a passage from the inside of each filter element, said tubes being of substantially smaller diameter than said filter elements, and said tubes and said plate being constructed and arranged to provide a relatively open area immediately above said plate and beneath said filter elements, circumferentially-spaced inlet and drain pipes communicating with the said open area of said tank through inlet and drain openings located at the periphery of said area, said inlet opening being located at a level immediately above said plate, an outlet conduit communicating with said filter element passages for carrying filtered water therefrom during a filtering cycle and for directing water thereto during a backwashing cycle, valve means associated with said inlet pipe and outlet conduit for selectively directing the flow of water for said filtering and backwashing cycles, additional valve means in said drain pipe, whereby, water from said inlet opening may be directed through said open area across the upper surface of said plate to said drain opening for flushing away diatomite removed from said filter elements during said backwashing cycle.

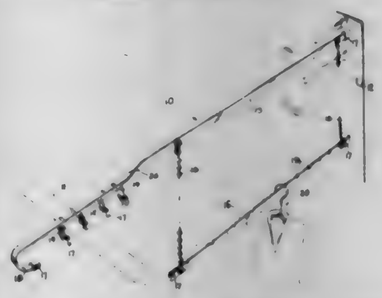
2,981,417
MEANS FOR STOWAGE OF VESSELS
Grosvenor M. Cross, New York, N.Y.
(350 Main St., West Concord, Mass.)
Filed Oct. 17, 1958, Ser. No. 767,922
5 Claims. (Cl. 211—78)

1. An assemblage of vessels of progressive sizes nested one within the other, each vessel consisting generally of a closed body terminating in an open annular rim lying substantially in a single plane, the planes containing the respective rims of said vessels lying substantially in coincidence or parallelism when said vessels are nested in said assemblage; a plurality of locating elements fixed to said body of each of said vessels and projecting beyond the plane of its annular rim; a frame adapted to assume a stable pre-established position upon a suitable flat supporting surface; said frame including a pivot bar disposed substantially horizontally when said frame assumes said pre-established position upon said supporting surface; said locating elements associated with each of said vessels co-



operating with the rim thereof to rest in such a position on said pivot bar that said vessel may be rotated about said bar into or out from said assemblage.

2,981,418
DRYER RACK
Harold Bradley, Box 293A, R.D. 1, Branchville, N.J.
Filed Dec. 8, 1958, Ser. No. 778,746
8 Claims. (Cl. 211—86)

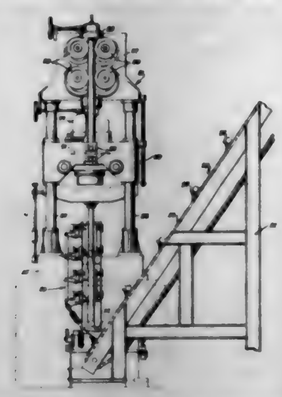


1. A dryer rack adapted to be positioned between a wall and a rigid supporting member spaced from the wall, comprising a rod adapted for mounting over and engaging said member, said rod having one end for frictional engagement with a wall, a plurality of downwardly extending members near the other end of the rod for adjustable engagement with the rigid supporting member, one of said members permitting engaging said rigid member and wedging said rod obliquely upward between said wall and said rigid member and a handle constituting said other end of the rod.

2,981,419
BILLET HANDLING APPARATUS
Charles J. Stadler, Rockford, Ill., assignor to Odin Corporation, Rockford, Ill., a corporation of Illinois
Filed Aug. 8, 1958, Ser. No. 753,957
2 Claims. (Cl. 214—1)

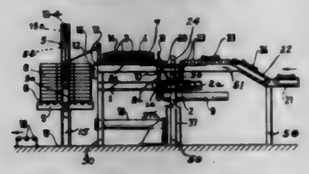
1. Apparatus for transferring severed lengths of continuous casting from an upright position to a generally horizontal position comprising a base, a rockshaft bearingly mounted on said base, an elongated generally channel-shaped receptacle carried by said rockshaft for movement between an upright receiving position and a generally horizontal discharge position, said receptacle having an outer open end and a stop pad adjacent the other end to support the severed casting therein, a plurality of spaced sets of coacting members on said receptacle adapted to guide movement of a casting into the receptacle and hold a severed casting during the transfer operation, each set of members including stationary and movable jaws, means for operating the movable jaws in unison to discharge a severed casting when the recep-

tacle reaches horizontal position, and cushion means on said base controlling the movement of the casting into



said receptacle, said cushion means including a hydraulic cylinder mounted on said base and a ramrod operable by said cylinder to engage the lowering end of the casting.

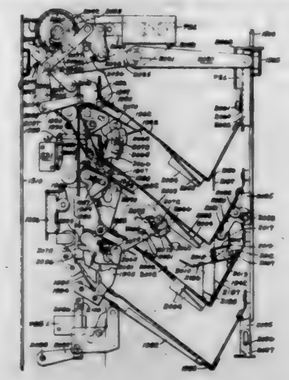
2,981,420
PILING MACHINE FOR SHEET-LIKE MATERIALS
Karl L. B. Johansson, Jonkoping, Sweden, assignor to Sven Leijonmarck, Norrahammar, Sweden
Filed July 9, 1957, Ser. No. 670,751
8 Claims. (Cl. 214—6)



1. A machine for stacking sheets of material, which comprises supporting means on which at least two of the sheets are adapted to be loaded, a carriage movable from a retracted position to a sheet stacking position for transferring sheets on the supporting means to said stacking position, the carriage being adapted to support the sheets in said stacking position, mechanism for reciprocating the carriage between said positions, a trough adjacent the supporting means, means for inserting and holding a pair of sheets on edge in the trough, means for tilting the trough laterally to deposit the sheets therein on the supporting means in superimposed relation, and a stop engageable with at least one of said superimposed sheets on the carriage in its sheet stacking position for retaining the sheets against movement with the carriage from said last position.

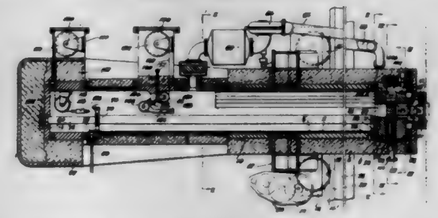
2,981,421
DOCUMENT SORTING APPARATUS
Arthur J. Fettig, Birmingham, Don M. Jenks, Ferndale, Charles Lasdine, Detroit, Earl P. Maidment, Royal Oak, and Byron A. Runde, Farmington, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Original application Dec. 26, 1957, Ser. No. 705,443. Divided and this application June 24, 1959, Ser. No. 822,478
23 Claims. (Cl. 214—11)

1. A document sorting apparatus having a plurality of sorted document receiving bins, means to deliver sorted documents to said bins, a first packer device in each bin normally bearing against the top of the accumulation of documents in said bin, a second packer device in each bin normally held clear of said accumulation of documents in the bin, and means operable in a sorting operation of said apparatus to move said second packer device against and said first packer device away from the top of said accumulation of documents preparatory to



delivery of another document to the top of the accumulation of documents in the bin and to return said first packer device into engagement against and said second packer device away from the newly delivered document at the top of said accumulation of documents.

2,981,422
CHARGING AND DISCHARGING MACHINES
Ronald Bellinger, Ernest James Hutchinson, and William Henry Shipley, Bristol, England, assignors to Strachan & Henshaw Limited, Bristol, England, a company of Great Britain and Northern Ireland
Filed Nov. 29, 1957, Ser. No. 699,854
Claims priority, application Great Britain Nov. 30, 1956
20 Claims. (Cl. 214—18)

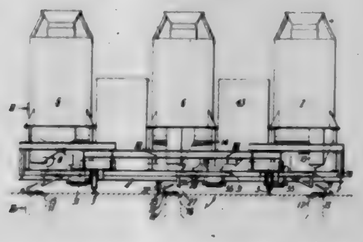


1. Apparatus for charging and discharging a vessel, comprising a chamber adapted for movement to and from said vessel and having an outlet adapted to be coupled to said vessel, storage means in said chamber for the storing of a charging chute adapted for movement through said outlet between said chamber and said vessel and for the storing of charge material to be charged into or discharged from said vessel through said outlet, hoist means within said chamber provided with grab means for engaging and releasing said chute and said charge material, and control means for controlling said hoist means and said grab means.

2,981,423
CHARGING HORIZONTAL COKE OVENS
Geoffrey Edward Charles Randell and Herbert Milton Whitworth, London, England, assignors to Woodall-Duckham Construction Company Limited, London, England, a British company
Filed Dec. 9, 1958, Ser. No. 779,239
Claims priority, application Great Britain Dec. 16, 1957
8 Claims. (Cl. 214—18)

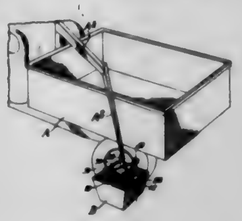
1. A larry for top charging the ovens of a horizontal coke oven battery, comprising: a larry car movable along

the battery top into and out of position for top charging the oven chambers of the battery through charging holes in the roofs of the oven chambers, hoppers mounted on the car with bottom outlets to register with the charging holes of the ovens, charging hole lid handling means for engaging and removing the charging hole lids of the ovens, and supporting means for said charging lid handling means, said supporting means being mounted on the larry car for movement therewith from oven to oven along the battery top, and being transversely movable relative to the bottom outlets of the hoppers to shift the lid handling means laterally into and out of the path of



flow of material from the bottom outlets of the hoppers to the charging holes of the ovens, for restoring and removal of the lids in relation to the charging holes of the respective ovens while the bottom outlets of the larry hoppers are in register with the charging holes of the respective ovens, and wherein the charging hole lids are carried by lever means pivotally mounted on the battery top alongside the charging hole the lid is to close, and wherein the lid handling means comprises trip means for tilting the lever means of a charging hole lid around its pivot for removing the lid from its charging hole and moving it aside from such hole.

2,981,424
LOADING APPARATUS
John E. Petersen and Orrin C. Lawson, Lake Wales, Fla., assignors to Petersen Industries, Inc., Lake Wales, Fla., a corporation of Florida
Filed Feb. 19, 1960, Ser. No. 9,766
13 Claims. (Cl. 214—77)



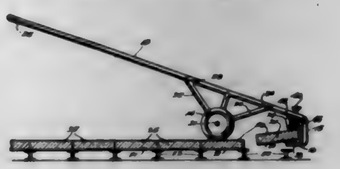
1. In apparatus for loading material onto a truck, a basket having its sides equipped with hooks facing in the same direction, said basket having a hinged bottom and a latch therefor extending laterally of the basket, power-operated means for moving said latch outwardly to release said hinged bottom, a boom carried by said truck and equipped with a lift bar rotatively mounted thereon, and centering springs engaging said lift bar for normally maintaining it in a transverse position relative to said boom, whereby when said lift bar is advanced into engagement with one of said hooks, said bar may rotate into engagement with the other hook facing the bar while energizing one of said springs and aligning said power-operated means with said latch.

2,981,425
LOADING DEVICE
John Wallace Hughes, Midland, Tex., assignor to Shell Oil Company, a corporation of Delaware
Filed Aug. 8, 1958, Ser. No. 754,822
4 Claims. (Cl. 214—77)



3. Apparatus for transferring elongated members from a lower level to the bed of a vehicle at a higher level comprising: at least one boom having a U-shaped cross-section and a length greater than the height of the bed of the vehicle, said boom being pivotally attached to said vehicle at one end by a hinge having a removable pin member; a first fluid pressure means for raising and lowering said boom; a storage compartment formed on said vehicle for receiving said boom upon removal of the pin member, a bridge member pivotally secured at one end to the other end of said boom member, the other end of said bridge member being disposed adjacent said vehicle; said bridge member in addition being retractable into the open side of the boom to permit storage of said boom, a second fluid pressure means pivotally secured at one end to said boom and pivotally secured at the other end to said bridge member to permit adjustment of the angle between said boom and said bridge member.

2,981,426
APPARATUS FOR PLACING ROOF DECK SLABS
Harry E. Casey, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed June 12, 1958, Ser. No. 741,609
1 Claim. (Cl. 214—382)



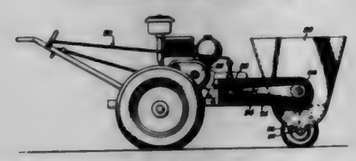
Apparatus for transporting and placing deck slabs in the forming of a roof or floor structure, comprising a wheeled, open elongated frame including a pair of spaced parallel side bars, a substantially U-shaped holder formed as an extension of each side bar at one end thereof, said holders being spaced apart transversely of the frame, and each having an open end facing in the direction of the other end of the frame, a vertically disposed, elongated plate extending between and fixed to said holders, a right angle bracket extending between said holders and being fixed at its ends to said holders, said bracket having the vertical portion thereof connected to said side bars and the horizontal portion thereof connected to the base of the U-shaped portion, said horizontal portion having a plurality of openings formed therein, a plurality of lugs connected to said vertical portion of said bracket, overlying said openings in said horizontal portion, and having female threads therein vertically aligned with said openings, a male adjusting screw threaded through each said lug, an upper slab support jaw connected to the lower end of each said screw and adapted to extend into and through an opening in said horizontal portion, a resilient pad attached to the bottom surface of each support jaw, a lower slab support jaw extending between the ends of each said holder, said lower jaw being spaced vertically below said upper jaw a distance exceeding the thickness of a slab and spaced inwardly of said upper jaw, and a resilient pad covering said lower jaw for contact with the bottom surface of said slab, both jaws having a slab width spanning length less than one-half the width of said slab.

2,981,427
SPARE TIRE CARRIERS
Ronald E. Walker, Windsor, Ontario, Canada, assignor to Phil Wood Industries, Limited, Windsor, Ontario, Canada
Filed Jan. 5, 1959, Ser. No. 784,973
2 Claims. (Cl. 214—451)



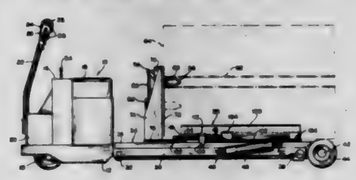
1. A spare tire carrier for a vehicle, comprising a bracket adapted to be secured to a side member of the chassis frame of the vehicle, a pivot shaft mounted substantially vertically on said bracket and extending below same, a substantially horizontal arm mounted on the lower end of said shaft so as to be swingable under the chassis frame and having a cylindrical portion, a tire-supporting cradle having side walls adapted to surround at least part of the periphery of a tire and a base adapted to overlap at least part of the near side of a tire placed in the cradle, a sleeve integral with said cradle and rotatably mounted on the cylindrical portion of said arm, cooperating locking means on said arm and said sleeve to effect locking of the arm and the sleeve against relative rotation when desired, and anchoring means operable for releasably anchoring the spare tire carrier in position under the chassis frame, said anchoring means comprising a pair of downwardly depending rods adapted to be swingably mounted at opposite sides of the chassis frame, a pair of slotted flanges extending from opposite sides of the tire cradle and adapted to receive said rods when the carrier is in transport position under the chassis, and nuts screwed on the ends of said rods and adjustable to engage the underside of said flanges.

2,981,428
TRACTIVE VEHICLE MOUNTED BUCKET
Kenna E. Noffsinger, Red House, W. Va.
Original application Sept. 16, 1953, Ser. No. 380,498, now Patent No. 2,815,138, dated Dec. 3, 1957. Divided and this application Dec. 2, 1957, Ser. No. 703,723
3 Claims. (Cl. 214—501)



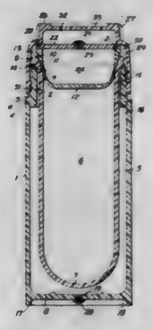
1. In combination with a self-propelled tractive vehicle having a frame and a pair of wheels mounted on opposite ends of a shaft extending through said frame, a material handling receptacle having cutting edges at opposite sides thereof, a pair of receptacle positioning arms separately and immovably attached at their inner ends to the frame of the vehicle and separately pivoted at their outer ends to said receptacle, means adapted to rotate said receptacle in both a clockwise and counterclockwise direction, and a caster wheel mounted on the bottom of said receptacle in a fashion that said receptacle can be filled with earth, rotated to an upright position with said caster wheel in rolling contact with the ground and thereafter said tractive vehicle can be moved forwards or backwards with said receptacle supported on said wheel.

2,981,429
PAPER ROLL HANDLING TRUCK
William A. Williamson, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Mar. 26, 1959, Ser. No. 802,079
16 Claims. (Cl. 214—654)



1. In an article handling device for an industrial truck or the like having a generally horizontally disposed wheel borne load supporting frame, a carriage mounted upon said frame for pivotal movement between substantially vertical and horizontal positions, contact means mounted upon said carriage for longitudinal movement relative thereto, said contact means being adapted and arranged to contact the surface of an article to be handled, grab means mounted upon said carriage for longitudinal movement relative thereto, said grab means being adapted and arranged to contact a portion of the article to be handled and operable to bias said surface of the article into contact with said contact means, and latch means having separable portions secured to said contact means and said grab means, said latch means being automatically operable in response to pivotal movement of said carriage to condition said grab means and said contact means for independent relative movement when said carriage is in a substantially horizontal position and to latch said grab means and said contact means together for unitary movement relative to said carriage when said carriage is inclined relative to the horizontal.

2,981,430
PLASTIC VACUUM CONTAINERS
Hsue C. Tsien, Elmsford, N.Y. (11 Browning Drive, Livingston, N.J.), and Pao H. Chin, 1271 Bedford Road, Pleasantville, N.Y.
Filed Apr. 21, 1959, Ser. No. 807,804
1 Claim. (Cl. 215—13)



A vacuum container of the character described, comprising a container part, a stopper forming a closure

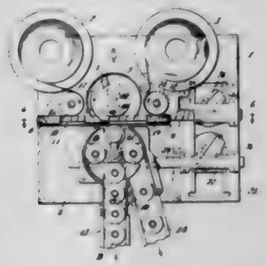
for said part, a casing part including a reduced diameter sleeve part permanently fixed thereto and to the container part, said casing part and sleeve part being spaced from the major portion of the container part to form a vacuum chamber substantially enveloping the container part, means detachable with respect to the sleeve part of the casing part for retaining the stopper in seated position on the container part, and the container part including, at its open end, an outwardly extending flange portion seating on and secured to the upper end of said sleeve part.

2,981,431
DOUBLE VISE GRIP CAP-AND-JAR UNIT
Pearl L. Schluttig, P.O. Box 7544, Washington, D.C.
Filed Apr. 26, 1960, Ser. No. 24,766
3 Claims. (Cl. 215—43)



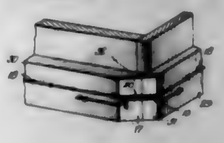
1. A receptacle for cosmetics, pharmaceuticals and the like comprising a hollow body member the upper portion of which is of substantially spherical external surface configuration and is provided with an opening therethrough the walls of which opening are formed with an internal screw thread, and a closure member comprising a plug portion having an external screw thread receivable within said opening complementary to said internal screw thread and a skirt portion symmetrically arranged with respect to the thread axis of said plug portion, the undersurface of said skirt portion being of spherical configuration conformant to the external spherical surface of said body member and adapted to overlie, bind and seal upon said external spherical surface when assembled therewith.

2,981,432
INDICIA-APPLYING APPARATUS
Carl A. Flood, Framingham, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts
Filed Apr. 17, 1958, Ser. No. 729,216
12 Claims. (Cl. 216—2)



1. A machine of the character referred to comprising means for continuously feeding a strip of flexible sheet material at a predetermined speed past an indicia-applying station along a predetermined path including a portion extending from a point in advance of said station to a point beyond the station, an applicator at said station for applying indicia to the strip at recurrent locations along the strip, means for intermittently causing the applicator to apply indicia to the strip at said locations during recurrent intervals, and means for changing between said intervals the speed of that part of the strip which occupies said portion while maintaining said predetermined speed in parts of the strip which simultaneously occupy other portions of the strip path.

2,981,433
RE-USABLE WIRE BOUND PALLET BOX
Edward S. Kordowski, Chicago, Ill., assignor to General Box Company, Des Plaines, Ill., a corporation of Delaware
Filed Apr. 25, 1957, Ser. No. 655,070
2 Claims. (Cl. 217—65)



1. A wire bound pallet box which may be readily assembled and disassembled and is designed for use in conjunction with lift type transporters and of the type that is adapted to be stacked in superimposed relation with like boxes comprising a platform adapted to rest upon a bearing surface for supporting the pallet box, a plurality of thin walled sides mounted on said platform in a vertical position and arranged in a generally rectangular fashion, the ends of each of said sides being coincident with the ends of adjacent sides, a plurality of cleat members with at least one cleat member secured to each of said sides and extending transversely thereof, said cleat members being chamfered, the ends of said cleat members abutting the ends of like cleat members on adjacent sides whereby abutting ends cooperate to form beveled corners, a wire secured to each of said cleat members, the ends of each wire being return-bent with the return-bent ends being anchored so as to form a loop at the ends of each wire, said loops terminating short of the ends of their respective cleat members and overlying the chamfered portions thereof, and a tie loop extending through both loops on respective abutting cleat members and tightly drawing the ends of said loops toward each other so that the respective sides and cleat members are held in abutting relationship, said tie loop being in touching relationship with its respective beveled corner.

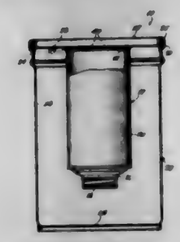
2,981,434
SUSPENSION SYSTEM LIQUID OXYGEN CONVERTER
Gale Frederick Hawk and George S. Kiester, Bryan, Ohio, assignors to The Aro Equipment Corporation, a corporation of Ohio
Original application Aug. 17, 1956, Ser. No. 604,744. Divided and this application Oct. 19, 1959, Ser. No. 847,338
5 Claims. (Cl. 220—15)



1. A thermally insulated container for storing liquid oxygen and the like comprising an inner sphere of given radial dimension, an outer sphere of greater radial dimension completely enclosing said inner sphere, said outer sphere comprising a pair of spherical segments each

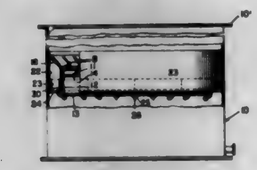
smaller than a hemisphere and a circular band, the opposite circumferential edges of which are affixed to the edges of said pair of spherical segments, a plurality of laterally extending arcuate suspension beams secured to the inner face of said circular band at evenly spaced apart points therearound, said arcuate suspension beams being positioned parallel to the surfaces of said inner and outer spheres, a pair of fittings for each arcuate suspension beam secured to the outer surface of said inner sphere, a fitting of each pair being spaced from and in alignment with one end of its associated arcuate suspension beam, a spoke disposed between each fitting and an end of an arcuate suspension beam and means for adjusting and maintaining said spokes in tension between the arcuate suspension beam and the fitting to maintain the inner sphere in dimensional balance within said outer sphere.

2,981,435
COMPOSITE CONTAINER
Vern I. McCarthy, River Forest, Ill., assignor to Vulcan Containers Inc., Bellwood, Ill., a corporation of Illinois
Filed July 21, 1958, Ser. No. 749,738
3 Claims. (Cl. 220—23)



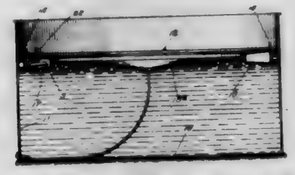
1. A composite container structure comprising, in combination, a sheet metal drum constituting an outer receptacle, a substantially smaller independently closable can constituting an inner receptacle for insertion within said drum, said can having a side wall and an end wall seamed together to define a peripheral bead about one end of the can, a removable cover for said drum for closing the same and having a central portion defining one end wall of the drum, at least one of said end walls being centrally dished and fixed to the juxtaposed surface of the other end wall holding said bead firmly engaged with the juxtaposed surface of the other of said end walls.

2,981,436
MAGNETIC SEAL FOR FLOATING ROOF
Alexander F. Fino and John M. Swick, Warren, Pa., assignors to Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 4, 1960, Ser. No. 6,764
12 Claims. (Cl. 220—26)



8. In a liquid storage tank having a cylindrical outer wall and a cylindrical floating roof therewithin with there being an annular space between the roof and the inner surface of said wall, a seal assembly carried by said roof and engageable with the inner surface of said outer wall, said seal including a weather shield extending upwardly and outwardly from the periphery of said roof for contact along its outer edge with the inner surface of said outer wall, inner and outer flexible curtain members attached adjacent the inner and outer edges respectively of said weather shield and hanging therefrom respectively along the outer surface of said roof and the inner surface of said outer wall, a flexible bottom sheet interconnecting said curtain along the lower edges thereof, magnetic means attached to the lower edges of said curtains for holding the same in contact respectively with said roof and the inner surface of said outer wall, said weather shield having a flexible inner marginal edge portion fixed to said roof, a stiff intermediate portion and terminating at its outer marginal edge in a flexible portion for deformed engagement with the inner surface of said outer wall, a supporting strap having a rigid annular inner portion fixed to said roof underlying said inner marginal edge portion of the weather shield and having a rigid upwardly and outwardly directed outer edge portion underlying a portion of said intermediate portion of the weather shield to support the same when its outer marginal edge portion is out of contact with said outer wall, a plurality of straps fixed to the lower edge of said inner curtain and depending therefrom, each strap terminating in a loop, and a plurality of hooks fixed to said roof and over which the loops of said straps are engaged.

2,981,437
FLOATING ROOF TANK
Ivan L. Wissmiller, Chicago, Ill., assignor to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 24, 1960, Ser. No. 10,605
4 Claims. (Cl. 220—26)



1. In a cylindrical tank for the storage of a volatile liquid, a floating roof having a diameter less than the internal diameter of said tank and adapted to float on said liquid, an annular impervious flexible tube disposed between said floating roof and the interior surface of said tank, inflating means for inflating said tube by gas pressure, pressure-regulating means for maintaining in said tube a gas pressure within a predetermined range comprising a constant-pressure reservoir of variable volume in gaseous communication with said tube, said reservoir having inlet means for supplying gas thereto and outlet means for releasing gas therefrom, and a thermal pump system for supplying gas to said reservoir comprising a constant volume container having an inlet and an outlet, a first check valve permitting ingress from the atmosphere into said container through said inlet, a second check valve permitting egress from said container through said outlet, and a conduit communicating from said second check valve to said reservoir.

2,981,438
FLOATING ROOF SEALING MECHANISM PROVIDED WITH COMBINATION WEATHER HOOD AND WAX TROUGH
Milton W. Heisterberg, Chicago Heights, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Feb. 19, 1959, Ser. No. 794,454
4 Claims. (Cl. 220—26)

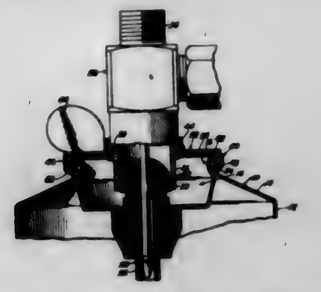
1. In combination with an upstanding substantially cylindrical tank for storage of liquid petroleum products,

a substantially annular floating roof for said tank that rests on the stored petroleum products and that rises and falls as the amount of the stored petroleum product varies, and a substantially annular peripheral seal carried by said roof and extending radially outward therefrom to the side wall of said tank and including a substantially annular shoe pressed radially outwardly against said side wall and having sufficient flexibility to conform to the configuration of said side wall, whereby said shoe scrapes waxy constituents off of said side wall; and a weather hood carried



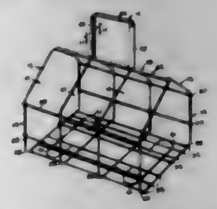
by said shoe and including a plurality of downwardly and inwardly inclined shingle-like plates arranged in an annular array over said seal with the side edges thereof in overlapping relation between said shoe and roof thus constituting a water shed onto said roof, and said hood including a plurality of upwardly directed projections arranged in annular array with the side edges thereof in overlapping relation between said shoe and roof and defining a substantially annular trap wall against which waxy constituents scraped from said tank wall may accumulate and over which water may flow and shed onto said roof.

2,981,439
COUPLING FOR GAS APPLIANCE
Russell I. Huffman, Dover, Ohio, assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 2, 1957, Ser. No. 650,146
1 Claim. (Cl. 220—85)



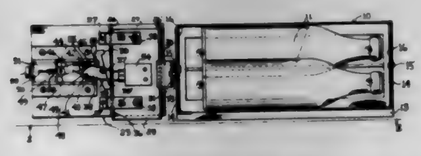
A valve attachment to a crown-type container having an annular rim, said rim defining an outwardly opening annular groove, which attachment comprises a valve having a tubular portion adapted for insertion within a rim of the type defined, and a coupling in engagement with said valve tubular portion; said coupling comprising a frame and a latch mounted on top of said frame; said frame comprising an annular plate, an integral collar extending upwardly from the inner periphery of the plate, integral first flange means extending downwardly around the outer periphery of the plate, and integral second flange means extending downwardly from a portion of said outer periphery; said valve tubular portion being housed in said collar; said first flange means being adapted for centering said valve attachment on a rim of the type defined; said second flange means being adapted for hooking into the groove defined by a rim of the type defined, and for lateral movement of said frame into and out of said hooking position; said latch being pivotally mounted on said plate and including downwardly extending integral third flange means, and a manually engageable control flange; said latch being adapted for swinging it on said plate to a position wherein said third flange means also hooks into the groove defined by a rim of the type defined, to lock said valve attachment on the rim.

2,981,440
WIRE BOTTLE CARRIER
Oscar G. Lilja, Rockford, Ill., assignor to Commercial Wire Products Company, Rockford, Ill., a corporation of Illinois
Filed June 23, 1958, Ser. No. 743,533
12 Claims. (Cl. 220—117)



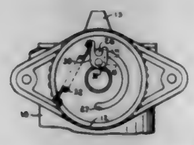
1. A carrier composed of wire for carrying a plurality of bottles arranged in two parallel rows, said carrier comprising, in combination, an elongated frame member comprising a rectangular wire frame having bends lying along parallel lines spaced along and extending traversely of the member to define a flat rectangular base, parallel side walls upstanding along opposite edges of the base, and top walls converging upwardly to an apex spaced above the base whereby to form a gabled top, the ends of said base, side, and top walls forming open walls at the ends of said base, a second wire frame member conforming to the shape of said end walls and said gabled top and nested in the bent frame to define a partition disposed midway between said end walls and cooperating with each of the latter to form two bottle compartments of equal size opening upwardly through said gabled top and disposed on opposite sides of said apex, a handle comprising opposite end portions of one of said frame members extending upwardly beyond the peak of said gable top to form two inverted U's lying alongside of each other and in the plane of said apex, and means securing said handle portions together.

2,981,441
VENDING MACHINES
Lee S. Watlington, 1204 N. Linden St., Bloomington, Ill.
Filed Nov. 3, 1958, Ser. No. 771,371
2 Claims. (Cl. 221—67)



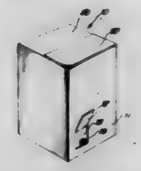
1. A bottle vending machine comprising a bottle magazine having an open bottom, said magazine being of a width greater than the diameter of a single bottle but less than the combined diameter of two bottles so that a plurality of bottles may be housed therein in a horizontal plane and in a staggered vertical relation with respect to each other, an ejector rack pivotally carried by said magazine at the open bottom thereof and normally pivoted in an angular position with respect thereto so as to receive and house the lowermost bottle of said staggered plurality of bottles, a stationary separating member beneath said rack and extending in a vertical direction through a centerline of the said rack and lengthwise thereof for cooperating with said rack to support and release from alternate sides thereof the lowermost bottle when said rack is pivoted into an oppositely extending angular position relative to said magazine and said separating member, a latch plate pivotally connected to said rack and adapted to reciprocally pivot said rack relative to the open bottom of said magazine, a pivotal latch means for releasably latching said latch plate and said rack against pivotal movement relative to said magazine, latch releasing means for pivoting said pivotal latch means out of latching position with respect to said latch plate so as to permit said rack under the weight of the lowermost bottle to pivot in one direction away from said stationary separating member so as to permit said lowermost bottle to pass out of said rack, and for pivoting said pivoted latch means into a successive latching position with respect to said latch plate so as to prevent pivotal movement of said rack in an opposite direction with respect to said stationary separating member to prevent the releasing of the next succeeding bottle from said magazine, spring fingers carried by said latch plate and operatively connected to said latch releasing means for positioning said latch releasing means relative to said pivotal latch means for determining the direction of pivot thereof so as to alternately release bottles from either side of said stationary separating member.

2,981,442
DISPENSER MOUNTING
John W. Anderson, 578 Broadway, Gary, Ind.
Continuation of application Ser. No. 632,695, Jan. 7, 1957. This application May 22, 1959, Ser. No. 815,774
10 Claims. (Cl. 222—166)



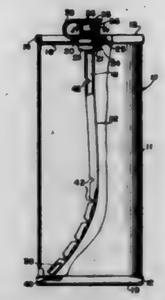
1. A granulated or powdered product dispenser for soap or the like comprising a housing adapted to be carried by a fixed support, means for supporting a disposable spouted carton containing said product, said supporting means being pivotally mounted on said housing, an arcuate slot in said housing, a pin carried by said supporting means and extending through said slot, an element having a pin-receiving portion, said element being pivotally carried in said housing and positioned adjacent one end of said slot, and spring means connected at one end to a means carried by said fixed support and at its other end to said element at a point remote from the pivot point thereof, said one end and said other end of said spring being disposed relative to said element such that the spring becomes stressed to a maximum degree when a line drawn between both the end connections of the spring passes over the center of the pivot point for said element, said pin-receiving portion of said element being J-shaped, said pin and said slot and said element being so disposed relative to each other that said pin engages the longer leg of said J-shaped portion of said element as it approaches one end of the slot to turn said element on its pivot whereby the motion of the pin and the supporting means is braked while the spring is being stressed and thereafter when said line through the end points of the spring passes over the center of the pivot point the spring drives the shorter arm of the J-shaped portion of the element against the pin to drive the pin toward the end of the slot as the stress in the spring is released.

2,981,443
CONTAINER AND SPOUT THEREFOR
John P. Baldwin, Decatur, Ill., assignor to B-Line Dispensers, Inc., Decatur, Ill.
Filed Sept. 4, 1956, Ser. No. 607,693
4 Claims. (Cl. 222—183)



1. In a container assembly, the combination of a rigid wall having a non-circular opening defined therein, a thermoplastic bag adjacent one surface of said wall, and a thermoplastic pouring spout heat-sealed to the outer surface of said bag, said spout comprising a neck portion insertable into the non-circular opening formed in the wall, a non-circular formation at the base of said neck portion, the non-circular formation being accommodated within the non-circular opening in the wall to limit rotational displacement of the pouring spout relative to the bag, and a thin peripheral flange extending outwardly from the base of said non-circular formation, the thin peripheral flange being heat-sealed to the outer surface of the thermoplastic bag.

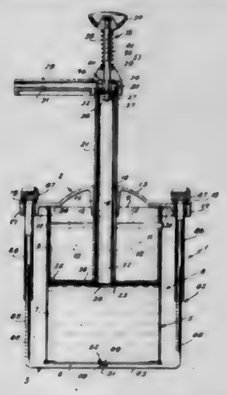
2,981,444
SQUEEZE-TO-USE TYPE CONTAINER
Andrew A. Root, Concord, Mass., assignor, by mesne assignments, to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 28, 1956, Ser. No. 574,455
11 Claims. (Cl. 222—193)



1. A squeeze-to-use container for dispensing pulverous material, said container including a substantially cylindrical hollow body of flexible plastic material, metal closures secured to opposite ends of the body, one of the closures having a centrally disposed opening, a perforated feed tube within the container and of longer length than the interior of the container, a plastic plug connected to the wall of said opening, said plug having a horizontal base provided on one side with an annular depending skirt extending into said body and on its opposite side with a reduced outwardly projecting tubular portion provided with a restricted discharge orifice in the outer end thereof, the inner wall of said base and said tubular portion having circumferentially spaced axial grooves and interrupted segmental flanges between

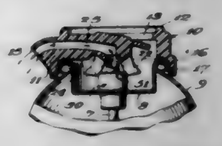
said grooves, the upper end of said feed tube extending inwardly into said tubular portion in engagement with the underside of said segmental flanges and beneath the top of the grooves, the upper end of the tube being spaced from the top of the tubular portion to provide a mixing chamber for receiving the pulverous material when the flexible body is squeezed so as to insure a mixture of the material with the air forced upwardly through said grooves prior to the material being discharged through said orifice.

2,981,445
DISPENSING DEVICE
Harry B. Russell, 3811 Marine Ave., St. Louis, Mo.
Filed Nov. 12, 1958, Ser. No. 773,271
3 Claims. (Cl. 222—259)



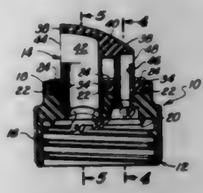
1. A dispensing device adapted to be secured to a container for dispensing the contents therefrom, said device comprising a lower member adapted to receive said container, said device having upstanding members extending upwardly beyond the height of said container, said upstanding members being adjustable in height, a cover member adapted to contact the top portion of said container and receive said upstanding members, said cover member being larger in size than said container and having an annular flat portion with a depending flange therearound and a dome portion inwardly thereof, said dome portion having an opening in the central portion thereof with a downwardly extending flange, a hollow tube slidably received in said opening and maintained in a vertical position by said downwardly extending flange, said tube having a reduced portion on the lower end thereof, a plate rotatably and removably connected to said reduced portion, said plate having a flexible outer edge adapted to slidably contact the inside wall of said container substantially over its entire circumference, means for maintaining said plate on said reduced portion of said tube, a nozzle connected to the upper portion of said tube, said nozzle having a pumping chamber therein in connection with said hollow tube and a passage extending outwardly therefrom, a pump connected to said nozzle for pumping the contents out of said nozzle, said pump having a knob and a pump rod with a spring therearound, part of the downward force on said knob being transmitted to said tube and said plate thereby causing said tube and said plate to be forced downwardly against said contents thereby tending to force the contents upwardly through said hollow tube into the pumping chamber, said nozzle remaining at all times at a fixed predetermined distance above said plate, the distance between said nozzle and said cover member being reduced as said contents are dispensed, said nozzle being capable of being rotated in either direction 360° with respect to said cover member.

2,981,446
DISPENSING CAPS AND ASSEMBLIES CONTAINING SAME
Albert B. Campbell, Glen Ellyn, Ill., assignor to Campbell Products Co., Bensenville, Ill., a corporation of Illinois
Filed Jan. 5, 1959, Ser. No. 785,000
6 Claims. (Cl. 222—394)



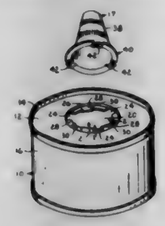
1. An integral, flexible plastic dispensing cap for aerosol dispenser assemblies comprising: a substantially cylindrical skirt portion with a bottom portion engageable with a dispenser container; said skirt having a dispensing opening; a depressible diaphragm extending across an upper interior portion of said skirt and resiliently hinged thereto along a part only of the internal periphery of said skirt; a collapsible, resilient chambered hub projecting downwardly from the lower side of said diaphragm, said hub being collapsible upon selective depression of the diaphragm; said hub having a continuous chamber with an opening at the bottom of said hub; the lower portion of the hub contacting during operation of the cap a separate supporting surface of the dispenser that tends to restrain downward movement of the hub during depression of the diaphragm and collapsing of the hub; said hub having inwardly directed valve actuating means that is normally free of direct actuating contact with an underlying reciprocative valve stem of a valve assembly; means positioned below the diaphragm between said skirt and hub having a continuous passage communicating with said dispensing opening and said chamber in the hub; said depressible diaphragm being capable of being hingedly depressed by the application of pressure thereupon; said selective depression of the diaphragm effecting the depression of said collapsible hub and depression of the valve actuating means to a position that then depresses the underlying reciprocative valve stem, thereby causing the unseating of valve means for the discharge of contents of the container through said dispensing opening of the cap.

2,981,447
DISPENSING CLOSURES
Clifford R. Jennings, 155 Ash St., Brockton, Mass.
Filed Jan. 12, 1959, Ser. No. 786,273
6 Claims. (Cl. 222—484)



1. A two-part dispensing closure which includes: a cap part having an outer surface, said outer surface being formed so as to include first and second cavities spaced from one another and located adjacent opposed extremities of said cap part and bearing means for rotatably holding a spout part located between said first and second cavities, said bearing means having an axis, said cap part also including a pouring opening extending through said cap part into said first cavity and first sealing means for forming a seal against a surface of revolution located so as to extend into said first cavity completely around said pouring opening, said cap part also including a venting opening of smaller dimension than said pouring opening extending through said cap part into said second cavity and second sealing means for forming a seal against a surface of revolution located so as to extend into said second cavity and surround said venting opening; a spout part including shaft means held by said bearing means, said spout part being capable of being rotated between open and closed positions, said spout part including a first end having a shape of a surface of revolution located in said first cavity and a second end having the shape of a surface of revolution located in said second cavity, said ends being held against said sealing means in said cavities so as to form seals therewith at all times, first and second arms extending from said first and second ends respectively, and a pouring passage formed in said first end and said first arm so as to extend through said spout part across said axis and a venting passage of smaller dimension than said pouring passage formed in said second end and said second arm so as to extend through said spout part across said axis, said spout part being held so that the position of it with respect to said cap part can be changed from an open position in which said venting passage and said venting opening are aligned with one another and in which said pouring passage and said pouring opening are aligned with one another to a closed position in which said first and second ends overlie and close said pouring opening and said venting opening, respectively, and in which said spout part extends substantially in a flat closed position across the surface of said cap part.

2,981,448
CONTAINER WITH DISPENSING SPOUT THEREFOR, RELEASABLY ATTACHED THERETO
John W. Anderson, 578 Broadway, Gary, Ind.
Continuation of application Ser. No. 632,684, Jan. 7, 1957. This application June 24, 1959, Ser. No. 822,530
4 Claims. (Cl. 222—539)



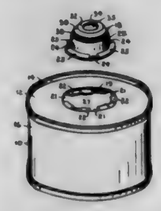
4. A shipping and dispensing device comprising a container having a top wall with an upstanding rim formed around the peripheral portion thereof, a recessed portion formed in said top wall with an aperture formed through the central portion thereof, a spout, a radially directed flange portion formed on one end portion of the spout and adapted to be nested within said recessed portion with the spout projecting into the casing in the shipping position, a closure disk seated within the confines of the rim of the top wall for closing the end of the container and holding the spout in stored position, a plurality of equally spaced radially directed tonguelike elements formed in said flange portion, each radial edge portion of the tonguelike elements being offset downwardly from the normal plane of the flange portion, a plurality of equally spaced radially disposed notches formed in said recessed portion and adapted to pass the tonguelike elements of the spout therethrough, and a plurality of axially offset radially disposed stop members struck inwardly from said recessed portion whereby removal of the closure disk and inverting the spout permits the tonguelike elements to be positioned through the notches in the recessed portion so that a partial turn of the spout relative to the container permits the offset edges of the tonguelike elements to be guided beneath said recessed portions and against the stop members for securing the spout in the dispensing position on the container.

2,981,449
CAULKING COMPOUND CARTRIDGE WITH IMPROVED SPOUT
Donald A. Perkins, Rutland, Vt., assignor to Rutland Fire Clay Company, a corporation of Vermont
Filed Oct. 31, 1957, Ser. No. 693,705
1 Claim. (Cl. 222—541)



A caulking compound cartridge adapted to be used in a caulking gun, comprising: a cylindrical tubular body closed at its rear end by an internal piston-like cap adapted to be actuated by said gun; a closure plate fixed on the front end of said body and having a centrally disposed hole therein; and a dispensing spout having a substantially cylindrical rearward portion molded of semi-rigid but flexible material, said rearward portion passing through said hole and being attached at its rearward end to said plate, said rearward portion projecting forwardly of said plate for a distance greater than the diametral dimension of said cylindrical tubular portion without a substantial diminishing of the cross-sectional area of said rearward portion and terminating at its forward end in an integrally molded conical spout portion converging forwardly therefrom at an angle of approximately 8° from the axis thereof, said conical spout portion being provided with a plurality of integral shoulders spaced along the length thereof adjacent the outer extremity of said spout and lying in closely spaced parallel planes intersecting the axis of said spout at acute angles and intersecting the plane of said plate at points lying laterally of the periphery of said plate, said shoulders providing forwardly facing generally planar surfaces adapted to serve as cutting guides for removing the end of said spout at selected positions of varying sectional areas to provide an outlet opening of selected size, said shoulders being formed in the outer surface portion only of said spout, the inner surface thereof radially inward of said shoulders being smooth and uninterrupted.

2,981,450
DISPENSING SPOUT
John W. Anderson, 578 Broadway, Gary, Ind.
Filed July 24, 1957, Ser. No. 673,976
4 Claims. (Cl. 222—564)



3. A dispensing spout for attachment to an opening in a container for granular materials, said spout includ-

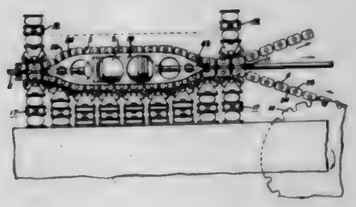
ing a cylindrical tubular portion having a substantially smooth cylindrical interior, one end of said portion being provided with means for detachably securing the same to the opening in the container, the other end of said portion being integral with an inwardly curved intermediate portion, said intermediate portion terminating in a continuous inwardly extending flange defining a centrally disposed discharge orifice.

2,981,451
GARMENT HANGER
Marshall R. Friedman, 56 Davis Road, Fairfield, Conn.
Filed Aug. 29, 1958, Ser. No. 758,091
3 Claims. (Cl. 223—88)



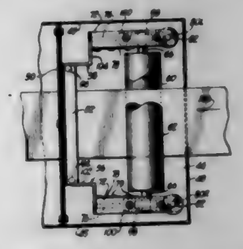
1. A garment hanger comprising a horizontal bar member, an arm having one end fixed to one end of said bar member and extending in spaced relation above said bar member, a suspension hook member connected to the other end of said arm, the other end of said bar member being open to permit horizontal engagement or removal of a garment over said open end and beneath said arm, a contoured coat hanger member having an intermediate garment collar fitting portion disposed beneath said bar member at an intermediate point between the ends of said bar member and a pair of laterally outwardly extending garment shoulder fitting arms, the rearward surface contour of said intermediate portion and said arms being generally convexly curved laterally and the forward surface contour being generally concavely curved laterally, means pivotally connecting said intermediate portion of said coat hanger member to said bar member at said intermediate point of said bar member for relative turning movement about a vertical axis between said coat hanger and bar member to position the open end of said bar member either to the right or the left with respect to the forward side of said coat hanger member, and means for releasably retaining said members in said right or left positions of said bar member.

2,981,452
METHOD OF AND MEANS FOR CONTINUOUSLY PASSING CABLE INCLUDING RIGID HOUSINGS THROUGH A CATERPILLAR CABLE ENGINE
Stanley W. Baker, Ramsey, and Fredric W. Schwab, Maywood, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 18, 1958, Ser. No. 742,927
6 Claims. (Cl. 226—1)



1. The method of employing a caterpillar cable engine having oppositely disposed mating tracks for handling cable provided at spaced intervals with rigid instrumentality housings of a markedly greater diameter than that of the cable, said method comprising placing a portion of said cable between said mating tracks, applying gripping force to said cable substantially continuously along the length of said cable portion enclosed by said mating tracks, and translating said tracks concurrently in the same direction, said method being characterized by the steps of producing a moving gap between said mating tracks coincidently with the passage of a rigid housing through said engine and in the same direction, sensing the departure of said housing from said engine, and effecting in response to said sensing the movement of said gap back through the engine in the opposite direction.

2,981,453
ROLLER SUPPORTING STRUCTURE
Joseph Kinzelman, Northbrook, Ill., assignor to Gaway Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 8, 1958, Ser. No. 753,999
16 Claims. (Cl. 226—23)

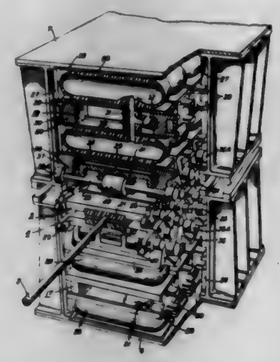


4. Apparatus for acting upon a moving elongated strip of material, including in combination, a pair of directly opposed pressure rollers on the opposite sides of strip for maintaining pressure on the strip passing between them, supporting means rotatably supporting said rollers, and mounting means movably mounting said supporting means for movement of the rollers relative to the path of movement of the strip simultaneously both angularly and transversely about an axis region displaced from the axes of rotation of the rollers in the direction of the approach of the strip toward the rollers.

2,981,454
MEANS FOR CONTINUOUSLY PASSING CABLE INCLUDING RIGID HOUSINGS THROUGH A CATERPILLAR CABLE ENGINE
Frank R. Dickinson, Glen Ridge, and Harry N. Upthegrove, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 18, 1958, Ser. No. 742,863
1 Claim. (Cl. 226—172)

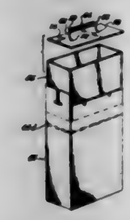
In a caterpillar cable engine having a pair of concurrently translated mating tracks for handling a cable provided at spaced intervals with rigid instrumentality housings of a markedly greater radius than that of the cable, means for effecting the continuous passage at normal cable-handling speeds through said engine of said cable and its housings while maintaining continuous control of said cable, said means comprising a multiplicity of discrete loading units for applying sufficient normal force in increments along each of said tracks to maintain said tracks in gripping relation with said cable, each of said loading units comprising a metallic spacing member individual thereto, each of said loading units also having two separate resilient air bags of flexible material mounted in tandem on opposite sides of the respectively associated spacing member, and each of said loading units further

including a hollow T-shaped member disposed inside the respective associated spacing member with its branching ends protruding therethrough on opposite sides thereof and extending into said air bags for interconnecting the



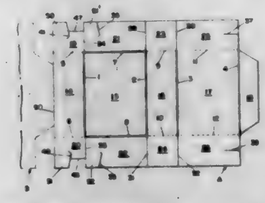
respectively associated pair of air bags, each pair of said air bags being so constructed and arranged as to have a total compressional displacement at least equal to said housing radius.

2,981,455
CARTON
Paul E. Cope, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 3, 1956, Ser. No. 625,732
10 Claims. (Cl. 229—14)



1. A carton comprising in combination a carton shell cut and scored from a blank to form four side walls and a glue flap adjoining the edge of one of the outer walls of said blank and adhesively secured to the lateral edge of the other outer wall of said blank thereby forming a rectangular tube which may be squared up prior to closing the bottom, filling, and closing the top, said blank having two bottom inner flaps and two bottom outer flaps, and two top inner flaps and two top outer flaps all adapted to be folded over the bottom and top ends, respectively, of the tube and to be fastened in place to form a carton shell, a tear strip formed near the top of and encircling said carton shell, an inner liner adapted to fit snugly within said carton shell, a rectangular top panel having dimensions approximately equal to the inside cross sectional dimensions of said carton shell and the outside cross sectional dimensions of said liner, said panel placed on said liner inside said top flaps, a handle looped at least at one extremity thereof, said loop passing through a hole in the top panel and being engaged by a stiff rod to secure said handle to said top panel and a tape secured over the bottom surface of the said top panel and over said holes in said top panel to render said top panel sift-proof.

2,981,456
COMESTIBLE PACKAGE
James W. Armstrong, Neenah, and Bennie A. Rafoth, Appleton, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 8, 1958, Ser. No. 759,732
2 Claims. (Cl. 229—16)

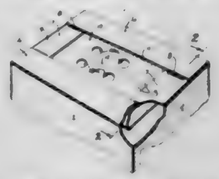


1. A package for a comestible product comprising an inner receptacle formed from a relatively stiff paperboard blank, said inner receptacle being overwrapped by a flexible outer wrapper folded thereabout and heat sealed to form a leakproof package, said inner receptacle being formed from a paperboard blank suitably cut and scored to provide a front wall, a bottom wall, a rear wall, a cover wall and an opening flap, said walls and flap being hingedly connected together along suitable score lines therebetween, said rear wall being provided with end flaps adapted to be folded inwardly of the receptacle and to be brought into contact with the comestible packaged in said receptacle, said cover wall being provided with end flaps hingedly connected thereto and adapted to be superimposed over said end flaps hingedly connected to said rear wall, said end flaps hingedly connected to said cover wall being provided with slits extending a substantial distance from the free margin of said hinged flaps, said bottom wall being provided with hingedly connected end flaps adapted to be folded and superimposed over said flaps hingedly connected to said cover wall, said end flaps connected to said bottom wall being provided with slit portions therein for forming locking tabs extending at the upper portion of each of said end flaps, said locking tabs being adapted to be inserted within the slits provided in the end flaps hingedly connected to said cover wall, said front wall having hingedly connected thereto end flaps along score lines at each end thereof, said end flaps being provided with locking tongues at the side margins of said end flaps, said locking tongues being insertable in the slit portions of the end flaps hingedly connected to the bottom wall for locking the front wall into closed position, an outer flexible wrapper enfolded about said receptacle, an end portion of said wrapper being interposed between said front wall and said opening flap and an opposite end portion of said wrapper overlying said opening flap of the receptacle and therebeyond being adhered to the wrapper adjacent said flap, the side margins of the wrapper adapted to be folded to enclose said receptacle at the ends thereof and to be sealed to provide a substantial and leakproof package.

2,981,457
SHIPPING CARTONS FOR PRODUCTS SUBJECT TO INSPECTION
Warren F. Davis, La Mirada, Calif., assignor to Menasha Container of California, Division of Menasha Wooden Ware Corporation, Anaheim, Calif., a corporation of Wisconsin
Filed Feb. 2, 1959, Ser. No. 790,418
8 Claims. (Cl. 229—16)

1. A shipping carton for products subject to inspection, comprising: a carton structure having bottom, side, and end walls; and a top closure means including a set of side top flaps and a set of end top flaps hinged to the side and end walls, respectively, of said carton structure,

at least one set of said top flaps being relatively narrow to provide narrow margins on the top side thereof, thereby to leave a substantial open area therebetween, one set of top flaps overlying the other set of top flaps; said sets of top flaps being joined together at rectangular regions adjacent the corners of the top of the carton structure; the members of the underlying set of top flaps terminating in spaced relation to each other, and the central portions of said underlying flaps between said rectangular regions being weakened along lines bordering said rectangular regions to form upwardly and outwardly unfoldable tear panels; said top closure means further including panel means movable relative to said flaps to expose the contents of the carton structure in the area within said margins.



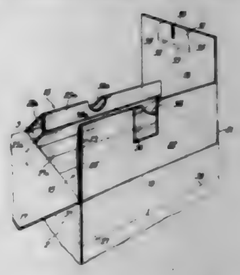
2,981,458
CARDBOARD BOX WITH A CARRYING HANDLE
George E. Thibault, Somerset, Mass., assignor to Charles W. Stampler, doing business as Slater Paper Box, Fall River, Mass.
Filed Dec. 31, 1958, Ser. No. 784,235
2 Claims. (Cl. 229—52)



1. In a paper box, the combination of hinged top and bottom sections which are adapted to be telescoped one into the other, a handle member having a shank portion and T-shaped ends, spaced slots disposed substantially centrally widthwise in the inner front wall of the box to receive and secure the ends of said handle, a portion of said ends lying on the inner front wall, the shank of said handle being reversely bent upon itself adjacent each of the T-shaped ends, a longitudinally extending slit in the outer front wall of said box, and a pair of angularly extending slits intersecting said longitudinal slit in said outer front wall adjacent the ends thereof to define a longitudinal locking strip in said outer front wall and a flap, said flap extending beneath the shank portion of said handle, one edge of the locking strip abutting an edge of the handle, the shank portion of said handle being adapted to be extended by unfolding the folded end section thereof whereby the handle member in such carrying position will retain the two telescoping sections of the box in a closed relation.

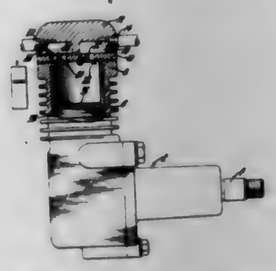
2,981,459
GRANULAR MATERIAL CONTAINER WITH HANDLE
Richard H. Johnson, Arlington Heights, and William G. Kuehn, Jr., Chicago, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Sept. 11, 1959, Ser. No. 839,361
1 Claim. (Cl. 229—52)

A paperboard container, comprising: a bottom and four interconnected side walls, two opposed side walls each having hingedly connected to their upper ends a hollow closure member, said closure members each comprising upper and lower panels spaced a sufficient distance to admit between them the fingers of a person, vertically disposed panels connecting the spaced panels of each closure member along lines remote from their connection with the side walls, said vertically disposed panels being in close side-by-side relation centrally of the container when said closure members are in closed position, the upper panels of said closure members being formed with adjacent finger-receiving openings extending outwardly from the vertically disposed panels, a closure flap hinged to each of the other opposed side walls, said flaps extending over and secured against the upper closure panels,



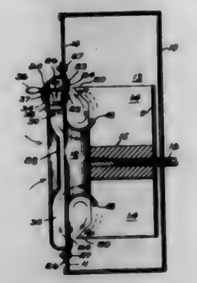
one of the closure flaps having a length sufficient to overlie the two adjacent finger openings, said closure flap including a hinged tab cut from within the contour of the closure flap and foldable down into the adjacent openings and up against the under surfaces of the upper closure panels, the vertical panels of the hollow closure members being partially cut away adjacent the tab to permit said tab to fold freely inward into position against the upper closure panels, the adjacent vertical panels of the hollow closure members being cut away along an approximately circular contour the radius of which is less than the length of the hinged tab, said tab being formed with a slot at its free edge into which slot the adjacent portions of the vertical panels are received when the tab is folded down.

2,981,460
VARIABLE CLEARANCE VOLUME AIR COMPRESSOR
John Dolza, Fenton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 26, 1957, Ser. No. 655,302
5 Claims. (Cl. 230—21)



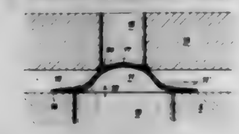
1. An air compressor comprising a reciprocating piston and cylinder, air inlet and exhaust ports communicating with said cylinder, a depression formed in the head of said piston, a flexible member seated over said piston head depression and forming with said cylinder a variable clearance volume, said member being progressively yieldable into said depression to increase said volume as the exhaust pressure of said compressor increases.

2,981,461
CENTRIFUGAL FANS
James D. Murphy, Framingham, Mass., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 18, 1958, Ser. No. 729,308
2 Claims. (Cl. 230—114)



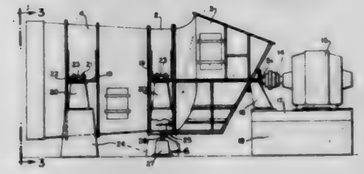
1. A centrifugal fan comprising a rotor having a hub and a backplate, a plurality of radial blades supported by said hub and backplate, said blades having back edges at said backplate and having front edges opposite said back edges which are unenclosed from their roots to their tips, said fan having a casing around said rotor, said casing having an inner inlet sheet with an axial inlet passage, said casing having an outer inlet sheet with an axial inlet opening, said sheets having portions spaced apart around said passage and opening to form a recirculated air passage connecting with said passage in said inner sheet, said inner sheet having spaced-apart recirculated air openings extending therethrough opposite the tips of the said front edges of said blades connecting with the interior of said casing around said rotor and with said recirculated air passage, and means slidable along said inner sheet for opening and closing said recirculated air openings in said inner sheet.

2,981,462
VALVE COMPRISING A PLURALITY OF INDIVIDUAL VALVES
Egon Niedermayer, 30 Herrandgasse, Graz, Austria
Filed July 9, 1956, Ser. No. 596,476
3 Claims. (Cl. 230—228)



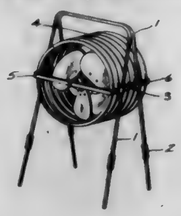
1. An automatic compressor valve comprising at least one valve seat plate having at least one gas flow passage extending therethrough, a stroke-limiting plate mounted in parallel relation above the seat side of said valve seat plate and formed with a plurality of openings extending therethrough from the space between the valve seat plate and the stroke-limiting plate, a thin-walled, light-weight valve plate for said gas flow passage and located between the valve seat plate and the stroke-limiting plate, said valve plate having a cup-shaped central portion and a sealing rim extending about the central portion, the outer periphery of said valve plate being the outer periphery of said rim, the rim being defined by two portions, an inner portion adjoining the central portion and an outer portion, the inner portion being spaced from the valve seat plate and the outer portion contacting said valve seat plate when said valve plate is seated on said valve seat plate, the projected area of said rim on said valve seat plate being considerably larger than the enclosed area of said gas flow passage, so that the gas pressure in the annular gap formed between the valve plate and the valve seat plate when the valve plate is unseated serves as a decelerator on the valve plate when it is opening and as an accelerator on the valve plate when it is closing, whereby the hard impact of the valve plate on the stroke-limiting plate is avoided.

2,981,463
SUPPORTING DEVICE FOR FANS FOR THE TRANSPORT OF HOT GASES
Knut Dagrell, Jonkopings, Sweden, assignor to Aktiebolaget Svenska Fläktfabriken, Stockholm, Sweden
Filed May 29, 1959, Ser. No. 816,975
Claims priority, application Sweden July 9, 1958
1 Claim, (Cl. 230—235)



A fan for hot gases, drive means for said fan including a fan axle, a fan housing enclosing said axle, an exhaust diffuser secured to said housing, bearing plates projecting outwardly from opposite sides of said housing and diffuser at the horizontal level of the center-line of the fan axle, a fixed foundation exterior of said housing supporting said drive means and pournaling said fan axle at one end, means within said housing journalling said fan axle at the other end, fixed pedestal means exterior of said housing and underlying each bearing plate to support the same, spring bias means biasing said plates against said pedestal means affording displacement of said plates in a direction parallel to said fan axle, a second fixed foundation underlying said housing, a guiding rule on said foundation, and guiding means on said housing in vertical alignment with and parallel to said fan axle and engaging said guiding rule to afford axial displacement of said housing relative to said fixed foundation.

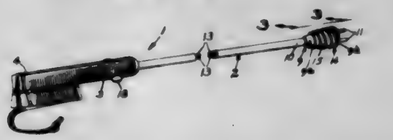
2,981,464
MULTIPLE PROPELLER FAN
William A. Omohundro, Bridgeport, Conn., assignor to General Electric Company, a corporation of New York
Filed July 22, 1958, Ser. No. 750,134
6 Claims. (Cl. 230—259)



1. In a multiple propeller fan having means for rotating the propellers about a common axis, a first propeller for forming a convergent fluid stream, a second propeller axially spaced downstream from said first propeller, said propellers having substantially unrestricted contact with a surrounding fluid medium, said second propeller being smaller in diameter than said first propeller, the diameter of said second propeller being substantially equal to the diameter of said convergent fluid stream at the axial position of said second propeller, said second propeller being

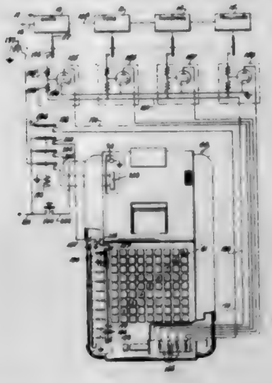
rotatable at a greater rotational speed than said first propeller, said rotational speeds being such that the propeller blade tip linear speeds of said first and second propellers are substantially equal.

2,981,465
ELECTRICAL STOCK PROD
George H. Bartel, Minneapolis, Minn., assignor to Hot Shot Products Co., Minneapolis, Minn., a corporation of Minnesota
Filed July 1, 1960, Ser. No. 40,318
5 Claims. (Cl. 231—2)



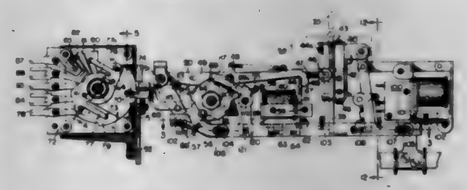
1. An electrical stock prod comprising an elongated prodding stem defining a hand-grip portion adjacent one end and carrying a source of high potential shocking current, a spaced pair of primary shocking electrodes extending longitudinally from the other end of said stem, and a pair of generally helically coiled secondary electrodes alternately convoluted about the exterior surface of said stem, and circuit means connecting said primary and secondary electrodes to said source of high potential shocking current, each convolution of each of said secondary electrodes being spaced adjacent a convolution of a different one of said secondary electrodes so as to be adaptable for easy circuit bridging therebetween by the body of the contacted animal.

2,981,466
READ-OUT SYSTEM FOR A VALUE REGISTERING DEVICE
William R. Beall, Glendale, and Kenneth F. Oldenburg, Monterey Park, Calif., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Aug. 26, 1955, Ser. No. 530,693
2 Claims. (Cl. 235—60.4)



1. In a read-out system for a multi-decade value registering device, each decade having an output circuit effective to produce distinctly different registering potentials in accordance with different values, respectively, registered by a respective decade, the combination of multi-denominational amount registering mechanism having a registering element for each denomination thereof, reciprocable differential actuators for advancing said registering elements during movement of said actuators in one direction, drive means for incrementally advancing said actuators, a plurality of electromagnetic devices for controlling respective ones of said actuators, a plurality of control circuits for respective ones of said electromagnetic devices, each of said control circuits having two input leads, means connecting each of said output circuits to one of the input leads of a respective one of said control circuits, means presenting a single series of terminals of progressively different potentials, means operable by said driving means for successively connecting the others of said input leads to different ones of said terminals in concert with advancement of said actuators whereby to energize said electromagnetic devices to cause said registering elements to register amounts corresponding to amounts registered by the decades of said registering devices, and means operable upon movement of said actuators in the opposite direction for disabling said control circuits.

2,981,467
PROGRAM SELECTING APPARATUS FOR AN AUTOMATIC MACHINE
Richard H. Jones, Bridgeport, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 15, 1957, Ser. No. 646,414
5 Claims. (Cl. 235—60.47)

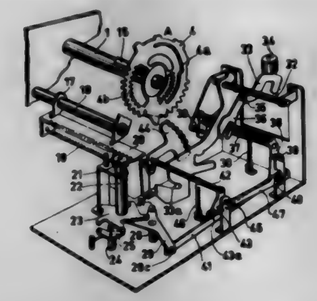


1. Program selecting apparatus for an automatic machine, comprising: movable means on said machine; a plurality of abutments of selected lengths on said movable means; means for sensing the presence of or lack of an abutment at a given position; a multiple position switch; and means for first moving said sensing means into contact with an abutment when aligned therewith and subsequently being operable to move said switch to a position determined by the length of the then aligned abutment; said moving means comprising a link having a first end operatively connected to said sensing means and a second end operatively connected to said switch, and means to move said link in a manner whereby said first end of said link moves said sensing means into contact with an aligned abutment, following which said second end of said link moves said switch; said link moving means comprising a pivotally mounted arm to which said link is pivotally mounted at a point intermediate its ends, means latching said arm in a retracted inoperative position, means for releasing said latch means, and means for moving said arm to extended position for so moving said link.

2,981,468
CALCULATING MACHINES OF THE TEN-KEY TYPE
Erik Konrad Grip, Atvidaberg, Sweden, assignor to Aktiebolaget Atvidaberg-Facit, Atvidaberg, Sweden, a company of Sweden
Filed Apr. 2, 1958, Ser. No. 725,825
Claims priority, application Sweden Apr. 6, 1957
4 Claims. (Cl. 235—63)

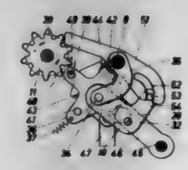
1. In a calculating machine of the ten-key pin-wheel type, in combination, a calculating rotor comprising a plurality of setting discs and a corresponding plurality of pin-wheels, means mounting said rotor for axial movement, means operated by the keys to rotate said setting discs in accordance with the value of the operated key, resilient means released by key actuation for causing a single step of axial movement of said rotor after setting

of a digit in one of said setting discs, said key-operated means for said setting discs comprising crank means, said crank means being held in initial position by a toggle spring, said toggle spring acting after initial rotation of



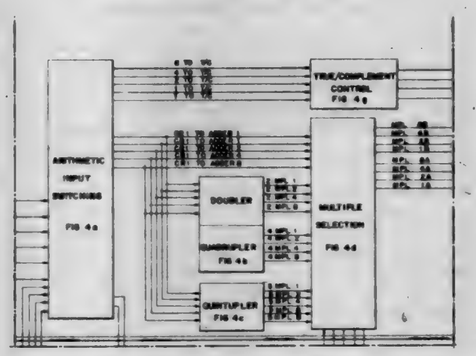
said crank means under drive of a selected one of said keys beyond dead center position to drive said crank means to a final position and means actuated by said stepping means for causing axial step movement of said actuator to restore said crank means to initial position.

2,981,469
REVOLUTIONS COUNTING MECHANISM FOR CALCULATING MACHINES
Helmut Gelling, Ulm, Germany, assignor to Walther Büromaschinen Gesellschaft m.b.H., Gerstetten, Wurttemberg, Germany, a firm
Filed Aug. 13, 1956, Ser. No. 603,632
Claims priority, application Germany Aug. 25, 1955
8 Claims. (Cl. 235—91)



1. In a revolutions counting mechanism for calculating machines, a counting wheel in each denomination, a single actuating shaft, common to all of the counting wheels, a single actuating wheel shiftably mounted on and unrotatably mounted with respect to said common actuating shaft for connecting said shaft with any one of said counting wheels, a single drive wheel secured to one end of said common actuating shaft, a single actuating pawl having an actuating finger cooperating with said drive wheel, a rocking lever pivotally mounting said actuating pawl, a driving shaft, an eccentric integral therewith pivotally mounting said rocking lever and adapted to oscillate said actuating pawl and actuating finger approximately in a radial direction with respect to said drive wheel, a lug at each side on said actuating pawl, a control abutment member having two abutments thereon, each abutment associated with a lug, means for adjusting one or the other of the two abutments into the path of its lug for retaining same on the oscillating movement of said actuating pawl for causing said actuating finger to deviate from its radial movement, whereby on the oscillating movement of said rocking lever the adjusted abutment causes said actuating finger to describe a lashing curve deviating from the radial direction towards one or the other side of said radial movement in order to actuate said drive wheel by one unit in the one or the other sense.

2,981,470
ELECTRONIC MULTIPLIER
Richard K. Richards, Poughkeepsie, and Gifford A. Morey, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 2, 1955, Ser. No. 512,636
14 Claims. (Cl. 235—159)

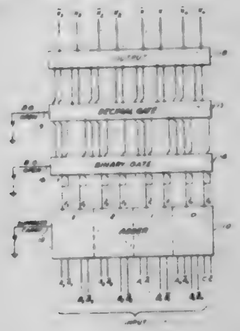


9. In an electronic multiplier, a data storage device having addressable positions, each addressable position containing elements of storage having weighted values for representing digital values according to a notation comprising combinational bits, each of said elements capable of storing an indication of the presence or absence of the weighted values, a multiplier storing section comprised of one or more of the addressable positions storing a multiplier having one or more digital orders, a multiplicand storing section comprised of one or more of the addressable positions storing a multiplicand having one or more digital orders, a product storing section comprised of one or more of the addressable positions for storing a product having one or more digital orders, a multiplier register having elements of storage adapted to store a digit and to emit output signals representative of the digit stored therein, multiple generator circuits connected to receive digits from said storage device and to generated multiples of the digits as received, switching means connected to receive the generated multiples and controlled by the outputs of the multiplier register to select certain ones of the generated multiples, means adapted to receive and add the selected multiples to form a multiple sum, and means to store the multiple sum in the product storing section, means to initiate a multiply operation including means causing transfer of a first multiplier digit from the multiplier storing section to the multiplier register, means for transferring, digit by digit, all digits of the multiplicand from the multiplicand storing section to the multiple generator circuits whereby a series of multiple sums, equal to the multiplicand times the multiplier digit stored in said multiplier register, is formed and is stored in the product storing section, means sensing when all digits of said multiplicand have been transferred, and means controlled by said sensing means for causing the first named transfer means to transfer another digit of said multiplier from the multiplier storing section to the multiplier register.

2,981,471
INFORMATION MANIPULATING APPARATUS
Joseph J. Eachus, Cambridge, Mass., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 9, 1957, Ser. No. 701,435
1 Claim. (Cl. 235—175)

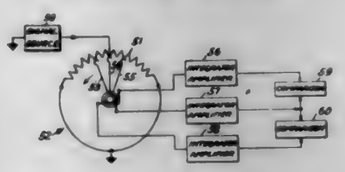
In combination; a multiple-stage parallel binary digit adder, each stage of which defines a selected binary

order and comprises a plurality of gating circuits adapted to have as inputs the assertions and negations of a pair of input operands, each of said gating circuits comprising input diodes for each of the input operands and output diodes, at least three of said gating circuits having two output diodes and two of said gating circuits having a single output diode, each stage further comprising a pair of adder outputs selectively connected to the outputs of said gating circuits so that one output diode of said three gating circuits is connected to one adder output and the other output diode of said three gating circuits is connected to the other of said adder outputs and the single output diodes of said two gating circuits are connected one each to said pair of adder outputs, each of said adder outputs comprising two transistors directly coupled together so that the output of one will be active when the other is inactive to form the assertion and negation of the sum of the input operand bits in the output of said stage in said one adder output and the assertion and negation of the carry result of the input operand bits in said other of said adder outputs, and means connecting the assertions and negations of the carry output of each stage to the input gating circuits of the next higher order stage of said adder; means connecting each of the assertions and negations of the sum outputs of each of said stages to a pair of transfer gating sections, the first of said transfer gating sections comprising a plurality of separate gating circuits arranged to be con-



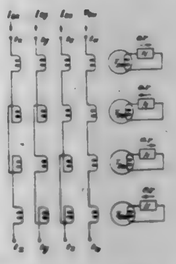
nected one each to the respective assertion and negation sum outputs of each of said adder stages, a further common input signal line connected to each of said separate gating circuits of said first transfer gating section so that all of said gating circuits thereof may be opened at one time, the second of said transfer gating sections comprising a plurality of separate gating circuits arranged to be connected to at least one each of the respective assertion and negation sum outputs of each of said adder stages and selectively cross-connected to the assertion and negation sum outputs of all of said adder stages, except the low-order stage thereof, and the assertion and negation of the carry output of the high-order stage, of each four stages, so that binary coded sum data will be converted to binary coded decimal data, a second common input gating signal connection to each of the gating circuits of said second gating section so that all of said gating circuits thereof may be opened at one time, an output terminal connection for each order of said gating circuits, other than the low-order gating section of said second transfer gating section, a pair of direct coupled output transistors connected to each of said output terminals so that the assertions and negations of the respective output terminals will appear on the outputs of said transistors; an assertion output terminal and negation output terminal for each stage of said adder; means connecting the outputs of the respective gating circuits of each stage of said first transfer gating section to said respective assertion and negation output terminals; and means connecting the outputs of said output transistors to said respective assertion and negation output terminals.

2,981,472
ELECTRO-MECHANICAL CORRELATOR MULTIPLIER
Laurin G. Fischer, North Arlington, and Lance L. Bibbins, Upper Montclair, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Jan. 8, 1954, Ser. No. 403,031
2 Claims. (Cl. 235—181)



1. A device for obtaining the maximum correlation product of two cyclic functions comprising a source of signals characterized by a first cyclic function, an impedance element having a mid-point and two parts disposed in opposite electrical relation with respect to said mid-point, means coupling said signal source to the mid-point of said impedance element, a plurality of output elements, said two parts having an impedance characteristic which in conjunction with a relative cyclic movement between said impedance and each of said output elements is variable according to a second cyclic function, driving means to produce said relative cyclic movement, means to vary the phase of said driving means relative to said first cyclic function, means to couple the output from each of said output elements, means to integrate the coupled output of each of said output elements and means to compare the integrated output from pairs of said output elements.

2,981,473
ELECTRIC MULTIPLICATION CIRCUIT
Eiichi Goto, 1416 4-chome, Nakameguro, Meguro-ku, Tokyo-to, Japan
Filed Apr. 20, 1956, Ser. No. 579,572
Claims priority, application Japan Apr. 25, 1955
6 Claims. (Cl. 235—194)

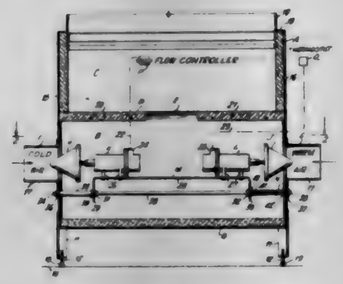


1. An electric multiplication circuit for obtaining the product of three input signals x, y, z according to the following formula

$$xyz=\frac{1}{24}\{(x+y+z)^3(x-y-z)^3(-x+y-z)^3 + (-x-y+z)^3\}$$

which comprises four nonlinear circuit elements for producing third harmonics, a first linear circuit receiving said three input signals and distributing said signals among said four nonlinear elements through which said signals pass separately, and a second linear circuit receiving said distributed four signals and producing the output signal having the triple product of x, y, z of said three input signals, the first linear circuit comprising three transformers, each having one primary winding and four secondary windings, the three input signals being impressed separately on the primary winding of each one of said three transformers, and the four nonlinear circuit elements being coupled separately with the series-connected secondary windings of said three transformers.

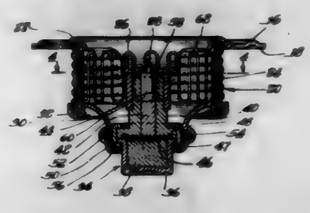
2,981,474
CONSTANT VOLUME AIR MIXING UNIT
James M. Drummond and Douglas W. Torry, Detroit, Mich., assignors to Thermotank, Inc., Detroit, Mich., a corporation of Michigan
Filed Feb. 17, 1958, Ser. No. 715,587
7 Claims. (Cl. 236—13)



1. In a constant volume flow air mixing box of the type having opposed aligned cold air and warm air inlets and an outlet for the air mixture produced in the mixing box, a conical valve controlling each of said inlets, a motor controlling each conical valve having a reciprocable element to move the conical valve and a cylindrical body member, a thermostat controller connected to the warm air valve motor only, a volume flow controller connected to the cold air valve motor only; the combination therewith of a common horizontal sliding platform, both body members being mounted on said platform at the respective end portions thereof, said platform at the ends thereof having downturned flanges, a pair of guide rods extending between the inlets and parallel to the axis of the aligned air inlets extending through said flanges, and coil spring means encircling said guide rods biasing said platform and the conical cold air valve toward the cold air inlet and tending to close the cold air inlet.

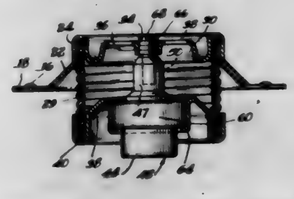
2,981,475
VALVE
Clarence P. Salmon and James W. Farmer, Elgin, Ill., assignors to Flexonics Corporation, Maywood, Ill., a corporation of Illinois
Filed June 7, 1956, Ser. No. 589,925
5 Claims. (Cl. 236—34)

1. A valve comprising a one-piece solid wire in the form of a coiled spring arranged in cylindrical form with contiguous convolutions contacting one another to close the valve but separable to permit fluid flow therebetween, an annular member having an annular channel in which one end convolution of the coiled spring is secured and said annular member being apertured interiorly of said channel to permit flow of fluid to the interior of the coiled spring, a closure member of generally annular form having an annular channel facing the first-mentioned channel and in which the opposite end convolution of the coiled spring is mounted, said closure member having a central annular wall portion, one of said members being fixed and the other of said members being movable with respect to said fixed member, a temperature responsive mechanism carried by said wall portion with the opposite end thereof in operative association with said annular member and operable upon expansion thereof to rela-



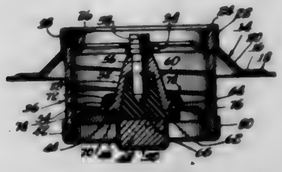
tively shift apart said annular and said closure member to separate the spring convolutions and permit the passage of fluid therebetween, and spring means bearing against the coiled spring at peripherally spaced areas and along a longitudinal extent thereof sufficient to engage substantially all of the spring convolutions between the channels in said annular member and said closure member for dampening vibrations in the valve during operation thereof.

2,981,476
THERMOSTATICALLY CONTROLLED COILED SPRING VALVE
Clarence P. Salmon and James W. Farmer, Elgin, Ill., assignors to Flexonics Corporation, Maywood, Ill., a corporation of Illinois
Filed May 28, 1957, Ser. No. 662,086
1 Claim. (Cl. 236—34)



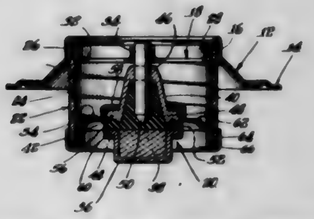
A valve comprising a one-piece solid wire in the form of a coiled spring arranged in cylindrical form with contiguous convolutions normally contacting one another to close the valve but separable to permit fluid flow therebetween, inner and outer annular members having inner and outer cylindrical wall portions spaced apart a distance equal to the thickness of the spring convolutions and providing a first channel with the free ends of the wall portion turned toward one another to provide a seat for the end of the coiled spring with adjacent end convolutions of the coiled spring secured in said first channel, said inner annular member being apertured interiorly of said first channel to permit flow of fluid to the interior of the coiled spring, a closure member of generally annular form having a relatively deep peripheral channel facing said first channel and having secured therein end convolutions at the other end of the coiled spring, said closure member having an annular central seating portion, said annular members as a unit and said closure member being relatively movable with respect to each other, and a temperature responsive mechanism carried by said seating portion with the opposite end thereof connected to said inner annular member and operable upon expansion thereof to relatively shift apart said annular members as a unit and said closure member to separate the spring convolutions and permit the passage of fluid therebetween.

2,981,477
THERMOSTAT VALVE
Clarence P. Salmon, Elgin, Ill., assignor to Flexonics Corporation, Maywood, Ill., a corporation of Illinois
Filed Oct. 6, 1958, Ser. No. 765,664
8 Claims. (Cl. 236—34)



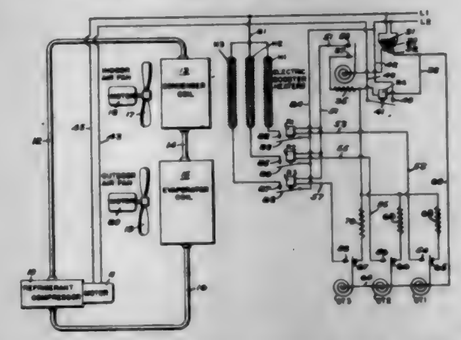
1. A thermostat valve structure comprising a first support member with an aperture therethrough, a second support member formed from a single sheet of material and including a cup portion of predetermined diameter merging into a generally axially extending portion of slightly enlarged diameter with said axially extending portion terminating in an inwardly directed flange portion spaced from the cup portion and said inwardly directed flange portion merging into a radially outwardly extending portion presenting the maximum diameter of said second support member greater than the aperture in said first support member, a temperature responsive unit including a body of temperature responsive material within said cup portion and shouldered closure means embraced by said axially extending portion and retained in position by said inwardly extending flange portion engaging the shouldered portion thereof, a stem connected to said first support member and in sliding relation to said closure means, and means providing a valve associated with the outer peripheral portion of said radially outwardly extending portion and biased to move in one direction in unison therewith and in the other direction under the influence of the temperature responsive material in said cup portion.

2,981,478
THERMOSTAT VALVE
Clarence P. Salmon, Elgin, Ill., assignor to Flexonics Corporation, Maywood, Ill., a corporation of Illinois
Filed Oct. 27, 1958, Ser. No. 769,647
1 Claim. (Cl. 236—34)



A thermostatic valve comprising a one-piece solid wire in the form of a coiled spring arranged in cylindrical form with contiguous convolutions contacting one another to close the valve but separable to permit fluid flow therebetween, a mounting member having an annular channel formation in which one end of the coiled spring is secured and said mounting member being apertured interiorly of the channel formation to permit flow of fluid to the interior of the coiled spring, a closure member of relatively high strength sheet metal including an outwardly extending annular portion and a channel in opposing alignment with the channel formation on said mounting member and in which the opposite end of said coiled spring is secured, a temperature responsive assembly including axially elongated closure means having outward annular flange means remote from said mounting member and a cup member formed of relatively highly conductive material housing therein temperature responsive material and including an outward flange disposed immediately adjacent the flange means on said elongated closure means, and a stem fixed to said mounting member with a relatively slidable connection with said elongated closure means, and said closure member of sheet metal terminating in an inward flange trapping the flange on said cup member and leaving the remainder of the cup member exposed and including a reversely bent double thickness inward flange trapping the remote side of the flange means on said elongated closure means whereby to mount the temperature responsive assembly and permit the separately formed cup member of relatively highly conductive material to be exposed with secure mounting of the temperature responsive assembly between the inward flanges on the closure member of high strength sheet metal.

2,981,479
AIR HEATING SYSTEMS
William K. Kyle, Staunton, Va., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 29, 1959, Ser. No. 823,709
5 Claims. (Cl. 236—68)

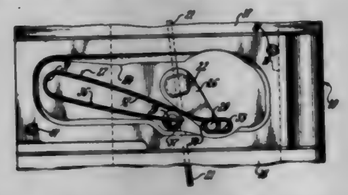


1. In a heating system having a prime heater, a booster heater, an indoor thermostat, an outdoor thermostat, a heat anticipating resistor for heating said indoor thermostat, a first circuit including said indoor thermostat for energizing said prime heater and said resistor when the indoor temperature is at a predetermined level, a second circuit partially completed by said indoor thermostat when the indoor temperature is at a predetermined level lower than said first mentioned level, for energizing said booster heater, and means including said outdoor thermostat for completing said second circuit when the outdoor temperature is at a predetermined level, the improvement comprising normally inactive means in said first circuit for decreasing the flow of current through said anticipating resistor, and means including said outdoor thermostat for activating said inactive means to reduce the current flowing through said anticipating resistor when the outdoor temperature is at said last mentioned level.

2,981,480
HEAT CONTROL VALVE
John G. Else, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 16, 1957, Ser. No. 702,990
1 Claim. (Cl. 236—101)

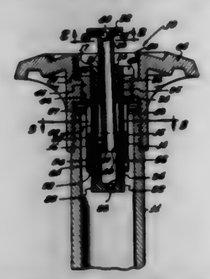
A heat control valve for engines comprising a body having a passage therethrough and being adapted to be mounted in an exhaust conduit through which products of

combustion from an internal combustion engine are exhausted to the atmosphere, a shaft mounted in said body and extending across said passage and having a valve mounted thereon within said passage and an arm mounted thereon without said passage, said valve on said shaft being an unbalanced valve tending by gravity to rotate said shaft with the flow of fluid therein from the closed to the open positions of said valve, said arm by gravity tending to rotate said shaft from said closed to said open positions of said valve, and a thermostat closing said valve against the force of gravity affecting said valve and said arm and against the flow of fluid in said passage, said thermostat embracing a band having a pair of ends extending laterally from the open side thereof, said thermo-



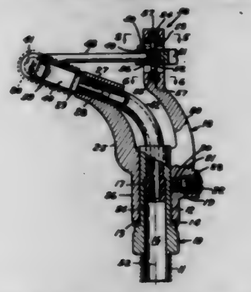
stat at one of said ends being secured rigidly to said body against rotation in either direction and at the other of said ends being movable in response to variations in temperature of said body, said other of said ends being pivotally connected to said arm and moving said arm and said valve into said closed position of said valve when said engine is inoperative and moving with said arm and said valve into said open position of said valve in response to the force of gravity and to the operation of said engine and to the flow of fluid in said passage and to a predetermined increase in the temperature of said body, said connection between said arm and thermostat comprising a pin on said arm and a resilient loop on said thermostat frictionally engaged with said pin thereby providing a damping effect on the movement of said valve.

2,981,481
SPRINKLER
John O. Hruby, Jr., Burbank, Calif., assignor, by mesne assignments, to Rain Jet Corporation, Burbank, Calif., a corporation
Filed May 17, 1957, Ser. No. 660,002
4 Claims. (Cl. 239—206)



1. A fluid discharging device comprising a body having wall means defining a cavity therein and an outer end, the body having a cavity opening formed in the outer end of the body, a tubular stem extending into the cavity through the cavity opening, the stem having an inner end portion disposed in the cavity and an outer end portion and an outlet orifice in the outer end portion thereof, stop means in the cavity proximate the cavity opening, stop means on the stem abutable against said stop means in the cavity for retaining the stem in the cavity, the stem having a fluid inlet opening formed in the inner end portion thereof and disposed in the cavity and spaced inwardly of said stop means on the stem, said wall means having a plurality of openings extending obliquely therethrough for directing fluid into the cavity, said openings being angularly disposed with respect to the cavity for directing fluid toward the sides thereof to impart rotary motion to fluid in the cavity so as to gyrate the stem in the cavity and cause rotation of the stem on its own axis, the cavity being closed except for said cavity opening and said oblique openings and the latter providing the sole access for incoming fluid entering the cavity.

2,981,482
WATER SPRINKLER
Harry Glenn Warren, 711 E. Bennett Ave., Glendora, Calif.
Filed Dec. 16, 1955, Ser. No. 553,637
1 Claim. (Cl. 239—230)

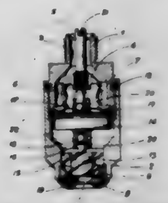


A sprinkler, including: a fitting adapted to be fixed by one end to a water supply line, and having a bore therethrough reduced in diameter at the other end of said fitting and forming an internal shoulder; a rotary member journaled on said fitting for rotation about the axis of said fitting bore, and including means defining a bearing bore disposed in obtuse angular relation to said fitting bore and located above and at one side of said fitting, and an impulse arm support spaced from said means; a flexible tube having an expansible head at one end, a nozzle orifice at the other end, and a substantially nonexpansible journal means surrounding said nozzle orifice, said tube being insertable through said fitting bore until said head and shoulder interengage, said head being responsive to water pressure within said tube and fitting bore to expand into fixed sealing engagement with said fitting bore and fix the head end of said tube with respect to said fitting, said journal means being free to rotate in said bearing as said rotary member rotates about said fitting; an impulse arm having reaction means at one end for engagement with a water stream issuing from said nozzle orifice; a mounting device for said impulse arm including anchor elements secured to the impulse arm support of said rotary member, an attachment element joined to said impulse arm, and torsion elements between said anchor and attachment elements, said mounting device permitting oscillation of said impulse arm to move said reaction means in the path of said water stream; and an impact receiving means on said rotary member periodically engageable by said impulse arm to cause turning of said rotary member in increments.

2,981,483
INJECTOR HAVING A HIGH FLOW RATE RATIO
Louis C. B. Pichon, Viroflay, France, assignor to Nord Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France
Filed Sept. 16, 1960, Ser. No. 56,488
Claims priority, application France Feb. 26, 1960
3 Claims. (Cl. 239—464)

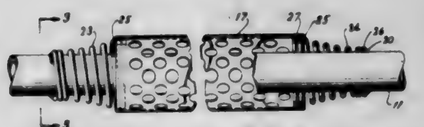
1. Injector having a high flow rate ratio, comprising an attachment block provided with a port for the entry of

fuel, said block being screwed to the extremity of a fuel supply tube, an injector body, said body being screwed on to said attachment block, a needle-valve seating and an ejector nozzle, said seating being in contact with said body and said nozzle, the unit comprising said seating and said nozzle being fixed with respect to said body, a nut with pierced side faces for the passage therethrough of fuel, said nut being attached to said block, a regulating rod, adapted to be screwed into said nut and whose head projects outside the injector, a needle-valve having



a cylindrical portion and a frustoconical portion, the outer surface of said needle-valve comprising helicoidal grooves, said frustoconical portion being capable of coming to bear exactly onto said seating, whereas said cylindrical portion does not engage the body of the injector, a resilient member interposed between the regulating rod and the needle-valve, and secured by suitable means to said rod and to said needle-valve, said suitable means being of the type allowing a certain degree of freedom, the displacements of said needle-valve relative to its seating being automatically regulated by the pressure exerted by the fuel on said resilient member, and said needle-valve being applied against its seating for minimum feed.

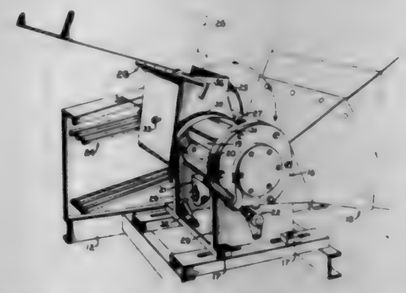
2,981,484
SPRAY GUN
Fred Hirsch, Oakland, Calif., assignor to Malsbary Manufacturing Company, Oakland, Calif., a corporation of California
Filed Dec. 23, 1958, Ser. No. 782,549
4 Claims. (Cl. 239—530)



1. A hand grip for a spray gun of the character described, comprising a tube encircling the spray gun and having clearance therewith, a pair of tapered helical springs disposed at opposite ends of the tube, the springs having their small ends fitting upon and anchored to the gun in spaced relation to the ends of the tube, and having their large ends fitted into and anchored to the ends of the tube, and the clearance being sufficient to cause intermediate sections of the springs to be freely exposed to the atmosphere and to form continuous passages for conducting and dissipating heat emanating from the gun, and the effective length of said passages being greatly in excess of the distance between the anchoring points.

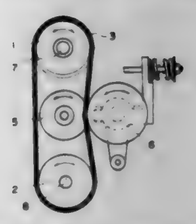
2,981,485
DISCHARGE APPARATUS FOR BRUSH DISINTEGRATORS AND THE LIKE
Robert H. Mainone, 80 Maurer Drive, Battle Creek, Mich.; Nell C. Mainone, administrator of said Robert H. Mainone, deceased
Filed May 12, 1958, Ser. No. 734,614
6 Claims. (Cl. 241—101)

5. In a brush disintegrating and chip discharging machine having a wheeled trailer, a casing mounted on the rear portion of said trailer and containing a brush chipping cylinder, a power unit mounted on said trailer in advance of said casing and connected with said cylinder for driving the latter, the combination therewith of a discharge sleeve mounted on said casing and having an inlet and an outlet through which the brush chips are discharged from said casing, said discharge sleeve being inclined forwardly from said casing, a delivery pipe connected to the outlet of said sleeve and into which the brush chips are conducted by said discharge sleeve, said delivery pipe being forwardly inclined and extending over said power unit, an ankle hinge pivotally con-



necting the lower end of said discharge sleeve with said casing, a knee hinge pivotally connecting the upper end of said discharge sleeve with the lower end of said delivery pipe, said connections of said sleeve with said cylinder at one end and with said delivery pipe on the other providing a continuous chip passageway, and a clamp mounted on said power unit and embracing said delivery pipe to hold said pipe and said sleeve in operative position, whereby, upon release of said clamp, the ankle and knee actions afforded by said ankle and knee hinges will permit swinging movement of said discharge sleeve outwardly from said casing to give access to said cylinder.

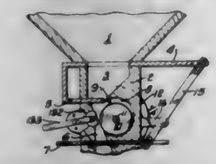
2,981,486
LOW PRESSURE FLOUR MILL
Jyun-Ichi Goto, 519 Ohmiya, Schizuoka, Fujimiya City, Japan
Filed Dec. 10, 1957, Ser. No. 701,926
Claims priority, application Japan Dec. 24, 1956
2 Claims. (Cl. 241—200)



1. A wheat flour milling machine comprising a pair of spaced parallel shafts, at least two sprocket wheels on each shaft, a pair of sprocket chains, one over corresponding wheels on each shaft, a plurality of slat elements pivotally mounted between the sprocket chains parallel to the shafts and abutting each other to form an endless belt of elements, each element having a concave surface facing outwardly of said endless belt, means for driving said endless belt, at least one roller having an elastic surface thereon rotatably mounted within said endless belt with the axis of rotation thereof parallel to said shafts and contacted by said endless belt, and a second roller having a hard surface rotatably mounted parallel and opposed to

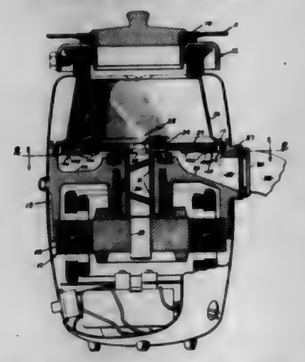
said one roller and bearing against said endless belt and pressing said endless belt against said one roller, and means for driving said second roller faster than said endless belt.

2,981,487
GRINDING APPARATUS
James F. Davis, 17154 Nordhoff St., Northridge, Calif.
Original application Dec. 13, 1954, Ser. No. 474,689, now Patent No. 2,868,109, dated Jan. 13, 1959. Divided and this application Jan. 12, 1959, Ser. No. 796,998
1 Claim. (Cl. 241—222)



A grinding apparatus which includes: a hopper having a passage leading from the bottom thereof; valve means for closing off said passage; a series of circular saws of uniform diameter co-axially mounted so that the teeth of adjacent saws are staggered so as to extend into said passage on the side of said valve means remote from said hopper; means defining a cavity having cylindrical walls formed in the hopper hollow located at one side of said passage opposite said circular saws; a semi-cylindrical bar having a flattened portion at one side thereof facing said passage, which flattened portion is substantially colinear with one adjacent wall of said passage in one position of said bar mounted concentrically within said cavity parallel to the axis of said saws, said bar fitting closely against the cylindrical walls of said cavity, said cylindrical bar being mounted so as to be capable of being moved in an oscillating manner so as to project varying portions of said flattened portions into said passage; control means for moving said cylindrical bar so as to vary the distance between said bar and said circular saws; and means for rotating said circular saws.

2,981,488
DRAIN TROUGH FOR GARBAGE DISPOSER UNIT
Robert W. Hyde, Cincinnati, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Application Nov. 18, 1953, Ser. No. 392,873, now Patent No. 2,949,246, dated Aug. 16, 1960, which is a continuation of abandoned application Ser. No. 262,626, Dec. 20, 1951. Divided and this application Sept. 4, 1959, Ser. No. 838,196
4 Claims. (Cl. 241—245)



1. In a garbage disposer unit, a body casing, a shaft journalled in said body casting for rotation about a vertical axis, a circular cutting disc disposed above said body casting and in driving connection with the upper end of said shaft, an electrical motor disposed beneath said body casting and in driving connection with the lower end of said shaft, an annular seat formed in the upper face of said body casting surrounding the edge of said cutter disc, a shearing ring seated within said seat, said ring having teeth thereon, the outer edge of said disc configurated to present shearing edges to said teeth, a frusto-conical casing, said casing seated on said shearing ring and tapering upwardly to define with the cutter disc a comminuting chamber, a spirally shaped drain trough surrounding the upper end of said shaft in the top of said body casting inwardly of said shearing ring and immediately below said disc, and said drain trough spiralling downwardly through substantially 360° to a drain opening in the direction of rotation of said cutter disc, whereby flow in said drain trough toward said drain opening is induced by said disc rotating in the comminuting chamber.

2,981,489
REDUCTION APPARATUS
William B. Hannum, Jr., Green Tree Road, Paoli, Pa.
Filed Feb. 15, 1960, Ser. No. 8,643
9 Claims. (Cl. 241—275)

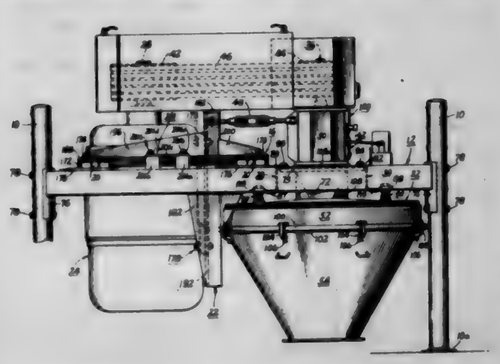


1. Apparatus for reducing particle size of material comprising an inner impeller rotatable about a vertical axis, drive means for the impeller adapted to cause rotation to eject material radially outwardly, a hollow outer rotating member having a vertically oriented axis of rotation, an impact region opposite the impeller against which material is ejected, and continuous sidewalls upwardly and outwardly divergent above the impact region to their upper extent, drive means for the hollow outer member to rotate it at sufficient speed to cause upward movement of particles by centrifugal force along the sidewalls above the impact region, and particle recirculation means adjacent the upper extent of the sidewalls above the impeller cooperative with the hollow outer member relative to which the hollow outer member rotates arranged proximate to the walls of said outer member and so constructed and arranged that it mechanically intercepts material moving up the sidewalls and diverts it back toward the center of the impeller so that it will fall into the impeller by gravity.

2,981,490
CENTRIFUGAL IMPACTING APPARATUS AND SUPPORT THEREFOR
Kurt H. Conley, Hamden, Conn., assignor, by mesne assignments, to Entoleter, Inc., a corporation of Delaware
Filed Dec. 27, 1957, Ser. No. 705,563
7 Claims. (Cl. 241—275)

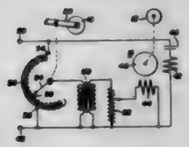
1. In apparatus of the character described, in combination, a supporting base including legs and a pair of spaced horizontal beams connected thereto, each of said beams having a flat upper surface portion, rotary impacting equipment mounted on said beams including a drive shaft and a pulley extending upwardly therefrom, a motor supporting frame having two flat lower surface portions, a plurality of rolls interposed between said upper and lower

surface portions frame and to rollably support said frame on said beams said rolls being free to roll between said surfaces in a generally horizontal direction upon relative movement between said supporting frame and said base, means at the ends of said rolls for preventing substantial axial movement thereof, vertical members



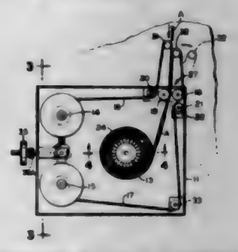
mounted on said two lower surface portions for restraining the horizontal movement of said rolls, a motor secured to said frame, said motor having an upwardly extending drive shaft, and a pulley connected to said drive shaft and disposed in horizontal alignment with said first mentioned pulley to be drivingly connected thereto by suitable belting.

2,981,491
WIRE DISPENSING APPARATUS
Marvin C. Eans, Jr., Owensboro, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 13, 1957, Ser. No. 702,592
6 Claims. (Cl. 242—45)



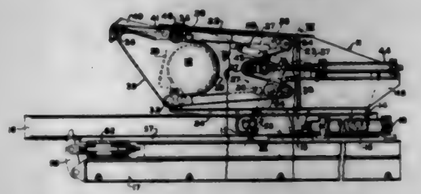
1. In apparatus for paying out linear material through a brake engageable with the linear material and adapted to intermittently interrupt the flow of said linear material, a rotatable spool from which the linear material is adapted to be payed out, an autotransformer having a fixed end tap and a fixed intermediate tap and a tap movable relative to the two fixed taps, a voltage source connected between the intermediate tap and the fixed end tap of the autotransformer, a spool drive motor variable in speed responsive to voltage magnitude and variable in direction responsive to reversal in voltage phase, means connecting said motor in circuit between the movable tap and said intermediate tap of the autotransformer for running of the motor in the spool pay-out direction when the movable tap is between said intermediate tap and said fixed end tap and for running the motor in the spool take-up direction when the movable tap is on the opposite side of the intermediate tap from the fixed end tap, a tension sensing device engageable with the linear material dispensed from the spool, means connecting the tension sensing device to the movable tap of the autotransformer for moving the movable tap toward said fixed end tap responsive to increasing tension of said linear material, and a spring urging the movable tap away from the fixed end tap of the autotransformer.

2,981,492
RECEPTACLE FOR DEPOSITORY APPARATUS
Luther G. Simjian, Laurel Lane, Greenwich, Conn.
Filed Aug. 24, 1959, Ser. No. 835,765
3 Claims. (Cl. 242—67.3)



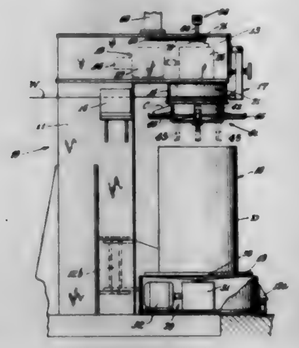
1. A receptacle of the type described comprising: an enclosure including a removable cover forming a part thereof; tape transport means disposed in said enclosure which include a storage reel and a pair of spaced supply reels; a pair of flexible tapes; each tape adapted to be reversibly transferred between one of said supply reels and said storage reel whereby the tapes converge in superposed relationship with respect to one another on said storage reel; means coacting with said storage reel enabling it to be driven by a source of motive power disposed external of said enclosure; further means including differential means coupled to said supply reels for driving said reels from a source of motive power disposed external of said enclosure and said differential means effecting equalization of the tension of said tapes; locking means effective between said cover and said tape transport means to prevent unwinding of tape from said storage reel when said cover is in place on said enclosure; aperture means in said enclosure through which the tapes are extendable out of the enclosure along their transfer path between said reels, and guide means disposed at said aperture for guiding each of the tapes in and out of the enclosure.

2,981,493
OPEN FRAME BELT WRAPPER
Octavian Maximilian, Brentwood, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1956, Ser. No. 613,010
7 Claims. (Cl. 242—78.5)



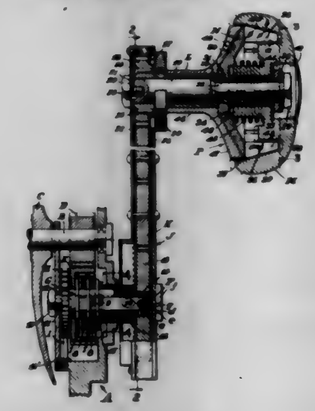
1. In combination with a reel for coiling strip-like material a belt wrapper comprising a frame, a second frame spaced therefrom, said second frame rigidly connected to said first-mentioned frame to form a cantilever structure wherein said second frame is provided with clearance around its entire periphery, a plurality of rollers mounted between said frames, an endless belt in engagement with said rollers, a tension roller, adjustable yieldable means connected to said tension roller adapted in one position normally to cause said roller to engage said belt at the outer surface thereof thereby to tension said belt engaging all of said rollers and in another position to disengage said roller from and to remove all tension from said belt thereby to permit ready removal and replacement of the belt by passage thereof over said rollers and said second frame.

2,981,494
VARIABLE SPEED WIRE COILING MACHINE
Joseph J. Kovaleski, Trumbull, Conn., assignor to The Coulter & McKenzie Machine Company, Bridgeport, Conn., a corporation of Connecticut
Filed Apr. 22, 1958, Ser. No. 730,163
15 Claims. (Cl. 242—83)



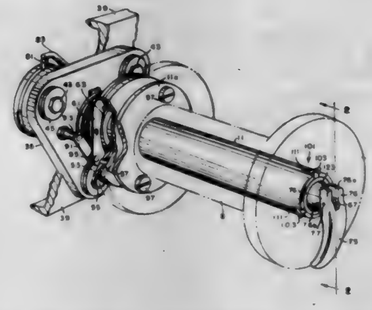
1. A wire coiling machine comprising a frame, an inverted rotatable coil forming capstan mounted on said frame, means for feeding wire to said capstan, means for rotating said capstan to form said wire into continuous coils, rotatable support means in vertical coaxial alignment with said capstan for supporting a wire receiving means thereon, separate means for rotating said support means, means for directing said wire coils from said capstan to said wire receiving means, means cooperating between said means for rotating said capstan and said separate means for rotating said support means for establishing a fixed rotational ratio between said capstan and supporting means and electrical means for varying the rotational ratio between said capstan and rotatable support means, whereby wire coils of varying sizes are received by said wire receiving means.

2,981,495
ACTUATING MECHANISM FOR FISHING REELS
William S. King, 10096 Tujunga Canyon Blvd., Tujunga, Calif.
Filed June 23, 1958, Ser. No. 743,531
14 Claims. (Cl. 242—84.54)



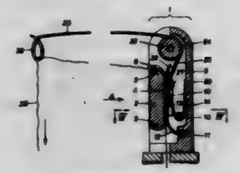
1. In a fishing reel embodying a frame, a shaft, journalled in said frame, a spool fixed on said shaft, a crank carried by said frame, a gear drive between said crank and shaft, a drag mechanism interposed in said gear drive for placing said gear drive in and out of operative relation to said shaft and crank, a turnable handle on said crank, and means connected to said handle adapted to control said drag mechanism; the improvement comprising a mounting on which said handle is movable toward and away from said crank, spring means normally disposing said handle in its outermost position, and a clutch in said handle embodied in said drag mechanism controlling means normally disengaged by said spring means adapted to be engaged by inward movement of said handle relative to said crank.

2,981,496
BOBBIN HOLDING AND BRAKING ARRANGEMENT
Albert D. Harmon, Durham, N.C., and Norman E. Klein, Pendleton, S.C., assignors to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
Filed Feb. 14, 1957, Ser. No. 640,223
29 Claims. (Cl. 242—129.8)



27. In combination a bobbin support, bobbin securing means adjacent one end of said support, a bobbin brake adjacent the opposite end of said support, and a common control member for both said bobbin securing means and said brake and being operatively connected in brake-controlling relation to said brake and in actuating relation to said securing means, said common control member being a lever.

2,981,497
THREAD TENSIONER
Herbert Schurich, Berlin-Frohnau, Germany, assignor to Karl Steinhof Apparatefabrik, Berlin-Reinickendorf, Germany
Filed Sept. 13, 1957, Ser. No. 683,834
Claims priority, application Germany Sept. 17, 1956
5 Claims. (Cl. 242—149)



1. A thread tensioner particularly for hand operated flat knitting machines, comprising a casing, a relatively fixed brake component in the casing, a movable brake component within the casing and cooperable with the fixed brake component to coact with the thread passing therebetween, spring means within the casing and including a looped portion bearing against and normally urging the movable brake component against the fixed

brake component, an elongated resilient bow-shaped element having a thread guide adjacent one end of said resilient element exteriorly of the casing, a shaft within the casing above the brake components, the resilient element having a helical coil portion mounted on and turnable about said shaft, said resilient element having a portion extending downwardly from said helical coil portion, connecting means on said downwardly extending portion connecting said downwardly extending portion of the resilient element with the looped portion of the spring means so that as thread tension increases, the thread guide is displaced in a direction toward the brake components, thereby moving said downwardly extending portion of the resilient element and looped portion of the spring means in a direction away from the movable brake component, thus widening the space between the fixed and movable brake components, and when the tension is relieved, the thread guide moves in a direction away from the brake components so that the downwardly extending portion and looped portion of the spring means again bears against the movable brake component.

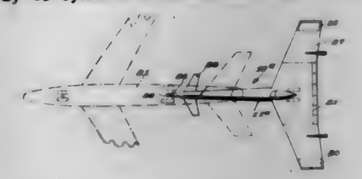
2,981,498
TENSION REGULATING DEVICE
Joseph B. Yuryan, Hudson, Mass., assignor to Thomas Taylor & Sons, Inc., Hudson, Mass., a corporation of Massachusetts
Filed Nov. 5, 1956, Ser. No. 620,272
9 Claims. (Cl. 242—154)



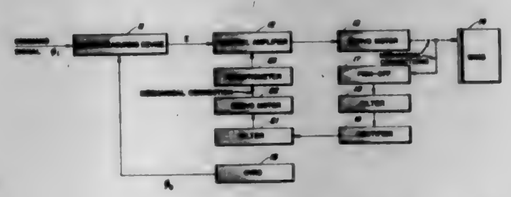
1. In a device for producing a substantially uniform tension in an elongate element travelling continuously from a place of storage to a place of use, a plurality of spaced parallel drag bars through which the element is woven so that successive courses of the element alternate between the bars from one side of one bar to the opposite side of the next, said bars being comprised of a first set of parallel bars, a base supporting said first set of bars for translatory movement thereon, to increase their spacing, and a second set of parallel bars, means pivotally supporting each bar of the second set of parallel bars between a pair of adjacent bars of the first set, so that an extension of the first set of bars to increase their spacing moves the bars of the second set toward the plane of the first set, and contraction of the first set to decrease the spacing moves the bars of the second set away from the plane of the first set, said bars in the first set being moved away from each other by an increase in tension between the entrance and exit ends of the element, and toward each other by a decrease in the tension between the entrance and exit ends of the element.

2,981,499
AIRCRAFT WITH AUXILIARY LAUNCHING AIRCRAFT
Raymond B. Janney II, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 11, 1956, Ser. No. 627,585
2 Claims. (Cl. 244—2)

2. An aerial jet engine powered pusher catapult for accelerating and launching an aircraft from the ground into aerial flight, said aircraft having a pusher catapult engaging means on the under side of the fuselage and between the wheels of the rear landing gear for receiving forward and upward pushing force upon said aircraft during forward powered motion of said pusher catapult, said pusher catapult means comprising an elongated pole-like body of cylindrical form, said body having a reduced front end portion engageable with said pusher catapult engaging means on said aircraft, said pusher catapult having pairs of fore and aft wheels, a cock-pit disposed at the rear end of said body above the aft wheels, wings at opposite sides of said cock-pit, jet engines disposed beneath said wings, and forward stabilizer and control surfaces disposed adjacent the forward end of said body.



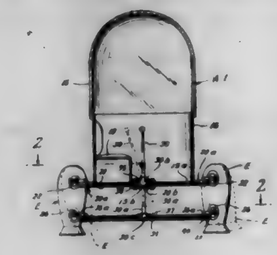
2,981,500
SERVO CONTROL SYSTEM FOR GUIDED MISSILE
Alvar George Carlton, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 30, 1953, Ser. No. 345,295
9 Claims. (Cl. 244—14)



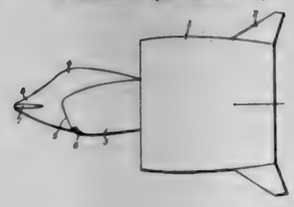
8. A control system for a guided missile having an aerodynamic surface for controlling the attitude of the missile in flight comprising, means for actuating said surface, means providing a first signal representing the attitude of the missile, means for comparing said first signal with a second signal representing a predetermined attitude of the missile thereby providing an error signal, means for converting said error signal into a signal that can be utilized by said actuating means, said error signal converting means including a variable gain amplifier, means including a potentiometer for varying the gain of said amplifier in accordance with the effectiveness and amplitude of motion of said aerodynamic surface in controlling the attitude of said missile, whereby the gain of said amplifier will be maintained at the maximum consistent with the accepted stability of the system, and means for supplying the output from said amplifier to said surface actuating means.

2,981,501
DIRECTIONAL THRUST CONTROL MEANS
Edison T. Schaefer, 215 Garner St., Houston, Tex.
Filed Apr. 4, 1957, Ser. No. 650,614
7 Claims. (Cl. 244—52)

1. An apparatus for controlling the flight of a movable object, comprising a movable object, a plurality of directional thrust propulsion devices, means for mounting each propulsion device on said movable object for movement in a 360° path, link members forming a closed loop with said propulsion devices and extending between each of the adjacent propulsion devices, universal connection joints connecting the link members to the propulsion devices, means for moving said link members in a substantially planar path for simultaneously changing the position of each of said propulsion devices within each 360° path to control the direction of movement of said movable object, said plurality of directional thrust engines including at least four directional thrust engines, and said universal connection joints including a pair of spaced universal joints mounted on each engine.



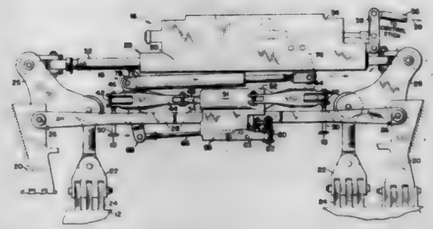
2,981,502
AIRCRAFT ENGINE AIR INLET DEVICE
Gerhard Richter, Dammarie-les-Lys, and Pierre Louis Georges Lhoste, Yerres, France, assignors to Societe Nationale d'Etudes et de Construction de Moteurs d'Aviation, Paris, France, a French company
Filed July 28, 1959, Ser. No. 830,000
Claims priority, application France Aug. 13, 1958
4 Claims. (Cl. 244—53)



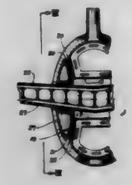
1. An aircraft with a fuselage and an engine housed therein, comprising an air-intake system for said engine having symmetrically arranged inlet orifices opening laterally of said fuselage and facing forwardly and downwardly when the aircraft is in a horizontal attitude, and symmetrically arranged planar surfaces extending substantially parallel to the longitudinal axis of the aircraft and projecting laterally of the forward end of said fuselage, each surface being positioned exteriorly and in front of an inlet orifice, whereby the plane of said surfaces forms an obtuse angle with said inlet orifices.

2,981,503
AILERON CONTROLLED SPOILER OPERATING MECHANISM
William P. Goode and Richard M. Johnson, Dallas, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 30, 1959, Ser. No. 843,609
6 Claims. (Cl. 244—90)

1. In an aircraft wing having an aileron, a mechanism for actuating said aileron proportional to pilot input; and a spoiler, operating mechanism for said spoiler comprising a reversible motor for raising and lowering the spoiler, means for controlling the direction of motor operation, linkage connecting the motor to the spoiler, and variable length mechanical means connecting the motor control means to the aileron actuating mechanism, said variable length means having a fixed length to position the spoiler proportional to aileron position for a predetermined zone of aileron movement and being variable in length to absorb aileron movement when the aileron is outside said predetermined zone.



2,981,504
FUSELAGE BLADE SEALING USING CONICAL SURFACES
Albert E. Parker, San Diego, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Mar. 13, 1959, Ser. No. 799,300
8 Claims. (Cl. 244—117)



1. Closure structure and apparatus in connection with an aircraft comprising, an aircraft fuselage tail portion having an opening positioned laterally therethrough with exits on opposite sides of said fuselage tail portion, a movable horizontal stabilizer disposed through said opening and protruding from said exits on each side of said fuselage tail portion, said fuselage tail portion including a surface area about each said exit that is contoured inwardly toward said exit, said horizontal stabilizer having flanges attached thereto, said flanges disposed so as to be pressed against said contoured surfaces about said exits, said flanges wiping over said contoured surfaces as said horizontal stabilizer is moved, and an air seal provided about said exits by said flanges disposed against said contoured surfaces to minimize air leakage about said exits and substantially improve flight air flow in the aircraft tail area.

2,981,505
DEPLOYMENT SYSTEM FOR PARACHUTES
Robert L. Oakley, 401 Towanda Circle, Dayton 3, Ohio
Filed July 6, 1956, Ser. No. 596,371
5 Claims. (Cl. 244—149)
(Granted under Title 35, U.S. Code (1952), sec. 266)

5. A parachute deployment device comprising a static line provided with a pocket container, a pilot parachute and shroud lines stowable in said pocket, resilient means incorporated in said pilot parachute for retaining said pilot parachute in said pocket, a main parachute, comprising canopy and shroud lines, attaching means for attaching said pilot parachute to the apex of said main parachute, a parachute pack for stowing said main parachute, said resilient means constituting a timing device for con-

trolling the release and opening of said pilot parachute prior to the release of the skirt edge of said main para-



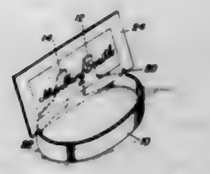
chute and coincident with the deployment of the upper part of the main canopy.

2,981,506
ADJUSTABLE PICTURE HANGER
Irving Saslow, 601 Pelham Parkway N., Bronx 67, N.Y.
Filed June 30, 1959, Ser. No. 823,888
5 Claims. (Cl. 248—28)



1. In an adjustable hanger for pictures and the like provided with suspension means, a guide member adapted for permanently resting against a fixed support and having means for receiving and directing into such fixed support an attaching nail for said guide member, a guide element for a pin forming a part of said guide member, a smooth pin movable within and extending partly beyond said guide element and having at its outer, upper end a head-forming enlargement provided with means for accommodating and supporting picture suspension means, and a threaded adjusting member for said pin adapted to adjustably support the interior end of the pin within said guide element, said adjusting member extending partly below the guide element.

2,981,507
COMBINATION BRACELET HOLDER AND CARD SUPPORT
John H. Dawson, 22 Wall St., Rockville, Md., assignor of fifty percent to Yvonne Martin Scott, Rockville, Md.
Filed Mar. 12, 1959, Ser. No. 798,944
1 Claim. (Cl. 248—33)



A device of the character described, comprising, a smooth, resilient band-like body of generally elliptical contour terminating in spaced end portions, tabs on the end portions and extending therefrom in parallel spaced relation, said body being engageable about the wrist with the tabs in contact with the skin, one of said tabs clamping one end of a bracelet against the skin for holding said end on the wrist while the remainder of the bracelet is passed about the wrist and the other end of said bracelet is attached to said clamped end, and a projection formed on the edge of the body in close spaced relation to each of the tabs, said projections cooperating with the tabs to provide a card support when the device is resting on a surface with said tabs in upstanding positions.

2,981,508
DISPLAY MOUNT
Don F. Paschal, % Chronicle Publishing Co., St. Charles, Ill.
Substituted for abandoned application Ser. No. 508,863, May 16, 1955. This application May 11, 1959, Ser. No. 812,550
3 Claims. (Cl. 248—35)

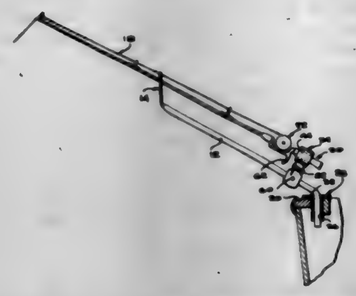


2. A one-piece foldable display mount comprising a mounting board having an intermediate back member and end members connected to said back member by hinge score lines and each folded in the same direction to overlie a portion of said back member, a U-shaped support formed intermediately of the back member by an incision therethrough to provide spaced legs, intermediate score lines in the back member adjacent the base of the support and providing hinges by which to rotate the support legs relative to that portion of the back member from which the legs are cut, a tongue between said support legs and having a score line hinge at the base thereof to permit swinging movement of the tongue and an opening in its free end, one of said end members having a central groove forming spaced legs the ends of which terminate in alignment with the intermediate score lines in the back member and providing a mounting face for display material, and the other of said end members having shoulders engaging the ends of the spaced legs of the other of said end members and a locking flap interfitting in the space between said legs and terminating in a positioning tip sized for snug engagement in the opening in the end of the tongue, the arrangement being such that, when the portions of said mount at the opposite sides of said intermediate score lines are relatively swung about said intermediate score lines, the locking flap is forced against the support leg and along the tongue until the positioning tip seats in said opening and locks the mount in display position.

2,981,509
OARLOCK FISHING ROD HOLDER
Carus L. Messenger, 927 Grant St., and Wesley H. Wam, 2073 Cottage Ave., both of Beloit, Wis.
Filed Apr. 24, 1959, Ser. No. 808,834
4 Claims. (Cl. 248—42)

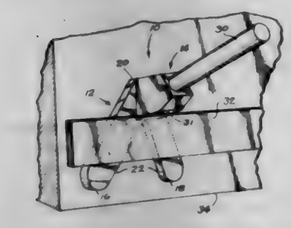
2. An oarlock fishing rod holder comprising a rigid rod having an outer end and an inner end, a depending oarlock bore engaging pintle on the rod at its inner end, an upstanding fishing rod supporting fork on the rod at its outer end, and an upstanding fishing rod embracing clamp mounted on the holder rod at a location near to and spaced outwardly from said pintle, said clamp comprising a relatively stationary jaw, a movable jaw, means pivoting the jaws together, spring means acting between

and closing the jaws, and means pivoting the stationary jaw to the holder rod, said jaws having arms at their lower ends and facing fishing rod handle gripping ele-



ments on their upper ends, said pivot means comprising overlapping ears on and extending between the arms of the jaws, a pivot pin extending through the ears.

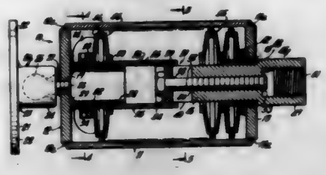
2,981,510
FUSEE HOLDER
Oliver Burns, 119 E. 33rd St., Vancouver, Wash.
Filed Oct. 28, 1959, Ser. No. 847,537
4 Claims. (Cl. 248—42)



4. A holder for supporting the base of a flare, said holder comprising a V-shaped base of substantial mass having a pair of leg portions defining substantially a flat bottom for the base and joined with each other at one set of ends, said leg portions diverging from each other progressing toward their opposite set of ends, and a socket portion joined at one end to said base and extending upwardly from the base where the leg portions join having a mass not substantially greater than the mass of the base, said socket portion having a bore for seating the base of a flare that projects in a line progressing outwardly from said base that inclines over and beyond said one set of ends of the leg portions, said socket portion having a side that faces said opposite ends of the leg portions, the line in which said bore extends defining an acute angle with respect to said side of the socket portion, whereby when the side is resting substantially horizontally on a support with the leg portions of the holder extending downwardly a flare seated in said bore inclines upwardly.

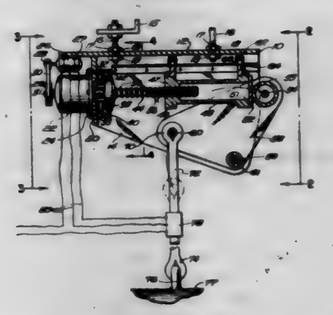
2,981,511
SWAY BRACE FOR PIPING
Leonard S. Suozzo, Hackensack, N.J., assignor to Bergen Pipesupport Corp., New York, N.Y., a corporation of New York
Filed May 20, 1959, Ser. No. 814,492
9 Claims. (Cl. 248—54)

1. In a sway brace, a housing including a wall having a through opening formed therein, a guide member positioned in and secured to the housing, said guide member being spaced from said wall and aligned with said opening, a first tubular member coaxial with and slidable along the guide member, a second tubular member coaxial with the guide member and the first tubular member, means permitting relative axial movement but preventing relative angular movement of the tubular members, a partition within the first tubular member, a cou-



pling unit comprising a plunger slidable in the second tubular member and through said opening, a rod affixed to and extending beyond one end of the plunger and means carried by the rod and engaging the side of the partition which is remote from the plunger, and resilient means normally and yieldingly biasing the tubular members for movement in opposite directions.

2,981,512
CONSTANT SUPPORT HANGERS
Alfred Zollinger, Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Feb. 25, 1958, Ser. No. 717,349
6 Claims. (Cl. 248—58)



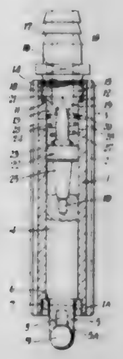
1. A constant support hanger comprising a supported member to which a load acting in a first direction is adapted to be applied, an anchor member for supporting said supported member and adapted to be secured to a fixed structure member, a load sensitive element for providing relative movement between said supported member and said fixed structure member in response to changes in force applied to said supported member by the load, means for adjusting the height of said hanger between said anchor member and said load through a range of heights, said height-adjusting means comprising a lever which is pivotally connected to said anchor member and which has a first arm connected to said supported member, said height-adjusting means further comprising a motor-driven jack which exerts force in a second direction and which is connected between said anchor member and a second lever arm, said load sensitive element being located between said height-adjusting means and one of said members, and means for actuating said jack in response to said relative movement to thereby actuate said height-adjusting means to change the said height of the hanger to compensate for said changes in force, said first and second lever arms forming a first angle and said first and second directions forming a second angle which differs from said first angle throughout at least a substantial portion of said range.

2,981,513
TUBE SUPPORTING CLIP
Dwight L. Brown, 3457 Riverside Drive, Beloit, Wis.
Filed May 2, 1958, Ser. No. 732,659
1 Claim. (Cl. 248—73)



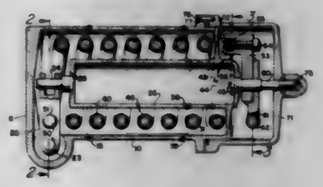
A semi-resilient tube supporting clip for use in a water system of the type attached to the exterior of animal cages having wire mesh panels including vertically and horizontally extending wires and an elongated tube having perforations formed therein for filling animal watering dishes positioned therebelow, said clip comprising a substantially cylindrical tube encompassing band having a pair of spaced opposing ends, outwardly diverging extension members integrally formed on said opposing ends of said band, inwardly converging outwardly reverted hook members formed integrally on the outer end of each of said extension members, said extension members being compressible whereby said hooks may be brought towards each other for insertion of said hook members through said wire mesh to engage each of said hooks against a respective one of said vertical wires of said mesh.

2,981,514
VALVES
John Loxham, Letchworth, England, assignor to The Sigma Instrument Company Limited, Letchworth, England, a British company
Filed June 5, 1957, Ser. No. 663,692
Claims priority, application Great Britain June 6, 1957
2 Claims. (Cl. 251—86)



1. A gauge head valve for use with a pneumatic gauge, said valve comprising a cylindrical valve body having a cylindrical bore therethrough and an outlet port communicating therewith, a circular sectioned member secured in the bore and having a hole therethrough that forms a circular valve orifice, said orifice being concentric with said member and hence with said bore, a needle type valve member located in said bore, the valve member including a collar portion which is slidably fitted in said bore and a needle having a parabolic contour, the needle extending from the collar portion and entering said orifice, the needle being concentric with the collar and hence with said bore, a circular sectioned plunger slidably entered in said bore, one end of the plunger projecting from one end of the body and the other end of the plunger having therein a circular sectioned converging recess that is coaxial with said plunger and hence with said bore, a spindle integral with the valve member, the spindle being coaxial with said collar portion and extending therefrom in the direction opposite to the needle, the spindle having a rounded end that is fitted in the recess in the plunger, and spring means located between said collar portion and said circular sectioned member for urging the valve member away from the said circular sectioned member, whereby the spindle is maintained in contact with the plunger, the valve member and the circular sectioned member each being formed of a material which is softer than the valve body and softer than said plunger.

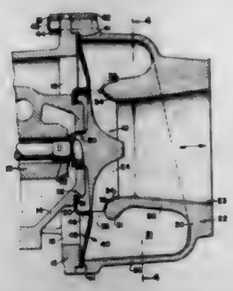
2,981,515
MOTION TRANSMITTING DEVICE
Edward F. Abrams, Los Angeles, and Alexander Silver, East Woodland Hills, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 29, 1957, Ser. No. 680,944
16 Claims. (Cl. 251—229)



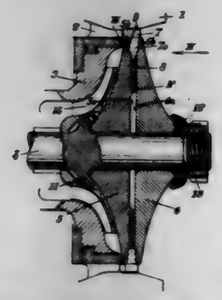
1. A hermetically sealed valve comprising: a hermetically sealed valve body having an inlet and outlet; a valve seat formed in said valve body; a valve element disposed to engage said valve seat to control communication between said inlet and said outlet, said valve element being secured to an arm member rotatably supported in said valve body; a coiled tubular element disposed in said valve body, one end of said coiled tubular element being hermetically sealed to said arm and the other end of said coiled tubular element projecting through an opening in said valve body; the outer surface of said coiled tubular element being hermetically sealed to said valve body adjacent the opening therein; a coiled member disposed within said coiled tubular element, one end of said coiled member being coupled to said arm member; and means for moving the other end of said coiled member to rotate said arm member.

2,981,516
TURBINE HOUSING
Hans Egli, Santa Monica, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed July 3, 1958, Ser. No. 746,374
3 Claims. (Cl. 253—55)

1. A housing for a turbine wheel comprising a main housing member surrounding the turbine wheel and providing the inner and outer walls and one end wall of a circumferential inlet chamber of which the cross-sectional area decreases around the circumference in the direction of turbine wheel rotation substantially from the inlet to said chamber around the entire circumference to a minimum cross-sectional area, the inner wall of the inlet chamber having in it a substantially unobstructed annular port surrounding and immediately adjacent the outer periphery of the turbine wheel for admission of working fluid at automatically varying angles to the outer periphery of the turbine wheel, and a removable ring forming the other end wall of the chamber so as to be capable of being replaced by a ring of different shape to vary the volume of the chamber and the circumferential velocity for a given volumetric flow of fluid.

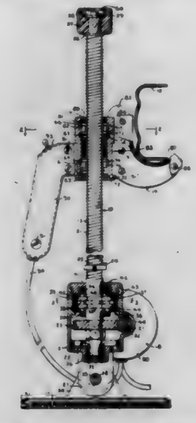


2,981,517
BLADED WHEELS, MORE PARTICULARLY FOR GAS TURBINES
Raymond Emile Georges, 67 Ave. Foch, Paris, France
Filed Aug. 18, 1958, Ser. No. 755,660
1 Claim. (Cl. 253—77)



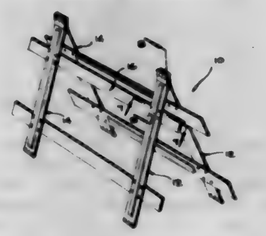
A bladed wheel which comprises, in combination, two discs coaxial with each other about a common axis and having respective faces located opposite each other at a small distance from each other, a multiplicity of blades having their roots caught between the peripheral portions of said disc faces, said roots and said portions of said faces including cooperating circumferential projections and recesses to hold said blades in the radial direction with respect to said discs, fixation means for pressing the central portions of said discs toward each other so that said blade roots are held between said peripheral portions of said discs, said blade roots being located adjacent to each other with a clearance in the circumferential direction between two successive blade roots to permit free expansion of said blade roots in said circumferential direction, an annular member located between said discs coaxially thereto and fixed with respect to only one of said discs so as to be prevented from rotating with respect thereto, the outer peripheral portion of said annular member being toothed, with radial teeth, the outer radius of said toothed portion being a little greater than the distance from the inner ends of said blade roots to said axis but smaller than the smaller radius of said circumferential projections and recesses, the inner ends of said blade roots having radial surfaces in sliding engagement with the radial surfaces of said teeth so as to be held in angular position with respect thereto, said radial surfaces being transverse to the planes of said faces and the respective radial dimensions of said blade roots and said annular member toothed portion leaving a radial play between each of said blade roots and said annular member.

2,981,518
LIFTING MECHANISM
Ralph H. Wise, Tampa, Fla., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana
Filed Oct. 2, 1957, Ser. No. 687,676
9 Claims. (Cl. 254—101)



1. A lifting jack comprising a base, a housing pivotally mounted about a horizontal axis on said base, a vertically extending threaded shaft journaled in said housing, bearing means surrounding a portion of said shaft in said housing for supporting said shaft against radial and axial thrust loads, reversible electric drive means mounted directly on said housing for rotatably driving said shaft in opposite directions, nut means operatively engaging with the threads of said shaft for movement along said shaft, hook means carried by said nut means and adapted to engage with the bumper of a vehicle, handle means carried by said nut means for guiding said hook means into proper position relative to the bumper, and switch means on said handle means for reversely operating the driving means for moving the operative means and hook means along the axis of the shaft to raise and lower said vehicle.

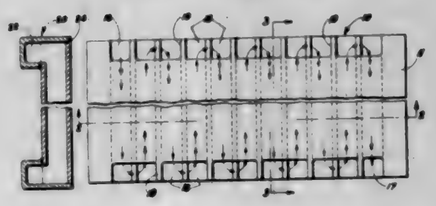
2,981,519
ROAD BARRICADE
Howard E. Barstow, Larned, Kans., assignor to Rubber Barricade Co. Inc., Larned, Kans., a corporation of Kansas
Filed Mar. 27, 1959, Ser. No. 802,484
2 Claims. (Cl. 256—64)



1. In a road barricade, spaced uprights and a cross bar extending between and connecting said uprights together, each of said uprights and said bar including a

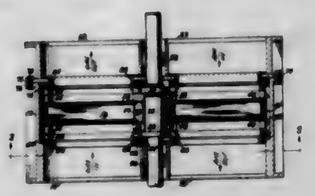
pair of flat metal plates arranged in linear aligned relation, a metal channel member including a bight and a pair of flanges projecting perpendicularly from one side thereof positioned so that said member extends between said metal plates with the bight abutting said metal plates and the free ends of the flanges facing away from said metal plates, a resilient core body filling the space between said flanges and projecting beyond the free ends of said flanges, an elongated resilient strip extending over each side of said metal plates, and means securing the bounding edge portions of said strips together to form a unitary structure.

2,981,520
PLATE-TYPE HEAT-EXCHANGERS
Robert A. Chadburn, York, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 9, 1959, Ser. No. 851,862
5 Claims. (Cl. 257—256)



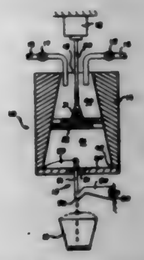
1. A plate-type heat-exchanger comprising a panel member having top and bottom walls and including a plurality of transverse passageways therethrough, said top wall having a plurality of apertures formed therethrough on either end thereof whereby fluid may enter and leave said passageways by way of said apertures, certain of said apertures on one end being linearly offset with respect to certain of said apertures on the other end whereby fluid travelling through one of said passageways may cross over to the next said passageway by way of said apertures for counter flow travel, and a pair of header member means enclosing said apertures and defining, in conjunction with said apertures, flow paths for fluid through said passageways.

2,981,521
ROTARY DISC REGENERATOR
Ted C. Evans and Charles A. Lyle, Wellsville, N.Y., assignors to The Air Preheater Corporation, New York, N.Y., a corporation of New York
Filed Aug. 23, 1957, Ser. No. 679,955
8 Claims. (Cl. 257—267)



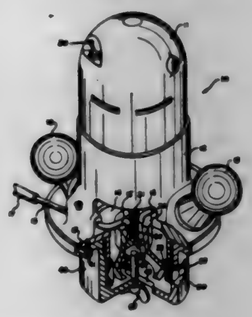
1. A regenerative heat exchange device or the like having a cylindrical rotor carrying heat transfer material and a stationary housing surrounding the rotor to provide opposite ends of the latter with annular end plates formed with diametric web portions which afford circumferentially spaced openings for the flow of a heating fluid and a fluid to be heated to and through the rotor; sealing means at opposite ends of the rotor arranged to restrict fluid flow to the circumferentially spaced openings; and a biasing means comprising a sheet of heat resistant resilient sponge apertured to coincide with the openings in the end plates and positioned in continuous contact therewith to maintain the sealing means and the adjacent surface of the rotor in sealing relationship to preclude fluid flow therebetween.

2,981,522
CONTINUOUS MIXING APPARATUS
George F. Spragens, 7608 La Grange Road, Lyndon, Ky.
Filed Mar. 2, 1959, Ser. No. 796,308
12 Claims. (Cl. 259—3)



1. In a continuous mixing apparatus, a rotatable non-horizontally mounted hollow receptacle, means for driving said receptacle, means for separately supplying a plurality of materials to be mixed into a first end of said receptacle during its rotation, means for removing mixed materials from a second end of said receptacle during its rotation, chamber-defining means forming a portion of said drive means and defining an upper and a lower chamber within said receptacle, said chamber-defining means including apertures spaced from each other and connecting said upper and lower chambers, an apertured floor plate for said receptacle adjacent the second end thereof and defining with the interior wall of said lower chamber a collecting region for mixed material, and a material discharge element forming a portion of said material removing means and projecting through the aperture in said floor plate and extending into scooping relation to the material in said collecting region.

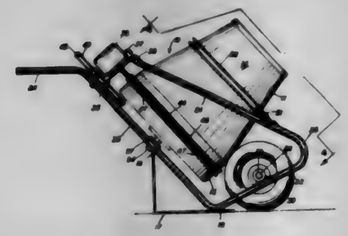
2,981,523
CONTINUOUS MIXING AND JET DISCHARGE APPARATUS
George F. Spragens, 7608 La Grange Road, Lyndon, Ky.
Filed July 16, 1959, Ser. No. 827,540
13 Claims. (Cl. 259—3)



1. In a continuous mixing apparatus, a rotatable hollow mixing receptacle open at each end, means for driving said receptacle, a casing surrounding the periphery of said receptacle, said casing having an open portion at the lower end thereof communicating with the open

lower end of said receptacle, means for supplying a plurality of materials into said receptacle through the upper open end thereof for mixing therein, means defining an upper and a lower chamber within said receptacle and including apertures connecting said chambers, said supplying means serving to direct incoming material into said upper chamber, an aperture in the wall of said lower chamber for discharge of mixed material therefrom laterally of said receptacle, an aperture in said casing for receiving material discharged from said receptacle and for removing the same from said apparatus, and blade means carried by said receptacle and cooperating with said casing for propelling material discharged from said receptacle into said aperture in said casing.

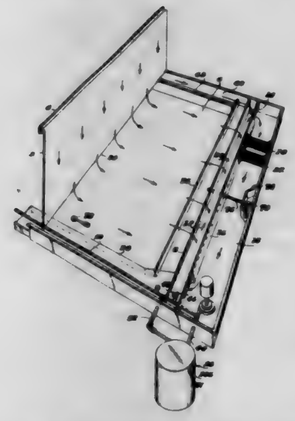
2,981,524
PORTABLE MIXER
Harry L. Yager, 030 SW. Ridge Drive, Portland, Oreg.
Filed July 28, 1958, Ser. No. 751,294
4 Claims. (Cl. 259—177)



1. A portable mixer comprising a drum having a continuous side wall arranged concentrically about a longitudinal axis, a closed bottom and an open mouth, a frame, means rotatably supporting said drum in said frame for rotation about its axis, drum rotating means including a motor mounted on said frame and means drivingly connecting said motor to said drum, said frame extending above and below said drum and comprising a pair of laterally spaced supports lying outwardly of the opposite sides of and below said drum for supporting said drum in stable equilibrium with its open end elevated whereby materials may be deposited in said drum and mixed therein, said supports defining a plane, a pair of rockers extending longitudinally forward from said supports parallel to the axis of said drum, said rockers having upwardly and rearwardly curved, transversely aligned, forward extremities, a laterally spaced pair of wheels mounted on said frame for rotation about a common transverse axis between said supports and the forward extremities of said rockers, said wheels projecting below said frame to said plane so that the drum may be supported solely by said wheels when tipped forwardly with its open end remaining elevated whereby the drum may be moved about while rotating and without dumping its contents, the forward extremities of said rockers extending forwardly of said wheels and solely supporting said drum when tipped forwardly to a greater extent whereby the contents of the drum may be dumped and a laterally spaced pair of wheelbarrow-type handles projecting rearwardly from said frame at points above the center of gravity of said frame.

2,981,525
APPARATUS FOR HANDLING OVERSPRAY PAINT
Emil Umbricht, Jackson, Mich., assignor to Ajem Laboratories, Inc., Detroit, Mich.
Filed Dec. 31, 1954, Ser. No. 479,039
3 Claims. (Cl. 261—3)

1. In a spray booth for collecting and handling overspray paint materials in which recirculating liquid media is arranged to capture, kill, and float in fluidized form the overspray paint materials, apparatus for handling the liquid substrate and selectively removing the upper portion thereof comprising a tank having a large horizontal cross sectional area, means providing an upright surface with an opening therebelow, said wall adaptable to receive liquid media of the upper portion of said wall for forming a liquid curtain passing down over said surface and across said opening, said tank containing said liquid media and having an exposed surface for trapping overspray paint materials, said tank extending beneath said upright surface for receiving the liquid media therefrom and being adapted to hold a substantial depth of said liquid media, a weir extending along one edge of said tank in front of said upright surface having a horizontal top edge positioned just below said predetermined level, a weir trough extending along parallel

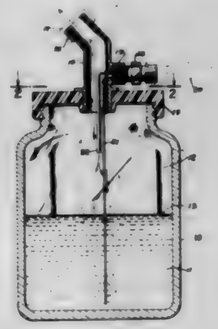


with said weir for catching the upper portion of the liquid passing over said weir, said trough having a downwardly sloping bottom, a sludge collection trough extending along parallel with said weir trough and communicating therewith at the low end of the weir trough, a skimming pump having an entrance port communicating with the liquid media in said collection trough near the high end of the weir trough, a settling tank connected to the output of said skimming pump, means defining a tunnel communicating with the liquid media in said collection trough near the entrance port of said pump, said tunnel passing beneath said weir trough and beneath said weir and extending back to a position behind said upright surface, and a centrifugal type air washer behind said upright surface for drawing air back through the upper portion of said opening and having a pumping mechanism communicating with said tunnel, the used liquid media returning from said air washer through the lower portion of said opening and into said tank.

2,981,526
VAPORIZER
Phillip R. Grumbach, 2460 Tiebout Ave., New York, N.Y.
Filed Nov. 21, 1955, Ser. No. 548,122
1 Claim. (Cl. 261—121)

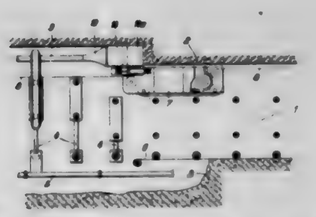
A vaporizer which comprises a reservoir adapted to hold a body of liquid partially filling said reservoir leaving a vapor space above the surface thereof, first air inlet line means of predetermined fixed cross-sectional flow capacity adapted to discharge air therefrom substantially below the surface of the body of liquid for admitting air into direct contact therewith and passage therethrough to the surface of said body of liquid and into said vapor space, second air inlet line means of

predetermined fixed cross-sectional flow capacity adapted to discharge air therefrom substantially above the surface of the body of liquid for admitting air into said vapor space and blending same with air that has escaped from the surface of the liquid into said vapor space after having passed therethrough following discharge from said first air inlet means, and vapor discharge conduit means for discharging vapor laden air from said vapor space,



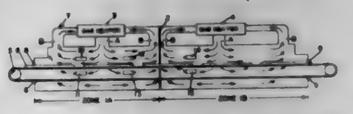
the cross section flow capacity of said second air inlet line means being approximately four times that of said first air inlet line means and the cross sectional flow capacity of said vapor discharge conduit means being substantially greater than the combined cross-sectional flow capacities of said first and second air inlet line means for providing free discharge of said vapor laden air from said vapor space with no substantial pressure build-up under any conditions of use.

2,981,527
MINING MACHINE HAVING CUTTING AND BREAKING ROLLS AND SUCTION TRANSPORTING MEANS
Alfred Kircher and Heinrich Siegelmann, Gelsenkirchen, Germany, assignors to Gelsenkirchener, Bergwerks-A.G., Essen, Germany
Filed Oct. 21, 1958, Ser. No. 768,809
Claims priority, application Germany Oct. 21, 1957
6 Claims. (Cl. 262—27)



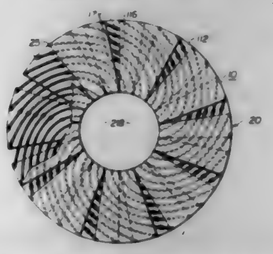
1. Mining machine for mining coal or the like comprising, in combination, support means; moving means for moving said support means in at least one direction; a pair of combined cutting and breaking rolls mounted on said support means turnably about substantially parallel axes spaced from each other a distance greater than the sum of the radii of said rolls so that a gap is formed between said rolls, said combined cutting and breaking rolls being adapted to engage opposite faces of a seam to be mined, whereby during turning of said rolls coal lumps detached from the faces will be passed through said gap so as to be broken into pieces of a maximum size according to the width of said gap; turning means for turning said rolls in opposite directions; and elongated suction means having a receiving end adjacent said gap for sucking the broken coal pieces out of said gap and for transporting the broken coal away from said mining machine.

2,981,528
DRYING SYSTEM
Charles R. Culp, Landisville, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1956, Ser. No. 603,888
1 Claim. (Cl. 263—8)



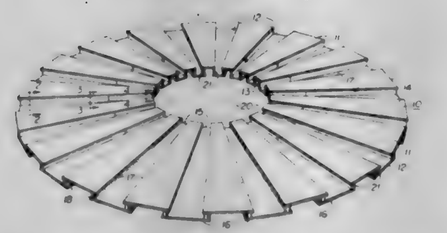
A forced convection drying system comprising a drying chamber including means defining a drying zone through which articles to be dried are passed, an open, air pervious conveyor for carrying material to be dried through said drying zone, and means for establishing a temperature distribution in said drying zone extending along the path of movement of said material through said drying zone comprising a primary source of gaseous heating medium remote from said drying zone and including means for supplying heat to air at said source and means for force circulating said gaseous heating medium from said remote source through said drying zone above and below said conveyor for engagement with both sides of said material during its movement through said drying zone, a plurality of open flame convection heaters positioned within said drying chamber directly in said drying zone and adjacent to said path of movement of said material through said zone and in the stream of gaseous heating medium from said primary heater, with a plurality of said burners being positioned above said conveyor and a plurality of said burners being positioned below said conveyor and with the burners positioned to deliver the open flames therefrom in a direction concurrent with the direction of movement of the stream of gaseous heating medium in the drying zone for supplying heat to said circulating gaseous heating medium from said primary source at a plurality of locations within said chamber both above and below said conveyor to establish said temperature distribution in said chamber.

2,981,529
SEGMENTAL SEPARATORS FOR HEAT TREATING FURNACES
Paul S. Menough, Berea, Ohio, assignor to Patricia M. Vonderau
Filed Nov. 4, 1958, Ser. No. 771,889
3 Claims. (Cl. 263—47)



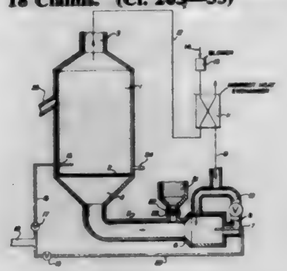
3. A gas circulating separator adapted to be interposed between the individual coils of a vertical pile of coils being annealed, comprising a first series of separate plate sections lying in radial relationship in a first plane, said plate sections each having an inner edge shaped as a segment of a composite edge defining a central opening, the sections having side edges radiating from said central opening, said side edges positioned closely at said central opening with said inner edges lying along a major portion of said central opening, the side edge of each member cooperating with the adjacent like side edge of the next section to outline a radially extending vent therebetween, said plate sections each having an outer edge shaped as a segment of a composite geometric form, a second series of separate plate sections arranged in a predetermined geometric pattern substantially similar in size and form to the pattern of the first plane, said vents of the first series indexed with respect to the vents of the second series to radially overlap the side edges of each segment with respect to the edge of a plate section of the opposite series and to position all vents opposed to a plate section of the opposite series, each said vent of each series bridged by at least one rib member which rib member is secured to the adjacent plates defining the vent and to the area of the plate section opposed to said vent in the area thereof exposed by said vent, and each said rib member extending substantially from the said central opening to said composite outer edge.

2,981,530
SEGMENTAL SEPARATORS FOR HEAT TREATING FURNACES
Paul S. Menough, Berea, Ohio, assignor to The Alloy Engineering Company
Filed Sept. 21, 1959, Ser. No. 841,166
1 Claim. (Cl. 263—47)



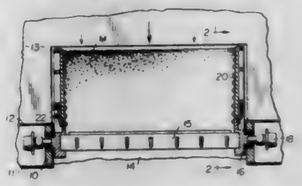
A gas circulating separator adapted to be interposed between the individual coils of a vertical pile of coils being annealed, comprising, a first series of separate plate sections lying in radial relationship in a first plan, said plate sections each having an inner edge shaped as a segment of a composite edge defining a central opening, the sections having side edges radiating from said central opening, said side edges positioned closely at said central opening with said inner edges lying along a major portion of said central opening, the side edge of each member cooperating with the adjacent like side edge of the next section to outline a radially extending vent therebetween, said plate sections each having an outer edge shaped as a segment of a composite geometric form, a second series of separate plate sections arranged in a predetermined geometric pattern substantially similar in size and form to the pattern of the first series, said series of plates of the first section superposed in stacked relationship with respect to the plates of the second series with the vents of the first series indexed with respect to the vents of the second series and with the side edges of each segment overlapped with respect to the side edges of two plate members of the opposite series defining the vent opposed to each said plate member, and a radial rib extending along each edge of each plate member interposed between the overlapped edges and welded to the overlapped plate section edges to hold the first and second series in an operative unit and to establish each vent as a deep channel.

2,981,531
PARTICLE SIZE CONTROL
Robert Pyzel, 85 East End Ave., New York, N.Y.
Filed May 20, 1958, Ser. No. 736,640
18 Claims. (Cl. 263—53)



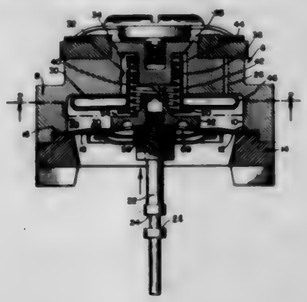
1. A method for producing hydraulic cement in a fluidized system comprising initially establishing and thereafter maintaining a fluidized bed predominantly of cement product particles, maintaining the fluidized bed at cement-forming reaction temperatures, preheating cement-forming materials including calcinable material to a temperature at least equal to about the calcination point of the calcinable material for a length of time insufficient to cause substantial calcination of such material, introducing the preheated material while at such temperature into the fluidized bed before substantial calcination of the calcinable material has taken place, and withdrawing a portion of the bed as final product.

2,981,532
MEANS FOR PREVENTING WASTE PREFERENTIAL AIR FLOW AT SIDE WALLS OF SINTERING MACHINE PALLETS
Robert C. McDowell, Lakewood, and Thomas E. Ban, Warrensville Heights, Ohio, assignors to McDowell Company, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 21, 1956, Ser. No. 592,818
1 Claim. (Cl. 266—21)



A sintering machine comprising a succession of aligned moving contacting pallets, a wind box in sealed relation to a plurality of the pallets, the pallets having grates and spaced apart substantially vertical side walls each having a height adapted to retain the sides of a deep bed of material to be sintered, and which material is subject to shrinkage transversely and vertically during the sintering operation forming sintered cake thereof, thus leaving spaces between the side walls and the sides of the bed of material, and means for preventing leakage flow of gas or air between the sinter bed material and the vertical faces of the side walls and comprising a plurality of inwardly projecting longitudinally extending rib-elements that are arranged in vertically spaced relation on each pallet side wall parallel to the grates and to the direction of movement of the pallets and in mutually aligned relationship on successive pallets, said rib-elements adapted to extend into the bed of material a distance substantially equal to the distance of the withdrawal of the bed material away from the side walls resulting from shrinkage of the bed as the sintering progresses.

2,981,533
TIME DELAY APPARATUS
Wallace D. Wilson, Fanwood, and Glenn W. Johnson, Jr., Summit, N.J., assignors to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Mar. 25, 1958, Ser. No. 723,763
7 Claims. (Cl. 267—1)



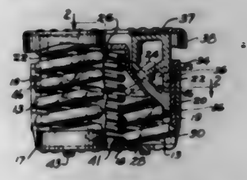
1. In gas timed time delay apparatus having a wall and a flexible diaphragm cooperating to provide a timing chamber and an orifice through said wall: means providing a bias against said diaphragm during a time delay cycle for moving said diaphragm in a predetermined direction to change the volume of said timing chamber and to cause gas to flow through said orifice, said means including a bi-metallic element for regulating the magnitude of said bias as a function of the temperature of said gas at all operative positions of said diaphragm during said time delay cycle.

2,981,534
SHOCK ABSORBERS
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Mar. 20, 1959, Ser. No. 800,796
Claims priority, application France Jan. 29, 1959
3 Claims. (Cl. 267—8)



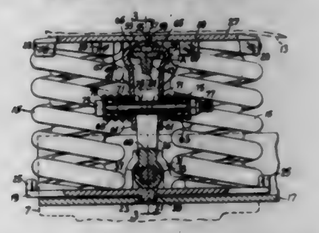
1. A shock absorber comprising, in combination, a telescopic shock absorber having a cylinder and a piston rod mounted therein to allow relative axial movement between it and the cylinder, the rod extending axially outwardly at one end of the cylinder an elastic auxiliary spring element connected at the end of the cylinder through which said piston rod extends comprising, a thick walled bellows of resilient material having one end free, the piston rod extending axially through said bellows, abutment means fixed on the rod spaced axially apart from the end of the cylinder to which the bellows is fixed and outwardly of the bellows whereby the bellows is compressible between the abutment means, and said end of the cylinder, said bellows having at least one opening at the free end thereof radially of the piston rod, and said abutment means having at least one opening with which at least a part of the opening of the bellows is in registry.

2,981,535
SNUBBER FOR RAILWAY TRUCK BOLSTER SUPPORT SPRINGS
Thomas C. Soddy, Downers Grove, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1958, Ser. No. 779,926
3 Claims. (Cl. 267—9)



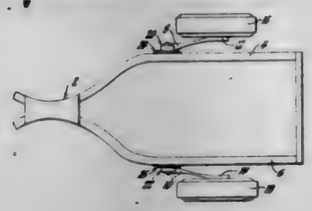
1. Support structure for a railway truck bolster comprising a seat member having a base and upstanding side walls, a plurality of upright helical load-support springs seated on said base between said walls, a pair of friction shoes elongated from top to bottom and spaced apart transversely of the seat member with outer faces slidably engaging respective side walls of said member and with inner faces of the shoes opposing each other being spaced apart and converging upwardly, a wedge between said shoes having upwardly and inwardly inclined faces slidably engaging said shoe inner faces, the upper end of said wedge faces being below the level of the tops of said shoes, irrespective of the height of the shoes, an upright wedge spring seated on said base and forming the sole support for said wedge and thrusting upwardly thereon to urge said shoes apart and against said side walls, a load-carrying top plate overlying said load-support springs and shoes, and means between said walls and shoes limiting their relative vertical movement, said top plate being removable from said load-support springs and shoes without disassembly of the shoes, springs, wedge and base.

2,981,536
RAILWAY TRUCK BOLSTER SPRING SNUBBER
Arthur C. Davidson, Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1958, Ser. No. 779,927
5 Claims. (Cl. 267—9)



5. In a device for snubbing railway truck bolster springs, a bolster spring carrier member and a bolster spring cap member spaced apart vertically to receive bolster springs between them, a horizontally elongated part journaled in a fixed circular bearing on one of said members to rotate about a fixed axis, a horizontally elongated part journaled in a fixed circular bearing on the other of said members to rotate about a fixed axis, an upright plate supported at one end on one of said parts and pivotable therewith about the axis thereof with its swinging end spaced from the other part, upright friction plates at opposite sides of and contacting said first mentioned plate with ends adjacent to the other of said parts slidable thereon to and from each other and pivotable therewith about the axis thereof, and spring means thrusting said latter mentioned plates toward each other and against the first mentioned plate.

2,981,537
SELF-DAMPING TORSILASTIC SUSPENSION
Ronald W. Roe, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 14, 1959, Ser. No. 859,259
3 Claims. (Cl. 267—57.1)



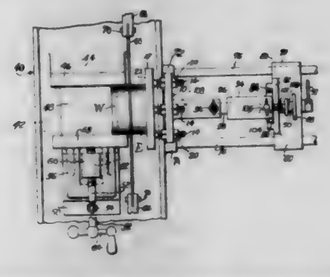
1. In combination, a support having a disc-shaped outer portion and a central tubular journal portion, a cup-shaped hub spaced axially from said disc-shaped portion and rotatably mounted on said journal portion, an annular rubber body disposed in the cavity defined by said hub, and flange means forming a circumferential bearing surface on said hub parallel with and axially abutting the surface of said disc-shaped outer portion, said rubber body having its axially opposite ends bonded to said disc-shaped outer portion and the end wall of said hub, respectively, so that rotation of said hub relative to said journal portion causes progressively increasing torsional loading of said body which induces an axial component of thrust on said hub urging said bearing surface into progressively increasing frictional engagement with said disc-shaped outer portion.

2,981,538
TORQUE-EQUALIZING OPERATING MECHANISM FOR AWNING TYPE WINDOWS
James C. Bennett, Los Angeles, Calif., assignor to Mission-West Manufacturing Company, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 9, 1956, Ser. No. 577,145
16 Claims. (Cl. 268—23)



9. Operating mechanism for an awning type window comprising: an elongated shaft; bearing means at the lower corners of the frame of the window rotatably mounting the ends of said shaft; a driving crank arm fixed to each end portion of the shaft; means on one side of the window frame for operatively connecting one of said driving crank arms with the panes of the window; a driven crank arm; means for mounting said driven crank arm on the other side of the window frame adjacent the other of said driving crank arms; elements relatively adjustable on said other driving crank arm and said driven crank arm respectively, cooperable for driving said driven crank arm responsive to movement of said other driving crank arm; adjustment of said elements effecting relative positioning between said other driving crank arm and said driven crank arm; means operable on said other side of said frame for operatively connecting said driven crank arm with said panes; said elongated shaft having a longitudinal bore; a drive shaft extending into said bore; connecting means drivingly coupling said drive shaft with said elongated shaft at the central portion of said elongated shaft; said drive shaft being spaced from driving contact with said elongated shaft except at said connecting means; and means connected with an end of said drive shaft for imparting rotative movement thereto.

2,981,539
COMBINED END STOP AND STEADYING DEVICE
John L. Irwin, 1721 Vinewood Ave., Detroit 16, Mich.
Filed Feb. 28, 1958, Ser. No. 718,240
4 Claims. (Cl. 269—192)

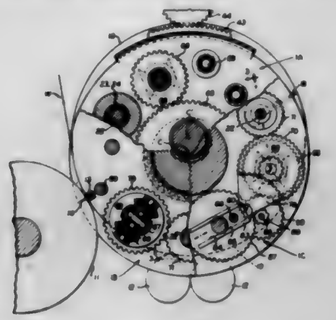


1. For attachment to one end of the conventional work end stop rod of a conventional power hacksaw machine, a combined auxiliary work end stop and steadying device comprising an elongated hollow supporting hub structure having an elongated longitudinal socket bore therein with a configuration adapted to snugly but slidably receive one end of the stop rod, a work end abutment structure mounted on said hub structure in supported relationship therewith, said abutment structure having a substantially flat work end abutment surface disposed perpendicular to the axis of the bore of said hub structure, and means on one of said structures adapted to fixedly yet releasably secure said one structure to the stop rod.

2,981,540
PRINTING MACHINE FOLDING MECHANISM
Charles A. Harless, Riverside, Conn., assignor to R. Hoe & Co., Inc., New York, N.Y., a corporation of New York
Filed Apr. 21, 1958, Ser. No. 729,729
9 Claims. (Cl. 270—77)

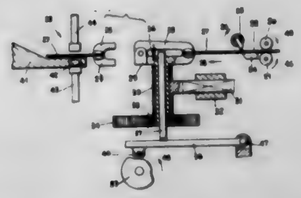
1. In a 3–2 printing machine folding mechanism, a folding and collecting cylinder having a folding blade carrier, folding blade shafts rotatably journaled in the carrier, a stationary sun gear, means mounting the sun gear concentric with the carrier, and planet gearing mounted on the carrier for driving the folding blade shafts and comprising for each shaft a differential gear having two input sides and an output differentially connected thereto, a gear sector and a crank rocking the gear sector back and forth once for each two revolutions of the cylinder, a planet gear driving the crank and one side of the differential, a gear driving the other side

of the differential from the gear sector and a drive connection from the differential output to the folding blade



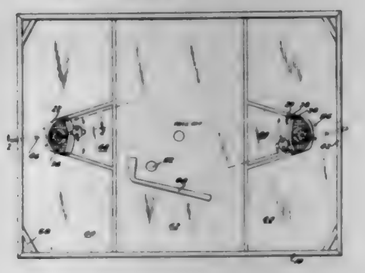
shaft, whereby the folding blade operates for folding a product once every other revolution of the folding cylinder.

2,981,541
MECHANISM FOR FEEDING WRAPPING MATERIAL TO A WRAPPING MACHINE
Ariosto Seragnoli, Via Indipendenza 56, Bologna, Italy
Filed Apr. 9, 1957, Ser. No. 651,759
Claims priority, application Italy Apr. 12, 1956
1 Claim. (Cl. 271—82)



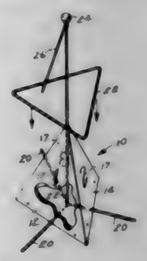
In a wrapping machine, in combination with a pair of rotary unwinding rollers for feeding a wrapping sheet, cutting means for successively cutting off strips from said sheet, and two elevator members extending transversely to said sheet, at least one of said elevator members being movable toward the other elevator member to engage a cut-off sheet strip; a mechanism for feeding the cut off sheet strip to said elevator members, said mechanism comprising a stationary support, a slide axially slidable in said support, a tubular support firmly connected with said slide, a rotary tubular member within the last-mentioned support, pincers located between said cutting means and said elevator members and comprising a pincer element firmly connected with said rotary tubular member and located outside of the last-mentioned support, and another pincer element cooperating with the first-mentioned pincer element and pivotally mounted thereon, said pincer elements extending in the direction of the cut off sheet strip and when open being adapted to receive the cut off sheet strip fed by said uwinding rollers, a stationary rack extending parallel to said stationary support, a gear firmly connected with said rotary tubular member and meshing with said rack, means reciprocating said slide, whereby said pincers are swingable about an axis extending transversely to the direction of the feed movement of said wrapping sheet substantially 180 degrees from a position adjacent said cutting means to a position adjacent said elevator members and vice versa, the cut off sheet strip carried by the pincers remaining substantially in the same plane during the swinging movement of the pincers, a swingable lever extend ng substantially parallel to said guide, a rotary cam actuating said lever, and a rod located within said rotary tubular member and extending transversely to said pincers, said rod having one end engaging said lever and another end engaging said other pincer element for opening and closing said pincers in timed relationship to the stroke of said reciprocating slide.

2,981,542
ACTION BOARD GAME
Michael Weiss, Rockville Centre, N.Y., assignor to Transogram Company, Inc., New York, N.Y., a corporation of Pennsylvania
Filed Apr. 17, 1958, Ser. No. 729,130
1 Claim. (Cl. 273—85)



A simulated hockey game comprising a game board; simulated cages adjacent opposite ends of the board with openings therein facing the center thereof; markings on the board dividing it into a central playing zone, terminal defensive zones about the cages, and non-playing zones inside the defensive zones in front of the openings in the cages; a disc simulating a puck; carom boards in the corners of the board angled to carom a puck driven straight across the board back up and across the board to the other side; a guard member in front of the opening in each cage blocking a minor portion of said opening, and traversable across a major portion of said opening only from a position where there is just sufficient room for the puck to enter the cage between said guard member and the adjacent end of said opening, to a position adjacent the opposite end of said opening where there is just sufficient room for the puck to enter the cage between said guard member and said opposite end of said opening, and miniature hockey sticks for propelling the disc about the board and into the cages and for blocking the portions of said openings not traversable by each said guard member.

2,981,543
TRIANGLE TOSS GAME
Paul A. Peterson, Mellette, S. Dak.
Filed Nov. 16, 1959, Ser. No. 853,397
3 Claims. (Cl. 273—100)



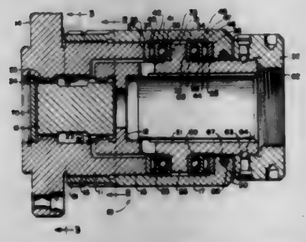
1. A game comprising, in combination, a base, a stand for stably positioning said base upon a supporting surface, a frame of substantially the same configuration and of slightly larger size than said base for manually directed

movement over said base, guide means carried by said base controlling the movement of said frame relative to said base, said base being of generally pyramidal shape having three angularly related side walls and a connecting bottom wall, said stand comprising a plurality of angularly related rods projecting perpendicularly through each one of said sides of said base and converging toward the central axis thereof, and an upright center post integral with the juncture point of said rods extending through the apex of said base.

ERRATUM

For Class 274—10 see:
Patent No. 2,981,953

2,981,544
FLOATING HOLDERS
Bernard R. Better, Chicago, Ill., assignor to Scully-Jones and Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 16, 1958, Ser. No. 767,595
6 Claims. (Cl. 279—16)



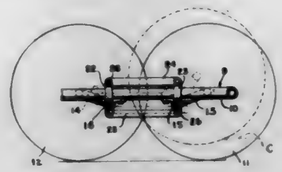
1. A floating holder comprising a driving member adapted for use in a machine tool, a tool-holding driven member mounted in the driving member, means providing oppositely directed flat bearing surfaces between said driving and driven members, universal joint means between said members for driving the driven member, roller bearing means between the members engaging said flat surfaces and arranged to permit relative movement of the members in any direction normal to the driving axis, and means limiting said relative movement of the members.

2,981,545
CLAMPING DEVICES FOR DENTAL TOOLS
Erich Hoffmeister, Biberach, Riss, Germany, assignor to Alois Kaltenbach and Erich Hoffmeister, partners of Kaltenbach & Voigt, Biberach/Riss, Germany
Filed Dec. 5, 1958, Ser. No. 778,355
Claims priority, application Germany Dec. 12, 1957
7 Claims. (Cl. 279—41)



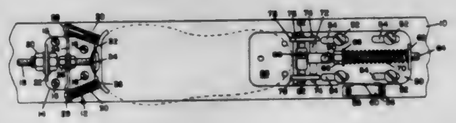
1. A member for securing a dental tool shaft to the rotating elements of a dental handpiece comprising, a sleeve of elastic material, elastic clamping tongues on at least one end of said sleeve, said clamping tongues in their unstressed condition bent radially inwardly an amount to define a cross-sectional area therebetween less than the cross-sectional area of said dental tool shaft, whereby when said shaft is inserted between said tongues said tongues will be forced outwardly and exert a gripping pressure on said shaft.

2,981,546
VEHICLE UNDERCARRIAGE FACILITATING THE LIFTING OF THE VEHICLE OVER CURBS AND STEPS
Alfred A. Letourneur, 19 W. 85th St., New York, N.Y.
Filed Oct. 9, 1958, Ser. No. 766,337
2 Claims. (Cl. 280—5.28)



1. In a vehicle undercarriage, a longitudinally-extending horizontal under frame having laterally spaced side portions, double crank axles longitudinally spaced from one another and journalled between the side portions, said crank axles extending in opposed directions relative to each other, said axles having horizontally-extending crank arms on the opposite ends thereof and wheels journalled respectively thereon, vertically-extending double lever arms respectively rigidly fixed to the crank axles intermediate of the crank arms thereof and in parallel relationship to each other, said double lever arms respectively extending substantially the same distance above and below their connection with the axle and parallel links connected respectively between the upper ends of the lever arms and between the lower ends of said arms whereby rotative forces acting on one of the crank axles will be transmitted in equal force and extent to the other crank axle through the parallel links.

2,981,547
HEEL RETAINING MEANS FOR SKI BINDING
Harry W. Taggart, Detroit, Mich.
(50 Arquilla Drive, Chicago Heights, Ill.)
Filed Aug. 25, 1958, Ser. No. 756,892
1 Claim. (Cl. 280—11.35)



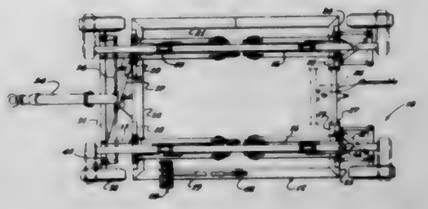
A binding for retaining a boot to a ski and for releasing the boot when certain abnormal forces are exercised between it and the ski, comprising, in combination: a toe retaining mechanism attached to the upper horizontal surface of said ski; a plate attached to and behind and below the heel of the boot; a pair of opposing vertical side walls on the rear of said plate; an upright member fixedly attached to the upper surface of said ski rearwardly of the toe retaining mechanism and having a pair of parallel vertical surfaces which combine to have a width slightly less than the parallel surfaces on the rear of said heel plate, said upright member having a forward face which slants away from said toe plate as it increases its elevation with respect to said ski; a pair of cam members pivotably supported on the parallel vertical faces of the upright member for movement in parallel planes with respect to said ski and having forward projections thereon for engagement with said heel plate; and a toggle mechanism which operates to hold said cams in either a boot-releasing or a boot-holding position.

2,981,548
ELEVATING TRAILER WITH LATERALLY SHIFTABLE FRAME

Allan J. Taylor, Pacific Palisades, Calif., assignor to Northrop Aircraft, Inc., Hawthorne, Calif., a corporation of California

Original application Nov. 27, 1956, Ser. No. 624,556, now Patent No. 2,929,519, dated Mar. 22, 1960. Divided and this application Oct. 8, 1959, Ser. No. 846,770

2 Claims. (Cl. 280—29)



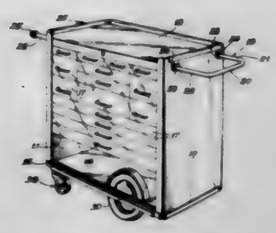
1. In an elevating dolly the combination comprising: a generally rectangular frame assembly; support assemblies mounted respectively adjacent the fore and aft end portions of said frame assembly and each including a pivotally mounted wheel; each of said support assemblies including a parallelogram type linkage pivotally connected to and extending between a respective wheel and said frame assembly to allow lateral movement of the latter with respect to said wheels; and actuator means adapted to impart said lateral movement to said frame assembly when actuated.

2,981,549
MOBILE TOOL STAND

George Richardson Hotton, 3933 W. 63rd St., Chicago 29, Ill.

Filed Jan. 16, 1959, Ser. No. 787,149

2 Claims. (Cl. 280—47.35)



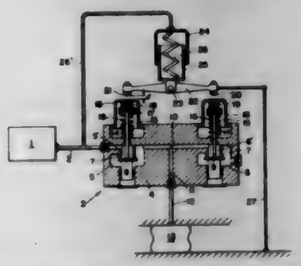
1. A mobile tool stand to be supported on a floor which may have various low obstacles thereupon for use by a workman to bring tools to the place where work is to be performed and to provide a work table, said stand comprising: a box-like body having two end panels, a side panel and a flat work-top supported on said panels; a plurality of drawers within said body, accessible at the other side of the body, and extending the length of said body between said ends whereby the loads of the drawers will be relatively evenly distributed along the length of the body; two pair of tubular guides having an opening therethrough, one pair being spaced and affixed to a first end panel and the other pair being spaced and affixed to a second end panel in alignment with the first pair, said guides being positioned with their openings horizontal, below said top, and above the uppermost of the drawers; a tubular U shaped handle extending through said openings with the base of the U beyond one of said ends and the two legs of the U extending beyond the other of the ends; means to releasably affix said handle in said guides; a cap larger than said openings affixed to the end of one of said legs beyond said other end panel; a pair of wheels rotatably mounted about an axis on said body, said wheels extending below said body and being parallel to said sides of said body with said axis normal to said sides, said axis being positioned between one of said ends and the mid-point between said ends, the distance between said axis and said mid-point being between 10 percent and 20 percent of the distance between said ends, the diameter of said wheels being substantially greater than the distance between the body and the floor; and rotatable means attached to said body and positioned immediately adjacent the other of said ends to normally support said other of said ends.

2,981,550
FLUID SPRING AND LEVELING VALVE ARRANGEMENT FOR VEHICLE SUSPENSION

Carlo Machnich, Gellertpark 8, Basel, Switzerland

Filed Sept. 12, 1958, Ser. No. 760,701

1 Claim. (Cl. 280—124)



In a fluid spring arrangement for connecting the sprung and unsprung masses of a vehicle, in combination, resilient container means interposed between said sprung and said unsprung masses; a body of resilient fluid in said container means; a source of said fluid under pressure; a first valve communicating with said container means and said source for selectively admitting fluid from said source to said container means; a second valve communicating with said container means and the atmosphere for selectively releasing said fluid from said container means, said valves being mounted on one of said masses; a resilient actuator member on each of said valves; cylinder means on said one mass communicating with said source of fluid; piston means reciprocable in said cylinder means responsive to the variation in the fluid pressure of said source; a lever pivotally mounted on said piston means and connected to the other one of said masses for pivoting movement of said lever during relative movement of said masses; and two engaging elements on said lever for alternating actuating engagement with said resilient actuator members during said pivoting movement of said lever, said engaging elements being moved toward and away from said resilient actuator members by the reciprocating movement of said piston means.

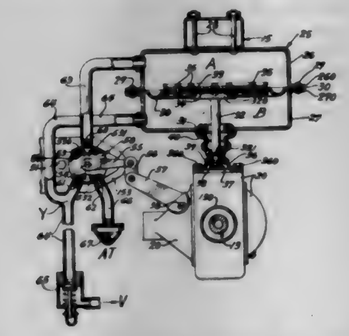
2,981,551
SELF-LEVELING DEVICES FOR VEHICLE SUSPENSIONS

John Dolza, 15080 Fenton Road, Fenton, Mich.

Filed Oct. 30, 1959, Ser. No. 849,800

5 Claims. (Cl. 280—124)

1. In a motor vehicle including an internal combustion engine, a source of negative air pressure available when the said engine is running, a sprung mass including a frame, an unsprung mass including pairs of front and rear wheels, and an elastic suspension system means adjacent each vehicle wheel supporting the sprung mass of the vehicle at a predetermined normal height above said unsprung mass thereof when the vehicle is unloaded, a self-leveling device cylinder including a diaphragm therein connected one to the sprung mass and the other to the unsprung mass with the diaphragm disposed substantially central in said cylinder when said sprung mass is supported at its normal height by said suspension means, a first vacuum line connecting said cylinder on one side of the diaphragm thereof to the said negative pressure source, a second vacuum line connecting said cylinder on the other side of the diaphragm thereof to said negative pressure source, three-way valve means fixed to said sprung mass and operatively linked to said unsprung mass interposed in said second vacuum line and having a port to atmosphere, said three-way valve means



normally closing said second vacuum line and its port to atmosphere operable responsive to the movement of the sprung mass of the vehicle from its said predetermined height whereby to apply negative pressure to said cylinder on said one side of said diaphragm and opening said cylinder on the other side of said diaphragm and said second vacuum line to atmosphere creating a force between said unsprung and sprung masses restoring the normal height of the vehicle whenever the said sprung mass becomes lowered as when the vehicle is loaded, and a normally spring loaded closed valve means closing off the supply of negative pressure to said first and second vacuum lines openable when said engine is running and said three-way valve means is positioned to apply negative pressure to said cylinder.

2,981,552
THIRD WHEEL DEVICE

Carl A. Rutigliano, Rte. 1, Box 330, Vacaville, Calif.

Filed Mar. 4, 1960, Ser. No. 12,819

3 Claims. (Cl. 280—150.5)



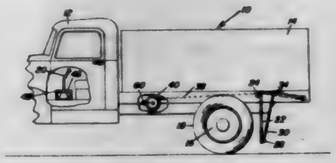
1. A third wheel device for a boat trailer having a forwardly extending draw bar which is rectangular in section, said device comprising a hinge having a first leaf pivotally mounted on one side of said bar, a second leaf hingeably mounted on said first leaf, a second leaf extension mounted on one end of said second leaf at right angles thereto, said second leaf being adapted to extend across said bar and said extension being adapted to overlie a portion of the other side of said bar, means for clamping said extension to said other side of said bar, and a wheel post mounted on said second leaf whereby said wheel post is in a vertically depending position when said second leaf extends across the bottom of said bar and in a vertically upstanding position when said second leaf extends across the top of said bar.

2,981,553
AUTOMATIC TRUCK FLAP SYSTEM

John L. Zerbe, Sr., R.D. 1, Denver, Pa.

Filed June 30, 1959, Ser. No. 824,078

4 Claims. (Cl. 280—154.5)



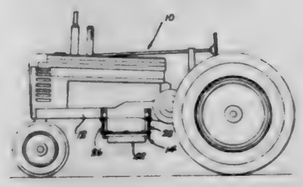
1. An automatic flap system for a truck having a gear shift lever comprising flaps pivotally secured to said truck, a cable attached to said flaps proximate the free end thereof for pivoting said flaps and means for automatically controlling said cable, said means including a pulley having the cable attached thereto and power means for selectively rotating said pulley, said power means including a series electrical circuit having a motor, an energy source for driving said motor, a normally open reverse switch and a pair of normally bridged contacts, said normally open reverse switch including an actuator disposed adjacent said lever and engageable therewith when said lever is placed in a reverse position, said normally bridged contacts being bridged by a bridging bar carried by an armature, a notch formed in said pulley, and means operatively connecting said shift lever and said armature for engaging said armature in said notch in response to disposing said lever in a reverse position.

2,981,554
TOOL BOX AND STEP ASSEMBLY

Marvin W. Mulder and Nickolas H. Kleinhuizen, both of Clara City, Minn.

Filed Sept. 2, 1960, Ser. No. 53,669

3 Claims. (Cl. 280—164)



1. The combination with a tractor frame, of a tool box assembly comprising an elongated frame including a pair of spaced side members, a ledge extending along the full length of each of said side members, said ledges being adjacent each other, hanger means carried by the ends of said side members for dependingly securing said frame from said tractor frame, a tool box including a bottom, spaced side walls rising from said bottom, a flange carried by the upper end of each of said side walls, said flanges facing away from each other, and an end wall connecting each of the adjacent ends of said side walls together and positioned within said frame so that each of the flanges extends along and rests upon the adjacent ledge, a tread plate covering said tool box,

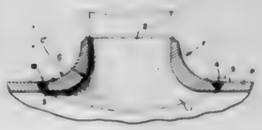
and means extending along one of the side edges of said tread plate connecting said tread plate to the adjacent frame side member for swinging movement of said tread plate from the covering position to a position out of covering relation with respect to said tool box.

2,981,555
FOLDING KING PIN
Andrew Abolins, Penndel, Pa., assignor to Strick Trailers, a division of Fruehauf Trailers Co., Philadelphia, Pa., a corporation of Michigan
Filed Mar. 23, 1960, Ser. No. 17,195
10 Claims. (Cl. 280—433)



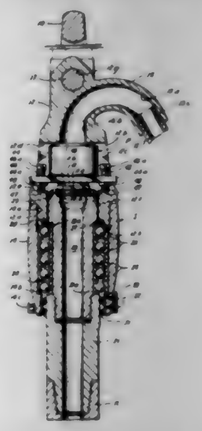
2. A folding king pin construction comprising a pair of spaced side members, a king pin, means pivotally securing said king pin between said side members for movement from a horizontal storage position to a vertical ready-to-couple position, and slide means carried by said members and operative to releasably retain said king pin selectively in said horizontal and said vertical positions, said last-named means including a stop bar secured between said side members and having an edge confronting said king pin and a bar slidable to an operative position wherein one of its edges butts against said confronting edge of said stop bar in which operative position said slide bar selectively extends beneath the free end portion of said king pin when the latter is in its horizontal storage position and has its edge opposite said one of its edges closely adjacent the body of said king pin when the latter is in its vertical ready-to-couple position.

2,981,556
WELDING STRESS-FREE OUTLET FITTING
William M. Jackson, Allentown, Pa., assignor to Bonney Forge & Tool Works, Allentown, Pa., a corporation of Pennsylvania
Filed May 16, 1957, Ser. No. 659,710
2 Claims. (Cl. 285—22)



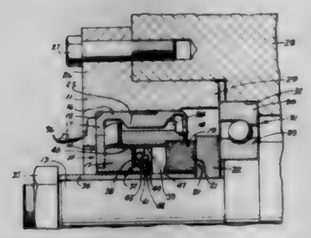
1. An integral one-piece outlet fitting composed of fusible metal adapted to provide an angled branch connection between a tubular offtake branch and a metallic conduit or other cylindrical hollow body of larger diameter than the tubular offtake branch adapted to confine fluid under high pressure and particularly where operating stresses approach the yield strength of the conduit material, said fitting being so constructed and arranged to avoid localized stress concentrations resulting from abrupt changes in angularity and in wall thickness so as to afford maximum strength with an economy of metal, said fitting having an outlet end section of substantially cylindrical form and an inlet end section in the form of a flared throat section, the perimeteral edge of the throat section being of a shape to define the circumference of the cylindrical conduit which latter conduit has its longitudinal axis disposed at an angle to the longitudinal axis of the cylindrical outlet end section, whereby the throat section may be inserted within and butt-welded to the edges of a pre-formed opening in the wall of the conduit, that portion of the fitting extending from the outlet end section to adjacent the perimeteral edge of the flared throat section defining a transition section wherein a plane lying normal to the longitudinal axis of said outlet section will intersect the wall of the transition section to define a transverse wall cross-section having its inner circumference concentric with its outer circumference, the longitudinal cross-sectional area of the wall of the transition section being defined by arcs of different radii and curvature, the arc of curvature of the outer circumferential surface being of greater radius than the arc of curvature of the inner circumferential surface, and the center of curvature of the inner circumferential surface being disposed at an elevation below the center of curvature of the outer circumferential surface and located closer to the longitudinal axis of the cylindrical outlet section, and the arcs of curvature developed from said centers and describing the longitudinal cross-sectional area of the wall resulting in a wall thickness at the outlet end of the fitting adjacent its terminal end face corresponding substantially to the wall thickness of the connecting tubular offtake branch and a wall thickness at the perimeteral edge of the flared inlet section adjacent its terminal end face corresponding substantially to the wall thickness of the conduit, the wall thickness at the perimeteral edge of the flared inlet section being different from the wall thickness of the outlet section, whereby to define a wall of gradually and progressively increasing thickness inwardly from each of the opposite ends of the transition section and having its maximum thickness intermediate said opposite ends and substantially removed from the perimeteral welding edge of the flared throat section.

2,981,557
SWIVEL PIPE COUPLING HAVING A LATERALLY REMOVABLE PACKING ASSEMBLY
Walter M. Donnell and Charles A. Grantom, Houston, Tex., assignors to Mary May King, Houston, Tex.
Filed Feb. 25, 1957, Ser. No. 641,908
2 Claims. (Cl. 285—32)



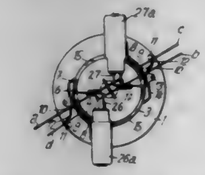
1. A swivel, comprising a gooseneck with a fluid passage therethrough, a bearing housing connected to said gooseneck, a bearing spindle also having a fluid passage therethrough and being mounted in said bearing housing for rotation relative to said housing and said gooseneck, a packing assembly having an opening therethrough, said gooseneck having a laterally extending window therein separating the adjacent ends of said fluid passages, means for releasably retaining said packing assembly in said lateral window with said opening in said packing assembly in alignment with the fluid passages in said gooseneck and said bearing spindle, said means for releasably retaining said packing assembly including a wash pipe positioned in said opening of said packing assembly, releasable means rigidly and sealingly connecting one end of said wash pipe to said bearing spindle, a stuffing box longitudinally movable relative to said gooseneck and said wash pipe, means on said stuffing box engageable with the walls of said laterally extending window in said gooseneck to prevent relative rotation between said stuffing box and said gooseneck, and co-acting means on said stuffing box and said wash pipe for locking said wash pipe to said stuffing box and thereby to said gooseneck to hold said wash pipe against rotation upon a rotation of said bearing spindle relative thereto for effecting a disconnection of said connection means whereby said packing assembly and wash pipe are removable from the rest of the swivel.

2,981,558
ALL METAL SHAFT SEAL
Hans Jensen, Wheeling, Ill., assignor to Gits Bros. Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Sept. 25, 1958, Ser. No. 763,313
3 Claims. (Cl. 286—11.14)



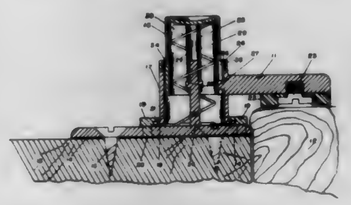
1. A secondary seal for use in a shaft seal having a support member and a relatively axially movable member with a sealing face for engagement with a sealing face on a shaft, the secondary seal comprising a continuous annular ferrule of thin resilient metal having an annular planar portion for positioning transverse to the axis of a shaft element and having a resilient generally cylindrical portion projecting axially from one edge of said planar portion, a support member, means for rigidly securing said planar portion to said support member, and a relatively axially movable outer member having an inner cylindrical surface in close sliding engagement with the outer surface of said cylindrical portion of the ferrule and supported radially thereby and said ferrule and said movable outer member maintained in firm sealing engagement by the inherent resilience of said ferrule.

2,981,559
YARN KNOTTER
Stefan Fürst, M. Gladbach, Germany, assignor to Walter Reiners, M. Gladbach, Germany
Filed July 1, 1959, Ser. No. 824,364
Claims priority, application Germany July 3, 1958
8 Claims. (Cl. 289—2)



1. A knotting device, particularly for forming a fisherman's knot, comprising a housing, a cup member having a hollow shaft rotatably journalled in said housing, first cam means operably connected for rotating said cup member one revolution when said device is actuated for operation, a plurality of rotatably mounted beak members rotating in a first rotational direction and then clamping and subsequently releasing a respective one yarn end and forming therein an individual loop and knot passing around another yarn end, pinion means connecting said cup member with said beak members driving the latter in either direction, yarn tensioning means mounted for axial linear movement within said hollow shaft and operably movable relative to said beak members to strip said individual loops therefrom, second cam means operably joined in fixed timed relationship to said first cam means, and lever means operably connecting said second cam means with said tensioning means for actuating the axial movement of the latter relative to said beak members, said first and second cam means having respective related cam surfaces, said cam surfaces actuating said beak members to release the yarn ends after said individual loop forming but prior to actuation of said tensioning member to pull said individual loop knots together.

2,981,560
LATCH MECHANISM
Alfred Peter Wehner, 4630 Dove Creek Way, Dallas, Tex.
Filed Sept. 11, 1958, Ser. No. 760,368
9 Claims. (Cl. 292—207)

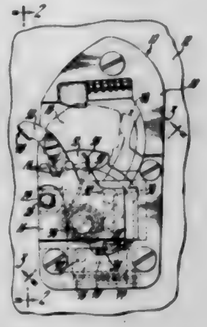


6. A latch comprising an inner cylindrical casing having a slot including a portion extending at least in part peripherally thereof and having a further slotted portion extending toward one end of said inner casing, an outer cylindrical casing mounted coaxially with said inner casing and having a projection extending into said slot, a base mounted to one end of one of said casings for securing the latch to a fixed surface adjacent a surface moveable with respect thereto, said casings being rotatably moveable relative to each other, means for engaging the moveable surface and secured to said outer casing, said engaging means being moveable with said outer casing from a moveable surface engaging position to a moveable surface disengaging position, means including said slot and said projection extending into said further slotted portion for locking said engaging means in said surface engaging position, said casings being axially moveable relative to one another to position said projection in said peripheral portion of said slot for releasing said engaging means for movement between said positions, and means normally urging said casings axially apart.

2,981,561
SELF-CLOSING LOCK STRIKER
James D. Leslie, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 2, 1959, Ser. No. 850,417
6 Claims. (Cl. 292—341.13)

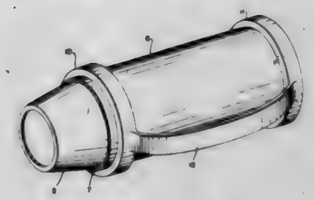
1. A vehicle door closing mechanism comprising a striker frame mounted on the vehicle body, a striker plate mounted on said frame for sliding movement transversely of the vehicle centerline, means for latching said

plate in a transversely outboard position when the door is open, a spring device connected intermediate said plate and said frame for urging the plate toward a transversely



inboard position and means for releasing said plate latching means when the door approaches its closed position whereby said plate is adapted to pull the door to a fully closed position.

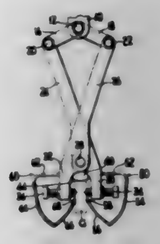
2,981,562
BAND PROTECTORS FOR VACUUM BOTTLE
Ray W. Long, Tallmadge, Ohio
(360 Hillman Road, Akron 12, Ohio)
Filed Oct. 3, 1958, Ser. No. 765,087
1 Claim. (Cl. 294—31.2)



A one-piece band-and-handle unit for a generally cylindrical, frangible workman's vacuum bottle, which unit comprises two annular bands adapted to lie substantially flat on the bottle in axially aligned and widely spaced relation, the bands being connected adjacent one edge of each by a handle, the unit being integrally molded and of resilient, elastic and slighily extensible composition throughout wherein the handle is reversibly attached to the bands, and may operate as integrally attached to the adjacent edges of the bands or the remote edges of the bands when the unit is positioned on said bottle.

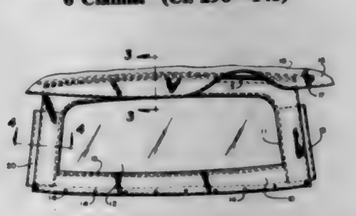
2,981,563
SUPPORTING GLASS SHEETS
Harold E. McKelvey, Cheswick, and Rudolph L. Malobicky, Tarentum, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa., a corporation of Pennsylvania
Filed Jan. 14, 1959, Ser. No. 786,720
3 Claims. (Cl. 294—119)

1. In tongs for supporting a glass sheet comprising tong support means, a pair of link pins, a pair of upper links including an upper link pivotally connected between the tong support and each of said link pins, a common hinge pin, a pair of tong arms including a tong arm pivotally connected between each of said link pins and said common hinge pin, each tong arm having a portion extending below said common hinge pin, a tong point member carried by each said portion and extending toward the other tong point member to provide a pair of opposed tong points, the links and lever arms being so constructed and arranged to pivot relative to each other to grip a sheet of glass therebetween, the improvement comprising a resilient guiding member attached to each tong arm for movement therewith, each guiding member being located



below one of each said tong points and comprising an obliquely upwardly extending portion, said resilient guiding members defining a narrowing upwardly extending space between which a glass sheet is inserted for gripping by said tong points.

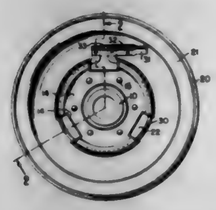
2,981,564
REPLACEMENT CURTAIN FOR CONVERTIBLE TOPS
Dolores Lieberman, 1329 Whittier Place NW., Washington, D.C., and William D. Roth, 4805 10th Road N., Arlington, Va., assignors of one-third to Moore and Hall, Washington, D.C.
Filed Nov. 4, 1959, Ser. No. 850,839
6 Claims. (Cl. 296—145)



1. A rear curtain for use in a convertible automobile top structure comprising a substantially rectangular fabric valance defining a central substantially rectangular opening covered by transparent window material, a first elongated flap extending in a substantially horizontal direction along the upper substantially horizontal edge of said valance, removable fastening means between said upper valance edge and said first flap for removably securing said flap and valance to one another, said first elongated flap defining an elongated upper edge extending in a substantially horizontal direction above the position of said fastening means and adapted to be permanently fastened to a portion of the top structure of said convertible automobile, said first elongated flap defining an elongated lower edge positioned below said fastening means on an exterior side of said valance whereby said first flap extends over and conceals said fastening means on said exterior side of said valance, second and third elongated flaps extending in substantially vertical directions along oppositely disposed substantially vertical edges of said central substantially rectangular opening, said second and third flaps overlying portions of said valance and disposed on an interior side of said valance opposite to said exterior side, said second and third flaps being adapted to removably engage fabric portions of said automobile top structure adjacent to said valance thereby to effect weather closures along said vertical edges of said opening and window material, and a plurality of snap fasteners spaced from one another along

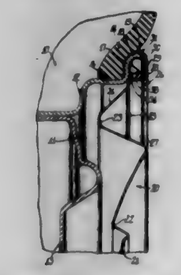
the lower substantially horizontal edge of said valance and adapted to engage complementary fasteners on the rear body line of the said convertible automobile.

2,981,565
DETACHABLE WHEEL ASSEMBLY
Leward M. Lister, 103 Hart St., Beverly, Mass.
Filed Jan. 7, 1960, Ser. No. 1,018
1 Claim. (Cl. 301—9)



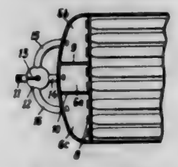
A quick-demountable wheel assembly, comprising a hub having a radial flange integrally formed thereon, an annular backing plate mounted on said flange, a flat annular member mounted concentrically on said plate, said member being of slightly smaller diameter than said plate and provided with a plurality of radial openings spaced about its periphery, an annular flared plate mounted concentrically on said annular member, said flared plate being of slightly smaller diameter than said member and provided with radial openings about its periphery, said openings being slightly larger than and in alignment with the openings in said annular member, the arcuate marginal edges of said flared plate defining a channel with said annular member, a rim structure having a flat circular flange presenting spaced radial projections adapted to mate with the recesses of said member, and a toggle-operated ring of round stock adapted to be seated in said channel and forced in clamping engagement between the said marginal edge of said flared plate and the radial projections of said rim.

2,981,566
WHEEL COVER
George Albert Lyon, 13881 W. Chicago Blvd., Detroit 28, Mich.
Filed July 2, 1956, Ser. No. 595,474
3 Claims. (Cl. 301—37)



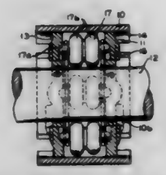
1. In a wheel structure including a tire rim having a generally radially outwardly extending flange joining a generally axially outwardly extending terminal flange, circumferentially spaced retaining clips each having a looped portion including radially inner and outer legs disposed for grasping said terminal flange therebetween and maintaining the clips in assembly therewith, said inner legs having extending generally radially inwardly therefrom a cover retaining portion which engages said radially extending rim flange and has a generally axially extending leg disposed in generally backed up relation to said radial rim flange, said radially inner portion having extending from the axially outer side thereof cover retaining finger extensions projecting radially and axially inwardly from said axially extending leg and having inner end terminals, and a wheel cover member having a generally axially extending portion thereof retainingly engageable in press-on, pry-off resiliently tensioned retaining engagement with said finger extension terminals.

2,981,567
PULVERULENT DISCHARGE MEANS FOR VESSELS
Wilhelm Hermanns, Frankfurter Strasse 6–14, Porz-Urbach, Germany
Filed Dec. 21, 1959, Ser. No. 861,003
Claims priority, application Germany Dec. 27, 1958
3 Claims. (Cl. 302—52)



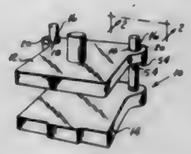
1. Means for discharging pulverulent material from a vessel having a discharge passageway at one end and a distribution chamber having a plurality of compartments across the opposite end, comprising a plurality of air-permeable tubes disposed longitudinally on the bottom of the vessel and connected to one of the compartments, a plurality of air-permeable tubes disposed longitudinally of the sides of the vessel and connected to another of said compartments, and a valve for applying compressed air to said compartments selectively to supply separately the tubes on the bottom of the vessel and to the tubes on the sides of the vessel.

2,981,568
BEARING STRUCTURE
Ralph H. Wise, Gary, Ind., assignor, by mesne assignments, to The Anderson Company, a corporation of Indiana
Filed Feb. 3, 1956, Ser. No. 563,235
8 Claims. (Cl. 308—6)



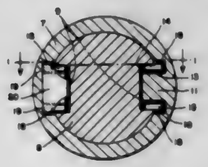
1. Bearing means to receive a shaft or the like for relative rotary movement including a tubular casing having notches in either end, support rings stationed within the casing and spaced apart axially thereof, said rings having tabs engaging the notches of said casing to prevent relative rotary movement between the casing and support rings, and also having journaling sockets, means to prevent movement of the support rings longitudinally of the casing comprising inwardly turned lugs on the casing engageable with said rings, elongate bearing elements having axle portions of reduced diameter loosely journaled in said journal sockets, and annular springs having fluted peripheries receiving the shaft portions of the elongate bearing elements within the fluted sections and urging said elements radially outwardly to position in said journaling sockets.

2,981,569
DIE SET ASSEMBLY
James C. Danly, River Forest, Ill., assignor to Danly Machine Specialties, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1956, Ser. No. 627,867
6 Claims. (Cl. 308—6)



1. A die set assembly for a power press having a pair of relatively movable members including in combination a die holder carried by one of said relatively movable members for movement therewith, a punch holder carried by the other one of said relatively movable members for movement therewith, said die holder and said punch holder being moved toward each other as said relatively movable members move toward each other during a press operation, a guidepost carried by one of said die holder and punch holder, a ball bushing for receiving said guidepost when said die holder and said punch holder move toward each other and a means for guiding said post in the course of its entry into said ball bushing.

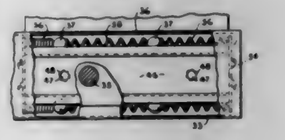
2,981,570
RECIRCULATING ROLLER BEARING
Robert H. White, Torrington, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Sept. 23, 1957, Ser. No. 685,690
2 Claims. (Cl. 308—6)



1. A roller bearing comprising a continuous inner race sleeve with two parallel straight-sided portions and connecting arcuate end portions, a flange extending outwardly from one edge of the sleeve, a plurality of rollers confined by said flange outside of the sleeve, a second flange extending outwardly from the opposite edge of the sleeve, said second flange having depending straight portions enclosing the adjacent ends of the rollers and having depending arcuate walls completely enclosing the said rollers opposite the arcuate end portions of the sleeve.

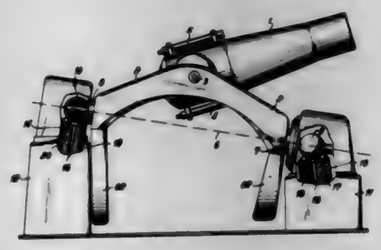
2,981,571
MOTION-CONVERSION DEVICE
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Nov. 10, 1958, Ser. No. 773,009
9 Claims. (Cl. 308—6)

4. A cross-head structure comprising a channel section, the opposed walls of said section being formed with a groove extending substantially the length of the section and at least through a common end thereof, an elongate block section movable in said channel section, said block section being formed with grooves corresponding to and facing those of the channel section to form closed trackways, the grooves of said block section having closed ends, elongate resilient means disposed in each groove of said block section and abutting the ends of the respective grooves, a plurality of bearing elements in each groove of said block and being spaced by said resilient means for rolling in said trackways, said elements being



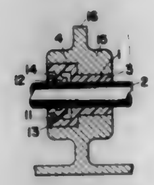
equal in number on opposite sides of the center of said block with the outermost elements at such spaced-apart distance as to stay on the respective sides of the center of the block during the designed operation of the bearing structure, pivot means centrally of one of said sections, and means substantially rigid with the central portion of the other section and projecting transversely therefrom.

2,981,572
HYDROSTATIC BEARING SYSTEM
Christoph Kühne, Berlin-Zehlendorf, Germany, assignor to Askania-Werke A.G., Berlin-Friedenau, Germany, a corporation of Germany
Filed Apr. 23, 1958, Ser. No. 730,352
Claims priority, application Germany May 10, 1957
2 Claims. (Cl. 308—9)



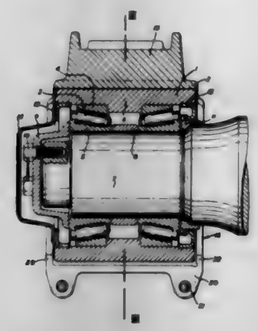
1. In apparatus for hydrostatically supporting and positioning a structure, such as a telescope frame, with high positional accuracy; a pair of hydrostatic bearing sockets; a bearing element, rigid with said structure, in each of said sockets for defining a bearing zone; a source of lubricant of variable viscosity; passages leading from said source, one to each of said bearing zones, with a restrictor in each passage; a pump for supplying lubricant from said source to each passage and thereby to each bearing zone for supporting each bearing element and for spacing it from the respective socket; means for keeping said spacing highly uniform regardless even of minor variations of said viscosity, said means comprising a regulator associated with each passage for regulating the ratio of the pressure of said lubricant prevailing between the pump and the restrictor to the pressure of said lubricant prevailing between the restrictor and the bearing zone; a return passage from each bearing zone; a bypass connecting the passages leading from the source with the return passages; and a control valve in the bypass for maintaining a predetermined pressure ahead of the restrictor means regardless of variations of said viscosity.

2,981,573
BEARINGS OF PLASTICS
Franz Gottfried Reuter, Lemforde, Hann, Germany, assignor, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 19, 1956, Ser. No. 592,449
Claims priority, application Germany June 21, 1955
1 Claim. (Cl. 308—36.1)



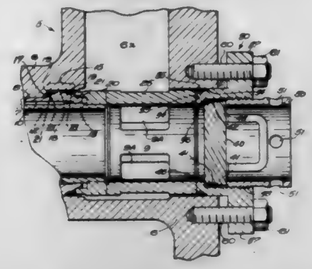
A one-piece polyurethane plastic bearing assembly for a rotating element, one end of said assembly being a rigid polyurethane plastic sleeve having a bore adapted to fit loosely about said element, the other end of said assembly being an elastic polyurethane plastic seal of greater cross-section than the said sleeve, said seal being rectangular in cross-section and having an annular groove in the end thereof spaced from the sleeve, a second groove extending from the said bore and then towards the first said groove, said grooves forming an annular generally T-shaped lip having a surface adapted to fit snugly about the rotating element, said surface having an annular groove therein.

2,981,574
AXLE-BOXES
David McNicoll, Birmingham, England, assignor to British Timken Limited, Birmingham, England, a British company
Filed June 12, 1959, Ser. No. 819,897
Claims priority, application Great Britain Aug. 29, 1958
11 Claims. (Cl. 308—180)



1. A railway vehicle axle-box, comprising an inner sleeve part for containing anti-friction bearings, an enveloping caliper-like contractible outer member part having two arms, and means for drawing together the extremities of said arms to effect the clamping of the inner sleeve within the outer member, said inner sleeve and outer member being so shaped as to restrict relative rotation and one of said parts having radially-extending positive stop means co-operating with the other part to prevent any substantial relative axial movement of said parts.

2,981,575
RECIPROCATING PUMP CYLINDER HEAD AND LINER RETAINER
Arthur L. Leman, Houston, Tex., assignor, by mesne assignments, to Southwest Oilfield Products, Inc., Houston, Tex., a corporation of Texas
Substituted for abandoned application Ser. No. 582,288, May 2, 1956. This application Apr. 24, 1959, Ser. No. 808,685
3 Claims. (Cl. 309—3)

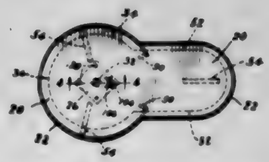


1. For a reciprocating slush pump, a cylinder and head assembly comprising a piston cylinder with a cylindrical bore having an opening head end and adjacent thereto an internal annular shoulder presenting a radial outfacing wall, removable liner means in the cylinder bore having adjacent the head end an integral radial projection for oppositely abutting said cylinder radial wall, a liner cage in the cylinder bore outwardly of and in longitudinal alignment at the inner end with the outer end of the liner means, one of said cage and liner ends carrying concentric annular means providing continuous metal-to-metal abuttive thrusting relation for the liner means and cage with each other at the adjoined ends thereof and also directly with the cylinder through said directly abutting liner and cylinder radial walls, and a cylinder head comprising a tubular cylindrical body entering the cylinder bore and centrally carrying head-end closure means for the cylinder, said head body having an inner extension in direct longitudinally abuttive metal-to-metal contact with the cage and having an external flange carrying a single circumferential set of studs for securing the head to the cylinder end wall, the outer peripheral wall of said inner extension of the cylinder head body being inclined along a low-angle axially elongate taper toward the cage such that the radjally opposite wall of the cylinder bore together with said inclined wall and the cage outer end wall define between them an axially elongate wedge-shape packing recess tapering outwardly toward the cylinder head end, said recess containing a resilient packing annulus of conformant wedge-shaped cross-section and of lesser free length axially than the length of the recess.

2,981,576
COMBINATION TABLE AND FOOTREST
John E. Robinson, Oakes Drive, Crystal City, Mo.
Filed Sept. 2, 1958, Ser. No. 758,306
4 Claims. (Cl. 311—32)

1. An article of furniture that can serve as a table or a footrest or as both and that comprises a generally horizontal support, a plurality of legs that are secured to and that depend downwardly from said support, a padded or upholstered foot-receiving portion at one end of said support that can receive a person's foot, a second padded

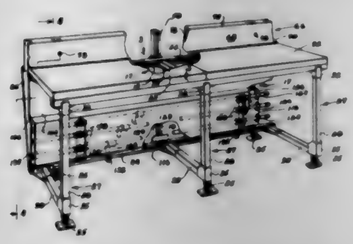
or upholstered foot-receiving portion at the other end of said support that can receive another person's foot, a table portion that can serve as a table top, an upstanding rim at the periphery of said table portion, said rim being discontinuous to facilitate the wiping off of the upper face of said table portion, a pivot that is carried by said table portion and that depends downwardly from said table portion and that extends through an opening in said support to hold said table portion for rotation relative to said support, a pivot block that is carried by said table portion and that surrounds and encircles said pivot and that depends downwardly from said table portion, said pivot block bearing against and resting upon a portion of said support intermediate said padded or upholstered portions, said table portion being larger than but having the same general configuration as said support, said table portion being disposable in position above and in register with said foot-receiving portions or being disposable out of register with said foot-receiving portions, said table portion serving as a table top that overlies and substantially conceals said support and the said padded or upholstered foot-receiving portions thereof or serves as a table top that exposes said padded or upholstered foot-receiving portions of said support and that has one of its ends ad-



jacent the hands of the persons resting their feet on said padded or upholstered foot-receiving portions of said support, a plurality of blocks that are carried by said support and that extend upwardly toward and bear against said table portion, each of said blocks having substantially the same height as said pivot block and coacting with said pivot block to hold the lower face of said table portion above the level of the tops of said padded or upholstered foot-receiving portions on said support whereby said table portion can rotate relative to said support without marring or scratching said padded or upholstered foot-receiving portions, said plurality of blocks coacting with said pivot block in all rotated positions of said table portion to prevent tilting of said table portion relative to said support, a spring that encircles said pivot and is disposed below said support, a nut that is secured to said pivot and that underlies said spring, said spring acting upwardly against said support and downwardly against said nut to bias said table portion toward said plurality of blocks, a metallic centering surface on said table portion, and a metallic centering surface on said support, said centering surfaces being engageable to align said table portion with said support and to prevent accidental rotation of said table portion relative to said support, said centering surfaces being adapted to generate an audible noise when they engage each other.

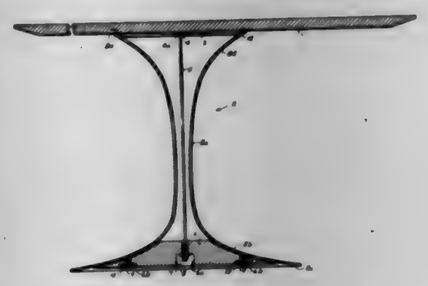
2,981,577
MODULAR WORK BENCH WITH CONNECTED PANELS
John H. Trautmann, Southbury, Conn., assignor to Richard E. Deutsch, doing business as Products For Industry, Stamford, Conn., a sole proprietorship
Filed Mar. 24, 1958, Ser. No. 723,587
10 Claims. (Cl. 311—35)

1. In a work bench comprising a rearward frame with longitudinally spaced vertical elements, front legs, upper and lower fore-and-aft horizontal elements, connecting the front legs with the rearward frame, a bench top supported by the rearward frame and the front legs, extensions of the vertical elements projecting above the level of the bench top, and a back panel connected to the extensions and enclosing said extensions at the front, top and rear, the back panel having a portion in front of the extensions reaching from the level of the bench



top to the upper ends of said extensions, and having another portion at its upper end extending rearwardly, for the full fore-and-aft thickness of the extensions, the back panel also having a portion which extends downwardly behind said extensions and said portion of the back panel in front of the extensions having a flange at its lower end extending outwardly over the rearward portion of the bench top.

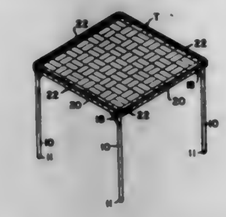
2,981,578
TABLE WITH HOLLOW CENTRAL PEDESTAL SUPPORT
Eero Saarinen, Bloomfield Hills, Mich.
Continuation of application Ser. No. 659,639, May 2, 1957. This application May 20, 1959, Ser. No. 814,646
9 Claims. (Cl. 311—101)



1. A table comprising a relatively wide top, a single central pedestal supporting said top, said pedestal having a relatively slender middle portion, a flaring lower portion terminating in a floor-engaging rim, and a flaring upper portion terminating in a top-engaging rim, at least said lower and upper portions being hollow, a weight received in said hollow lower portion with the bottom of said weight above said floor-engaging rim, means attaching said weight to said lower portion, and means attaching the top to said upper portion with the under surface of the top abutting said top-engaging rim, said weight attaching means comprising at least one stud integral with and projecting downwardly from said pedestal within said hollow lower portion, said weight being apertured to receive said stud and having a recess in its lower surface around said aperture, and a spring washer received in said recess and having a peripheral flange abutting the under side of said weight and a plurality of central spring teeth bitingly engaging said stud to prevent downward movement of the washer thereon.

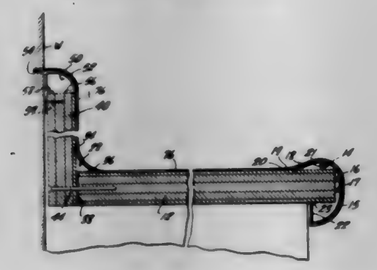
2,981,579
TOP FOR FOLDING TABLES AND THE LIKE
Jesse Shwayder, Jefferson County, Colo., and King D. Shwayder, Detroit, and Marvin M. King, Oak Park, Mich., assignors to Shwayder Bros., Inc., Denver, Colo., a corporation of Colorado
Filed May 6, 1957, Ser. No. 657,162
4 Claims. (Cl. 311—106)

1. A table top formed at least in part of thin sheet metal, with the underside of said top being of such sheet metal; and at least one metal reinforcing member extending across the underside of said top and having at least one flat surface secured to the underside of said top by a non-metallic adhesive which is disposed between said reinforcing member and the underside of said top to pro-



vide a non-metallic connection separating the metal of said reinforcing member from the metal of said top and eliminating metal to metal contact between said reinforcing member and said top at substantially all points therebetween, so as to minimize the drum effect of the sound produced by an object striking said top.

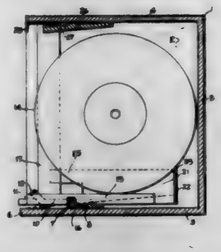
2,981,580
COUNTER CONSTRUCTION
Herman E. Hansen, Winterton, N.Y., assignor to Congoleum-Nairu, Inc., Kearny, N.J., a corporation of New York
Original application Mar. 15, 1956, Ser. No. 571,689, now Patent No. 2,890,919, dated June 16, 1959. Divided and this application Dec. 8, 1958, Ser. No. 778,997
2 Claims. (Cl. 311—106)



1. In a counter construction, a horizontal panel, a back splash panel extending upwardly from the rear end thereof, the rear end of said horizontal panel and the lower end of said back splash panel including closely spaced parallel surfaces, a form piece to define a cove secured between said panels, said piece having a straight, flat flange extending within the space between said parallel surfaces and presenting a concave exterior surface which merges smoothly with the forward surface of said back splash panel along a line spaced upwardly from its lower end and with the upper surface of said horizontal panel along a line spaced forwardly from its rear end, and a thin sheet of material intimately bonded to the upper surface of said horizontal panel, the exterior surface of said form piece, and the forward surface of said back splash panel.

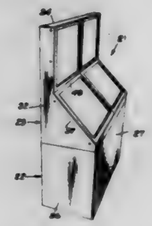
2,981,581
CABINET FOR DISC RECORDS
Waldemar Karlsson, Niles, Ill.
(2 Garden Court, Prospect Heights, Ill.)
Filed June 9, 1958, Ser. No. 740,808
1 Claim. (Cl. 312—15)

In a cabinet for disc records, a plurality of juxtaposed rockable record supports, the records resting directly on said supports, said record supports each including a rockable bar, a transverse fulcrum in the base of the cabinet, each bar being notched to engage the fulcrum, a vertical spacing member secured to one side of each bar adjacent the front end of said bar, said vertical spacing member having a vertical slot opening toward the rear of the cab-



inet, upstanding side walls on each bar joined at the rear and forming a pocket for reception of a disc record, the front end of one side wall being reduced in area and extending into the vertical slot in the vertical spacing member, the front end of the other side wall extending into and being freely movable in relation to the vertical slot of the vertical spacing member of the adjacent record support.

2,981,582
DISPLAY APPARATUS
James K. Martin, 2122 S. Kenilworth Ave., Berwyn, Ill.
Filed Sept. 1, 1959, Ser. No. 837,406
5 Claims. (Cl. 312—132)

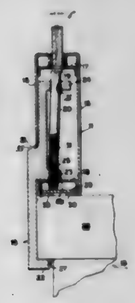


1. A display device for displaying documents and the like while preventing removal of such documents therefrom and comprising a cabinet having end walls and display case mounting means extending therebetween, a display case having an open end and an open front and removably mounted in said mounting means so as to have said open end covered by said cabinet, framing means including a tray and a transparent plate fixed therein for retaining an article to be displayed in a fixed position between the tray and the plate, said framing means each having a length which is a sub-multiple of the length of the display case, and guide means in said display case mounting a plurality of said framing means in different parallel planes for sliding movement toward and away from said open end to close and disclose to view through said open front selected ones of said plurality of framing means, said guide means including a plurality of angle

strips extending longitudinally along opposed inner surfaces of the display case between the ends thereof and having depending flange portions operative to engage the framing means and prevent removal of such framing means through said open front.

2,981,583
DESK PRIVACY PARTITION
Edward Eisenberg, 20 Pennywood Ave., Roosevelt, N.Y.
Filed Sept. 29, 1958, Ser. No. 764,072
3 Claims. (Cl. 312—140.4)

1. A desk top privacy partition comprising a partition member, a bottom rail member on said partition, said rail consisting of spaced upstanding wall members and a channel shaped member secured between the wall members spaced from the top and bottom of said wall members, openings in said rail member, and a desk engaging



hook received within each of the said openings between the channel members a downwardly directed, vertically offset threaded member in said hook to secure the partition to the desk.

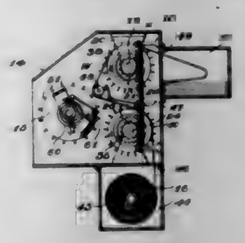
2,981,584
DRAWER AND TRACK CONSTRUCTION
Irvin Friend, 403B 121st St., Rockaway Park, N.Y.
Filed Dec. 31, 1957, Ser. No. 706,506
1 Claim. (Cl. 312—337)



A device as disclosed comprising a pair of fixed metal tracks, a pair of movable metal tracks, non-metallic rollers journaled on said movable tracks and having rolling contact with said fixed tracks, a drawer having a metal guide strip on its sides having rolling contact with said rollers, and non-metallic buttons on said fixed and movable tracks engageable to hold the drawer closed.

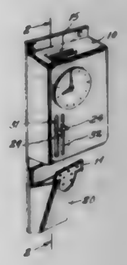
2,981,585
SPEED AND MILEAGE RECORDING SYSTEM
Mary Edith Lower, 1515 Ogden St. NW., Washington 1, D.C.
Filed June 10, 1958, Ser. No. 741,160
4 Claims. (Cl. 346—18)

1. An electrical recording apparatus for a speed responsive speedometer indicator drum having a spiral index area marked thereon, said drum being modified by embedding therein a helical conductor wire formed with uniformly spaced radially projecting styli, said drum being rotatably responsive to motion of a vehicle on which the speedometer is installed, an electro-sensitive chart driven adjacent the drum, speedometer actuated odometer means for driving said chart, an elongated electrode



extended transverse the rear side of the chart web, said electrode being adapted to form part of an electric circuit including said respective spaced styli when the same is aligned opposite any of said styli, thereby providing an arc to mark said chart in cooperation with the rotating motion of said drum.

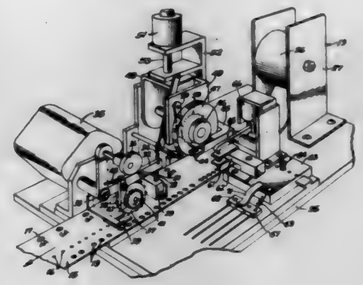
2,981,586
TIME PUNCH RECORDING MECHANISM
Albert A. Kawachi, 536 W. 112th St., New York, N.Y.
Filed Aug. 18, 1958, Ser. No. 755,796
12 Claims. (Cl. 346—82)



1. A time punch recording mechanism for use with time-keeping cards provided with a series of parallel columns, each of which represents a respective time period, each column on said card having a plurality of identical parallel rows with each row having a predetermined number of digital positions therein, said mechanism comprising a bank of punch elements corresponding in number and arrangement to the digital positions in one column of said card, said bank being divided into rows corresponding in number and arrangement with the rows in one column on said card, and an actuating device for each row of punch elements, a pulser, adapted to produce a series of evenly time-spaced electrical marking pulses, each actuating device being responsive to time-marking pulses produced by said pulses and positionable with respect to any punch element in the associated row of punch elements, each of said actuating devices traversing in a stepwise manner a respective row of said punch elements from a first digit to a last digit in a sequence of digit steps controlled by said pulses and thereupon returning to said first digit to allow repeating the sequence of said steps, and means responsive to the interposition of said card in said mechanism to cause actuation of those punch elements which are engageable with the related actuating devices at the instant of said interposition.

2,981,587
PUNCH TAPE RECORDER
Verne C. Kennedy, Jr., Norman, Okla., assignor to Streeter-Amet Company, Grayslake, Ill., a corporation of Illinois
Filed Apr. 21, 1958, Ser. No. 729,873
5 Claims. (Cl. 346—93)

1. A punch tape recorder comprising means to guide a strip of perforable tape along a predetermined path, means to advance the tape periodically in uniform steps at uniform time intervals along said path, a punch to punch openings in the tape, detecting means operable in response to units in a value to be recorded, a memory unit connected to the detecting means and operable to produce an impulse after a predetermined number of operations of the detecting means, means connected to the memory unit and operable by said impulses to actuate the punch, means mounting the punch for adjustment transversely of the tape, a plurality of output circuits for the memory unit to supply impulses after different numbers of operations of the detecting means and which terminate in contacts adjacent to the punch spaced at right angles to the length of the tape, and a contactor carried by the punch and movable therewith and selec-



tively engageable with said contacts as the punch is adjusted.

CHEMICAL

2,981,588
COLORED FLOCKED FABRICS
Hyman Haber, New York, N.Y., assignor to Allied Textile Printers, Inc., Paterson, N.J., a corporation of New Jersey
Filed Nov. 10, 1959, Ser. No. 852,003
5 Claims. (Cl. 8—62)

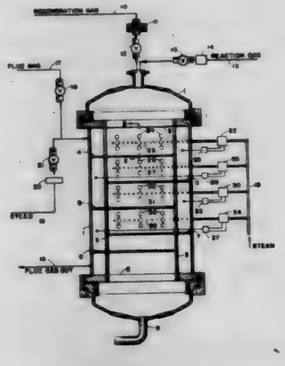
1. A flocked fabric consisting of a polyester base composed entirely of linear aromatic dicarboxylic acid polyester fibers and cellulosic flock firmly bonded with said fabric base in selected areas forming an ornamental design, said cellulosic flock having thereon a colored design printed with a printing paste containing a reactive dye, which dye reacts chemically with the cellulose of the flock and is thus bonded therewith, the unflocked areas of said fabric being substantially free of said reactive dye.

2,981,589
CELLULOSE TREATMENT AND PRODUCT
Walter L. Hochner, Wilmington, Del., and Abb L. Scarbrough, Rahway, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed May 21, 1958, Ser. No. 736,680
7 Claims. (Cl. 8—116.2)

1. A method for the treatment of a fibrous cellulosic textile material, at least one-fifteenth of the hydroxymethyl groups originally present in said material being present in unsubstituted form, which comprises the steps of partially carboxyalkylating said cellulosic material under non-dissolving conditions, to maintain the fibrous form, to the extent that between one-third and one-fifteenth of the hydroxymethyl groups originally present in said cellulosic material are converted to carboxyalkoxymethyl groups and treating said non-dissolved, partially carboxyalkylated cellulose with a quaternary ammonium halide having at least one alkyl group containing from 12 to 18 carbon atoms.

2,981,590
METHOD OF CONTROLLING TEMPERATURE IN REACTIVATING CATALYSTS
Alfred O. Parker, Bound Brook, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Sept. 18, 1956, Ser. No. 610,559
4 Claims. (Cl. 23—1)

1. In reactivating in situ a catalyst within the tubes of a gas-cooled, multitube, tubular converter, whereby (*a*) a highly exothermic reaction initially occurs within a limited portion of the catalyst near one end of said tubes, (*b*) said reaction then moves progressively along said tubes to the other end and (*c*) a flow of available cooling gas is maintained across said tubes, whereby the exothermic heat is removed while simultaneously heating said cooling gas; the improved method of both preventing excessive temperature rise in said limited catalyst portion and heating a limited flow of cooling gas to a desired exit temperature above that obtained when said cooling gas flow is sufficiently large to prevent an excessive temperature rise in said limited catalyst portion, said method comprising: passing said limited flow of cooling gas along a flow path in alternate directions through a succession



of cooling zones, the flow in each zone being substantially normal to the longitudinal axis of said tubes; maintaining said limited flow at a rate such that said cooling gas is heated to said desired exit temperature; simultaneously introducing steam into said cooling gas flow, initially limiting said introduction of steam to substantially that length of the path of said cooling gas flow which is across that portion of the length of said tubes which contains said limited catalyst portion; maintaining the rate of steam introduction sufficiently high to prevent excessive temperature rise in said limited catalyst portion; then as said reaction progressively moves along said tubes, concurrently moving the length of path of said cooling gas flow into which steam is introduced successively through said cooling zones and limiting the introduction

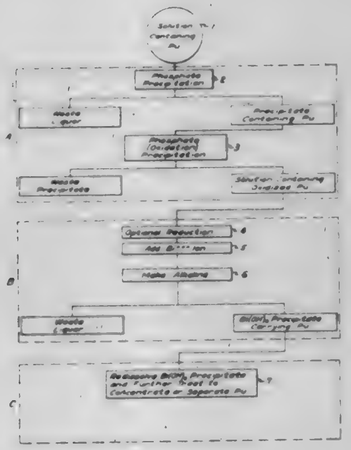
of steam to substantially only the length of path of said cooling gas flow which is across that portion of said tubes in which said reaction is occurring.

2,981,591

METHOD FOR RECOVERING PLUTONIUM VALUES FROM SOLUTION USING A BISMUTH HYDROXIDE CARRIER PRECIPITATE

Burt F. Faris, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 2, 1944, Ser. No. 552,546
2 Claims. (Cl. 23—14.5)



1. A process for the recovery and decontamination of plutonium values contained in an aqueous nitric acid solution of plutonium values and uranium fission product values derived from neutron irradiated uranium, which comprises maintaining the plutonium values in said solution in the hexavalent oxidation state, precipitating bismuth phosphate in said solution, separating the resulting precipitate and its associated uranium fission product values from the supernatant solution, precipitating bismuth hydroxide in the separated supernatant solution, digesting the resulting slurry at a temperature of 80–125° C., and separating the digested precipitate and its associated plutonium values from the supernatant liquid.

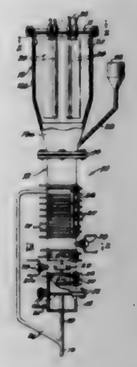
2,981,592

METHOD AND APPARATUS FOR CALCINING SALT SOLUTIONS

Stephen Lawroski, Naperville, Albert A. Jonke, Elmhurst, and Rollin G. Taecker, Naperville, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 13, 1957, Ser. No. 658,901
1 Claim. (Cl. 23—14.5)

A method for thermally decomposing uranyl nitrate hexahydrate comprising establishing and maintaining a fluidized bed of UO_3 particles by passing a fluidizing gas vertically through a body of said particles, feeding the uranyl nitrate hexahydrate in an aqueous solution of 2.4 molar concentration at the rate of about 230 milliliters per minute horizontally into the bed below the surface thereof by forming a jet of said solution exteriorly to the bed, impinging a coaxial air jet of about 26 p.s.i.g. on the solution jet within the bed adjacent to the point of introduction thereof whereby the solution is atomized within the bed, heating the bed to a temperature between



210° and 350° C. while introducing the fluidizing gas at a rate approximately ten times that necessary to fluidize the bed, and removing the UO_3 product from the bed.

2,981,593

PROCESS FOR RETAINING AND EXTRACTING URANIUM CONTAINED IN URANIFEROUS SOLUTIONS

Pierre Pagny, Villeneuve-la-Garenne, France, assignor to Potasse et Engrais Chimiques, Paris, France, a corporation of France

No Drawing. Filed June 12, 1958, Ser. No. 741,450
Claims priority, application France July 30, 1957
4 Claims. (Cl. 23—14.5)

1. A process for an industrial and substantially complete recovery of uranium present in industrial uraniferous effluents in an ionized state, said effluents having a pH value at least equal to 3, said process comprising heating said effluents to a temperature of substantially 60° C., putting said warm effluents in contact with at least one phosphate in a divided state and selected from the group consisting of tribasic calcium and barium double phosphate, and tribasic calcium, zinc and barium triple phosphate, thereby obtaining by an adsorption phenomenon a uranium and alkaline earth phosphate, and thereafter separating said phosphate.

2,981,594

PROCESS FOR REDUCING THE SILICA CONTENT OF ZIRCON

Alfred Richard Burkin, Brown Beeches, 116 Priests Lane, Shenfield, England, and Beresford Thomas Kingcome Barry, Appledore, 1 Hurst View Road, South Croydon, England

No Drawing. Filed Jan. 7, 1957, Ser. No. 632,675
Claims priority, application Great Britain Jan. 11, 1956
3 Claims. (Cl. 23—18)

1. A process for reducing the silica content of zircon, which comprises leaching finely divided unfused zircon with an aqueous alkaline solution containing between about 10% and about 30% by weight of an alkali metal hydroxide, maintaining intimate contact between the zircon and the alkaline solution at a temperature between about 270° C. and about 320° C., under sufficient pressure to maintain water of the solution in the liquid phase, for a period sufficient to dissolve a substantial part of the silica content of the zircon, cooling the mixture, and separating undissolved zirconium containing material from the resulting solution.

2,981,595

RECOVERY OF TELLURIUM

Sidney B. Tuwiner, Baldwin, N.Y., assignor to Phelps Dodge Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 27, 1958, Ser. No. 769,555
9 Claims. (Cl. 23—50)

1. In the treatment of anode slimes the method of recovering tellurium therefrom in the form of water soluble tellurite from which elemental tellurium may be recovered which comprises leaching with water a roasted mixture of slimes and sodium carbonate, thereby producing a liquor in which the selenium content of the slimes is dissolved and a residue containing tellurium in oxide form and other metal values is formed, treating said residue with sulfuric acid solution in an amount sufficient to convert all the tellurium to sulfate form thereby producing tellurium in sulfate form which becomes dissolved in acidic solution, separating the acidic liquor containing said tellurium in sulfate form as a filtrate, adding metallic copper to said filtrate in an amount sufficient to precipitate the tellurium thereby forming a copper-tellurium cementation product and a solution of copper sulfate, separating said cementation product from said copper sulfate solution, smelting said cementation product at a temperature sufficient to maintain a fluid bath with a soda flux selected from the class consisting of sodium hydroxide, sodium nitrate, and sodium carbonate thereby forming an upper slag layer containing the tellurium as a water soluble sodium tellurite and substantially free of other metal values and a lower slag layer containing cuprous oxide, and other metal values from said slimes.

2,981,596

PREPARATION OF ALKALINE EARTH METAL CARBONATES

Raymond R. McClure, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

Filed June 18, 1956, Ser. No. 592,097
8 Claims. (Cl. 23—66)



1. In a process for producing alkaline earth metal carbonates of substantially uniform finely divided particle size wherein a soluble alkaline earth metal salt and a soluble carbonate are contacted in a reaction zone to produce precipitation of alkaline earth metal carbonates, the improvement which comprises introducing the reactants initially into a constricted zone, then introducing the thus-formed reaction mixture into an expanded zone, then rapidly flowing said reaction mixture from said expanded zone and through a confined zone wherein the reaction takes place in substantially complete absence of pre-existing alkaline earth metal carbonate particles.

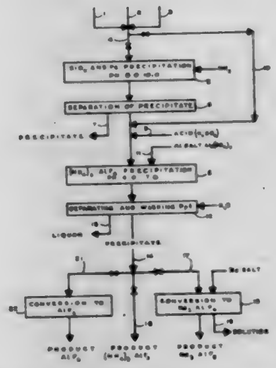
2,981,597

MANUFACTURE OF AMMONIUM CRYOLITE

Grady Tarbutton, Thad D. Farr, and Thomas M. Jones, Sheffield, and Harry T. Lewis, Jr., Florence, Ala., assignors to Tennessee Valley Authority, a corporation of the United States

Filed Oct. 13, 1958, Ser. No. 767,071
3 Claims. (Cl. 23—88)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for the manufacture of ammonium cryolite of specification grade which comprises preparing an impure aqueous solution of ammonium fluoride containing fluorine and phoshorus compounds in such proportions that the weight ratio $F:P_2O_5$ is in the range from 1:1 to 400:1, containing at least enough ammonium ion to form $(NH_4)_3AlF_6$ with all fluorine present and containing not more silica and iron than represented by $F:SiO_2$ and $F:Fe_2O_3$ weight ratios of 15:1 and 100:1, respectively; adjusting the pH of the solution in dependent relationship to the weight ratio $F:P_2O_5$ such that the minimum pH is about 4.0 at a weight ratio $F:P_2O_5$ of about 1:1, and simultaneously increasing in proportionate relationship substantially corresponding to a proportional increase in the weight ratio $F:P_2O_5$ the pH of said solution up to a maximum of about 7.0 at a weight ratio



$F:P_2O_5$ of about 400:1; introducing a soluble aluminum salt into the solution; controlling the proportion of aluminum salt added to furnish from about 90 to 100 percent of the quantity of aluminum theoretically required to form $(NH_4)_3AlF_6$ with all fluorine present; adjusting the quantity of said added aluminum salt in dependent relationship to the weight ratio $F:P_2O_5$ such that substantially 90 percent of the theoretical quantity of aluminum is present at a weight ratio $F:P_2O_5$ of about 1:1, and that the quantity of said added aluminum is simultaneously increased in proportionate relationship substantially corresponding to a proportional increase in the weight ratio $F:P_2O_5$ in said solution to a maximum of approximately 100 percent of the theoretical quantity at a weight ratio of about 400:1; separating the resulting precipitate; washing the precipitate; and receiving ammonium cryolite of specification grade.

2,981,598

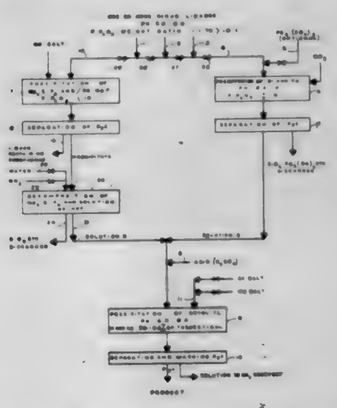
MANUFACTURE OF CRYOLITE FROM WASTE GASES

Grady Tarbutton, Thad D. Farr, and Thomas M. Jones, Sheffield, and Harry T. Lewis, Jr., Florence, Ala., assignors to Tennessee Valley Authority, a corporation of the United States

Filed Oct. 13, 1958, Ser. No. 767,072
3 Claims. (Cl. 23—88)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for the manufacture of cryolite of specification grade which comprises preparing an impure aqueous solution of ammonium fluoride containing fluorine, phosphorus, silicon and iron compounds in such proportions that the weight ratio $F:P_2O_5$ is in the range from 5:1 to 400:1, the weight ratio $F:SiO_2$ is at least 15:1 and the weight ratio $F:Fe_2O_3$ is at least 100:1; adjusting the acidity of the solution so that its pH will be in the range from 4.0 to 6.0 after a later addition of sodium and aluminum salts; adding soluble sodium and aluminum salts to the solution in quantity sufficient to furnish from 95 to 100 percent of the proportions theoretically required to form Na_3AlF_6 with all fluorine present;

adjusting the pH of the solution in dependent relationship to the weight ratio $F:P_2O_5$ in said solution for a minimum pH of about 4.0 at a weight ratio $F:P_2O_5$ of about 15:1 and below, and increasing the pH of said solution in proportion corresponding substantially to a proportional increase in the weight ratio $F:P_2O_5$ in said solution to a maximum of about pH 6.0 at a weight ratio $F:P_2O_5$ of about 40:1 and above; adjusting the quantity of said added sodium and aluminum salts in dependent



relationship to the weight ratio $F:P_2O_5$ in said solution for a minimum of about 95 percent of said theoretical proportion at a weight ratio $F:P_2O_5$ of about 15:1 and below, and increasing the quantity of said added salts in proportion corresponding substantially to a proportional increase in the weight ratio $F:P_2O_5$ in said solution to a maximum of about 100 percent of said theoretical proportion at a weight ratio $F:P_2O_5$ of about 40:1 and above; washing and drying the resulting precipitated cryolite; and recovering said precipitate as product.

2,981,599

PROCESS FOR THE PRODUCTION OF LIGHT VOLUMINOUS SILICATES

Robert Schrauf, Frankfurt am Main, and Artur Frey, Frankfurt am Main-Rodelheim, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed July 5, 1957, Ser. No. 669,971
7 Claims. (Cl. 23—110)

1. A process for the production of light voluminous powdered silicates suited as filling materials which comprises reacting a naturally occurring alkali metal-aluminum double silicate mineral with an alkaline earth metal hydroxide in the form of an aqueous suspension containing at least 5 parts by weight of water per part by weight of total solids at superatmospheric pressure and a temperature between 150° and 280° C. until a powdered silicate product is obtained, the poured and shaken weight of which is about ⅓ to ⅛ of those of the starting material, the quantity of alkaline earth metal hydroxide present in such suspension being at least 0.5 mol per mol of SiO_2 present in said double silicate.

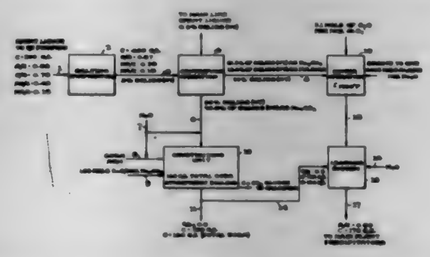
2,981,600

PROCESS OF PURIFYING CAUSTIC ALUMINATE LIQUORS

John L. Porter, Baton Rouge, La., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Dec. 1, 1952, Ser. No. 323,414
2 Claims. (Cl. 23—143)

2. A continuous process for production of alumina from aluminous materials containing organic matter, which comprises digesting said aluminous materials in recycled spent caustic aluminate liquor, removing the insoluble residues of said aluminous material from the digestion liquor by settling with addition of starch as a flocculating agent, said starch and said organic matter of the aluminous material forming sodium organic compounds and sodium carbonate in the liquor, recovering alumina by precipitation from the clarified liquor, concentrating the spent liquor to a caustic soda concentration sufficient to precipitate a gelatinous sludge of sodium organic compounds and sodium carbonate whereby to prevent accumulation thereof in the liquor in amount



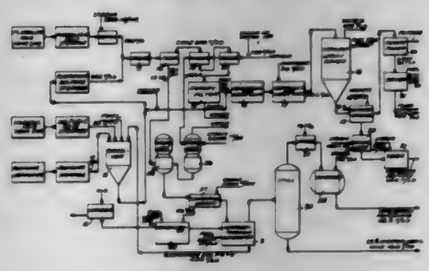
sufficient to exert an inhibiting effect on the settling of the insoluble residues from the digestion liquor, separating the sludge from the liquor as a slurry by centrifuging, recycling the sludge-free liquor for digestion of additional aluminous material, said sludge being fractionated during separation from the liquor into a high solids sodium carbonate rich fraction and a low solids sodium organic compound rich fraction, the soda of the sodium carbonate fraction being rectified to caustic soda by direct lime causticizing, and the other fraction is mixed with aluminous material sintered and leached with dilute caustic soda liquor to recover the organic compound soda as sodium aluminate.

2,981,601

PROCESS FOR THE TREATMENT OF SILICO-FLUORIDE COMPOUNDS

Gustave E. Kidde, Pasadena, Calif., assignor to Kidde Process Corporation, South Pasadena, Calif., a corporation of California

Filed July 22, 1957, Ser. No. 674,993
19 Claims. (Cl. 23—153)



1. In a process for the production of valuable products from silicofluoride compounds, the steps comprising reacting together a silicofluoride compound and a soluble acid salt selected from the group consisting of sulfates, chlorides and nitrates of aluminum and iron to produce a mixture including silica and a complex acid salt of fluorine and a metal selected from the group consisting of aluminum and iron; separating the silica from the mixture; and treating the silica-free mixture to obtain hydrogen fluoride therefrom.

2,981,602

PREPARATION OF DEUTERIUM FLUORIDE

George A. Olah and Stephen J. Kuhn, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 23, 1959, Ser. No. 800,969
6 Claims. (Cl. 23—153)

1. An improved method for the preparation of deuterium fluoride comprising reacting substantially pure deuterium oxide with at least a stoichiometrical amount of fluorine-containing compound selected from the group consisting of thionyl fluoride, carbonyl fluoride, fluosulfonic acid, lower alkyl sulfonyl fluorides, lower alkyl acyl fluorides and lower aryl and alkaryl acyl fluorides, at a temperature of at least 50° C. and for a time sufficient for the deuterolysis reaction to approach completion.

2,981,603

RECOVERY OF SELENIUM FROM ELECTROLYTIC COPPER REFINERY SLIMES

Sidney B. Tuwiner, Baldwin, N.Y., assignor to Phelps Dodge Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 26, 1957, Ser. No. 680,393
3 Claims. (Cl. 23—209)

1. A process for the recovery of selenium from selenium-bearing anode slimes containing a substantial amount of tellurium produced in the electrolytic refining of copper which comprises mixing said anode slimes with at least the stoichiometric amount of sodium carbonate to convert all of the selenium to selenate and sufficient water to form a thick paste at a temperature above the transition temperature of sodium carbonate heptahydrate to sodium carbonate monohydrate, extruding the paste above said temperature through orifice means thereby forming said paste into an elongate extruded product, forming said extruded product into a bed of preformed masses of paste having macro-porous spaces therein, drying the bed of preformed paste masses having macro-porous spaces therein and thereby removing the water of hydration of the sodium carbonate thus forming a dried macro-porous bed of micro-porous preformed masses of slimes-soda ash mixture, roasting said resulting dried macro-porous bed of micro-porous preformed masses of dehydrated slimes-soda ash mixture by circulating therethrough oxidizing gases maintained at a temperature sufficiently high to oxidize the oxidizable constituents in said bed but below a temperature which will cause the material in said bed to reach its fusion temperature for a period of time sufficient to obtain substantially complete oxidation of the oxidizable constituents of the material in the bed thereby converting selenium therein to a water-soluble selenium compound, leaching the roasted product with water to dissolve the water soluble selenium compound, neutralizing the leach liquor with inorganic acid, purifying the resulting leach liquor after said neutralization by the addition of sufficient sodium metabisulfite to precipitate any tellurium present in the leach liquor and to convert any alkali metal-selenite present in the leach liquor to elemental selenium to precipitate it out of the leach liquor, filtering the resulting leach liquor solution to obtain a purified selenium-rich leach liquor and recovering therefrom a selenium sludge of high purity.

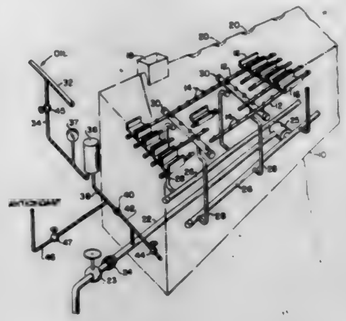
2,981,604

CHANNEL CARBON BLACK PROCESS EMPLOYING OIL ENRICHMENT

Joe Y. Rogers, Jr., John M. Brown, and Otto E. Specht, Pampa, Tex., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed Oct. 10, 1957, Ser. No. 689,330
3 Claims. (Cl. 23—209.8)

1. The process of producing impingement carbon black of high color, characterized by burning natural gas enriched with oil in a ratio of more than one (1) gallon of oil to 3750 cubic feet of gas diluted with air, flowing an antioxidant into the gas-oil-air mixture, conducting the



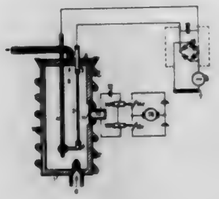
resulting mixture through a heated distribution zone to burner outlets, thus vaporizing the resulting mixture, and recovering the carbon black thus produced without air oxidation of the oil in the air-diluted burning mixture.

2,981,605

METHOD OF AND APPARATUS FOR PRODUCING HIGHLY PURE RODLIKE SEMICONDUCTOR BODIES

Theodor Rummel, Munich, Germany, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed Nov. 17, 1958, Ser. No. 774,413
Claims priority, application Germany Dec. 19, 1957
13 Claims. (Cl. 23—223.5)



10. In a system for producing highly pure rodlike semiconductor bodies by causing a highly purified compound of the desired semiconductor substance to flow along and longitudinally of a wirelike carrier made of corresponding highly pure semiconductor material, said carrier being heated by direct galvanic passage of current therethrough, whereby said compound is decomposed to effect separation of the desired semiconductor substance therefrom and deposition thereof upon said carrier on which said deposited substance crystallizes so as to increase the thickness of said carrier to form a rodlike body, apparatus for automatically regulating and controlling the heating current flowing through said thickening carrier to maintain the magnitude of said heating current to correspond at any instant to the surface temperature of said thickening carrier, said apparatus comprising an alternating current source, a choke coil connected to said alternating current source in series with said carrier, a device for continuously ascertaining the surface temperature of said thickening carrier, and means controlled by said device for varying the inductive impedance of said choke coil in accordance with surface temperature variations of said thickening carrier ascertained by said device to vary the magnitude of the heating current flowing through said thickening carrier.

2,981,606

GLUCOSE INDICATOR AND METHOD

Albert S. Keston, Weehawken, N.J., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 20, 1955, Ser. No. 516,802
14 Claims. (Cl. 23—230)

10. A glucose indicator comprising a flavoprotein glucose oxidase, a substance having peroxidase activity, and a color-forming substance oxidizable by hydrogen peroxide in the presence of said substance.

2,981,607

NON-DESTRUCTIVE TESTS FOR DISTINGUISHING BETWEEN OBJECTS FORMED OF DISSIMILAR METALS

John Danaczko, Jr., Oak Park, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed July 11, 1958, Ser. No. 747,838
2 Claims. (Cl. 23—230)

1. A non-destructive method of distinguishing between articles of silver or palladium which comprises the steps of rubbing the articles on a sheet of alumina-impregnated filter paper until visible marks appear thereon, and then treating said visible marks with a solution containing by weight: 25 to 50 percent distilled water, 20 to 40 percent $(NH_4)_2S_2O_8$, and 20 to 50 percent NH_4OH whereby the visible marks caused by the silver articles will be dissolved while those caused by the palladium articles will remain unchanged.

2,981,608

COUNTER-CURRENT CONTACTOR

Dennis M. Cunningham, Louisville, Ky., assignor, by mesne assignments, to Chain Belt Company, Milwaukee, Wis., a corporation of Wisconsin

Filed May 7, 1958, Ser. No. 733,748
6 Claims. (Cl. 23—270)



1. Apparatus for treating liquids and particulate solids with each other comprising, in combination, a series of superposed helical channels, each channel having a screened outlet for liquids at one end thereof and having a discharge opening for particulate solids at the other end thereof positioned to discharge into the next lower helical channel, each of said channels sloping downwardly somewhat toward said screened outlet, a support for said channels, means for sinusoidally vibrating the channels along a helical path that is steeper than the channels to convey solids upwardly along the channels, a conduit leading from said screened outlet of each of said channels, the conduits from each of said outlets except that of the lowest channel of said series emptying into a succeeding lower channel, whereby, when liquids are fed into the first channel of the series at a point remote from its screened outlet and when particulate solids are fed into the same channel at a point adjacent its screened outlet and when the said channel so fed is vibrated, such particulate solids will be conveyed along said channel in one direction and such liquids will flow along the same channel at the same time but in the opposite direction, such solids and liquids moving in opposite directions among each other and being agitated with each other, and whereby resulting solids and liquids move through each other in opposite directions along each channel of said series to separate points of discharge from each channel.

2,981,609

ETCHING BATH FOR TITANIUM AND ITS ALLOYS AND PROCESS OF ETCHING

Walter L. Acker, Wethersfield, and Lloyd H. Curkin, Manchester, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Nov. 20, 1956, Ser. No. 623,288
5 Claims. (Cl. 41—42)

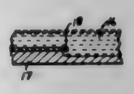
1. An etching bath consisting essentially of an aqueous solution of from 4.2% to 6.8% by weight of hydrofluoric acid, from 9.27% to 12.53% of nitric acid and from 0.0015% to 0.08% of a wetting agent selected from the group consisting of sodium alkyl sulfates and sulfated fatty alcohols.

2,981,610

CHEMICAL MILLING PROCESS AND COMPOSITION

Herman Ben Snyder and Ludwig M. Rosenberg, Seattle, Wash., assignors to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware

Filed May 14, 1957, Ser. No. 659,171
9 Claims. (Cl. 41—42)



1. A composition of matter adapted for chemically milling metals which consists essentially of an aqueous acidic medium containing a nitrate in the concentration range of about 0.1–4.7 molar, a chloride in the concentration range of about 0.1–2.2 molar, a fluoride in the concentration range of about 0.25–5.3 molar, and an acetate in a concentration of at least 0.22 normal, the aqueous medium as a whole having an available hydrogen ion concentration in the concentration range of about 2.8–10.7 molar.

2. A process for chemically milling a metal selected from the group consisting of aluminum, titantium, steel and alloys of these metals, said process comprising subjecting these metals to the action of a composition of matter which consists essentially of an aqueous acidic medium containing a nitrate in the concentration range of about 0.1–4.7 molar, a chloride in the concentration of about 0.1–2.2 molar, a fluoride in the concentration range of about 0.25–5.3 molar, and an acetate in a concentration of at least 0.22 normal, the aqueous medium as a whole having an available hydrogen ion concentration in the concentration range of about 2.8–10.7 molar.

2,981,611

MANUFACTURE OF PRINTED ELECTRICAL CIRCUITS OR COMPONENTS

Fred Ashworth, Sale, England, assignor to Metropolitan-Vickers Electrical Company Limited, London, England, a British company

No Drawing. Filed Mar. 12, 1957, Ser. No. 645,404
Claims priority, application Great Britain Mar. 14, 1956
1 Claim. (Cl. 41—43)

A method of manufacturing printed electrical circuits including components comprising the steps of heating

a flexible silicone-varnish impregnated glass cloth at a temperature of 350° C. for about one hour so as to effect substantially complete polymerization of the silicone-varnish to impart to said glass cloth a smooth surface of silicone varnish which is highly resistant to an organic solvent while retaining the flexibility of the glass cloth, printing on the surface of said glass cloth with a soluble material a negative of the required circuits and components, applying by vacuum deposition a coating of electrical circuitry material which bonds directly with the surface of the glass cloth over all the printed and exposed areas of the surface of the glass cloth, and removing said soluble material by dissolving it in said organic solvent and thereby removing those portions of said coating of said electrical circuitry material which have been applied on said soluble material.

2,981,612

METHOD FOR CHEMICAL MILLING HONEYCOMB MATERIAL

Eldon L. Bowman, Redondo Beach, Calif., assignor to Northrop Corporation, a corporation of California

Filed Oct. 21, 1958, Ser. No. 768,800
18 Claims. (Cl. 41—43)



17. In the method of contouring a honeycomb core comprising the following steps: applying a settable mold material to a prepared pattern; removing the pattern and setting the mold material; applying and partially curing a curable coating material on said mold; inserting honeycomb material into the coating material and mold to the desired depth; curing the coating material; applying hot melt material on the mold to fill the exposed cells of honeycomb material, and removing the mold from the honeycomb material.

1. The method of chemical milling honeycomb core, comprising applying a settable mold material to a prepared pattern; removing the pattern and setting the mold material; applying and partially curing a curable coating material on said mold; inserting honeycomb material into the coating material and mold to the desired depth; curing the coating material; applying hot melt material on the mold to fill the exposed cells of honeycomb material; and removing the mold from the honeycomb material; inserting the honeycomb material into a chemical etching material until exposed honeycomb material cells have been removed; and removing the coating and hot melt material from the contoured honeycomb core.

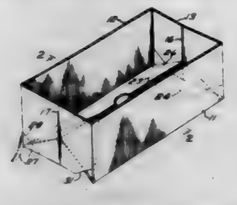
2,981,613

INFLAMMABLE CONTAINER

Owen A. Hartman, P.O. Box 26, Sonora, Calif.

Filed Sept. 3, 1957, Ser. No. 681,793
4 Claims. (Cl. 44—40)

1. An inflammable container comprising vertical walls and an inverted V-shaped bottom extending upwardly from the lower opposed side edges of said walls, said walls having perforations therein defining tear strips that are extensible from said container for ignition and providing openings to the interior of said container at the



juncture of said bottom to opposed side walls and to the underside of said bottom inwardly of said opposed side walls.

2,981,614

ANTI-ICING GASOLINE

William E. Lovett, Scotch Plains, Raymond W. Walker, Union, and John M. Jordan, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 27, 1958, Ser. No. 717,829
1 Claim. (Cl. 44—56)

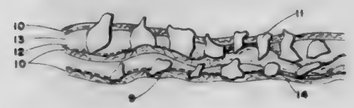
A gasoline to which has been added about 0.4 to about 2.5 vol. percent of isopropanol and about 0.001 to about 0.4 vol. percent of 2-amino-2-methyl-1-propanol.

2,981,615

ABRASIVE ARTICLES AND METHOD OF MAKING THE SAME

Richard A. Baumgartner, Howard M. Canfield, and Halsey W. Buell, Niagara Falls, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Sept. 8, 1959, Ser. No. 838,780
25 Claims. (Cl. 51—297)



1. An abrasive article consisting essentially of a plurality of adhesively united layers of abrasive-coated nonwoven textile fibrous sheet material, each of said layers of fibrous sheet material having a ream weight of fibrous material of about 4 pounds per ream and a calendered thickness of the order of magnitude of .003 to .004 of an inch, each of the individual layers of fibrous sheet material being irregularly disposed but retaining the continuity of its original structure, the fibers thereof being encapsulated with a thermoplastic polymeric material that is selected from the group consisting of thermoplastic vinyl polymers, permanently plasticized thermosetting resins, compounded latexes of natural and of synthetic rubbers, blends of such compounded latexes with casein, and blends of such compounded latexes with cellulose derivatives, and that is cured to a permanently flexible and resilient state, the combining bond for the plies of abrasive-coated sheet material comprising a heat-hardened polymer.

2,981,616

GAS GENERATOR GRAIN

Myron H. Boyer, Puente, Calif., assignor to North American Aviation, Inc.

Filed Oct. 1, 1956, Ser. No. 613,327
8 Claims. (Cl. 52—5)

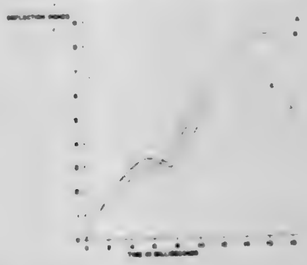
1. A composition consisting essentially of (1) an azide having the general formula $M(N_3)_x$ wherein M is selected

from the class consisting of a hydrazino radical, an ammonium radical, an alkali metal and an alkaline earth metal, N is nitrogen, and x represents the valency of M, and (2) at least one oxidizing compound selected from the class consisting of metal peroxides, inorganic perchlorates and metal nitrates; said azides and said oxidizing compounds being present in amounts expressed by the equation $n/m=y$, wherein n represents the number of azide nitrogen atoms, m represents the number of equivalents of oxidizing compounds, and y has a numerical value of from about 2.3 to about 3.6.

2,981,617
INHIBITED FUMING NITRIC ACIDS
Karl F. Hager, Clearfield, Pa., and William R. Lucas, and Douglas B. Franklin, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed June 25, 1957, Ser. No. 668,283
14 Claims. (Cl. 52—.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. The liquid fuel composition consisting essentially of nitric acid of the group consisting of red fuming nitric acid and white fuming nitric acid to which has been added a maximum of 1% of an organic compound of the class consisting of 8-nitroquinoline, 8-hydroxyquinoline, 5-nitroquinoline, 6,8-dinitroquinoline, 7-hydroxyquinoline, and 2-hydroxyquinoline to inhibit the corrosion of ferrous metal surfaces.

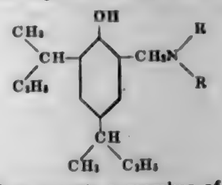
2,981,618
HIGH EXPLOSIVE FILLER FOR NAVAL UNDERWATER MUNITIONS
Selwyn R. Walton, Greenbelt, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 6, 1952, Ser. No. 286,416
3 Claims. (Cl. 52—6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A low viscosity castable underwater explosive consisting essentially of from about 31% to about 38% RDX, from about 22% to about 29% TNT, from about 25% to about 40% aluminum, about 5% of a desensitizer, said amount of desensitizer consisting essentially of about 84% paraffin wax, about 14% nitrocellulose and about 2% lecithin, and an additional amount of about 0.5% of calcium chloride.

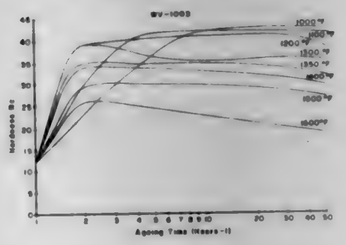
2,981,619
METHOD OF INHIBITING PLANT GROWTH
Melvin J. Josephs, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 5, 1957, Ser. No. 650,856
6 Claims. (Cl. 71—2.3)

1. A method for the selective control of small seeded grasses and broad leaf weeds which comprises exposing growing plants and plant parts to the action of a growth inhibiting amount of a 4,6-disecondary-butyl-o-(dialkylamino)-o-cresol compound having the formula



wherein each R represents a member of the group consisting of methyl and ethyl.

2,981,620
COBALT-NICKEL BASE ALLOY
Jack T. Brown, Monroeville, Charles P. Mueller, Brentwood, Leonard L. France, Wilkinsburg, and Alexander W. Cochardt, Wilkins Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 24, 1959, Ser. No. 835,510
9 Claims. (Cl. 75—170)



5. A high temperature alloy having good resistance to overaging under stress at temperatures in the range from 1200° F. to 1500° F., comprising, by weight, from 20% to 24% nickel, from .30% to 1.5% beryllium, up to 2% zirconium, up to 4% molybdenum, the total of zirconium and molybdenum amounting to at least 1% but no more than 6%, up to 2.5% chromium, and the balance cobalt, with impurities and minor additives totaling no more than 2.5%.

2,981,621
HIGH TEMPERATURE NICKEL-IRON BASE ALLOY
Rudolf H. Thielemann, Palo Alto, Calif., assignor to Sierra Metals Corporation, a corporation of Delaware
No Drawing. Filed July 29, 1957, Ser. No. 674,568
10 Claims. (Cl. 75—171)

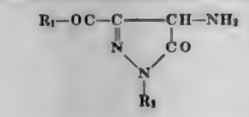
1. A metal alloy consisting essentially of, by weight: 10 to 20 percent chromium; 18 to 50 percent nickel; 1.5 to 8 percent tungsten; 1 to 5 percent of a metal of the class consisting of columbium, tantalum and mixtures thereof; 2 to 4 percent titanium; 0.05 to 0.25 percent carbon; and the balance, iron.

2,981,622
PHOTOGRAPHIC PROCESS
Lyman Chalkley, Prince Georges County, Md. (5320 Middleton Lane, Washington 22, D.C.)
No Drawing. Filed July 13, 1959, Ser. No. 826,407
10 Claims. (Cl. 96—48)

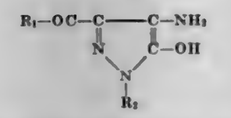
7. The photographic process comprising the steps of irradiating a photosensitive photographic material sensitized with a combination of a heteropolyacid of a metal chosen from the group consisting of molybdenum and tungsten and a carbonaceous reducing agent chosen from the group consisting of polyhydric alcohol, polyether, polyamid, aldehyde, leucobase of a triphenylmethane dye, leucobase of a xanthene dye to form a latent image and developing the latent image into a visible image by physical development which deposits from a solution containing a metallic salt a light absorbing metallic substance upon the irradiated portions of the photosensitive photographic material.

2,981,623
PHOTOGRAPHIC DEVELOPERS
Lothar Burgardt, Leverkusen-Bayerwerk, Willibald Pelz, Koln-Stammheim, Ottmar Wahl, Opladen, and Heinz Sassmann, Burscheid, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 14, 1955, Ser. No. 494,221
Claims priority, application Germany Mar. 15, 1954
11 Claims. (Cl. 96—66)

1. The process of developing silver halide layers which comprises applying to said layers a compound having a formula selected from the group consisting of



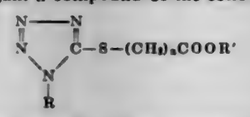
and



wherein R_1 is a radical selected from the group consisting of —OH, O-alkyl, O-aryl, O-aralkyl, NH_2, —NH—NH_2, and —NH—OH, and R_2 is selected from the group consisting of hydrogen, alkyl, aralkyl, aryl and 2-tetrahydrothiophene sulfone radicals, in an alkaline medium.

2,981,624
ANTIFOGGANTS AND STABILIZERS FOR PHOTOGRAPHIC SILVER HALIDE EMULSION
Fritz Dersch and Millet R. De Angelus, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 5, 1957, Ser. No. 663,577
6 Claims. (Cl. 96—109)

1. Light-sensitive photographic material comprising a base and a light-sensitive silver halide emulsion layer thereon, a layer of said photographic material containing as an antifoggant a compound of the following formula:



wherein R is selected from the class consisting of hydrogen, alkyl, aryl and aralkyl; R′ is selected from the class consisting of alkyl, aryl, aralkyl and a cation; and n is a whole number of from 1 to 3.

2,981,625
HALFTONE CAMERA
Augustin J. Powers, Jr., Glen Head, and Andrew K. Anander, Glen Cove, N.Y., assignors to Powers Chemco, Inc., Glen Cove, N.Y., a corporation of New York
Continuation of application Ser. No. 361,998, June 16, 1953. This application May 26, 1958, Ser. No. 737,974
4 Claims. (Cl. 96—116)

1. In a halftone camera the combination of a halftone screen having a central portion and an outer peripheral edge portion of less thickness than said central portion whereby the face of said central portion lies in a plane extending beyond the plane of said edge portion, a rigid planar surface for supporting photo-sensitive material in the focal plane of the camera, a supporting means for the screen, said supporting means comprising a frame defining an opening to accommodate the half tone screen, a plurality of aligning members fixed to the face of the frame nearest the rigid planar surface and extending inwardly of the opening at spaced intervals and directly engaging the face of the central portion of the halftone



screen, movable means on the frame for urging the aligning members into engagement with the screen, said screen clamped in position between said aligning members and said frame, means for moving said planar surface and said aligning members into contact, means for angularly orienting said frame to move any aligning members not in contact with said planar surface into engagement therewith, said aligning members being constructed and arranged to each contact said planar surface when said screen and said surface are parallel, and means for moving said screen and said planar surface away from each other a pre-determined distance to focus and exposure position respectively.

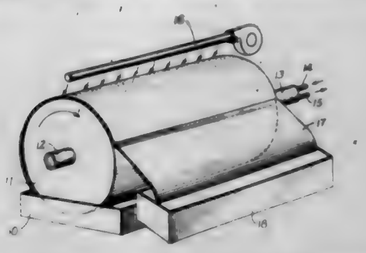
2,981,626
STABLE SWEETENED CREAM PRODUCT
Arjen Tamsma, Arlington, Va., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed May 6, 1957, Ser. No. 657,463
2 Claims. (Cl. 99—55)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for preparing a stable sweetened cream product comprising removing water from a member selected from the group consisting of milk and cream, recovering a cream containing about 50–80% milk fat, adding to said cream and intimately dispersing therein about 10–40% of the weight of said milk fat of nonfat milk solids, dissolving in the cream-nonfat milk solids mixture a quantity of sucrose sufficient to establish a sugar to sugar-plus-water ratio of about 60–65%, and pasteurizing the sweetened cream-nonfat milk solids mixture.

2,981,627
METHOD OF TREATING COCONUT JUICE
Lian-Tong Wen, 601 W. 112th St., New York, N.Y.
Filed Feb. 24, 1959, Ser. No. 795,289
8 Claims. (Cl. 99—125)

1. The method of treating coconut juice to prepare a spreadable and reconstitutable emulsified product which includes the steps of isolating the fatty components of the juice of the fresh coconut by gravitational separation

of the aqueous medium, to retain the fatty components in the dispersed phase in a quantity of the aqueous me-

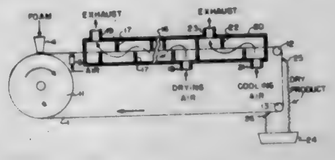


dium entrained thereby as a natural component, and chilling to below 21° C. and above 0° C.

2,981,628
ANTIOXIDANT COMPOSITION
Lloyd A. Hall, Chicago, Ill., assignor to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 18, 1954, Ser. No. 417,224
1 Claim. (Cl. 99—163)

An antioxidant composition comprising a solution in an edible oil of di-tertiary-butyl-para-cresol together with lecithin citrate.

2,981,629
PROCESS OF DEHYDRATING FOAMS
Lewis F. Ginnette, San Leandro, Robert P. Graham, El Cerrito, and Arthur I. Morgan, Jr., Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Apr. 5, 1960, Ser. No. 20,229
13 Claims. (Cl. 99—206)
(Granted under Title 35, U.S. Code (1952), sec. 266)

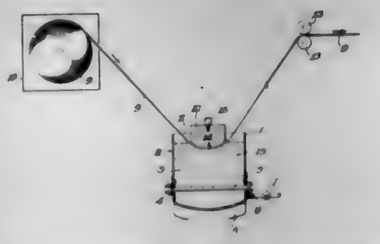


1. A method of dehydrating a foam which comprises applying a mat of foam onto a perforated surface, forcing a gas through the perforations in said surface at a velocity sufficient to cause the portions of the mat in and overlying the perforations to be displaced, producing a perforated mat of foam and dehydrating the said perforated mat of foam.

2,981,630
CLAY PRODUCTS AND FRACTIONATION TREATMENT OF HETEROGENEOUS AGGREGATES SUCH AS CLAY
Ben W. Rowland, Hillside N.J., assignor to Georgia Kaolin Company, Elizabeth, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 26, 1951, Ser. No. 223,137
45 Claims. (Cl. 106—288)

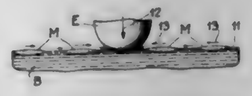
1. A method of fractionating heterogeneous naturally occurring ores and earth-type materials containing two or more solid fine particle components of differing adsorptive characteristics to hydrophilic colloidal materials, each said component susceptible of deflocculation, comprising the steps of establishing an aqueous suspension of the mixture wherein the several components are all deflocculated, adjusting the condition of the suspension by adding thereto a hydrophilic colloidal material capable of being adsorbed substantially only on the surfaces of those components having common adsorptive characteristics in the presence of a deflocculant for said mixture whereby said components of common adsorptive characteristics are caused to flocculate, precipitating the flocculated portion, maintaining the balance of the components in the deflocculated state in the presence of said deflocculant, and separating the precipitate and the supernatant suspension containing the balance of the components.

2,981,631
FLUIDIZED BED COATING METHOD FOR FORMING A FOAM
Fritz J. Nagel, Reading, Pa., assignor to The Polymer Corporation, a corporation of Pennsylvania
Filed Nov. 13, 1957, Ser. No. 696,154
14 Claims. (Cl. 117—21)



1. A process for forming a foam on a substrate which comprises fluidizing the material to be foamed in a dry pulverulent form in a vessel; placing said substrate in said vessel to be contacted by said material while said substrate is heated to a temperature at least as high as the softening temperature of said material; allowing said fluidized material to flow against the heated substrate, thereby forming a softened mass of said material thereon; producing gaseous material within the resultant melt; and setting the melt with said gaseous material therein, thereby forming said foam.

2,981,632
PROCEDURES AND COMPOSITIONS FOR PRODUCING DECORATIVE EFFECTS
Harvey S. Bennett, Basking Ridge, N.J., assignor to The Bloomfield Chemical Company, Inc., Harrison, N.J., a corporation of New Jersey
Filed Mar. 7, 1957, Ser. No. 644,517
2 Claims. (Cl. 117—39)



1. A bath for graining elongated handles and similar articles composed of a two-layer non-aqueous floating and graining upper and lower lacquers, both being of substantially the same organic solvent composition, with the lower lacquer forming a lower graining layer forming at least 90% of the bath and the upper lacquer forming an upper floating lacquer layer constituting 2 to 5% of the bath, said floating lacquer having a specific gravity 5 to 20% less than graining lacquer and said graining lacquer containing about 5 to 20% of solids and said floating lacquer having about 5 to 10% less solids than the graning lacquer, both said lacquers being composed of nitrocellulose and a resin dissolved in a combination of ketone alcohol, toluol, and an acetate ester solvent.

2,981,633
PROCESS FOR TREATING FERROUS METALS
Shipp C. Davis, Chattanooga, and William G. Ray, Signal Mountain, Tenn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 7, 1960, Ser. No. 923
5 Claims. (Cl. 117—50)

1. A process for the porcelain enameling of ferrous metal objects comprising the steps of cleaning the ferrous metal, then pickling with an aqueous solution of citric acid containing from about 5% to about 20% by weight of acid at a temperature of from about 160° to about 212° F. for from about 5 to about 30 minutes, then depositing nickel on the surface in an amount of from about 0.03 to about 0.15 gram per square foot, then coating the object with porcelain enamel, drying at from about 250 to about 400° F. and baking same at from about 1300° to about 1550° F. for from about 3 to about 6 minutes.

2,981,634
PROCESS FOR TREATING FERROUS METALS
Shipp C. Davis, Chattanooga, and William G. Ray, Signal Mountain, Tenn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 7, 1960, Ser. No. 924
5 Claims. (Cl. 117—50)

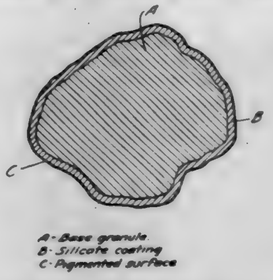
1. A process for the porcelain enameling of ferrous metal objects comprising the steps of cleaning the ferrous metal, then pickling with an aqueous solution of glycolic acid containing from about 1% to about 20% by weight of acid at a temperature of from about 160° to about 212° F. for from about 5 to about 30 minutes, then depositing nickel on the surface in an amount of from about 0.12 to about 0.36 gram per square foot, then coating the object with porcelain enamel, drying at from about 250 to about 400° F. and baking same at from about 1350° F. to about 1450° F. for from about 2 to 6 minutes.

2,981,635
COLOR COATED ROOFING GRANULES AND METHOD OF MAKING THE SAME
James R. Lodge, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed June 22, 1954, Ser. No. 438,594
14 Claims. (Cl. 117—62)

3. A process of making colored coated roofing granules which contain in their coating a silicate binder material, said process including the steps of drying at a raised temperature an alkali silicate coating on said granules to a rigid abrasion-resistant state, briefly contacting in ion exchange relationship the coated granules with discrete stable solid water-insoluble cation exchange particles having a size greater than approximately 150 mesh and an aqueous vehicle for ion exchange without coating said discrete cation exchange particles as a film upon the surface of said coated granules, rapidly vaporizing a substantial portion of said aqueous vehicle sufficient to leave said granules and cation exchange particles in a substantially dry condition, separating the granules from the cation exchange particles and applying to the surface of the granules a small quantity of an aqueous pickling solution containing aluminum ions.

2,981,636
COLORED ROOFING GRANULES
James R. Lodge, George W. Swenson, and Donald L. Reichel, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 18, 1957, Ser. No. 640,604
14 Claims. (Cl. 117—70)

1. The method of coloring granules of the character described which comprises applying a coating of a hydrous plastic clay, a pigment in an amount insufficient to provide the desired color intensity in the granule coating and sodium silicate, reacting said clay and silicate at temperatures of the order of 950°–1000° F., and applying directly upon the outer surface of said clay-silicate coat-



ing, a composition consisting of additional pigment and a solution of the compound adapted to complete the neutralization of the soda content of said coating, to thereby bond said additional pigment on the outer surface of said clay-silicate coating by a material consisting of products of the chemical neutralization of said underlying coating.

2,981,637
COATING OF FABRICS
David Patrick Spencer, 21 Marco Polo St., Essendon, Victoria, Australia, and Hector Roland Bourne, 8 Wellesley Road, Hawthorn, Victoria, Australia
Filed Mar. 31, 1958, Ser. No. 724,884
Claims priority, application Australia Apr. 2, 1957
4 Claims. (Cl. 117—76)

1. A coating composition comprising between 5% and 30% by weight of tri 2-1'-4-(3'-isocyanato-4''-methylphenyl)carbamato-3 methyl pentane; between 50% and 70% by weight of the product of reaction of diethylene glycol hexane triol adipate with less than the stoichiometric proportion of a toluene diisocyanate; between 5% and 40% by weight of a vinyl terpolymer formed by the copolymerisation of vinyl chloride, vinyl acetate and an alpha-beta-unsaturated dicarboxylic acid of the formula $HOOC(CH_2)_mCH{=}CH.COOH$, where m varies by whole numbers between 0 and 3; the composition limits being, by weight:

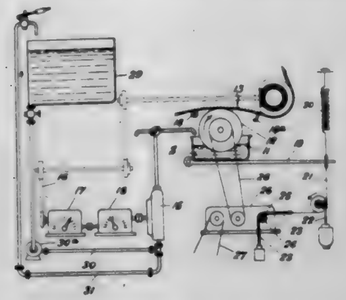
	Percent
Vinyl chloride	80.0 to 90.0
Vinyl acetate	19.7 to 7.0
Alpha-beta-unsaturated dicarboxylic acid	0.3 to 3.0

0.2% by weight of a plasticising polyester formed by the condensation of an alpha-omega dicarboxylic acid with an alpha-omega diol, an excess of hydroxy groups being present; and up to 5% by weight of a catalyst which is a tertiary amine.

2,981,638
BACK FILLING OF CARPETS OR LIKE OPERATIONS
Eric Harding Jones, Bramhall, England, assignor to The British Cotton Industry Research Association, Manchester, England, a British association
Filed Aug. 1, 1957, Ser. No. 675,634
6 Claims. (Cl. 117—111)

1. A method of applying to a continuously moving web of material a prescribed amount per unit length of a given substance comprising the steps of moving said web in arcuate contact with part of the surface of a driven roller another part of which dips into a reservoir normally containing a prescribed amount of said substance, feeding said substance in liquid form into said reservoir at a rate proportional to the speed of the web, said rate being constant at a constant speed of the

web, sensing any variation in the amount of substance in the reservoir from the prescribed amount, and altering the speed of said driven roller upon sensing any variation in the amount of said substance in the reservoir from the prescribed amount in order to compensate for such



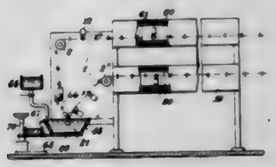
variation, said alteration being an increase in the speed of said roller when the amount of substance in the reservoir increases above the prescribed amount and a decrease in the speed of said roller when the amount of substance in the reservoir decreases below the prescribed amount.

2,981,639

PROCESS AND APPARATUS FOR COATING GLASS ARTICLES OR THE LIKE BY MEANS OF DIPPING

Wilhelm Kachele, Jahnstrasse 11, Weilheim, Teck, Germany

Filed Oct. 15, 1956, Ser. No. 616,041
Claims priority, application Germany Oct. 20, 1955
11 Claims. (Cl. 117—113)



1. A continuous method of coating an article with a uniform coating by immersing said article in a fluid coating bath, which method consists in moving at a uniform speed a succession or articles toward said coating bath; applying an accelerating force to rotate each article about an axis of rotation external to said article, said article having an initial position in which said axis and said article are horizontally aligned, said accelerating force rotating said article from said initial position through an arc of substantially 90° toward said bath to a second position in which the article is immersed, and in which said article and said axis are vertically aligned; withdrawing each article in a substantially vertical direction, and rapidly inverting each article by rotation about said axis shortly after withdrawal from the bath.

2,981,640

PROCESS OF PREPARING BACTERICIDAL ARTICLE AND THE RESULTING ARTICLE

William H. Hill, Pittsburgh, Pa., assignor to Permachem Corporation, West Palm Beach, Fla.

No Drawing. Filed Oct. 28, 1955, Ser. No. 543,586
9 Claims. (Cl. 117—138.5)

3. In a process of preparation of a bactericidal article lastingly lethal to bacteria coming into contact therewith, the steps of: wetting said article with an aqueous solution containing essentially a water-soluble thiocyanate, silver cations, and thiocyanate cations; and precipitating in situ from said aqueous solution a bactericidal amount of a water-insoluble light-stable silver thiocyanate on said article.

2,981,641

TOBACCO PRODUCTS

Robert C. O'Neill, New York, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 21, 1960, Ser. No. 3,718
7 Claims. (Cl. 131—17)

1. As a novel composition of matter, tobacco comprising from 0.5 to 8.0% of a compound selected from the group consisting of N-alkyl nornicotine compounds containing from 2 to 8 carbon atoms in the alkyl group, and acid addition salts thereof.

2,981,642

METHODS OF REMOVING A DRIED SILVER AND PHENOL-FORMALDEHYDE RESIN PAINT FROM AN ARTICLE

John Danaczko, Jr., Oak Park, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,511
3 Claims. (Cl. 134—2)

1. The method of removing a dried paint consisting of a major proportion of metallic silver and a minor proportion of a phenol-formaldehyde resin from an article having an inert surface, which comprises the step of immersing the article in an aqueous solution of ammonium hydroxide and hydrogen peroxide until the silver has been dissolved and the resin has become suspended in the solution.

2,981,643

PROCESS FOR DESCALING AND DECONTAMINATING METALS

Russell D. Baybarz, Knoxville, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Feb. 19, 1958, Ser. No. 716,248
6 Claims. (Cl. 134—3)

1. A process for removing oxides from the surface of stainless steel which comprises contacting the metal in an atmosphere inert to chromous sulfate with a dilute aqueous sulfuric acid solution containing chromous sulfate.

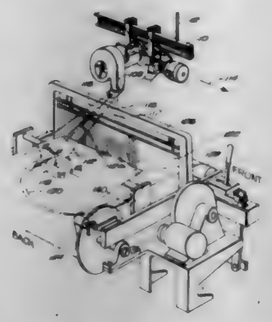
2,981,644

METHOD OF CLEANING LOOMS

Mitchell S. Fain, Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Filed Apr. 23, 1956, Ser. No. 579,914
2 Claims. (Cl. 134—37)

1. The method of removing lint from looms arranged in a row, and from the yarns and material being processed thereby, said yarns and material lying in a substantially horizontal plane, said method comprising the steps of creating a high velocity stream of air from a source, directing said stream downwardly onto said looms at an angle substantially less than 90° to the said plane of the yarns and materials, rotating said stream continuously in one direction so that its axis generates a conical surface of revolution with said axis always being at an angle to said plane, moving said source over and parallel to said row at a rate causing the said airstream to intersect said plane in a closely overlapping circuitous path whose configuration is substantially that of a curtate cycloid and causing said air stream to substantially strike a point on said plane along the path of travel of and beneath said source at least twice, once during movement along the forward portion of its circuitous path and once during movement along the rearward portion of its circuitous path thus impinging said air stream on any given portion of the object being cleaned as a series of sharp rapid



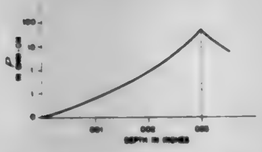
puffs having vertical and horizontal components with respect to said plane prior to said impingement.

2,981,645

SEMICONDUCTOR DEVICE FABRICATION

Gardiner L. Tucker, Glenham, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 4, 1956, Ser. No. 607,781
3 Claims. (Cl. 148—1.5)



1. The process of providing a graded resistivity semiconductor body having a known substantially constant resistivity to a specific depth at the surface thereof comprising in combination the steps of heating for a given time a semiconductor body in the presence of a vapor containing a concentration of a significant impurity and heating said body for a lesser period of time in a vacuum.

2,981,646

PROCESS OF FORMING BARRIER LAYERS

Preston Robinson, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

No Drawing. Filed Feb. 11, 1958, Ser. No. 714,474
4 Claims. (Cl. 148—1.5)

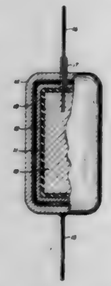
1. A process for producing a barrier layer within a body of a crystalline semiconductive material which comprises heating at a temperature in the range of 700° to 1300° C., said semiconductive material in an atmosphere of a non-metal gas capable of reacting with the surface of the semiconductive material in the said temperature range, thereby permeating said non-metal gas in the interstices at the surface of said crystalline material to form on the surface thereof an interstitial barrier adapted to afford a controlled diffusion therethrough of an element capable of changing the conductivity of the said semiconductive material, the diffusion of the said element through the barrier being slower than through the said semiconductive material, depositing said element capable of changing the conductivity of said semiconductive material upon said interstitial alloy barrier surface, and heating the combination to a temperature in the range of 750° to 1300° C. to cause said element alone to diffuse into the crystalline lattice of the semiconductive material through said interstitial alloy barrier, the said barrier being substantially free from any melting during the process thereby avoiding the presence of a low melting alloy of the element and the semiconductive material between the latter and the barrier.

2,981,647

FABRICATION OF ELECTROLYTIC CAPACITOR

Newton Schwartz, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 4, 1958, Ser. No. 758,977
2 Claims. (Cl. 148—6.14)



1. In the fabrication of an aluminum solid electrolytic capacitor in which the anode of said capacitor is coated with manganese dioxide formed in situ by pyrolysis at a temperature of at least 300° C., the steps of annealing the aluminum body destined for use as the said anode in the said capacitor for at least ten minutes at a temperature at least equal to the temperature employed in the pyrolysis step in which manganese dioxide is formed in situ.

2,981,648

ALUMINUM SOLDERING SLURRY

Stanley W. Peterson and Carl W. Danzer, Racine, Wis., assignors to Modine Manufacturing Company, Racine, Wis., a corporation of Wisconsin

No Drawing. Filed Dec. 10, 1957, Ser. No. 701,733
12 Claims. (Cl. 148—23)

1. A bonding material comprising a metallic bonding material consisting essentially of zinc and one or more alloying metals selected from the group consisting of copper, aluminum, and magnesium, said metals being substantially within the range specified by weight of from 15% to 60%; a vehicle of one or more ketones selected from the group consisting of methyl ethyl ketone, diethyl ketone, dimethyl ketone, methyl propyl ketone, and isopropyl ketone within substantially the range specified by weight of 9% to 50%; and a fluxing agent comprising a zinc halide, an ammonium halide selected from the group consisting of chlorine, iodine, and bromine; and a fluorine salt selected from the group consisting of sodium fluoride, sodium acid fluoride, ammonium fluoride, ammonium acid fluoride, potassium fluoride, potassium acid fluoride, said fluxing agent being within substantially the range specified by weight of from 20 to 55%.

2,981,649

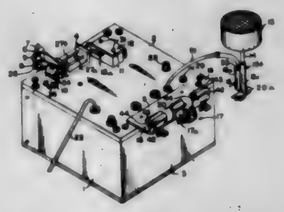
COAXIAL CABLE SPLICER

Guy E. Metcalf, Jr., Cedar Vale, Kans.
(1933d AACS Sq., APO 864, New York, N.Y.)

Original application Mar. 28, 1958, Ser. No. 724,780. Divided and this application July 27, 1959, Ser. No. 829,940
4 Claims. (Cl. 154—2.22)
(Granted under Title 35, U.S. Code (1952), sec. 266)

2. In a cable splicer device for splicing the exposed ends of a pair of cables, means for molding the spliced

ends of said cable comprising a lower cable mold unit having a pair of spaced oppositely disposed and longitudinally aligned, lower cable mold end clamps for receiving the unexposed end portions of said cables and a center cable mold intermediately disposed between said pair of lower cable mold end clamps for receiving the exposed spliced ends of said cables disposed inwardly of said end portions, means for securely fastening said spliced cable ends within said lower cable mold comprising an upper mold unit in complemental engagement with said lower cable mold and means for retaining said upper mold unit in complemental engagement with said lower cable mold comprising a cable mold clamp yoke having a pair of spaced projecting fingers on the upper



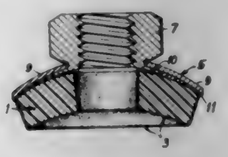
end thereof in engagement with said upper mold unit, and a combination heater and upper mold assembly including an upright cylinder integrally formed with said upper mold unit and incorporating a supply of plastic material integrally formed adjacent to said heater assembly as a single unit, said cylinder having a weighted piston rod for insertion therein in continual contact with the upper surface of said plastic material and closing the upper end of said cylinder, said upper mold unit having an extrusion opening in the bottom surface thereof in communication between the interior of said cylinder and said lower cable mold unit for receiving said plastic material under action of said weighted piston rod and depositing the same in said lower cable mold unit outwardly in opposite directions over the exposed spliced ends of said cables.

2,981,650
ADHESIVES, CEMENTS AND THE LIKE
Erich Bäder, Hanau (Main), and Otto Schweitzer, Königstein (Taunus), Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed Feb. 21, 1956, Ser. No. 566,781
Claims priority, application Germany Feb. 25, 1955
8 Claims. (Cl. 154—129)

1. A method of adhesively uniting metal surfaces which comprises applying between the surfaces to be united a composition comprising an unsaturated liquid monomeric polymerizable organic compound containing $a>C=CH_2$ group which can be polymerized with the aid of a catalyst, at least one polychloroprene polymer produced by the polymerization of 2-chlorobutadiene-1,3 and another powdered polymeric compound, the quantity of polychloroprene polymer being 0.5 to 15% of the adhesive composition as an adhesive for the surfaces to be adhesively united and effecting bulk polymerization of such composition while in contact with the surfaces to be united in the presence of a catalyst.

2,981,651
SEALING MEMBERS AND METHODS
Robert W. Arnold, Belleville, Ill., assignor to American-Marietta Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 2, 1956, Ser. No. 601,691
5 Claims. (Cl. 154—129)

1. The method of bonding together a metal member and a sealing member composed of a body of soft, tacky, coherent sealing material which is sufficiently stiff to maintain its shape under normal handling and which is adapted to cold-flow under pressure, comprising dusting the entire surface area of the sealing member with 0.05–10% by weight, based upon the weight of the sealing member, of finely divided discrete nontacky particles of synthetic resin in an uncured nontacky state which is adapted to cure at a temperature between approximately



180–400° F. to form a sealing member having nontacky surfaces, heating the metal member to a temperature between approximately 180–400° F., and pressing said heated metal member and sealing member together under a pressure of approximately 10–30 p.s.i. to effect curing of the particles of said resin on the surfaces of the sealing member in contact with the metal member, the particles of said resin on the surfaces of the sealing member not in contact with the metal member remaining in an uncured nontacky state.

2,981,652
COMPOSITION COMPRISING ALKALINE SOLUTION OF PHENOL FORMALDEHYDE RESIN AND FORMAMIDE AND PROCESS OF BONDING SURFACES WITH SAME
Arlo A. Peterson and Edgar B. Baker, Seattle, Wash., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 28, 1958, Ser. No. 769,998
8 Claims. (Cl. 154—140)

8. In bonding two surfaces, the process which comprises applying to one of the surfaces an aqueous solution of an alkali metal hydroxide soluble phenol-formaldehyde condensation product and an alkali metal hydroxide in amount to dissolve the said product, applying to the other of the said surfaces a solution of formamide, and then pressing and holding together the two thus treated surfaces until the materials in the solutions react and set to produce an adhesive bond.

2,981,653
SUCTION BOX WITH CHANGEABLE BELT
Edward D. Beachler, Beloit, Wis., assignor to Beloit Iron Works, Beloit, Wis., a corporation of Wisconsin
Filed Nov. 19, 1958, Ser. No. 774,993
12 Claims. (Cl. 162—200)



1. In combination, an open topped horizontally disposed suction box, a roll at a first side of the suction box, a roll at a second side of the suction box, a looped flexible foraminous belt for supporting said wire and carried on the rolls, stub shafts projecting from the ends of said rolls, support bearings with the shafts journalled therein mounted at the ends of the suction box and rotatably supporting said rolls at the sides of the box, a releasable connector for the support bearings for one of said rolls whereby the roll may be moved away from the box, a frame for supporting the suction box and rolls, means for detachably connecting the frame to the suction box, a pair of guide rolls extending parallel to the rolls and mounted on the frame and positioned beneath the lower run of the belt whereby the belt will lift off of said rolls to loosen the belt when the box and supported rolls are raised, hoist means including attachment members for looping around the stub shafts to raise the suction box and rolls from the frame and to swing the box to a vertical position, a vertical support column for supporting the box and rolls in cantilever fashion, an upper connector member on one end of the box, a coacting upper connector member on the column for connecting to the box connector member, means on said one end of the box spaced downwardly from said upper connector for engaging the column to complete the cantilever support for the box, and a pair of alignment support members centered on the ends of the box for supporting the box and swinging the box for alignment of said connector members.

2,981,654
INSECTICIDAL REPELLENT
Willis Nels Bruce, Champaign, Ill., assignor to Lee Ratner, Miami Beach, Fla.
No Drawing. Original application Jan. 31, 1958, Ser. No. 712,333. Divided and this application Jan. 19, 1960, Ser. No. 3,281
5 Claims. (Cl. 167—22)

1. An insecticidal repellent comprising a combination of from about 0.2% to about 99.5% by weight of di-n-butyl succinate and from about 98% to about 0.5% of a chlorinated insecticide selected from the group consisting of dichloro diphenyl trichloroethane, diethyl diphenyl dichloroethane, and methoxychlor.

2,981,655
PRODUCTS HAVING JUVENILE HORMONAL ACTIVITY AND THEIR PRODUCTION
Carroll M. Williams, The Biological Labs., Harvard University, Cambridge, Mass.
No Drawing. Filed Dec. 12, 1956, Ser. No. 627,744
9 Claims. (Cl. 167—22)

4. A juvenile hormone active extract substantially identical in juvenile hormone activity but in concentrated form, with that obtained by solvent extraction of abdominal tissues of adult males of *Platysamia cecropia* L. and *Samia walkeri* F. & F., said solvent being selected from the group consisting of ether, petroleum ether, methanol and ethanol.

2,981,656
GASTRIC ACID-COUNTERACTING COMPOSITION
Joseph W. E. Harrisson, Lansdowne, and Elias W. Packman, Philadelphia, Pa., assignors to LaWall & Harrisson, Philadelphia, Pa., a sole proprietorship
No Drawing. Filed Nov. 7, 1955, Ser. No. 545,574
9 Claims. (Cl. 167—55)

1. A therapeutic product comprising nontoxic gastric acid-counteracting aluminum compound, a bioflavonoid which may be derived from citrus fruit, and ascorbic acid.

2,981,657
THYROPROTEIN AND STROPHANTHIN COMPOSITION FOR REDUCING BODY WEIGHT
Donald V. Hall, Oswego, Oreg., assignor, by mesne assignments, to Bariatric Corporation, Portland, Oreg., a corporation of Oregon
No Drawing. Filed Dec. 19, 1956, Ser. No. 629,247
6 Claims. (Cl. 167—55)

1. A therapeutic composition adapted for oral administration and comprising thyroprotein and strophanthin.

2,981,658
LIPID PURIFICATION AND CONCENTRATION OF VIRUSES AND VACCINES THEREFROM
Julius S. Youngner, 5831 Marlboro Ave., and Hans Noll, 131 Highview Ave., both of Pittsburgh, Pa.
Filed July 7, 1958, Ser. No. 746,959
16 Claims. (Cl. 167—78)

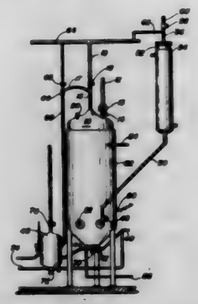
1. In a method for the purification and concentration of viruses other than entero viruses, the steps of bringing the impure virus in an aqueous medium into contact with a water-insoluble lipid having a polar hydrophilic group and dispersible in said medium, and separating the lipid and adsorbed virus thereon from the remaining biological contaminants.

10. A virus vaccine comprising an aqueous suspension of a virus other than an entero virus irreversibly adsorbed onto a water-insoluble lipid.

2,981,659
METHOD FOR THE MICROBIOLOGICAL CONVERSION OF PREGNANE SERIES STEROIDS
Gunther S. Fonken, Kalamazoo, and Herbert C. Murray, Barry Township, Barry County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed May 1, 1959, Ser. No. 810,233
23 Claims. (Cl. 195—51)

1. In a process for the microbiological oxidation of the nucleus of a 20-keto steroid of the pregnane series with a microorganism which produces reaction by-products resulting from the alteration of the 20-keto function by the microorganism, the improvement which comprises employing as starting steroid a ketonic functional derivative of the 20-keto steroid selected from the group consisting of 20-acetals and 20-enol ethers thereof and conducting the oxidation under substantially nonacidic conditions.

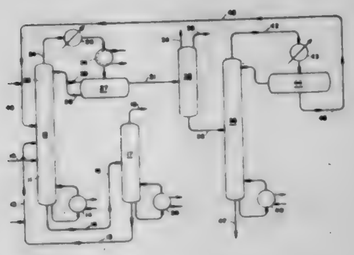
2,981,660
APPARATUS FOR THE CULTIVATION OF FASTIDIOUS MICROORGANISMS
Glenwood B. Achorn, Jr., P.O. Box 3204, Arsenal, Ark.; Elmer R. Bokesch, 1203 Motter Ave., Edward R. Dapper, 1207 Pinewood Drive, Robert W. Lebherz, Rte. 5, John L. Schwab, R.R. 5, James R. E. Smith, Fort Detrick, all of Frederick, Md.; Arthur Rawson, Rocky Springs, Frederick County, Md.; and Samuel N. Metcalfe, New Windsor, Md.
Filed Mar. 14, 1958, Ser. No. 721,619
8 Claims. (Cl. 195—142)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An apparatus for the culture of pure pathogenic and fastidious microorganisms comprising a fermentation tank with a conically shaped bottom, a gas inlet means connected to the bottom portion of said fermentation tank, a filter connected to said gas inlet means, a gas supply means connected to the other side of said filter, at least one adapter means connected with said fermentation tank for permitting the admission and withdrawal of mate-

rials from said tank, means connected with said tank for maintaining a vacuum in said tank whereby the undesirable egress of its contents is prevented, a valve and fluid sealing means integrally connected to the bottom of said tank for dumping the contents of said tank when desired and also for preventing any leakage, and steam seal tank being connected to said means for maintaining a vacuum and to said valve and fluid sealing means in order to collect their effluent.

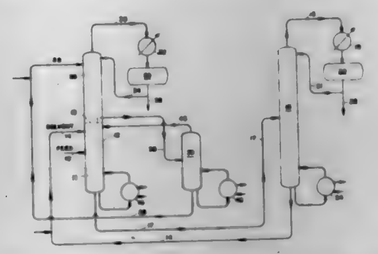
2,981,661
EXTRACTIVE DISTILLATION OF AROMATIC COMPOUNDS
Cline Black, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed May 5, 1958, Ser. No. 732,951
6 Claims. (Cl. 202—39.5)



1. In an extractive distillation process using phenol as the solvent for the recovery of toluene from a hydrocarbon feed containing a compound which normally azeotropes with the phenol solvent, thereby causing some of the phenol to escape overhead with the raffinate and wherein there is provided a rectification zone having a number of liquid carrying plates beyond the extractive distillation zone to further the separation of the solvent from the raffinate, the improvement comprising maintaining methanol in the liquid of at least some of the trays of the rectification zone in amounts adequate to reduce significantly the volatility of the phenol relative to its normal azeotrope former without the formation of an azeotropic mixture between the phenol solvent and said methanol, thereby permitting a substantially more complete rectification of the phenol from the raffinate and withdrawing methanol and the raffinate from the rectification zone, said raffinate having a significantly reduced phenol content relative to that experienced in the absence of the methanol.

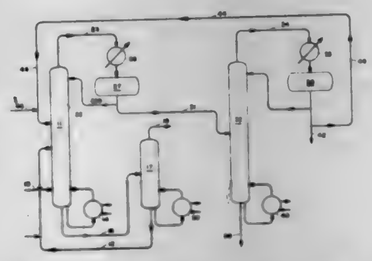
2,981,662
EXTRACTIVE DISTILLATION OF AROMATIC COMPOUNDS
Cline Black, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed May 5, 1958, Ser. No. 732,952
3 Claims. (Cl. 202—39.5)

1. In an extractive distillation process employing phenol as the solvent introduced into the upper section of an extractive distillation zone above the feed entry, for the recovery of an aromatic material selected from the group consisting of toluene and xylene from a hydrocarbon feed containing a compound which azeotropes with phenol, thereby causing some of the phenol to pass overhead with raffinate, and wherein there is provided a rectification zone having a number of liquid carrying plates beyond the extractive distillation zone to further the separation of the solvent from the raffinate, the improvement which comprises introducing a liquid, high boiling aromatic hydrocarbon material into the upper level of the rectification zone causing it to pass into the liquid of the trays of the rectification zone and maintaining the high boiling aromatic hydrocarbon material in liquid phase thereon in an amount of 0.1 to 3.0 volumes per volume of raffinate, said amount sufficient to reduce significantly the loss of phenol in the raffinate thereby facilitating the separation of phenol and the raffinate, said high boiling aromatic hydrocarbon material having a boiling point at least 55° F. in excess of the boiling point of phenol and being further characterized by the inability to azeotrope with phenol, withdrawing overhead from



the rectification zone a vapor phase hydrocarbon raffinate, said raffinate leaving the zone with a significantly reduced phenol content relative to that experienced in the absence of the high boiling aromatic hydrocarbon material, withdrawing the liquid collecting in the lower section of the rectification zone, separating the high boiling aromatic therefrom as distillation bottoms from the remainder of the withdrawn liquid as a distillation overhead, returning the distillation overhead to the extractive distillation zone and reintroducing the high boiling aromatic hydrocarbon bottoms into the upper level of the rectification zone.

2,981,663
EXTRACTIVE DISTILLATION OF AROMATIC COMPOUNDS
Cline Black, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed May 5, 1958, Ser. No. 733,016
3 Claims. (Cl. 202—39.5)

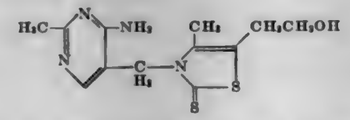


1. In an extractive distillation process using a phenol as the solvent introduced into the upper section of an extractive distillation zone above the feed entry, for the recovery of an aromatic material selected from the group consisting of toluene and xylenes from a hydrocarbon feed containing a compound which azeotropes with phenol thereby causing some of the phenol to pass overhead with the raffinate, the phenol solvent having at least one less carbon atom per molecule than the aromatic material to be recovered, and wherein there is provided a rectification zone having a number of liquid carrying plates beyond the extractive distillation zone to further the separation of the solvent from the raffinate, the improvement which comprises introducing a monocyclic aromatic stream into the lower level of the rectification zone and causing it to pass into the liquid of the trays of the rectification zone

and maintaining the monocyclic aromatic liquid phase thereon, the amount of monocyclic aromatic being 0.3 to 2.0 volumes of monocyclic aromatic per volume of raffinate, sufficient to reduce significantly the loss of phenol in the raffinate, said monocyclic aromatic being further characterized by its non-azeotroping property with phenol and having the same carbon number as the phenol solvent, withdrawing overhead from the rectification zone a vapor phase hydrocarbon raffinate containing the monocyclic aromatic, said raffinate leaving the zone with a significantly reduced phenol content relative to that experienced in the absence of the monocyclic aromatic, cooling the raffinate to obtain a condensate, returning a portion of the condensate as reflux to an upper level of the rectification zone and passing the remainder of said condensate to a fractionation zone, separating the monocyclic aromatic therefrom as distillation overhead and reintroducing it into the lower level of the rectification zone.

2,981,664
ALCOHOL RECOVERY PROCESS
William E. Sisco, Bound Brook, and John S. Wiederecht, Whitehouse, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Dec. 8, 1955, Ser. No. 551,720
1 Claim. (Cl. 202—57)

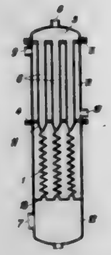
In a process of producing vitamin B_1 wherein a compound having the formula



dissolved in aqueous alcoholic solution is subjected to oxidation with hydrogen peroxide, resultant vitamin B_1 being precipitated and the precipitate collected, whereby there is produced an aqueous alcoholic effluent containing foul-smelling, sulfur-containing by-products produced during said oxidation and which impurities cannot be separated from the ethanol content of said effluent by fractional distillation, the steps which consist in adding to said effluent per hundred parts ethanol from about 0.1 to about one part of an alkali permanganate and from about 0.5 to about five parts of an alkali metal hydroxide, heating the resultant mixture to about its boiling temperature, subjecting the heated solution to fractional distillation and collecting the ethanol distillate, whereby an ethanol distillate free from foul-smelling constituents is obtained.

2,981,665
INTERNAL STRUCTURE FOR HEAT AND MASS EXCHANGING COLUMNS
Hans-Joachim Kloss, Hilden, Germany, assignor to Julius Montz K.G., Apparatebau, Hilden, Germany
Filed Mar. 18, 1958, Ser. No. 722,350
Claims priority, application Germany Mar. 18, 1957
7 Claims. (Cl. 202—158)

1. In a heat and mass exchanger column, in combination, an elongated hollow substantially vertical enclosure having a vapor inlet and a vapor outlet located at a higher elevation than said inlet so that vapor entering said enclosure through said inlet moves upwardly along the interior of said enclosure to said outlet; condensing means located in said enclosure at an elevation higher than said inlet and lower than said outlet for condensing at least some of the vapor moving upwardly along the interior of said enclosure toward said outlet; and a plurality of elongated liquid film supporting elements arranged substantially vertically in said enclosure at an elevation higher than said inlet and beneath said condensing means communicating with the latter to receive the condensed liquid therefrom and to guide the liquid in the form of film along said film supporting elements downwardly in said enclosure in countercurrent to the upwardly moving vapor, said plurality of film supporting elements each having a length several times



greater than the distance between its ends and said film supporting elements being located close to but out of contact with each other and out of contact with said enclosure so that the condensed liquid received by each supporting element is forced to flow along the whole length of the respective element and so that the film on each supporting element can be enveloped in the vapor.

2,981,666
PROCESS FOR THE PRODUCTION OF METALLIC NIOBIUM OR TANTALUM BY AN ELECTROLYTIC METHOD
Fritz Kern, Binningen, Switzerland, assignor to Ciba Limited, Basel, Switzerland
No Drawing. Filed July 21, 1958, Ser. No. 749,599
Claims priority, application Switzerland Aug. 9, 1957
3 Claims. (Cl. 204—64)

1. In a process for the electrolysis of a member selected from the group consisting of niobium pentachloride and tantalum pentachloride in an oxygen-free halide melt comprising a fluoride selected from the class consisting of alkaline earth metal and alkali metal fluorides, wherein the melt is electrolysed at an anodic current density below the critical value for the anode effect, wherein the anodic current density is adjusted in relation to the temperature and fluoride content of the melt so as to be at most equal to

$$\frac{T-5.6(T-750)}{A.e^{0.1A}}+\frac{A}{2.4}\left(1+\frac{T-750}{100}\right)[\text{amp./dm.}^2]$$

in which T is the temperature in degrees centigrade, e is the Euler number, and A is the percentage of fluorine present in the melt, and wherein the pentachloride vapor is continuously introduced into the melt during electrolysis, the step of adjusting the fluoride content of the melt to the quantity of pentachloride introduced so that it is at least equal to the amount required to bind the pentachloride.

2,981,667
ELECTROCHEMICAL MANUFACTURE OF HALOHYDRINS
Robert W. Foreman, Cleveland, Lorraine S. Szabo, Chagrin Falls, and Franklin Veatch, Lyndhurst, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 29, 1958, Ser. No. 783,175
8 Claims. (Cl. 204—81)

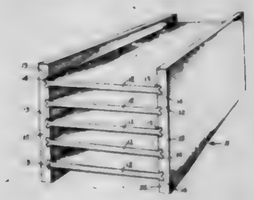
1. A process for the manufacture of halohydrins which comprises subjecting an aqueous solution of an α,β-unsaturated carbonylic compound to the action of a direct electric current in an electrolytic cell in the presence of

a hydrogen halide selected from the group consisting of hydrogen chloride, hydrogen bromide, and hydrogen iodide.

2,981,668
METHOD FOR IMPROVING THE PROPERTIES OF POLYMERIZED MATERIALS
Arno Brasch, Brooklyn, N.Y., assignor to Electronized Chemicals Corporation, Brooklyn, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 11, 1954, Ser. No. 409,758
6 Claims. (Cl. 204—154)

1. The method of providing a molded polyethylene article which will not be deformed in boiling water, which comprises molding said article from polyethylene and subsequently subjecting said molded article to ionizing penetrating radiation in the form of high energy electrons until said molded article has received a dose of not less than one million rep.

2,981,669
REACTOR FUEL PLATE ASSEMBLY AND METHOD
Harry R. Brand, Hicksville, and Eli I. Schefer, Plainview, N.Y., assignors to Sylvania-Corning Nuclear Corporation, a corporation of Delaware
Filed Oct. 22, 1958, Ser. No. 769,009
3 Claims. (Cl. 204—154.2)

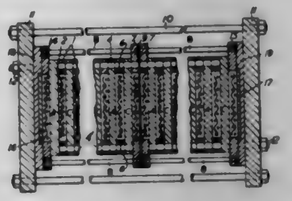


1. The method of joining a plurality of fuel plates with a supporting member in a reactor fuel assembly comprising longitudinally splitting an edge of each of said plates, stacking said plates in spaced, overlying relationship with their split edges in registration with each other, spacing each of said plates from the other with a removable block, clamping said stack of plates and blocks together, forming on said supporting member a plurality of tapered channels, each having an outwardly disposed wedge surface on its innermost face, registering said channels with said split edges of said stacked plates, forcing the split edges of the stacked plates into the channels and against the wedges thereof, and spreading the split edges around the wedges and into conforming relationship with the sides of the tapered channels.

2,981,670
IRRADIATION OF OLEFINS AND MIXTURES THEREOF WITH ALCOHOLS
Charles E. Stoops and James M. Day, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Nov. 21, 1955, Ser. No. 548,233
11 Claims. (Cl. 204—158)

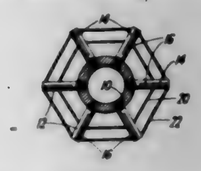
1. A process of making a high molecular weight alcohol which comprises subjecting a mixture containing a low molecular weight alcohol and an olefin to ionizing radiation having an energy level of at least 28 e.v. at a level of 10^3 to 10^{19} roentgens per hour for a time sufficient to produce a total dosage of 10^6 to 10^{11} roentgens, the amount of said olefin employed being from 0.1 to 100 mols per mol of said alcohol employed, recovering the resulting solid products, and separating said high molecular weight alcohol from said solid products.

2,981,671
METHOD OF REDUCING SCALE FORMATION IN ELECTRODIALYTIC CELLS
Benjamin Kenneth Griffiths, London, England, assignor to The Permutit Company Limited
Filed Dec. 15, 1958, Ser. No. 780,532
Claims priority, application Great Britain Dec. 19, 1957
6 Claims. (Cl. 204—180)



1. In a process for removing ions from aqueous solution by passage of the solution through every alternate compartment of a multi-compartment electrodialysis cell containing alternating cation-selective and anion-selective membranes, ions to be removed passing through both the membranes bounding each such compartment into another solution passing through the remaining compartments, and the process being such that scale forms on some but not all of the membranes, the improvement comprising substituting for at least some of the selective membranes on which scale forms only by membranes of sufficiently lower selectivity to produce a substantial decrease in scaling, not more than one membrane of any compartment being substituted by a non-selective membrane.

2,981,672
NUCLEAR REACTOR FUEL ELEMENT
Walter E. Kingston, Bayside, N.Y., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 29, 1952, Ser. No. 268,801
4 Claims. (Cl. 204—193.2)



1. In a nuclear reactor a wire fuel element comprising a core of uranium concentrically disposed within and bonded to an intermediate sheath of aluminum and an outer metal sheath bonded to and concentric with said intermediate sheath, the metal of said outer sheath being selected from the group consisting of beryllium, zirconium and stainless steel.

2,981,673
NUCLEAR FUEL ASSEMBLY LOCKING JOINT AND METHOD
Ralph B. Johnson, Huntington, N.Y., assignor to Sylvania-Corning Nuclear Corporation, a corporation of Delaware
Filed Oct. 22, 1958, Ser. No. 768,901
18 Claims. (Cl. 204—193.2)

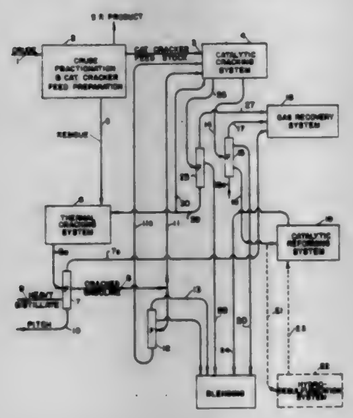
1. A nuclear reactor fuel assembly comprising a fuel plate containing fissionable material, a supporting member having a channel along one of its surfaces, said channel having a groove along one of its faces, said fuel plate having a corresponding groove, a portion of said fuel plate disposed within said channel with said grooves

in registration to define a passage, and stressed locking means disposed in said passage for exerting pressure



against said grooves to maintain said fuel plate and said supporting member in tightly interlocked relation without voids.

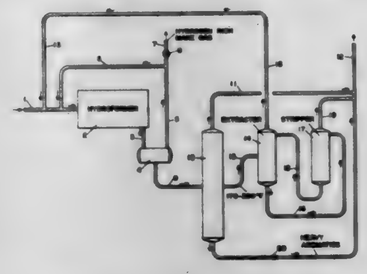
2,981,674
PRODUCTION OF GASOLINE BY THERMAL CRACKING, CATALYTIC CRACKING AND REFORMING
George M. Good, Port Chester, N.Y., assignor to Shell Oil Company, a corporation of Delaware
Filed Oct. 24, 1955, Ser. No. 542,151
4 Claims. (Cl. 208—70)



1. A process for the production of gasoline from heavy hydrocarbon oil which comprises subjecting a heavy hydrocarbon oil to thermal cracking under conditions to produce an olefinic thermally cracked gasoline, separating from the thermally cracked gasoline thus produced the lower boiling part up through about C_6 hydrocarbons, catalytically cracking the remainder of the thermally cracked gasoline by itself at a temperature above 900° F. and at a severity to crack most of the olefins to lower boiling products, separating said lower boiling products and subjecting the remainder to a catalytic reforming treatment with a dehydrogenation catalyst.

2,981,675
SUBSEQUENT TREATMENT OF A NAPHTHA REFORMATE TO OBTAIN A HIGH OCTANE GASOLINE
Charles E. Hemminger, Westfield, and Donald D. MacLaren, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,629
10 Claims. (Cl. 208—95)

1. The process for producing from a wide boiling naphtha an extremely high octane gasoline which comprises the steps of hydroforming the naphtha feed at 850° to 1050 F., passing hydroformate to distillation, separating overhead a cut boiling below about 165° F., containing C_6 paraffins low in octane number, separating as bottoms a cut boiling above about 300° F., passing overhead and bottoms to gasoline blending, passing the intermediate cut boiling in the range of 165° to 300° F. to aromatics separation, separating aromatics from said intermediate cut, passing non-aromatics material from said intermediate cut



back to hydroforming with said feed at 850° to 1050° F., and passing separated aromatics of the intermediate cut to gasoline blending with the other fractions boiling below about 165° F. and above about 300° F. from the distillation step.

2,981,676
PROCESS FOR REVIVIFYING CONTAMINATED CRACKING CATALYSTS
Clark Edward Adams, Leslie Mandeville Addison, and Warren Maxwell Smith, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed May 1, 1956, Ser. No. 581,836
17 Claims. (Cl. 208—120)

1. A process for revivifying a contaminated silica-alumina cracking catalyst which comprises heating a conventionally regenerated silica-alumina catalyst containing between about 0.05% and 0.5% by weight of an inorganic alkaline metal oxide to a temperature between about 1250° F. and 1750° F. for a time between about 1 and 3 hours in the substantial absence of steam.

8. A process for restoring selectivity and activity to a cracking silica-alumina catalyst contaminated during cracking which comprises adding to said catalyst a small amount of alkaline material selected from the group consisting of alkali metal oxides and alkaline earth metal oxides so that the said catalyst will contain between about 0.05% and 0.5% by weight of said alkaline material and then heat treating the treated catalyst for about 1 to 3 hours at a temperature between about 1250° F. and 1750° F. in the substantial absence of steam.

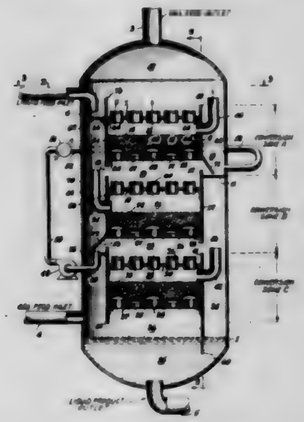
13. In a process for the catalyst cracking of hydrocarbons to produce lower boiling hydrocarbons wherein silica-alumina catalyst particles containing between about 0.05% and 0.5% by weight of an inorganic alkaline metal oxide are circulated in a system between a regeneration zone maintained at a temperature between about 900° F. and 1150° F. and a cracking zone maintained at a temperature between about 850° F. and 1000° F. and the catalyst particles become contaminated during cracking after a period of use and the selectivity and the activity of the silica-alumina catalyst are reduced, the improvement which comprises withdrawing regenerated silica-alumina catalyst of reduced activity and selectivity from said regeneration zone and passing it to a heat treating zone, heating said withdrawn regenerated catalyst in said heat treating zone to a temperature between about 1250° F. and 1750° F. substantially at atmospheric pressure in the substantial absence of steam for about 1 to 3 hours, and then returning the so-heated catalyst from said heat treating zone to said regeneration zone.

2,981,677

CONVERSION OF LIQUID HYDROCARBON IN THE PRESENCE OF A GASEOUS REACTANT AND PARTICLE-FORM SOLID CATALYTIC MATERIAL

Vernon O. Bowles, Rye, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed May 28, 1957, Ser. No. 662,286
6 Claims. (Cl. 208—146)



5. A method of hydrocarbon conversion which comprises establishing a plurality of conversion zones at reaction temperature and pressure each containing a static bed of particle-form solid catalyst, introducing predominantly liquid hdrocarbon at reaction temperature and pressure into the first of said conversion zones, flowing said predominantly liquid hydrocarbon successively from said first conversion zone through each intermediate conversion zone and through said last conversion zone in contact with said catalyst in each of said zones, introducing gaseous reactant at reaction pressure and at least reaction temperature into the last of said conversion zones, flowing gaseous reactant successively from said last conversion zone through each intermediate conversion zone and through said first conversion zone in contact with said catalyst in each of said zones, in each of said conversion zones the liquid hydrocarbon being introduced at one side of said static bed of catalyst and the gaseous reactant being introduced at the opposing side of said static bed of catalyst, whereby the flow of liquid hydrocarbon and gaseous reactant is countercurrent in each of said conversion zones, withdrawing gaseous reactant from said first zone, and withdrawing treated liquid hydrocarbon from said last zone.

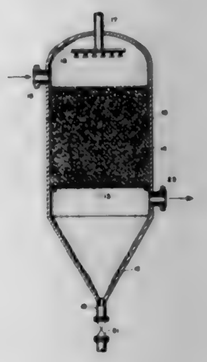
2,981,678

BASIC NITROGEN REMOVAL FROM HYDROCARBONS WITH AN ALKALINE BISULFATE

Weigert C. Buningh, Amsterdam, and Willem J. Pieters, The Hague, Netherlands, assignors to Shell Oil Company, a corporation of Delaware

Filed Sept. 15, 1958, Ser. No. 761,229
Claims priority, application Netherlands Dec. 20, 1957
4 Claims. (Cl. 208—254)

1. In a process for removing basic nitrogen compounds from a liquid hydrocarbon with an alkaline bisulfate material selected from the group consisting of ammonium bisulfate, sodium bisulfate, potassium bisulfate, lithium bisulfate, and mixtures thereof, the improvement comprising passing the liquid hydrocarbon containing from 0.005 to 0.05 percent by weight basic nitrogen and containing a small amount of added water into contact with a solid bed of said bisulfate and there reacting at least a substantial portion of the nitrogen bases with the bisulfate material to form a water-soluble, oil-insoluble reaction product, said added water being present in an amount effective to remove the water-soluble, oil-insoluble reaction product from the bed, removing the hydrocarbon and its associated water to a separation zone, and there phase separating the liquid hydrocarbon now characterized by a reduced nitrogen content from the added water which contains said reaction product dissolved therein.

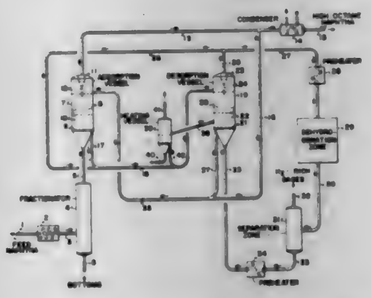


2,981,679

MOLECULAR SIEVE PROCESS FOR UPGRADING NAPHTHA WHEREIN THE DESORBED STRAIGHT CHAIN HYDROCARBONS ARE DEHYDROGENATED AND USED AS DESORBING AGENTS

John W. Herrmann, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed June 4, 1957, Ser. No. 663,403
10 Claims. (Cl. 208—310)



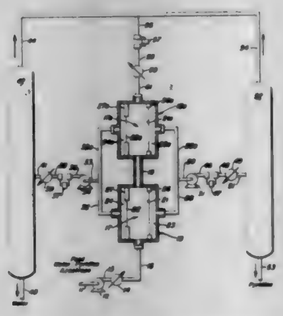
1. A process for upgrading a light virgin naphtha containing normal paraffins in the C_5 to 175° F. boiling range which comprises: contacting said naphtha with a molecular sieve adsorbent having pore diameters of about 5 A., selectively adsorbing said normal paraffins upon said molecular sieve and desorbing olefins adsorbed thereon, said olefins having the same number of carbon atoms per molecule as said normal paraffins; withdrawing and recovering a product stream containing said desorbed olefins and unadsorbed constituents of said naphtha; desorbing said normal paraffins from said adsorbent and concomitantly adsorbing olefins having the same number of carbon atoms per molecule as said normal paraffins thereon; dehydrogenating at least part of the said desorbed normal paraffins to the corresponding olefins in a dehydrogenation zone; and thereafter passing thus formed olefins and unconverted normal paraffins from said dehydrogenation zone to said normal paraffin desorption step.

2,981,680

SEPARATION OF MIXTURES

Robert C. Binning, Texas City, Tex., assignor, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Mar. 28, 1957, Ser. No. 649,142
5 Claims. (Cl. 210—23)



1. A process for the separation of molecular solutions of a mixture of components A and B which comprises introducing said mixture into the feed zone of a permeation apparatus, which permeation apparatus is comprised of an enclosed vessel containing a feed zone and two non-communicating permeate zones A_1 and B_1, two dissimilar permeation membranes A_2 and B_2 of different composition positioned within said enclosed vessel which membranes serve as boundaries for the feed zone and separate the feed zone from the two non-communicating permeate zones, permeation membrane A_2 separating the feed zone from permeate zone A_1 and permeation membrane B_2 separating the feed zone from permeate zone B_1, permeation membrane A_2 being selective for the preferential permeation of component A and permeation membrane B_2 being selective for the preferential permeation of component B; permeating the mixture in the feed zone through said permeation membranes A_2 and B_2 and into the separate permeate zones A_1 and B_1; separately withdrawing the permeated portions from the permeate zones A_1 and B_1, and maintaining the compositions of the permeated portions and the composition of the mixture in the feed zone approximately constant by employing amounts of effective surface areas of the dissimilar permeation membranes A_2 and B_2 in ratios relative to each other such that if the permeating portions were to be combined at any given instant the composition of the combined mixture which would be obtained would correspond approximately to the composition of the feed mixture.

2,981,681

MASS TRANSFER PROCESS

Arthur K. Dunlop, Berkeley, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Feb. 11, 1958, Ser. No. 714,464
7 Claims. (Cl. 210—24)

1. The cyclic process for transferring components from a first liquid mixture to a solid capable of sorbing said components and subsequently removing said components from said solid by contact with a second liquid which comprises passing said first liquid mixture in a substantially continuous stream downwardly through a bed of stationary particles of said solid, also passing downwardly through said bed simultaneously with said liquid a stream of inert fluid in vapor phase in an amount such that the vapor withdrawn from said bed is at least ten volumes per volume of said liquid and recovering as effluent liquid denuded of said transferred components, discontinuing passage of said first mixture before said components appear in substantial concentration in the effluent, then passing said second liquid downwardly through said bed while simultaneously passing through said bed inert fluid in vapor phase, and recovering as effluent said second liquid enriched in the previously-sorbed component, discontinuing flow of said second liquid after the solid has been regenerated and repeating contact of said solid with said first liquid.

2,981,682

CHLORINATION OF WATER SOLUBLE IRON CYANIDE COMPOUNDS USING MERCURIC CHLORIDE CATALYST

Leslie E. Lancy, Ellwood City, Pa., assignor to Lancy Laboratories, Inc., Zelienople, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 6, 1959, Ser. No. 797,569
18 Claims. (Cl. 210—62)

1. A method of conditioning waste containing cyanide compounds and at least iron cyanide which comprises, chlorinating the waste and converting the iron cyanide into an intermediate iron cyanide reaction product, and completing the chlorination of the intermediate iron cyanide in the presence of a mercury chloride catalyst into a non-toxic iron compound.

2,981,683

TRANSPORTATION OF WAXY OILS

Warren C. Simpson, Berkeley, and Harry J. Sommer, Lafayette, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Jan. 14, 1958, Ser. No. 708,763
9 Claims. (Cl. 252—8.3)

1. In a process for transporting waxy oils through pipe-lines, the steps of mixing a waxy oil having a pour point above about 75° F. with water to form an oil-in-water suspension, and effecting said mixing under conditions whereby the equilibrium temperature of the resulting oil-in-water suspension is above the freezing point of water but below that defined by the general formula

$$T_e = 0.6T_p + 30$$

wherein T_e is the equilibrium temperature in degrees Fahrenheit, and T_p is the pour point of the waxy oil, also in degrees Fahrenheit.

2,981,684

METHOD OF PARAFFIN DEPOSITION CONTROL

Paul M. Barnes, St. Charles, Mo., Olen L. Riggs, Ponca City, Okla., and Albert H. Roebuck, Midland, Tex., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed July 15, 1958, Ser. No. 748,602
6 Claims. (Cl. 252—8.3)

1. A process of controlling deposition of paraffin and the like from crude oil in oil producing and transporting equipment, comprising incorporating in the oil a dispersing agent consisting essentially of from about 10 to 1000 parts of an acylated hydroxy compound selected from the group consisting of acetyl tributyl citrate, stearoyl ethyl glycolate, and lauroyl amyl lactate, per million parts of the oil.

2,981,685

LUBRICATING OIL THICKENED TO A GREASE WITH ASPHALTENE ABSORBED CLAY

Donald E. Loeffler, Walnut Creek, Calif., assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Apr. 13, 1959, Ser. No. 805,715
5 Claims. (Cl. 252—28)

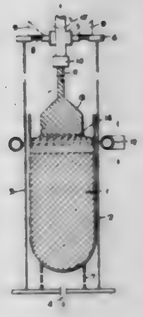
1. A grease composition consisting essentially of a lubricating oil gelled to a grease consistency with a grease-

forming proportion of a colloidally dispersed clay, said clay having absorbed on the surfaces thereof a hydrophobing amount of asphaltenes.

2,981,686
METAL WORKING LUBRICANTS
Thomas E. Reamer, El Cerrito, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Oct. 30, 1958, Ser. No. 770,592
10 Claims. (Cl. 252—33.6)

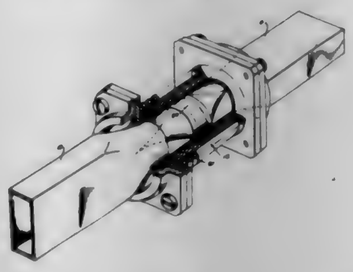
1. An aqueous metal-working lubricant comprising a major amount of water and from about 0.5% to 15% each of (1) a water-soluble normal alkali metal salt of an alkylene poly(mercaptoalkylene carboxylic acid), said compound having from 1 to 4 carboxyl groups in the molecule and the alkylene radical being selected from the group of methylene, ethylene and butylene radicals, (2) a water-soluble hetero-copolymer of a mixture of randomly distributed ethylene and propylene oxides in the molecular ratio of from 75:25 to 10:90, respectively, having a molecular weight of from about 250 to about 1500, and (3) a water-soluble alkanolamine.

2,981,687
PRODUCTION OF MONO-CRYSTAL SEMI-CONDUCTOR BODIES
John Llewellin Parmee, Rugby, England, assignor to The British Thomson-Houston Company Limited, London, England, a British company
Filed Mar. 26, 1959, Ser. No. 802,131
Claims priority, application Great Britain Apr. 3, 1958
2 Claims. (Cl. 252—62.3)



2. Process of preparing a body of mono-crystal silicon containing an impurity activator selected from the group consisting of aluminum and antimony, which consists in locating an ingot of substantially pure silicon in a vertically disposed closely surrounding quartz tube, maintaining a non-oxidizing atmosphere around said tube and ingot, locating a pellet of silicon containing said activator in contact with the upper surface of said ingot, inductively heating a zone including said pellet and the upper end of said ingot so as to cause melting of said pellet and localised melting of said ingot, introducing a seed crystal of silicon into the molten mass, and withdrawing said seed crystal from said zone whereby material adherent to said seed crystal and containing said impurity activator solidifies whilst acquiring the mono-crystal structure of said seed crystal, and heating the ingot progressively longitudinally thereof as the upper end of the ingot moves correspondingly longitudinally of the ingot with the withdrawal of molten material with the withdrawal of the seed crystal, the heating of the ingot being maintained solely in said zone to assure that only the upper end of the ingot necessary for the continuance of the supply of molten material adherent to, and for solidification behind the body withdrawn from said tube, and for the maintenance of a molten mass containing a predetermined concentration of said impurity activator is at any time in molten state contact with said tube.

2,981,688
FERRITES FOR MICROWAVE APPLICATIONS
Ernst Albers-Schoenberg, Redfield Village, Metuchen, N.J., assignor, by mesne assignments, to Steatite Research Corporation, Keasbey, N.J., a corporation of Delaware
Filed May 27, 1960, Ser. No. 32,387
5 Claims. (Cl. 252—62.5)

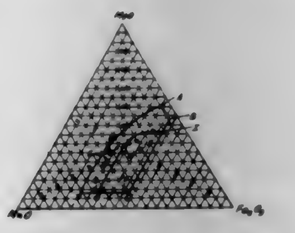


1. A ferromagnetic ferrite consisting essentially of a composition of the general formula

$$x(MgO,\ MnO,\ MO).yFe_2O_3$$

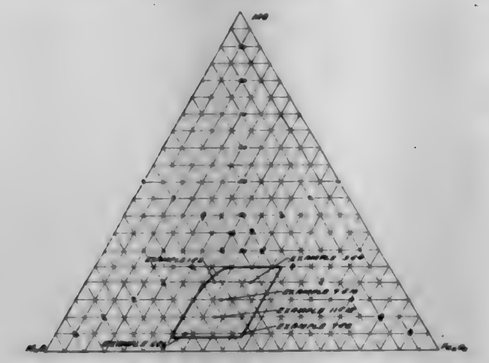
in which MO consists of at least one bivalent metal oxide selected from the group consisting of ZnO, CuO and NiO, in which x:y is between 1.2:1 and 3:1, the total amount of MO being less than 10% by weight of the entire composition, the amount of MnO being at least 1% and no more than 20% by weight of said composition, and the total amount of MO and MnO being no more than 20% by weight of said composition, said ferrite having low dielectric losses, tan δ, of no more than about 0.05 at 1 mc. and of no more than about 0.001 at 10^{10} c.p.s.

2,981,689
SQUARE LOOP FERRITES
Ernst Albers-Schoenberg, Metuchen, N.J., assignor to Steatite Research Corporation, Keasbey, N.J., a corporation of Delaware
Filed July 12, 1954, Ser. No. 442,534
Claims priority, application Canada Feb. 3, 1953
6 Claims. (Cl. 252—62.5)



1. A fired ferromagnetic ferrite body having a square hysteresis loop consisting essentially of a manganese-magnesium ferrite and consisting essentially of 8–55 mol percent of magnesia, 4–67 mol percent of manganese oxide and from 25 to about 47.5 mol percent of ferric oxide, the proportions of said components being within the A—B—C—D—E—A of Fig. 4 of the drawing.

2,981,690
FERRITES WITH SQUARE HYSTERESIS LOOPS
Ernst Albers-Schoenberg, Metuchen, N.J., assignor to Steatite Research Corporation, Keasbey, N.J., a corporation of Delaware
Filed June 18, 1957, Ser. No. 666,456
5 Claims. (Cl. 252—62.5)



1. A molded ferrite body displaying a substantially rectangular hysteresis loop consisting essentially of

manganese oxide, ferric oxide and at least three additional bivalent oxides (MO) consisting of ZnO, MgO and at least one MO selected from the group consisting of CaO and CuO;

said manganese oxide consisting of 27.5–66 mol percent of the composition;

said ferric oxide consisting of 30–47.5 mol percent of the composition;

said ZnO consisting of at least 1 mol percent of the composition;

said MgO consisting of at least 2 mol percent of the composition and when over 2 mol percent being less than the sum of the mol percentages of the CaO, CuO and ZnO components;

said ferrite containing at least 1 mol percent of the bivalent oxide selected from the group consisting of CaO and CuO;

the total proportion of the MgO, ZnO, CaO and CuO components being 4–25 mol percent of the composition.

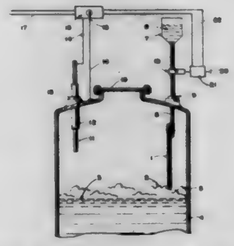
2,981,691
DETERGENT COMPOSITION
William C. York, deceased, late of Westbury, N.Y., by Ruth M. York, administratrix, Mineola, and Lloyd I. Osipow, Monsey, N.Y., assignors to W. R. Grace & Co., a corporation of Connecticut
No Drawing. Filed Oct. 27, 1958, Ser. No. 769,571
14 Claims. (Cl. 252—137)

1. A detergent composition consisting essentially of urea and a mono fatty acid ester of diglucose ureide wherein the acyl moiety attached to the glucose group of the ester contains from 8 to 24 carbon atoms in a 1 to 49:1 weight ratio respectively.

2,981,692
DETERGENT COMPOSITIONS
Horatio S. Stillo and Robert S. Kolat, East Lansing, and William R. Nummy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 4, 1957, Ser. No. 637,894
4 Claims. (Cl. 252—170)

1. A detergent composition, the detergent component of which consists of a synthetic organic detergent selected from the group consisting of anionic and non-ionic synthetic organic detergents and as an anti-redeposition agent a composition selected from the group consisting of a polymeric monovinyl ether of diethylene glycol having a free hydroxyl content between 9 and 12.8 percent and a viscosity between 1.5 and 20 centipoises (10 percent solution in water) and mixtures of said ether with a detergent grade of sodium carboxymethyl cellulose containing at least 8 weight percent of said ether, the balance being sodium carboxymethyl cellulose, the weight ratio of said anti-redeposition agent to said synthetic organic detergent ranging between about 1:10 and 1:80.

2,981,693
APPARATUS AND METHOD OF CONTROLLING FOAM
Edwin C. Browne, Waldwick, N.J., and Charles R. Sofield, Pearl River, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Jan. 17, 1958, Ser. No. 709,536
4 Claims. (Cl. 252—321)



1. Apparatus for the control of foam over foam-producing liquid which comprises a vessel adapted to hold a foam-producing liquid, a liquid absorptive defoaming element adapted to hold a quantity of an antifoam agent and to diffuse said antifoam agent into said foam only upon contact of said foam with said element, said element being suspended a short distance over said liquid in such manner as to make contact at the lower portion thereof with foam as it forms and rises to the level of the lower portion of said element and means to supply additional antifoam agent to said element.

2,981,694
REGENERATION OF SUPPORTED PLATINUM CATALYSTS
Willem Frederik Engel, Amsterdam, Netherlands, assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 19, 1955, Ser. No. 535,303
Claims priority, application Netherlands Sept. 23, 1954
5 Claims. (Cl. 252—415)

1. The method for the regeneration of a catalyst comprising platinum on a support containing at least a major amount of alumina deactivated through use in the conversion of a carbonaceous reactant and containing carbonaceous deposits which comprises, removing at least a portion of the carbonaceous deposits at a temperature below 550° C., then treating the catalyst with a gaseous mixture of an oxygen-containing gas, steam, and hydrogen chloride, the molar ratio of steam to hydrogen chloride in said gas mixture being from 100 to 2000 and the molar ratio of oxygen to hydrogen chloride being from about 1 to 100, said treatment being carried out at a temperature between about 250 and 550° C. for a time of at least one hour.

2,981,695
REGENERATION OF CARBONIZED FINELY DIVIDED CONTACT AGENTS
Norman E. Peery, San Francisco, Calif., assignor to Shell Oil Company, a corporation of Delaware
Filed June 20, 1957, Ser. No. 666,911
1 Claim. (Cl. 252—417)

In a process for the continuous regeneration of a finely divided solid catalyst contaminated with carbonaceous

deposits by burning carbonaceous contaminants from the catalysts with air, the improvement permitting an increased burning rate without the occurrence of afterburning in the presence of the catalyst which comprises continuously feeding spent catalyst to be regenerated to the bottom of a riser line regeneration zone which debouches tangentially into a centrifugal separation zone, continuously supplying air to the bottom of said riser line regeneration zone whereby the finely divided catalyst is suspended in the air and carried up through the riser regeneration zone and into said centrifugal separa-



tion zone, the rate of supplying said spent catalyst being adjusted such that the finely divided solid catalyst occupies between about 10 and 25% of the volume throughout the riser line regeneration zone and the air rate being adjusted such that the flue gas leaving the separation zone contains at least 5% oxygen on a dry basis, withdrawing regenerated catalyst from said centrifugal separation zone and passing the gas separated in said centrifugal separation zone at a velocity above the flame propagation velocity in said gas to a separate zone wherein burning takes place in the substantial absence of suspended catalyst.

2,981,696
PREPARATION OF ALUMINA-COMBINED HALOGEN COMPOSITE

George L. Hervert, Downers Grove, and Herman S. Bloch, Skokie, Ill., assignors, by mesne assignments, to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 5, 1957, Ser. No. 663,583
18 Claims. (Cl. 252—441)

1. A method for producing an alumina-combined halogen composite which comprises reacting aluminum with liquid water in the presence of a sufficient quantity of a mercury halide to yield an alumina-combined halogen composite substantially free from unreacted aluminum and containing from about 0.1% to about 8% by weight of combined halogen based on the dry weight of the composite.

9. A method for producing a catalyst which comprises reacting aluminum with liquid water in the presence of a sufficient quantity of a mercury halide to yield an alumina-combined halogen composite substantially free from unreacted aluminum, containing from about 0.1% to about 8% by weight of combined halogen and from about 40% to about 95% by weight of bayerite alumina, drying the resultant alumina-combined halogen composite at a temperature of from about 200° F. to about 600° F., and introducing to said dried composite a catalytic component selected from the group consisting of the metals and compounds of group VIII of the periodic table, and mixtures thereof.

2,981,697
ACID-TREATED CLAY PROCESS

Grant A. Mickelson, Woodstock, and Wilbur Simon and Gordon H. Tibbitts, Crystal Lake, Ill., assignors to Morton Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 21, 1958, Ser. No. 716,557
13 Claims. (Cl. 252—450)

1. A process for preparing an acid-activated decolorizing clay which comprises treating an acid-activatable subbentonite clay with from 15 to 50 dosage of hydrogen chloride in aqueous solution at a temperature above 80° C., wherein said hydrogen chloride is present in said solution in a concentration of from 5 to 25 percent with respect to aqueous components, washing said treated clay with water until substantially free of chlorides, and treating the washed clay with from 1 to 20 dosage of an acid selected from the group consisting of sulfuric acid and phosphoric acid at a temperature below about 50° C. to remove the residual chlorides, removing excess acid from the clay, and flash-drying the product wherein the clay temperature does not exceed 100° C.

2,981,698
DYNAMOELECTRIC BRUSH

Henry B. Arnold, St. Marys, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Maryland

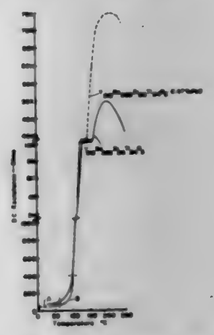
No Drawing. Filed Mar. 15, 1956, Ser. No. 571,847
3 Claims. (Cl. 252—506)

3. A dynamoelectric brush capable of sustained operation at 350° C., consisting essentially of carbon particles bonded together by a carbon bond, and metal sulfide agglomerates dispersed among the carbon particles, said sulfide being of a metal of the chromium group, said carbon particles being a size that will pass through about a 150 mesh screen, and said agglomerates being from about 4 to 35 times larger than the carbon particles, the metal sulfide forming between 2% and 20% of the weight of the brush and the bonded carbon forming substantially all of the remainder of the brush.

2,981,699
POSITIVE TEMPERATURE COEFFICIENT THERMISTOR MATERIALS

Yoshio Ichikawa, Turtle Creek, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 28, 1959, Ser. No. 862,248
10 Claims. (Cl. 252—520)



1. A thermistor body comprising the sintered composition $M_xBa_{(1-x)}Zr_yTi_{(1-y)}O_3$ with from 0.01% to 1% by weight of lead oxide intimately admixed therein, where M represents at least one rare earth metal from the group consisting of yttrium and cerium, x has a value of from 0.003 to 0.03, and y has a value of from 0.01 to 0.25.

2,981,700
PREPARATION OF CELLULAR POLYURETHANE RESINS

Earl E. Parker, Allison Park, and Keith H. Coultrap, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Allegheny County, Pa.

No Drawing. Filed June 21, 1955, Ser. No. 517,094
4 Claims. (Cl. 260—2.5)

1. A method of forming a foamed polyurethane resin which comprises mixing and foaming two components, (A) and (B), component (A) being an emulsion of (1) a polyester which is the esterification product of a dicarboxylic acid and a mixture of a pair of alcohols, one alcohol being dihydric and being selected from the group consisting of ethylene glycol, propylene glycol, dipropylene glycol, and polyethylene glycol, and the second alcohol being polyhydric and being selected from the group consisting of glycerol, pentaerythritol, trimethylolethane, trimethylolpropane, and mannitol, said polyester being of a hydroxyl value in the range of about 50 to about 600, and an acid number in the range of about 1 to about 20, (2) about 0.23 to 10 percent of water, (3) about 1 to 10 percent of an emulsifying agent, and (4) about 0.2 to 10 percent of a tertiary amine, the foregoing percentages being based upon the polyester; component (B) being a reaction product of a polyester of a dicarboxylic acid and a mixture comprising a pair of alcohols, one alcohol being dihydric and being selected from the group consisting of ethylene glycol, propylene glycol, dipropylene glycol, and polyethylene glycol, and the other alcohol of the mixture being a polyhydric alcohol and being selected from the group consisting of glycerol, pentaerythritol, trimethylolethane, trimethylolpropane, and mannitol, the latter-mentioned of said polyesters being of a hydroxyl value in the range of about 50 to about 600, and an acid number in the range of about 1 to 20, the reaction product containing about 25 to about 1000 parts by weight per 100 parts by weight of polyester of an organic diisocyanate, the ratio in parts by weight of the polyester in said reaction product in component (B) to the polyester in component (A) being within a range between about 4:1 and about 1:2.

2,981,701
CURABLE ALIPHATIC POLYEPOXIDE COMPOSITIONS

William E. St. Clair, Pittsburgh, and Roy H. Moult, Butler, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Jan. 13, 1958, Ser. No. 708,407
5 Claims. (Cl. 260—18)

1. A composition which cures at room temperature to an insoluble, infusible, resinous material that is resistant to attack by moisture, high temperature, solvents, chemicals, and that is useful as an adhesive coating or casting compound, comprising an aliphatic polyepoxide having from 4–6 carbon atoms and a curing agent selected from the group consisting of solid aromatic polyamines and solid polyamides that are the condensation product of ethylene diamine and fatty acids, said agent containing two or more nitrogen atoms each of which has attached thereto one or more hydrogen atoms for reaction with the oxirane oxygen of said polyepoxide, the ratio of said polyepoxide and said curing agent being such as to provide .8 to 1.4 equivalents of hydrogen per equivalent of oxirane oxygen in said aliphatic polyepoxide.

2,981,702
CURABLE EPOXY PHENOL ALDEHYDE-ALIPHATIC POLYEPOXIDE COMPOSITIONS

William E. St. Clair, Pittsburgh, and Roy H. Moult, Butler, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Jan. 13, 1958, Ser. No. 708,384
6 Claims. (Cl. 260—19)

1. A composition that is curable at room temperature to a hard infusible state comprising a fusible epoxy alkoxy phenol aldehyde resin containing at least 3 phenolic groups per molecule and having a molar ratio of epoxy groups to phenolic groups of at most one, an aliphatic polyepoxide, and a solid aromatic polyamine in an amount sufficient to yield 0.8 to 1.4 equivalents of amino hydrogen per equivalent of epoxy groups in said fusible epoxy alkoxy phenol aldehyde resin and said aliphatic polyepoxide.

2,981,703
PROCESS FOR PRODUCING AQUEOUS STOVING VARNISHES

Herbert Hoenel, Graz, Austria, assignor to Vianova Kunstharz Aktiengesellschaft, Vienna, Austria, a corporation of Austria

No Drawing. Filed Oct. 24, 1956, Ser. No. 617,923
Claims priority, application Austria Nov. 22, 1955
9 Claims. (Cl. 260—20)

1. An improved process for producing a water-soluble resinous composition which comprises the steps of treating an ethylenically unsaturated, plasticized alkyd resin with an oxidizing agent selected from the group consisting of hydrogen peroxide and organic peroxides, said alkyd resin having an acid number of at least about 40 and a hydroxyl equivalent number of about 145–400, the number of hydroxyl groups being substantially greater than carboxyl groups; combining said treated alkyd resin with a hydrophilic, hardenable, low molecular weight methylol compound selected from the group consisting of (*a*) a reaction product of formaldehyde and a phenol, said phenol having only one phenolic hydroxyl group per aryl nucleus and at least a portion of the phenol being blocked in one position selected from the group consisting of ortho and para in relation to the phenolic hydroxyl group and (*b*) a reaction product of formaldehyde and a compound selected from the group consisting of urea and melamine, said reaction product (*b*) being partially etherified with a low molecular weight monohydric aliphatic alcohol; neutralizing the mixture with a water-soluble base selected from the group consisting of ammonia and strong organic nitrogen bases.

2,981,704
WATER REPELLENT, METHOD OF IMPREGNATING TEXTILES WITH SAME, AND TEXTILES BEARING SAME

William F. Herbes, Somerville, and Andrews C. Wintringham, Glen Ridge, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 12, 1956, Ser. No. 577,673
17 Claims. (Cl. 260—21)

1. A composition of matter which comprises an aqueous dispersion of from about 40 to about 1000 parts by weight of a thermosetting resin of the group consisting of water soluble alkylated methylol melamines, water soluble alkylated methylol ureas, and methylol alkylene ureas; 100 parts by weight of a hydrophobic nitrogenous compound having an alkyl radical of at least 7 carbon atoms and containing a nitrogen atom having attached thereto a carbonyl radical and a reactive substituent of the group consisting of hydrogen and alkylol radicals joined to said nitrogen atom; about 4.5 to about 11 parts by weight of an alkali soap of a higher fatty acid con-

taining between 7 and about 30 carbon atoms; and between about 2 and about 20 parts by weight of a nonionic surface-active agent of the group consisting of water-dispersible higher fatty acid esters of sorbitan, condensates of between 5 and 50 mols of ethylene oxide with a water-insoluble alkyl phenol wherein the alkyl group contains between 7 and 30 carbon atoms, condensates of between 5 and 50 mols of ethylene oxide with higher fatty acids of from about 8 to about 30 carbon atoms, condensates of from between 5 and 50 mols of ethylene oxide with from about 8 to about 30 carbon atom higher fatty acid esters of sorbitan, condensates of between 5 and 50 mols of ethylene oxide with from about 8 to about 30 carbon atom higher fatty acid esters of sorbitol wherein all parts by weight are relative with respect to 100 parts by weight of said hydrophobic nitrogenous compound.

2,981,705

ALKYD RESINS MODIFIED WITH 2,5-DIHYDROXYBENZOIC ACID

Raymond L. Heinrich, Baytown, Tex., and David A. Berry, Columbus, and Robert L. Christian, Gahanna, Ohio, assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Oct. 2, 1959, Ser. No. 843,917
3 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalent of a modifier component consisting of about 35 to 45 mol percent of an unsaturated fatty acid and, correspondingly, about 65 to 55 mol percent of 2,5-dihydroxybenzoic acid.

2,981,706

ALKYD RESINS MODIFIED WITH PARA-HYDROXYPHENYLACETIC ACID

Raymond L. Heinrich, Baytown, Tex., and David A. Berry, Columbus, and Robert L. Christian, Gahanna, Ohio, assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Oct. 2, 1959, Ser. No. 843,918
3 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalent of a modifier component consisting of about 35 to 45 mol percent of an unsaturated fatty acid and, correspondingly, about 65 to 55 mol percent of para-hydroxyphenylacetic acid.

2,981,707

ALKYD RESIN COMPOSITIONS CONTAINING 5-BROMOSALICYLIC ACID

Raymond L. Heinrich, Baytown, Tex., and David A. Berry, Columbus, and Robert L. Christian, Gahanna, Ohio, assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Oct. 7, 1959, Ser. No. 844,867
3 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalent of a modifier component consisting of about 35 to 65 mol percent of an unsaturated fatty acid and, correspondingly, about 65 to 35 mol percent of 5-bromosalicylic acid.

2,981,708

RAPID DRYING ALKYD COATING EMPLOYING 3-HYDROXY-2-NAPHTHOIC ACID

Raymond L. Heinrich, Baytown, Tex., and David A. Berry, Columbus, and Robert L. Christian, Gahanna, Ohio, assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Oct. 26, 1959, Ser. No. 848,524
3 Claims. (Cl. 260—22)

1. An alkyd resin composition comprising the intercondensation product of about 3.1 to about 3.4 mol equivalents of a polyol containing an average of from about 2.5 to 4.5 hydroxyl groups per molecule with from about 2 to 2.5 mol equivalents of a polycarboxylic acid and, correspondingly, from about 1 to about 0.5 mol equivalent of a modifier component consisting of about 20 to 80 mol percent of an unsaturated fatty acid and, correspondingly, about 80 to 20 mol percent of 3-hydroxy-2-naphthoic acid.

2,981,709

METHOD OF PRODUCING RUBBER LATEX

John Y. L. Kao, Lombard, Ill., assignor to F. D. Farnam Co., a corporation of Illinois

No Drawing. Filed Feb. 8, 1957, Ser. No. 638,920
3 Claims. (Cl. 260—23.7)

1. In the emulsion polymerization of unsaturated monomeric materials to produce a synthetic rubber latex which upon processing and vulcanizing yields a product of improved resistance to water and petroleum products, the improvement which comprises using as essentially the sole emulsifying agent in forming an aqueous emulsion of said monomeric materials the soluble salt of an unsaturated fatty acid having an iodine number greater than about 100.

2,981,710

WATER SOLUBLE HARDENABLE RESINOUS COMPOSITIONS

Herbert Hoenel, Graz, Austria, assignor to Vianova Kunstharz Aktiengesellschaft, Vienna, Austria, a corporation of Austria

No Drawing. Filed Oct. 24, 1956, Ser. No. 617,922
Claims priority, application Austria Nov. 22, 1955
16 Claims. (Cl. 260—29.3)

1. A substantially neutral composition of matter being water dilutable, which comprises the following components: (I) a low molecular weight resol of formaldehyde and a phenol in which the total number of positions on the benzene ring which are reactable with formaldehyde, selected from a group consisting of ortho- and para- in relation to the phenolic hydroxy groups is essentially two, said resol having at least one carboxylic group chemically bonded to the resol and an acid number ranging between 100 and 250; (II) a plasticizing alkyd resin which has an acid number of at least 35 and which due to its being obtained from an excess of hydroxy compounds has a free hydroxyl value of from 200–400 and; (III) a water soluble base selected from the group consisting of ammonia and strongly basic amines.

2,981,711

HARDENABLE MIXTURES OF POLYGLYCIDYL ETHERS

Ferdinand Meyer, Mannheim, Kurt Demmler, Heidelberg, and Oskar Liemer, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 31, 1955, Ser. No. 534,384
Claims priority, application Germany Sept. 2, 1954
9 Claims. (Cl. 260—31.2)

1. A hardenable lacquer and molding mixture comprising

(*a*) a polyglycidyl ether of a compound selected from the class consisting of polyhydric alcohols and polyhydric phenols and

(*b*) as a hardening agent a diamine of the general formula

$$NH_2—A—R_{(n-1)}—B—NH_2$$

in which A and B are divalent cyclohexane rings, R is a bivalent radical selected from the group consisting of methylene, ethylene, propylene, butylene, —O—, —S—, —NH— and —NH—CO—NH, and *n* is an integer from 1 to 2, the diamine being present in the hardenable mixture in an amount between 50 percent and 300 percent of the amount needed to furnish one hydrogen atom linked with nitrogen for each epoxy group.

2,981,712

COATING COMPOSITIONS

Lee Richard Harper, Media, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 1, 1957, Ser. No. 668,844
1 Claim. (Cl. 260—32.8)

A stable, air-drying liquid organic coating composition prepared by mixing under substantially anhydrous conditions (*a*) 100 parts by weight of a polyester polymer solution, said solution consisting essentially of 10 parts by weight of xylene and 90 parts by weight of a polyester polymer having a molecular weight of about 1100, an acid number of about 0.05, a hydroxyl number of about 101 and containing an average of about 2 hydroxyl groups per molecule, (*b*) 8.4 parts by weight of pentane diol, (*c*) 21.7 parts by weight of trimethylol propane and (*d*) 0.2 parts by weight of N,N-dimethyl cyclohexyl amine; heating said mixture to a temperature of about 35° C.; adding to said heated mixture 112.6 parts by weight of a tolylene diisocyanate isomeric composition whereby the temperature of said mixture upon the addition of said tolylene diisocyanate isomeric composition rises to about 135° C., said isomeric composition consisting of 80 percent by weight of 2,4-tolylene diisocyanate and 20 percent by weight of 2,6-tolylene diisocyanate and containing 0.02 percent by weight based on the weight of said diisocyanate of chlorine; cooling the resulting mixture to about 95° C.; adding thereto 104 parts by weight of anhydrous methyl isobutyl ketone followed by heating at 80–90° C. for 3.5 hours.

2,981,713

POLYESTER MOLDING COMPOSITION

James S. Hanson, Norwalk, Conn., assignor to The Fairbanks Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 28, 1957, Ser. No. 692,560
12 Claims. (Cl. 260—40)

1. A molding composition comprising (1) as a binder, a mixture of (*a*) an unsaturated polyester resin having an acid number of about 5 to 50 and obtained by reaction of a glycol with a member of the group consisting of α-ethylenically unsaturated-α,β-dicarboxylic acids and mixtures containing at least about 20% by weight of said unsaturated dicarboxylic acids with saturated dicarboxylic acids, and (*b*) about 0.4 to 0.65 part by weight of styrene per part of said unsaturated polyester resin, and, for each part by weight of said binder, (2) about 0.003 to 0.05 part of an organic peroxide catalyst for accelerating the copolymerization of said styrene and polyester resin, (3) about 0.5 to 0.7 part of a fibrous filler consisting essentially of cloth pieces of about 0.5 to 4 square inches in area and made of molecularly oriented, high tenacity, hydrophobic, synthetic, organic, thermoplastic, linear polymeric fibers melting above about 450° F., and (4) about 0.4 to 0.6 part of finely divided kaolin.

2,981,714

IMPROVING OZONE RESISTANCE OF BUTYL RUBBERS

Augustus B. Small, Westfield, Leon Sherwood Minckler, Jr., Metuchen, John L. Ernst, Westfield, and Francis P. Ford, Watchung, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 9, 1958, Ser. No. 747,336
14 Claims. (Cl. 260—45.7)

1. A vulcanizate which comprises 100 parts of an unvulcanized rubbery polymer selected from the group consisting of butyl rubber copolymer of major C_4 to C_7 isoolefin with minor C_4 to C_{10} diolefin, halogenated butyl rubber copolymer of major C_4 to C_7 isoolefin with minor C_4 to C_{10} diolefin, and polychloroprene, which has been compounded with 2 to 20 parts of a dimer of a cyclic diene hydrocarbon selected from the group consisting of dicyclopentadiene and dimethylcyclopentadiene and subsequently cured at a temperature between 100 and 200° C. for 5 minutes to 5 hours to provide said vulcanizate therefrom with increased ozone resistance.

2,981,715

STABILIZATION OF POLYAMIDES WITH ALKARYL PHOSPHINATES

Victor R. Ben, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 2, 1958, Ser. No. 764,733
24 Claims. (Cl. 260—45.7)

1. A process of preparing a yellowing inhibited polyamide wherein the amide linkage is an integral part of the main polymer chain which comprises preparing the polymer by melt polymerization in the presence of a dissolved phosphinate compound of the formula

$$R—\overset{H}{\underset{|}{P}}(O)OX$$

wherein

R is a radical selected from the class consisting of a monovalent aliphatic radical and a monovalent aromatic radical,

X is selected from the class consisting of R and metal, and

X and R being alkylene when joined to form a ring structure,

and forming a shaped article by the solidification of the polymerized melt, with the proviso that where copper and halide salts are present during polymerization the said shaped article is scoured, the scouring taking place after solidification and prior to heat setting.

2,981,716

ALPHA-OLEFIN POLYMERS STABILIZED WITH PHENYL PHOSPHINE DERIVATIVES

Brian F. Street, Upton-by-Chester, and Wladyslaw H. Skoroszewski, Davyhulme, near Manchester, England, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed June 18, 1959, Ser. No. 821,081
Claims priority, application Great Britain July 1, 1958
6 Claims. (Cl. 260—45.7)

1. A composition comprising a polymer of an alpha-olefin containing titanium metallic residues and from 0.01

to about 5%, by weight, of a phosphine of the formula P(R)(R')(R'') wherein R is a hydrocarbon radical containing an aromatic nucleus and R' and R'' are hydrocarbon radicals.

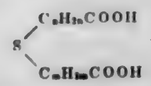
2,981,717

POLY OLEFINS STABILIZED WITH SALTS OR AMIDES OF A THIODIALKANOIC ACID

Thomas H. Boultbee, Sale, England, assignor to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Jan. 16, 1959, Ser. No. 787,114
Claims priority, application Great Britain Jan. 31, 1958
6 Claims. (Cl. 260—45.85)

1. A composition comprising a solid polymer of a mono-alpha-olefin containing metallic residues from an organo aluminum compound and less than about 5%, by weight, of a derivative of thiodialkanoic acid having the formula



wherein numbers $m+n$ range from 1 to 9, said derivative being selected from the group consisting of alkali metal salts, alkaline earth metal salts, ammonium salts, salts of aliphatic amines and unsubstituted amides thereof.

2,981,718

PROCESS FOR MAKING POLYVINYLBUTYRACETAL RESINS WHICH ARE CAPABLE OF BEING CAST

Joseph Heckmaier and Alois Stoll, Burghausen, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a firm of Germany

No Drawing. Filed Feb. 9, 1959, Ser. No. 791,791
Claims priority, application Germany Sept. 21, 1956
3 Claims. (Cl. 260—73)

1. In a process for the production of polyvinylbutyral substantially free of color by the saponification of polyvinyl acetate in a non-aqueous lower aliphatic alcohol containing from 5% to 7% of sulfuric acid on the weight of the polyvinyl acetate and the subsequent acetalization of the polyvinyl alcohol formed with butyraldehyde in the saponification reaction medium, the steps which comprise carrying out the saponification in said non-aqueous lower aliphatic alcohol at a temperature of about 65° C. until the residual unsaponified acetate groups on the polyvinyl alcohol formed are at most 1% by weight, adding from 13% to 16% by weight of water on the weight of the lower alcohol present to the acid lower aliphatic alcohol solution of polyvinyl alcohol obtained together with an amount of butyraldehyde about equal in weight to the polyvinyl alcohol formed and reacting the polyvinyl alcohol with the added butyraldehyde in said acid reaction medium for 5 to 6 hours at a temperature of about 65° C. to form polyvinylbutyral having about 19% to 23% free hydroxyl groups.

2,981,719

POLYURETHANE PLASTICS

Cornelius Mühlhausen and Kürt Genski, Leverkusen, Germany, assignors, by direct and mesne assignments, of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and of one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed July 17, 1957, Ser. No. 672,362
Claims priority, application Germany July 21, 1956
3 Claims. (Cl. 260—75)

1. A method for making an elastomeric polyurethane which comprises first preparing a preliminary addition product by a process comprising reacting a polyhydroxyl compound selected from the group consisting of polyesters prepared from a glycol and polycarboxylic acids, poly(alkylene ether) glycols and polythioether glycols, said polyhydroxyl compound having a molecular weight of at least about 1000, an hydroxyl number of from about 20 to about 112 and an acid number of not more than 2, with an excess of an organic diisocyanate and then reacting the resulting isocyanate-terminated adduct with a polyhydric alcohol having not more than about 14 carbon atoms and having from 2 to 3 alcoholic hydroxyl groups as its sole terminal groups reactive with an isocyanate to produce a product having terminal hydroxyl groups and then reacting the thus produced preliminary addition product with additional organic diisocyanate while in admixture with a precursor of an amine adapted to split off an amine when heated to a temperature above 50° C., said precursor being selected from the group consisting of zinc salts of substituted dithiocarbamic acids, and metal salts of alkyl-substituted pyridines, quinaldines, and acridines, said metal salts being selected from the group consisting of copper, zinc, lead, ferrous, calcium, cobalt, nickel and ferrocyanic acid.

2,981,720

CHLORINATION AND SULFOCHLORINATION OF LOW-PRESSURE POLYETHYLENE

Horst Herzberg and Ludwig Orthner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 17, 1956, Ser. No. 598,251
Claims priority, application Germany July 28, 1955
12 Claims. (Cl. 260—79.3)

1. A novel process of chlorinating polyethylene having a molecular weight above 50,000, a melting point of at least 130° C., a crystallinity of at least 80%, containing less than three methyl groups per 100 methylene groups, and being insoluble in chlorinated hydrocarbons at temperatures below 100° C., said polyethylene being prepared by polymerizing ethylene in the presence of a catalytic amount of a heavy metal compound of subgroups IV–VI of the periodic table and a metallo-organic compound, said novel process comprising the steps of first contacting said polyethylene with chlorine under elevated pressure at a temperature of 100–160° C. in a chlorinated hydrocarbon having a boiling point below 100° C. to form a homogeneous solution of partially chlorinated polyethylene, the latter having a chlorine content of 5–10% by weight, cooling said solution to a temperature within the range of 20–80° C., and then introducing additional chlorine into said solution under atmospheric pressure while maintaining the temperature within said range of 20–80° C. until chlorination of the polyethylene is completed.

2,981,721

METHOD OF ELASTICIZING PLASTIC CARBOXYL-CONTAINING SYNTHETIC RUBBERY POLYMERIC MATERIALS AND ELASTIC PRODUCTS PRODUCED THEREBY

Harold P. Brown, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 1, 1956, Ser. No. 612,942
7 Claims. (Cl. 260—80.7)

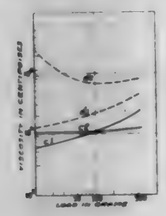
1. The process which comprises preparing a mixture of (A) a carboxyl-containing polymer selected from the class consisting of (1) interpolymers of (*a*) a butadiene-1,3 hydrocarbon with (*b*) at least one olefinically unsaturated carboxylic acid selected from the class consisting of acrylic and methacrylic acids, said interpolymers containing at least 50% by weight of polymerized (*a*) and an amount of (*b*) such that said interpolymers possess 0.001 to 0.30 chemical equivalents by weight of carboxyl (—COOH) groups in the interpolymer structure for each 100 parts by weight of interpolymer and (2) interpolymers of ethyl acrylate with (*b*) as set forth above, the amount of (*b*) being such that said interpolymers possess 0.001 to 0.30 chemical equivalents by weight of carboxyl (—COOH) groups in the interpolymer structure for each 100 parts by weight of interpolymer; with (B) an amine salt selected from the class consisting of carbonates, borates, acetates and stearates of alkylene polyamines of the structures $H_2N—R—NH_2$ wherein R represents an alkylene group of 2 to 6 carbon atoms, the amount of (B), expressed in chemical equivalents by weight, being 1/10 to 2 times the chemical equivalents by weight of carboxyl groups in (A), and then heating the mixture of (A) and (B) at a temperature of about 100° F. to 450° F., thereby to cure the said carboxyl-containing polymer with said amine salt through reaction at the carboxyl groups of said carboxyl-containing polymer.

2,981,722

PROCESS FOR THE PRODUCTION OF VINYL-CHLORIDE POLYMERS BY DISPERSION PROCESSES IN AQUEOUS MEDIA

Eduard Enk and Herbert Reinecke, Burghausen, Upper Bavaria, and Eduard Kurz, Stockach, near Markti (Inn), Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a firm of Germany

Filed Oct. 7, 1957, Ser. No. 688,764
Claims priority, application Germany Oct. 9, 1956
5 Claims. (Cl. 260—87.1)



1. In a process for the production of dispersions of polyvinyl chloride and copolymers of vinyl chloride with vinyl acetate, the steps which comprise forming an emulsifiable aqueous reaction mixture containing a compound selected from the group consisting of vinyl chloride and of mixtures thereof with vinyl acetate, a monomer soluble catalyst and an emulsifying agent, agitating the mixture while below polymerization temperature to form an emulsion in which less than all of the emulsifiable monomer present is emulsified, allowing the emulsion to stand and the unemulsified monomer to separate as a surface layer, removing the separated unemulsified monomer layer, heating the monomer emulsion without agitation to a polymerization temperature of at least 45° C. to cause said emulsified monomer to undergo polymerization and form a dispersion of polymer particles, and separating the polymer particles from the aqueous phase by filtration.

2,981,723

PRODUCTION OF SOLID OLEFIN POLYMERS USING OXIDE CATALYSTS AND MIXTURES OF N-HEXANE AND CYCLOHEXANE AS DILUENTS

Robert R. Goins, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 15, 1958, Ser. No. 780,409
7 Claims. (Cl. 260—88.2)

1. In a process for producing solid olefin polymers which comprises polymerizing at least one aliphatic 1-olefin containing 2 to 8 carbon atoms per molecule and having no branching nearer the double bond than the 4-position in the presence of a catalyst comprising chromium oxide, including hexavalent chromium, and at least one oxide selected from the group consisting of silica, alumina, thoria and zirconia, the improvement which comprises carrying out the polymerization in the presence of a mixture consisting essentially of normal hexane and cyclohexane at a temperature in the range of 225 to 375° F. and at a pressure sufficient to maintain said mixture in the liquid phase, said mixture containing from 15 to 85 weight percent cyclohexane and from 85 to 15 weight percent normal hexane.

2,981,724

SUSPENSION POLYMERIZATION OF VINYL CHLORIDE

Robert S. Holdsworth, Needham, Mass., assignor to Escambia Chemical Corporation, Pace, Fla., a corporation of Delaware

No Drawing. Filed May 6, 1957, Ser. No. 657,097
9 Claims. (Cl. 260—92.8)

1. The process of producing substantially uniform, large particle size polymer beads with improved electrical resistivity which comprises polymerizing at a temperature of between about 30° C. and 70° C. by suspension polymerization vinyl chloride while dispersed in an aqueous suspension medium containing dissolved therein a salt of a metal having a valence of at least 2 and at least one surface active agent selected from the group consisting of alkyl phosphates and alkali metal salts thereof having from about 5 to 50 carbon atoms, said metal salt and said surface active agent each being present in an amount within the range of about 0.02 to about 0.20 part per 100 parts of vinyl chloride.

2,981,725

PROCESS FOR POLYMERIZING OLEFINS

Norbert W. Luft, Cheadle Hulme, and Dhafir Yusuf Waddan, Chorlton-cum-Hardy, Manchester, England, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Oct. 15, 1956, Ser. No. 615,750
Claims priority, application Great Britain Nov. 16, 1955
2 Claims. (Cl. 260—93.7)

2. In the method for polymerizing a mono-alpha olefin of two to three carbon atoms at temperatures ranging below about 120° C. and pressures below 500 p.s.i.g., the said polymerization being conducted in the presence of an inert hydrocarbon solvent and in contact with a catalyst that consists essentially of the product of aluminum diethyl chloride and titanium tetrachloride, the improvement comprising mixing the said catalyst with a salt selected from the group consisting of sodium carbonate, potassium carbonate, calcium chloride, sodium chloride, sodium sulfate, and magnesium chloride, the said salt being used in an amount ranging from 0.5 to 3 parts by wieght per 0.005 to 1 mole of the said aluminum compound.

2,981,726

PROCESS FOR POLYMERIZING PROPYLENE WITH A CATALYST OF ALUMINUM TRIALKYL, TITANIUM TETRACHLORIDE AND METALLIC IRON

Leon B. Gordon, Tulsa, Okla., assignor, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Apr. 2, 1958, Ser. No. 725,788
2 Claims. (Cl. 260—93.7)

1. In a process for the polymerization of propylene, the improvement which comprises contacting said propylene under polymerization conditions with a catalyst consisting essentially of finely divided iron particles, trialkylaluminum, and titanium tetrachloride.

2,981,727

PRODUCTION OF MODIFIED POLYMERS BY HEATING TO 600–900° F. IN THE PRESENCE OF CHROMIUM OXIDE

Paul J. Boeke and John N. Scott, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 26, 1958, Ser. No. 744,681
6 Claims. (Cl. 260—93.7)

1. A process for treating a polymer of an aliphatic 1-olefin containing up to and including 8 carbon atoms per molecule, said polymer having a crystallinity of at least 70 percent at 25° C., which comprises contacting said polymer with from 0.1 to 5 weight percent, based on said polymer, of a catalyst comprising chromium oxide, at least part of the chromium being in the hexavalent state, and at least one oxide selected from the group consisting of silica and alumina, said contacting occurring at a temperature in the range of 600 to 900° F. for a period of time of from 0.5 to 5 minutes; and recovering the treated polymer so produced.

2,981,728

SEPARATION OF SOLID POLYMER FROM SOLID CATALYST BY HALOGENATION AND SOLUBILIZATION OF POLYMER

William C. Lanning, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 14, 1958, Ser. No. 721,569
9 Claims. (Cl. 260—94.9)

1. A process for the separation of solid, high density, highly crystalline polymers of 1-olefins having a maximum of 8 carbon atoms per molecule and no branching nearer the double bond than the 4-position from the intimately associated solid catalyst used to polymerize the monomer which comprises dispersing said polymer-catalyst solid in a halogenated hydrocarbon liquid in which said polymer and catalyst are substantially non-soluble in the temperature range used for halogenating said polymer but in which the halogenated product of said polymer is soluble in said temperature range, contacting said dispersion with a halogenating agent providing a halogen selected from the group consisting of bromine and chlorine at a pressure sufficient to maintain said liquid substantially in liquid phase, separating the resulting halogenated polymer solution from the catalyst solids and recovering halogenated polymer product.

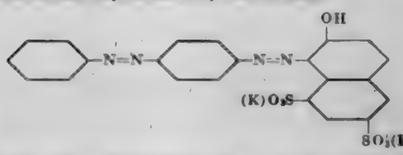
2,981,729

DYESTUFF AND ITS PREPARATION

Martin Luther Kesler, Middlesex, and George Lewis Morgan, Bound Brook, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 27, 1958, Ser. No. 771,700
2 Claims. (Cl. 260—191)

1. In a process of preparing as a dyestuff, the dipotassium salt represented by the formula



said salt being characterized by an X-ray powder diffraction pattern of over 35 lines, the five strongest lines having relative intensities of 10, 15, 1.4, 0.7 and 0.7 at interplanar spacings in Angstroms of 20, 6.6, 5.0, 4.38 and 3.425, respectively, in which process p-aminoazobenzene is diazotized in acid solution and coupled with 2 napththo-6,8-disulfonic acid, in the presence of sodium carbonate; the improvement which comprises: to an aqueous solution of the coupled product, at a pH from at least 7 to about 8.5, adding potassium chloride in an amount at least stoichiometrically equivalent to the sulfonic groups on the coupled product but not sufficient to produce complete crystallization, stirring resultant mixture, whereby crystallization is initiated, continuing the stirring with the addition of sodium chloride until crystallization substantially ceases and collecting resultant crystals.

2,981,730

ORGANOPHOSPHOROUS-MODIFIED CELLULOSE ESTERS

Eugene C. Martin, Texas City, and Joe T. Kelly, Dickinson, Tex., assignors to The American Oil Company, Texas City, Tex., a corporation of Texas

No Drawing. Filed Aug. 29, 1957, Ser. No. 680,905
9 Claims. (Cl. 260—219)

1. As a composition of matter, an organophosphorous modified cellulose ester which is prepared by dissolving a carboxylic acid ester of cellulose containing free hydroxyl groups in a solvent and reacting an organic chlorophosphorous compound with said cellulose ester under anhydrous conditions and in the presence of a hydrogen chloride acceptor and thereby producing an organophosphorous modified cellulose ester in solution in said solvent, commingling with said solution a liquid in which the organophosphorous modified cellulose ester is insoluble, said liquid being used in an amount to cause precipitation of a first fraction comprising only a fibrous portion but not all of said organophosphorous modified cellulose ester in fibrous form, and recovering a film of the precipitated portion of the fibrous organophosphorous modified cellulose ester.

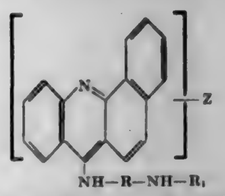
2,981,731

BENZ[C]ACRIDINE DERIVATIVES

Alexander M. Moore, Pittsburgh, Pa., and Edward F. Elslager and Franklin W. Short, St. Clair Shores, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Sept. 21, 1955, Ser. No. 535,738
6 Claims. (Cl. 260—239.1)

1. A member of the group consisting of a free base and its non-toxic acid addition salts, said free base having the formula



where R is a divalent alkyl group containing from 2 to 6 carbon atoms inclusive, R_1 is a member of the group consisting of alkyl and hydroxyalkyl radicals containing from 2 to 12 carbon atoms inclusive, alicycloalkyl and aralkyl radicals containing from 7 to 12 carbon atoms inclusive and cycloalkyl radicals containing from 5 to 7 carbon atoms inclusive and Z is a member of the group consisting of hydrogen, lower alkyl, lower alkoxy and halogen radicals.

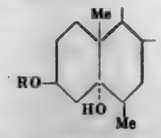
2,981,732

PROCESS FOR THE PREPARATION OF 6-METHYL-5-ENE-STEROIDS

David Neville Kirk, Vladimir Petrow, and Marianne Helen Thomson, London, England, assignors to The British Drug Houses Limited, London, England, a British company

No Drawing. Filed Jan. 8, 1959, Ser. No. 785,581
Claims priority, application Great Britain Jan. 16, 1958
11 Claims. (Cl. 260—239.55)

1. A process for the preparation of 3β-acyloxy-6-methyl-Δ⁵-steroids which process comprises reacting the corresponding 5α-hydroxy-6-methyl steroid having in rings A and B the formula



where R is a radical selected from the group consisting of hydrogen and a residue of a carboxylic acid containing up to 10 carbon atoms, with an acidic catalyst selected from the group consisting of perchloric acid, toluene-p-sulphonic acid, and a Lewis acid in an acylating agent containing a residue of a carboxylic acid having up to 10 carbon atoms.

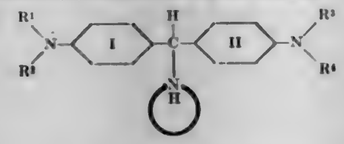
2,981,733

N-BIS(p-DIALKYLAMINOPHENYL)METHYL DERIVATIVES OF NITROGEN-CONTAINING SATURATED HETEROCYCLIC COMPOUNDS

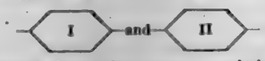
Frederick H. Kranz, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 12, 1958, Ser. No. 734,418
14 Claims. (Cl. 260—247.5)

1. Saturated heterocyclic imino derivatives of bis(p-dialkylaminoaryl)methane having the formula



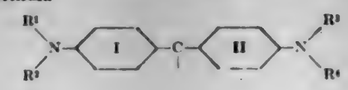
wherein R^1, R^2, R^3 and R^4 are each selected from the group consisting of the lower alkyl radicals;



are each selected from the group consisting of the unsubstituted phenylene radical and the phenylene radical monosubstituted by a member of the group consisting of lower alkyl, lower alkoxy, fluorine, chlorine, bromine, di-lower alkylamino, lower alkanoylamino and $—SO_2NH_2$,



represents a nitrogen-containing heterocyclic radical of which the heterocyclic nitrogen atom forms the linking point to the methane carbon atom and which radical is selected from the group consisting of pyrrolidino, piperidino, morpholino, thiomorpholino, hexamethylene imino, methylhexamethylene imino, heptamethylene imino, and piperazino, at least one of the piperazino nitrogen atoms forming the linking point to the methane carbon atom of a bis(p-dialkylaminoaryl)methane having the herein defined formula



and

substituted derivatives of pyrrolidino, piperidino, morpholino and piperazino in which the substituents are selected from the group consisting of alkyl up to 18 carbon atoms; octadecenyl; cycloalkyl and condensed cycloalkyl in which the rings contain 5 to 6 carbon atoms; lower alkyloxy; lower hydroxyalkyl; lower hydroxyalkoxy; phenyl-lower alkyl; mononuclear hydrocarbon aryl; mononuclear hydrocarbon aroxy; fluorine; chlorine; bromine; nitro; di-lower alkylamino; lower alkanoylamino, and $—SO_2NH_2$.

12. 4-[bis(p-dimethylaminophenyl)methyl]morpholine.

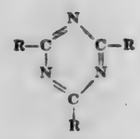
2,981,734

PERFLUOROALKYL TRIAZINES

Rudi F. W. Rätz and Ehrenfried H. Kober, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed May 20, 1960, Ser. No. 30,458
2 Claims. (Cl. 260—248)

1. The process of preparing 2,4,6-tris-perfluoroalkyl-1,3,5-triazines of the formula:



wherein R is a perfluoroalkyl radical, which comprises reacting a trichlorophosphazo perfluoroacyl of the formula:

$$R—CON=PCl_3$$

wherein R is a perfluoroalkyl radical containing not more than 5 carbon atoms, with argentous fluoride at temperatures between about 50° C. and about 150° C.

2,981,735

NEW PIPERAZINE DERIVATIVES

Henri Morren, Forest-Brussels, Belgium, assignor to Union Chimique Belge, S.A., Brussels, Belgium, a corporation of Belgium

No Drawing. Filed Jan. 14, 1959, Ser. No. 786,685
Claims priority, application Belgium Jan. 21, 1958
6 Claims. (Cl. 260—268)

1. 1-phenacyl-4-(2-hydroxyethyl)-piperazine.

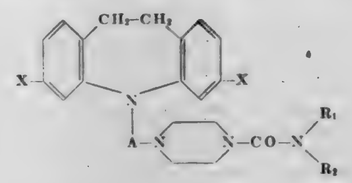
2,981,736

IMINODIBENZYL DERIVATIVES

Paul Gailliot, Paris, and Jacques Gaudechon, Thiais, France, assignors to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a corporation of France

No Drawing. Filed June 24, 1959, Ser. No. 822,442
Claims priority, application France June 30, 1958
8 Claims. (Cl. 260—268)

1. A member of the class consisting of iminodibenzyl compounds of the general formula:



wherein A represents a saturated aliphatic hydrocarbon group containing 2 to 4 carbon atoms with at least two carbon atoms between the nitrogen atom of the iminodibenzyl nucleus and that of the piperazine nucleus, the symbols X are the same and represent a member of the class consisting of hydrogen and halogen atoms, R_1 and R_2 each represent a member of the class consisting of a hydrogen atom and a lower alkyl group, and compounds of the above formula wherein no more than two of the carbon atoms of the piperazine nucleus carries a lower alkyl group, and their non-toxic acid addition salts.

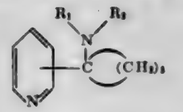
2,981,737

PYRIDINE COMPOUNDS AND METHODS FOR PRODUCING THE SAME

Erik F. Godefroi, Harper Woods, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Mar. 6, 1958, Ser. No. 719,499
6 Claims. (Cl. 260—293)

1. A pyridine compound selected from the group consisting of a free base and its pharmaceutically acceptable acid addition salts, said free base having the formula,



where R_1 and R_2 are members selected from the group consisting of hydrogen and lower alkyl and further members wherein R_1 and R_2 together with —N< constitute pyrrolidino and piperidino.

5. 2-[1-(1-piperidino)cyclohexyl]pyridine.

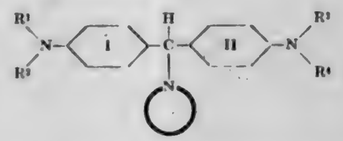
2,981,738

HETEROCYCLIC NITROGEN DERIVATIVES OF BIS(p-DIALKYLAMINOPHENYL)METHANE

Frederick H. Kranz, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 12, 1958, Ser. No. 734,428
11 Claims. (Cl. 260—308)

1. Heterocyclic derivatives of bis(p-dialkylaminoaryl)-methane having the formula



wherein R^1, R^2, R^3 and R^4 are individually selected from the group consisting of alkyl radicals having 1 to 5 carbon atoms,



represents a nitrogen-containing heterocyclic radical in which the nitrogen atom which forms the linking point of said radical to the methane carbon atom is part of a heterocyclic nucleus which contains at least one double bond, 5 to 6 ring members, and 1 to 3 nitrogen atoms; said nitrogen-containing heterocyclic radical being selected from the group consisting of those which are free from substituents and those which contain 1 to 2 substituents selected from the group consisting of alkyl up to 18 carbon atoms; octadecenyl; cycloalkyl in which the ring contains 5 to 6 carbon atoms; lower alkyloxy; lower hydroxyalkyl; lower hydroxyalkoxy; phenyl-lower alkyl; mononuclear hydrocarbon aryl; mononuclear hydrocarbon aroxy; benzo; fluorine; chlorine; bromine; nitro; di-lower alkylamino; lower alkanoylamino and $—SO_2NH_2$, and



are selected from the group consisting of the unsubstituted phenylene radical and the phenylene radical monosubstituted by a member of the group consisting of lower alkyl, lower alkoxy, fluorine, chlorine, bromine, di-lower alkylamino, lower alkanoylamino and $—SO_3NH_2$.

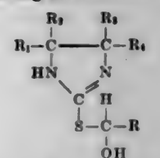
2,981,739

CERTAIN ALPHA-HALOALDEHYDE ADDITION PRODUCTS OF ETHYLENETHIOUREAS AND PROCESS

Russell M. Bimber, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Jan. 27, 1958, Ser. No. 711,130
9 Claims. (Cl. 260—309.6)

7. A compound having the structure



wherein R_1, R_2, R_3 and R_4 are selected from the group consisting of hydrogen, lower alkyl, phenyl, naphthyl, thienyl, benzyl, phenethyl, tolyl, xylyl and corresponding halogen-substituted groups; and R is a halogen-substituted lower alkyl, said



group being derived from an alpha halo aldehyde.

2,981,740

PRODUCTION OF 4-HYDROXYPYRAZOLES

Erich Henkel, Ludwigshafen (Rhine), and Herbert Friederich, Worms, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Mar. 8, 1956, Ser. No. 570,217
Claims priority, application Germany Mar. 19, 1955
9 Claims. (Cl. 260—310)

1. An improved process for the production of 4-hydroxypyrazoles which comprises reacting a beta-halogen-alpha-diketone of the general formula

$$R—CHX—CO—CO—R'$$

in which X represents a halogen atom selected from the group consisting of chlorine and bromine, R represents a member of the group consisting of hydrogen, lower alkyl, aryl, aralkyl and cycloalkyl groups and R′ represents a lower alkyl group with a hydrazino compound of the general formula

$$H_2N—NH—R''$$

in which R″ represents a member of the group consisting of hydrogen, lower alkyl, aryl, aralkyl and cycloalkyl group, and heating the monohydrazones formed until cyclization is completed.

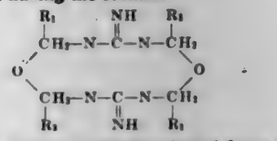
2,981,741

ARYL GUANIDINE-PARAFORMALDEHYDE REACTION PRODUCT

Howard M. Buckwalter and Joseph M. Almand, Detroit, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Original application May 21, 1956, Ser. No. 585,962, now Patent No. 2,927,051, dated Mar. 1, 1960. Divided and this application Aug. 17, 1959, Ser. No. 838,377
2 Claims. (Cl. 260—333)

1. A chemical having the formula



where R_1 and R_3 are aryl radicals selected from the group consisting of phenyl and (o, m and p) tolyl.

2,981,742

LOWER ALKYL Δ^5-3-ACYLOXY-7-BROMO-BISNORCHOLENATES

John M. Chemerda and William V. Ruyle, Metuchen, and Earl M. Chamberlin, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 8, 1951, Ser. No. 214,638
3 Claims. (Cl. 260—397.1)

1. Lower alkyl Δ^5-3-acyloxy-7-bromo-bisnorcholenates wherein the 3-acyloxy substituent is derived from a lower hydrocarbon carboxylic acid.

2,981,743

PROCESS FOR PRODUCTION OF 4-ALKYL AND 4-BENZYL DERIVATIVES OF $\Delta 4$ PREGNENES

Howard J. Ringold and George Rosenkranz, Mexico City, Mexico, assignors to Syntex S.A., Mexico City, Mexico, a corporation of Mexico

No Drawing. Filed Jan. 23, 1957, Ser. No. 635,606
Claims priority, application Mexico Jan. 26, 1956
11 Claims. (Cl. 260—397.45)

1. A process for the production of compounds selected from the group consisting of 4-lower alkyl and 4-benzyl derivatives of Δ^4-pregnene-11β,17α,21-triol-3,20-dione and Δ^4-pregnene-17α,21-diol-3,11,20-trione comprising treating respectively a compound selected from the group consisting of 20-ethyleneketals of pregnane-11β,17α,21-triol-3,20-dione and pregnane-17α,21-diol-3,11,20-trione with ethyl formate to form the corresponding 4-hydroxymethylene derivatives, treating the last mentioned derivatives with an iodide selected from the group consisting of lower alkyl iodides and benzyl iodides to form the corresponding compounds selected from the group consisting of 4-lower alkyl-4′-formyl derivatives and 4-benzyl-4′-formyl derivatives, eliminating carbon monoxide and hydrolysing the 20-ketal group of the formyl derivatives to form a compound selected from the group consisting of 4-lower alkyl-pregnane-11β,17α,21-triol-3,20-dione, 4-benzyl-pregnane-17α,21-diol-3,11,20-trione, 4-lower alkyl-pregnane-11β,17α,21-triol-3,20-dione and 4-benzyl-pregnane-17α,21-diol-3,11,20-trione, esterifying the last mentioned compound to form a hydrocarbon carboxylic acid ester thereof, monobrominating the last mentioned compound to form the corresponding 4-bromo derivatives, dehydrobrominating the 4-bromo derivatives and saponifying the ester group.

2,981,744

FATTY ACID PROCESSING

Norman Ernest Ward, Monkseaton, Whitley Bay, Northumberland, England, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed July 21, 1959, Ser. No. 828,440
Claims priority, application Great Britain July 23, 1958
7 Claims. (Cl. 260—419)

1. A process for removing odorous substances from distilled fatty acids produced from the hydrolysis of fats or fatty oils which comprises converting the fatty acids with acetic anhydride into the corresponding fatty anhydrides which have a lower volatility than the odorous substances, and thereafter distilling off the acetic acid which is formed, any excess acetic anhydride, and the odorous substances.

2,981,745

MANUFACTURE OF P-UREIDOBENZENEARSONIC ACID

Geza Szabados Delmar, Lachine, Quebec, Canada, assignor, by mesne assignments, to Whitmoyer Laboratories, Inc., Myerstown, Pa., a corporation of Delaware

No Drawing. Filed Jan. 25, 1960, Ser. No. 4,234
3 Claims. (Cl. 260—443)

1. A method of making p-ureidobenzenearsonic acid which comprises dissolving arsanilic acid in an aqueous solution of potassium cyanate in an amount to react stoichiometrically meanwhile maintaining the mixture cool, then gradually adding to the cooled mixture sufficient hydrochloric acid to bring the pH to between about 2.3 and 2.7 and meanwhile maintaining the mixture cool, thereby to cause p-ureidobenzenearsonic acid to precipitate, then filtering, water washing and drying the precipitated product.

2,981,746

FLUORO SUBSTITUTED POLYSILOXANES AND PREPARATION THEREOF

Murray S. Cohen, Morristown, and Daniel Grafstein, Dover, N.J., assignors to Thiokol Chemical Corporation, Trenton, N.J., a corporation of Delaware

No Drawing. Filed May 29, 1958, Ser. No. 738,620
6 Claims. (Cl. 260—448.2)

1. A low molecular weight liquid polyorganosiloxane polymer having a recurrent structural unit of the formula



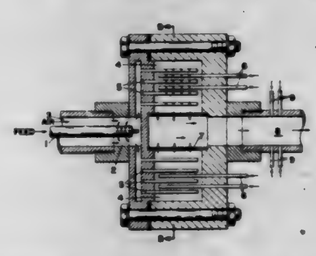
and chain terminating groups of the formula $R_3R_3FSi—$, linked to the polymer chain by oxygen atoms, wherein R_1, R_2, and R_3 are members of the class consisting of alkyl groups and aryl groups.

2,981,747

PROCESS AND APPARATUS FOR PARTIAL OXIDATION OF ORGANIC COMPOUNDS

Robert J. Lang, Metuchen, Robert B. Long, Wanamassa, Monmouth County, Carl E. Heath, Nixon, and Robert M. Skomoroski, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Aug. 15, 1958, Ser. No. 755,184
22 Claims. (Cl. 260—451)



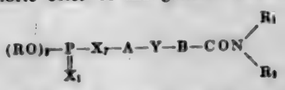
1. An apparatus for conducting controlled reactions of fluid reactants which comprises a reaction vessel having a reaction chamber enclosed by a concave wall and at least one other wall, multiple reactant inlets, and an exit means, said concave wall encompassing said exit means, said exit means being centrally positioned in relation to said other wall and communicating with said reaction chamber, said reactant inlets communicating with said reaction chamber at positions spaced from said concave wall which are also spaced from and substantially circumscribe a major axis of said exit means, and which are aligned to impart to fluid reactants issuing therefrom into said reaction chamber a cocurrent swirling motion, whereby reactants enter said reaction chamber, swirl past said reactant inlets and toward said exit means while reacting and are continuously admixed with incoming reactants before leaving said reaction chamber.

11. A process for oxidizing a C_1 to C_{28} organic compound, which comprises mixing said compound with an oxygen-containing gas, continuously passing the resulting reactant mixture under pressure through multiple inlets at a linear gas velocity of about 10 to 5000 ft./sec-

ond and at a temperature of about 250° F. to 800° F. into a reaction zone a portion of which is heated to a temperature above the autoignition temperature of said reactant mixture until after said reaction is initiated, reacting said compound with said gas, swirling said reaction mixture and the resulting reaction products in a generally cocurrent movement past said inlets through the motion imparted to said reactant mixture and said reaction products by the continuous incoming passage of said reactant mixture through said inlets, and passing said reaction products from said reaction zone after a residence therein of about 0.01 to 10 seconds.

2,981,748
THIOPHOSPHORIC ACID ESTERS
Jean Metivier, Arpajon, France, assignor to Societe des Usines Chimiques Rhone-Poulenc, Paris, France, a French body corporate
No Drawing. Filed July 16, 1959, Ser. No. 827,453
Claims priority, application France Aug. 5, 1958
5 Claims. (Cl. 260—461)

1. Phosphoric ester of the general formula:



wherein X_1 and X_2 are each selected from the class consisting of oxygen and sulphur atoms at least one of them being a sulphur atom, A is selected from the class consisting of ethylene and isopropylene groups, B is selected from the class consisting of methylene and ethylidene groups, Y is selected from the class consisting of SO and SO_2 groups, R is a lower alkyl group and R_1 and R_2 are each selected from the class consisting of hydrogen and lower alkyl groups.

2,981,749
PROCESS FOR THE PRODUCTION OF ω-HALOGEN CARBOXYLIC ACID NITRILES
Heinrich Brendlein, Hanau-Hohe Tanne, Hans Huemer, Konigstein I. Taunus, Theodor Lüssling, Hanau, and Hermann Schulz, Frankfurt am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed Sept. 2, 1958, Ser. No. 758,602
Claims priority, application Germany Sept. 10, 1957
5 Claims. (Cl. 260—465.3)

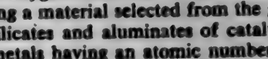
1. In a process for the telomerization of an olefinic hydrocarbon selected from the group consisting of ethylene and propylene and cyanogen chloride in the presence of a radical forming catalyst in a reaction space maintained at an elevated temperature up to 160° C. and pressure up to 200 atmospheres to produce ω-chloronitriles, the step which comprises supplying the olefinic hydrocarbon and the cyanogen chloride to said reaction space, the moisture content of said olefine and said cyanogen chloride each being kept substantially under 0.1% and the free hydrogen halide content of each of said olefine and said cyanogen chloride supplied to the reaction space being kept under 0.1%.

2,981,750
N-NITRO-N-TRINITROALKYLAMINO ALCOHOLS AND DERIVATIVES THEREOF
Henry Feuer, Lafayette, Ind., and William A. Swarts, Chicago, Ill., assignors to Purdue Research Foundation, Lafayette, Ind., a corporation of Indiana
No Drawing. Filed Feb. 2, 1959, Ser. No. 790,377
10 Claims. (Cl. 260—467)

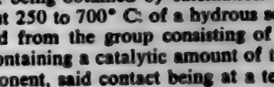
1. Compounds having the structural formula:



wherein



R^1 is selected from the group consisting of



and alkylene having up to five carbon atoms; R^2 is nitratoalkyl having up to five carbon atoms; R^3 is selected from the group consisting of hydrogen, and alkyl having up to five carbon atoms; R^4 is selected from the group consisting of hydrogen, alkyl having up to five carbon atoms, R substituted alkyl, nitratoalkyl having up to ten carbon atoms and R- and nitrato substituted alkyl having up to ten carbon atoms; and *n* is a number from three to nine.

2,981,751
OXIDATION WITH A CALCINED SOLID CATALYST
Willis C. Keith, Lansing, Ill., Carl D. Keith, Summit, N.J., and Emmett H. Burk, Jr., Hazel Crest, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Feb. 25, 1958, Ser. No. 717,336
6 Claims. (Cl. 260—524)

1. In a method for the oxidation of a benzene compound having 1 to 6 carbon atoms in a side chain selected from the group consisting of alkyl, cycloalkyl and partially oxidized alkyl chains, the steps comprising contacting said compound in the liquid phase and in the presence of molecular oxygen with a calcined solid oxidation catalyst containing a material selected from the group consisting of the silicates and aluminates of catalytic oxidation promoting metals having an atomic number of 24 to 28, said catalyst being obtained by calcination at a temperature of about 250 to 700° C. of a hydrous solid inorganic base selected from the group consisting of alumina and silica and containing a catalytic amount of the promoting metal component, said contact being at a temperature of about 50 to 350° C. and under a pressure sufficient to maintain the liquid phase.

2,981,752
PRODUCTION OF NITROSODIMETHYLAMINE
Arthur W. Campbell, Terre Haute, Ind., assignor to Commercial Solvents Corporation, Terre Haute, Ind., a corporation of Maryland
No Drawing. Filed Aug. 1, 1955, Ser. No. 525,813
6 Claims. (Cl. 260—583)

1. The process for the preparation of an N-nitroso dilower alkyl amine which comprises reacting in a vigorously stirred aqueous solution about one mole of a dilower alkyl amine, about one mole of sodium nitrite and about one-half mole of sulfuric acid, allowing the reaction mixture to stand until it separates into two layers, removing the upper layer and recovering the N-nitroso dilower alkyl amine from said upper layer.

2,981,753
PRODUCTION OF UNSATURATED ALDEHYDES
Robert M. Cole, Oakland, and John W. Mecorney, Lafayette, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Dec. 2, 1958, Ser. No. 777,603
5 Claims. (Cl. 260—601)

1. A process for producing a substantially pure alpha, beta-alkenal from a crude mixture containing such alkenal and a saturated carbonyl compound containing the same number of carbon atoms as said alkenal, said process comprising the steps of reacting the crude alkenal-containing mixture with an aliphatic alcohol of from 1 to 8 carbon atoms composed of the elements carbon, hydrogen and oxygen and containing only reactive hydroxyl, to effect addition of the alcohol to the olefinic double bond of the alkenal, separating by distillation the resulting beta-aliphatic-oxy-substituted alkanal from the resulting reaction mixture, heating the said alkanal at a temperature of from about 100° C. to about 200° C. in the presence of a catalyst the pH of the reaction mixture of alkanal and catalyst being maintained at a value above 3.5, whereby the said alkanal is split into the corresponding alpha, beta-alkenal and the corresponding aliphatic alcohol, removing by distillation from the reaction mixture the said alkenal substantially as fast as it is formed, and separating by distillation the substantially pure alkenal from any material which is also distilled from the reaction mixture.

2,981,754
PROCESS OF PREPARING 2,2,3,3-TETRACHLORO-1,4-BUTANEDIOL
Robert Walter Wynn, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 23, 1955, Ser. No. 548,769
6 Claims. (Cl. 260—633)

1. A process comprising subjecting 2-butyne-1,4-diol to the action of an amount of gaseous chlorine at least about 25% in excess of that theoretically required to saturate said 2-butyne-1,4-diol, in an inert aromatic hydrocarbon liquid medium and in the presence of a weak acid acceptor.

2,981,755
UNSATURATED HALOGENATED CYCLOPENTENE COMPOUNDS
Herbert K. Wiese, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 3, 1958, Ser. No. 777,829
11 Claims. (Cl. 260—648)

1. A process for preparing a halo-alkyl substituted cyclopentene which comprises reacting an olefinic hydrocarbon with a halocyclopentene in the presence of a Friedel-Crafts type catalyst.

8. A compound having the structural formula



where R is a C_2 to C_{20} mono-halogen substituted alkyl radical wherein the halogen substituent is attached to a carbon atom other than a primary carbon atom, and R' and R'' are selected from the group consisting of hydrogen and C_1–C_3 alkyl radicals.

2,981,756
CHLORINATED CYCLOOLEFIN
Norman P. Neureiter, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
No Drawing. Original application July 11, 1958, Ser. No. 747,850. Divided and this application Mar. 16, 1959, Ser. No. 799,473
1 Claim. (Cl. 260—648)

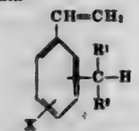
4,4-dichlorocyclopentene.

2,981,757
PRODUCTION OF CONDENSATION PRODUCTS
Fritz Christmann and Wilhelm Gieg, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed June 24, 1958, Ser. No. 744,076
Claims priority, application Germany June 26, 1957
6 Claims. (Cl. 260—650)

1. In a process for the production of a condensation product by condensation of an aliphatic hydrocarbon having from 8 to 25 carbon atoms selected from the group consisting of unsaturated and halogenated aliphatic hydrocarbons together with an aromatic hydrocarbon in the presence of a Friedel-Crafts catalyst, the improvement which comprises adding to the reaction mixture after condensation from 0.1 to 10% by weight, with reference to said aliphatic hydrocarbon, of a liquid selected from the group consisting of water and lower alkanols, heating the reaction mixture containing said liquid to about 200° C. to 300° C. in the presence of an adsorption agent, separating the solid constituents from the reaction mixture and distilling to separate a condensation product having a viscosity of about 100° to 200° Engler, measured at 100° C.

2,981,758
PREPARATION OF HALOGENATED ALKYL-VINYL AROMATIC COMPOUNDS
David S. Hoffenberg, Stamford, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Apr. 2, 1959, Ser. No. 803,674
8 Claims. (Cl. 260—651)

1. A method of preparing halogenated monomeric ar-alkyl vinyl aromatic compounds wherein a halogen atom is substituted for an alpha-hydrogen of the ar-alkyl radical which comprises contacting a vinyl aromatic compound of the formula



wherein R^1 and R^2 are selected from the group consisting of hydrogen, methyl or ethyl groups and X is a substituent selected from the group consisting of hydrogen, halogen, cyano, phenyl, tertiary butyl, hydroxy, carboxy, and OR^3 groups wherein R^3 is an aryl group, as a vapor with halogen gas at a temperature of between 250° C. and 650° C., condensing the organic reaction product and purifying the halogenated reaction product from by-products formed therewith by distillation.

2,981,759
STABILIZATION OF CHLORINATED HYDROCARBONS WITH A SYNERGISTIC COMBINATION OF A TERTIARY ACETYLENIC ALCOHOL, DIOXANE, AND A VOLATILE BASIC ORGANIC NITROGEN-CONTAINING ORGANIC COMPOUND
Gordon E. Cole, Jr., Cos Cob, Conn., and Charles O. Herman, Nixon, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 8, 1956, Ser. No. 564,118
3 Claims. (Cl. 260—652.5)

1. A composition of matter consisting essentially of trichloroethylene tending to undergo degradation when exposed to heat, light and air, and a small but stabilizing amount of dioxane and a tertiary acetylenic monohydric alcohol effective to inhibit said degradation.

2,981,760
METHOD OF STABILIZING TRICHLOROETHYLENE AND STABILIZING COMPOSITION THEREFOR
Antonio Ferri and Germano Patron, Milan, Italy, assignors to Sicedison S.p.A., Milan, Italy
No Drawing. Filed Nov. 10, 1958, Ser. No. 772,667
Claims priority, application Italy Nov. 15, 1957
13 Claims. (Cl. 260—652.5)

1. A method for stabilizing trichloroethylene by inhibiting the acid decomposition thereof when the trichloroethylene is used as a degreasing solvent in processes for degreasing metal surfaces, which method comprises

the steps of adding to the trichloroethylene a synergetic ternary mixture comprising of diisopropyl-amine, alkyl-p-hydroxyanisole and a lower alkylene oxide, and intimately mixing said mixture with the trichloroethylene to be stabilized.

2,981,761
METHOD FOR THE PREPARATION OF FLUOROCARBONS
Mark Wendell Farlow, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 6, 1958, Ser. No. 765,332
20 Claims. (Cl. 260—653.3)

1. A process for the preparation of fluorocarbons which comprises heating to a temperature of at least 1500° C. a mixture of (*a*) a fluoride of a non-metallic element of groups IV to VII of the periodic table having an atomic number from 6 to 53, inclusive, and (*b*) a hydrocarbon boiling below 300° C. at atmospheric pressure, and cooling the gaseous reaction product to a temperature below 500° C. in less than one second.

2,981,762
MANUFACTURE OF FLUORO BUTANES
Cyril Woolf, Morristown, N.J., assignor to Allied Chemical Corporation, a corporation of New York
No Drawing. Filed Dec. 13, 1957, Ser. No. 702,522
6 Claims. (Cl. 260—653.7)

1. The process for making $CF_3CClFCCl_2CF_3$ which comprises subjecting gas-phase starting material—said starting material being a fluorinated straight-chain 4 carbon atom hydrocarbon both primary carbon atoms of which are trifluorinated and both secondary carbon atoms of which contain a total of zero to 4 chlorine atoms and are free of other substituents—at temperatures substantially in the range of 275–425° C. and while in the presence of a zirconium tetrafluoride-activated carbon catalyst and while in the presence of sufficient chlorine to provide for any unsaturation of said starting material and for any incomplete chlorination of the secondary carbon atoms of said starting material, to the action of gaseous anhydrous hydrogen fluoride in quantity and for a time sufficient to fluorinate a substantial amount of said starting material and to form substantial amount of $CF_3CClFCCl_2CF_3$, and recovering $CF_3CClFCCl_2CF_3$ from the resulting reaction products.

2,981,763
MANUFACTURE OF FLUOROCARBONS
Ronald H. Neill, Montclair, Richard F. Sweeney, Randolph Township, Morris County, and Cyril Woolf, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 22, 1960, Ser. No. 16,631
5 Claims. (Cl. 260—653.8)

1. The process for making a more highly fluorinated propane from CF_3CFHCF_3 which comprises heating CF_3CFHCF_3 starting material at temperature substantially in the range of 475–700° C. and while in the presence of activated carbon catalyst, and recovering a more highly fluorinated propane from the resulting reaction product.

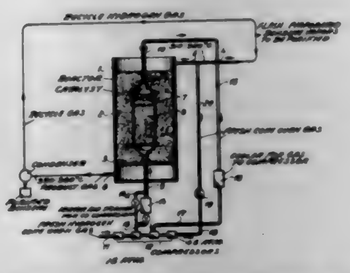
2,981,764
PRODUCTION OF VINYL CHLORIDE
Henri Le Bihan, Liege, and Jean André Robert Ovide Léon Godart, Tilff, Belgium, assignors to Societe Belge de l'Azote et des Produits Chimiques du Marly, Renory-Ougree, Belgium
No Drawing. Filed Dec. 11, 1957, Ser. No. 701,964
Claims priority, application Great Britain Dec. 18, 1956
2 Claims. (Cl. 260—656)

1. A process for the preparation of vinyl chloride by thermal decomposition of 1,2-dichlorethane in the gaseous phase, which comprises decomposing 1,2-dichlorethane at temperatures of 350–500° C., in the presence of deashed active carbon prepared by washing technical active carbon first with 2 N nitric acid at 50–75° C. and then with water.

2,981,765
CATALYTIC PROCESS FOR THE PRODUCTION OF DIARYLMETHANES
Lloyd C. Fetterly, Oakland, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Dec. 29, 1958, Ser. No. 783,162
9 Claims. (Cl. 260—668)

1. A process for the production of diarylmethanes by reaction of alkyl-substituted aromatic hydrocarbons having at least one unsubstituted nuclear carbon atom and formaldehyde which comprises adding formaldehyde to a liquid slurry of a solid composite catalyst in a liquid comprising essentially aromatic feed and product and maintained at a temperature at which water evaporates from said slurry, the concentration of said solid in said slurry being in the range of from 2 to 30% by weight and said solid composite catalyst being selected from the group consisting of silica gel containing an active amount of a strong mineral acid and calcined silica-alumina containing an active amount of a strong mineral acid, and maintaining the activity of said catalyst by adding to said slurry further portions of said acid at the rate of from 0.0005 to 0.01 millimole per gram of said silica gel per hour when the solid is silica gel and at the rate of at least 0.05 millimole per gram of said calcined silica-alumina per hour when the solid is silica-alumina.

2,981,766
PROCESS FOR PURIFYING CRUDE BENZENE
Emil Sattler, Essen, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 22, 1957, Ser. No. 654,267
2 Claims. (Cl. 260—674)



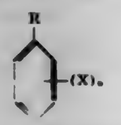
1. In a process for purifying crude benzene contaminated with nitrogenous and sulfur compounds, which comprises: treating initial benzene material aforesaid in the vapor phase in a hydrogenation catalyst reactor at an elevated pressure of 40–50 atms. and temperature of 310° C.–360° C. with recycled hydrogen in the presence of a catalyst for hydrogenating impurities contained in the vapor being treated; introducing fresh coke oven gas into the stream containing recycle hydrogen and benzene to replace the hydrogen consumed; and effecting indirect heat exchange within the catalytic hydrogen reactor, between the fresh coke oven gas that is to be introduced and the recycle hydrogen and benzene stream in the catalyst in the catalytic hydrogenation reactor, before mixture of the two gases; the improvement comprising flowing the fresh coke oven gas at a pressure between 10 and 15 atm. through a catalyst for reduction of nitrogenous compounds during the aforesaid indirect heat exchange of the fresh coke oven gas with the stream containing recycle hydrogen and benzene passing through the hydrogenation catalyst at a pressure of 40–50 atms., to reduce the nitrogenous compounds in the fresh coke oven gas, and thereafter bringing the fresh coke oven gas containing the reduced nitrogenous compounds to the higher working pressure of 40–50 atm. of the stream containing recycle hydrogen and benzene and only thereafter combining the fresh coke oven gas with the stream containing recycle hydrogen and benzene to pass them together through the reactor for hydrogenation as aforesaid at 310° C. to 360° C.

2,981,767
ISO-OLEFIN PURIFICATION
Richard J. Gay and Calvin M. Tidwell, Houston, Tex., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Texas
No Drawing. Filed Sept. 29, 1958, Ser. No. 763,839
8 Claims. (Cl. 260—677)

1. In a process for separating isoolefins from a C_4 hydrocarbon stream which comprises extracting the isoolefin from the C_4 hydrocarbon stream with sulfuric acid and regenerating isoolefin from the sulfuric acid extract, the improvement which comprises extracting the isoolefin-containing sulfuric acid extract, prior to regeneration of isoolefine, with an unsaturated liquid olefin polymer of from 8 to 16 atoms.

2,981,768
SELECTIVE HYDROGENATION OF ACETYLENE IN ETHYLENE
Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 17, 1959, Ser. No. 840,508
9 Claims. (Cl. 260—677)

1. In a process for the selective hydrogenation of acetylene in a mixing containing ethylene and acetylene wherein the mixture with hydrogen in a proportion greater than 1 mole of hydrogen per mole of acetylene is contacted with a palladium catalyst, the improvement of enhancing the hydrogenation of the acetylene and inhibiting the hydrogenation of ethylene which comprises the step of intermixing the mixture before contacting it with the palladium catalyst with a haloaromatic having the general formula:



where R is a member of the group consisting of hydrogen and alkyl radicals having from 1 to 2 carbon atoms, X represents a halogen selected from the group consisting of chlorine and bromine, and *n* is an integer selected from the group consisting of 1 and 2 in proportions of from 10 to 200 parts by volume of the haloaromatic compound per million parts of the mixture.

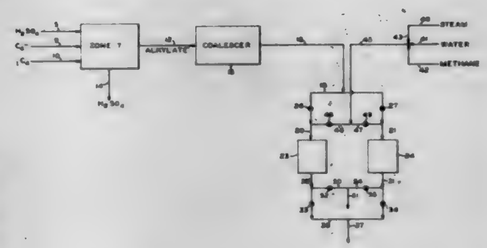
2,981,769
SELECTIVE HYDROGENATION OF ACETYLENE IN ETHYLENE
Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 17, 1959, Ser. No. 840,509
7 Claims. (Cl. 260—677)

1. In a process for the selective hydrogenation of acetylene in a mixture containing ethylene and acetylene wherein the mixture with hydrogen in a proportion greater than 1 mole of hydrogen per mole of acetylene is contacted with a palladium catalyst, the improvement of enhancing the hydrogenation of the acetylene and inhibiting the hydrogenation of ethylene which comprises the step of intermixing the mixture with from 50 to 2000 parts by volume of a substituted cyclohexane selected from the group consisting of Decalin, dimethylcyclohexane, diethylcyclohexane and methylethylcyclohexane per million parts by volume of the mixture before contacting the mixture with the palladium catalyst.

2,981,770
SALT HYDRATE-BF_3-HgX_2 POLYMERIZATION PROCESS
Harmon M. Knight, La Marque, and Joe T. Kelly, Dickinson, Tex., assignors, by mesne assignments, to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Original application Oct. 27, 1958, Ser. No. 769,598. Divided and this application Apr. 22, 1959, Ser. No. 807,992
2 Claims. (Cl. 260—683.15)

1. An ethylene polymerization process comprising contacting ethylene, at a temperature below the temperature of decomposition of ferric pyrophosphate hydrate and at a pressure sufficient to maintain a substantial portion of said reactant in the liquid state, in the presence of a catalyst consisting of (1) a complex having the empirical formula $Fe_4(P_2O_7)_3.aH_2O.bBF_3$ where "*a*" is at least 1 and "*b*" is from 1 to "*a*" and (2) HgX_2 where X is from the class of chloride and bromide where the molar ratio of said pyrophosphate to said mercuric halide is from about 1:1 to about 75:1.

2,981,771
REGENERATION OF SPENT ADSORBENT
Victor L. Brant, Tulsa, Okla., David G. Morgan, deceased, late of Tulsa, Okla., by Madeleine G. Morgan and David L. Morgan, executors, Tulsa, Okla.; said Victor L. Brant and David G. Morgan, assignors to D-X Sunray Oil Company, Tulsa, Okla., a corporation of Delaware
Original application Dec. 22, 1955, Ser. No. 554,842. Divided and this application July 24, 1959, Ser. No. 835,812
9 Claims. (Cl. 260—683.62)



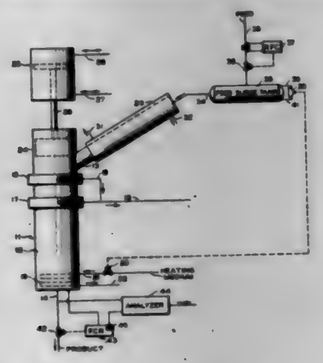
1. In a process for the alkylation of an isoparaffin with an olefin in the presence of sulfuric acid in which the resulting alkylate product is passed through alumina for the removal of sulfur-containing contaminants, the improvements comprising regenerating alumina spent by adsorbing said contaminants by contacting the same with water at a temperature of about 40° F. to about 210° F. for a period of about 15 minutes to about 20 hours, treating the washed alumina with a steam at a temperature of about 220° F. to about 500° F. for about .5 to 15 hours, and treating the steam-treated alumina with an inert gas at a temperature of about 200° F. to about 1000° F. for a period of about 1 to 30 hours.

2,981,772
ALKYLATION PROCESS
George Holtzman, Walnut Creek, and John J. Madison, Orinda, Calif., assignors to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Aug. 28, 1959, Ser. No. 836,628
3 Claims. (Cl. 260—683.63)

1. In a process for alkylating isoparaffins with olefins, the step of contacting said isoparaffins with said olefins, under alkylation conditions in the presence of an acid catalyst, said acid comprising a mixture of concentrated sulfuric acid and a tri-substituted acetic acid in which all the alkyl hydrogen atoms of the acetic acid have been substituted with the same halogen having an atomic weight of no more than 36.

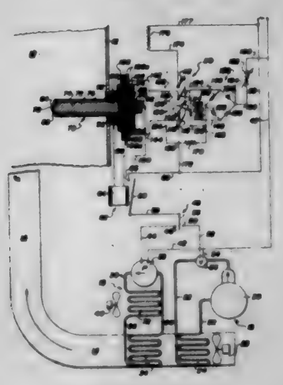
2,981,773
SEPARATION BY CRYSTALLIZATION
John A. Weedman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 1, 1954, Ser. No. 413,372
2 Claims. (Cl. 260—707)

1. A process for the separation of one component from a liquid solution which comprises supplying said liquid solution to a container at a predetermined rate; passing said liquid solution to a cooling zone so as to convert a portion of said solution to crystals; passing a resulting mixture of said crystals and uncrystallized liquid into the inlet end portion of an elongated confined displacement zone; compressing said crystals into a compact mass in said displacement zone and forcing said compact mass of crystals through said displacement zone toward a melting zone; withdrawing liquid from said inlet end portion of said displacement zone; supplying heat to said melt zone in accordance with the level of liquid in said container so as to supply a greater amount of heat and thus obtain more melting as the liquid level increases in said container and a lesser amount of heat so as to obtain less melting as the liquid level decreases in said container; forcing a portion of said melt countercurrently through said mass of crystals toward said inlet end at a superatmospheric pressure; withdrawing product from said melt zone; and controlling the rate of withdrawal of said product in accordance with the purity of said withdrawal product so as to withdraw only product having at least a predetermined minimum purity.



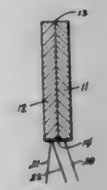
ELECTRICAL

2,981,774
TEMPERATURE CONTROL APPARATUS
Russell B. Matthews, Wauwatosa, Wis., assignor, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 12, 1957, Ser. No. 639,748
6 Claims. (Cl. 136—4)



1. A unitary thermoelectric generator-thermoelectric heat pump assembly comprising first and second dissimilar thermoelements joined at a first thermojunction to form a thermoelectric generator having at least one second thermojunction, contact means for at least one of said thermojunctions, mounting means of insulating material on which said generator is mounted, third and fourth dissimilar thermoelements mounted on said insulating mounting member and joined at one end to said contact means to form a third thermojunction, said third and fourth thermoelements forming a thermoelectric heat pump having thermojunction and heat transfer means for the ends of said third and fourth thermoelements opposite those joined to said contact means.

2,981,775
OXIDE THERMOCOUPLE DEVICE
George S. Bachman, Metuchen, N.J., assignor to Steatite Research Corporation, Keasbey, N.J., a corporation of Delaware
Filed Nov. 12, 1958, Ser. No. 773,351
7 Claims. (Cl. 136—5)

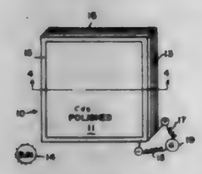


1. A thermocouple device comprising a pair of sintered oxide legs, a sintered hot junction between the two legs at one end thereof, the first of said legs consisting essentially of at least one mixed oxide selected from the group consisting of zirconium oxide stabilized with about 3–5% of CaO, zirconium oxide plus about 15% of ceria and stabilized with about 3–5% of CaO, Fe_3O_4, ferrites, $(NiO)_{.90}(Li_2O)_{.10}$, lanthanum-etrontium manganite, and $(ZnO)_{.97}(Al_2O_3)_{.03}$, the second of said legs consisting essentially of a different one of said oxide mixtures.

2,981,776
STORAGE BATTERY MATERIAL
Edward Joseph Dunn, Jr., Port Washington, N.Y., and Joseph Anthony Orsino, Mountain Lakes, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed June 10, 1959, Ser. No. 819,444
6 Claims. (Cl. 136—27)

6. A method of preparing a composition suitable for use as active material in lead-acid storage battery plates which comprises the steps of continuously reacting metallic lead at a temperature between 621° F. and 1630° F. with air in a reaction zone, said air being fed in the form of a stream to said reaction zone, and concurrently adding sulfuric acid to said stream of air, said sulfuric acid being added dropwise to said stream of air, said sulfuric acid reacting substantially instantaneously to form lead sulfate prior to any substantial thermal decomposition of said acid, and continuously withdrawing a product comprising lead oxide in amount between 10 and 70 percent, lead sulfate in amount between 6 and 35 percent and metallic lead in amount between 10 and 50 percent.

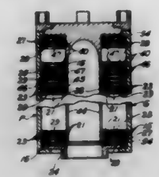
2,981,777
CADMIUM SULFIDE BARRIER LAYER CELL
Donald C. Reynolds, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Original application May 11, 1956, Ser. No. 584,403, now Patent No. 2,844,640, dated July 22, 1958. Divided and this application Feb. 25, 1958, Ser. No. 717,534
7 Claims. (Cl. 136—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A cadmium sulfide barrier layer cell converting solar spectrum energy directly into electrical energy comprising a cadmium sulfide crystal of ample thickness to provide an electron permeable barrier layer therewithin and having a polished first side of optimum direct exposure for energy reception for the application thereto of solar spectrum energy and having a second side, a first ohmic contact attached to the cadmium sulfide crystal polished first side and extending along the edge thereof, and a second ohmic contact attached to the cadmium sulfide crystal second side and extending along the edge thereof.

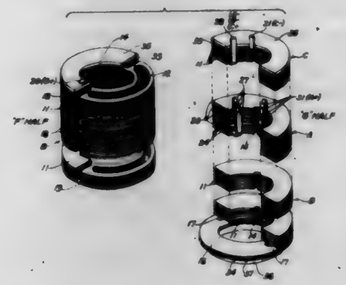
2,981,778
SPIN ACTIVATED DEFERRED ACTION BATTERY
John Mortimer Freund, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1949, Ser. No. 135,064
8 Claims. (Cl. 136—90)

1. A sequence of cells for an annular, spin-activated, deferred action type battery in which centrifugal force resulting from rotation of the battery is utilized to fill the cells with electrolyte, comprising a plurality of congruent, flat, semiannular battery plates disposed perpendicular to the axis of rotation in a semiannular stack, each of said battery plates having a pair of holes therein with the inner hole nearer the axis of rotation than the outer hole and with all of the inner holes and all of the outer holes respectively in alignment, a nonconducting separator plate having an elongated aperture therein between adjacent pairs of battery plates, the elongated apertures being in alignment and being substantially closed by the adjacent battery plates, the inner and outer holes in the battery plates connecting the elongated apertures



of the adjacent separator plates, whereby the seeking of equilibrium in the level of the electrolyte will be permitted through the aligned outer holes while air can pass in the opposite direction via the aligned inner holes.

2,981,779
STACK CONSTRUCTION FOR DEFERRED ACTION TYPE BATTERY
John Mortimer Freund, Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1949, Ser. No. 135,065
4 Claims. (Cl. 136—90)



1. A cylindrical battery in which cells formed between electronegative and electropositive sides of battery plates are inert until use, comprising a high voltage section made up of a plurality of substantially half-annulus battery plates arranged in potential series concentrically down the entire length of one semi-cylindrical half and partly up the other semi-cylindrical half of the battery, a low voltage section made up of a plurality of substantially half-annulus plates arranged concentrically in potential series beginning at the top and extending partly down the latter half of the battery, and a low voltage, high amperage section made up of a plurality of paralleled cells established between concentric substantially half-annulus plates disposed between said low voltage and said high voltage sections in said latter half of the battery.

2,981,780
DEFERRED ACTION TYPE BATTERY WITH INVOLUTE PLATES
Thaddeus C. Burnette, Jr., Kingsport, Tenn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 13, 1950, Ser. No. 184,535
9 Claims. (Cl. 136—90)

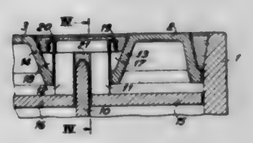
3. An annular battery of the deferred action type comprising a plurality of cells established between coatings of electropositive and electronegative electrode materials on thin rectangular conducting battery plates which extend outward from the inner circumference of the annu-

lar battery substantially along an involute of a circle concentric with said inner circumference with thin, rectangular, apertured nonconducting separators disposed between adjacent plates, each separator being formed



with a slot leading from the inner periphery of the annular battery into the aperture in said separator to provide an orifice for the introduction of electrolyte into the volume formed by said aperture between adjacent plates.

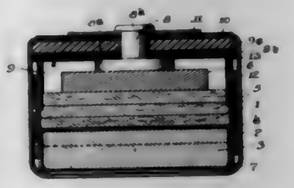
2,981,781
ONE-PIECE STORAGE BATTERY
Pierre Lecullier, Neuilly-sur-Seine, France, assignor to Etablissements Ducellier, societe anonyme, Paris, France
Filed Jan. 19, 1959, Ser. No. 787,484
Claims priority, application France June 9, 1958
1 Claim. (Cl. 136—135)



In a one-piece storage battery comprising a plurality of cells, partitions separating adjacent cells, a molded cover covering each cell and having a cavity formed on each side parallel to said partitions, each cell having two connecting terminals at its upper portion, the connecting terminals of two adjacent cells projecting on either side of the relevant partition in said corresponding cover cavities, and connectors between the terminals of two adjacent elements, the improvement consisting in providing in each cavity of said covers at least one boss formed integrally with the cover material and providing on each connector at least one extension associated with each boss, each connector bearing with its extensions on the bosses solid with the covers to assist in holding said covers in position.

2,981,782
TERMINAL-DEPOLARIZER UNIT FOR PRIMARY CELLS
Robert A. Warren and Milton E. Wilke, Freeport, Ill., assignors, by mesne assignments, to Servel, Inc., Evansville, Ind., a corporation of Delaware
Filed June 26, 1958, Ser. No. 744,772
16 Claims. (Cl. 136—136)

7. A terminal-depolarizer unit for primary cells comprising a metallic terminal, a preformed compressed depolarizer pellet, and a film of an electrically conductive composition interposed at the interface and forming an adherent conductive bond between said terminal and



said pellet, said composition consisting essentially of a conductive finely divided material in a wax binder.

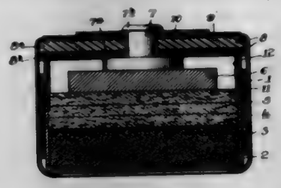
2,981,783
TUBULAR TYPE PLATES FOR ELECTRIC ACCUMULATORS
Charles James Bushrod, Cheadle, England, assignor to Chloride Batteries Limited, Swinton, near Manchester, England, a British company
Filed May 23, 1958, Ser. No. 737,201
6 Claims. (Cl. 136—146)



1. A tubular type plate for a lead acid electric accumulator, metallic spines extending between top and bottom bars of the plates, active material around the spines and porous tubes surrounding the active material, the tubes formed from an interwoven fabric made from yarn formed from a polyester resin of terephthalic acid and ethylene glycol.

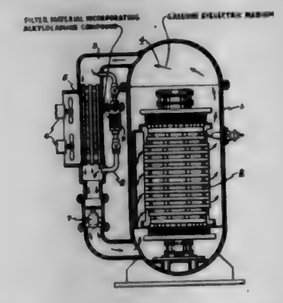
2,981,784
ALKALINE CELL WITH PRE-ASSEMBLED NEGATIVE TERMINAL
Joseph J. Coleman, Freeport, Ill., assignor, by mesne assignments, to Servel, Inc., Evansville, Ind., a corporation of Delaware
Filed Oct. 28, 1957, Ser. No. 692,668
7 Claims. (Cl. 136—166)

1. A negative terminal and sealing closure sub-assembly for a primary electric cell comprising a metallic cup having a central opening in the bottom thereof, a centrally-apertured disk of resilient insulating material within said cup and covering and engaging the bottom thereof, a centrally-apertured disk of insulating material overlying at least the central portion of the exterior surface of the bottom of said cup, and electrically conductive fastening means clamping said disks tightly together, said fastening means being exposed both inside and outside of said cup and having an end portion overlying and engaging



with resilient pressure at least the central portion of said disk of resilient material to seal off the aperture therein.

2,981,785
ELECTRICAL APPARATUS WITH GASEOUS DIELECTRIC AND PURIFYING MEANS THEREFOR
Ralph E. Plump, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 15, 1956, Ser. No. 616,079
2 Claims. (Cl. 174—14)



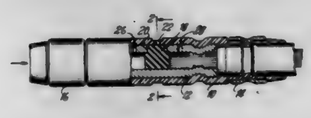
1. Electrical apparatus comprising, in combination, a closed container, an electrical device in said container having spaced parts at unequal potential between which arcing may occur under certain conditions, a gaseous insulating medium in said container between said parts comprising a fluoro-gas selected from the group consisting of perfluoroalkanes, perfluoro-cyclo-butane, and mixtures thereof, said fluoro-gas being subjected to arcing decomposition producing toxic olefinic gaseous decomposition products of said fluoro-gas, and means in contact with said gaseous insulating medium and comprising an alkylolamine for reacting with and thereby detoxifying said toxic olefinic gaseous decomposition products.

2,981,786
ELECTRICAL SHIELD
Donald W. Beeney, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 5, 1957, Ser. No. 700,835
1 Claim. (Cl. 174—35)



A shield adapted to flexibly engage an electrical device having a given diameter comprising a strip of flexible metal having oppositely disposed complementary bias cut edges, said strip being formed to provide a spiral having a plurality of turns forming a substantially continuous tubular body portion, said body portion having a non-flexed diameter less than the diameter of the electrical device, one of said bias cut edges on said strip located on a given spiral turn meshing with the opposed complementary bias cut edge located on the following spiral turn, said biased cut edges coacting to maintain a substantially continuous peripheral surface when said body portion is flexed to said given diameter.

2,981,787
INSULATED CONNECTOR
John J. Brautigam, South Norwalk, and George E. Hood, Stamford, Conn., assignors to Burndy Corporation, a corporation of New York
Filed Feb. 7, 1958, Ser. No. 713,998
4 Claims. (Cl. 174—84)



1. An electrical connector comprising: a conductive tube; an insulating tube, external and coaxial to said conductive tube and extending longitudinally beyond said conductive tube at both ends thereof; a hole in the wall of said insulating tube; a hole in the wall of said conductive tube; said holes having at least a portion of each hole disposed in overlapping relation to provide access to a portion of said conductive tube underlying said holes; and a solid, resilient, insulating means to seal said hole in said insulating tube.

2,981,788
POWER CABLES
Stephen Bunish, Marion, Ind., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Dec. 3, 1958, Ser. No. 778,910
2 Claims. (Cl. 174—115)



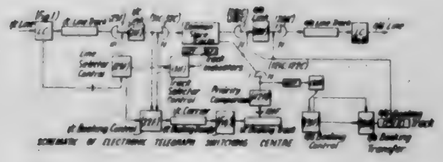
1. In a high-voltage electric power cable including a plurality of flexible power conductors, a layer of elastomeric polymer insulating material covering each conductor, a separate thin anti-corona layer of semi-conducting material covering and surrounding each insulating layer, a flexible grounding conductor comprising an extended core of tough pliable polymeric material having flexibility and elasticity substantially the same as those of said elastomeric polymer, and a plurality of metal strands helically wrapped about said core to form a substantially continuous conductive covering over the surface of the core, said covering being in substantially continuous electrical contact with the semi-conducting layers of an adjacent pair of said insulated power conductors and being adjacent and symmetrically disposed with respect to the insulating material on said pair of

conductors and thereby adapted to contact either of said power conductors when the insulating material thereon is damaged, said core material containing conducting carbon black of substantially 21 millimicrons particle size and in an amount of approximately 30% to 50% by weight of the core material uniformly dispersed therein so as to provide a conducting path of conductivity much greater than that of said semi-conductive layer effective to electrically shunt a locally damaged longitudinal section of said strands, thereby to maintain the current-carrying continuity of said grounding conductor, and a jacket surrounding and binding said covered conductors together.

2,981,789
ELECTRIC SIGNALLING SYSTEMS

Esmond Philip Goodwin Wright, Donald Adams Weir, and Joseph Rice, London, England, assignors to International Standard Electric Corporation, New York, N.Y.

Filed Aug. 7, 1956, Ser. No. 602,608
Claims priority, application Great Britain Sept. 27, 1955
39 Claims. (Cl. 178—2)



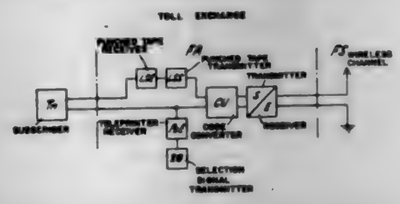
2. A telecommunication exchange system comprising a switching center, a plurality of incoming lines for receiving items of intelligence comprising teleprinter messages, message-priority information and message-destination information, a plurality of outgoing lines, common magnetic drum storage equipment at said switching center comprising a plurality of incoming and outgoing line storage sections for respective lines and comprising a plurality of common storage sections, line circuit means for storing intelligence items received over any said incoming line in the corresponding line storage section, first transfer means for automatically transferring stored intelligence items from said incoming line storage section into the said common storage sections, second transfer means for automatically transferring intelligence items stored in said common storage sections to selected outgoing line storage sections in accordance with destination information included with said intelligence items, and retransmitting means for automatically retransmitting stored information items from said selected outgoing line storage section over the associated outgoing lines.

2,981,790
CIRCUIT ARRANGEMENT FOR TRANSMITTING MESSAGES VIA TELEPRINTER EXCHANGES

Josef Hurschler, Bern, Switzerland, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany

Filed Feb. 19, 1958, Ser. No. 716,082
Claims priority, application Switzerland Feb. 21, 1957
6 Claims. (Cl. 178—2)

1. In a circuit arrangement for teleprinter exchanges which are interconnected over transmission paths comprising duplex operated wireless channels, a storage device in the transmission channel for recording messages to be transmitted over the transmission path, selector switches for extending the connection from a calling subscriber located at the far side of the transmission path to another subscriber at the near side thereof, a selection signal transmitter for recalculating coded selection digits arriving over the transmission path into numerical selection impulses for the setting of such selector switches to extend the desired subscriber connection, switching means connected with said storage device for selectively connecting the latter to the transmitting channel and to a source of teleprinter signals during transmission of such signals therefrom over the transmission path, and, during the building-up of a connection between subscribers, to

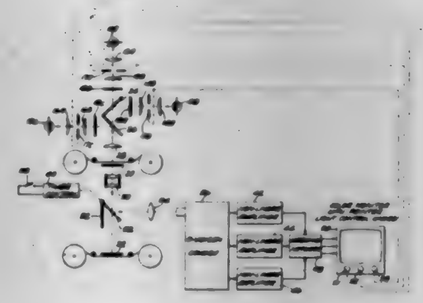


the receiving channel and to said selection signal transmitter, for converting the coded selection digits incoming over the receiving channel, in the form of teleprinter signals, into such numerical selection impulses to control actuation of said selector switches for effecting the desired subscriber connections, and means operative after conclusion of the building-up of the connection for automatically switching said storage device back to the transmitting channel.

2,981,791
PRINTING TIMER FOR MAKING COLOR POSITIVES ON FILM

Thomas P. Dixon, Pacoima, Calif., assignor to Technicolor Corporation, Hollywood, Calif., a corporation of Maine

Filed Mar. 25, 1957, Ser. No. 648,301
7 Claims. (Cl. 178—5.2)

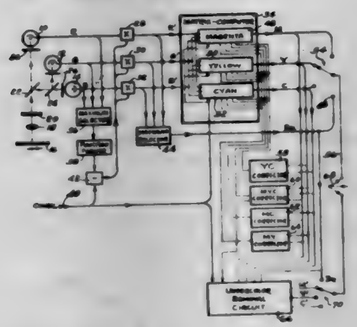


1. In apparatus for deriving parameters for properly exposing photosensitive emulsions, said apparatus being of the type wherein electrical signals representative of point-by-point light transmission of a transparency having color-image aspects of an object are applied to associated color channels, and cathode-ray tube apparatus at the outputs of said color channels display a positive picture of said object in color, the improvement comprising a primary color light source for each color channel, means for directing light from all said sources upon said transparency, means in each channel for scanning said transparency for providing electrical signals representative of the transmission of said transparency for the color associated with the channel, means for varying the brightness of each light source to obtain a picture on said cathode-ray tube apparatus having desired color brightness, and means for exposing said photosensitive emulsions to the light passing through said transparency for a predetermined time after said desired color brightness for said color picture is obtained.

2,981,792
COLOR CORRECTION COMPUTER FOR ENGRAVING MACHINES

Monroe Farber, Jericho, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Oct. 31, 1957, Ser. No. 693,577
14 Claims. (Cl. 178—5.2)

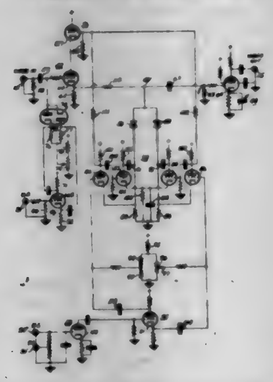


1. A computer for producing, from a set of varying input signals corresponding to the primary color intensities of an original object, a set of derived signals correctly representing the temporally varying optimum control amplitudes of polychrome image reproducing apparatus; comprising means for modifying each of the input signals in accordance with a predetermined signal-ratio preserving function of the instantaneously maximum one of said signals, and matrix means for intermixing a function of each of said modified signals with the same function of each of the others, to yield said derived signals.

2,981,793
SHADING VOLTAGE CIRCUITRY

Winslow Leroy Hurford, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 1, 1955, Ser. No. 525,695
8 Claims. (Cl. 178—7.2)

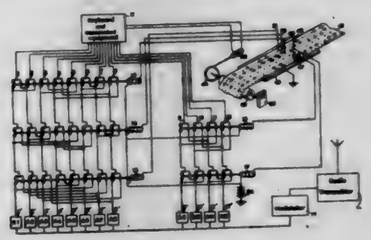


8. A shading amplifier circuit arrangement including, a signal repeating cathode follower, an output impedance element connected to the cathode electrode of said cathode follower, a modulating circuit coupled across said impedance element, said modulating circuit comprising a pair of unilateral conducting devices having unlike electrodes connected to said cathode electrode and the other electrodes individually connected to the other terminal of said impedance element through other impedance elements, and means to apply shading voltages of paraphase relationship across said other impedance elements, said means comprising four electron discharge devices connected as feedback pairs for each phase, each of said electron discharge devices having a grid, a cathode and an anode, the cathodes of the output device of each feedback pair being connected together and coupled to the other terminal of said output impedance element, capacitive coupling the anodes of said output devices to the other electrodes of said unilateral conducting devices, capacitive coupling the grids of said output devices to the anodes of the other devices of said pairs, the cathodes of said other tubes being connected to said other impedance elements, the grids of said other devices being coupled individually to the output terminals of a paraphase repeating circuit, means to apply shading voltage waves to the input of said paraphase repeating circuit, an electron discharge system interposed in the anode lead of said cathode follower and having a control element, resistance components intercoupling the anodes of said other devices to the control element of said electron discharge system, a fixed potentiometer circuit connected between the grid of one of said other devices and two fixed potential points, and an adjustable potentiometer circuit connected between the grid of the other of said other devices and said two fixed potential points to polarize said unilateral conducting devices.

2,981,794
TELEPRINTER SECRECY SYSTEM

Jean Jacques Cuvelier, Rue Defuisseaux, Marcinelle, Belgium, assignor to Ateliers de Constructions Electriques de Charlerol, Brussels, Belgium, a corporation of Belgium

Filed Feb. 6, 1959, Ser. No. 791,630
Claims priority, application Belgium Feb. 14, 1958
3 Claims. (Cl. 178—22)



1. In a teleprinter arrangement in which each character of a message is represented by two successive signals having different frequencies according to a twelve-frequency code, and having means for the selection of received signals comprising five teleprinter selector electromagnets each corresponding to a respective unit of the standard international code and the twelve-frequency code being established according to a table in which the frequencies one to eight correspond to combinations of the units three to five and the frequencies nine to twelve correspond to the units one and two respectively of the standard international code, the combination of encoding means comprising a first five-track perforated tape having perforations arranged according to an arbitrary arrangement, each track of said tape corresponding to a respective unit of the standard international code, means for advancing the tape in response to transmission of each character, signal generating means for generating separate signals, first inverting means operatively connected to said signal generating means, means for sensing the tape operatively connected to said inverting means operatively connected to the signal generating means to cause permutations in the frequencies of the signals in response to the perforations of each track of the tape, said permutations corresponding to an inverse state of the units

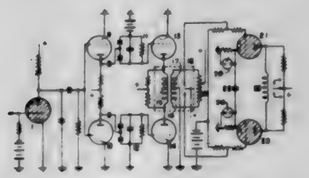
which correspond, according to the table, to the perforated track sensed, decoding means comprising a second perforated tape identical to the first tape, means for advancing said second tape in phase with the first tape, each track of said second tape corresponding to one of the five selector magnets of the teleprinter, second inverting means operatively connected to said five selector electromagnets, means for sensing said second tape, operatively connected to said second inverting means to cause the inversion of the signals according to the perforations of the corresponding track and the state of energization of the respective magnet thereby to reconstruct the text arrangement according to an uncoded arrangement in the standard international code.

2,981,795

DEVICE FOR DRIVING A RECEIVING TELETYPEWRITER, WITH CORRECTION OF THE DRIVE-PULSE DISTORTION

Aldo Capella, Milan, Italy, assignor of one-half to Soc. Metallotecnica, Milan, Italy, a corporation of Italy

Filed May 9, 1956, Ser. No. 583,846
Claims priority, application Italy June 10, 1955
7 Claims. (Cl. 178—69)



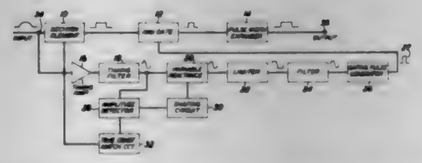
1. A pulse correcting arrangement for supplying signal current to the receiving relay of a teletypewriter in a system wherein two-valued information signals are transmitted, said arrangement comprising a source of alternating-current signals, a first electron tube having a control grid normally biased to cutoff, a first rectifying arrangement coupled between said source and said first tube for applying a positive potential to its grid to render it conductive responsive to output signals from said source, a second electron tube having a control grid and normally conducting, a second rectifying arrangement coupled between said source and said second tube for applying a negative potential to its grid to cut it off responsive to output signals from said source; a pulse repeating relay having a winding connected in the output circuits of said first and second tubes, and having contact means comprising a movable armature contact and two other contacts, one on each side of said armature contact; means responsive to one value of said information signals to block the supply of signals from said source to both of said rectifying arrangements to thereby cut off direct-current output from the rectifying arrangements, and means responsive to the other value of said information signals to supply alternating current signals from said source to both of said rectifying arrangements to thereby produce direct-current output from the rectifying arrangements; means including said normal biasing of said electron tubes effective with no output from said rectifying arrangements to produce a first condition of current flow in said pulse repeating relay to operate said armature contact to one side contact, and means responsive to direct-current output from said rectifying arrangements to bias said electron tubes to produce a second condition of current flow in said pulse repeating relay to operate said armature contact to the other side contact; first and second thyratrons coupled respectively to said side contacts, means for initiating conduction of said thyratrons alternately responsive respectively to closure of said side contacts, means for cutting off either thyratron responsive to the initiation of conduction in the other, means connecting said receiving relay in the output circuits of said thyratrons, means responsive to conduction in one of said thyratrons to produce a first output signal condition in said receiving relay and means responsive to conduction in the other thyratron for producing a second output signal condition in said receiving relay; circuit means including the thyratrons and the receiving relay to cause the output signals to said receiving relay to have constant pulse amplitude and rise time; manually adjustable means associated with said pulse repeating relay to displace the point of balance of said armature contact in relation to said side contacts to regulate the pulse ratio of the output signals with respect to the current in said pulse-repeating-relay winding; and means for detecting and indicating said pulse ratio to aid in adjusting said adjustable means.

2,981,796

SELF-TIMED REGENERATIVE REPEATERS FOR PCM

Owen E. De Lange, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 9, 1958, Ser. No. 779,213
15 Claims. (Cl. 178—70)



1. In a self-timed regenerative repeater for signals comprising pulses where the average number and energy content of said pulses vary in a substantially random manner, means for applying to the input of said repeater a plurality of said pulses, filter means for deriving a timing wave from the incoming pulses which varies in amplitude in proportion to the number and energy content of said incoming pulses, means for varying the reactance of said filter in response to the amplitude of said timing wave to maintain the phase of said timing wave substantially constant regardless of variation in the number and energy content of said incoming pulses, detector means for deriving a control voltage from said timing wave which varies with the changes in amplitude of said timing wave, a decision element which produces an output pulse if the incoming pulse exceeds a predetermined amplitude having a reactive input impedance, said reactive input impedance causing energy to be temporarily stored therein proportional to the energy contained and the rate of appearance of said incoming pulses thereby varying the amplitude level of said pulses at which said decision element will produce an output pulse, circuit means driven by said control voltage for generating an output voltage which will vary in a corresponding manner as the energy stored in said input, and means for applying said output voltage in series to said input to compensate for said stored energy.

2,981,797

AUTOMATIC FREQUENCY CONTROL RECEIVER FOR THE RECEPTION OF RADIO SIGNALS FOR COMMUNICATIONS THROUGH TELETYPEWRITERS

Aldo Capella, Milan, Italy, assignor of one-half to Soc. Metallotecnica, Milan, Italy, a corporation of Italy

Filed May 9, 1956, Ser. No. 583,831
Claims priority, application Italy June 10, 1955
10 Claims. (Cl. 178—88)

1. An arrangement for the reception of frequency keyed telegraphic signals, comprising a source of input signals comprising mark and space signals at respective frequencies separated by a given shift value, circuit apparatus including limiting means coupled to said source and passing both mark and space signals, only one filter coupled to said circuit apparatus, said filter having a



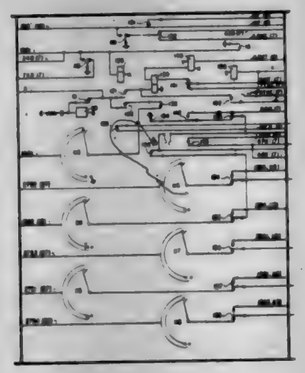
pass band narrower than said frequency shift for passing one of said mark and space signals and rejecting the other, and means including amplitude detection means coupled to said filter for producing output signals for operating a utilization device responsive only to said one signal passing through the filter.

2,981,798

AUTOMATIC TOLL TICKETING TELEPHONE SYSTEM

John E. Ostline, Chicago, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware

Filed Dec. 3, 1956, Ser. No. 625,773
9 Claims. (Cl. 179—7.1)



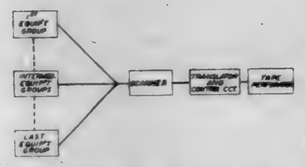
6. In a toll ticketing telephone system with a plurality of rates applicable for each type of call dependent upon the time of day of the initiation of the call, a toll ticket repeater, a toll data tabulator, a dater timer and a recorder, first means in said dater timer that send a pulse once each minute to the repeater via a first path, second means in said dater timer that send in code the time of day, date, and the rate applicable for that time to said tabulator, and third means in said dater timer that sends a pulse via a separate path to said repeater at the time when a succeeding rate is to become effective, first means in said repeater operated to register the directory number of a calling and called station, second means in said repeater effective to count said pulses via said first path from said dater timer during the duration of a completed toll call, and third means in said repeater operated in response to said pulse via said separate path from said dater-timer during the duration of a call, switching means for operatively connecting said recorder with said tabulator whereby said tabulator may control said recorder in accordance with the calling and called telephone numbers the total time, the date, time and rate to permanently record this pertinent data of a toll call, other means for operatively connecting said repeater with said tabulator upon the termination of a toll call, first register means in said tabulator effective upon connection with said repeater to accept the calling and called telephone numbers and the total count of said time pulses registered in said repeater, second register means in said tabulator to accept the time of day, date and the current applicable rate for that time of day from the dater timer after accepting the data from the repeater, third means in said tabulator operated upon detecting an operated condition of said third means in said repeater to change said current applicable rate indication from said dater timer to control said recorder to record the rate as that of the preceding time period.

2,981,799

DATA RECORDING SYSTEM

Winnifred Riggen, Joliet, Ill., assignor to American Telephone and Telegraph Company, a corporation of New York

Filed June 16, 1958, Ser. No. 742,094
6 Claims. (Cl. 179—8)



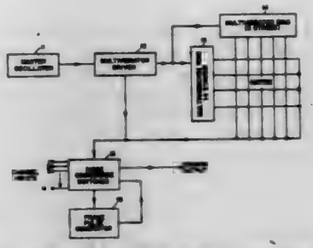
1. In a data recorder for recording data pertaining to the occupancy of a plurality of groups of circuits each comprising a plurality of subgroups of circuits, a translator, a scanner for sequentially connecting said translator to each of said groups in succession, a subscanner for sequentially connecting said translator to the subgroups of circuits within each group, means under control of said translator for sequentially determining the number of occupied circuits in each subgroup as said translator is connected thereto, and means under control of said determining means for sequentially recording the occupancy data for each subgroup on an output medium.

2,981,800

TRANSISTORIZED TIME MULTIPLEXER FOR TELEMETERING

Jacob M. Sacks, Corona, and Eugene R. Hill, Riverside, Calif., assignors to the United States of America as represented by the Secretary of the Navy

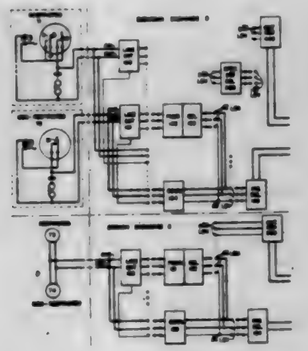
Filed Aug. 23, 1957, Ser. No. 680,029
4 Claims. (Cl. 179—15)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A time multiplexer comprising a master oscillator, a multivibrator driver associated with said oscillator, a trigger generator associated with said driver, at least one multivibrator ring counter chain associated with said driver and said trigger generator for cyclic operation thereof, diode channel coincidence switches each connected to one of a plurality of input channels and to said driver and successively connected to at least one multivibrator in each ring for sequential operation thereof, two diode coincidence detectors connected to said driver

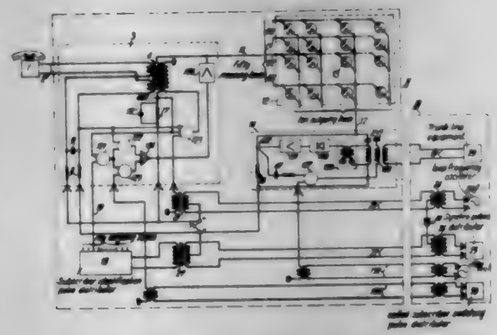
and certain ones of said multivibrators in each ring between said input channels, a synchronizing multivibrator connected to said detectors, a synchronizing gate activated by said synchronizing multivibrator and a voltage source and adapted to be turned on and off to form a synchronizing channel; only one of said multivibrators in each ring counter chain being in ON condition at any instant, the multivibrators in each ring counter chain each including a pair of transistors, one end of a current limiting resistor connected to the base of each transistor, a load resistance connected to the collector of each transistor, a back-biased diode connected between the other end of each current limiting resistor and the collector circuit of the other of said transistors, said trigger generator operable to apply a trigger pulse to said transistors for switching them ON and OFF, one of said transistors being an NPN junction type operable to have a positive source of voltage applied thereto through a first load resistor connected therewith, the other of said transistors being a PNP junction type operable to have a negative power supply applied thereto through a second load resistor connected therewith, in each ring counter chain all the PNP emitters of the multivibrators being connected together and to said first load resistor and all NPN emitters being connected together and to said second load resistor.

2,981,801
RESTRICTED SERVICE ARRANGEMENTS
Clarence E. Lomax, Chicago, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Sept. 15, 1955, Ser. No. 534,471
7 Claims. (Cl. 179—18)



2. In a telephone system, a restricted and a non-restricted substation, a numerical switch of the trunk-hunting type having wipers and a plurality of groups of bank contacts, outgoing trunks connected to said contacts, said non-restricted substation having a calling device provided with impulse contacts, said restricted substation having a calling device provided with impulse contacts and auxiliary contacts, a line relay and a differential relay in said switch, means for extending connections including a pair of line conductors between each of said substations and said pair of relays, said impulse contacts being intermittently operated during the return movement of the calling device at said substation following actuation of said device, said line relay being responsive to the operation of said impulse contacts to cause said wipers to be positioned opposite one of said groups of bank contacts, said auxiliary contacts, in the case of a call from said restricted substation being closed after reclosure of said impulse contacts after the last digital impulse but before return of said calling device to normal to ground said conductors momentarily, said differential relay operating responsive to said grounding, means in said switch automatically operative at the end of said series of impulses to search for and seize an idle one of said outgoing trunks by way of said wipers, means in said switch being effective in response to said seizure of said outgoing trunk and only in case said differential relay is operated for momentarily grounding said seized outgoing trunk, and means at the far end of said seized outgoing trunk operated responsive to said grounding of said trunk for marking the far end of said seized outgoing trunk as a restricted call from said restricted substation.

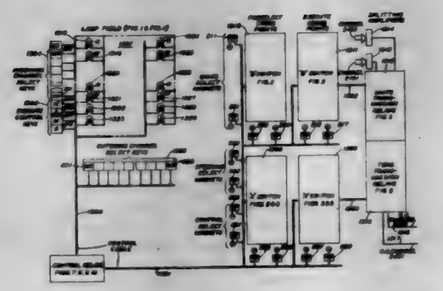
2,981,802
REMOTE LINE CONCENTRATOR
Pierre M. Lucas, 11 Rue Abbe Derry, Issy-les-Moulineaux, and Auguste A. Soutel, 13 Rue Anatole France, Bonneuil-sur-Marne, France
Filed Dec. 29, 1958, Ser. No. 783,390
Claims priority, application France Jan. 4, 1958
4 Claims. (Cl. 179—18)



1. A telephone line concentrator for allowing a number of telephone subscribers' lines to be connected to a central station by a smaller number of trunk lines than subscribers' lines comprising a rectangular matrix of crosspoints having as many input rows as subscribers' lines connected to the concentrator, as many outgoing columns as trunk lines between the concentrator and the central station and crosspoints constituted by cold-cathode gas tubes between said rows and columns, and responsive to switching pulses applied to said input rows, at least two control lines between the concentrator and the central station, the first of said control lines carrying synchro-pulses and the second of said control lines carrying called line switching pulses, a subscribers' identification pulse distributor controlled by said synchro-pulses and having an input connected to said first control line and as many outputs as subscribers' lines, means responsive to the closing of each subscribers' line, a plurality of subscribers' gate circuits each operatively connected to a given subscriber's line, said subscriber gate circuit comprising a first and a second coincidence gate circuit the outputs of which are connected in parallel to one of said input rows of said matrix of crosspoints, said first coincidence gate circuit applying to said input row of said matrix a switching pulse effective to operate a crosspoint connecting a given subscriber's line to a trunk line in response to the coincidence of the given subscriber's identification pulse received from the said subscriber's identification pulse distributor with a signal provided by said means responsive to the closing of the given subscriber's line when the same given subscriber is calling and said second coincidence gate circuit applying to said input row of said matrix a switching pulse effective to operate a crosspoint connecting said given subscriber's line to a trunk line in response to the coincidence of the given subscriber's identification pulse received from the said subscriber's

identification pulse distributor with a called subscriber switching pulse received through said second control line when said given subscriber is called.

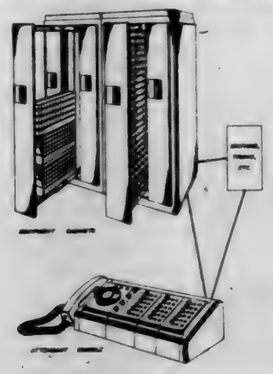
2,981,803
PROGRAM SWITCHING SYSTEM
Albert E. Bachelet, New York, N.Y., George S. Bibbins, Short Hills, N.J., and Arnold J. Celentano, New York, and George A. Pullis, Riverdale, N.Y.; said Bachelet, said Celentano, and said Pullis, assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York, and said Bibbins assignor to American Telephone and Telegraph Company, a corporation of New York
Filed Dec. 28, 1955, Ser. No. 555,921
9 Claims. (Cl. 179—22)



5. A switching system comprising incoming and outgoing communication channels, first and second pluralities of sets of electrical contacts, said first and said second pluralities of sets each arranged in groups individual to said outgoing communication channels, a plurality of control means for selectively and individually operating particular sets of said electrical contacts of said first plurality to register a plurality of preselections between any particular incoming and any particular outgoing communication channels, other control means including the operated contact sets of said first plurality for selectively operating a plurality of particular sets of contacts of said second plurality, and switching means controlled by the operation of said operated sets of contacts of said second plurality to effect the preselected interconnections.

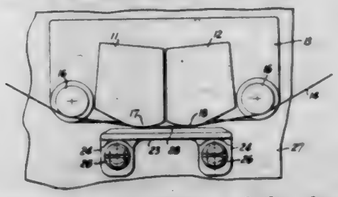
2,981,804
TELEPHONE SYSTEM SWITCHING CONTROL
Henry H. Abbott, Chatham, N.J., Robert O. Rippere, Huntington, N.Y., and Leonard D. Schmidt, Paramus, and Robert D. Williams, Parsippany-Troy Hills, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 14, 1958, Ser. No. 735,159
16 Claims. (Cl. 179—27)

1. A telephone system comprising a central office including a switching control facility, an auxiliary exchange terminating station lines at least one of which is entitled to a special class of service and terminating trunks to said central office, said exchange including switching apparatus and control circuitry effective as a result of one of said lines being in a calling condition for extending a connection therefrom over said apparatus and over a trunk to said office, said office including switching equipment controlled incident to the aforementioned connection extension for extending said connection over said equipment to said control facility, means in said trunk conditioned incident to the extension of said connection thereover to indicate whether or not said one calling line is entitled to said special class of service, means in said control facility operative to hold said trunk in the connection therefrom to said facility, and means including said conditioned trunk indicating means and said trunk holding means for maintaining the rest



of said connection back to a calling line entitled to said special class of service regardless of whether the said latter calling line remains in a calling condition or becomes idle.

2,981,805
MAGNETIC TAPE APPARATUS
Ralph A. Conly, Sunnyvale, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Dec. 16, 1957, Ser. No. 703,082
5 Claims. (Cl. 179—100.2)

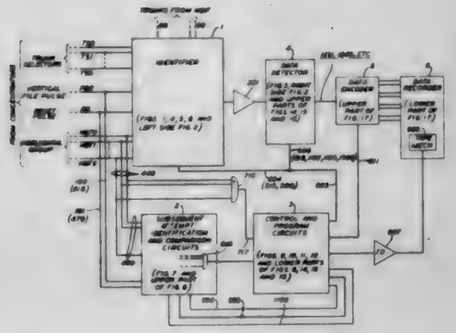


1. In magnetic tape apparatus of the character described, a magnetic record head having a tape engaging face, said head including a magnetic transducing unit having pole tips of magnetic material forming a part of said face, a magnetic reproducing head disposed in proximity with said record head, said reproducing head likewise having a tape engaging face and including a record unit having pole tips of magnetic material forming a part of such face, means for guiding a magnetic tape for movement across said heads and with one side of the tape in contact with said tape engaging faces, the tips of the transducer units being positioned to contact the tape on a common track and in regions spaced in the direction of the length of the tape, and a stationary shield member formed of electrically conductive and nonmagnetic material disposed in close but spaced proximity with the other side of the tape, said shield extending in opposition to both said tape contacting regions, said shield member forming means serving to prevent cross talk between the record and reproducing heads.

2,981,806
AUTOMATIC SERVICE OBSERVER-RECORDER CIRCUITS
Jack K. Middaugh, Metuchen, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 22, 1958, Ser. No. 730,179
4 Claims. (Cl. 179—175.2)

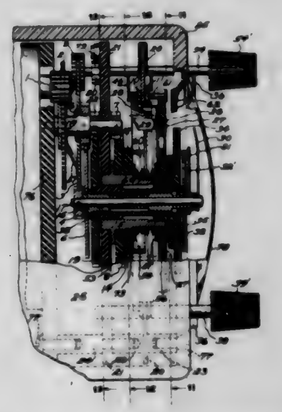
1. In a telephone system having an exchange and a plurality of subscribers' lines connected to said exchange,

service observing apparatus comprising a first and a second register, means for repetitively scanning said lines, means effective when scanning progresses to a line over which a calling condition is initiated for registering the line number of said line over which said calling condition is initiated in said first register, means for normally disabling said second register, means for detecting any one of a plurality of electrical conditions occurring on said calling line, means effective when said calling con-



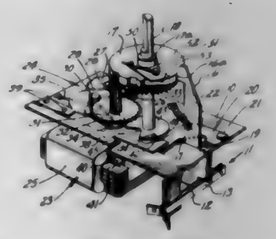
dition is terminated in response to pre-selected ones of said electrical conditions for partially resetting said observing apparatus and for enabling said second register thereby to render said second register responsive to register the line number of lines over which subsequent requests for service are initiated, and means effective when the number in said first and second registers correspond for rendering said recorder effective to record representations of subsequent pre-selected electrical conditions occurring on said line.

2,981,807
DAY AND NIGHT DISTINGUISHING CLOCK CONTROLLED SWITCH
Raymond D. Smith, 955 Main St., Easton, Conn.
Filed Feb. 13, 1956, Ser. No. 564,905
11 Claims. (Cl. 200—38)



1. In a settable time switch, the combination of, clock work, a circular scale of time designating indicia, a split disc bordering on said scale having on its rear face a circular conductive switch track and on its front face a corresponding circular extent of distinctive color, a cooperative split disc bordering on said scale having on its rear face an insulative switch track and on its front face a corresponding circular extent of contrasting color, each of said discs overlapping and extending through a split portion of the other disc and being mounted to be turnable relatively to said other disc and relatively to said scale of indicia in indicating register therewith, at least one of said discs being opaque, means to turn said discs and station them individually in selective positions in circular register with said scale of indicia, a traveling contact at the rear of said discs concealed by said opaque disc and connected to be driven by said clockwork in a circular path in constant wiping engagement sequentially with said tracks, a load circuit connected to be controlled by the cooperation of said contact with said tracks in such manner that said circuit is closed or opened upon the passage of said contact from one to the other of said tracks past the split in one or the other of said overlapping discs, and a signal giving rotor at the front of said disc including an element connected to be driven by said clockwork to sweep along said circular extents of contrasting colors in synchronism with the travel of said concealed contact in a manner to indicate when said contact passes the splits in said discs and shifts from contact with one of said tracks into contact with the other track whereby to make and break the load circuit.

2,981,808
INTERVAL TIMER
Keith W. Klein, Hopkinton, Mass., assignor to General Electric Company, a corporation of New York
Filed July 8, 1958, Ser. No. 747,253
6 Claims. (Cl. 200—38)

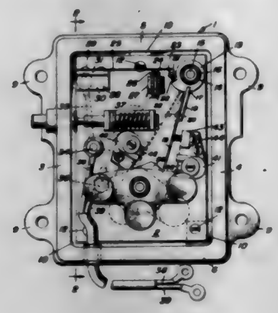


1. In a timer mechanism, a switch, a rotatable cam having a generally circular portion and a recessed portion, a timer motor for rotating said cam, a cam shaft for setting the angular position of the cam, a member interposed between the cam and said switch, said member being biased into slidable contact with said cam for operation by said circular portion and said recessed portion of said cam, a signal means operated by the timer motor, and a restraining lever for the signal means resiliently urged into contact with said member, said lever being responsive to operation of said member responsive to said cam.

2,981,809
TRACTOR SAFETY CONTROL
Sterling W. Van Horn, 639 Jefferson Ave., Scranton 10, Pa.
Filed July 2, 1959, Ser. No. 824,740
8 Claims. (Cl. 200—61.5)

1. An ignition circuit interrupting device for use with automotive vehicles, comprising a stationary contact and a movable contact connected in series with one side of the vehicle ignition circuit, said movable contact being normally spring biased into circuit closing position, a pendulum assembly, including a pivotal collar and a pendulum supported thereon, means secured to the collar adapted for engagement with the movable contact, a pair of permanent magnets having their pole faces arranged in spaced, apposed relation with respect to the pendulum,

the free end portion of the pendulum extending downwardly between the pole faces, and normally retained in circuit closing position by one of the magnets, whereby



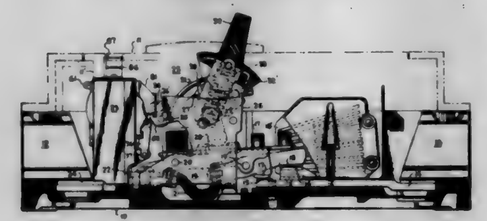
when the vehicle tilts beyond a predetermined safe operating angle the pendulum moves to circuit opening position under the combined influence of gravity, and the magnetic attraction of the other of said magnets.

2,981,810
SEALED-IN CONTACT DEVICE
Rudolf Nitsch, Munich, Germany, assignor to Siemens and Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Dec. 29, 1958, Ser. No. 783,412
Claims priority, application Germany Jan. 15, 1958
7 Claims. (Cl. 200—87)



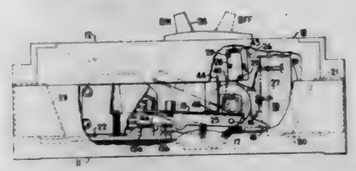
1. A device for controlling the operation of a contact arrangement having contact springs carrying magnetic flux causing actuation thereof depending upon current flowing thereover, comprising means for conducting over said contact springs in one operated position thereof a control flux, and means for conducting over said contact springs an actuating current, said actuating current causing an annular flux to flow in the contact springs, such annular flux effecting displacement of said control flux in said contact springs so as to effect control of said contact springs.

2,981,811
CIRCUIT BREAKER
Harry M. Steven, Schenectady, and Raymond W. Marshall, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Aug. 22, 1957, Ser. No. 679,606
7 Claims. (Cl. 200—88)



1. An electric circuit breaker comprising at least one pair of relatively movable contacts, operating mechanism for manually operating said relatively movable contacts between open and closed circuit positions, said operating mechanism including a movable member movable to cause automatic opening movement of said contacts, a first insulating housing enclosing said operating mechanism and said contacts, and a current responsive trip assembly including a second insulating housing removably mounted in said first insulating housing and including a pair of terminals for connecting said trip assembly in series with said contacts, said trip assembly including a latch member mounted on an external surface of said second housing normally restraining said movable member to prevent automatic opening of said contacts, said trip assembly also including a pair of interconnected toggle links extending through said wall of said second housing connected to said latch member and constructed and arranged when in straightened condition to hold said latch member in restraining position, and current responsive means for exerting a force on said toggle linkage within said second housing to cause collapse of said toggle linkage upon the occurrence of predetermined current conditions through said trip assembly and consequent release of said movable member.

2,981,812
CIRCUIT BREAKER
Benjamin A. Piteo, Jr., Forestville, and David B. Powell, Bristol, Conn., assignors to General Electric Company, a corporation of New York
Filed July 31, 1958, Ser. No. 752,273
2 Claims. (Cl. 200—114)

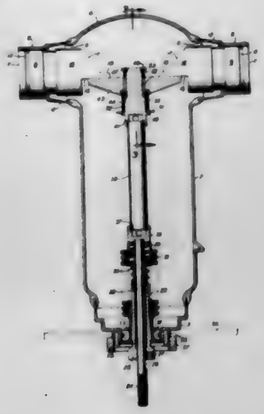


1. An electric circuit breaker comprising an insulating casing having at least one operating pole chamber, a relatively stationary contact member mounted in said pole chamber, a movable contact arm pivotally supported in said pole chamber, a supporting plate of relatively thin sheet metallic material rigidly mounted on said insulating casing and including a portion projecting in edgewise relation over said contact arm in said pole chamber, at least one miniature auxiliary switch mounted on each of the opposite planar surfaces of said projecting portion of said supporting plate in said pole chamber in alignment with each other transversely of said contact arm, each of said auxiliary switches having a plunger type operating member, the operating members of all of said auxiliary switches being aligned in a row, and an operating member of thin flat resilient material having one end thereof rigidly mounted on said contact arm and having the other end thereof disposed adjacent said operating members of said auxiliary switches, said resilient operating member being moved by said movable contact arm and engaging said plunger type operating members of all of said auxiliary switches substantially simultaneously when said contact arm is moved to disengaged position.

2,981,813
VACUUM SWITCH
Jo Emmett Jennings, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of California
Filed July 21, 1958, Ser. No. 749,751
6 Claims. (Cl. 200—144)

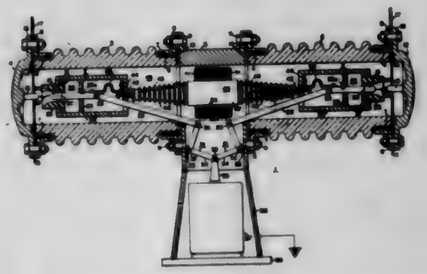
1. A vacuum switch comprising a vacuumized envelope including a dielectric shell and a metallic end cap closing one end of the shell, a plurality of pairs of contact

rods constituting spaced contact points within the envelope and terminal leads outside the envelope, an actuator stem movably mounted on the end cap and hermetically extending into the envelope, and movable contact means within the envelope including a main contact disk



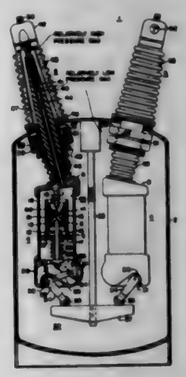
slidably journaled on said actuator stem and a resilient auxiliary contact bar fixedly supported on the actuator stem and movable thereby to engage and disengage selected pairs of said contact points to make and break a circuit therebetween.

2,981,814
CIRCUIT INTERRUPTERS
Robert E. Friedrich, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 22, 1957, Ser. No. 635,400
3 Claims. (Cl. 200—148)



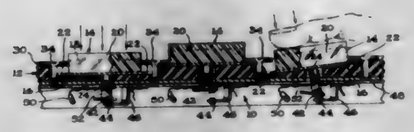
1. A single-bushing type of fluid-blast circuit interrupter including pedestal-type grounded supporting means, a single terminal bushing having its central portion supported by said grounded supporting means, said single terminal bushing including an elongated conductor extending axially therethrough, the axial length of the terminal bushing and the pedestal-type grounded supporting means being disposed substantially at right angles to each other, a pair of oppositely extending insulating casings surrounding at least the end portions of the terminal bushing and extending outwardly from said grounded supporting means, terminal means disposed at the outer ends of said oppositely extending casings and supporting a pair of relatively stationary contact structures, a pair of movable contacts movable toward each other during the opening operation and cooperable with the relatively stationary contact structures to establish a pair of serially related arcs, a fluid-blast puffer structure associated with each movable contact and operable to force a blast of fluid toward the respective arc to effect its extinction, operating-rod means extending generally longitudinally of said terminal bushing and operable to effect simultaneous operation of said fluid-blast puffer structures, an impedance assemblage including a pair of insulating pedestal columns housing impedance elements and an interconnecting housing, said pedestal columns extending outwardly from said pair of terminal means, said interconnecting housing having disposed therein a pair of serially-related impedance interrupting units, a puffer structure associated with each impedance interrupting unit, and operating means disposed intermediate said pair of impedance interrupting units and timed with respect to the aforesaid operating-rod means to effect opening of the pair of impedance puffer structures subsequent to the opening of the first-mentioned puffer structures, whereby the pair of residual current arcs are interrupted subsequent to the interruption of the main current path through the interrupter.

2,981,815
CIRCUIT INTERRUPTER
Winthrop M. Leeds and Alva A. Johnson, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 10, 1957, Ser. No. 701,756
10 Claims. (Cl. 200—148)



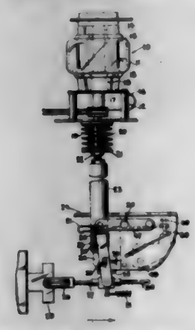
1. The combination in a tank-type compressed-gas circuit interrupter of a grounded metallic tank, a pair of terminal bushings extending into the tank, a pair of sealed rigid-wall pressurized gas-filled arc-extinguishing units containing a gas comprising sulfur hexafluoride under pressure, the gas pressure within the sealed pressurized arc-extinguishing units being at least 50 pounds per square inch for highly effective interrupting performance, means supporting said pressurized rigid-wall arc-extinguishing units interiorly within the grounded tank adjacent the interior ends of the two terminal bushings, means sealing the interior of said gas-filled units from the ambient within the surrounding tank, contact means separable within each sealed pressurized arc-extinguishing unit to establish an arc therein, operating crank means including a sealed rotatable drive shaft extending through the rigid wall of each unit, an operating crank arm secured to each sealed drive shaft and disposed externally of the respective pressurized unit, connecting means interconnecting the interior end of each rotatable drive shaft with the respective separable contact means for effecting the opening and closing movements thereof, and a conducting cross-bar for electrically connecting the pair of arc-extinguishing units in series and also for operating said externally located crank arms.

2,981,816
PUSH BUTTON ASSEMBLY
Robert T. Conart, 107-09 S. Willow Ave., Tampa 6, Fla.
Filed July 25, 1957, Ser. No. 674,203
9 Claims. (Cl. 200—159)



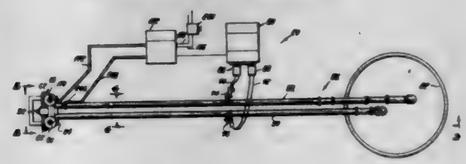
1. A push button assembly comprising a face plate, a relatively thin base plate fixed in spaced relation to the rear of side face plate, a layer of resilient material interposed between said plates and substantially filling the space therebetween in its uncompressed state, a plurality of push buttons each having a broad, laterally extending head and a slender operator shaft extending rearwardly of the head, a plurality of openings in the face plate each accommodating the head of a push button, a plurality of aligned holes in the resilient layer and the base plate for receiving an operator shaft, said push buttons being arranged with their operating shafts in said openings and holes respectively with the outer ends of the operator shafts projecting beyond the rear of the base plate, cooperating means on said push buttons and said face plate for limiting the movement of the push buttons outwardly of the face plate, said resilient material normally acting to urge the respective push buttons each through its respective opening in said face plate to operative position and a plurality of operated devices, at least one for each push button, connected to the rear of the base plate each adjacent one of the holes in said plate, for operation by the operator shaft passing through said hole, the proportions of the push button face, the thickness of the resilient layer, the length of the operator shaft and freedom of movement of the operator shaft in passing through its hole in the base plate being proportioned to enable the push button to be depressed at any point on its face to compress the resilient material to bring the operator shaft in contact with its crresponding operated device, the push button being returned to its normal position by said resilient material.

2,981,817
SWITCH
Herman C. Frentzel, Milwaukee, Wis., assignor, by mesne assignments, to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 20, 1958, Ser. No. 756,095
10 Claims. (Cl. 200—170)



1. An electric switch including fixed contact means, moveable contact means, actuating means, operating means, a resilient coupling, said coupling interconnecting said actuating means with said moveable contact means, the movement of said actuating means by said operating means being transmitted through said resilient coupling to operate said contact means so that said moveable contact means is alternately contiguous with said fixed contact means, and indicating means associated with said coupling to show required location of said coupling and said moveable contact means for maintaining desired closed contact conditions and for aiding in adjustment of said moveable contact.

2,981,818
TYPE METAL TRANSPORTATION SYSTEM
William J. Trabilcy, Englewood, N.J., assignor to Electric Pipe Line, Incorporated, Jersey City, N.J., a corporation of New Jersey
Filed Dec. 17, 1958, Ser. No. 780,974
13 Claims. (Cl. 219—19)

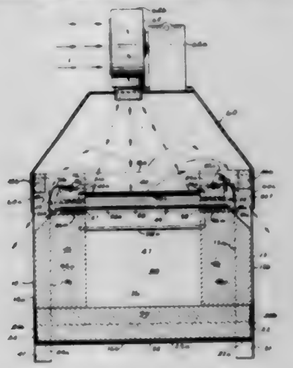


1. In a system for use in heating and transporting a fluid between two spaced-apart stations, a supply pipe line having an electrical resistance which increases as its temperature increases and adapted to interconnect said stations for conveying the fluid therethrough, electrical heating means for raising the temperature of said pipe line by passing an electrical current therethrough to heat the fluid therein comprising a transformer capable of supplying a plurality of different secondary voltages and including a primary winding and a secondary winding, said secondary winding having two terminals connected to said pipe line to establish a load circuit, a source of input voltage arranged to be connected across said primary winding to establish a power circuit, selecting means for connecting different predetermined numbers of primary turns to be connected across said source in sequence whereby the voltage induced in said load circuit is controlled relative to the voltage across said primary winding, and control circuit means for operating said selecting means to decrease the number of primary turns across said source in response to a predetermined increase in the electrical resistance of said pipe line effected by the temperature rise to increase the voltage in the secondary winding and to approximately re-establish and restore initial power input to said pipe line.

2,981,819
HEATER CONSTRUCTION FOR KILN OR OTHER APPARATUS
James J. Gregory, 21570 Edgecliff Blvd., Euclid 23, Ohio
Filed Oct. 23, 1957, Ser. No. 691,991
16 Claims. (Cl. 219—35)

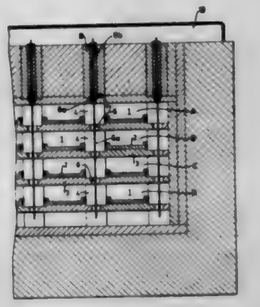
8. In a kiln, a base housing comprising four parallel corner members each L-shaped in section and located at respective corners of a rectangle with adjacent flanges mutually coplanar to form a channel rectangular in cross section, and four connecting members secured at opposite ends respectively to adjacent corner members and each being L-shaped in section to form with one flange of each L-shape sides of the rectangle and having the other respective flanges coplanar to form a border closed bottom end of the rectangular channel with an open upper end, said corner members extending down beyond said plane to form supporting legs for said kiln; a unit having interconnected walls forming at least a portion of a heating zone with said unit adapted to be telescoped into said channel open end into assembled relationship into said base housing and supported at the

bottom by said second recited flanges of said connecting members and laterally by said corner members and first recited flanges of said connecting members, one of said walls extending across said rectangular channel and being located closest said open end being a reflector, and a radiant energy heat source in said heating zone located in spaced relationship to said reflector for emitting radiant



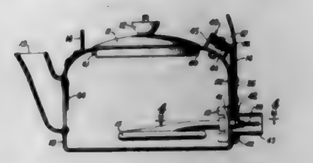
energy against said reflector; a hood operatively connected by telescopic association to said unit and base housing for closing said upper open end of said base housing; and a coolant fluid pump mounted on said hood for circulating coolant fluid along a path through said hood over a surface on the other side of the reflector from said source for reducing the operating temperature of said reflector.

2,981,820
ELECTRICALLY HEATED FURNACE
Anders Ewert Malm, Hallstahammar, Sweden, assignor to Aktiebolaget Kanthal, Hallstahammar, Sweden, a corporation of Sweden
Filed Sept. 16, 1959, Ser. No. 840,301
Claims priority, application Sweden Sept. 20, 1958
3 Claims. (Cl. 219—35)



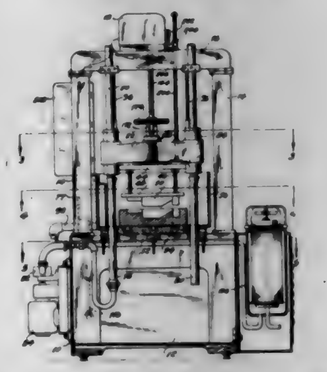
1. An electrically heated furnace having at least two juxtaposed furnace chambers in the same plane, substantially hairpin-shaped heating elements located between said chambers, said heating elements consisting substantially of molybdenum disilicide, $MoSi_2$, said elements depending vertically and each having two terminals at its upper end, each of said elements being adapted to radiate heat by a substantially free radiation to the furnace on either side thereof, a connection chamber for the connection of the heating elements situated on the roof of the furnace, said chamber having a static air pressure imparted to it which slightly exceeds pressure from the furnace caused in the furnace chambers and the brick-work of the furnace vault by the difference in height and temperature.

2,981,821
ELECTRIC APPLIANCE
Eli E. Hayes, 4827 Three Mile Drive, Detroit 24, Mich.
Filed Nov. 12, 1957, Ser. No. 696,590
3 Claims. (Cl. 219—44)



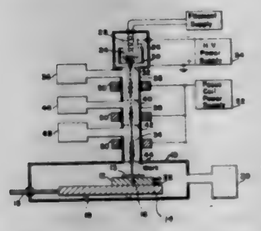
1. In an electric appliance adapted to bring liquids to a boil selectively by direct contact with a source of heat from the outside and by an electrically heated element from the inside, and to maintain the liquid brought to boiling substantially at boiling temperature, a liquid receptacle having walls and a bottom, said bottom consisting of a solid thickness of material free of any attachments and perforations and adapted, when in contact with an outside source of heat, to heat the liquid contents of the kettle; an electric circuit including interposed therein an electric immersion means disposed adjacent the bottom but separated therefrom by a layer of liquid, a thermostat switch means being arranged on the wall of said receptacle at a substantial distance above the liquid level and also outside of the receptacle in order to make it non-responsive directly to the temperature of the liquid, said thermostat switch means including a heat responsive element arranged in close proximity to the wall of said receptacle and in heat transfer relation thereto and adapted to carry electric current and thus to constitute, when closed, a part of said electric circuit and, therefore, to be resistance heated in the process of carrying the current and to be heated further by radiation and conduction heat from the wall of the receptacle when said wall is heated by the steam of the liquid brought to boil, but without the steam coming in actual contact with said heat sensitive element, to break said circuit, and to close said circuit when boiling stops and the liquid cools down to a predetermined lower temperature.

2,981,822
ELECTRICAL MACHINING APPARATUS
John S. Larkins, Jr., Birmingham, Mich., assignor to Elox Corporation of Michigan, Royal Oak, Mich., a corporation of Michigan
Filed Feb. 16, 1959, Ser. No. 793,469
4 Claims. (Cl. 219—69)



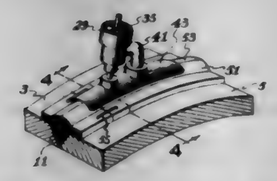
1. In a machine for metalworking by electroerosion, a base having means for supporting a workpiece, posts extending upwardly from said base, a spider suspended above the workpiece and slidable on said posts, means carried by said spider for supporting an electrode, power means for moving said spider vertically on said posts comprising an elongated screw having its lower end secured to said spider, a nut threadedly engaging said screw and rotatably supported in said machine above said spider, and a motor drivingly connected to said nut.

2,981,823
PRODUCTION OF METALS
Edward S. Candidus, Boston, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed May 5, 1958, Ser. No. 733,028
4 Claims. (Cl. 219—117)



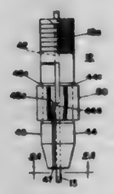
1. Apparatus for welding volatile-containing metals to produce gas-free, sound welds, said apparatus comprising a vacuum-tight furnace chamber, a cathode chamber, a work support in said furnace chamber, first vacuum pumping means for evacuating said furnace chamber to a free-air pressure on the order of one micron Hg abs., a cathode, means for heating said cathode to an elevated temperature to produce thermal emission of electrons therefrom, means for accelerating said electrons and forming said electrons into a beam, said cathode being in said cathode chamber which is isolated from said furnace chamber by a wall containing an aperture and focusing means arranged to direct said electron beam through said aperture onto a work piece held by the work support in the furnace chamber to maintain a pool of molten metal on the work piece at the location of the weld, means for moving the work piece so as to move the molten pool along the work piece, and a second vacuum pumping means associated with the cathode chamber having sufficient pumping capacity to avoid deterioration of said cathode, by maintaining said cathode at a pressure less than 0.1 micron Hg abs., despite gases leaking through the aperture when the furnace chamber is at a higher pressure than the cathode chamber.

2,981,824
WELDING APPARATUS AND DAM
R. L. Kitrell, 5100 E. 17th St., Tulsa, Okla.
Filed May 7, 1958, Ser. No. 733,633
10 Claims. (Cl. 219—125)



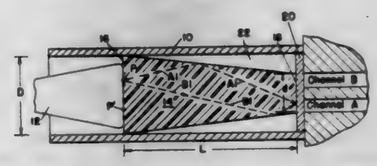
1. In a welding assembly comprising a carriage and means mounting the carriage for movement along a joint to be welded between contiguous members, the improvement comprising a welding dam covering said joint, the dam being comprised of a pair of longitudinally coextensive, resiliently deformable, separable, edgewise abutting dam halves, a shoe supported by the carriage for movement along the dam and having an undersurface complementary and contiguous to the adjacent dam surface, and a welding electrode supported by the carriage and extending through the shoe and between the dam halves and beneath the dam.

2,981,825
CONTACT TIP FOR WELDING GUN
Charles L. Rundell, Chatham, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 14, 1959, Ser. No. 827,086
8 Claims. (Cl. 219—136)



1. A contact tip for a welding gun comprising a front portion and a rear portion disposed axially of said tip, said rear portion having a central opening extending axially therethrough for the passage of a flat wire electrode, said front portion being divided axially thereof into two sections one of which is movable radially relative to the other, one of said sections having a groove in the surface thereof extending axially from the front end thereof and in alignment with said opening in said rear portion to receive the wire electrode, the bottom surface of said groove being flat throughout its length to engage the corresponding flat surface of the wire electrode, the other of said sections having structure dimensioned to maintain the flat wire in said groove, and means for applying a continuous biasing force to said other section to resiliently urge said structure against one of the flat surfaces of the wire and thereby maintain the opposite flat surface of the wire in engagement with said bottom surface of said groove throughout a substantial length to increase the area of contact between the wire and the adjacent surface of said tip.

2,981,826
LIGHT EQUALIZING DEVICE
John Mattern, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 27, 1959, Ser. No. 849,127
2 Claims. (Cl. 240—1)



1. An illuminating device comprising a cylindrical housing, a light source and a light diffuser within the housing providing a space therebetween, an elongate solid light conductor extending axially within said space, said conductor having tapering walls providing a large diameter end and a small diameter end with each of said ends presenting a generally flat transverse surface, said light source having an emitting face of substantial area disposed adjacent the large diameter transverse surface of the light conductor, said light diffuser comprising

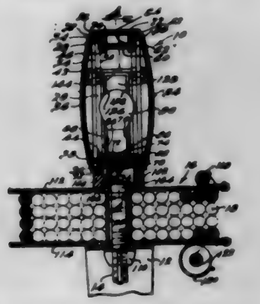
a glass disk having one face disposed adjacent the small diameter transverse surface of the light conductor and its other face communicating with a plurality of channels for directing light of equal intensity to each channel.

2,981,827
LIGHT-REFLECTING LENS
Ernest R. Ornatti, 5238 Canoga Park Ave., Woodland Hills, Calif., and Lee W. Hoggan, 3829 Pomeroy St., Los Angeles, Calif.
Filed Dec. 24, 1956, Ser. No. 630,303
8 Claims. (Cl. 240—2.25)



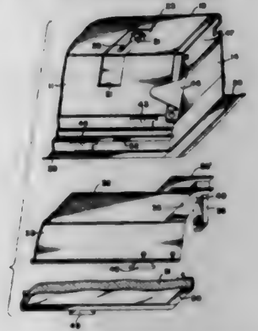
1. A lens of the type described which includes: a first annular section whose rear surface is covered with a series of light-reflecting members, whereby substantially all of the light falling upon the front surface of said section and transmitted to the rear surface is reflected thereby; a second annular section, wider than one of said light-reflecting members, radially inward from said first annular section, formed to transmit light without substantial reflection; a central reflector section whose rear surface is covered with a series of light-reflecting members, whereby substantially all of the light falling upon the front surface of said section and transmitted to the rear surface is reflected thereby, said light-reflecting members of said first annular section and of said central reflector section acting to diffuse light entering the rear surfaces of said sections and passing toward the front surfaces thereof; and an inner reflector centrally located with respect to the optical axis of said lens and with respect to said central reflector section and adapted to reflect outwardly directed light, adjacent said optical axis, back toward its apparent source.

2,981,828
SAFETY LAMP ASSEMBLY
Norbert P. Worden, Detroit, Mich., assignor to C. M. Hall Lamp Co., Detroit, Mich., a corporation of Michigan
Filed Aug. 1, 1955, Ser. No. 525,604
8 Claims. (Cl. 240—8.18)



1. In a lamp assembly including a lamp, a lens, two similar, metallic cast, frame-shaped body portions generally conforming to the shape of said lens, means interconnecting said body portions end to end to form a frame-shaped body, said lens being peripherally supported by said frame-shaped body, and a half lamp socket cast integrally with each of said body portions and aligned to define a lamp socket electrically connected to the lamp and supporting the lamp centrally of the frame-shaped body and centrally of said lens.

2,981,829
RECESSED FLUORESCENT TROFFER
Leonard Rosenblatt, Alex Rosenblatt, and Jerry J. Silvers, Los Angeles, and Chester Vosbrink, Glendale, Calif., assignors to Globe Illumination Company, Los Angeles, Calif., a corporation of California
Filed Jan. 8, 1960, Ser. No. 1,274
6 Claims. (Cl. 240—51.11)



3. An illumination fixture which includes:

an elongated box-like housing having an open bottom, a top, and sides spaced from one another, each of said sides containing a plurality of upper slot means formed therein for hingedly supporting a reflector and having a plurality of lower slot means formed therein for hingedly supporting a glass pane means, all of said upper slot means being spaced equidistant from said open bottom and all of said lower slot means being spaced equidistant from said open bottom between said upper slot means and said open bottom;

means attached to said housing for mounting said housing upon a ceiling;

a reflector located within said housing, said reflector having upper and lower surfaces and side edges, and including head means for supporting said reflector on said housing, said head means being located along one of said side edges so as to extend therefrom, and each of said head means being capable of being fitted within one of said upper slot means so as to hingedly support said reflector with respect to said housing;

means for securing said reflector to said housing mounted on the other of said side edges of said reflector;

ballast means mounted on said upper surface of said reflector within said housing;

socket means for holding fluorescent lamps mounted on said lower surface of said reflector;

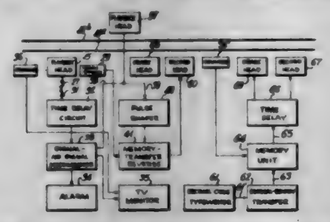
fluorescent lamp means held by said socket means so as to extend along said lower surface of said reflector;

glass pane means for enclosing said open bottom of said housing, said pane means having side edges and including head means located along one of said side edges for hingedly supporting said pane means upon said housing, each of said head means fitting within one of said lower slot means; and

means for securing said pane means with respect to said housing mounted on the other of said side edges of said pane means.

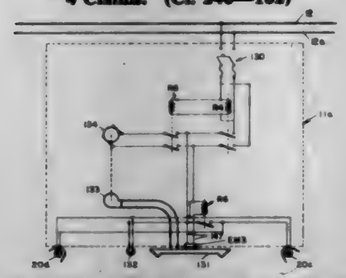
2,981,830
MAGNETIC CODING SYSTEM FOR RAILROAD CARS
Thomas Davis, 1315 Highland Drive, Silver Spring, Md., and Robert L. Echols, 2031 Florida Ave. NW., Washington, D.C.
Filed Mar. 13, 1957, Ser. No. 645,696
2 Claims. (Cl. 246—2)

1. A system for automatic identification of railway freight cars and the like comprising railway freight cars having a plurality of wheel trucks each having side frames extending longitudinally of the freight cars adjacent the sides thereof, said side frames having a magnetizable region adjacent an exposed surface thereof and at least one of said side frames having a magnetic impression recorded in said magnetizable region distinctively representative of the identifying data for its associated freight car, magnetic playback head means having a core located at a station alongside a railroad track, an alarm located at a remote station, switch means disposed to be actuated by each side frame adjacent one side of the track as the freight cars pass along the track, discriminator means



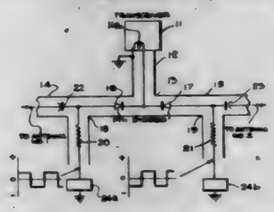
intercoupled with said alarm for activating the alarm following actuation of said switch means and having means responsive to detection of a magnetic impression recorded in the side frames in selected time relation to the actuation of said switch means to disable said discriminator means from activating the alarm, and means disabling said discriminator means from actuating the alarm for a selected time delay interval following an actuation of the switch means covering a period of time required for the next succeeding wheel truck to pass said magnetic playback head means at normal speeds of movement of the freight cars along the track.

2,981,831
AUTOMATIC SPEED ZONE CONTROL FOR RAILROAD TRAINS
William J. Walsh, Sr., P.O. Box 75304, Sanford Station, Los Angeles, Calif.
Filed Apr. 23, 1956, Ser. No. 579,826
4 Claims. (Cl. 246—182)



1. A rail vehicle calibrated speed control means comprising a first source of current, a vehicle carried pre-set speed selector and distance sensing device embodying a first transmitter and a rail engaging device to drive said first transmitter, said first transmitter to drive a first receiver, said first receiver to drive a first means, said first means embodying a plurality of speed selector means and varied distance sensing means, the embodiment of an electric brake with a coil and a flange for magnetic flux drag, said speed selector means and distance sensing means compriaing positioned cams on a drum to sequentially contact switches to initiate electrical circuits for a first light responsive device in a second means to throttle and brake control means associated with the motive and braking elements of said vehicle, said first means to further embody means to initiate electrical circuits and devices for comprised remote second light responsive devices at reference points along the route of said vehicle for automatic corrections of the first means, said reference points embodying means to activate third light responsive means on said vehicle to initiate circuits to operate embodied electrical devices on said first means to de-energize an embodied electrical clutch and to position an embodied cam mechanism relative to embodied reference point locations, said electrical clutch comprising a coil and suitable metallic construction on a drum for magnetic flux paths, said cam positioning mechanism comprising a coil with suitable levers to move a drum having said cams attached thereto to position said cams relative to said reference points, said first means to further comprise a second source of current embodying a second transmitter, said second transmitter to drive a second receiver embodied in a second means, said second means comprising a third source of current embodying a first disc with coils energized from a first set of conventional collector rings attached to the output shaft of said second receiver, said first disc coils to repel and attract a second disc with coils energized from a second set of conventional collector rings, said second disc being mounted on an input shaft journaled in suitable bearings, a control dial embodying a plurality of arcuate slots mounted on said input shaft, embodiment of a spring dynamometer device attached to said input shaft in convergence with contrasting electrical energy from said third source of current, said spring dynamometer device embodying a co-efficient of electrical energy and speed sensing phenomena, said spring dynamometer device embodying means to sense speed in both directions of said vehicle's travel, said second means comprising a speed sensing control element embodying the mentioned first light responsive means and a light excitation means through the median of the mentioned control dial to said first light responsive means, said first light responsive means to activate embodied electrical devices to throttle and brake control said vehicle, said first light responsive excitation means energized from the sequentially operated switches on the first means, said second means having embodied therein a plurality of speed sensing ranges and varied speed control ranges in both directions of said vehicle's travel.

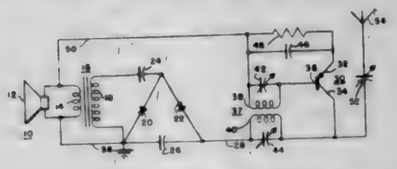
2,981,832
SWITCHING SYSTEM
Roy H. Mattson, Ames, Iowa, assignor to Iowa State College Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Oct. 21, 1958, Ser. No. 768,671
6 Claims. (Cl. 250—13)



1. A radio-frequency transmission system comprising a coaxial transmission line having an outer conductor and an inner conductor and containing a T-junction comprising a coaxial stem portion having inner and outer conductors respectively connected to like conductors of said line, two semi-conductor diodes, each having two terminals of opposite polarity, said diodes being insulatedly mounted within the outer conductor of said line and connected in series with the inner conductor thereof, said diodes being disposed on opposite sides of said T-junction, and means connected to the inner conductor of said line on opposite sides of said diodes operative

to pass through said diodes intermittently reversing current effective to bias said diodes oppositely, the direction of said bias on both diodes reversing at a predetermined frequency much lower than said radio frequency, whereby a radio-frequency transmission path is defined from the stem portion of said T-junction to one end of said line when one of said diodes is forwardly biased and from the stem portion of said T-junction to the other end of said line when the other of said diodes is forwardly biased.

2,981,833
SOUND POWERED RADIO TRANSMITTER
George W. Bryan, Jr., Wall Township, Monmouth County, N.J. (R.D. 1, Box 45, Belmar, N.J.)
Filed Mar. 17, 1955, Ser. No. 495,075
4 Claims. (Cl. 250—17)
(Granted under Title 35, U.S. Code (1952), sec. 266)



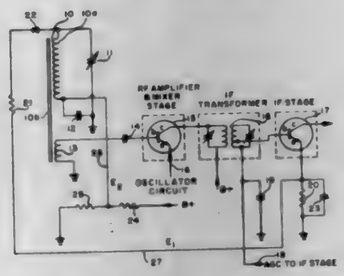
1. A sound-powered radio frequency communication transmitter comprising a transducer actuated by sound waves to produce alternating current to audio frequencies, a step-up transformer energized by said audio frequency alternating current, a radio frequency transistor oscillator circuit, means including rectifier means connected between said step-up transformer and said oscillator circuit to supply direct and alternating current components as the only source of power for said transistor circuit, and antenna means coupled to said transistor oscillator circuit.

2,981,834
INTERFERENCE REJECTION SYSTEM AND METHOD USING TWO RELATIVELY ROTATABLE ANTENNAS
Rollind O. Holloway, 1910 Wiley St., and John R. Holloway, 2019 Mayo St., both of Hollywood, Fla.
Filed Jan. 11, 1955, Ser. No. 481,072
6 Claims. (Cl. 250—20)



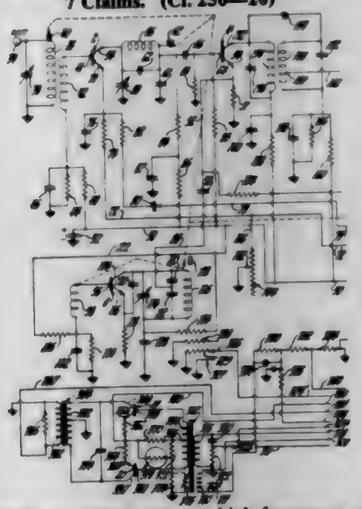
6. The method of receiving a desired signal and rejecting an interfering signal which comprises moving a directional reference antenna about a vertical axis to a location to receive the desired signal, moving a directional interference antenna about said vertical axis angularly with respect to said reference antenna to receive the interfering signal in substantially equal amplitude as undesired signal received by the reference antenna, and combining the signals received by the two antennas in phase opposition.

2,981,835
AUTOMATIC GAIN CONTROL SYSTEM
Roger R. Webster and James L. Nygaard, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1955, Ser. No. 541,953
6 Claims. (Cl. 250—20)

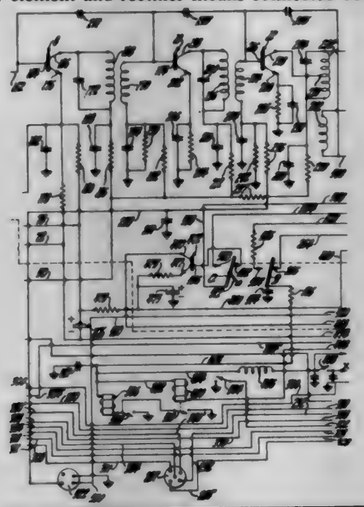


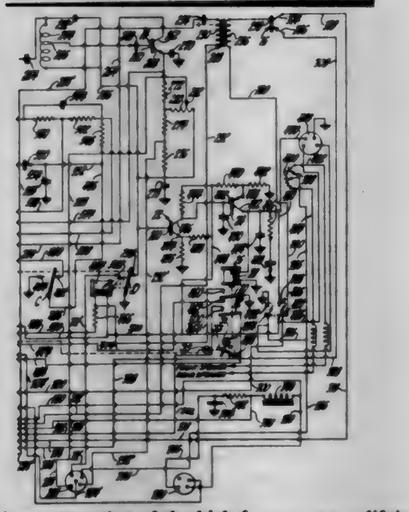
1. An automatic gain control for signal receiving systems comprising a first automatic gain control circuit operative to control said system for signal levels up to a predetermined level, a voltage sensitive non-linear resistance device connected in shunt across a parallel tuned signal input circuit to said receiving system, a fixed voltage applied to said device, a variable voltage dependent upon the voltage of said first automatic gain control circuit applied to said device, said voltages biasing said device to be non-conductive below the said predetermined signal level and conductive above said predetermined signal level whereby an extended range is provided over which the output signal level of said system remains substantially constant.

2,981,836
TRANSISTOR FAVORITE STATION SIGNAL SEEKING TUNED RADIO
James H. Gluyton, Clarence J. Votava, Richard L. Jenkins, and David W. Dodge, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 13, 1956, Ser. No. 621,948
7 Claims. (Cl. 250—20)



3. In radio receiving means, a high frequency amplifying section having a tuned output section to which incoming modulated signals are applied, a multi-electrode semi-conductor element having two of its electrodes connected across the output of the high frequency amplifying section to act as a detector whose capacity changes as the amplitude of the applied signal changes, means for applying a voltage to a remaining electrode of the semi-conductor element and rectifier means connected between

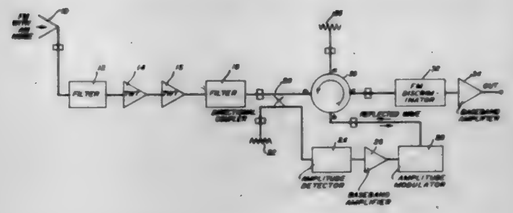




the tuned output section of the high frequency amplifying section and one of the electrodes of the semi-conductor element to minimize the effect of the change in capacity and stabilize the operation of the same.

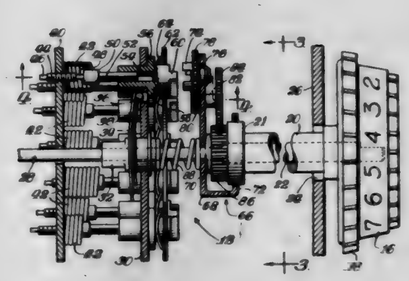
2,981,837
LOW-LOSS MICROWAVE LIMITER
Clyde L. Ruthroff, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 24, 1957, Ser. No. 704,930
5 Claims. (Cl. 250—20)

1. In a microwave receiver for frequency modulated microwave signals having spurious amplitude modulation sidebands thereon, a frequency modulation discriminator, an input path for said signals, means for detecting amplitude variations in said microwave signals, means for directionally coupling a portion of the signals in said input path to said detecting means, an amplitude modulator, means for applying the output of the detector to said modulator, and means unidirectionally coupling said input path, said modulator, and said discriminator in the order listed to apply the original frequency modulation signals in the input path to said modulator for modulation in accordance with the output of said detecting means and



to apply the modulated output from said modulator to said discriminator, the relative phase shift between the spurious amplitude modulation sidebands of the signals applied to said modulator being 180 degrees.

2,981,838
COMBINED CHANNEL SELECTOR AND FINE TUNER
Frank M. Poskozim, Chicago, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 23, 1957, Ser. No. 679,966
14 Claims. (Cl. 250—40)

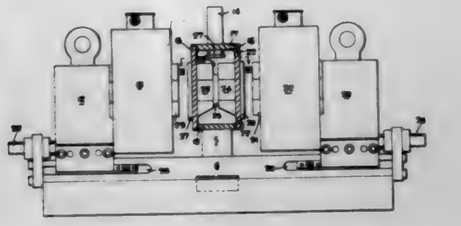


1. A television tuner of the channel selector type including in combination, a fine tuning knob, a channel selector knob, a pair of coaxial shafts supporting said knobs for independent rotation, one of said shafts being adapted to be connected to channel selector means, a plurality of independently adjustable fine tuning control means one for each channel, a rotary actuator member supported on said one shaft and movable thereby into alignment with said tuning control means corresponding to the channel selected by said channel selector knob, and driving means coupled to said actuator member and to the other of said shafts and operable by said fine tuning knob for rotating said actuator member to adjust the fine tuning control means aligned therewith without impairing the adjustment of the other fine tuning control means.

2,981,839
MASS SPECTROMETERS
Robert Derek Craig, Altrincham, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Mar. 17, 1960, Ser. No. 15,719
Claims priority, application Great Britain Mar. 26, 1959
4 Claims. (Cl. 250—41.9)

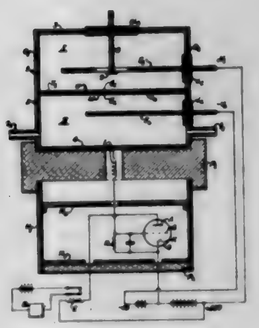
1. A mass spectrometer including a magnetic analyser comprising a chamber, side walls to said chamber, means for evacuating said chamber, a pair of magnetic pole pieces extending inwardly towards one another within

said chamber and separated laterally by a small gap, a magnetic yoke formed from a base member which extends beneath said chamber and two movable side members which extend vertically from said base member, one on each side of said chamber and adjacent to said side walls, energising coils surrounding each of said side members, means for respectively connecting said coils to



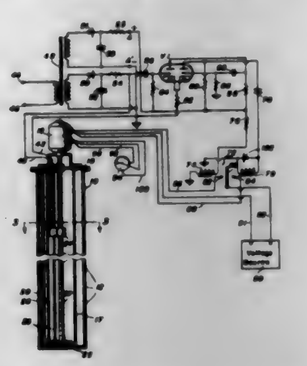
suitable sources of electrical potential, means for moving said side members away from the side walls of said chamber, and removable heating pads adapted to be located between each of said side members and the associated side wall in order to heat up said chamber when said side members have been moved laterally away from said side walls, without appreciably heating said magnetic yoke.

2,981,840
DETECTING DEVICE
Maurice Elie Nahmias, 13 Rue Colbert, Chatenay-Malabry, France
Filed Mar. 26, 1957, Ser. No. 648,662
6 Claims. (Cl. 250—43.5)



1. A detector device comprising a housing defining two adjacent chambers and including an intermediate wall separating the chambers, a window means supported in the intermediate wall, a single source of radiation energy supported in one of the chambers and radiating through said window means into the other of the chambers, electrodes positioned respectively in said chambers, one of the chambers being coupled to ambient air and the other chamber being coupled to a medium to be monitored, the asymmetrical arrangement of said source with respect to said chambers causing an unequal distribution of ionization current at said electrodes, a utilization means, and an electric circuit coupling said electrodes to said utilization means so that the normal unequal distribution of the current renders the utilization means ineffective, the presence of the medium in said other chamber redistributing the current at the electrodes to render the utilization means effective.

2,981,841
LIQUID LEVEL MONITOR SYSTEM
Ross W. Wheeler, Santa Ana, Calif., assignor to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 12, 1957, Ser. No. 677,705
4 Claims. (Cl. 250—43.5)

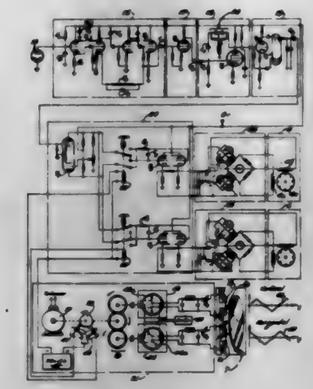


1. In a system for controlling and visually indicating the level of a volume of confined material, the combination comprising: a detector assembly adapted to be partially submerged in the confined material and including an outer perforated tubular housing, an inner imperforate tubular housing disposed concentric with said outer housing and being sealed to prevent the material from entering the interior of said inner housing, a stationary elongated emitter disposed between said inner and outer housings and extending substantially throughout the length thereof having portions adapted to extend above and below the surface of the confined material, a radiation detector disposed within said inner housing and being movable along a path parallel to said emitter, said detector being constructed to absorb only radiation impinging thereon in a direction perpendicular thereto and produce electrical pulses in response thereto, said emitter and detector being spaced to prevent radiation from the portion of said emitter below the surface of the material from reaching said detector, means including an amplifier circuit connected to receive and amplify said pulses, switching means connected to occupy either of two positions in accordance with the relative magnitude of a unidirectional component of said pulses, and motor means connected to receive power through said switching means and displace said detector.

2,981,842
AUTOMATIC GRID SCANNING TRACKER
Leroy Kaufold, Santa Barbara, and Preston C. Cox, Burbank, Calif., assignors to Northrop Corporation, Hawthorne, Calif., a corporation of California
Filed Sept. 1, 1953, Ser. No. 377,816
16 Claims. (Cl. 250—83.3)

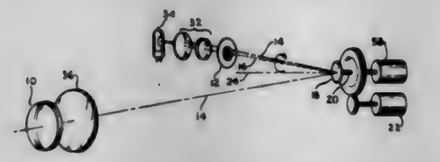
3. Means for the automatic tracking of a radiant point source object, comprising: reflecting means for sighting a selected radiant point source object, said reflecting means positionable in elevation and azimuth; optical means cooperating with said reflecting means for focusing the image of said radiant point source on a focal plane; means for displacing said image to trace a path on said focal plane; means located at said focal plane for interrupting said image as it traces said path on said focal plane; photosensitive means for generating a pulse output according to the interruption of said image; amplifying means for amplifying said pulse output; means for filtering said pulse output of spurious signals of frequencies apart from said pulse output frequency to produce a carrier modulated

according to the occurrence of pulses in the output; means for detecting the envelope of said modulated carrier; means for inverting said envelope signal periodically every half cycle of image displacing reference frequency for an average first output signal; means for inverting said en-



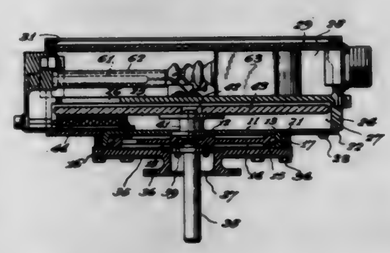
velope signal periodically every half cycle of another reference frequency separated by 90 degrees phase difference from said former reference frequency for an average second output signal; and means independently responsive to said first and second output signals to position said reflecting means in elevation and azimuth to continuously track said source object.

2,981,843
STAR-TRACKING SYSTEM
Siegfried Hansen, Los Angeles, Calif., assignor, by mesne assignments, to Hughes Aircraft Company, a corporation of Delaware
Filed Sept. 2, 1947, Ser. No. 771,762
14 Claims. (Cl. 250—203)



2. A star-tracking apparatus, comprising: a diaphragm member containing narrow, elongated areas having a distinctive response to radiant flux impinging thereon, said areas extending radially from and spaced uniformly about a central point in said member; optical means for projecting against said member an image of a field of view encompassing a stellar body, the projected field having a reference point therein representing the sighting axis of said optical means, the amplitude and direction of displacement of said imaged stellar body relative to said field reference point corresponding to the training error of said sighting axis; servo means for orienting said sighting axis; means for producing a cyclic translational movement of said projected field relative to said diaphragm member such that said imaged stellar body repetitively traces upon said member a circular path having an eccentricity, relative to said central point, corresponding to said displacement, whereby the frequency at which registry of said imaged stellar body with said elongated areas takes place is correspondingly modulated; means for converting registrations of said imaged stellar body with said distinctive response areas into corresponding star-signal pulses; means for generating reference signals synchronized with said cyclic translation; circuit means for deriving, from said reference signals and said frequency-modulated star-signal pulses, error signals corresponding to said training error; and means for controlling said servo means in accordance with said error signals to continuously and accurately train said sighting axis upon said stellar body.

2,981,844
ANALOG-TO-DIGITAL ENCODER
Errett C. Broxon, Cincinnati, Ohio, assignor to The Baldwin Piano Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 20, 1955, Ser. No. 554,156
5 Claims. (Cl. 250—219)

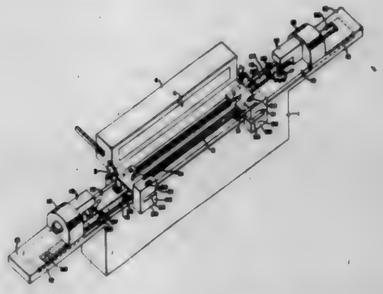


2. In a digital encoder, the combination comprising a circular member having a flat surface with a central aperture and an annular flange extending perpendicularly away from said surface, a second circular member having a central boss and a peripheral edge coaxially disposed within the inner surface of the annular flange of said first member, said boss having two surfaces parallel to the flat surface of said member, the flange and peripheral surfaces of said members having confronting bearing tracks, a plurality of bearing balls disposed within said tracks to rotatably interconnect said two members, a code disc support mounted coaxially on one surface of the circular member with a surface parallel to the flat surface of said first member, said disc support extending beyond the flat surface of said first member, a code disc coaxially mounted on the surface of the code disc support parallel to said first member, a linear array of photoelectric devices, means for mounting the array of photoelectric devices on the circular member along a radius thereof, and means for adjusting the position of each said device transversely of said radius.

2,981,845
SERVO-CONTROLLED SHUTTERS FOR PINHOLE DETECTORS
John J. Larew and Jacob K. Snell, Waynesboro, Va., assignors to General Electric Company, a corporation of New York
Filed Mar. 31, 1959, Ser. No. 803,143
6 Claims. (Cl. 250—219)

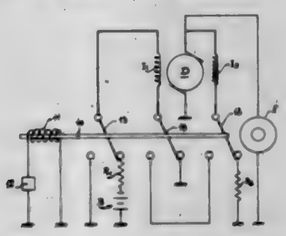
1. Inspection apparatus for moving strip material comprising a source of light, a slotted chamber confronting said source and spaced therefrom whereby a path for the movement of the strip material is provided therebetween, light sensitive means disposed in said chamber, movable shutters mounted on each end of said chamber of such length to cover a substantial portion of the slot in said chamber at one extremity of their movement, reversible drive means connected to said shutters, each shutter having mounted thereon a light source disposed as to be on one side of the path of the strip material and a light sensitive device disposed so as to be on the other side of the path of the strip material, and means connected to each light sensitive device and to said reversible drive

effective to control the amount and direction of the movement of said reversible drive means in response to in-



creased or decreased light on said light sensitive device as the width of the strip material changes or as it moves laterally.

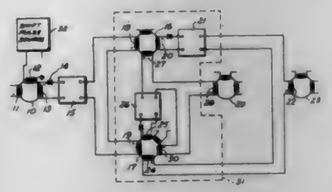
2,981,846
CONTROL CIRCUIT FOR ELECTROMAGNETIC CLUTCHES AND LIKE DEVICES
Jean Maurice and Michel Rist, Paris, France, assignors to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of the French Republic
Filed June 5, 1958, Ser. No. 740,099
Claims priority, application France June 5, 1957
22 Claims. (Cl. 290—50)



1. A control circuit for an electro-magnetic clutch, especially for a vehicle propelled by an internal-combustion engine provided with a dynamo having at least one field circuit and a rotating armature, a voltage-regulator and battery-charging change-over device for said dynamo, an accumulator battery, gear-changing lever and a gearbox, said circuit comprising means for supplying said electro-magnetic clutch with energizing current from said dynamo armature; a first field circuit for said dynamo having a first current source means; a second field circuit for said dynamo having a second current source means; one of said source means having a constant direct-current voltage for exciting said first field circuit during at least the greater part of the period of engagement of said clutch; and change-over switching means for making said other source excite both said circuits.

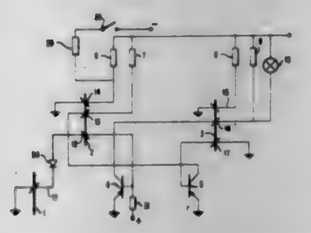
2,981,847
ELECTRICAL PULSE MANIPULATING APPARATUS
Emil Ruhman, Waltham, Mass., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed June 24, 1957, Ser. No. 667,527
18 Claims. (Cl. 307—88)

1. A binary flip-flop comprising a pair of bistable magnetic core elements, each including a shift winding and a plurality of control windings, means connecting the output of one of said elements to an input on the same element to form a closed loop circuit, means connecting an output of the other element to an input of said one element, an input circuit adapted to supply signals to said flip-flop, means connecting said input circuit to said one element to inhibit the write in of a signal in said one



element, means connecting said input circuit to said other element to write a signal into said other element when a signal is on said input circuit, and means connecting said one element to inhibit said other element when said one element has a signal written therein.

2,981,848
PULSE CONTROLLED MULTIVIBRATOR
Hermann Frantz, Boeblingen, Germany, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 20, 1958, Ser. No. 775,216
12 Claims. (Cl. 307—88)

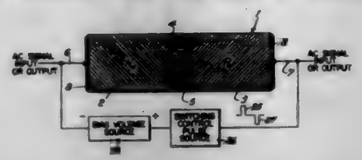


1. A pulse controlled multivibrator comprising in combination first and second amplifier triodes, each having at least input, output and control electrodes, first and second energy storage elements, each said energy storage element having a substantially rectangular hysteresis loop indicative of discrete energy states, means biasing each of said first and second energy storage elements to saturation, means coupling current flow in said first and second amplifier triodes respectively to said first and second energy storage elements, first feedback means responsive to changes in energy state coupling said second energy storage element with the control electrode of said first amplifier triode, second feedback means responsive to changes in energy state coupling said first energy storage element with the control electrode of said second amplifier triode and signal introduction means operable in response to external signals to change energy state of said first energy storage element.

2,981,849
SEMICONDUCTOR DIODE
Andre R. Gobat, North Caldwell, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Jan. 9, 1956, Ser. No. 558,133
4 Claims. (Cl. 307—88.5)

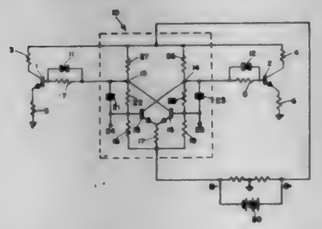
1. A switch comprising a substantially monocrystalline semiconductive body including four zones arranged in succession, contiguous zones being of opposite conductivity type characterized in that the voltage-current characteristic across said body as measured from the first

to the fourth zones has a negative resistance region and a positive resistance region, and electrode connections to



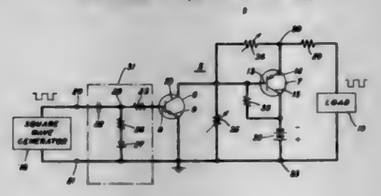
only the first and fourth zones of the succession with the intermediate two zones floating electrically therebetween.

2,981,850
TRANSISTOR PULSE RESPONSE CIRCUIT
Eugene A. Hoskinson, Van Nuys, Calif., assignor to North American Aviation, Inc.
Filed Aug. 8, 1956, Ser. No. 602,765
4 Claims. (Cl. 307—88.5)



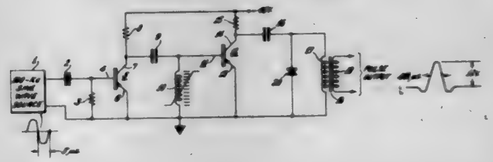
1. A transistor amplifier comprising a transistor having at least collector, emitter and base electrodes, means for establishing operating potentials on the electrodes of said transistor comprising a source of direct-current having B+, ground, and B— terminals, the B+ terminal and the ground terminal being connected across said collector and emitter electrodes, a unilateral conductive device connected in series with said base electrode said B— terminal and controllable for conduction in response to the current flowing in said base electrode, means for applying a triggering potential to said transistor to control conduction thereof, said trigger means connected in series with said base electrode and said unilateral conductive device to provide a minority carrier current path from said base to said B— terminal.

2,981,851
CONSTANT OUTPUT IMPEDANCE NETWORK
Joseph M. Wier, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 6, 1957, Ser. No. 701,225
15 Claims. (Cl. 307—88.5)



1. Means for coupling the output of a pulse source of variable output impedance to the input of a load circuit of a fixed input impedance, said coupling means comprising a first electronic switch circuit and a second electronic switch circuit connected in parallel with one another between the input terminals of said load circuit, said switch circuits having substantially equal switch-closed circuit impedances which are each substantially equal to said fixed input impedance, means for interconnecting said switch circuits for operation in opposition whereby the closing of either of said switch circuits biases the other switch open, and means for applying the output of said pulse source to said first switch circuit for alternately biasing said first switch circuit open and closed in response to pulses in the output of said pulse source.

2,981,852
PULSE GENERATOR
Kenneth G. MacLean, Princeton, N.J., and Bertram A. Trevor, Tucson, Ariz., assignors to Radio Corporation of America, a corporation of Delaware
Filed June 24, 1958, Ser. No. 744,151
10 Claims. (Cl. 307—88.5)

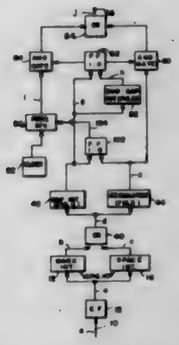


1. In a pulse generator circuit, a first switching-type transistor having a current transfer ratio which becomes greater than unity with increasing collector current, said transistor having base, collector, and emitter electrodes; means biasing said transistor for conduction in response to a voltage of a certain polarity applied to said base electrode, means for applying an alternating voltage to said base electrode, a saturable reactor coupled to said collector electrode and adapted to be driven into saturation in response to conduction and to non-conduction in said transistor, the reaching of saturation by said reactor causing a voltage pulse of predetermined polarity to be developed across the same, a second switching-type transistor having a current transfer ratio which becomes greater than unity with increasing collector current, said transistor having base, collector, and emitter electrodes; means biasing said second transistor for conduction in response to a voltage of predetermined polarity applied to said last-mentioned base electrode, and means for applying said voltage pulse to said last-mentioned base electrode, thereby to drive said second transistor into conduction.

2,981,853
REFERENCE PULSE GENERATION
Bruce L. Meyer, Bloomington, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 4, 1959, Ser. No. 857,464
13 Claims. (Cl. 307—88.5)

4. Apparatus for generating electrical time reference pulses in response to an input signal varying between two levels comprising means for integrating the leading edge of each positive-going excursion of the input signal and providing a series of first pulses having their trailing edges in time coincidence with the trailing edges of corresponding positive-going input signal excursions, means for integrating the leading edge of each negative-going excursion of the input signal and providing a series of second pulses having their trailing edges in time coincidence with the trailing edges of corresponding negative-going input signal excursions, means for interleaving said first and second pulses, resonating circuit means responsive to the interleaved pulses for producing corresponding output pulses in time coincidence therewith while the interleaved pulses regularly recur, and at least one output pulse and the leading edge of another, in the

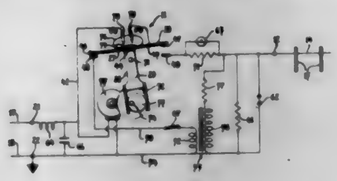
same time and phase relationship with each other and with said output pulses as the output pulses have relative to one another, when the interleaved pulses cease recurring regularly due to the input signal remaining away from one of its two levels for longer than a predetermined time, an output terminal, first gating means for gating when enabled the output pulses from said resonating circuit means to said output terminal, means for providing a series of clock pulses of the same frequency as the said output pulses from said resonating circuit means, second gating means for gating when enabled the clock pulses to said output terminal, means for integrating the leading edge of each interleaved pulse and providing an output signal each time the interleaved pulses cease recurring regularly as aforesaid with the leading edge of each such output signal occurring between the corresponding said leading edge of said an-



other output pulse from the resonating circuit means and the output pulse next preceding that leading edge and with the trailing edge of each output signal being in time coincidence with the next level change of the input signal, means responsive to the leading edge of each of said output signals and to the said corresponding leading edge of said another output pulses from said resonating circuit means for causing the clock pulses to be in phase with the said resonating circuit means output pulses, means for integrating the trailing edge of each of said output signals to provide second output signals having trailing edges respectively occurring only when at least one of said first and second pulses occur following cessation of regularly recurring interleaved pulses as aforesaid, and means responsive to the trailing edges of said second output signals and to the leading edges of the first mentioned output signals for respectively alternately enabling said first and second gating means.

2,981,854
ELECTRIC FENCE CHARGER
Charles R. Grace and Jack D. Smith, Shiawassee County, Mich., assignors to Smith-Fisher, Incorporated, Owosso, Mich., a corporation of Michigan
Filed Jan. 12, 1959, Ser. No. 786,279
5 Claims. (Cl. 307—132)

5. An electric fence charging device comprising input terminals adapted for connection to a source of voltage and an output terminal adapted for connection to a fence wire, a first circuit and a second circuit connected to said output terminal for respectively supplying relatively low and high voltages thereto, and means intermittently and sequentially connecting said first and second circuits to said source, said means comprising a motor operated rocker arm oscillating between two positions, a mercury switch mounted on said rocker arm and constructed and arranged to be momentarily closed upon said rocker arm being moved to either of said positions from which the other of said positions, and a distributor movable with said rocker arm and having first and second contacts operatively connected to said source through said mercury switch, a first stationary contact for said first circuit engaged by said first movable contact as said rocker arm

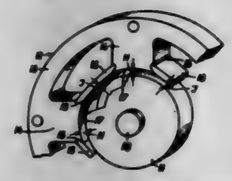


approaches and reaches one of said positions, and a second stationary contact for said second circuit engaged by said second movable contact as said rocker arm approaches and reaches the other of said positions so that each pair of said contacts is alternately closed by said rocker arm and remains closed during closing and opening operation of said mercury switch.

2,981,855
SYNCHRONOUS MOTOR
Loiskus J. A. Van Lieshout, Bethlehem, and William D. Riggs, Woodbury, Conn., assignors to Consolidated Electronics Industries Corp., Waterbury, Conn., a corporation of Delaware
Filed Mar. 15, 1956, Ser. No. 571,632
9 Claims. (Cl. 310—163)

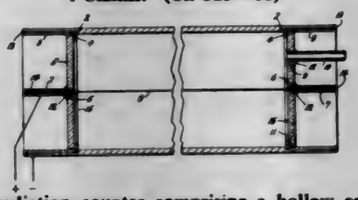
1. A stator structure for a synchronous motor comprising a pair of laminar pole assemblies each having a washer-shaped magnetic metallic unshaded pole member, a washer-shaped non-magnetic metallic shading ring, and a magnetic metallic shaded pole member, a field coil mounted between the unshaded pole members of said pair of assemblies and having a central aperture therethrough, and a metallic flux path connecting the pole members of said pair of assemblies externally of said coil, said unshaded pole members each having at least two spaced groups of a number *m* of poles extending from the inner perimeter thereof into the coil aperture to interlace with the poles of the groups on the unshaded pole member of the other assembly, said shaded pole members each having at least two spaced groups of a number *n*, greater than *m*, of poles extending through the apertures of said ring and unshaded member into said coil aperture to interlace with the poles of the groups on the shaded member of the other assembly, the interlaced groups of shaded poles lying in the spaces between the interlaced groups of unshaded poles and all of said poles lying substantially in a cylindrical surface within said coil aperture.

2,981,856
ALTERNATING CURRENT MOTOR STATORS
Joseph Ludemann and Paul Janecke, Oldenburg, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Hamburg, Germany
Filed Aug. 16, 1956, Ser. No. 604,571
4 Claims. (Cl. 310—256)



1. In an alternating current electric motor comprising a rotor, a stator having a plurality of poles with the inner ends of said poles being spaced from said rotor to form an air gap between said poles and said rotor, a yoke ring surrounding said stator poles and abutting the outer ends of said poles, and bridge means mounted between axially directed inner edges of adjacent poles at the inner ends thereof spaced from said rotor for absorbing stray field flux, the radius of curvature of said bridge means being greater than the radius of curvature of the inner ends of said poles so that the central portions of said bridge means are closer to said rotor than the inner ends of said poles so as to reduce the radial distance of the air gap under the central portions of said bridge means with respect to the air gap under said poles.

2,981,857
COUNTING TUBE
Volney Colvin Wilson, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 29, 1956, Ser. No. 568,480
4 Claims. (Cl. 313—61)



1. A radiation counter comprising a hollow conducting cylinder, ceramic end closures at each end of said cylinder, and a conducting wire located coaxially of said cylinder and supported at spaced points along its length by said end closures, the inner surfaces of said end closures being substantially within parallel planes perpendicular to and intersecting said wire and said cylinder, said ceramic end closures comprising a composition of 96% alumina, 3% silica, and 1% magnesia, to provide a substantially uniform radial electrostatic field distribution throughout the full length of said counter in response to voltage applied between said cylinder and said wire.

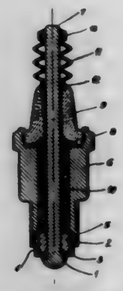
2,981,858
ELECTROLUMINESCENT DECALS
James A. O'Connell, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 21, 1959, Ser. No. 828,599
5 Claims. (Cl. 313—108)

1. Pressure-sensitive electroluminescent decal stock comprising a flexible conductive backing, a pressure-sensitive adhesive dielectric layer supported by and adjacent



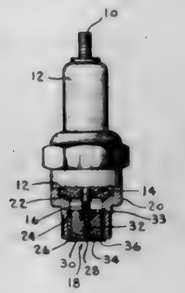
said backing, and an electroluminescent phosphor dispersed throughout said adhesive dielectric layer.

2,981,859
LOW-TENSION SPARK PLUGS FOR INTERNAL COMBUSTION ENGINES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Apr. 1, 1958, Ser. No. 725,618
Claims priority, application France Apr. 29, 1957
7 Claims. (Cl. 313—131)



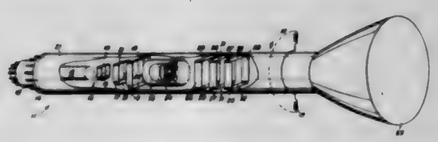
1. In a low voltage spark plug having a tubular member, a spark-plug cartridge removably mounted in said body member comprising, a tubular first electrode disposed concentric internally of said tubular body member at one end thereof and extending axially externally thereof at said end, said tubular electrode extending axially into said body member substantially a greater distance than the axial distance it extends outwardly of said body member, said tubular electrode having an axial bore with a counterbore in one end of the bore forming a shoulder internally of said electrode, a washer-like insulator snugly, removably mounted coaxially with said electrode in said counterbore and seated on said shoulder, said insulator having a peripheral surface making contact with an annular inner surface of said first tubular electrode defining said counterbore and having a substantially flat face coplanar with a substantially flat end of said electrode corresponding to said electrode end extending axially out of said body member, a disc electrode mounted coaxially with said tubular electrode and having a transverse dimension smaller than said insulator forming a circumferential gap of uniform dimensions between the disc electrode and the tubular electrode thereby forming a sparking zone of uniform dimensions, and an electrically conductive, axially displaceable, member disposed extending axially in said tubular electrode and said body member and having a mushroom head for removably holding the disc electrode snug against said coplanar face surface of the insulator, means comprising a plurality of dished cooperatively disposed spring elements disposed externally of the tubular body member for adjustably applying an axially directed tension to said electrically conductive member for causing the head thereof to apply pressure to said disc electrode in a direction pressing the disc electrode against said insulator, and an insulating composition circumferentially of said electrically conductive member filling said axial bore of the first electrode and extending axially in said tubular body member.

2,981,860
SPARK PLUGS
George D. Suter, Wauwatosa, Wis., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 7, 1959, Ser. No. 825,554
2 Claims. (Cl. 313—131)



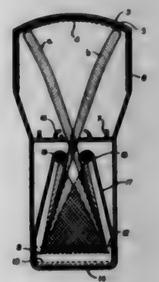
2. In a low tension surface discharge spark plug, a cylindrical body of insulating material having a surface over which sparking may occur, electrodes in engagement with and embedded in said body to provide spaced exposed surfaces flush with said surface of said body, at least one of said electrodes having a portion of its exposed surface projecting therefrom and flush with said surface of said body so as to be more closely spaced than the remainder of said exposed surfaces to define a small area of said body surface over which all effective sparking occurs.

2,981,861
IDENTIFICATION, P.P.I. CODE SORTING AND PRINTING TUBE
Willis R. Dawirs, 2667 Grandview, San Diego 10, Calif.
Filed Aug. 8, 1955, Ser. No. 527,183
2 Claims. (Cl. 315—8.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



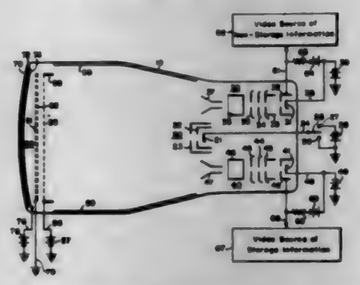
1. In a code sorting and printing tube, in combination, a vacuum sealed envelope, electron beam receiving means at one end thereof, means opposite said receiving means for projecting an electron beam thereto along a predetermined path, beam character forming means positioned across the path of said beam and having a central aperture at said path and character forming slots about said aperture through which said beam may pass, a selective deflection means for deflecting said beam from said path to pass through selected slots, said deflection system comprising a plurality of sets of horizontal deflection means and a plurality of sets of vertical deflection means, each of said sets having predetermined dimensions operable to deflect said beam in predetermined increments when a predetermined amplitude of signal is applied to one or more of said sets of beam deflection means, a second deflection system disposed between said beam character forming means and said electron beam receiving means, said second deflection system having a different set of deflection means corresponding to each set of deflection means in said first set of deflection means and having the same deflection sensitivity to deflect said beam back to its original path upon applying said predetermined signal in reverse polarity, and external deflection means for radially and angularly positioning said beam on said receiving means.

2,981,862
X-RAY IMAGE AMPLIFIER STORAGE TUBES
Max Knoll, Princeton, N.J.
(21 Arcisstrasse, Munich 2, Germany)
Filed Oct. 31, 1958, Ser. No. 771,129
9 Claims. (Cl. 315—11)



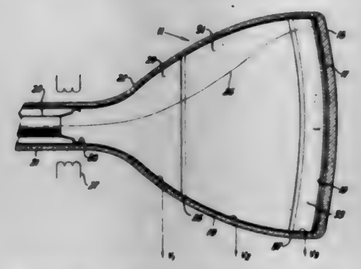
1. In an X-ray amplifier storage system, an X-ray image input and visual output tube having at one end a luminescent layer in close contact with a light sensitive photoelectric layer, and a viewing storage layer with adjacent luminescent screen arranged at the other end of said tube, means including intermediate electrodes for directing the electrons derived from said photoelectric layer under control of said first luminescent layer to said viewing storage layer, and means including a ring-shaped cathode for producing a viewing beam current which is substantially higher than the photoelectric current; said ring-shaped cathode being arranged substantially coaxial with said layers, closely surrounding the electrons passing from said photoelectric layer to said viewing storage layer and having a radial extension which is small compared to the cross-section of said tube.

2,981,863
STORAGE DISPLAY SYSTEM
Robert J. Schneeberger, Pittsburgh, and John G. Castle, Jr., Sardis, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1958, Ser. No. 714,786
5 Claims. (Cl. 315—12)



1. In a storage system comprising a cathode ray tube, an electrostatic storage member having a plurality of apertures positioned within said tube, means for directing upon a surface of said storage member a first pencil type electron beam of such velocity that the number of secondary electrons liberated from said storage member is greater than the number of primary electrons arriving, scanning means to deflect said first beam over said surface of said storage member, means to modulate said first beam in accordance with information to be stored on said storage member to produce at elemental areas on said storage member electrostatic charge conditions representative of said information, means for directing upon said storage member a flooding electron beam of such velocity so as to pass through the apertures in said storage grid and bombard an electron sensitive target and be modulated in accordance with the charge pattern on said storage grid, means for directing a second pencil type electron beam upon said storage member of such a velocity that the secondary electrons emitted from the surface of said storage member is substantially equal to the number of primary electrons striking said surface while permitting the electrons directed at said apertures of said storage grid to pass through and bombard the target and means for modulating said second beam with non-storage information to superimpose said non-storage information on said storage information on said target.

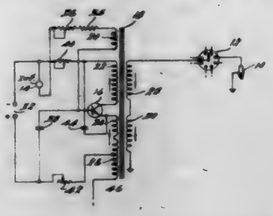
2,981,864
IMAGE DISPLAY DEVICE
Glen A. Burdick, Waterloo, and Elmer O. Stone, Seneca Falls, N.Y., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
Filed June 26, 1958, Ser. No. 744,797
2 Claims. (Cl. 315—16)



1. An electron discharge device comprising an envelope, a screen, an electron gun spaced from the screen formed to provide a beam of electrons pre-deflected a given amount and directed to impinge upon said screen, and a plurality of spaced electordes formed as conductive coatings internally on the envelope disposed intermediate said gun and screen including in sequence a relatively long first electrode adapted for operation at a potential V_1, a relatively long second electrode operated at a potential V_2 less than .5 times V_1, and a relatively short third electrode operated at a potential V_3 greater than 1.5 times V_1, said first and second electrodes forming a divergent electrostatic lens field for amplifying the beam deflection and said second and third electrodes forming a beam converging lens field for focusing said beam spaced from said divergent lens field, said converging lens field being positioned in close proximity to said screen.

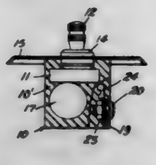
2,981,865
TRANSISTORIZED OSCILLATORY SYSTEM
Erwin A. Fernbach, Mimico, Ontario, Canada, assignor to Transitronics Limited, Toronto, Ontario, Canada, a corporation of the Province of Ontario
Filed June 8, 1959, Ser. No. 818,637
18 Claims. (Cl. 315—206)

1. In an automotive ignition system including rotating means driven by the engine and a plurality of spark plugs, means for applying a burst of high frequency voltage spikes to each of said spark plugs in a predetermined sequence comprising a transformer having a primary and a secondary winding, generating means effective in response to each triggering signal applied thereto to apply to said primary winding a plurality of generally saw-tooth pulses each having a rise time which is long relative to the fall time thereof, signal means driven by the rotating



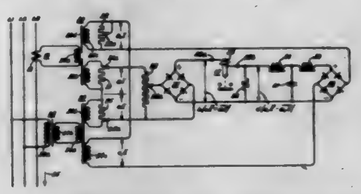
means for applying a plurality of triggering signals to said generating means, and distributing means driven by said rotating means for connecting said secondary winding to said spark plugs in a preselected sequence.

2,981,866
COOL DIMMER DEVICE FOR INCANDESCENT LAMPS
Hsue C. Tsien, Elmsford, N.Y. (11 Browning Drive, Livingston, N.Y.), and Pao H. Chin, 1271 Bedford Road, Pleasantville, N.Y.
Filed Mar. 6, 1959, Ser. No. 797,612
2 Claims. (Cl. 315—240)



2. A dimmer control switch device for a single filament light bulb of the character described, said device comprising a casing of insulating material, a multiple post switch, condenser and diode embedded in said casing, circuit wires of a light bulb extending to said casing and said switch, condenser and diode, means placing the condenser in circuit with one post of said switch, means placing said diode in circuit with another post of said switch, said switch having a manually actuated element projecting from said casing and controlling the bulb circuit to illuminate the filament of the bulb one-quarter intensity through said condenser, one-half intensity through said diode and full intensity through a third post of said switch, and means for mounting the casing in connection with a support.

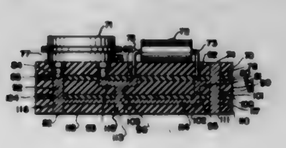
2,981,867
ELECTRIC RELAY
Ernest J. Hopkins, Drexel Hill, Pa., and Ronald H. Macpherson, Woodbury, N.J., assignors to General Electric Company, a corporation of New York
Filed Oct. 25, 1957, Ser. No. 692,365
9 Claims. (Cl. 317—36)



2. In a directional relay for a polyphase three-wire electric power transmission line: first and second output

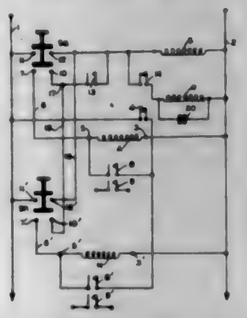
terminals; a first full-wave rectifier having positive and negative direct current terminals and a pair of alternating current terminals, said positive direct current terminal being connected to said first output terminal; transforming means responsive to phase current in a first wire of the transmission line for deriving first and second alternating voltages related to said phase current by a predetermined impedance; first means coupled to said transforming means and to the second and third wires of the transmission line for applying to the alternating current terminals of said first rectifier a voltage proportional to the vector sum of said first derived voltage and a preselected portion of phase-to-phase transmission line voltage, the peak magnitude of the voltage applied to the alternating current terminals of said first rectifier being related by a predetermined proportionality constant to the peak magnitude of the vector sum voltage; a second full-wave rectifier having a pair of direct current terminals and a pair of alternating current terminals; second means coupled to said transforming means and to the second and third wires of the transmission line for applying to the alternating current terminals of said second rectifier a voltage proportional to the vector difference between said second derived voltage and said preselected portion of phase-to-phase transmission line voltage; and a smoothing circuit connected to the direct current terminals of said second rectifier, said smoothing circuit including a load resistor across which is developed a relatively smooth direct voltage, the magnitude of said direct voltage being related by said predetermined proportionality constant to the peak magnitude of the vector difference voltage, said load resistor having a negative terminal connected to said negative direct current terminal of said first rectifier and having a positive terminal connected to said second output terminal; whereby an output control signal is developed across said output terminals whenever the magnitude of said direct voltage is less than the instantaneous magnitude of the voltage applied to the alternating current terminals of said first rectifier.

2,981,868
ELECTRICAL APPARATUS
Asbjorn M. Severson, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware
Filed Aug. 8, 1957, Ser. No. 677,112
3 Claims. (Cl. 317—101)



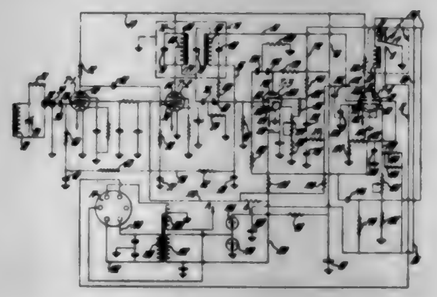
1. A unitary electrical device embodying a three dimensional electrical circuit and comprising a plurality of insulating layers separated by an insulating spacer of resilient, porous material extending laterally between said insulating layers into contact with the surrounding atmosphere, a plurality of cast conductors extending through channels in said layers and spacer, and electrical components having terminals integrally joined with said conductors, said conductors being confined within said channels by reason of the resiliency of said spacer preventing leakage of the conductive material during the casting thereof and said conductors being substantially free of air pockets by reason of the porosity of said spacer providing for the escape of air from said channels through said spacer to the surrounding atmosphere as the conductive material is being introduced into said channels.

2,981,869
RELAY CONTROL CIRCUIT
John E. Balint, Eugene, Oreg., assignor to Controls & Communications Company, Eugene, Oreg., a corporation of Oregon
Filed May 8, 1958, Ser. No. 733,993
4 Claims. (Cl. 317—137)



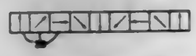
1. In a relay control system for closing any one of a plurality of relays and simultaneously releasing all previously closed relays, a current supply line, a bank of relays, each relay in said bank having holding contacts and contacts for controlling desired circuits, a switch for each relay having contact elements adapted to close, while actuated, simultaneously two distinct circuits supplied from said line, the second of said circuits supplying current to said relays, a supervisory relay having a pair of normally closed contacts and a pair of normally open contacts, said supervisory relay being energized from the first of said distinct circuits upon actuation of any one of said switches, a release relay having normally closed contacts in series between said supply line and all holding contacts of said bank of relays, the winding of said release relay being connected to said first circuit and in series with said normally closed contacts of said supervisory relay, said normally open contacts being in series with said second circuit.

2,981,870
HIGH FREQUENCY RELAY CONTROL CIRCUIT
Max J. Manahan and Kenneth S. Vogt, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 14, 1958, Ser. No. 715,260
7 Claims. (Cl. 317—147)



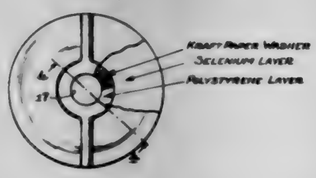
5. In a control system, a source of electrical power, a relay operating coil connected thereto, switching means associated with said coil and actuated by energization thereof, electronic means connected in series with the relay operating coil and controlling the current flow therethrough, said electronic means having a control electrode, high frequency amplifying means connected to the source of electrical power, tuned coupling means connected to said high frequency amplifying means and resonant to a given desired frequency, a first rectifying means connected to said tuned coupling means and to said control electrode to apply an actuating signal thereto upon the receipt of an amplified unmodulated signal of the frequency of the tuned coupling means, a second rectifier means connected to said tuned coupling means and directly to said control electrode developing voltage of opposite polarity to that of the first rectifying means from modulation of the amplified high frequency wave to prevent conduction of the electronic means if modulation is present, and biasing means including switching means actuated by said relay coil connected to said source of power and to the control electrode to apply an actuating voltage to said control electrode for a predetermined time after switching regardless of any other factor.

2,981,871
PERMANENT MAGNET
Willem Klaas Westmijze, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 19, 1957, Ser. No. 678,956
Claims priority, application Netherlands Sept. 19, 1956
5 Claims. (Cl. 317—201)



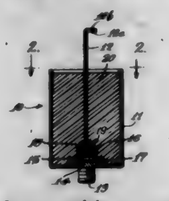
1. A permanent magnet comprising a body having a plurality of magnetic poles of opposite polarity on either side of a line extending in a given direction through said body, poles of opposite polarity on either side of said line having between them a direction of magnetization forming an angle with said line, the angle formed by the direction of magnetization between adjacent pairs of poles of opposite polarity on either side of said line varying continuously along said line in said given direction.

2,981,872
SELENIUM RECTIFIER
Clarence C. Gelb, Zion, and Gilbert O. Isaacson, Waukegan, Ill., assignors to Fansteel Metallurgical Corporation, a corporation of New York
Filed Aug. 20, 1953, Ser. No. 375,363
3 Claims. (Cl. 317—234)



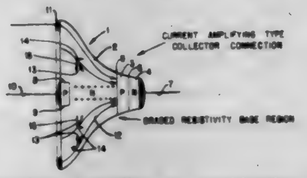
1. A selenium rectifier comprising a carrier electrode having a layer of selenium thereover, a piece of kraft paper having a coating of polystyrene on at least one side thereof, said paper being disposed over a part of the selenium layer with the coated part of the paper contacting the selenium, the polystyrene extending into the pores of the paper and having been forced into the surface of the selenium, and a counterelectrode over the selenium and coated paper layer being in the shape of a washer having outwardly extending arms going to the edges of the rectifier and said coated paper layer defining a clamping area, the active part of the rectifier being beyond the washer.

2,981,873
SEMICONDUCTOR DEVICE
George Eannarino and George B. Finn, Jr., Bloomington, Ind., assignors to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed May 2, 1957, Ser. No. 656,622
4 Claims. (Cl. 317—234)



1. A silicon diode comprising a semiconductor crystal having an alloyed P–N junction therein, the P-type portion of said crystal being silicon which was recrystallized in the alloying process, a large area contact member secured to the P side of said crystal, said large area contact member being connected to said crystal throughout the adjacent face of said crystal, a small area contact member secured to the N side of said crystal, said small area contact member being connected to said crystal throughout an area substantially less than that of the adjacent face of said crystal, and a terminal member having an area substantially larger than said small contact member, said terminal member having an upstanding boss which is secured to said small area contact member, the adjoining faces of said boss and said small area contact member being substantially equal in size and shape.

2,981,874
HIGH SPEED, HIGH CURRENT TRANSISTOR
Richard F. Rutz, Fishkill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 31, 1957, Ser. No. 662,649
8 Claims. (Cl. 317—235)

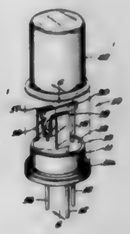


1. A transistor including, in combination, a semiconductor body, a broad area high injection efficiency emitter connection to said semiconductor body, a P-N hook type collector connection to said body, the spacing from said emitter to said collector being within the average diffusion distance of the carriers during the carrier lifetime of the material of said semiconductor body, the resistivity of said semiconductor body varying from a value which is low adjacent to said emitter to a value which is higher adjacent to said collector and base electrode means for controlling minority carrier flow in said semiconductor body between said emitter and said collector affixed in a region distinct from said emitter and producing an internal field therebetween.

2,981,875
SEMICONDUCTOR DEVICE AND METHOD OF MAKING THE SAME
Dale T. Kelley and Robert G. Peterson, Phoenix, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 7, 1957, Ser. No. 688,451
8 Claims. (Cl. 317—235)

1. In a transistor having a mounting base with an insulating portion therein, the combination including

collector, emitter and base leads held in said insulating portion and extending through and above said mounting base, with said base lead extending farther above said mounting base than the other leads and adapted to provide a plurality of alternate surface portions to which to secure a replacement die unit upon rejection of a die unit secured thereto, a pair of electrically conductive folded straps, one each connected to said collector and emitter leads, and a semiconductor die unit positioned between said straps, said die unit including a one-piece flat base connector, a semiconductor die having a collector elec-

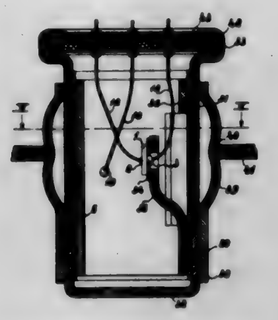


trode and an emitter electrode on opposite faces thereof with each of said electrodes connected to an adjacent strap, with said one-piece flat base connector having an extending tab portion secured to said base lead so that said base connector is in a horizontal position relative to said mounting base, and with said base connector being of a configuration and size so that it may be aligned parallel to said base lead in one alternate position with its extending tab portion secured to said base lead in a new surface connection, the alignment of said electrodes with said folded straps being the same in said alternate position.

2,981,876
SEMICONDUCTOR DEVICE

Theo Willem Willemse, Eindhoven, Netherlands, assignor, by mesne assignments, to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Original application Oct. 19, 1954, Ser. No. 463,271, now Patent No. 2,825,014, dated Feb. 25, 1958. Divided and this application Feb. 17, 1958, Ser. No. 715,649
Claims priority, application Netherlands Nov. 30, 1953
6 Claims. (Cl. 317—235)



1. A semi-conductor device comprising a housing, a semi-conductive body, a relatively large heat-dissipating, resilient, metal member coupled to said semi-conductive body, said body and heat-dissipating member being mounted within the housing with the heat-dissipating member being urged by its own resiliency into good heat-exchanging relationship with a wall of the housing over a relatively large surface.

2,981,877
SEMICONDUCTOR DEVICE-AND-LEAD STRUCTURE

Robert N. Noyce, Los Altos, Calif., assignor to Fairchild Semiconductor Corporation, Mountain View, Calif., a corporation of Delaware

Filed July 30, 1959, Ser. No. 830,587
10 Claims. (Cl. 317—235)

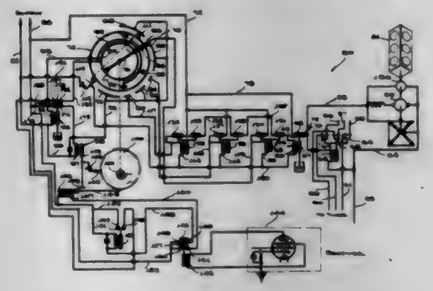


1. A semiconductor device comprising a body of semiconductor having a surface, said body containing adjacent P-type and N-type regions with a junction therebetween extending to said surface, two closely spaced contacts a adherent to said surface upon opposite sides of and adjacent to one portion of said junction, an insulating layer consisting essentially of oxide of said semiconductor on and adherent to said surface, said layer extending across a different portion of said junction, and an electrical connection to one of said contacts comprising a conductor adherent to said layer, said conductor extending from said one contact over said layer across said different portion of the junction, thereby providing electrical connections to both of the closely spaced contacts.

2,981,878
REMOTE RADIO CONTROL SYSTEM

Julian E. Henderson, Hialeah, Fla.
(P.O. Box 519, Marathon Shores, Fla.)

Filed Sept. 14, 1956, Ser. No. 609,857
3 Claims. (Cl. 318—16)

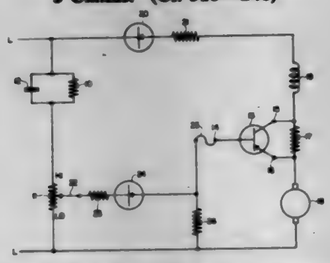


2. In a radio-controlled traffic signal system, a switch device operating in steps from a starting position toward a circuit-closing position responsive to the reception of a predetermined number of relatively short pulses in a definite code pattern, comprising groups of identical short pulses separated by definite relatively long time intervals, a plurality of relay devices, means to energize said relay devices in sequence as the switch device passes through successive predetermined positions between its starting position and said circuit-closing position, a final relay device, means to energize said final relay device responsive to the completion of said sequence of energization of all of said first-named relay devices, a slow-acting relay, the time required for operation of said slow-acting relay being greater than said relatively long time intervals, means responsive to the operation of said slow-acting relay to return said switch device to said starting position, means to initiate operation of said slow-acting relay responsive to said switch device reaching said circuit-closing position, a signal motor, means to operate said signal motor responsive to the energization of said final relay device, means deenergizing said relay devices a predetermined time after they become energized, and means maintaining said signal motor in operation a predetermined period of time after said final relay device becomes deenergized.

2,981,879
TRANSISTOR-CONTROLLED SPEED-REGULATING SYSTEMS FOR SERIES COMMUTATOR MOTORS

Edward W. Taylor, Martinsville, and James W. Momberg, Somerville, N.J., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey

Filed Jan. 11, 1960, Ser. No. 1,506
5 Claims. (Cl. 318—246)

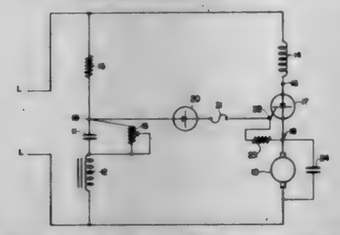


1. A speed regulating system for commutator motors having series-connected armature and field windings fed from an A.C. voltage source, comprising a transistor having base, collector and emitter terminals, a first fixed resistor connected across the collector and emitter terminals, said resistor being connected between and in series with the armature and field windings, a first diode rectifier connected in series with the armature and field windings and the source of A.C. voltage, a second fixed resistor connected in series with a potentiometer resistance across the A.C. voltage source, a capacitor shunted across said second fixed resistor, a slider for said potentiometer resistance and a second diode rectifier connected in series between the slider and the base terminal of the transistor.

2,981,880
SPEED-REGULATING CONTROL SYSTEM FOR SERIES COMMUTATOR MOTOR

James W. Momberg, Somerville, and Edward W. Taylor, Martinsville, N.J., assignors to The Singer Manufacturing Company, Elizabeth, N.J., a corporation of New Jersey

Filed Dec. 23, 1959, Ser. No. 861,530
4 Claims. (Cl. 318—246)

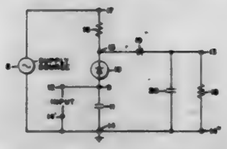


1. A speed regulating system for a commutator motor having series-connected field and armature windings fed from a source of A.C. voltage, comprising a bridge circuit having a fixed resistor for one leg, the field winding for a second leg, the armature winding for a third leg, and a fourth leg having a capacitor and an inductance in series and tuned to resonance at the frequency of the voltage source with a variable resistor connected in shunt with the capacitor, and a solid state controlled rectifier having its anode terminal connected to the field winding, its cathode terminal connected to the armature winding and its gate terminal connected through a diode to the common junction of the fixed resistor, capacitor and variable resistor.

2,981,881
SEMICONDUCTOR CIRCUITS

Harold W. Abbott, Albany, and Lawrence D. Wechsler, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 19, 1958, Ser. No. 716,210
9 Claims. (Cl. 330—10)

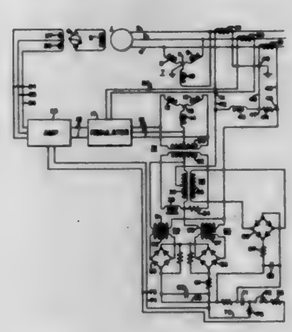


1. An electrical circuit comprising: a voltage source and an impedance, a storage diode and a charge storage means in series connection; said voltage source being adapted to provide a source signal of predetermined frequency having cycles of consecutive first and second substantially identical waveform segments of opposing polarity; said storage diode and said predetermined frequency being selected so that a forward current is passed when forwardly biased by the first waveform segment of the source signal and a substantial reverse current is passed, by virtue of the diode minority carrier storage effect, when reversely biased by the second waveform segment of the source, said forward current exceeding said reverse current, whereby there is a diode net current in the forward current direction during each cycle of the source signal; said charge storage means, being constructed to store said diode net current so as to bias said diode and prevent diode conduction, input means coupled to said charge storage means, for coupling in an input signal current poled to reduce the bias at said storage means thereby to control current flow through said diode and output means coupled across said storage diode and said storage means for detecting voltage fluctuations at said predetermined frequency across said storage diode and said storage means for deriving a current signal which is a function of said input signal.

2,981,882
STABILIZING CIRCUIT FOR DYNAMOELECTRIC MACHINES

Murray Rosenblatt, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

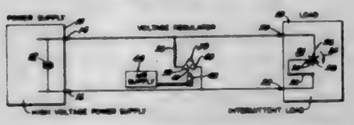
Filed Oct. 27, 1958, Ser. No. 769,852
10 Claims. (Cl. 322—24)



7. A regulating system for dynamoelectric machines comprising means responsive to output voltage of said

machine for deriving a regulating signal, means responsive to a transient condition of said machine for deriving a stabilizing signal comprising potential transformer means, a first network including a reactor and a resistor in series connected across said potential transformer means and a first transformer having a primary winding having one end connected between said reactor and said resistor, and its other connected to said potential transformer means, a second network including a reactor and a resistor connected in series and current transformer means, a second transformer having a primary winding connected in a circuit including said resistor, said reactor of said second network and a portion of the primary winding of said first transformer, a first rectifying means, said second transformer having a secondary winding connected to said first rectifying means, a third transformer having a primary winding connected in a circuit including said reactor, said resistor of said second network and another portion of the primary winding of said first transformer, a second rectifying means, said third transformer having a primary winding connected to said second rectifying means, means for combining the outputs of said first and second rectifying means, a third rectifying means, said first transformer having a secondary connected to said third rectifying means, means for adding the output of said third rectifying means to said combined outputs, means for differentiating said added outputs to derive said stabilizing signal, and means for combining said regulating signal with said stabilizing signal for modifying said regulating signal.

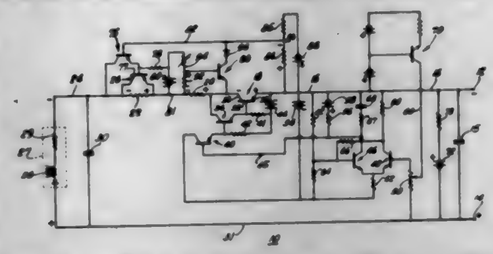
2,981,883
VOLTAGE REGULATOR FOR HIGH VOLTAGE POWER SUPPLIES
Harold C. Early, Ann Arbor, Mich., assignor to Meredith Publishing Company, Des Moines, Iowa, a corporation of Iowa
Filed July 1, 1957, Ser. No. 669,187
4 Claims. (Cl. 323—16)



1. In a high voltage power supply system of the type having a D.C. output of 1,000 volts or more from a pair of output terminals connected to the output of the high voltage power supply, and a load connected to said output terminals, the improvement of a voltage regulating circuit connected to said output terminals comprising a current limiting resistor connected to one of said output terminals, a first electrode connected to said current limiting resistor, a second electrode connected to the other of said output terminals, said first and second electrodes being spaced apart a predetermined distance to define a spark gap therebetween and adapted to break down at a D.C. voltage less than the unregulated power supply voltage at said terminals to provide continuous sampling of said unregulated power supply voltage, and a constantly operating source of air positioned adjacent said spark gap for supplying a continuous air stream to said gap to repetitively extinguish the sparks thereacross at a desired rate for maintaining the D.C. power supply voltage to said load at a closely regulated value.

2,981,884
REGULATED VOLTAGE SUPPLY
Donald J. Tighe, Millburn, N.J., assignor to Harrison Laboratories, Inc., Berkeley Heights, N.J., a corporation of New Jersey
Filed Dec. 3, 1958, Ser. No. 777,959
9 Claims. (Cl. 323—22)

1. An improved voltage regulating circuit comprising: an output lead, an input direct-voltage source, a main regulating transistor and a voltage dropping resistor connected in series relation between said lead and said source, a feedback network connected between said output lead and said main transistor and acting to keep said output



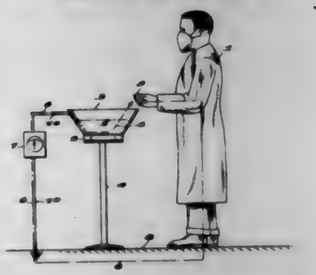
voltage constant at a set value, an auxiliary transistor connected to variably bypass current around said voltage dropping resistor, and means responsive to the voltage drop across said main transistor to control the current flow through said auxiliary transistor.

2,981,885
SATURABLE MEASURING DEVICE AND MAGNETIC CORE THEREFOR
Erick O. Schonstedt, 927 Pershing Drive, Silver Spring Md.
Filed July 21, 1958, Ser. No. 749,953
5 Claims. (Cl. 324—43)



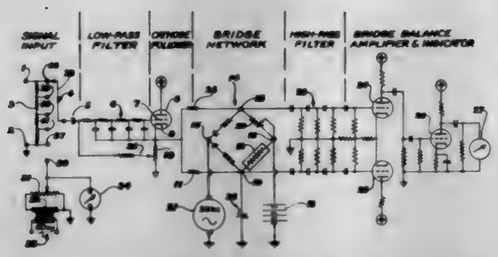
1. A magnetic core and winding assembly comprising a non-magnetic hollow cylindrical form, a pair of superposed oppositely wound coaxial coils of permeable magnetic material interwoven on the outside of said form, winding support means mounted on the outside of said cylinder for spacing turns of wire from said coils, and a plurality of turns of wire wrapped over said winding support means and threaded through said form.

2,981,886
METHOD OF DETECTING SMALL HOLES IN RUBBER GLOVES
William C. Beck, Sayre, Pa., assignor, by mesne assignments, to Sterling Precision Corporation, Brooklyn, N.Y., a corporation of Delaware
Filed July 23, 1958, Ser. No. 750,521
2 Claims. (Cl. 324—54)



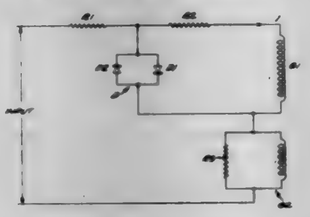
1. A method of testing surgical gloves for holes comprising mounting the gloves on the hands, placing the feet on a conductive surface, passing the hands into an electrolytic solution so as to immerse at least a portion of each glove therein, and applying a voltage across the conductive surface and the electrolytic solution to permit current flow through indicator means when a hole exists in the immersed portion of one of the gloves.

2,981,887
ROOT-MEAN SQUARE VOLT METER FOR LOW FREQUENCY CURRENTS
Harry Frank Hicks, Jr., Rochester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 4, 1954, Ser. No. 434,683
6 Claims. (Cl. 324—98)



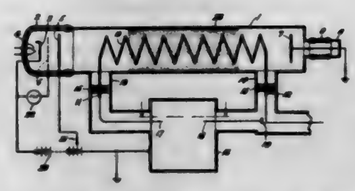
1. In an apparatus for determining the effective amplitude of a low frequency alternating voltage of unknown wave form, an impedance bridge having a pair of bridge input terminals and a pair of bridge-balance-detecting terminals, means for applying a high-frequency voltage to the input terminals and means connected to the balance detecting terminals for indicating any potential difference therebetween, said bridge including a thermistor connected between one of said balance detecting terminals and one of said input terminals and an adjustable balancing resistor connected between the other of said balance detecting terminals and said one input terminal for balancing the impedance of said thermistor, and means connected to said bridge for applying a low frequency alternating voltage, the effective amplitude of which is to be determined, in parallel across said thermistor and said balancing resistor.

2,981,888
ELECTRICAL CURRENT MEASURING SYSTEM
James O. White, Jr., Norwalk, Calif., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed July 19, 1955, Ser. No. 522,932
4 Claims. (Cl. 324—115)



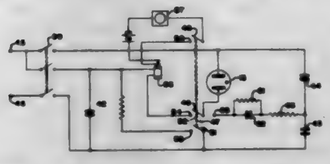
1. An electrical measuring system for measuring an unidirectional electrical current which is variable over a wide range, comprising: a first current-measuring element for measuring such current up to a predetermined magnitude; a second current-measuring element connected in series with said first current-measuring element for measuring such current above said predetermined magnitude; a semiconductor diode connected in parallel with said first current-measuring element and of such polarity with respect thereto that it may be forwardly conductive under voltages thereacross resulting from flow of such current to be measured through said first current-measuring element, said diode having the characteristic of being non-conductive forwardly at voltages below and conductive forwardly at voltages above a predetermined threshold value; and means connected to said diode and said first current-measuring element to cause the said voltage applied across the said diode to have a value approximately equal to the said predetermined threshold value when the flow of current through said first current-measuring element is equal to said predetermined magnitude.

2,981,889
ELECTRON TUBE FREQUENCY MULTIPLIER OF THE TRAVELING WAVE TYPE
Stanley E. Webber, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1956, Ser. No. 616,859
4 Claims. (Cl. 328—19)



1. An electron beam discharge device frequency multiplying system comprising electrode means establishing an elongated electron beam and accelerating it to a predetermined constant average velocity along a predetermined path including means for modulating said beam at a predetermined frequency, a conductive slow wave structure extending along said beam path in energy exchanging relation with a beam passing along said path, a feed-back circuit coupled between the output and input ends of said slow wave structure and providing a regenerative feedback of energy at a frequency which is a multiple of said predetermined frequency and including a circuit tuned to said multiple of said predetermined frequency.

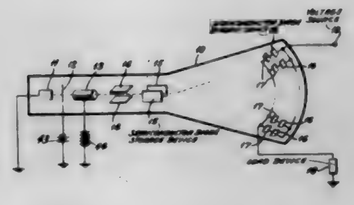
2,981,890
TIMING DEVICE WITH A COLD CATHODE DIODE STABILIZATION ARRANGEMENT
Herbert Ernst Ruehlemann, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 4, 1951, Ser. No. 219,302
5 Claims. (Cl. 328—72)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A timer of the character disclosed comprising a pair of terminals connectable at will to a source of power, voltage divider means including first and second capacitors, said first capacitor being connected to one of said terminals and said second capacitor being connected to the other of said terminals, a parallel resistance-capacitance circuit and a cold cathode diode tube connectable at will in series across said first capacitor to provide a discharge path therefor, switch means including ganged first, second and third switch arms, said first switch arm serially connecting said diode into the discharge path of said first capacitor and to said resistance-capacitance circuit when actuated to one position thereof, said first capacitor having a voltage thereon initially exceeding the breakdown potential of said tube whereby sufficient energy is transferred from the first capacitor to said resistance-capacitance circuit through said tube in at least one relaxation cycle of operations thereof to stabil-

ize said first capacitor voltage at the level of said breakdown potential, a third capacitor connected across said terminals, a relay having a pair of normally closed contacts and connected on one side thereof to said one of the terminals and serially connected at will on the other side thereof by said first switch arm to the diode when said first switch arm is actuated to a second position thereof, a resistance connected on one side thereof to said one of the terminals, said second switch arm of said switch means connecting the other side of said resistance to the other of said terminals when the first switch arm is actuated to said second position thereof thereby to cause said third capacitor to discharge therethrough and the diode to next ignite when the potential across the third capacitor falls below the potential across the second capacitor, and an electric timing circuit including the normally closed contacts of said relay and said third switch arm for completing said timing circuit when the first switch arm is actuated to the second position thereof whereby the timing circuit is closed after the tube is stabilized and the timing circuit is opened as the relay operates when the tube is next ignited to thereby measure the interval of time between the actuation of the switch means and said next succeeding ignition of the tube.

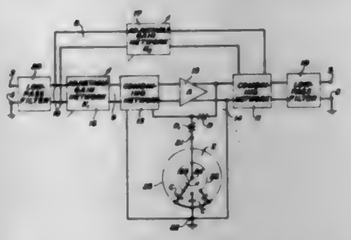
2,981,891
STORAGE DEVICE
John W. Horton, New York, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1958, Ser. No. 745,403
6 Claims. (Cl. 328—124)



1. A storage device comprising a first semiconductor device having a negative resistance characteristic over a portion of its voltage current curve, a second semiconductor device, a source of electrical energy, means to connect said first and second semiconductor devices and said source device in series, said source device being polarized to reverse-bias said second semiconductor device, said first and second semiconductor devices having in series at least two stable current conditions, and means for selectively altering the conductivity of either of said semiconductor devices including means to generate a beam of electrons and means for selectively directing said beam onto either of said semiconductor devices, said beam being effective when directed onto said first semiconductor device to select a second of said stable current conditions.

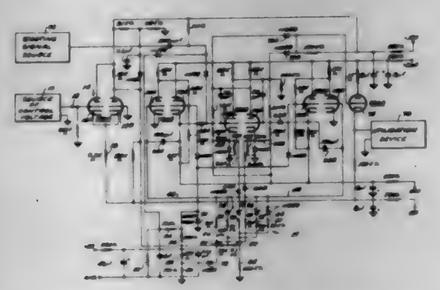
2,981,892
DELAY NETWORK
Lewis E. Franks, Short Hills, N.J., Paul V. Perletti, Portland, Oreg., and Carl F. Simone, Florham Park, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 22, 1960, Ser. No. 16,817
12 Claims. (Cl. 328—155)

1. A delay network comprising two transmission paths connected together at both ends, means in one of the paths for adjusting the gain, and an amplifier in one of the paths, the amplifier having a feedback loop including a series resistor of value R and a shunt impedance branch, the shunt branch comprising a plurality of capacitors N in number, each of value C, and means for connecting the capacitors into circuit one after another in a



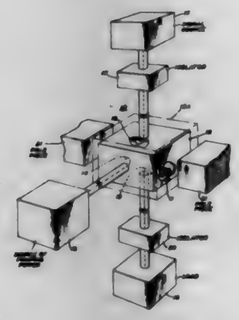
period T with a dwell time D for each, the amplification factor of the amplifier and the gain factor of the gain-adjusting means being so chosen with respect to C, D, N, R, and T that the network has a substantially constant amplitude characteristic and a substantially constant delay T at all frequencies below $N/2T$.

2,981,893
BISTABLE MULTIVIBRATOR UTILIZING MILLER INTEGRATORS TO REGULATE OUTPUT FREQUENCY
Eugene Agalides, Rochester, N.Y., and Thomas J. Scuitto, Santa Monica, Calif., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Mar. 10, 1960, Ser. No. 14,689
7 Claims. (Cl. 328—206)



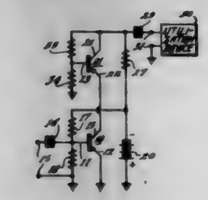
1. A voltage-controlled oscillator comprising a flip-flop circuit including a first and second amplifying device and means for cross coupling said amplifying devices for rendering one of them nonconductive when the other is conductive and vice versa, a first and second integrating circuit each respectively including a first and second capacitor, means for applying a control voltage to the inputs to said first and second integrating circuits to charge up said first and second capacitors responsive thereto, means respectively coupling said first and second integrating circuit inputs to said first and second amplifying devices for preventing the application of said control voltage to the one of said integrating networks connected to a nonconducting one of said amplifying devices, means for coupling said first capacitor to said first capacitor to said first amplifying device to render it nonconductive when the charge on said first capacitor exceeds a triggering level, and means for coupling said second capacitor to said second amplifying device to render it nonconductive when the charge on said second capacitor exceeds a triggering level.

2,981,894
THREE LEVEL MASER
Henry E. D. Scovil, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 30, 1956, Ser. No. 625,548
4 Claims. (Cl. 330—4)



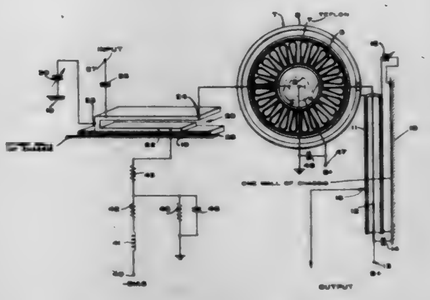
1. In a maser, a composite crystal comprising an active paramagnetic salt whose energy level system is capable of at least three energy levels defining an active pair of levels, a pumping pair of levels and an idling pair of levels, and a doping paramagnetic salt whose energy level is capable of at least two discrete energy levels, means for matching the separation of a pair of levels of the doping paramagnetic salt substantially to the separation of the idling pair of levels of active paramagnetic salt while avoiding matching the separation of any pair of levels of the doping salt to the separations of the active and pumping pairs of levels of the active salt, said means comprising a magnetic field, means housing the crystal, means for applying pumping power to said housing means and for establishing a negative temperature between the active pair of levels of the active salt, and means for utilizing the negative temperature created.

2,981,895
SERIES ENERGIZED TRANSISTOR AMPLIFIER
Winfield R. Koch, Marlton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 29, 1954, Ser. No. 471,805
1 Claim. (Cl. 330—18)



In a signal amplifier system, an input electronic signal amplifying device having an electrode connected to a point of reference potential, an input electrode and an output electrode; one or more other electronic signal amplifying devices connected to said input device in succession and each having an emitter electrode, a control electrode and an output electrode; means connecting the emitter electrode of each of said other devices to the output electrode of the preceding device; a source of operating voltage and a load impedance serially connected between the output electrode of the last device and said point of reference potential; and means for applying biasing potentials to the respective control electrodes of said other devices, said last means consisting of a voltage divider additional to and exclusive of said load impedance, a direct current conductive connection between one end of said voltage divider and said point of reference potential, a direct current conductive connection between the output electrode of the last device and the other end of said voltage divider, whereby the entire output signal voltage appears across said voltage divider, and direct current conductive connections between the control electrodes of said other devices and spaced points on said voltage divider, whereby each of the control electrodes of said other devices is caused to vary in potential in direct proportion to the variations in said output signal voltage according to its point of connection to said divider.

2,981,896
RADIO FREQUENCY AMPLIFIER
Hans Scharla-Nielsen, Indialantic, and Daniel D. McRae and Floyd Donald J. McLamb, Melbourne, Fla., assignors to Radiation, Inc., Melbourne, Fla., a corporation of Florida
Original application Sept. 12, 1957, Ser. No. 683,574, now Patent No. 2,925,477, dated Feb. 16, 1960. Divided and this application Apr. 1, 1959, Ser. No. 808,351
7 Claims. (Cl. 330—53)



5. In combination, a power amplifier operative in class C mode at a wave length λ, including a vacuum tube having an anode, a two conductor transmission line having an effective length approximately

$$\frac{n\lambda}{4}$$

where n is an odd integer, such that said transmission line is an inductance at said wave length λ, said transmission line including as one of its conductors a hollow metallic tube open at both ends and of length approximately

$$\frac{n\lambda}{4}$$

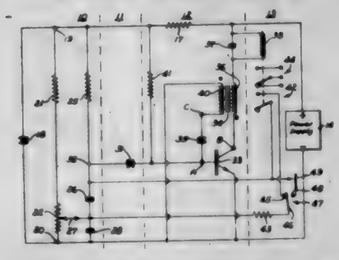
only a single lead extending internally of said metallic conductor and therethrough and insulated therefrom along its entire length, said lead being connected for direct current only to said anode at one end and to a B terminal at the other end, means independent of said lead solely capacitively coupling one end of said hollow metallic tube to said anode, means shorting said two conductor transmission line at its other end for D.C., means shorting said other end of said lead to the other conductor of said two conductor transmission line only for alternating current to provide an effective radio frequency choke as seen from said anode for said wave length λ, and a tuning capacitor parallel resonating with said inductance at said wave length λ, wherein the other conductor of said transmission line is one extensive ground plate consisting of one wall of a chassis.

2,981,897
ELECTRIC DISCHARGE DEVICE AND SOCKET
James E. Beggs, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 22, 1954, Ser. No. 464,879
12 Claims. (Cl. 331—99)



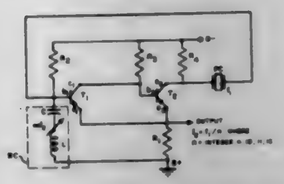
1. An electric discharge device and socket assembly comprising an electric discharge device having an envelope including substantially cylindrical metallic terminal members separated by substantially cylindrical insulating spacers, a socket adapted to receive said electric discharge device including a plurality of longitudinally spaced parallel substantially flat conectors each provided with a spring loaded recess to receive the metallic terminal members of the discharge device, one of said connectors having a transverse dimension greater than another of said connectors to provide shielding, a base member loosely retaining said connectors whereby the connectors firmly grip the discharge device without imposing strains on the discharge device envelope, said insulating spacers having a greater transverse dimension than the corresponding dimension of the terminal members adjacent thereto to electrically and mechanically separate the connectors.

2,981,898
ELECTRONIC TIMER
Dale E. St. John, Torrance, Calif.
(25914 Chalmette Lane, Rolling Hills Estates, Calif.)
Filed Mar. 18, 1957, Ser. No. 646,861
6 Claims. (Cl. 331—112)



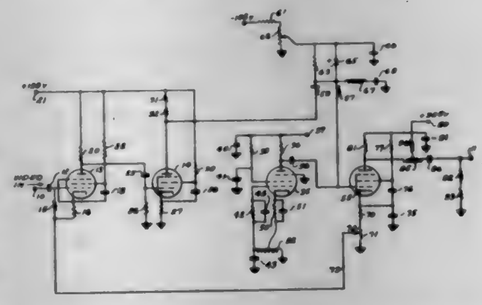
1. In a timing circuit for operation from a direct current voltage source, the combination of: a resistance-capacitance charging circuit connected across a voltage source, said charging circuit including a point at which the voltage increases with time; a single swing oscillator having a trigger input circuit, with a voltage pulse on said input circuit initiating an oscillation cycle of said oscillator; a zener noise diode having an anode and a cathode, said cathode being coupled to said point, said anode being coupled to said trigger input circuit, with said zener diode producing noise voltage pulses for triggering said oscillator when the voltage across said diode increases to the zener breakdown potential; and means for discharging said charging circuit by shunting the capacitance of said charging circuit.

2,981,899
FREQUENCY DIVIDER
Alwin Halmel, Rochester, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 12, 1958, Ser. No. 754,696
4 Claims. (Cl. 331—116)
(Granted under Title 35, U.S. Code (1952), sec. 266)



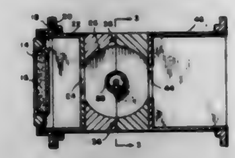
1. A frequency divider of the locked-in oscillator type comprising an amplifier including at least one pair of energized transistor amplifying triodes each having a base electrode and two output electrodes including an emitter and a collector, connected in tandem with their emitters directly connected to each other, the collector of the output triode connected directly to the base electrode of the input triode, voltage supply means for positively biasing the emitter and negatively biasing the collector of each triode with respect to its base electrode, and two feedback paths each including individual frequency-determining means, respectively connected between a different output electrode of the output triode and the base electrode of the input triode of the amplifier and forming therewith a regenerative closed loop network oscillating under control of said frequency-determining means simultaneously at two widely separated frequencies one of which is a predetermined main frequency f_1 and the other of which is a selected subharmonic f_2 of said main frequency to cause signals of corresponding frequency to be fed back regeneratively over respective ones of the two paths, the relative circuit constants of said two feedback paths being selected such that the fedback signals are simultaneously transmitted through said triodes to maintain the harmonic relationship between them, and an output circuit connected to said network for taking off directly therefrom a stable wave of the selected subharmonic frequency f_2.

2,981,905
FEEDBACK MODULATOR
Benjamin B. Drisko, Hingham, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed July 24, 1952, Ser. No. 300,633
5 Claims. (Cl. 332—37)



2. A modulator oscillator power amplifier circuit, comprising an input terminal supplying video pulses to the circuit, a first amplifier vacuum tube having a control grid electrode capacitively coupled to the input terminal and also having plate and cathode electrodes, a second amplifier tube having a control grid electrode capacitively coupled with the plate electrode of the first amplifier tube and with a fixed bias and the second amplifier tube also having plate and cathode electrodes, an oscillator having a plate electrode from which a frequency is supplied to the circuit through a capacitor coupling, a modulator power amplifier vacuum tube having a control grid electrode capacitively coupled with to receive oscillator frequency from the plate electrode of the oscillator and the modulator vacuum tube control grid electrode coupled to receive second amplifier tube amplified video pulse plate electrode output through series connected capacitor and coil means and the modulator vacuum tube having a plate electrode and a cathode electrode, a variable feedback loop connecting the cathode electrode of the modulator tube through series connected resistor and a potentiometer variable tap resistively coupled with the input grid of the first amplifier tube, and a circuit output terminal coupled through series connected coil and capacitor means with the modulator plate electrode for providing video modulated radio frequency output for the circuit.

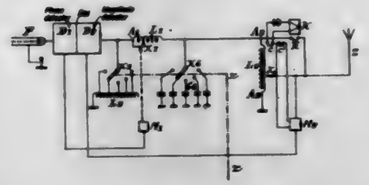
2,981,901
MICROWAVE DUPLEXER
Irving Reingold, West Deal, and John L. Carter, Asbury Park, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed June 5, 1958, Ser. No. 740,175
3 Claims. (Cl. 333—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A duplexer responsive to microwave frequency energy comprising, an encapsulated resonant window structure adapted to pass a prescribed band of microwave frequencies, a cylindrical cavity resonator having a pair of oppositely aligned rectangular coupling irises and resonant to said band of frequencies, a tunable cell-type TR tube mounted within said cavity resonator, said cell-type TR tube being selectively tunable over said prescribed band of microwave frequencies, and a rectangular waveguide terminated at one end by one of said irises, the other end of said rectangular waveguide being coupled to said encapsulated window structure.

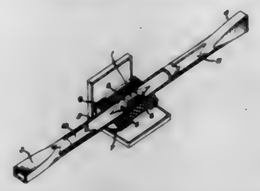
2,981,902
AUTOMATIC IMPEDANCE MATCHING DEVICE
Vladimir Familier, Sevran, France, assignor to Telecommunications Radioelectriques et Telephoniques, T.R.T. (Societe Anonyme), Paris, France
Filed June 22, 1959, Ser. No. 821,749
Claims priority, application France June 23, 1958
4 Claims. (Cl. 333—17)

1. In and for an impedance matching network interposed between a circuit output and the grounded load of said circuit and having a grounded inductance coil connected to its output and provided with an adjustable tap connected with the ungrounded terminal of said load, impedance ratio detecting means serially connected between said circuit output and the input of said network and having an output voltage responsive to the position of said tap and reversible motor means responsive to said output voltage to continuously move said adjustable tap along said inductance as long as said output voltage is not nil, the combination comprising means to initially set said adjustable tap at the grounded end of said inductance and automatically start said motor means to cause displacement of said adjustable tap in the direction



leading towards the ungrounded end of said inductance coil, to thereby vary said output voltage towards zero, switching means effective for connecting said adjustable tap to said ungrounded end and for reversing the direction of action of said motor means on said tap, to thereby further vary said output voltage towards zero upon said tap reaching said inductance coil ungrounded end.

2,981,903
GYROMAGNETIC WAVE TRANSMISSION DEVICES
Le Grand G. Van Uitert, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Application Aug. 17, 1956, Ser. No. 604,740, which is a continuation of application Ser. No. 412,962, Feb. 26, 1954. Divided and this application Nov. 19, 1957, Ser. No. 697,445
2 Claims. (Cl. 333—24)



1. In a device in which electromagnetic waves transmitted therethrough are modified by the gyromagnetic action of a ferrite body, a ferrite body of the general formula

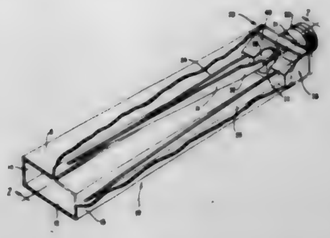
$$Mg_1Al_{.05-0.3}Mn_{.01-.3}Fe_{1-3}O_4$$

in which general formula the maximum amount of manganese present is 10 atomic percent of the amount of iron.

2,981,904
MICROWAVE TRANSITION DEVICE
James S. Ajioka, Torrance, and Bernard L. Walsh, Jr., Granada Hills, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 6, 1959, Ser. No. 785,207
3 Claims. (Cl. 333—34)

1. A microwave transition device for interconnecting one end of a hollow waveguide wherein energy is propagated in one mode with one end of a coaxial waveguide positioned in substantial alignment with said first waveguide and adapted to have energy propagated therethrough in another mode, said transition device comprising a centrally disposed ridge element positioned against one wall of said hollow waveguide and tapering from a minimum height adjacent said wall to a height which is in registry with the center conductor of said coaxial waveguide,

means disposed on an opposite wall of said hollow waveguide to define a conductive surface that extends from one of said walls to the other of said walls, said surface tapering entirely across said hollow waveguide in an opposite direction from said element, at least a portion



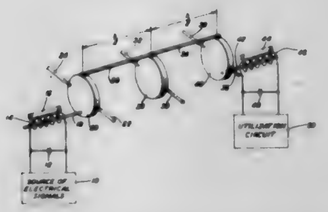
of said surface including a central aperture matching the inner surface of the outer conductor of the coaxial waveguide and being tapered in the direction so that the center conductor of the coaxial waveguide is only gradually encompassed by said surface.

2,981,905

ELECTROMECHANICAL WAVE FILTER

Warren P. Mason, West Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 20, 1958, Ser. No. 756,113
3 Claims. (Cl. 333—71)



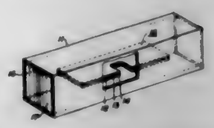
1. In a band pass electromechanical wave filter a first plane resilient member, the first member having a first axis and a second axis about both of which the member is symmetrically disposed, the second axis being normal to the first axis, the first member being supported by fixed supporting members for flexural vibration about the said first axis of symmetry of the first member, a second plane resilient member, the second member having a first axis and a second axis about both of which the member is symmetrically disposed, the second axis being normal to the first axis, the second member being supported by fixed supporting members for flexural vibration about the said first axis of symmetry of the second member, the first and second members being supported in parallel planes, their respective first axes of symmetry being parallel to each other, longitudinal vibration transmitting means comprising a rod of resilient material of cross-sectional area and shape tending to preclude flexural vibration in the rod, the rod having a length of one-half wavelength of the mid-frequency of the pass-band and connecting a point on the second axis of the first member remote from its first axis of symmetry with a similar point of the second member, the first and second members resonating in flexural vibration about their respective first axes of symmetry at the mid-frequency of the pass-band of the filter.

2,981,906

RESISTANCE SHEET MICROWAVE DEVICE

Edward H. Turner, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 14, 1957, Ser. No. 689,950
3 Claims. (Cl. 333—81)



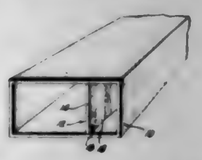
1. For use in a microwave transmission system, a wave guide mode filter consisting of a wave guide adapted for the transmission of electromagnetic wave energy of a predetermined mode while supportive of electromagnetic wave energy of at least one other mode, a thin planar film of resistive material disposed parallel to electric field components of said other mode and orthogonal to all the electric field components of said predetermined mode, said planar film being disposed in said wave guide solely in the region of maximum electric field intensity of said other mode, said planar film being thinner than the minimum thickness necessary to render it physically self-supporting in said wave guide and very thin compared with a skin depth at the operating frequency of said microwave system, means for supporting said film by all-dielectric material having a total thickness in the direction parallel to the electric field components of said predetermined mode small compared to the parallel dimension of said wave guide, said supporting means comprising only a first lamination of all-dielectric material having one face thereof contiguous to one side of said film and a second all-dielectric lamination having one face thereof contiguous to the other side of said film, said first and second laminations having the same dielectric constant and having the same shape and dimensions in any given transverse cross-section and being in all respects mirror images of each other relative to said planar film, said laminations each having a thickness small compared to a wavelength at the operating frequency of said microwave system.

2,981,907

ELECTROMAGNETIC WAVE ATTENUATOR

Robert C. Bundy, Benson, Ariz., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 18, 1957, Ser. No. 691,038
2 Claims. (Cl. 333—81)



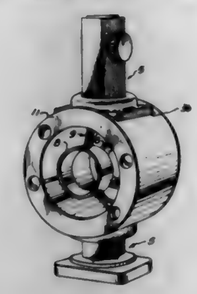
1. An attenuator adapted to be disposed in waveguide means for attenuating electromagnetic energy propagated along said waveguide, said attenuator comprising a sheet of dielectric material adapted to be disposed in said waveguide parallel to the electric field and to the direction of propagation of said energy, a plurality of separate resistive strips disposed on said sheet, said strips extending transversely of said sheet and being disposed at one quarter of the wavelength of the energy to be attenuated, each of said strips being equal in width to approximately one-eighth of said wavelength whereby each of said strips will be spaced from the adjacent strips by one-eighth of a wavelength.

2,981,908

CAVITY RESONATOR

Moody C. Thompson, Jr., Boulder, Frank E. Freethey, Brighton, and Donald M. Waters, Boulder, Colo., assignors to the United States of America as represented by the Secretary of Commerce

Filed Dec. 15, 1958, Ser. No. 780,646
2 Claims. (Cl. 333—83)



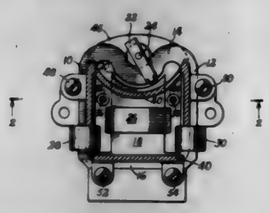
1. A resonator having a desired resonant frequency comprising a body of material having a low coefficient of expansion and containing a hollow volume bounded by at least one surface on all except a first and second side, the volume having a configuration and size dependent upon said resonant frequency and said first and second side allowing the free passage of a gas through said volume, a coating of electrically conductive material bonded to said surface, a first and second hollow ring, means for mounting said first and second ring in said first and second side, respectively, said last mentioned means permitting the passage of a gas through said first and second side, and means for coupling electromagnetic energy through said surface and through said volume.

2,981,909

POSITION MEASURING APPARATUS

Graydon Smith, Concord, Mass., assignor, by mesne assignments, to Clevite Corporation

Filed Oct. 15, 1957, Ser. No. 690,362
5 Claims. (Cl. 336—30)



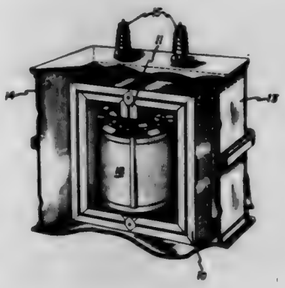
1. In apparatus for measuring physical displacement, the combination including a structure of ferro-magnetic material having first and second magnetic circuits and a third magnetic circuit common to said first and second circuits, said magnetic structure being arranged to form air-gap means coupling said third circuit to said first and second circuits, an electrically-conductive non-magnetic flux-barrier, positioned to extend into said air-gap means and arranged for movement therealong, primary winding means inductively coupled to said third circuit to induce magnetic flux in said structure, said primary winding means being adapted to be connected to a source of alternating current, first and second secondary windings inductively coupled to said first and second circuits respectively, the division of said flux between said first and second circuits being a function of the position of said flux-barrier along said air-gap means so that the relative voltages induced in said secondary windings is a measure of said position, electrical-energy absorbing means positioned adjacent said magnetic structure to intercept at least a portion of the stray flux passing between said third circuit and at least one of said first and second circuits, and adjustment means for said absorbing means to vary the degree of influence thereof on said stray flux and thereby minimize the background signal level at the zero output position of said flux-barrier.

2,981,910

COIL FOR ELECTRICAL INDUCTION APPARATUS

Leonard Rabins, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Oct. 29, 1958, Ser. No. 770,342
9 Claims. (Cl. 336—58)



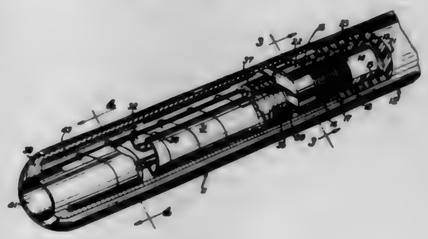
1. Stationary electrical induction apparatus comprising a winding immersed in a dielectric liquid, said winding comprising a flatwise concentrically wound conducting foil interwound with a laminar insulating material so that the laminar insulating material separates the turns of said foil, said laminar insulating material comprising a central insulating film surrounded on both sides by a sheet of fibrous material, the sides of said fibrous material contacting said foil and the edges thereof contacting said dielectric liquid, said foil extending continuously between a pair of terminals.

2,981,911

PRESSURE MEASURING APPARATUS

Alan Warnick, Oak Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

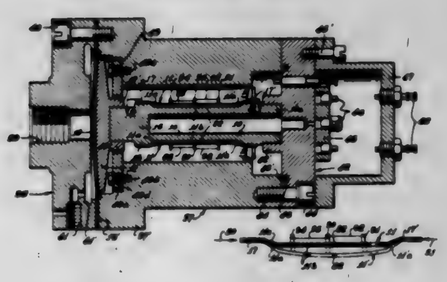
Filed Dec. 23, 1957, Ser. No. 704,671
2 Claims. (Cl. 338—4)



1. A pressure pickup for sensing the pressure in a fluid comprising, an all-metal imperforate thin wall hollow cylinder having end portions and a middle portion, the middle portion of the wall having a portion displaced inwardly to form a longitudinal inwardly extending groove thereby forming a grooved central portion and two ungrooved end portions, the wall and groove being so dimensioned and shaped as to permit measurable expan-

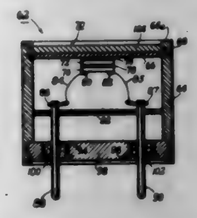
sion of said middle portion in response to slight pressure variations within the cylinder, a connector having a central portion with a plurality of slots positioned therein, said connector having an end portion of reduced diameter, one of the ungrooved end portions of said all-metal hollow cylinder being fitted over said portion of reduced diameter, a cover positioned in spaced coaxial relationship with respect to the grooved portion of said all-metal hollow cylinder, said cover having an end portion of reduced internal diameter receiving the other of said ungrooved end portions of said all-metal hollow cylinder in a fluid tight relationship, the other end of said cover fitting over the central portion of said connector and being affixed thereto, said slots in the central portion of said connector being filled with an insulating material, a winding of strain sensitive resistance wire positioned under tension across the groove and around said hollow cylinder, one end of said strain sensitive resistance wire passing through the insulating material in one of said slots in the central portion of said connector and the other end of said strain sensitive resistance wire passing through the insulating material in another of said slots in the central portion of said connector.

2,981,912
TRANSDUCER
Mario Di Giovanni, Pacific Palisades, Calif., assignor to Statham Laboratories, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 30, 1959, Ser. No. 843,568
5 Claims. (Cl. 338—4)



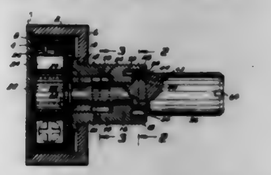
1. A transducer which comprises a strain member, an armature connected to said strain member at spaced points axially of said member, said armature between said spaced points being spaced radially of said strain member, said armature having a slotted portion including an arcuate slot located between said spaced points, spaced wire connections on said armature on opposite sides of the slotted portion of said armature, an electrical resistance strain wire connected to said wire connections, said armature having offset portions each bent at an angle to the axis of said strain member, said offset portions being located on opposite sides of said slotted armature portion, said offset portions having sufficient resilience to undergo bending on application of a force axially of said strain member, and said armature having a stiffness such that it bends in a direction normal to the axis of said strain member in response to bending of said offset portions, and a force collector connected to said strain member, so that on axial displacement of said strain member on application of an axial force thereto, said armature bends in a direction substantially normal to the axis of said member, producing a rocking of said wire connections with respect to each other, to change the tension in said strain wire and compensate for change in cross-sectional area of said strain member with change in applied load.

2,981,913
SELECTIVE INFRA-RED DETECTORS
Robert B. Barnes and Eric M. Wormser, Stamford, and Russell D. De Waard, Old Greenwich, Conn., assignors to Barnes Engineering Company, Stamford, Conn.
Filed Feb. 25, 1957, Ser. No. 641,957
6 Claims. (Cl. 338—18)



1. In infrared sensitive apparatus selectively responsive to incident infrared radiation of particular wave lengths comprising, in combination, a thermistor electrically responsive to heat energy, a radiation absorber of material which selectively absorbs radiation of said particular wave lengths and converts the major portion thereof to heat energy, said absorber being in thermal conducting relation with said thermistor and located thereover to intercept infrared radiation, and in infrared reflector having high heat conducting capacity interposed between said absorber and said thermistor, whereby said absorber converts into heat energy the major portion of the incident radiation of said particular wave lengths, and said reflector conducts said heat to said thermistor and reflects back through said absorber radiation transmitted therethrough for further conversion into heat.

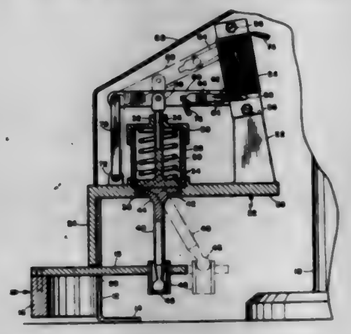
2,981,914
HIGH-TORQUE POTENTIOMETER
Charles Youra, Van Nuys, Calif., assignor to Technology Instrument Corporation of Acton, a corporation of Massachusetts
Filed Mar. 3, 1959, Ser. No. 796,844
4 Claims. (Cl. 338—162)



1. In a rotary potentiometer comprising a casing, a circular resistance element supported in said casing, a shaft having one end extending into said casing, said shaft having an arm on said one end provided with a wiper element in sliding engagement with said resistance element, and means supporting said shaft in rotatable relation with said casing, the improvement comprising a pair of flat spring elements spaced from each other by said shaft, and means urging said spring elements into tight frictional engagement with said shaft at substantially diametrically opposed points, whereby to prevent rotation of said shaft.

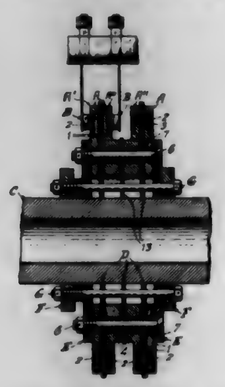
2,981,915
FOOT ACTUATED MULTIPLE RHEOSTAT CONTROL
Ralph L. Soastegard, 3289 Greyling Drive, San Diego 11, Calif.
Filed May 16, 1960, Ser. No. 29,360
7 Claims. (Cl. 338—171)

6. A foot actuated control, comprising: a floor engaging base element; a control ring mounted on and surrounding said base element adjacent the floor; a plurality of spaced push bars fixed to said control ring and extending inwardly into said base element; said control ring being movable eccentrically about said base element; a rheostat unit mounted on said base element adjacent each of said push bars; each of said rheostat units including a bracket having a rheostat mounted thereon;



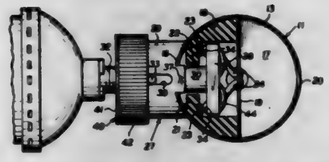
universally pivotal levers mounted on said brackets and coupled to the adjacent push bars; spring centering means engaging said levers to hold said control ring in a neutral position; said rheostats being operatively connected to said levers, whereby eccentric motion of said control ring from said neutral position causes variation in the sum resistance of said rheostats.

2,981,916
SLIP RING ASSEMBLY HAVING A PLURALITY OF METAL BASED SLIP RINGS
Thomas M. J. O'Brien, Wyckoff, N.J., assignor to Electro Tec Corp., South Hackensack, N.J., a corporation of New Jersey
Filed June 9, 1958, Ser. No. 740,916
1 Claim. (Cl. 339—5)



A slip ring assembly comprising a plurality of rigid ring-like metal base members each having opposite flat faces in planes perpendicular to its axis, said base members being arranged each with one face in closely spaced, opposed and parallel relation to one face of another, a dielectric member interposed between each two adjacent base members in abutting contact with both of said faces and insulating said base members from each other, each said base member having an annular slip surface on its other face disposed outwardly of said dielectric member to frictionally coact with a brush element, a mounting member formed of dielectric material abutting the second-mentioned face of each of the endmost base members, means fastening the mounting members together with said base members and the first-mentioned dielectric members clamped between them, each dielectric member and each mounting member comprising a ring of insulating material extending inwardly beyond the inner peripheries of said base members, a ring-like clamping member abutting the outer face of each mounting member, means fastening said clamping members together with said base members, mounting members and dielectric members between them, and a shaft extending through said clamping members, said base members, said dielectric members and said mounting members and frictionally engaging the inner peripheries of said clamping members to support the assembly on said shaft, and means for connecting said base members in electrical circuits.

2,981,917
ADJUSTABLE ELECTRICAL FIXTURE
Irving Glass, Levittown, N.Y., assignor, by mesne assignments, to A.K. Electric Corp., Brooklyn, N.Y., a corporation of New York
Filed Apr. 7, 1959, Ser. No. 804,659
3 Claims. (Cl. 339—9)



1. An improved electrical device of the character described comprising in combination a housing member provided with a front wall having an elongate slot formed therein, a pair of laterally spaced conductor strips disposed in said housing behind said front wall and parallel to and along opposite sides of said slot, and an adjustable fixture including a first jaw member disposed within said housing bridging said slot and of a size and shape to be rotatable in said housing about an axis extending through said slot and movable along said axis outward from said housing, a pair of oppositely located mutually insulated contact elements carried on said first jaw member and separably engaging said respective conductor strips, a shank fixed to and projecting from said first jaw member outward through said slot and having a threaded outer end, said shank being rotatable in and withdrawable outward through said slot for effecting rotation and withdrawal of said first jaw member, a second jaw member mounted on said shank exteriorly of said housing for rotation with said shank and movement longitudinally along said shank toward and away from said first jaw member, formations on said second jaw member configured for non-rotative engagement with said housing upon movement toward said first jaw member, and a threaded locking member exteriorly of said housing connected to said shank and second jaw member for moving the latter along said shank into nonrotative engagement with said housing and drawing said first jaw member firmly against said conductor strips.

2,981,918
CONNECTOR WITH STRAIN RELIEF FOR FLAT CABLE
William Gluck, Yonkers, and Seymour Offerman, New York, N.Y., assignors to Industrial Electronic Hardware Corp., a corporation of New York
Filed Sept. 26, 1958, Ser. No. 763,498
19 Claims. (Cl. 339—103)

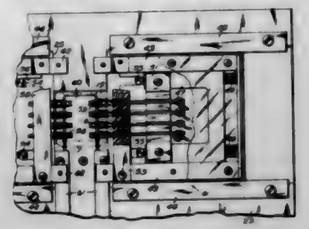
1. A connector for use with a flexible flat cable comprising a generally flat insulation base having spaced collateral metal contacts, each contact having a head and

an outwardly projecting tail for soldering to the stripped conductors of a flat cable, and a strain relief plate disposed directly over and secured to said connector, with a space therebetween corresponding to twice the thick-



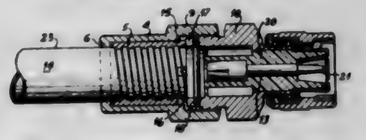
ness of the cable or more, said plate having a slot dimensioned to receive the flat cable, the arrangement being such that a flat cable may be soldered to the tails, and may be folded about the plate and through the slot thereof, said plate being localized directly over said connector.

2,981,919
RELAY TEST FIXTURE
John Lamont, North Arlington, and Adolf J. Stern, Glen Rock, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 27, 1959, Ser. No. 802,375
13 Claims. (Cl. 339—75)



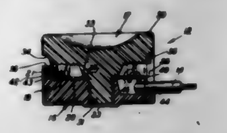
1. An apparatus for making electrical connections with leads extending at spaced positions from one end of an electrical component comprising normally open pairs of conductive lead clamps, a dielectric member to support the clamps at positions spaced comparable to the spaced positions of the leads, means to support the dielectric member for movement in a given plane, a seat for the component, means to support the seat for movement in a plane at right angles to the plane of the clamps, means to move the dielectric member to move the clamps while open to cause each pair of clamps to straddle its respective lead adjacent the end of the component, means to move the seat to move the component away from the clamps to thereby move the leads in their open clamps to locate predetermined portions of the leads in the clamps, and means to close the clamps on said portions of their leads.

2,981,920
CABLE CLAMP
Samuel Henry Jackson, Ardsley, N.Y., assignor to Kings Electronics, Inc., a corporation of New York
Filed Mar. 16, 1959, Ser. No. 799,522
2 Claims. (Cl. 339—89)



1. A cable clamp comprising, a cylindrical casing provided with an internal flange at one end, a gripping ring located within the casing and having one end in contact with the flange, said gripping ring being provided with internal cable-deforming surfaces, the gripping ring being provided at one end with a plurality of spaced notches, a cable extending axially through the gripping ring, said cable having a deformable metal sheath that is clamped in and deformed by the gripping ring, the metal sheath of the cable being provided with a plurality of spaced outwardly-protruding flares engaging with the notches in the gripping ring, the casing having internal threads at its end remote from the flange, and a cable connector having external threads engaged by the internal threads on the casing.

2,981,921
CONNECTOR FOR CONNECTING A BRANCH WIRE TO A CURRENT CONDUCTING THROUGH WIRE
Thomas W. Safford, Portland, Oreg., assignor to Arcoa, Inc., Portland, Oreg., a corporation of Oregon
Filed Nov. 3, 1958, Ser. No. 771,358
1 Claim. (Cl. 339—97)

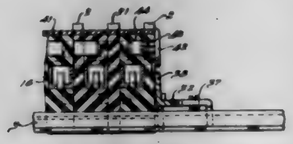


A connector for connecting a branch wire to a current conducting through wire comprising a main housing element of dielectric material, said main housing element comprising a disc base and a circumferential flange rising from one side of said base, said base having a central, threaded opening and said flange having a pair of notches therein in alignment with each other along a chord of the base at one sde of said opening, said flange having a relieved portion between said pair of notches extending to a lower level than the remainder of the flange, said flange also having a third notch therein, a pressure cap of dielectric material in the form of a screw having a large head and a threaded stem, said stem being engaged in said threaded opening, said stem being of such length as to allow a through wire to be inserted laterally over said relieved portion into said aligned notches in said flange while said stem is loosely engaged with the uppermost portion of said threaded opening and with said head overlying said flange, and a contact element of conductive material retained within said flange, said contact element being in the form of a disc having a central aperture for the passage of said stem and having an axially extending flange thereon provided with serrations forming a plurality of insulation-piercing teeth, and also having a bifurcated tab extending axially therefrom adapted to grip the insulation of an insulated branch wire whereby to hold said branch wire in association therewith, said tab being located so that when adjacent said third notch said teeth will be adjacent said pair of notches, the head of said screw applying pressure to force said teeth into said insulation and into contact with the through wire upon screwing said stem of said pressure cap into said threaded opening.

2,981,922
ELECTRIC TERMINAL STRIP
Hermon L. Van Valkenburg, Milwaukee, and Erik J. Nielsen, Whitefish Bay, Wis., assignors to Square D Company, Detroit, Mich., a corporation of Michigan
Filed May 16, 1956, Ser. No. 585,345
6 Claims. (Cl. 339—198)

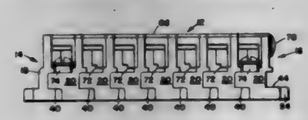
4. A composite terminal strip comprising a plurality of juxtaposed terminal blocks each having a T-shaped slot in the base thereof, an elongated support member received in the T-shaped slots of the blocks and sized to permit the blocks to have unrestricted lateral movement

with respect to the support member between limits when the blocks are assembled on the support member in a row to form a composite terminal strip, complementary interlocking means on said blocks for interlocking with adjacent ones of the blocks to maintain the blocks in said row in alignment and to prevent relative lateral movement between the blocks, an adjustable end clamp at each end of said row, each of said clamps having a means including a portion cooperating with the inter-



locking means on its associated end block for preventing lateral movement of its associated end block with respect to the support member, each of said clamps having fastening means for progressively tightening its associated end clamp to said support member, and each of said clamps having means for tilting the lateral movement preventing portion thereof toward the blocks for pressing the blocks of said row together with increasing pressure as its associated fastening means is tightened to said support member.

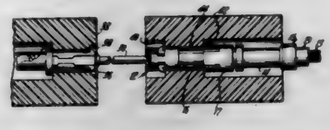
2,981,923
ELECTRIC TERMINAL BLOCK STRUCTURE
George Ustin, Verona, N.J., assignor to Buchanan Electrical Products Corporation, Hillside, N.J., a corporation of New Jersey
Filed Feb. 24, 1958, Ser. No. 717,665
6 Claims. (Cl. 339—198)



1. A terminal block assembly having first and second ends and comprising a first section of insulating material providing said first end, at least one additional section of insulating material including a second section providing said second end, each said section having a surface facing away from said first end and a hole in each said surface having an open end facing away from said first end, said holes aligned with each other, each said additional section having a projection facing said first end and engaging said hole of another of said sections, one of said projections engaging said hole of each of said sections except said second section, said assembly having a top surface, said surface of said first section overlapping an end of said top surface, a member having a shank in said hole of said second section and a surface facing away from said second end and overlapping the other end of said top surface, and a terminal marking strip on said top surface between said surface of said first section and said surface of said member and confined thereby.

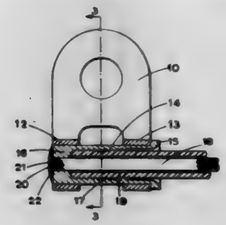
3,981,924
CLOSED ENTRY SOCKET
Henry P. Dupre, Wilton, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Oct. 28, 1958, Ser. No. 770,133
5 Claims. (Cl. 339—217)

5. An electrical contact assembly comprising an insulating housing having a bore therethrough, said bore including a restricted portion forming a front locking shoulder and a rear locking shoulder, a tubular contact body having a conductor attaching portion and a tubular mating contact receiving portion, said tubular portion including a plurality of resilient fingers having radially projecting means thereon, and at least a portion of said contact body including a section of greater outside dia-



ameter to form a rear locking shoulder, a closed entry adapter including a cylindrical contact receiving portion, means to mount said adapter on said body and a plurality of openings in said adapter and the radially projecting means of said resilient fingers at least in part disposed therethrough to cooperate with the front locking shoulder of said insulating housing.

2,981,925
ELECTRICAL CONNECTIONS
Ronald Lionel Kibbey, Mackworth, and George Peat, Derby, England, assignors to Rolls-Royce Limited, Derby, England
Filed June 18, 1957, Ser. No. 666,366
Claims priority, application Great Britain July 3, 1956
5 Claims. (Cl. 339—223)



4. An electric lead and connector terminal assembly including in combination, an elongated electric conductor, a sleeve of rubber-like material covering said conductor except for a short end section, a terminal plate having two integral, axially aligned, longitudinally spaced sleeves extending along one edge thereof, a tubular socket member closely fitting in and bonded to said sleeves and having a through axial bore closely receiving said conductor and a counterbore loosely receiving said covering, said socket member between said spaced sleeves being deformed to grip the rubber-like sleeve, and the exposed end of said conductor being soldered to the outside of the end wall of said socket member.

2,981,926
BUS BAR
Raymond H. Boardman, Hartford, Conn., assignor to The Hart Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Filed Nov. 20, 1957, Ser. No. 697,683
4 Claims. (Cl. 339—256)

1. An elongated flat bus bar of electrically conductive metal having a terminal formed integrally therewith and comprising an elongated center strip extending longitudinally of the bus bar in spaced relation to the longitudinal edges of the bar, said center strip being separated from the remainder of the bar along its longitudinal edges to provide a pair of similarly extending side strips on opposite sides thereof, said center strip further being offset relative to said side strips at right angles to the general plane of the bar, said side strips being inclined

laterally outwardly of the bar and toward each other whereby an elongated electrical connection may be in-



serted laterally of and between said side strips and center strip for firm clamping engagement therebetween.

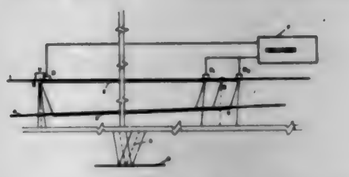
2,981,927
UNDERWATER SOUND TRANSMITTER
Vaughn G. McKenney, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 4, 1946, Ser. No. 659,474
3 Claims. (Cl. 340—2)



1. In a compact, expendible, self-monitoring, automatic transmitter for jamming underwater echo-ranging operations, the combination with a casing, automatic buoyancy control means, and an electric power supply, of, a single electromechanical transducer, an electronic amplifier, a recorder including a magnetic disc, a motor for driving said disc continuously at substantially constant speed, control means normally connecting said amplifier to record on said disc underwater sounds received by said transducer, and means responsive to the receipt of a signal exceeding a pre-set threshold intensity for operating said control means for connecting said amplifier to drive said transducer from said recorder, said control means being automatically operable for re-connecting the amplifier for recording after a pre-set length of time.

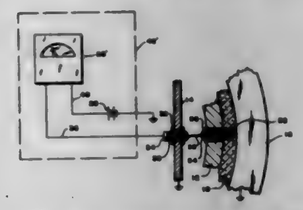
2,981,928
METHOD FOR ELIMINATING UNDESIRED COMPONENTS OF COMPOSITE RECEIVED SIGNALS
John M. Crawford and William E. N. Doty, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Oct. 20, 1954, Ser. No. 463,552
8 Claims. (Cl. 340—15)

1. A plurality of signal generators in contactual relation shop with the surface of the earth, each of said signal generating means imparting to the earth a unique elastic wave signal which is nonrepetitive and containing a known frequency spectrum, said unique signal being generated for a period of time which is at least as long as the travel time of said reflected signal, said plurality of signal generators having a plurality of different selected one-half wave length spacings therebetween, said one-half wave length spacings being selected at discrete frequencies throughout the known transmitted frequency spectrum, detecting means in contactual relationship with



the earth and adapted to be responsive to said transmitted unique signal which is reflected from a subterranean strata, the orientation of said signal generators and the defined spacings between said generators with respect to said detecting means being such that the surface wave traveling between said plurality of generators and said detecting means is substantially cancelled.

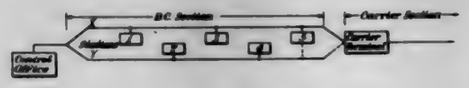
2,981,929
ELECTRICAL BRAKE LINING WEAR DETECTOR
Samuel Rizzo, 6004 N. Water St., and David Biser, 4557 Camac St., both of Philadelphia, Pa.
Filed Feb. 17, 1958, Ser. No. 715,793
2 Claims. (Cl. 340—52)



1. Brake lining wear detector apparatus for use with an electrically insulating brake lining mounted along its inner surface on a brake shoe and a brake drum having an electrically conductive surface for intermittent contact with the outer surface of said brake lining, comprising, electrical resistance means having a resistance variable with its length extending through said brake lining and having a surface flush with said lining outer surface so that the length of said electrical resistance means is reduced by wear concurrently with wear of said lining, and electrical circuit means including electrical energy source means and current indicator means for providing a continuous electrical circuit from said brake drum through said electrical resistance means thereby providing current flow through said indicator means when said conductive surface of said brake drum makes contact with said electrical resistance means and said current flow having such a value as to indicate the amount of said electrical resistance means worn away by the action of said brake drum and thereby indicate the state of wear of the brake lining.

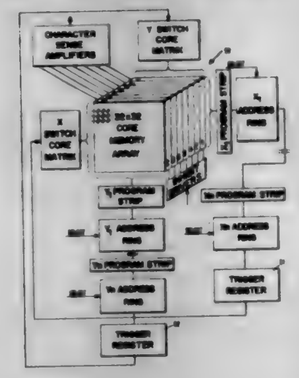
2,981,930
STATION TRANSFER CIRCUITS FOR REMOTE CONTROL SYSTEMS
Crawford E. Staples, Homewood, and Theophilus E. Hopkins, Trafford, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed May 28, 1958, Ser. No. 738,430
6 Claims. (Cl. 340—163)

1. In a coded remote control system including an office location and at least one field station location, said system having a normal and an alternate communication channel between said office and said station, said office having connections to both channels to at times transmit control functions in the form of stepped control codes of predetermined length over each channel, each code step having a first or a second characteristic as determined by the control function transmitted, said station having channel connections adapted to connect the station to any communication channel to receive the control codes designated for that station, apparatus to transfer said station channel connections from the normal channel to the alternate channel and vice versa as desired for



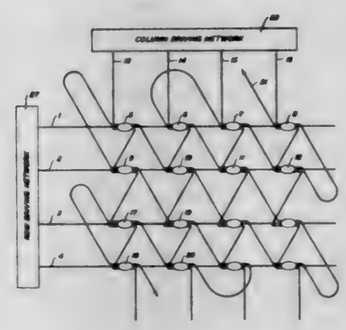
system operation, comprising a control stick relay operable to a first position and to a second position, an energizing circuit network for said stick relay completed only in response to reception of a preselected code step, said circuit network being effective to operate said stick relay to its first position when said preselected code step is of said first characteristic and to its second position when said preselected code step is of said second characteristic, and transfer means controlled by contacts of said stick relay for transferring said station channel connections between said normal channel and said alternate channel as said stick relay occupies its first and second positions respectively.

2,981,931
STORED ADDRESS MEMORY
Lawrence A. Tate, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 4, 1959, Ser. No. 818,113
9 Claims. (Cl. 340—172.5)



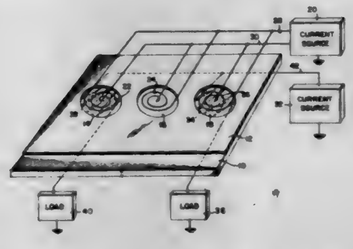
1. A system for sequentially addressing cores in a core memory in accordance with a program, said memory comprising an X by Y array of cores, that comprises and X coordinate addressing channel and a Y coordinate addressing channel, each channel including at least one ring having a number of stages equal to the number of cores defining said channel coordinate, each stage including a core, means to store the first coordinate address of said program in said ring, a register, means to transfer said coordinate address to said register, a switch core matrix for addressing said memory, means to address said memory from said matrix under the control of said register to readout addressed memory information and to read-in address memory information, a program terminal strip associated with each of said rings, said strip having input terminals and an equal number of output terminals in number equal to the number of cores defining said channel coordinate, means to connect said input and output terminals in accordance with a routine of said program, means operatively connecting said matrix, said strip and said ring whereby addressing of said memory by said matrix stores in said ring the next sequential address of said program and means to empty said register.

2,981,932
MAGNETIC MEMORY DEVICE AND METHOD OF MANUFACTURE
Duncan H. Looney, Summit, and Robert H. Meinken, North Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 22, 1955, Ser. No. 554,841
13 Claims. (Cl. 340—174)



1. A magnetic memory element comprising a globule of ferrite material having substantially rectangular hysteresis characteristics and a plurality of wires consolidated with said globule and having portions entirely embedded in said globule, said wires being insulated from each other and from said ferrite material.

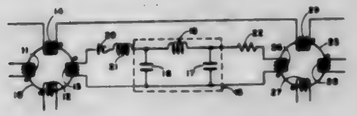
2,981,933
MULTISTABLE CIRCUIT
James W. Crowe, Hyde Park, and Bennett Housman, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 19, 1956, Ser. No. 622,902
8 Claims. (Cl. 340—174)



1. A multistable circuit including a thin film of material in the superconductive state, said film having a plurality of apertures therein, magnetic field producing means for trapping magnetic lines of flux linking at least two of said apertures, superconductive sense means associated with at least one of said apertures, said sense means having a critical magnetic field that is less than said linking

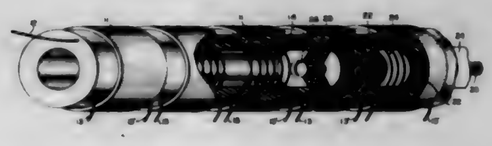
lines of flux and providing a resistive condition in response to magnetic lines of flux trapped in the associated aperture.

2,981,934
ELECTRICAL APPARATUS FOR TRANSFERRING DIGITAL DATA
Edward M. Ziolkowski, Waltham, Mass., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Company, a corporation of Delaware
Filed Mar. 13, 1957, Ser. No. 645,839
8 Claims. (Cl. 340—174)



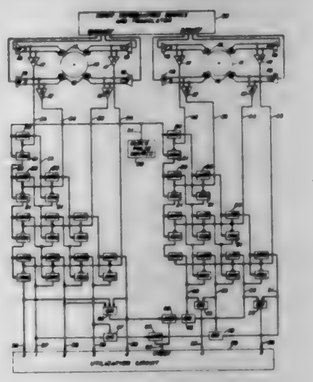
3. An electrical circuit for manipulating electrical signal pulses comprising a pair of bistable magnetic cores each having a substantial residual magnetic flux and input and output windings, a shift winding wound on one of said cores and adapted upon application of a shift pulse thereto to switch the magnetized state of said core from a first bistable state to a second state so that the output winding of said core will have a signal pulse induced therein, a signal time delay link, means connecting said link between the output winding of said one core and the input winding of the other core to couple the signal pulses in said output winding of said first core to said other core input winding, and signal gating means connected to the input of said link to block the initial flow of each signal pulse into said link produced by the initial flux changes in said one core initiated by each shift pulse.

2,981,935
MAGNETIC STORAGE DEVICE
Donald E. Nasoni, Wayne, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 13, 1958, Ser. No. 767,843
8 Claims. (Cl. 340—174)



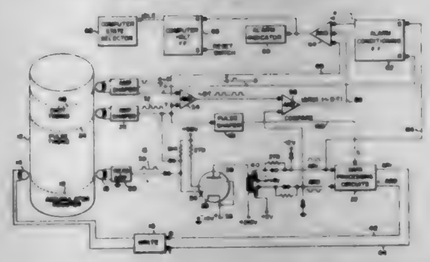
1. A data storage device comprising in combination a plurality of signal windings separated into sections, a shell of magnetic material associated with each section, a plurality of members consisting, respectively, of either magnetic or non-magnetic material arranged in a predetermined sequence in accordance with the data to be stored in said device, each of said members being so positioned with respect to one of said sections that each magnetic member establishes with said magnetic shell a flux path linking all the windings in the section associated therewith, and each non-magnetic member provides a high reluctance flux path with resultant low magnetic coupling among the windings with which it is associated, means for interrogating the storage condition of each of said sections and for obtaining therefrom an output voltage whose amplitude is dependent upon the degree of magnetic coupling present therein, the plurality of output voltages obtained from said sections at the time of interrogation being representative of said stored data, and means for utilizing said output voltages.

2,981,936
MAGNETIC DATA STORAGE MEDIUM
Frederick G. Buhrendorf, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 18, 1957, Ser. No. 672,685
14 Claims. (Cl. 340—174.1)



10. In an electrical circuit comprising a magnetic drum, a plurality of elemental information cells arranged in ordered tracks and slots on said drum, a group of *n* magnetic heads positioned around a single track on said drum, a group of *m* magnetic heads also positioned around a single track on said drum, means including said *m* and *n* magnetic heads for changing the state of magnetization of the cells simultaneously under said heads to store information on said drum in accordance with a combinatorial code, means including said heads for simultaneously sensing the state of said cells under said heads, output means, and translating means connected to said sensing means and said output means for applying to said output means signals dependent on the number of similarly magnetized cells simultaneously under said *m* and under said *n* heads.

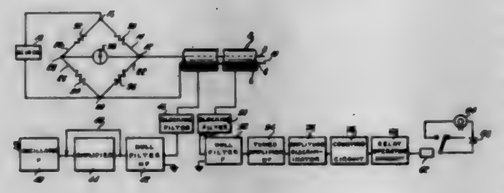
2,981,937
RELIABILITY CHECKING CIRCUITS
George G. Hoberg, Berwyn, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 28, 1956, Ser. No. 587,515
11 Claims. (Cl. 340—213)



1. An electronic system reliability checking circuit comprising in combination, a source of timing pulses, means for presenting information items during specified time periods in pulse count form wherein each information item has a single group of consecutively presented pulses with each pulse occurring in time coincidence with one of the timing pulses, data processing circuits for manipulating said information items, means for comparing the manipulated information items with those ones

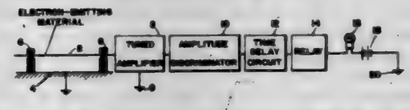
of said timing pulses occurring during an item period to provide thereby a comparison signal indicative of differences in coincidence, means responsive to the first pulse occurring in an item period for producing an alarm conditioning signal for the remainder of the item period, and means responsive to coincidence of the comparison signal and the alarm conditioning signal for signalling a possible error.

2,981,938
COMBINED OVERHEAT AND FLAME DETECTOR SYSTEM
Robert E. Carbaub, Medfield, Mass., assignor to Petcar Research Corporation, Washington, D.C., a corporation of New Jersey
Filed Dec. 21, 1955, Ser. No. 554,577
2 Claims. (Cl. 340—227)



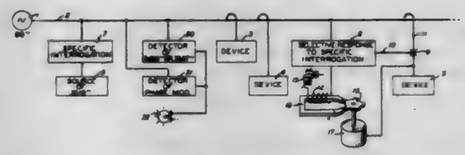
1. A detector system comprising means for indicating the existence of a predetermined abnormal high temperature consisting of a cable-like element of indefinite continuous length comprising a bendable tubing element formed of a material of relatively high heat conductivity, a unitary assembly disposed within the tubing element and being in heat-transfer relation thereto but being separate therefrom and comprising two electrically conductive uninsulated wires which are substantially coextensive in length with the tubing element and are spaced therefrom and from each other throughout their lengths, and a material which is substantially nonconductive to electricity at normal lower temperatures and which becomes conductive to electricity at abnormal higher temperatures surrounding and in contact with said wires and which maintains them in closely spaced relation to each other and tightly engages the interior surface of the tubing element to provide an electrically conductive path between the wires in substantially instantaneous response to abnormal higher ambient temperatures to which the exterior of the tubing element may be subjected, while electrically insulating the wires from each other at normal lower temperatures, a source of electric energy and an indicating means electrically connected to each other and to said wires at one end of said element whereby the existence of a predetermined high ambient temperature at any location along the length of the cable-like element will cause the temperature responsive member thereof to establish an electrically conductive path between the wires at said location to complete a circuit through the temperature responsive member, the wires, the source of electric energy and the indicating means to energize the indicating means, means for supplying between said tubing element and ground an alternating voltage having a fundamental frequency and from which there has been attenuated to negligible value an harmonic or ensemble of harmonics being neither the zero nor first harmonic of the fundamental frequency, receiving means connected between said tubing element and ground and tuned to receive only the attenuated harmonic frequency whereby a signal of the attenuated harmonic frequency will be detected by said receiving means upon impingement of a flame on said tubing element and ground, and means for indicating the detection of such a received signal.

2,981,939
FIRE DETECTOR SYSTEM
Robert E. Carbaub, Norfolk, Mass., assignor to Petcar Research Corporation, Medfield, Mass., a corporation of New Jersey
Filed Nov. 27, 1956, Ser. No. 624,580
2 Claims. (Cl. 340—228)



1. A system for indicating the presence of flame in a space to be monitored, comprising a continuous type sensing element adapted to be positioned within said space, said sensing element being insulated from ground and being unenergized and being formed of a material which when heated to a predetermined degree emits electrons sufficiently to cause a thermionic current to flow therein, grounded amplifying means connected to said sensing element which are tuned to admit frequencies in the range of frequencies of the varying characteristics of flame whereby a current is caused to flow in said sensing element and said amplifier upon impingement of a flame on said sensing element and ground, an indicating device, and means connecting the amplifying means to the indicating device to cause the current output of the amplifying means to operate the indicating device to indicate the presence of flame at or adjacent the sensing element.

2,981,940
COMMUNICATION SYSTEMS
Richard L. Garwin, Scarsdale, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 11, 1957, Ser. No. 645,303
3 Claims. (Cl. 340—310)

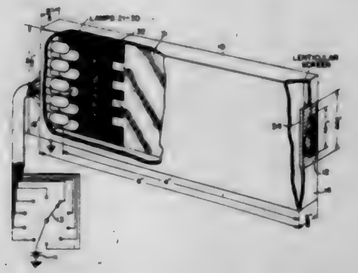


1. A communication system comprising a transmission line for conventional usage and connected to said line at random points, (1) a source of high frequency current, (2) means to modulate said high frequency current, and (3) a detector of modulated high frequency current, characterized in this that a specific interrogation device consisting of selecting means and means to complete a connection over a predetermined period is interposed in the said connection of said high frequency current to said line and at each said modulating means a device selectively responsive to said specific interrogation device having means to complete a connection over said predetermined period is interposed in said connection of said modulating means to said line.

2,981,941
SELECTIVE OPTICAL SCREEN AND SYSTEM
James A. Ogle, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 22, 1956, Ser. No. 605,597
5 Claims. (Cl. 340—378)

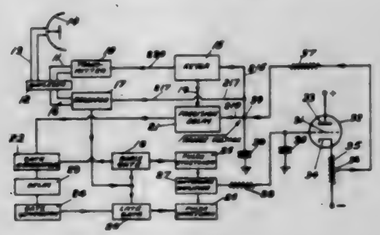
3. An optical display device comprising a housing the side walls of which are comprised in part of material capable of specular reflection and in part of light-absorptive material and having at one end wall a display screen comprising a sheet of light refractive material both faces

of which are embossed with a plurality of small cylindrical lenses extending in the same one direction, the lenses of one face having their focal points substantially at the lenses of the other face for light waves of different angles of incidence, the pitch of the lenses of the outside face being greater than the pitch of the lenses of the inside face; an array of light sources within said housing and located near the opposite end wall, the individual ones of said light sources being displaced from each other in a direction normal to the direction of said lenses, whereby incident light waves from different ones of said light sources are focused at different line locations on said outside-face lenses; and a composite-image stencil secured



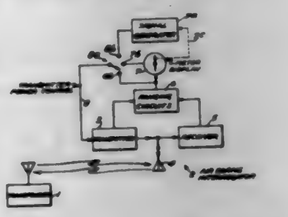
to and disposed on the surface of said outside-face lenses, said stencil having a different image at each of the different focal lines associated with each of the different light sources, said images being so disposed that illumination of a selected said light source will selectively illuminate the component said images of a composite said image uniquely associated with said selected light source, further particularly characterized in that said array of light sources comprises a plurality of columns with the individual light sources of one column occupying staggered positions with respect to those of another column and further characterized in that the light-absorptive and specularly reflective materials have a junction border line which has a rectangularly notched configuration.

2,981,942
PULSE ECHO SYSTEMS
Thomas A. O. Gross, South Lincoln, Mass., assignor to Raytheon Company, a corporation of Delaware
Filed Jan. 23, 1952, Ser. No. 267,811
14 Claims. (Cl. 343—7)



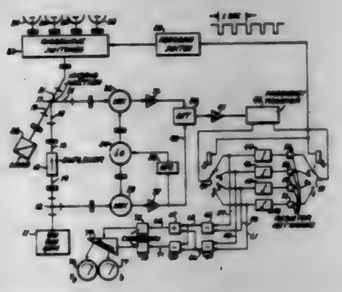
1. A pulse echo system including a transmitter, a receiver producing a voltage proportional to the distance traversed by the signals, means under control of said voltage to modulate the output of said transmitter with pulses of a duration directly proportional to the said voltage and of a repetition rate inversely proportional to the said voltage, and means under control of said voltage to maintain the bandwidth of the receiver inversely proportional to the said voltage.

2,981,943
VARIABLE POWER TRANSMITTER FOR DISTANCE MEASURING INTERROGATORS
Sven H. M. Dodington, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 30, 1953, Ser. No. 401,276
9 Claims. (Cl. 343—7.5)



1. In a radio communication system having a mobile unit capable of interrogating a transponder unit at a remote location, said mobile unit including a mobile transmitter, a receiver, and means responsive to the interrogation signals of said transmitter and the reply signals of said transponder for determining the distance between said mobile unit and said transponder; the combination with said mobile unit of means coupled to said distance determining means to develop a control signal responsive to the output of said distance determining means and means to vary the power output of said mobile transmitter in response to said control signal.

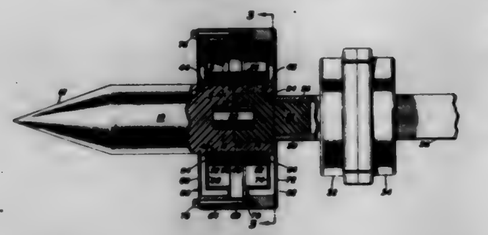
2,981,944
MICROWAVE NAVIGATION SYSTEM
Brenton P. Washburne, Penn Valley, Pa., assignor to General Precision, Inc., a corporation of Delaware
Continuation of application Ser. No. 577,382, Apr. 10, 1956. This application Dec. 6, 1960, Ser. No. 74,086
7 Claims. (Cl. 343—9)



1. An aircraft self-contained speed and drift measuring system comprising, a transmitter, antenna means rigidly secured to said aircraft in a fixed position relative thereto first switch, means interconnecting said antenna means and said transmitter for causing said antenna means to radiate singly and in time sequence a plurality of signal beams directed toward the earth's surface at spaced areas located forwardly, rearwardly and on opposite sides of the intersection of the aircraft vertical and the earth, means for receiving individual echo signals reflected from the earth's surface by the illumination thereof of each of said beams each echo signal having a frequency which departs from that of the transmitted signal frequency by an amount and in a sense dependent on the velocity of the aircraft relative to a respective illuminated area of the earth's surface, means including second switch means operated in synchronism with said first switch means for producing from each of said echo signals an electrical

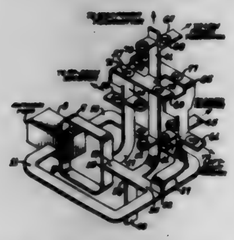
signal having a characteristic which varies in accordance with the departure in frequency of each echo signal from the transmitted signal, means operated by the conjoint application of said electrical signals for producing therefrom a pair of output signals representing aircraft speed and drift, and indicating means actuated by said pair of output signals.

2,981,945
ANTENNA ADAPTED FOR MISSILE STABILIZATION
Ethel P. Fyler, Silver Spring, Md., and Gilbert Wilkes, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 31, 1954, Ser. No. 420,216
7 Claims. (Cl. 343—753)



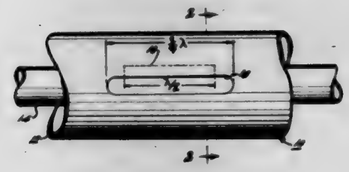
5. An antenna assembly for receiving radio frequency guidance signals, comprising a circular lens of dielectric material, a cylinder of ferromagnetic material arranged along the axis of said lens, a metallic sleeve having a longitudinal slot therein surrounding said lens in the vicinity of said cylinder of ferromagnetic material, a strip of conducting material positioned over said slot and being insulated from said sleeve, a coil wound on said sleeve, said coil being insulated from said sleeve and said strip of conducting material and being energized by alternating current for providing a modulation source, and a low eddy-loss magnetic pole piece adjacent each end of said coil, said pole pieces being insulated from said coil, strip and sleeve, energization of said coil providing modulation of the plane of polarization of incoming guidance signals.

2,981,946
ANTENNA FEED SYSTEM
Nathaniel I. Korman, Camden, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 30, 1947, Ser. No. 776,927
11 Claims. (Cl. 343—756)



1. In a simultaneous lobing antenna system including a radiation focussing device, a radiator substantially at the focal point of said device, said radiator comprising a cavity device of substantially square cross section open at the front and closed at the back, two wave guides each entering one side of said cavity device respectively, and two further wave guides entering the top and bottom respectively of said cavity device; a common wave guide, and a hybrid T connecting both of said first mentioned wave guides in phase opposition with each other to said common wave guide, a second common wave guide and a hybrid T connecting both of said second mentioned wave guides in phase opposition with each other to said second common wave guide; a main wave guide, and means connecting said main wave guide to both of said hybrid T's to connect said first mentioned two wave guides cophasally to said main wave guide and said second mentioned two wave guides cophasally with each other to said main wave guide; four branch wave guides, two connected in parallel to each of said common wave guides, means connecting each of said branch wave guides cophasally with a branch wave guide from the other of said common wave guides to said main wave guide, and switching means included in each of said branch guides to render it selectively effective and ineffective to transmit energy.

2,981,947
COUPLING DEVICE FOR SLOT ANTENNA
Steven J. Bazan, Philadelphia, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 24, 1957, Ser. No. 685,920
2 Claims. (Cl. 343—767)

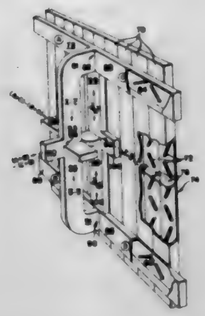


2. Apparatus for translating radio frequency energy through an elongated slot opening in the outer member of two coaxial members, said members being capable of presenting a transverse electric field in radial directions upon excitation by radio frequency energy, said elongated slot having a length not to materially exceed $3\lambda/4$, said apparatus comprising an elongated conductive member positioned with respect to the inner wall of said outer coaxial member to cooperate with one side of the said elongated slot opening and with one side of said member's long dimension substantially parallel to and substantially registered with said one side of said elongated slot whereby to create a disturbance in said field so that a radiating field appears across said slot, said conductive member having a length of the order of $\lambda/2$, where λ is the RF wave length.

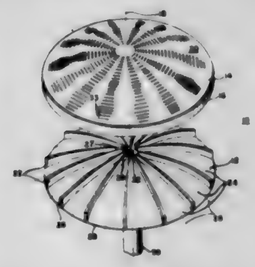
2,981,948
SIMULTANEOUS LOBING ARRAY ANTENNA SYSTEM
Louis A. Kurtz, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 29, 1956, Ser. No. 588,155
4 Claims. (Cl. 343—771)

3. A simultaneous lobing antenna system for lobing in at least one dimension and comprising: a plurality of linear waveguide elements arranged in parallel in a common plane to define a radiating array, each of said waveguide elements having a plurality of apertures spaced lengthwise along a like surface thereof and defining columns and rows of radiating apertures; at least a pair of feed waveguides extending across said linear waveguide elements and normal thereto, each of said feed waveguides being coupled to transfer energy to each of said

linear elements at given points; and means coupled to said pair of the feed waveguides for providing a signal proportional to the difference between the energies in said waveguide elements on each side of a centerline of the radiating array.



2,981,949
FLUSH-MOUNTED PLURAL WAVEGUIDE SLOT ANTENNA
Robert S. Elliott, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 4, 1956, Ser. No. 607,830
6 Claims. (Cl. 343—771)



3. An antenna comprising: a pair of substantially parallel walls spaced from each other to form a volume of revolution, a plurality of radial walls disposed between said parallel walls to divide said volume into a plurality of sectoral waveguides having restricted radially inner ends for the passage of electromagnetic energy therethrough and having enlarged radially outer ends terminated to prevent the passage of energy therethrough, at least one of said parallel walls having a separate group of slots for each of said sectoral waveguides, the slots in each of said groups being arranged to couple energy between said sectoral waveguides and free space whereby each of said sectorial waveguides will have a predetermined pattern that extends substantially radially outwardly therefrom.

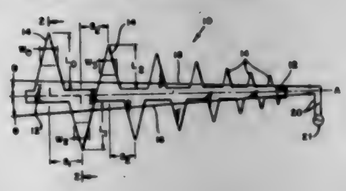
2,981,950
ELECTROSTATICALLY-SHIELDED LOOP ANTENNA
William S. Skidmore, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 27, 1959, Ser. No. 796,165
17 Claims. (Cl. 343—788)

12. An electrostatically-shielded ferrite-loop antenna for a power-line-operated radio receiver of the type having a common circuit ground means, comprising an elongated ferrite rod-like core element, an inductive loop winding on said core element, said winding having high and low signal potential terminals mounted on one end of core element, a shield of non-metallic resistive material surrounding a portion of the core element and the entire loop winding in fixed spaced relation thereto, and terminal means for connecting the shield with the common circuit ground means of said receiver, whereby said shield provides means for electrostatically coupling with



earth ground for power-line noise currents flowing in said common ground means and for excluding such currents from said loop winding, the resistive impedance of said shield to the flow of noise currents therethrough being of the order of from 100 to 2000 ohms per unit square and thereby being relatively low with respect to the capacitive impedance of the earth-to-shield electrostatic coupling but relatively high to signal eddy current flow therein, whereby said shield provides no appreciable change in the tuning or the signal interception ability of the loop winding.

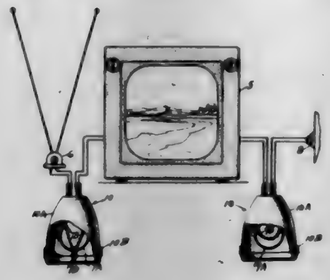
2,981,951
BROADBAND ANTENNA
Arthur F. Wickersham, Jr., Santa Clara, Calif., and Jimmy E. McDowell, Bessemer, Ala., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Sept. 11, 1959, Ser. No. 839,584
9 Claims. (Cl. 343—807)



1. A broadband end-fire antenna having an axis and comprising a plurality of triangularly shaped conducting elements arranged in a common plane with the apex of each element remote from the axis, said elements being axially spaced apart with successive elements extending on opposite sides of said axis, the physical dimensions of successive elements decreasing toward one end of the antenna in accordance with a predetermined ratio, and means for feeding electromagnetic wave energy to said conducting elements comprising a pair of conducting lines disposed adjacent to said elements for the full length of the antenna and converging toward each other in a direction toward said one end of the antenna, said lines being electromagnetically coupled to said elements, and input means connected to said lines for energizing said elements.

2,981,953
TELEVISION BRIGHTENER
Salvador Suozzo, 386 N. 6th St., Newark, N.J.
Filed Nov. 12, 1957, Ser. No. 695,983
1 Claim. (Cl. 343—820)

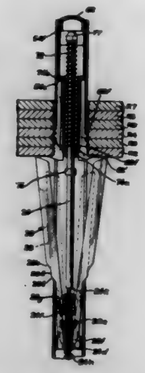
The combination of a television receiver, an antenna, a transmission line connecting the antena to the receiver, a single loop of crimped wire connected to one side of the line and a loop of plain wire connected to the other side of the line, said loop of crimped wire being pinched sub-



stantially at its middle to form a sub-loop, the loop of crimped wire being substantially within the loop of plain wire, with said sub-loop being outside of the same.

2,981,953
MAGAZINE PHONOGRAPHS
Hans Christian Hansen, 14 Christianshoimsvej, Copenhagen, Denmark
Filed Mar. 5, 1957, Ser. No. 644,119
Claims priority, application Great Britain Mar. 5, 1956
14 Claims. (Cl. 274—10)

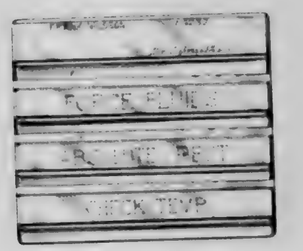
1. In a phonograph record changer, a vertical hollow central guiding and supporting pin for a stack of records having a plurality of elongated slots, retractable primary supporting means in the form of prongs each of which has an upper body portion extending in the inclined position thereof upwards through one of said slots so as to define a supporting surface for a stack of records at its top end, secondary supporting means spaced above said primary supporting prong surfaces and operable to hold the next to the lowest record of said stack during release of the lowermost record of said stack, a control rod mounted for lengthwise sliding movement within said guiding pin, each of said prongs having a lower portion extending below said slot in the space between said guiding pin and said control rod, an annular member arranged for sliding movement within said pin, a connection between said lower end of each of the prongs and said annular member, means for exerting a downwardly directed pressure on said slidable annular member in response to downward movement of said control rod, two inclined surfaces at the exterior side of the upper body portion of each of said prongs adjacent the lower end of said body portion and each operable to slide along the lower edge of each of said slots to retract said prongs into said guiding pin when a downwardly directed pressure is exerted on said slidable annular member to actuate said prongs for downward movement, means operable in response to movement of said control rod to render said secondary supporting means operable to hold said next to the lowest record, the lower of each of said inclined surfaces of said prong body portions having a radial extension causing a partial retraction of said prongs, means operable to support the lowest record in said stack in a plane substantially parallel with said stack but spaced therefrom below said stack when said prongs are in said partially retracted position, the upper one of each of said inclined surfaces having a radial extension sufficient to retract said prongs and to release said record supported in said position below said stack in response to further downward movement of said slidable member.



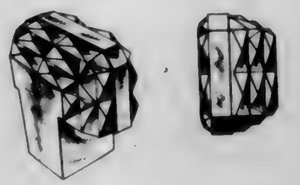
DESIGNS

APRIL 25, 1961

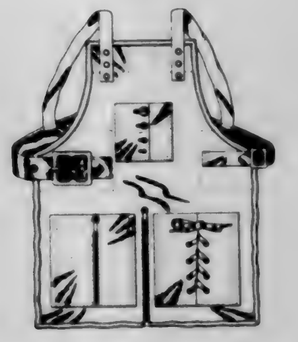
190,157
HOLDER FOR CARDS PRESCRIBING A HOSPITAL PATIENT'S TREATMENT
Harvey N. Bowen, Northfield, Ill., assignor to Hollister Incorporated, Chicago, Ill., a corporation of Illinois
Filed Sept. 16, 1959, Ser. No. 57,575
Term of patent 14 years
(Cl. D1—3)



190,158
TAP HANDLE
Todd Harris, Webster, N.Y., assignor to Bastian Brothers Company, Rochester, N.Y.
Filed Nov. 17, 1960, Ser. No. 62,888
Term of patent 14 years
(Cl. D2—3)



190,159
CHILD'S EDUCATIONAL APRON
Anne E. Goldstein, 117 Juniper St., Burlington, N.J.
Filed Apr. 8, 1960, Ser. No. 60,096
Term of patent 14 years
(Cl. D3—26)



190,160
LADY'S SLIP
Bernard Herman, East Meadow, N.Y., assignor to Stardust, Inc., New York, N.Y., a corporation of New York
Filed Nov. 23, 1960, Ser. No. 62,944
Term of patent 14 years
(Cl. D3—26)



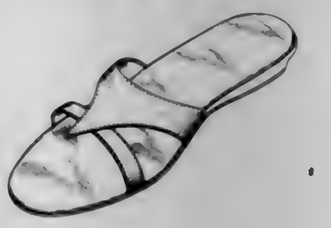
190,161
TOWEL RACK OR SIMILAR ARTICLE
Carl C. Hillgren, 2801 Bay Shore Drive, Newport Beach, Calif.
Filed Jan. 30, 1956, Ser. No. 39,962
Term of patent 14 years
(Cl. D4—3)



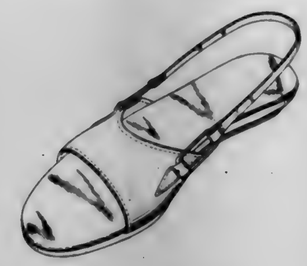
190,162
SOLE
Flavius B. Hubbard, Auburn, Maine, assignor to Webster Rubber Company, Sabattus, Maine, a corporation of Maine
Filed Apr. 28, 1958, Ser. No. 50,651
Term of patent 14 years
(Cl. D7—5)



190,163
LADY'S SLIPPER OR SIMILAR ARTICLE
John A. Lacek, Dolgeville, N.Y., assignor to Daniel Green Company, Dolgeville, N.Y., a corporation of Massachusetts
Filed Nov. 5, 1959, Ser. No. 58,209
Term of patent 14 years
(Cl. D7—7)



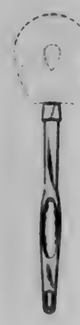
190,164
LADY'S SLIPPER OR SIMILAR ARTICLE
John A. Lacek, Dolgeville, N.Y., assignor to Daniel Green Company, Dolgeville, N.Y., a corporation of Massachusetts
Filed Nov. 27, 1959, Ser. No. 58,469
Term of patent 14 years
(Cl. D7—7)



190,165
LADY'S SLIPPER OR SIMILAR ARTICLE
John A. Lacek, Dolgeville, N.Y., assignor to Daniel Green Company, Dolgeville, N.Y., a corporation of Massachusetts
Filed Nov. 27, 1959, Ser. No. 58,468
Term of patent 14 years
(Cl. D7—7)



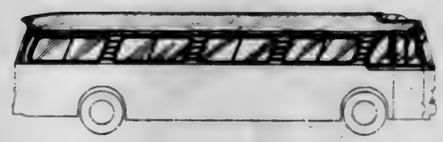
190,166
BRUSH
Leonard Garth Huxtable, New York, N.Y., assignor to Kellogg Brush Mfg. Co., Westfield, Mass., a corporation
Filed July 7, 1960, Ser. No. 61,267
Term of patent 7 years
(Cl. D9—2)



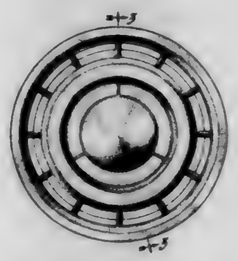
190,167
COMBINED SCOURING PAD AND HOLDER
Mark J. Perkovich, Chicago, Ill., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Aug. 11, 1958, Ser. No. 52,169
Term of patent 14 years
(Cl. D9—2)



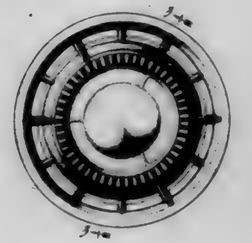
190,168
MOTOR COACH
Roland E. Gegoux, Pontiac, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 16, 1960, Ser. No. 60,613
Term of patent 7 years
(Cl. D14—3)



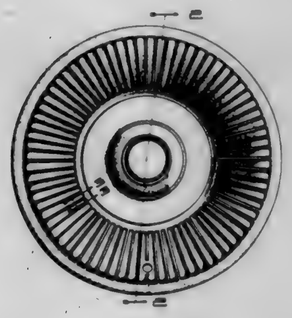
190,169
WHEEL COVER
Henry G. Haga, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 9, 1960, Ser. No. 60,491
Term of patent 7 years
(Cl. D14—30)



190,170
WHEEL COVER
Henry G. Haga, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 26, 1960, Ser. No. 60,736
Term of patent 7 years
(Cl. D14—30)



190,171
AUTOMOBILE WHEEL COVER
Charles Mashigan, Redford Township, Wayne County, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 27, 1960, Ser. No. 60,770
Term of patent 7 years
(Cl. D14—30)



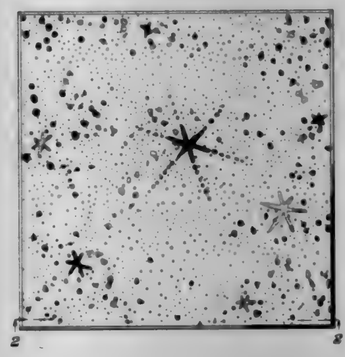
190,172
CHAIR
Earl E. Alverson, Birmingham, Ala., assignor to Southeastern Metals Company, North Birmingham, Ala.
Filed July 11, 1957, Ser. No. 46,914
Term of patent 14 years
(Cl. D15—1)



190,173
MAGNETIC HOLDER FOR AN AUTOMOBILE GASOLINE CAP
Chad J. Potter, Chicago, Ill., assignor to Weil Service Products Corporation, a corporation of Illinois
Filed April 20, 1959, Ser. No. 55,576
Term of patent 7 years
(Cl. D17—3)



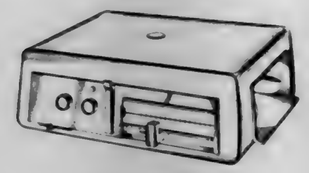
190,174
ACOUSTIC TILE OR SIMILAR ARTICLE
Philip M. Brody, Scarsdale, and Frederic H. Rahr, New York, N.Y., assignors to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 25, 1960, Ser. No. 59,868
Term of patent 14 years
(Cl. D18—2)



190,175
HOUSING FOR A PHOTOELECTRIC CONTROL UNIT OR SIMILAR ARTICLE
Philip Garnick, Needham, Mass., assignor to Sigma Instruments, Inc., a corporation of Massachusetts
Filed Oct. 3, 1960, Ser. No. 62,361
Term of patent 14 years
(Cl. D26—1)



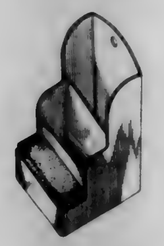
190,176
DICTATING MACHINE
Eliot Noyes, New Canaan, Conn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 12, 1960, Ser. No. 62,094
Term of patent 14 years
(Cl. D26—14)



190,177
FISHING LURE
Emmett B. Owens, P.O. Box 971, Alamogordo, N. Mex.
Filed Mar. 9, 1960, Ser. No. 59,681
Term of patent 14 years
(Cl. D31—4)



190,178
HOLDER FOR TRADING STAMPS, BOOKS AND THE LIKE
Robert J. Goodyear, 509 W. Queen St., Inglewood, Calif.
Filed Mar. 29, 1960, Ser. No. 59,930
Term of patent 14 years
(Cl. D33—2)



190,179
BUFFET
Ernest L. Swarts and Orville B. Solie, Rockford, Ill., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Nov. 2, 1959, Ser. No. 58,173
Term of patent 14 years
(Cl. D33—5)



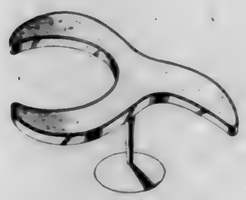
190,180
DESK TOP ARM CHAIR
Earl E. Alverson, Birmingham, Ala., assignor to Southeastern Metals Company, North Birmingham, Ala.
Filed July 11, 1957, Ser. No. 46,917
Term of patent 14 years
(Cl. D33—11)



190,181
DESK TOP ARM CHAIR WITH RACK
Earl E. Alverson, Birmingham, Ala., assignor to Southeastern Metals Company, North Birmingham, Ala.
Filed July 11, 1957, Ser. No. 46,918
Term of patent 14 years
(Cl. D33—11)



190,182
TABLE
Ellis A. Harris, 59 Colden St., Newark, N.J.
Filed Sept. 7, 1960, Ser. No. 62,055
Term of patent 14 years
(Cl. D33—14)



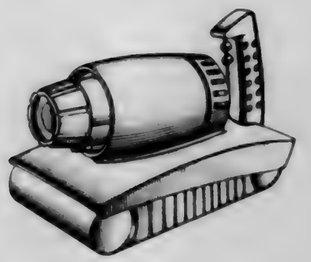
190,183
MANICURE TABLE
Lucille E. Green, Rte. 1, Box 16K, Carlsbad, N. Mex.
Filed Oct. 7, 1960, Ser. No. 62,413
Term of patent 14 years
(Cl. D33—14)



190,184
PILLOW TOY
George A. Shurtleff, 3212 Valencia Drive NE., Albuquerque, N. Mex.
Filed Sept. 30, 1959, Ser. No. 57,738
Term of patent 14 years
(Cl. D34—15)



190,185
HAND-OPERABLE BELT SANDER
Frank J. Kuenzl, Deerfield, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,328
Term of patent 14 years
(Cl. D37—1)



190,186
BUTTER DISH OR SIMILAR ARTICLE
Martin Schnur, West Orange, and Mel Appel, Murray Hill, N.J., assignors to Deka Plastics, Inc., Elizabeth, N.J.
Filed Oct. 4, 1960, Ser. No. 62,365
Term of patent 3½ years
(Cl. D44—5)



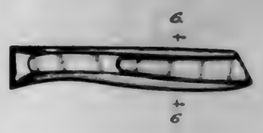
190,187
ARTICHOKE DISH
Mary E. Gorzelnik, 2504 Ming Road, Bakersfield, Calif.
Filed Mar. 14, 1960, Ser. No. 59,726
Term of patent 7 years
(Cl. D44—15)



190,188
COMPARTMENTED PLATE
Thelma I. Scruggs, 3210 Farrow Ave., Kansas City, Kans.
Filed Oct. 6, 1960, Ser. No. 62,396
Term of patent 14 years
(Cl. D44—15)



190,189
HANDLE FOR KITCHEN UTENSILS OR SIMILAR ARTICLES
Robert Arthur Eckersberg, Chicago, Ill., assignor to Ekco Products Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 8, 1960, Ser. No. 63,158
Term of patent 14 years
(Cl. D44—29)



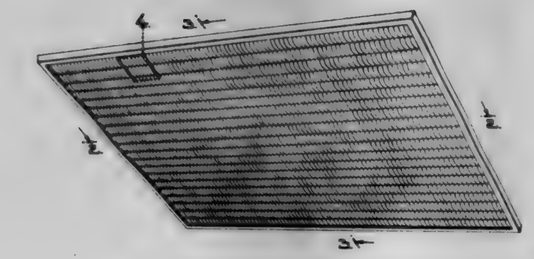
190,190
JEWELRY FINDING
John A. Cerrito, Warwick, R.I.
(10 Abbott Park Place, Providence, R.I.)
Filed Aug. 7, 1958, Ser. No. 52,089
Term of patent 3½ years
(Cl. D45—19)



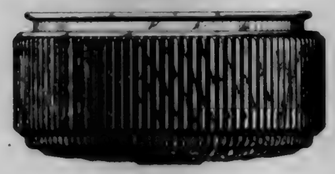
190,191
JEWELRY FINDING
John A. Cerrito, Warwick, R.I.
(10 Abbott Park Place, Providence, R.I.)
Filed Aug. 7, 1958, Ser. No. 52,090
Term of patent 3½ years
(Cl. D45—19)



190,192
LENS
Kurt Franck, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 18, 1959, Ser. No. 58,385
Term of patent 14 years
(Cl. D48—16)



190,193
LIGHTING FIXTURE GLOBE
David Glenn Cameron, R.D. 1, Beaver, Pa.
Filed Apr. 11, 1960, Ser. No. 60,115
Term of patent 14 years
(Cl. D48—16)



190,194
FLASHLIGHT LENS RING
Herman G. Graubner, 765 Riverside Drive, New York, N.Y.
Filed Nov. 27, 1959, Ser. No. 58,470
Term of patent 14 years
(Cl. D48—24)

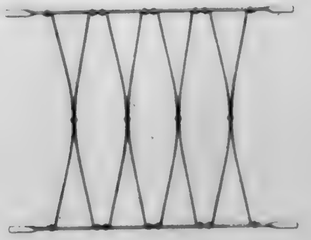


190,195
COMBINED SQUARE AND PROTRACTOR
Phillip Graham, 2825 Glenmore Ave., Pittsburgh, Pa.
Filed Apr. 16, 1959, Ser. No. 55,545
Term of patent 14 years
(Cl. D52—6)

190,196
RECORDING THERMOMETER OR THE LIKE
George A. Argabrite, Malibu, Calif., assignor to Pacific Transducer Corporation, Los Angeles, Calif., a corporation of California
Filed Feb. 2, 1960, Ser. No. 59,240
Term of patent 14 years
(Cl. D52—7)



190,197
DOOR GRILL
Howard C. Zippel, Levittown, N.Y., assignor to Westmoreland Metal Mfg. Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1959, Ser. No. 58,884
Term of patent 3½ years
(Cl. D54—2)

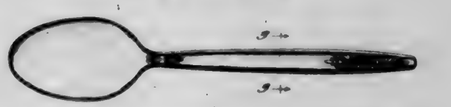


190,198
COMBINATION FORK, SPOON, AND KNIFE
Arthur L. Kuhlman 38192 Murdock Drive, New Baltimore, Mich.
Filed Mar. 23, 1960, Ser. No. 59,842
Term of patent 14 years
(Cl. D54—12)





190,199
SPOON OR SIMILAR ARTICLE
Robert A. Eckersberg, Chicago, Ill., assignor to Ekco Products Company, Chicago, Ill., a corporation of Illinois
Filed June 30, 1960, Ser. No. 61,162
Term of patent 14 years
(Cl. D54—12)



190,200
HAND-OPERABLE POWER DRILL UNIT
Frank J. Kuenzl, Deerfield, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 3, 1960, Ser. No. 62,329
Term of patent 14 years
(Cl. D54—14)



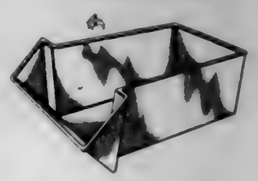
190,201
TOY WIND ORGAN
Lewis Davis, London, England, assignor to Selcol Products Limited, London, England, a company of Great Britain
Filed Feb. 4, 1960, Ser. No. 59,263
Claims priority, application Great Britain Jan. 5, 1960
Term of patent 7 years
(Cl. D56—1)



190,202
COMBINED RADIO AND PENHOLDER
Richard R. Hirsch, 1830 N. Sheffield Ave., Chicago, Ill.
Filed Dec. 8, 1960, Ser. No. 63,152
Term of patent 7 years
(Cl. D56—4)



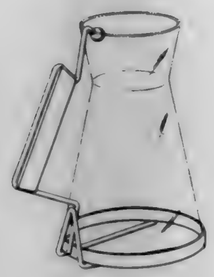
190,203
STORAGE BIN
Harold D. Hulterstrum, Baraboo, Wis., assignor to Flambeau Plastics Corporation, Baraboo, Wis., a corporation of Wisconsin
Filed Aug. 29, 1960, Ser. No. 61,932
Term of patent 14 years
(Cl. D58—12)



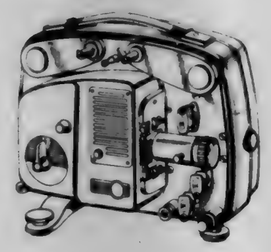
190,204
CLOSURE CAP FOR BOTTLES OR THE LIKE
Max Muller, Kusnacht, Switzerland, assignor to Neopac AG., Oberdiessbach, Bern, Switzerland
Filed Dec. 22, 1958, Ser. No. 53,850
Claims priority, application Switzerland June 27, 1958
Term of patent 7 years
(Cl. D58—26)



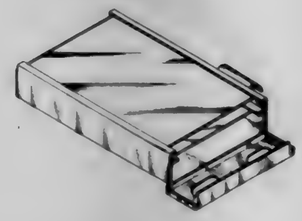
190,205
HOLDER FOR A CARAFE OR THE LIKE
Kurt E. Christoffersen, Gales Ferry, Conn., assignor to The Artistic Wire Products Co. of Conn., Incorporated, Norwich, Conn., a corporation of Connecticut
Filed Nov. 15, 1960, Ser. No. 62,853
Term of patent 14 years
(Cl. D58—26)



190,206
CINEMATOGRAPHIC PROJECTOR
Jean Thevenaz, Ruelle de Montagny, Grandson, Switzerland, assignor to Paillard S.A., Sainte-Croix, Vaud, Switzerland
Filed Jan. 26, 1960, Ser. No. 59,171
Claims priority, application Switzerland July 29, 1959
Term of patent 14 years
(Cl. D61—1)



190,207
PHOTOGRAPHIC PRINT HOLDER
Lawrence M. Reed, 1435 Sturi Ave., Hewlett, N.Y.
Filed Apr. 28, 1960, Ser. No. 60,354
Term of patent 7 years
(Cl. D61—1)



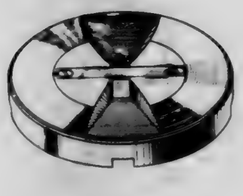
190,208
BUOYANT PAD FOR FLOATATION VESTS
Edgar G. Baker, Carbondale, Pa., assignor to Gentex Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 30, 1959, Ser. No. 54,400
Term of patent 14 years
(Cl. D71—1)



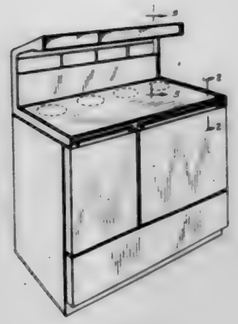
190,209
FLOATATION PAD FOR BUOYANT VESTS
Edgar G. Baker, Carbondale, Pa., assignor to Gentex Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 30, 1959, Ser. No. 54,401
Term of patent 14 years
(Cl. D71—1)



190,210
MARKER LIGHT FOR RUNWAY PAVEMENTS OR THE LIKE
James F. Angier, Takoma Park, Md., assignor to Structural Electric Products Corp., a corporation of Delaware
Filed Aug. 19, 1960, Ser. No. 61,826
Term of patent 14 years
(Cl. D72—1)



190,211
ELECTRIC RANGE
Ralph M. La Zar, Skokie, and Ray C. Sandin, Northbrook, Ill., assignors to General Electric Company, a corporation of New York
Filed Aug. 13, 1959, Ser. No. 57,171
Term of patent 14 years
(Cl. D81—4)



190,212
COMBINED GRIDDLE AND COVER
Robert O. Ernest, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 17, 1958, Ser. No. 52,665
Term of patent 14 years
(Cl. D81—10)



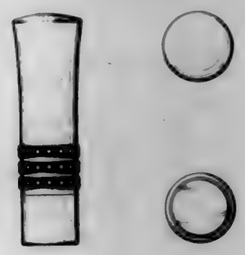
190,213
HEATER
Allan E. Krausz, Centralia, Ill.
Filed Dec. 10, 1959, Ser. No. 58,630
Term of patent 7 years
(Cl. D81—19)



190,214
LIPSTICK CONTAINER
Carl R. Wester, Sr., Cheshire, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Mar. 23, 1959, Ser. No. 55,129
Term of patent 7 years
(Cl. D86—10)



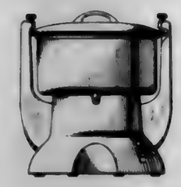
190,215
LIPSTICK CONTAINER
Thomas F. Slater, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Nov. 9, 1959, Ser. No. 58,259
Term of patent 7 years
(Cl. D86—10)



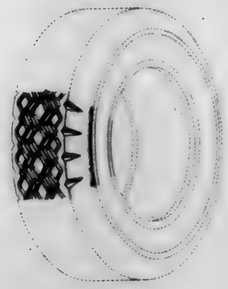
190,216
BARRETTE
Max M. Hirtenstein, Jamaica, N.Y., assignor to Ben-Hur Products, Inc., New York, N.Y., a corporation of New York
Filed Dec. 23, 1959, Ser. No. 58,787
Term of patent 14 years
(Cl. D86—10)



190,217
VEGETABLE JUICING MACHINE OR SIMILAR ARTICLE
Lloyd D. Slagell, Peoria, Ill.
Filed Sept. 26, 1960, Ser. No. 62,264
Term of patent 14 years
(Cl. D89—1)



190,218
TIRE
Ben S. Mattingly, 304 E. Mount Vernon St., Somerset, Ky.
Filed Apr. 28, 1960, Ser. No. 60,351
Term of patent 3½ years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 25TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Anderson Co., The: *See*—
Krohm, Fred A. Re. 24,974.
Eastman Kodak Co.: *See*—
Luboshez, Benjamin E. Re. 24,972.
Griffiths, Leland R., to International Harvester Co. Hay crushing rolls with spiral grooves. Re. 24,973, 4–25–61, Cl. 56—1.
Hunziker, Hedwig A.: *See*—
Wallimann, Hedwig A. Re. 24,975.
International Harvester Co.: *See*—
Griffiths, Leland R. Re. 24,973.
Krohm, Fred A., to The Anderson Co. Windshield wiper blade assembly and pressure device therefor. Re. 24,974, 4–25–61, Cl. 15—250.42.
Luboshez, Benjamin E., to Eastman Kodak Co. Prism-lens optical systems of variable focal length and including two anamorphotic prismatic systems. Re. 24,972, 4–25–61, Cl. 88—57.
Wallimann, Hedwig A. Rotary machine. Re. 24,975, 4–25–61, Cl. 103—121.

LIST OF PLANT PATENTEES

Conard-Pyle Co., The: *See*—
Dean, Letcher A. 2,053.
Dean, Letcher A., to The Conard-Pyle Co. Rose plant. 2,053, 4–25–61, Cl. 47—61.
Harris, Edward, to Simpson Nursery Co. Pecan tree. 2,051, 4–25–61, Cl. 47—62.
Reimer, Frank C. Pear tree. 2,054, 4–25–61, Cl. 47—62.
Simpson Nursery Co.: *See*—
Harris, Edward. 2,051.
Wyman, Richard M., Jr., to Wyman's Framingham Nurseries, Inc. Taxus plant. 2,052, 4–25–61, Cl. 47—59.
Wyman's Framingham Nurseries, Inc.: *See*—
Wyman, Richard M., Jr. 2,052.

LIST OF DESIGN PATENTEES

Alverson, Earl E., to Southeastern Metals Co. Chair. 190,172, 4–25–61, Cl. D15—1.
Alverson, Earl E., to Southeastern Metals Co. Desk top arm chair. 190,180, 4–25–61, Cl. D33—11.
Alverson, Earl E., to Southeastern Metals Co. Desk top arm chair with rack. 190,181, 4–25–61, Cl. D33—11.
Angier, James F., to Structural Electric Products Corp. Marker light for runway pavements or the like. 190,210, 4–25–61, Cl. D72—1.
Appel, Mel: *See*—
Schnur, Martin, and Appel. 190,186.
Argabrite, George A., to Pacific Transducer Corp. Recording thermometer or the like. 190,196, 4–25–61, Cl. D52—7.
Artistic Wire Products Co., of Conn., Inc., The: *See*—
Christoffersen, Kurt E. 190,205.
Baker, Edgar G., to Gentex Corp. Buoyant pad for floatation vests. 190,208, 4–25–61, Cl. D71—1.
Baker, Edgar G., to Gentex Corp. Floatation pad for buoyant vests. 190,209, 4–25–61, Cl. D71—1.
Bastian Bros. Co.: *See*—
Harris, Todd. 190,158.
Ben-Hur Products, Inc.: *See*—
Hirtenstein, Max M. 190,216.
Bowen, Harvey N., to Hollister Inc. Holder for cards prescribing a hospital patient's treatment. 190,157, 4–25–61, Cl. D1—3.
Brody, Philip M., and F. H. Rahr, to Wood Conversion Co. Acoustic tile or similar article. 190,174, 4–25–61, Cl. D18—2.
Cameron, David G. Lighting fixture globe. 190,193, 4–25–61, Cl. D48—16.
Cerrito, John A. Jewelry finding. 190,190, 4–25–61, Cl. D45—19.
Cerrito, John A. Jewelry finding. 190,191, 4–25–61, Cl. D45—19.
Christoffersen, Kurt E., to The Artistic Wire Products Co., of Conn., Inc. Holder for a carafe or the like. 190,205, 4–25–61, Cl. D58—26.
Chrysler Corp.: *See*—
Mashigan, Charles. 190,171.
Davis, Lewis, to Selcol Products Ltd. Toy wind organ. 190,201, 4–25–61, Cl. D56—1.
Deka Plastics, Inc.: *See*—
Schnur, Martin, and Appel. 190,186.
Eckersberg, Robert A., to Ekco Products Co. Handle for kitchen utensils or similar articles. 190,189, 4–25–61, Cl. D44—29.
Eckersberg, Robert A., to Ekco Products Co. Spoon or similar article. 190,199, 4–25–61, Cl. D54—12.
Ekco Products Co.: *See*—
Eckersberg, Robert A. 190,189.
Eckersberg, Robert A. 190,199.
Ernest, Robert O., to Sunbeam Corp. Combined griddle and cover. 190,212, 4–25–61, Cl. D81—10.
Flambeau Plastics Corp.: *See*—
Hulterstrum, Harold D. 190,203.
Franck, Kurt, to Holophane Co., Inc. Lens. 190,192, 4–25–61, Cl. D48—16.
Garnick, Philip, to Sigma Instruments, Inc. Housing for a photoelectric control unit or similar article. 190,175, 4–25–61, Cl. D26—1.
Gegoux, Roland E., to General Motors Corp. Motor coach. 190,168, 4–25–61, Cl. D14—3.
General Electric Co.: *See*—
La Zar, Ralph M., and Sandin. 190,211.
General Foods Corp.: *See*—
Perkovich, Mark J. 190,167.
General Motors Corp.: *See*—
Gegoux, Roland E. 190,168.
Haga, Henry G. 190,169.
Haga, Henry G. 190,170.
Gentex Corp.: *See*—
Baker, Edgar G. 190,208.
Baker, Edgar G. 190,209.
Goldstein, Anne E. Child's educational apron. 190,159, 4–25–61, Cl. D3—26.
Goodyear, Robert J. Holder for trading stamps, books, and the like. 190,178, 4–25–61, Cl. D33—2.
Gorzelnik, Mary E. Artichoke dish. 190,187, 4–25–61, Cl. D44—15.
Graham, Phillip. Combined square and protractor. 190,195, 4–25–61, Cl. D52—6.
Graubner, Herman G. Flashlight lens ring. 190,194, 4–25–61, Cl. D48—24.
Green, Daniel, Co.: *See*—
Lacek, John A. 190,163.
Lacek, John A. 190,164.
Lacek, John A. 190,165.
Green, Lucille E. Manicure table. 190,183, 4–25–61, Cl. D33—14.
Haga, Henry G., to General Motors Corp. Wheel cover. 190,169, 4–25–61, Cl. D14—30.
Haga, Henry G., to General Motors Corp. Wheel cover. 190,170, 4–25–61, Cl. D14—30.
Harris, Ellis A. Table. 190,182, 4–25–61, Cl. D33—14.
Harris, Todd, to Bastian Bros. Co. Tap handle. 190,158, 4–25–61, Cl. D2—3.
Herman, Bernard, to Stardust, Inc. Lady's slip. 190,160, 4–25–61, Cl. D3—26.
Hillgren, Carl C. Towel rack or similar article. 190,161, 4–25–61, Cl. D4—3.
Hirsch, Richard R. Combined radio and penholder. 190,202, 4–25–61, Cl. D56—4.
Hirtenstein, Max M., to Ben-Hur Products, Inc. Barrette. 190,216, 4–25–61, Cl. D86—10.
Hollister Inc.: *See*—
Bowen, Harvey N. 190,157.
Holophane Co., Inc.: *See*—
Franck, Kurt. 190,192.
Hubbard, Flavius B., to Webster Rubber Co. Sole. 190,162, 4–25–61, Cl. D7—5.
Hulterstrum, Harold D., to Flambeau Plastics Corp. Storage bin. 190,203, 4–25–61, Cl. D58—12.
Huxtable, Lesnard G., to Kellogg Brush Mfg. Co. Brush. 190,166, 4–25–61, Cl. D9—2.
International Business Machines Corp.: *See*—
Noyes, Eliot. 190,176.

Kellogg Brush Mfg. Co.: *See*—
Huxtable, Leonard G. 190,166.
Krauss, Allan E. Heater. 190,213, 4–25–61, Cl. D61—19.
Kuenzl, Frank J., to Skil Corp. Hand-operable belt sander. 190,185, 4–25–61, Cl. D37—1.
Kuenzl, Frank J., to Skil Corp. Hand-operable power drill unit. 190,200, 4–25–61, Cl. D54—14.
Kuhlman, Arthur L. Combination fork, spoon and knife. 190,198, 4–25–61, Cl. D54—12.
Lacek, John A., to Daniel Green Co. Lady's slipper or similar article. 190,163, 4–25–61, Cl. D7—7.
Lacek, John A., to Daniel Green Co. Lady's slipper or similar article. 190,164, 4–25–61, Cl. D7—7.
Lacek, John A., to Daniel Green Co. Lady's slipper or similar article. 190,165, 4–25–61, Cl. D7—7.
Lane Co., Inc., The: *See*—
Swarts, Ernest L., and Solie. 190,179.
La Zar, Ralph M., and R. C. Sandin, to General Electric Co. Electric range. 190,211, 4–25–61, Cl. D81—4.
Maghigan, Charles, to Chrysler Corp. Automobile wheel cover. 190,171, 4–25–61, Cl. D14—30.
Mattingly, Ben S. Tire. 190,218, 4–25–61, Cl. D90—20.
Muller, Max, to Neopac AG. Closure cap for bottles or the like. 190,204, 4–25–61, Cl. D58—26.
Neopac AG.: *See*—
Muller, Max. 190,204.
Noyes, Eliot, to International Business Machines Corp. Dictating machine. 190,176, 4–25–61, Cl. D26—14.
Owens, Emmett B. Fishing lure. 190,177, 4–25–61, Cl. D31—4.
Pacific Transducer Corp.: *See*—
Argabrite, George A. 190,196.
Paillard S.A.: *See*—
Thevenaz, Jean. 190,206.
Perkovich, Mark J., to General Foods Corp. Combined scouring pad and holder. 190,167, 4–25–61, Cl. D9—2.
Potter, Chad J., to Weil Service Products Corp. Magnetic holder for an automobile gasoline cap. 190,173, 4–25–61, Cl. D17—3.
Rahr, Frederic H.: *See*—
Brody, Philip M., and Rahr. 190,174.
Reed, Lawrence M. Photographic print holder. 190,207, 4–25–61, Cl. D61—1.
Sandin, Ray C.: *See*—
La Zar, Ralph M., and Sandin. 190,211.
Schnur, Martin, and M. Appel, to Deka Plastics, Inc. Butter dish or similar article. 190,186, 4–25–61, Cl. D44—5.
Scovill Mfg. Co.: *See*—
Slater, Thomas F. 190,215.
Wester, Carl R., Sr. 190,214.
Scruggs, Thelma I. Compartmented plate. 190,188, 4–25–61, Cl. D44—15.
Selcol Products Ltd.: *See*—
Davis, Lewis. 190,201.
Shurtleff, George A. Pillow toy. 190,184, 4–25–61, Cl. D34—15.
Sigma Instruments, Inc.: *See*—
Garnick, Philip. 190,175.
Skil Corp.: *See*—
Kuenzl, Frank J. 190,185.
Kuenzl, Frank J. 190,200.
Slagell, Lloyd D. Vegetable juicing machine or similar article. 190,217, 4–25–61, Cl. D89—1.
Slater, Thomas F., to Scovill Mfg. Co. Lipstick container. 190,215, 4–25–61, Cl. D86—10.
Solie, Orville B.: *See*—
Swarts, Ernest L., and Solie. 190,179.
Southeastern Metals Co.: *See*—
Alverson, Earl E. 190,172.
Alverson, Earl E. 190,180.
Alverson, Earl E. 190,181.
Stardust, Inc.: *See*—
Herman, Bernard. 190,160.
Structural Electric Products Corp.: *See*—
Angier, James F. 190,210.
Sunbeam Corp.: *See*—
Ernest, Robert O. 190,212.
Swarts, Ernest L., and O. B. Solie, to The Lane Co., Inc. Buffet. 190,179, 4–25–61, Cl. D33—6.
Thevenaz, Jean, to Paillard S.A. Cinematographic projector. 190,206, 4–25–61, Cl. D61—1.
Webster Rubber Co.: *See*—
Hubbard, Finvius B. 190,162.
Weil Service Products Corp.: *See*—
Potter, Chad J. 190,173.
Wester, Carl R., Sr., to Scovill Mfg. Co. Lipstick container. 190,214, 4–25–61, Cl. D86—10.
Westmoreland Metal Mfg. Co.: *See*—
Zippel, Howard C. 190,197.
Wood Conversion Co.: *See*—
Brody, Philip M., and Rahr. 190,174.
Zippel, Howard C., to Westmoreland Metal Mfg. Co. Door grill. 190,197, 4–25–61, Cl. D54—2.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 25TH DAY OF APRIL, 1961

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A.K. Electric Corp.: *See*—
Glass, Irving. 2,981,917.
AMP Inc.: *See*—
Broske, William F., and Jaycox. 2,981,130.
Auskov, Helmer. Air-filled sandals. 2,981,010, 4–25–61, Cl. 36—11.5.
Abbott, Harold W., and L. D. Wechsler, to General Electric Co. Semiconductor circuits. 2,981,881, 4–25–61, Cl. 330—10.
Abbott, Henry H., R. O. Rippere, L. D. Schmidt, and R. D. Williams, to Bell Telephone Laboratories, Inc. Telephone system switching control. 2,981,804, 4–25–61, Cl. 179—27.
Abbott Laboratories: *See*—
Grasty, William P. 2,981,405.
Abolins, Andrew, to Strick Trailers, a division of Fruehauf Trailers Co. Folding king pin. 2,981,555, 4–25–61, Cl. 280—433.
Abrams, Edward F., and A. Silver, to The Garrett Corp. Motion transmitting device. 2,981,515, 4–25–61, Cl. 251—229.
Achorn, Glenwood B., Jr., E. R. Bokesch, E. R. Dapper, R. W. Lebhers, J. L. Schwab, J. R. T. Smith, A. Rawson, and S. N. Metcalfe. Apparatus for the cultivation of fastidious microorganisms. 2,981,660, 4–25–61, Cl. 195—142.
Acker, Walter L., and L. H. Curkin, to United Aircraft Corp. Etching bath for titanium and its alloys and process of etching. 2,981,609, 4–25–61, Cl. 41—42.
Adams, Clark E., L. M. Addison, and W. M. Smith, to Esso Research and Engineering Co. Process for revivifying contaminated cracking catalysts. 2,981,676, 4–25–61, Cl. 208—120.
Adams, Doyle: *See*—
Odell, Albert S. 2,981,313.
Adams, George P., to Western Electric Co., Inc. Cable coiling, cutting and stripping apparatus. 2,981,129, 4–25–61, Cl. 81—9.51.
Adams, Harold K. Scribing or engraving instrument for map making. 2,981,002, 4–25–61, Cl. 33—32.
Addison, Leslie M.: *See*—
Adams, Clark E., Addison, and Smith. 2,981,676.
Adler, Norman R.: *See*—
Patriquin, George P., and Adler. 2,981,090.
Agalides, Eugene, and T. J. Scuitto, to General Dynamics Corp. Bistable multivibrator utilizing Miller integrators to regulate output frequency. 2,981,893, 4–25–61, Cl. 328—206.
Agfa Aktiengesellschaft: *See*—
Biedermann, Friedrich. 2,981,167.
Biedermann, Friedrich, and Zinki. 2,981,168.
Burgardt, Lothar, Peiz, Wahl, and Sassmann. 2,981,623.
Ahlberg, Karl J. W., and K. E. Andersson. Apparatus for producing turned over flange on the end of a pipe. 2,981,306, 4–25–61, Cl. 153—81.
Aircraft Armaments, Inc.: *See*—
Sweeney, Patrick E. 2,981,154.
Zouck, Robert L., and Barr. 2,981,350.
Air Preheater Corp., The: *See*—
Evans, Ted C., and Lyle. 2,981,521.
Air Reduction Co., Inc.: *See*—
Cole, Gordon E., Jr., and Herman. 2,981,759.
Ajem Laboratories, Inc.: *See*—
Umbricht, Emil. 2,981,525.
Ajioka, James S., and B. L. Walsh, Jr., to Hughes Aircraft Co. Microwave transition device. 2,981,904, 4–25–61, Cl. 333—34.
Akerblom, Bengt V.: *See*—
Eklof, Gunnar, and Akerblom. 2,981,314.
Aktiebolaget Akerblomstolen: *See*—
Eklof, Gunnar, and Akerblom. 2,981,314.
Aktiebolaget Atvidaberg-Facit: *See*—
Grip, Erik K. 2,981,468.
Aktiebolaget Kanthal: *See*—
Malm, Anders E. 2,981,820.
Aktiebolaget Separator: *See*—
Wennerberg, Fritz J., and Hansen. 2,981,274.
Aktiebolaget Svenska Flaktfabriken: *See*—
Dagrell, Knut. 2,981,463.
Aktieselskabet Thomas Ths. Sabroe & Co.: *See*—
Larsen, Hans C. 2,981,061.
Albers-Schoenberg, Ernst, to Steatite Research Corp. Ferrites for microwave applications. 2,981,688, 4–25–61, Cl. 252—62.5.
Albers-Schoenberg, Ernst, to Steatite Research Corp. Square loop ferrites. 2,981,689, 4–25–61, Cl. 252—62.5.
Albers-Schoenberg, Ernst, to Steatite Research Corp. Ferrites with square hysteresis loops. 2,981,690, 4–25–61, Cl. 252—62.5.
All American Engineering Co.: *See*—
Janney, Raymond B., II. 2,981,490.
Allied Chemical Corp.: *See*—
Krans, Frederick H. 2,981,733.
Krans, Frederick H. 2,981,738.
Neill, Ronald H., Sweeney, and Woolf. 2,981,763.
Woolf, Cyril. 2,981,762.
Allied Textile Printers, Inc.: *See*—
Haber, Hyman. 2,981,588.
Allis-Chalmers Mfg. Co.: *See*—
Naumer, Gene C. 2,981,372.
Strehlow, Walter F. 2,981,342.
Alloy Engineering Co., The: *See*—
Menough, Paul S. 2,981,530.
Almand, Joseph M.: *See*—
Buckwalter, Howard M., and Almand. 2,981,741.
American Brake Shoe Co.: *See*—
Gaslow, Joseph H. 2,981,287.
American Can Co.: *See*—
Armstrong, James W., and Rafoth. 2,981,456.
Makowski, Alexander G. 2,980,963.
Root, Andrew A. 2,981,444.
American Cyanamid Co.: *See*—
Browne, Edwin C., and Sofield. 2,981,693.
Herbes, William F., and Wintringham. 2,981,704.
Hoffenberg, David S. 2,981,758.
Kesler, Martin L., and Morgan. 2,981,729.
Kinstler, Robert C. 2,981,325.
Parker, Alfred O. 2,981,590.
Sisco, William E., and Wiederecht. 2,981,664.
Stecher, Edward J. 2,981,394.
American Machine & Foundry Co.: *See*—
Bogard, William R., and Gruss. 2,980,935.
Infantino, Joseph R., and Savitz. 2,980,965.
Robinson, Jack D., Jr. 2,981,073.
American-Marietta Co.: *See*—
Arnold, Robert W. 2,981,651.
American Oil Co., The: *See*—
Martin, Eugene C., and Kelly. 2,981,730.
American Optical Co.: *See*—
Hicks, John W., Jr. 2,980,957.
American Radiator & Standard Sanitary Corp.: *See*—
Hyde, Robert W. 2,981,488.
American Telephone and Telegraph Co.: *See*—
Bachelet, Albert E., Bibbins, Celentano, and Pullis. 2,981,803.
Riggen, Winnifred. 2,981,709.
American Type Founders Co., Inc.: *See*—
Sausele, George J. H. 2,981,148.
American Viscose Corp.: *See*—
MacHenry, Richard. 2,981,052.
Ampex Corp.: *See*—
Conly, Ralph A. 2,981,805.
Anaconda Wire and Cable Co.: *See*—
Bunish, Stephen. 2,981,788.
Anander, Andrew K.: *See*—
Powers, Augustin J., Jr., and Anander. 2,981,625
Andersen, Arnold K., and C. A. Rife. Thermometer assembly for nursing bottles. 2,981,108, 4–25–61, Cl. 73—343.
Anderson Co., The: *See*—
Martens, Jack E. 2,981,571.
Wise, Ralph H. 2,981,518.
Wise, Ralph H. 2,981,568.
Anderson, John W. Dispenser mounting. 2,981,442, 4–25–61, Cl. 222—166.
Anderson, John W. Container with dispensing spout therefor, releasably attached thereto. 2,981,448, 4–25–61, Cl. 222—539.
Anderson, John W. Dispensing spout. 2,981,450, 4–25–61, Cl. 222—564.
Anderson, Ralph A., to Information Systems, Inc. Automatic range change circuit. 2,981,107, 4–25–61, Cl. 73—341.
Andersson, Karl E.: *See*—
Ahlberg, Karl J. W., and Andersson. 2,981,306.
Anger, Wilhelm, Jr. Spectacle frames. 2,981,022, 4–25–61, Cl. 41—30.
Ansite, William K., to Johnston Testers, Inc. Jar. 2,981,336, 4–25–61, Cl. 166—178.
Antippas, Spyridon P., and H. S. Koletsky, to Avien, Inc. Thrustmeter. 2,981,098, 4–25–61, Cl. 73—116.
Appleton, Joe S. Multiple piston power cylinder. 2,981,234, 4–25–61, Cl. 121—38.
Arcos, Inc.: *See*—
Safford, Thomas W. 2,981,921.
Arlington Seating Co.: *See*—
Close, Charles F. 2,981,310.
Armstrong Corp Co.: *See*—
Culp, Charles R. 2,981,528.
Armstrong, James W., and B. A. Rafoth, to American Can Co. Comestible package. 2,981,456, 4–25–61, Cl. 229—16.
Armstrong, John A., and D. W. Berry, to Hilger & Watts Ltd. Optical compensator and tilt detector. 2,981,141, 4–25–61, Cl. 88—1.
Arndt, Arthur H. Torque improved internal combustion engine. 2,981,243, 4–25–61, Cl. 123—78.
Arnold, Henry B., to Stackpole Carbon Co. Dynamoelectric brush. 2,981,698, 4–25–61, Cl. 252—506.
Arnold, Robert W., to American-Marietta Co. Sealing members and methods. 2,981,651, 4–25–61, Cl. 154—129.
Arnoux Corp.: *See*—
Zeiden, Keith G. 2,981,062.

Aro Equipment Corp., The: *See*—
Hawk, Gale F., and Kiester. 2,981,434.

Arterbury, Bryant P., 33⅓% to R. L. Arterbury. Method and apparatus for testing tubing and for scraping matter from the inner wall thereof. 2,981,331, 4–25–61, Cl. 166—4.

Arterbury, Roy L.: *See*—
Arterbury, Bryant P. 2,981,331.

Arvidson, Bengt A., to Miller Wrapping & Sealing Machine Co. Wrapping machine. 2,981,043, 4–25–61, Cl. 53—206.

Asari, Kumaki: *See*—
Sato, Kenshun, and Asari. 2,981,252.

Ashworth, Fred, to Metropolitan-Vickers Electrical Co., Ltd. Manufacture of printed electrical circuits or components. 2,981,611, 4–25–61, Cl. 41—43.

Askania-Werke A.G.: *See*—
Kuhne, Christoph. 2,981,572.

Askue, Albert R., to The Cleveland Trencher Co. Excavating machine. 2,981,013, 4–25–61, Cl. 73—94.

Associated Electrical Industries Ltd.: *See*—
Craig, Robert D. 2,981,839.

Ateliers de Constructions Electriques de Charleroi: *See*—
Cuvelier, Jean J. 2,981,794.

Auger, Diana J., and H. J. Graham. Flow measuring system. 2,981,104, 4–25–61, Cl. 73—189.

Automatic Electric Laboratories, Inc.: *See*—
Lomax, Clarence E. 2,981,801.
Ostline, John E. 2,981,798.

Avien, Inc.: *See*—
Antippas, Spyridon P., and Koletsky. 2,981,008.

Axelrod, Stanley: *See*—
Wolshin, Louis. 2,980,925.
Wolshin, Louis. 2,980,926.

Azari, Eric, to The Magnavox Co. Card processing apparatus. 2,981,411, 4–25–61, Cl. 209—72.

B-Line Dispensers, Inc.: *See*—
Baldwin, John P. 2,981,443.

Bachelet, Albert E., G. S. Bibbins, A. J. Celentano, and G. A. Pullis; said Bachelet, said Celentano and said Pullis, assors. to Bell Telephone Laboratories, Inc., and said Bibbins, assor. to American Telephone and Telegraph Co. Program switch system. 2,981,803, 4–25–61, Cl. 179—22.

Bachman, George S., to Steatite Research Corp. Oxide thermocouple device. 2,981,775, 4–25–61, Cl. 136—5.

Bäder, Erich, and O. Schweitzer, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Adhesives, cements and the like. 2,981,650, 4–25–61, Cl. 154—129.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Christmann, Fritz, and Gieg. 2,981,757.
Henkel, Erich, and Friederich. 2,981,740.
Meyer, Ferdinand, Demmler, and Lissner. 2,981,711.

Baird, Robert C. Card rack. 2,981,019, 4–25–61, Cl. 40—124.

Baker, Edgar B.: *See*—
Peterson, Arlo A., and Baker. 2,981,652.

Baker, Stanley W., and F. W. Schwab, to Bell Telephone Laboratories, Inc. Method of and means for continuously passing cable including rigid housings through a caterpillar cable engine. 2,981,452, 4–25–61, Cl. 20—1.

Baldwin, John P., to B-Line Dispensers, Inc. Container and spout therefor. 2,981,443, 4–25–61, Cl. 222—183.

Baldwin Piano Co., The: *See*—
Broxon, Errett C. 2,981,844.

Balint, John E., to Controls & Communication Co. Relay control circuit. 2,981,869, 4–25–61, Cl. 317—137.

Ban, Thomas E.: *See*—
McDowell, Robert C., and Ban. 2,981,532.

Bandi, Fred: *See*—
Froideveaux, Jean-Michel, and Bandi. 2,981,055.

Bannerman, Gordon H., T. L. Harp, and S. Ruschp, to United States Steel Corp. Tramway. 2,981,205, 4–25–61, Cl. 104—173.

Barassi, Carlo, to Pirelli S.p.A. Pneumatic tire with separate tread rings and insertable metallic elements. 2,981,302, 4–25–61, Cl. 152—211.

Bariatric Corp.: *See*—
Hall, Donald V. 2,981,657.

Barnes Engineering Co.: *See*—
Barnes, Robert B., Wormser, and De Waard. 2,981,913.

Barnes, Gilbert C., to United Aircraft Corp. Rocket construction. 2,981,060, 4–25–61, Cl. 60—35.6.

Barnes, Myron H., and J. D. Calandro. Carpet-hard floor joint cover. 2,980,943, 4–25–61, Cl. 16—7.

Barnes, Paul M., O. L. Riggs, and A. H. Roebuck, to Continental Oil Co. Method of paraffin deposition control. 2,981,684, 4–25–61, Cl. 252—8.3.

Barnes, Robert B., E. M. Wormser, and R. D. De Waard, to Barnes Engineering Co. Selective infra-red detectors. 2,981,913, 4–25–61, Cl. 338—18.

Barr, Irwin R.: *See*—
Zouck, Robert L., and Barr. 2,981,350.

Barry, Beresford T. K.: *See*—
Burkin, Alfred R., and Barry. 2,981,594.

Barstow, Howard E., to Rubber Barricade Co., Inc. Road barricade. 2,981,519, 4–25–61, Cl. 256—64.

Bartel, George H., to Hot Shot Products Co. Electrical stock prod. 2,981,465, 4–25–61, Cl. 281—2.

Bartolucci, Edgar. Swimming pool cover. 2,980,921, 4–25–61, Cl. 4—172.

Barton, Bernard C., and H. E. Hazo, Jr., to United States Rubber Co. Pneumatic tire. 2,981,304, 4–25–61, Cl. 152—330.

Barton, Francis M., to Foster Wheeler Corp. Radiant wall construction for vapor generator. 2,981,241, 4–25–61, Cl. 122—6.

Basic Products Corp.: *See*—
Frentzel, Herman C. 2,981,817.

Batesole, William R.: *See*—
Davis, Ward D., Du Pont, Zeltler, Batesole, Tucker, and Hanson. 2,981,008.

Batty, Harry A.: *See*—
Smiley, Harry J., Batty, and Jones. 2,981,294.

Bauer, Robert F., and H. Stratton, to Shell Oil Co., Continental Oil Co., The Superior Oil Co., and Union Oil Co. of California. Rotary drilling table mounting. 2,981,346, 4–25–61, Cl. 175—5.

Bauer, Robert F., and H. Stratton, to Shell Oil Co., Continental Oil Co., The Superior Oil Co., and Union Oil Co. of California. Underwater inspection apparatus. 2,981,347, 4–25–61, Cl. 175—7.

Baughman, John E.: *See*—
Riordan, Hugh E., Samburoff, and Baughman. 2,981,187.

Baumgartner, Richard A., H. M. Canfield, and H. W. Buell, to The Carborundum Co. Abrasive articles and method of making the same. 2,981,615, 4–25–61, Cl. 51—297.

Baybars, Russell D., to United States of America, Atomic Energy Commission. Process for descaling and decontaminating metals. 2,981,643, 4–25–61, Cl. 134—3.

Bayon, Patrice M. Belt with closing device. 2,980,918, 4–25–61, Cl. 2—321.

Bazan, Steven J., to Radio Corp. of America. Coupling device of slot antenna. 2,981,947, 4–25–61, Cl. 343—767.

Beachler, Edward D., to Beloit Iron Works. Suction box with changeable belt. 2,981,653, 4–25–61, Cl. 162—200.

Beacon Mfg. Co.: *See*—
Rogers, John H. 2,981,297.

Beale, Julian R. A., and A. F. Beer, to North American Philips Co., Inc. Method of making semiconductor device. 2,980,983, 4–25–61, Cl. 29—25.3.

Beall, William R., and K. F. Oldenburg, to Clary Corp. Read-out system for a value registering device. 2,981,466, 4–25–61, Cl. 235—60.4.

Beaven, Lealie W. Engine of the expansion-reaction type. 2,981,064, 4–25–61, Cl. 60—39.34.

Beck, Rudolph C. Vacuum release valve. 2,981,279, 4–25–61, Cl. 137—480.

Beck, William C., to Sterling Precision Corp. Method of detecting small holes in rubber gloves. 2,981,886, 4–25–61, Cl. 324—54.

Becorit Grubenausbau G.m.b.H.: *See*—
Weissmann, Léon, and Volpert. 2,981,199.

Beeney, Donald W., to Sylvania Electric Products Inc. Electrical shield. 2,981,786, 4–25–61, Cl. 174—35.

Beer, Andrew F.: *See*—
Beale, Julian R. A., and Beer. 2,980,983.

Beggs, James E., to General Electric Co. Electric discharge device and socket. 2,981,897, 4–25–61, Cl. 331—99.

Beguin, Rene, to Mefina S. A. Device for converting electric signals into mechanical displacements. 2,981,115, 4–25–61, Cl. 74—25.

Behne, Ernst A., and W. Ohirogge, to Siemens-Reiniger-Werke Aktiengesellschaft. Dental instrument stand having a handpiece holder unit. 2,980,999, 4–25–61, Cl. 32—22.

Bell Telephone Laboratories, Inc.: *See*—
Abbott, Henry H., Rippere, Schmidt, and Williams. 2,981,804.
Bachelet, Albert E., Bibbins, Celentano, and Pullis. 2,981,803.
Baker, Stanley W., and Schwab. 2,981,452.
Buhrendorf, Frederick G. 2,981,936.
De Lange, Owen E. 2,981,796.
Dickinson, Frank R., and Upthegrove. 2,981,454.
Franks, Lewis E., Perletti, and Simone. 2,981,892.
Looney, Duncan H., and Meinken. 2,981,932.
Mason, Warren P. 2,981,905.
Middaugh, Jack K. 2,981,806.
Ruthroff, Clyde L. 2,981,837.
Schwartz, Newton. 2,981,647.
Scovil, Henry E. D. 2,981,894.
Turner, Edward H. 2,981,906.
Van Uitert, Le Grand G. 2,981,903.
Wier, Joseph M. 2,981,851.
Wilder, Leslie N. 2,981,074.

Bellinger, Ronald, E. J. Hutchinson, and W. H. Shipley, to Strachan & Henshaw Ltd. Charging and discharging machines. 2,981,422, 4–25–61, Cl. 214—18.

Beloit Iron Works: *See*—
Beachler, Edward D. 2,981,653.
Justus, Edgar J. 2,981,328.
Justus, Edgar J. 2,981,329.

Ben, Victor R., to E. I. du Pont de Nemours and Co. Stabilization of polyamides with alkaryl phosphinates. 2,981,715, 4–25–61, Cl. 260—45.7.

Bender, Frederick M., to Daystrom, Inc. Print wheel stop. 2,981,178, 4–25–61, Cl. 101—94.

Bendix Corp., The: *See*—
Woodward, Stephen G. 2,981,246.

Bennett, Harvey S., to The Bloomfield Chemical Co., Inc. Procedures and compositions for producing decorative effects. 2,981,632, 4–25–61, Cl. 117—39.

Bennett, James C., to Mission-West Mfg. Co. Torque-equalizing operating mechanism for awning type windows. 2,981,538, 4–25–61, Cl. 268—23.

Bernn, Rudolph F. Sheathed tool with detachable blade. 2,980,996, 4–25–61, Cl. 30—157.

Bergen Pinesupport Corp.: *See*—
Suozzo, Leonard S. 2,981,511.

Bergson, Gustav. Vaporizing valve. 2,981,278, 4–25–61, Cl. 137—340.

Berky, Richard K., to Sperry Rand Corp. Implement mounting device. 2,981,343, 4–25–61, Cl. 172—274.

Berman, Robert A., to Medical Plastics, Inc. Inflatable blood pressure cuff. 2,981,251, 4–25–61, Cl. 128—2.05.

Bernotas, Ralph J., to General Motors Corp. Power steering follow-up control. 2,981,356, 4–25–61, Cl. 180—79.2.

Berry, David A.: *See*—
Heinrich, Raymond L., Berry, and Christian. 2,981,705.
Heinrich, Raymond L., Berry, and Christian. 2,981,706.
Heinrich, Raymond L., Berry, and Christian. 2,981,707.
Heinrich, Raymond L., Berry, and Christian. 2,981,708.

Besnah, Gerald A. Protective and reflective device. 2,981,256, 4–25–61, Cl. 128—372.

Better, Bernard R., to Scully-Jones and Co. Floating holders. 2,981,544, 4–25–61, Cl. 279—16.

Bettoni, Eugene C., to Holley Carburetor Co. Combination distributor and selectively operated vacuum or like pump. 2,981,194, 4–25–61, Cl. 103—23.

Bianchi, Renato: *See*—
Will, Albert S., Bianchi, and Butler. 2,981,190.

Bibbins, George S.: *See*—
Bachelet, Albert E., Bibbins, Celentano, and Pullis. 2,981,803.

Bibbins, Lance L.: *See*—
Fischer, Laurin G., and Bibbins. 2,981,472.

Biedermann, Friedrich, to Agfa Aktiengesellschaft. Pneumatic exposure regulating device for photographic cameras. 2,981,167, 4–25–61, Cl. 95—53.

Biedermann, Friedrich, and A. Zinkl, to Agfa Aktiengesellschaft. Exposure regulating device for photographic cameras. 2,981,168, 4–25–61, Cl. 95—53.

Bill Jack Scientific Instrument Co.: *See*—
Heisig, Henry P., and Price. 2,980,914.
McIlwraith, Charles G., Breazeale, and Dacus. 2,981,111.

Bimber, Russell M., to Diamond Alkali Co. Certain alpha-haloaldehyde addition products of ethylenethioureas and process. 2,981,739, 4–25–61, Cl. 260—309.6.

Binning, Robert C., to Standard Oil Co. Separation of mixtures. 2,981,680, 4–25–61, Cl. 210—23.

Birdsboro Corp.: *See*—
Peterson, Edward C., and Updegrave. 2,981,300.

Biser, David: *See*—
Rizzo, Samuel, and Biser. 2,981,929.

Bituminous Coal Research, Inc.: *See*—
Yellott, John I., and Broadley. 2,981,869.

Black-Clawson Co., The: *See*—
Phelps, Richard W. 2,981,224.

Black, Cline, to Shell Oil Co. Extractive distillation of aromatic compounds. 2,981,661, 4–25–61, Cl. 202—39.5.

Black, Cline, to Shell Oil Co. Extractive distillation of aromatic compounds. 2,981,662, 4–25–61, Cl. 202—39.5.

Black, Cline, to Shell Oil Co. Extractive distillation of aromatic compounds. 2,981,663, 4–25–61, Cl. 202—39.5.

Black, Sanford R., to General Motors Corp. Balancing apparatus. 2,980,992, 4–25–61, Cl. 29—208.

Blakeslee, G. S., & Co.: *See*—
Cumming, John. 2,981,401.

Blanshine, Allison W., and R. L. Steely, to Sperry Rand Corporation. Row crop attachment for forage harvester. 2,981,045, 4–25–61, Cl. 56—99.

Bloch, Herman S.: *See*—
Hervert, George L., and Bloch. 2,981,696.

Block, Fred G.: *See*—
Shrader, Merrald B., Block, and Weingarten. 2,980,984.

Bloomfield Chemical Co., Inc., The: *See*—
Bennett, Harvey S. 2,981,632.

Boardman, Raymond H., to The Hart Mfg. Co. Bus bar. 2,981,926, 4–25–61, Cl. 339—256.

Boeing Airplane Co.: *See*—
Snyder, Herman B., and Rosenberg. 2,981,610.

Boeke, Paul J., and J. N. Scott, Jr., to Phillips Petroleum Co. Production of modified polymers by heating to 600–900° F. in the presence of chromium oxide. 2,981,727, 4–25–61, Cl. 260—93.7.

Bogard, William R., and G. A. Gruss, to American Machine & Foundry Co. Bowling ball cleaning and polishing apparatus. 2,980,935, 4–25–61, Cl. 15—21.

Bokesch, Elmer R.: *See*—
Achorn, Glenwood B., Jr., Bokesch, Dapper, Lebbers, Schwab, Smith, Rawson, and Metcalfe. 2,981,660.

Bolinger, Donald B. Wheel and swivel brake device. 2,980,944, 4–25–61, Cl. 16—35.

Bonanno, Joseph L., to The Lionel Corp. Automatic tie-dumping system. 2,981,031, 4–25–61, Cl. 46—40.

Bonney Forge & Tool Works: *See*—
Jackson, William M. 2,981,556.

Bonomo, Melvin E.: *See*—
Lapp, Ellsworth W. 2,981,099.

Booth, Landon W. Pruner. 2,980,995, 4–25–61, Cl. 30—144.

Borden Co., The: *See*—
Peterson, Arlo A., and Baker. 2,981,652.

Borden, Joseph H., to Toledo Scale Corp. Hydraulic elevators. 2,981,375, 4–25–61, Cl. 187—28.

Borg-Warner Corp.: *See*—
Chadburn, Robert A. 2,981,520.
Zeidler, Reinhold C. 2,981,376.

Boulthee, Thomas H., to Shell Oil Co. Poly olefins stabilized with salts or amides of a thiodialkanoic acid. 2,981,717, 4–25–61, Cl. 260—45.85.

Bourne, Hector R.: *See*—
Spencer, David P., and Bourne. 2,981,637.

Bowen, Clovis W.: *See*—
Gutting, Robert D. 2,981,366.

Bowles, Vernon O., to Socony Mobil Oil Co., Inc. Conversion of liquid hydrocarbon in the presence of a gaseous reactant and particle-form solid catalytic material. 2,981,677, 4–25–61, Cl. 208—146.

Bowman, Eldon L., to Northrop Corp. Method for chemical milling honeycomb material. 2,981,612, 4–25–61, Cl. 41—43.

Boyer, Myron H., to North American Aviation, Inc. Gas generator grain. 2,981,616, 4–25–61, Cl. 52—.5.

Bradley, Harold. Dryer rack. 2,981,418, 4–25–61, Cl. 211—86.

Brand, Harry R., and E. I. Schefer, to Sylvania-Corning Nuclear Corp. Reactor fuel plate assembly and method. 2,981,669, 4–25–61, Cl. 204—154.2.

Brandano, Giuseppe. Display tank for shellfish. 2,981,228, 4–25–61, Cl. 119—2.

Brandon, Carl, to Montgomery Elevator Co. Hydraulic elevator safety device. 2,981,236, 4–25–61, Cl. 121—46.

Brandon, Carl, to Montgomery Elevator Co. Hydraulic elevator safety device. 2,981,238, 4–25–61, Cl. 121—46.

Brandt, Carl T., to Phillips Petroleum Co. Safety apparatus for underground pressure fluid storage. 2,981,071, 4–25–61, Cl. 04—.5

Brant, Victor L., and D. G. Morgan, deceased (by M. and D. L. Morgan, executors); said V. L. Brant and D. G. Morgan, assors. to D-X Sunray Oil Co. Regeneration of spent adsorbent. 2,981,771, 4–25–61, Cl. 260—683.62.

Brasch, Arno, to Electronised Chemicals Corp. Method for improving the properties of polymerized materials. 2,981,668, 4–25–61, Cl. 204—154.

Brault, Andre R., to OPTOmechanisms, Inc. Film developing and fixing mechanism. 2,981,170, 4–25–61, Cl. 95—89.

Braunschweig, Georges: *See*—
Martl, Frederic, and Braunschweig. 2,981,054.

Brautigam, John J., and G. E. Hood, to Burndy Corp. Insulated connector. 2,981,787, 4–25–61, Cl. 174—84.

Breazeale, John B.: *See*—
McIlwraith, Charles G., Breazeale, and Dacus. 2,981,111.

Brendlein, Heinrich, H. Huemer, T. Lunsing, and H. Schulz, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for the production of ω-halogen carboxylic acid nitriles. 2,981,749, 4–25–61, Cl. 260—465.3.

Brewington, Philip J. Drain pipe joint. 2,981,072, 4–25–61, Cl. 61—11.

Brisson, Louis C. Servo type brake with self regulation. 2,981,378, 4–25–61, Cl. 188—78.

Brisson, Louis C. Brake control mechanism. 2,981,377, 4–25–61, Cl. 188—78.

British Cotton Industry Research Association, The: *See*—
Jones, Eric H. 2,981,638.

British Drug Houses Ltd., The: *See*—
Kirk, David N., Petrow, and Thomson. 2,981,732.

British Thomson-Houston Co. Ltd., The: *See*—
Collins, Gordon, and Graves. 2,981,233.
Parmee, John L. 2,981,687.

British Timken Ltd.: *See*—
McNicoll, David. 2,981,574.

Broadley, Peter R.: *See*—
Yellott, John I., and Broadley. 2,981,369.

Brooks, Frederick P., Jr., to North American Aviation, Inc. Alphabetical read-out device. 2,981,020, 4–25–61, Cl. 40—130.

Brooke, William F., and W. E. Jaycox, to AMP Inc. Tool for explosively crimping electrical connectors. 2,981,130, 4–25–61, Cl. 81—15.

Brown, David C., to Sierra Engineering Co. Mold opener. 2,980,951, 4–25–61, Cl. 18—2.

Brown, Dwight L. Tube supporting clip. 2,981,513, 4–25–61, Cl. 248—73.

Brown, Harold P., to The B. F. Goodrich Co. Method of elasticizing plastic carboxyl-containing synthetic rubbery polymeric materials and elastic products produced thereby. 2,981,721, 4–25–61, Cl. 260—80.1.

Brown, Jack T., C. P. Mueller, L. L. France, and A. W. Cochardt, to Westinghouse Electric Corp. Cobalt-nickel base alloy. 2,981,620, 4–25–61, Cl. 75—170.

Brown, John M.: *See*—
Rogers, Joe Y., Jr., Brown, and Specht. 2,981,604.

Brown, Oscar D. Time controlled feed bunker. 2,981,229, 4–25–61, Cl. 119—56.

Brown, Ralph E., to Genisco, Inc. Variable speed tranamission. 2,981,119, 4–25–61, Cl. 74—198.

Browne, Edwin C., and C. R. Sofield, to American Cyanamid Co. Apparatus and method of controlling foam. 2,981,093, 4–25–61, Cl. 252—321.

Broxon, Errett C., to The Baldwin Piano Co. Analog-to-digital encoder. 2,981,844, 4–25–61, Cl. 250—219.

Bruce, Willis N., to L. Ratner. Insecticidal repellent. 2,981,654, 4–25–61, Cl. 167—22.

Bruning, Charles, Co., Inc.: *See*—
Hruby, Joseph, Streich, and Tregay. 2,981,171.

Bryan, George W., Jr. Sound powered radio transmitter. 2,981,833, 4–25–61, Cl. 250—17.

Bryant Chucking Grinder Co.: *See*—
Terp, Charles J. 2,981,037.

Buchanan Electrical Products Corp.: *See*—
Ustin, George. 2,981,923.

Buck, Leon E., to Winget Ltd. Hydraulic load cell. 2,981,101, 4–25–61, Cl. 73—141.

Buckwalter, Howard M., and J. M. Almand, to United States Rubber Co. Aryl guanidine-paraformaldehyde reaction product. 2,981,741, 4–25–61, Cl. 260—333.

Bucy, Billy J., and C. M. Simmons, to The Western Co. of North America. Method and apparatus for introducing sealing elements into well casings. 2,981,335, 4–25–61, Cl. 166—75.

Buell, Halsey W.: *See*—
Baumgartner, Richard A., Canfield, and Buell. 2,981,615.

Buhrendorf, Frederick G., to Bell Telephone Laboratories, Inc. Magnetic data storage medium. 2,981,936, 4–25–61, Cl. 340—174.1.

Bundy Robert C., to Hughes Aircraft Co. Electromagnetic wave attenuator. 2,981,907, 4–25–61, Cl. 333—81.

Buningh, Welgert C., and W. J. Pieters, to Shell Oil Co. Basic nitrogen removal from hydrocarbons with an alkaline bisulfate. 2,981,678, 4–25–61, Cl. 208—254.

Bunish, Stephen, to Anaconda Wire and Cable Co. Power cables. 2,981,788, 4–25–61, Cl. 174—115.

Burdick, Glen A., and E. O. Stone, to Sylvania Electric Products Inc. Image display device. 2,981,864, 4–25–61, Cl. 315—16.

Burgardt, Lothar, W. Pelz, O. Wahl, and H. Sassmann to Agfa Aktiengesellschaft. Photographic developers. 2,981,623, 4–25–61, Cl. 96—66.

Burgin, Kermit H. Metal building eave box return. 2,981,034, 4–25–61, Cl. 50—51.

Burk, Emmett H., Jr.: *See*—
Keith, Willis C., and C. D., and Burk. 2,981,751.

Burkin, Alfred R., and B. T. K. Barry. Process for reducing the silica content of zircon. 2,981,594, 4–25–61, Cl. 23—18.

Burndy Corp.: *See*—
Brautigam, John J., and Hood. 2,981,787.
Dupre, Henry P. 2,981,924.

Burnell, David G., to James Lees and Sons Co. Yarn control device for uptwisters. 2,981,048, 4–25–61, C., 57—62.

Burnette, Thaddeus C., Jr., to United States of America, Navy. Deferred action-type battery with involute plates. 2,981,780, 4–25–61, Cl. 136—90.

Burns, Oliver. Fuse holder. 2,981,510, 4–25–61, Cl. 248—42.

Burrell, Frank C., to General Motors Corp. Automatic vehicle brake adjuster. 2,981,379, 4–25–61, Cl. 188—79.5.

Burroughs Corp.: *See*—
Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 2,981,421.
Hoberg, George G. 2,981,937.
Jones, Richard H. 2,981,467.
Nasoni, Donald E. 2,981,935.
Ogle, James A. 2,981,140.
Ogle, James A. 2,981,941.

Busch, Thomas N., and D. W. and B. E. Jasper. Method and apparatus for harvesting trees. 2,981,301, 4–25–61, Cl. 144—3.

Bushrod, Charles J., to Chloride Batteries Ltd. Tubular type plates for electric accumulators. 2,981,783, 4–25–61, Cl. 136—146.

Butler, Norman C.: *See*—
Will, Albert S., Bianchi, and Butler. 2,981,190.

Buttler, John A. Combination muffler and after burner. 2,981,057, 4–25–61, Cl. 60—29.

Cabot Corp.: *See*—
Rogers, Joe Y., Jr., Brown, and Specht. 2,981,604.

Calandro, Joseph D.: *See*—
Barnes, Myron H., and Calandro. 2,980,943.

Caldwell, Blake M., to Jet Research Center, Inc. Well perforating apparatus. 2,981,185, 4–25–61, Cl. 102—20.

Callender, Bernard L. T. Graffy, W. G. Holsbock, and K. O. Rockey, to GPE Controls, Inc. Electro-hydraulic control device. 2,981,273, 4–25–61, Cl. 137—83.

Campbell, Albert B., to Campbell Products Co. Dispensing caps and assemblies containing same. 2,981,446, 4–25–61, Cl. 222—394.

Campbell, Arthur W., to Commercial Solvents Corp. Production of nitrosodimethylamine. 2,981,752, 4–25–61, Cl. 260—583.

Campbell Products Co.: *See*—
Campbell, Albert B. 2,981,446.

Campman, Allen E. and W. S. Ratcheting pliers. 2,981,133, 4–25–61, Cl. 81—349.

Campman, Wallace S.: *See*—
Campman, Allen E., and W. S. 2,981,133.

Canassi, Henry D. Molded speed boat hull. 2,980,924, 4–25–61, Cl. 9—6.

Candidus, Edward S., to National Research Corp. Production of metals. 2,981,823, 4–25–61, Cl. 219—117.

Canfield, Howard M.: *See*—
Baumgartner, Richard A., Canfield, and Buell. 2,981,615.

Carbauh, Robert E., to Petcar Research Corp. Combined overheat and flame detector system. 2,981,936, 4–25–61, Cl. 340—227.

Carbauh, Robert E., to Petcar Research Corp. Fire detector system. 2,981,939, 4–25–61, Cl. 340—228.

Carborundum Co., The: *See*—
Baumgartner, Richard A., Canfield, and Buell. 2,981,615.

Carlisle, Richard W., to Ling-Temco Electronics, Inc. Reflex horn loudspeaker. 2,981,359, 4–25–61, Cl. 181—27.

Carlson, William L., Jr., to Minneapolis-Honeywell Regulator Co. Electromagnetic pump. 2,981,193, 4–25–61, Cl. 103—1.

Carlton, Alvar G., to United States of America, Navy. Servo control system for guided missile. 2,981,500, 4–25–61, Cl. 244—14.

Carrell, Ross M., to Radio Corporation of America. Acoustical impedance meter. 2,981,090, 4–25–61, Cl. 73—67.1.

Carrico, Robert G. Lunette. 2,981,404, 4–25–61, Cl. 206—19.

Carter, John L.: *See*—
Reingold, Irving, and Carter. 2,981,901.

Carter, Willis M., and K. O. Lange, to Lange Instrument Co. Apparatus for forming contour lines. 2,981,147, 4–25–61, Cl. 88—24.

Cartwright, Edwin O., Jr., H. H. Edwards, Jr., and S. F. Held, to Chance Vought Corp. Shock absorbing safety seat. 2,981,317, 4–25–61, Cl. 155—178.

Case, J. I., Co.: *See*—
Hamilton, Matthew E. 2,981,345.

Casey, Harry E., to Owens-Illinois Glass Co. Apparatus for placing roof deck slabs. 2,981,426, 4–25–61, Cl. 214—382.

Caslow, Joseph H., to American Brake Shoe Co. Pilot operated valve mechanism. 2,981,287, 4–25–61, Cl. 137—627.

Castle, John G., Jr.: *See*—
Schneeberger, Robert J., and Castle. 2,981,863.

Cecil, Paul S.: *See*—
Coleman, Richard L., Cecil, and Kerpel. 2,980,998.

Celentano, Arnold J.: *See*—
Bachelet, Albert E., Bibbins, Celentano, and Pullis. 2,981,803.

Chadburn, Robert A., to Borg-Warner Corp. Plate-type heat-exchangers. 2,981,520, 4–25–61, Cl. 257—256.

Chain Belt Co.: *See*—
Cunningham, Dennis M. 2,981,608.
Steindorf, Robert T. 2,980,934.

Chalkley, Lyman. Photographic process. 2,981,622, 4–25–61, Cl. 96—48.

Chamberlin, Earl M.: *See*—
Chemerda, John M., Ruyle, and Chamberlin. 2,981,742.

Chance Vought Corp.: *See*—
Cartwright, Edwin O., Jr., Edwards, and Held. 2,981,317.
Lane, Frank L., and Roberts. 2,981,087.

Chapman, Samuel L., Sr. Syringe releasing device. 2,981,270, 4–25–61, Cl. 134—169.

Cheetwood, John E. Flower holder. 2,981,033, 4–25–61, Cl. 47—41.

Chemerda, John M., W. V. Ruyle, and E. M. Chamberlin, to Merck & Co., Inc. Lower alkyl Δ^4-3-acyloxy-7-bromo-bismorcholenates. 2,981,742, 4–25–61, Cl. 260—397.1.

Chicago Bridge & Iron Co.: *See*—
Wissmiller, Ivan L. 2,981,437.

Chicago Railway Equipment Co.: *See*—
Davidson, Arthur C. 2,981,536.
Soddy, Thomas C. 2,981,535.

Chin, Pao H.: *See*—
Tsien, Hsue C., and Chin. 2,981,430.
Tsien, Hsue C., and Chin. 2,981,866.

Chloride Batteries Ltd.: *See*—
Bushrod, Charles J. 2,981,783.

Christian, Robert L.: *See*—
Heinrich, Raymond L., Berry, and Christian. 2,981,705.
Heinrich, Raymond L., Berry, and Christian. 2,981,706.
Heinrich, Raymond L., Berry, and Christian. 2,981,707.
Heinrich, Raymond L., Berry, and Christian. 2,981,708.

Christmann, Fritz, and W. Gieg, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of condensation products. 2,981,757, 4–25–61, Cl. 260—650.

Chrysler Corp.: *See*—
Jilbert, Lewis F. 2,981,352.
Reed, Thomas S. 2,981,305.
Sarto, Jormia O. 2,981,245.

Ciba Ltd.: *See*—
Kern, Fritz. 2,981,666.

Clark, Adna R., and G. E. Coleman, to International Harvester Co. Apparatus for starting internal combustion engines. 2,981,056, 4–25–61, Cl. 60—17.

Clark, Alexander B., Jr. Cloth reel. 2,981,406, 4–25–61, Cl. 206—50.

Clark, Ashford J. Telephone attachment. 2,981,021, 4–25–61, Cl. 40—336.

Clark Equipment Co.: *See*—
Williamson, William A. 2,981,429.

Clark, Hubert M., and W. T. Livermore, said Clark assor.; to Thompson Ramo Wooldridge Inc. Flow regulator. 2,981,067, 4–25–61, Cl. 60—52.

Clary Corp.: *See*—
Beall, William R., and Oldenburg. 2,981,466.
Schwend, Fred N. 2,981,179.

Clay-Smith, Laurence A.: *See*—
Young, David H., and Clay-Smith. 2,981,275.

Cleaveland, Wesley C., to Vandale Corp. Automatic feeding apparatus. 2,981,402, 4–25–61, Cl. 198—213.

Cleveland Crane & Engineering Co., The: *See*—
Schultz, Alfred W. 2,981,391.

Cleveland Trencher Co., The: *See*—
Askue, Albert R. 2,981,013.
Meyer, Henry L. 2,981,012.

Cleveland Trust Co., The: *See*—
Frohlich, Adolf, and Harris. 2,981,310.

Clevite Corp.: *See*—
Smith, Graydon. 2,981,909.

Close, Charles F., to Arlington Seating Co. Chairs. 2,981,319, 4–25–61, Cl. 155—194.

Cochardt, Alexander W.: *See*—
Brown, Jack T., Mueller, France, and Cochardt. 2,981,620.

Coe Mfg. Co., The: *See*—
Parker, Clarence E. 2,981,399.

Cohen, Murray S., and D. Grafstein, to Thiokol Chemical Corp. Fluoro substituted polysiloxanes and preparation thereof. 2,981,746, 4–25–61, Cl. 260—448.2.

Cole, Gordon E., Jr., and C. O. Herman, to Air Reduction Co., Inc. Stabilization of chlorinated hydrocarbons with a synergistic combination of a tertiary acetylenic alcohol, dioxane, and a volatile basic organic nitrogen-containing organic compound. 2,981,759, 4–25–61, Cl. 260—652.2.

Cole, Robert M., and J. W. Mecorney, to Shell Oil Co. Production of unsaturated aldehydes. 2,981,753, 4–25–61, Cl. 260—601.

Coleman, George E.: *See*—
Clark, Adna R., and Coleman. 2,981,056.

Coleman, Joseph J., to Servel, Inc. Alkaline cell with preassembled negative terminal. 2,981,784, 4–25–61, Cl. 136—166.

Coleman, Richard L., P. S. Cecil, and J. A. Kerpel, to The J. M. Ney Co. Dental prosthesis and method of manufacture. 2,980,998, 4–25–61, Cl. 32—12.

Colleoni, Giovanni, to Pirelli Societa per Azioni. Sealing device for lead press. 2,981,409, 4–25–61, Cl. 207—4.

Collins, Gordon, and J. H. Graves, to The British Thomson-Houston Co. Ltd. Improvement in and relating to pneumatic motor suitable for electric traction control systems. 2,981,233, 4–25–61, Cl. 121—38.

Columbus McKinnon Chain Corp.: *See*—
Devonshire, William H. 2,981,204.
Parker, Humphrey F., and Robins. 2,981,203.

Commercial Solvents Corp.: *See*—
Campbell, Arthur W. 2,981,752.

Commercial Wire Products Co.: *See*—
Lilja, Oscar G. 2,981,440.

Conaway, James M.: *See*—
Del Faro, Gordon P., Moline, and Conaway. 2,980,946.

Cones, Ben. Opening grill. 2,981,327, 4–25–61, Cl. 160—378.

Congoleum-Nairn, Inc.: *See*—
Hansen, Herman E. 2,981,580.

Conley, Kurt H., to Entoletor, Inc. Centrifugal impacting apparatus and support therefor. 2,981,490, 4–25–61, Cl. 241—275.

Conly, Ralph A., to Ampex Corp. Magnetic tape apparatus. 2,981,805, 4–25–61, Cl. 179—100.2.

Consolidated Electrodynamics Corp.: *See*—
Marks, Monte L. 2,981,092.

Consolidated Electronics Industries Corp.: *See*—
Van Lieshout, Loisius J. A., and Riggs. 2,981,855.

Container Corp. of America: *See*—
Johnson, Richard H., and Kuehn. 2,981,459.

Continental Gummiwerke Aktiengesellschaft: *See*—
Loges, Adolf. 2,981,309.

Continental Oil Co.: *See*—
Barnes, Paul M., Riggs, and Roebuck. 2,981,684.
Crawford, John M., and Doty. 2,981,928.

Controls & Communication Co.: *See*—
Balint, John E. 2,981,869.

Cope, Paul E., to The Procter & Gamble Co. Carton. 2,981,455, 4–25–61, Cl. 229—14.

Cornelius Co., The: *See*—
Cornelius, Richard T. 2,981,280.

Cornelius, Richard T., to The Cornelius Co. Pressure regulating valves. 2,981,280, 4–25–61, Cl. 137—505.26.

Costa, John E., E. W. Le Boeuf, and L. E. Lefevre, to The Dow Chemical Co. Fibrous article. 2,980,982, 4–25–61, Cl. 28—78.

Coulter & McKenzie Machine Co., The: *See*—
Kovaleski, Joseph J. 2,981,494.

Coulter, Richard K., to Sierra Engineering Co. Manifold slide disconnect assembly. 2,980,976, 4–25–61, Cl. 24—223.

Coultrap, Keith H.: *See*—
Parker, Earl E., and Coultrap. 2,981,700.

Cowles, Warren H., J. D. Pembleton, and J. O'Shaughnessey, to Holley Carburetor Co. Gas turbine isochronous governor. 2,981,271, 4–25–61, Cl. 137—26.

Cox, Preston C.: *See*—
Kaufold, Leroy, and Cox. 2,981,842.

Cozart, Robert T. Push button assembly. 2,981,816, 4–25–61, Cl. 200—159.

Craig, Robert D., to Associated Electrical Industries Ltd. Mass spectrometers. 2,981,839, 4–25–61, Cl. 250—41.9.

Crawford, John M., and W. E. N. Doty, to Continental Oil Co. Method for eliminating undesired components of composite received signals. 2,981,928, 4–25–61, Cl. 340—16.

Crissy, Robert J. Inking and dampening apparatus for printing press. 2,981,180, 4–25–61, Cl. 101—147.

Crompton & Knowles Corp.: *See*—
Paul, Frederick W., and Sepavich. 2,981,295.
Paul, Frederick W., and Willard. 2,981,296.

Cropp, David, to Warren Components Division of El-Tronics, Inc. Rotary hydraulic press. 2,980,960, 4–25–61, Cl. 18—20.

Crosby, Charles H., W. T. Hicks, A. C. Nystrom, and R. R. Wahlberg, to Western Electric Co., Inc. Apparatus for making multi-unit cable. 2,981,049, 4–25–61, Cl. 57—66.5.

Cross, Grosvenor M. Means for stowage of vessels. 2,981,417, 4–25–61, Cl. 211—78.

Crowe, Alberta M. Device for the removal of nail polish. 2,980,940, 4–25–61, Cl. 15—506.

Crowe, James W., and B. Housman, to International Business Machines Corp. Multistable circuit. 2,981,933, 4–25–61, Cl. 340—174.

Culp, Charles R., to Armstrong Cork Co. Drying system. 2,981,526, 4–25–61, Cl. 263—6.

Cummaro, Louis A., to Phillips Screw Co. Process for manufacturing inserts. 2,980,929, 4–25–61, Cl. 10—10.

Cumming, John, to G. S. Blakeslee & Co. Conveyor for dishwashing machines. 2,981,401, 4–25–61, Cl. 198—131.

Cunefare, Donald D. Steering device for outboard motor. 2,981,222, 4–25–61, Cl. 115—18.

Cunningham, Dennis M., to Chain Belt Co. Counter-current contactor. 2,981,608, 4–25–61, Cl. 23—270.

Cupella, Aldo, ½ to Soc. Metallotecnica. Device for driving a receiving teletypewriter, with correction of the drive-pulse distortion. 2,981,795, 4–25–61, Cl. 178—69.

Cupella, Aldo, ½ to Soc. Metallotecnica. Automatic frequency control receiver for the reception of radio signals for communications through teletypewriters. 2,981,797, 4–25–61, Cl. 178—88.

Curkin, Lloyd H.: *See*—
Acker, Walter L., and Curkin. 2,981,609.

Cuvelier, Jean J., to Ateliers de Constructions Electriques de Charleroi. Teleprinter secrecy system. 2,981,794, 4–25–61, Cl. 178—22.

D-X Sunray Oil Co.: *See*—
Brant, Victor L., and Morgan. 2,981,771.

Dabney, Ward, Jr., to United States of America, Air Force. Lubricating and coating slipper. 2,980,942, 4–25–61, Cl. 15—512.

Dacus, Edward N.: *See*—
McIlwraith, Charles G., Breasseale, and Dacus. 2,981,111.

Dagrell, Knut, to Aktiebolaget Svenska Flaktfabriken. Supporting device for fans for the transport of hot gases. 2,981,463, 4–25–61, Cl. 230—235.

Daimler-Dens Aktiengesellschaft: *See*—
Foerster, Hans-Joachim M., and Grabow. 2,980,068.
Hücker, Walter E. 2,981,811.

Dalto Corp.: *See*—
Davis, Ward D., Du Pont, Zeitler, Batesole, Tucker, and Hanson. 2,981,008.

Danaczko, John, Jr., to Western Electric Co., Inc. Non-destructive tests for distinguishing between objects formed of dissimilar metals. 2,981,607, 4–25–61, Cl. 23—230.

Danaczko, John, Jr., to Western Electric Co., Inc. Methods of removing a dried silver and phenol-formaldehyde resin paint from an article. 2,981,642, 4–25–61, Cl. 134—2.

Daniel, David W.: *See*—
Mentley, Max B., Daniel, and Kokorsycki. 2,981,035.

Danly, James C., to Danly Machine Specialties, Inc. Die set assembly. 2,981,569, 4–25–61, Cl. 308—6.

Danly Machine Specialties, Inc.: *See*—
Danly, James C. 2,981,569.

Danzer, Carl W.: *See*—
Peterson, Stanley W., and Danzer. 2,981,648.

Dapper, Edward R.: *See*—
Achorn, Glenwood R., Jr., Bokesch, Dapper, Lebherz, Schwab, Smith, Rawson, and Metcalfe. 2,981,660.

Davidson, Arthur C., to Chicago Railway Equipment Co. Railway truck bolster spring snubber. 2,981,536, 4–25–61, Cl. 267—9.

Davidson, Donald T., and R. L. Nicholls, to Iowa State College Research Foundation, Inc. Soil stabilization with an organic derivative of ammonia and an acrylate polymer. 2,981,162, 4–25–61, Cl. 94—25.

Davis, James F. Grinding apparatus. 2,981,487, 4–25–61, Cl. 241—222.

Davis, Shipp C., and W. G. Ray, to Chas. Pfizer & Co., Inc. Process for treating ferrous metals. 2,981,633, 4–25–61, Cl. 117—50.

Davis, Shipp C., and W. G. Ray, to Chas. Pfizer & Co., Inc. Process for treating ferrous metals. 2,981,634, 4–25–61, Cl. 117—50.

Davis, Thomas, and R. L. Echols. Magnetic coding system for railroad cars. 2,981,830, 4–25–61, Cl. 246—2.

Davis, Ward D., S. Du Pont, R. J. Zeitler, W. R. Batesole, A. R. Tucker, and L. W. Hanson, to Dalto Corp. Visual apparatus for a flight trainer. 2,981,008, 4–25–61, Cl. 35—12.

Davis, Warren F., to Menasha Container of California, Division of Menasha Wooden Ware Corp. Shipping cartons for products subject to inspection. 2,981,457, 4–25–61, Cl. 229—16.

Dawirs, Willis R. Identification, PPI code sorting and printing tube. 2,981,861, 4–25–61, Cl. 315—8.5.

Dawson, John H., 50% to Y. M. Scott. Combination bracelet holder and card support. 2,981,507, 4–25–61, Cl. 248—33.

Day, James M.: *See*—
Stoops, Charles E., and Day. 2,981,670.

Daystrom, Inc.: *See*—
Bender, Frederick M. 2,981,178.

De Angelus, Millet R.: *See*—
Dersch, Fritz, and De Angelus. 2,981,624.

Deere & Co.: *See*—
Hadley, Howard C. 2,981,260.
Rohweder, Glen W. 2,981,400.

Deering Milliken Research Corp.: *See*—
Harmon, Albert D., and Klein. 2,981,496.
Munford, Robert E., Smith, and Graham. 2,980,967.

De Felice, Aurelius F. Dental cleaner massager. 2,981,264, 4–25–61, Cl. 132—91.

De Frenes, Joseph F., and H. L. Roberts. Prompting system. 2,981,144, 4–25–61 Cl. 88—16.

Defries, Ernest W., to The Siegler Corp. Scraping implement. 2,980,937, 4–25–61, Cl. 15—236.

De Lange, Owen E., to Bell Telephone Laboratories, Inc. Self-timed regenerative repeaters for PCM. 2,981,706, 4–25–61, Cl. 178—70.

Del Faro, Gordon P., R. E. Moline, and J. M. Conaway; said Moline assor. to said Del Faro. Draper hardware. 2,980,946, 4–25–61, Cl. 16—87.8.

Delmar, Geza S., to Whitmoyer Laboratories, Inc. Manufacture of P-ureidobenzenearsonic acid. 2,981,745, 4–25–61, Cl. 260—443.

Delsuc, Jacques. Ships or the horizontal handling type. 2,981,217, 4–25–61, Cl. 114—78.

Demmler, Kurt: *See*—
Meyer, Ferdinand, Demmler, and Lissner. 2,981,711.

Dennison Mfg. Co.: *See*—
Flood, Carl A. 2,981,432.

Dersch, Fritz, and M. R. De Angelus, to General Aniline & Film Corp. Antifoggants and stabilizers for photographic silver halide emulsion. 2,981,624, 4–25–61, Cl. 96—100.

Desantis, Joseph, to United Aircraft Corp. Cable tensioner. 2,980,974, 4–25–61, Cl. 24—68.

Detroit Hoist and Machine Co.: *See*—
Martin, Henry F. 2,981,289.

Deutsch, Richard E.: *See*—
Trautmann, John H. 2,981,577.

Deutsche Akademie der Wissenschaften zu Berlin: *See*—
Lehmann, Rudolf, Wiemer, and Voigt. 2,981,094.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Bäder, Erich, and Schweitzer. 2,981,650.
Brendlein, Heinrich, Huemer, Lussling, and Schulz. 2,981,749.
Schrauf, Robert, and Frey. 2,981,599.

Devine, Martin J.: *See*—
Lamson, Edward R., and Devine. 2,980,987.

Devonshire, William H., to Columbus McKinnon Chain Corp. Powerized storage rail for conveyor systems. 2,981,204, 4–25–61, Cl. 104—162.

De Waard, Russell D.: *See*—
Barnes, Robert B., Wormser, and De Waard. 2,981,913.

De Wall, Richard A., and C. W. Lillehei, to The Regents of the University of Minnesota. Oxygenator. 2,981,253, 4–25–61, Cl. 128—214.

Dewhirst, William, to Haskell-Dawes Machine Co., Inc. Twisting machines. 2,981,050, 4–25–61, Cl. 57—75.

Dewyer, Peter J. Weedless fishhooks. 2,981,027, 4–25–61, Cl. 43—42.1.

Deziel, Fred T., to Minneapolis-Honeywell Regulator Co. Burner control apparatus. 2,981,324, 4–25–61, Cl. 158—125.

Diamond Alkali Co.: *See*—
Bimber, Russell M. 2,981,739.
McClure, Raymond R. 2,981,596.

Diamond National Corp.: *See*—
Stickney, Wendell H., and Reifers. 2,981,330.

Dickinson, Frank R., and H. N. Upthegrove, to Bell Telephone Laboratories, Inc. Means for continuously passing cable including rigid housings through a caterpillar cable engine. 2,981,454, 4–25–61, Cl. 226—172.

Dickinson, Horace, to Lemiar Mfg. Co., Inc. Remote control for vane positioner. 2,980,970, 4–25–61, Cl. 20—62.

Dietrich, Paul, to Maschinenfabrik Augsburg-Nurnberg A.G. Leverless inking mechanism for rotary printing machines. 2,981,182, 4–25–61, Cl. 101—366.

Dietz, Victor J.: *See*—
Müller, Arthur H., Jr., Dietz, and Shipley. 2,981,152.

Di Giovanni, Mario, to Statham Laboratories, Inc. Transducer. 2,981,912, 4–25–61, Cl. 338—4.

Dilke, Max H., to The Distillers Co. Ltd. Linear polyethylene films of improved transparency and method of making same. 2,980,964, 4–25–61, Cl. 18—57.

Dilworth, Victor W., to International Harvester Co. Means for effecting load transfer in tractor implement assemblies. 2,981,341, 4–25–61, Cl. 172—2.

Distillers Co. Ltd., The: *See*—
Dilke, Max H. 2,980,964.

Dixon, Thomas P., to Technicolor Corp. Printing timer for making color positives on film. 2,981,791, 4–25–61, Cl. 178—5.2.

Dodge, Adiel Y. Transmission. 2,981,125, 4–25–61, Cl. 74—688.

Dodge, David W.: *See*—
Guyton, James H., Votava, Jenkins, and Dodge. 2,981,836.

Dodington, Sven H. M., to International Telephone and Telegraph Corp. Variable power transmitter for distance measuring interrogators. 2,981,943, 4–25–61, Cl. 343—7.5.

Doerper, Alfred, to General Motors Corp. Transmission clutch shift facilitation device. 2,981,390, 4–25–61, Cl. 192—67.

Dolza, John, to General Motors Corp. Variable stroke diaphragm pump with eccentric drive. 2,981,197, 4–25–61, Cl. 103—38.

Dolza, John, to General Motors Corp. Variable clearance volume air compressor. 2,981,460, 4–25–61, Cl. 230—21.

Dolza, John. Self-leveling devices for vehicle suspensions. 2,981,551, 4–25–61, Cl. 280—124.

Donnard, Reed E. Primer magazine cover for primer insert machine. 2,981,138, 4–25–61, Cl. 86—38.

Donnell, Walter M., and C. A. Grantom, to M. M. King. Swivel pipe coupling having a laterally removable packing assembly. 2,981,557, 4–25–61, Cl. 285—32.

Dorr-Oliver Inc.: *See*—
Fitch, Elliot B. 2,981,413.

Dotv, William F. N.: *See*—
Crawford, John M. and Dotv. 2,981,928.

Douglas, Edwin J., to H. L. Stoker Co. Shakers for packing material in containers. 2,981,349, 4–25–61, Cl. 177—264.

Dow Chemical Co., The: *See*—
Costa, John E., Le Boeuf, and Lefevre. 2,980,982.
Frevel, Ludo K., and Kressley. 2,981,768.
Frevel, Ludo K., and Kressley. 2,981,769.
Josepha, Melvin J. 2,981,619.
Olah, George A. and Kuhn. 2,981,602.
Powell, Hobart W., Jr. 2,981,334.
Stillo, Horatio S., Kolat, and Nummy. 2,981,692.

Doyen, Earl C. Earth moving system. 2,981,014, 4–25–61, Cl. 37—116.

Dresser Industries, Inc.: *See*—
White, James O., Jr. 2,981,888.

Drisko, Benjamin B., to United States of America, Air Force. Feedback modulator. 2,981,900, 4–25–61, Cl. 332—37.

Drummond, James M., and D. W. Torry, to Thermotank, Inc. Constant volume air mixing unit. 2,981,474, 4–25–61, Cl. 236—13.

Duberstein, Julius: *See*—
Small, Samuel N. 2,981,135.

Dubroff, Stanley: *See*—
Lipinski, Henry S. and Dubroff. 2,981,188.

Duke, Edward D., to International Harvester Co. Cutting blade assembly for scrapers. 2,981,015, 4–25–61, Cl. 37—141.

Duke, Gene S.: *See*—
Duke, Henry C. and G. S. 2,981,075.

Duke, Henry C. and G. S. Apparatus and method for manufacturing soft ice cream. 2,981,075, 4–25–61, Cl. 62—62.

Dunlop, Arthur K., to Shell Oil Co. Mass transfer process. 2,981,681, 4–25–61, Cl. 210—24.

Dunn, Edward J., Jr., and J. A. Orsino, to National Lead Co. Storage battery material. 2,981,776, 4–25–61, Cl. 136—27.

Dunn, Harold S. Interlocking I-beam for roof and side wall structure. 2,981,383, 4–25–61, Cl. 189—36.

Du Pont de Nemours, E. I., and Co.: *See*—
Farlow, Mark W. 2,981,761.
Harper, Lee R. 2,981,712.

Du Pont, Stephen: *See*—
Davis, Ward D., Du Pont, Zeitler, Batesole, Tucker, and Hanson. 2,981,006.

Dupre, Henry P., to Burndy Corp. Closed entry socket. 2,981,924, 4–25–61, Cl. 339—217.

Durst, Julius, to Julius Durst and Durst Soc. p.A., Fabbrica Macchine ed Apparecchi Fototecnici. Automatic exposure regulating device. 2,981,164, 4–25–61, Cl. 95—10.

Durst Soc. p.A., Fabbrica Macchine ed Apparecchi Fototecnici: *See*—
Durst, Julius. 2,981,164.

Dutchik, Victor H., to General Motors Corp. Clip. 2,981,387, 4–25–61, Cl. 189—88.

Dyer, Edward C.: *See*—
Vatt, David E., Dyer, and Thompson. 2,981,225.

Eachus, Joseph J., to Minneapolis-Honeywell Regulator Co. Information manipulating apparatus. 2,981,471, 4–25–61, Cl. 235—175.

Eagle-Picher Co., The: *See*—
Gora, Henry Z. 2,980,961.

Eannarino, George, and G. B. Finn, Jr., to Sarkes Tarzian, Inc. Semiconductor device. 2,981,873, 4–25–61, Cl. 317—234.

Eans, Marvin C., Jr., to General Electric Co. Wire dispensing apparatus. 2,981,491, 4–25–61, Cl. 242—45.

Early, Harold C., to Meredith Publishing Co. Voltage regulator for high voltage power supplies. 2,981,883, 4–25–61, Cl. 323—16.

Eastman Kodak Co.: *See*—
Estes, Cameron B. 2,981,165.

Echols, Robert L.: *See*—
Davis, Thomas, and Echols. 2,981,830.

Edlund, George E. Draftsman's perspective instrument. 2,981,004, 4–25–61, Cl. 33—77.

Edwards, Harold H., Jr.: *See*—
Cartwright, Edwin O., Jr., Edwards, and Held. 2,981,317.

Egedal, Lawrence E. Stirring whip handles. 2,981,384, 4–25–61, Cl. 189—36.

Egli, Hans, to The Garrett Corp. Turbine housing. 2,981,516, 4–25–61, Cl. 253—55.

Eisenberg, Edward. Desk privacy partition. 2,981,583, 4–25–61, Cl. 312—140.4.

Eklof, Gunnar, and B. V. Akerblom, to Aktiebolaget Akerblomstolen. Car seatings and cars provided with such seatings. 2,981,314, 4–25–61, Cl. 155—53.

Elastic Stop Nut Corp. of America: *See*—
Wilson, Wallace D., and Johnson. 2,981,533.

Electric Pipe Line, Inc.: *See*—
Trabilcy, William J. 2,981,818.

Electronized Chemicals Corp.: *See*—
Brasch, Arno. 2,981,666.

Electro Tec Corp.: *See*—
O'Brien, Thomas M. J. 2,981,916.

Elliott, Robert S., to Hughes Aircraft Co. Flush-mounted plural waveguide slot antenna. 2,981,949, 4–25–61, Cl. 343—771.

Ellis, Benjamin C., Jr., to Western Electric Co., Inc. Self-centering deflectable core tube. 2,980,958, 4–25–61, Cl. 18—13.

Elox Corp. of Michigan: *See*—
Larkins, John S., Jr. 2,981,822.

Else, John G., to General Motors Corp. Heat control valve. 2,981,480, 4–25–61, Cl. 236—101.

Elslager, Edward F.: *See*—
Moore, Alexander M., Elslager, and Short. 2,981,731.

Elswood, Arthur C. Extinguishers. 2,981,263, 4–25–61, Cl. 131—256.

Emersian, Manuel K. Food-product forming machine. 2,981,211, 4–25–61, Cl. 107—14.

Engel, Willem F., to Shell Oil Co. Regeneration of supported platinum catalysts. 2,981,694, 4–25–61, Cl. 252—415.

Enk, Eduard, H. Reinecke, and E. Kurz, to Wacker-Chemie G.m.b.H. Process for the production of vinylchloride polymers by dispersion processes in aqueous media. 2,981,722, 4–25–61, Cl. 260—87.1.

Entoleter, Inc.: *See*—
Conley, Kurt H. 2,981,490.

Erdley, Harold F., to Litton Systems, Inc. Precision directional reference. 2,981,113, 4–25–61, Cl. 74—5.4.

Ernst, John L.: *See*—
Small, Augustus B., Minckler, Ernst, and Ford. 2,981,714.

Escambia Chemical Corp.: *See*—
Holdsworth, Robert S. 2,981,724.

Eshbaugh, Jesse E., to General Motors Corp. Pressure testing apparatus. 2,981,095, 4–25–61, Cl. 73—40.

Esso Research and Engineering Co.: *See*—
Adams, Clark E., Addison, and Smith. 2,981,676.
Hemminger, Charles E., and MacLaren. 2,981,675.
Herrmann, John W. 2,981,679.
Heinrich, Raymond L., Berry, and Christian. 2,981,705.
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Heinrich, Raymond L., Berry, and Christian. 2,981,708.
Lang, Robert J., Long, Heath, and Skomoroski. 2,981,747.
Lovett, William E., Walker, and Jordan. 2,981,614.
Neureiter, Norman P. 2,981,756.
Small, Augustus B., Minckler, Ernst, and Ford. 2,981,714.
Wiese, Herbert K. 2,981,755.

Etablissement Ducellier, Societe Anonyme: *See*—
Lecullier, Pierre. 2,981,781.

Estes, Cameron B., to Eastman Kodak Co. Viewfinder signal for photographic cameras. 2,981,165, 4–25–61, Cl. 95—10.

Evans Products Co.: *See*—
Kloote, George E., Potchen, and Meier. 2,980,972.

Evans, Ted C., and C. A. Lyle, to The Air Preheater Corp. Rotary disc regenerator. 2,981,521, 4–25–61, Cl. 257—267.

Fain, Mitchell S., to Grinnell Corp. Method of cleaning looms. 2,981,644, 4–25–61, Cl. 134—37.

Fairbairn, John K. Humidity control and cooling system. 2,981,078, 4–25–61, Cl. 62—271.

Fairbanks Co., The: *See*—
Hanson, James S. 2,981,713.

Fairchild Camera and Instrument Corp.: *See*—
Farber, Monroe. 2,981,792.

Fairchild Semiconductor Corp.: *See*—
Noyce, Robert N. 2,981,877.

Familier, Vladimir, to Telecommunications Radioelectriques et Telephoniques, T.R.T. (Societe Anonyme). Automatic impedance matching device. 2,981,902, 4–25–61, Cl. 333—17.

Fansteel Metallurgical Corp.: *See*—
Geib, Clarence C., and Isaacson. 2,981,872.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Fritze, Ulrich, Müller, and Paffrath. 2,981,360.
Muhlhausen, Cornelius, and Genski. 2,981,719.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Hersberg, Horst, and Orthner. 2,981,720.

Farber, Monroe, to Fairchild Camera and Instrument Corp. Color correction computer for engraving machines. 2,981,792, 4–25–61, Cl. 178—5.2.

Faris, Burt F., to United States of America, Atomic Energy Commission. Method for recovering plutonium values from solution using a bismuth hydroxide carrier precipitate. 2,981,591, 4–25–61, Cl. 23—14.5.

Farkas, Francis. Cigar tipping machines. 2,981,262, 4–25–61, Cl. 131—88.

Farkas, Thomas P., to United Aircraft Corp. Manually operated superheat control. 2,981,077, 4–25–61, Cl. 62—210.

Farlow, Mark W., to E. I. du Pont de Nemours and Co. Method for the preparation of fluorocarbons. 2,981,761, 4–25–61, Cl. 260—653.3.

Farman, F. D., Co.: *See*—
Kao, John Y. L. 2,981,709.

Farmer, James W.: *See*—
Salmon, Clarence P., and Farmer. 2,981,475.
Salmon, Clarence P., and Farmer. 2,981,476.

Farr, Thad D.: *See*—
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,597.
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,598.

Federal Lighting Corp.: *See*—
Reske, Richard F., and Siegel. 2,981,386.

Fehlner, Leo F. Paravane. 2,981,220, 4–25–61, Cl. 114—235.

Feldner, Cydel: *See*—
Henry, Nelson B. 2,981,290.

Fenn, Arthur G., and R. J. Hunt. Pressure fluid systems. 2,981,110, 4–25–61, Cl. 73—389.

Fernbach, Erwin A., to Transitronics Ltd. Transistorized oscillatory system. 2,981,865, 4–25–61, Cl. 315—206.

Ferri, Antonio, and G. Patron, to Sicedison S.p.A. Method of stabilizing trichloroethylene and stabilizing composition therefor. 2,981,760, 4–25–61, Cl. 260—652.5.

Ferro Technique Ltd.: *See*—
Paquin, Real. 2,980,985.

Fetterly, Lloyd C., to Shell Oil Co. Catalytic process for the production of diarylmethanes. 2,981,765, 4–25–61, Cl. 260—668.

Fettig, Arthur J., D. M. Jenks, C. Lasdine, E. P. Maldment, and B. A. Runde, to Burroughs Corp. Document sorting apparatus. 2,981,421, 4–25–61, Cl. 241—11.

Feuer, Henry, and W. A. Swarts, to Purdue Research Foundation. N-nitro-N-trinitroalkylamino alcohols and derivatives thereof. 2,981,750, 4–25–61, Cl. 260—467.

Filper Corp.: *See*—
Perrelli, Joseph. 2,981,410.

Fink, Robert W., to Whirlpool Corp. Ice body makers and ejectors. 2,981,079, 4–25–61, Cl. 62—353.

Finn, George B., Jr.: *See*—
Eannarino, George, and Finn. 2,981,873.

Fino, Alexander F., and J. M. Swick, to Pittsburgh-Des Moines Steel Co. Magnetic seal for flotatting roof. 2,981,436, 4–25–61, Cl. 220—26.

Fischer, Laurin G., and L. L. Bibbins, to International Telephone and Telegraph Corp. Electro-mechanical correlator multiplier. 2,981,472, 4–25–61, Cl. 235—181.

Fitch, Elliot B., to Dorr-Oliver Inc. Process for separating solids in liquid suspension. 2,981,413, 4–25–61, Cl. 209—211.

Flanders, Ernest V., to Jones and Lamson Machine Co. Method of grinding helical forms. 2,981,038, 4–25–61, Cl. 51—288.

Fleissner, Johann E., to Fleissner & Sohn Maschinenfabrik. Willow drier. 2,981,007, 4–25–61, Cl. 34—115.

Fleissner & Sohn Maschinenfabrik: *See*—
Fleissner, Johann E. 2,981,007.

Flemming, Cecil D., to Socony Mobil Oil Co., Inc. Process and lubricant composition for rolling aluminum. 2,981,128, 4–25–61, Cl. 80—80.

Flemming, Walter J. Combination rail-highway freight and auto transport. 2,981,209, 4–25–61, Cl. 105—215.

Fletcher, David C., to United States of America, Army. Firing mechanism for a salvo gun. 2,981,156, 4–25–61, Cl. 89—127.

Fletcher, David C., to United States of America, Army. Power system for firearms. 2,981,158, 4–25–61, Cl. 89—192.

Flexonics Corp.: *See*—
Salmon, Clarence P. 2,981,477.
Salmon, Clarence P. 2,981,478.
Salmon, Clarence P., and Farmer. 2,981,475.
Salmon, Clarence P., and Farmer. 2,981,476.

Flood, Carl A., to Dennison Mfg. Co. Indicia-applying apparatus. 2,981,432, 4–25–61, Cl. 216—2.

Foerster, Hans-Joachim M., and F. G. Grabow, to Daimler-Benz Aktiengesellschaft. Hydrostatic transmission with slewable pump and motor aggregate. 2,980,068, 4–25–61, Cl. 60—53.

Fonken, Gunther S., and H. C. Murray, to The Upjohn Co. Method for the microbiological conversion of pregnane series steroids. 2,981,659, 4–25–61, Cl. 195—51.

Ford, Francis P.: *See*—
Small, Augustus B., Minckler, Ernst, and Ford. 2,981,714.

Ford, Geoffrey E., and B. G. Poynton, to Fords (Finsbury) Ltd. Bottle cap forming apparatus. 2,981,161, 4–25–61, Cl. 93—1.3.

Ford Motor Co.: *See*—
Warnick, Alan. 2,981,911.

Fords (Finsbury) Ltd.: *See*—
Ford, Geoffrey E., and Poynton. 2,981,161.

Foreman, Robert W., L. S. Szabo, and F. Ventch, to The Standard Oil Co. Electrochemical manufacture of halohydrins. 2,981,667, 4–25–61, Cl. 204—81.

Foster Wheeler Corp.: *See*—
Barton, Francis M. 2,981,241.

France, Leonard L.: *See*—
Brown, Jack T., Mueller, France, and Cochardt. 2,981,620.

Frank, Gerard A., to Western Electric Co., Inc. Wire spacing device. 2,980,991, 4–25–61, Cl. 29—203.

Franke & Heidecke, Fabrik Photographischer: *See*—
Madge, Joachim. 2,981,166.

Franklin, Douglas B.: *See*—
Hager, Karl F., Lucas, and Franklin. 2,981,617.

Franks, Lewis E., P. V. Perletti, and C. F. Simone, to Bell Telephone Laboratories, Inc. Delay network. 2,981,892, 4–25–61, Cl. 328—155.

Frantz, Hermann, to International Business Machines Corp. Pulse controlled multivibrator. 2,981,848, 4–25–61, Cl. 307—88.

Freeman, Frank G., and E. H. Warne, to Joseph Lucas (Industries) Ltd. Means limiting the rate of change of fuel flow to gas turbines. 2,981,321, 4–25–61, Cl. 158—364.

Freeman, Percy F. Automatic bale tying device. 2,981,174, 4–25–61, Cl. 100—21.

Freethey, Frank E.: *See*—
Thompson, Moody C., Jr., Freethey, and Waters. 2,981,909.

Frentzel, Herman C., to Basic Products Corp. Switch. 2,981,817, 4–25–61, Cl. 200—170.

Freund, John M., to United States of America, Navy. Spin activated deferred action battery. 2,981,778, 4–25–61, Cl. 136—90.

Freund, John M., to United States of America, Navy. Stack construction for deferred action type battery. 2,981,779, 4–25–61, Cl. 136—90.

Frevel, Ludo K., and L. J. Kressley, to The Dow Chemical Co. Selective hydrogenation of acetylene in ethylene. 2,981,768, 4–25–61, Cl. 260—677.

Frevel, Ludo K., and L. J. Kressley, to The Dow Chemical Co. Selective hydrogenation of acetylene in ethylene. 2,981,769, 4–25–61, Cl. 260—677.

Frey, Artur: *See*—
Schrauf, Robert, and Frey. 2,981,599.

Friederich, Herbert: *See*—
Henkel, Erich, and Friederich. 2,981,740.

Friedman, Marshall R. Garment hanger. 2,981,451, 4–25–61, Cl. 223—88.

Friedrich, Robert E., to Westinghouse Electric Corp. Circuit interrupters. 2,981,814, 4–25–61, Cl. 200—148.

Friend, Irvin. Drawer and track construction. 2,981,584, 4–25–61, Cl. 312—337.

Fritze, Ulrich, R. Müller, and H.-W. Paffrath, ½ to Farbenfabriken Bayer Aktiengesellschaft and ½ to Mobay Chemical Co. Sound-absorbing systems. 2,981,360, 4–25–61, Cl. 181—33.

Frohlich, Adolf, and E. J. Harris, to The Cleveland Trust Co. Turnover ring for pneumatic tire building machine. 2,981,319, 4–25–61, Cl. 154—10.

Frohlich, E., A.G.: *See*—
Nussbaum, Eugene. 2,981,293.

Froidevaux, Jean-Michel, and F. Bandi, to Manufacture des Montres Universal Perret Freres. Self-winding time-piece. 2,981,055, 4–25–61, Cl. 58—82.

Furiness, Samuel, ½ to Joseph B. King. Floor mat and element thereof. 2,980,971, 4–25–61, Cl. 20—78.6.

Fürst, Stefan, to Walter Reiners. Yarn knotter. 2,981,559, 4–25–61, Cl. 289—2.

Fyler, Ethel P., and G. Wilkes, to United States of America, Navy. Antenna adapted for missile stabilization. 2,981,945, 4–25–61, Cl. 343—753.

GPE Controls, Inc.: *See*—
Callender, Bernard L., Graffy, Holzbock, and Rockey. 2,981,275.

Gaebler, Joe V., to International Harvester Co. Locating means for internal combustion engine cylinder head cover gasket. 2,981,247, 4–25–61, Cl. 123—193.

Gaeta, Sebastian C.: *See*—
Nilo, Dominick J. 2,981,285.

Galliliot, Paul, and J. Gaudechon, to Societe des Usines Chimiques Rhone-Poulenc. Iminodibenzyl derivatives. 2,981,736, 4–25–61, Cl. 260—268.

Gamble, Charles B. Dispenser for paper sheets. 2,981,408, 4–25–61, Cl. 206—73.

Gamewell Co., The: *See*—
Vatt, David E., Dyer, and Thompson. 2,981,225.

Garrett Corp., The: *See*—
Abrams, Edward F., and Silver. 2,981,515.
Egli, Hans. 2,981,516.

Garwin, Richard L., to International Business Machines Corp. Communication systems. 2,981,940, 4–25–61, Cl. 340—310.

Gaskins, Lucian W. Spanner-type wrench having reversible handle lever. 2,981,132, 4–25–61, Cl. 80—90.

Gasway Corp.: *See*—
Kinzelman, Joseph. 2,981,453.

Gaudechon, Jacques: *See*—
Galliliot, Paul, and Gaudechon. 2,981,736.

Gaugler, Richard S., E. S. Schlotterbeck, and R. F. Schultz, to General Motors Corp. Refrigerating apparatus. 2,981,076, 4–25–61, Cl. 62—208.

Gaulke, Arthur W., and C. R. Hutchinson, to Vanant Co., Inc. Contour carton for wraparound windshields. 2,981,407, 4–25–61, Cl. 206—62.

Gavrisheff, Boris J. Dip angle measuring device. 2,981,143, 4–25–61, Cl. 88—2.4.

Gay, Richard J., and C. M. Tidwell, to Petro-Tex Chemical Corp. Iso-olefin purification. 2,981,767, 4–25–61, Cl. 260—677.

Gehlen, Dipl. Ing. Hermann W.: *See*—
Gillois, Jean, and Gehlen. 2,981,221.

Gehlen, Hermann W.: *See*—
Gillois, Jean, and Gehlen. 2,981,221

Geib, Clarence C. and G. O. Isaacson, to Fansteel Metallurgical Corp. Selenium rectifier. 2,981,872, 4–25–61, Cl. 317—234.

Gelling, Helmut, to Walther Buromaschinen Gesellschaft m.b.H. Revolutions counting mechanism for calculating machines. 2,981,469, 4–25–61, Cl. 235—91.

Gelsenkirchener Bergwerks-A.G.: *See*—
Kircher, Alfred and Siegelmann. 2,981,527.

General American Transportation Corp.: *See*—
Heisterberg, Milton W. 2,981,438.

General Aniline & Film Corp.: *See*—
Derch Fritz, and De Angelus. 2,981,624
Wynn, Robert W. 2,981,754.
General Box Co.: *See*—
Kordowski, Edward S. 2,981,433.
General Dynamics Corp.: *See*—
Agalides, Eugene, and Sculitto. 2,981,893.
Parker, Albert E. 2,981,504.
General Electric Co.: *See*—
Abbott, Harold W., and Wechsler. 2,981,881.
Beggs, James E. 2,981,897.
Eans, Marvin C., Jr. 2,981,491.
Hopkins, Ernest J., and Macpherson. 2,981,867.
Klein, Keith W. 2,981,808.
Larew, John J., and Snell. 2,981,845.
Omohundro, William A. 2,981,464.
Piteo, Benjamin A., Jr., and Powell. 2,981,812.
Plump, Ralph E. 2,981,785.
Rabins, Leonard. 2,981,910.
Roberts, John A. 2,981,091.
Rosenblatt, Murray. 2,981,882.
Rundell, Charles L. 2,981,825.
Steven, Harry M., and Marshall. 2,981,811.
Stoddard, Edgar S. 2,981,267.
Webber, Stanley E. 2,981,889.
Wilson, Volney C. 2,981,857.
General Filter Co.: *See*—
Lawlor, Joseph P. 2,981,416.
General Motors Corp.: *See*—
Bernotas, Ralph J. 2,981,356.
Black, Sanford R. 2,980,992.
Burrell, Frank C. 2,981,379.
Doerper, Alfred. 2,981,390.
Dolza, John. 2,981,197.
Dolza, John. 2,981,460.
Dutchik, Victor H. 2,981,367.
Else, John G. 2,981,480.
Eshbaugh, Jesse E. 2,981,095.
Gaugler, Richard S., Schlotterbeck, and Schultz. 2,981,076.
Glover, Earl W. 2,981,084.
Guyton, James H., Votava, Jenkins, and Dodge. 2,981,536.
Hollar, Arthur W., Jr. 2,980,945.
Kelley, Oliver K. 2,981,122.
Kelley, Oliver K. 2,981,124.
Kelley, Oliver K. 2,981,126.
Knickerbocker, Robert H., and Redding. 2,981,351.
Lash, Joseph F. 2,981,112.
Leslie, James D. 2,981,561.
Livesey, William G. 2,981,103.
Manahan, Max J., and Vogt. 2,981,870.
Miller, James L. 2,981,083.
Neyhouse, George A., Savage, and Shewmon. 2,981,089.
Pierce, Earl R. 2,981,371.
Roe, Ronald W. 2,981,537.
Roller, Albert E. 2,981,354.
Rosenkrands, Johannes. 2,981,353.
Sergay, Dimitry B. 2,981,023.
General Precision, Inc.: *See*—
Washburne, Brenton P. 2,981,944.
General Steel Castings Corp.: *See*—
Lich, Richard L. 2,981,206.
Geniesco, Inc.: *See*—
Brown, Ralph E. 2,981,119.
Genovese, Anthony L., to The National Plastic Products Co. Curling fibers. 2,980,950, 4–25–61, Cl. 18—19.
Genski, Kurt: *See*—
Muhlhausen, Cornelius, and Genski. 2,981,719.
Gentry, Hermond G., to The Mead Corp. Means for placing inserts between continuously traveling articles during packaging thereof. 2,981,042, 4–25–61, Cl. 53—157.
Geolograph Co., The: *See*—
Melton, James O. 2,981,102.
Georges, Raymond E. Bladed wheels, more particularly for gas turbines. 2,981,517, 4–25–61, Cl. 253—77.
Georgia Kaolin Co.: *See*—
Rowland, Ben W. 2,981,630.
Gepner, Isadore: *See*—
Gilmont, Roger and Gepner. 2,981,277.
Gersten Bros., Inc.: *See*—
Goebel, Walter. 2,981,816.
Gibson, Charles H. Operator mechanism for the control of the automatic operation of a series of successive individually selected operational steps in business, calculating and similar machines. 2,981,395, 4–25–61, Cl. 197—19.
Gieg, Wilhelm: *See*—
Christmann, Fritz, and Gieg. 2,981,757.
Gilbride, Andrew J., to United Shoe Machinery Corp. Hold-downs for lasting machines. 2,980,931, 4–25–61, Cl. 12—14.2.
Gillespie, Sidney L., to Woodward Governor Co. Control for controllable pitch propellers. 2,981,340, 4–25–61, Cl. 170—160.32.
Gillois, Jean, and H. W. Gehlen, to Dipl. Ing. H. W. Gehlen. Self propelled amphibious vehicles. 2,981,221, 4–25–61, Cl. 115—1.
Gilmont, Roger, and I. Gepner, to Manostat Corp. Set pressure holding device. 2,981,277, 4–25–61, Cl. 137—270.
Ginnette, Lewis F., R. P. Graham, and A. I. Morgan, Jr., to United States of America, Agriculture. Process of dehydrating foams. 2,981,629, 4–25–61, Cl. 99—206.
Gits Bros. Mfg. Co.: *See*—
Jensen, Hans. 2,981,558.
Glass, Irving, to A. K. Electric Corp. Adjustable electrical fixture. 2,981,917, 4–25–61, Cl. 339—9.
Globe Illumination Co.: *See*—
Rosenblatt, Leonard and A. Silvers, and Vossbrink. 2,981,829.
Globe-Union Inc.: *See*—
Suter, George D. 2,981,860.
Gloucester Railway Carriage and Wagon Co. Ltd.: *See*—
Sinclair, Frederick W. 2,981,206.
Glover, Earl W., to General Motors Corp. Universal joint. 2,981,084, 4–25–61, Cl. 64—21.
Gluck, William, and S. Offerman, to Industrial Electronic Hardware Corp. Connector with strain relief for flat cable. 2,981,918, 4–25–61, Cl. 339—103.
Gobat, Andre R., to International Telephone and Telegraph Corp. Semiconductor diode. 2,981,849, 4–25–61, Cl. 307—88.5.
Godart, Jean A. R. O. L.: *See*—
Le Bihan, Henri, and Godart. 2,981,764.
Godefrot, Erik F., to Parke, Davis & Co. Pyridine compounds and methods for producing the same. 2,981,737, 4–25–61, Cl. 260—293.
Godfrey, Theodore B., to United States of America, Army. Tail initiation with nose fuzes. 2,981,183, 4–25–61, Cl. 102—4.
Goebel, Walter, to Gersten Bros., Inc. Chairs with adjustable backs. 2,981,316, 4–25–61, Cl. 155—159.
Goetzinger, Marvin E., and P. A. Head. Stand for casket lowering devices. 2,980,980, 4–25–61, Cl. 27—26.
Goins, Robert R., to Phillips Petroleum Co. Production of solid olefin polymers using oxide catalysts and mixtures of N-hexane and cyclohexane as diluents. 2,981,723, 4–25–61, Cl. 260—88.2.
Good, George M., to Shell Oil Co. Production of gasoline by thermal cracking, catalytic cracking and reforming. 2,981,674, 4–25–61, Cl. 208—70.
Goode, William P., and R. M. Johnson, to United States of America, Navy. Aileron controlled spoiler operating mechanism. 2,981,503, 4–25–61, Cl. 244—90.
Goodrich, B. F., Co., The: *See*—
Brown, Harold P. 2,981,721.
Goodrich, Ross H., to Joy Mfg. Co. Conveying apparatus. 2,981,403, 4–25–61, Cl. 198—213.
Gora, Henry Z., to The Eagle-Picher Co. Molding apparatus. 2,980,961, 4–25–61, Cl. 18—21.
Gordon, Leon B., to Standard Oil Co. Process for polymerizing propylene with a catalyst of aluminum trialkyl, titanium tetrachloride and metallic iron. 2,981,726, 4–25–61, Cl. 260—93.7.
Goto, Eiichi. Electric multiplication circuit. 2,981,473, 4–25–61, Cl. 235—194.
Goto, Jyun-Ichi. Low pressure flour mill. 2,981,486, 4–25–61, Cl. 241—200.
Gould National Batteries, Inc.: *See*—
Jammal, Nicholas J. 2,981,272.
Goyette, Francis H., to Lodding Engineering Corp. Sheet caliper control device for paper making. 2,981,175, 4–25–61, Cl. 100—93.
Grabow, Fritz G.: *See*—
Foerster, Hans-Joachim M., and Grabow. 2,981,066.
Grace, Charles R., and J. D. Smith, to Smith-Fisher, Inc. Electric fence charger. 2,981,854. 4–25–61, Cl. 307—132.
Grace, W. R., & Co.: *See*—
York, William C., and Ostpow. 2,981,691.
Graffy, Thomas F.: *See*—
Callender, Bernard L., Graffy, Holzbock, and Rockey. 2,981,273.
Grafstein, Daniel: *See*—
Cohen, Murray S., and Grafstein. 2,981,746.
Graham, Charles E.: *See*—
Munford, Robert E., Smith, and Graham. 2,980,967.
Graham, Harold J.: *See*—
Auger, Diana J., and Graham. 2,981,104.
Graham, Richard P., W. L. Herron, and S. J. Ketterer, to The Singer Mfg. Co. Power control unit for sewing machines. 2,981,215, 4–25–61, Cl. 112—76.
Graham, Robert P.: *See*—
Ginnette, Lewis F., Graham, and Morgan. 2,981,629.
Grandy, Andrew J., to United States of America, Army. Extensible bore safety pin. 2,981,192, 4–25–61, Cl. 102—78.
Grantom, Charles A.: *See*—
Donnell, Walter M., and Grantom. 2,981,557.
Graphic Technology Ltd.: *See*—
Lane, Henry R. A. 2,981,896.
Grasty, William P., to Abbott Laboratories. Shipping and/or storing container. 2,981,405, 4–25–61, Cl. 206—46.
Gratzmuller, Jean L. Hydraulic actuator control. 2,981,237, 4–25–61, Cl. 121—46.
Graves, John H.: *See*—
Collins, Gordon, and Graves. 2,981,233.
Graybeal, Bruce A. Apparatus and process for producing mineral fibers. 2,980,983, 4–25–61, Cl. 18—2.5.
Gregor, Paul: *See*—
Sommer, Richard, and Gregor. 2,981,163.
Gregory, James J. Heater construction for kiln or other apparatus. 2,981,810, 4–25–61, Cl. 219—35.
Grimth Laboratories, Inc., The: *See*—
Hall, Lloyd A. 2,981,628.
Grimths, Benjamin K., to The Permutit Co. Ltd. Method of reducing scale formation in electrodialytic cells. 2,981,671, 4–25–61, Cl. 204—180.
Grinnell Corp.: *See*—
Fain, Mitchell S. 2,981,644.
Zollinger, Alfred. 2,981,512.
Grip, Erik E., to Aktiebolaget Atvidaberg-Facit. Calculating machines of the ten-key type. 2,981,468, 4–25–61, Cl. 235—63.
Gross, Daniel: *See*—
Schwartz, Samuel M., and Gross. 2,980,933.
Gross, Frank D., to The Pannier Corp. Production machine control circuits. 2,981,176, 4–25–61, Cl. 101—18.
Gross, Thomas A. O., to Raytheon Co. Pulse echo systems. 2,981,942, 4–25–61, Cl. 343—7.
Grumbach, Phillip R. Vaporizer. 2,981,536, 4–25–61, Cl. 261—121.
Gruss, George A.: *See*—
Bogard, William R., and Gruss. 2,980,935.

Grygiss, Stephen. Cutter head for plating racks. 2,980,986, 4–25–61, Cl. 29—105.
Gunnison, George S., to United States of America, Navy. Device for orienting apertured plates. 2,981,393, 4–25–61, Cl. 193—43.
Gutting, Robert D., 15% to C. W. Bowen. Leg bracket for sawhorses, tables, and the like. 2,981,366, 4–25–61, Cl. 182—224.
Guyton, James H., C. J. Votava, R. L. Jenkins, and D. W. Dodge, to General Motors Corp. Transistor favorite station signal seeking tuned radio. 2,981,836, 4–25–61, Cl. 250—20.
Haas, Paul J.: *See*—
Mahler, Peter A., and Haas. 2,981,085.
Haber, Hyman, to Allied Textile Printers, Inc. Colored flocked fabrics. 2,981,588, 4–25–61, Cl. 8—62.
Hacker, Walter E., to Daimler-Benz Aktiengesellschaft. Convertible seating installation for motor vehicles. 2,981,311, 4–25–61, Cl. 155—6.
Hadley, Harlan A., to Toledo Scale Corp. Beamlocks. 2,981,348, 4–25–61, Cl. 177—157.
Hadley, Howard C., to Deere & Co. Corn husker. 2,981,260, 4–25–61, Cl. 130—5.
Hager, Karl F., W. R. Lucas, and D. B. Franklin, to United States of America, Army. Inhibited fuming nitric acids. 2,981,617, 4–25–61, Cl. 52—.5.
Hahnel, Alwin, to United States of America, Army. Frequency divider. 2,981,899, 4–25–61, Cl. 331—116.
Hall, C. M., Lamp Co.: *See*—
Worden, Norbert P. 2,981,828.
Hall, Donald V., to Bariatric Corp. Thyroprotein and strophanthin composition for reducing body weight. 2,981,657, 4–25–61, Cl. 167—55.
Hall, Emery L.: *See*—
Sparklin, Charles H., and Hall. 2,980,939.
Hall, Lloyd A., to The Griffith Laboratories, Inc. Antioxidant composition. 2,981,628, 4–25–61, Cl. 99—163.
Hamilton, Matthew E., to J. I. Case Co. Disk harrow construction. 2,981,343, 4–25–61, Cl. 172—597.
Hamilton Watch Co.: *See*—
Studer, Philip A. 2,981,117.
Handler, Alois: *See*—
Malek, Georg. 2,981,145.
Hannum, William B., Jr. Reduction apparatus. 2,981,489, 4–25–61, Cl. 241—275.
Hansen, Hans C. Magazine phonographs. 2,981,953, 4–25–61, Cl. 274—10.
Hansen, Hans E., to Westinghouse Electric Corp. Moving stairway. 2,981,397, 4–25–61, Cl. 198—16.
Hansen, Herman E., to Congoleum-Nairn, Inc. Counter construction. 2,981,580, 4–25–61, Cl. 311—106.
Hansen, Knut B.: *See*—
Wennerberg, Fritz J., and Hansen. 2,981,274.
Hansen, Siegfried, to Hughes Aircraft Co. Star-tracking system. 2,981,843, 4–25–61, Cl. 250—203.
Hanson, James S., to The Fairbanks Co. Polyester molding composition. 2,981,713, 4–25–61, Cl. 260—40.
Hanson, Leif W.: *See*—
Davis, Ward D., Du Pont, Zeitler, Batesole, Tucker, and Hanson. 2,981,008.
Harless, Charles A., to R. Hoe & Co., Inc. Printing machine folding mechanism. 2,981,540, 4–25–61, Cl. 270—77.
Harmon, Albert D., and N. E. Klein, to Deering Milliken Research Corp. Bobbin holding and braking arrangement. 2,981,496, 4–25–61, Cl. 242—129.8.
Harp, Thomas L.: *See*—
Bannerman, Gordon H., Harp., and Ruschp. 2,981,205.
Harper, Lee R., to E. I. du Pont de Nemours and Co. Coating compositions. 2,981,712, 4–25–61, Cl. 260—32.8.
Harris, Edward J.: *See*—
Frohlich, Adolf, and Harris. 2,981,310.
Harrison Laboratories, Inc.: *See*—
Tighe, Donald J. 2,981,884.
Harrison, Steele. Steel wrap method for bowstring loops. 2,981,053, 4–25–61, Cl. 57—160.
Harrisson, Joseph W. E., and E. W. Packman, to LaWall & Harrisson. Gastric acid counteracting composition. 2,981,656, 4–25–61, Cl. 167—55.
Hart Mfg. Co., The: *See*—
Boardman, Raymond H. 2,981,926.
Hartman, Owen A. Inflammable container. 2,981,613, 4–25–61, Cl. 44—40.
Harvard Mfg. Co.: *See*—
Roche, Melvin E., and Sands. 2,980,923.
Haskell-Dawes Machine Co., Inc.: *See*—
Dewhirst, William. 2,981,050.
Hasselblad Fritz V.: *See*—
Lindberg, Torsten G. 2,981,003.
Hawk, Gale F., and G. S. Kiester, to The Aro Equipment Corp. Suspension system liquid oxygen converter. 2,981,434, 4–25–61, Cl. 220—15.
Haxo, Henry E., Jr.: *See*—
Barton, Bernard C., and Haxo. 2,981,304.
Hayes, Eli E. Electric appliance. 2,981,821, 4–25–61, Cl. 219—44.
Hayes, Grant B. Traction attachment for an automobile wheel. 2,981,303, 4–25–61, Cl. 152—228.
Head, Paul A.: *See*—
Goetzinger, Marvin E., and Head. 2,980,980.
Heath, Carl E.: *See*—
Lang, Robert J., Long, Heath, and Skomoroski. 2,981,747.
Heckmaier, Joseph, and A. Stoll, to Wacker-Chemie G.m.b.H. Process for making polyvinylbutyracetal resins which are capable of being cast. 2,981,718, 4–25–61, Cl. 260—73.
Hefford, Charles G., to Stadium Ltd. Spring-loaded clamps. 2,980,977, 4–25–61, Cl. 24—253.
Heinrich, Raymond L., D. A. Berry, and R. L. Christian, to Esso Research and Engineering Co. Alkyd resins modified with 2,5-dihydroxybenzoic acid. 2,981,705, 4–25–61, Cl. 260—22.
Heinrich, Raymond L., D. A. Berry, and R. L. Christian, to Esso Research and Engineering Co. Alkyd resins modified with para-hydroxyphenylacetic acid. 2,981,706, 4–25–61, Cl. 260—22.
Heinrich, Raymond L., D. A. Berry, and R. L. Christian, to Esso Research and Engineering Co. Alkyd resin compositions containing 5-bromosalicylic acid. 2,981,707, 4–25–61, Cl. 260—22.
Heinrich, Raymond L., D. A. Berry, and R. L. Christian, to Esso Research and Engineering Co. Rapid drying alkyd coating employing 3-hydroxy-2-naphthoic acid. 2,981,708, 4–25–61, Cl. 260—22.
Helsig, Henry P., and E. R. Price, to Bill Jack Scientific Instrument Co. Combined headgear and eyeshield. 2,980,914, 4–25–61, Cl. 2—10.
Heisterberg, Milton W., to General American Transportation Corp. Floating roof sealing mechanism provided with combination weather hood and wax trough. 2,981,438, 4–25–61, Cl. 220—26.
Held, Samuel F.: *See*—
Cartwright, Edwin O., Jr., Edwards, and Held. 2,981,317.
Hemminger, Charles E., and D. D. MacLaren, to Esso Research and Engineering Co. Subsequent treatment of a naphtha reformate to obtain a high octane gasoline. 2,981,675, 4–25–61, Cl. 208—95.
Henderson, Julian E. Remote radio control system. 2,981,878, 4–25–61, Cl. 318—16.
Hendricks, James C., to McGill Metal Products Co. Hand punch with gauge. 2,980,997, 4–25–61, Cl. 30—363.
Hendrickson, Ralph G. Fuel injection carburetion system. 2,981,244, 4–25–61, Cl. 123—119.
Henkel, Erich, and H. Friederich, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of 4-hydroxypyrazoles. 2,981,740, 4–25–61, Cl. 260—310.
Henry, Nelson B., to Cydel Feldser. Automatic Dispensing nozzle. 2,981,299, 4–25–61, Cl. 141—209.
Herbert, William B. Traversing mechanism for machine tools. 2,981,160, 4–25–61, Cl. 90—22.
Herbes, William F., and A. C. Wintringham, to American Cyanamid Co. Water repellent, method of impregnating textiles with same, and textiles bearing same. 2,981,704, 4–25–61, Cl. 260—21.
Herman, Charles O.: *See*—
Cole, Gordon E., Jr., and Herman. 2,981,759.
Hermanns, Wilhelm. Pulverulent discharge means for vessels. 2,981,567, 4–25–61, Cl. 302—52.
Herrmann, John W., to Esso Research and Engineering Co. Molecular sieve process for upgrading naphtha wherein the desorbed straight chain hydrocarbons are dehydrogenated and used as desorbing agents. 2,981,679, 4–25–61, Cl. 208—310.
Herron, William L.: *See*—
Graham, Richard P., Herron, and Ketterer. 2,981,215.
Hervert, George L., and H. S. Bloch, to Universal Oil Products Co. Preparation of alumina-combined halogen composite. 2,981,696, 4–25–61, Cl. 252—441.
Herzberg, Horst, and L. Orthner, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Chlorination and sulfochlorination of low-pressure polyethylene. 2,981,720, 4–25–61, Cl. 260—79.3.
Heukenfeldt Jansen, Hubertus V. P., to Kunstzijdespinnerij Nyma N.V. Method and device for manufacturing a tire cord consisting of two elements. 2,981,047, 4–25–61, Cl. 57—60.
Heyns, Ockert S. Method and apparatus for facilitating the processes of parturition. 2,981,255, 4–25–61, Cl. 128—361.
Hicks, Harry F., Jr., to United States of America, Navy. Root-mean square volt meter for low frequency currents. 2,981,887, 4–25–61, Cl. 324—98.
Hicks, John W., Jr., to American Optical Co. Method and apparatus for use in the fabrication of light-conducting devices. 2,980,957, 4–25–61, Cl. 18—8.
Hicks, William T.: *See*—
Crosby, Charles H., Hicks, Nystrom, and Wahlberg. 2,981,049.
Hildre, Hans, to Hydraulik A/S. Control valves for hydraulic transmission systems for winches. 2,981,239, 4–25–61, Cl. 121—46.4.
Hilger & Watts Ltd.: *See*—
Armstrong, John A., and Berry. 2,981,141.
Hill, Eugene R.: *See*—
Sacks, Jacob M., and Hill. 2,981,800.
Hill, William H., to Permachem Corp. Process of preparing bactericidal article and the resulting article. 2,981,640, 4–25–61, Cl. 117—138.5.
Hiller Aircraft Corp.: *See*—
Stuart, Joseph, III. 2,981,337.
Hindmarch, Thomas. Locking device for propeller blades. 2,981,338, 4–25–61, Cl. 170—160.6.
Hirsch, Fred, to Malsbary Mfg. Co. Spray gun. 2,981,484, 4–25–61, Cl. 239—530.
Hoberg, George G., to Burroughs Corp. Reliability checking circuits. 2,981 937, 4–25–61, Cl. 340—213.
Hochner, Walter L., and A. L. Scarbrough, to National Lead Co. Cellulose treatment and product. 2,981,589, 4–25–61, Cl. 8—116.2.
Hoe, R., & Co., Inc.: *See*—
Harless, Charles A. 2,981,540.
Hoenel, Herbert, to Vianova Kunsthars Aktiengesellschaft. Process for producing aqueous stoving varnishes. 2,981,703, 4–25–61, Cl. 260—20.
Hoenel, Herbert, to Vianova Kunsthars Aktiengesellschaft. Water soluble hardenable resinous compositions. 2,981,710, 4–25–61, Cl. 260—29.3.
Hoeselbarth, Frank W. E., to C. H. Masland & Sons. Weaving with double wire motion. 2,981,292, 4–25–61, Cl. 139—39.
Hoffenberg, David S., to American Cyanamid Co. Preparation of halogenated alkyl-vinyl aromatic compounds. 2,981,758, 4–25–61, Cl. 260—651.

Hoffmeister, Erich, to Alois Kaltenbach and Erich Hoffmeister, partners of Kaltenbach & Voigt. Clamping devices for dental tools. 2,981,545, 4–25–61, Cl. 279—41.

Hoggan, Lee W.: *See*—
Orsatti, Ernest R., and Hoggan. 2,981,827.

Hoke, Ernest R.: *See*—
McQueen, Franklin F., Morrissette, and Hoke. 2,981,412.

Holan Corp.: *See*—
Troche, Herman J. 2,981,362.

Holdener, Simeon. Piston machine. 2,981,201, 4–25–61, Cl. 103—163.

Holdsworth, Robert S., to Escambia Chemical Corp. Suspension polymerization of vinyl chloride. 2,981,724, 4–25–61, Cl. 260—92.8.

Hollar, Arthur W., Jr., to General Motors Corp. Door check and hold open. 2,980,945, 4–25–61, Cl. 16—85.

Holley Carburetor Co.: *See*—
Betton, Eugene C. 2,981,194.
Cowles, Warren H., Pembleton, and O'Shaughnessey. 2,981,271.

Holloway, John R.: *See*—
Holloway, Rollind O. and J. R. 2,981,834.

Holloway, Rollind O. and J. R. Interference rejection system and method using two relatively rotatable antennas. 2,981,834, 4–25–61, Cl. 250—20.

Hollyday, James H., and R. G. Young, to Sperry Rand Corp. Pick-up and baler control means. 2,981,046, 4–25–61, Cl. 56—341.

Holsclaw, Charles H. Hand truck with lifting and lowering mechanism. 2,981,374, 4–25–61, Cl. 187—10.

Holzbock, Werner G.: *See*—
Callender, Bernard L., Graffy, Holzbock, and Rockey. 2,981,275.

Holzman, George, and J. J. Madison, to Shell Oil Co. Alkylation process. 2,981,772, 4–25–61, Cl. 260—683.63.

Hood, George E.: *See*—
Brautigam, John J., and Hood. 2,981,787.

Hoover Ball and Bearing Co.: *See*—
Lincoln, John C. 2,981,318.

Hopkins, Ernest J., and R. H. Macpherson, to General Electric Co. Electric relay. 2,981,967, 4–25–61, Cl. 317—36.

Hopkins, Theophilus E.: *See*—
Staples, Crawford E., and Hopkins. 2,981,930.

Hopp, Philip, and H. H. Lutz, to The Hopp Press, Inc. Item indicating device. 2,981,018, 4–25–61, Cl. 40—16.

Hopp Press, Inc., The: *See*—
Hopp, Philip, and Lutz. 2,981,018.

Horner, John W., and A. J. Rothenberg, to Thompson Ramo Wooldridge Inc. Dual thrust chamber rocket. 2,981,059, 4–25–61, Cl. 60—35.6.

Horton, John W., to International Business Machines Corp. Storage device. 2,981,891, 4–25–61, Cl. 328—124.

Hoskinson, Eugene A., to North American Aviation, Inc. Transistor pulse response circuit. 2,981,850, 4–25–61, Cl. 307—88.5.

Hot Shot Products Co.: *See*—
Bartel, George H. 2,981,465.

Hotton, George R. Mobile tool stand. 2,981,549, 4–25–61, Cl. 280—47.35.

Hough, Frank G., Co., The: *See*—
Strader, Don S. 2,981,288.

Housman, Bennett: *See*—
Crowe, James W., and Housman. 2,981,933.

Howard, Mary E. Portable, collapsible easel. 2,981,231, 4–25–61, Cl. 120—33.

Hruby, John O., Jr., to Rain Jet Corp. Sprinkler. 2,981,481, 4–25–61, Cl. 239—206.

Hruby, Joseph, P. B. Streich, Sr., and J. L. Tregay, to Charles Bruning Co., Inc. Developer process and apparatus. 2,981,171, 4–25–61, Cl. 95—94.

Huckabay, William B., and C. D. McClure, to Socony Mobil Oil Co., Inc. Submerged strata acoustic probe system. 2,981,357, 4–25–61, Cl. 181—.5

Huemer, Hans: *See*—
Brendlein, Heinrich, Huemer, Lassling, and Schulz. 2,981,749.

Huffman, Russell I., to Knapp-Monarch Co. Coupling for gas appliance. 2,981,439, 4–25–61, Cl. 220—85.

Hughes Aircraft Co.: *See*—
Ajioka, James S., and Walsh. 2,981,904.
Bundy, Robert C. 2,981,907.
Elliott, Robert S. 2,981,949.
Hansen, Siegfried. 2,981,843.
Kurtz, Louis A. 2,981 948.

Hughes, John W., to Shell Oil Co. Loading device. 2,981,425, 4–25–61, Cl. 214—77.

Hunt, Reginald J.: *See*—
Fenn, Arthur G., and Hunt. 2,981,110.

Hunter, James, Machine Co.: *See*—
Morrill, Frank B. 2,981,118.

Hurford, Winslow L., to Radio Corp. of America. Shading voltage circuitry. 2,981,793, 4–25–61, Cl. 178—7.2.

Hurschler, Josef, to Siemens and Halske Aktiengesellschaft Berlin and Munich. Circuit arrangement for transmitting messages via teleprinter exchanges. 2,981,790, 4–25–61, Cl. 178—2.

Hutchinson, Charles R.: *See*—
Gaulke, Arthur W., and Hutchinson. 2,981,407.

Hutchinson, Ernest J.: *See*—
Bellinger, Ronald, Hutchinson and Shipley. 2,981,922

Hyde, Robert W., to American Radiator & Standard Sanitary Corp. Drain trough garbage disposer unit. 2,981,488, 4–25–61, Cl. 241—245.

Hydraulik A/S: *See*—
Hildre, Hans. 2,981,239.

Ichikawa, Yoshio, to Westinghouse Electric Corp. Positive temperature coefficient thermistor materials. 2,981,699, 4–25–61, Cl. 252—520.

Independent Lock Co.: *See*—
Patriquin, George P., and Adler. 2,981,090.

Industrial Electronic Hardware Corp.: *See*—
Gluck, William, and Offerman. 2,981,918.

Infantino, Joseph R., and D. A. Savitz, said Infantino assor. to American Machine & Foundry Co. Method of making plastic film. 2,980,965, 4–25–61, Cl. 18—57.

Information Systems, Inc.: *See*—
Anderson, Ralph A. 2,981,107.

Ingram, Carl R.: *See*—
Willetts, Elwood H., Ingram, and Watson. 2,981,283.

International Business Machines Corp.: *See*—
Crowe, James W., and Housman. 2,981,933.
Frantz, Hermann. 2,981,848.
Garwin, Richard L. 2,981,940.
Horton, John W. 2,981,891.
Johnson, Oliver D. 2,981,134.
O'Connell, James A. 2,981,858.
Richards, Richard K., and Morey. 2,981,470.
Rutz, Richard F. 2,981,874.
Tate, Lawrence A. 2,981,931.
Tucker, Gardiner L. 2,981,645.

International Harvester Co.: *See*—
Clark, Adna R., and Coleman. 2,981,056.
Dilworth, Victor W. 2,981,341.
Duke, Edward D. 2,981,015.
Gnebier, Joe V. 2,981,247.
Malcolm, Robert H. 2,980,989.
O'Neil, Gordon R. 2,981,213.
Roberson, Raymond F. 2,981,344.
Seddon, Thomas R. 2,981,235.
Swift, John F. 2,981,381.

International Standard Electric Corp.: *See*—
Wright, Esmond P. G., Weir, and Rice. 2,981,789.

International Steel Wool Corp.: *See*—
Seelenbinder, Robert F. 2,981,016.

International Telephone and Telegraph Corp.: *See*—
Dodington, Sven H. M. 2,981,943.
Fischer, Laurin G., and Bibbins. 2,981,472.
Gobat, Andre R. 2,981,849.

Iowa State College Research Foundation, Inc.: *See*—
Davidson, Donald T., and Nicholls. 2,981,162.
Mattson, Roy H. 2,981,832.

Irwin, John L. Combined end stop and steadying device. 2,981,539, 4–25–61, Cl. 269—192.

Isaacson, Gilbert O.: *See*—
Geib, Clarence C., and Isaacson. 2,981,872.

Jackson, Samuel H., to Kings Electronics, Inc. Cable clamp. 2,981,920, 4–25–61, Cl. 339—89.

Jackson, William M., to Bonney Forge & Tool Works. Welding stress-free outlet fitting. 2,981,556, 4–25–61, Cl. 285—22.

Jamieson, William: *See*—
Smith, Thomas R., and Jamieson. 2,981,259.

Jammal, Nicholas J., to Gould National Batteries, Inc. Battery non-spill vent plug. 2,981,272, 4–25–61, Cl. 137—43.

Janecke, Paul: *See*—
Ludemann, Joseph, and Janecke. 2,981,856.

Janney, Raymond B., II, to All American Engineering Co. Aircraft with auxiliary launching aircraft. 2,981,499, 4–25–61, Cl. 244—2.

Jasper, Benjamin E.: *See*—
Busch, Thomas N., and D. W. and B. E. Jasper. 2,981,801.

Jasper, David W.: *See*—
Busch, Thomas N., and D. W. and B. E. Jasper. 2,981,301.

Jaycox, William E.: *See*—
Broske, William F., and Jaycox. 2,981,130.

Jenkins, Richard L.: *See*—
Guyton, James H., Votava, Jenkins, and Dodge. 2,981,836.

Jenks, Don M.: *See*—
Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 2,981,421.

Jennings, Clifford R. Dispensing closures. 2,981,447, 4–25–61, Cl. 222—484.

Jennings, Jo E., to Jennings Radio Mfg. Corp. Vacuum switch. 2,981,813, 4–25–61, Cl. 200—144.

Jennings Radio Mfg. Corp.: *See*—
Jennings, Jo E. 2,981,813.

Jensen, Hans, to Gits Bros. Mfg. Co. All metal shaft seal. 2,981,558, 4–25–61, Cl. 286—11.14.

Jensen, Jack H.: *See*—
Rust, David J., and Jensen. 2,980,947.

Jet Research Center, Inc.: *See*—
Caldwell, Blake M. 2,981,185.

Jilbert, Lewis F., to Chrysler Corp. Battery hold down device. 2,981,352, 4–25–61, Cl. 180—68.5.

Johanson, Karl L. B., to S. Leljonmarck. Piling machine for sheet-like materials. 2,981,420, 4–25–61, Cl. 214—6.

Johnson, Alva A.: *See*—
Leeds, Winthrop M., and Johnson. 2,981,815.

Johnson, Anthony L. Filter tube. 2,981,368, 4–25–61, Cl. 183—73.

Johnson, Clarence. Force measuring instrument. 2,981,100, 4–25–61, Cl. 73—141.

Johnson, Elmer G. Turbo machine. 2,981,066, 4–25–61, Cl. 60—39.74.

Johnson, Glenn W., Jr.: *See*—
Wilson, Wallace D., and Johnson. 2,981,533.

Johnson, Oliver D., to International Business Machines Corp. Method for web feeding and cutting. 2,981,134, 4–25–61, Cl. 83—18.

Johnson, Ralph B., to Sylvania-Corning Nuclear Corp. Nuclear fuel assembly locking joint and method. 2,981,675, 4–25–61, Cl. 204—193.2.

Johnson, Richard H., and W. G. Kuehn, Jr., to Container Corp. of America. Granular material container with handle. 2,981,459, 4–25–61, Cl. 220—52.

Johnson, Richard M.: *See*—
Goode, William P., and Johnson. 2,981,503.

Johnston Testers, Inc.: *See*—
Ansite, William K. 2,981,336.

Jones, Ellis. Method of enlarging a wood house. 2,980,968, 4–25–61, Cl. 20—.5.

Jones, Eric H., to The British Cotton Industry Research Association. Back filling of carpets or like operations. 2,981,638, 4–25–61, Cl. 117—111.

Jones, Ernest E., to United-Carr Fastener Corp. Fastening device. 2,980,975, 4–25–61, Cl. 24—90.

Jones and Lamson Machine Co.: *See*—
Flanders, Ernest V. 2,981,038.

Jones, Richard H., to Burroughs Corp. Program selecting apparatus for an automatic machine. 2,981,467, 4–25–61, Cl. 235—60.47.

Jones, Theodore W.: *See*—
Smiley, Harry J., Batty, and Jones. 2,981,294.

Jones, Thomas M.: *See*—
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,597.
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,598.

Jonke, Albert A.: *See*—
Lawroski, Stephen, Jonke, and Taecker. 2,981,592.

Jordan, John M.: *See*—
Lovett, William E., Walker, and Jordan. 2,981,614.

Josephs, Melvin J., to The Dow Chemical Co. Method of inhibiting plant growth. 2,981,619, 4–25–61, Cl. 71—2.3.

Joy Mfg. Co.: *See*—
Goodrich, Ross H. 2,981,403.

Judet, Henri, to Société d'Applications Générales d'Electricité et de Mécanique SAGEM. Stitching apparatus and particularly sewing machines. 2,981,214, 4–25–61, Cl. 112—58.

Justus, Edgar J., to Beloit Iron Works. Method and apparatus for reducing power required by moving suction box cover. 2,981,328, 4–25–61, Cl. 162—367.

Justus, Edgar J., to Beloit Iron Works. Fluid floated belt for suction boxes. 2,981,329, 4–25–61, Cl. 162—367.

Kachele, Wilhelm. Process and apparatus for coating glass articles or the like by means of dipping. 2,981,639, 4–25–61, Cl. 117—113.

Kaiser Aluminum & Chemical Corp.: *See*—
Porter, John L. 2,981,600.

Kalart Co. Inc., The: *See*—
Kaprelian, Edward K. 2,981,088.

Kalman, John S. Updraft ventilator and magnetic damper catch therefor. 2,981,172, 4–25–61, Cl. 98—116.

Kaltenbach, Alois: *See*—
Hoffmeister, Erich. 2,981,545.

Kaltenbach & Voigt: *See*—
Hoffmeister, Erich. 2,981,545.

Kao, John Y. L., to F. D. Farman Co. Method of producing rubber latex. 2,981,709, 4–25–61, Cl. 260—23.7.

Kaplan, Allan G. Retractable propeller. 2,981,339, 4–25–61, Cl. 170—160.12.

Kaprelian, Edward K., to The Kalart Co. Inc. Multiple photoflash lamp arrangement. 2,981,088, 4–25–61, Cl. 67—31.

Karlsson, Arnold V.: *See*—
Mattsson, Sven A., and Karlsson. 2,981,248.

Karlsson, Waldemar. Cabinet for disc records. 2,981,581, 4–25–61, Cl. 312—15.

Kaufold, Leroy, and P. C. Cox, to Northrop Corp. Automatic grid scanning tracker. 2,981,842, 4–25–61, Cl. 250—83.3.

Kawachi, Albert A. Time punch recording mechanism. 2,981,586, 4–25–61, Cl. 346—82.

Keith, Carl D.: *See*—
Keith, Willis C. and C. D., and Burk. 2,981,751.

Keith, Willis C. and C. D., and E. H. Burk, Jr., to Sinclair Refining Co. Oxidation with a calcined solid catalyst. 2,981,751, 4–25–61, Cl. 260—524.

Keklikian, Daniel A. Punch device. 2,981,006, 4–25–61, Cl. 33—191.

Keller, Robert R. Light-diffusing structural panels. 2,981,382. 4–25–61, Cl. 189—34.

Keller & Romer G.m.b.H.: *See*—
Müller, Erich. 2,981,044.

Kelley, Dale T., and R. G. Peterson, to Motorola, Inc. Semiconductor device and method of making the same. 2,981,875, 4–25–61, Cl. 317—235.

Kelley, Oliver K., to General Motors Corp. Accessory drives. 2,981,122, 4–25–61, Cl. 74—472.

Kelley, Oliver K., to General Motors Corp. Four phase converter drive. 2,981,124, 4–25–61, Cl. 74—677.

Kelley, Oliver K., to General Motors Corp. Power shifting multi-step transmissions. 2,981,126, 4–25–61, Cl. 74—731.

Kelly, Joe T.: *See*—
Knight, Harmon M., and Kelly. 2,981,770.
Martin, Eugene C., and Kelly. 2,981,730.

Kennedy, Verne C., Jr., to Streeter-Amet Co. Punch tape recorder. 2,981,587, 4–25–61, Cl. 346—93.

Kennel, John M., and M. Miller. Eddy current detector. 2,981,184, 4–25–61, Cl. 102—18.

Kern, Fritz, to Ciba Ltd. Process for the production of metallic niobium or tantalum by an electrolytic method. 2,981,666, 4–25–61, Cl. 204—64.

Kerpel, Julius A.: *See*—
Coleman, Richard L., Cecil, and Kerpel. 2,980,998.

Kesler, Martin L., and G. L. Morgan, to American Cyanamid Co. Dyestuff and its preparation. 2,981,720, 4–25–61, Cl. 260—191.

Keston, Albert S., to Eli Lilly and Co. Glucose indicator and method. 2,981,606, 4–25–61, Cl. 23—230.

Ketterer, Stanley J.: *See*—
Graham, Richard P., Herron, and Ketterer. 2,981,215.

Kibbey, Ronald L., and G. Peat, to Rolls-Royce Ltd. Electrical connections. 2,981,925, 4–25–61, Cl. 339—223.

Kidde, Gustave E., to Kidde Process Corp. Process for the treatment of silicofluoride compounds. 2,981,601, 4–25–61, Cl. 23—153.

Kidde Process Corp.: *See*—
Kidde, Gustave E. 2,981,601.

Kidde, Walter, Co. Ltd., The: *See*—
Young, David H., and Clay-Smith. 2,981,275.

Kiester, George S.: *See*—
Hawk, Gale F., and Kiester. 2,981,434.

Kilness, Luther E., to The New Britain Machine Co. Ratchet mechanism. 2,981,389, 4–25–61, Cl. 192—45.1.

King, Joseph B.: *See*—
Furiness, Samuel. 2,980,971.

King, Marvin M.: *See*—
Shwayder, Jesse and K. D., and King. 2,981,579.

King, Mary M.: *See*—
Donnell, Walter M., and Granton. 2,981,557.

King, William S. Actuating mechanism for fishing reels. 2,981,495, 4–25–61, Cl. 242—84.5.

Kings Electronics, Inc.: *See*—
Jackson, Samuel H. 2,981,920.

Kingston, Walter E., to United States of America, Atomic Energy Commission. Nuclear reactor fuel element. 2,981,672, 4–25–61, Cl. 204—193.2.

Kinstler, Robert C., to American Cyanamid Co. Preparation of sulfenamides. 2,981,325, 4–25–61, Cl. 159—47.

Kinzelman, Joseph, to Gasway Corp. Roller supporting structure. 2,981,453, 4–25–61, Cl. 226—23.

Kipping, Vernon L. Curved screen motion picture film gate. 2,981,146, 4–25–61, Cl. 88—17.

Kircher, Alfred, and H. Siegelmann, to Gelsenkirchener Bergwerks-A.G. Mining machine having cutting and breaking rolls and suction transporting means. 2,981,527, 4–25–61, Cl. 262—27.

Kirk, David N., V. Petrow, and M. H. Thomson, to The British Drug Houses Ltd. Process for the preparation of 6-methyl-5-ene-steroids. 2,981,732, 4–25–61, Cl. 260—239.55.

Kistner, Merrill M.: *See*—
Tesmer, Edward G., and Shephard. 2,981,017.

Kitrell, R. L. Welding apparatus and dam. 2,981,824, 4–25–61, Cl. 219—125.

Klein, Keith W., to General Electric Co. Interval timer. 2,981,808, 4–25–61, Cl. 200—38.

Klein, Norman E.: *See*—
Harmon, Albert D., and Klein. 2,981,496.

Kleinhuizen, Nickolas H.: *See*—
Mulder, Marvin W., and Kleinhuizen. 2,981,554.

Kloote, George E., J. A. Potchen, and G. D. Meier, to Evans Products Co. Joint for low density laminated synthetic resin panels. 2,980,972, 4–25–61, Cl. 20—92.

Kloss, Hans-Joachim, to Julius Montz, K.G., Apparatebau. Internal structure for heat and mass exchanging columns. 2,981,663, 4–25–61, Cl. 202—158.

Knapp Mills Inc.: *See*—
Knapp, Victor E., and Schmidt. 2,980,973.

Knapp-Monarch Co.: *See*—
Huffman, Russell I. 2,981,439.

Knapp, Victor E., and O. F. Schmidt, to Knapp Mills Inc. Method for making lead shields. 2,980,973, 4–25–61, Cl. 22—212.

Knickerbocker, Robert H., and H. L. Redding, to General Motors Corp. Exhaust system support. 2,981,351, 4–25–61, Cl. 180—64.

Knight, Harmon M., and J. T. Kelly, to Standard Oil Co. Salt hydrate-BF_3-H_2X_2 polymerization process. 2,981,770, 4–25–61, Cl. 260—683.15.

Knoll, Max. X-ray image amplifier storage tubes. 2,981,862, 4–25–61, Cl. 315—11.

Knop, Victor R. Easels. 2,981,030, 4–25–61, Cl. 45—120.

Knudsen, Knud J., and C. I. McCall, to Lewis Engineering Co. Pyrometer bulb. 2,981,106, 4–25–61, Cl. 73—339.

Knudsen, Knud J., to Lewis Engineering Co. Temperature-responsive transducer. 2,981,109, 4–25–61, Cl. 73—362.

Koch, Alan J., to Whirlpool Corp. Ice cubes ejectors. 2,981,080, 4–25–61, Cl. 62—365.

Koch, Winfield R., to Radio Corp. of America. Series energized transistor amplifier. 2,981,895, 4–25–61, Cl. 330—18.

Koehring Co.: *See*—
Legge, Elmer E. 2,981,136.

Kokorzycki, Zenon: *See*—
Mentley, Max B., Daniel, and Kokorzycki. 2,981,035.

Kolat, Robert S.: *See*—
Stillo, Horatio S., Kolat, and Nummy. 2,981,692.

Koletsky, Harold S.: *See*—
Antippas, Spyridon P., and Koletsky. 2,981,098.

Konzak, Peter A. Mower section grinder. 2,981,036, 4–25–61, Cl. 51—173.

Kopec, John C., to United States of America, Navy. Safety mechanism for electrically detonated projectiles. 2,981,191, 4–25–61, Cl. 102—70.2.

Koppers Co., Inc.: *See*—
St. Clair, William E., and Moult. 2,981,701.
St. Clair, William E., and Moult. 2,981,702.
Sattler, Emil. 2,981,766.

Kordowski, Edward S., to General Box Co. Re-usable wire bound pallet box. 2,981,433, 4–25–61, Cl. 217—65.

Korman, Nathaniel I., to Radio Corp. of America. Antenna feed system. 2,981,946, 4–25–61, Cl. 343—756.

Kovach, Leslie J.: *See*—
Sanko, Daniel C. 2,980,955.

Kovaleski, Joseph J., to The Coulter & McKenzie Machine Co. Variable speed wire coiling machine. 2,981,494, 4–25–61, Cl. 242—83.

Krang, Frederick H., to Allied Chemical Corp. N-bis(p-dialkylaminophenyl)methyl derivatives of nitrogen-containing saturated heterocyclic compounds. 2,981,733, 4–25–61, Cl. 260—247.5.

Krang, Frederick H., to Allied Chemical Corp. Heterocyclic nitrogen derivatives of bis(p-dialkylaminophenyl)methane. 2,981,738, 4–25–61, Cl. 260—308.

Kress, Herman Foundation garment. 2,981,257, 4–25–61, Cl. 128—432.

Kressley, Leonard J.: *See*—
Frevel, Ludo K., and Kressley. 2,981,768.
Frevel, Ludo K., and Kressley. 2,981,769.

Krueger, Arthur P. System of transport for trailers. 2,981,210. 4–25–61, Cl. 105—368.

Kuehn, William G., Jr.: *See*—
Johnson, Richard H., and Kuehn. 2,981,459.

Knepper, William E.: *See*—
Smith, Roy B. 2,981,286.
Kuhn, Stephen J.: *See*—
Olah, George A., and Kuhn. 2,981,602.
Kuhne, Christoph, to Askania-Werke A.G. Hydrostatic bearing system. 2,981,572, 4-25-61, Cl. 308—9.
Kumler, William L.: *See*—
Miller, Montgomery K., and Kumler. 2,981,332.
Miller, Montgomery K., and Kumler. 2,981,333.
Kunstzijdespinnerij Nyma N.V.: *See*—
Heukensfeldt Jansen, Hubertus V.P. 2,981,047.
Kurtz, Louis A., to Hughes Aircraft Co. Simultaneous lobing array antenna system. 2,981,948, 4-25-61, Cl. 343—771.
Kurz, Eduard: *See*—
Enk, Eduard, Reinecke, and Kurz. 2,981,722.
Kyle, William K., to Westinghouse Electric Corp. Air heating systems. 2,981,479, 4-25-61, Cl. 236—68.
Lamont, John, and A. J. Stern, to Western Electric Co., Inc. Relay test fixture. 2,981,919, 4-25-61, Cl. 339—75.
Lamson, Edward R., and M. J. Devine. Method of lubricating anti-friction bearings. 2,980,987, 4-25-61, Cl. 29—148.4.
Lancy Laboratories, Inc.: *See*—
Lancy, Leslie E. 2,981,682.
Lancy, Leslie E., to Lancy Laboratories, Inc. Chlorination of water soluble iron cyanide compounds using mercuric chloride catalyst. 2,981,682, 4-25-61, Cl. 210—62.
Landers, Harvey S. Quick change roller die assembly. 2,981,212, 4-25-61, Cl. 107—14.
Lane, Frank L., and H. D. Roberts, to Chance Vought Corp. Load application unit. 2,981,097, 4-25-61, Cl. 73—88.
Lane, Henry R. A., to Graphic Technology Ltd. Feed device for record controlled addressing machines and like machines. 2,981,396, 4-25-61, Cl. 197—133.
Lang, Robert J., R. B. Long, C. E. Heath, and R. M. Skomoroski, to Esso Research and Engineering Co. Process and apparatus for partial oxidation of organic compounds. 2,981,747, 4-25-61, Cl. 260—451.
Lange Instrument Co.: *See*—
Carter, Willis M., and Lange. 2,981,147.
Lange, Karl O.: *See*—
Carter, Willis M., and Lange. 2,981,147.
Lanning, William C., to Phillips Petroleum Co. Separation of solid polymer from solid catalyst by halogenation and solubilization of polymer. 2,981,728, 4-25-61, Cl. 260—94.9.
Lapp, Ellsworth W., to M. E. Bonomo and E. R. Meinese. Hydra-gauge dynamometer. 2,981,099, 4-25-61, Cl. 73—134.
Larew, John J., and J. K. Snell, to General Electric Co. Servo-controlled shutters for pinhole detectors. 2,981,845, 4-25-61, Cl. 250—219.
Larkins, John S., Jr., to Elox Corp. of Michigan. Electrical machining apparatus. 2,981,822, 4-25-61, Cl. 219—69.
Larsen, Hans C., to Aktieselskabet Thomas Ths. Sabroe & Co. Apparatus for cooling vegetable and animal products. 2,981,081, 4-25-61, Cl. 62—378.
Lasdine, Charles: *See*—
Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 2,981,421.
Lash, Joseph F., to General Motors Corp. Unbalance measuring apparatus. 2,981,112, 4-25-61, Cl. 73—462.
LaWall & Harrison: *See*—
Harrisson, Joseph W. E., and Packman. 2,981,656.
Lawlor, Joseph P., to General Filter Co. Apparatus for the cleaning of filtering equipment. 2,981,416, 4-25-61, Cl. 210—333.
Lawroski, Stephen, A. A. Jonke, and R. G. Taecker, to United States of America, Atomic Energy Commission. Method and apparatus for calcining salt solutions. 2,981,592, 4-25-61, Cl. 23—14.5.
Lawson, Orrin C.: *See*—
Petersen, John E., and Lawson. 2,981,424.
Lear, Inc.: *See*—
Lear, William P. 2,981,069.
Lear, William P., to Lear, Inc. Twin-engine aircraft propeller drive. 2,981,069, 4-25-61, Cl. 60—97.
Lebbers, Robert W.: *See*—
Achorn, Glenwood R., Jr., Bokesch, Dapper, Lebbers, Schwab, Smith, Rawson, and Metcalfe. 2,981,660.
Le Bihan, Henri, and J. A. R. O. L. Godart, to Societe Belge de l'Azote et des Produits Chimiques du Marly. Production of vinyl chloride. 2,981,764, 4-25-61, Cl. 260—656.
Le Boeuf, Edgar W.: *See*—
Costa, John E., Le Boeuf, and Lefevre. 2,980,982.
Leculiier, Pierre, to Etablissements Ducellier, Societe Anonyme. One-piece storage battery. 2,981,781, 4-25-61, Cl. 136—135.
Leeds, Winthrop M., and A. A. Johnson, to Westinghouse Electric Corp. Circuit interrupter. 2,981,815, 4-25-61, Cl. 200—148.
Lees, James, and Sons Co.: *See*—
Burnell, David G. 2,981,048.
Patterson, Raymond B., and Smiley. 2,981,291.
Smiley, Harry J., Batty, and Jones. 2,981,294.
Lefevre, Lloyd E.: *See*—
Costa, John E., Le Boeuf, and Lefevre. 2,980,982.
Legge, Elmer E., to Koehring Co. Apparatus for modulating punch and die. 2,981,136, 4-25-61, Cl. 83—632.
Lehmann, Rudolf, A. Wiemer, and H. Voigt, to Deutsche Akademie der Wissenschaften zu Berlin. Pneumatic instrument for linear measurement. 2,981,094, 4-25-61, Cl. 73—37.5.
Leijonmarck, Sven: *See*—
Johanson, Karl L. B. 2,981,420.
Leman, Arthur L., to Southwest Oilfield Products, Inc. Reciprocating pump cylinder head and liner retainer. 2,981,575, 4-25-61, Cl. 309—3.
Lemlar Mfg. Co., Inc.: *See*—
Dickinson, Horace. 2,980,970.
Lennemann, Leona M. Dress-supporting form. 2,980,916, 4-25-61, Cl. 2—215.
Leslie, James D., to General Motors Corp. Self-closing lock striker. 2,981,561, 4-25-61, Cl. 292—341.18.
Lessly, Oswald K. Hydraulic braking apparatus. 2,981,380, 4-25-61, Cl. 188—90.
Letourneur, Alfred A. Vehicle undercarriage facilitating the lifting of the vehicle over curbs and steps. 2,981,546, 4-25-61, Cl. 280—5.28.
Levecque, Marcel, and P. Piot, to Societe Anonyme des Manufactures des Glaces & Produits Chimiques de Saint-Gobain, Chauny & Cirey. Apparatus for producing fibers from thermoplastic material. 2,980,954, 4-25-61, Cl. 18—2.6.
Levien, Jack R. Printing machines. 2,981,181, 4-25-61, Cl. 101—217.
Lewis Engineering Co.: *See*—
Knudsen, Knud J. 2,981,109.
Knudsen, Knud J., and McCall. 2,981,106.
Lewis, Harry T., Jr.: *See*—
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,597.
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,598.
Lhoste, Pierre L. G.: *See*—
Richter, Gerhard, and Lhoste. 2,981,502.
Libbey-Owens-Ford Glass Co.: *See*—
McAuley, James W., and McCown. 2,981,268.
Licentia Patent-Verwaltungs-G.m.b.H.: *See*—
Ludemann, Joseph, and Janecke. 2,981,856.
Lich, Richard L., to General Steel Castings Corp. Railway truck. 2,981,206, 4-25-61, Cl. 105—182.
Lieberman, Dolores, and W. D. Roth, ¼ to Moore and Hall. Replacement curtain for convertible tops. 2,981,564, 4-25-61, Cl. 296—145.
Lieberman, Samuel. Ball valve for flush tank. 2,980,920, 4-25-61, Cl. 4—56.
Lilja, Oscar G., to Commercial Wire Products Co. Wire bottle carrier. 2,981,440, 4-25-61, Cl. 220—117.
Lillehei, Clarence W.: *See*—
De Wall, Richard A., and Lillehei. 2,981,253.
Lilligren, Robert W. Gyroscopic stabilizer for rocket. 2,981,061, 4-25-61, Cl. 60—35.55.
Lilly, Eli, and Co.: *See*—
Keston, Albert S. 2,981,606.
Lincoln, John C., to Hoover Ball and Bearing Co. Spring cushion. 2,981,318, 4-25-61, Cl. 155—179.
Lindberg, Torsten G., to F. V. Hasselblad. Aiming device for cameras and the like. 2,981,003, 4-25-61, Cl. 33—46.
Lindquist, Nora. Educational building block set. 2,981,009, 4-25-61, Cl. 35—17.
Linear Inc.: *See*—
Swarts, John H. 2,980,962.
Lingenbrink, Hermann E. F. C., to Philco Corp. Drive system for tuning assembly. 2,981,114, 4-25-61, Cl. 74—10.
Ling-Temco Electronics, Inc.: *See*—
Carlisle, Richard W. 2,981,359.
Linsinger, Ernst. Thread peeling machine. 2,981,159, 4-25-61, Cl. 90—11.42.
Lionel Corp., The: *See*—
Bonanno, Joseph L. 2,981,031.
Lipinski, Henry S., and S. Dubroff, to United States of America, Army. Spin-stabilized projectile with non-rotating shaped charge. 2,981,188, 4-25-61, Cl. 102—56.
Lissner, Oskar: *See*—
Meyer, Ferdinand, Demmler, and Lissner. 2,981,711.
Lister, Leward M. Detachable wheel assembly. 2,981,565, 4-25-61, Cl. 301—9.
Litton Systems, Inc.: *See*—
Erdley, Harold F. 2,981,113.
Livermore, William T.: *See*—
Clark, Hubert M., and Livermore. 2,981,067.
Livesey, William G., to General Motors Corp. Torque applying device. 2,981,103, 4-25-61, Cl. 73—162.
Lodding Engineering Corp.: *See*—
Goyette, Francis H. 2,981,175.
Lodge, James R., to Minnesota Mining & Mfg. Co. Color coated roofing granules and method of making the same. 2,981,635, 4-25-61, Cl. 117—62.
Lodge, James R., G. W. Swenson, and D. L. Reichel, to Minnesota Mining & Mfg. Co. Colored roofing granules. 2,981,636, 4-25-61, Cl. 117—70.
Loeffler, Donald E., to Shell Oil Co. Lubricating oil thickened to a grease with asphaltene absorbed clay. 2,981,685, 4-25-61, Cl. 252—28.
Loges, Adolf, to Continental Gummiwerke Aktiengesellschaft. Feeding device for tire building drums. 2,981,309, 4-25-61, Cl. 154—9.
Lomax, Clarence E., to Automatic Electric Laboratories, Inc. Restricted service arrangements. 2,981,801, 4-25-61, Cl. 179—18.
Lombardo, Pietro. Sole for shoes, not slippery, particularly rubber-made. 2,981,011, 4-25-61, Cl. 36—59.
Long, George E. Surveyor stake. 2,981,000, 4-25-61, Cl. 33—1.
Long, Ray W. Band protectors for vacuum bottle. 2,981,562, 4-25-61, Cl. 294—31.2.
Long, Robert B.: *See*—
Lang, Robert J., Long, Heath, and Skomoroski. 2,981,747.
Looney, Duncan H., and R. H. Meinken, to Bell Telephone Laboratories, Inc. Magnetic memory device and method of manufacture. 2,981,932, 4-25-61, Cl. 340—174.
Lovett, William E., R. W. Walker, and J. M. Jordan, to Esso Research and Engineering Co. Anti-icing gasoline. 2,981,614, 4-25-61, Cl. 44—56.
Lower, Mary E. Speed and mileage recording system. 2,981,585, 4-25-61, Cl. 346—18.
Loxham, John, to The Sigma Instrument Co. Ltd. Valves. 2,981,514, 4-25-61, Cl. 251—86.
Lucas, Joseph (Industries) Ltd.: *See*—
Freeman, Frank G., and Warne. 2,981,321.
Lucas, Pierre M., and A. A. Sautel. Remote line concentrator. 2,981,802, 4-25-61, Cl. 179—18.
Lucas, William R.: *See*—
Hager, Karl F., Lucas, and Franklin. 2,981,617.

Lademann, Joseph, and P. Janecke, to Licentia Patent-Verwaltungs-G.m.b.H. Alternating current motor stators. 2,981,856, 4-25-61, Cl. 310—256.
Ludwig, Saul. Shaped knitted collars and methods of manufacture thereof. 2,981,086, 4-25-61, Cl. 66—172.
Luft, Norbert W., and D. Y. Waddan, to Shell Oil Co. Process for polymerising olefins. 2,981,725, 4-25-61, Cl. 260—93.7.
Lusseling, Theodor: *See*—
Brendlein, Heinrich, Huemer, Lussling, and Schulz. 2,981,749.
Luts, Harry H.: *See*—
Hopp, Philip, and Luts. 2,981,018.
Lyle, Charles A.: *See*—
Evans, Ted C., and Lyle. 2,981,521.
Lyon, George A. Method of and apparatus for forming flanged casing bottom. 2,980,993, 4-25-61, Cl. 29—534.
Lyon, George A. Wheel cover. 2,981,566, 4-25-61. Cl. 301—37.
Macdonald, John G. Free piston gas generator. 2,981,242, 4-25-61, Cl. 123—46.
MacGregor-Comarmin: *See*—
MacGregor, Joseph. 2,981,326.
MacGregor & Co. (Naval Architects) Ltd.: *See*—
MacGregor, Joseph. 2,981,326.
MacGregor, Joseph, to MacGregor & Co. (Naval Architects) Ltd., and MacGregor-Comarmin. Hydraulically-operated ships' hatch covers. 2,981,326, 4-25-61, Cl. 160—188.
MacHenry, Richard, to American Viscose Corp. Twine. 2,981,052, 4-25-61, Cl. 57—154.
Machnich, Carlo. Fluid spring and leveling valve arrangement for vehicle suspension. 2,981,550, 4-25-61, Cl. 280—124.
Mack Co.: *See*—
Mack, James F. 2,981,282.
Mack, James F., to Mack Co. Valve device. 2,981,282, 4-25-61, Cl. 137—516.29.
MacLaren, Donald D.: *See*—
Hemminger, Charles E., and MacLaren. 2,981,675.
MacLean, Kenneth G., and B. A. Trevor, to Radio Corp. of America. Pulse generator. 2,981,852, 4-25-61, Cl. 307—88.5.
Macpherson, Ronald H.: *See*—
Hopkins, Ernest J., and Macpherson. 2,981,867.
Madge, Joachim, to Franke & Heidecke, Fabrik Photographischer Praxisions-Apparate. Twin lens reflex camera with parallax compensation. 2,981,166, 4-25-61, Cl. 95—44.
Madison, John J.: *See*—
Holzman, George, and Madison. 2,981,772.
Magnavox Co., The: *See*—
Azari, Eric. 2,981,411.
Mahler, Peter A., and P. J. Haas, to Singer-Fidelity, Inc. Loose course attachment for knitting machines. 2,981,085, 4-25-61, Cl. 66—54.
Maidment, Earl P.: *See*—
Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 2,981,421.
Mainone, Nell C.: *See*—
Mainone, Robert H. 2,981,485.
Mainone, Robert H., deceased; N. C. Mainone, administratrix. Discharge apparatus for brush disintegrators and the like. 2,981,485, 4-25-61, Cl. 241—101.
Makowski, Alexander G., to American Can Co. Method of producing plastic containers. 2,980,963, 4-25-61, Cl. 18—47.5.
Malarkey, Nell, Jr. Press machine. 2,981,307, 4-25-61, Cl. 154—1.
Malcolm, Robert H., to International Harvester Co. Process for constructing and balancing engines. 2,980,989, 4-25-61, Cl. 29—156.4.
Malek, Georg, to A. Handler, and K. Vockenhuber. Motion picture camera control mechanism. 2,981,145, 4-25-61, Cl. 88—16.
Malm, Anders E., to Aktiebolaget Kanthal. Electrically heated furnace. 2,981,820 4-25-61, Cl. 219—35.
Malobicky, Rudolph L.: *See*—
McKelvey, Harold E., and Malobicky. 2,981,563.
Malsbary Mfg. Co.: *See*—
Hirsch, Fred. 2,981,484.
Manahan, Max J., and K. S. Vogt, to General Motors Corp. High frequency relay control circuit. 2,981,870, 4-25-61, Cl. 317—147.
Manostat Corp.: *See*—
Gilmont, Roger and Gepner. 2,981,277.
Manufacture des Montres Universal Perret Freres: *See*—
Froidevaux, Jean-Michel, and Bandi. 2,981,055.
Mapes, Leslie A. Automatic carton caser. 2,981,040, 4-25-61, Cl. 53—62.
March Mfg. Co.: *See*—
Zimmermann, Frederick N., and Zimmerman. 2,981,196.
Markoff-Moghadam, Leo. Connecting device. 2,981,029, 4-25-61, Cl. 43—44.95.
Marks, Alexander A. Ignition and control system. 2,981,323, 4-25-61, Cl. 158—123.
Marks, Monte L., to Consolidated Electrodynamics Corp. Chromatographic sampling valve. 2,981,092, 4-25-61, Cl. 73—23.
Marquardt, Frank R. Electrical control system. 2,981,157, 4-25-61, Cl. 89—135.
Marsden, Ross S., Jr.: *See*—
Pietz, Raymond G., and Marsden. 2,981,358.
Marshall, Bruce G. Apparatus for mechanically compacting paving mixtures and other materials. 2,980,978, 4-25-61, Cl. 25—41.
Marshall, Raymond W.: *See*—
Steven, Harry M., and Marshall. 2,981,811.
Martens, Jack E., to The Anderson Co. Motion-conversion device. 2,981,571, 4-25-61, Cl. 308—6.
Marti, Frederic, and G. Braunschweig. Time-piece. 2,981,054, 4-25-61, Cl. 58—28.
Martin, Eugene C., and J. T. Kelly, to The American Oil Co. Organophosphorous-modified cellulose esters. 2,981,730, 4-25-61, Cl. 260—219.
Martin, Henry F., to Detroit Hoist and Machine Co. Hoist. 2,981,289, 4-25-61, Cl. 137—622.
Martin, James K. Display apparatus. 2,981,582, 4-25-61, Cl. 312—132.
Maschinenfabrik Augsburg-Nurnberg A.G.: *See*—
Dietrich, Paul. 2,981,182.
Masland, C. H., & Sons: *See*—
Hoeselbarth, Frank W. E. 2,981,292.
Mason, Warren P., to Bell Telephone Laboratories, Inc. Electromechanical wave filter. 2,981,905, 4-25-61, Cl. 333—71.
Mattern, John, to United States of America, Navy. Light equalizing device. 2,981,826, 4-25-61, Cl. 240—1.
Matthews, Russell B., to Minnesota Mining and Mfg. Co. Temperature control apparatus. 2,981,774, 4-25-61, Cl. 136—4.
Mattson, Roy H., to Iowa State College Research Foundation, Inc. Switching system. 2,981,83? 4-25-61, Cl. 250—13.
Mattsson, Sven A., and A. V. Karlsson, to Skanalinaviska Granit Aktiebolaget. Saw blades for stone sawing machines provided with hard metal cutters. 2,981,248, 4-25-61, Cl. 125—18.
Maurer, Eugen. Spindle bearing arrangement. 2,981,051, 4-25-61, Cl. 57—134.
Maurice, Jean, and M. Rist, to Societe Anonyme Francaise du Ferodo. Control circuit for electromagnetic clutches and like devices. 2,981 846, 4-25-61, Cl. 200—50.
Maximilian, Octavian, to United Engineering and Foundry Co. Open frame belt wrapper. 2,981,493, 4-25-61, Cl 242—78.5.
McAuley, James W., and W. E. McCown, to Libbey-Owens-Ford Glass Co. Vibratory treating apparatus. 2,981,268, 4-25-61, Cl. 134—122.
McCain, Homer I. Holder for scaling fish. 2,980,948, 4-25-61 Cl 17—8.
McCall, Clarence I.: *See*—
Knudsen, Knud J., and McCall. 2,981,106.
McCarthy, Vern L., to Vulcan Containers Inc. Composite container. 2,981,435, 4-25-61, Cl. 220—23.
McClure, Carroll D.: *See*—
Huckabay, William B., and McClure. 2,981,357.
McClure, Raymond R., to Diamond Alkali Co. Preparation of alkaline earth metal carbonates. 2,981,596, 4-25-61, Cl. 23—66.
McCown, William E.: *See*—
McAuley, James W., and McCown. 2,981,268.
McDowell Co., Inc.: *See*—
McDowell, Robert C., and Ban. 2,981,532.
McDowell, Jimmy E.: *See*—
Wickersham, Arthur F., Jr., and McDowell. 2,981,951.
McDowell, Robert C., and T. E. Ban, to McDowell Co., Inc. Means for preventing waste preferential air flow at side walls of sintering machine pallets. 2,981,532, 4-25-61, Cl. 266—21.
McGill Metal Products Co.: *See*—
Hendricks, James C. 2,980,997.
McHugh, John B., to United States of America, Navy. Coordinate positioner. 2,981,123, 4-25-61, Cl. 74—665.
McIlwraith, Charles G., to J. B. Breaseale, and E. N. Dacus, to Bill Jack Scientific Instrument Co. Instrument for indicating fluid density. 2,981,111, 4-25-61, Cl. 73—453.
McKelvey, Harold E., and R. L. Malobicky. Supporting glass sheets. 2,981,563, 4-25-61, Cl. 294—119.
McKenney, Vaughn G., to United States of America, Navy. Underwater sound transmitter. 2,981,927, 4-25-61, Cl. 340—2.
McLamb, Floyd D. J.: *See*—
Scharla-Nielsen, Hans, McRae, and McLamb. 2,981,896.
McNicoll, David, to British Timken Ltd. Axle-boxes. 2,981,574, 4-25-61, Cl. 308—180.
McQueen, Franklin F., E. S. Morrissette, and E. R. Hoke. Machine for facilitating sorting or sizing of commodities, such as poultry, according to weight. 2,981,412, 4-25-61, Cl. 209—121.
McRae, Daniel D.: *See*—
Scharla-Nielsen, Hans, McRae, and McLamb. 2,981,896.
McRae, Duncan G. Universal-headed hammer. 2,981,177, 4-25-61, Cl. 101—28.
Mead Corp., The: *See*—
Gentry, Hermond G. 2,981,042.
Mecorney, John W.: *See*—
Cole, Robert M., and Mecorney. 2,981,753.
Medical Plastics, Inc.: *See*—
Berman, Robert A. 2,981,251.
Mefina S.A.: *See*—
Reguin, Rene. 2,981,115.
Meier, George D.: *See*—
Kloote, George E., Potchen, and Meier. 2,980,972.
Meinese, Elmo R.: *See*—
Lapp, Ellsworth W. 2,981,099.
Meinken, Robert H.: *See*—
Looney, Duncan H., and Meinken. 2,981,932.
Melton, James O., to The Geolograph Co. Well depth recorder. 2,981,102, 4-25-61, Cl. 73—151.5.
Melville, John B. Apparatus for dating closure members in coded form. 2,981,041, 4-25-61, Cl. 53—131.
Menasha Container of California, Division of Menasha Wooden Ware Corp.: *See*—
Davis, Warren F. 2,981,457.
Menough, Paul S., to Patricia M. Vonderau. Segmental separators for heat treating furnaces. 2,981,529, 4-25-61, Cl. 263—47.
Menough, Paul S., to The Alloy Engineering Co. Segmental separators for heat treating furnaces. 2,981,530, 4-25-61, Cl. 263—47.
Mentley, Max B., D. W. Daniel, and Z. Kokorzycki, to National Broach & Machine Co. Grinder. 2,981,035, 4-25-61, Cl. 51—166.

Merck & Co., Inc.: *See*—
Chemerda, John M., Ruyle, and Chamberlin. 2,981,742.
Meredith Publishing Co.: *See*—
Early, Harold C. 2,981,883.
Messenger, Carus L., and W. H. Wam. Oarlock fishing rod holder. 2,981,509, 4–25–61, Cl. 248—42.
Metcalf, Guy E., Jr. Coaxial cable splicer. 2,981,649, 4–25–61, Cl. 154—2.22.
Metcalfe, Samuel N.: *See*—
Achorn, Glenwood B., Jr., Bokesch, Dapper, Lebhers, Schwab, Smith, Rawson, and Metcalfe. 2,981,660.
Metivier, Jean, to Societe des Usines Chimiques Rhone-Poulenc. Thiophosphoric acid esters. 2,981,748, 4–25–61, Cl. 260—461.
Metropolitan-Vickers Electrical Co. Ltd.: *See*—
Ashworth, Fred. 2,981,611.
Meyer, Adolph F., to Thomas B. Meyer. Valve construction. 2,981,290, 4–25–61, Cl. 137—625.5.
Meyer, Bruce L., to Sperry Rand Corp. Reference pulse generation. 2,981,853, 4–25–61, Cl. 307—88.5.
Meyer, Ferdinand, K. Demmler, and O. Lissner, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Hardenable mixtures of polyglycidyl ethers. 2,981,711, 4–25–61, Cl. 260—31.2.
Meyer, Henry L., to The Cleveland Trencher Co. Mobile ditching machine. 2,981,012, 4–25–61, Cl. 37—86.
Meyer, Thomas B.: *See*—
Meyer, Adolph F. 2,981,290.
Mickelson, Grant A., W. Simon, and G. H. Tibbitts, to Morton Chemical Co. Acid-treated clay process. 2,981,697, 4–25–61, Cl. 252—450.
Middaugh, Jack K., to Bell Telephone Laboratories, Inc. Automatic service observer-recorder circuits. 2,981,506, 4–25–61, Cl. 179—175.2.
Milan, Earl L. Combination port hole screen and wind scoop. 2,981,218, 4–25–61, Cl. 114—177.
Miller, Arthur H., Jr., to United States of America, Navy. Launcher. 2,981,150, 4–25–61, Cl. 89—1.7.
Miller, Arthur H., Jr., V. J. Dietz, and D. M. Shipley, to United States of America, Navy. Missile handling and launching device. 2,981,152, 4–25–61, Cl. 89—1.7.
Miller, James L., to General Motors Corp. Air conditioner. 2,981,083, 4–25–61, Cl. 62—428.
Miller, Montgomery K., and W. L. Kumler. Well screening method and device therefor. 2,981,332, 4–25–61, Cl. 166—12.
Miller, Montgomery K., and W. L. Kumler. Well screening method and device therefor. 2,981,333, 4–25–61, Cl. 166—12.
Miller, Myron: *See*—
Kennel, John M., and Miller. 2,981,164.
Miller, Robert E., to The National Cash Register Co. Cleaning sheet. 2,980,941, 4–25–61, Cl. 15—506.
Miller Wrapping & Sealing Machine Co.: *See*—
Arvidson, Bengt A. 2,981,043.
Minckler, Leon S. Jr.: *See*—
Small, Augustus B., Minckler, Ernst, and Ford. 2,981,714.
Minneapolis-Honeywell Regulator Co.: *See*—
Carlson, William L., Jr. 2,981,193.
Deziel, Fred T. 2,981,324.
Eachus, Joseph J. 2,981,471.
Ruhman, Smil. 2,981,847.
Severerson, Asbjorn M. 2,981,868.
Ziolkowski, Edward M. 2,981,934.
Minnesota Mining & Mfg. Co.: *See*—
Lodge, James R. 2,981,635.
Lodge, James R., Swenson, and Reichel. 2,981,636.
Matthews, Russell B. 2,981,774.
Vice, Charles L. 2,980,988.
Mission-West Mfg. Co.: *See*—
Bennett, James C. 2,981,538.
Mitchell, Malcolm E. Hydraulic pipe vise. 2,981,131, 4–25–61, Cl. 80—17.2.
Mobay Chemical Co.: *See*—
Fritze, Ulrich, Müller, and Paffrath. 2,981,360.
Muhlhausen, Cornelius, and Genski. 2,981,719.
Reuter, Frans G. 2,981,573.
Modine Mfg. Co.: *See*—
Peterson, Stanley W., and Danzer. 2,981,648.
Moe, Walter W. Bolt gauge. 2,981,005, 4–25–61, Cl. 33—178.
Moellendorf, Ria, to Nu-Lift Co., Inc. Maternity girdle. 2,981,258, 4–25–61, Cl. 128—527.
Moline, Robert E.: *See*—
Del Faro, Gordon P., Moline, and Conaway. 2,980,946.
Momberg, James W.: *See*—
Taylor, Edward W., and Momberg. 2,981,879.
Momberg, James W., and E. W. Taylor, to The Singer Mfg. Co. Speed-regulating control system for series commutator motor. 2,981,880, 4–25–61, Cl. 318—246.
Montgomery Elevator Co.: *See*—
Brandon, Carl. 2,981,236.
Brandon, Carl. 2,981,238.
Montgomery, William H. Western style toy. 2,981,032, 4–25–61, Cl. 46—127.
Monts, Julius, K.G. Apparatebau: *See*—
Kloss, Hans-Joachim. 2,981,665.
Moore, Alexander M., E. F. Elslager, and F. W. Short, to Parke, Davis & Co. Benz-[c]-acridine derivatives. 2,981,731, 4–25–61, Cl. 260—239.1.
Moore and Hall: *See*—
Lieberman, Dolores, and Roth. 2,981,564.
Morey, Gifford A.: *See*—
Richards, Richard K., and Morey. 2,981,470.
Morgan, Arthur L., Jr.: *See*—
Ginnette, Lewis F., Graham, and Morgan. 2,981,629.
Morgan, David G.: *See*—
Brant, Victor L., and Morgan. 2,981,771.
Morgan, David L.: *See*—
Brant, Victor L., and Morgan. 2,981,771.
Morgan, George L.: *See*—
Kesler, Martin L., and Morgan. 2,981,729.
Morgan, Madeleine: *See*—
Brant, Victor L., and Morgan. 2,981,771.
Morren, Henri, to Union Chimique Belge, S.A. New piperazine derivatives. 2,981,735, 4–25–61, Cl. 260—268.
Morrill, Frank B., to James Hunter Machine Co. Step-by-step feed mechanism. 2,981,118, 4–25–61, Cl. 74—142.
Morrissette, Edward S.: *See*—
McQueen, Franklin F., Morrissette, and Hoke. 2,981,412.
Morton Chemical Co.: *See*—
Mickelson, Grant A., Simon, and Tibbitts. 2,981,697.
Motorola, Inc.: *See*—
Kelley, Dale T., and Peterson. 2,981,875.
Poskozim, Frank M. 2,981,838.
Moult, Roy H.: *See*—
St. Clair, William E., and Moult. 2,981,701.
St. Clair, William E., and Moult. 2,981,702.
Mueller, Charles P.: *See*—
Brown, Jack T., Mueller, France, and Cochardt. 2,981,620.
Muhlhausen, Cornelius, and K. Genski, ¼ to Farbenfabriken Bayer Aktiengesellschaft, and ¼ to Mobay Chemical Co. Polyurethane plastics. 2,981,719, 4–25–61, Cl. 260—75.
Mulder, Marvin W., and N. H. Kleinhuizen. Tool box and step assembly. 2,981,554, 4–25–61, Cl. 280—164.
Mullen, Januarius A.: *See*—
Thompson, Frederick C. 2,981,308.
Müller, Erich, to Keller & Romer, G.m.b.H. Bottle closing machine. 2,981,044, 4–25–61, Cl. 53—310.
Müller, Rudolf: *See*—
Fritze, Ulrich, Müller, and Paffrath. 2,981,360.
Munford, Robert E., P. N. Smith, and C. E. Graham, to Deering Milliken Research Corp. Detecting and control arrangement. 2,980,967, 4–25–61, Cl. 19—70.
Murphy, James D., to Westinghouse Electric Corp. Centrifugal fans. 2,981,461, 4–25–61, Cl. 230—114.
Murray, Ernest E. Roller coater machine. 2,981,226, 4–25–61, Cl. 118—227.
Murray, Herbert C.: *See*—
Fonken, Gunther S., and Murray. 2,981,650.
Nagel-Chase Mfg. Co., The: *See*—
Schultz, Edward H., Jr. 2,981,120.
Nagel, Fritz J., to The Polymer Corp. Fluidized bed coating method for forming a foam. 2,981,631, 4–25–61, Cl. 117—21.
Nahmias, Maurice E. Detecting device. 2,981,840, 4–25–61, Cl. 250—43.5.
Nasoni, Donald E., to Burroughs Corp. Magnetic storage device. 2,981,935, 4–25–61, Cl. 340—174.
National Broach & Machine Co.: *See*—
Mantley, Max B., Daniel, and Kokorzycki. 2,981,035.
Praeg, Walter S. 2,980,966.
National Cash Register Co., The: *See*—
Miller, Robert E. 2,980,941.
National Lead Co.: *See*—
Dunn, Edward J., Jr., and Orsino. 2,981,776.
Hochner, Walter L., and Scarbrough. 2,981,589.
National Plastic Products Co., The: *See*—
Genovese, Anthony L. 2,980,959.
National Research Corp.: *See*—
Candidus, Edward S. 2,981,823.
National Research Development Corp.: *See*—
Sixsmith, Herbert. 2,981,082.
Native Laces & Textiles, Inc.: *See*—
Sutter, Elliot, and Rubin. 2,981,139.
Naumer, Gene C., to Allis-Chalmers Mfg. Co. Lubrication system for a shifter assembly. 2,981,372, 4–25–61, Cl. 184—6.
Neale, J. Matthews: *See*—
Thompson, Frederick C. 2,981,308.
Neill, Ronald H., R. F. Sweeney, and C. Woolf, to Allied Chemical Corp. Manufacture of fluorocarbons. 2,981,763, 4–25–61, Cl. 260—653.8.
Neisler, Charles E., Jr. Method and apparatus for separating fine material from coarse material. 2,981,414, 4–25–61, Cl. 209—452.
Nelson, Robert E., and G. E. Tench; said Tench assor. to said Nelson. Fluid flow meters. 2,981,240, 4–25–61, Cl. 121—164.
Nettel, Frederick. Reciprocating variable delivery pump. 2,981,198, 4–25–61, Cl. 103—41.
Neureiter, Norman P., to Esso Research and Engineering Co. Chlorinated cycloolefin. 2,981 756, 4–25–61, Cl. 260—648.
New Britain Machine Co., The: *See*—
Kliness, Luther E. 2,981,389.
Ney, J. M., Co., The: *See*—
Coleman, Richard L., Cecil, and Kerpel. 2,980,008.
Neyhouse, George A., J. W. Savage, and R. K. Shewmon, to General Motors Corp. Power drive apparatus. 2,981,089, 4–25–61, Cl. 68—24.
Nicholls, Robert L.: *See*—
Davidson, Donald T., and Nicholls. 2,981,162.
Niedermayer, Egon. Valve comprising a plurality of individual valves. 2,981,462, 4–25–61, Cl. 230—228.
Nielsen, Erik J.: *See*—
Van Valkenburg, Hermon L., and Nielsen. 2,981,922.
Niemeier, Bernard A.: *See*—
Wilson, Elwood J., Jr., and Niemeier. 2,981,153.
Nilo, Dominick J., ½ to S. C. Gaeta. Fluid valve with inlet and outlet valve cages. 2,981,285, 4–25–61, Cl. 137—614.21.
Nitsch, Rudolf, to Siemens and Halske Aktiengesellschaft Berlin and Munich. Sealed-in contact device. 2,981,810, 4–25–61, Cl. 200—87.
Noffsinger, Kenna E. Tractive vehicle mounted bucket. 2,981,428, 4–25–61, Cl. 214—501.
Noll, Hans: *See*—
Youngner, Julius S., and Noll. 2,981,658.
Nolt, Edwin B., to Sperry Rand Corp. Hay baler. 2,981,173, 4–25–61, Cl. 100—19.

Nord Aviation Societe Nationale de Constructions Aeronautiques: *See*—
Pichon, Louis C. B. 2,981,483.
Norfolk Products Corp.: *See*—
Ransom, Robert B. 2,981,127.
North American Aviation, Inc.: *See*—
Boyer, Myron H. 2,981,616.
Brooks, Frederick P., Jr. 2,981,020.
Hoskinson, Eugene A. 2,981,850.
North American Philips Co., Inc.: *See*—
Beale, Julian R. A., and Beer. 2,980,983.
Westmijze, Willem K. 2,981,871.
Willemse, Theo W. 2,981,876.
Northrop Aircraft, Inc.: *See*—
Taylor, Allan J. 2,981,548.
Northrop Corp.: *See*—
Bowman, Eldon L. 2,981,612.
Kaufold, Leroy, and Cox. 2,981,842.
Novelo, John. Concrete tie rod. 2,980,979, 4–25–61, Cl. 25—131.
Noyce, Robert N., to Fairchild Semiconductor Corp. Semiconductor device-and-lead structure. 2,981,877, 4–25–61, Cl. 317—235.
Nu-Lift Co., Inc.: *See*—
Moellendorf, Ria. 2,981,258.
Nummy, William R.: *See*—
Stillo, Horatio S., Kolat, and Nummy. 2,981,692.
Nussbaum, Eugene, to E. Frohlich, A.G. Harness frame. 2,981,293, 4–25–61, Cl. 139—91.
Nygaard, James L.: *See*—
Webster, Roger R., and Nygaard. 2,981,835.
Nystrom, Axel C.: *See*—
Crosby, Charles H., Hicks, Nystrom, and Wahlberg. 2,981,049.
Oakland Corp., The: *See*—
Wallace, Richard B., and Ebbert. 2,980,928.
Oakley, Robert L. Deployment system for parachutes. 2,981,505, 4–25–61, Cl. 244—149.
O'Brien, Thomas M. J., to Electro Tec Corp. Slip ring assembly having a plurality of metal based slip rings. 2,981,916, 4–25–61, Cl. 339—5.
O'Connell, James A., to International Business Machines Corp. Electroluminescent decals. 2,981,858, 4–25–61, Cl. 313—108.
Odell, Albert S., 49% to D. Adams. Combination seat and coffee table or the like. 2,981,313, 4–25–61, Cl. 155—43.
Odin Corp.: *See*—
Stadler, Charles J. 2,981,419.
Offerman, Seymour: *See*—
Gluck, William, and Offerman. 2,981,918.
Ogle, James A., to Burroughs Corp. Multiple image display system. 2,981,140, 4–25–61, Cl. 88—1.
Ogle, James A., to Burroughs Corp. Selective optical screen and system. 2,981,941, 4–25–61, Cl. 340—878.
Ohlrogge, Wilhelm: *See*—
Behne, Ernst A., and Ohlrogge. 2,980,999.
Olah, George A., and S. J. Kuhn, to The Dow Chemical Co. Preparation of deuterium fluoride. 2,981,602, 4–25–61, Cl. 23—153.
Oldenburg, Kenneth F.: *See*—
Beall, William R., and Oldenburg. 2,981,466.
Olin Mathieson Chemical Corp.: *See*—
Ratz, Rudi F. W., and Kober. 2,981,734.
Olsen, Orville V. Scaffold plank connector. 2,981,365, 4–25–61, Cl. 182—223.
Olszowka, Edward P., to Howard Smith Paper Mills Ltd. Dual air doctor for paper coating machines. 2,981,223, 4–25–61, Cl. 118—63.
Omohundro, William A., to General Electric Co. Multiple propeller fan. 2,981,464, 4–25–61, Cl. 230—259.
O'Neil, Gordon R., to International Harvester Co. Flexible planter unit. 2,981,213, 4–25–61, Cl. 111—64.
O'Neill, Robert C., to Stauffer Chemical Co. Tobacco products. 2,981,641, 4–25–61, Cl. 131—17.
OPTOmechanisms, Inc.: *See*—
Brault, Andre R. 2,981,170.
Orsatti, Ernest R., and L. W. Hoggan. Light-reflecting lens. 2,981,827, 4–25–61, Cl. 240—2.25.
Orsino, Joseph A.: *See*—
Dunn, Edward J., Jr., and Orsino. 2,981,776.
Orthner, Ludwig: *See*—
Herzberg, Horst, and Orthner. 2,981,720.
O'Shaughnessey, John: *See*—
Cowles, Warren H., Pembleton, and O'Shaughnessey. 2,981,271.
Osipow, Lloyd I.: *See*—
York, William C., and Osipow. 2,981,691.
Osten, Fred C., Sr. Insulated metal-framed window sash. 2,981,385, 4–25–61, Cl. 189—76.
Ostline, John E., to Automatic Electric Laboratories, Inc. Automatic toll ticketing telephone system. 2,981,798, 4–25–61, Cl. 179—7.1.
Otto, Constance H., and J. M. Swann. Toilet bowl with urinal attachment. 2,980,919, 4–25–61, Cl. 4—1.
Otto, William H.: *See*—
Whitehurst, Harry B., Otto, and Warthen. 2,980,956.
Owens-Corning Fiberglas Corp.: *See*—
Stalego, Charles J. 2,980,952.
Owens-Corning Fiberglas Corp.: *See*—
Whitehurst, Harry B., Otto, and Warthen. 2,980,956.
Owens-Illinois Glass Co.: *See*—
Casey, Harry E. 2,981,426.
Packman, Elias W.: *See*—
Harrisson, Joseph W. E., and Packman. 2,981,656.
Paffrath, Hans-Willi: *See*—
Fritze, Ulrich, Müller, and Paffrath. 2,981,360.
Pagny, Pierre, to Potasse et Engrais Chimiques. Process for retaining and extracting uranium contained in uraniferous solutions. 2,981,593, 4–25–61, Cl. 23—14.5.
Pannier Corp., The: *See*—
Gross, Frank D. 2,981,176.
Paquin, Real, to Ferro Technique Ltd. Milling cutter. 2,980,985, 4–25–61, Cl. 29—103.
Parke, Davis & Co.: *See*—
Godefroi, Erik F. 2,981,737.
Moore, Alexander M., Elslager, and Short. 2,981,731.
Parker, Albert E., to General Dynamics Corp. Fuselage blade sealing using conical surfaces. 2,981,504, 4–25–61, Cl. 244—117.
Parker, Alfred O., to American Cyanamid Co. Method of controlling temperature in reactivating catalysts. 2,981,590, 4–25–61, Cl. 23—1.
Parker Appliance Co., The: *See*—
Stephens, William T. 2,981,200.
Parker, Clarence E., deceased, by F. Parker, executrix, to The Coe Mfg. Co. Apparatus for handling rigid sheet material. 2,981,309, 4–25–61, Cl. 198—31.
Parker, Earl E., and K. H. Coultrap, to Pittsburgh Plate Glass Co. Preparation of cellular polyurethane resins. 2,981,700, 4–25–61, Cl. 260—2.5.
Parker, Frieda: *See*—
Parker, Clarence E. 2,981,309.
Parker, Humphrey F., and E. E. Robins, to Columbus McKinnon Chain Corp. Conveyor power chain. 2,981,203, 4–25–61, Cl. 104—94.
Parlanti, Conrad A. Composite gun barrels. 2,981,155, 4–25–61, Cl. 89—16.
Parmee, John L., to The British Thomson-Houston Co. Ltd. Production of mono-crystal semi-conductor bodies. 2,981,687, 4–25–61, Cl. 252—62.3.
Pars, Frank C., to United States of America, Navy. Fuze well assembly and tool. 2,981,189, 4–25–61, Cl. 102—70.
Paschal, Don F. Display mount. 2,981,508, 4–25–61, Cl. 248—35.
Patriquin, George P., and N. R. Adler, to Independent Lock Co. Chain fastener device. 2,981,090, 4–25–61, Cl. 70—93.
Patron, Germano: *See*—
Ferri, Antonio, and Patron. 2,981,760.
Patterson, Raymond B., and H. J. Smiley, to James Lees and Sons Co. Method of weaving. 2,981,291, 4–25–61, Cl. 139—39.
Paul, Frederick W., and V. F. Sepavich, to Crompton & Knowles Corp. Stopping mechanism for loom. 2,981,295, 4–25–61, Cl. 139—336.
Paul, Frederick W., and D. G. Willard, to Crompton & Knowles Corp. Electric protection for loom. 2,981,296, 4–25–61, Cl. 139—341.
Paulsen, Jean F., to Societe Luxembourgeoise de Brevets et de Participations. Railway trucks and similar carriages. 2,981,207, 4–25–61, Cl. 105—187.
Payne, William H., II, and W. H. Payne. Fluid flow motor control. 2,981,195, 4–25–61, Cl. 103—25.
Payne, William H.: *See*—
Payne, William H., II and W. H. Payne. 2,981,195.
Pearsall, Ralph E., to United Shoe Machinery Corp. Lasting machines. 2,980,930, 4–25–61, Cl. 12—1.
Peat, George: *See*—
Kibbey, Ronald L., and Peat. 2,981,925.
Peery, Norman E., to Shell Oil Co. Regeneration of carbonized finely divided contact agents. 2,981,695, 4–25–61, Cl. 252—417.
Peiser, Marcus A. Candle holder. 2,981,087, 4–25–61, Cl. 67—23.
Pelz, Willibald: *See*—
Burgardt, Lothar, Pelz, Wahl, and Sassmann. 2,981,623.
Pembleton, James D.: *See*—
Cowles, Warren H., Pembleton, and O'Shaughnessey. 2,981,271.
Péras, Lucien, to Regie Nationale des Usines Renault. Automatic control devices for change-speed gears. 2,981,121. 4–25–61, Cl. 74—365.
Péras, Lucien, to Regie Nationale des Usines Renault. Differential pressure pneumatic jacks adapted for automatic return to initial position. 2,981,232, 4–25–61, Cl. 121—38.
Péras, Lucien, to Regie Nationale des Usines Renault. Valve for chambers under pressure and especially for pneumatic tires. 2,981,276, 4–25–61, Cl. 137—223.
Péras, Lucien, to Regie Nationale des Usines Renault. Pressure-reducers. 2,981,281, 4–25–61, Cl. 137—505.37.
Péras, Lucien, to Regie Nationale des Usines Renault. Anti-backing devices for vehicles. 2,981,388, 4–25–61, Cl. 192—4.
Péras, Lucien, to Regie Nationale des Usines Renault. Clutches actuated by hydraulic control means. 2,981,392, 4–25–61, Cl. 192—106.
Péras, Lucien, to Regie Nationale des Usines Renault. Automatic positioning devices for work-pieces. 2,981,398, 4–25–61, Cl. 198—19.
Péras, Lucien, to Regie Nationale des Usines Renault. Shock absorbers. 2,981,534, 4–25–61, Cl. 267—8.
Péras, Lucien, to Regie Nationale des Usines Renault. Low-tension spark plugs for internal combustion engines. 2,981,859, 4–25–61, Cl. 313—131.
Perkins, Donald A., to Rutland Fire Clay Co. Caulking compound cartridge with improved spout. 2,981,440, 4–25–61, Cl. 222—541.
Perletti, Paul V.: *See*—
Franks, Lewis E., Perletti, and Simone. 2,981,892.
Permachem Corp.: *See*—
Hill, William H. 2,981,640.
Permutit Co. Ltd., The: *See*—
Griffiths, Benjamin K. 2,981,671.
Perrelli, Joseph, to Filper Corp. Apparatus for sorting pit carrying drupe halves from pit free drupe halves. 2,981,410, 4–25–61, Cl. 209—72.
Petcar Research Corp.: *See*—
Carbauh, Robert E. 2,981,938.
Carbauh, Robert E. 2,981,939.
Petersen Industries, Inc.: *See*—
Petersen, John E., and Lawson. 2,981,424.

Petersen, John E., and O. C. Lawson, to Petersen Industries, Inc. Loading apparatus. 2,981,424, 4–25–61, Cl. 214—77.

Peterson, Arlo A., and E. B. Baker, to The Borden Co. Composition comprising alkaline solution of phenol formaldehyde resin and formamide and process of bonding surfaces with same. 2,981,652, 4–25–61, Cl. 154—140.

Peterson, Edward C., and W. C. Updegrave, to Birdsboro Corp. Saw blade mounting. 2,981,300, 4–25–61, Cl. 143—155.

Peterson, Julius P. Fishing glove. 2,980,915, 4–25–61, Cl. 2—159.

Peterson, Paul A. Triangle toss game. 2,981,543, 4–25–61, Cl. 273—100.

Peterson, Robert G.: *See*—
Kelley, Dale T., and Peterson. 2,981,875.

Peterson, Stanley W., and C. W. Danzer, to Modine Mfg. Co. Aluminum soldering slurry. 2,981,648, 4–25–61, Cl. 148—23.

Petro-Tex Chemical Corp.: *See*—
Gay, Richard J., and Tidwell. 2,981,767.

Petrow, Vladimir: *See*—
Kirk, David N., Petrow, and Thomson. 2,981,732.

Pfizer, Chas., & Co., Inc.: *See*—
Davis, Shipp C., and Ray. 2,981,633.
Davis, Shipp C., and Ray. 2,981,634.

Phelps Dodge Corp.: *See*—
Tuwiner, Sidney B. 2,981,595.
Tuwiner, Sidney B. 2,981,603.

Phelps, Richard W., to The Black-Clawson Co. Adjustable mounting for air doctor. 2,981,224, 4–25–61, Cl. 118—63.

Philco Corp.: *See*—
Lingenbrink, Hermann E. F. C. 2,981,114.

Phillips Petroleum Co.: *See*—
Hoeke, Paul J., and Scott. 2,981,727.
Brandt, Carl T. 2,981,071.
Goins, Robert R. 2,981,723.
Lanning, William C. 2,981,728.
Piety, Raymond G., and Marsden. 2,981,358.
Stoops, Charles E., and Day. 2,981,670.
Weedman, John A. 2,981,773.

Phillips Screw Co.: *See*—
Cummaro, Louis A. 2,980,929.

Pichon, Louis C. B., to Nord Aviation Societe Nationale de Constructions Aeronautiques. Injector having a high flow rate ratio. 2,981,483, 4–25–61, Cl. 239—464.

Pierce, Earl R., to General Motors Corp. Combined variable displacement pumping mechanism. 2,981,371, 4–25–61, Cl. 184—6.

Pieters, Willem J.: *See*—
Buningh, Weigert C., and Pieters. 2,981,678.

Piety, Raymond G., and R. S. Marsden, Jr., to Phillips Petroleum Co. Signal generator. 2,981,358, 4–25–61, Cl. 181—.5.

Pilo, Claes-Wilhelm. Method of recovering heat and chemical products in flue gases from the combustion of liquors from the manufacture of cellulose pulp. 2,981,370, 4–25–61, Cl. 183—115.

Piot, Paul: *See*—
Levecque, Marcel, and Piot. 2,980,954.

Pirelli S.p.A.: *See*—
Barassi, Carlo. 2,981,302.

Pirelli Societa per Azioni: *See*—
Colleoni, Giovanni. 2,981,409.

Piteo, Benjamin A., Jr., and D. B. Powell, to General Electric Co. Circuit breaker. 2,981,812, 4–25–61, Cl. 200—114.

Pittsburgh-Des Moines Steel Co.: *See*—
Fino, Alexander F., and Swick. 2,981,436.

Pittsburgh Plate Glass Co.: *See*—
Parker, Earl E., and Coultrap. 2,981,700.

Plump, Ralph E., to General Electric Co. Electrical apparatus with gaseous dielectric and purifying means therefor. 2,981,785, 4–25–61, Cl. 174—14.

Pneumatic Scale Corp., Ltd.: *See*—
Whelan, James P. 2,980,938.

Pohl, Ernest F. Tray package and method of packaging. 2,981,039, 4–25–61, Cl. 53—29.

Polymer Corp., The: *See*—
Nagel, Fritz J. 2,981,831.

Porter, John L., to Kaiser Aluminum & Chemical Corp. Process of purifying caustic aluminate liquors. 2,981,660, 4–25–61, Cl. 23—143.

Poskozim, Frank M., to Motorola, Inc. Combined channel selector and fine tuner. 2,981,838, 4–25–61, Cl. 250—40.

Potasse et Engrais Chimiques: *See*—
Pagny, Pierre. 2,981,593.

Potchen, Joseph A.: *See*—
Kloote, George E., Potchen, and Meier. 2,980,972.

Powell, David B.: *See*—
Piteo, Benjamin A., Jr., and Powell. 2,981,812.

Powell, Hobart W., Jr. to The Dow Chemical Co. Consolidating plastic coated particulate solids. 2,981,334, 4–25–61, Cl. 106—12.

Powers, Augustin J., Jr., and A. K. Anander, to Powers Chemco, Inc. Halftone camera. 2,981,625, 4–25–61, Cl. 96—116.

Powers Chemco, Inc.: *See*—
Powers, Augustin J., Jr., and Anander. 2,981,625.

Poynton, Bertram G.: *See*—
Ford, Geoffrey E., and Poynton. 2,981,161.

Praeg, Walter S., to National Broach & Machine Co. Method of molding a gear finishing tool. 2,980,966, 4–25–61, Cl. 18—59.

Price, Everett R.: *See*—
Heisig, Henry P., and Price. 2,980,914.

Procter & Gamble Co., The: *See*—
Cope, Paul E. 2,981,455
Ward, Norman E. 2,981,744.

Products for Industry: *See*—
Trautmann, John H. 2,981,577.

Pullis, George A.: *See*—
Bachelet, Albert E., Bibbins, Celentano, and Pullis. 2,981,803.

Purdue Research Foundation: *See*—
Feuer, Henry, and Swarts. 2,981,750.

Putnam, J. L., Co., Inc., The: *See*—
Putnam, Joseph L. 2,981,284.

Putnam, Joseph L., to The J. L. Putnam Co., Inc. Ball valve. 2,981,284, 4–25–61, Cl. 137—556.3.

Putnam, Theo O. Animal tether assembly. 2,981,230, 4–25–61, Cl. 119—117.

Pysel, Robert. Particle size control. 2,981,531, 4–25–61, Cl. 263—53.

Rabins, Leonard, to General Electric Co. Coil for electrical induction apparatus. 2,981,910, 4–25–61, Cl. 336—58.

Rabuse, Frank M. Automatic control steering unit for tractors. 2,981,355, 4–25–61, Cl. 180—79.1.

Radiation, Inc.: *See*—
Scharla-Nielsen, Hans, McRae, and McLamb. 2,981,896.

Radio Corp. of America: *See*—
Bazan, Steven J. 2,981,947.
Carrell, Ross M. 2,981,096.
Hurford, Winslow L. 2,981,793.
Koch, Winfield R. 2,981,895.
Korman, Nathaniel I. 2,981,946.
MacLean, Kenneth G., and Trevor. 2,981,852.
Shrader, Merrald B., Block, and Weingarten. 2,980,084.
Skidmore, William S. 2,981,950.

Rafoth, Bennie A.: *See*—
Armstrong, James W., and Rafoth. 2,981,456.

Rain Jet Corp.: *See*—
Hruby, John O., Jr. 2,981,481.

Randell, Geoffrey E. C., and H. M. Whitworth, to Woodall-Duckham Construction Co. Ltd. Charging horizontal coke ovens. 2,981,423, 4–25–61, Cl. 214—18.

Ransom, Robert B., to Norfolk Products Corp. Drill with chip remover. 2,981,127, 4–25–61, Cl. 77—67.

Ratner, Lee: *See*—
Bruce, Willis N. 2,981,654.

Ratz, Rudi F. W., and E. H. Kober, to Olin Mathieson Chemical Corp. Perfluoroalkyl triazines. 2,981,734, 4–25–61, Cl. 260—248.

Rawson, Arthur: *See*—
Achorn, Glenwood B., Jr., Bokesch, Dapper, Lebhers, Schwab, Smith, Rawson, and Metacalfe. 2,981,660.

Ray, William G.: *See*—
Davis, Shipp C., and Ray. 2,981,633.
Davis, Shipp C., and Ray. 2,981,634.

Raytheon Co.: *See*—
Gross, Thomas A. O. 2,981,942.

Reamer, Thomas E., to Shell Oil Co. Metal working lubricants. 2,981,680, 4–25–61, Cl. 252—33.6.

Redding, Harry L.: *See*—
Knickerbocker, Robert H., and Redding. 2,981,351.

Reed, Robert D., to John Zink Co. Air register for fuel burner. 2,981,320, 4–25–61, Cl. 158—1.5.

Reed, Stanley F.: *See*—
Russell, Edward W. C., and Reed. 2,981,249.

Reed, Thomas S., to Chrysler Corp. Variable pressure pneumatic vehicle tire. 2,981,305, 4–25–61, Cl. 152—330.

Reed, Wendell E., to Solar Aircraft Co. Multiple pressure sensing, indicating and control apparatus. 2,981,058, 4–25–61, Cl. 60—35.6.

Regie Nationale des Usines Renault: *See*—
Péras, Lucien. 2,981,121.
Péras, Lucien. 2,981,232.
Péras, Lucien. 2,981,276.
Péras, Lucien. 2,981,281.
Péras, Lucien. 2,981,388.
Péras, Lucien. 2,981,392.
Péras, Lucien. 2,981,398.
Péras, Lucien. 2,981,534.
Péras, Lucien. 2,981,859.

Reichel, Donald L.: *See*—
Lodge, James R., Swenson, and Reichel. 2,981,636.

Reifers, Richard F.: *See*—
Stickney, Wendell H., and Reifers. 2,981,330.

Reinecke, Herbert: *See*—
Enk, Eduard, Reinecke, and Kurs. 2,981,722.

Reiners, Walter: *See*—
Fürst, Stefan. 2,981,559.

Reingold, Irving, and J. L. Carter, to United States of America, Army. Microwave duplexer. 2,981,901, 4–25–61, Cl. 333—13.

Remington Arms Co., Inc.: *See*—
Sablin, Richard A. 2,981,137.

Republic Steel Corp.: *See*—
Schofield, Cecil. 2,981,361.

Reske, Richard F., and L. I. Siegel, to Federal Lighting Corp. Illumination system. 2,981,386, 4–25–61, Cl. 189—65.

Reuter, Franz G., to Mobay Chemical Co. Bearings of plastics. 2,981,573, 4–25–61, Cl. 308—36.1.

Reymes-Cole, Bernard T. R.: *See*—
Reymes-Cole, John M. R. and B. T. R. 2,980,981.

Reymes-Cole, John M. R. and B. T. R., to Singer-Fidelity, Inc. Ladies' stockings. 2,980,981, 4–25–61, Cl. 26—72.

Reynolds, Donald C., to United States of America, Air Force. Cadmium sulfide barrier layer cell. 2,981,777, 4–25–61, Cl. 136—89.

Rhea, Wilson A. Fuse-testing machine. 2,981,093, 4–25–61, Cl. 73—35.

Rice, Joseph: *See*—
Wright, Esmond P. G., Weir, and Rice. 2,981,789.

Richards, Richard K., and G. A. Morey, to International Business Machines Corp. Electronic multiplier. 2,981,470, 4–25–61, Cl. 235—159.

Richter, Gerhard, and P. L. G. Lhoste, to Societe Nationale d'Etudes et de Construction de Moteurs d'Aviation. Aircraft engine air inlet device. 2,981,502, 4–25–61, Cl. 244—53.

Rife, Charles A.: *See*—
Andersen, Arnold K., and Rife. 2,981,108.

Riggen, Winnifred, to American Telephone and Telegraph Co. Data recording system. 2,981,799, 4–25–61, Cl. 179—8.

Riggs, Olen L.: *See*—
Barnes, Paul M., Riggs, and Roebuck. 2,981,684.

Riggs, William D.: *See*—
Van Lieshout, Loisius J. A., and Riggs. 2,981,855.

Ringold, Howard J., and G. Rosenkranz, to Syntex S.A. Process for production of 4-alkyl and 4-benzyl derivatives of Δ4 pregnenes. 2,981,743, 4–25–61, Cl. 260—397.45.

Riordan, Hugh E., S. N. Samburoff, and J. E. Baughman, to United States of America, Navy. Pneumatic mechanism for booster clamp ring release. 2,981,187, 4–25–61, Cl. 102—49.

Rippere, Robert O.: *See*—
Abbott, Henry H., Rippere, Schmidt, and Williams. 2,981,804.

Rist, Michel: *See*—
Maurice, Jean, and Rist. 2,981,846.

Rizzo, Samuel, and D. Biser. Electrical brake lining wear detector. 2,981,929, 4–25–61, Cl. 340—52.

Roberson, Raymond F., to International Harvester Co. Plow furrow wheel. 2,981,344, 4–25–61, Cl. 172—386.

Roberts, Horace L.: *See*—
De Frenes, Joseph F., and Roberts. 2,981,144.

Roberts, John A., to General Electric Co. Leak standard. 2,981,091, 4–25–61, Cl. 73—1.

Robertshaw-Fulton Controls Co.: *See*—
Wheeler, Ross W. 2,981,841.

Robins, Erford E.: *See*—
Parker, Humphrey F., and Robins. 2,981,203.

Robinson, Jack D., Jr., to American Machine and Foundry Co. Underwater craft. 2,981,073, 4–25–61, Cl. 61—69.

Robinson, John E. Combination table and footrest. 2,981,576, 4–25–61, Cl. 311—32.

Robinson, Preston, to Sprague Electric Co. Process of forming barrier layers. 2,981,646, 4–25–61, Cl. 148—1.5.

Robson, Frederick W., and T. R. Seaman, to Toledo Scale Corp. Multiple compartment dishwasher having a liquid level control. 2,981,265, 4–25–61, Cl. 134—57.

Roche, Melvin E., and H. J. Sands, to Harvard Mfg. Co. Divan-bed. 2,980,923, 4–25–61, Cl. 5—59.

Rockey, Kenneth O.: *See*—
Callender, Bernard L., Graffy, Holsbock, and Rockey. 2,981,273.

Roe, Ronald W., to General Motors Corp. Self-damping torsilastic suspension. 2,981,537, 4–25–61, Cl. 267—57.1.

Roebuck, Albert H.: *See*—
Barnes, Paul M., Riggs, and Roebuck. 2,981,684.

Rogers, Joe Y., Jr., J. M. Brown, and O. E. Specht, to Cabot Corp. Channel carbon black process employing oil enrichment. 2,981,604, 4–25–61, Cl. 23—209.8.

Rogers, John H., to Beacon Mfg. Co. Napped leno fabric. 2,981,297, 4–25–61, Cl. 139—391.

Rohweder, Glen W., to Deere & Co. Foldable conveyor. 2,981,400, 4–25–61, Cl. 198—64.

Roller, Albert E., to General Motors Corp. Pneumatic vehicle suspension with torque responsive pitch control. 2,981,354, 4–25–61, Cl. 180—73.

Rolls-Royce Ltd.: *See*—
Kibbey, Ronald L., and Peat. 2,981,925.

Root, Andrew A., to American Can Co. Squeeze-to-use type container. 2,981,444, 4–25–61, Cl. 222—193.

Rosenberg, Ludwig M.: *See*—
Snyder, Herman B., and Rosenberg. 2,981,610.

Rosenblatt, Alex: *See*—
Rosenblatt, Leonard and A., Silvers, and Vossbrink. 2,981,829.

Rosenblatt, Leonard and A., J. J. Silvers, and C. Vossbrink, to Globe Illumination Co. Recessed fluorescent troffer. 2,981,829, 4–25–61, Cl. 240—51.11.

Rosenblatt, Murray, to General Electric Co. Stabilizing circuit for dynamoelectric machines. 2,981,882, 4–25–61, Cl. 322—24.

Rosenkrands, Johannes, to General Motors Corp. Swing axle rear suspension. 2,981,383, 4–25–61, Cl. 180—73.

Roth, William D.: *See*—
Lieberman, Dolores, and Roth. 2,981,564.

Rothenberg, Arthur J.: *See*—
Horner, John W., and Rothenberg. 2,981,059.

Rowland, Ben W., to Georgia Kaolin Co. Clay products and fractionation treatment of heterogeneous aggregates such as clay. 2,981,630, 4–25–61, Cl. 106—288.

Rubber Barricade Co., Inc.: *See*—
Barstow, Howard E. 2,981,519.

Rubin, Herbert: *See*—
Sutter, Elliot, and Rubin. 2,981,139.

Ruehlemann, Herbert E., to United States of America, Navy. Timing device with a cold cathode diode stabilization arrangement. 2,981,890, 4–25–61, Cl. 328—72.

Ruhman, Emil, to Minneapolis-Honeywell Regulator Co. Electrical pulse manipulating apparatus. 2,981,847, 4–25–61, Cl. 307—88.

Rummel, Theodor, to Siemens and Halske Aktiengesellschaft Berlin and Munich. Method of and apparatus for producing highly pure rodlike semiconductor bodies. 2,981,605, 4–25–61, Cl. 23—223.5.

Runde, Byron A.: *See*—
Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 2,981,421.

Rundell, Charles L., to General Electric Co. Contact tip for welding gun. 2,981,825, 4–25–61, Cl. 219—136.

Rupert, John P. Cigarette. 2,981,261, 4–25–61, Cl. 131—9.

Ruschp, Sepp: *See*—
Bannerman, Gordon H., Harp, and Ruschp. 2,981,205.

Russell, Edward W. C., and S. F. Reed. Portable disposable stove or grill. 2,981,249, 4–25–61, Cl. 126—25.

Russell, Harry B. Dispensing device. 2,981,445, 4–25–61, Cl. 222—259.

Rust, David J., and J. H. Jensen, to Rylock Co., Ltd. Roller unit for sliding door panels. 2,980,947, 4–25–61, Cl. 16—105.

Ruthroff, Clyde L., to Bell Telephone Laboratories, Inc. Low-loss microwave limiter. 2,981,837, 4–25–61, Cl. 250—20.

Rutigliano, Carl A. Third wheel device. 2,981,552, 4–25–61, Cl. 280—150.5.

Rutland Fire Clay Co.: *See*—
Perkins, Donald A. 2,981,449.

Rutz, Richard F., to International Business Machines Corp. High speed, high current transistor. 2,981,874, 4–25–61, Cl. 317—235.

Ruyle, William V.: *See*—
Chemerda, John M., Ruyle, and Chamberlin. 2,981,742.

Ryder, Frederick L., to Simmonds Precision Products, Inc. Capacitance type fluid measuring apparatus. 2,981,105, 4–25–61, Cl. 73—304.

Rylock Co., Ltd.: *See*—
Rust, David J., and Jensen. 2,980,947.

Saarinen, Eero. Table with hollow central pedestal support. 2,981,578, 4–25–61, Cl. 311—101.

Sacks, Jacob M., and E. R. Hill, to United States of America, Navy. Transistorized time multiplexer for telemetering. 2,981,800, 4–25–61, Cl. 179—15.

Safford, Thomas W., to Arcos, Inc. Connector for connecting a branch wire to a current conducting through wire. 2,981,921, 4–25–61, Cl. 339—97.

Sahlin, Richard A., to Remington Arms Co., Inc. Spinning punch. 2,981,137, 4–25–61, Cl. 86—32.

St. Clair, William E., and R. H. Moult, to Koppers Co., Inc. Curable aliphatic polyepoxide compositions. 2,981,701, 4–25–61, Cl. 260—18.

St. Clair, William E., and R. H. Moult, to Koppers Co., Inc. Curable epoxy phenol aldehyde-aliphatic polyepoxide compositions. 2,981,702, 4–25–61, Cl. 260—19.

St. John, Dale E. Electronic timer. 2,981,808, 4–25–61, Cl. 331—112.

Salmon, Clarence P., and J. W. Farmer, to Flexonics Corp. Valve. 2,981,475, 4–25–61, Cl. 236—34.

Salmon, Clarence P., and J. W. Farmer, to Flexonics Corp. Thermostatically controlled coiled spring valve. 2,981,476, 4–25–61, Cl. 236—34.

Salmon, Clarence P., to Flexonics Corp. Thermostat valve. 2,981,477, 4–25–61, Cl. 236—34.

Salmon, Clarence P., to Flexonics Corp. Thermostat valve. 2,981,478, 4–25–61, Cl. 236—34.

Samburoff, Serge N.: *See*—
Riordan, Hugh E., Samburoff, and Baughman. 2,981,187.

Sands, Hillard J.: *See*—
Roche, Melvin E., and Sands. 2,980,923.

Sanko, Daniel C., ⅓ to L. J. Kovach. Apparatus for forming hollow articles from thermoplastic material. 2,980,955, 4–25–61, Cl. 18—5.

Sarkes Tarzian, Inc.: *See*—
Eannarino, George, and Finn. 2,981,873.

Sarto, Jorma O., to Chrysler Corp. Carburetor idle fuel control means. 2,981,245, 4–25–61, Cl. 123—119.

Saslow, Irving. Adjustable picture hanger. 2,981,506, 4–25–61, Cl. 248—28.

Sassmann, Heinz: *See*—
Burgardt, Lothar, Pelz, Wahl, and Sassmann. 2,981,623.

Sato, Kenshun, and K. Asari. Diving mask. 2,981,252, 4–25–61, Cl. 128—142.

Sattler, Emil, to Koppers Co., Inc. Process for purifying crude benzene. 2,981,766, 4–25–61, Cl. 260—674.

Sausele, George J. H., to American Type Founders Co., Inc. Photographic devices for typography. 2,981,148, 4–25–61, Cl. 88—24.

Sautel, Auguste A.: *See*—
Lucas Pierre M., and Sautel. 2,981,802.

Savage, Jack W.: *See*—
Neyhouse George A., Savage, and Shewmon. 2,981,089.

Savitz, Donald A.: *See*—
Infantino, Joseph R., and Savitz. 2,980,965.

Scammon, Henry G. Loader for counter molding apparatus. 2,980,932, 4–25–61, Cl. 12—66.

Scarbrough, Abb L.: *See*—
Hochner, Walter L. and Scarbrough. 2,981,589.

Schaefer, Edison T. Directional thrust control means. 2,981,501 4–25–61, Cl. 244—52.

Schaffer, Harvey. Resilient chair. 2,981,315, 4–25–61, Cl. 155—34.

Scharla-Nielsen, Hans, D. D. McRae, and F. D. J. McLamb, to Radiation, Inc. Radio frequency amplifier. 2,981,896, 4–25–61, Cl. 330—53.

Schefer, Eli I.: *See*—
Brand, Harry R., and Schefer. 2,981,669.

Schlotterbeck, Earl S.: *See*—
Gangler, Richard S., Schlotterbeck, and Schultz. 2,981,076.

Schluttig, Pearl L. Double vise grip cap-and-jar unit. 2,981,431 4–25–61, Cl. 215—43.

Schmidt, Leonard D.: *See*—
Abbott, Henry H., Rippere, Schmidt, and Williams. 2,981,804.

Schmidt, Otto F.: *See*—
Knapp, Victor E., and Schmidt. 2,980,973.

Schneeberger, Robert J., and J. G. Castle, Jr., to Westinghouse Electric Corp. Storage display system. 2,981,863, 4–25–61, Cl. 315—12.

Schneider, Jos., & Co., Optische Werke: *See*—
Schultz, Karl H. 2,981,169.

Schnell, Carl T. Blackboard compass. 2,981,001, 4–25–61, Cl. 33—27.

Schofield, Cecil, to Republic Steel Corp. Cabinet construction. 2,981,361, 4–25–61, Cl. 181—33.

Scholin, Axel R. Motion transmitting apparatus for pump plungers and the like. 2,981,116, 4–25–61, Cl. 74—44.

Schonstedt, Erick O. Saturable measuring device and magnetic core therefor. 2,981,885, 4–25–61, Cl. 324—43.

Schrauf, Robert, and A. Frey, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for the production of light voluminous silicates. 2,981,599, 4–25–61, Cl. 23—110.

Schultz, Alfred W., to The Cleveland Crane & Engineering Co. Clutch. 2,981,391, 4–25–61, Cl. 192—85.

Schultz, Edward H., Jr., to The Nagel-Chase Mfg. Co. Sheet metal pulley with drawn hub. 2,981,120, 4–25–61, Cl. 74—230.8.

Schultz, Raymond F.: *See*—
Gaugler, Richard S., Schlotterbeck, and Schultz.
2,981,076.

Schulz, Hermann: *See*—
Brendlein, Heinrich, Huemer, Lussling, and Schulz.
2,981,749.

Schum, Henry C. Auxiliary liquid fuel supply system for outboard motors and the like. 2,981,322, 4–25–61, Cl. 158—36.6.

Schurich, Herbert, to Karl Steinhof, Apparatefabrik. Thread tensioner. 2,981,497, 4–25–61, Cl. 242—149.

Schultz, Karl H., to Jos. Schneider & Co., Optische Werke. Diaphragm preselector for photographic objectives. 2,981,169, 4–25–61, Cl. 95—64.

Schwab, Fredric W.: *See*—
Baker, Stanley W., and Schwab. 2,981,452.

Schwab, John L.: *See*—
Achorn, Glenwood B., Jr., Bokesch, Dapper, Lebherz, Schwab, Smith, Rawson, and Metcalfe. 2,981,660.

Schwartz, Newton, to Bell Telephone Laboratories, Inc. Fabrication of electrolytic capacitor. 2,981,647, 4–25–61, Cl. 148—6.14.

Schwartz, Samuel M., and D. Gross. Static cleaning and dust and particle removal. 2,980,933, 4–25–61, Cl. 15—1.5.

Schweitzer, Otto: *See*—
Bäder, Erich, and Schweitzer. 2,981,650.

Schwend, Fred N., to Clary Corp. Printer. 2,981,179, 4–25–61, Cl. 101—96.

Schwendenmann, Harry H. Hog exercising apparatus. 2,981,227, 4–25–61, Cl. 119—1.

Scott, John N., Jr.: *See*—
Boeke, Paul J., and Scott. 2,981,727.

Scott, Yvonne M.: *See*—
Dawson, John H. 2,981,507.

Scovil, Henry E. D., to Bell Telephone Laboratories, Inc. Three level maser. 2,981,894, 4–25–61, Cl. 330—4.

Sculitto, Thomas J.: *See*—
Agalides, Eugene, and Sculitto. 2,981,893.

Scully-Jones and Co.: *See*—
Better, Bernard R. 2,981,544.

Seaman, Thomas R.: *See*—
Robson, Frederick W., and Seaman. 2,981,265.

Seddon, Thomas R., to International Harvester Co. Hydraulically powered steering controls for steering-by-driving vehicles. 2,981,235, 4–25–61, Cl. 121—41.

Seelenbinder, Robert F., to International Steel Wool Corp. Pressing pads. 2,981,016, 4–25–61, Cl. 38—66.

Seely, Dwight H., Jr., to Sohio Petroleum Co. Seal structure for underground liquid storage facility. 2,981,070, 4–25–61, Cl. 61—.5.

Sepavich, Victor F.: *See*—
Paul, Frederick W., and Sepavich. 2,981,295.

Seragnoli, Ariosto. Mechanism for feeding wrapping material to a wrapping machine. 2,981,541, 4–25–61, Cl. 271—82.

Sergay, Dimitry B., to General Motors Corp. Sealing of revolver firing chamber. 2,981,023, 4–25–61, Cl. 42—50.

Servel, Inc.: *See*—
Coleman, Joseph J. 2,981,784.
Warren, Robert A., and Wilke. 2,981,782.

Severson, Asbjorn M., to Minneapolis-Honeywell Regulator Co. Electrical apparatus. 2,981,868, 4–25–61, Cl. 317—101.

Shea, George F.: *See*—
Thompson, Frederick C. 2,981,308.

Shell Oil Co.: *See*—
Bauer, Robert F., and Stratton. 2,981,346.
Bauer, Robert F., and Stratton. 2,981,347.
Black, Cline. 2,981,661.
Black, Cline. 2,981,662.
Black, Cline. 2,981,663.
Boulthee, Thomas H. 2,981,717.
Buningh Weigert C., and Pieters. 2,981,678.
Cole, Robert M., and Mecorney. 2,981,753.
Duplop, Arthur K. 2,981,681.
Engel, Willem F. 2,981,694.
Fetterly, Lloyd C. 2,981,765.
Good, George M. 2,981,674.
Holzman, George, and Madison. 2,981,772.
Hughes, John W. 2,981,425.
Loeffler, Donald E. 2,981,685.
Luft, Norbert W., and Waddan. 2,981,725.
Peery, Norman E. 2,981,695.
Reamer, Thomas E. 2,981,686.
Simpson, Warren C., and Sommer. 2,981,683.
Street, Brian F., and Skoroszewski. 2,981,716.

Shephard, James A.: *See*—
Teamer, Edward G., and Shephard. 2,981,017.

Shewmon, Ralph K.: *See*—
Neyhouse, George A., Savage, and Shewmon. 2,981,089.

Shipley, Donald M.: *See*—
Miller, Arthur H., Jr., Dietz, and Shipley. 2,981,152.

Shipley, William H.: *See*—
Bellinger, Ronald, Hutchinson, and Shipley. 2,981,422.

Short, Franklin W.: *See*—
Moore, Alexander M., Elslager, and Short. 2,981,731.

Shrader, Merrald B., F. G. Block, and M. R. Weingarten, to Radio Corp. of America. Art of fabricating electron tubes. 2,980,984, 4–25–61, Cl. 29—25.14.

Shwayder Bros., Inc.: *See*—
Shwayder, Jesse and K. D., and King. 2,981,579.

Shwayder, Jesse and K. D., and M. M. King, to Shwayder Bros., Inc. Top for folding tables and the like. 2,981,579, 4–25–61, Cl. 311—106.

Shwayder, King D.: *See*—
Shwayder, Jesse and K. D., and King. 2,981,579.

Sicedison S.p.A.: *See*—
Ferri, Antonio, and Patron. 2,981,760.

Sidabras, Kestutis S.: *See*—
Ward, William R., and Sidabras. 2,981,363.

Siegel, Lawrence I.: *See*—
Reske, Richard F., and Siegel. 2,981,386.

Siegelmann, Heinrich: *See*—
Kircher, Alfred, and Siegelmann. 2,981,527.

Siegler Corp., The: *See*—
Defries, Ernest W. 2,980,937.

Siemens and Halske Aktiengesellschaft Berlin and Munich: *See*—
Hurschler, Josef. 2,981,790.
Nitsch, Rudolf. 2,981,810.
Rummel, Theodor. 2,981,605.

Siemens-Reiniger-Werke Aktiengesellschaft: *See*—
Behne, Ernst A., and Ohlrogge. 2,980,999.

Sierra Engineering Co.: *See*—
Brown, David C. 2,980,951.
Coulter, Richard K. 2,980,976.

Sierra Metals Corp.: *See*—
Thielemann, Rudolf H. 2,981,621.

Sigma Instrument Co. Ltd., The: *See*—
Loxham, John. 2,981,514.

Silver, Alexander: *See*—
Abrams, Edward F., and Silver. 2,981,515.

Silvers, Jerry J.: *See*—
Rosenblatt, Leonard and A., and Silvers, and Vossbrink.
2,981,829.

Simjian, Luther G. Receptacle for depository apparatus. 2,981,492, 4–25–61, Cl. 242—67.3.

Simmonds Precision Products, Inc.: *See*—
Ryder, Frederick L. 2,981,105.

Simmons, Charles M.: *See*—
Bucy, Billy J., and Simmons. 2,981,335.

Simon, Wilbur: *See*—
Mickelson, Grant A., Simon, and Tibbitts. 2,981,697.

Simone, Carl F.: *See*—
Franks, Lewis E., Perletti, and Simone. 2,981,892.

Simpson, Warren C., and H. J. Sommer, to Shell Oil Co. Transportation of waxy oils. 2,981,683, 4–25–61, Cl. 252—8.3.

Sinclair, Frederick W., to Gloucester Railway Carriage and Wagon Co. Ltd. Bogie trucks for rail vehicles. 2,981,208, 4–25–61, Cl. 105—197.

Sinclair Refining Co.: *See*—
Keith, Willis C. and C. D., and Burk. 2,981,751.

Singer-Fidelity, Inc.: *See*—
Mahler, Peter A., and Haas. 2,981,085.
Reymes-Cole, John M. R. and B. T. R. 2,980,981.

Singer Mfg. Co., The: *See*—
Graham, Richard P., Herron, and Ketterer. 2,981,215.
Momberg, James W., and Taylor. 2,981,880.
Taylor, Edward W., and Momberg. 2,981,879.
Tillstrom, Carl R. 2,981,216.

Sisco, William E., and J. S. Wiederecht, to American Cyanamid Co. Alcohol recovery process. 2,981,664, 4–25–61, Cl. 202—57.

Sixsmith, Herbert, to National Research Development Corp. Heat exchangers. 2,981,082, 4–25–61, Cl. 62—401.

Skanalinaviska Granit Aktiebolaget: *See*—
Mattsson, Sven A., and Karlsson. 2,981,248.

Skidmore, William S., to Radio Corp. of America. Electrostatically-shielded loop antenna. 2,981,950, 4–25–61, Cl. 343—788.

Skoff, Eugene. Cartridge loader for a tubular magazine. 2,981,024, 4–25–61, Cl. 42—87.

Skomoroski, Robert M.: *See*—
Lang, Robert J., Long, Heath, and Skomoroski. 2,981,747.

Skoroszewski, Wladyslaw H.: *See*—
Street, Brian F., and Skoroszewski. 2,981,716.

Slane, John C., to The United States Trust Co. of New York. Circular knit hosiery and method of closing the toe thereof. 2,980,917, 4–25–61, Cl. 2—239.

Slater Paper Box: *See*—
Thibault, George E. 2,981,458.

Sloan, David H., to United States of America, Navy. Ramjet device. 2,981,065, 4–25–61, Cl. 60—39.72.

Small, Augustus B., L. S. Minckler, Jr., J. L. Ernst, and F. P. Ford, to Esso Research and Engineering Co. Improving ozone resistance of butyl rubbers. 2,981,714, 4–25–61, Cl. 260—45.7.

Small, Samuel N., to Julius Duberstein. Apparatus including a swinging frame for intermittently cutting elongated workpieces. 2,981,135, 4–25–61, Cl. 83—310.

Smiley, Harry J.: *See*—
Patterson, Raymond B., and Smiley. 2,981,291.

Smiley, Harry J., H. A. Batty, and T. W. Jones, to James Lees and Sons Co. Shuttle changer for fabric loom. 2,981,294, 4–25–61, Cl. 139—239.

Smith-Fisher, Inc.: *See*—
Grace, Charles R., and Smith. 2,981,854.

Smith, Graydon, to Clevite Corp. Position mensuring apparatus. 2,981,909, 4–25–61, Cl. 336—30.

Smith, Howard, Paper Mills Ltd.: *See*—
Olszowka, Edward P. 2,981,223.

Smith, Jack D.: *See*—
Grace, Charles R., and Smith. 2,981,854.

Smith, James R. E.: *See*—
Achorn, Glenwood B., Jr., Bokesch, Dapper, Lebherz, Schwab, Smith, Rawson, and Metcalfe. 2,981,660.

Smith, Philip N.: *See*—
Munford, Robert E., Smith, and Graham. 2,980,967.

Smith, Raymond D. Day and night distinguishing clock controlled switch. 2,981,807, 4–25–61, Cl. 200—38.

Smith, Roy B., to W. E. Kuepper. Fluid device. 2,981,286, 4–25–61, Cl. 137—620.

Smith, Thomas R., and W. Jamieson. Binder. 2,981,259, 4–25–61, Cl. 129—40.

Smith, Warren M.: *See*—
Adams, Clark E., Addison, and Smith. 2,981,676.

Smyser, James A. Tire chuck. 2,980,950, 4–25–61, Cl. 18—2.

Snell, Jacob K.: *See*—
Larew, John J., and Snell. 2,981,845.

Snow, Quentin L., and J. T. Weiller. Golf shoe cleaner. 2,980,936, 4–25–61, Cl. 15—113.

Snyder, Herman B., and L. M. Rosenberg, to Boeing Airplane Co. Chemical milling process and composition. 2,981,610 4–25–61, Cl. 41—42.

Soc. Metallotecnica: *See*—
Cupella, Aldo. 2,981,795.
Cupella, Aldo. 2,981,797.

Societe Anonyme des Manufactures des Glaces & Produits Chimiques de Saint-Gobain, Chauny & Cirey: *See*—
Levecque, Marcel, and Piot. 2,980,954.

Societe Anonyme Francaise du Ferodo: *See*—
Maurice, Jean, and Rist. 2,981,846.

Societe Belge de l'Azote et des Produits Chimiques du Marly: *See*—
Le Bihan, Henri, and Godart. 2,981,764.

Société d'Applications Générales d'Electricité et de Mécanique SAGEM: *See*—
Judet, Henri. 2,981,214.

Societe des Usines Chimiques Rhone-Poulenc: *See*—
Gailliot, Paul, and Gaudechon. 2,981,736.
Metivier, Jean. 2,981,748.

Societe Luxembourgeoise de Brevets et de Participations: *See*—
Paulsen, Jean F. 2,981,207.

Societe Nationale d'Etudes et de Construction de Moteurs d'Aviation: *See*—
Richter, Gerhard, and Lhoste. 2,981,502.

Socony Mobil Oil Co., Inc.: *See*—
Bowles, Vernon O. 2,981,677.
Flemming, Cecil D. 2,981,128.
Huckabay, William B., and McClure. 2,981,357.

Soddy, Thomas C., to Chicago Railway Equipment Co. Snubber for railway truck bolster support springs. 2,981,535, 4–25–61, Cl. 267—9.

Sofield, Charles R.: *See*—
Browne, Edwin C., and Sofield. 2,981,693.

Sohio Petroleum Co.: *See*—
Seely, Dwight H., Jr. 2,981,070.

Solar Aircraft Co.: *See*—
Reed, Wendell E. 2,981,058.

Sommer, Harry J.: *See*—
Simpson, Warren C., and Sommer. 2,981,683.

Sommer, Richard, and P. Greger, to Voigtlander A.G. Photographic camera provided with a shutter and diaphragm. 2,981,163, 4–25–61, Cl. 95—10.

Sonstegard, Ralph L. Foot actuated multiple rheostat control. 2,981,915, 4–25–61, Cl. 338—171.

Southwest Oilfield Products, Inc.: *See*—
Leman, Arthur L. 2,981,575.

Sparklin, Charles H., and E. L. Hall, to Whirlpool Corp. Vacuum cleaner. 2,980,939, 4–25–61, Cl. 15—377.

Specht, Otto E.: *See*—
Rogers, Joe Y., Jr., Brown, and Specht. 2,981,604.

Spencer, David P., and H. R. Bourne. Coating of fabrics. 2,981,637, 4–25–61, Cl. 117—76.

Sperry Rand Corp.: *See*—
Berky, Richard K. 2,981,343.
Blanshine, Allison W., and Steely. 2,981,045.
Hollyday, James H., and Young. 2,981,046.
Meyer, Bruce L. 2,981,853.
Nolt Edwin B. 2,981,173.

Spragens, George F. Continuous mixing apparatus. 2,981,522, 4–25–61, Cl. 259—3.

Spragens, George F. Continuous mixing and jet discharge apparatus. 2,981,523, 4–25–61, Cl. 259—3.

Sprague Electric Co.: *See*—
Robinson, Preston. 2,981,646.

Sprouse, Lowell E., to Verneo Corp. Spiral blower wheel. 2,980,990, 4–25–61, Cl. 29—156.8.

Sprouse, Verner E., to Verneo Corp. Snap filter frame. 2,981,367, 4–25–61, Cl. 183—44.

Square D Co.: *See*—
Van Valkenburg, Hermon L., and Nielsen. 2,981,922.

Stachon, Joseph A. Vacuum operated hair clipper. 2,980,994, 4–25–61, Cl. 30—133.

Stackpole Carbon Co.: *See*—
Arnold, Henry B. 2,981,698.

Stadium Ltd.: *See*—
Hefford, Charles G. 2,980,977.

Stadler, Charles J., to Odin Corp. Billet handling apparatus. 2,981,419, 4–25–61, Cl. 214—1.

Stalego, Charles J., to Owens-Corning Fiberglas Corp. Apparatus for forming fibers. 2,980,952, 4–25–61, Cl. 18—2.5.

Stampler, Charles W.: *See*—
Thibault, George E. 2,981,458.

Standard Oil Co. (Indiana): *See*—
Binning, Robert C. 2,981,680.
Gordon, Leon B. 2,981,726.
Knight, Harmon M., and Kelly. 2,981,770.

Standard Oil Co. (Ohio), The: *See*—
Foreman, Robert W., Szabo, and Veatch. 2,981,667.

Staples, Crawford E. and T. E. Hopkins, to Westinghouse Air Brake Co. Station transfer circuits for remote control systems. 2,981,930, 4–25–61, Cl. 340—163

Statham Laboratories, Inc.: *See*—
Di Giovanni, Mario. 2,981,912.

Stauffer Chemical Co.: *See*—
O'Neill, Robert C. 2,981,641.

Steattie Research Corp.: *See*—
Albers-Schoenberg, Ernst. 2,981,688.
Albers-Schoenberg, Ernst. 2,981,689.
Albers-Schoenberg, Ernst. 2,981,690.
Bachman, George S. 2,981,775.

Stecher, Edward J., to American Cyanamid Co. Bottle orienting device. 2,981,394, 4–25–61, Cl. 193—43.

Steely, Robert L.: *See*—
Blanshine, Allison W., and Steely. 2,981,045.

Steindorf, Robert T., to Chain Belt Co. Sediment eductors for settling chambers. 2,980,934, 4–25–61, Cl. 15—1.7.

Steinhof, Karl, Apparatefabrik: *See*—
Schurich, Herbert. 2,981,497.

Stephens, William T., to The Parker Appliance Co. Gear pump structure. 2,981,200, 4–25–61, Cl. 103—126.

Sterling Precision Corp.: *See*—
Beck, William C. 2,981,886.

Stern, Adolf J.: *See*—
Lamont, John, and Stern. 2,981,919.

Steven, Harry M., and R. W. Marshall, to General Electric Co. Circuit breaker. 2,981,811, 4–25–61 Cl. 200—88.

Stevenson, Thomas. Ignition system for caseless rounds in open breech type guns. 2,981,151, 4–25–61, Cl. 89—1.7.

Stewart, Richard M. Submerged combustion heating apparatus. 2,981,250, 4–25–61, Cl. 126—360.

Stickney, Wendell H., and R. F. Reifers, to Diamond National Corp. Pulp molding die. 2,981,330, 4–25–61, Cl. 162—411.

Stillo, Horatio S., R. S. Kolat, and W. R. Nummy, to The Dow Chemical Co. Detergent compositions. 2,981,692, 4–25–61, Cl. 252—170.

Stoddard, Edgar S., to General Electric Co. Apparatus and method for sanitizing tableware. 2,981,267, 4–25–61, Cl. 134—95.

Stoker, H. L., Co.: *See*—
Douglas, Edwin J. 2,981,349.

Stolarczyk, Gregory, and J. Highway marker. 2,981,149, 4–25–61, Cl. 88—79.

Stolarczyk, Jerry: *See*—
Stolarczyk, Gregory and J. 2,981,149.

Stoll, Aloix: *See*—
Heckmaier, Joseph, and Stoll. 2,981,718.

Stone, Elmer O.: *See*—
Burdick, Glen A., and Stone. 2,981,864.

Stoops, Charles E., and J. M. Fay, to Phillips Petroleum Co. Irradiation of olefins and mixtures thereof with alcohols. 2,981,670, 4–25–61, Cl. 204—158.

Strachan & Henshaw Ltd.: *See*—
Bellinger, Ronald, Hutchinson, and Shipley. 2,981,422.

Strader, Don S., to The Frank G. Hough Co. Hydraulic control valves. 2,981,288, 4–25–61, Cl. 137—622.

Stratton, Hal: *See*—
Bauer, Robert F., and Stratton. 2,981,346.
Bauer, Robert F., and Stratton. 2,981,347.

Street, Brian F., and W. H. Skoroszewski, to Shell Oil Co. Alpha-olefin polymers stabilized with phenyl phosphine derivatives. 2,981,716, 4–25–61, Cl. 260—45.7.

Streeter-Amet Co.: *See*—
Kennedy, Verne C., Jr. 2,981,587.

Strehlow, Walter F., to Allis-Chalmers Mfg. Co. Control mechanism for tractor hydraulic system. 2,981,342, 4–25–61, Cl. 172—8.

Streich, Paul B., Sr.: *See*—
Hruby, Joseph, Streich, and Tregay. 2,981,171.

Stresau, Richard H. F., to United States of America, Navy. Electric detonator. 2,981,186, 4–25–61, Cl. 102—28.

Strick Trailers, a division of Fruehauf Trailers Co.: *See*—
Abolins, Andrew. 2,981,555.

Stroh, William P. Apparatus for making skinless cocktail sausages. 2,980,949, 4–25–61, Cl. 17—34.

Stuart, Joseph, III, to Hiller Aircraft Corp. Propeller blade. 2,981,337, 4–25–61, Cl. 170—159.

Studer, Philip A., to Hamilton Watch Co. Indexing mechanism for electrical timepieces. 2,981,117, 4–25–61, Cl. 74—126.

Sundberg, Olle M. Orthopedic walking appliance. 2,981,312, 4–25–61, Cl. 155—22.

Suozzo, Leonard S., to Bergen Pipesupport Corp. Sway brace for piping. 2,981,511, 4–25–61, Cl. 248—54.

Suozzo, Salvador. Television brightener. 2,981,952, 4–25–61, Cl. 343—820.

Suter, George D., to Globe-Union Inc. Spark plugs. 2,981,860, 4–25–61, Cl. 313—131.

Sutter, Elliot, and H. Rubin, to Native Laces & Textiles, Inc. Lace fabric and method of making the same. 2,981,139, 4–25–61, Cl. 87—4.

Swann, Jeanette M.: *See*—
Otto, Constance H., and Swann. 2,980,919.

Swarts, William A.: *See*—
Feuer, Henry, and Swarts. 2,981,750.

Swartz, John H., to Linear Inc. Method for automatic molding. 2,980,962, 4–25–61, Cl. 18—47.5.

Sweeney, Patrick E., to Aircraft Armaments Inc. Safety interlock for machine gun barrel. 2,981,154, 4–25–61, Cl. 89—14.

Sweeney, Richard F.: *See*—
Neill, Ronald H., Sweeney, and Woolf. 2,981,763.

Swenson, George W.: *See*—
Lodge, James R., Swenson, and Reichel. 2,981,636.

Swick, John M.: *See*—
Fino, Alexander F., and Swick. 2,981,436.

Swift, John F., to International Harvester Co. Self-adjusting means for brake or clutch assemblies. 2,981,381, 4–25–61, Cl. 188—196.

Sylvania-Corning Nuclear Corp.: *See*—
Brand, Harry R., and Schefer. 2,981,669.
Johnson, Ralph B. 2,981,673.

Sylvania Electric Products Inc.: *See*—
Beeney, Donald W. 2,981,786.
Burdick, Glen A., and Stone. 2,981,864.
Wickersham, Arthur F., Jr., and McDowell. 2,981,951.

Syntex S.A.: *See*—
Ringold, Howard J., and Rosenkranz. 2,981,743.

Szabo, Lorraine S.: *See*—
Foreman, Robert W., Szabo, and Veatch. 2,981,667.

Taecker, Rollin G.: *See*—
Lawrooki, Stephen, Jonke, and Taecker. 2,981,592.

Taggart, Harry W. Heel retaining means for ski binding. 2,981,547, 4–25–61, Cl. 280—11.35.

Tamburri, Michael. Mobile car washing system. 2,981,266, 4–25–61, Cl. 134—72.

Tamama, Arjen, to United States of America, Agriculture. Stable sweetened cream product. 2,981,626, 4–25–61, Cl. 99—55.

Tarbutton, Grady, T. D. Farr, T. M. Jones, and H. T. Lewis, Jr., to Tennessee Valley Authority. Manufacture of ammonium cryolite. 2,981,597, 4–25–61, Cl. 23—88.

Tarbutton, Grady, T. D. Farr, T. M. Jones, and H. T. Lewis, Jr., to Tennessee Valley Authority. Manufacture of cryolite from waste gases. 2,981,598, 4–25–61, Cl. 23—88.

Tate, Lawrence A., to International Business Machines Corp. Stored address memory. 2,981,931, 4–25–61, Cl. 340—172.5.

Taylor, Allan J., to Northrop Aircraft, Inc. Elevating trailer with laterally shiftable frame. 2,981,548, 4–25–61, Cl. 280—29.

Taylor, Edward W.: *See*—
Momberg, James W., and Taylor. 2,981,880.

Taylor, Edward W., and J. W. Momberg, to The Singer Mfg. Co. Transistor-controlled speed-regulating systems for series commutator motors. 2,981,879, 4–25–61, Cl. 318—246.

Taylor, Homer H. Toilet seat elevator. 2,980,922, 4–25–61, Cl. 4—235.

Taylor, Thomas, & Sons, Inc.: *See*—
Yuryan, Joseph B. 2,981,498.

Technicolor Corp.: *See*—
Dixon, Thomas P. 2,981,791.

Technology Instrument Corp. of Acton: *See*—
Young, Charles. 2,981,914.

Telecommunications Radioelectriques et Telephoniques, T.R.T. (Societe Anonyme): *See*—
Familier, Vladimir. 2,981,902.

Tench, George E.: *See*—
Nelson, Robert E., and Tench. 2,981,240.

Tennessee Valley Authority: *See*—
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,597.
Tarbutton, Grady, Farr, Jones, and Lewis. 2,981,598.

Terp, Charles J., to Bryant Chucking Grinder Co. Workholder and method for internal grinding. 2,981,037, 4–25–61, Cl. 51—237.

Tesmer, Edward G., and J. A. Shephard, to M. M. Kistner. Automatic water metering for steam iron. 2,981,017, 4–25–61, Cl. 38—77.

Texaco Experiment Inc.: *See*—
Wilson, Elwood J., Jr., and Niemeier. 2,981,153.

Texas Instruments Inc.: *See*—
Webster, Roger R., and Nygaard. 2,981,835.

Thermotank, Inc.: *See*—
Drummond, James M., and Torry. 2,981,474.

Thibault, George E., to C. W. Stampler, d.b.a. Slater Paper Box. Cardboard box with a carrying handle. 2,981,458, 4–25–61, Cl. 229—52.

Thielemann, Rudolf H., to Sierra Metals Corp. High temperature nickel-iron base alloy. 2,981,621, 4–25–61, Cl. 75—171.

Thiokol Chemical Corp.: *See*—
Cohen, Murray S., and Grafstein. 2,981,746.

Thompson, Frederick C., 60% to G. F. Shea, 35% to J. A. Mullen, and 5% to J. M. Neale. Apparatus for producing reinforced plastics, resinous or like structural bodies, forms, linings and coatings. 2,981,308, 4–25–61, Cl. 154—1.

Thompson, Moody C. Jr., F. E. Freethey, and D. M. Waters, to United States of America, Commerce. Cavity resonator. 2,981,909, 4–25–61, Cl. 333—83.

Thompson Ramo Wooldridge Inc.: *See*—
Clark, Hubert M., and Livermore. 2,981,067.
Horner, John W., and Rothenberg. 2,981,059.

Thompson, William L.: *See*—
Vatt, David E., Dyer, and Thompson. 2,981,225.

Thomson, Marianne H.: *See*—
Kirk, David N., Petrow, and Thomson. 2,981,732.

Tibbitts, Gordon H.: *See*—
Mickelson, Grant A., Simon, and Tibbitts. 2,981,697.

Tidwell, Calvin M.: *See*—
Gay, Richard J., and Tidwell. 2,981,767.

Tighe, Donald J., to Harrison Laboratories, Inc. Regulated voltage supply. 2,981,884, 4–25–61, Cl. 323—22.

Tillstrom, Carl R., to The Singer Mfg. Co. Edge guides for sewing machines. 2,981,216, 4–25–61, Cl. 112—136.

Tinfow, Lionel. Shower and bathtub enclosures. 2,980,969, 4–25–61, Cl. 20—11.

Toledo Scale Corp.: *See*—
Borden, Joseph H. 2,981,375.
Hadley, Harlan A. 2,981,348.
Robson, Frederick W., and Seaman. 2,981,265.

Torrington Co., The: *See*—
White, Robert H. 2,981,570.

Torry, Douglas W.: *See*—
Drummond, James M., and Torry. 2,981,474.

Trabilcy, William J., to Electric Pipe Line, Inc. Type metal transportation system. 2,981,818, 4–25–61, Cl. 219—19.

Transitronics Ltd.: *See*—
Fernbach, Erwin A. 2,981,865.

Transogram Co., Inc.: *See*—
Weiss, Michael. 2,981,542.

Trautmann, John H., to R. E. Deutsch, d.b.a. Products for Industry. Modular work bench with connected panels. 2,981,577, 4–25–61, Cl. 311—35.

Tregay, John L.: *See*—
Hruby, Joseph, Streich, and Tregay. 2,981,171.

Trevor, Bertram A.: *See*—
MacLean, Kenneth G., and Trevor. 2,981,852.

Troche, Herman J., to Holan Corp. Vehicle ladder apparatus. 2,981,362, 4–25–61, Cl. 182—46.

Trumbo, Leroy C. Material handling and cooling conveyor. 2,981,269, 4–25–61, Cl. 134—153.

Tsien, Hsue C., and P. H. Chin. Plastic vacuum containers. 2,981,430, 4–25–61, Cl. 215—13.

Tsien, Hsue C., and P. H. Chin. Cool dimmer device for incandescent lamps. 2,981,866, 4–25–61, Cl. 315—240.

Tucker, Arthur R.: *See*—
Davis, Ward D., Du Pont, Zeitler, Batesole, Tucker, and Hanson. 2,981,008.

Tucker, Gardiner L., to International Business Machines Corp. Semiconductor device fabrication. 2,981,645, 4–25–61, Cl. 148—1.5.

Turner, Edward H., to Bell Telephone Laboratories, Inc. Resistance sheet microwave device. 2,981,900, 4–25–61, Cl. 333—81.

Turner, Stephen H., Sr. Mass transportation systems. 2,981,202, 4–25–61, Cl. 104—25.

Tuwiner, Sidney B., to Phelps Dodge Corp. Recovery of tellurium. 2,981,505, 4–25–61, Cl. 23—50.

Tuwiner, Sidney B., to Phelps Dodge Corp. Recovery of selenium from electrolytic copper refinery slimes. 2,981,603, 4–25–61, Cl. 23—209.

Umbricht, Emil, to Ajem Laboratories, Inc. Apparatus for handling overspray paint. 2,981,525, 4–25–61, Cl. 261—3.

Union Chimique Belge, S.A.: *See*—
Morren, Henri. 2,981,735.

Union Tank Car Co.: *See*—
Ward, William R., and Sidabras. 2,981,363.

United Aircraft Corp.: *See*—
Acker, Walter L., and Curkin. 2,981,609.
Barnes, Gilbert C. 2,981,060.
Desantis, Joseph. 2,980,974.
Farkas, Thomas P. 2,981,077.

United-Carr Fastener Corp.: *See*—
Jones, Ernest E. 2,980,975.

United Engineering and Foundry Co.: *See*—
Maximilian, Octavian. 2,981,493.

United Shoe Machinery Corp.: *See*—
Gilbride, Andrew J. 2,980,931.
Pearsall, Ralph E. 2,980,930.

United States of America
Agriculture: *See*—
Ginnette, Lewis F., Graham, and Morgan. 2,981,629.
Tamsma, Arjen. 2,981,626.

Air Force: *See*—
Dabney, Ward, Jr. 2,980,942.
Driskо, Benjamin B. 2,981,900.
Reynolds, Donald C. 2,981,777.

Army: *See*—
Fletcher, David C. 2,981,156.
Fletcher, David C. 2,981,158.
Godfrey, Theodore B. 2,981,183.
Grandy, Andrew J. 2,981,192.
Hager, Karl F., Lucas, and Franklin. 2,981,617.
Hahnel, Alwin. 2,981,899.
Lipinski, Henry S., and Dubroff. 2,981,168.
Reingold, Irving, and Carter. 2,981,901.

Atomic Energy Commission: *See*—
Baybars, Russell D. 2,981,643.
Faris, Burt F. 2,981,591.
Kingston, Walter E. 2,981,672.
Lawrooki, Stephen, Jonke, and Taecker. 2,981,592.

Commerce: *See*—
Thompson, Moody C., Jr., Freethey, and Waters. 2,981,908.

Navy: *See*—
Burnette, Thaddeus C., Jr. 2,981,780.
Carlton, Alvar G. 2,981,500.
Freund, John M. 2,981,778.
Freund, John M. 2,981,779.
Fyler, Ethel P., and Wilkes. 2,981,945.
Goode, William P., and Johnson. 2,981,503.
Gunnison, George S. 2,981,393.
Hicks, Harry F., Jr. 2,981,887.
Kopec, John C. 2,981,191.
Mattern, John. 2,981,826.
McHugh, John B. 2,981,123.
McKenney, Vaughn G. 2,981,927.
Miller, Arthur H., Jr. 2,981,150.
Miller, Arthur H., Jr., Dietz, and Shipley. 2,981,152.
Pars, Frank C. 2,981,189.
Riordan, Hugh E., Samburoff, and Baughman. 2,981,187.
Ruehlemann, Herbert E. 2,981,890.
Sacks, Jacob M., and Hill. 2,981,800.
Sloan, David H. 2,981,065.
Stresau, Richard H. F. 2,981,186.
Walton, Selwyn R. 2,981,618.
Will, Albert B., Bianchi, and Butler. 2,981,190.

United States Rubber Co.: *See*—
Barton, Bernard C., and Haxo. 2,981,304.
Buckwalter, Howard M., and Almand. 2,981,741.

United States Steel Corp.: *See*—
Bannerman, Gordon H., Harp., and Ruschp. 2,981,205.

United States Trust Co. of New York, The: *See*—
Slane, John C. 2,980,917.

Universal Oil Products Co.: *See*—
Hervert, George L., and Bloch. 2,981,696.

University of Minnesota, The Regents of the: *See*—
De Wall, Richard A., and Lillehei. 2,981,253.

Updegrave, Walter C.: *See*—
Peterson, Edward C., and Updegrave. 2,981,300.

Upjohn Co., The: *See*—
Fonken, Gunther S., and Murray. 2,981,659.

Upthegrove, Harry N.: *See*—
Dickinson, Frank R., and Upthegrove. 2,981,454.

Ustin, George, to Buchanan Electrical Products Corp. Electric terminal block structure. 2,981,923, 4–25–61, Cl. 339—198.

Vanant Co., Inc.: *See*—
Gaulke, Arthur W., and Hutchinson. 2,981,407.

Vandale Corp.: *See*—
Cleaveland, Wesley C. 2,981,402.

Vanderbilt, Edwin G. Apparatus for the gas deflation of an animal's stomach. 2,981,234, 4–25–61, Cl. 128—350.

Van Horn, Sterling W. Tractor safety control. 2,981,809, 4–25–61, Cl. 200—61.5

Van Lieshout, Loisius J. A., and W. D. Riggs, to Consolidated Electronics Industries Corp. Synchronous motor. 2,981,855, 4–25–61, Cl. 310—163.

Van Ranst, Cornelius W. Gear drive. 2,981,373, 4–25–61, Cl. 184—11.

Van Uitert, Le Grand G., to Bell Telephone Laboratories, Inc. Gyromagnetic wave transmission devices. 2,981,903, 4–25–61, Cl. 333—24.

Van Valkenburg, Hermon L., and E. J. Nielsen, to Square D Co. Electric terminal strip. 2,981,922, 4–25–61, Cl. 339—198.

Vatt, David E., E. C. Dyer, and W. L. Thompson, to The Gamewell Co. Wire insulation coloring apparatus. 2,981,225, 4–25–61, Cl. 116—65.

Veatch, Franklin: *See*—
Foreman, Robert W., Szabo, and Veatch. 2,981,667.

Vernco Corp.: *See*—
Sprouse, Lowell E. 2,980,990.
Sprouse, Verner E. 2,981,367.

Vianova Kunstharz Aktiengesellschaft: *See*—
Hoenel, Herbert. 2,981,703.
Hoenel, Herbert. 2,981,710.

Vice, Charles L., to Minnesota Mining and Mfg. Co. Method of fabricating tubes. 2,980,988, 4–25–61, Cl. 29—155.59.

Vockenhuber, Karl: *See*—
Malek, Georg. 2,981,145.

Vogt, Clarence W. Method and equipment for filling open mouth receptacles with pulverulent material. 2,981,298, 4–25–61, Cl. 141—5.

Vogt, Kenneth S.: *See*—
Manahan, Max J., and Vogt. 2,981,870.

Voigt, Heins: *See*—
Lehmann, Rudolf, Wiemer, and Voigt. 2,981,094.

Voigtlander A.G.: *See*—
Sommer, Richard, and Greger. 2,981,163.

Vollans, Maurice H. Clamping tool. 2,980,913, 4–25–61, Cl. 1—260.

Volpert, Ludger: *See*—
Weissmann, Léon, and Volpert. 2,981,199.

Vonderau, Patricia M.: *See*—
Menough, Paul S. 2,981,529.

Vossbrink, Chester: *See*—
Rosenblatt, Leonard and A., and Silvers, and Vossbrink. 2,981,829.

Votava, Clarence J.: *See*—
Guyton, James H., Votava, Jenkins, and Dodge. 2,981,836.

Vulcan Containers Inc.: *See*—
McCarthy, Vern I. 2,981,435.

Wacker-Chemie G.m.b.H.: *See*—
Enk, Eduard, Reinecke, and Kurz. 2,981,722.
Heckmaier, Joseph, and Stoll. 2,981,718.

Waddan, Dhafir Y.: *See*—
Luft, Norbert W., and Waddan. 2,981,725.

Wahl, Ottmar: *See*—
Burgardt, Lothar, Pels, Wahl, and Sassmann. 2,981,623.

Wahlberg, Roger R.: *See*—
Crosby, Charles H., Hicks, Nystrom, and Wahlberg. 2,981,049.

Walker, Raymond W.: *See*—
Lovett, William E., Walker, and Jordan. 2,981,614.

Walker, Ronald E., to Phil Wood Industries, Ltd. Spare tire carriers. 2,981,427, 4–25–61, Cl. 214—451.

Wallace, Richard B., and R. J. Ebbert, to The Oakland Corp. Apparatus for applying locking plugs of plastic material to threaded articles. 2,980,928, 4–25–61, Cl. 10—2.

Walsh, Bernard L., Jr.: *See*—
Ajioka, James S., and Walsh. 2,981,904.

Walsh, William J., Sr. Automatic speed zone control for railroad trains. 2,981,831, 4–25–61, Cl. 246—182.

Walther Buromaschinen Gesellschaft m.b.H.: *See*—
Geiling, Helmut. 2,981,469.

Walton, Selwyn R., to United States of America, Navy. High explosive filler for naval underwater munitions. 2,981,618, 4–25–61, Cl. 52—6.

Wam, Wesley H.: *See*—
Messenger, Carus L., and Wam. 2,981,509.

Ward, Norman E., to The Procter & Gamble Co. Fatty acid processing. 2,981,744, 4–25–61, Cl. 260—419.

Ward, William R., and K. S. Sidabras, to Union Tank Car Co. Ladder arrangement for floating roof storage tank. 2,981,363, 4–25–61, Cl. 182—84.

Warne, Eugene H.: *See*—
Freeman, Frank G., and Warne. 2,981,321.

Warnick, Alan, to Ford Motor Co. Pressure measuring apparatus. 2,981,911, 4–25–61, Cl. 838—4.

Warren Components Division of El-Tronics, Inc.: *See*—
Cropp, David. 2,980,960.

Warren, Harry G. Water sprinkler. 2,981,482, 4–25–61, Cl. 239—230.

Warren, Robert A., and M. E. Wilke, to Servel, Inc. Terminal-depolarizer unit for primary cells. 2,981,782, 4–25–61, Cl. 136—136.

Warthen, William P.: *See*—
Whitehurst, Harry B., Otto, and Warthen. 2,980,956.

Washburne, Brenton P., to General Precision, Inc. Microwave navigation system. 2,981,944, 4–25–61, Cl. 343—9.

Waters, Donald M.: *See*—
Thompson, Moody C., Jr., Freethey, and Waters. 2,981,908.

Waters, Noble R., Sr. Water chair. 2,980,927, 4–25–61, Cl. 9—347.

Watlington, Lee S. Vending machines. 2,981,441, 4–25–61, Cl. 221—67.

Watson, Luke E.: *See*—
Willetts, Elwood H., Ingram, and Watson. 2,981,288.

Webber, Jack. Folding ladder. 2,981,364, 4–25–61, Cl. 182—159.

Webber, Stanley E., to General Electric Co. Electron tube frequency multiplier of the traveling wave type. 2,981,889, 4–25–61, Cl. 328—19.

Webster, Roger R., and J. L. Nygaard, to Texas Instruments Inc. Automatic gain control system. 2,981,835, 4–25–61, Cl. 250—20.

Wechsler, Lawrence D.: *See*—
Abbott, Harold W., and Wechsler. 2,981,881.

Wedrall, Edwin J. Underwater weapon. 2,981,026, 4–25–61, Cl. 43—6.

Weedman, John A., to Phillips Petroleum Co. Separation by crystallization. 2,981,773, 4–25–61, Cl. 260—707.

Wehner, Alfred P. Latch mechanism. 2,981,560, 4–25–61, Cl. 292—207.

Weiller, John T.: *See*—
Snow, Quentin L., and Weiller. 2,980,936.

Weingarten, Morris R.: *See*—
Shrader, Merrald B., Block, and Weingarten. 2,980,984.

Weir, Donald A.: *See*—
Wright, Esmond P. G., Weir, and Rice. 2,981,789.

Weiss, Michael, to Transogram Co., Inc. Action board game. 2,981,542, 4–25–61, Cl. 273—85.

Weissmann, Léon, and L. Volpert, to Becorit Grubenausbau G.m.b.H. Fluid pumps. 2,981,199, 4–25–61, Cl. 103—53.

Wen, Lian-Tong. Method of treating coconut juice. 2,981,627, 4–25–61, Cl. 99—125.

Wendland, Leo E. Prism art device. 2,981,142, 4–25–61, Cl. 88—1.

Wennerberg, Fritz J., and K. B. Hansen, to Aktiebolaget Separator. Apparatus for controlling a variable quantity such as temperature or pressure. 2,981,274, 4–25–61, Cl. 137—85.

Western Co. of North America, The: *See*—
Bucy, Billy J., and Simmons. 2,981,335.

Western Electric Co., Inc.: *See*—
Adams, George P. 2,981,129.
Crosby, Charles H., Hicks, Nystrom, and Wahlberg. 2,981,049.
Danaczko, John, Jr. 2,981,607.
Danaczko, John, Jr. 2,981,642.
Ellis, Benjamin C., Jr. 2,980,958.
Frank, Gerard A. 2,980,991.
Lamont, John, and Stern. 2,981,919.

Westinghouse Air Brake Co.: *See*—
Staples, Crawford E., and Hopkins. 2,981,930.

Westinghouse Electric Corp.: *See*—
Brown, Jack T., Mueller, France, and Cochardt. 2,981,620.
Friedrich, Robert E. 2,981,814.
Hansen, Hans E. 2,981,397.
Ichikawa, Yoshio. 2,981,699.
Kyle, William K. 2,981,479.
Leeds, Winthrop M., and Johnson. 2,981,815.
Murphy, James D. 2,981,461.
Schneeberger, Robert J., and Castle. 2,981,863.

Westmijze, Willem K., to North American Philip Co., Inc. Permanent magnet. 2,981,871, 4–25–61, Cl. 317—201.

Wheeler, Ross W., to Robertshaw-Fulton Controls Co. Liquid level monitor system. 2,981,841, 4–25–61, Cl. 250—43.5.

Whelan, James P., to Pneumatic Scale Corp., Ltd. Container cleaning machine. 2,980,938, 4–25–61, Cl. 15—304.

Whirlpool Corp.: *See*—
Fink, Robert W. 2,981,079.
Koch, Alan J. 2,981,080.
Sparklin, Charles H., and Hall. 2,980,939.

White, Gerald E. Soft-water system. 2,981,415, 4–25–61, Cl. 210—149.

White, James O., Jr., to Dresser Industries, Inc. Electrical current measuring system. 2,981,888, 4–25–61, Cl. 324—115.

White, Robert H., to The Torrington Co. Recirculating roller bearing. 2,981,570, 4–25–61, Cl. 308—6.

Whitehurst, Harry B., W. H. Otto, and W. P. Warthen, to Owens-Corning Fiberglas Corp. Metal applicators for glass filaments. 2,980,956, 4–25–61, Cl. 18—8.

Whitmoyer Laboratories, Inc.: *See*—
Delmar, Geza S. 2,981,745.

Whitworth, Herbert M.: *See*—
Randell, Geoffrey E. C., and Whitworth. 2,981,423.

Wickersham, Arthur F., Jr., and J. E. McDowell, to Sylvania Electric Products Inc. Broadband antenna. 2,981,951, 4–25–61, Cl. 343—807.

Wickman, Axel C. Variable speed power transmission mechanisms. 2,981,063, 4–25–61, Cl. 60—39.16.

Wiederecht, John S.: *See*—
Sisco, William E., and Wiederecht. 2,981,664.

Wiemer, Arthur: *See*—
Lehmann, Rudolf, Wiemer, and Voigt. 2,981,094.

Wier, Joseph M., to Bell Telephone Laboratories, Inc. Constant output impedance network. 2,981,851, 4–25–61, Cl. 307—88.5.

Wiese, Herbert K., to Esso Research and Engineering Co. Unsaturated halogenated cyclopentene compounds. 2,981,755, 4–25–61, Cl. 260—648.

Wilder, Leslie N., to Bell Telephone Laboratories, Inc. Underwater lowering device. 2,981,074, 4–25–61, Cl. 61—72.

Wilke, Milton E.: *See*—
Warren, Robert A., and Wilke. 2,981,782.

Wilkes, Gilbert: *See*—
Fyler, Ethel P., and Wilkes. 2,981,945.
Will, Albert S., R. Bianchi, and N. C. Butler, to United States of America, Navy. Bomb fuze. 2,981,190, 4–25–61, Cl. 102—70.2.
Willard, David G.: *See*—
Paul, Frederick W., and Willard. 2,981,296.
Willemse, Theo W., to North American Philips Co., Inc. Semiconductor device. 2,981,876, 4–25–61, Cl. 317—235.
Willetts, Elwood H., C. B. Ingram, and L. E. Watson, said Ingram and said Watson assors to said Willetts. Automatic dump drain valve. 2,981,283, 4–25–61, Cl. 137—517.
Williams, Carroll M. Products having juvenile hormonal activity and their production. 2,981,655, 4–25–61, Cl. 167—22.
Williams, Robert D.: *See*—
Abbott, Henry H., Rippere, Schmidt, and Williams. 2,981,804.
Williamson, William A., to Clark Equipment Co. Paper roll handling truck. 2,981,429, 4–25–61, Cl. 214—654.
Wilson, Elwood J., Jr., and B. A. Niemeier, to Texaco Experiment Inc. Fuel injection device. 2,981,153, 4–25–61, Cl. 89—7.
Wilson, Volney C., to General Electric Co. Counting tube. 2,981,857, 4–25–61, Cl. 313—61.
Wilson, Wallace D., and G. W. Johnson, Jr., to Elastic Stop Nut Corp. of America. Time delay apparatus. 2,981,583, 4–25–61, Cl. 267—1.
Winget Ltd.: *See*—
Buck, Leon E. 2,981,101.
Winhoven, Joseph F. Artificial fish bait. 2,981,028, 4–25–61, Cl. 43—42.48.
Winslow, Charles A. Balanced safety anchor. 2,981,219, 4–25–61, Cl. 114—208.
Wintringham, Andrews C.: *See*—
Herbes, William F., and Wintringham. 2,981,704.
Wise, Ralph H., to The Anderson Co. Lifting mechanism. 2,981,518, 4–25–61, Cl. 254—101.
Wise, Ralph H., to The Anderson Co. Bearing structure. 2,981,568, 4–25–61, Cl. 308—6.
Wissmiller, Ivan L., to Chicago Bridge & Iron Co. Floating roof tank. 2,981,437, 4–25–61, Cl. 220—26.
Wolshin, Louis. 50% to S. Axelrod. Hand swim fin. 2,980,925, 4–25–61, Cl. 9—308.
Wolshin, Louis, 50% to S. Axelrod. Fin shoe. 2,980,926, 4–25–61, Cl. 9—309.
Wood, Phil, Industries, Ltd.: *See*—
Walker, Ronald E. 2,981,427.
Woodall-Duckham Construction Co. Ltd.: *See*—
Randell, Geoffrey E. C., and Whitworth. 2,981,423.
Woodson, Billy J. Apparatus and method for termite elimination. 2,981,025, 4–25–61, Cl. 43—124.
Woodward Governor Co.: *See*—
Gillespie, Sidney L. 2,981,340.
Woodward, Stephen G., to The Bendix Corp. Fuel supply system. 2,981,246, 4–25–61, Cl. 123—119.
Woolf, Cyril: *See*—
Neill, Ronald H., Sweeney, and Woolf. 2,981,763.
Woolf, Cyril, to Allied Chemical Corp. Manufacture of fluoro butanes. 2,981,762, 4–25–61, Cl. 260—653.7.
Worden, Norbert P., to C. M. Hall Lamp Co. Safety lamp assembly. 2,981,828, 4–25–61, Cl. 240—8.18.
Wormser, Eric M.: *See*—
Barnes, Robert B., Wormser, and De Waard. 2,981,913.
Wright, Esmond P. G., D. A. Weir, and J. Rice, to International Standard Electric Corp. Electric signalling systems. 2,981,789, 4–25–61, Cl. 178—2.
Wynn, Robert W., to General Aniline & Film Corp. Process of preparing 2,2,3,3-tetrachloro-1,4-butanediol. 2,981,754, 4–25–61, Cl. 260—633.
Yager, Harry L. Portable mixer. 2,981,524, 4–25–61, Cl. 259—177.
Yellott, John I., and P. R. Broadley, to Bituminous Coal Research, Inc. Vortical whirl separator. 2,981,369, 4–25–61, Cl. 183—85.
York, Ruth M.: *See*—
York, William C. 2,981,691.
York, William C., deceased, by R. M. York, administratrix, and L. I. Osipow, to W. R. Grace & Co. Detergent composition. 2,981,691, 4–25–61, Cl. 252—137.
Young, David H., and L. A. Clay-Smith, to The Walter Kidde Co. Ltd. Valves for reducing gaseous pressure. 2,981,275, 4–25–61, Cl. 137—116.5.
Young, Robert G.: *See*—
Hollyday, James H., and Young. 2,981,046.
Youngner, Julius S., and H. Noll. Lipid purification and concentration of viruses and vaccines therefrom. 2,981,658, 4–25–61, Cl. 167—78.
Youra, Charles, to Technology Instrument Corp. of Acton. High-torque potentiometer. 2,981,914, 4–25–61, Cl. 338—162.
Yuryan, Joseph B., to Thomas Taylor & Sons, Inc. Tension regulating device. 2,981,498, 4–25–61, Cl. 242—154.
Zeiden, Keith G., to Arnoux Corp. Method and apparatus for safe operation of engines. 2,981,062, 4–25–61, Cl. 60—39.09.
Zeidler, Reinhold C., to Borg-Warner Corp. Disc brake. 2,981,376, 4–25–61, Cl. 188—73.
Zeitler, Richard J.: *See*—
Davis, Ward D., Du Pont, Zeitler, Batesole, Tucker, and Hanson. 2,981,008.
Zerbe, John L., Sr. Automatic truck flap system. 2,981,553, 4–25–61, Cl. 280—154.5.
Zimmermann, Frederick N. and W. E., to March Mfg. Co. Condensate pump and control means. 2,981,196, 4–25–61, Cl. 103—26.
Zimmerman, Willy E.: *See*—
Zimmermann, Frederick N. and W. E. 2,981,196.
Zink, John Co.: *See*—
Reed, Robert D. 2,981,320.
Zinkl, Anton: *See*—
Biedermann, Friedrich, and Zinkl. 2,981,168.
Ziolkowski, Edward M., to Minneapolis-Honeywell Regulator Co. Electrical apparatus for transferring digital data. 2,981,934, 4–25–61, Cl. 340—174.
Zollinger, Alfred, to Grinnell Corp. Constant support hangers. 2,981,512, 4–25–61, Cl. 248—58.
Zouck, Robert L., and I. R. Barr, to Aircraft Armaments, Inc. In-hold cargo handling device. 2,981,350, 4–25–61, Cl. 180—9.2.

CLASSIFICATION OF PATENTS

ISSUED APRIL 25, 1961

NOTE.—First number=class, second number=subclass, third number=patent number

1— 350: 2,980,913
2— 10: 2,980,914
159: 2,980,915
215: 2,980,916
239: 2,980,917
321: 2,980,918
4— 1: 2,980,919
56: 2,980,920
172: 2,980,921
235: 2,980,922
5— 59: 2,980,923
8— 62: 2,981,588
116.2: 2,981,589
9— 6: 2,980,924
300: 2,980,925
309: 2,980,926
347: 2,980,927
10— 2: 2,980,928
10: 2,980,929
12— 1: 2,980,930
14.2: 2,980,931
66: 2,980,932
16— 1.5: 2,980,933
1.7: 2,980,934
21: 2,980,935
113: 2,980,936
230: 2,980,937
250.42: Re.24,974
304: 2,980,938
377: 2,980,939
506: 2,980,940
2,980,941
512: 2,980,942
16— 7: 2,980,943
35: 2,980,944
85: 2,980,945
87.8: 2,980,946
105: 2,980,947
17— 8: 2,980,948
34: 2,980,949
18— 2: 2,980,950
2,980,951
2.5: 2,980,952
2,980,953
2.6: 2,980,954
5: 2,980,955
8: 2,980,956
2,980,957
13: 2,980,958
19: 2,980,959
20: 2,980,960
21: 2,980,961
47.5: 2,980,962
2,980,963
57: 2,980,964
2,980,965
59: 2,980,966
19— 70: 2,980,967
20— .5: 2,980,968
11: 2,980,969
62: 2,980,970
78.6: 2,980,971
92: 2,980,972
22— 212: 2,980,973
23— 1: 2,981,500
14.5: 2,981,591
2,981,592
2,981,593
18: 2,981,594
30: 2,981,595
60: 2,981,596
88: 2,981,597
2,981,598
110: 2,981,599
143: 2,981,600
153: 2,981,601
2,981,602
209: 2,981,603
209.8: 2,981,604
223.5: 2,981,605
230: 2,981,606
2,981,607
270: 1,981,608
24— 68: 2,980,974
80: 2,980,975
223: 2,980,976
253: 2,980,977
25— 41: 2,980,978
131: 2,980,979
27— 26: 2,980,980
28— 72: 2,980,981
78: 2,980,982
29—25.14: 2,980,984
25.3: 2,980,983
103: 2,980,985
105: 2,980,986
148.4: 2,980,987
29–155.59: 2,980,988
156.4: 2,980,989
156.8: 2,980,990
203: 2,980,991
205: 2,980,992
534: 2,980,993
30— 133: 2,980,994
144: 2,980,995
157: 2,980,996
363: 2,980,997
32— 12: 2,980,998
22: 2,980,999
33— 1: 2,981,000
27: 2,981,001
32: 2,981,002
46: 2,981,003
77: 2,981,004
178: 2,981,005
191: 2,981,006
34— 118: 2,981,007
35— 12: 2,981,008
17: 2,981,009
36— 11.5: 2,981,010
59: 2,981,011
37— 86: 2,981,012
94: 2,981,013
116: 2,981,014
141: 2,981,015
38— 66: 2,981,016
77: 2,981,017
40— 16: 2,981,018
124: 2,981,019
130: 2,981,020
336: 2,981,021
41— 30: 2,981,022
42: 2,981,609
2,981,610
43: 2,981,611
2,981,612
42— 50: 2,981,023
87: 2,981,024
43— 6: 2,981,026
43.1: 2,981,027
43.48: 2,981,028
44.95: 2,981,029
124: 2,981,025
44— 40: 2,981,613
56: 2,981,614
45— 129: 2,981,030
46— 40: 2,981,031
127: 2,981,032
47— 41: 2,981,033
59: P.P.2,052
61: P.P.2,053
62: P.P.2,051
P.P.2,054
50— 51: 2,981,034
51— 166: 2,981,035
173: 2,981,036
237: 2,981,037
288: 2,981,038
297: 2,981,615
52— .5: 2,981,616
2,981,617
6: 2,981,618
53— 29: 2,981,039
62: 2,981,040
131: 2,981,041
157: 2,981,042
206: 2,981,043
310: 2,981,044
1: Re.24,973
99: 2,981,045
341: 2,981,046
57— 60: 2,981,047
62: 2,981,048
60.5: 2,981,049
75: 2,981,050
134: 2,981,051
154: 2,981,052
160: 2,981,053
58— 28: 2,981,054
82: 2,981,055
60— 17: 2,981,056
29: 2,981,057
35.55: 2,981,061
35.6: 2,981,058
2,981,059
2,981,060
39.09: 2,981,062
39.16: 2,981,063
39.34: 2,981,064
39.72: 2,981,065
39.74: 2,981,066
53: 2,981,067
53: 2,981,068
97: 2,981,069
61— .5: 2,981,070
2,981,071
11: 2,981,072
69: 2,981,073
72: 2,981,074
62— 62: 2,981,075
208: 2,981,076
210: 2,981,077
271: 2,981,078
353: 2,981,079
365: 2,981,080
378: 2,981,081
401: 2,981,082
426: 2,981,083
64— 21: 2,981,084
66— 54: 2,981,085
172: 2,981,086
67— 23: 2,981,087
31: 2,981,088
68— 24: 2,981,089
70— 93: 2,981,090
71— 9.3: 2,981,619
73— 1: 2,981,091
23: 2,981,092
35: 3,981,093
37.5: 2,981,094
40: 2,981,095
67.1: 2,981,096
88: 2,981,097
116: 2,981,098
134: 2,981,099
141: 2,981,100
2,981,101
151.5: 2,981,102
162: 2,981,103
189: 2,981,104
304: 2,981,105
339: 2,981,106
341: 2,981,107
343: 2,981,108
362: 2,981,109
389: 2,981,110
453: 2,981,111
462: 2,981,112
74— 8.4: 2,981,113
10: 2,981,114
25: 2,981,115
44: 2,981,116
126: 2,981,117
142: 2,981,118
196: 2,981,119
230.8: 2,981,120
365: 2,981,121
472: 2,981,122
665: 2,981,123
677: 2,981,124
688: 2,981,125
731: 2,981,126
75— 170: 2,981,620
171: 2,981,621
77— 67: 2,981,127
80— 60: 2,981,128
81— 9.51: 2,981,129
15: 2,981,130
17.2: 2,981,131
50: 2,981,132
349: 2,981,133
83— 18: 2,981,134
310: 2,981,135
672: 2,981,136
86— 32: 2,981,137
38: 2,981,138
87— 4: 2,981,139
88— 1: 2,981,140
2,981,141
2,981,142
2.4: 2,981,143
16: 2,981,144
2,981,145
17: 2,981,146
24: 2,981,147
2,981,148
57: Re.24,972
79: 2,981,149
89— 1.7: 2,981,150
2,981,151
2,981,152
7: 2,981,153
14: 2,981,154
16: 2,981,155
127: 2,981,156
135: 2,981,157
192: 2,981,158
90—11.42: 2,981,159
22: 2,981,160
93— 1.3: 2,981,161
94— 25: 2,981,162
95— 10: 2,981,163
2,981,164
2,981,165
44: 2,981,166
53: 2,981,167
2,981,168
64: 2,981,169
89: 2,981,170
94: 2,981,171
96— 48: 2,981,622
66: 2,981,623
109: 2,981,624
116: 2,981,625
98— 116: 2,981,172
99— 55: 2,981,626
125: 2,981,627
163: 2,981,628
206: 2,981,629
100— 19: 2,981,173
21: 2,981,174
93: 2,981,175
101— 18: 2,981,176
28: 2,981,177
94: 2,981,178
96: 2,981,179
147: 2,981,180
217: 2,981,181
366: 2,981,182
102— 4: 2,981,183
18: 2,981,184
20: 2,981,185
28: 2,981,186
49: 2,981,187
56: 2,981,188
70: 2,981,189
70.2: 2,981,190
2,981,191
78: 2,981,192
103— 1: 2,981,193
23: 2,981,194
25: 2,981,195
26: 2,981,196
38: 2,981,197
41: 2,981,198
53: 2,981,199
121: Re.24,975
126: 2,981,200
163: 2,981,201
104— 25: 2,981,202
94: 2,981,203
162: 2,981,204
173: 2,981,205
105— 182: 2,981,206
187: 2,981,207
197: 2,981,208
215: 2,981,209
368: 2,981,210
106— 288: 2,981,630
107— 14: 2,981,211
2,981,212
111— 64: 2,981,213
112— 58: 2,981,214
76: 2,981,215
136: 2,981,216
114— 78: 2,981,217
177: 2,981,218
206: 2,981,219
235: 2,981,220
115— 1: 2,981,221
18: 2,981,222
117— 21: 2,981,631
39: 2,981,632
50: 2,981,633
2,981,634
62: 2,981,635
70: 2,981,636
76: 2,981,637
111: 2,981,638
113: 2,981,639
138.5: 2,981,640
118— 63: 2,981,223
2,981,224
65: 2,981,225
227: 2,981,226
119— 1: 2,981,227
2: 2,981,228
56: 2,981,229
117: 2,981,230
120— 33: 2,981,231
121— 88: 2,981,232
2,981,233
2,981,234
41: 2,981,235
46: 2,981,236
2,981,237
2,981,238
46.4: 2,981,239
121— 164: 2,981,240
122— 6: 2,981,241
123— 46: 2,981,242
78: 2,981,243
119: 2,981,244
2,981,245
2,981,246
193: 2,981,247
125— 18: 2,981,248
126— 25: 2,981,249
300: 2,981,250
128— 2.05: 2,981,251
142: 2,981,252
214: 2,981,253
350: 2,981,254
361: 2,981,255
372: 2,981,256
432: 2,981,257
527: 2,981,258
129— 40: 2,981,259
130— 5: 2,981,260
131— 9: 2,981,261
17: 2,981,641
88: 2,981,262
256: 2,981,263
132— 91: 2,981,264
134— 2: 2,981,642
3: 2,981,643
37: 2,981,644
57: 2,981,265
72: 2,981,266
95: 2,981,267
122: 2,981,268
153: 2,981,269
169: 2,981,270
136— 4: 2,981,774
5: 2,981,775
27: 2,981,776
89: 2,981,777
90: 2,981,778
2,981,779
2,981,780
135: 2,981,781
136: 2,981,782
146: 2,981,783
166: 2,981,784
137— 26: 2,981,271
43: 2,981,272
82: 2,981,273
85: 2,981,274
116.5: 2,981,275
223: 2,981,276
270: 2,981,277
340: 2,981,278
490: 2,981,279
505.26: 2,981,280
505.37: 2,981,281
516.29: 2,981,282
517: 2,981,283
556.3: 2,981,284
614.21: 2,981,285
620: 2,981,286
622: 2,981,287
2,981,288
2,981,289
625.5: 2,981,290
139— 39: 2,981,291
2,981,292
91: 2,981,293
229: 2,981,294
336: 2,981,295
341: 2,981,296
391: 2,981,297
141— 5: 2,981,298
209: 2,981,299
143— 155: 2,981,300
144— 3: 2,981,301
148— 1.5: 2,981,645
2,981,646
6.14: 2,981,647
23: 2,981,648
152— 211: 2,981,302
228: 2,981,303
330: 2,981,304
2,981,305
153— 81: 2,981,306
154— 1: 2,981,307
2,981,308
2.22: 2,981,649
9: 2,981,309
10: 2,981,310
129: 2,981,650
2,981,651
140: 2,981,652
155— 6: 2,981,311
22: 2,981,312
43: 2,981,313
155— 53: 2,981,314
54: 2,981,315
159: 2,981,316
178: 2,981,317
179: 2,981,318
194: 2,981,319
158— 1.5: 2,981,320
36.4: 2,981,321
36.6: 2,981,322
123: 2,981,323
125: 2,981,324
159— 47: 2,981,325
160— 188: 2,981,326
378: 2,981,327
162— 200: 2,981,653
367: 3,981,328
2,981,329
411: 2,981,330
166— 4: 2,981,331
12: 2,981,332
2,981,333
2,981,334
75: 2,981,335
178: 2,981,336
167— 22: 2,981,654
2,981,655
55: 2,981,656
2,981,657
78: 2,981,658
170— 159: 2,981,337
160.12: 2,981,339
160.32: 2,981,340
160.6: 2,981,338
172— 2: 2,981,341
8: 2,981,342
274: 2,981,343
386: 2,981,344
597: 2,981,345
174— 14: 2,981,785
35: 2,981,786
84: 2,981,787
115: 2,981,788
175— 5: 2,981,346
7: 2,981,347
177— 157: 2,981,348
264: 2,981,349
178— 2: 2,981,789
2,981,790
5.2: 2,981,791
2,981,792
7.2: 2,981,793
22: 2,981,794
60: 2,981,795
70: 2,981,796
88: 2,981,797
179— 7.1: 2,981,798
8: 2,981,799
15: 2,981,800
18: 2,981,801
2,981,802
22: 2,981,803
27: 2,981,804
100.2: 2,981,805
175.2: 2,981,806
180— 9.2: 2,981,350
64: 2,981,351
68.5: 2,981,352
73: 2,981,353
2,981,354
79.1: 2,981,355
79.2: 2,981,356
181— .5: 2,981,357
2,981,358
27: 2,981,359
33: 2,981,360
2,981,361
182— 46: 2,981,362
84: 2,981,363
159: 2,981,364
223: 2,981,365
224: 2,981,366
183— 44: 2,981,367
73: 2,981,368
85: 2,981,369
115: 2,981,370
184— 6: 2,981,371
2,981,372
11: 2,981,373
187— 10: 2,981,374
28: 2,981,375
188— 73: 2,981,376
78: 2,981,377
2,981,378
79.5: 2,981,379
90: 2,981,380
196: 2,981,381

195—	34:	2,981,382	214—	77:	2,981,425	242—	45:	2,981,491	260—	31.2:	2,981,711	270—	77:	2,981,540	318—	16:	2,981,876
	36:	2,981,383		382:	2,981,426		67.3:	2,981,492		32.6:	2,981,712	271—	82:	2,981,541		246:	2,981,879
		2,981,384		451:	2,981,427		78.5:	2,981,493		40:	2,981,713	273—	85:	2,981,542			2,981,880
	70:	2,981,385		501:	2,981,428		83:	2,981,494		45.7:	2,981,714		100:	2,981,543	322—	24:	2,981,882
	85:	2,981,386		504:	2,981,429		84.54:	2,981,495			2,981,715	274—	10:	2,981,933	323—	16:	2,981,883
	88:	2,981,387	215—	13:	2,981,430		129.8:	2,981,496			2,981,716	279—	16:	2,981,544		22:	2,981,884
199—	4:	2,981,388		43:	2,981,431		149:	2,981,497		45.85:	2,981,717		41:	2,981,545	324—	43:	2,981,885
	45.1:	2,981,389	216—	2:	2,981,432		154:	2,981,498		73:	2,981,718	280—	5.28:	2,981,546		54:	2,981,886
	67:	2,981,390	217—	55:	2,981,433	244—	2:	2,981,499		75:	2,981,719		11.35:	2,981,547		98:	2,981,887
	85:	2,981,391	219—	19:	2,981,818		14:	2,981,500		79.3:	2,981,720		39:	2,981,548		115:	2,981,888
	106:	2,981,392		35:	2,981,819		52:	2,981,501		80.7:	2,981,721		47.35:	2,981,549	325—	19:	2,981,889
198—	43:	2,981,393			2,981,820		53:	2,981,502		87.1:	2,981,722		124:	2,981,550		72:	2,981,890
		2,981,394		44:	2,981,821		90:	2,981,503		88.2:	2,981,723			2,981,551		124:	2,981,891
199—	51:	2,981,659		60:	2,981,822		117:	2,981,504		92.8:	2,981,724		150.8:	2,981,552		155:	2,981,892
	142:	2,981,660		117:	2,981,823		149:	2,981,505		93.7:	2,981,725		154.5:	2,981,553		205:	2,981,893
197—	19:	2,981,395		125:	2,981,824	246—	2:	2,981,830			2,981,726		164:	2,981,554	330—	4:	2,981,894
	133:	2,981,396		130:	2,981,825		182:	2,981,831			2,981,727		433:	2,981,555		10:	2,981,895
196—	16:	2,981,397	220—	15:	2,981,434	248—	28:	2,981,506		94.9:	2,981,728	285—	22:	2,981,556		18:	2,981,896
	19:	2,981,398		23:	2,981,435		33:	2,981,507		191:	2,981,729		32:	2,981,557		53:	2,981,896
	31:	2,981,399		26:	2,981,436		35:	2,981,508		219:	2,981,730	286—11.14:		2,981,558	331—	99:	2,981,897
	64:	2,981,400			2,981,437		42:	2,981,509		239.1:	2,981,731	289—	3:	2,981,559		112:	2,981,898
	131:	2,981,401			2,981,438			2,981,510		239.55:	2,981,732	290—	50:	2,981,846		116:	2,981,899
	213:	2,981,402		85:	2,981,439		54:	2,981,511		247.5:	2,981,733	292—	207:	2,981,560	332—	37:	2,981,900
		2,981,403		117:	2,981,440		58:	2,981,512		248:	2,981,734		341.13:	2,981,561	333—	13:	2,981,901
200—	38:	2,981,807	221—	67:	2,981,441		73:	2,981,513		268:	2,981,735	294—	31.2:	2,981,562		17:	2,981,902
		2,981,808	222—	166:	2,981,442		73:	2,981,514			2,981,736		119:	2,981,563		24:	2,981,903
	61.5:	2,981,809		183:	2,981,443	250—	13:	2,981,832		293:	2,981,737	296—	145:	2,981,564		34:	2,981,904
	87:	2,981,810		193:	2,981,444		17:	2,981,833		308:	2,981,738	301—	9:	2,981,565		71:	2,981,905
	88:	2,981,811		259:	2,981,445		20:	2,981,834		309.6:	2,981,739		37:	2,981,566		81:	2,981,906
	114:	2,981,812		394:	2,981,446			2,981,835		310:	2,981,740	302—	52:	2,981,567			2,981,907
	144:	2,981,813		484:	2,981,447			2,981,836		333:	2,981,741	307—	88:	2,981,847		83:	2,981,908
	148:	2,981,814		539:	2,981,448		40:	2,981,838		397.1:	2,981,742			2,981,848	336—	30:	2,981,909
		2,981,815		541:	2,981,449		41.9:	2,981,839		397.45:	2,981,743		88.5:	2,981,849		55:	2,981,910
	159:	2,981,816		564:	2,981,450		42.5:	2,981,840		419:	2,981,744			2,981,850	338—	4:	2,981,911
	170:	2,981,817	223—	88:	2,981,451			2,981,841		443:	2,981,745			2,981,851			2,981,912
202—39.5:		2,981,661	226—	1:	2,981,452		83.3:	2,981,842		448.2:	2,981,746			2,981,852		18:	2,981,913
		2,981,662		33:	2,981,453		203:	2,981,843		451:	2,981,747			2,981,853		162:	2,981,914
		2,981,663		172:	2,981,454		219:	2,981,844		451:	2,981,748		122:	2,981,854		171:	2,981,915
	57:	2,981,664	229—	14:	2,981,455			2,981,845		455.3:	2,981,749	308—	6:	2,981,568	339—	5:	2,981,916
	158:	2,981,665		16:	2,981,456	251—	86:	2,981,514		467:	2,981,750			2,981,569		9:	2,981,917
204—	64:	2,981,666			2,981,457		220:	2,981,515		524:	2,981,751			2,981,570		75:	2,981,919
	81:	2,981,667		52:	2,981,458	252—	8.3:	2,981,683		563:	2,981,752			2,981,571		89:	2,981,920
	154:	2,981,668			2,981,459			2,981,684		601:	2,981,753		9:	2,981,572		97:	2,981,921
	154.2:	2,981,669	230—	21:	2,981,460		28:	2,981,685		633:	2,981,754		36.1:	2,981,573		103:	2,981,918
	158:	2,981,670		114:	2,981,461		33.6:	2,981,686		648:	2,981,755		180:	2,981,574		198:	2,981,922
	180:	2,981,671		228:	2,981,462		62.3:	2,981,687			2,981,756	309—	3:	2,981,575			2,981,923
	193.2:	2,981,672		235:	2,981,463		62.5:	2,981,688		650:	2,981,757	310—	163:	2,981,855		217:	2,981,924
		2,981,673		259:	2,981,464			2,981,689		651:	2,981,758		256:	2,981,856		223:	2,981,925
206—	19:	2,981,404	231—	2:	2,981,465			2,981,690		652.5:	2,981,759	311—	32:	2,981,576		256:	2,981,926
	46:	2,981,405	235—	60.4:	2,981,466		137:	2,981,691			2,981,760		35:	2,981,577	340—	2:	2,981,927
	50:	2,981,406		60.47:	2,981,467		170:	2,981,692		653.3:	2,981,761		101:	2,981,578		15:	2,981,928
	62:	2,981,407		63:	2,981,468		321:	2,981,693		653.7:	2,981,762		106:	2,981,579		52:	2,981,929
	73:	2,981,408		91:	2,981,469		415:	2,981,694		653.8:	2,981,763			2,981,580		163:	2,981,930
207—	4:	2,981,409		159:	2,981,470		417:	2,981,695		656:	2,981,764	312—	15:	2,981,581		172.5:	2,981,931
208—	70:	2,981,674		175:	2,981,471		441:	2,981,696		668:	2,981,765		132:	2,981,582		174:	2,981,932
	93:	2,981,675		181:	2,981,472		450:	2,981,697		674:	2,981,766		140.4:	2,981,583			2,981,933
	130:	2,981,676		194:	2,981,473		506:	2,981,698		677:	2,981,767		337:	2,981,584			2,981,934
	146:	2,981,677	236—	13:	2,981,474		520:	2,981,699			2,981,768	313—	61:	2,981,857			2,981,935
	254:	2,981,678		34:	2,981,475	253—	55:	2,981,516			2,981,769		106:	2,981,536		174.1:	2,981,936
	310:	2,981,679			2,981,476		77:	2,981,517		663.15:	2,981,770		121:	2,981,859		213:	2,981,937
209—	72:	2,981,410			2,981,477	254—	101:	2,981,518		663.62:	2,981,771			2,981,860		227:	2,981,938
		2,981,411			2,981,478	256—	84:	2,981,519		663.63:	2,981,772	315—	8.5:	2,981,861		228:	2,981,939
	121:	2,981,412		68:	2,981,479	257—	256:	2,981,520		707:	2,981,773		11:	2,981,862		310:	2,981,940
	211:	2,981,413		101:	2,981,480		267:	2,981,521	261—	3:	2,981,525		12:	2,981,863		378:	2,981,941
	432:	2,981,414	239—	206:	2,981,481	259—	3:	2,981,522		121:	2,981,526		16:	2,981,864	343—	7:	2,981,942
210—	23:	2,981,680		230:	2,981,482			2,981,523	262—	27:	2,981,527		206:	2,981,865		7.5:	2,981,943
	34:	2,981,681		464:	2,981,483		177:	2,981,524	263—	8:	2,981,528		240:	2,981,866		9:	2,981,944
	62:	2,981,682		530:	2,981,484	260—	2.5:	2,981,700		47:	2,981,529	317—	36:	2,981,867		753:	2,981,945
	149:	2,981,415	240—	1:	2,981,826		18:	2,981,701			2,981,530		101:	2,981,868		756:	2,981,946
	333:	2,981,416		2.25:	2,981,827		19:	2,981,702		53:	2,981,531		137:	2,981,869		767:	2,981,947
211—	79:	2,981,417		8.18:	2,981,828		20:	2,981,703	266—	21:	2,981,532		147:	2,981,870		771:	2,981,948
	86:	2,981,418		51.11:	2,981,829		21:	2,981,704	267—	1:	2,981,533		301:	2,981,871			2,981,949
214—	1:	2,981,419	241—	101:	2,981,485		22:	2,981,705		8:	2,981,534		294:	2,981,872		788:	2,981,950
	6:	2,981,420		300:	2,981,486			2,981,706		9:	2,981,535			2,981,873		807:	2,981,951
	11:	2,981,421		222:	2,981,487			2,981,707			2,981,536	325—	145:	2,981,874		822:	2,981,952
	18:	2,981,422		243:	2,981,488			2,981,708		57.1:	2,981,537			2,981,875	345—	18:	2,981,585
		2,981,423		275:	2,981,489		23.7:	2,981,709	268—	23:	2,981,538			2,981,876		82:	2,981,586
	77:	2,981,424			2,981,490		29.3:	2,981,710	269—	192:	2,981,539			2,981,877		93:	2,981,587

Classification of Designs

D 1—	2:	190,157	D14—	3:	190,168	D33—	6:	190,179	D45—	19:	190,190	D55—	1:	190,201	D81—	10:	190,212
D 2—	3:	190,158		30:	190,169		11:	190,180			190,191		4:	190,202		19:	190,213
D 3—	26:	190,159			190,170	D34—		190,181	D48—	16:	190,192	D58—	12:	190,203	D85—	10:	190,214
		190,160			190,171		14:	190,182			190,193		26:	190,204			190,215
D 4—	3:	190,161	D15—	1:	190,172			190,183		24:	190,194			190,205			190,216
D 7—	5:	190,162	D17—	3:	190,173	D34—	15:	190,184	D52—	6:	190,195	D61—	1:	190,206	D89—	1:	190,217
	7:	190,163	D18—	2:	190,174	D37—	1:	190,185		7:	190,196			190,207	D90—	20:	190,218
		190,164	D26—	1:	190,175	D44—	5:	190,186	D54—	2:	190,197	D71—	1:	190,208			
		190,165		14:	190,176		15:	190,187		12:	190,198			190,209			
D 9—	2:	190,166	D31—	4:	190,177			190,188			190,199	D72—	1:	190,210			
		190,167	D33—	2:	190,178		29:	190,189		14:	190,200	D81—	4:	190,211			

OFFICIAL GAZETTE • UNITED STATES PATENT OFFICE

April 25, 1961 Volume 765 Number 4

TRADEMARKS

NOTICES

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from May 1, 1961, through October 28, 1961.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Beverage; **Reg. No. 47,189**, same, Nonalcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, **filed** Jan. 18, 1961, D.C., N.D. Calif. (San Francisco), Doc. 39/680, *The Coca-Cola Company* v. *Raymond H. Schleeter*. Consent judgment; defendant enjoined (notice Mar. 1, 1961). **Same, filed** Jan. 11, 1961, D.C.N.J. (Newark), Doc. 18/61, *The Coca-Cola Company* v. *Samuel P. Lasala*. Consent order; defendant enjoined Mar. 20, 1961.

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 277,130 (POR LARRANAGA AND DESIGN), Por Larranaga, Fabrica de Tabacos, S.A., Cigars; **Reg. No. 277,131**, same, **filed** Mar. 7, 1961, D.C., S.D.N.Y., Doc. 61/850, *Por Larranaga, Fabrica de Tabacos, S.A.* v. *Dunhill International, Inc. et al.*

Reg. No. 277,131. (See Reg. No. 277,130.)

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 511,773 (STEVENS FABRICS), J. P. Stevens & Co., Inc., Woolen, worsted, cotton and rayon piece goods, **filed** Mar. 14, 1961, D.C., S.D.N.Y., Doc. 61/960, *J. P. Stevens & Co., Inc.* v. *Steveco Knit Corporation*.

Reg. No. 600,018 (PLAYBOY), HMH Publishing Co., Inc., Monthly magazine; **Reg. No. 643,926** (DESIGN OF RABBIT'S HEAD), same; **Reg. No. 645,386** (PLAYBOY), same, Cuff links; **Reg. No. 652,412**, same, Phonograph records; **Reg. No. 675,006** (DESIGN OF RABBIT'S HEAD), same, Mechanically grooved phonograph records; **Reg. No. 670,997**, same, Cocktail glasses, **filed** Mar. 1, 1961, D.C., S.D.N.Y., Doc. 61/795, *H.M.H. Publishing Co., Inc.* v. *S. Rudolfker's Sons, Inc.*

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1961

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	12,392
Date of oldest new application	September 23, 1960
Date of oldest amended application	October 10, 1960

J. H. MERCHANT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) C. M. WENDT, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 41, 42, 43, 44, 50	9-23-60	10-24-60
(II) H. E. KASCHUB, Classes 1, 6, 18, 22, 37, 38, 45, 46, 47, 48, 49, 51, 52; Service Mark Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	10-3-60	10-10-60
Renewals (All Classes)	3-6-61	2-9-61
Sec. 12 (c) Publications (All Classes)	3-7-61	---

Applications filed during the month of March 1961—2,283

Registrations Issued	273—No. 714,276 to No. 714,548
Renewals Issued	81

For the quarter—January 1, 1961 through March 31, 1961

Applications filed	5817
Registrations issued	4149
Renewals issued	775
Cancellations under Section 8	1210

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington 25, D. C., to whom all subscriptions should be made payable and all communications addressed; subscription price, $10.00 per annum, foreign mailing $3.75 additional; single copies, 20 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington 25, D.C.

Reg. No. 606,386 (TWIN POST), Weaver Manufacturing Company, Pressure line operated hydraulic and pneumatic-hydraulic pressure line operated lifts for vehicles, **filed** Mar. 8, 1961, D.C., E.D., Wis. (Milwaukee), Doc. 61–C–59, *Dura Corporation* v. *Milwaukee Hydraulic Products, Inc. et al.*

Reg. No. 623,601 (FIOCCO), Bart Schwartz International Textiles, Ltd., Textile fabrics in the piece of cotton, rayon, synthetic fibers and mixtures thereof, **filed** Nov. 6, 1957, D.C., S.D.N.Y., Doc. 126/273, *Bart Schwartz International Textiles, Ltd.* v. *Lane Bryant, Inc.* Stipulation and order of discontinuance Mar. 9, 1961.

Reg. No. 643,926. (See Reg. No. 600,018.)

Reg. No. 645,386. (See Reg. No. 600,018.)

Reg. No. 653,412. (See Reg. No. 600,018.)

Reg. No. 659,602 (ALL STAR), J. D. Utterback, Ice cream and sherbets; **Reg. No. 667,313,** same, All Star Mills, Inc., Stock feeds, poultry feeds and fresh eggs; **Reg. No. 692,505** (ALL STAR ETC. AND DESIGN), same, filed Mar. 1, 1961, D.C., S.D.N.Y., Doc. 61/794, *All Star Mills, Inc.* v. *All Star Dairy Association, Inc.*

Reg. No. 672,986 (FRESH AID), J. R. Watkins Co., Beverage base for soft drinks, **filed** Nov. 30, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1846, *Watkins Products, Inc.* v. *Sunway Fruit Products, Inc.*

Reg. No. 675,008. (See Reg. No. 600,018.)

Reg. No. 679,997. (See Reg. No. 600,018.)

Reg. No. 667,313. (See Reg. No. 659,602.)

Reg. No. 692,505. (See Reg. No. 659,602.)

MARKS PUBLISHED FOR OPPOSITION

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
As provided by section 31 of said act, a fee of twenty-five dollars must accompany each notice of opposition.

Class 1—Raw or Partly Prepared Materials

SN 67,104. Whip-Mix Corporation, Louisville, Ky. Filed Feb. 4, 1959.



The lining in the drawing is for artistic effect and does not indicate color.
For Investment Compositions, Stone Compositions, and Plaster Compositions, in Dry Powder Form for Subsequent Mixing in Aqueous Material for Providing Pattern and Model Investments.
First use May 30, 1958.

SN 86,970. National Distillers and Chemical Corporation, New York, N.Y., by merger from Kordite Corporation, Macedon, N.Y. Filed Dec. 9, 1959.

KORDITE

Owner of Reg. Nos. 526,340, 545,620 and 621,508.
For Films and Sheets in Bulk Made From Polyolefins for General Use in the Industrial Arts.
First use on or about Mar. 3, 1953.

SN 97,442. Avco Corporation, Wilmington, Mass. Filed May 19, 1960.

AVCOAT

For Epoxy Resins and Polymide Hardener Alone or With Additives.
First use Feb. 18, 1960.

SN 105,331. Nathan Weltz, d.b.a. American Portfolio Company, New York, N.Y. Filed Sept. 28, 1960.

AMERHIDE

For Prepared Plastic Sheet Material Such as Polyvinyl Chloride or the Like.
First use Sept. 27, 1960.

SN 105,827. National Distillers and Chemical Corporation, New York, N.Y. Filed Oct. 5, 1960.

PETROTHENE

Owner of Reg. No. 611,277.
For Synthetic Resins in the Form of Pellets, Granules, Cubes, Rods, Sheets and Other Shapes for Generalized Use, in the Industrial Arts.
First use May 18, 1954.

SN 107,190. Fluff 'N Puff Pillow Service of America, Inc., Minneapolis, Minn. Filed Oct. 26, 1960.

FLUFF 'N PUFF

For Feathers.
First use Mar. 23, 1960.

Class 2—Receptacles

SN 90,293. Boonton Molding Company, Boonton, N.J., Filed Jan. 20, 1960.

LAURELINE

Owner of Reg. No. 580,224.
For Drinking Tumblers Made of Molded Plastic Material. First use Oct. 1, 1952; July 2, 1952, on molded plastic salad servers.

SN 91,112. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Feb. 17, 1960.

WISHING TREE

For Plastic Dinner Hollow Ware.
First use Nov. 10, 1959.

SN 91,116. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Feb. 17, 1960.

LEONORA

For Plastic Dinner Hollow Ware.
First use Sept 21, 1959.

SN 95,756. Percy Kent Bag Co., Inc., Kansas City, Mo. Filed Apr. 25, 1960.

STRETCHO

For Paper Bags.
First use Apr. 18, 1960.

SN 99,109. Matthias A. Weisz, Forest Hills, N.Y. Filed June 15, 1960.

TOLLMATIC

For Trays and Coin Dispensers for Mounting on Dashboards of Automobiles.
First use May 26, 1960.

SN 101,854. Diamond National Corporation, New York, N.Y. Filed Aug. 2, 1960.

REDI-TOPPER

Owner of Reg. No. 659,672.
For Paperboard Cartons Incorporating an Integral Handle.
First use Feb. 29, 1960.

SN 102,294. Arkwright Merchandising Corporation, New York, N.Y. Filed Aug. 9, 1960.

Charm House

For Vases, Clothes Hampers, Plastic Dish Pans, Trays, Buckets, Bowls, Refuse Containers, Scrap Baskets, Garbage Containers, Laundry Bags, Household Storage Containers and Tool Boxes, All of Plastic Materials.
First use June 2, 1944.

SN 107,464. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Oct. 31, 1960.

SAF-T-CELL

For Egg Cartons.
First use Oct. 13, 1960.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 67,584. Aristocrat Leather Products, Inc., New York, N.Y. Filed Feb. 12, 1959.

PONY DEB

For Wallets, Purses, Handbags, and Writing Cases.
First use Oct. 18, 1958.

SN 80,701. Wisconsin Box Company, Wausau, Wis. Filed Sept. 1, 1959.

TRANS PET

The word "Pet" is disclaimed apart from the mark as shown.
For Shipping Crates for Animals.
First use June 19, 1959.

SN 85,607. Peter's Bag & Novelty Corporation, New York, N.Y. Filed Nov. 18, 1959.

CAPRA GRAINED
THOROMYL

No claim is made to the term "Grained" apart from the mark as shown.
For Vinyl Synthetic Plastic Material Sold in the Form of All-Sports Zipper Bags, Cosmetic and Toilet Kits, Accessory Bags, Handbags and Valises.
First use July 1, 1959.

SN 93,850. Penwol Company, Boulder Creek, Calif. Filed Mar. 28, 1960.

SANI PURSE

Applicant disclaims the word "Purse" apart from its use in the composite mark shown for the purposes of registration, and without prejudice to its common law rights.
For Plastic Cases or Purses, and Particularly for a Plastic Purse or Case Adapted to Receive Sanitary Napkins, Belts, Pins and the Like.
First use in February 1959.

SN 94,294. Hartmann Luggage Company, Racine, Wis. Filed Apr. 4, 1960.

720

For Hand Luggage—Namely, Train Cases, Hat Boxes, Cosmetic Cases and Wardrobe Cases.
First use Mar. 23, 1960.

SN 94,295. Hartmann Luggage Company, Racine, Wis. Filed Apr. 4, 1960.

DC-8

For Hand Luggage—Namely, Train Cases, Hat Boxes, Cosmetic Cases, and Wardrobe Cases.
First use Mar. 23, 1960.

SN 95,770. Savoy Mfg. Corp., d.b.a. Savoy Leather Mfg. Corp. Haverhill, Mass. Filed Apr. 25, 1960.

STRATA CASE

The term "Case" is disclaimed apart from the mark as shown.
For Briefcases, Brief Bags, Hand-Bags and Carrying Cases and Portfolios.
First use January 1959.

Class 4 — Abrasives and Polishing Materials

SN 106,987. The Continental Chemical Co., Cleveland, Ohio. Filed Oct. 24, 1960.

PINK LUSTER

For Combination Cleaner and Polish.
First use on or about Aug. 30, 1960.

SN 108,527. Windsor Wax Company, Inc., Hoboken, N.J. Filed Nov. 15, 1960.

WINCOAT

Owner of Reg. Nos. 196,190, 417,979, and 629,329.
For No-Buffing, Anti-Slip Floor Finish.
First use July 20, 1953.

SN 108,528. Windsor Wax Company, Inc., Hoboken, N.J. Filed Nov. 15, 1960.

WIN-GARD

Owner of Reg. Nos. 196,190, 629,329, and 417,979.
For Floor Wax With Germicidal Properties.
First use May 3, 1960.

Class 6 — Chemicals and Chemical Compositions

SN 61,790. Doho Chemical Corporation, New York, N.Y. Filed Nov. 3, 1958.

TURGASEPT

Owner of Reg. No. 370,607.
For Deodorant For Industrial and/or Household Use.
First use Apr. 30, 1958.

SN 85,324. Joseph H. Fink, d.b.a. National Bird Control Laboratories, Skokie, Ill. Filed No. 16, 1959.

CRAWLZ NO MORE

Owner of Reg. Nos. 579,550, 683,437, and 700,759.
For Chemical Gelatinous Compound That Traps Crawling Insects and Stops Climbing Rodents.
First use Nov. 3, 1959.

SN 98,717. Michigan Chemical Corporation, St. Louis, Mich. Filed June 9, 1960.

ALGIMASTER

Owner of Reg. Nos. 527,638 and 559,956.
For Chemical Compounds Suitable for the Destruction of Algae in Water.
First use May 23, 1960.

SN 103,196. The Procter & Gamble Company, Cincinnati, Ohio. Filed Aug. 22, 1960.

DOWNY

Owner of Reg. No. 364,108.
For Fabric Softener.
First use Aug. 1, 1960.

SN 103,696. W. R. Grace & Co., New York, N.Y. Filed Aug. 30, 1960.

GRACE

Owner of Reg. No. 698,778.
For Silica Gel.
First use Apr. 12, 1960.

SN 106,222. The Procter & Gamble Company, Cincinnati, Ohio. Filed Oct. 11, 1960.

PROXOCREAM

Owner of Reg. Nos. 550,007, 502,193, and others.
For Textile Lubricant, Softener and Anti-Static Agent.
First use July 25, 1960.

Class 7 — Cordage

SN 43,712. Rochester Ropes, Inc., Culpeper, Va. Filed Jan. 9, 1958.

NYCORD

For Vegetable Fiber Rope, Cord, and Twine.
First use about Oct. 7, 1903.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 77,410. Alcan Shells, Inc., Alton, Ill. Filed July 10, 1959.

GAMEMAX

For Shotgun Shells.
First use June 26, 1959.

SN 84,370. Alcan Company, Incorporated, Alton, Ill., by change of name from Alcan Paper Co., Inc., Alton, Ill. Filed Nov. 2, 1959.

AIR-WEDGE

For Shot Shell Wads.
First use Apr. 9, 1959.

SN 92,014. B. E. Hodgdon, Inc., Merriam, Kans. Filed Mar. 2, 1960.

H870

For Rifle Powder.
First use in February 1959.

SN 102,221. Saul Eig, d.b.a. Eig Cutlery, Miami, Fla. Filed Aug. 8, 1960.

EIG

For Pistols, Revolvers, Shotguns, Air Guns, and Start Revolvers.
First use May 20, 1957.

Class 10 — Fertilizers

SN 93,605. F. S. Royster Guano Co., Norfolk, Va. Filed Mar. 24, 1960.

Royster

BONANZA

Owner of Reg. No. 99,641.
For Fertilizers.
First use 1956.

SN 93,606. F. S. Royster Guano Co., Norfolk, Va. Filed Mar. 24, 1960.

Royster

VIM

Owner of Reg. No. 608,541.
For Fertilizers.
First use 1956.

SN 104,067. Ceb-O-Lite Inc., Jersey City, N.J. Filed Sept. 8, 1960.

Garden Pearls

No claim is made to the word "Garden" apart from the mark as shown.
For Soil Conditioning Powder.
First use Feb. 29, 1960.

SN 108,111. Barrow Forest Products Co., Ahoskie, N.C. Filed Nov. 9, 1960.



For Mulch.
First use Mar. 18, 1960.

Class 11 — Inks and Inking Materials

SN 71,578. Heyer Inc., Chicago, Ill., assignee of The Heyer Corporation, Chicago, Ill. Filed Apr. 15, 1959.

ALWAYS MAKES A GOOD IMPRESSION

For Ink.
First use in 1932.

SN 95,016. Standard Products Corporation, New York, N.Y. Filed Apr. 13, 1960.

"2000" SUPER SHARP

Applicant disclaims exclusive right to the use of the words "Super Sharp," except as used in association with the other features of the mark.
For Uninked Impression Ribbons and Inked Impression Ribbons.
First use in June 1959 on uninked impression ribbons.

SN 95,767. Rose Ribbon & Carbon Mfg. Co., Inc., Harrison, N.J. Filed Apr. 25, 1960.

STA-CLEAN

For Duplicating Carbon Paper.
First use January 1949.

SN 103,119. Edge-Craft Process Co., New York, N.Y. Filed Aug. 22, 1960.

FILM-ON

For Non-Inked Printing Ribbons for Typewriters and Other Office Machines.
First use Aug. 20, 1959.

Class 12 — Construction Materials

SN 71,266. Cardinal Pools, Inc., Dallas, Tex. Filed Apr. 10, 1959.



The word "Pools" is disclaimed as part of the mark. The drawing is lined for red, green, and grey. The lining forms part of the mark rather than merely color, and color is an integral part of the mark.
For Swimming Pools and Swimming Pool Equipment and Accessories Sold With Such Swimming Pools.
First use Nov. 18, 1952, on swimming pools.

SN 84,507. Behlen Manufacturing Co. Inc., Columbus, Nebr. Filed Nov. 3, 1959.

DUBL-PANL

For Corrugated Building Panels.
First use Oct. 21, 1959.

SN 95,449. Pacific Plywood Co., Dillard, Oreg. Filed Apr. 20, 1960.

3-D

For Exterior Particleboard Siding for Building Construction.
First use July 23, 1959.

SN 95,975. California Redwood Association, San Francisco, Calif. Filed Apr. 28, 1960. COLLECTIVE MARK.

SANTA ROSA

For Redwood Siding.
First use Dec. 23, 1959.

SN 100,082. American Home Products Corporation, d.b.a. Boyle-Midway, New York, N.Y. Filed July 1, 1960.



Owner of Reg. Nos. 207,843 and 509,028.
For Caulking Cement and Putty.
First use June 10, 1960.

SN 100,360. Galaxy Motels, Inc., Phelps, Wis. Filed July 6, 1960.

GALAXY

For Pre-Assembled Building, Including Homes and Motels.
First use May 1960.

SN 100,406. Whizzer Industries, Inc., Pontiac, Mich. Filed July 6, 1960.

PERMA-PANE

For Sealed Glass Units—Namely, Glass Glazing Units Formed of Two Sheets of Glass Which Are Spaced Apart and Sealed Together at Their Edges for Use in Buildings and the Like.
First use on or about Jan. 15, 1960.

SN 101,146. Adams Paper Converting Company, Monroe, La. Filed July 20, 1960.

PYROPROOF

For Flame Resistant Paper for Use in the Building Trade as Well as for Insulation and Other Uses.
First use Mar. 23, 1960.

SN 101,676. General Cable Corporation, New York, N.Y. Filed July 29, 1960.

DURA-PINE

For Pressure Treated Poles, Cross-Arms, Piling, and Other Wood and Lumber Products.
First use July 11, 1960.

SN 102,109. Electrovert Limited, Montreal, Quebec, Canada. Filed Aug. 5, 1960.

CANTRUSS

Owner of Canadian Reg. No. 120,666, dated Dec. 30, 1960.
For Components of a Metal Framing System Used as Supporting Structure for Electrical Equipment Such as Cable Tray, Conduit, Busduct, Lighting Fixtures, and the Like.

SN 102,291. American-Marietta Company, Chicago, Ill. Filed Aug. 9, 1960.

RIB-RITE

For Prefabricated Concrete Staves Used to Fabricate Silos, Cribs and Bins.
First use November 1949.

SN 102,292. American-Marietta Company, Chicago, Ill. Filed Aug. 9, 1960.

VIBRA-COR

For Prefabricated Concrete Staves Used to Fabricate Silos, Cribs and Bins.
First use December 1949.

SN 102,797. Zephyr Ventilated Awning Company, Inc., Kansas City, Kans. Filed Aug. 16, 1960.

FASHION

Owner of Reg. No. 662,978.
For Permanent Awnings, Patio Covers, Screen Enclosures, Cabana Rooms, Marquees, Ornamental Columns, and Ornamental Railings.
First use Feb. 27, 1957, on permanent awnings.

SN 103,558. The Georgia Marble Company, Tate, Ga. Filed Aug. 29, 1960.

ALBERENE

Owner of Reg. Nos. 47,162, 689,729, and others.
For Structural, Serpentine, Architectural, and Laboratory Equipment Stone.
First use July 8, 1890.

SN 103,604. Rogers Industries, Incorporated, Detroit, Mich. Filed Aug. 29, 1960.

FROST BAN

For Mobile Home Jalousies, Awning Windows, Picture Windows and Doors, Windows and Doors for Buildings, and Storm Windows and Storm Doors for Buildings.
First use July 15, 1960.

SN 103,855. Holcomb & Hoke Mfg. Co., Inc., Indianapolis, Ind. Filed Sept. 2, 1960.



The grillework design embodied in the mark is disclaimed apart from the mark as a whole.
For Molded Plastic Open-Work Screens and Partitions and Parts Thereof.
First use May 18, 1959.

SN 104,175. Monarch Tile Manufacturing, Inc., San Angelo, Tex. Filed Sept. 9, 1960.



Without prejudice to any common law rights existing hereinbefore or hereinafter in the applicant, the word "Tile" and the representation of the goods is disclaimed apart from the mark as shown.
For Glazed Ceramic Wall Tile.
First use on or about Mar. 1, 1946.

SN 107,863. Kemlite Corporation, Joliet, Ill. Filed Nov. 4, 1960.

ECOBORD

For Fiber Glass Reinforced Plastic Sheets.
First use Mar. 1, 1960.

SN 107,904. Basic Incorporated, Cleveland, Ohio. Filed Nov. 7, 1960.

TARPATCH

Owner of Reg. Nos. 398,468, 664,617, and 664,919.
For Refractory Materials for Making and Repairing Furnace Linings and the Like.
First use Sept. 19, 1960.

SN 108,004. Agency Tile Supply Corp. of New York, New York, N.Y. Filed Nov. 8, 1960.

TILEAGE

For Ceramic Tiles.
First use Oct. 24, 1959.

SN 108,126. Kaiser Gypsum Company, Inc., Oakland, Calif. Filed Nov. 9, 1960.

DURALATH

For Gypsum Lath.
First use on or about June 15, 1960.

SN 108,161. Dresser Industries, Inc., d.b.a. Dresser-Ideco Company, Dallas, Tex. Filed Nov. 10, 1960.

CONDO-LUX

For Prefabricated Wall Panels Composed of Light-Transmissive Sheets of Synthetic Resinous Composition.
First use May 31, 1960.

SN 108,234. Tru-Fab Metal Products Company, Lubbock, Tex. Filed Nov. 10, 1960.

METALBOARD

For Prefabricated Metal Buildings and Component Parts Thereof.
First use July 14, 1960.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 95,940. The Schaul Manufacturing Co., Cleveland, Ohio. Filed Apr. 27, 1960.

SUPREME

For Plumber's Specialties—Namely, Spuds, Washers, Bolts, Guides, Guide Rods, Tank Balls, Valves, Floats, Strainers, Pipe and Tube Fittings, Waste Traps, Water Gauges, Fuse Plugs, Faucets, Plugs, Nozzles and Lavatory and Closet Tank Hardware and Fittings.
First use April 1950.

SN 98,111. MHM Co., Fresno, Calif. Filed May 31, 1960.

SQUARE RAIN

For Fluid Distributing Devices, and More Particularly Lawn Sprinklers.
First use June 3, 1959.

SN 107,892. Union-Everedy Company, Inc., d.b.a. The Everedy Company, Frederick, Md. Filed Nov. 4, 1960.

SKIDDLE

For Metal Cooking Ware.
First use Oct. 30, 1939.

SN 108,025. Cling, Incorporated, Nowata, Okla. Filed Nov. 8, 1960.

"Cling"

For Magnetic Soap Holders.
First use May 18, 1959.

SN 108,039. Garden Specialties, Inc., Milwaukee, Wis. Filed Nov. 8, 1960.

TRIM-ELIM

For Edging Strip for Gardens and the Like.
First use on or about Apr. 22, 1960.

SN 108,179. Westerman W. Jones, d.b.a. Alcast Fittings, Claymont, Del. Filed Nov. 10, 1960.

TRACELINE

For Pipe Fittings.
First use Aug. 1, 1959.

SN 108,346. Metal Buildings, Inc., Soquel, Calif. Filed Nov. 14, 1960.

PRIVETTE

For Closet-Type Lavatory Units.
First use May 1, 1960.

SN 108,427. Stephen A. Young Corporation, Flora, Ind. Filed Nov. 14, 1960.

SPACE-ACE

For Faucets and Parts Thereof.
First use in or about August 1960.

Class 14—Metals and Metal Castings and Forgings

SN 103,198. Rolled Alloys, Inc., Detroit, Mich. Filed Aug. 22, 1960.

RAONEL

For Alloy Metals.
First use June 1, 1960.

Class 15—Oils and Greases

SN 108,408. John Sunshine Chemical Co., Inc., Chicago, Ill. Filed Nov. 14, 1960.

MITEE

For Thread Cutting Oil, and Penetrating Oil.
First use 1933.

SN 108,632. Hill Chemical Co., Idaho Falls, Idaho. Filed Nov. 17, 1960.

COILAC

For Lubricant Additive.
First use Sept. 28, 1960.

SN 109,003. Quaker Chemical Products Corporation, Conshohocken, Pa. Filed Nov. 23, 1960.

QUACAST

For Die Release Agent and Lubricant for Casting Operations of Ferrous Metals, Non-Ferrous Metals and Plastics.
First use Oct. 24, 1960.

SN 109,414. S. C. Johnson & Son, Inc., Racine, Wis. Filed Dec. 1, 1960.

MILL STREAM

For Metal Working Coolant.
First use on or about Sept. 29, 1960.

SN 109,678. El Paso Natural Gas Products Company, El Paso, Tex. Filed Dec. 6, 1960.

EL PASO

PASOCOAT

Owner of Reg. Nos. 653,295, 698,429, and 698,430.
For Gear Oil.
First use July 22, 1960.

Class 16—Protective and Decorative Coatings

SN 66,127. Custom Polymers, Inc., Princeton, Ill., assignee of United States Butyl Corporation, Menlo Park, Calif. Filed Jan. 19, 1959.

BUTYLON

For Elastomer Composition Useful as a Coating or Covering Adapted To Be Applied in Liquid Form to Masonry, Composition Roofing, Metal, Wood and Other Natural or Synthetic Surfaces, or as an Ingredient To Be Incorporated in Such Products.
First use Jan. 7, 1959.
Subj. to Intf. with Reg. No. 702,251.

SN 105,367. McGraw-Edison Company, Milwaukee, Wis. Filed Sept. 28, 1960.

NECCOWEAR

Owner of Reg. No. 695,979.
For Protective Coatings for Machinery and Conduit.
First use July 26, 1960.

SN 106,747. Republic Powdered Metals, Cleveland, Ohio. Filed Oct. 19, 1960.

Nu-Sea Sation

For Paint.
First use June 26, 1958.

SN 106,755. W. H. Sweney and Company, St. Paul, Minn. Filed Oct. 19, 1960.

For Paints, Putty, Solvents, and Varnishes.
First use in 1945; in 1884 in a different display.

SN 106,870. Wm. F. Zummach, Inc., Milwaukee, Wis. Filed Oct. 20, 1960.

BANISH

For Paints.
First use Sept. 30, 1960.

SN 106,993. Devoe & Raynolds Company, Inc., Louisville, Ky. Filed Oct. 24, 1960.

DEVALUM

For Marine Coatings.
First use July 1960.

Class 17—Tobacco Products

SN 78,183. Continental Tobacco Company, Huntington, W. Va. Filed July 22, 1959.

FLAME TIP

For Cigarettes.
First use Apr. 11, 1954.

Class 18—Medicines and Pharmaceutical Preparations

SN 95,792. Wilson & Wolfer Prescription Center, Detroit, Mich. Filed Apr. 25, 1960.

FLUORINVITE

For Vitamin Tablets Containing Fluorine.
First use Oct. 1, 1959.

SN 96,779. Johann A. Wulfing, Dusseldorf, Germany. Filed May 9, 1960.

KALZANA

Owner of German Reg. No. 312,074, dated Mar. 7, 1924; and U.S. Reg. No. 133,545.
For Pharmaceutical Chalk Product in Tablet Form for Internal Use.

SN 98,159. Spencer Laboratories Incorporated, Morristown, N.J. Filed May 31, 1960.

ALGIC

Owner of Reg. No. 596,321.
For Antihistaminic-Tranquilizer-Decongestant Composition.
First use May 9, 1960.

SN 99,528. Nopco Chemical Company, Newark, N.J. Filed June 22, 1960.

NOPCO

Owner of Reg. Nos. 121,927, 652,303, and others.
For Enzyme Preparations for Animal and Poultry Feed.
First use Apr. 19, 1960.

SN 99,529. Nopco Chemical Company, Newark, N.J. Filed June 22, 1960.

NOPGRO

Owner of Reg. Nos. 622,958 and 652,303.
For Enzyme Preparations for Animal and Poultry Feed.
First use Apr. 19, 1960.

SN 102,844. Henry Hersog, d.b.a. Bayswater Company, Vancouver, British Columbia, Canada. Filed Aug. 17, 1960.

"BAYSWATER DIAPERASH"

No claim is made to exclusive use of the term "Diaperash" apart from the mark as shown. Owner of Canadian Reg. No. 141/36,139, dated Mar. 28, 1950.
For Ointments, Unguents, and Salves.

SN 103,736. Organisation de Synthese Mondiale, en Abrege Orsymonde, Paris XI*, France. Filed Aug. 31, 1960.

LIBRINCOL

Owner of French Reg. No. 489,323, dated July 7, 1960.
For Laxatives.

SN 104,512. John G. Cverko, Milwaukee, Wis. Filed Sept. 15, 1960.

SENTIALS

For Food Supplements.
First use June 1, 1959.

SN 105,987. Johnson & Johnson, New Brunswick, N.J. Filed Oct. 7, 1960.

ARRESTIN

Owner of Reg. No. 565,559.
For Cough Preparation.
First use May 27, 1960.

SN 107,856. The Governors of the University of Toronto, d.b.a. Connaught Medical Research Laboratories, Toronto, Ontario, Canada. Filed Nov. 4, 1960.

ERYGEN

Priority claimed under Sec. 44(d) on Canadian application filed May 6, 1960; Reg. No. 119,930 dated Oct. 21, 1960.
For Swine Erysipelas Vaccine.
First use June 13, 1960; in commerce Aug. 30, 1960.

SN 107,882. Shulton, Inc., Clifton, N.J. Filed Nov. 4, 1960.

FUMICIDE

For Fumigant Incorporated as an Ingredient of an Anti-fungal Powder.
First use Oct. 12, 1960.

SN 108,582. Jane Tupper, d.b.a. The House of Fresca, Dinuba, Calif. Filed Nov. 16, 1960.



The drawing is lined for red. Owner of Reg. No. 189,315.
For Antiseptic Powder for Feminine Hygiene.
First use about 1924; November 1922 as to "Fresca" and triangle design.

SN 109,899. G. D. Searle & Co., Skokie, Ill. Filed Dec. 8, 1960.

BANITAL

Owner of Reg. No. 587,763.
For Medicinal Preparation Useful in the Treatment of Gastro-Intestinal Disturbances.
First use Dec. 2, 1960.

SN 110,592. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 16, 1960.



No claim is made to the geographical term "Ingelheim" apart from the mark as shown. Owner of German Reg. No. 729,669, dated Oct. 6, 1959.
For Line of Medicaments, Pharmaceutical and Drug Preparations.

SN 111,065. Carter Products, Inc., New York, N.Y. Filed Dec. 30, 1960.



Owner of Reg. Nos. 422,555 and 656,342.
For Pharmaceutical Preparation for Use in the Treatment of Tension, as a Muscle Relaxant and as an Anti-Convulsant.
First use Oct. 15, 1956.

SN 111,174. Ethica Standard Co., Inc., Long Island City, N.Y. Filed Jan. 3, 1961.

NITRONET

For Pharmaceutical Preparation, a Peripheral Capillary Acting Agent for Use in Paroxysms.
First use Dec. 30, 1960.

SN 111,449. Vitamin Council Incorporated, St. Paul, Minn. Filed Jan. 6, 1961.

STOLIGAL

For Antacid Tablets.
First use May 19, 1913.

SN 111,725. Ciba Limited, Basel, Switzerland. Filed Jan. 12, 1961.

CLEOFIL

Owner of Swiss Reg. No. 166,142, dated June 26, 1957.
For Appetite Inhibitor.

SN 111,800. International Pharmaceutical Corporation, Philadelphia, Pa. Filed Jan. 13, 1961.



For Pharmaceutical Preparations in the Nature of Cleansers, Bactericides, Fungicides, and for the Treatment of Minor Cuts, Burns, and Abrasions.
First use November 1947.

SN 111,947. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 17, 1961.

GISTOLAN

For Roborant Preparation.
First use Nov. 25, 1960.

Class 19—Vehicles

SN 95,952. A. Logan Wait, Jr., d.b.a. Wait Manufacturing & Sales Company, Tulsa, Okla. Filed Apr. 27, 1960.

UP WHAT CREEK?

For Marine Equipment—Namely, Boat Paddles.
First use Sept. 4, 1957.

SN 97,548. P. Evanson Boat Company, Philadelphia, Pa. Filed May 20, 1960.

C

For Boats, Boat Trailers and Boat Cockpit Covers.
First use Apr. 5, 1954.

SN 99,323. Gennaro Industries, Inc., Hazleton, Pa. Filed June 20, 1960.

TROLLY MOBILE

For Transit Vehicles for Sightseeing at Airports, for Transportation in Shopping Centers, for Advertising and Promotions, and for Operation as a Soft Ice Cream and Hot Foods Mobile Vending Vehicle.
First use Nov. 4, 1959.

SN 101,979. Rivers Body Factory, Inc., Jacksonville, Fla. Filed Aug. 3, 1960.

RIVERS

For Van Bodies.
First use 1937.

SN 102,468. Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries Ltd., Chiyoda-ku, Tokyo-to, Japan. Filed Aug. 11, 1960.

SUBARU MAIA

The word "Subaru" is Japanese for "Pleiades," a constellation of stars. The word "Maia" is the Japanese name for one of the stars in said constellation. Owner of U.S. Reg. No. 689,801.
For Automobiles, Autobusses, Autotrucks, Delivery Trucks, and Parts of All the Said Goods.
First use Oct. 12, 1959; in commerce Oct. 12, 1959.

SN 102,645. Ford-Werke Aktiengesellschaft, Koln (Rhine), Germany. Filed Aug. 15, 1960.

TURNIER

The English translation of the German word "Turnier" is "tournament." Priority claimed under Sec. 44(d) on German application filed Mar. 16, 1960; Reg. No. 735,776, dated Apr. 20, 1960.
For Motor Vehicles—i.e., Automobiles, Trucks, Buses, Etc., and Structural Parts Thereof.
First use March 1960.

SN 106,125. National Research Associates, Inc., Laurel, Md. Filed Oct. 10, 1960.

CUSHIONJET

For Air Cushion Vehicles, Ground Effects Machines, Airborne Surface Vehicles, Minimum Ground Pressure Vehicles, Free Air Suspension Vehicles and Vehicles Supported Entirely or in Part by Positive Air Pressure Acting on the Bottom Surface of Said Vehicles.
First use Sept. 21, 1960.

SN 106,287. Wolverine Aviation Company, Detroit, Mich. Filed Oct. 12, 1960.



For Boats.
First use Mar. 24, 1960.

SN 106,732. MacGregor-Comarain, Paris, France. Filed Oct. 19, 1960.

SINGLE PULL

Owner of French Reg. No. 465,962, dated June 28, 1957 (Seine); Natl. Inst. No. 92,519.
For Hatch Covers, Sliding Doors, Sliding Panels, Sliding Decks, Rolling Platforms and Covers of Multi-Section Construction for Cargo-Carrying Ships, Railway Cars, Motor Trucks and Other Vehicles.

SN 108,772. General Motors Corporation, Detroit, Mich. Filed Nov. 21, 1960.

GREENBRIER

For Automotive Vehicles.
First use Sept. 26, 1960.

Class 20—Linoleum and Oiled Cloth

SN 104,803. Bonafide Mills, Inc., New York, N.Y. Filed Sept. 20, 1960.

Parisienne

The drawing is lined for red.
For Felt Base, Linoleum, Composition and Plastic Floor Coverings and Rugs, Not Woven, and Wall Coverings.
First use Sept. 6, 1960.

SN 108,109. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Nov. 9, 1960.

Amtico
Vinasuede

Owner of Reg. No. 599,268.
For Vinyl Tile Flooring.
First use Sept. 20, 1960.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 87,423. General Dynamics Corporation, Rochester, N.Y. Filed Dec. 16, 1959.

INTEGRITY SERIES

Applicant makes no claim to the word "Series" apart from the mark as shown. Owner of Reg. No. 691,441.
For Sound Reproducing Apparatus Comprising Radio Receivers, Electrical Amplifiers, Loud-speakers, Radio-Phonograph Consoles; and Components and Parts Thereof.
First use at least as early as Nov. 13, 1959.

SN 91,182. Transis-Tronics, Inc., Santa Monica, Calif. Filed Feb. 18, 1960.

TEC

For Electronic Devices in Particular, Highfidelity Audio Amplifiers, Both Stereophonic and Monophonic; Public Address Amplifiers, and Systems Including Such Stereophonic, Monophonic, and Public Address Amplifiers; Amplitude and Frequency Modulation Receivers; and Communications Systems Employing Transistors and Transistor Circuit Assemblies.
First use on or about Jan. 26, 1959.
Subj. to Intf. with SN 73,163.

SN 92,512. United Aircraft Corporation, East Hartford, Conn. Filed Mar. 9, 1960.

NORDEN

Owner of Reg. Nos. 663,123 and 710,557.
For Closed Circuit Television Camera Systems, Magnetic Amplifiers, and Transistorized Amplifiers.
First use about Oct. 15, 1958; 1951 as to the name "Norden."

SN 94,088. The National Super Service Company, Toledo, Ohio. Filed Mar. 31, 1960.

Super SERVICE

Owner of Reg. No. 587,468.
For Motor Driven Floor Polishing, Scrubbing, and Waxing Machines, Electric Vacuum Cleaners, Including Rotary Blower and Suction Pump Apparatus, and Parts Thereof.
First use July 30, 1956; in January 1926 as to electric vacuum cleaners, including rotary blower and suction pump apparatus, and parts thereof.

SN 95,042. American Rectifier Corporation, New York, N.Y. Filed Apr. 14, 1960.

SELENIDRIVE

Owner of Reg. No. 594,819.
For Rectifiers.
First use Mar. 1, 1960.

SN 95,522. Photronic Corporation of America, Takoma Park, Md. Filed Apr. 21, 1960.

PCA

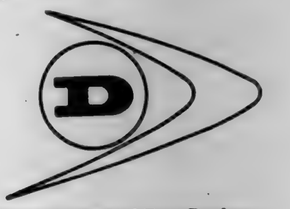
For High Fidelity Music Equipment Sold as Single Components—Namely, FM Tuners, Amplifiers and Speakers.
First use on or about Oct. 26, 1959.

SN 96,481. The Cincinnati Milling Machine Company, Cincinnati, Ohio. Filed May 5, 1960.

CIMCLAD

For Plastic Sheets Covered With an Electric Current Conducting Material for Fabrication into Printed Electrical Circuitry.
First use Apr. 13, 1960.

SN 98,271. Digitronics Corporation, Albertson, N.Y. Filed June 2, 1960.



For Photo-Electric Perforated Tape Readers.
First use Nov. 14, 1959.

SN 100,120. Warren Benjamin Kidder, d.b.a. W. B. Kidder Engr. & Mfg. Co., Denver, Colo. Filed July 1, 1960.

KEMCO

For Electronic Moving Traffic Detectors.
First use on or about July 1, 1954.

SN 100,446. General Dynamics Corporation, Rochester, N.Y. Filed July 7, 1960.

PETITE

For Telephones and Parts Thereof.
First use at least as early as Mar. 4, 1960.

SN 100,801. The Mosler Safe Company, New York, N.Y. Filed July 13, 1960.

SELECTRONIC

For Electrically Operated and Controlled Apparatus for Handling Business Records.
First use on or about Sept. 18, 1959.

SN 101,254. Gate-O-Matic Inc., Long Island City, N.Y. Filed July 21, 1960.

GATE-O-MATIC

For Electric Treadle-Operated Gates for Routing and Controlling Traffic in Stores and Markets.
First use Oct. 8, 1959.

SN 103,714. Electric Machinery Mfg. Company, Minneapolis, Minn. Filed Aug. 31, 1960.

DURACLAD

For Insulation for A.C. and D.C. Motors and Generators.
First use June 6, 1960.
Subj. to Intf. with SN 105,589.

SN 105,233. Vega Electronics Corporation, Cupertino, Calif. Filed Sept. 26, 1960.

VEGA-MIKE

For Portable All-Transistor Wireless Microphone Transmitter, and Especially Designed Receiver Therefor.
First use Aug. 9, 1960.

SN 105,589. Aladdin Industries, Incorporated, Nashville, Tenn. Filed Oct. 3, 1960.

DURA-CLAD

For Transformers and Coils for Use in Electronic Equipment.
First use on or about Sept. 25, 1959.
Subj. to Intf. with SN 103,714.

SN 106,263. Jubilee Manufacturing Company, Omaha, Nebr. Filed Oct. 12, 1960.

RAZZ-MA-TAZZ

For Electric Horns.
First use Aug. 11, 1960.

SN 106,355. Sprague Electric Company, North Adams, Mass. Filed Oct. 13, 1960.

OXSIL

For Electrical Capacitors.
First use Aug. 31, 1960.

SN 106,375. The Athens Stove Works, Inc., Athens, Tenn. Filed Oct. 14, 1960.

VESTA

Owner of Reg. No. 256,779.
For Cooking Stoves or Ranges With Electrical Heating Elements.
First use Mar. 3, 1956.

SN 106,394. The Electric Storage Battery Company, Philadelphia, Pa. Filed Oct. 14, 1960.

CLADEX

For Storage Battery Plates.
First use Aug. 2, 1960.

SN 106,424. Merrimac Research and Development, Inc., Flushing, N.Y. Filed Oct. 14, 1960.

MERRIMAC

For Microwave Frequency Electrical Components, Particularly Microwave Coaxial Transmission Devices.
First use on or about July 26, 1960.

SN 106,672. Jay Kay Metal Specialties Corp., Long Island City, N.Y. Filed Oct. 14, 1960.

VALOR

For Electric Can Openers.
First use June 28, 1960.

SN 106,791. The Chase-Shawmut Company, Newburyport, Mass. Filed Oct. 20, 1960.

AWAKE AT THE SWITCH

Owner of Reg. Nos. 248,801 and 525,566.
For Fuses, Fuse Links, Fuse Holders and Fuse Wire.
First use Jan. 18, 1928.

SN 108,786. Burton Jaffe, d.b.a. Electrocom Industries, South Bend, Ind. Filed Nov. 21, 1960.

Electrocom

For Electronic Communication Equipment, Primarily Filters and Radio-Teleprinter Converters.
First use Nov. 2, 1959.

SN 108,983. Walter Kidde & Company, Inc., Belleville, N.J. Filed Nov. 23, 1960.

LYNE-O-LARM

For Electrically Operated Alarm Systems Responsive to the Detection of an Intruder and/or a Fire in an Area To Be Protected.
First use on or about Oct. 10, 1960.

SN 108,984. Walter Kidde & Company, Inc., Belleville, N.J. Filed Nov. 23, 1960.

PROX-O-LARM

For Electrically Operated Alarm Systems Responsive to the Presence of a Fire in an Area To Be Protected.
First use on or about Oct. 10, 1960.

SN 109,299. Chrysler Corporation, Highland Park, Mich. Filed Nov. 30, 1960.

LANCER

For Radio for Automotive Vehicles.
First use Sept. 15, 1960.

SN 109,365. Vitro Corporation of America, New York, N.Y. Filed Nov. 30, 1960.

SOLARIS

For Self-Propelled, Self-Contained, Underwater Search, Inspection and/or Recovery Vehicles.
First use Nov. 18, 1960.

Class 22 — Games, Toys, and Sporting Goods

SN 94,803. Robert S. Pavela, d.b.a. E-Z Toy Co., Rockwood, Mich. Filed Apr. 11, 1960.

E-Z COUNT

For Educational Card Toy for Teaching a Child Basic Numbers.
First use Nov. 22, 1959.

SN 95,515. Nocona Leather Goods Company, Nocona, Tex. Filed Apr. 21, 1960.

TEX-SIZ-TRAP

For Baseball Gloves.
First use March 1960.

SN 101,457. New Venture Manufacturing Company, Piedmont, S.C. Filed July 25, 1960.

ROTO-HOOK

For Fish Hooks.
First use May 23, 1960.

SN 102,897. Colonial Mercantile & Mfg. Co., Toledo, Ohio. Filed Aug. 18, 1960.

PAX-MASTER

For Combination Bowling Ball, Shoes and Accessory Transport Bag.
First use June 21, 1960.

SN 104,373. Commerce-Pacific, Inc., Los Angeles, Calif. Filed Sept. 13, 1960.

ATLAS

For Spinning Reels for Fishing.
First use Sept. 15, 1958.

SN 104,375. Commerce-Pacific, Inc., Los Angeles, Calif. Filed Sept. 13, 1960.

CAPRI

For Spinning Reels for Fishing.
First use Sept. 15, 1956.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 36,428. Chicago Tramrail Corporation, Chicago, Ill. Filed Aug. 29, 1957.

TRAK-RAK

Owner of Reg. No. 605,759.
For Cranes and Portable Hoists.
First use in January 1946.

SN 87,053. Gamet Products Limited, London, England. Filed Dec. 10, 1959.

CONEX

Owner of British Reg. Nos. 797,675, 797,676, and 797,677, dated Nov. 11, 1959.
For Bearings, Bearing Housings, Bearing Spindles, and Parts and Fittings Therefor.

SN 93,100. James A. Sinclair, d.b.a. The Jimsin Company, Franklin, La. Filed Mar. 17, 1960.

BOW-KNIFE

For Grass Cutters.
First use February 1960.

SN 94,504. Mira-Pak, Inc., Houston, Tex. Filed Apr. 6, 1960.

MIRA-WRAP

For Automatic Packaging Apparatus.
First use Jan. 8, 1960.

SN 97,513. On Mark Couplings, Inc., Los Angeles, Calif. Filed May 19, 1960.



For Couplings.
First use October 1956.

SN 97,603. Aktieselskabet Atlas, Copenhagen, Denmark. Filed May 23, 1960.



Owner of Danish Reg. No. 899/60, dated Apr. 9, 1960.
For Steam Engines and Apparatus Including Apparatus for the Distillation of Seawater, Steam Turbines, Apparatus and Equipment for the Dehydration of Materials of Animal or Vegetable Origin, Apparatus for the Clarification of Oil, and Spare and Replacement Parts for the Foregoing.

SN 98,003. Industrial Safety Supply Co., Inc., West Hartford, Conn. Filed May 27, 1960.

RO"LL-DRI

For Anti-Friction Bearings.
First use Nov. 1, 1959.

SN 98,307. Railroad Accessories Corporation, New York, N.Y. Filed June 2, 1960.

RACO

Owner of Reg. Nos. 323,335 and 327,787.
For Machinery and Tools for Use on or in Association With Railroad Rights of Way—Namely, Rail Bonding Machinery and Tools, Including Tools for Installing and Extracting Rail Bonds; Tools for Installing Terminals, and Binding Posts for Signaling Circuits; Power Track Wrenches; Tie Boring Machinery; Power Rail Drills; Wrenches, Pliers and Other Hand Tools; Switch Obstruction Gages and Parts, Accessories and Associated Equipment for the Above.
First use in or before October 1921 on rail bonding machinery and power rail drills.

SN 98,425. Beloit Iron Works, Beloit, Wis. Filed June 6, 1960.



Owner of Reg. Nos. 566,846, 684,407, and others.
For Paper Making Machinery and Parts and Accessories Therefor.
First use Jan. 15, 1950; 1935 as to "Beloit".

SN 100,205. Carl S. Zilk, d.b.a. Carbonic Beverage Equipment Co., Portland, Oreg. Filed July 1, 1960.

ZILK-FLOMATIC

For Dispensing Equipment for Dispensing Carbonated Water, Beverages, Syrups, Etc. in Mixing and Making Drinks.
First use December 1958.
Subj. to Intf. with Reg. No. 700,484.

SN 103,512. Anker-Werke Aktiengesellschaft, Bielefeld, Germany. Filed Aug. 29, 1960.



Owner of German Reg. No. 645,381, dated Oct. 2, 1953; and U.S. Reg. Nos. 595,167, 633,069, and others.
For Price-Tag Issuing and Merchandise Pricing Machines and Price Tags for Merchandise.

SN 103,563. Hayes Spray Gun Company, Pasadena, Calif. Filed Aug. 29, 1960.



For Service Kit Comprising Replacement and Repair Parts for Garden Spray Guns.
First use July 1954.

SN 103,759. The Bahnson Company, Winston-Salem, N.C. Filed Sept. 1, 1960.



The drawing is lined for blue. Owner of Reg. No. 631,711.
For Industrial Type Vacuum Cleaning Equipment Installed on Textile Machinery.
First use June 14, 1955.

SN 103,805. Railroad Accessories Corporation, New York, N.Y. Filed Sept. 1, 1960.



Owner of Reg. Nos. 323,335 and 327,787.
For Machinery and Tools for Use on or in Association With Railroad Rights of Way—Namely, Rail Bonding Machinery and Tools, Including Tools for Installing and Extracting Rail Bonds; Tools for Installing Terminals and Binding Posts for Signalling Circuits; Power Track Wrenches; Tie Boring Machinery; Power Rail Drills; Wrenches, Pliers and Other Hand Tools; Switch Obstruction Gages and Parts, Accessories and Associated Equipment for the Above.
First use in or about August 1950 on power track wrenches.

SN 105,255. The Boston Metals Company, Chester, Pa. Filed Sept. 27, 1960.



For Hand Tools, Including Hammers, Sledges, Body Tools, and Hand Dollies.
First July 1, 1946.

SN 106,530. Pitman Manufacturing Company, Grandview, Mo. Filed Oct. 17, 1960.

PELICAN

For Truck Mounted Boom and Basket Assemblies.
First use May 2, 1960.

SN 106,571. American Can Company, New York, N.Y. Filed Oct. 18, 1960.

CANCO

Owner of Reg. Nos. 92,935, 703,267, and others.
For Equipment Used for Filling, Closing, Opening, Treating and Handling Cans and Other Containers—Namely, Can Closing Machines, Double Seamers, Container Seaming and Sealing Machines, Can Clinching Machines, Can Opening Machines, Container Filling Machines, Filled Container Weighing Machines, Container Marking Machines; Container Vacuumizing and Gassing Machines; Ham Can Presses; and Container Depalletizing Machines.
First use in or about 1926.

SN 106,597. Guhl & Scheibler A.G., Basel, Switzerland. Filed Oct. 18, 1960.

ETIKA

Owner of Swiss Reg. No. 107,230, dated May 11, 1944.
For Printing Machines for Printing Labels and Tags, and parts thereof.
First use May 1, 1944; in commerce Aug. 5, 1959.

SN 106,633. Plymouth Rubber Company, Inc., Canton, Mass. Filed Oct. 18, 1960.

FLIP-N-CUT

For Dispenser for Ribbons of Tape and the Like Materials.
First use June 10, 1960.

SN 106,703. Double A Products Company, Manchester, Mich. Filed Oct. 19, 1960.

CIRCUIT PAK

For Hydraulic Power Units.
First use Nov. 17, 1958.

SN 107,517. Sun Enterprises, Inc., Minneapolis, Minn. Filed Oct. 31, 1960.

AQUA-HONE

For Water Powered Knife Sharpener.
First use Apr. 7, 1960.

SN 107,657. De Laval-Holroyd, Inc., Hamilton Township, Mercer County, N.J. Filed Nov. 2, 1960.

DELROYD

For Worm Reduction Gears.
First use January 1959.

SN 108,139. Robinco New York, Inc., New York, N.Y. Filed Nov. 9, 1960.

METEOR

For Typewriters.
First use April 1960.

SN 108,268. The Challenge Machinery Company, Grand Haven, Mich. Filed Nov. 14, 1960.

Challenge

Owner of Reg. Nos. 438,846, 689,478, and others.
For Various Types of Machines, Machine Accessories, Components and Parts Thereof—Namely, Turret Lathes and Parts Thereof; Paper Drilling Machines and Accessories—Namely, Slotting Attachments, Paper Drills, Index and Fixed Gages, Drill Sharpeners, Cornering Attachments; Lever and Power Actuated Paper Cutting Machines and Accessories—Namely, Paper Cutter Knife Guard, Safety Devices, Belt Guards and Motor Brackets; Printers' Proof Press, Printing Presses and Parts Thereof, Printers' Quoins, Printers' Quoin Keys, Printers' Galleys, Printers' Furniture, Printers' Plate Mounting Equipment, Printers' Book Blocks, Printers' Newspaper Bases, Printers' Imposing Surfaces, Paper Punches, Printers' Router, Printers' Press Lock Up Apparatus, and Printers' Type-High Machine.
First use in or before January 1937.

SN 108,451. Central Engineering Company, Inc., Milwaukee, Wis. Filed Nov. 15, 1960.

VAC-ALL

For Vehicle Mounted Street and Highway Cleaners.
First use on or about Oct. 12, 1960.

Class 24—Laundry Appliances and Machines

SN 94,378. Whirlpool Corporation, St. Joseph, Mich. Filed Apr. 4, 1960.

SURGILATOR

For Agitators for Clothes Washing Machines.
First use Dec. 2, 1958.

SN 101,595. American Machine and Metals, Inc., East Moline, Ill. Filed July 28, 1960.

BIG BOY

For Washer-Extractor Laundry Machines.
First use June 16, 1960.

SN 101,885. E. L. Mustee & Sons, Inc., Cleveland, Ohio. Filed Aug. 2, 1960.

UTILATUB

For Laundry Tubs.
First use in or about May 1958.

SN 103,982. Tingue, Brown & Co., New York, N.Y. Filed Sept. 6, 1960.

TIBROTEX

For Flatwork Ironer Roll Covers.
First use Mar. 18, 1960.

SN 103,983. Tingue, Brown & Co., New York, N.Y. Filed Sept. 6, 1960.

ROLPAK

For Flatwork Ironer Roll Dressings.
First use Apr. 6, 1960.

Class 25—Locks and Safes

SN 103,742. Sargent & Greenleaf, Inc., Rochester, N.Y. Filed Aug. 31, 1960.

CENTI-SPLINE

For Combination Locks and Parts.
First use Jan. 1, 1957.

Class 26—Measuring and Scientific Appliances

SN 62,564. Lufkin Rule Company, Saginaw, Mich. Filed Nov. 17, 1958.

SPEED WIND

For Measuring Tapes and Tape Rules.
First use Sept. 25, 1958.

SN 97,484. Haloid Xerox Inc., Rochester, N.Y. Filed May 19, 1960.

914

For Transfer Paper.
First use Apr. 11, 1960.

Class 27—Horological Instruments

SN 96,304. Zodiac S.A., Le Locle, Switzerland. Filed May 2, 1960.

SEA WOLF

Owner of Swiss Reg. No. 158,157, dated Sept. 12, 1955.
For Watches, and Parts Therefor.

SN 101,149. Ancienne Manufacture d'Horlogerie, Patek, Philippe et Co., Societe Anonyme, Geneva, Switzerland. Filed July 20, 1960.

ELOXTAL

Owner of Swiss Reg. No. 177,401, dated Sept. 9, 1959.
For Watches and Clocks and Parts Thereof.

SN 104,065. Bulova Watch Company, Inc., Flushing, N.Y. Filed Sept. 8, 1960.

WINDOW-PAK

For Compartmented Boxes Containing Assortments of Watch Parts.
First use Aug. 24, 1959.

Class 28—Jewelry and Precious-Metal Ware

SN 65,593. Charles Stuart Enterprises Corporation, New York, N.Y. Filed Jan. 9, 1959.

JEWELS BY STUART

The term "Jewels" is disclaimed.
For Precious Jewelry—Namely, Rings, Bracelets, Pendants, Charms, Pins, Earrings, and Charm Bracelets.
First use Apr. 2, 1958.
Subj. to Intf. with Reg. No. 710,882.

SN 93,946. Marvin Pranger, d.b.a. Mar-Kay Jewelry Manufacturers, Orlando, Fla. Filed Mar. 29, 1960.

MAR-KAY

For Jewelry—Namely, Bracelets, Necklaces, Earrings, Finger Rings, Key Chains and Angle Bracelets.
First use September 1954.

Class 29—Brooms, Brushes, and Dusters

SN 95,278. H. V. Hardman Co., Incorporated, Belleville, N.J. Filed Apr. 18, 1960.

TUFLITE INTERLOC

Owner of Reg. No. 680,785.
For Paint Brush Handles.
First use Feb. 19, 1960.

Class 30—Crockery, Earthenware, and Porcelain

SN 95,839. McNicol China Company, Clarksburg, W. Va. Filed Apr. 26, 1960.

REVELE

For China Dinnerware and Ovenware.
First use at least as early as July 11, 1957.

Class 31—Filters and Refrigerators

SN 82,285. Palmer Filter Equipment Company, Erie, Pa. Filed Sept. 28, 1959.

Palmer

For Filter Bed Surface Sweepers, Filter Bed Surface Washers, and Control Valves and Strainers for Use in Water Systems.
First use Aug. 1, 1959.

SN 101,061. Warner Lewis Company, Tulsa, Okla. Filed July 18, 1960.



For Liquid Separation.
First use May 31, 1960.

SN 101,062. Warner Lewis Company, Tulsa, Okla. Filed July 18, 1960.



For Liquid Separation.
First use May 31, 1960.

SN 106,637. Refrigeration Appliances, Inc., Chicago, Ill. Filed Oct. 18, 1960.

KRACK

For Refrigerating and Air Conditioning Equipment.
First use 1931.

SN 106,864. Vacumite, Incorporated, Harrisburg, Pa. Filed Oct. 20, 1960.

Vacumite

For Water Filter Systems for Swimming Pools and Municipal Works.
First use May 1, 1958.

Class 32 — Furniture and Upholstery

SN 78,482. Nachman Corporation, Chicago, Ill. Filed July 27, 1959.

LO-BAK

For Springs and Spring Assemblies for Use in Bedding, Seats and Upholstered Furniture.
First use June 25, 1959.

SN 81,456. Burton-Dixie Corporation, Chicago, Ill. Filed Sept. 16, 1959.

SIL-O-ETTE

For Beds.
First use June 15, 1959.

SN 100,106. Douglas Furniture Corporation, Chicago, Ill. Filed July 1, 1960.

Red Carpet Treatment

For Kitchen and Dinette Tables and Chairs.
First use Mar. 24, 1960.

SN 100,108. Douglas Furniture Corporation, Chicago, Ill. Filed July 1, 1960.

DINETTE DYNAMITE

Applicant disclaims the word "Dinette" apart from the mark as shown.
For Kitchen and Dinette Tables and Chairs.
First use Mar. 16, 1960.

SN 104,493. Use Products, Inc., Atlanta, Ga. Filed Sept. 14, 1960.

RELAX-A-BED

Owner of Reg. No. 665,383.
For Mattresses and Bedding Items.
First use Aug. 24, 1960.

SN 105,872. Eclipse Sleep Products, Inc., Brooklyn, N.Y. Filed Oct. 6, 1960.

3 T

For Mattresses.
First use Aug. 5, 1960.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 99,943. George J. Meyer Malt & Grain Corporation, Buffalo, N.Y. Filed June 29, 1960.



The words "Frauenheim Process" are disclaimed apart from the mark as shown. The drawing is lined for the colors yellow, red and gray. Owner of Reg. No. 634,960.
For Apparatus for Making Malt for Brewing Purposes by the Application of Moisture and Heat.
First use June 17, 1960.

SN 101,887. E. L. Mustee & Sons, Inc., Cleveland, Ohio. Filed Aug. 2, 1960.

DURAMATIC

For Incinerators.
First use June 24, 1960.

SN 102,124. Maurice A. Knight Sons' Co., Crooksville, Ohio. Filed Aug. 5, 1960.

BAR-B-GRATE

For Ceramic Grates for Barbecue Grills.
First use on or about Mar. 1, 1960.

SN 104,769. Suburban Propane Gas Corporation, Whippany, N.J. Filed Sept. 19, 1960.

DYNAVENT

For Space Heaters.
First use at least as early as June 12, 1957.

SN 106,659. Sunbeam Equipment Corporation, Meadville, Pa. Filed Oct. 18, 1960.

ENDEX

For Gas Generating Units.
First use in or before March 1958.

SN 106,774. United Gas Corporation, Shreveport, La. Filed Oct. 19, 1960.

VIGILANT

For Pilot Lighters.
First use July 9, 1960.

SN 107,696. Howard B. Pieper, Waterloo, Iowa. Filed Nov. 2, 1960.

EVEN GLOW

For Portable Blower for Aiding and Starting Charcoal Fires.
First use Sept. 21, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 101,551. Herbert Hamann, d.b.a. "Speed Hamann," North Miami, Fla. Filed July 27, 1960.

SPEED HAMANN

"Speed Hamann" is the personal nickname of applicant.
For Bicycle Tires.
First use April 1946.

SN 108,323. Carl Helwig, d.b.a. Better Part Specialties, Los Angeles, Calif. Filed Nov. 14, 1960.

AD-A-SEAL

For Oil Seals.
First use Aug. 1, 1960.

SN 108,576. The Frank G. Schenuit Rubber Company, Baltimore, Md. Filed Nov. 16, 1960.

SCHENUIT

For Vehicle Tires Composed of Rubber (Natural and for Synthetic) and Fabric.
First use in or about the year 1920.

SN 108,625. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Nov. 17, 1960.

CUSTOM CONTOUR

For Tread Rubber.
First use Dec. 17, 1959.

SN 108,652. Samuel Moore and Company, Mantua, Ohio. Filed Nov. 17, 1960.

RUB-BUB

For Radiator Hose.
First use May 25, 1940.

SN 108,683. United States Rubber Company, New York, N.Y. Filed Nov. 17, 1960.

SRT

For Pneumatic Tires.
First use Jan. 22, 1958.

SN 108,755. Dayco Corporation, Dayton, Ohio. Filed Nov. 21, 1960.

THORO-BRAID

Owner of Reg. Nos. 151,732, 706,659, and others.
For Hose.
First use Sept. 8, 1959.

SN 109,177. Flexibox Limited, Trafford Park, Manchester, England. Filed Nov. 28, 1960.

UNIFLEX

Owner of British Reg. No. 800,072, dated Jan. 6, 1960.
For Packings and Jointings (in the Nature of Packings), All for Rotary Shafts of Machines.

SN 109,178. Flexibox Limited, Trafford Park, Manchester, England. Filed Nov. 28, 1960.

SECTAFLEX

Owner of British Reg. No. 792,183, dated June 16, 1959.
For Packings and Jointings (in the Nature of Packings), All for the Rotary Shafts of Machines.

Class 36 — Musical Instruments and Supplies

SN 102,023. Greentree Electronics Corporation, Los Angeles, Calif. Filed Aug. 4, 1960.

HI-TONE

For Magnetic Recording Tape.
First use June 11, 1959.

Class 37 — Paper and Stationery

SN 70,342. Aristocrat Leather Products, Inc., New York, N.Y. Filed Mar. 27, 1959.

PONY DEB

For Diaries, Albums and Desk Sets.
First use Oct. 18, 1958.

SN 95,397. Stafford-Lowdon Company, Fort Worth, Tex. Filed Apr. 19, 1960.

TEXAS SAFETY

Applicant disclaims the word "Safety." Owner of Reg. No. 362,473.
For Blank Forms for Bank Drafts, Checks, and Negotiable Instruments.
First use Apr. 20, 1937.

SN 99,302. Crown Zellerbach Corporation, San Francisco, Calif. Filed June 20, 1960.

CATALINA BRITE

Applicant disclaims "Brite" apart from the mark as shown. Owner of Reg. No. 577,069.
For Printing Paper.
First use May 16, 1959.

SN 99,608. Acme Brief Case Co., Inc., Yonkers, N.Y. Filed June 24, 1960.

FLIPOMATIC

For Loose Leaf Binders.
First use about Mar. 1, 1960.

SN 104,406. Tuk Tite, Lafayette, Calif. Filed Sept. 13, 1960.

TUK TITE

For Irradiated Plastic Film Used To Wrap Food for Storage Purposes.
First use June 30, 1960.

SN 106,343. The Parker Pen Company, Janesville, Wis. Filed Oct. 13, 1960.

10,000

For Fountain Pens and Parts Therefor, and Mechanical Pencils.
First use July 19, 1960.

SN 106,419. Thomas R. Keogh, Omaha, Nebr. Filed Oct. 14, 1960.

CHIPPER CHATTER

For Writing Paper and Envelopes.
First use Sept. 28, 1960.

SN 107,506. The A. N. Palmer Company, Chicago, Ill. Filed Oct. 31, 1960.

RITE-HOLD

For Pencils.
First use during February 1960.

SN 107,662. Eureka Specialty Printing Company, Scranton, Pa. Filed Nov. 2, 1960.

EUREKA

Owner of Reg. Nos. 172,300, 605,515, and others.
For Safety Paper Having a Chemically Changeable Dyestuff for Security Purposes.
First use Aug. 1, 1960; since 1912 as to "Eureka."

Class 38 — Prints and Publications

SN 83,591. American Aviation Publications, Inc., Washington, D.C. Filed Sept. 30, 1959.

Missiles and Rockets

ASTROLOG

For Section of a Periodical Publication.
First use Sept. 7, 1959.

SN 92,388. Metro Associated Services, Inc., New York, N.Y. Filed Mar. 8, 1960.

ADVERTISING DYNAMICS

For Suggested Advertising Copy, Layouts, and Allied Printed Matter and Matrices of the Same.
First use May 11, 1959.

SN 92,537. Golf World Company, Inc., Pinehurst, N.C. Filed Mar. 10, 1960.

GOLF WORLD

For Weekly Golf News Magazine.
First use June 18, 1947.

SN 101,056. The United States Trademark Association, New York, N.Y. Filed July 18, 1960.

USTA

For Periodicals.
First use June 3, 1960.

SN 103,011. David C. Cook Publishing Company, Elgin, Ill. Filed Aug. 19, 1960.



Applicant disclaims the word "Books" apart from the mark as shown.
For Miniature Sized Books on Various Subjects.
First use on or about Sept. 15, 1959.

SN 103,854. Reuben E. Hedlund, Chicago, Ill. Filed Sept. 2, 1960.

THIS WEEK IN TIRES

For Trade Digest.
First use at least as early as Nov. 2, 1959.

SN 104,034. International Association of Fire Fighters, Washington, D.C. Filed Sept. 7, 1960.



For Publications and Pamphlets Which Are Issued From Time to Time Dealing With Specific Subject Matters.
First use in June 1939.

SN 104,053. Sheet Metal Workers' International Association, Washington, D.C. Filed Sept. 7, 1960.



For Monthly Publication Known as the "Sheet Metal Workers' Journal."
First use August 1924.

Class 39 — Clothing

SN 76,404. House of Worsted-Tex, Inc., Philadelphia, Pa., assignee of House of Worsted-Tex, Inc. Philadelphia, Pa. Filed June 24, 1959.

Wearlong Worsted

Owner of Reg. Nos. 323,485 and 393,266.
For Fabric Made Up Into Men's and Young Men's Outer Garments—Viz., Suits, Coats, Vests, Pants, Slacks, Overcoats and Topcoats.
First use on or about Aug. 1, 1938.

SN 84,019. Atlas Plywood Corporation, Schuylkill Haven, Pa., assignee of Rohrer Knitting Mills, Inc., Orwigsburg, Pa. Filed Oct. 26, 1959.

RO-KNIT

For Men's Underwear and T-Shirts.
First use in October 1947.

SN 88,869. Newport Shoe Mfg. Corporation, Lowell, Mass. Filed Jan. 12, 1960.

WINDSOR

For Men's and Boys' Shoes.
First use on or about Nov. 2, 1959.

SN 92,170. Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959, Reg. No. 146,864, dated Jan. 20, 1960.
For Men's, Women's and Children's Belts, Suspenders, Garters, Boots, Shoes, Slippers, Sandals, Boot Socks, Hosiery, Shoe Soles, Hats, Caps, Suits, Coats, Sweaters, Raincoats, Gloves, Aprons, and Heel Protectors; Women's Brassieres and Corset Pads; Babies' Panties and Bibs; Workmen's Suits, Shirts, Trousers and Hats; Metallized Protective Suits, Shirts, Trousers, Hoods, Hats, Boots, Shoes, and Socks; and Cap Peaks, Crash Helmets, Handerchiefs, Dress Collars, Kerchiefs, Hair Nets, and Hat and Cap Linings.

SN 96,775. The Warner Brothers Company, Bridgeport, Conn. Filed May 9, 1960.

DOUBLE PLAY

For Girdles and Brassieres.
First use Apr. 4, 1960.

SN 97,214. Kiddie Kapers, Inc., New York, N.Y. Filed May 16, 1960.

TRAIL TRACER

For Men's Women's and Children's Jackets and Suburban Coats.
First use Mar. 5, 1960.

SN 98,119. Herbert L. Fleishman, d.b.a. Monarch Specialties Company, Fayetteville, N.C. Filed May 31, 1960.



For Infants' Wear—Namely, Diapers, Kimonas, Gowns, Sleeper Creepers, and Bibs.
First use May 10, 1960.

SN 98,846. Baitch & Castaldi, Inc., d.b.a. Bataldi, New York, N.Y. Filed June 13, 1960.

Jerada

For Fabrics Made Up Into Ladies' and Misses' Coats and Suits.
First use May 1959.

SN 99,150. Kresge-Newark, Inc., Newark, N.J. Filed June 16, 1960.

KRESGE-NEWARK

Owner of Reg. Nos. 388,477 and 531,121.
For Clothing—Namely, Dress Shirts, Sport Shirts, Under Shorts and Shirts, Socks, Neckties, for Men and Boys; and Lingerie for Women and Girls.
First use May 10, 1946.

SN 99,460. Rugby Knitting Mills, Inc., d.b.a. Rugby, Buffalo, N.Y. Filed June 21, 1960.

keepocket

For Pockets Forming a Part of Men's Sport Jackets.
First use May 1, 1960.

SN 101,340. Rhodes of California, Inc., Los Angeles, Calif. Filed July 22, 1960.

Pantiques

For Women's Slacks.
First use June 15, 1960.

SN 101,342. Speedo Knitting Mills Pty. Limited, Artarmon, near Sydney, New South Wales, Australia. Filed July 22, 1960.

SPEEDO

Owner of Australian Reg. Nos. 61,406, 63,681, and 118,251, dated Feb. 22, 1933, Apr. 21, 1934, and Aug. 5, 1954, respectively.
For Men's and Women's Sports Shirts Both Knitted and Woven, Walking Shorts, Leisure Jackets for Informal Wear.
First use in 1933; in commerce August 1959.

SN 101,401. International Shoe Company, d.b.a. Florsheim Shoe Company, Chicago, Ill. Filed July 25, 1960.

MAGIC TOPS

Owner of Reg. No. 598,800.
For Shoes for Men, Women and Children Containing Elastic Goring Around the Upper Portion of the Shoe.
First use June 23, 1960.

SN 101,738. L. E. Beaudin Shoe Company, Hanover, Pa. Filed Aug. 1, 1960.

SOPHISTICATE

For Ladies' Shoes.
First use July 15, 1960.

SN 101,810. Plastics & Resins, Inc., Newark, N.J. Filed Aug. 1, 1960.

RAVES

For Children's One-Piece Molded Shoes Made Solely of Plastic.
First use July 21, 1960.

SN 102,050. Dr. Posner Shoe Co., Inc., New York, N.Y. Filed Aug. 4, 1960.

ACTIVE STEP

For Shoes for Women, Girls, Men, Boys and Infants.
First use July 27, 1960.

SN 103,021. Hicks-Hayward Company, El Paso, Tex. Filed Aug. 19, 1960.



The word "Casuals" is disclaimed apart from the mark as shown.
For Clothing—Namely, Trousers.
First use Apr. 7, 1960.

SN 103,497. Wall-Streeter Shoe Co., North Adams, Mass. Filed Aug. 26, 1960.



The word "Shoes" and the representation of a shoe are hereby disclaimed apart from the mark as shown.
For Men's and Boys' Shoes of Leather.
First use Apr. 1, 1960.

SN 104,170. Movie Star, Inc., New York, N.Y. Filed Sept. 9, 1960.

SATIN STAR

For Women's and Misses' Undergarments, Sleepwear and Lingerie.
First use July 16, 1960 on women's and misses' undergarments.

SN 104,471. National Shoes, Inc., New York, N.Y. Filed Sept. 14, 1960.

Papalini

For Shoes for Women and Children.
First use Feb. 25, 1960.

SN 104,496. The Wilson Rubber Company, Canton, Ohio. Filed Sept. 14, 1960.

POLY-D

For Disposable Gloves.
First use on or about Feb. 29, 1959.

SN 104,830. Holyrood Knitwear (Sales) Limited, Glasgow, Scotland. Filed Sept. 20, 1960.

HOLYROOD

For Women's and Children's Blouses and Skirts and Knitted Clothing—Namely, Knitted Jumpers, Cardigans, Blouses, Dresses and Skirts.
First use 1934; in commerce 1948.

SN 109,911. Tru Balance Corsets, Inc., New York, N.Y. Filed Dec. 8, 1960.

EMANCI-PANTS

For Ladies' Corsets, Girdles, Foundation Garments, Corselettes, Brassieres, Bathing Suits and Underwear.
First use Oct. 3, 1960 on corsets, girdles, foundation garments and corselettes.

Class 40—Fancy Goods, Furnishings, and Notions

SN 82,555. United Elastic Corporation, Easthampton, Mass. Filed Oct. 1, 1959.

Colton Elastic

Applicant hereby disclaims the word "Elastic."
For Braided or Woven Elastics.
First use Jan. 15, 1959.

SN 92,171. Montecatini, Societh Generale per l'Industria Mineraria e Chimica, Milan, Italy. Filed Mar. 4, 1960.

MERAKLON

Priority claimed under Sec. 44(d) on Italian application filed Sept. 11, 1959; Reg. No. 146,864 dated Jan. 20, 1960.
For Embroidered Trimmings, Buttons, Snap-Buttons, Hair Ribbons, Shoe Laces, Waist-Bands for Dresses, Dress Shields, and Inserts for Collars.

SN 93,724. Tye-Rite, Inc., Des Moines, Iowa. Filed Mar. 25, 1960.



The word "Laces" is disclaimed apart from the mark as shown. The drawing is lined for red, but color is not claimed as a part of the mark.
For Shoe Laces.
First use Mar. 8, 1960.

SN 95,786. U.S. Basket Company, Inc., New York, N.Y. Filed Apr. 25, 1960.



The term "Basket" is disclaimed apart from the mark. Owner of Reg. Nos. 656,271 and 710,395.
For Sewing Boxes and Baskets, Ladies' Work Baskets, Knitting Bags and Baskets, Pin Cushions, and Sewing Kits, Containing Scissors, Thimbles, Thread, Needles and Tape Measures in a Common Container.
First use March 1958.

SN 103,599. The Reddy Company, Inc., Montpelier, Vt. Filed Aug. 29, 1960.

Cozy Care

For Crib Blanket Fasteners Comprising a Plastic Ring to Snap Around the Side Post of a Crib, and a Safety Pin to Attach to a Blanket.
First use July 14, 1960.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 62,675. Dan River Mills, Incorporated, Danville, Va. Filed Nov. 18, 1958.

DAN STAR

Owner of Reg. Nos. 435,334, 629,619, and others.
For Cotton Piece Goods.
First use Oct. 29, 1958.

SN 77,494. American Enka Corporation, Enka, N.C. Filed July 13, 1959.

ENKA SHEER "45"

Owner of Reg. Nos. 409,392 and 644,822.
For Sheer Fabric for Lingerie, Blouses, Dresses and the Like.
First use June 25, 1959.

SN 90,978. Downs Carpet Company, Inc., Philadelphia Pa. Filed Feb. 9, 1960.

BAK-LOK

For Scrim Backing for Carpeting.
First use Jan. 4, 1960.

SN 97,216. Hi Lankenau Textile Corp., New York, N.Y. Filed May 16, 1960.

Padré

For Apparel Fabrics of Rayon and Synthetic Fibres.
First use Mar. 9, 1960.

SN 105,258. Beacon Manufacturing Company, Swannanoa, N.C. Filed Sept. 27, 1960.

ARTLEY

For Blankets.
First use Feb. 15, 1939.

SN 107,189. Fluff 'n Puff Pillow Service of America, Inc. Minneapolis, Minn. Filed Oct. 26, 1960.

FLUFF 'N PUFF

For Pillow Ticking.
First use November 1958.

Class 43—Thread and Yarn

SN 109,244. Daito Boshoku Kabushiki Kaisha, d.b.a. Daito Woolen Spinning & Weaving Co. Ltd., Chuo-ku Tokyo-to, Japan. Filed Nov. 29, 1960.

CHLONSET

For Threads and Yarns.
First use Mar. 14, 1958; in commerce Sept. 20, 1958.

Class 44—Dental, Medical, and Surgical Appliances

SN 80,339. Niblack System, Inc., Houston, Tex. Filed Aug. 27, 1959.

TWO-WAY

For Massaging Machines in the Form of a Table to Aid in Slenderizing and Reducing.
First use prior to August 1948.

SN 80,340. Niblack System, Inc., Houston, Tex. Filed Aug. 27, 1959.

STUDIO PONY

Owner of Reg. No. 683,740.
For Massaging Machines Having Rotating Rollers to Aid in Slenderizing and Reducing.
First use prior to August 1948.

SN 89,028. Friedrich Schroder-Stranz, Malans, Graubunden, Switzerland. Filed Jan. 14, 1960.

AGATHON

Owner of Swiss Reg. No. 175,938, dated July 14, 1959.
For Apparatus, Devices and Equipment for the Production of Vibratory, Oscillatory and Similar Motions, Said Apparatus, Devices and Equipment Being Power-Operated and Adapted to Stand on a Floor or To Be Supported on a Wall, Ceiling or Otherwise; Apparatus, Devices and Instruments for Massaging, Especially for Vibrational and Similar Massage and for Therapeutic Purposes by Vibrational and Similar Treatment, Said Apparatus, Devices and Instruments Being Electrically Operated and Primarily Adapted To Be Held in the Hands.

SN 90,357. George P. Pilling & Son Company, Philadelphia, Pa. Filed Feb. 4, 1960.

ATRAUGRIP

For Forceps.
First use Nov. 24, 1959.

SN 98,331. C. R. Bard, Inc., Summit, N.J. Filed June 3, 1960.

ECONO

For Urinary Drainage Tubes.
First use May 20, 1960.

SN 99,250. Bronya Silber, d.b.a. Bronya Shop, Seattle, Wash. Filed June 17, 1960.

FASCINATA

For Facial Massaging Equipment for Professional Use.
First use on about Apr. 15, 1959.

SN 101,309. The L. D. Caulk Company, Milford, Del. Filed July 22, 1960.

dycal

For Calcium Hydroxide Dental Cement Material.
First use June 9, 1960.

SN 101,451. Paul H. Kuhl, d.b.a. Kuhl Poultry Equipment Co., Flemington, N.J. Filed July 25, 1960.

PEEPERS

For Anti-Pick Blinders for Fowl.
First use September 1953.

SN 102,517. Sperti Faraday, Inc., Adrian, Mich. Filed Aug. 11, 1960.

Sun Valley

For Sun Lamps.
First use July 1, 1960.

SN 107,131. Shirley B. Langham, Dallas, Tex. Filed Oct. 25, 1960.

BEAUTELATER

For Paddle for Patting the Skin to Stimulate Circulation.
First use Oct. 15, 1960.

SN 107,682. Lincoln Laboratories, Inc., Decatur, Ill. Filed Nov. 2, 1960.

MONO-VACC

For Vaccinators.
First use Sept. 2, 1960.

Class 46 — Foods and Ingredients of Foods

SN 79,240. Clarence R. Hiester, d.b.a. Schell's Dairy Swirl, Temple, Pa. Filed Aug. 10, 1959.

Frigid Treats

No claim is made to the word "Frigid" apart from the mark as shown, but applicant does not waive any common law rights that he may have in the mark.
For Frozen Sundaes.
First use July 31, 1959.

SN 80,828. B. M. Tibbitts & Sons, St. Anthony, Idaho. Filed Sept. 3, 1959.

Golden Crown

For Potatoes in the Natural State.
First Use Oct. 15, 1958.

SN 83,323. Stanley Englander, Inc., New York, N.Y. Filed Oct. 15, 1959.

ENGLANDER Grand Champion

For Meats, in Carcass Form and in Packaged Cuts.
First use on or about Sept. 1, 1948.

SN 86,529. Allied Old English, Incorporated, Newark, N.J. Filed Dec. 3, 1959.

PLANTATION

For Food Products—Namely, Powdered Skim Milk and Wheat Germ.
First use September 1950.
Subj. to Intf. with SN 90,788.

SN 88,099. Russell-Miller Milling Co., Minneapolis, Minn. Filed Dec. 28, 1959.

ORBIT

For Wheat Flour.
First use Feb. 17, 1959.

SN 89,942. Perk Foods Co., Chicago, Ill. Filed Jan. 29, 1960.

ROYAL KENNEL

For Dog Food.
First use Nov. 20, 1959.

SN 90,690. Keith Madison, d.b.a. Blue Mound Turkey Farms, Luverne, Minn. Filed Feb. 10, 1960.

BLUE MOUND

For Fresh Dressed and Frozen Turkeys and Turkey Giblets.
First use in or about October 1949.

SN 90,788. J. Allen Smith & Co., Knoxville, Tenn. Filed Feb. 11, 1960.

PLANTATION

For Wheat Flour.
First use on or about Mar. 16, 1915.
Subj. to Intf. with SN 86,529.

SN 91,824. Minute Maid Corporation, Orlando, Fla. Filed Feb. 29, 1960.



The drawing has been stippled to show that as used the two sections of the mark are of different color.
For Frozen Citrus Juice and Ades and Grape Juice, Pineapple Juice and Grapefruit Sections.
First use Feb. 1, 1960.

SN 91,976. Vitaplus Corporation, Madison, Wis. Filed Mar. 1, 1960.

Brait

Owner of Reg. Nos. 576,674, 675,512 and 690,442.
For Dog Food.
First use January 1959.

SN 93,962. The Acerola Corporation, Sabana Seca, Puerto Rico. Filed Mar. 30, 1960.

A-C-RO

Owner of Reg. Nos. 627,502 and 627,503.
For Canned Pineapple Food Drink.
First use Feb. 29, 1960.

SN 93,964. The Acerola Corporation, Sabana Seca, Puerto Rico. Filed Mar. 30, 1960.

CEROLAX

Owner of Reg. Nos. 621,873, 682,987, and others.
For Canned Pineapple Food Drink.
First use Feb. 29, 1960.

SN 93,965. The Acerola Corporation, Sabana Seca, Puerto Rico. Filed Mar. 30, 1960.

CEROLA

Owner of Reg. Nos. 621,873, 682,987, and others.
For Canned Pineapple Food Drink.
First use Feb. 29, 1960.

SN 94,250. Bruce's Foods Company, New Iberia, La. Filed Apr. 4, 1960.

CHILI GARITO

Garito means "Gambling House." Applicant disclaims any exclusive rights to the word "Chili" apart from the mark as shown.
For Pickled Peppers.
First use Mar. 25, 1957.

SN 97,191. Fairway Foods, Inc., St. Paul, Minn. Filed May 16, 1960.

GOLDEN KREEMIX

Owner of Reg. No. 600,799.
For Shortening Derived From Vegetable and Animal Fats.
First use in August 1958.

SN 100,248. Griffin Pie Co. of South Charleston, d.b.a. Griffin Pie Co., South Charleston, W. Va. Filed July 5, 1960.

GOLDEN TOP

For Bakery Products—Namely, Pies, Doughnuts, Buns, and Creme Horns.
First use Dec. 1, 1959.

SN 100,276. McKesson & Robbins, Incorporated, New York, N.Y. Filed July 5, 1960.

W·R·D

For Special Food Concentrate of High and Complete Nutritive Value for Use in Weight Reducing Diets and Where Concentrated and Complete Foods are Desired, Consisting Principally of Non-Fat Milk Solids, Whole Milk Solids and Soya Flour and Including Other Lesser Ingredients.
First use June 29, 1960.

SN 101,804. Olympia Oyster Company, Shelton, Wash. Filed Aug. 1, 1960.



No claim of exclusive right is made to the word "Clam," said word being the name of the goods.
For Fresh Frozen Clams.
First use Mar. 1, 1960.

SN 103,197. Rahr Malting Co., Manitowoc, Wis. Filed Aug. 22, 1960.



Owner of Reg. No. 532,579.
For Malt Used for Food Products Including Beverages.
First use June 6, 1960.

SN 103,299. Red Star Yeast and Products Company, Milwaukee, Wis. Filed Aug. 23, 1960.

MOISTEX

For Emulsifier for Cakes and Sweet Doughs.
First use Aug. 8, 1960.

SN 103,621. Taix, Vessey & Auker Co., Inc., Salinas, Calif. Filed Aug. 29, 1960.

Mr. Q

For Fresh Vegetables.
First use July 20, 1960.

SN 105,552. Schindler's Peanut Products, Inc., Mt. Rainier, Md. Filed Sept. 30, 1960.



For Salted Fancy Nuts, Salted Peanuts, Salted Cashew Nuts, Cooking Nuts, Roasted Peanuts, Peanut Butter, Peanut Butter Sandwiches.
First use Jan. 1, 1954.

SN 105,708. F. H. Peavey & Company, Minneapolis, Minn. Filed Oct. 3, 1960.

SPIN

For Cake Flour.
First use June 30, 1960.

SN 106,714. Hereford Heaven Brands, Inc., Oklahoma City, Okla. Filed Oct. 19, 1960.

SIZZLE

For Fresh and Frozen Packaged Meats.
First use Dec. 1, 1959.
Subj. to Intf. with SN 107,569.

SN 107,569. Geo. A. Hormel & Company, Austin, Minn. Filed Nov. 1, 1960.

LITTLE SIZZLERS

For Pork Sausage.
First use Sept. 9, 1960.
Subj. to Intf. with SN 106,714.

SN 108,337. Kwik Kafe Coffee Processors of America, Inc., Hatboro, Pa. Filed Nov. 14, 1960.



OLD MILL

For Coffee.
First use June 1, 1959.

Class 47 — Wines

SN 105,737. E. & J. Gallo Winery, Modesto, Calif. Filed Oct. 4, 1960.

SPORT KING

For Wines.
First use Sept. 13, 1960.

Class 48 — Malt Beverages and Liquors

SN 106,002. The Schoenling Brewing Company, Cincinnati, Ohio. Filed Oct. 7, 1960.

SCHOENLING

For Beer and Ale.
First use May 26, 1934.

SN 106,003. The Schoenling Brewing Company, Cincinnati, Ohio. Filed Oct. 7, 1960.

TOP-HAT

For Beer and Ale.
First use Jan. 31, 1938.

Class 49 — Distilled Alcoholic Liquors

SN 91,604. Hedges & Butler Limited, London, England. Filed July 6, 1960.

HEDGES & BUTLER

Owner of British Reg. No. 546,306, dated Nov. 20, 1933; and U.S. Reg. No. 695,106.
For Whisky and Brandy.
First use in 1844; in commerce in 1895.

SN 103,869. Pioneer Liquor Company, Inc., St. Louis, Mo. Filed Sept. 2, 1960.

1776 BRAND

The word "Brand" is disclaimed.
For Whiskey.
First use May 3, 1956.

Class 50 — Merchandise Not Otherwise Classified

SN 101,337. Plaque Craft, Incorporated, Baltimore, Md. Filed July 22, 1960.

STONETTE

For Wall Plaques and Kits Containing a Pre-Priated Wood Panel, Colored Stones, Glue With Applicator, Razor Blade, Spatula and Direction Sheet.
First use Mar. 28, 1960.

SN 105,375. Radiator Specialty Company, Charlotte, N.C. Filed Sept. 28, 1960.

SAFE-T-POST

For Traffic Lane Guide Indicator.
First use Aug. 17, 1960.

SN 107,282. Packaged Parties, Inc., Seattle, Wash. Filed Oct. 27, 1960.

PACKAGED PARTIES

For Kits Containing Invitations, Favors, Dishes, Table Cloths, Napkins, Balloons and Loot Bags for Children's Parties.
First use Jan. 11, 1960.

SN 109,058. Durward Orguth, d.b.a. Guth Products Company, Elmwood Park, Ill. Filed Nov. 25, 1960.

HANDI-MAT

For Plastic Matting.
First use July 5, 1955.

SN 109,473. Colonial-Hites Company, West Columbia, S.C. Filed Dec. 2, 1960.

COL-ITE

Owner of Reg. No. 641,852.
For Outdoor Advertising Sign Letters, Illuminated and Non-Illuminated.
First use Nov. 22, 1955.

Class 51 — Cosmetics and Toilet Preparations

SN 60,502. Fountain Products Co., Chicago, Ill. Filed Oct. 13, 1958.



The words "Hair Awakener" are disclaimed apart from the mark as shown.
For Hair Dressing, Hair Tonic and Conditioner.
First use July 16, 1958.

SN 74,623. Viviane Woodard Corporation, Panorama City, Calif, by change of name from Viviane Woodard Cosmetics, Panorama City, Calif. Filed May 27, 1959.

VIVIANE WOODARD

For Bath Oil, Eye Shadow, Eye and Throat Emollient, Eyebrow Pencil, Hand and Body Lotion, Eyelash Liner Pencils, Lipstick, Liquid Facial Make-Up Base, Mascara; Nail Care Preparations—Namely, Cuticle Conditioner and Base Coat and Protector Coat; Perfume, Preparations for Facial Care—Namely, Cleansers and Lotions and Astringents, Rouge, Skin Freshener, Skin Moisturizers, Shampoo, Sun Tan Lotion, and Translucent Face Powder.
First use Dec. 11, 1958 on eye and throat emollient, hand and body lotion, nail care preparations, preparations for facial care, shampoo, skin freshener, and skin moisturizers.

SN 87,823. Caryl Richards, Inc., New York, N.Y. Filed Dec. 22, 1959.

TINT-ALL

The lining shown in the dot over the letter "i" is a part of the mark and does not signify color.
For Hair Preparations—Namely, Hair Dyes and Hair Color Shampoos.
First use Aug. 10, 1959.

SN 92,323. Gertrude Stella, Lido Beach, N.Y. Filed Mar. 7, 1960.

BELLISSIMA

The mark "Bellissima" means "most beautiful."
For Deep Pore Cleanser, Skin Freshener, Skin Moisturizer, Pressed Powder Compact, Liquid Makeup, Eyebrow Pencil, Eyeliner Brushes, Lipstick, Stick Eye Shadow.
First use Dec. 16, 1959.

SN 100,201. Winter-Tan, Inc., Hampton, Iowa. Filed July 1, 1960.

Winter tan

The word "Tan" is disclaimed apart from the mark as shown. The drawing is lined for brown.
For Skin Tanning Lotion.
First use Apr. 18, 1960.

SN 102,195. Chesebrough-Pond's Inc., New York, N.Y. Filed Aug. 8, 1960.

Angel Skin

Owner of Reg. No. 309,287.
For Hand and Body Lotion.
First use October 1952.

SN 104,379. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 13, 1960.

COUNTESS

For Permanent Hair Waving Lotion Suitable Only for Professional Use in Beauty Parlors.
First use on or about Apr. 5, 1960.
Subj. to Intf. with SN 107,986.

SN 106,903. Benjamin Green, d.b.a. Citroleum Company, Miami, Fla. Filed Oct. 21, 1960.

Afrikol

For Emulsified Sun Tan Oil.
First use Feb. 16, 1960.

SN 107,858. Richard Hudnut, Morris Plains, N.J. Filed Nov. 4, 1960.

DEEP BEAUTY

For Beauty Masque.
First use Oct. 11, 1960.

SN 107,986. Stylors, Inc., d.b.a. Hair Craft Ind., Jacksonville, Fla. Filed Nov. 7, 1960.

COUNTESS

For Cold Wave Lotion and Cold Wave Neutralizer Suitable Only for Professional Use in Beauty Parlors.
First use 1950.
Subj. to Intf. with SN 93,361 and SN 104,379.

SN 110,593. C. H. Boehringer Sohn, Ingelheim (Rhine), Germany. Filed Sept. 16, 1960.

BOEHRINGER INGELHEIM

No claim is made to the geographical term "Ingelheim" apart from the mark as shown. Owner of German Reg. No. 729,669, dated Oct. 6, 1959.
For Line of Perfumes, Cosmetics, and Toilet Preparations.

Class 52 — Detergents and Soaps

SN 95,187. Onyx Chemical Corporation, Jersey City, N.J. Filed Apr. 15, 1960.

ONYX-OL

Owner of Reg. Nos. 437,514, 706,131, and others.
For Liquid Detergents Sold in Bulk to Industrial Users.
First use during and prior to the year 1930.

SERVICE MARKS

Class 100 — Miscellaneous

SN 45,630. Transamerica Corporation, San Francisco, Calif. Filed Feb. 10, 1958.

TRANSAMERICA

For Consultation and Advice to Others in Respect to Corporate Management Having to do With Questions of Policy and the Coordination of Corporate Policies and Activities.
First use about January 1929.

SN 79,300. J. William Smith, d.b.a. Smitty's Pancake House, Seattle, Wash. Filed Aug. 10, 1959.

Smitty's PANCAKE HOUSE

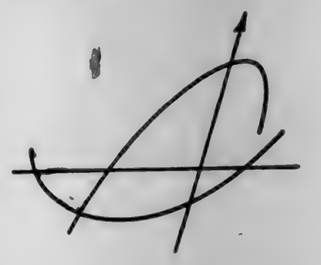
Applicant disclaims the words "Pancake House" apart from the mark.
For Restaurant Services Specializing in the Serving of Pancakes.
First use Nov. 4, 1957.

SN 88,538. Home Window Cleaning Company, Inc., d.b.a. American Cleaning Contractors, Brooklyn, N.Y. Filed Jan. 6, 1960.



Applicant disclaims the words "A Cleaner Place Is A Safer Place" apart from the mark as a whole.
For Building Maintenance, Floor Waxing, Porter Service, and Window Cleaning.
First use Oct. 1, 1959.

SN 95,048. Booz , Allen Applied Research, Inc., Chicago, Ill. Filed Apr. 14, 1960.



For Scientific and Engineering Consulting Services and Contract Research Work, Particularly in the Fields of Physics, Electronics, Applied Mechanics, Thermodynamics, Mathematics, Statistics, Operations Research, the Aeronautical Sciences, Space Technology, Astrophysics, Biochemistry, Radiation Biology, Nuclear Technology, Meteorology, Chemistry, and Reliability and Quality Control.
First use Mar. 1, 1960.

Class 101 — Advertising and Business

SN 84,734. Consolidated Merchants Syndicate, Inc., New York, N.Y. Filed Nov. 6, 1959.



The address "200 Fifth Avenue New York 10, N.Y." and the representation of the map of the United States are disclaimed apart from their use as shown in the drawing. Owner of Reg. No. 562,424.
For Listing Service to Retailers Wherein the Applicant Furnishes to Retail Store Owners a Weekly Listing of Articles for Sale by Manufacturers and the Current Discount Prices of Such Articles.
First use January 1959.

Class 102 — Insurance and Financial

SN 45,632. Transamerica Corporation, San Francisco, Calif. Filed Feb. 10, 1958.

TRANSAMERICA

For Consultation and Advice in Respect to Investment of Monies of Others.
First use About January 1929.

SN 93,310. Guarantee Mutual Insurance Company, Worcester, Mass. Filed Mar. 21, 1960.



For Insurance Underwriting.
First use Feb. 11, 1960.

Class 103 — Construction and Repair

SN 100,578. Cardwell Westinghouse Company, Chicago, Ill. Filed July 11, 1960.



For Reconditioning Draft Gears.
First use June 1, 1956.

Class 105 — Transportation and Storage

SN 86,101. Americans Abroad, Incorporated, Minneapolis, Minn. Filed Nov. 27, 1959.

AMERICANS ABROAD

For Travel Services—Namely, Arranging Trips for Others Including Contracting With Hotels, Restaurants, Buses, and the Like in Europe and Elsewhere.
First use at least as early as October 1953.

SN 92,890. Kings Van & Storage Inc., Oklahoma City, Okla. Filed Mar. 15, 1960.

KINGS

For Transporting the Goods of Others by Motor Van, and Storage of Goods of Others.
First use 1911.
Subj. to Intf. with SN 95,292.

SN 92,984. A. T. Henderson Company, Inc., New York, N.Y. Filed Mar. 16, 1960.

SOCIETY TOUR

Applicant disclaims the word "Tour" apart from the mark as a whole.
For Travel Agent for Individual Tourists and Groups—Namely, Arranging, Sponsoring and Conducting Tours in the United States and in Foreign Countries.
First use January 1958.

SN 95,292. King Van Lines, Inc., Wichita, Kans. Filed Apr. 18, 1960.

KING

For Transporting the Goods of Others by Motor Van and Storage of Goods of Others.
First use in or about October 1947; in or about October 1942 as to "King."
Subj. to Intf. with SN 92,890.

SN 97,845. King Van Lines, Inc., Wichita, Kans. Filed May 25, 1960.

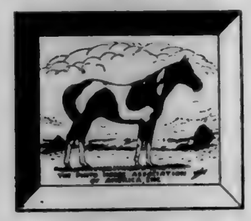
Call the Kings Men!

For Transporting the Goods of Others by Motor Van, and Storage of Goods by Others.
First use in or about April 1948.
Subj. to Intf. with SN 92,890.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 101,033. The Pinto Horse Association of America, Inc., Ventnor, N.J. Filed July 18, 1960.



For Indicating Membership in Applicant's Association.
First use October 1957.

SN 104,035. The International Association of Fire Fighters, Washington, D.C. Filed Sept. 7, 1960.



For Indicating Membership in Applicant's Association.
First use in September 1933.

SN 104,052. Sheet Metal Workers' International Association, Washington, D.C. Filed Sept. 7, 1960.

For Indicating Membership in Applicant's Association. First use July 22, 1924.

SN 104,349. United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, Washington, D.C. Filed Sept. 12, 1960.

For Indicating Membership in Applicant's Association. First use February or March 1951.

SN 105,190. The National Honorary Beta Club, Spartanburg, S.C. Filed Sept. 26, 1960.

For Indicating Membership in a National Service-Leadership Club for Students. First use Aug. 31, 1936.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

714,276. KITTY LITTER. Lowe's, Inc. SN 52,656. Pub. 2–7–61. Filed 5–26–58.

714,277. LION BRAND. C. A. Dougherty Cordage Mill. SN 76,553. Pub. 2–7–61. Filed 6–26–59.

714,278. MERLON. Mobay Chemical Company. SN 79,011. Pub. 11–29–60. Filed 8–4–59.

714,279. INSTANT FIRE. Lee V-Lite Co. SN 79,864. Pub. 2–7–61. Filed 8–19–59.

714,280. CARRIAGEHIDE. W. D. Byron & Sons, Inc. SN 84,978. Pub. 2–7–61. Filed 11–10–59.

714,281. HARVEST GIANTS. Geo. J. Ball, Inc. SN 85,708. Pub. 2–7–61. Filed 11–20–59.

714,282. POLYPET. Crowley Tar Products Company, Inc. SN 89,232. Pub. 2–7–61. Filed 12–14–59.

714,283. NYCRILON. Monsanto Chemical Company. SN 90,549. Pub. 5–10–60. Filed 2–8–60.

714,284. CONTROLWOOL. Mud Control Laboratories, Inc. SN 93,451. Pub. 2–7–61. Filed 3–22–60.

714,285. SCOOBEEDOO. Leaf Brands, Inc. SN 94,593. Pub. 2–7–61. Filed 4–7–60.

714,286. CARTHANE. The Carwin Company. SN 97,924. Pub. 2–7–61. Filed 5–26–60.

714,287. OLD MARKET. Old Market Charcoal Company. SN 99,774. Pub. 2–7–61. Filed S.R. 6–27–60; Am. P.R. 11–18–60.

714,288. SHELL. Shell Oil Company. SN 100,728. Pub. 2–7–61. Filed 7–12–60.

714,289. STRUCTO-FOAM. General Foam Products. SN 100,988. Pub. 2–7–61. Filed 7–18–60.

714,290. VISOTHERM. Union Carbide Corporation. SN 102,808. Pub. 2–7–61. Filed 8–16–60.

714,291. MIRACORE AND DESIGN. American Foam Rubber Corporation. SN 103,000. Pub. 2–7–61. Filed 8–19–60.

714,292. CASCOFIL. The Borden Company. SN 103,090. Pub. 2–7–61. Filed 8–22–60.

714,293. D AND DESIGN. Chemical Process Company. SN 103,101. Pub. 2–7–61. Filed 8–22–60.

714,294. DERAFOAM. The Dow Chemical Company. SN 103,112. Pub. 2–7–61. Filed 8–22–60.

714,295. SERRYCEL. The Dow Chemical Company. SN 103,114. Pub. 2–7–61. Filed 8–22–60.

714,296. NYLAM. William Greiner Company. SN 103,148. Pub. 2–7–61. Filed 8–22–60.

714,297. SURFASEPTIC. The Dow Chemical Company. SN 103,766. Pub. 2–7–61. Filed 9–1–60.

714,298. ETHASPAN. The Dow Chemical Company. SN 103,768. Pub. 2–7–61. Filed 9–1–60.

714,299. DEVLEX. The Dow Chemical Company. SN 103,769. Pub. 2–7–61. Filed 9–1–60.

Class 4—Abrasives and Polishing Materials

714,300. SAPHIR TANIL. Societe Anonyme des Laboratoires Saphir Anciens Etablissements Destagnol Freres. SN 97,883. Pub. 11–22–60. Filed 5–25–60.

Class 6—Chemicals and Chemical Compositions

714,301. MELITTIS. Givaudan-Delawanna, Inc. SN 48,168. Pub. 2–7–61. Filed 3–21–58.

714,302. ORMENIS. Givaudan-Delawanna, Inc. SN 48,169. Pub. 2–7–61. Filed 3–21–58.

714,303. LYCOPSIS. Givaudan-Delawanna, Inc. SN 48,170. Pub. 2–7–61. Filed 3–21–58.

714,304. GROTESQUE OF OIL DROP. Humble Oil & Refining Company, by merger from Esso Standard Oil Company. SN 64,162. Pub. 2–7–61. Filed 12–12–58.

714,305. AQUAFINE. Interchemical Corporation. SN 73,698. Pub. 9–27–60. Filed 5–14–59.

714,306. CAPITOLINE. Cooper-Trent Blueprint and Microfilm Corporation. SN 83,063. Pub. 2–7–61. Filed 10–12–59.

714,307. CPF. American Cyanamid Company. SN 85,075. Pub. 2–7–61. Filed 11–12–59.

714,308. HUMI-TABS. Culligan, Inc. SN 92,224. Pub. 2–7–61. Filed 3–7–60.

714,309. HUMI-PAX. Culligan, Inc. SN 92,225. Pub. 2–7–61. Filed 3–7–60.

714,310. SILVER PLUS. Empire-La Vive Corporation. SN 92,369. Pub. 2–7–61. Filed 3–8–60.

714,311. INTRAPLAST. Fritz Schenker-Winkler, d.b.a. Kasper Winkler & Co. SN 92,497. Pub. 2–7–61. Filed 3–9–60.

714,312. SOLVA. Gebruder Giulini G.m.b.H. SN 96,854. Pub. 2–7–61. Filed 5–11–60.

714,313. DIAPER SOAK. John F. Coogan. SN 97,007. Pub. 2–7–61. Filed 9–28–59.

Class 12—Construction Materials

714,314. CEMENT WELD AND DESIGN. Steel City Industries. SN 56,198. Pub. 6–28–60. Filed 7–28–58.

714,315. MARZAIC. American-Marietta Company, assignee of The Marietta Concrete Corporation. SN 74,230. Pub. 2–9–60. Filed 5–21–59.

714,316. FIRE-FIGHTER. National Gypsum Company. SN 78,898. Pub. 3–8–60. Filed 8–3–59.

714,317. FOSTAFOAM. Foster Grant Co., Inc. SN 88,152. Pub. 11–22–60. Filed 12–29–59.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

714,318. SPIN-SEAL. Russell, Burdsall & Ward Bolt and Nut Company. SN 51,495. Pub. 11–25–58. Filed 5–12–58.

714,319. RELIABLE. Reliable Automatic Sprinkler Co., Inc. SN 91,277. Pub. 2–7–61. Filed 2–19–60.

714,320. PRIMAC. Grinnell Corporation. SN 99,513. Pub. 12–27–60. Filed 6–22–60.

Class 14—Metals and Metal Castings and Forgings

714,321. DUCADORO AND DESIGN. Ralph W. Grauert, Inc. SN 85,336. Pub. 2–7–61. Filed 11–16–59.

714,322. DUCADORO AND DESIGN. Ralph W. Grauert, Inc. SN 85,337. Pub. 2-7-61. Filed 11-16-59.

714,323. DUCADORO. Ralph W. Grauert, Inc. SN 86,960. Pub. 2-7-61. Filed 12-9-59.

Class 18—Medicines and Pharmaceutical Preparations

714,324. TUSSAGESIC. The Wander Company, d.b.a. Smith-Dorsey. SN 54,581. Pub. 1-6-59. Filed 6-30-58.

714,325. FERROIDS. Medical Research Pty. Limited. SN 66,464. Pub. 7-28-59. Filed 1-26-59.

714,326. VONTIL. Smith Kline & French Laboratories. SN 69,208. Pub. 8-18-59. Filed 3-9-59.

714,327. DELA-CORTISONE. Olin Mathieson Chemical Corporation. SN 78,491. Pub. 2-7-61. Filed 7-27-59.

714,328. SAFERON. The S. E. Massengill Company. SN 82,907. Pub. 2-7-61. Filed 10-8-59.

714,329. BOYLENE AND DESIGN. Commerce Drug Company, Inc., d.b.a. Commerce Drug Co. SN 85,212. Pub. 2-7-61. Filed 11-13-59.

714,330. STRIP-EASE AND DESIGN. Quin Research Laboratories, Inc. SN 89,021. Pub. 2-7-61. Filed 1-14-60.

714,331. ULGASTRIN. Apotheker A. Diedenhofen K.G. SN 91,501. Pub. 2-7-61. Filed 2-24-60.

714,332. R.A.L. Manufactures de Produits Chimiques du Nord Etablissements Kuhlmann. SN 94,009. Pub. 2-7-61. Filed 3-30-60.

714,333. GLAUCOBOL. Barnes-Hind Laboratories, Inc. SN 95,238. Pub. 2-7-61. Filed 4-18-60.

714,334. MAKATUSSIN. Makara G.m.b.H. Pharmazeutische Fabrik Angermund. SN 96,546. Pub. 2-7-61. Filed 2-18-60.

714,335. ANEMITROL. Golden Sun-Foxbilt, Inc. SN 99,324. Pub. 2-7-61. Filed 6-20-60.

714,336. SASSOL. Gruppo Oleario Novaro & C. SN 100,702. Pub. 2-7-61. Filed 7-12-60.

714,337. SPAN-FF. Metro Med. Inc. SN 100,715. Pub. 12-13-60. Filed 7-12-60.

714,338. POLYTAR. Stiefel Laboratories, Inc. SN 100,817. Pub. 2-7-61. Filed 7-13-60.

714,339. DESIGN OF QUADRUPED AND SNAKE. Ciba Limited. SN 102,007. Pub. 2-7-61. Filed 8-4-60.

714,340. THORMAL. The Central Pharmacal Company. SN 103,651. Pub. 2-7-61. Filed 8-30-60.

714,341. NEOCYLONE. The Central Pharmacal Company. SN 103,652. Pub. 2-7-61. Filed 8-30-60.

714,342. URITRAL. The Central Pharmacal Company. SN 103,653. Pub. 2-7-61. Filed 8-30-60.

714,343. TIGADOXAL. Hoffmann-La Roche Inc. SN 103,787. Pub. 2-7-61. Filed 9-1-60.

714,344. GLACIER. Setco Pharmaceuticals, Inc. SN 103,971. Pub. 2-7-61. Filed 9-6-60.

714,345. D'SOL. Freeman Industries, Inc. SN 104,209. Pub. 2-7-61. Filed 8-5-60.

714,346. MAHVA-F. Freeman Industries, Inc. SN 104,210. Pub. 2-7-61. Filed 8-5-60.

714,347. ADF AND DESIGN. Freeman Industries, Inc. SN 104,211. Pub. 2-7-61. Filed 8-5-60.

714,348. LOR-DANE. Sterling Drug Inc. SN 104,333. Pub. 2-7-61. Filed 9-12-60.

714,349. EMBOMIX. The Upjohn Company. SN 104,963. Pub. 2-7-61. Filed 9-21-60.

714,350. BOVIBAC. American Home Products Corporation, d.b.a. Fort Dodge Laboratories. SN 105,846. Pub. 2-7-61. Filed 10-6-60.

714,351. RESPIGESIC. Schering Corporation. SN 106,226. Pub. 2-7-61. Filed 10-11-60.

714,352. PENSTAFOCIDE. Bristol-Myers Company. SN 106,472. Pub. 2-7-61. Filed 10-17-60.

714,353. 'SUTHOGEN'. M. R. Thompson, Inc. SN 106,950. Pub. 2-7-61. Filed 10-21-60.

714,354. PENTONIC. Benjamin G. Miller, d.b.a. Penn Pharmacal Company. SN 107,034. Pub. 2-7-61. Filed 10-24-60.

714,355. UTI-LAC. Taste Engineering Inc. SN 107,225. Pub. 2-7-61. Filed 10-26-60.

714,356. PRED-KAM. First Texas Pharmaceuticals, Inc. SN 107,250. Pub. 2-7-61. Filed 10-27-60.

714,357. HISTA-VADRIN. First Texas Pharmaceuticals, Inc. SN 107,251. Pub. 2-7-61. Filed 10-27-60.

714,358. STIM-U-LYSINE. American Medicinal Corporation. SN 107,541. Pub. 2-7-61. Filed 11-1-60.

714,359. NUTRILYSIN. American Medicinal Corporation. SN 107,542. Pub. 2-7-61. Filed 11-1-60.

714,360. DAYAGRAMS. Atlantic Apothecary Co., d.b.a. Atlantic Pharmaceutical Co. SN 107,687. Pub. 2-7-61. Filed 11-2-60.

714,361. CREMOSTREP. Merck & Co., Inc. SN 107,687. Pub. 2-7-61. Filed 11-2-60.

714,362. ARISTOTRAN. American Cyanamid Company. SN 107,721. Pub. 2-7-61. Filed 11-3-60.

714,363. BOOTS AND DESIGN. Boots Pure Drug Company Limited. SN 107,732. Pub. 2-7-61. Filed 11-3-60.

714,364. MILUDIN. Geigy Chemical Corporation. SN 107,751. Pub. 2-7-61. Filed 11-3-60.

714,365. LISTICA. Armour and Company. SN 107,813. Pub. 2-7-61. Filed 11-4-60.

714,366. ETROLENE. The Dow Chemical Company. SN 107,927. Pub. 2-7-61. Filed 11-7-60.

714,367. FORVAX. American Home Products Corporation, d.b.a. Wyeth Laboratories. SN 108,008. Pub. 2-7-61. Filed 11-8-60.

714,368. BACTROBAN. Beecham Research Laboratories Limited. SN 108,015. Pub. 2-7-61. Filed 11-8-60.

714,369. GALACTOQUIN. The Purdue Frederick Company. SN 108,137. Pub. 2-7-61. Filed 11-9-60.

714,370. SENPOD. The Purdue Frederick Company. SN 108,138. Pub. 2-7-61. Filed 11-9-60.

Class 21—Electrical Apparatus, Machines, and Supplies

714,371. STEREODOT. Stephens Trusonic, Inc. SN 58,880. Pub. 6-23-59. Filed 9-12-58.

Class 22—Games, Toys, and Sporting Goods

714,372. CONTINENTAL LEAGUE. Caprico International, Inc. SN 80,174. Pub. 2-7-61. Filed 8-25-59.

714,373. ERBACHER SKI AND DESIGN. Heinrich Hammer, Sportgeräte- und Holzwarenfabrik. SN 88,231. Pub. 2-7-61. Filed 12-30-59.

714,374. KAR KUTIES. Fred Mac Overland, d.b.a. Overland Company. SN 90,079. Pub. 2-7-61. Filed 2-1-60.

714,375. NEW HIGH. Saint James Games, Inc. SN 91,119. Pub. 2-7-61. Filed 2-17-60.

714,376. SKEEACTION. Henry Lowe Brownback. SN 92,217. Pub. 2-7-61. Filed 3-7-60.

714,377. DOWNEE. Bacon Brothers Products, Inc. SN 92,523. Pub. 2-7-61. Filed 3-10-60.

714,378. FOUR FEATHER FALLS AND DESIGN. T.V. Network Merchandising Limited. SN 95,783. Pub. 2-7-61. Filed 4-25-60.

714,379. BUDDY BUGGY AND DESIGN. Universal Manufacturing Co., Inc. SN 96,044. Pub. 2-7-61. Filed 5-6-60.

714,380. I-QUBES. Galloping Games, Inc., assignee of Ari-Hi Company. SN 97,366. Pub. 2-7-61. Filed 5-18-60.

714,381. CANADIAN WONDER. Lester M. Davis, d.b.a. Les Davis Fishing Tackle Co. SN 98,876. Pub. 2-7-61. Filed 6-13-60.

714,382. ROD-TIP ACTION. Dayton Bait and Marine Products Co. SN 99,305. Pub. 2-7-61. Filed 6-20-60.

714,383. ASTRO-COGO. Jane Hathaway Joeck. SN 99,433. Pub. 2-7-61. Filed 6-21-60.

714,384. OVALON. Ashaway Line & Twine Mfg. Co. SN 100,000. Pub. 2-7-61. Filed 6-30-60.

714,385. AH AND DESIGN. The Avalon Hill Company. SN 100,210. Pub. 2-7-61. Filed 7-5-60.

714,386. JIFFY. Anthony Enagureto, d.b.a. Jiffy Manufacturing Co. SN 100,985. Pub. 2-7-61. Filed 7-18-60.

714,387. VINYL-LASTIC. Ron-Vik, Incorporated. SN 101,039. Pub. 2-7-61. Filed 7-18-60.

714,388. SLIM CAST. Berkley & Company, Inc. SN 101,229. Pub. 2-7-61. Filed 7-21-60.

714,389. SEAT-SKI. Formatics. SN 101,613. Pub. 2-7-61. Filed 7-28-60.

714,390. MADMAR. Foster Paper Company, Inc., d.b.a. Madmar Quality Division of Foster Paper Company, Inc. SN 101,673. Pub. 2-7-61. Filed 7-29-60.

714,391. MADMAR AND REPRESENTATION OF GROTESQUE FIGURE. Foster Paper Company, Inc., d.b.a Madmar Quality Division of Foster Paper Company, Inc. SN 101,674. Pub. 2-7-61. Filed 7-29-60.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

714,392. MICROFEED. American Machine & Foundry Company. SN 82,561. Pub. 10-11-60. Filed 10-2-59.

714,393. DRI-VAC. Consolidated Vacuum Corporation. SN 83,204. Pub. 5-10-60. Filed 10-14-59.

714,394. EUROMAC. Hamac A.G. SN 88,909. Pub. 7-5-60. Filed 1-13-60.

714,395. INFLATAFORM. Fullerform Continuous Pipe Corporation, assignee of Fullerform, Inc. SN 97,048. Pub. 11-15-60. Filed 5-13-60.

714,396. HUDSON BAY. Herter's Inc. SN 103,565. Pub. 2-7-61. Filed 8-29-60.

Class 26—Measuring and Scientific Appliances

714,397. RAPROMATIC. Specialties, Inc. SN 54,570. Pub. 1-6-59. Filed 6-30-58.

714,398. MARKSMAN. West Instrument Corporation. SN 57,114. Pub. 6-7-60. Filed 8-12-58.

Class 28—Jewelry and Precious-Metal Ware

714,399. ND. University of Notre Dame du Lac. SN 77,873. Pub. 2-7-61. Filed 7-16-59.

Class 30—Crockery, Earthenware, and Porcelain

714,400. ND. University of Notre Dame du Lac. SN 77,872. Pub. 2-7-61. Filed 7-16-59.

Class 32—Furniture and Upholstery

714,401. AIR-O-PEDIC. The Englander Company, Inc. SN 100,238. Pub. 12-27-60. Filed 7-5-60.

Class 37—Paper and Stationery

714,402. PINNACLE MULTIPRESS. West Virginia Pulp and Paper Company. SN 47,220. Pub. 2-7-61. Filed 3-6-58.

714,403. COROBUFF MEANS QUALITY AND DESIGN. Corobuff Corporation, assignee of Frank M. Sayford Company. SN 48,663. Pub. 2-7-61. Filed 3-28-58.

714,404. EXECUTIVE. Alfred Robbins Organization, Inc. SN 78,371. Pub. 2-7-61. Filed 7-24-59.

714,405. EUROMAC. Hamac A.G. SN 88,910. Pub. 7-5-60. Filed 1-13-60.

714,406. VISUAL I. Nicholas A. D'Angelo, d.b.a. Visual Co. SN 90,903. Pub. 2-7-61. Filed 2-15-60.

714,407. COLORGRADE. A. W. Castell Pencil Co., Inc. SN 91,064. Pub. 2-7-61. Filed 2-17-60.

714,408. CHIT CHATS. Puritan Stationery Company, Inc. SN 97,872. Pub. 2-7-61. Filed 5-25-60.

714,409. MEMO TREE. A & M Leatherlines, Inc. SN 97,910. Pub. 2-7-61. Filed 5-26-60.

714,410. A-BF AND DESIGN. Accounting & Business Forms, Inc. SN 98,836. Pub. 2-7-61. Filed 6-13-60.

714,411. AT-A-GLANCE. Eaton Paper Corporation. SN 102,309. Pub. 2-7-61. Filed 8-9-60.

714,412. PLYEX. Kingsbacher-Murphy Co. SN 102,850. Pub. 2-7-61. Filed 8-17-60.

714,413. PERMALIFE. Standard Paper Manufacturing Co. SN 105,318. Pub. 2-7-61. Filed 9-27-60.

Class 38—Prints and Publications

714,414. A PIXIE PRIZE AND DESIGN. A. Claire Fried, d.b.a. Pixie Fried. SN 72,825. Pub. 2-7-61. Filed 5-4-59.

714,415. QUICK-SPEC. The American Hardware Corporation. SN 76,845. Pub. 2-7-61. Filed 7-1-59.

714,416. WEAPONS TECHNOLOGY. American Ordnance Association. SN 91,733. Pub. 2-7-61. Filed 2-29-60.

714,417. INSTRUMENTS AND CONTROL SYSTEMS NEWS. Instruments Publishing Co., Inc. SN 92,161. Pub. 2-7-61. Filed 3-4-60.

714,418. PETRO AND CHEM ENGINEER ETC. AND DESIGN. The Petroleum Engineer Publishing Company. SN 97,515. Pub. 2-7-61. Filed 5-19-60.

714,419. N.H.A. BUYING GUIDE. Nursing Home Administrator Inc. SN 98,125. Pub. 2-7-61. Filed 5-31-60.

714,420. AMM-I-GRAM. Amm-I-Dent, Inc. SN 98,962. Pub. 2-7-61. Filed 6-14-60.

714,421. HOBBY MERCHANDISER. Hobby Publications Inc. SN 98,974. Pub. 2-7-61. Filed 6-14-60.

714,422. "EL MOROCCO" NO-NEWS. El Morocco Corporation. SN 99,316. Pub. 2-7-61. Filed 6-20-60.

714,423. POWER THE MAGAZINE OF ENERGY SYSTEMS ENGINEERING. McGraw-Hill Publishing Company, Inc. SN 99,441. Pub. 2-7-61. Filed 6-21-60.

714,424. LADY FAIRE AND DESIGN. John Frederick Advertising, Inc. SN 100,244. Pub. 2-7-61. Filed 7-5-60.

714,425. SP ETC. AND DESIGN. Scripture Press Foundation. SN 100,645. Pub. 2-7-61. Filed 7-11-60.

714,426. CURRENT. General Electric Company. SN 100,774. Pub. 2-7-61. Filed 7-13-60.

714,427. TUFMARK. Pee Cee Tape & Label Company of Missouri. SN 100,803. Pub. 2-7-61. Filed 7-13-60.

714,428. POLLYANNA. Julius Pollak and Sons, Inc. SN 100,928. Pub. 2-7-61. Filed 7-15-60.

714,429. ROFIX. Rose Patch and Label Company. SN 100,934. Pub. 2-7-61. Filed 7-15-60.

714,430. GUIDE-ON. Truckers Specialty Printing Co., Inc. SN 101,053. Pub. 2-7-61. Filed 7-18-60.

714,431. SIOUX CITY JOURNAL-TRIBUNE. Journal-Tribune Publishing Company. SN 101,178. Pub. 2-7-61. Filed 7-20-60.

714,432. THE SIOUX CITY JOURNAL. Journal-Tribune Publishing Company. SN 101,179. Pub. 2-7-61. Filed 7-20-60.

714,433. THE SIOUX CITY SUNDAY JOURNAL. Journal-Tribune Publishing Company. SN 101,180. Pub. 2-7-61. Filed 7-20-60.

714,434. FABRI-KARDS BY LORETTA. Loretta Rosenthal. SN 101,294. Pub. 2-7-61. Filed 7-1-60.

714,435. THE RIGHT STEER. Meat Cutters, Packinghouse and Allied Food Workers Union, Local 433. SN 101,415. Pub. 2-7-61. Filed 7-25-60.

714,436. PRESIDENT. Edward J. O'Malley, d.b.a. President Publishing Company. SN 101,423. Pub. 2-7-61. Filed 7-25-60.

714,437. UCP DESIGN. The Board of Christian Education and Publication, Evangelical and Reformed Church, and Board of Home Missions, Congregational Christian Churches (joint owners), d.b.a. United Church Press. SN 101,537. Pub. 2-7-61. Filed 7-27-60.

714,438. SPECTRAKROME AND DESIGN. Photo-Lettering, Inc. SN 101,640. Pub. 2-7-61. Filed 7-28-60.

Class 39 — Clothing

714,439. LIFE GUARD AND DESIGN. Air Reduction Company, Incorporated. SN 34,391. Pub. 3-18-58. Filed 7-26-57.

714,440. SLIMIKINS. McKay Products Corporation, assignee of Marlyle Sportswear Corp. SN 34,713. Pub. 3-25-58. Filed 7-31-57.

714,441. ND. University of Notre Dame du Lac. SN 77,871. Pub. 2-7-61. Filed 7-16-59.

714,442. WALES WEATHERPROOFS AND DESIGN. Wales Manufacturing Company. SN 84,273. Pub. 12-27-60. Filed 10-29-59.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

714,443. CELESTIAL AND DESIGN. Coleport Fabrics, Inc. SN 74,284. Pub. 12-1-59. Filed 5-19-59.

Class 45 — Soft Drinks and Carbonated Waters

714,444. CHABESO. C. H. Boehringer Sohn. SN 94,877. Pub. 2-7-61. Filed 4-12-60.

Class 46 — Foods and Ingredients of Foods

714,445. CHALLENGE AND DESIGN. Challenge Cream & Butter Association. SN 4,613. CONCURRENT USE. Pub. 2-7-61. Filed 3-15-56.

714,446. COON HOLLOW FARM AND DESIGN. George D. Olds, III, d.b.a. Coon Hollow Farm. SN 53,526. Pub. 2-7-61. Filed 6-13-58.

714,447. SLIM JIM. New England Provision Co., Inc. SN 54,083. CONCURRENT USE. Pub. 2-7-61. Filed 6-23-58.

714,448. SLIM JIM. The Sucher Packing Company. SN 56,889. CONCURRENT USE. Pub. 2-7-61. Filed 8-8-58.

714,449. PENN FRUIT. Penn Fruit Co,, Inc. SN 62,604. Pub. 2-7-61. Filed 11-17-58.

714,450. DAIRY BOY AND DESIGN. Dairy Boy, Inc. SN 64,818. Pub. 2-7-61. Filed 12-23-58.

714,451. DAIRY BOY. Dairy Boy, Inc. SN 64,819. Pub. 2-7-61. Filed 12-23-58.

714,452. KING BEE AND DESIGN. Southeastern Syrup Company. SN 66,818. Pub. 2-7-61. Filed 1-30-59.

714,453. KING BEE. Southeastern Syrup Company. SN 66,819. Pub. 2-7-61. Filed 1-30-59.

714,454. AMERICAN ORIGINAL. American Clam Co., Inc. SN 70,179. Pub. 2-7-61. Filed 3-25-59.

714,455. PENN AND DESIGN. Spatola-Thompson, Inc. SN 73,450. Pub. 2-7-61. Filed 5-11-59.

714,456. OLD WORLD AND DESIGN. Fisher Flouring Mills Company. SN 77,739. Pub. 2-7-61. Filed 7-15-59.

714,457. FONTANA AND DESIGN. Societa Anonima Lucchese Olii e Vini, d.b.a. Fortuna Fontana & Co. SN 78,381. Pub. 3-29-60. Filed 7-24-59.

714,458. PRIDE OF GEORGIA. Yatesville Pecan Growers, Inc. SN 87,761. Pub. 2-7-61. Filed 12-21-59.

714,459. VIRGINIA MAID. Andes Candies Inc. SN 88,000. Pub. 2-7-61. Filed 12-28-59.

714,460. FRESH TEX. Meat Industry Suppliers, Inc. SN 88,354. Pub. 2-7-61. Filed 1-6-60.

714,461. DIAMOND G BRAND AND DESIGN. Farmers' Rice Growers Cooperative. SN 88,982. Pub. 2-7-61. Filed 1-14-60.

714,462. REPRESENTATION OF MAN WITH BOWL OF CEREAL. Kellogg Company. SN 89,437. Pub. 2-7-61. Filed 1-21-60.

714,463. CIRCLE L BRAND AND DESIGN. Lovett Meat Company, Inc. SN 90,850. Pub: 2-7-61. Filed 2-12-60.

714,464. CHEFS' SECRET. Milton L. Schoenbaum, d.b.a. Milt Schoenbaum. SN 91,176. Pub. 2-7-61. Filed 2-18-60.

714,465. PATSY'S PARTY. J. S. Brown, Jr., d.b.a. Distributors Co. SN 91,998. Pub. 2-7-61. Filed 3-2-60.

714,466. FESTIVAL QUEEN AND DESIGN. Dude Ranch Foods. SN 92,230. Pub. 2-7-61. Filed 3-7-60.

714,467. COOKING BEE ETC. AND DESIGN. Lamb-Weston, Incorporated. SN 93,322. Pub. 2-7-61. Filed 3-21-60.

714,468. AQUA-KLEER 1000. American Breddo Corp. SN 95,067. Pub. 2-7-61. Filed 4-28-60.

714,469. NEW RIVER. Roy B. Skaggs, d.b.a. Pioneer Fruit Co. SN 97,582. Pub. 2-7-61. Filed 5-20-60.

714,470. LOMA LINDA. The Pacific Union Association of Seventh-Day Adventists, d.b.a. Loma Linda Food Company. SN 98,392. Pub. 2-7-61. Filed 6-3-60.

714,471. CHEESE FLIPPS. Circle D Foods, Inc. SN 98,775. Pub. 2-7-61. Filed 6-10-60.

714,472. MICHON. Chalet Suzanne Foods, Inc. SN 100,093. Pub. 2-7-61. Filed 7-1-60.

714,473. DANISH BEAUTY BRAND. Bjarne Eckhoff's Konservesfabrik A/S. SN 101,369. Pub. 2-7-61. Filed 7-25-60.

714,474. PATIO AND DESIGN. Patio Foods, Inc. SN 103,476. Pub. 2-7-61. Filed 8-26-60.

714,475. NORBEST AND DESIGN. Norbest Canning Co. A/S. SN 103,590. Pub. 2-7-61. Filed 8-29-60.

Class 51 — Cosmetics and Toilet Preparations

714,476. HAIR STRATE AND DESIGN. Hair Strate, Inc. SN 54,520. Pub. 2-7-61. Filed 6-30-58.

714,477. SO FRENCH. Helene Curtis Industries, Inc., d.b.a. Lentheric. SN 81,546. Pub. 2-7-61. Filed 9-17-59.

714,478. CREMOGENIZED. Clairol Incorporated. SN 87,475. Pub. 2-7-61. Filed 12-17-59.

714,479. LOCK-SET. Ellen Kaye Laboratories, Inc. SN 90,522. Pub. 2-7-61. Filed 2-8-60.

714,480. MOUNTAIN BREEZE. George H. Weyer, Inc., d.b.a. Affiliated Laboratories. SN 102,967. Pub. 2-7-61. Filed 8-18-60.

714,481. VENO. George H. Weyer, Inc. SN 102,969. Pub. 2-7-61. Filed 8-18-60.

714,482. NEUTRA-SHEEN. George H. Weyer, Inc. SN 102,978. Pub. 2-7-61. Filed 8-18-60.

Class 52 — Detergents and Soaps

714,483. LENS BRIGHT. Lens Bright Co. SN 45,897. Pub. 6-3-58. Filed 2-6-58.

714,484. BY APPOINTMENT TO HER MAJESTY ETC. AND DESIGN. B. T. Babbitt, Inc. SN 77,504. Pub. 2-7-61. Filed 7-13-59.

714,485. FOAM-OUT. Whitmire Research Laboratories, Inc. SN 89,626. Pub. 2-7-61. Filed 1-25-60.

714,486. OPALITE. The Stamford Chemical Company. SN 92,405. Pub. 2-7-61. Filed 3-8-60.

714,487. BOWL-BATH. American-Marietta Company. SN 93,739. Pub. 2-7-61. Filed 3-28-60.

714,488. "JE REVIENS." Les Parfums Worth de Paris Inc. SN 99,522. Pub. 2-7-61. Filed 6-22-60.

714,489. RINSIT. The Patterson-Sargent Company. SN 101,122. Pub. 2-7-61. Filed 7-19-60.

714,490. TRILBY. Purex Corporation, Ltd. SN 101,700. Pub. 2-7-61. Filed 7-29-60.

714,491. SENTOL. Wyandotte Chemicals Corporation. SN 101,719. Pub. 2-7-61. Filed 7-29-60.

714,492. TROL-AID. Chemtronics Inc. SN 101,851. Pub. 2-7-61. Filed 8-2-60.

714,493. TUN-O-LUBE. Chemtronics Inc. SN 101,852. Pub. 2-7-61. Filed 8-2-60.

Service Marks

Class 100 — Miscellaneous

714,494. ODOR-EX. Odor-Ex Corporation. SN 43,777. Pub. 2-7-61. Filed 1-10-58.

714,495. HOWARD JOHNSON'S. Howard Johnson's Motor Lodges, Inc. SN 51,800. Pub. 2-7-61. Filed 5-16-58.

714,496. MICROLITH. Alliance Photoprint Co., Inc. SN 84,968. Pub. 2-7-61. Filed 11-10-59.

714,497. CHARL-MONT. Price Candy Company. SN 85,905. Pub. 2-7-61. Filed 11-23-59.

714,498. B AND DESIGN. Badger Manufacturing Company. SN 98,694. Pub. 2-7-61. Field 6-9-60.

Class 101 — Advertising and Business

714,499. MOR-VALU. Affiliated Trading Company. SN 53,000. Pub. 2-7-61. Filed 6-6-58.

714,500. VAL-U-CHECK AND DESIGN. National Val-U-Check Corporation. SN 60,427. Pub. 2-7-61. Filed 10-10-58.

714,501. FINGER PRINT AND GRAPH DESIGN. Thomas M. Koenig, d.b.a. Personnel Engineering. SN 84,671. Pub. 2-7-61. Filed 11-5-59.

714,502. VA AND DESIGN. Value Analysis, Inc. SN 84,702. Pub. 2-7-61. Filed 11-5-59.

Class 102 — Insurance and Financial

714,503. PF ETC. AND DESIGN. Pledged Funds, Inc. SN 52,060. Pub. 2-7-61. Filed 5-21-58.

714,504. TEN KEYS ETC. AND DESIGN. Ten Keys, Incorporated. SN 72,162. Pub. 2-7-61. Filed 4-23-59.

714,505. PLANAVAC. Business Men's Assurance Company of America. SN 79,046. Pub. 2-7-61. Filed 8-5-59.

714,506. AMERICAN INVESTOFUNDS AND DESIGN. American Investofunds, Inc. SN 84,834. Pub. 2-7-61. Filed 11-9-59.

Class 103 — Construction and Repair

714,507. DUOFRAC. The Dow Chemical Company. SN 83,869. Pub. 2-7-61. Filed 10-23-59.

714,508. B AND DESIGN. Badger Manufacturing Company. SN 85,275. Pub. 2-7-61. Filed 11-16-59.

714,509. FOLEY AND DESIGN. The Howard P. Foley Company. SN 87,050. Pub. 2-7-61. Filed 12-10-59.

Class 105 — Transportation and Storage

714,510. CAN AMERICAN. Hertz System, Inc. SN 76,400. Pub. 2-7-61. Filed 6-24-59.

714,511. REPRESENTATION OF A FLAG. Trinidad Corporation. SN 80,695. Pub. 2-7-61. Filed 9-1-59.

Class 106 — Material Treatment

714,512. MCPENNY'S. Fay Foto Finishers, Inc., d.b.a. McPenny's. SN 50,156. Pub. 2-7-61. Filed 4-22-58.

714,513. WG (FANCIFUL). Witherspoon-Guerin. SN 80,291. Pub. 2-7-61. Filed 8-26-59.

714,514. ECONO CLEAN AND WEAR AND DESIGN. Wardrobe Service Inc. SN 92,668. Pub. 2-7-61. Filed 3-11-60.

Class 107 — Education and Entertainment

714,515. BIBLE LAND AND DESIGN. Dorland P. Dryer. SN 78,439. Pub. 2-7-61. Filed 7-27-59.

714,516. JACK LA LANNE SHOW. La Lanne Incorporated. SN 83,803. Pub. 2-7-61. Filed 10-22-59.

714,517. SPOTLIGHTING YOU. The Firth Carpet Company. SN 98,076. Pub. 2-7-61. Filed 5-31-60.

Collective Membership Marks

Class 200

714,518. PERSHING RIFLES 1894 AND DESIGN. National Society of Pershing Rifles. SN 40,869. Pub. 2-7-61. Filed 11-18-57.

714,519. MEMBER WIC AND DESIGN. Woodwork Institute of California. SN 82,619. Pub. 2-7-61. Filed 10-2-59.

714,520. CRE AND EMBLEM DESIGN. American Society of Real Estate Counselors. SN 94,128. Pub. 2-7-61. Filed 4-1-60.

714,521. SEAL OF INTEGRITY ETC. AND DESIGN. Greater St. Louis Automotive Association, Inc. SN 96,412. Pub. 2-7-61. Filed 5-4-60.

714,522. WAKE FOREST COLLEGE 1834 ETC. AND DESIGN. The Trustees of Wake Forest College. SN 96,534. Pub. 2-7-61. Filed 5-5-60.

714,523. APPALACHIAN HARDWOODS AMERICA'S FINEST ETC. AND DESIGN. Appalachian Hardwood Manufacturers, Inc. SN 100,568. Pub. 2-7-61. Filed 7-11-60.

Certification Marks

Class A — Goods

714,524. LAND-RA-LEAN AND DESIGN. American Landrace Association. SN 70,419. Pub. 2-7-61. Filed 3-30-59.

714,525. AMERICAN WAY ASSOCIATION ETC. AND DESIGN. American Way Association. SN 91,988. Pub. 2-7-61. Filed 3-2-60.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1—Raw or Partly Prepared Materials

714,526. Aurora Metal Company, Aurora, Ill. SN 76,458. Filed P.R. 6-25-59; Am. S.R. 1-27-61.

FASKURE

For Resin Coated Sand for Shell Cores and Molds.
First use Dec. 15, 1958.

Class 2—Receptades

714,527. The Dow Chemical Company, Midland, Mich. SN 72,031. Filed P.R. 4-22-59; Am. S.R. 1-9-61.

KURLPROOF

For Lipped Bags and Pouches Comprised in Whole or Part of Film, Which May Be Coated or Uncoated, and Single Ply or Laminated.
First use Feb. 17, 1959.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

714,528. Faultless Caster Corporation, Evansville, Ind. SN 86,562. Filed P.R. 12-3-59; Am. S.R. 3-1-61.

TWINDISK

For Casters.
First use Nov. 12, 1959.

Class 18—Medicines and Pharmaceutical Preparations

714,529. Potter Drug & Chemical Corporation, d.b.a. Cuticura Laboratories, Malden, Mass. SN 93,708. Filed P.R. 3-25-60; Am. S.R. 2-21-61.

ALCHLORAL

For Astringent Additive Which is Incorporated in a Cream for the Treatment of Acne Pimples.
First use Jan. 27, 1960.

Class 22—Games, Toys, and Sporting Goods

714,530. Cleary-Shevlin Manufacturing Company, Warren, Mich. SN 89,836. Filed P.R. 1-28-60; Am. S.R. 2-15-61.

TILT N' TURN

For Child's Scooter.
First use Aug. 5, 1959.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

714,531. O'Neil-Irwin Manufacturing Company, Lake City, Minn. SN 108,204. Filed 11-10-60.

ROL-FORM

For Bending Dies.
First use June 18, 1958.

Class 32—Furniture and Upholstery

714,532. Clark Products, Incorporated, Chicago, Ill. SN 102,198. Filed 8-8-60.

Clark foam

For Polyester Cushions Which Includes Sofa Seat Cushions, Throw Pillows, Bolsters and Mattresses.
First use Feb. 10, 1959.

Class 37—Paper and Stationery

714,533. Bro-Dart Industries, Inc., Newark, N.J. SN 78,251. Filed P.R. 7-23-59; Am. S.R. 1-15-60.

DUPLEX

For Protective Covers for Paper Book Jackets and Books, Adjustable to Book Size and Consisting of Two Elements Adhesively Joinable.
First use March 1952.

Class 38—Prints and Publications

714,534. Dell Publishing Co., Inc., New York, N.Y. SN 96,202. Filed P.R. 5-2-60; Am. S.R. 2-15-61.

MOTHERS-TO-BE

For Magazine.
First use Feb. 4, 1960.

714,535. McGraw-Hill Publishing Company, Inc., New York, N.Y. SN 96,781. Filed P.R. 4-29-60; Am. S.R. 2-15-61.

American Machinist / Metalworking Manufacturing

For Magazine Published Periodically.
First use Feb. 8, 1960; 1877 as to "American Machinist."

Class 39—Clothing

714,536. Tailored Junior Dress Company, Inc., New York, N.Y. SN 100,784. Filed P.R. 7-12-60; Am. S.R. 2-9-61.

Tailored Junior

Applicant asserts no rights in the words "Tailored Junior" as used properly to describe tailored dresses of a junior size group.
For Misses' and Juniors' Dresses.
First use January 1927.

Class 45—Soft Drinks and Carbonated Waters

714,537. Walter Janik, d.b.a. Johnnie Ryan Co., Niagara Falls, N.Y. SN 60,459. Filed P.R. 9-24-58; Am. S.R. 2-14-61.

FIRST FOR THIRST

For Non-Alcoholic Beverages Sold as Soft Drinks.
First use June 1, 1937.

Class 46—Foods and Ingredients of Foods

714,538. Russell J. Dann, d.b.a. R. J. Dann & Company, Sandusky, Ohio. SN 87,412. Filed P.R. 12-16-59; Am. S.R. 10-24-60.

DANN'S

For Pectin and Citric Acid Food Product Compounds Formulated To Jell Fruit and Fruit Juices.
First use Aug. 5, 1959.

714,539. Meyer Zauener Inc., New York, N.Y. SN 92,347. Filed P.R. 3-7-60; Am. S.R. 12-28-60.

MARINI

For Bread Sticks.
First use Dec. 1, 1959.

714,540. Virgil R. Wickert, d.b.a. Ten-Dr-Crisp Pizza Co., Des Moines, Iowa. SN 92,838. Filed P.R. 3-14-60; Am. S.R. 12-20-60.

TEN-DR CRISP

For Pizza Crust.
First use July 15, 1958.

Class 51—Cosmetics and Toilet Preparations

714,541. Pearson Pharmacal Company, Inc., Miami, Fla. SN 59,129. Filed P.R. 9-18-58; Am. S.R. 8-11-60.

LADY PEARSON

For Cosmetic Face Creams.
First use Sept. 16, 1955.

714,542. House Of Westmore, Inc., New York, N.Y. SN 68,261. Filed P.R. 2-24-59; Am. S.R. 8-16-60.

ultra moist

For Facial Cream.
First use Jan. 27, 1959.

714,543. Richard Hudnut, Morris Plains, N.J. SN 80,663. Filed P.R. 9-1-59; Am. S.R. 2-28-61.

HEAT LIGHTNING

For Lipstick.
First use Aug. 6, 1959.

714,544. Richard Hudnut, Morris Plains, N.J. SN 81,820. Filed P.R. 9-22-59; Am. S.R. 2-28-61.

FOR THE WOMAN WHO WANTS TO BE LOVED

For Perfume.
First use Sept. 2, 1959.

714,545. Parfums Monaco, Societe Anonyme Monegasque, Monte Carlo, Monaco. SN 85,606. Filed P.R. 11-18-59; Am. S.R. 10-6-60.

PARFUMS MONACO

Priority claimed under Sec. 44(d) on Monaco Reg. No. 59.1883 dated May 28, 1959.
For Perfumes.

Service Marks

Class 101—Advertising and Business

714,546. William B. Gross, d.b.a., Gross Auction Company, Kansas City, Mo. SN 48,789. Filed P.R. 3-31-58; Am. S.R. 7-20-60.



The drawing is lined for red and pink.
For Auctioneering Services.
First use in June 1950.

Class 102 — Insurance and Financial

714,547. Grover H. Wimer, d.b.a. Key Security of America, Fresno, Calif. SN 70,014. Filed P.R. 3-20-59; Am. S.R. 2-10-61.

KEY SECURITY

For Service Which Provides Customers With Identification Tags for Attachment to Their Sets of Keys Whereby If the Keys Are Lost, They Can Be Mailed by the Finder Back to Key Security Of America, Who Then Forwards Them to the Registered Owner.

First use Dec. 1, 1958.

714,548. Automobile Club Insurance Company, Columbus, Ohio. SN 92,696. Filed P.R. 3-14-60; Am. S.R. 1-9-61.

OUR POLICY AUTO CLUB INSURANCE YOUR PROTECTION

The drawing is lined for green and black, but color is of no significance to the mark.

For Underwriting of Casualty Insurance.

First use Mar. 1, 1958.

TRADEMARK REGISTRATIONS RENEWED

138,432. PURITOX. Cl. 6. 12-28-20.
139,049. JACK TAR. Cl. 46. 1-18-21.
139,633. RED BOWL AND DESIGN. Cl. 46. 2-8-21.
139,815. NU ART. Cl. 51. 2-22-21.
140,876. ADMIRATION. Cl. 51. 3-29-21.
140,896. NORIT. Cl. 6. 3-29-21.
141,243. FARBO AND DESIGN. Cl. 16. 4-12-21.
141,830. PLANET JR. Cl. 23. 5-3-21.
142,257. GEM. Cl. 37. 5-10-21.
142,260. THE GLASS INDUSTRY. Cl. 38. 5-10-21.
143,316. RED AND BLACK. Cl. 37. 5-31-21.
143,365. MUNICIPAL INDEX. Cl. 37. 5-31-21.
143,588. PONSAL. Cl. 6. 6-7-21.
143,589. PONTACHROME. Cl. 6. 6-7-21.
143,590. PONTACYL. Cl. 6. 6-7-21.
143,591. PONTAMINE. Cl. 6. 6-7-21.
143,592. LITHOSAL. Cl. 6. 6-7-21.
143,593. DU PONT AND DESIGN. Cl. 6. 6-7-21.
143,890. AGRICULTURAL ENGINEERING. Cl. 38. 6-21-21.
144,038. RUBYFLUID. Cl. 6. 6-21-21.
145,107. OVERSEAS. Cl. 37. 7-26-21.
145,162. M.S. CO. Cl. 28. 7-26-21.
145,384. SPLIT SILK. Cl. 46. 8-2-21.
145,758. NESTLE'S CONDENSED MILK. Cl. 46. 8-16-21.
383,012. FORTARINA. Cl. 10. 11-19-40.
384,197. BRIM. Cl. 45. 1-7-41.
384,210. HUSHABY. Cl. 46. 1-7-41.
384,211. ROCKABY. Cl. 46. 1-7-41.
384,455. KELLEY'S AND DESIGN. Cl. 46. 1-21-41.
384,635. CAMPUS WALKERS. Cl. 39. 1-28-41.
384,754. DESIGN WITH LACE-LIKE BORDER. Cl. 46. 2-4-41.
384,844. MASTERSET. Cl. 11. 2-4-41.
385,093. FLEECY FLAKES. Cl. 52. 2-18-41.
385,222. TURNPIKE. Cl. 35. 2-18-41.
385,378. PAR-HOLE. Cl. 22. 2-25-41.
385,382. SILK. Cl. 37. 2-25-41.
385,490. DUO. Cl. 25. 3-4-41.
385,559. FONETTE. Cl. 21. 3-11-41.
385,640. OVALTINE. Cl. 46. 3-11-41.
385,641. TODDY. Cl. 46. 3-11-41.
385,646. "WIND N' RAIN." Cl. 42. 3-11-41.
385,788. STARBOND. Cl. 12. 3-18-41.
385,822. BUTEREG. Cl. 46. 3-18-41.
386,027. ELINOR GAY. Cl. 39. 3-25-41.
386,111. GALLTONE. Cl. 18. 3-25-41.
386,506. TEMPLETON'S T. R. C. S' AND DESIGN. Cl. 18. 4-15-41.
386,596. DX. Cl. 34. 4-15-41.
386,598. CONJECTO. Cl. 34. 4-15-41.
386,780. SPIFFY AND DESIGN. Cl. 45. 4-22-41.
386,983. HARVEY'S. Cl. 46. 4-29-41.
387,199. TYPHONITE. Cl. 37. 5-6-41.
387,895. TUNDRA-TEX. Cl. 39. 6-3-41.
388,014. ALBANENE. Cl. 37. 6-10-41.
388,037. CALIFORNIA SUN-KICKS. Cl. 30. 6-10-41.
388,059. THE JUNIOR REPORTER CLUB. Cl. 38. 6-10-41.
388,091. ROMULUS. Cl. 46. 6-10-41.
388,277. GARD-RITE. Cl. 39. 6-17-41.
388,278. GARD-TOT. Cl. 39. 6-17-41.
388,279. GARD-WELL. Cl. 39. 6-17-41.
388,468. JUNIOR MRS. Cl. 42. 6-24-41.
388,565. TRANS-VISION. Cl. 38. 7-1-41.
388,770. SUPERKLEEN. Cl. 52. 7-8-41.
388,782. TRIPLES. Cl. 26. 7-8-41.
388,794. KONGO. Cl. 22. 7-8-41.
388,832. BRADLEY'S. Cl. 16. 7-15-41.
388,855. DEL CORONADO. Cl. 30. 7-15-41.
388,951. GERRARD. Cl. 23. 7-15-41.
388,971. M. PECHTER'S. Cl. 46. 7-22-41.
389,210. ROTO-RING. Cl. 37. 7-29-41.
389,236. CASUALETS. Cl. 39. 7-29-41.
389,294. RAGGEDY ANN'S. Cl. 22. 7-29-41.
389,337. JAYSON. Cl. 39. 8-5-41.
389,372. OVALOID. Cl. 37. 8-5-41.
389,384. SYNFLEUR AND MAP DESIGN. Cl. 51. 8-5-41.
389,385. SYNFLEUR. Cl. 51. 8-5-41.
389,413. CARNU. Cl. 4. 8-5-41.
389,442. WHAT'S NEW IN FARMING. Cl. 38. 8-5-41.
389,443. ALL AROUND THE FARM. Cl. 38. 8-5-41.
389,444. ALL AROUND THE HOUSE. Cl. 38. 8-5-41.
389,467. BABY'S PAL. Cl. 44. 8-5-41.
389,573. FOLGER'S COFFEE AND DESIGN. Cl. 46. 8-12-41.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

524,811. FIDELITY-PHOENIX FIRE INSURANCE COMPANY OF NEW YORK. Cl. 102. 5-2-50.
657,271. ANDALUSIA. Cl. 51. 1-14-58.

Section 8

88,683. LUNKENHEIMER AND DESIGN. Cl. 23. 10-15-12.
89,759. REPRESENTATION OF VALVE, ETC. Cl. 26. 1-7-13.
113,117. THE NATIONAL MONEY SAVING STYLE BOOK. Cl. 38. 10-10-16.
257,311. HYMAN'S VOGUE ETC. AND DESIGN. Cl. 42. 6-4-29.
271,820. RAINBOW AND DESIGN. Cl. 19. 6-17-30.
438,376. RP AND DESIGN. Cl. 16. 4-20-48.

The following registrations issued Mar. 8, 1955

602,861. MIRAGE BAR. Cl. 3.
602,866. MASCOT GLO CASE. Cl. 3.
602,868. BAGS BY TINA. Cl. 3.
602,872. REPRESENTATION OF TWO HEARTS. Cl. 11.
602,879. PARABOUND. Cl. 12.
602,880. THE WESTERNER JR. Cl. 12.
602,881. SOLARFLEX AND DESIGN. Cl. 12.
602,884. SOLARGUARD AND DESIGN. Cl. 12.
602,885. WEATHERGUARD. Cl. 12.
602,887. PAX-PAK. Cl. 12.
602,888. POR-PLUG. Cl. 13.
602,890. IN-IN. Cl. 13.
602,894. JIFAST AND DESIGN. Cl. 13.
602,906. RONOR. Cl. 16.
602,910. THE LINK THAT HOLDS ETC. AND DESIGN. Cl. 18.
602,915. PANCORPHEN. Cl. 18.
602,916. W AND DESIGN. Cl. 18.
602,918. IRA-TABS. Cl. 18.
602,920. VIORALPEN. Cl. 18.
602,922. D & J. Cl. 18.
602,924. PIPTIL. Cl. 18.
602,934. OXYPHYLLINE. Cl. 18.
602,936. MINEL. Cl. 18.
602,947. K KURVON. Cl. 18.
602,951. MIRACLE ANTENNA AND DESIGN. Cl. 21.
602,953. HOME GARD. Cl. 21.
602,958. FRO-BAC. Cl. 21.
602,959. GIN-A-WORD. Cl. 22.
602,961. GAMMA. Cl. 26.
602,966. DEEP-VUE AND DESIGN. Cl. 26.
602,967. PAR-L-L-ER TRADE MARK. Cl. 26.
602,971. LIFE-O-RAMA. Cl. 26.
602,978. SOUTHERNER AND DESIGN. Cl. 26.
602,980. TOTALUME. Cl. 26.
602,982. PRESTINA. Cl. 26.
602,984. PACKAGED ARITHMETIC. Cl. 26.
602,986. LUMTAPE. Cl. 26.
602,987. "EVE" THE GOLDEN APPLE. Cl. 26.
602,988. PERMAFORCE. Cl. 27.
602,998. FLORVECTOR. Cl. 34.
603,001. JIFFY-HEAT. Cl. 34.
603,003. ABC ADAPTAIRE. Cl. 34.
603,004. CAMPUS. Cl. 36.
603,006. NU-BIND. Cl. 37.
603,007. KLEER WRAP. Cl. 37.
603,013. CICO-FOLD. Cl. 37.
603,014. CICO-GRAPH. Cl. 37.
603,015. CICO-LITH. Cl. 37.
603,016. CICO-OFFSET. Cl. 37.
603,017. CICO-PRESS. Cl. 37.
603,018. CICO-PRINT. Cl. 37.
603,020. ECONAMEL. Cl. 37.
603,022. GLIDER. Cl. 39.
603,031. ROYAL PRINCE AND DESIGN. Cl. 39.
603,034. "SWING." Cl. 39.
603,041. CARONIA. Cl. 39.
603,043. TRI-CONOMY. Cl. 39.
603,046. NELL NEW YORK. Cl. 39.
603,052. CHILL-CHECKER. Cl. 39.
603,053. POLETTES. Cl. 39.
603,058. BANTAM BOOTS. Cl. 39.
603,059. SNUGGLE TOPS. Cl. 39.
603,060. ATMOSHEER. Cl. 39.
603,066. KAYE GREER. Cl. 39.
603,067. SYNCOPATION. Cl. 39.
603,069. MICROWEVE AND DESIGN. Cl. 42.
603,072. NUCHILD. Cl. 42.
603,077. ESCALINE. Cl. 42.
603,078. TRIDI. Cl. 42.
603,084. CHINORLA. Cl. 42.
603,085. AIRO-KNIT. Cl. 42.
603,087. SKINNER-SAFE. Cl. 42.
603,090. "FABFUR." Cl. 42.
603,092. ACK-TI-VATED. Cl. 42.
603,093. SAILBOAT. Cl. 42.
603,096. JET SPUN AND DESIGN. Cl. 43.
603,097. LASTEX. Cl. 43.
603,102. TWO GENTLEMEN AND DESIGN. Cl. 46.
603,123. PUNCH'N JUDY KISSES. Cl. 46.
603,124. SUM. Cl. 46.
603,132. KWIKFORM. Cl. 50.
603,135. ZODIAC PERFUME OF THE STARS. Cl. 51.
603,136. ONDU-LOTION. Cl. 51.
603,137. KISS-BLISS. Cl. 51.
603,138. LINCOLIN. Cl. 52.
603,141. LAMBERT GARDENS. Cl. 103.
603,147. BOTTLE DESIGN. Cl. 18.
603,148. FOLSOM WORKALL. Cl. 21.
603,149. EARLY AMERICAN (FANCIFUL). Cl. 22.
603,150. BRAID-ON. Cl. 22.
603,156. RAILROAD LABOR NEWS. Cl. 38.
603,157. STAGEWEAR. Cl. 39.

Section 15

683,812. PERSIA. Cl. 46. 8-18-59.
687,302. PERSIAN PRINCESS. Cl. 46. 10-27-59.
687,303. PERSIAN PEARL. Cl. 46. 10-27-59.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

291,502. SPUR. Cl. 15. 2-9-32. Spur Distributing Co. Inc. Spur Oil Company, Nashville, Tenn. Amended: In the statement, column 1, lines 9 through 12, "consisting of the words 'Spur Distributing Co. Inc.' and the pictorial representation of a spur enclosed within a circle," is deleted, and the drawing is amended to appear:

SPUR

500,755. TRIANGLE DESIGN. Cl. 38. 6-29-48. The American Rolling Mill Company. Armco Steel Corporation, Middletown, Ohio. Amended to appear:



622,179. SPEED-O-PRINT. Cl. 28. 2-28-56. Speed-O-Print Corporation, Chicago, Ill. Amended: In the statement, column 2, line 2, "stencil" is deleted.

687,757. SHINE-MAID. Cl. 4. 11-10-59. Union Wadding Company, Pawtucket, R.I. Amended to appear:

SHINE-MAID

706,167. MECHIM AND DESIGN. Cl. 6. 10-25-60. Genie Metallurgique et Chimique, S.A., Brussels, Belgium. Amended: In the statement, column 1, lines 2 and 3 are deleted and *Rue du Marais, 31, Brussels, Belgium* is inserted.

711,499. SCAT. Cl. 26. 2-21-61. Safe Flight Instrument Corporation, White Plains, N.Y. Corrected: In the statement, column 1, line 1, "Instruments" should be deleted and *Instrument* should be inserted.

INDEX OF REGISTRANTS

APRIL 25, 1961

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A & M Leatherlines, Inc., New York, N.Y. 714,409, pub. 2–7–61. Cl. 37.

Accounting & Business Forms, Inc., Pittsburgh, Pa. 714,410, pub. 2–7–61. Cl. 37.

Ackerman, Myron H., Associates, Inc., New York, N.Y. 603,092, canc. Cl. 42.

Affiliated Laboratories : *See*—
Weyer, George H., Inc.

Affiliated Trading Co., Denver, Colo. 714,499, pub. 2–7–61. Cl. 101.

Air Reduction Co., Inc., New York, N.Y. 714,439, pub. 3–18–58. Cl. 39.

Algemeene Norit Maatschappij, Amsterdam, Netherlands. 140,896, ren. 4–25–61. Cl. 6.

Allen, Paul E., Skokie, Ill., to Richard G. Krueger Inc., New York, N.Y. 389,467, ren. 4–25–61. Cl. 44.

Allen, S. L., & Co., Inc., Philadelphia, Pa. 141,830, ren. 4–25–61. Cl. 23.

Alliance Photoprint Co., Inc., New York, N.Y. 714,496, pub. 2–7–61. Cl. 100.

Allied Stores Corp., New York, N.Y. 603,053, canc. Cl. 39.

American Breddo Corp., New York, N.Y. 714,468, pub. 2–7–61. Cl. 46.

American Camera Corp., Washington, D.C. 602,982, canc. Cl. 26.

American Clam Co., Inc., Leesburg, N.J. 714,454, pub. 2–7–61. Cl. 46.

American Cyanamid Co., New York, N.Y. 714,307, pub. 2–7–61. Cl. 6.

American Cyanamid Co., New York, N.Y. 714,362, pub. 2–7–61. Cl. 18.

American Enka Corp., Enka, N.C. 603,096, canc. Cl. 43.

American Foam Rubber Corp., New York, N.Y. 714,291, pub. 2–7–61. Cl. 1.

American Hardware Corp., The, New Britain, Conn. 714,415, pub. 2–7–61. Cl. 38.

American Home Products Corp., d.b.a. Fort Dodge Laboratories, New York, N.Y. 714,350, pub. 2–7–61. Cl. 18.

American Home Products Corp., d.b.a. Wyeth Laboratories, New York, N.Y. 714,367, pub. 2–7–61. Cl. 18.

American Investofunds, Inc., New York, N.Y. 714,506, pub. 2–7–61. Cl. 102.

American Landrace Association, Noblesville, Ind. 714,524, pub. 2–7–61. Cl. A.

American Machine & Foundry Co., New York, N.Y. 714,392, pub. 10–11–60. Cl. 23.

American-Marietta Co., Chicago, Ill. 714,487, pub. 2–7–61. Cl. 52.

American-Marietta Co., Chicago, Ill., from The Marietta Concrete Corp., Westview, Marietta, Ohio. 714,315, pub. 2–9–60. Cl. 12.

American Medicinal Corp., Forest Hills, N.Y. 714,358–9, pub. 2–7–61. Cl. 18.

American Ordnance Association, Washington, D.C. 714,416, pub. 2–7–61. Cl. 38.

American Rolling Mill Co., The Armco Steel Corp., Middletown, Ohio. 500,755. Am. 7(d). Cl. 38.

American Society of Agricultural Engineers, St. Joseph, Mich. 143,890, ren. 4–25–61. Cl. 38.

American Society of Real Estate Counselors, Chicago, Ill. 714,520, pub. 2–7–61. Cl. 200.

American Way Association, Grand Rapids, Mich. 714,525, pub. 2–7–61. Cl. A.

Amm-I-Dent, Inc., Jersey City, N.J. 714,420, pub. 2–7–61. Cl. 38.

Andes Candies Inc., Chicago, Ill. 714,459, pub. 2–7–61. Cl. 46.

Apex Products Corp., Dania, Fla. 602,866, canc. Cl. 3.

Appalachian Hardwood Manufacturers, Inc., Cincinnati, Ohio. 714,523, pub. 2–7–61. Cl. 200.

Arl-Hi Co. : *See*—
Galloping Games, Inc.

Armco Steel Corp. : *See*—
American Rolling Mill Co., The.

Armour and Co., Chicago, Ill. 714,365, pub. 2–7–61. Cl. 18.

Artistic Foundations, Inc., New York, N.Y. 603,085, canc. Cl. 42.

Ashaway Line & Twine Mfg. Co., Ashaway, R.I. 714,384, pub. 2–7–61. Cl. 22.

Atlantic Apothecary Co., d.b.a. Atlantic Pharmaceutical Co., Brooklyn, N.Y. 714,360, pub. 2–7–61. Cl. 18.

Atlantic Pharmaceutical Co. : *See*—
Atlantic Apothecary Co.

Aurora Metal Co., Aurora, Ill. 714,526. Cl. 1.

Automatic Burner Corp., Chicago, Ill. 603,003, canc. Cl. 34.

Automatic Fire Alarm System of Florida, Ft. Lauderdale, Fla. 602,953, canc. Cl. 21.

Automobile Club Insurance Co., Columbus, Ohio. 714,548. Cl. 102.

Avalon Hill Co., The, Baltimore, Md. 714,385, pub. 2–7–61. Cl. 22.

Avon Products, Inc., New York, N.Y. 657,271, canc. Cl. 51.

Babbitt, B. T., Inc., New York, N.Y. 714,484, pub. 2–7–61. Cl. 52.

Bacon Brothers Products, Inc., Leominster, Mass. 714,377, pub. 2–7–61. Cl. 22.

Badger Mfg. Co., Cambridge, Mass. 714,496, pub. 2–7–61. Cl. 100.

Badger Mfg. Co., Cambridge, Mass. 714,508, pub. 2–7–61. Cl. 103.

Bailey, Bradford Co., The : *See*—
Bailey, Bradford.

Bailey, Bradford, d.b.a. The Bradford Bailey Co., Elizabeth, N.J. 602,967, canc. Cl. 26.

Ball, Geo. J., Inc., West Chicago, Ill. 714,281, pub. 2–7–61. Cl. 1.

Bancroft, Joseph, & Sons Co., Wilmington, Del. 603,078, canc. Cl. 42

Barnes-Hind Laboratories, Inc., Sunnyvale, Calif. 714,333, pub. 2–7–61. Cl. 18.

Bartson, Albert J., Inc., Midland Park, N.J. 603,069, canc. Cl. 42.

Beecham Research Laboratories Ltd., Brentford, England. 714,368, pub. 2–7–61. Cl. 18.

Berg, Joseph, to Joseph Berg Mfg. Stationer Inc., New York, N.Y. 389,210, ren. 4–25–61. Cl. 37.

Berg, Joseph, Mfg. Stationer Inc. : *See*—
Berg, Joseph.

Berkley & Co., Inc., Spirit Lake, Iowa. 714,388, pub. 2–7–61. Cl. 22.

Betty Silk Costume Co., Cleveland, Ohio. 603,157, canc. Cl. 39.

Beverage Products Corp., Philadelphia, Pa. 386,780, ren. 4–25–61. Cl. 45.

Beyer, Herbert G., d.b.a. Atlantic Mfg. Co., Baltimore, Md., to General Foods Corp., White Plains, N.Y. 384,197, ren. 4–25–61. Cl. 45.

Blair Corset Co., Inc., Chicago, Ill. 603,067, canc. Cl. 39.

Board of Christian Education and Publication, The, Evangelical and Reformed Church, and Board of Home Missions, Congregational Christian Churches, d.b.a. United Church Press, Philadelphia, Pa. 714,437, pub. 2–7–61. Cl. 38.

Boehringer, C. H., Sohn, Ingelheim (Rhine), Germany. 714,444, pub. 2–7–61. Cl. 45.

Boots Pure Drug Co. Ltd., Nottingham, England. 714,363, pub. 2–7–61. Cl. 18.

Borden Co., The, New York, N.Y. 714,292, pub. 2–7–61. Cl. 1.

Bradley, Milton, Co., Springfield, Mass. 388,794, ren. 4–25–61. Cl. 22.

Bradley, Milton, Co., Springfield, Mass. 388,832, ren. 4–25–61. Cl. 16.

Bradley, Milton, Co., Springfield, Mass. 389,294, ren. 4–25–61. Cl. 22.

Bristol-Myers Co., New York, N.Y. 714,352, pub. 2–7–61. Cl. 18.

Bro-Dart Industries, Inc., Newark, N.J. 714,583. Cl. 37.

Brotherhood of Railroad Trainmen, Cleveland, Ohio. 603,156, canc. Cl. 38.

Brown, J. S., Jr., d.b.a. Distributors Co., New Iberia, La. 714,465, pub. 2–7–61. Cl. 46.

Brownback, Henry L., Norristown, Pa. 714,376, pub. 2–7–61. Cl. 22.

Bryon, W. D., & Sons, Inc., Williamsport, Md. 714,280, pub. 2–7–61. Cl. 1.

Business Men's Assurance Co. of America, Kansas City, Mo. 714,505, pub. 2–7–61. Cl. 102.

Butereg Co., Inc., The, Kansas City, Kans. 385,822, ren. 4–25–61. Cl. 46.

Calmac, Inc., New York, N.Y. 603,135, canc. Cl. 51.

Cap Sales Corp. : *See*—
Corporacion Argentina de Productores de Carnes.

Caprico International, Inc., New York, N.Y. 714,372, pub. 2–7–61. Cl. 22.

Carvin, Charles W., Co., Inc., New York, N.Y. 603,077, canc. Cl. 42.

Carwin Co., The, North Haven, Conn. 714,286, pub. 2–7–61. Cl. 1.

Castell, A. W., Pencil Co., Inc., Newark, N.J. 714,407, pub. 2–7–61. Cl. 37.

Centennial Mills, Inc. : *See*—
Sprague Roller Mills.

Central Pharmacal Co., The, Seymour, Ind. 714,340–2, pub. 2–7–61. Cl. 18.

Central Waxed Paper Co. : *See*—
Rhinelander Paper Co.

Chalet Suzanne Foods, Inc., Lake Wales, Fla. 714,472, pub. 2–7–61. Cl. 46.

Challenge Cream & Butter Association, Los Angeles, Calif. 714,445, pub. 2–7–61. Cl. 46.

Chamberlain-Haber Chemical Co., The, Cleveland, Ohio. 138,432, ren. 4–25–61. Cl. 6.

Champion-International Co., Lawrence, Mass. 603,013–18, canc. Cl. 37.

Champion-International Co., Lawrence, Mass. 603,020, canc. Cl. 37.

Chemical Process Co., San Francisco, Calif. 714,293, pub. 2–7–61. Cl. 1.

Chemtronics Inc., Brooklyn, N.Y. 714,492–8, pub. 2–7–61. Cl. 52.

Chessher, L. H., d.b.a. L. H. Chessher & Co., Nixon, Tex. 603,124, canc. Cl. 46.

Chessher, L. H., & Co.: *See*—
Chessher, L. H.
Ciba Ltd., Basel, Switzerland. 714,339, pub. 2–7–61. Cl. 18.
Circle D Foods, Inc., Dallas, Tex. 714,471, pub. 2–7–61. Cl. 46.
Clairol Inc., New York, N.Y. 714,478, pub. 2–7–61. Cl. 51.
Clark Products, Inc., Chicago, Ill. 714,532. Cl. 32.
Clay Mfg. Co.: *See*—
Clay Stanley B.
Clay, Stanley B., d.b.a. Clay Mfg. Co., Pontiac, Mich. 603,001, canc. Cl. 34.
Cleary-Shevlin Mfg. Co., Warren, Mich. 714,530. Cl. 22.
Clyserol Laboratories, Inc., Oklahoma City, Okla. 603,147, canc. Cl. 18.
Coleport Fabrics, Inc., New York, N.Y. 714,443, pub. 12–1–59. Cl. 42.
Collins & Aikman Corp., New York, N.Y. 603,090, canc. Cl. 42.
Commerce Drug Co.: *See*—
Commerce Drug Co., Inc.
Commerce Drug Co., Inc., d.b.a. Commerce Drug Co., Brooklyn, N.Y. 714,329, pub. 2–7–61. Cl. 18.
Consolidated Vacuum Corp., Rochester, N.Y. 714,393, pub. 5–10–60. Cl. 23.
Coogan, John F., Coral Gables, Fla. 714,313, pub. 2–7–61. Cl. 6.
Coon Hollow Farm: *See*—
Olds, George D.
Cooper-Trent Blueprint and Microfilm Corp., Arlington, Va. 714,306, pub. 2–7–61. Cl. 6.
Corobuff Corp., from Frank M. Sayford Co., Brooklyn, N.Y. 714,403, pub. 2–7–61. Cl. 37.
Corporacion Argentina de Productores de Carnes, Buenos Aires, Argentina, to Cap Sales Corp., New York, N.Y. 383,012, ren. 4–25–61. Cl. 10.
Crowley Tar Products Co., Inc., New York, N.Y. 714,282, pub. 2–7–61. Cl. 1.
Crown Zellerbach Corp.: *See*—
Silklin Paper Corp.
Crystal, David, Inc., New York, N.Y. 388,468, ren. 4–25–61. Cl. 42.
Culligan, Inc., Northbrook, Ill. 714,308–9, pub. 2–7–61. Cl. 6.
Curtis, Helene, Industries, Inc., d.b.a. Lentheric, Chicago, Ill. 714,477, pub. 2–7–61. Cl. 51.
Cuticura Laboratories: *See*—
Potter Drug & Chemical Corp.
Dairy Boy, Inc., Oklahoma City, Okla. 714,450–1, pub. 2–7–61. Cl. 46.
D'Angelo, Nicholas A., d.b.a. Visual Co., Boston, Mass. 714,406, pub. 2–7–61. Cl. 37.
Dann, R. J., & Co.: *See*—
Dann, Russell J.
Dann, Russell J., d.b.a. R. J. Dann & Co., Sandusky, Ohio. 714,538. Cl. 46.
Davis, Lester M., d.b.a. Les Davis Fishing Tackle Co., Tacoma, Wash. 714,381, pub. 2–7–61. Cl. 22.
Dayton Bait and Marine Products Co., Dayton, Ohio. 714,382, pub. 2–7–61. Cl. 22.
Deep Vue Corp., Milwaukee, Wis. 602,966, canc. Cl. 26.
Dell Publishing Co., Inc., New York, N.Y. 714,534. Cl. 38.
Diedenhofen, Apotheker A., K.G., Bad Godesberg (Rhine), Germany. 714,331, pub. 2–7–61. Cl. 18.
Distributors Co.: *See*—
Brown, J. S., Jr.
Ditto, Inc., to Ditto, Inc., Chicago, Ill. 384,844, ren. 4–25–61. Cl. 11.
Dixon, Joseph, Crucible Co., Jersey City, N.J. 142,257, ren. 4–25–61. Cl. 37.
Dixon, Joseph Crucible Co., Jersey City, N.J. 143,316, ren. 4–25–61. Cl. 37.
Dixon, Joseph, Crucible Co., Jersey City, N.J. 387,199, ren. 4–25–61. Cl. 37.
Dougherty, C. A., Cordage Mill, Los Dos Caminos, Estado Miranda, Venezuela. 714,277, pub. 2–7–61. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 714,294–5, pub. 2–7–61. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 714,297–9, pub. 2–7–61. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 714,366, pub. 2–7–61. Cl. 18.
Dow Chemical Co., The, Midland, Mich. 714,507, pub. 2–7–61. Cl. 103.
Dow Chemical Co., The, Midland, Mich. 714,527. Cl. 2.
Dryer, Dorland P., Tarzana, Calif. 714,515, pub. 2–7–61. Cl. 107.
Dude Ranch Foods, Los Angeles, Calif. 714,466, pub. 2–7–61. Cl. 46.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 143,588–93, ren. 4–25–61. Cl. 6.
Eaton Paper Corp., Pittsfield, Mass. 714,411, pub. 2–7–61. Cl. 37.
Eckhoff's, Bjarne, Konservesfabrik A/S, Odense, Denmark. 714,473, pub. 2–7–61. Cl. 46.
Edison Brothers Stores, Inc., St. Louis, Mo. 388,037, ren. 4–25–61. Cl. 39.
Edison Brothers Stores, Inc., St. Louis, Mo. 389,236, ren. 4–25–61. Cl. 39.
Egan-Wagner, Inc., New York, N.Y. 602,868, canc. Cl. 3.
El Morocco Corp., New York, N.Y. 714,422, pub. 2–7–61. Cl. 38.
Empire-La Vive Corp., Tuckahoe, N.Y. 714,310, pub. 2–7–61. Cl. 6.
Enagureto, Anthony, d.b.a. Jiffy Mfg. Co., Pittsburgh, Pa. 714,386, pub. 2–7–61. Cl. 22.
Enders, M. P., Laboratory: *See*—
Enders, Melvin P.
Enders, Melvin F.: *See*—
Enders, Melvin P.
Enders, Melvin P., d.b.a. M. P. Enders Laboratory, to Melvin F. Enders, d.b.a. M. P. Enders Laboratory, Detroit, Mich. 386,111, ren. 4–25–61. Cl. 18.
Englander Co., Inc., The, Chicago, Ill. 714,401, pub. 12–27–60. Cl. 32.
Esso Standard Oil Co.: *See*—
Humble Oil & Refining Co.
Farboil Co., The: *See*—
Swartz, Milton D.
Farmers' Rice Growers Cooperative, San Francisco, Calif. 714,461, pub. 2–7–61. Cl. 46.
Faultless Caster Corp., Evansville, Ind. 714,528. Cl. 13.
Fay Foto Finishers, Inc., d.b.a. McPenny's, Springfield, Mo. 714,512, pub. 2–7–61. Cl. 106.
Fidelity-Phoenix Fire Insurance Co. of New York, New York, N.Y. 524,811, canc. Cl. 102.
Finney Co., The, Cleveland, Ohio. 602,958, canc. Cl. 21.
Firestone Tire & Rubber Co., The, Akron, Ohio. 385,378, ren. 4–25–61. Cl. 22.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 714,356–7, pub. 2–7–61. Cl. 18.
Firth Carpet Co., The, New York, N.Y. 714,517, pub. 2–7–61. Cl. 107.
Fisher Flouring Mills Co., Seattle, Wash. 714,456, pub. 2–7–61. Cl. 46.
Foley, Howard P., Co., The, Washington, D.C. 714,509, pub. 2–7–61. Cl. 103.
Folger, J. A., & Co., Kansas City, Mo. 389,573, ren. 4–25–61. Cl. 46.
Folsom-Nicholas Co., Inc.: *See*—
Workall Co., Inc., The.
Formatics, Webster Groves, Mo. 714,389, pub. 2–7–61. Cl. 22.
Fort Dodge Laboratories: *See*—
American Home Products Corp.
Fortuna Fontana & Co.: *See*—
Societa Anonima Lucchese Olii e Vini.
Foster Grant Co., Inc., Leominster, Mass. 714,317, pub. 1–22–61. Cl. 12.
Foster Paper Co., Inc., d.b.a. Madmar Quality Division of Foster Paper Co., Inc., Utica, N.Y. 714,390–1, pub. 2–7–61. Cl. 22.
Frawley Corp., San Francisco, Calif. 602,872, canc. Cl. 11.
Frederick, John, Advertising, Inc., Milwaukee, Wis. 714,424, pub. 2–7–61. Cl. 38.
Freedman, Edward, Philadelphia, Pa. 602,918, canc. Cl. 18.
Freeman Industries, Inc., Tuckahoe, N.Y. 714,345–7, pub. 2–7–61. Cl. 18.
Freundlich-Gomes Machinery Corp., College Point, N.Y. 603,006, canc. Cl. 37.
Fried, A. Claire, d.b.a. Pixie Fried, Pittsburgh, Pa. 714,414, pub. 2–7–61. Cl. 38.
Fuller, D. B., & Co., Inc., New York, N.Y. 603,093, canc. Cl. 42.
Fullerform Continuous Pipe Corp., from Fullerform, Inc., Phoenix, Ariz. 714,395, pub. 11–15–60. Cl. 23.
Fullerform, Inc.: *See*—
Fullerform Continuous Pipe Corp.
Galloping Games, Inc., Chicago, to Ari-Hi Co., Arlington Heights, Ill. 714,380, pub. 2–7–61. Cl. 22.
Gebruder Giulini G.m.b.H., Ludwigshafen (Rhine), Germany. 714,312, pub. 2–7–61. Cl. 6.
Geigy Chemical Corp., Ardsley, N.Y. 714,364, pub. 2–7–61. Cl. 18.
General Aniline & Film Corp., New York, N.Y. 388,782, ren. 4–25–61. Cl. 26.
General Electric Co., Schenectady, N.Y. 714,426, pub. 2–7–61. Cl. 38.
General Foam Products, Los Angeles, Calif. 714,289, pub. 2–7–61. Cl. 1.
General Foods Corp.: *See*—
Bever, Herbert G.
Genie Metallurgique et Chimique, S.A., Brussels, Belgium. 706,167. Am. 7(d). Cl. 6.
Gerrard Co., Inc., The, Chicago, Ill., to United States Steel Corp., Pittsburgh, Pa. 388,951, ren. 4–25–61. Cl. 23.
Ginsburg and Abelson, Inc., New York, N.Y. 603,066, canc. Cl. 39.
Givaudan-Delawanna, Inc., New York, N.Y. 714,301–3, pub. 2–7–61. Cl. 6.
Glass Industry Publishing Co., Inc., to Ogden Publishing Co., New York, N.Y. 142,269, ren. 4–25–61. Cl. 38.
Golden Sun-Foxbilt, Inc., Des Moines, Iowa. 714,335, pub. 2–7–61. Cl. 18.
Grauert, Ralph W., Inc., New York, N.Y. 714,321–3, pub. 2–7–61. Cl. 14.
Greater St. Louis Automotive Association, Inc., St. Louis, Mo. 714,521, pub. 2–7–61. Cl. 200.
Green Giant Co.: *See*—
Minnesota Valley Canning Co.
Greenberg, Harry H., Inc., to Harlen Associates, Inc., New York, N.Y. 386,027, ren. 4–25–61. Cl. 39.
Greiner, William, Co., Chicago, Ill. 714,296, pub. 2–7–61. Cl. 1.
Grinnell Corp., Providence, R.I. 714,320, pub. 12–27–60. Cl. 13.
Gross Auction Co.: *See*—
Gross, William B.
Gross, William B., d.b.a. Gross Auction Co., Kansas City, Mo. 714,546. Cl. 101.
Gruppo Oleario Novaro & C., Imperia Oneglia, Italy. 714,336, pub. 2–7–61. Cl. 18.
Hair Strate, Inc., Fort Wayne, Ind. 714,476, pub. 2–7–61. Cl. 51.
Hall-Howard Co., New York, N.Y. 603,004, canc. Cl. 36.
Halperin, Nathaniel P., d.b.a. Precision Instrument Co., San Antonio, Tex. 602,978, canc. Cl. 26.
Hampshire Paper Co., South Hadley Falls, to Valley Paper Co., Holyoke, Mass. 145,107, ren. 4–25–61. Cl. 37.
Harbison-Walker Refractories Co., Pittsburgh, Pa. 385,788, ren. 4–25–61. Cl. 12.

Harvey's, Inc., Washington, D.C. 386,983, ren. 4–25–61. Cl. 46.
Hayman, Donald C., Uniontown, Pa. 388,059, ren. 4–25–61. Cl. 38.
Hamac A.G., Zug, Switzerland. 714,394, pub. 7–5–60. Cl. 28.
Hamac A.G., Zug, Switzerland. 714,405, pub. 7–5–60. Cl. 37.
Harband, Charles, d.b.a. Continental-Vogue Luggage Co., San Francisco, Calif. 602,861, canc. Cl. 3.
Harlen Associates, Inc.: *See*—
Greenberg, Harry H., Inc.
Heinrich Hammer, Sportgerate-und Holzwarenfabrik, Erbach, near Ulm (Danube), Germany. 714,373, pub. 2–7–61. Cl. 22.
Herter's Inc., Waseca, Minn. 714,396, pub. 2–7–61. Cl. 23.
Hertz System, Inc., Chicago, Ill. 714,510, pub. 2–7–61. Cl. 105.
Hevitt Soap Co., Inc., The, Dayton, Ohio. 385,093, ren. 4–25–61. Cl. 52.
Highland Mfg. Co., Holyoke, Mass. 143,365, ren. 4–25–61. Cl. 37.
Hobby Publications Inc., New York, N.Y. 714,421, pub. 2–7–61. Cl. 38.
Hofe, George D., to Jean Jordeau, Inc., South Orange, N.J. 139,815, ren. 4–25–61. Cl. 51.
Hoffmann-La Roche Inc., Nutley, N.J. 714,343, pub. 2–7–61. Cl. 18.
House of Westmore, Inc., New York, N.Y. 714,542. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 714,543–4. Cl. 51.
Humble Oil & Refining Co., Houston, Tex., by merger from Esso Standard Oil Co., New York, N.Y. 714,304, pub. 2–7–61. Cl. 6.
Hyman, S. E., Co., The, Fremont, Ohio. 257,311, canc. Cl. 42.
Hyman, S. E., Co., The, Fremont, Ohio. 271,820, canc. Cl. 19.
Illinois Lock Co., The, Wheeling, Ill. 385,490, ren. 4–25–61. Cl. 25.
Imperial Chemical (Pharmaceuticals) Ltd., London, England. 602,936, canc. Cl. 18.
Instruments Publishing Co., Inc., Pittsburgh, Pa. 714,417, pub. 2–7–61. Cl. 38.
Ismert-Hincke Milling Co., The, Kansas City, Kans., and Kansas City, Mo., to Seaboard Allied Milling Co., Kansas City, Mo. 145,384, ren. 4–25–61. Cl. 46.
Interchemical Corp., New York, N.Y. 714,305, pub. 9–27–60. Cl. 6.
International Affiliated Corp., Wilmington, Del. 603,136–7, canc. Cl. 51.
Jacobson, F., & Sons, to F. Jacobson & Sons, Inc., of New York, N.Y., to F. Jacobson & Sons, Inc., New York, N.Y. 389,337, ren. 4–25–61. Cl. 39.
Jacobson, F., & Sons, Inc.: *See*—
Jacobson, F., & Sons.
Jacobson, F., & Sons, Inc., of New York, N.Y.: *See*—
Jacobson, F., & Sons.
Janik, Walter, d.b.a. Johnnie Ryan Co., Niagara Falls, N.Y. 714,537. Cl. 45.
Jiffy Mfg. Co.: *See*—
Enagureto, Anthony.
Joeck, Jane H., Eatontown, N.J. 714,383, pub. 2–7–61. Cl. 22.
Johnson, S. C., & Son, Inc., Racine, Wis. 389,413, ren. 4–25–61. Cl. 4.
Johnson's, Howard, Motor Lodges, Inc., Wollaston, Mass. 714,495, pub. 2–7–61. Cl. 100.
Jordeau, Jean, Inc.: *See*—
Hofe, George D.
Journal-Tribune Publishing Co., Sioux City, Iowa. 714,431–3, pub. 2–7–61. Cl. 38.
Kaye, Ellen, Laboratories, Inc., St. Paul, Minn. 714,479, pub. 2–7–61. Cl. 51.
Kelley, H. E., & Co.: *See*—
Kelley, H. E.
Kelley, H. E., to H. E. Kelley & Co., New Church, Va. 384,455, ren. 4–25–61. Cl. 46.
Kellogg Co., Battle Creek, Mich. 714,462, pub. 2–7–61. Cl. 46.
Keuffel & Esser Co., Hoboken, N.J. 388,014, ren. 4–25–61. Cl. 37.
Key Security of America: *See*—
Wimer, Grover H.
"Kinglife" Products Corp., New York, N.Y. 602,971, canc. Cl. 26.
Kinsbacher-Murphy Co., Los Angeles, Calif. 714,412, pub. 2–7–61. Cl. 37.
Koenig, Thomas M., d.b.a. Personnel Engineering, Rockford, Ill. 714,501, pub. 2–7–61. Cl. 101.
Krueger, Richard G., Inc.: *See*—
Allen, Paul E.
Kwikform Ltd., Birmingham, England. 603,132, canc. Cl. 50.
Lakeside Laboratories, Inc., Milwaukee, Wis. 602,924, canc. Cl. 18.
La Lanne Inc., Oakland, Calif. 714,516, pub. 2–7–61. Cl. 107.
Lamb Knit Goods Co., The, Colon, Mich. 603,052, canc. Cl. 39.
Lambert Associated Companies Inc., Dallas, Tex. 603,141, canc. Cl. 103.
Lamb-Weston, Inc., Weston, Oreg. 714,467, pub. 2–7–61. Cl. 46.
Lasker, Richard F., Jackson Heights, Long Island, N.Y., to Milprint, Inc., Milwaukee, Wis. 388,565, ren. 4–25–61. Cl. 38.
Leaf Brands, Inc., Chicago, Ill. 714,285, pub. 2–7–61. Cl. 1.
Lee V-Lite Co., Sanford, N.C. 714,279, pub. 2–7–61. Cl. 1.
Lens Bright Co., New York, N.Y. 714,483, pub. 6–3–58. Cl. 52.
Lentheric: *See*—
Curtis, Helene, Industries, Inc.
Les Davis Fishing Tackle Co.: *See*—
Davis, Lester M.
Les Parfums Worth de Paris Inc., New York, N.Y. 714,488, pub. 2–7–61. Cl. 52.
Lincoln Clay Products Co., Inc., Lincoln, Calif. 603,138, canc. Cl. 52.
Loma Linda Food Co.: *See*—
Pacific Union Association of Seventh-Day Adventists, The.
Lovett Meat Co., Inc., Cincinnati, Ohio. 714,463, pub. 2–7–61. Cl. 46.
Lowe's, Inc., Cassopolis, Mich. 714,276, pub. 2–7–61. Cl. 1.
Lumtape Corp., Hillside, N.J. 602,986, canc. Cl. 26.
Lundborg Co., Inc., The, New York, N.Y., to New Jersey Turner Hall Corp., Bridgeport, Conn. 140,876, ren. 4–25–61. Cl. 51.
Lunkenheimer Co., The, Cincinnati, Ohio. 88,683, canc. Cl. 23.
Lunkenheimer Co., The, Cincinnati, Ohio. 89,759, canc. Cl. 26.
M. S. Co., Attleboro, Mass. 145,162, ren. 4–25–61. Cl. 28.
Madmar Quality Division of Foster Paper Co., Inc.: *See*—
Foster Paper Co., Inc.
Makara G.m.b.H. Pharmazeutische Fabrik, Angermund Rhineland, Germany. 714,334, pub. 2–7–61. Cl. 18.
Mallalieu, R., Jr.: *See*—
Private Telephones, Inc.
Mansfield Tire & Rubber Co.: *See*—
Pennsylvania Rubber Co.
Manufactures de Produits Chimiques du Nord Etablissements Kuhlmann, Paris, France. 714,332, pub. 2–7–61. Cl. 18.
Marietta Concrete Corp.: *See*—
American-Marietta Co.
Marlyle Sportswear Corp.: *See*—
McKay Products Corp.
Massengill, S. E., Co., The, Bristol, Tenn. 714,328, pub. 2–7–61. Cl. 18.
McGraw-Hill Publishing Co., Inc., New York, N.Y. 714,423, pub. 2–7–61. Cl. 38.
McGraw-Hill Publishing Co., Inc., New York, N.Y. 714,535. Cl. 38.
McKay Products Corp., from Marlyle Sportswear Corp., New York, N.Y. 714,440, pub. 3–25–58. Cl. 39.
McPenny's: *See*—
Fay Foto Finishers, Inc.
Meat Cutters, Packinghouse and Allied Food Workers Union, Savannah, Ga. 714,435, pub. 2–7–61. Cl. 38.
Meat Industry Suppliers, Inc., Northfield, Ill. 714,460, pub. 2–7–61. Cl. 46.
Medical Research Pty. Ltd., Lane Cove, Australia. 714,325, pub. 7–28–59. Cl. 18.
Melville Shoe Corp., New York, N.Y. 384,635, ren. 4–25–61. Cl. 39.
Men's Wear Sales Corp., New York, N.Y. 603,043, canc. Cl. 39.
Merck & Co., Inc., Rahway, N.J. 714,361, pub. 2–7–61. Cl. 18.
Meredith Publishing Co., Des Moines, Iowa. 389,442–4, ren. 4–25–61. Cl. 38.
Metro Med. Inc., Houston, Tex. 714,337, pub. 12–13–60. Cl. 18.
Meyenberg, J. P., Jr., d.b.a. J. P. Meyenberg, Jr. Sales Co., Salinas, to Meyenberg-Old Fashioned Products Co., San Francisco, Calif. 384,210–11, ren. 4–25–61. Cl. 46.
Meyenberg, J. P., Jr. Sales Co.: *See*—
Meyenberg, J. P.
Meyenberg-Old Fashioned Products Co.: *See*—
Meyenberg, J. P., Jr.
Midland-Ross Corp.: *See*—
Surface Combustion Corp.
Midwestern Merchandising Co., Inc., San Francisco, Calif. 683,812, canc. Cl. 46.
Midwestern Merchandising Co., Inc., San Francisco, Calif. 687,302–3, canc. Cl. 46.
Miller, Benjamin G., d.b.a. Penn Pharmacal Co., New York, N.Y. 714,354, pub. 2–7–61. Cl. 18.
Milprint, Inc.: *See*—
Lasker, Richard F.
Minnesota Valley Canning Co., to Green Giant Co., Le Sueur, Minn. 388,091, ren. 4–25–61. Cl. 46.
Miracle Antenna: *See*—
Preuster, Lucas V. A.
Miracle Antenna, Inc.: *See*—
Preuster, Lucas V. A.
Mobay Chemical Co., Pittsburgh, Pa. 714,278, pub. 11–29–60, Cl. 1.
Monsanto Chemical Co., St. Louis, Mo. 714,283, pub. 5–10–60. Cl. 1.
Mud Control Laboratories, Inc., Oklahoma City, Okla. 714,284, pub. 2–7–61. Cl. 1.
National Awning & Shade Co., Inc., Boston, Mass. 602,881, canc. Cl. 12.
National Awning & Shade Co., Inc., Boston, Mass. 602,884, canc. Cl. 12.
National Cloak & Suit Co., North Kansas City, Mo. 113,117, canc. Cl. 38.
National Fluid Pump and Regulator Corp., New York, N.Y. 602,888, canc. Cl. 13.
National Gypsum Co., Buffalo, N.Y. 714,316, pub. 3–8–60. Cl. 12.
National Novelty Corp., Lynn, Mass. 602,959, canc. Cl. 22.
National Silver Co., New York, N.Y. 388,855, ren. 4–25–61. Cl. 30.
National Society of Pershing Rifles, Lincoln, Nebr. 714,518, pub. 2–7–61. Cl. 50.
National Val-U-Check Corp., Corpus Christi, Tex. 714,500, pub. 2–7–61. Cl. 101.
Nelkin, Frances & Walter, New York, N.Y. 603,046, canc. Cl. 39.

Nestle Co., Inc., The: *See*—
Nestle's Food Co., Inc.
Nestle's Food Co., Inc., New York, to The Nestle Co., Inc., White Plains, N.Y. 145,758, ren. 4–25–61. Cl. 46.
New England Provision Co., Inc., Boston, Mass. 714,447, pub. 2–7–61. Cl. 46.
New Jersey Turner Hall Corp.: *See*—
Landborg Co., Inc., The.
New York Knitting Mills, Inc., New York, N.Y. 603,022, canc. Cl. 39.
Norbest Canning Co. A/S, Bergen, Norway. 714,475, pub. 2–7–61. Cl. 46.
Nuchild Textile Co., Philadelphia, Pa. 603,072, canc. Cl. 42.
Nursing Home Administrator Inc., New York, N.Y. 714,419, pub. 2–7–61. Cl. 38.
O'Connor, Lawrence R., Detroit, Mich. 602,916, canc. Cl. 18.
Odor-Ex Corp., Detroit, Mich. 714,494, pub. 2–7–61. Cl. 100.
Ogden Publishing Co.: *See*—
Glass Industry Publishing Co., Inc.
Old Market Charcoal Co., Louisville, Ga. 714,287, pub. 2–7–61. Cl. 1.
Olds, George D., III, d.b.a. Coon Hollow Farm, Easton, Md. 714,446, pub. 2–7–61. Cl. 46.
Olin Mathieson Chemical Corp., New York, N.Y. 714,327, pub. 2–7–61. Cl. 18.
Olivetti Corp. of America, New York, N.Y. 602,984, canc. Cl. 26.
O'Malley, Edward J., d.b.a. President Publishing Co., Chicago, Ill. 714,436, pub. 2–7–61. Cl. 38.
O'Neil-Irwin Mfg. Co., Lake City, Minn. 714,531. Cl. 23.
Orange Knitting Mills Inc., Orange, Va. 603,058–9, canc. Cl. 39.
Ovaltine Food Products: *See*—
Wander Co., The.
Overland Co.: *See*—
Overland, Fred M.
Overland, Fred M., d.b.a. Overland Co., Los Angeles, Calif. 714,374, pub. 2–7–61. Cl. 22.
P & J Mfg. Co., Inc., Cheney, Wash. 602,894, canc. Cl. 13.
Pacific Union Association of Seventh-Day Adventists, The, d.b.a. Loma Linda Food Co., Glendale, Calif. 714,470, pub. 2–7–61. Cl. 46.
Parabound Pavement Corp., Chicago, Ill. 602,879, canc. Cl. 12.
Parfums Monaco, Societe Anonyme Monegasque, Monte Carlo, Monaco. 714,545. Cl. 51.
Par-Med Products Inc., New York, N.Y. 602,915, canc. Cl. 18.
Patio Foods, Inc., San Antonio, Tex. 714,474, pub. 2–7–61. Cl. 46.
Patterson-Sergent Co., The, Cleveland, Ohio. 714,489, pub. 2–7–61. Cl. 52.
Paxton, Frank, Lumber Co., Kansas City, Mo. 602,887, canc. Cl. 12.
Pearson Pharmacal Co., Inc., Miami, Fla. 714,541. Cl. 51.
Pechter Baking Co., Inc., Brooklyn, N.Y. 388,971, ren. 4–25–61. Cl. 46.
Pee Cee Tape & Label Co. of Missouri, Scranton, Pa. 714,427, pub. 2–7–61. Cl. 38.
Penn Fruit Co., Inc., Philadelphia, Pa. 714,449, pub. 2–7–61. Cl. 46.
Penn Pharmacal Co.: *See*—
Miller, Benjamin G.
Pennsylvania Rubber Co., Jeannette, Pa., to The Mansfield Tire & Rubber Co., Mansfield, Ohio. 385,222, ren. 4–25–61. Cl. 35.
Pequea Works, Inc., Strasburg, Pa. 603,150, canc. Cl. 22.
Perfect, Fred H., to The Ruby Chemical Co., Columbus, Ohio. 144,038, ren. 4–25–61. Cl. 6.
Personnel Engineering: *See*—
Koenig, Thomas M.
Pesquera "Naplo" S.A., Lima, Peru. 603,102, canc. Cl. 46.
Petroleum Engineer Publishing Co., The, Dallas, Tex. 714,418, pub. 2–7–61. Cl. 38.
Phoenix Candy Co., Inc., Brooklyn, N.Y. 603,123, canc. Cl. 46.
Photo-Lettering, Inc., New York, N.Y. 714,438, pub. 2–7–61. Cl. 38.
Pioneer Fruit Co.: *See*—
Skaggs, Roy B.
Pixie Fried: *See*—
Fried, A. Claire.
Pledged Funds, Inc., Chicago, Ill. 714,503, pub. 2–7–61. Cl. 102.
Pollak, Julius, and Sons, Inc., Long Island City, N.Y. 714,428, pub. 2–7–61. Cl. 38.
Post, Frederick, Co., The, Chicago, Ill. 389,372, ren. 4–25–61. Cl. 37.
Post, Norman W., Philadelphia, Pa. 602,890, canc. Cl. 13.
Potter Drug & Chemical Corp., d.b.a. Cuticura Laboratories, Malden, Mass. 714,529. Cl. 18.
Precision Instrument Co.: *See*—
Halperin, Nathaniel P.
President Publishing Co.: *See*—
O'Malley, Edward J.
Preuster, Lucas V. A., d.b.a. Miracle Antenna, to Miracle Antenna, Inc., Portville, N.Y. 602,951, canc. Cl. 21.
Price Candy Co., Kansas City, Mo. 714,497, pub. 2–7–61. Cl. 100.
Private Telephones, Inc., Cleveland, Ohio, to Frank R. Mallalieu, Jr., d.b.a. Transelectric Mfg. Co., Oxford, Pa. 385,559, ren. 4–25–61. Cl. 21.
Purdue Frederick Co., The, New York, N.Y. 714,369–70, pub. 2–7–61. Cl. 18.
Purex Corp., Ltd., South Gate, Calif. 714,490, pub. 2–7–61. Cl. 52.
Puritan Stationery Co., Inc., Philadelphia, Pa. 714,408, pub. 2–7–61. Cl. 37.
Quin Research Laboratories, Inc., Rye, N.Y. 714,330, pub. 2–7–61. Cl. 18.
Raffetto, G. B., Inc., New York, N.Y. 384,754, ren. 4–25–61. Cl. 46.
Reliable Automatic Sprinkler Co., Inc., Mount Vernon, N.Y. 714,319, pub. 2–7–61. Cl. 13.
Rhinelander Paper Co., from Central Waxed Paper Co., Rhinelander, Wis. 603,007, canc. Cl. 37.
Robbins, Alfred, Organization, Inc., New York, N.Y. 714,404, pub. 2–7–61. Cl. 37.
Roberson, B. Woods, Chicago, Ill. 602,910, canc. Cl. 18.
Roberts, J. R., Dodge, Tex. 602,922, canc. Cl. 18.
Robertson, H. H., Co., Pittsburgh, Pa. 438,376, canc. Cl. 16.
Ronor Corp., The, Cleveland, Ohio. 602,906, canc. Cl. 16.
Ron-Vik, Inc., Minneapolis, Minn. 714,387, pub. 2–7–61. Cl. 102.
Rose Patch and Label Co., Grand Rapids, Mich. 714,429, pub. 2–7–61. Cl. 38.
Rosenthal, Loretta, Washington, D.C. 714,434, pub. 2–7–61. Cl. 38.
Ruby Chemical Co., The: *See*—
Perfect, Fred H.
Russell, Burdsall & Ward Bolt and Nut Co., Port Chester, N.Y. 714,318, pub. 11–25–58. Cl. 13.
Ryan, Johnnie, Co.: *See*—
Janik, Walter.
Safe Flight Instrument Corp., White Plains, N.Y. 711,499, cor. Cl. 26.
Saint James Games, Inc., St. James, N.Y. 714,375, pub. 2–7–61. Cl. 22.
Sayford, Frank M., Co.: *See*—
Corobuff Corp.
Schenker-Winkler, Fritz, d.b.a. Kasper Winkler & Co., Zurich, Switzerland. 714,311, pub. 2–7–61. Cl. 6.
Schenley Laboratories, Inc., New York, N.Y. 602,920, canc. Cl. 18.
Schering Corp.: *See*—
Artra Cosmetics, Inc.
Schering Corp., Bloomfield, N.J. 714,351, pub. 2–7–61. Cl. 18.
Schoenbaum, Milt: *See*—
Schoenbaum, Milton L.
Schoenbaum, Milton L., d.b.a. Milt Schoenbaum, Milwaukee, Wis. 714,464, pub. 2–7–61. Cl. 46.
Schudson, Howard M., Milwaukee, Wis. 603,031, canc. Cl. 39.
Scripture Press Foundation, Wheaton, Ill. 714,425, pub. 2–7–61. Cl. 38.
Sea Island Mills, Inc., New York, N.Y. 385,646, ren. 4–25–61. Cl. 42.
Seaboard Allied Milling Co.: *See*—
Ismert-Hincke Milling Co., The.
Security Mills, Inc., New York, N.Y. 603,084, canc. Cl. 42.
Selective Buying Corp., New York, N.Y. 603,041, canc. Cl. 39.
Setco Pharmaceuticals, Inc., New Haven, Conn. 714,344, pub. 2–7–61. Cl. 18.
Shannon Hosiery Mills, Inc., Columbus, Ga. 603,060, canc. Cl. 39.
Shell Oil Co., New York, N.Y. 714,288, pub. 2–7–61. Cl. 1.
Silklin Paper Corp., to Crown Zellerbach Corp., San Francisco, Calif. 385,382, ren. 4–25–61. Cl. 37.
Skaggs, Roy B., d.b.a. Pioneer Fruit Co., Phoenix, Ariz. 714,469, pub. 2–7–61. Cl. 46.
Skinner, William, & Sons, New York, N.Y. 603,087, canc. Cl. 42.
Smith-Dorsey: *See*—
Wander Co., The.
Smith Kline & French Laboratories, Philadelphia, Pa. 714,326, pub. 8–18–59. Cl. 18.
Societa a.r.l. "Gamma," Rome, Italy. 602,961, canc. Cl. 26.
Societe a Responsabilite Limitee; Montezin, Paris, France. 603,034, canc. Cl. 39.
Societa Anonima Lucchese Olii e Vini, d.b.a. Fortuna Fontana & Co., Lucca, Italy. 714,457, pub. 3–29–60. Cl. 46.
Societe Anonyme Amido, Lille, France. 602,934, canc. Cl. 18.
Societe Anonyme des Laboratoires Saphir Anciens Etablissements Destagnol Freres, Faverges, Haute-Savoie, France. 714,300, pub. 11–22–60. Cl. 4.
Southeastern Syrup Co., Jackson, Tenn. 714,452–3, pub. 2–7–61. Cl. 46.
Spatola-Thompson, Inc., Philadelphia, Pa. 714,455, pub. 2–7–61. Cl. 46.
Specialties, Inc., Syosset, N.Y. 714,397, pub. 1–6–59. Cl. 26.
Speed-O-Print Corp., Chicago, Ill. 622,179. Am. 7(d). Cl. 23.
Sprague Roller Mills, Sprague, Wash., to Centennial Mills, Inc., Portland, Oreg. 139,633, ren. 4–25–61. Cl. 46.
Spur Distributing Co. Inc. Spur Oil Co., Nashville, Tenn. 291,502. Am. 7(d). Cl. 15.
Spur Oil Co.: *See*—
Spur Distributing Co. Inc.
Stamford Chemical Co., The, Stamford, Conn. 714,486, pub. 2–7–61. Cl. 52.
Standard Paper Mfg. Co., Richmond, Va. 714,413, pub. 2–7–61. Cl. 37.
Steel City Industries, Bridgeville, Pa. 714,314, pub. 6–28–60. Cl. 12.
Stephens Trusonic, Inc., Culver City, Calif. 714,371, pub. 6–23–59. Cl. 21.
Sterling Drug Inc., New York, N.Y. 714,348, pub. 2–7–61. Cl. 18.
Stiefel Laboratories, Inc., Oak Hill, N.Y. 714,338, pub. 2–7–61. Cl. 18.
Sucher Packing Co., The, Dayton, Ohio. 714,448, pub. 2–7–61. Cl. 46.
Superkleen Co., New York, N.Y. 388,770, ren. 4–25–61. Cl. 52.
Surface Combustion Corp., Toledo, to Midland-Ross Corp., Cleveland, Ohio. 386,598, ren. 4–25–61. Cl. 34.

Swartz, Milton D., to The Farboil Co., Baltimore, Md. 141,243, ren. 4–25–61. Cl. 16.
Synfleur Scientific Laboratories, Inc., Monticello, N.Y. 389,384–5, ren. 4–25–61. Cl. 51.
T.V. Network Merchandising Ltd., London, England. 714,378, pub. 2–7–61. Cl. 22.
Tailored Junior Dress Co., Inc., New York, N.Y. 714,536. Cl. 39.
Taste Engineering Inc., Chicago, Ill. 714,355, pub. 2–7–61. Cl. 18.
Templetons Inc., Kenmore, N.Y. 386,566, ren. 4–25–61. Cl. 18.
Ten Keys, Inc., Providence, R.I. 714,504, pub. 2–7–61. Cl. 102.
Ten-Dr-Crisp Pizza Co.: *See*—
Wickert, Virgil R.
Thompson, M. R., Inc., Cranford, N.J. 714,353, pub. 2–7–61. Cl. 18.
Tidy Products Corp., to Tidykins, Inc., New York, N.Y. 387,895, ren. 4–25–61. Cl. 39.
Tidy Products Corp., to Tidykins, Inc., New York, N.Y. 388,277–9, ren. 4–25–61. Cl. 39.
Tidykins, Inc.: *See*—
Tidy Products Corp.
Transelectric Mfg. Co.: *See*—
Private Telephones, Inc.
Trinidad Corp., New York, N.Y. 714,511, pub. 2–7–61. Cl. 105.
Truckers Specialty Printing Co., Inc., Minneapolis, Minn. 714,430, pub. 2–7–61. Cl. 38.
Trustees of Wake Forest College, The, Winston Salem, N.C. 714,522, pub. 2–7–61. Cl. 200.
Union Asbestos & Rubber Co., Chicago, Ill. 602,998, canc. Cl. 34.
Union Carbide Corp., New York, N.Y. 714,290, pub. 2–7–61. Cl. 1.
Union Wadding Co., Pawtucket, R.I. 687,757. Am. 7(d). Cl. 4.
United Church Press: *See*—
Board of Christian Education and Publication, The, Evangelical and Reformed Church, and Board of Home Missions, Congregational Christian Churches.
United Device Corp., Great Neck, N.Y. 602,987, canc. Cl. 26.
United States Rubber Co., New York, N.Y. 603,097, canc. Cl. 43.
United States Steel Corp.: *See*—
Gerrard Co., Inc., The.
Unitronics, Inc., Ferguson, Mo. 602,980, canc. Cl. 26.
Universal Mfg. Co., Inc., Bossier City, La. 714,379, pub. 2–7–61. Cl. 22.
University of Notre Dame du Lac, Notre Dame, Ind. 714,399, pub. 2–7–61. Cl. 28.
University of Notre Dame du Lac, Notre Dame, Ind. 714,400, pub. 2–7–61. Cl. 30.
University of Notre Dame du Lac, Notre Dame, Ind. 714,441, pub. 2–7–61. Cl. 39.
Upjohn Co., The, Kalamazoo, Mich. 714,349, pub. 2–7–61. Cl. 18.
Valley Paper Co.: *See*—
Hampshire Paper Co.
Value Analysis, Inc., Schenectady, N.Y. 714,502, pub. 2–7–61. Cl. 101.
Visual Co.: *See*—
D'Angelo, Nicholas A.
Wales Mfg. Co., Boston, Mass. 714,442, pub. 12–27–60. Cl. 39.
Walker, T. V., & Son, Inc., Burbank, Calif. 602,880, canc. Cl. 12.
Waltham Watch Co., Waltham, Mass. 602,988, canc. Cl. 27.
Wander Co., The, d.b.a. Ovaltine Food Products, Chicago, Ill. 385,640–1, ren. 4–25–61. Cl. 46.
Wander Co., The, d.b.a. Smith-Dorsey, Chicago, Ill. 714,324, pub. 1–6–59. Cl. 18.
Wardrobe Service Inc., Spokane, Wash. 714,514, pub. 2–7–61. Cl. 106.
Watson, Angus, & Co. Ltd.: *See*—
Watson, Angus, & Co.
Watson, Angus, & Co., Newcastle-Upon-Tyne, to Angus Watson & Co. Ltd., Newcastle-On-Tyne, England. 139,049, ren. 4–25–61. Cl. 46.
Weatherguard Corp., Philadelphia, Pa. 602,885, canc. Cl. 12.
West Instrument Corp., Chicago, Ill. 714,398, pub. 6–7–60. Cl. 26.
West Virginia Pulp and Paper Co., New York, N.Y. 714,402, pub. 2–7–61. Cl. 37.
Weyer, George H., Inc., d.b.a. Affiliated Laboratories, Kansas City, Mo. 714,480, pub. 2–7–61. Cl. 51.
Weyer, George H., Inc., Kansas City, Mo. 714,481–2, pub. 2–7–61. Cl. 51.
Whitmire Research Laboratories, Inc., St. Louis, Mo. 714,485, pub. 2–7–61. Cl. 52.
Wickert, Virgil R., d.b.a. Ten-Dr-Crisp Pizza Co., Des Moines, Iowa. 714,540. Cl. 46.
Wimer, Grover H., d.b.a. Key Security of America, Fresno, Calif. 714,547. Cl. 102.
Winkler, Kasper, & Co.: *See*—
Schenker-Winkler, Fritz.
Witherspoon-Guerin, Evansville, Ind. 714,513, pub. 2–7–61. Cl. 106.
Woodwork Institute of California, Fresno, Calif. 714,519, pub. 2–7–61. Cl. 200.
Worcester Toy Co., Inc., Worcester, Mass. 603,149, canc. Cl. 22.
Workall Co., Inc., The, by change of name from Folsom-Nicholas Co., Inc., Cullman, Ala. 603,148, canc. Cl. 21.
World Wide Pharmacal Distributing Co., Chicago, Ill. 602,947, canc. Cl. 18.
Wyandotte Chemicals Corp., Wyandotte, Mich. 714,491, pub. 2–7–61. Cl. 52.
Wyeth Laboratories: *See*—
American Home Products Corp.
Yatesville Pecan Growers, Inc., New York, N.Y. 714,458, pub. 2–7–61. Cl. 46.
Zausner, Meyer, Inc., New York, N.Y. 714,539. Cl. 46.

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VOL. 764 – 765

1961

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